CALL NO. 301

CONTRACT ID. 121342

BARREN COUNTY

FED/STATE PROJECT NUMBER FD04 SPP 005 NEW ROUTE

DESCRIPTION GLASGOW OUTER LOOP (SECTION 3)

WORK TYPE GRADE & DRAIN AND PAVEMENT ALTERNATES

PRIMARY COMPLETION DATE 265 WORKING DAYS

LETTING DATE: September 14, 2012

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME September 14, 2012. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

ROAD PLANS

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

TABLE OF CONTENTS

PART I

SCOPE OF WORK

CONTRACT ID - 121342 ADMINISTRATIVE DISTRICT - 03

PROJECT(S) IDENTIFICATION AND DESCRIPTION:

COUNTY - BARREN PCN - DE0050NEW1242
FD04 SPP 005 NEW ROUTE
GLASGOW OUTER LOOP (SECTION 3) FROM LOUIE B. NUNN PARKWAY WEST TO US 68-KY 80 WEST, A DISTANCE OF 2.64 MILES. GRADE & DRAIN AND PAVEMENT ALTERNATES. SYP NO. 03-07000.00.
GEOGRAPHIC COORDINATES LATITUDE 37^00'03" LONGITUDE 85^57'48"

COMPLETION DATE(S):
265 WORKING DAYS
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/contract)

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

SPECIAL NOTE FOR PIPE INSPECTION

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

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.

ACCESS TO RECORDS

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this

contract for the purpose of financial audit or program review. Records and other prequalification information confidentially disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

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

10/18/2011

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.

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.

MATERIAL TRANSFER VEHICLE (MTV)

Provide and use a MTV in accordance with Sections 403.02.10 and 403.03.05.

8/6/12

KY 3524, Barren County
Item Number: 3-7000.00

SPECIAL NOTE
ALTERNATE PAVEMENT BID ADJUSTMENT

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

Asphalt Pavement Adjustment = **$587,210**

Concrete Pavement Adjustment = **$288,141**

NOTE: The Concrete Pavement Adjustment will be the same regardless of the shoulder alternate chosen.

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

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

Proposal Guaranty

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

SPECIAL NOTE:

For 3-7000.00

Avoiding Impacts

To

Indiana Bat

==========

Background:

The Indiana bat is a federally protected endangered species. This species has been identified as possibly occurring in the project area.

The Indiana bat uses caves in winter. However, the Indiana bat uses trees in the summer where it roosts and raises young in large groups. It is necessary to remove trees within the project area during a period of the year when the bat is absent in order to avoid directly impacting this species.

The following restrictions are required to avoid impacts to summer habitat of the Indiana bat:

#1 Seasonal Restriction:

- Remove trees between **November 15th and March 31st**.

#2 Methods:

- Tree removal can be done concurrently with clearing and grubbing or separately by manually cutting the trees.

SPECIAL PROVISION FOR WASTE AND BORROW SITES

Obtain U.S. Army Corps of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". The Corps of Engineers defines "Waters of the United States" as perennial or intermittent streams, ponds or wetlands. The Corps of Engineers also considers ephemeral streams, typically dry except during rainfall but having a defined drainage channel, to be jurisdictional waters. Direct questions concerning any potential impacts to "Waters of the United States" to the attention of the appropriate District Office for the Corps of Engineers for a determination prior to disturbance. Be responsible for any fees associated with obtaining approval for waste and borrow sites from the U.S. Army Corps of Engineer or other appropriate regulatory agencies.

1-296 Waste & Borrow Sites
01/02/2012

Right-of-Way Certification Form

Revised 9/3/08

☐ **Federal Funded** **Original**

X State Funded **X Re-Certification**

This form must be completed and submitted to FHWA with the PS&E package for federal-aid funded Interstate, Appalachia, and Mega projects. This form shall also be submitted to FHWA for **all** federal-aid projects that fall under conditions No. 2 & 3 outlined elsewhere in this form. For all other federal-aid projects, this form shall be completed and retained in the KYTC project file.

Date: **October 12, 2007**

Project #: **FD04 C005 6565801 R** County: **BARREN**
Item #: **03-7000.00** Federal #: **N/A**
Letting Date: **November 16, 2007** **Description of project:** Glasgow Outer Loop

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

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

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

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

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

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

Note: The KYTC shall re-submit a right-of-way re-certification form for this project prior to the start of construction**(Notice to Proceed)**, verifying that fair market value for all parcels has been paid or deposited with the court.

Right-of-Way Certification Form

☐ **3.** The acquisition or right of occupancy and use of a **few** remaining parcels are not complete and/or some parcels still have occupants. However, all remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. The KYTC is hereby requesting authorization to advertise this project for bids and to proceed with physical construction even thought the necessary rights-of-way will not be fully acquired, and/or some occupants will not be relocated, and/or the fair marked value will not be paid or deposited with the court for some parcels at the start of construction. KYTC will fully meet all the requirements outlined in 23 CFR 309(c) (3) and 49 CFR 102(j) and will expedite completion of all acquisitions, relocations, and full payments after construction starts. A full explanation and reason for this request, including identification of each such parcel and dates on which acquisitions, payments, and relocations will be completed, is attached to this certification form for FHWA consideration and approval. **(See note.)**

Note: The KYTC may request authorization on this basis only in unique and unusual circumstances. Proceeding to construction of projects on this basis shall be the exception and never become the rule. In all FHWA-approved cases, the KYTC shall make extraordinary efforts to expedite completion of the acquisition, payment for all affected parcels, and the relocation of all relocatees promptly 30 days after start of construction.

Approved: _Kelly R. Divine_ *Kelly R. Divine* 10/12/07 District ROW Supervisor
Printed Name Approved

Approved: Paul McCauley 10-11-07 For Steve Damron
Director of ROW & Utilities or Designee
Printed Name Approved

Approved: _____ _____ Olivia Michael
FHWA, Right-of-Way Officer
Printed Name Approved

Right-of-Way Certification Form

Date: **October 12, 2007**

Project #: **FD04 C005 6565801 R** County: **BARREN**
Item #: **03-7000.00** Federal #: **N/A**
Letting Date: **November 16, 2007**

This project has 27 total number of parcels to be acquired, and **3** total number of individual or families to be relocated, as well as **-0-** total number of businesses to be relocated.

23 Parcels were acquired by a signed fee simple deed and fair market value has been paid **(Type 1)**

-0- Parcels have been acquired through condemnation and IOJ granted by the court and fair market value has been deposited with the court **(Type 1 certification)**

4 Parcels have **not** been acquired at this time but can be Re-certified as acquired prior to Notice to Proceed for construction.(*explain below for each parcel*) **(Type 2 certification)**

____ Parcels have been acquired or have a "right of Entry" but the fair market value has not been paid or has not been posted with the court, and they can not be re-certified prior to construction. (These parcels require an explanations below for each one as well as FHWA approval. **(Type 3 only)**

____ Some displacees have not been relocated from all parcels: *(explain below for each parcel)* ***(notes to plans may be required)***

Parcel #	Name/Station	Explanation for delayed acquisition, delayed relocation, or delayed payment of fair market value	Proposed date of payment or of relocation
344	Lou Ella Lewis/Sta. 104+00	The District Highway attorney and home owner have reached an agreement. I anticipate the Fair Market Check to be delivered to the property owner by November 15th, 2007.	11/15/2007
348	Jerry Lewis/Sta. 102+50	A settlement has been reached whereby there is a verbal agreement between the Transportation Cabinet and the property owner's legal counsel. I anticipate the Fair Market Check to be delivered to the property owner by November 15th, 2007.	11/15/2007
362	Wilmer & Dorothy Hodges/Sta. 130+00	A settlement has been reached there is a verbal agreement between the Transportation Cabinet and owner. I anticipate the Fair Market Check to be delivered to the property owner by November 15th, 2007.	11/15/2007
368	Frankie E. Robertson/Sta. 135+00	A settlement has been reached whereby there is a verbal agreement between the Transportation Cabinet and the property owner's legal counsel. I anticipate the Fair Market Check to be delivered to the property owner by November 15th, 2007.	11/15/2007

There are **-0-** billboards and/or **-0-** cemeteries involved on this project.
There are **1** water or monitoring wells on parcels **Parcel No. 328** and ____ .All have been acquired and are the responsibility of the project contractor to close/cap.

UTILITY NOTES TO BE INCLUDED IN THE PROPOSAL
SPECIAL NOTES FOR UTILITY CLEARANCE
IMPACT ON CONSTRUCTION

BARREN COUNTY
FD04 005 65658 01 U
Glasgow Outer Loop From US-68, West of Glasgow
to the Louie B. Nunn Parkway, West of Glasgow.
Status Report Item No. 3-7000.00

The following companies have facilities to be relocated and/or adjusted on the subject project.

Farmers Rural Electric Cooperative Corporation – The Electric Company completed its relocation September 2007.
Glasgow Electric Plant Board – The Electric Company expects to complete its relocation on or before November 30, 2007.
South Central Rural Telephone Cooperative Corporation, Inc. – The Telephone Company completed its relocation September 2007.
Glasgow Water Company – The Water Company has requested its relocation work be incorporated into the Department's Road Contract.

There are NO railroad facilities on the subject project.

The Contractor is advised to review the following notes that describe the impact of utilities on the scheduling of the project.

Farmers Rural Electric Cooperative Corporation

Farmers Rural Electric Cooperative Corporation has relocated electric facilities at the following locations: Mainline: Crossing Stations 32+60, 59+20 and 99+00; Bob Lewis Road Approach: Crossing Station 46+05; KY-1297 Road Approach: Crossing Stations 39+60 and 47+50; Ramp 4: Crossing Station 411+30.

Glasgow Electric Plant Board

Glasgow Electric Plant Board has existing electric facilities at the following locations: KY-1297 Road Approach: 23' Right of 38+35 to 23' Right of 59+85 and Parkway Station 71+00 to be relocated.

South Central Rural Telephone Cooperative Corporation, Inc.

South Central Rural Telephone Cooperative Corporation, Inc. has relocated telephone facilities at the following locations: Mainline: Crossing Stations 32+70, 61+20 and 99+00.

Glasgow Water Company

Glasgow Water Company has existing water facilities to be relocated, listed and incorporated into the Department's Road Contract.

The Contractor is advised to review the following notes that describe the impact of utilities on the scheduling of the project.

The Contractor should note that this may not be a complete list of the utility owners involved. The Contractor is advised to contact the BUD one-call system; however, the Contractor should be aware that owners of underground facilities are not required to be members of the BUD one-call system. It may be necessary for the Contractor to contact the County Court Clerk to determine what utility companies have facilities in the project area. BUD NUMBER: (Call Before You Dig) Telephone Number: 1-800-752-6007

COORDINATION WITH UTILITY FACILITY OWNERS

The Contractor will be responsible for contacting all utility facility owners on the subject project to have existing facilities located in the field. The Contractor will coordinate his activities with the utility facility owners to minimize and, where possible, avoid conflicts with utility facilities.

Where conflicts with utility facilities are unavoidable the Contractor will coordinate any necessary relocation work with the facility owner. **There will be no damages awarded for delays caused by necessary utility relocations and/or adjustments.**

PROTECTION OF UTILITY FACILITIES

The location of utility facilities shown on the plans may not be exact or complete. It will be the Contractor's responsibility to locate the utility facilities before excavation by calling the utility facility owner and/or the BUD one-call system. The Contractor shall determine the exact location and elevation of underground utility facilities by hand digging to expose utilities before beginning excavation in the area of underground utility facilities. The cost for repair and any other associated costs for any damage to utility facilities caused by the Contractor's operation will be borne by the Contractor.

The Contractor is advised to contact the BUD one-call system; however, the Contractor should be aware that owners of underground facilities are not required to be members of the BUD one-call system. It may be necessary for the Contractor to contact the County Court Clerk to determine what utility companies have facilities in the project area.

SECTION 02510
WATER DISTRIBUTION SYSTEM

PART 1. GENERAL

1.1 SECTION INCLUDES

A. Provide water pipe.

B. Provide pipe casing.

C. Provide valves and boxes.

D. Provide flush type fire hydrants.

E. Provide required fittings.

1.2 RELATED SECTIONS

A. Section 02520 - DISINFECTION OF WATER DISTRIBUTION SYSTEM.

1.3 UNIT PRICE – MEASUREMENT AND PAYMENT

A. Pipe:

1. Basis of Measurement: by the linear foot.

2. Basis of Payment: includes hand trimming, excavation, pipe, bedding, backfill, testing, and all labor, material, equipment and other accessories required for a complete installation.

B. Copper Service Pipe

1. Basis of Measurement: by the foot.

2. Basis of Payment: includes hand trimming, excavation, pipe, bedding, backfill, testing, and all labor, material, equipment and other accessories required for a complete installation.

C. Casing Pipe – Open Cut Method

1. Basis of Measurement: by the linear foot.

2. Basis of payment: includes, excavation, casing pipe, carrier, carrier spacers, end caps, backfill, and all labor, material, equipment and other accessories required for a complete installation.

D. Valves:

1. Basis of Measurement: by the unit.

2. Basis of Payment: at the contact unit price and includes gate valve, excavation, backfilling, blocking, boxes, and accessories as shown on the drawings.

E. Tapping Sleeves and Valves

1. Basis of Measurement: by the unit.

2. Basis of Payment: at the contract unit price and includes tapping sleeve, gate valve, and all labor, material, equipment and other accessories required for a complete installation.

F. Meter Reconnect

1. Basis of Measurement: by the unit

2. Basis of Payment: at the contract unit price and includes the meter, meter box, corp. stop, service saddle, and all labor, material, and other accessories required for a complete installation.

G. Fire Hydrant Assembly

1. Basis of Measurement: by the unit.
2. Basis of Payment: at the contract unit price per assembly for bends, plugs, mechanical joint tees, and reducers.

H. Granular Pipe Bedding Material and Granular Backfill Material

1. All granular material used in bedding and as backfill material shall be included in the cost of construction the water line and appurtenances.

I. Rock Excavation

1. All excavation shall be "unclassified" and therefore no separate payment will be provided for rock excavation. The cost of all excavation should be included in the cost of constructing the water line and appurtenances.

J. Extra Depth Excavation - no extra payment

K. Concrete for Cradles, Kickers, Anchors, and Encasement

1. All concrete material shall be included in the cost of construction the water line and appurtenances. There will be no separate payment for granular material except for road gravel as described elsewhere in this specification.

L. Other Miscellaneous Items gaskets, bolts, nuts, mechanical joint glands, and other joint materials, PVC fittings, excavation and backfill; testing and disinfecting; and removing and replacing sod, fences, etc.: No separate payment. Include these in the various unit prices.

1.4 REFERENCES

A. AWWA C104: cement mortar lining for ductile iron pipe and fittings for water.

B. AWWA C110: ductile iron and gray iron fittings.

C. AWWA C151: ductile iron pipe, centrifugally cast in metal molds or sand-lined molds, for water and other liquids.

D. AWWA C500: gate valves, for water and sewage systems.

E. AWWA C504: rubber seated butterfly valves.

F. AWWA C600: installation of ductile iron water mains and their appurtenances.

G. ASTM D2241: poly (vinyl chloride PVC) pressure rated pipe (SDR Series).

H. ASTM C94: ready mix concrete.

I. AWWA C900: polyvinyl chloride (PVC) pressure pipe 4 in. through 12 in. for water.

1.5 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies: All work shall comply with rules and regulations of local and state agencies having jurisdiction.

1.6 JOB CONDITIONS

A. Existing Conditions: Carefully maintain benchmarks, fences, roads, traffic, monuments, and survey control references.

1.7 SUBMITTALS

A. Product Data: Provide data on pipe materials, pipe fittings, valves and accessories.

B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of these specifications.

B. Equipment and Materials Which Will Be Installed Outdoors: At all times prior to its installation, store this equipment and these materials on pallets, skids, runners, platforms, or other suitable supports which will hold all parts of this equipment and these materials at least six inches above ground; provide watertight coverings for those stored items which may be damaged by rain or snow; all as approved.

C. Payment for Stored Materials and Equipment: No payment will be made for on-site or off-site stored materials and equipment which are not stored as specified above.

D. Submit in triplicate, certificates from the manufacturers certifying that all pipe and fittings furnished for this contract comply with these specifications.

PART 2. PRODUCTS

2.1 MANUFACTURERS

A. The manufacturer specified is intended to indicate the standard of quality of materials in this section; other manufacturers will be acceptable. Submit manufacturer to ENGINEER for approval.

2.2 TYPES OF PIPE TO BE USED

A. Types of pipes for various locations and usages shall be:

1. PVC Pipe for water main installations
2. Ductile Iron Pipe for water main installations
3. Copper pipe for water services.

