



**CALL NO. 423**

**CONTRACT ID. 111327**

**JEFFERSON COUNTY**

**FED/STATE PROJECT NUMBER 056GR11D027**

**DESCRIPTION BROWNSBORO ROAD AND BALLARDSVILLE ROAD (KY 22)**

**WORK TYPE GRADE & DRAIN WITH ASPHALT SURFACE**

**PRIMARY COMPLETION DATE 11/30/2012**

**LETTING DATE: July 15, 2011**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME July 15, 2011. 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.

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**PART I**  
**SCOPE OF WORK**

CONTRACT ID - 111327

ADMINISTRATIVE DISTRICT - 05

PROJECT(S) IDENTIFICATION AND DESCRIPTION:

COUNTY - JEFFERSON  
056GR11D027

BROWNSBORO ROAD AND BALLARDSVILLE ROAD (KY 22)

COUNTY - JEFFERSON  
FD04 056 0022 004-005

PES - DE05600221108

BROWNSBORO ROAD (KY 22) SECTION 2 IMPLEMENT TRAFFIC FLOW IMPROVEMENT FROM CHAMBERLAIN LANE TO INTERSECTION OF HICKORY FOREST AND SILVER WING BOULEVARD, A DISTANCE OF 0.64 MILES. GRADE & DRAIN WITH ASPHALT SURFACE. SYP NO. 05-00320.20.  
GEOGRAPHIC COORDINATES LATITUDE 38^18'45" LONGITUDE 85^34'01"

COUNTY - JEFFERSON  
FD39 056 0022 004-006

PES - DE05600221127

BALLARDSVILLE ROAD (KY 22) SECTION 3 & 4 WIDEN AND RECONSTRUCT FROM SILVER WING BOULEVARD TO MURPHY LANE, A DISTANCE OF 0.92 MILES. GRADE & DRAIN WITH ASPHALT SURFACE. SYP NO. 05-00320.30.  
GEOGRAPHIC COORDINATES LATITUDE 38^19'02" LONGITUDE 85^33'00"

COMPLETION DATE(S):

COMPLETION DATE - November 30, 2012  
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](http://www.transportation.ky.gov/contract))

The Bidder must download the bid file located on the Bid Express website ([www.bidx.com](http://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 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](mailto: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](http://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.

04/28/2011

**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.**

03/01/2011

**PROJECT TRAFFIC COORDINATOR (PTC)**

This project is a significant project pursuant to section 112.03.12.

**FUEL AND ASPHALT PAY ADJUSTMENT**

The following contract items: Asphalt Adjustment and Fuel Adjustment, are for possible future payments. Additional monies may need to be setup with an additional change order if existing contract amount is insufficient to pay all items on the contract. Unit price is \$1.00. Quantity will be actual adjustment after work is completed.

**OPTION A**

The Contractor is advised that the compaction of asphalt mixtures furnished for driving lanes and ramps, at 25mm (1 inch) or greater, on this project will be accepted according to OPTION A in accordance with Section 402 and Section 403 of the current Standard Specification. Joint cores as described in subsection 402.03.02 are required for surface mixtures only. The compaction of all other asphalt mixtures will be accepted by OPTION B.

**SPECIAL NOTE FOR CONSTRUCTION PHASING  
OF SECTION 2 AND SECTIONS 3 AND 4**

**BROWNSBORO ROAD (KY 22) – SECTION 2  
FD04 056 0022 004-005  
BALLARDSVILLE ROAD (KY 22) – SECTIONS 3 & 4  
FD39 056 022 004-006**

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Because not all utility relocations to be performed by others within the limits of KY 22 Sections 3 and 4 (Sta. 303+00 to Sta. 351+79.88) will be completed by the time the contract is awarded for this project, the Contractor may not begin construction of Sections 3 and 4 until April 1, 2012 or until the construction of Section 2 (Sta. 269+00 to Sta. 303+00) is substantially complete, whichever occurs later.

The Contractor must obtain the Engineer's approval before beginning any work on Sections 3 and 4. With approval from the Engineer, the Contractor may begin construction of water line relocations within the limits of Sections 3 and 4 before April 1, 2012, provided the water line relocations within the limits of Section 2 are complete and the relocation of water lines in Sections 3 and 4 does not interfere with the relocation of utilities being constructed by others.

### SPECIAL NOTE FOR GEOGRID REINFORCEMENT

#### DESCRIPTION

This special note covers geogrid used for reinforcement of subgrade and aggregate bases.

#### MATERIALS

Furnish Tensar TX5 Triaxial Geogrid or approved equivalent. Any alternate submitted by the Contractor for consideration should include detailed testing information and performance history. The geogrid for this project was included in the structural calculations to achieve the desired pavement structure based on the specific soil and traffic information. The information provided should include the improvement to the resilient modulus of the aggregate layer.

Ensure that each roll is labeled with the manufacturer's name, product type, lot number, roll number, manufactured date, and roll dimension.

#### CONSTRUCTION

1. Geogrid Representative. Ensure that a representative of the geogrid manufacturer is on the project when work begins, and remains on call as the project progresses, to advise the Engineer.
2. Surface Preparation. Prepare the surface according to Section 207 and Section 208.
3. Geogrid Placement. Place geogrid at the proper elevation and alignment, in continuous strips with overlapping according to the manufacturer's recommendations. Verify the geogrid orientation (roll direction). Geogrid may be temporarily secured in place with staples, pins, sand bags or backfill as required by fill properties, fill placement procedures, or weather conditions as the Engineer directs.
4. Aggregate Placement. Place aggregate over the geogrid according to the Contract. Place, spread, and compact the aggregate in such a manner that minimizes the development of wrinkles and movement in the geogrid. The Department will require a minimum loose fill thickness of 10 inches prior to operation of tracked vehicles over the geogrid. Keep the turning of tracked vehicles to a minimum to prevent displacement of the fill and damage to the geogrid. Rubber tired equipment may pass over the geogrid reinforcement at slow speeds (less than 10 mph) when integrally-formed geogrid is used, and the subgrade is competent to support wheel loading without deformation. Avoid sudden braking and sharp turning movements. Repair any damage caused during placement or by vehicles.

#### MEASUREMENT

The Department will measure the quantity of geogrid in square yards. The Department will not measure providing the geogrid manufacturer's representative for payment and will consider it incidental to the geogrid.

#### PAYMENT

The Cabinet will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
0005	Geogrid Reinforcement for Subgrade	Square Yard

The Cabinet will consider payment as full compensation for all work required in this note.

**KY 22 WIDENING BETWEEN CHAMBERLAIN LANE AND MURPHY  
LANE  
(5-320.20, 320.30 and 320.40)  
PUBLIC INFORMATION PLAN**

The Public Information Plan (PIP) is a vital component of the KY 22 widening project. The primary goal of the PIP is to inform the motoring public and area stakeholders of project information including Maintenance of Traffic (MOT) lane closures. The KYTC District 5 Public Information Officer (PIO) will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction plans.

**LOCAL STAKEHOLDERS**

- Elected Officials
  - State Senator Julie Denton – (502) 489-9058; [julie.denton@lrc.ky.gov](mailto:julie.denton@lrc.ky.gov)
  - State Senator Ernie Harris – (502) 241-8307; [ernie.harris@lrc.ky.gov](mailto:ernie.harris@lrc.ky.gov)
  - State Representative Bob DeWeese – (502) 426-5565; [bob.deweese@lrc.ky.gov](mailto:bob.deweese@lrc.ky.gov)
  - State Representative David Osborne – (502) 228-3201; [david.osborne@lrc.ky.gov](mailto:david.osborne@lrc.ky.gov)
  - Metro Councilman Kelly Downard (502) 574-1116; [kelly.downard@louisvilleky.gov](mailto:kelly.downard@louisvilleky.gov)
  - Metro Councilman Glen Stuckel – (502) 574-1117; [glen.stuckel@louisvilleky.gov](mailto:glen.stuckel@louisvilleky.gov)
  - Mayor Greg Fischer – (502) 574-2003; [greg.fischer@louisvilleky.gov](mailto:greg.fischer@louisvilleky.gov)
  
- Local Agencies
  - Rick Caple, Director of Transportation for Jefferson County Public Schools – (502) 485-3470; [richard.caple@jefferson.kyschools.us](mailto:richard.caple@jefferson.kyschools.us)
  - Barry Barker, Transit Authority of the River City (TARC) – (502) 561-5100; [jbarrybarker@ridetarc.org](mailto:jbarrybarker@ridetarc.org)
  - Lt. Doug Sweeney, Louisville Metro Police Department Traffic Division – (502) 574-2445; [doug.sweeney@louisvilleky.gov](mailto:doug.sweeney@louisvilleky.gov)
  - Mark Giuffre, UPS – (502) 329-3060; [mgiuffre@ups.com](mailto:mgiuffre@ups.com)
  - Virgie Long, Overdimensional Permits – (502) 564-7150; [virgie.long@ky.gov](mailto:virgie.long@ky.gov)
  - Louisville Metro Public Works – (502) 574-5810; [ted.pullen@louisvilleky.gov](mailto:ted.pullen@louisvilleky.gov)
  - Madison Steele, Worthington Fire Department – (502) 813-4800; [msteele@worthingtonfire.com](mailto:msteele@worthingtonfire.com)
  - Amy Pope, Ford Truck Plant – (502) 429-2444; [apope@ford.com](mailto:apope@ford.com)
  - Lonnie Corkum, Ford Truck Plant – (502) 429-2245; [lcorkum@ford.com](mailto:lcorkum@ford.com)
  - Cary Frame, Northeast Christian Church – (502) 212-5201; [caryf@necchurch.org](mailto:caryf@necchurch.org)
  - St. Mary Academy
  - Mark Cox, Kosair Hospital at Brownsboro – (502) 394-6459; [mark.cox@nortonhealthcare.com](mailto:mark.cox@nortonhealthcare.com)
  - Doug Winklehake, Norton Hospital Brownsboro – (502) 446-8902; [doug.winklehake@nortonhealthcare.com](mailto:doug.winklehake@nortonhealthcare.com)
  - Joann Smith, Norton Hospital Brownsboro – (502) 446-8100; [joann.smith@nortonhealthcare.com](mailto:joann.smith@nortonhealthcare.com)

- Utility Companies
  - Local utility companies are kept apprised of this project at the monthly utility coordination meetings hosted by District 5
  
- Neighborhoods and their Mayors/Contacts
  - Angela Hepner, Norton Commons – (502) 412-5085; [angelahepner@nortoncommons.com](mailto:angelahepner@nortoncommons.com)
  - Silver Creek – [scmail@insightbb.com](mailto:scmail@insightbb.com)
  - Craigs Creek – William Cohen, [cohen625@gmail.com](mailto:cohen625@gmail.com)
  - Bob Thieneman, Jr., Rock Springs – (502) 491-4645; [bob@rjthieneman.com](mailto:bob@rjthieneman.com)
  - Brandie Bongibault, Willow Creek – (502) 418-2011
  - City of Fincastle – Mayor Jacques Byrd; [jacquesbyrd@hotmail.com](mailto:jacquesbyrd@hotmail.com)
  - James Thornton, Taylortown AME Zion Church – 241-5672

### **TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS**

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

### **PRESENTATIONS**

A project description including anticipated schedule will be provided to the media, stakeholders and other emergency service agencies via e-mail prior to construction. Any group wanting a presentation for their members can contact the District 5 office to arrange a meeting. Information will be provided to these groups via traffic advisories, press releases, the District 5 website and the weekly District 5 Road Show of Construction and Maintenance Activities.

### **MEDIA RELATIONS**

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

**SPECIAL NOTE FOR LIQUIDATED DAMAGES**

**BROWNSBORO ROAD (KY 22) – SECTION 2  
NEW CHAMBERLAIN LANE, AND KY 1694  
FD04 056 0022 004-005**

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Liquidated Damages in the following amounts will be assessed for each hour or part of an hour a lane closure remains in place during periods prohibited by the Traffic Control Plan:

<u>1<sup>ST</sup> HOUR</u>	<u>2<sup>ND</sup> HOUR</u>	<u>EACH HOUR THEREAFTER</u>
\$1,000	\$5,000	\$10,000

Contrary to Section 108.09, Liquidated Damages will be assessed for the months of December through March.

Contrary to Section 108.09, Liquidated Damages will be assessed regardless of whether seasonal limitations prohibit the Contractor from performing work on the controlling operation.

All Liquidated Damages will be applied accumulatively.

All other applicable portions of Section 108 shall apply.

**SPECIAL NOTE FOR LIQUIDATED DAMAGES**  
**BALLARDSVILLE ROAD (KY 22) – SECTIONS 3 & 4**  
**FD39 056 0022 004-006**

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Liquidated Damages in the following amounts will be assessed for each hour or part of an hour a lane closure remains in place during periods prohibited by the Traffic Control Plan:

<u>1<sup>ST</sup> HOUR</u> \$1,000	<u>2<sup>ND</sup> HOUR</u> \$5,000	<u>EACH HOUR THEREAFTER</u> \$10,000
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Contrary to Section 108.09, Liquidated Damages will be assessed for the months of December through March.

Contrary to Section 108.09, Liquidated Damages will be assessed regardless of whether seasonal limitations prohibit the Contractor from performing work on the controlling operation.

All Liquidated Damages will be applied accumulatively.

All other applicable portions of Section 108 shall apply.

## **SPECIAL PROVISION FOR WASTE AND BORROW SITES**

The contractor is advised that it is their responsibility to gain U.S. Army Corp of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". "Waters of the United States" are defined as perennial or intermittent streams, ponds or wetlands. Ephemeral streams are also considered jurisdictional waters, and are typically dry except during rainfall, but have a defined drainage channel. Questions concerning any potential impacts to "Waters..." should be brought to the attention of the appropriate District Office for the Corps of Engineers for a determination, prior to disturbance. Any fees associated with obtaining approval from the U.S. Army Corp of Engineer or other appropriate regulatory agencies for waste and borrow sites is the responsibility of the contractor.

01/01/2009

Jefferson County  
KY 22 (Brownsboro Road), Section 2  
Item No. 5-320.20

**Right of Way Special Provisions**

Parcel No. 20

1. The Contractor for the project will reconstruct the church entrance through the access easement granted by the Brownsboro Glen Homeowners Association, to Brownsboro Glen Road. All disturbed areas will be re-graded and re-seeded. Trees that are located outside the disturbed limits will remain and will be designated as (DNR) Do not Remove.

Parcel No. 22

1. Owners shall have ingress and egress to their parcel during all construction periods.
2. Disruption should be kept to as little as possible.

Parcel No. 23

1. Reconstruction of the signature entrance shall include the electrical and irrigation of the signature entrance area.
2. Reconstruction of the signature entrance shall include fencing and sidewalk along the entrance area.
3. "No Parking" signs will be installed along both sides of Brownsboro Glen Road up to the the intersection of Head Farm Road, as agreed and shall be completed by KYTC's contractor for the project.
4. Contractor will be fully insured and bonded for this project.
5. All disturbed areas will be restored as reasonably close to preconstruction condition upon completion, with the exception of the signature entrance landscaping.

Parcel No. 31

1. The LG&E Sign located at the Ballardsville Road entrance shall remain and will be designated DNR on the plans. The transmission pole located within the temporary easement will not be impacted and will remain.

Parcel No. 32

1. No area along the frontage of Shadow Ridge Apartments shall be used for parking vehicles, equipment, machinery or staging or storage of supplies, except during business hours when work is in progress.
2. All disturbed areas shall be regraded and reseeded and restored to as near preconstruction condition as possible, upon completion of the project.
3. The project contractor shall be fully licensed, bonded, and insured and shall be responsible for incidental damages to any person or entity as a result of their work being performed for the road improvement project.
4. Property owner shall be notified 14 days prior to the commencement of the work in the described area and parcel, so that construction notification can be given to rental tenants.

Parcel No. 41

1. The proposed retaining wall across the frontage shall be constructed in a decorative manner utilizing a decorative stamp to match the signature entrance monument, as close as possible.
2. Thirty Day notice will be provided prior to construction effecting the entrance area to allow timely removal of the exit/entrance gate system by the homeowners association. At such time, at the request of the homeowners association, the KY 1694 entrance will be closed. Road Closed barricade and construction barrels will be placed at the KY 1694 entrance area.
3. The Signature entrance, landscaping, electrical and irrigation system shall be relocated by the project contractor.
4. All disturbed areas will be re-graded and re-seeded upon the final restoration of the temporary and permanent easement areas.

Parcel No. 43

1. All disturbed areas will be re-graded and re-seeded upon completion of the project, with right of way clearly staked for the reconstruction of the signature entrance and fencing.
2. Ingress and egress shall be maintained at all times during construction.

# Right-of-Way Certification Form

Revised 5/27/09

Federal Funded

Original

State Funded

Re-Certification

This form must be completed and submitted to FHWA with the PS&E package for federal-aid funded Interstate, Appalachia, and 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: 12/1/2010

Project #: 1100 FD04 C056 69000 01R

County: JEFFERSON

Item #: 05-0320.20

Federal #: \_\_\_\_\_

Letting Date: February 18, 2011

Description of Project: KY 22 Widening

## 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

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.**

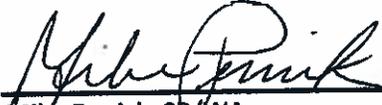
2. Although all necessary rights-of-way have not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Trial or appeal of some parcels may be pending in court and on other parcels full legal possession has not been obtained, 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.)**

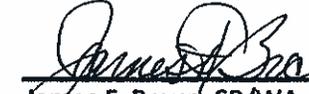
**Note:** The KYTC shall re-submit a right-of-way re-certification form for this project prior to the start of construction (**Notice to Proceed**), verifying that fair market value for all parcels has been paid or deposited with the court.

### 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 though 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.

  
\_\_\_\_\_  
Mike Penick, SR/WA  
Project MGR, Lou Metro Public Works

  
\_\_\_\_\_  
James F. Braun, SR/WA  
Supervisor, Lou Metro Public Works

Approved:   
\_\_\_\_\_  
Name

Date 12/9/10  
District ROW Supervisor

Approved: DAVID L. ORR  
\_\_\_\_\_  
Name

Date 1/14/11 Director of ROW & Utilities  
or Designee

Approved: \_\_\_\_\_  
Name

Date \_\_\_\_\_ FHWA, Right-of-Way Officer

## Right-of-Way Certification Form

Date: 12/1/2010

Project #: 1100 FD04 C056 69000 01R County: JEFFERSON  
 Item #: 05-0320.20 Federal #: \_\_\_\_\_  
 Letting Date: SPRING 2011

This project has 23 Total number of parcels acquired, and 0 Total number of individual or families relocated, as well as 4 Total number of businesses relocated.

- 19 Parcels were acquired by a signed fee simple deed and fair market value has been paid **(Type 1)**
- 4 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)**  
 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)**
- 0 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 explanation below for each one as well as FHWA approval. **(Type 3 only)**)
- 0 Relocatees have not been relocated from parcels.  
*(explain below for each parcel)*

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

There are 0 billboards and/or 0 cemeteries involved on this project.  
 There are 0 water or monitoring wells on parcels.

Jefferson County  
KY 22 (Brownsboro Road), Sections 3 & 4  
Item No. 5-320.30 & 5-320.40

**Right of Way Special Provisions**

Parcel No. 51

1. No area along the frontage of Shadow Ridge Apartments shall be used for parking vehicles, equipment, machinery, or for staging or storage of supplies, except during business hours when work in process.
2. All disturbed area shall be restored, re-graded and re-seeded to as near pre-construction condition as possible upon completion of project.
3. The project contractor shall be fully licensed, bonded and insured and shall be responsible for incidental damages to any person or entity as a result of their work being preformed for the road improvement project.
4. Property owner shall be notified 14 days prior to the commencement of the work in the described area of the parcel, so that construction notification can be given to rental tenants.
5. Property owner shall be entitled to reimbursement of incidental expenses as indicated in paragraph 5 of the sales and purchase contract.

Parcel No. 55

1. The retaining wall shall be earth tone-colored and stamped with a decorative design.

Parcel No. 56

1. The two brick columns and security gate will be allowed to remain in the right of way and will be designated as DNR (do not remove). Property owner acknowledges that in event that the columns or security gate are disturbed or damaged as a result of construction, that the property owner has been fully compensated for the columns and security gate. Any additional or future repair, alteration, removal or relocation will be at the owner's expense.
2. Upon completion the driveway apron/entrance and drop box inlet to the property by the project contractor, the property owner will be allowed as requested, to reconstruct the remaining area of their driveway in concrete as required and will receive the requested compensation to do so in the amount of \$12,000. This payment to the property owner will be in lieu of the project contractor constructing the additional driveway area. The temporary easement will be removed from the plans and as a result, the property owner hereby provides consent for grade work in the driveway area to be tied into and then completed by the property owner.

# Right-of-Way Certification Form

Revised 2/22/11

Federal Funded

Original

State Funded

Re-Certification

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

Date: 12/1/2010

Project Name: Brownsboro Road (KY22) Section 3

Letting Date: \_\_\_\_\_

Project #: 1100 FD04 CO56 69000 01R

County: Jefferson

Item #: 05-0320.30 / 05-0320.40

Federal #: \_\_\_\_\_

Description of Project:  
\_\_\_\_\_

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

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

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

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

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

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

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

## Right-of-Way Certification Form

Revised 2/22/11

Date: 12-1-2010

Project Name: Brownsboro Road (KY22) Section 3

Project #: 1100 FD04 CO56 69000 01R

Item #: 05-0320.30 / 05-0320.40

Letting Date: \_\_\_\_\_

County: Jefferson

Federal #: \_\_\_\_\_

This project has 18 total number of parcels to be acquired, and 0 total number of individuals or families to be relocated, as well as 0 total number of businesses to be relocated.

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

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

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

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

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

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

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

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

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

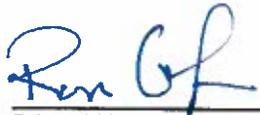
# Right-of-Way Certification Form

Revised 2/22/11

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

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

  
\_\_\_\_\_  
Mike Penick, LPA Project Manager  
Louisville Metro Government

Approved:   
\_\_\_\_\_  
Printed Name

 4-22-11  
\_\_\_\_\_  
Signature Right-of-Way Supervisor

Approved: DAVID L. ORR  
\_\_\_\_\_  
Printed Name

 4-29-11  
\_\_\_\_\_  
Signature KYTC, Director of ROW & Utilities

Approved: \_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature FHWA, ROW Officer (when applicable)

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

**JEFFERSON COUNTY  
FD52 056 0022 004-005  
KY 22 & KY 1694 WIDENING AND NEW CHAMBERLAIN LANE  
ITEM NO. 5-320.20**

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

**Louisville Gas & Electric Co. (Electric Transmission)**

There is an aerial electric transmission pole route along the south right of way of KY 22 from the beginning of the project to just west of the proposed New Chamberlain Lane. The pole route then turns southeast crossing New Chamberlain Lane at approximate Sta. 45+15 and continues on to the substation at the LG&E East Service Center. This aerial electric transmission facility is to remain in place and **is not to be disturbed**.