2.3 PVC PIPE

A. PVC Pressure Pipe: Plastic pipe shall meet the requirements as set forth by the Plastic Pipe Institute Specifications and meet the requirements set forth by ASTM D1784 for Type 1, Grade 1. All plastic pipe shall bear the National Sanitation Foundation Testing Laboratory seal for potable water. The pipe shall also meet the requirements of ASTM D-2122, ASTM D-2241, ASTM D-3139, and all other specifications referred to therein. Integral bell designs based solely on Section 5.3.1 of ASTM D-3139 are not acceptable (see thickening requirements below).

In general and unless indicated otherwise on the plans, PVC pipe shall be Class 200 (SDR21). Provision shall be made for contraction and expansion at each joint with either twin gasketed couplings or integral bell joints. Integral bell pipe shall be manufactured so that the minimum wall thickness of the bell, at any point, between the gasket groove and the pipe barrel shall conform to the SDR requirements for the pipe. The minimum wall thickness in the gasket groove and bell-entry sections shall equal or exceed the minimum wall thickness of the pipe barrel. Twin gasketed couplings shall be rated for working pressure equal to that of pipe and shall be as manufactured by Harco, Certainteed, Can-tex, J-M, Vulcan, or equal. To be approved, the pipe manufacturer shall have produced pipe in accordance with the above specifications as routine standard procedure for a minimum of three years at all plants operated by the pipe manufacturer

2.4 DUCTILE IRON PIPE, FITTINGS, AND JOINTS

A. Ductile Iron pipe shall conform to AWWA specifications C 150 and C 151 is provided by the OWNER. CONTRACTOR is responsible for picking up the pipe at the OWNER's facility and transporting to the site.

B. Ductile iron mechanical joint fittings shall be required for all sizes of PVC pipe and all sizes of ductile iron pipe. Ductile iron mechanical joint fittings shall conform to AWWA specification C110 and shall have a rated working pressure of 350 psi up to 24 inch diameter and 250 psi above 24 inch. Cast iron or ductile iron fittings shall be furnished with a bituminous coating outside one mil thick and shall be cement mortar lined inside according to AWWA specification C 104.

All fittings shall be installed with Megalug restraining system. Only high strength low alloy steel T-bolts shall be used with all mechanical joints including fittings, valves, etc. All fittings and T-bolts shall be manufactured in the United States and shall be a brand acceptable to the ENGINEER.

Fittings shown on the plans are intended to convey the general configuration and restraint type only. The CONTRACTOR shall be required to furnish fittings at each abrupt change (vertical or horizontal) in the pipeline alignment, as determined by the ENGINEER. The CONTRACTOR shall also be required to furnish any special gaskets, adaptors, etc. necessary for construction. All vertical bends shall include restraining devices approved by the ENGINEER.

C. Furnish duplicate certificates from the manufacturer certifying that all ductile iron pipe and iron fittings furnished for this project comply with the above specifications.

2.5 CUT-OFF VALVES AND VALVE BOXES

A. General: For each location where a certain type of cut-off valve is specified, indicated, or required for the application involved, provide the appropriate type accordingly. OTHERWISE, cut-off valves shall be gate type.

B. Resilient Seat Gate Valves: These shall be iron body, modified wedge disc type, conforming to AWWA Specification C509, as manufactured by Mueller, or approved equal. Each valve shall have "O" ring type stem seal, standard two-inch AWWA operating nut, and shall be opened by COUNTER-CLOCKWISE stem rotation. Except where otherwise specified, indicated, or required for the application involved, all gate valve ends shall be AWWA Specification C111 mechanical joint type, with plain rubber gaskets.

C. Valve Boxes: These shall be standard cast iron two-piece 5-1/4 inch inside shaft diameter screw adjustable type, each consisting of a cover marked WATER, an upper telescoping section, and a lower section. Where necessary to provide extra depth, provide cast iron extension pieces as required.

2.6 FIRE HYDRANTS

A. Fire hydrants shall be Mueller, Model A-423, or as approved compression type conforming to AWWA Specification C502 and Glasgow Water Company' Standards.

B. Fire hydrants shall be of the lubricated dry top break-away traffic type, each complete with: Five inch minimum valve opening; 6 inch AWWA Specification C111 mechanical joint inlet connection with plain rubber gasket; depth of bury as shown on the plans; two fire hose nozzles; one pumper connection nozzle; nozzle caps and chains; drain valve; asphalt varnish shop coats inside and below ground outside; and red paint shop coat above ground outside. The following items shall match those of existing hydrants, and the CONTRACTOR shall examine the existing hydrants designated by the OWNER, obtain necessary data, and furnish new hydrants accordingly:

1. Sizes of all nozzles.

2. Threads on all nozzles.

3. Size and shape of operating and cap nuts.

4. Direction of rotation of valve opening.

2.7 TAPPING SLEEVES AND VALVES

A. All tapping sleeves shall be cast iron.

B. Tapping sleeves for cast iron or ductile iron pipe shall be mechanical joint and shall be manufactured by Cascade.

C. Tapping valves shall meet the same general specifications as described herein for gate valves.

2.8 BLOWOFFS

A. Blowoff valves and appurtenances shall be constructed where shown on the general plans and as detailed on the standard detail sheet. Gate valves as specified hereinbefore and the meter boxes described below shall be used in the blowoff assembly. Bends used in blowoff assemblies may be PVC with gasketed joints, as approved by the ENGINEER. Blowoffs shall include box and lid for access and flushing.

2.9 AIR RELEASE VALVE ASSEMBLY

A. Automatic air release valves shall be designed to allow a quantity of air to automatically escape through the valve out of the valve orifice when air accumulates at high points in the water line while the water line is under pressure. After the entrained air is released through the air release orifice, the valve orifice shall be closed by a needle mounted on a compound lever mechanism energized by a float preventing water from escaping.

Valves shall be tested for service to pressures of at least 250 psi and shall be furnished with cast iron body and cover, stainless steel float, Buna-N valve seat and stainless steel internal linkage. Inlet size shall be as shown on the Drawings and orifice size shall be as approved by the ENGINEER. Valves shall be furnished with an exterior paint coating of Phenolic Primer Red Oxide and shall e field painted on the outside with two coats of compatible alkyd enamel with color selected by the OWNER. Valve shall be installed in manholes as shown on the drawings.

Air release valves shall be APCO (Valve & Primer Corporation) 200A, ARI, or approved equal.

2.10 GRANULAR BEDDING

A. Granular pipe bedding material shall be of the following type:

1. Crushed stone, or washed gravel, 95 percent by weight passing through a 3/4 inch screen, and 95 percent by weight retained on a No. 4 sieve. Kentucky Transportation Cabinet No. 57 stone is acceptable.

2.11 GRANULAR BACKFILL

A. Granular backfill material shall be one of the materials specified above for granular pipe bedding material.

B. Usage: Use granular backfill material ONLY where indicated, specified hereinafter, or authorized.

2.12 CONCRETE

A. Concrete shall be 3,000 psi ready mixed type conforming to ASTM Specification C94 composed of Portland cement, sand, and washed coarse aggregate all conforming to ASTM Specifications; mixed with clean water free of oil, acid, alkali, and organic matter; and furnished by an approved ready mix plant's standard for the specified strength, as established and tested by an approved laboratory, in accordance with applicable ASTM Standard Specifications.

PART 3. EXECUTION

3.1 TRENCHING, EXCAVATING, SHORING, BRACING, AND DEWATERING

A. Special Requirements:

1. See RAILROAD CROSSINGS and HIGHWAY CROSSINGS, hereinafter, for special excavation requirements in those areas.

2. See ROCK EXCAVATION AND BLASTING, hereinafter for special excavation requirements where rock is encountered.

3. Driveway and special crossings: install pipe crossing concrete driveways, sidewalks, asphalt driveways, and other special conditions by tunneling or boring, or as authorized. Install pipes crossing dirt or gravel drives by open cut, unless otherwise authorized.

4. Unstable or unsuitable trench bottoms: where authorized because unstable trench bottom conditions, lay pipe on granular bedding, as specified in Article 2.8 GRANULAR BEDDING. Where the trench bottom at required subgrade contains ashes, cinders, any type of refuse, vegetable or other organic material, large pieces or fragments of inorganic material or other unsuitable materials which in the ENGINEER's opinion should be removed, remove such material; before laying pipe, bring the trench bottom up to proper subgrade by backfilling with approved material placed in three inch maximum thickness loose layers, and thoroughly compact each layer as required to provide an approved firm and stable trench bottom.

B. General Excavation Requirements: Except as otherwise indicated, specified hereinafter, or authorized, make all excavations by open cut as specified in this paragraph. Excavate trenches to the indicated lines and locations to provide uniform and continuous bearing and support of each pipe barrel on firm undisturbed earth at every point between bell holes, with an ample bell hole at each joint to facilitate proper jointing and to prevent bells from bearing on the trench bottom. Trench depths shall be as required to provide the specified MINIMUM cover over the tops of pipes; as required to permit pipes to pass under culverts, railroads, highways, existing pipe lines, and other obstructions; and as required to accommodate valves and boxes. Trench widths shall be as required for the proper laying and jointing of pipes, and the proper placing and compacting of backfill, but in no case shall a trench be more than 24 inches wider than the inside diameter of the pipe to be laid therein. Machine or hand-cut trenches, except that in all cases prepare the final subgrade accurately with hand tools, and in special cases where required, cut the trenches entirely by hand. Where excavation is carried below proper subgrade, before laying pipe bring the trench bottom up to proper subgrade by backfilling with approved material placed in three inch maximum thickness loose layers,

and thoroughly compact each layer as required to provide uniform and continuous bearing and support for the pipe barrel at every point between bell holes. The CONTRACTOR shall repair any damaged water or sewer services immediately. The CONTRACTOR shall have on hand all necessary materials to repair said services. The OWNER will not provide or loan any material to the CONTRACTOR.

C. Minimum cover over tops of pipes shall be as follows:

1. All pipes, except as otherwise specified below: 30-inch MINIMUM cover.

2. Hydrant leads, where they cross side ditches ONLY: 18 inch MINIMUM cover.

3. Hydrant leads, all other locations: 30 inches MINIMUM cover.

4. Customers' service lines: 18-inch MINIMUM cover.

5. Special Conditions: MINIMUM cover as indicated on the drawings.

D. IN ALL CASES, THE SPECIFIED MINIMUM COVER OVER PIPES SHALL BE BASED UPON FINAL FINISHED SURFACES, INCLUDING PAVING, IF ANY. Where grading is involved, do not cut trenches under roads, streets, or other areas until the final finish grading has been done, unless otherwise authorized.

E. Shore and brace trenches and excavations as required, to protect personnel, adjacent structures, and adjacent property. Where required by the conditions encountered, brace trenches and excavations with suitable close sheeting or sheet piling. Do all necessary cribbing up required for the proper operation of trenching machines.

F. Provide and maintain in proper working order all necessary dewatering equipment required to remove water from the excavations. Where quicksand or other water bearing strata are encountered, install and connect the necessary number of well points with pumping equipment of sufficient capacity to prevent rise of water in the excavation until the work has been installed properly and will be unaffected by submersion.

G. Do not install any work until excavations are free of water, mud, and loose earth. Do not install any work on frozen ground.

3.2 ROCK EXCAVATION

A. Wherever used as the name of an excavated material, the term "rock" shall mean any one or more of the following materials which in the ENGINEER's opinion require for their removal wedging, sledging, or barring, or breaking up with power operated hand tools: boulders, pieces of concrete, and pieces of masonry, each weighing more than 250 pounds; and solid ledge rock, concrete, and masonry, each with more than 1/2 cubic yard of volume. No measurement or allowance will be made for: soft or disintegrated rock or gravel which can be removed with a hand pick or power operated excavator or shovel; loose, shaken, or broken stone in rock fillings or elsewhere; rock exterior to the limits of measurement allowed which may fall into the excavation; and removal of existing pavement. The cost of rock excavation shall be included in all appropriate pay items described in section 1.3. Rock excavation is NOT a separate pay item.

B. Where rock is encountered in pipe trenches, remove all rock from sides of trench to provide at least ten (10) inch horizontal clearance from the pipe bells on each side, and remove all rock from required subgrade down to at least six (6) inches below the bottom of the pipe bells. Bring trench bottom up to required subgrade by backfilling with one of the following materials placed and compacted as required to provide uniform and continuous bearing of pipe barrels at every point between bell holes; sand; selected earth as specified in Article 3.8 of BACKFILLING hereinafter; or granular bedding material in Article 2.9 GRANULAR BEDDING, as specified herein before.

3.3 HANDLING AND LAYING PIPE AND FITTINGS

A. Provide and use suitable equipment for the safe and convenient handling of pipe, fittings, valves, and other water piping materials. Unload all water piping materials carefully, and lower them carefully into the trenches, piece by piece, in such a manner that will prevent damage to the materials and their protective coatings and linings. Do not under any circumstances drop or dump water piping materials, either from transportation vehicles, or into trenches.

B. Before laying, inspect each length of pipe and each fitting for defects. Promptly remove all defective pipe and defective fittings form the pipe laying area.

C. Before laying pipe and fittings: Remove all lumps, blisters, and excess coal tar coating from each spigot and the inside of each bell; wire brush and wipe all dirt and other foreign matter from the outside of each spigot and the inside of each bell; swab out the inside of each length of pipe and each fitting; and remove all dirt and other foreign matter from all gaskets, glands, bolts, and nuts. Use every precaution to prevent dirt and other foreign matter from entering pipe and fittings while they are being laid. Spigot ends, insides of bells, gasket grooves, gaskets, glands, bolts, and nuts shall be kept free from dirt and other foreign matter after they have been cleaned and before the joints have been made up.

D. Mechanical Joints: After placing pipe and fittings into the trench, slide gland over spigot, apply proper lubricant to gasket and spigot, slip gasket over spigot, center spigot end in bell, force pipe home, and bring it into correct line and grade. Press gasket evenly in place into bell, slide gland into position for bolting, insert all bolts, screw on and hand tighten all nuts, then tighten all nuts with an approved wrench. Tighten diagonally opposite nuts alternately to obtain uniform pressure on all parts of the gland, with torques of 40 to 60 foot pounds for 5/8 inch bolts, and 60 to 90 foot pounds for 3/4 inch bolts. Realign pipe as required and secure it in place with approved backfill material tamped around pipe, except at bells.

1. On retainer type glands, after pipe has been aligned properly, tighten all set screws as specified hereinafter under ANCHORAGE.

E. Push-On Joints: Make up push-on joints in accordance with the manufacturer's recommendations, generally as follows: after placing pipe and fittings into the trench, insert gasket in gasket groove, apply proper lubricant to gasket and spigot, center spigot end in bell, and force pipe home with proper jacks, bars, chains, cables, or other suitable equipment. Realign pipe as required, and secure it in place with approved backfill material tamped around pipe, except at bells. Taper each field cut spigot end back approximately 1/8 inch at a 30 degree angle, using a coarse file or portable grinder, to prevent gasket damage.

F. Do not "buckle-in" any pipe without approval.

G. At all times when pipe laying is not in progress, keep all open ends closed tightly with suitable caps or plugs to prevent foreign material from entering any part of the pipework.

3.4 CASING PIPE

A. Casing pipe shall be new and unused steel with a minimum yield strength of 35,000 psi, meeting the latest approved American Railway Engineering Association "Specifications for Pipelines for Carrying Flammable and Non flammable Substances"

1. Diameters of casing shown below and in the Contract Drawings are minimum. Larger casings, with the ENGINEER's approval, may be provided at no additional cost to OWNER, for whatever reasons the CONTRACTOR may decided, whether casing size, availability, line and grade tolerances, soil conditions, or other issues affect the selection of casing size.

MINIMUM WALL THICKNESS FOR STEEL CASING PIPE		
Pipe, Diameter Inches (mm)	Casing Diameter Inches (mm)	Wall Thickness Inches (mm)
2 (50.8)	6 (152.4)	0.281 (7.137)
4 (101.6)	8 (203.2)	0.281 (7.137)
6 (152.4)	12 (152.4)	0.281 (7.137)
8 (203.2)	16 (406.4)	0.312 (7.925)
10 (254)	16 (406.4)	0.344 (8.738)
12 (305.8)	18 (457.2)	0.406 (10.312)
14 (355.6)	24 (609.6)	0.469 (11.913)
16 (406.4)	30 (762)	0.469 (11.913)
18 (457.2)	30 (762)	0.469 (11.913)

When the casing is installed without the benefit of a protective coating, the wall thickness shown above shall be increased to the nearest standard size, which is a minimum of 0.063 inches (1.346 mm) greater than the thickness shown.

B. CASING SPACERS

Manufacturers:

i) Cascade Waterworks Manufacturing Company
ii) Advance Products & Systems, Inc.
iii) Pipeline Seal and Insulator, Inc.