**Louisville Gas & Electric Co. (Electric Distribution)**

LG&E also has aerial and underground electric distribution facilities in the project area. These aerial facilities are located on the electric transmission poles and other intermediate poles on the south side of KY 22 from the beginning of the project to the west side of New Chamberlain Lane, thence continue on distribution poles along the south right of way of KY 22 to the end of the project. There is another aerial distribution route starting at the route on the south side of KY 22 just east of New Chamberlain Lane, crossing KY 22 and thence running along the east side of KY 1694 to a point Right of KY 1694 Sta. 65+95, thence crossing KY 1694 to a pole on the west side of KY 1694 at the south right of way of Interstate 71. There is an existing underground electric duct system beginning at the east right of way of New Chamberlain Lane opposite Sta. 44+65, thence crossing New Chamberlain Lane to an electric manhole 45' Left of Sta. 44+20, thence turning north to a point approximately 65' Right of Sta. 286+60, thence turning east and running along the south side of KY 22 to several electric distribution poles on the east side of New Chamberlain Lane and ending opposite approximate Sta. 290+10. All Facilities have been relocated as needed, and are clear of construction. These aerial and underground electric facilities are to remain in place and **are not to be disturbed**. The Contractor is cautioned to use extreme caution when performing excavation in the vicinity of the underground electric duct system.

**Louisville Gas and Electric Co. (Gas)**

There are gas mains and services throughout the project limits. A new 6" gas main has been constructed along the north proposed right of way line of KY 22 from Sta. 271+00 to Sta. 303+10. This new main replaces the existing 6" and 4" gas mains on the north side of the existing KY 22 pavement within these limits and the existing 6" and 4" gas mains

have been abandoned in place. A new 4" gas main has been constructed from the new 6" main on the north side of KY 22 opposite Sta. 278+55, thence crossing KY 22 centerline at Sta. 278+55 to the south right of way line, thence along the west side of Brownsboro Glen Road to a tie-in to the existing 4" gas main opposite Sta. 47+00. The existing 4" gas main on the west side of Brownsboro Glen Road has been abandoned in place north of Sta. 47+00. A new 2" gas main has been constructed from the new 6" main on the north side of KY 22 opposite Sta. 301+70, thence crossing KY 22 centerline at Sta. 301+70 to the south right of way line, thence east to a tie-in to the existing 2" gas main on the west side of Silver Wing Blvd. The existing 2" gas main north of this tie-in has been abandoned in place. A new 6" gas main has been constructed from the new 6" main along the north side of KY 22 beginning at a point 72' Left of Sta. 288+00, thence north along the west right of way line of KY 1694 to a tie-in with the existing 6" gas main 43' Left of KY 1694 Sta. 65+70. The existing 6" gas main along the west side of the existing KY 1694 pavement from KY 22 to this tie-in has been abandoned in place. A new 4" gas main connection has been constructed between the new 6" main along KY 1694 and the existing 4" gas main Left of KY 1694 Sta. 54+80. The existing 4" gas main east of this tie-in has been abandoned in place. An existing 2" gas main crosses KY 1694 near Sta. 61+90. An existing 8" gas main runs along the east side of the existing Chamberlain Lane from the beginning of the project to the south side of Shenandoah Lane, then turns west and crosses existing Chamberlain Lane and continues along the south side of existing Chamberlain Lane. At the point where this 8" gas main turns to the west, a 4" gas main is connected to the 8" main and runs to the east along the south side of Shenandoah Lane. All facilities have been relocated as needed, and are clear of construction. These underground facilities are to remain in place and **are not to be disturbed**. The Contractor is cautioned to use extreme caution when performing excavation in the vicinity of the underground gas facilities.

An existing 8" high pressure gas main runs along the east side of Chamberlain Lane from the beginning of the project, thence crossing Shenandoah Lane and continuing north along the east side of New Chamberlain Lane to a point 60' Right of Sta. 42+25. From this point a new 8" high pressure gas main has been constructed to cross New Chamberlain Lane at Sta. 42+25 to a point 30' Left of Sta. 42+25, thence north along the west side of New Chamberlain Lane to a tie-in to the existing 8" high pressure gas main 40' Left of Sta. 45+75. The existing 8" high pressure gas main between Sta. 42+25 and 45+75 has been abandoned in place. From the tie-in opposite Sta. 45+75 the existing 8" high pressure gas main remains in service and runs north to KY 22 near centerline Sta. 287+00, thence east along the south side of the existing pavement to a point opposite Sta. 288+80, thence north crossing the existing KY 22 pavement and continuing north along the east side of KY 1694 to a point opposite Sta. 60+95, thence crossing KY 1694 to the west side and continuing north along the west side of KY 1694 to the Interstate 71 right of way. All facilities have been relocated as needed, and are clear of construction. This 8" high pressure gas facility is **not to be disturbed**.

All main's location and depth should be verified prior to any construction.

### AT&T KY

There are overhead and underground telecommunications lines throughout the project limits. The existing telecommunications aerial cables along the north side of the existing KY 22 pavement for the entire length of the project have been removed and replaced by a new aerial cable route attached to the new LG&E poles located on the south side of the proposed KY 22 pavement. The existing aerial telecommunications cables along the west side of KY 1694 from KY 22 to Interstate 71 have been removed and replaced by a new aerial cable route attached to the new LG&E poles along the east side of KY 1694. At the new pole on the east side of KY 1694 opposite Sta. 60+50 a telecommunications cable begins a buried route in a duct and crosses KY 1694 to the west side and then turn to the northwest and crosses the entrances to Summit Place Apartments to an existing pedestal on the north side of the entrance. Also at the pole opposite Sta. 60+50 another cable begins a buried route in a duct and runs south along the east right of way of KY 1694 for a distance of approximately 75' feet and then turns east to a telecommunications hut on the Worthington Glen Condominium property. All facilities have been relocated as needed, and are clear of construction. These aerial and underground communications facilities are to remain in place and **are not to be disturbed**. The Contractor is cautioned to use extreme caution when performing excavation in the vicinity of the underground communication duct system.

### Louisville Water Company

There is a 16" water main along the south side of KY 22 for the entire project length and portions of this main are to be relocated by the Contractor as part of the roadway project. These relocations are as follows: From Sta. 272+80 to Sta. 273+50 the 16" main is to be relocated to provide clearance for the construction of the 48" pipe culvert under KY 22 and relocate the cross connection to the existing 60" transmission water main. From Sta. 276+86 to Sta. 298+65 the 16" main is to be relocated to be between the proposed pavement and south right of line as shown on the Relocation Plans. An existing 8" water main is located along the east side of existing Chamberlain Lane from the beginning of the project to the north side of Shenandoah Lane where it connects to an 8" water main running to the east along the north side of Shenandoah Lane and a 12" water main running to the west along the north side of existing Chamberlain Lane. The portion of the 8" main along the east side of Chamberlain Lane from Sta. 22+75 to the 8" main on the north side of Shenandoah Lane is to be relocated by the Contractor as part of the project. An existing 12" water main begins at the existing 16" water main on the south side of KY 22 at the intersection with KY 1694, crosses KY 22 and continues along the east side of the existing KY 1694 pavement to Interstate 71. This 12" main is to be relocated by the Contractor as part of the roadway project beginning at the new 16" water main on the south side of KY 22 opposite Sta. 289+25, then running north and crossing KY 22 and continuing north along the east side of KY 1694 in the Permanent Easement for Drainage and Utilities to a point opposite Sta. 62+10 where it ties into the existing 12" water main. A new 8" water main is to also be constructed across KY 1694 at Sta. 55+00. In addition to these water main installations there are 5 fire hydrants, 1 automatic air release valve

and vault, 30", 24" and 16" steel casing pipe, 2" service line and miscellaneous appurtenant valves and fittings to be installed. Portions of the existing water mains are to be abandoned as shown on the Relocation Plans. See the plans, specifications and special notes concerning the relocations.

An existing 60" transmission water main is also located within the limits of the project. This 60" main runs along the east right of way line of existing Chamberlain Lane from the beginning of the project to just north of Shenandoah Lane, then turning northwest and crossing New Chamberlain Lane to the west side of the roadway and leaving the project. The 60" transmission water main enters the project again at the south right of way of KY 22 opposite Sta. 273+00, crosses KY 22 at Sta. 272+85 and continues north leaving the project at the north right of way line of KY 22. **The 60" transmission water main is not to be disturbed. A Louisville Water Company Inspector shall be on-site and the Contractor shall use extreme caution when working around the existing 60" water main.**

### **Louisville and Jefferson County Metropolitan Sewer District**

There is an existing 6" sanitary force main sewer within the project limits beginning left of KY 1694 Sta. 59+60, thence crossing KY 1694 and running south along the east side of KY 1694 to KY 22, thence crossing KY 22 and turning east, thence running along the south side of the existing KY 22 pavement, crossing Silver Wing Blvd. and continuing on the south side of KY 22 for approximately 250', thence turning north and crossing KY 22 to the north side. This force main sewer is to be relocated by the Contractor as part of the roadway project. The relocation begins at an existing air release valve vault left of KY 1694 Sta. 59+60, thence turning south and running along the west proposed curb of KY 1694 within the pavement to the north side of KY 22, thence the sewer turns east and runs along the north proposed right of way line of KY 22, crossing Hickory Forest Drive and ties into the existing force main sewer on the north side of KY 22 left of Sta. 305+50. The existing sewer is to be abandoned within the limits of the relocation. See the plans, specifications and special notes concerning the relocations.

Another existing 4" sanitary force main sewer is located within the project limits and crosses New Chamberlain Lane at approximate Sta. 43+90. This sewer is to remain in place and **is not to be disturbed.**

### **Insight Communications**

The existing Insight Communications aerial cables along KY 22 have been relocated to the new LG&E pole route along the south side of KY 22. The existing aerial cables along KY 1694 have been relocated to the new LG&E pole route along the east side of KY 1694. A buried Insight cable runs from the LG&E pole right of Sta. 280+00 to a pedestal on the east side of Brownsboro Glen Road and then continues south along the east side of Brownsboro Glen Road. A buried Insight cable runs from the LG&E pole Right of KY

1694 Sta. 62+50, then crossing KY 1694 to the Summit Place Apartments on the west side of KY 1694. All facilities have been relocated as needed, and are clear of construction. These aerial and underground cables facilities are to remain in place and **are not to be disturbed**. The Contractor is cautioned to use extreme caution when performing excavation in the vicinity of the underground communication cable system.

### **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. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.**

### **SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES**

The Kentucky Transportation Cabinet makes no guarantees regarding: the existence of utilities, the location of utilities, the utility companies in the project scope, or the potential for conflicts encountered during construction. The location of utilities provided in the contract document has been furnished by the facility owners and/or by reviewing record drawing and may not be accurate. It will be the roadway contractor's responsibility to locate utilities before excavating by calling the various utility owners and by examining any supplemental information supplied by the Cabinet. If necessary, the roadway contractor shall determine the exact location and elevation of utilities by hand digging to expose utilities before excavating in the area of a utility. The cost for repair and any other associated costs for any damage to utilities caused by the roadway contractor's operations shall be borne by the roadway contractor.