Casing spacers shall meet one of the following requirements:

iv) Casing spacers shall be flanged, bolt-on style with a two-section stainless steel shell lined with a PVC liner, minimum 0.09-inch(2.286 mm) thick also having a hardness of 85-90 duros. Runners shall be attached to stainless steel risers which shall be properly welded to the shell. The height of the runners and risers shall be manufactured so the pipe does not float within the casing.

v) Casing spacers shall be a two-section flanged, bolt on style constructed of heat fused PVC coated steel, minimum 14 gauge band and 10 gauge risers, with 2-inch(50.8mm) wide glass reinforced polyester insulating skids, heavy duty PVC inner liner, minimum 0.09-inch(2.286 mm) having a hardness of 85-90 duros.

Grout: Grout, when specified by the ENGINEER, may be used for filling the void between the casing pipe and the carrier pipe. Cement shall conform to ASTM C 150, Type I or Type II. Grout shall have a minimum compressive strength of 100 psi (7.03 kg/square cm) attained within 24 hours.

C. Carrier Pipe:

The carrier pipe shall be PVC pipe for water as specified in the Section 02510 – WATER DISTRIBUTION, unless otherwise directed by ENGINEER.

3.5 ALIGNMENT OF PIPE

A. PVC Pipe: In straight trenches, lay pipe in reasonably straight lines, using appropriate fittings at all sharp breaks in grade. In curved trenches, lay pipe to follow the trench centerline as closely as practicable, using appropriate fittings at all sharp breaks in grade, and using appropriate fittings or bending the pipe in gradual uniform curves as necessary to make the required curves. Do not bend any pipe with a radius of curvature less than that recommended by the pipe manufacturer.

3.6 ANCHORAGE

A. Provide anchorage for each fire hydrant, and for each bend, tee, plug, dead-end, and other fitting subject to blowing off of the line under pressure.

B. Unless otherwise indicated, anchorage shall consist of 3,000 psi concrete blocking poured between firm undisturbed earth and the unbalanced sides of the items to be anchored, with sufficient earth bearing area to prevent displacement of joints under pressure. Pour concrete blocking before applying pressure test on piping and arrange it so that the pipe and fitting joints will be accessible for repair. BLOCKING BEARING AREA SHALL BE BASED UPON THE SPECIFIED TESTING PRESSURE. Blocking shall be used for restrained joint fittings.

C. Anchoring Type Tees for Fire Hydrant Connections: These shall be as specified hereinbefore under: DUCTILE IRON PIPE, FITTINGS, AND JOINTS; and/or PVC PIPE, FITTINGS, AND JOINTS. Anchor fire hydrant cut-off valves directly to the locked-on gland rings of the tee outlets or 45° bend where possible.

3.7 TRACER WIRE INSTALLATION

A. Tracer wire shall be installed along the top of all water lines as shown on the drawings. Wire shall be continuous along the main run of the pipe. Connections for tees and fire hydrants shall use 3M connectors and be jell-coated for protection.

3.8 VALVE AND BOX INSTALLATION

A. Install valves with their operating stems plumb, at approximate locations indicated, but at exact locations as approved and as specified below. Leave all valves in normal operating positions, free from leakage.

1. Fire hydrant cut-off valves: install these directly on the spigot outlets of the anchoring type tees in the mains.

2. All other valves: insofar as practicable, install these 3'-0" from centers of tees and crosses at intersections, and at locations in runs where easy to find in the future. For valves located in unpaved areas, set each valve box in a concrete slab 18" square and 6" thick, flush with finished grade.

B. Set and support each valve box so that no stress or shock can be transmitted to the valve, with the box centered and plumb over the valve wrench nut, and the box top exposed and flush with finished grade. Readjust boxes as required so that all boxes conform to these requirements at the time of acceptance of the system. For valves that are in excess of 5 feet in depth from ground level to top of valve nut, an extension shall be installed to allow valve nut access to be 3 feet in depth.

C. Valves and Stub-out Pipes for Future Connections to Water Mains:

1. Anchor these valves to the mains as specified hereinafter under ANCHORAGE.

2. Where NO piping is indicated from valve outlet: plug each valve outlet with a standard cast iron plug. Do not anchor or block plug.

3. Where stub-out is indicated from valve outlet: close the open end of each stub-out pipe with a suitably easily removable plug which will prevent dirt from entering the stub-out pipe, but will allow water to escape from the stub-out pipe and prevent water pressure therein if the valve should leak or be opened before the future piping is properly connected to the stub-out pipe. Do not anchor or block stub-out piping on outlet sides of these valves.

3.9 HYDRANT INSTALLATION

A. Install hydrants at approximate locations indicated, but at exact locations as approved. Unless otherwise indicated or approved, locate hydrants at the intersections of private property lines, and between curbs and sidewalks. All hydrant leads shall be six-inch pipe.

B. Set each hydrant on a four-inch thick 15 inch square minimum size precast concrete slab in true plumb position, with lowest nozzle at least 12 inches above finished grade. Securely block or anchor hydrant to prevent it from blowing off of lead, and place at least 1/4 cubic yard of broken stone or coarse gravel around the base to at least 12 inches above and 12 inches below the drain hole for proper drainage.

C. Hydrant Extensions: Provide hydrant extension units at the unit price bid, only where authorized for satisfactory hydrant settings under abnormal or adverse job conditions beyond the CONTRACTOR's control. No additional payment will be made for any hydrant extension units. Install hydrants as shown on the plans. All hydrant settings, regardless of length, shall conform to all of the above specified setting requirements.

D. After setting, and after testing and final cleanup of the work, finish paint each hydrant above ground

line with one coat of highest quality outside paint, color as selected by the ENGINEER.

3.10 SERVICE CONNECTIONS

A. General: Install service connections at locations authorized only, using copper tubing from water main to the meter for all service connections. Meter locations shall be as designated in the field.

B. Copper Service Pipe: This shall be Type K seamless annealed copper tubing, conforming to ASTM B88.

C. Service Units: Each 3/4 inch service unit shall consist of:

1. Tapping or fitting required to connect corporation stop to main.

2. One 3/4 inch male thread inlet x compression outlet corporation stop.

3. One length of 3/4 inch copper service pipe, IN ONE CONTINUOUS PIECE WITHOUT INTERMEDIATE JOINTS, from water main to meter location.

4. One 3/4 inch compression inlet X IPS female thread outlet "O" ring seal type curb stop.

5. Two 3/4 inch IPS male thread meter couplings, and two gaskets.

D. Service Fittings: Saddles and meter couplings shall be Mueller. Curb stops and corporation stops shll be shall be A.Y. McDonald or as approved of the types specified above, all bronze.

E. Service Unit Installation:

1. Joints: all service tubing joints shall be compression type, with rubber ring gaskets.

2. Connections to mains: set the corporation stops in the mains at a 45 degree angle from vertical, except that the connections may be set horizontally in the side of the mains where necessary to install service pipe under deep side ditches.

3. Service tubing: do not bend service tubing in excess of the tubing manufacturer's recommended maximum limits. PROVIDE AT LEAST A 24-INCH STRAIGHT RUN OF TUBING AT THE INLET OF EACH METER.

4. If meters are included in this contract: connect each service to meter inlet; deliver all meter outlet couplings and their gaskets to the OWNER, and obtain his signed receipt therefore.

5. If meters are NOT included in this contract: install a meter inlet coupling in each curb stop outlet; deliver all meter outlet couplings and their gaskets to the OWNER. Meter locations shall be as designated in the field.

3.11 BACKFILLING

A. General:

1. Do not backfill pipe trenches until the pipework has been inspected and approved.

Immediately after approval, backfill the trenches as specified below.

2. Testing for leaks on the surface of the pipe prior to backfilling will not be required, but other test procedures, as specified hereinafter under TESTING and DISINFECTION, shall be followed after backfilling trenches.

B. Pipe Under Non-Paved Areas: Backfill the trenches as shown on the drawings. Place gravel backfill up to six (6) inches in normal soil and twelve (12) inches in rock excavation ABOVE tops of pipes, leave in BEFORE placing remaining backfill, thoroughly hand tamp the backfill equally and uniformly into bell holes and between trench walls and pipework on each side of the pipework, and over the tops of the pipework, all to prevent pipe displacement. Then place the remaining backfill to fill the trenches completely, and compact the backfill by running the wheels of heavy rubber-tired construction equipment longitudinally over the trench, until the backfill is compacted to at least the density of the undisturbed soil and is flush with the surrounding ground surfaces.

Finally, windrow the excess excavated materials over the trench. At the end of each day's work, do not leave more than 100 feet of trench without compacted backfill, unless otherwise approved. PUDDLING OR WATER JETTING WILL NOT BE PERMITTED.

C. Pipe Under Paved Areas, Including Areas With Existing Paving and Areas Proposed To Be Paved: Backfill the trenches as shown on the plans.

1. For each section of pipe laid, do not allow more than 100 feet of trench to remain without compacted backfill at the end of the day on which the section of pipe was laid, unless otherwise approved.

2. All compaction shall be subject to field density tests by the testing laboratory; see TESTING LABORATORY SERVICES.

3. At CONTRACTOR's expense, remove, replace, and recompact all backfill which fails to comply with the above specified compaction density requirements.

D. Vehicular Traffic: For all pipes crossing streets, roads, gravel driveways, and dirt driveways which are in regular use, backfill the trenches and make the crossings usable by vehicular traffic immediately after laying pipe and obtaining approval thereof, and maintain these crossings usable by vehicular traffic until project acceptance. Do not under any circumstances leave a street or road crossing or a private driveway unusable overnight without written permission from the Kentucky Transportation Cabinet, Barren County Public Works or the appropriate landOWNER.

E. Backfill Materials, Except as Otherwise Specified:

From six inches above tops of pipes up to finished grade or paving subgrade as the case may be: backfill with any materials removed from the excavation and suitable for backfill, except do not use as backfill material any pieces of the following materials which are larger than six inches in their greatest dimensions: rock; stone; concrete; asphalt paving; or masonry. Dispose of all excavated materials which are not replaced as backfill, as approved.

F. Final Backfilling Requirements: Refill and smooth off as required all backfill which settles, so that all backfill finally conforms to the original ground surfaces, not only at the time of project accep-

tance, but also for the duration of the guarantee period. This includes removing and repairing all pavement which may have been damaged by settlement.

G. Special Backfill Requirements:

1. See HIGHWAY CROSSINGS and RAILROAD CROSSINGS, hereinafter for special backfill requirements.

2. Granular backfill materials: where authorized in the field to accommodate special conditions which may be encountered, where indicated on drawings, and/or where specified herein, backfill materials from six inches above tops of pipes up to finished grade or paving subgrade as the case may be, shall be as specified in Article 2.10 GRANULAR BACKFILL.

3.12 CONNECTIONS TO EXISTING WATER SYSTEM

A. "Non-Pressure" Connections: Unless otherwise indicated or authorized, make connections to existing water mains by removing plug from existing plugged fitting, or inserting a tee and proper sleeve in existing main, as applicable, at each point of connection between new and existing mains. This will require shutting off water in the existing main involved.

1. BEFORE SHUTTING OFF WATER TO MAKE EACH NON-PRESSURE CONNECTION, OBTAIN APPROVAL OF OWNER'S WATER AND FIRE DEPARTMENTS, AND ADVISE ALL AFFECTED WATER CUSTOMERS ACCORDINGLY. AFTER SHUTTING OFF WATER, DO ALL NECESSARY WORK, AND RESTORE WATER SERVICE AS QUICKLY AS POSSIBLE.

B. "Pressure" Connections: Where indicated or authorized, make the connection to existing water main by installing therein a split mechanical joint tapping sleeve and tapping valve, and cutting proper opening in existing main with a suitable tapping machine, all without shutting off water in existing main involved. Tapping valves and their boxes shall conform in all respects to applicable requirements of CUT-OFF VALVES AND VALVE BOXES hereinbefore, and tapping valves shall be one gate type, each with one flanged end to mate with tapping sleeve flange, and one mechanical joint hub end.

3.13 HIGHWAY AND/OR RAILROAD CROSSINGS (WATER MAINS)

A. All water line crossings of County, State and United States Highways, and/or railroads shall be in smooth wall steel casing pipe. Casing pipe shall be 0.50" minimum wall thickness for 36" and 48" diameter and 0.25" minimum wall thickness for 18" and smaller diameters. Joints in casing pipe shall be welded continuously all around. Crossings shall have a minimum depth cover of three feet, as measured from the top of the casing pipe to the low point of the crossing cross section. Carrier pipe used inside steel casing shall generally be the material shown on the plans for the pipeline outside the casing. Inside the casing at intervals that are in accordance with the spacer manufacturer's recommendations. DIP carrier pipe shall be provided with a restrained joint system as specified previously. All carrier pipes shall be supported on casing spacers (Advance, Calpico, or approved equal).

B. The spacer manufacturer shall be supplied the following information when ordering the spacers; carrier pipe O.D., carrier pipe bell O.D., casing pipe I.D., type of pipe being used and SDR

information. All carrier pipe shall be centered with maximum clearance of 1" between spacer runner and casing. For PVC carrier, the spacer shall be a polyethylene spacer. The CONTRACTOR shall also supply end seals for all steel casings. End seals may be pull-on or wrap around types with stainless steel bands.

3.14 INSPECTION OF THE LINES

Before the CONTRACTOR backfills any of the lines, they first shall be inspected by the ENGINEER's Representative and the ENGINEER's Representative shall give the CONTRACTOR permission to proceed with the backfilling. If any joints, pipes, fittings, or materials or workmanship are found to be defective, they shall be removed and replaced by the CONTRACTOR without any additional compensation.

3.15 TESTING

A. After backfilling, subject all pipework to pressure and leakage tests. Piping may be tested in sections between valves as the work progresses. Admit water slowly into the section to be tested, and expel all air through all hydrants, and through corporation stops or other openings at all high points in the piping, as required. After all air has been expelled apply a hydrostatic pressure of 200 psi measured at the lowest point in the piping section involved. Maintain the test pressure at least two hours, during which time the leakage shall not exceed that permitted by AWWA Specification C600 for mechanical joint and push-on joint pipe. Repair all apparent leaks. If the measured leakage exceeds the maximum specified allowable leakage locate and repair the leaks, and repeat the tests on sections of pipe involved until all tests have been approved. Furnish approved testing equipment, consisting of a suitable pump to apply and maintain test pressure, accurate pressure gauges, suitable equipment to measure volume of water pumped, and other necessary equipment, and conduct all tests in the ENGINEER's presence, as approved. Determine leakage by measuring the volume of water pumped to maintain the required test pressure for the duration of the leakage test. Obtain a copy of AWWA Specification C600, and keep it on the job in good condition for the CONTRACTOR's and ENGINEER's use in computing the permissible leakage in each section to be tested.

3.16 DISINFECTION

A. Disinfect the water lines in accordance with Section 02675 "Disinfection of Water Distribution System".

B. After all tests have been approved, and before placing the pipe lines in service, disinfect all new pipework with chlorine for at least 24 hours duration. Introduce sufficient chlorine into pipe line to provide at least 50 ppm chlorine residual throughout the entire piping system, using either liquid chlorine or chlorine bearing compounds similar to "HTH", and determining the required quantity of chlorinating agent in accordance with the manufacturer's directions for the calculated volume of water to be treated. Inject chlorine solution into the pipe lines through corporation stops installed at proper locations in pipe line, or through other openings. After at least 24 hours retention time, thoroughly flush all chlorinated water out of the pipe lines through hydrants and other openings, take samples of the fresh water at approved locations in the pipe line, and have the samples analyzed for bacterial purity by an approved laboratory. Continue this process until the samples indicate that the water is free of contamination and safe for domestic use, all to the satisfaction of the ENGINEER and the Department or Board of Public Health of the State in which the work is located. Furnish all necessary approved sterilizing equipment and chlorinating agents. The CONTRACTOR shall pay

for all laboratory bacterial analysis services, and include the cost thereof in the contract price.

C. Water for testing, disinfecting, and flushing will be furnished by the OWNER from existing water facilities, without cost to the CONTRACTOR, but the CONTRACTOR shall furnish all piping and equipment to convey the water to the new pipe lines.

D. Corporation stops shall match those of the customer service connections; provide these as required for testing and sterilizing, and after that use, leave them in place with their outlets plugged. Customer service corporation stops may also be used for testing and sterilizing.

3.17 CLEANING UP OF DISTRIBUTION SYSTEM

A. Clean up the distribution system as the work progresses. Negligence in proper cleaning up which causes undue inconvenience to the public or private citizens, or presents an unsightly or dangerous condition, or causes embarrassment to civic officials will be sufficient reason for rejection of construction estimates until the unsatisfactory conditions have been remedied.

B. After all work is complete, make a final cleanup of all areas where work has been done, and leave them in broom clean condition.

3.18 FINAL VALVE AND HYDRANT CHECK

A. After completion of all water line work and before the work will be accepted, make a final check of each valve and hydrant installed in this project, and of each existing valve that has been operated in connection with the work under this project.

B. Make this final check in the ENGINEER's presence, and demonstrate that each valve is in fully open position, and that each hydrant operates properly.