### **BEFORE YOU DIG**

**THE CONTRACTOR IS INSTRUCTED TO CALL 1-800-752-6007 TO REACH KY 811, THE ONE-CALL SYSTEM FOR INFORMATION ON THE LOCATION OF EXISTING UNDERGROUND UTILITIES. THE CALL IS TO BE PLACED A MINIMUM OF TWO (2) AND NO MORE THAN TEN (10) BUSINESS DAYS PRIOR TO EXCAVATION. THE CONTRACTOR SHOULD BE AWARE THAT OWNERS OF UNDERGROUND FACILITIES ARE NOT REQUIRED TO BE MEMBERS OF THE KY 811 ONE-CALL BEFORE-U-DIG (BUD) SERVICE. THE CONTRACTOR MUST COORDINATE EXCAVATION WITH THE UTILITY OWNERS, INCLUDING THOSE WHO DO NOT SUBSCRIBE TO KY 811. IT MAY BE**

NECESSARY FOR THE CONTRACTOR TO CONTACT THE COUNTY COURT  
CLERK TO DETERMINE WHAT UTILITY COMPANIES HAVE FACILITIES IN  
THE AREA.

## Utility Owners and Contact Person

For  
Jefferson County

1. Louisville Gas & Electric (Electric)  
820 West Broadway  
Louisville, KY 40202  
Trouble Line – 1-800-331-7370 (LGE & KU)  
(502) 589-3500 (LG&E ONLY)

Greg Geiser  
cell – (502) 376-9510  
work – (502) 627-3708  
[Greg.Geiser@lge-ku.com](mailto:Greg.Geiser@lge-ku.com)
2. Louisville Gas & Electric (Gas)  
820 West Broadway  
Louisville, KY 40202

Greg Geiser  
cell - (502) 376-9510  
[Greg.Geiser@lge-ku.com](mailto:Greg.Geiser@lge-ku.com)
3. Louisville Water Company  
550 South Third Street  
Louisville, KY 40202

Daniel Tegene, PE  
(502) 569-3649  
[dtegene@lwcky.com](mailto:dtegene@lwcky.com)
4. AT&T KY  
3719 Bardstown Road - 2nd Floor  
Louisville, KY 40218

Morgan Herndon  
[morgan.herndon@att.com](mailto:morgan.herndon@att.com)  
(502) 458-7312
5. Metropolitan Sewer District  
700 West Liberty Street  
Louisville, KY 40202 (502)

Steve Emly  
[emly@msdlouky.org](mailto:emly@msdlouky.org)  
540-6509  
Brad Selch  
[selchb@msdlouky.org](mailto:selchb@msdlouky.org)  
(502) 540-6614  
**Send to both contacts**
6. Insight KY Partners  
4701 Commerce Crossings Dr.  
Louisville, KY40229

Deno Barbour  
Cell: (502) 664-7395  
[barbour.d@insightcom.com](mailto:barbour.d@insightcom.com)
7. Texas Gas Transmission Corporation  
3800 Frederica Street  
Owensboro, KY 42302  
(270) 688-6325

Tim Turner  
(270) 688-6461  
[tim.turner@bwpmlp.com](mailto:tim.turner@bwpmlp.com)
8. Marathon Ashland Pipeline Company  
1046 Pleasant Valley Rd.  
Owensboro, KY 42303

Jeff Erwin  
[JAErwin@MAPLLC.com](mailto:JAErwin@MAPLLC.com)  
(270) 926-5579

9. Indiana Gas Company Inc  
or  
Ohio River Pipeline Corporation  
2520 Lincoln Drive, P.O. Box CS 11  
Clarksville, Indiana 47130
- Line Maintained By**  
Texas Gas Transmission, LLC  
3800 Frederica Street  
Owensboro, Kentucky 42302  
Cell: (270) 485-1152
10. Indiana Utilities Corporation  
123 West Chestnut Street  
Corydon, Indiana 47112  
(812) 738-3235
11. Sprint - Fiber Optics  
769 Brooksedge Blvd.  
Westerville, OH 43081  
Cell (937) 209-9754
12. Mid-Valley Pipeline Company  
4910 Limaburg Road  
Burlington, KY 41005  
FAX (866) 699-1185
13. Level 3 Communications  
848 S.8<sup>th</sup> St.  
Louisville, KY 40202
14. Jefferson County Public Schools (JCPS)  
MIS Dept.  
3332 Newburg Road  
Louisville, KY 40218
15. Kentucky Data Link (KDL)  
Project Manager  
3701 Communications Way  
Evansville, IN 47715  
[WCI.maintenance.south@windstream.com](mailto:WCI.maintenance.south@windstream.com)
- Mary Barber  
[mbarber@vectren.com](mailto:mbarber@vectren.com)  
(812) 948-4952
- Tim Turner  
(270) 688-6461  
[Tim.Turner@bwpmlp.com](mailto:Tim.Turner@bwpmlp.com)
- Kevin Kinney  
Ron Timberlake  
Jackie Rogers  
[iucjrogers@portative.net](mailto:iucjrogers@portative.net)
- Joe Thomas  
[Joseph.J.Thomas@Sprint.com](mailto:Joseph.J.Thomas@Sprint.com)  
Office (513) 612-4204
- Todd Calfee (Richard)  
(859)-371-4469x14  
859-630-8271  
[RTCALFEE@sunocologistics.com](mailto:RTCALFEE@sunocologistics.com)
- Kevin Webster  
[Kevin.webster@level3.com](mailto:Kevin.webster@level3.com)  
(502) 777-8622
- Bo Lowrey  
[bo.lowrey@jefferson.kyschools.us](mailto:bo.lowrey@jefferson.kyschools.us)  
Cell (502) 639-2311  
(502) 485-3116
- Rick Cunico  
ph: (618) 648-2420  
cell: (812) 760-6602  
Fax: (812) 456-4731  
(812) 759-844(Maintenance)

- 16** AT&T Legacy  
5390 Overbend Trail  
Suwanee, GA 30024  
Scott Logeman  
Cell (707) 335-8255  
[Slogeman@ems.att.com](mailto:Slogeman@ems.att.com)
- 17.** TWTelecom  
Medinger Tower  
462 S. 4<sup>th</sup> St., Suite 210  
Louisville, KY 40202  
Jeremy Cornell  
[Jeremy.cornell@TWTELECOM.com](mailto:Jeremy.cornell@TWTELECOM.com)  
(502) 992-1168  
333 West Vine Street, Suite 330  
Lexington, KY 40507  
Gerald Long  
[Gerald.Long@twtelecom.com](mailto:Gerald.Long@twtelecom.com)  
Telephone # (502) 719-2387
- 18.** City of Taylorsville Sewer & Water  
70 Taylorsville Rd., P O Box 279  
Taylorsville, KY 40071  
Harold Compton  
[hcompton@taylorsvillewater.org](mailto:hcompton@taylorsvillewater.org)  
(502) 477-3235  
Fax: (502) 477-1310
- 19.** Qwest Communications Company, LLC  
700 W Mineral Ave, UTD2734  
Littleton, Colorado 80120  
George McElvain  
[George.McElvain@qwest.com](mailto:George.McElvain@qwest.com)  
303-992-9931  
Cell:720-260-2514  
Fax:303-707-3252

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

**JEFFERSON COUNTY  
FD52 056 0022 004-006  
KY 22 WIDENING  
SECTIONS 3 AND 4  
ITEM NO. 5-320.30 & 5-320.40**

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

**Louisville Gas & Electric Co. (Electric Distribution)**

LG&E has aerial electric distribution facilities throughout the project area. These facilities consist of two circuits and are located along the right of way on the south side of KY 22 from beginning to end of the project. There is also an aerial distribution facility starting at the route on the south side of KY 22 at Hitt Lane, then crossing KY 22 and continuing north along the east side of Hitt Lane. There are also several aerial services that cross KY 22.

All Facilities have been relocated as needed, and are clear of construction. These aerial electric facilities are to remain in place and **are not to be disturbed**.

**Louisville Gas and Electric Co. (Gas)**

There are gas mains and services throughout the project limits. A new 6" medium pressure gas main is to be constructed along the north side of KY 22 from the beginning of the project to Sta. 328+00. This 6" main then crosses KY 22 and continues on the south side of the roadway to a point opposite Sta. 345+63 where it connects to an existing 6" gas main. The existing 6" gas main continues on the south side of the roadway to the end of the project. A 4" gas main is located on the west side of Worthington Place Drive starting at the new 6" main and continuing north. There is also a 4" gas main on the west side of Craigs Creek Drive starting at the new 6" gas main, crossing KY 22 and continuing south. A new 4" medium pressure gas main is also to be constructed on the west side of Hitt Lane starting at the new 6" main left of Sta. 328+00, continuing north along the west right of way to a point opposite Hitt Lane Sta. 54+50 and then connecting to the existing 4" gas main which continues along the west side of Hitt Lane. There also several service lines that cross KY 22 throughout the project. The relocation and construction of the new facilities are to be completed by November 30, 2011 and **are not to be disturbed**. The Contractor is cautioned to use extreme caution when performing excavation in the vicinity of the underground gas facilities.

All main's location and depth should be verified prior to any construction.

### AT&T KY

There are overhead and underground telecommunications lines throughout the project limits. The aerial telecommunications lines along KY 22 are located on the south side of the roadway on the LG&E poles for the entire length of the project. This telecommunications route includes both fiber optic and copper cables. A telecommunications cable also crosses KY 22 from the south side near Sta. 328+80 to a LG&E pole on the east side of Hitt Lane and continues north along the LG&E pole route on the east side of Hitt Lane. There is also a buried underground telecommunications cable along the south side of KY 22 starting from the LG&E pole near approximate Sta. 328+75 and extending past the end of the project. All facilities have been relocated as needed, and are clear of construction. These aerial and underground communications facilities are to remain in place and **are not to be disturbed**. The Contractor is cautioned to use extreme caution when performing excavation in the vicinity of the underground telecommunication system.

### Louisville Water Company

There is a 16" water main along the south side of KY 22 for the entire project length and portions of this main are to be relocated by the Contractor as part of the roadway project. These relocations are from right of Sta. 318+00 to Sta. 341+80 the 16" main is to be relocated to between the south edge of proposed pavement and south right of way to provide clearance for the construction. The existing 12" main on the west side of Hitt Lane from the south side of KY 22 to Sta. 55+00 is to be relocated to near the west right of way of Hitt lane.

In addition to these water main installations, there are 3 fire hydrants to be relocated and 24" steel casing pipe, 3/4" and 1" service lines and miscellaneous appurtenant valves, meters and fittings to be installed. Portions of the existing water mains are to be abandoned as shown on the Relocation Plans. See the plans, specifications and special notes concerning these relocations. The existing portions of the water mains and services that will remain in service **are not to be disturbed**.

### Louisville and Jefferson County Metropolitan Sewer District

There is an existing 6" sanitary force main sewer along the south side of KY 22 from the beginning of the project to approximately Sta. 305+30. The force main then crosses KY 22 to the north side and continues eastward to approximately Sta. 309+40 where it turn northward and leaves the project limits. The portion of the force main that lies on the south side of the roadway is to be relocated to the north side by the Contractor as part of the KY 22 Section 2 construction. The force main on the south side will be abandoned in place.