3.19 SEPARATION OF WATER MAINS AND EXISTING SEWERS

A. Parallel Installation:

1. Normal conditions: water mains shall be laid at least 10 feet horizontally from existing sanitary sewers, storm sewers, and sewer manholes, wherever possible; the distance shall be measured edge-to-edge.

2. Unusual conditions: where local conditions prevent a 10 foot horizontal separation, a water main may be laid closer to existing storm or sanitary sewers, provided that the bottom of the water main is at least 18 inches above the top of the existing sewer.

B. Crossings:

1. Normal conditions: water mains crossing existing house sewers, storm sewers, or sanitary sewers shall be laid to provide a separation of at least 18 inches between the bottom of the water main and the top of the existing sewer, wherever possible.

2. Unusual conditions: where local conditions prevent a vertical separation as described above, water mains passing under existing sewers shall be protected by providing:

a. A vertical separation of at least 18 inches between the bottom of the existing sewer and the top of the water main.

b. Adequate structural support for the existing sewers, to prevent excessive deflection of joints and settling on and breaking the water mains.

c. A full laying length of water pipe centered at the point of crossing, so that the joints will be equidistant and as far as possible from the existing sewer.

C. Manholes: No water pipe shall pass through or come into contact with any part of any existing manhole.

END OF SECTION

SECTION 02520
DISINFECTION OF WATER DISTRIBUTION SYSTEMS

PART 1. GENERAL

1.1 SECTION INCLUDES

A. Disinfection of potable water distribution and transmission system.

B. Testing and reporting results.

1.2 RELATED SECTIONS

A. Section 02665 - WATER DISTRIBUTION SYSTEM.

1.3 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Disinfection:

1. Basis of Measurement: no separate measurement.

2. Basis of Payment: no separate payment, included in the other items of work.

1.4 REFERENCES

A. ANSI/AWWA B300 - Standard for Hypochlorites.

B. ANSI/AWWA B301 - Standard for Liquid Chlorine.

C. ANSI/AWWA B303 - Standard for Sodium Chlorite.

D. ANSI/AWWA C651 - Standards for Disinfecting Water Mains.

1.5 SUBMITTALS

A. Submit under provisions of Section 01330 – SUBMITTAL REQUIREMENTS.

B. Test Reports: Indicate results comparative to specified requirements.

C. Certificate: Certify that cleanliness of water distribution system meets or exceeds specified requirements.

1.6 PROJECT RECORD DOCUMENTS

A. Disinfection report; record:

1. Type and form of disinfectant used.

2. Date and time of disinfectant injection start and time of completion.

3. Test locations.

4. Initial and 24 hour disinfectant residuals (quantity in treated water) in ppm for each outlet tested.

5. Date and time of flushing start and completion.

6. Disinfectant residual after flushing in ppm for each outlet tested.

B. Bacteriological report; record:

1. Date issued, project name, and testing laboratory name, address, and telephone number.

2. Time and date of water sample collection.

3. Name of person collecting samples.

4. Test locations.

5. Initial and 24 hour disinfectant residuals in ppm for each outlet used.

6. Coliform bacteria test results for each outlet tested.

7. Certification that water conforms, or fails to conform, to bacterial standards of the state.

8. Bacteriologist's signature and authority.

1.7 QUALITY ASSURANCE

A. Perform Work in accordance with ANSI/AWWA C651.

1.8 QUALIFICATIONS

A. Water Treatment Firm: Company specializing in disinfecting potable water systems specified in this section with minimum three years experience.

B. Testing Firm: Company specializing in examining potable water systems, approved by the State of Kentucky.

1.9 REGULATORY REQUIREMENTS

A. Conform to applicable code or regulation for performing the work of this section.

B. Provide certificate of compliance from authority having jurisdiction indicating approval of water system.

PART 2. PRODUCTS

2.1 DISINFECTION CHEMICALS

A. Chemicals: ANSI/AWWA B300, Hypochlorite, ANSI/AWWA B301, Liquid Chlorine, and ANSI/AWWA B303, Sodium Chlorite.

PART 3. EXECUTION

3.1 EXAMINATION

A. Verify that piping system has been cleaned, inspected and pressure tested.

B. Perform scheduling and disinfection activity with startup, testing, adjusting and balancing, demonstrating procedures, including coordination with related systems.

3.2 EXECUTION

A. Provide and attach required equipment to perform the work of this Section.

B. Inject treatment disinfectant into piping system.

C. Maintain disinfectant in system for 24 hours.

D. Flush, circulate and clean until required cleanliness is achieved; use municipal domestic water.

3.3 QUALITY CONTROL

A. Provide analysis and testing of treated water.

B. Test samples in accordance with ANSI/AWWA C651.

END OF SECTION

Kentucky Transportation Cabinet

Highway District 3 (1)

And

_____(2), Construction

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

Groundwater protection plan

For Highway Construction Activities

For
Extend the Glasgow Outer Loop from US 68/80 West to Cumberland Parkway
Barren County
Item No. 3-7000.00

Project: PCN ## - #### (2)

Project information

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

1. Owner – Kentucky Transportation Cabinet, **District 3(**1)

2. Resident Engineer: (2)

3. Contractor name: (2)
   Address: (2)

   Phone number: (2)
   Contact: (2)
   Contractors agent responsible for compliance with the KPDES permit requirements (3):

4. Project Control Number (2)

5. Route (Address**) Glasgow Outer Loop, Glasgow, KY 42141** (1)

6. Latitude/Longitude (project mid-point) **37/00/12, 85/57/57** (1)

7. County **Barren** (1)

8. Project start date (date work will begin): (2)

9. Projected completion date: (2)

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

A. Site description:

1. Nature of Construction Activity **Extend the Glasgow Outer Loop from US 68/80 west to the Louie B. Nunn Parkway (Cumberland Parkway)** (1)

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

3. Projected volume of material to be moved **1,133,027 cubic yards** (1)

4. Estimate of total project area **98 acres** (1)

5. Estimate of area to be disturbed **98 acres** (1)

6. Post construction runoff coefficient will be included in the project drainage folder. **Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information**. (1)

7. Data describing existing soil condition **sand and clay** (1) & (2)

8. Data describing existing discharge water quality **average** (1) & (2)

9. Receiving water name **Beaver Creek to Barren River Lake** (1)

10. TMDLs and Pollutants of Concern in Receiving Waters: (1 DEA)

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

12. Potential sources of pollutants:

The primary source of pollutants is solids that are mobilized during storm events. Other sources of pollutants include oil/fuel/grease from servicing

and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

B. Sediment and Erosion Control Measures:

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

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

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

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

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

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

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

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

➢ BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are: **None** (1)

C. Other Control Measures

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

2. Waste Materials

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

3. Hazardous Waste

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

4. Spill Prevention

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

- **Good Housekeeping:**

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

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

- **Hazardous Products:**

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

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

The following product-specific practices will be followed onsite:

- **Petroleum Products:**

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

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

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

- **Fertilizers:**

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

- **Paints:**

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

- **Concrete Truck Washout:**

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

- **Spill Control Practices**

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

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

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

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

D. Other State and Local Plans

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. **None** (1)

E. Maintenance

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.

- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.

- Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post construction storm water management with specific guidance for any non-routine maintenance. **None**(1)

F. Inspections

Inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by individuals that have received KyTC Grade Level II training or other qualification as prescribed by the cabinet that includes instruction concerning sediment and erosion control.
- Inspection reports will be written, signed, dated, and kept on file.
- Areas at final grade will be seeded and mulched within 14 days.
- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 70 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. Non – Storm Water discharges

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

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

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

H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

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

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

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

Or, check the following only if there are no qualifying activities

_____ There are no activities for this project as listed in 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan.

The contractor is responsible for the preparation of a plan that addresses the

401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

(a) General information about this project is covered in the Project information;
(b) Activities that require a groundwater protection plan have been identified above;
(c) Practices that will protect groundwater from pollution are addressed in section C. Other control measures.
(d) Implementation schedule – all practices required to prevent pollution of groundwater are to be in place prior to conducting the activity;
(e) Training is required as a part of the ground water protection plan. All employees of the contractor, sub-contractor and resident engineer personnel will be trained to understand the nature and requirements of this plan as they pertain to their job function(s). Training will be accomplished within one week of employment and annually thereafter. A record of training will be maintained by the contractor with a copy provide to the resident engineer.
(f) Areas of the project and groundwater plan activities will be inspected as part of the weekly sediment and erosion control inspections
(g) Certification (see signature page.)

KyTC BMP Plan for Project PCN ## -

Contractor and Resident Engineer Plan certification

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

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

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

Resident Engineer and Contractor Certification:

(2) Resident Engineer signature

Signed _____title_____, _____
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:

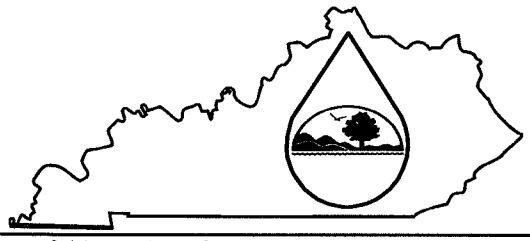
The part of BMP plan this subcontractor is responsible to implement is:

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.

KPDES FORM NOI-SW



Kentucky Pollutant Discharge Elimination System (KPDES)

Notice of Intent (NOI) for Storm Water Discharges Associated with Industrial Activity Under the KPDES General Permit

Submission of this Notice of Intent constitutes notice that the party identified in Section I of this form intends to be authorized by a KPDES permit issued for storm water discharges associated with industrial activity. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit.

ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM (See Instructions on back)

I. Facility Operator Information

Name:	KYTC District 3	**Phone:**	(270)746-7898
Address:	PO BOX 599	**Status of Owner/Operator:**	
City, State, Zip Code:	Bowling Green KY 42102-0599		

II. Facility/Site Location Information

Name:	KYTC PCN ##-####		
Address:	Glasgow Outer Loop from Us 68/80 west to Louie B. Nunn Parkway		
City, State, Zip Code:	Glasgow, KY 42141		
County:	Barren		
Site Latitude: (degrees/minutes/seconds)	37/00/12	**Site Longitude: (degrees/minutes/seconds)**	85/57/57

III. Site Activity Information

MS4 Operator Name:	City of Glasgow						
Receiving Water Body:	Beaver Creek						
Are there existing quantitative data?	**Yes** ☐ **If Yes, submit with this form.** **No** ☒						
SIC or Designated Activity Code Primary	**1611**	**2nd**		**3rd**		**4th**	
If this facility is a member of a Group Application, enter Group Application Number:							
If you have other existing KPDES Permits, enter Permit Numbers:							

IV. Additional Information Required FOR CONSTRUCTION ACTIVITIES ONLY

Project Start Date:		**Completion Date:**	
Estimated Area to be disturbed (in acres):		98	
Is the Storm Water Pollution Prevention Plan in Compliance with State and/or Local Sediment and Erosion Plans?		**Yes** ☒ **No** ☐	

V. Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed or Typed Name:			
Signature:		**Date:**	

Kentucky Pollutant Discharge Elimination System (KPDES)
Instructions
Notice of Intent (NOI) for Storm Water Discharges Associated with Industrial Activity
To Be Covered Under The KPDES General Permit

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

WHERE TO FILE NOI FORM
NOIs must be sent to the following address:

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

COMPLETING THE FORM
Type or print legibly in the appropriate areas only. If you have any questions regarding the completion of this form call the **Storm Water Contact, Industrial Section, at (502) 564-3410.**

SECTION I - FACILITY OPERATOR INFORMATION
Give the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this application. The name of the operator may or may not be the same as the name of the facility. The responsible party is the legal entity that controls the facility's operation, rather than the plant or site manager. Do not use a colloquial name. Enter the complete address and telephone number of the operator.

Enter the appropriate letter to indicate the legal status of the operator of the facility.

F = Federal M = Public (other than federal or state)
S = State P = Private

SECTION II - FACILITY/SITE LOCATION INFORMATION
Enter the facility's or site's official or legal name and complete street address, including city, state, and ZIP code.

SECTION III - SITE ACTIVITY INFORMATION
If the storm water discharges to a municipal separate storm sewer system (MS4), enter the name of the operator of the MS4 (e.g., municipality name, county name) and the receiving water of the discharge from the MS4. (A MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is owned or operated by a state, city, town, borough, county, parish, district, association, or other public body which is designed or used for collecting or conveying storm water.)

If the facility discharges storm water directly to receiving water(s), enter the name of the receiving water.

Indicate whether or not the owner or operator of the facility has existing quantitative data that represent the characteristics and concentration of pollutants in storm water discharges. If data is available submit with this form.

List, in descending order of significance, up to four 4-digit standard industrial classification (SIC) codes that best describe the principal products or services provided at the facility or site identified in Section II of this application.

If the facility listed in Section II has participated in Part 1 of an approved storm water group application and a group number has been assigned, enter the group application number in the space provided.

If there are other KPDES permits presently issued for the facility or site listed in Section II, list the permit numbers.

SECTION IV - ADDITIONAL INFORMATION REQUIRED FOR CONSTRUCTION ACTIVITIES ONLY
Construction activities must complete Section IV in addition of Sections I through III. Only construction activities need to complete Section IV.

Enter the project start date and the estimated completion date for the entire development plan.

Provide an estimate of the total number of acres of the site on which soil will be disturbed (round to the nearest acre).

Indicate whether the storm water pollution prevention plan for the site is in compliance with approved state and/or local sediment and erosion plans, permits, or storm water management plans.

SECTION V - CERTIFICATION
Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

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

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

For a municipality, state, Federal, or other public facility: by either a principal executive officer or ranking elected official.

SYP8161

14 SEP 2007

KENTUCKY TRANSPORTATION CABINET
COMMUNICATING ALL PROMISES (CAP)

Item No. 3 - 7000 **Project Mgr.** S JAMES

County BARREN **Route** -

CAP #	Date of Promise	Promise made to:	Location of Promise
1	14-SEP-07	Steve James	Dist. 3 Precon

CAP Description

THERE NO CAPS.

N O T I C E

KENTUCKY DIVISION OF WATER
(WATER QUALITY CERTIFICATION AUTHORIZATION)

PROJECT: Barren County, Item No. 3-7000.00

The Section 401 activities for this project have been permitted under the authority of the Kentucky Division of Water. In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Certification in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain **written** permission from the Division of Construction and the Division of Water. A copy of any request to the Division of Water 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.

ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

TERESA J. HILL
SECRETARY

October 22, 2007

David Waldner, Director
Division of Environmental Analysis
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 40622

Re: Water Quality Certification # 2007-0124-1
Glasgow Outer Loop - Barren County
KTC Item No. 3-7000.00
AI No.: 96552, Activity ID: APE20070001
Unnamed Tributary to Beaver Creek
Barren County, Kentucky

Dear Mr. Waldner:

Pursuant to Section 401 of the Clean Water Act (CWA), the Commonwealth of Kentucky certifies it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 5, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA, will not be violated by the above referenced project provided that the U.S. Army Corps of Engineers authorizes the activity under 33 CFR part 330, and the attached conditions are met.

All future correspondence on this project must reference **AI No. 96552**. **The attached document is your official Water Quality Certification; please read it carefully**. If you should have any questions concerning the conditions of this water quality certification, please contact James Bicknell of my staff by calling (502) 564-3410.

Sincerely,

Tom C. VanArsdall

Tom C. VanArsdall, Manager
Water Quality Branch
Kentucky Division of Water

TCV:JB:tw

Attachment

cc: Lee Ann Devine, USACE: Louisville
Lee Andrews, USFWS: Frankfort
Danny Peake, KTC: Frankfort
Dale Reynolds, Green River Basin Coordinator

KTC Water Quality Certification

Glasgow Outer Loop - Barren Co
Facility Requirements
Permit Number:WQC 2007-0124-1
Activity ID No.: APE20070001

ACTV1 (AI 96552 - Stream Loss) Glasgow Outer Loop-South; KTC Item No. 3-7000.00:

Submittal/Action Requirements:

Condition No.	Condition
S-1	Kentucky Transportation Cabinet must submit notification: Due prior to construction commencement to the Water Quality Certification Section of the Kentucky Division of Water. This notification shall consist of verification of payment of the in-lieu fee amount of $95,000.00 to the Kentucky Department of Fish and Wildlife Resources Stream Restoration Fund. The USACE may require a different amount. [Clean Water Act]

Narrative Requirements:

Condition No.	Condition
T-1	The work approved by this certification shall be limited to: -The loss of 60 linear feet of unnamed perennial tributary to Beaver Creek (Sta.40+50). -The loss of 152 linear feet of unnamed intermittent tributary to Beaver Creek (Sta.50+50). -The loss of 64 linear feet of unnamed perennial tributary to Beaver Creek (Sta.69+31.50). -The loss of 56 linear feet of unnamed perennial tributary to Beaver Creek (Sta.72+88.50). -The loss of 226 linear feet of unnamed intermittent tributary to Beaver Creek (Sta.417+90). -The loss of 392 linear feet of unnamed intermittent tributary to Beaver Creek (Sta.104+64). [Clean Water Act]
T-2	The Kentucky Division of Water requires mitigation for the 950 linear feet of unnamed intermittent and perennial stream impacts associated with this project. The Kentucky Division of Water will require a payment of $95,000.00. Payment should be made to the Kentucky Department of Fish and Wildlife Resources (KDFWR) Stream Restoration Fund. The USACE may require a different amount. [Clean Water Act]
T-3	All work performed under this certification shall adhere to the design and specifications set forth in the application submitted to the Kentucky Division of Water (KDOW), dated May 15, 2007. [Clean Water Act]
T-4	Kentucky Transportation Cabinet is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sedimentation control plan must be designed, implemented, and maintained in effective operating condition at all times during construction. [Clean Water Act]
T-5	The Division of Water reserves the right to modify or revoke this certification should it be determined that the activity is in noncompliance with any condition set forth in this certification. [Clean Water Act]

KTC Water Quality Certification
Glasgow Outer Loop - Barren Co
Facility Requirements
Permit Number:WQC 2007-0124-1
Activity ID No.: APE20070001

ACTV1 (continued):

Narrative Requirements:

Condition No.	Condition
T-6	If construction does not commence within two years of the date of this letter, this certification will become void. A letter requesting a renewal should be submitted. [Clean Water Act]
T-7	Other permits may be required from the Division of Water for this project. If this project takes place within the floodplain, a permit may be required from the Water Resources Branch. The contact person is Ron Dutta. If this project will disturb one acre or more of land, a KPDES general storm water permit will be required from the KPDES Branch. The contact person is Ronnie Thompson. Both can be reached at 502/564-3410. [Clean Water Act]

GENERAL CONDITIONS FOR WATER QUALITY CERTIFICATION

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

2. All dredged material shall be removed to an upland location and/or graded on adjacent areas (so long as such areas are not regulated wetlands), to obtain original streamside elevations, i.e. overbank flooding shall not be artificially obstructed.

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

4. To the maximum extent practicable, all instream work under this certification shall be performed during low flow.

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

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

7. If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when work will be done.

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

9. Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/564-2380.

ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

TERESA J. HILL
SECRETARY

ATTENTION APPLICANT

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

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

- **Construction sites greater than 1 acre will require the filing of a Notice of Intent to be covered under the KPDES General Stormwater Permit. This permit requires the creation of an erosion control plan.**
  Contact: Ronnie Thompson

- **Projects that involve filling in the floodplain will require a floodplain construction permit from the Water Resources Branch.**
  Contact: Ron Dutta

- **Projects that involve work IN a stream, such as bank stabilization, road culverts, utility line crossings, and stream alteration will require a floodplain permit and a Water Quality Certification from the Division of Water.**
  Contact: Jenni Garland

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

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

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

Supplemental Specifications to the Standard Specifications for Road and Bridge Construction, 2012 Edition

(Effective with the August 17, 2012 Letting)

Subsection:	402.03.02 Contractor Quality Control and Department Acceptance.
Part:	D) Testing Responsibilites.
Number:	4) Density.
Revision:	Replace the second sentence of the Option A paragraph with the following: Perform coring by the end of the following work day.
Subsection:	606.03.17 Special Requirements for Latex Concrete Overlays.
Part:	A) Existing Bridges and New Structures.
Number:	1) Prewetting and Grout-Bond Coat.
Revision:	Add the following sentence to the last paragraph: Do not apply a grout-bond coat on bridge decks prepared by hydrodemolition.
Subsection:	609.03 Construction.
Revision:	Replace Subsection 609.03.01 with the following: 609.03.01 A) Swinging the Spans. Before placing concrete slabs on steel spans or precast concrete release the temporary erection supports under the bridge and swing the span free on its supports. 609.03.01 B) Lift Loops. Cut all lift loops flush with the top of the precast beam once the beam is placed in the final location and prior to placing steel reinforcement. At locations where lift loops are cut, paint the top of the beam with galvanized or epoxy paint.

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

10T

SPECIAL NOTE FOR ACCEPTANCE OF JPC PAVEMENT THICKNESS

This Special Note will apply where indicated on the plans or in the proposal. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. This Special Note covers the requirements for thickness of JPC pavement. Contrary to Subsection 501.03.21 and 501.05.01, the Department will accept JPC pavement thickness from cores based on a percent within limits (PWL) per lot. The PWL will not apply for projects involving less than 2,500 square yards of pavement per bid item. For quantities less than 2,500 square yards of pavement per bid item, acceptance will be in accordance with 3.1.2 of this note.

2.0 MATERIALS. Reserved

3.0 CONSTRUCTION.

3.1 Pavement Thickness. The Engineer will determine random sampling locations according to KM 64-113. Obtain 8 cores per lot at the randomly selected locations under the observance of the Engineer. Cut cores with a nominal diameter of not less than 4 inches. Take all cores after any corrective grinding. Provide the cores to the Engineer immediately. The Department will measure cores according to KM 64-308, taking 5 measurements for all cores. Furnish all tools, labor, and materials for cutting samples and filling the cored hole. Fill core holes with a non-shrink grout approved by the Engineer within one day after sampling.

When a core thickness is deficient by one inch or more, the Department will not accept the pavement. Remove and replace the deficient pavement. Take another random core from the sublot as the Engineer directs to determine the PWL.

3.1.1 Lot Size. The Department will divide each pavement bid item into lots of 6,000 linear feet of paved width. The lot will be divided into 8 sublots of equal length (750 feet). Take a core from each sublot for determination of pavement thickness.

For bid items with over 2,500 square yards and less than 6,000 linear feet of paved width, project area will be divided into 4 equal sublots for determination of PWL.

For a remainder lot of less than 3,000 feet, the Department will add the quantity of pavement to the previous lot and the 8 sublots will be equally divided over the increased length. For a remainder lot of 3,000 feet or greater, the Department will divide the remainder lot into 8 equal sublots for acceptance.

3.1.2 Small Quantities and Miscellaneous Areas. For quantities less than 2,500 square yards per bid item and for miscellaneous areas, the acceptance may be based on either of the following:

1) Engineer's inspection of the base grade elevation in relation to the forms, or
2) Engineer's monitoring of the yield rate and visual inspection of the placement,

Miscellaneous areas are entrances and tapers less than 10 feet wide. Furnish cores for areas where there are indications of deficient thickness as the Engineer directs. Replace areas found deficient by one inch or more at no cost. The Engineer will evaluate areas found deficient by 0.50 to 0.99 inches according to Subsection 105.04 for acceptance.

10T

3.1.3 Statistical Evaluation. The Department will use the Variability-Unknown/Standard Deviation Method to determine the estimate percentage of the lot that is within the specification limits (PWL). The Engineer will calculate the lower quality index (QL)

$$QL = \frac{\text{Average} - LSL}{s}$$

Where: Average = the arithmetic mean of the test values. The average will be determined to the nearest tenth of an inch.
LSL = the specified thickness minus 0.20 inch.
s = Standard Deviation = [Sum (Individual Measurement - Average)^2 / (n-1)]$^{1/2}$, determined to 2 decimal places.
N = Number of measurements.

QL will be determined to 2 decimal places.

For calculation of PWL, core thickness greater than 0.75 inches more than the specified thickness will be rounded down to the specified thickness plus 0.75 inch.

Percent Within Limits (PWL) will be determined by the attached tables with QL, for n = the number of tests for the Lot. PWL will be determined to 2 decimal places.

For all calculations round down when the last significant digit is followed by a number less than 5 and round up when the last significant digit is followed by a number equal to or greater than 5.

4.0 MEASUREMENT. The Department will not measure for payment any work or materials required to supply the cores or grout the holes and will consider it incidental to JPC Pavement.

5.0 PAYMENT. The Department will base acceptance of each lot of material on the percentage of material within specification limits (PWL). The following equation will determine the pay factor for thickness: PF % = 52.5 + 0.5 PWL. The Department will round the Pay Factor to 2 decimal places as noted above.

January 1, 2008

10T

PERCENT WITHIN LIMITS ESTIMATION TABLE
Variability - Unknown Procedure
Standard Deviation Method
Sample Size 4

Q	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	50.00	50.33	50.67	51.00	51.33	51.67	52.00	52.33	52.67	53.00
0.1	53.33	53.67	54.00	54.33	54.67	55.00	55.33	55.67	56.00	56.33
0.2	56.67	57.00	57.33	57.67	58.00	58.33	58.67	59.00	59.33	59.67
0.3	60.00	60.33	60.67	61.00	61.33	61.67	62.00	62.33	62.67	63.00
0.4	63.33	63.67	64.00	64.33	64.67	65.00	65.33	65.67	66.00	66.33
0.5	66.67	67.00	67.33	67.67	68.00	68.33	68.67	69.00	69.33	69.67
0.6	70.00	70.33	70.67	71.00	71.33	71.67	72.00	72.33	72.67	73.00
0.7	73.33	73.67	74.00	74.33	74.67	75.00	75.33	75.67	76.00	76.33
0.8	76.67	77.00	77.33	77.67	78.00	78.33	78.67	79.00	79.33	79.67
0.9	80.00	80.33	80.67	81.00	81.33	81.67	82.00	82.33	82.67	83.00
1.0	83.33	83.67	84.00	84.33	84.67	85.00	85.33	85.67	86.00	86.33
1.1	86.67	87.00	87.33	87.67	88.00	88.33	88.67	89.00	89.33	89.67
1.2	90.00	90.33	91.67	91.00	91.33	91.67	92.00	92.33	92.67	93.00
1.3	93.33	93.67	94.00	94.33	94.67	95.00	95.33	95.67	96.00	96.33
1.4	96.67	97.00	97.33	97.67	98.00	98.33	98.67	99.00	99.33	99.67
1.5	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

10T

PERCENT WITHIN LIMITS ESTIMATION TABLE
Variability - Unknown Procedure
Standard Deviation Method
Sample Size 8

Q	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	50.00	50.38	50.76	51.14	51.51	51.89	52.27	52.65	53.03	53.41
0.1	53.78	54.16	54.54	54.92	55.29	55.67	56.04	56.42	56.79	57.17
0.2	57.54	57.92	58.29	58.66	59.03	59.41	59.78	60.15	60.52	60.89
0.3	61.25	61.62	61.99	62.35	62.72	63.08	63.45	63.81	64.17	64.53
0.4	64.89	65.25	65.61	65.96	66.32	66.67	67.03	67.38	67.73	68.08
0.5	68.43	68.78	69.13	69.47	69.82	70.16	70.50	70.84	71.18	71.52
0.6	71.85	72.19	72.52	72.85	73.18	73.51	73.84	74.17	74.49	74.81
0.7	75.14	75.46	75.77	76.09	76.41	76.72	77.03	77.34	77.65	77.96
0.8	78.26	78.56	78.86	79.16	79.46	79.76	80.05	80.34	80.63	80.92
0.9	81.21	81.49	81.77	82.05	82.33	82.61	82.88	83.15	83.43	83.69
1.0	83.96	84.22	84.49	84.75	85.00	85.26	85.51	85.76	86.01	86.26
1.1	86.51	86.75	86.99	87.23	87.46	87.70	87.93	88.16	88.39	88.61
1.2	88.83	89.06	89.27	89.49	89.70	89.91	90.12	90.33	90.53	90.74
1.3	90.94	91.13	91.33	91.52	91.71	91.9	92.09	82.27	92.45	92.63
1.4	92.81	92.98	93.15	93.32	93.49	93.65	93.81	93.97	94.13	94.29
1.5	94.44	94.59	94.74	94.88	95.03	95.17	95.31	95.44	95.58	95.71
1.6	95.84	95.97	96.09	96.21	96.33	96.45	96.57	96.68	96.79	96.90
1.7	97.01	97.11	97.21	97.31	97.41	97.51	97.60	97.69	97.78	97.87
1.8	97.96	98.04	98.12	98.20	98.28	98.35	98.42	98.49	98.56	98.63
1.9	98.69	98.76	98.82	98.88	98.93	98.99	99.04	99.09	99.14	99.19
2.0	99.24	99.28	99.33	99.37	99.41	99.45	99.48	99.52	99.55	99.58
2.1	99.61	99.64	99.67	99.7	99.72	99.74	99.77	99.79	99.81	99.83
2.2	99.84	99.86	99.87	99.89	99.90	99.91	99.92	99.93	99.94	99.95
2.3	99.96	99.96	99.97	99.98	99.98	99.98	99.99	99.99	99.99	100.00

11D

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.

11D

When an errant blast or fly rock causes damage to or blocks a road or conveyance adjacent to the roadway, remove all debris from the roadway as quickly as practicable and perform any necessary repairs. Additionally, when specified in the Contract, the Department will apply a penalty.

Report all blasting accidents to the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at 502-564-2340.

4.0 MEASUREMENT AND PAYMENT. The Department will not measure this work for payment and will consider all items contained in this note to be incidental to either Roadway Excavation or Embankment-in-Place, as applicable. However, if the Engineer directs in writing slope changes, then the Department will pay for the second presplitting operation as Extra Work.

The Department will measure for payment material lying outside the typical section due to seams, broken formations, or earth pockets, including any earth overburden removed with this material, only when the work is performed under authorized adjustments.

The Department will not measure for payment any extra material excavated because of the drill holes being offset outside the designated slope lines.

The Department will not measure for payment any material necessary to be removed due to the inefficient or faulty blasting practices.

June 15, 2012

11F

SPECIAL NOTE FOR TURF REINFORCING MAT

1.0 DESCRIPTION. Install turf reinforcement mat at locations specified in the Contract or as the Engineer directs. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

2.0 MATERIALS.

2.1 Turf Reinforcement Mat (TRM). Use a Turf Reinforcement Mat defined as permanent rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a three-dimensional matrix of sufficient thickness and from the Department's List of Approved Materials. Mats must be 100% UV stabilized materials. For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting exclusively. Ensure product labels clearly show the manufacturer or supplier name, style name, and roll number. Ensure labeling, shipment and storage follows ASTM D-4873. The Department will require manufacturer to provide TRMs that are machine constructed web of mechanically or melt bonded nondegradable fibers entangled to form a three dimensional matrix. The Department will require all long term performance property values in table below to be based on non degradable portion of the matting alone. Approved methods include polymer welding, thermal or polymer fusion, or placement of fibers between two high strength biaxially oriented nets mechanically bound by parallel stitching with polyolefin thread. Ensure that mats designated in the plans as Type 4 mats, are not to be manufactured from discontinuous or loosely held together by stitching or glued netting or composites. Type 4 mats shall be composed of geosynthetic matrix that exhibits a very high interlock and reinforcement capacities with both soil and root systems and with high tensile modulus. The Department will require manufacturer to use materials chemically and biologically inert to the natural soil environments conditions. Ensure the blanket is smolder resistant without the use of chemical additives. When stored, maintain the protective wrapping and elevate the mats off the ground to protect them from damage. The Department will not specify these materials for use in heavily acidic coal seam areas or other areas with soil problems that would severally limit vegetation growth.

A) Dimensions. Ensure TRMs are furnished in strips with a minimum width of 4 feet and length of 50 feet.
B) Weight. Ensure that all mat types have a minimum mass per unit area of 7 ounces per square yard according to ASTM D 6566.
C) Performance Testing: The Department will require AASHTO's NTPEP index testing. The Department will also require the manufacturer to perform internal MARV testing at a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory for tensile strength, tensile elongation, mass per unit area, and thickness once every 24,000 yds of production or whatever rate is required to ensure 97.7% confidence under ASTM D4439& 4354. The Department will require Full scale testing for slope and channel applications shear stress shall be done under ASTM D 6459, ASTM D 6460-07 procedures.

2.2 Classifications

The basis for selection of the type of mat required will be based on the long term shear stress level of the mat of the channel in question or the degree of slope to protect and will be designated in the contract. The Type 4 mats are to be used at structural backfills protecting critical

11F

structures, utility cuts, areas where vehicles may be expected to traverse the mat, channels with large heavy drift, and where higher factors of safety, very steep slopes and/or durability concerns are needed as determined by project team and designer and will be specified in the plans by designer.

Turf Reinforcement Matting					
Properties[1]	Type 1	Type 2	Type 3	Type 4	Test Method
Minimum tensile Strength lbs/ft	125	150	175	3000 by 1500	ASTM D6818[2]
UV stability (minimum % tensile retention)	80	80	80	90	ASTM D4355[3] (1000-hr exposure)
Minimum thickness (inches)	0.25	0.25	0.25	0.40	ASTM D6525
Slopes applications	2H:1V or flatter	1.5H:1V or flatter	1H:1V or flatter	1 H: 1V or greater	
Shear stress lbs/ft^2 Channel applications	6.0[4]	8.0[4]	10.0[4]	12.0[4]	ASTM D6459 ASTM D6460-07

[1] For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting alone.
[2]Minimum Average Roll Values for tensile strength of sample material machine direction.
[3]Tensile Strength percentage retained after stated 1000 hr duration of exposure under ASTM D4355 testing. Based on nondegradable components exclusively.
[4]Maximum permissible shear design values based on short-term (0.5 hr) vegetated data obtained by full scale flume testing ASTM D6459, D6460-07. Based on nondegradable components exclusively. Testing will be done at Independent Hydraulics Facility such as Colorado State University hydraulics laboratory, Utah State University hydraulics laboratory, Texas Transportation Institute (TTI) hydraulics and erosion control laboratory.