An existing 30" sanitary gravity sewer lies along the east side of Hite Creek and crosses KY 22 at approximately Sta. 310+38. This sewer will remain in place and it is anticipated that it will not be impacted by the roadway construction and **is not to be disturbed**. There are also three existing 8" sanitary gravity sewers within the project limits. The first is also located along the south right of way of KY 22 from the 30" sewer on the east side of Hite Creek to the west side of Craigs Creek Drive. This sewer lies outside the disturb limits and **is not to be disturbed** by the construction. The second 8" sanitary gravity sewer crosses KY 22 from the north side to the 8" sewer on the south side near Sta. 321+05. This sewer will remain in place and **is not to be disturbed** the roadway construction. The third 8" sanitary gravity sewer begins at the 8" sewer on the south side of KY 22 west of Craigs Creek Drive, crosses Craigs Creek Drive and continues eastward on the south side of KY 22 to a point opposite Sta. 328+40. This sewer then crosses KY 22 at Sta. 329+10 and continues eastward along the north side to the Rock Springs Farms subdivision. This sewer will remain in place and it is anticipated that the sewer will not be impacted by the roadway construction and **is not to be disturbed**.

### **Insight Communications**

Insight Communications has both coaxial and fiber optic communication cables on the existing LG&E pole line located on the south side of KY 22 from the beginning of the project to the end. There is also an underground cable that starts at the LG&E pole on the south side of KY 22 at approximately 321+00, crosses KY 22 and then continues north along the west side of Worthington Place Drive. There is also an aerial communication cable that starts at the LG&E pole on the south side of KY 22 opposite Sta.328+70, crosses KY 22 and then runs to the LG&E pole on the east side of Hitt Lane. All facilities have been relocated as needed, and are clear of construction. These aerial and underground cables facilities are to remain in place and **are not to be disturbed**. The Contractor is cautioned to use extreme caution when performing excavation in the vicinity of the underground communication cable system.

### **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. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.**

### **SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES**

The Kentucky Transportation Cabinet makes no guarantees regarding: the existence of utilities, the location of utilities, the utility companies in the project scope, or the potential for conflicts encountered during construction. The location of utilities provided in the contract document has been furnished by the facility owners and/or by reviewing record drawing and may not be accurate. It will be the roadway contractor's responsibility to locate utilities before excavating by calling the various utility owners and by examining any supplemental information supplied by the Cabinet. If necessary, the roadway contractor shall determine the exact location and elevation of utilities by hand digging to expose utilities before excavating in the area of a utility. The cost for repair and any other associated costs for any damage to utilities caused by the roadway contractor's operations shall be borne by the roadway contractor.

### **BEFORE YOU DIG**

THE CONTRACTOR IS INSTRUCTED TO CALL 1-800-752-6007 TO REACH KY 811, THE ONE-CALL SYSTEM FOR INFORMATION ON THE LOCATION OF EXISTING UNDERGROUND UTILITIES. THE CALL IS TO BE PLACED A MINIMUM OF TWO (2) AND NO MORE THAN TEN (10) BUSINESS DAYS PRIOR TO EXCAVATION. THE CONTRACTOR SHOULD BE AWARE THAT OWNERS OF UNDERGROUND FACILITIES ARE NOT REQUIRED TO BE MEMBERS OF THE KY 811 ONE-CALL BEFORE-U-DIG (BUD) SERVICE. THE CONTRACTOR MUST COORDINATE EXCAVATION WITH THE UTILITY OWNERS, INCLUDING THOSE WHO DO NOT SUBSCRIBE TO KY 811. IT MAY BE NECESSARY FOR THE CONTRACTOR TO CONTACT THE COUNTY COURT CLERK TO DETERMINE WHAT UTILITY COMPANIES HAVE FACILITIES IN THE AREA.

## Utility Owners and Contact Person

For  
Jefferson County

1. LG&E KU (Electric)  
820 West Broadway  
Louisville, KY 40202

Greg Geiser  
work: (502) 627-3708  
[Greg.Geiser@lge-ku.com](mailto:Greg.Geiser@lge-ku.com)

LG&E Emergency Number (502) 589-1444  
KU Emergency Number 1-800-331-7370
2. LG&E (Gas)  
820 West Broadway  
Louisville, KY 40202  
Emergency Number (502) 589-5511

Greg Geiser  
work: (502) 627-3708  
[Greg.Geiser@lge-ku.com](mailto:Greg.Geiser@lge-ku.com)
3. Louisville Water Company  
550 South Third Street  
Louisville, KY 40202

Daniel Tegene, PE  
(502) 569-3649  
[dtegene@lwcky.com](mailto:dtegene@lwcky.com)
4. AT&T KY  
3719 Bardstown Road - 2nd Floor  
Louisville, KY 40218

Morgan Herndon  
[morgan.herndon@att.com](mailto:morgan.herndon@att.com)  
(502) 458-7312
5. Metropolitan Sewer District  
700 West Liberty Street  
Louisville, KY 40202 (502)

Steve Emly  
[emly@msdlouky.org](mailto:emly@msdlouky.org)  
540-6509  
Brad Selch  
[selchb@msdlouky.org](mailto:selchb@msdlouky.org)  
(502) 540-6614  
**Send to both contacts**
6. Insight Communications Company  
4701 Commerce Crossings Dr.  
Louisville, KY40229

Deno Barbour  
Cell: (502) 664-7395  
[barbour.d@insightcom.com](mailto:barbour.d@insightcom.com)
7. Texas Gas Transmission Corporation  
3800 Frederica Street  
Owensboro, KY 42302  
(270) 688-6325

Tim Turner  
(270) 688-6461  
[tim.turner@bwpmlp.com](mailto:tim.turner@bwpmlp.com)

8. Marathon Ashland Pipeline Company  
1046 Pleasant Valley Rd.  
Owensboro, KY 42303  
Jeff Erwin  
[JAErwin@MAPLLC.com](mailto:JAErwin@MAPLLC.com) or  
[JAErwin@MarathonOil.com](mailto:JAErwin@MarathonOil.com)  
(270) 926-5579
9. Indiana Gas Company Inc  
or  
Ohio River Pipeline Corporation  
2520 Lincoln Drive, P.O. Box CS 11  
Clarksville, Indiana 47130  
Mary Barber  
[mbarber@vectren.com](mailto:mbarber@vectren.com)  
(812) 948-4952
- Line Maintained By**  
Texas Gas Transmission, LLC  
3800 Frederica Street  
Owensboro, Kentucky 42302  
Cell: (270) 485-1152  
Tim Turner  
(270) 688-6461  
[Tim.Turner@bwpmlp.com](mailto:Tim.Turner@bwpmlp.com)
10. Indiana Utilities Corporation  
123 West Chestnut Street  
Corydon, Indiana 47112  
(812) 738-3235  
Kevin Kinney  
Ron Timberlake  
Jackie Rogers  
[iucjrogers@portative.net](mailto:iucjrogers@portative.net)
11. Sprint - Fiber Optics  
769 Brooksedge Blvd.  
Westerville, OH 43081  
Cell (937) 209-9754  
Joe Thomas  
[Joseph.J.Thomas@Sprint.com](mailto:Joseph.J.Thomas@Sprint.com)  
Office (513) 612-4204
12. Mid-Valley Pipeline Company  
4910 Limaburg Road  
Burlington, KY 41005  
FAX (866) 699-1185  
Todd Calfee (Richard)  
(859) 371-4469x14  
(859) 630-8271  
[RTCALFEE@sunocologistics.com](mailto:RTCALFEE@sunocologistics.com)
13. Level 3 Communications  
848 S.8<sup>th</sup> St.  
Louisville, KY 40202  
Kevin Webster  
[Kevin.webster@level3.com](mailto:Kevin.webster@level3.com)  
(502) 777-8622
14. Jefferson County Public Schools (JCPS)  
MIS Dept.  
3332 Newburg Road  
Louisville, KY 40218  
Bo Lowrey  
[bo.lowrey@jefferson.kyschools.us](mailto:bo.lowrey@jefferson.kyschools.us)  
Cell (502) 639-2311  
(502) 485-3116

- 15.** Kentucky Data Link (KDL now Windstream)  
Project Manager  
3701 Communications Way  
Evansville, IN 47715
- Rick Cunico  
ph: (618) 648-2420  
cell: (812) 760-6602  
Fax: (812) 456-4731  
(812) 759-7844(Maintenance)  
[WCI.maintenance.south@windstream.com](mailto:WCI.maintenance.south@windstream.com)
- 16.** AT&T Legacy  
5390 Overbend Trail  
Suwanee, GA 30024
- Scott Logeman  
Cell: (770) 335-8255  
[Slogeman@ems.att.com](mailto:Slogeman@ems.att.com)
- 17.** TWTelecom  
Medinger Tower  
462 S. 4<sup>th</sup> St., Suite 210  
Louisville, KY 40202
- Jeremy Cornell  
[Jeremy.cornell@TWTELECOM.com](mailto:Jeremy.cornell@TWTELECOM.com)  
(502) 992-1168
- 333 West Vine Street, Suite 330  
Lexington, KY 40507
- Gerald Long  
[Gerald.Long@twtelecom.com](mailto:Gerald.Long@twtelecom.com)  
(502) 719-2387
- 18.** Qwest Communications Company, LLC  
700 W Mineral Ave, UTD2734  
Littleton, Colorado 80120
- George McElvain  
[George.McElvain@qwest.com](mailto:George.McElvain@qwest.com)  
(303) 992-9931  
Cell:720-260-2514  
Fax:303-707-3252

## SUPPLEMENTARY SPECIFICATIONS

### HIGHWAY 22 - SECTION 2 WATER MAIN RELOCATION AND BETTERMENT PROJECT

KTC ITEM NO. 5-320.20  
LWC PROJECT 12073

#### PROJECT LIMITS

Limits of the referenced project include **Highway 22** between Chamberlain Lane and Silver Wing Boulevard. The project also includes **Brownsboro Rd** between Highway 22 and Worthington Glen Drive as well as **Chamberlain Lane** Between Shenandoah Drive and Vining Place as shown on the water main plan sheets 1-8.

#### PROJECT SUMMARY

The referenced project consists of the **installation** of **2,284 feet** of 16-inch Pressure Class 350 ductile iron water main, **1,220 feet** of 12-inch Pressure Class 350 ductile iron water main, and **620 feet** of 8-inch Pressure Class 350 ductile iron water main. Also included with the project are the **installation** of **85 feet** of 30-inch casing pipe, **230 feet** of 24-inch casing pipe, and **110 feet** of 16-inch casing pipe using the bore and jack construction technique and the **renewal/installation** of **5** new fire hydrants, and the transfer, relocation, or discontinuation of **17** customer services.

#### SCOPE OF WORK

All Ductile Iron pipe and Ductile Iron pipe materials (including fittings, gate valves, drain assemblies, air release assemblies and fire hydrant assemblies) will be furnished by LWC at its Allmond Avenue warehouse and storage yard and installed by the Contractor.

The Contractor shall note that the brief scope of work itemized below does not include every task to be performed by the Contractor included in the Project. Contractor shall refer to the Contract Documents, including Project Drawings, for a detailed itemization of all work to be performed for this Project.

- Tie into existing 16-inch ductile iron Water Main near Road Sta. 272+80 on Highway 22. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a "ridged" tie-in connection.
- Install **94 feet** of 16-inch Pressure Class 350 ductile iron water main between Road Sta. 272+80 and Road Sta. 273+50 on Highway 22.

- Tie into existing 16-inch ductile iron Water Main near Road Sta. 273+50 on Highway 22. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Tie into existing 16-inch ductile iron Water Main near Road Sta. 276+86 on Highway 22. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Install **265 feet** of 16-inch Pressure Class 350 ductile iron water main between Road Sta. 276+86 and the intersection of Highway 22 and Brownsboro Glen Road.
- Tie into existing 8-inch PVC Water Main at the Intersection of Highway 22 and Brownsboro Glen Road. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Install **840 feet** of 16-inch Pressure Class 350 ductile iron water main along Highway 22 between Brownsboro Glen Road and New Chamberlain Lane
- Install **85 feet** of 16-inch Pressure Class 350 ductile iron water main in 30-inch steel casing pipe (bore and jack) along Highway 22 underneath New Chamberlain Lane.
- Install **1000 feet** of 16-inch Pressure Class 350 ductile iron water main along Highway 22 from New Chamberlain Lane to tie in near Road Sta. 298+65.
- Tie into existing 16-inch ductile iron Water Main at Road Sta. 298+65 on Highway 22. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Install **155 feet** of 12-inch Pressure Class 350 ductile iron water main in 24-inch steel casing pipe (bore and jack) across Highway 22 at the intersection of Highway 22 and Highway 1694.
- Install **330 feet** of 12-inch Pressure Class 350 ductile iron water main between the intersection of Highway 22 and Highway 1694 and Glasgow Blvd.
- Install **110 feet** of 8-inch Pressure Class 350 ductile iron water main in 16-inch steel casing pipe (bore and jack) across Highway 1694 at the intersection of Glasgow Blvd. and Highway 1694.

- Install **30 feet** of 8-inch Pressure Class 350 ductile iron water main at the intersection of Glasgow Blvd. and Highway 1694.
- Install **635 feet** of 12-inch Pressure Class 350 ductile iron water main between Glasgow Blvd. and Worthington Glen Drive.
- Install **10 feet** of 8-inch Pressure Class 350 ductile iron water main to tie into existing 8-inch ductile iron water main underneath Highway 1694 to Summit Park Place.
- Tie into existing 8-inch ductile iron Water Main across Highway 1694 at Worthington Glen Drive. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Install **75 feet** of 12-inch Pressure Class 350 ductile iron water main in 24-inch steel casing pipe (bore and jack) underneath Worthington Glen Drive.
- Install **25 feet** of 12-inch Pressure Class 350 ductile iron water main to tie into existing 12-inch ductile iron water main along Highway 1694 at Worthington Glen Drive.
- Tie into existing 12-inch ductile iron water main along Highway 1694 at Worthington Glen Drive. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Tie into existing 8-inch ductile iron water main near Road Sta. 22+75 on Chamberlain Lane. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Install **435 feet** of 8-inch Pressure Class 350 ductile iron water main to tie into existing 8-inch ductile iron water main at the intersection of Chamberlain Lane, New Chamberlain Lane and Shenandoah Drive.
- Tie into existing 8-inch ductile iron water main at the intersection of Chamberlain Lane, New Chamberlain Lane and Shenandoah Drive. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project

manager and as shown on the project plans in order to create a “ridged” tie-in connection.

- Install / Renew 5 fire hydrants.
- Transfer 1 (5/8” to 3/4”) customer services.
- Relocate 3 (6” to 8”) fire services.
- Relocate 6 (3/4” to 1”) customer services.
- Relocate 3 (4” to 6”) customer services.
- Discontinue 4 (3/4” to 2”) customer services.

### **GENERAL INFORMATION**

- Unless otherwise indicated on the project drawings or modified by these supplementary specifications, all applicable provisions of the “Louisville Water Company Technical Specifications and Standard Drawings for Pipeline Construction” (2008 Edition) shall govern work on this project. If LWC standards and specifications conflict with KTC specifications or construction notes, the contractor should ask clarification and obtain written approval from LWC and KTC project managers prior to taking action on the issues.
- All work performed for the installation and relocation of the water main and related construction must be performed by an LWC pre-qualified contractor in the following categories:
  - Category 1: 4” – 16” Ductile Iron Water Main
  - Category 7: 1” and smaller water services
  - Category 8: 1.5” and larger water and fire services
- Video Recording shall be provided in DVD format.
- Excavation on this project shall be unclassified.
- Rock shall be removed using mechanical methods and concrete thrust blocks (backhoe, hoe ram, or rock trenching machine). Blasting shall not be permitted particularly in the vicinity of the 60-inch water main.
- All permits, easements and right-of-way will be obtained by KTC. The contractor shall not start work on any property until the contractor verifies with KTC that the required permits, easements and right-of-way are secured.

- Contractor will be responsible for obtaining all permits and will be insured and responsible for any and all damage caused as a result of any blasting or rock removal operations (as stated in the LWC Standard Technical Specifications for Pipeline Construction).
- Utility locations are shown on the plans from available information and are approximate. The contractor is responsible for locating all existing utilities including water line facilities prior to start of construction. The contractor is responsible for relocating any existing utility including water line utility that is in conflict with the proposed construction at no additional cost to LWC or KTC.

### **GATE VALVES**

- Copies of the valve cards will be supplied to the Contractor upon request.
- In accordance with Section 1.1 of the Technical Specifications, the designated valves shall be located and inspected by the contractor prior to the start of the project, and appropriate action taken to correct the problem(s) prior to start of the construction work.
- In accordance with Section 1.1 of the Technical Specifications, unless an emergency exists, the Contractor shall not operate any valve without direct supervision or prior approval from the LWC Project Manager or LWC Construction Inspector.

### **TRAFFIC CONTROL**

- Traffic control shall be provided by the Contractor in accordance with the *Federal Highway Administration Part VI of the Manual for Uniform Traffic Control Devices* (MUTCD) latest edition, and in accordance with any applicable roadway traffic control requirements.
- This project will be bid and constructed in conjunction with the Kentucky Transportation Cabinet's (KTC) Highway 22 Roadway Improvements from Craigs Creek Drive to near Murphy Lane. Therefore, no KTC permits will be required. All other permits will be supplied by KTC.
- Outside the designated work hours, all travel lanes shall be temporarily restored and reopened to traffic, and all construction vehicles, equipment, and personnel removed from the roadway. The Contractor is cautioned that travel lanes include designated turning lanes and may include parking lanes during specific periods of the day.

- The Contractor is reminded that all street plates located in travel lanes must be recessed flush with the finished grade of the roadway, and that final restoration shall be completed within 72 hours of the excavation.
- Specific traffic control signage referencing lane blockages, flaggers, etc. shall be removed from the site or covered when not in use. Signs that provide general messages such as "Construction Ahead" shall be left in place throughout the completion of this project.
- All construction vehicles shall be legally parked. Privately owned vehicles including vehicles owned by the construction crew shall not be parked in the "No Parking" zones.
- The Contractor shall be responsible for establishing temporary "No Parking" zones. The zones shall be confined to the immediate work area and appropriate transition zones, and shall be limited in duration to the length of time work is actually performed in that area. In establishing "No Parking" zones, the on-street parking needs of the area businesses and residents shall be considered.

### **WORK SCHEDULE**

- Water main installation shall be performed one section at a time with tie-in and service work completed and restoration begun before proceeding to the next section.
- With the approval of the LWC Construction Inspector, pipeline installation may proceed to a subsequent block or section only while actively dechlorinating and flushing, or while awaiting pressure and disinfection test results. Once acceptable test results have been obtained, work efforts shall be refocused to the prior block or section until all tie-ins and service work are completed and restoration is initiated.
- LWC observes the following holidays; New Years Day, Martin Luther King Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving (Thursday and Friday), Christmas Eve, and Christmas Day. Work shall not be performed on any of these holidays without prior approval from the KTC and LWC Project Managers.

In addition to these listed holidays, no work shall be performed during the year-end holiday period between **November 19, 2011** to **November 27, 2011** and **December 19, 2011** to **January 3, 2012**.

- Normal work hours shall be limited to weekdays between **9:00 AM** and **3:00 PM**. All other work hours must be approved by Project Manager and KTC.

- The Contractor shall anticipate the need to work after-hours (between 6:00 PM and 6:00 AM) and on weekends to complete tie-ins involving shut-offs and customer service transfers. All such work will be considered incidental to the project and no additional compensation will be provided. As with holidays, any work planned for weekends, and any work after normal work hours (8:00 AM to 6:00 PM), this shall be pre-approved by the KTC and LWC Project Managers.
- In the case of an emergency, the Contractor shall immediately notify the LWC Construction Inspector. If the LWC Inspector is not available then contact the Project Manager, the Radio Room, and Customer Service. Prior to the actual shut-off, an attempt shall also be made to contact each customer (door-to-door) to alert customers of the emergency situation and the need to shut-off the main.

### **PIPELINE CONSTRUCTION**

- Prior to the start of any work at the site (including saw-cutting), the Contractor and LWC Construction Inspector shall review the proposed pipeline alignment with respect to the utility locations marked by the authorized locating agency, trees, and other existing site improvements.

Field modifications to the proposed pipeline alignment may be necessary to avoid or minimize the effects of these potential conflicts. To avoid potential conflicts with existing utilities located perpendicular and/or parallel to the proposed main, the Contractor should anticipate the need to use offsets, bends and fittings when installing the new main, and for large service connections.

- Standard burial depth for new water mains is 42 inches, as measured from the top of ground to the top of the newly installed pipe. While the Contractor is expected to adhere to this standard burial depth requirement at all times, it is understood that revisions to the burial depth will be necessary when the installation of mains and large services conflict with existing utilities and other site improvements. With prior notification and approval from the LWC Construction Inspector, the depth of burial may be reduced to a minimum of 30 inches, or increased to a maximum of 72 inches, for short durations (20 feet or less) to avoid these conflicts. A situation requiring a depth of burial outside these maximum and minimum limits or of a longer duration shall be approved by the LWC Chief Engineer.

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

- Unless otherwise specified or approved by the LWC Project Manager or the LWC Construction Inspector, all pipe replacement work in this project scope shall be constructed with LWC-supplied Pressure Class 350 ductile iron pipe using traditional trenching techniques. All new ductile iron pipe and fittings shall be

encapsulated in two layers of blue polywrap. Care shall be exercised while handling pipe during wrapping to ensure that the asphalt coating or cement lining on the pipe is not damaged or disturbed. Forklifts or other material handling equipment shall not be inserted into the pipe for wrapping purposes or any other construction activity.

Polywrap shall be thoroughly inspected for cuts, rips or tears prior to burial. Small defects may be repaired with polytape. Larger tears and imperfections shall be covered with an additional layer of polywrap.

- The type, size and condition of the existing pipe shall be verified prior to completing tie-ins. When the existing pipe is other than indicated on the Project Plans, the LWC Construction Inspector, LWC Project Manager, and KTC Project Manager shall be contacted immediately to assess the need for revising the tie-in location.
- The Contractor is cautioned that he/she may encounter trees on the project alignment. Care will be required to minimize damage to trees and tree root systems. Excavations that encounter roots should be backfilled as soon as possible. Severed roots more than 2-inches in diameter shall be cut straight at an undamaged portion, maintained in a moist condition and then buried as soon as possible. Excavated soil shall not be placed within the dripline of any tree.

When installing water mains within the dripline of any tree with a diameter of 6 inches or larger, the root system shall be bored. The cost of the tree bore shall be considered incidental to the installation of the pipeline, and no extra compensation will be provided.

All tree root systems that require boring shall be bored a minimum of 30 feet; 15 feet either side of the tree trunk. The bore shall be located a minimum of 4 feet below the ground surface and a minimum of 5 feet from the center of the tree.