2.3 Quality Assurance Sampling, Testing, and Acceptance

A) Provide TRM listed on the Department's List of Approved Materials. Prior to inclusion on the LAM, the manufacturer of TRM must meet the physical and performance criteria as outlined in the specification and submit a Letter Certifying compliance of the product under the above ASTM testing procedures and including a copy of report from Full Scale Independent Hydraulics Facility that Fully Vegetated Shear Stress meets shear stress requirements tested under D6459 and D6460-07.

B) Contractors will provide a Letter of Certification from Manufacturer stating the product name, manufacturer, and that the product MARV product unit testing results meets Department criteria. Provide Letters once per project and for each product.

C) Acceptance shall be in accordance with ASTM D-4759 based on testing performed by a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory using Procedure A of ASTM D-4354.

Current mats meeting the above criteria are shown on the Department's List of Approved Materials.

2.4 Fasteners. When the mat manufacturer does not specify a specific fastener, use steel wire U-shaped staples with a minimum diameter of 0.09 inches (11 gauge), a minimum width of one inch and a minimum length of 12 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils as directed by Engineer or Manufacturer's Representative. Provide staples with colored tops when requested by the Engineer.

3.0 CONSTRUCTION. When requested by the Engineer, provide a Manufacturer's Representative on-site to oversee and approve the initial installation of the mat. When requested by the Engineer, provide a letter from the Manufacturer approving the installation. When there is a conflict between the Department's criteria and the Manufacturer's criteria, construct using the more restrictive. The Engineer and Manufacturer's Representative must approve all alternate installation methods prior to execution. Construct according to the Manufacturer's recommendations and the following as minimum installation technique:

3.1 Site Preparation. Grade areas to be treated with matting and compact. Remove large rocks, soil clods, vegetation, roots, and other sharp objects that could keep the mat from intimate contact with subgrade. Prepare seedbed by loosening the top 2 to 3 inch of soil.

3.2 Installation. Install mats according to Standard Drawing Sepias "Turf Mat Channel Installation" and "Turf Mat Slope Installation." Install mats at the specified elevation and alignment. Anchor the mats with staples with a minimum length of 12 inches. Use longer anchors for installations in sandy, loose, or wet soils as directed by the Engineer or Manufacturer's Representative. The mat should be in direct contact with the soil surface.

4.0 MEASUREMENT. The Department will measure the quantity of Turf Reinforcement Mat by the square yard of surface covered. The Department will not measure preparation of the bed, providing a Manufacturer's Representative, topsoil, or seeding for payment and will consider them incidental to the Turf Reinforcement Mat. The Department will not measure any reworking of slopes or channels for payment as it is considered corrective work and incidental to the Turf Reinforcement Mat. Seeding and protection will be an incidental item.

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

Code	Pay Item	Pay Unit
23274EN11F	Turf Reinforcement Mat 1	Square Yard
23275EN11F	Turf Reinforcement Mat 2	Square Yard
23276EN11F	Turf Reinforcement Mat 3	Square Yard
23277EN11F	Turf Reinforcement Mat 4	Square Yard

SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES

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

1.0 DESCRIPTION. Construct a soil, granular, or rock embankment with granular or cohesive pile core and place structure granular backfill, as the Plans require. Construct the embankment according to the requirements of this Special Provision, the Plans, Standard Drawing RGX 100 and 105, and the 2012 Standard Specifications.

2.0 MATERIALS.

2.1 Granular Embankment. Conform to Subsection 805.10. When Granular Embankment materials are erodible or unstable according to Subsection 805.03.04, use the Special Construction Methods found in 3.2 of the Special Provision.

2.2 Rock Embankment. Provide durable rock from roadway excavation that consists principally of Unweathered Limestone, Durable Shale (SDI equal to or greater than 95 according to KM 64-513), or Durable Sandstone.

2.3 Granular Pile Core. Select a gradation of durable rock to facilitate pile driving that conforms to Subsection 805.11. If granular pile core material hinders pile driving operations, take appropriate means necessary to reach the required pile tip elevation, at no expense to the Department.

2.4 Cohesive Pile Core. Conform to Section 206 of the Standard Specifications and use soil with at least 50 percent passing a No. 4 sieve having a minimum Plasticity Index (PI) of 10. In addition, keep the cohesive pile core free of boulders, larger than 6 inches in any dimension, or any other obstructions, which would interfere with drilling operations. If cohesive pile core material interferes with drilling operations, take appropriate means necessary to maintain excavation stability, at no expense to the Department.

2.5 Structure Granular Backfill. Conform to Subsection 805.11

2.6 Geotextile Fabric. Conform to Type I or Type IV in Section 214 and 843 as required in the plans.

3.0 CONSTRUCTION.

3.1 General. Construct roadway embankments at end bents according to Section 206 and in accordance with the Special Provision, the Plans, and Standard Drawings for the full embankment section. In some instances, granular or rock embankment will be required for embankment construction for stability purposes, but this special provision does not prevent the use of soil when appropriate. Refer to the plans for specific details regarding material requirements for embankment construction.

Place and compact granular or cohesive pile core, soil, granular or rock embankment, and structure granular backfill according to the applicable density requirements for the project. When constructing granular or rock embankments, use granular pile core for driven pile foundations and use cohesive pile core for pre-drilled pile or drilled shaft foundations. Place geotextile fabric, Type IV between cohesive pile core and structure

granular backfill and granular or rock embankment.

When granular or rock embankment is required for embankment construction, conform to the general requirements of Subsection 206.03.02 B). In addition, place the material in no greater than 2-foot lifts and compact with a vibrating smooth wheel roller capable of producing a minimum centrifugal force of 15 tons. Apply these requirements to the full width of the embankment for a distance of half the embankment height or 50 feet, whichever is greater, as shown on Standard Drawing RGX-105.

When using granular pile core, install 8-inch perforated underdrain pipe at or near the elevation of the original ground in the approximate locations depicted on the standard drawing, and as the Engineer directs, to ensure positive drainage of the embankment. Wrap the perforated pipe with a fabric of a type recommended by the pipe manufacturer.

After constructing the embankment, excavate for the end bent cap, drive piling or install shafts, place the mortar bed, construct the end bent, and complete the embankment to finish grade according to the construction sequence shown on the Plans or Standard Drawings and as specified hereinafter.

Certain projects may require widening of existing embankments and the removal of substructures. Construct embankment according to the plans. Substructure removal shall be completed according to the plans and Section 203. Excavation may be required at the existing embankment in order to place the structure granular backfill as shown in the Standard Drawings.

After piles are driven or shafts installed (see design drawings), slope the bottom of the excavation towards the ends of the trench as noted on the plans for drainage. Using a separate pour, place concrete mortar, or any class concrete, to provide a base for forming and placing the cap. Place side forms for the end bent after the mortar has set sufficiently to support workmen and forms without being disturbed.

Install 4-inch perforated pipe in accordance with the plans and Standard Drawings. In the event slope protection extends above the elevation of the perforated pipe, extend the pipe through the slope protection.

After placing the end bent cap and removing adjacent forms, fill the excavation with structure granular backfill material to the level of the berm prior to placing beams for the bridge. For soil embankments, place Type IV geotextile fabric between embankment material and structure granular backfill. After completing the end bent backwall, or after completing the span end wall, place the structure granular backfill to subgrade elevation. If the original excavation is enlarged, fill the entire volume with compacted structure granular backfill at no expense to the Department. Do not place backfill before removing adjacent form work. Place structure granular backfill material in trench ditches at the ends of the excavation. Place Geotextile Fabric, Type IV over the surface of structure granular backfill prior to placing aggregate base course.

Tamp the backfill with hand tampers, pneumatic tampers, or other means the Engineer approves. Thoroughly compact the backfill under the overhanging portions of the structure to ensure that the backfill is in intimate contact with the sides of the structure.

Do not apply seeding, sodding, or other vegetation to the exposed granular embankment.

3.2 Special Construction Methods. Erodible or unstable materials may erode even when protected by riprap or channel lining; use the special construction method described below when using these materials.

Use fine aggregates or friable sandstone granular embankment at “dry land” structures only. Do not use them at stream crossings or locations subject to flood waters.

For erodible or unstable materials having 50 percent or more passing the No. 4 sieve, protect with geotextile fabric. Extend the fabric from the original ground to the top of slope over the entire area of the embankment slopes on each side of, and in front of, the

end bent. Cover the fabric with at least 12 inches of non-erodible material.

For erodible or unstable materials having less than 50 percent passing a No. 4 sieve, cover with at least 12 inches of non-erodible material.

Where erodible or unstable granular embankment will be protected by riprap or channel lining, place geotextile fabric between the embankment and the specified slope protection.

4.0 MEASUREMENT.

4.1 Granular Embankment. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment any Granular Embankment that is not called for in the plans.

The Department will not measure for payment any special construction caused by using erodible or unstable materials and will consider it incidental to the Granular Embankment regardless of whether the erodible or unstable material was specified or permitted.

4.2 Rock Embankment. The Department will not measure for payment any rock embankment and will consider it incidental to roadway excavation or embankment in place, as applicable. Rock embankments will be constructed using granular embankment on projects where there is no available rock present within the excavation limits of the project.

4.3 Granular Pile Core. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment furnishing and placing 8-inch perforated underdrain pipe and will consider it incidental to the Granular pile core. The Department will not measure for payment any granular pile core that is necessary because the contractor elects to use granular or rock embankment when it is not specified in the plans.

4.4 Cohesive Pile Core. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204.

4.5 Structure Granular Backfill. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure any additional material required for backfill outside the limits shown on the Plans and Standard Drawings for payment and will consider it incidental to the work.

The Department will not measure structure excavation at the end bent or an existing embankment for payment and will consider it incidental to Structure Granular Backfill.

The Department will not measure for payment the 4-inch perforated underdrain pipe and will consider it incidental to the Structure Granular Backfill.

4.6 Geotextile Fabric. The Department will measure the quantities as specified in Section 214. The Department will not measure the quantity of fabric used for separating granular or rock embankment and cohesive pile core and will consider it incidental to cohesive pile core.

4.7 End Bent. The Department will measure the quantities according to the

Contract. The Department will not measure furnishing and placing the 2-inch mortar or concrete bed for payment and will consider it incidental to the end bent construction.

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

Code	Pay Item	Pay Unit
02223	Granular Embankment	Cubic Yards
20209EP69	Granular Pile Core	Cubic Yards
20210EP69	Cohesive Pile Core	Cubic Yards
02231	Structure Granular Backfill	Cubic Yards
02596, 02599	Geotextile Fabric, Type	See Section 214

The Department will consider payment as full compensation for all work required in this provision.

June 15, 2012

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

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 (between forty and seventy); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age (between forty and seventy). The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, disability or age (between forty and seventy), except that such notice or advertisement may indicate a preference, limitation, or specification based on religion, or national origin when religion, or national origin is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age (between forty and seventy), in admission to, or employment in any program established to provide apprenticeship or other training.

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

III. PAYMENT OF PREDETERMINED MINIMUM WAGES

1. These special provisions are supplemented elsewhere in the contract by special provisions which set forth certain predetermined minimum wage rates. The contractor shall pay not less than those rates.

2. The minimum wage determination schedule shall be posted by the contractor, in a manner prescribed by the Department of Highways, at the site of the work in prominent places where it can be easily seen by the workers.

IV. STATEMENTS AND PAYROLLS

1. All contractors and subcontractors affected by the terms of KRS 337.505 to 337.550 shall keep full and accurate payroll records covering all disbursements of wages to their employees to whom they are required to pay not less than the prevailing rate of wages. Payrolls and basic records relating thereto will be maintained during the course of the work and preserved for a period of one (1) year from the date of completion of this contract.

2. The payroll records shall contain the name, address and social security number of each employee, his correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid.

3. The contractor shall make his daily records available at the project site for inspection by the State Department of Highways contracting office or his authorized representative.

Periodic investigations shall be conducted as required to assure compliance with the labor provisions of the contract. Interrogation of employees and officials of the contractor shall be permitted during working hours.

Aggrieved workers, Highway Managers, Assistant District Engineers, Resident Engineers and Project Engineers shall report all complaints and violations to the Division of Contract Procurement.

The contractor shall be notified in writing of apparent violations. The contractor may correct the reported violations and notify the Department of Highways of the action taken or may request an informal hearing. The request for hearing shall be in writing within ten (10) days after receipt of the notice of the reported violation. The contractor may submit

records and information which will aid in determining the true facts relating to the reported violations.

Any person or organization aggrieved by the action taken or the findings established as a result of an informal hearing by the Division of Contract Procurement may request a formal hearing.

4. The wages of labor shall be paid in legal tender of the United States, except that this condition will be considered satisfied if payment is made by a negotiable check, on a solvent bank, which may be cashed readily by the employee in the local community for the full amount, without discount or collection charges of any kind. Where checks are used for payments, the contractor shall make all necessary arrangements for them to be cashed and shall give information regarding such arrangements.

5. No fee of any kind shall be asked or accepted by the contractor or any of his agents from any person as a condition of employment on the project.

6. No laborers shall be charged for any tools used in performing their respective duties except for reasonably avoidable loss or damage thereto.

7. Every employee on the work covered by this contract shall be permitted to lodge, board, and trade where and with whom he elects and neither the contractor nor his agents, nor his employees shall directly or indirectly require as a condition of employment that an employee shall lodge, board or trade at a particular place or with a particular person.

8. Every employee on the project covered by this contract shall be an employee of either the prime contractor or an approved subcontractor.

9. No charge shall be made for any transportation furnished by the contractor or his agents to any person employed on the work.

10. No individual shall be employed as a laborer or mechanic on this contract except on a wage basis, but this shall not be construed to prohibit the rental of teams, trucks or other equipment from individuals.

No Covered employee may be employed on the work except in accordance with the classification set forth in the schedule mentioned above; provided, however, that in the event additional classifications are required, application shall be made by the contractor to the Department of Highways and (1) the Department shall request appropriate classifications and rates from the proper agency, or (2) if there is urgent need for additional classification to avoid undue delay in the work, the contractor may employ such workmen at rates deemed comparable to rates established for similar classifications provided he has made written application through the Department of Highways, addressed to the proper agency, for the supplemental rates. The contractor shall retroactively adjust, upon receipt of the supplemental rates schedule, the wages of any employee paid less than the established rate and may adjust the wages of any employee overpaid.

11. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any work-week in which he is employed on such work, to work in excess of eight hours in any calendar day or in excess of forty hours in such work-week unless such laborer or mechanic receives compensation at a rate not less than one and one half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such work-week. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. This agreement shall be in writing and shall be executed prior to the employee working in excess of eight (8) hours, but not more than ten (10) hours, in any one (1) calendar day.

12. Payments to the contractor may be suspended or withheld due to failure of the contractor to pay any laborer or mechanic employed or working on the site of the work, all or part of the wages required under the terms of the contract. The Department may suspend or withhold payments only after the contractor has been given written notice of the alleged violation and the contractor has failed to comply with the wage determination of the Department of Highways.

13. Contractors and subcontractors shall comply with the sections of Kentucky Revised Statutes, Chapter 337 relating to contracts for Public Works.

Revised 2-16-95

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (6) provides:

No present or former public servant shall, within six (6) months of following termination of his office or employment, accept employment, compensation or other economic benefit from any person or business that contracts or does business with the state in matters in which he was directly involved during his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved in state government. This subsection shall not prohibit the performance of ministerial functions, including, but not limited to, filing tax returns, filing applications for permits or licenses, or filing incorporation papers.

KRS 11A.040 (8) states:

A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, for a period of one (1) year after the latter of:

a) The date of leaving office or termination of employment; or
b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

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.

KENTUCKY LABOR CABINET
PREVAILING WAGE DETERMINATION
CURRENT REVISION
HIGHWAY CONSTRUCTION LOCALITY NO. II

Determination No. CR-11-II-HWY

Project No.
Highway

Date of Determination: August 4, 2011

This schedule of the prevailing rate of wages for Locality No. II including the counties of ADAIR, BARREN, BELL, BREATHITT, CASEY, CLAY, CLINTON, CUMBERLAND, ESTILL, FLOYD, GARRARD, GREEN, HARLAN, HART, JACKSON, JOHNSON, KNOTT, KNOX, LAUREL, LAWRENCE, LEE, LESLIE, LETCHER, LINCOLN, MCCREARY, MAGOFFIN, MARTIN, MENIFEE, METCALFE, MONROE, MORGAN, OWSLEY, PERRY, PIKE, POWELL, PULASKI, ROCKCASTLE, RUSSELL, TAYLOR, WAYNE, WHITLEY, and WOLFE has been determined in accordance with the provisions of KRS 337.505 to 337.550. This determination shall be referred to as Prevailing Wage Determination No. CR-11-II-HWY.

The following schedule of rates is to be used for highway construction projects advertised or awarded by the Kentucky Transportation Cabinet. This includes any contracts for the relocation of any utilities or other incidental construction projects advertised or awarded by public authorities as a result of the highway construction project.

Apprentices or trainees shall be permitted to work in accordance with Administrative Regulations adopted by the Commissioner of the Department of Workplace Standards. Copies of these regulations will be furnished upon request to any interested person.

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

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

Michael Donta, Deputy Commissioner
Department of Workplace Standards

CLASSIFICATIONS	RATE AND FRINGE BENEFITS	
BOILERMAKERS:	BASE RATE	$24.65
	FRINGE BENEFIT	12.94
BRICKLAYERS:		
Bricklayers:	BASE RATE	$22.90
	FRINGE BENEFITS	8.50
Stone Mason:	BASE RATE	$21.50
	FRINGE BENEFITS	8.50
CARPENTERS:		
Carpenters:	BASE RATE	$22.40
	FRINGE BENEFITS	8.75
Piledrivers:	BASE RATE	$22.05
	FRINGE BENEFITS	8.75
CEMENT MASONS:	BASE RATE	$21.25
	FRINGE BENEFITS	8.50
ELECTRICIANS:	*BASE RATE	$29.36
	FRINGE BENEFITS	10.55

*When workmen are required to work from bosum chairs, trusses, stacks, tanks, scaffolds, catwalks, radio and T.V. towers, structural steel (open, unprotected, unfloored raw steel), and bridges or similar hazardous locations where workmen are subject to a direct fall, except where using JLG's and bucket trucks up to 75 feet: Add 25% to workman's base rate for 50 to 75 feet, and add 50% to workman's base rate for over 75 feet.

LINEMAN:	*BASE RATE	$30.09
	FRINGE BENEFITS	10.94
EQUIPMENT OPERATOR:	*BASE RATE	$26.90
	FRINGE BENEFITS	10.31
GROUNDSMAN:	*BASE RATE	$17.79
	FRINGE BENEFITS	8.51
IRONWORKERS:	BASE RATE	$ 25.77
	FRINGE BENEFITS	18.54

CLASSIFICATIONS	RATE AND FRINGE BENEFITS	
LABORERS:		
General laborer, flagman, steam jenny:	BASE RATE	$20.84
	FRINGE BENEFITS	8.75
Batch truck dumper, deck hand or scow man, hand blade operator:	BASE RATE	$20.84
	FRINGE BENEFITS	8.75
Power driven tool operator of the following: wagon drill, chain saw, sand blaster, concrete chipper, pavement breaker, vibrator, power wheelbarrow, power buggy, sewer pipe layer, bottom men, dry cement handler, concrete rubber, mason tender:	BASE RATE	$21.09
	FRINGE BENEFITS	8.75
Asphalt lute and rakerman, side rail setter:	BASE RATE	$21.14
	FRINGE BENEFITS	8.75
Gunnite nozzle man, gunnite opeator:	BASE RATE	$21.14
	FRINGE BENEFITS	8.75
Tunnel laborer (free air):	BASE RATE	$21.14
	FRINGE BENEFITS	8.75
Tunnel mucker (free air):	BASE RATE	$21.74
	FRINGE BENEFITS	8.75
Tunnel miner, blaster and driller (free air):	BASE RATE	$21.74
	FRINGE BENEFITS	8.75
Caisson worker:	BASE RATE	$21.74
	FRINGE BENEFITS	8.75
Powderman:	BASE RATE	$21.44
	FRINGE BENEFITS	8.75
Drill operator of percussion type drills which are both powered and propelled by an independent air supply:	BASE RATE	$22.64
	FRINGE BENEFITS	8.75

CLASSIFICATIONS | RATE AND FRINGE BENEFITS

OPERATING ENGINEERS:

Group A:
Auto patrol, batcher plant, bituminous paver, cable-way, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge engineer, elevator (regardless of ownership when used for hoisting any building material), elevating grader and all types of loaders, hoe-type machine, hoisting engine, locomotive, LeTourneau or carry-all scoop, bulldozer, mechanic, orangepeel bucket, piledriver, power blade, roller (bituminous), roller (earth), roller (rock), scarifier, shovel, tractor shovel, truck crane, well points, winch truck, push dozer, grout pump, high lift, fork lift (regardless of lift height), all types of boom cats, multiple operator, core drill, tow or push boat, A-Frame winch truck, concrete paver, gradeall, hoist, hyster, material pump, pumpcrete, ross carrier,sheepfoot, sideboom, throttle-valve man, rotary drill, power generator, mucking machine, rock spreader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, tugger, backfiller gurries, self-propelled compactor, self-contained hydraulic percussion drill:

BASE RATE	$23.80
FRINGE BENEFITS	8.75

Group B:
All air compressors (200 cu. ft. per min. or greater capacity), bituminous mixer, concrete mixer (under 21 cu. ft.), welding machine, form grader, tractor (50 H.P. and over), bull float, finish machine, outboard motor boat, brakeman, mechanic helper, whirly oiler, tractair and road widening trencher, articulating trucks:

BASE RATE	$21.55
FRINGE BENEFITS	8.75

Group B2:
Greaser on grease facilities servicing heavy equipment:

BASE RATE	$21.90
FRINGE BENEFITS	8.75

Group C:
Bituminous distributor, cement gun, conveyor, mud jack, paving joint machine, pump, tamping machine, tractors (under 50 H.P.), vibrator, oiler, air compressors (under 200 cu. ft. per min. capacity), concrete saw, burlap and curing machine, hydro seeder, power form handling equipment, deckhand oiler, hydraulic post driver:

BASE RATE	$21.31
FRINGE BENEFITS	8.75

PAINTERS:

All Excluding Bridges:

BASE RATE	$19.92
FRINGE BENEFITS	9.57

Bridges:

BASE RATE	$23.92
FRINGE BENEFITS	10.07

CLASSIFICATIONS	RATE AND FRINGE BENEFITS	
PLUMBERS:	BASE RATE	$22.52
	FRINGE BENEFITS	7.80
SHEET METAL:	BASE RATE	$20.40
	FRINGE BENEFITS	7.80
TRUCK DRIVERS:		
Truck helper and warehouseman:	BASE RATE	$21.10
	FRINGE BENEFITS	8.75
Driver, winch truck and A-Frame when used in transporting materials:	BASE RATE	$21.46
	FRINGE BENEFITS	8.75
Driver, (semi-trailer or pole trailer), driver (dump truck, tandem axle), driver of distributor:	BASE RATE	$21.45
	FRINGE BENEFITS	8.75
Driver on mixer trucks (all types):	BASE RATE	$21.45
	FRINGE BENEFITS	8.75
Truck mechanic:	BASE RATE	$21.38
	FRINGE BENEFITS	8.75
Driver (3 tons and under), tire changer and truck mechanic helper:	BASE RATE	$21.15
	FRINGE BENEFITS	8.75
Driver on pavement breakers:	BASE RATE	$21.46
	FRINGE BENEFITS	8.75
Driver (over 3 tons), driver (truck mounted rotary drill):	BASE RATE	$21.45
	FRINGE BENEFITS	8.75
Driver, Euclid and other heavy earth moving equipment and Low Boy:	BASE RATE	$21.46
	FRINGE BENEFITS	8.75
Greaser on greasing facilities:	BASE RATE	$21.15
	FRINGE BENEFITS	8.75

ERRATUM

Refer to the Locality Number and Determination Number listed below published by the Kentucky Labor Cabinet, Division of Employment Standards, Apprenticeship and Mediation dated August 4, 2011.

Locality: Highway Construction Locality No. II, including the following counties: Adair, Barren, Breathitt, Casey, Clay, Clinton, Cumberland, Estill, Floyd, Garrard, Green, Harlan, Hart, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lincoln, McCreary, Magoffin, Martin, Menifee, Metcalfe, Monroe, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Russell, Taylor, Wayne, Whitley and Wolfe.

Determination Number: CR-II-II-HWY

DELETE:

Ironworkers	BASE RATE	$25.77
	FRINGE BENEFIT	18.54

INSERT:

Ironworker (Structural)	BASE RATE	$22.50
	FRINGE BENEFIT	8.75
Ironworker (Reinforcing)	BASE RATE	$22.30
	FRINGE BENEFIT	8.75

Michael L. Dixon, Commissioner
Department of Workplace Standards
Kentucky Labor Cabinet
Frankfort, KY 40601

This 8th day of November, 2011.

ERRATUM

Refer to the Locality Number and Determination Number listed below published by the Kentucky Labor Cabinet, Division of Employment Standards, Apprenticeship and Mediation dated August 4, 2011.

Locality: Highway Construction Locality No. II, including the following counties: Adair, Barren, Breathitt, Casey, Clay, Clinton, Cumberland, Estill, Floyd, Garrard, Green, Harlan, Hart, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lincoln, McCreary, Magoffin, Martin, Menifee, Metcalfe, Monroe, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Russell, Taylor, Wayne, Whitley and Wolfe.

Determination Number: CR-II-II-HWY

DELETE:

Ironworker (Structural)	BASE RATE	$22.50
	FRINGE BENEFIT	8.75
Ironworker (Reinforcing)	BASE RATE	$22.30
	FRINGE BENEFIT	8.75

INSERT:

Ironworkers	BASE RATE	$25.77
	FRINGE BENEFIT	18.54

Michael L. Dixon, Commissioner
Department of Workplace Standards
Kentucky Labor Cabinet
Frankfort, KY 40601

This 4TH day of May, 2012.

Kentucky Determination No. CR-11-II-HWY dated August 04, 2011

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

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

These rates are listed pursuant to the KentuckyDetermination No. CR-11-II HWY dated August 04, 2011, erratum dated November 8, 2011, and erratum dated May 4, 2012. Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

Kentucky Determination No. CR-11-II-HWY dated August 04, 2011

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. Wage violations or questions should be directed to the designated Engineer or to the undersigned.

Ryan Griffith, Director
Division of Construction Procurement
Frankfort, Kentucky 40622

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

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 1
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
	SECTION 0001	PAVING			
ALT GROUP AA1		(ALTERNATE A - ASPHALT W/ ASPHALT SHOULDERS)			
0010	00003	CRUSHED STONE BASE	92,831.000 TON		
0020	00013	LIME STABILIZED ROADBED	192,435.000 SQYD		
0030	00014	LIME	3,600.000 TON		
0040	00020	TRAFFIC BOUND BASE	696.000 TON		
0050	00100	ASPHALT SEAL AGGREGATE	725.000 TON		
0060	00103	ASPHALT SEAL COAT	87.000 TON		
0070	00190	LEVELING & WEDGING PG64-22	679.000 TON		
0080	00212	CL2 ASPH BASE 1.00D PG64-22	8,509.000 TON		
0090	00214	CL3 ASPH BASE 1.00D PG64-22	52,052.000 TON		
0100	00221	CL2 ASPH BASE 0.75D PG64-22	5,416.000 TON		
0110	00301	CL2 ASPH SURF 0.38D PG64-22	1,756.000 TON		
0120	00309	CL2 ASPH SURF 0.50D PG64-22	4,783.000 TON		
0130	00324	CL3 ASPH SURF 0.50B PG64-22	8,246.000 TON		
0140	00330	CL3 ASPH SURF 0.50A PG64-22	2,159.000 TON		
0150	00358	ASPHALT CURING SEAL	192.000 TON		
0160	01845	ISLAND INTEGRAL CURB	301.750 LF		
0170	01891	ISLAND HEADER CURB TYPE 2	604.000 LF		
0180	02200	ROADWAY EXCAVATION	876,663.000 CUYD		
0190	02696	SHOULDER RUMBLE STRIPS-SAWED	76,720.000 LF		
0200	02702	SAND FOR BLOTTER	482.000 TON		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 2
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0210	10203ND	PAVEMENT ADJUSTMENT (ASPHALT)	(1.00) LS	587,210.00	587,210.00
	SECTION 0002	PAVING			
ALT GROUP AA2		(ALTERNATE B - CONCRETE W/ CONCRETE SHOULDERS)			
0220	00003	CRUSHED STONE BASE	78,559.000 TON		
0230	00013	LIME STABILIZED ROADBED	192,435.000 SQYD		
0240	00014	LIME	3,600.000 TON		
0250	00020	TRAFFIC BOUND BASE	696.000 TON		
0260	00100	ASPHALT SEAL AGGREGATE	725.000 TON		
0270	00103	ASPHALT SEAL COAT	87.000 TON		
0280	00190	LEVELING & WEDGING PG64-22	679.000 TON		
0290	00212	CL2 ASPH BASE 1.00D PG64-22	408.000 TON		
0300	00214	CL3 ASPH BASE 1.00D PG64-22	3,475.000 TON		
0310	00221	CL2 ASPH BASE 0.75D PG64-22	5,416.000 TON		
0320	00301	CL2 ASPH SURF 0.38D PG64-22	1,756.000 TON		
0330	00309	CL2 ASPH SURF 0.50D PG64-22	1,044.000 TON		
0340	00324	CL3 ASPH SURF 0.50B PG64-22	564.000 TON		
0350	00330	CL3 ASPH SURF 0.50A PG64-22	2,159.000 TON		
0360	00358	ASPHALT CURING SEAL	192.000 TON		
0370	01845	ISLAND INTEGRAL CURB	905.750 LF		
0380	02073	JPC PAVEMENT-9 IN	93,476.000 SQYD		
0390	02078	JPC PAVEMENT-6 IN SHLD	45,323.000 SQYD		
0400	02200	ROADWAY EXCAVATION	868,490.000 CUYD		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 3
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0410	02702	SAND FOR BLOTTER	482.000 TON		
0420	10203ND	PAVEMENT ADJUSTMENT (CONCRETE)	(1.00) LS	288,141.00	288,141.00
	SECTION 0003	PAVING			
ALT GROUP AA3		(ALTERNATE C - CONCRETE W/ ASPHALT SHOULDERS)			
0430	00003	CRUSHED STONE BASE	80,575.000 TON		
0440	00013	LIME STABILIZED ROADBED	192,435.000 SQYD		
0450	00014	LIME	3,600.000 TON		
0460	00020	TRAFFIC BOUND BASE	696.000 TON		
0470	00100	ASPHALT SEAL AGGREGATE	725.000 TON		
0480	00103	ASPHALT SEAL COAT	87.000 TON		
0490	00190	LEVELING & WEDGING PG64-22	679.000 TON		
0500	00212	CL2 ASPH BASE 1.00D PG64-22	6,850.000 TON		
0510	00214	CL3 ASPH BASE 1.00D PG64-22	3,475.000 TON		
0520	00221	CL2 ASPH BASE 0.75D PG64-22	5,416.000 TON		
0530	00301	CL2 ASPH SURF 0.38D PG64-22	1,756.000 TON		
0540	00309	CL2 ASPH SURF 0.50D PG64-22	4,755.000 TON		
0550	00324	CL3 ASPH SURF 0.50B PG64-22	564.000 TON		
0560	00330	CL3 ASPH SURF 0.50A PG64-22	2,159.000 TON		
0570	00358	ASPHALT CURING SEAL	192.000 TON		
0580	01845	ISLAND INTEGRAL CURB	905.750 LF		
0590	02073	JPC PAVEMENT-9 IN	93,476.000 SQYD		
0600	02200	ROADWAY EXCAVATION	868,490.000 CUYD		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 4
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0610	02696	SHOULDER RUMBLE STRIPS-SAWED	76,720.000 LF		
0620	02702	SAND FOR BLOTTER	482.000 TON		
0630	10203ND	PAVEMENT ADJUSTMENT (CONCRETE)	(1.00) LS	288,141.00	288,141.00
	SECTION 0004	ROADWAY			
0640	00078	CRUSHED AGGREGATE SIZE NO 2	20.000 TON		
0650	01000	PERFORATED PIPE-4 IN	3,202.000 LF		
0660	01010	NON-PERFORATED PIPE-4 IN	1,157.000 LF		
0670	01020	PERF PIPE HEADWALL TY 1-4 IN	7.000 EACH		
0680	01028	PERF PIPE HEADWALL TY 3-4 IN	2.000 EACH		
0690	01032	PERF PIPE HEADWALL TY 4-4 IN	11.000 EACH		
0700	01310	REMOVE PIPE	62.000 LF		
0710	01585	REMOVE DROP BOX INLET	1.000 EACH		
0720	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONA	WHITE150.000 EACH		
0730	01983	DELINEATOR FOR GUARDRAIL MONO DIRECTIONA	YELLOW42.000 EACH		
0740	01984	DELINEATOR FOR BARRIER - WHITE	110.000 EACH		
0750	01985	DELINEATOR FOR BARRIER - YELLOW	12.000 EACH		
0760	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL	HITE 24.000 EACH		
0770	01992	INSTALL TEMP CONC MED BARR	10,000.000 LF		
0780	02003	RELOCATE TEMP CONC BARRIER	1,000.000 LF		
0790	02014	BARRICADE-TYPE III	20.000 EACH		
0800	02091	REMOVE PAVEMENT	4,799.000 SQYD		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 5
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
0810	02159	TEMP DITCH	16,950.000 LF		
0820	02223	GRANULAR EMBANKMENT	17,835.000 CUYD		
0830	02242	WATER	1,500.000 MGAL		
0840	02262	FENCE-WOVEN WIRE TYPE 1	28,494.000 LF		
0850	02265	REMOVE FENCE	4,893.000 LF		
0860	02351	GUARDRAIL-STEEL W BEAM-S FACE	12,650.000 LF		
0870	02352	GUARDRAIL-STEEL W BEAM-D FACE	275.000 LF		
0880	02360	GUARDRAIL TERMINAL SECTION NO 1	6.000 EACH		
0890	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	12.000 EACH		
0900	02365	CRASH CUSHION TYPE IX-A	2.000 EACH		
0910	02369	GUARDRAIL END TREATMENT TYPE 2A	9.000 EACH		
0920	02373	GUARDRAIL END TREATMENT TYPE 3	1.000 EACH		
0930	02381	REMOVE GUARDRAIL	3,041.000 LF		
0940	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	2.000 EACH		
0950	02391	GUARDRAIL END TREATMENT TYPE 4A	12.000 EACH		
0960	02432	WITNESS POST	6.000 EACH		
0970	02545	CLEARING AND GRUBBING (143 ACRES)	(1.00) LS		
0980	02562	SIGNS	1,283.500 SQFT		
0990	02585	EDGE KEY	89.000 LF		
1000	02598	FABRIC-GEOTEXTILE TYPE III	21,021.000 SQYD		
1010	02599	FABRIC-GEOTEXTILE TYPE IV	200.000 SQYD		