### **DELIVERY AND OFF-LOADING**

- All pipe shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the Contractor.
- Each pipe shipment shall be inspected prior to unloading to see if the load has shifted or otherwise been damaged. Each pipe shipment shall be checked for quantity and proper pipe size, color and type.
- Pipe shall be loaded, off-loaded, and otherwise handled in accordance with AWWA M23, and all of the pipe supplier's guidelines shall be followed.

- Off-loading devices such as chains, wire rope, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.
- During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.
- If appropriate unloading equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to insure that pipe is not dropped or damaged. Pipe should be carefully lowered, not dropped, from trucks.

### **HANDLING AND STORAGE**

- Any length of pipe showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. Damaged areas, or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the acceptable length of pipe shall be determined by the Project Manager.
- Any scratch or gouge greater than 10% of the wall thickness will be considered significant and can be rejected unless determined acceptable by the LWC Inspector or Project Manager.
- Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.
- Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch or otherwise abrade the piping in any way.
- Pipe shall not be stored on-site for periods greater than 3 months or as approved by the LWC Inspector and Project Manager.
- Pipe shall be stored and stacked per the pipe supplier's guidelines and as approved by the LWC Inspector and Project Manager.

### **PREPARATION PRIOR TO MAKING CONNECTIONS INTO EXISTING PIPING SYSTEMS**

- Approximate locations for existing piping systems are shown in the construction documents. Prior to making connections into existing piping systems, the Contractor shall:
  - a) Field verify location, size, piping material and piping system of the existing pipe.
  - b) Obtain all required fittings, which may include saddles, sleeve type couplings, flanges, tees, or others as shown in the construction documents.
  - c) Have installed all temporary pumps and/or pipes in accordance with established connection plans.
  
- Unless otherwise specified or approved by the Project Manager or the LWC Construction Inspector, new piping systems shall be completely assembled and successfully tested prior to making connections into existing pipe systems.

### **TRENCH CONSTRUCTION**

- Pipeline bedding and initial backfill shall consist of DGA, pit-run sand or manufactured sand; selected, placed, and compacted in accordance with Section 7 of the LWC Technical Specifications and Standard Drawing No. 4300 –Common Backfill and Lawn Restoration.
  
- When under the *pavement in state right-of-way*, the final backfill material shall be selected, placed and compacted in accordance with section 7 of the LWC Technical Specifications and Standard Drawing No. 4000 – State of Kentucky Backfill and Paving Restoration.
  
- When under *pavement other than state right-of-way*, (side streets, driveways, and entrances), the final backfill material shall be selected, placed and compacted in accordance with section 7 of the LWC Technical Specifications and Standard Drawing No. 4100 – Louisville and Jefferson County Metro Backfill and Paving Restoration.
  
- When under *concrete sidewalks*, the final backfill may consist of select granular material mechanically tamped sand, #57 stone or flowable fill and the concrete sidewalk. The surface of the DGA shall be level and free from surface depressions or potholes, and may serve as a temporary sidewalk until the concrete sidewalk is completed. Sidewalk thickness shall be 5 inches, driveways 6 inches and surface finish of the new sidewalk shall be light broom finish in transverse direction or match existing.

- When under *grassed areas*, the final backfill may consist of on-site excavated material, provided the material is free of objectionable constituents such as large rock, asphalt, concrete, organic material, and demolition debris.
- If septic system / lateral field is encountered, contractor shall put 6 inches of compacted DGA on all sides of pipe for a distance of 5 feet on each side of line encountered.

### **CASING PIPE**

- Installation of steel casing pipe shall be accomplished in accordance with Section 6.3 of the Technical Specifications.
- Ends of casing pipe shall be grouted or End Seals installed to prevent debris and seepage from entering the casing pipe and extend a minimum of five (5) feet beyond the edge of pavement.

### **ACCEPTANCE TESTING**

- Filling and disinfecting of all new water mains shall be accomplished in accordance with Section 8 of the LWC Technical Specifications and Standard Drawings for Pipeline Construction latest revision.
- All new ductile iron and PVC pipe installations longer than 50 feet shall be pig cleaned. Ductile iron and PVC pipe sections shorter than 50 feet in length may require pig cleaning at the direction of the LWC Construction Inspector. LWC will supply pigs for the ductile iron pipe. Pigs shall be used one time and discarded.
- Disinfection of all new mains shall be accomplished in accordance with Section 8.2.2 of the Technical Specifications.
- A chlorine injection system shall be used to fill the new main. The LWC Construction Inspector will provide the equipment needed to inject the chlorine-based solution into the main. The Contractor shall assist the LWC Construction Inspector with the connection of hoses and the operation of valves.
- Filling of the water main shall be done in accordance with Section 8.2.1 of the LWC Technical Specifications and Standard Drawings for Pipeline Construction latest revision.
- Pressure and leakage testing of the new ductile iron water main shall be performed in accordance with Section 8.5 of the LWC Technical Specifications and Standard Drawings for Pipeline Construction latest revision.

### **CUSTOMER SERVICES**

- The transfer and relocation of services shall include the upgrading of the meter, meter vault and service line to meet Louisville Water Company standards. Contractor may be required to install corporation stops on the inlet and outlet sides at the specified depth. A new meter vault may be required to accommodate the Louisville Water Company meter frame and cover. This work shall be considered incidental to the project and no additional compensation shall be provided.
- The renewal of 5/8" services shall include the upsizing of the service to ¾".
- Prior to beginning any work that requires a shut-down of the main or individual services, the Contractor shall make a thorough evaluation of each service connection and meter vault within the limits of the shut-down. Discrepancies between the field conditions and the Project Plans shall be discussed with the LWC Construction Inspector.
- The use of copper couplings under paved areas shall be avoided. In situations where the new main is located on the opposite side of the roadway from the existing main or where the new main is located in the roadway and more than two feet from the existing main, "long" service transfers shall be completed by advancing a new service line from the new main to the meter vault.
- The type, size and condition of the existing customer service at the property line shall be verified before completing the service reconnection. Where lead is encountered at the property line and an existing property connection is not found, the Contractor shall extend the service excavation up to three (3) feet behind the property line to remove additional lead and to search for an existing property connection. The service reconnection shall then be completed at the three-foot distance, or less, if an existing property connection is encountered.
- When reconnecting renewed services to deteriorated galvanized service lines, the Contractor shall make at least two attempts to connect the tailpiece to the galvanized line. To make the second attempt, it may be necessary to encroach onto private property. The encroachment shall be limited to a maximum of three feet beyond the property line.

When the second attempt proves unsuccessful, the Contractor shall immediately notify the LWC Construction Inspector, obtain a representative sample of the deteriorated line, and assist the LWC Construction Inspector in providing a temporary service connection. The Louisville Water Company will supply the hose and fittings to complete the temporary connection.

- Flushing of renewed services shall be initiated immediately after the renewed service is reconnected, and continued for a minimum of 60 minutes. The Contractor shall be responsible for supplying all hoses, fixtures, and couplings needed to

perform the lead service flush. The Contractor shall be responsible for proper disposal of the flush water.

It shall be the responsibility of the Contractor to identify, on a daily basis, those services that will require renewal the following workday. Residences requiring service renewals shall be investigated to determine if an outside spigot is accessible, available and functioning properly. The Contractor shall notify the LWC Construction Inspector when an outside spigot is not accessible, not available, or not properly functioning.

Services that cannot be flushed externally by the Contractor or internally by the customer at the time of the renewal, may be renewed, but shall be left in the "off" position immediately after the renewal is completed. The Contractor shall immediately notify the LWC Construction Inspector when any service is turned "off".

- New heavy frame and covers shall be used for meter vaults located in or relocated to paved areas or to areas subject to vehicular traffic.
- Temporary water lines installed for the pipe replacement operations on this project shall be installed and maintained in accordance with the following specifications.

The Contractor shall furnish all piping, fittings, and connections necessary to install a temporary water supply line for the customers located in the affected area.

Temporary lines that cross roadways or driveways shall be buried. In the event that construction work will be done during freezing weather conditions, temporary water mains shall be buried.

All temporary lines attached to fire hydrants shall be constructed to allow easy access to the hydrant should a fire emergency arise. Such connections shall be compatible with the standards of the Worthington Fire Department.

The piping, fittings, and hoses used to construct the temporary system and to make connections to customer services shall be FDA or NSF approved for human consumption.

All piping and hoses shall be clean, watertight, and compatible with the flow and pressure requirements of the LWC distribution system.

The Contractor shall disinfect the temporary piping and hoses prior to connection to any customer service. Similar to the acceptance of a water main, temporary water lines will require sampling and testing for chlorine, turbidity, taste, odor, and bacteria.

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

- Service discontinues may be indicated at several locations on the Project Plans. Prior to discontinuing a service, the site shall be thoroughly investigated by the LWC Construction Inspector. If the service requires reconnection (transfer or renewal), the Contractor shall make the appropriate connection.

Services shall be discontinued in accordance with Section 10.11 of the LWC Technical Specifications and Standard Drawings for Pipeline Construction latest revision, except that the discontinuation of services at the main will not be required for a main that is scheduled for abandonment as part of this project.

At some locations, meters and meter vaults have already been removed and/or abandoned, but the service lines and taps may still be in place and live. The Contractor shall exercise caution in the vicinity of these services to reduce the risk of “pulling” a live corporation.

### **RESTORATION**

- Unless otherwise noted on the Project Plans, surface restoration of grassy areas shall consist of seed and straw. The seed type used shall match the existing grass. Reseeded areas that are located within ditches or on other sloped ground shall be covered with erosion control netting secured with pins or stakes. As an alternative, the Contractor may utilize prefabricated matting containing mulch, seed, and fertilizer.
- Areas that have landscaping shall be replaced with like materials (mulch, plants, etc.). The Contractor shall contact each customer with landscaping to be disturbed to give them the option of removing it prior to construction and replacing it. If the customer does not choose this option, the Contractor shall remove it for them or replace it with like materials following construction. The LWC general warranty period shall apply to this work.
- Sidewalks requiring replacement shall be constructed of Class A (3,500 psi) concrete with 6”x6”x10x10 Welded Wire Fabric (WWF) located at mid-depth. In lieu of WWF, the Contractor may utilize a fiber-filled concrete mix. The completed sidewalk finish shall match the existing width and finish. Thickness of the sidewalk shall be 5 inches except at driveway crossings where the thickness shall be increased to 6 inches. Expansion joints shall be provided at driveway crossings and on approximate 25-foot spacing. Tooled joints shall be provided on 4-6 foot spacing. Wheelchair accessible ramps shall be provided as required by the City of Louisville Specifications, Americans with Disabilities Act and all other authorized agencies.
- All pavement excavations shall include a 12” cutback except where flowable fill is used for the final backfill (See Backfill and Paving Restoration Detail No.'s 4000 and 4100). For asphalt restoration, the cutback shall extend a minimum of 12 inches

beyond the edges of the trench. For concrete pavement, the cutback shall extend a minimum of 12 inches beyond the edges of the trench unless an existing crack or joint is located within six (6) feet of the edge of the trench. If a crack or joint is located within six feet, a new joint shall be established at that location. If a crack is encountered, the Contractor shall provide a clean straight cut behind the crack.