CONTRACT ID: 121342 PAGE: 6
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1020	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	9,851.000	SQYD	2.00	19,702.00
1030	02625	REMOVE HEADWALL	1.000	EACH		
1040	02650	MAINTAIN & CONTROL TRAFFIC	(1.00)	LS		
1050	02651	DIVERSIONS (BY-PASS DETOURS) (C MORGAN ROAD)	(1.00)	LS		
1060	02651	DIVERSIONS (BY-PASS DETOURS) (KY 1297 DIVERSION #1)	(1.00)	LS		
1070	02651	DIVERSIONS (BY-PASS DETOURS) (KY 1297 DIVERSION #2)	(1.00)	LS		
1080	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.000	EACH		
1090	02676	MOBILIZATION FOR MILL & TEXT	(1.00)	LS		
1100	02677	ASPHALT PAVE MILLING & TEXTURING	3,262.000	TON		
1110	02692	SETTLEMENT PLATFORM	2.000	EACH		
1120	02701	TEMP SILT FENCE	33,900.000	LF		
1130	02703	SILT TRAP TYPE A	143.000	EACH		
1140	02704	SILT TRAP TYPE B	143.000	EACH		
1150	02705	SILT TRAP TYPE C	143.000	EACH		
1160	02706	CLEAN SILT TRAP TYPE A	428.000	EACH		
1170	02707	CLEAN SILT TRAP TYPE B	428.000	EACH		
1180	02708	CLEAN SILT TRAP TYPE C	428.000	EACH		
1190	02709	CLEAN TEMP SILT FENCE	33,900.000	LF		
1200	02726	STAKING	(1.00)	LS		
1210	02775	ARROW PANEL	4.000	EACH		
1220	02894	CRASH CUSHION TYPE VI-T	2.000	EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 7
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1230	02898	RELOCATE CRASH CUSHION	2.000 EACH		
1240	02929	CRASH CUSHION TYPE IX	2.000 EACH		
1250	03340	STEEL PIPE-2 1/2 IN	68.250 LF		
1260	03343	STEEL PIPE-4 IN	68.250 LF		
1270	05950	EROSION CONTROL BLANKET	180,658.000 SQYD		
1280	05952	TEMP MULCH	509,266.000 SQYD		
1290	05953	TEMP SEEDING AND PROTECTION	50,927.000 SQYD		
1300	05966	TOPDRESSING FERTILIZER	26.000 TON		
1310	05985	SEEDING AND PROTECTION	505,103.000 SQYD		
1320	05990	SODDING	4,163.000 SQYD		
1330	06417	FLEXIBLE DELINEATOR POST-W	102.000 EACH		
1340	06418	FLEXIBLE DELINEATOR POST-Y	62.000 EACH		
1350	06510	PAVE STRIPING-TEMP PAINT-4 IN	7,412.000 LF		
1360	06511	PAVE STRIPING-TEMP PAINT-6 IN	7,771.000 LF		
1370	06514	PAVE STRIPING-PERM PAINT-4 IN	87,665.000 LF		
1380	06515	PAVE STRIPING-PERM PAINT-6 IN	36,791.000 LF		
1390	06517	PAVE STRIPING-PERM PAINT-12 IN	1,775.000 LF		
1400	06531	PAVE STRIPING REMOVAL-6 IN	1,957.000 LF		
1410	06550	PAVE STRIPING-TEMP REM TAPE-W	348.000 LF		
1420	06567	PAVE MARKING-THERMO STOP BAR-12IN	30.000 LF		
1430	06568	PAVE MARKING-THERMO STOP BAR-24IN	379.000 LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 8
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1440	06574	PAVE MARKING-THERMO CURV ARROW	35.000 EACH		
1450	06588	PAVEMENT MARKER TY IVA-BY TEMP	60.000 EACH		
1460	06589	PAVEMENT MARKER TYPE V-MW	252.000 EACH		
1470	06591	PAVEMENT MARKER TYPE V-BY	166.000 EACH		
1480	06592	PAVEMENT MARKER TYPE V-B W/R	544.000 EACH		
1490	06593	PAVEMENT MARKER TYPE V-B Y/R	162.000 EACH		
1500	06600	REMOVE PAVEMENT MARKER TYPE V	50.000 EACH		
1510	08100	CONCRETE-CLASS A	122.610 CUYD		
1520	08150	STEEL REINFORCEMENT	4,694.000 LB		
1530	20411ED	LAW ENFORCEMENT OFFICER	800.000 HOUR		
1540	20449NS724	SHAGBARK HICKORY	565.000 EACH		
1550	20451NS724	WHITE OAK	565.000 EACH		
1560	20516NS724	TULIP POPLAR	565.000 EACH		
1570	20904ED	RECONSTRUCT CURB BOX INLET	1.000 EACH		
1580	23274EN11F	TURF REINFORCEMENT MAT 1	4,715.000 SQYD		
1590	23791EC	PAVE STRIPING-CHEVRON MARKINGS	18,217.000 SQFT		
1600	24540	R/W MONUMENT TYPE 3	126.000 EACH		
	SECTION 0005	DRAINAGE			
1610	00440	ENTRANCE PIPE-15 IN	545.000 LF		
1620	00441	ENTRANCE PIPE-18 IN	36.000 LF		
1630	00443	ENTRANCE PIPE-24 IN	28.000 LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 9
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1640	00445	ENTRANCE PIPE-30 IN	51.000 LF		
1650	00461	CULVERT PIPE-15 IN	940.000 LF		
1660	00462	CULVERT PIPE-18 IN	778.000 LF		
1670	00464	CULVERT PIPE-24 IN	319.000 LF		
1680	00466	CULVERT PIPE-30 IN	371.000 LF		
1690	00468	CULVERT PIPE-36 IN	442.000 LF		
1700	00469	CULVERT PIPE-42 IN	731.000 LF		
1710	00470	CULVERT PIPE-48 IN	78.000 LF		
1720	00471	CULVERT PIPE-54 IN	42.000 LF		
1730	00472	CULVERT PIPE-60 IN	22.000 LF		
1740	01432	SLOPED BOX OUTLET TYPE 1-15 IN	8.000 EACH		
1750	01450	S & F BOX INLET-OUTLET-18 IN	11.000 EACH		
1760	01451	S & F BOX INLET-OUTLET-24 IN	6.000 EACH		
1770	01452	S & F BOX INLET-OUTLET-30 IN	2.000 EACH		
1780	01453	S & F BOX INLET-OUTLET-36 IN	3.000 EACH		
1790	01480	CURB BOX INLET TYPE B	2.000 EACH		
1800	01493	DROP BOX INLET TYPE 2	1.000 EACH		
1810	01502	DROP BOX INLET TYPE 5A	1.000 EACH		
1820	01505	DROP BOX INLET TYPE 5B	2.000 EACH		
1830	01508	DROP BOX INLET TYPE 5C	1.000 EACH		
1840	01511	DROP BOX INLET TYPE 5D	7.000 EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 10
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
1850	01517	DROP BOX INLET TYPE 5F	5.000 EACH		
1860	01568	DROP BOX INLET TYPE 13S	1.000 EACH		
1870	01650	JUNCTION BOX	2.000 EACH		
1880	01767	MANHOLE TYPE C	1.000 EACH		
1890	02484	CHANNEL LINING CLASS III	937.000 TON		
1900	08100	CONCRETE-CLASS A	109.390 CUYD		
1910	08150	STEEL REINFORCEMENT	4,234.000 LB		
1920	23131ER701	PIPELINE VIDEO INSPECTION	1,855.000 LF		
	SECTION 0006	BRIDGE			
1930	02220	FLOWABLE FILL	310.200 CUYD		
1940	02231	STRUCTURE GRANULAR BACKFILL	720.000 CUYD		
1950	02403	REMOVE CONCRETE MASONRY	146.000 CUYD		
1960	02998	MASONRY COATING	4,673.000 SQYD		
1970	03299	ARMORED EDGE FOR CONCRETE	465.400 LF		
1980	08001	STRUCTURE EXCAVATION-COMMON	1,999.600 CUYD		
1990	08002	STRUCTURE EXCAV-SOLID ROCK	1,030.400 CUYD		
2000	08019	CYCLOPEAN STONE RIP RAP	10,022.000 TON		
2010	08020	CRUSHED AGGREGATE SLOPE PROT	2,253.000 TON		
2020	08033	TEST PILES	253.000 LF		
2030	08046	PILES-STEEL HP12X53	728.000 LF		
2040	08051	PILES-STEEL HP14X89	2,430.500 LF		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 11
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
2050	08094	PILE POINTS-12 IN	26.000 EACH		
2060	08095	PILE POINTS-14 IN	58.000 EACH		
2070	08100	CONCRETE-CLASS A	2,797.900 CUYD		
2080	08104	CONCRETE-CLASS AA	2,217.300 CUYD		
2090	08150	STEEL REINFORCEMENT	344,299.000 LB		
2100	08151	STEEL REINFORCEMENT-EPOXY COATED	646,844.000 LB		
2110	08551	MACHINE PREP OF SLAB	1,078.000 SQYD		
2120	08633	PRECAST PC I BEAM TYPE 3	839.800 LF		
2130	08635	PRECAST PC I BEAM TYPE 6	1,981.300 LF		
2140	08636	PRECAST PC I BEAM TYPE 5	4,113.300 LF		
2150	20598NC	BAR SPLICE-PHASE CONSTRUCTION	691.000 EACH		
2160	21532ED	RAIL SYSTEM TYPE III	2,316.000 LF		
	SECTION 0007	SIGNING			
2170	06400	GMSS GALV STEEL TYPE A	2,025.000 LB		
2180	06405	SBM ALUMINUM PANEL SIGNS	1,039.000 SQFT		
2190	06406	SBM ALUM SHEET SIGNS .080 IN	1,004.000 SQFT		
2200	06407	SBM ALUM SHEET SIGNS .125 IN	369.000 SQFT		
2210	06410	STEEL POST TYPE 1	490.000 LF		
2220	06411	STEEL POST TYPE 2	2,159.000 LF		
2230	06417	FLEXIBLE DELINEATOR POST-W	50.000 EACH		
2240	06418	FLEXIBLE DELINEATOR POST-Y	100.000 EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 12
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
2250	06441	GMSS GALV STEEL TYPE C	5,196.600 LB		
2260	06451	REMOVE SIGN SUPPORT BEAM	2.000 EACH		
2270	06490	CLASS A CONCRETE FOR SIGNS	25.000 CUYD		
2280	06491	STEEL REINFORCEMENT FOR SIGNS	1,232.000 LB		
2290	20419ND	ROADWAY CROSS SECTION	6.000 EACH		
2300	21373ND	REMOVE SIGN	1.000 EACH		
2310	21596ND	GMSS TYPE D	16.000 EACH		
	SECTION 0008	SIGNALIZATION			
2320	04793	CONDUIT-1 1/4 IN	920.000 LF		
2330	04795	CONDUIT-2 IN	1,050.000 LF		
2340	04811	ELECTRICAL JUNCTION BOX TYPE B	10.000 EACH		
2350	04820	TRENCHING AND BACKFILLING	1,895.000 LF		
2360	04830	LOOP WIRE	4,893.000 LF		
2370	04844	CABLE-NO. 14/5C	1,576.000 LF		
2380	04850	CABLE-NO. 14/1 PAIR	10,126.000 LF		
2390	04895	LOOP SAW SLOT AND FILL	1,739.000 LF		
2400	20094ES835	TEMP RELOCATION OF SIGNAL HEAD	5.000 EACH		
2410	20188NS835	INSTALL LED SIGNAL-3 SECTION	6.000 EACH		
2420	20266ES835	INSTALL LED SIGNAL- 4 SECTION	2.000 EACH		
2430	21543EN	BORE AND JACK CONDUIT	75.000 LF		
2440	21659NN	RELOCATE SIGNAL HEAD	4.000 EACH		
	SECTION 0009	LIGHTING			

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 13
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
2450	04714	POLE 120 FT MTG HT HIGH MAST	8.000 EACH		
2460	04760	POLE W/SECONDARY CONTROL EQUIP	2.000 EACH		
2470	04773	HPS LUMINAIRE HIGH MAST	48.000 EACH		
2480	04797	CONDUIT-3 IN	1,758.000 LF		
2490	04800	MARKER	13.000 EACH		
2500	04820	TRENCHING AND BACKFILLING	6,195.000 LF		
2510	04860	CABLE-NO. 8/3C DUCTED	1,870.000 LF		
2520	04862	CABLE-NO. 4/3C DUCTED	2,990.000 LF		
2530	04863	CABLE-NO. 2/3C DUCTED	5,180.000 LF		
2540	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	4.000 EACH		
2550	20392NS835	ELECTRICAL JUNCTION BOX TYPE C	4.000 EACH		
2560	21543EN	BORE AND JACK CONDUIT	1,648.000 LF		
2570	23161EN	POLE BASE-HIGH MAST	79.000 CUYD		
	SECTION 0010	WATERLINE			
2580	01075	STEEL ENCASEMENT PIPE-18 IN	170.000 LF		
2590	01099	DUCTILE IRON PIPE-12 IN	1,949.000 LF		
2600	03360	COPPER PIPE-3/4 IN	20.000 LF		
2610	03380	PVC PIPE-1 IN	335.000 LF		
2620	03385	PVC PIPE-6 IN	3,900.000 LF		
2630	03551	TAPPING SLEEVE & VALVE	1.000 EACH		
2640	20864ND	FIRE HYDRANT ASSEMBLY	3.000 EACH		

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
FRANKFORT, KY 40622

CONTRACT ID: 121342 PAGE: 14
COUNTY: BARREN LETTING: 09/14/12
PROPOSAL: FD04 SPP 005 NEW ROUTE CALL NO: 301

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
2650	21193ND	CONNECT TO 4 IN	1.000 EACH		
2660	21916EN	PVC PIPE 6 IN-WITH STEEL PIPE 12 IN	574.000 LF		
2670	22780NN	RESTRAINED JOINT BEND-6 IN	5.000 EACH		
2680	22873NN	CUT IN & SLEEVE CONNECT-12 IN	2.000 EACH		
2690	22874NN	RESILIENT SEAT GATE VALVE-12 IN	2.000 EACH		
2700	22875NN	RESILIENT SEAT GATE VALVE-4 IN	1.000 EACH		
2710	23904EC	TAPPING SADDLE 2 X 1 IN WITH CORP STOP	1.000 EACH		
	SECTION 0011	MOBILIZATION / DEMOBILIZATION			
2720	02568	MOBILIZATION (NO MORE THAN 5%)	LUMP		
2730	02569	DEMOBILIZATION (AT LEAST 1.5%)	LUMP		
		TOTAL BID			