- Prior to repaving, Contractor shall repair any/all traffic loops that may have been damaged during construction. All striping, stop bars, etc. are to be replaced once road has been repaved using Kentucky Dept. of Highways approved materials.
- All driveways requiring replacement shall be restored in the following manner: (1) concrete driveways shall be replaced in their entirety to the nearest construction joint and (2) asphalt driveways shall be restored via a utility cut, as approved by the inspector and property owner.
- In lieu of making two sets of saw cuts, the Contractor may elect to make one set of saw cuts at the cut-back location and excavate all existing pavement materials down to the subgrade elevation for the full width of the cut-back. The pipeline trench can then be further excavated along the centerline of the cutback trench. If this option is exercised, the Contractor shall place the concrete cap over the completed pipe installation, on a daily basis, to ensure that the concrete cap bears on "undisturbed" material outside the limits of the pipeline trench.

Unless otherwise directed, the asphalt pavement shall be a minimum of 1-1/2 inches in thickness and shall extend to the outer edge of the cutback.

### **POST CONSTRUCTION**

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

### **EROSION CONTROL MEASURES**

- Contractor shall refer to Louisville Water Company "Technical Specifications and Standard Drawings for Pipeline Construction (2008 Edition)", section 1.3.5 Soil Erosion Control Permit.
- As a minimum, erosion control features shall be provided at catch basins, headwalls and in small ditches where associated construction procedures may cause the transport of sediment into the storm drainage system. When soil is disturbed within grassy areas, erosion control protection shall also be provided at yard drains. Care will be required to minimize stockpiling or placing backfill or excavated materials on roadways.

## WARRANTY

- See Louisville Water Company Technical Specifications 2008, section 12.
- The Contractor warrants to the Company that materials and equipment furnished by the Contractor under the Contract will be new and of good quality unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Company, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
- Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of the Contractor's obligation to perform the work in accordance with the Contract Documents:
  1. Observations by the Project Manager;
  2. Payment by the Company;
  3. Issuance of a certificate of Substantial Completion;
  4. Use or occupancy of any part of the Work by the Company;
  5. Review of Shop Drawings or other Submittals;
  6. Any inspection, test, or approval by others; or
  7. Any correction of defective Work by the Company.
- Failure on the part of the Company to insist on strict performance by the Contractor of any provision of this Contract is not a waiver of any of the Company's rights and/or remedies, nor shall it relieve the Contractor from performing any subsequent obligations strictly in accordance with the terms of this Contract.
- The Company may, at its option, waive compliance with any particular Contract requirement. No waiver shall be effective unless in writing and signed by both the Company and the Contractor. Written waivers shall be limited to the specified provisions of this Contract specifically referred to herein, and shall not be deemed a waiver of any other provision. The written waiver shall not constitute a continuing waiver unless it states otherwise.
- All work shall be warranted for two (2) years from the date of Final Completion unless specified otherwise. Paved surfaces and restoration of structures will be warranted for five (5) years. Contractor-furnished iron pipe materials shall be

warranted for five (5) years after the iron pipeline is placed in service. Satisfactory performance of the iron water main and appurtenances, as they relate to installation, shall be warranted for two (2) years after the iron pipeline is placed in service. The Company reserves the right to require Contractor's presence at scheduled Warranty inspections held within the 12-month period following acceptance of the Project.

- Contractor shall assign to the Company all manufacturers' warranties. All such warranties shall be directly enforceable by the Company. Such assignment shall in no way affect the Contractor's responsibilities and duties during the warranty period.

## SUPPLEMENTARY SPECIFICATIONS

### HIGHWAY 22 - SECTION 3 WATER MAIN RELOCATION PROJECT

KTC ITEM NO. 5-320.30  
LWC PROJECT 12074

#### PROJECT LIMITS

Limits of the referenced project include **Kentucky Highway 22** between west of Craigs Creek Drive and Murphy Lane as shown on the water main plan sheets 1-3.

#### PROJECT SUMMARY

The referenced project consists of the **installation** of **2,505 feet** of 16-inch Pressure Class 350 ductile iron water main, **540 feet** of 12-inch Pressure Class 350 ductile iron water main, and **30 feet** of 8-inch Pressure Class 350 ductile iron water main. Also included with the project is the **installation** of **70 feet** of 24-inch casing pipe using the bore and jack construction technique and the **renewal/installation** of **3** new fire hydrants, and the transfer, relocation, or discontinuation of **6** customer services.

#### SCOPE OF WORK

All Ductile Iron pipe and Ductile Iron pipe materials (including fittings, gate valves, drain assemblies, air release assemblies and fire hydrant assemblies) will be furnished by LWC at its Allmond Avenue warehouse and storage yard and installed by the Contractor.

The Contractor shall note that the brief scope of work itemized below does not include every task to be performed by the Contractor included in the Project. Contractor shall refer to the Contract Documents, including Project Drawings, for a detailed itemization of all work to be performed for this Project.

- Tie into existing 16-inch ductile iron Water Main near Road Sta. 318+00 on Highway 22. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a "ridged" tie-in connection.
- Install **310 feet** of 16-inch Pressure Class 350 ductile iron water main between Road Sta. 318+00 and the intersection of Highway 22 and Craigs Creek Drive.
- Install **30 feet** of 8-inch Pressure Class 350 ductile iron water main and tie into existing 8-inch ductile iron Water Main at the intersection of Highway 22 and Craigs

Creek Drive. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.

- Install **80 feet** of 16-inch Pressure Class 350 ductile iron water main under Craigs Creek Drive.
- Tie into existing 8-inch PVC Water Main at the Intersection of Highway 22 and Craigs Creek Drive. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Install **680 feet** of 16-inch Pressure Class 350 ductile iron water main along Highway 22 between Craigs Creek Drive and Hitt Lane.
- Install **70 feet** of 12-inch Pressure Class 350 ductile iron water main in 24-inch steel casing pipe (bore and jack) underneath Highway 22.
- Install **470 feet** of 12-inch Pressure Class 350 ductile iron water main along Hitt Lane.
- Tie into existing 12-inch ductile iron Water Main along Hitt Lane. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Install **1435 feet** of 16-inch Pressure Class 350 ductile iron water main along Highway 22 between Hitt Lane and Road Sta. 341+85.
- Tie into existing 16-inch ductile iron Water Main at Road Sta. 341+85. All coupling and fitting connections shall be restrained by mechanical methods and concrete thrust blocks as approved by the LWC project manager and as shown on the project plans in order to create a “ridged” tie-in connection.
- Install / Renew **3** fire hydrants.
- Relocate **6** (3/4” to 1”) customer services.
- Renew **6** (3/4” to 1”) customer services.

### **GENERAL INFORMATION**

- Unless otherwise indicated on the project drawings or modified by these supplementary specifications, all applicable provisions of the "Louisville Water Company Technical Specifications and Standard Drawings for Pipeline Construction" (2008 Edition) shall govern work on this project. If LWC standards and specifications conflict with KTC specifications or construction notes, the contractor should ask clarification and obtain written approval from LWC and KTC project managers prior to taking action on the issues.
- All work performed for the installation and relocation of the water main and related construction must be performed by an LWC pre-qualified contractor in the following categories:
  - Category 1: 4" – 16" Ductile Iron Water Main
  - Category 7: 1" and smaller water services
  - Category 8: 1.5" and larger water and fire services
- Video Recording shall be provided in DVD format.
- Excavation on this project shall be unclassified.
- Rock shall be removed using mechanical methods and concrete thrust blocks (backhoe, hoe ram, or rock trenching machine). Blasting shall not be permitted particularly in the vicinity of the 60-inch water main.
- All permits, easements and right-of-way will be obtained by KTC. The contractor shall not start work on any property until the contractor verifies with KTC that the required permits, easements and right-of-way are secured.
- Contractor will be responsible for obtaining all permits and will be insured and responsible for any and all damage caused as a result of any blasting or rock removal operations (as stated in the LWC Standard Technical Specifications for Pipeline Construction).
- Utility locations are shown on the plans from available information and are approximate. The contractor is responsible for locating all existing utilities including water line facilities prior to start of construction. The contractor is responsible for relocating any existing utility including water line utility that is in conflict with the proposed construction at no additional cost to LWC or KTC.

### **GATE VALVES**

- Copies of the valve cards will be supplied to the Contractor upon request.

- In accordance with Section 1.1 of the Technical Specifications, the designated valves shall be located and inspected by the contractor prior to the start of the project, and appropriate action taken to correct the problem(s) prior to start of the construction work.
- In accordance with Section 1.1 of the Technical Specifications, unless an emergency exists, the Contractor shall not operate any valve without direct supervision or prior approval from the LWC Project Manager or LWC Construction Inspector.

### **TRAFFIC CONTROL**

- Traffic control shall be provided by the Contractor in accordance with the *Federal Highway Administration Part VI of the Manual for Uniform Traffic Control Devices (MUTCD)* latest edition, and in accordance with any applicable roadway traffic control requirements.
- This project will be bid and constructed in conjunction with the Kentucky Transportation Cabinet's (KTC) Highway 22 Roadway Improvements from Craigs Creek Drive to near Murphy Lane. Therefore, no KTC permits will be required. All other permits will be supplied by KTC.
- Outside the designated work hours, all travel lanes shall be temporarily restored and reopened to traffic, and all construction vehicles, equipment, and personnel removed from the roadway. The Contractor is cautioned that travel lanes include designated turning lanes and may include parking lanes during specific periods of the day.
- The Contractor is reminded that all street plates located in travel lanes must be recessed flush with the finished grade of the roadway, and that final restoration shall be completed within 72 hours of the excavation.
- Specific traffic control signage referencing lane blockages, flaggers, etc. shall be removed from the site or covered when not in use. Signs that provide general messages such as "Construction Ahead" shall be left in place throughout the completion of this project.
- All construction vehicles shall be legally parked. Privately owned vehicles including vehicles owned by the construction crew shall not be parked in the "No Parking" zones.
- The Contractor shall be responsible for establishing temporary "No Parking" zones. The zones shall be confined to the immediate work area and appropriate transition zones, and shall be limited in duration to the length of time work is actually

performed in that area. In establishing "No Parking" zones, the on-street parking needs of the area businesses and residents shall be considered.

### **WORK SCHEDULE**

- With the approval of the LWC Construction Inspector, pipeline installation may proceed to a subsequent block or section only while actively dechlorinating and flushing, or while awaiting pressure and disinfection test results. Once acceptable test results have been obtained, work efforts shall be refocused to the prior block or section until all tie-ins and service work are completed and restoration is initiated.
- LWC observes the following holidays; New Years Day, Martin Luther King Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving (Thursday and Friday), Christmas Eve, and Christmas Day. Work shall not be performed on any of these holidays without prior approval from the KTC and LWC Project Managers.

In addition to these listed holidays, no work shall be performed during the year-end holiday period between **November 19, 2011** to **November 27, 2011** and **December 19, 2011** to **January 3, 2012**.

- The Contractor shall anticipate the need to work after-hours (between 6:00 PM and 6:00 AM) and on weekends to complete tie-ins involving shut-offs and customer service transfers. All such work will be considered incidental to the project and no additional compensation will be provided. As with holidays, any work planned for weekends, and any work after normal work hours (8:00 AM to 6:00 PM), this shall be pre-approved by the KTC and LWC Project Managers.
- In the case of an emergency, the Contractor shall immediately notify the LWC Construction Inspector. If the LWC Inspector is not available then contact the Project Manager, the Radio Room, and Customer Service. Prior to the actual shut-off, an attempt shall also be made to contact each customer (door-to-door) to alert customers of the emergency situation and the need to shut-off the main.

### **PIPELINE CONSTRUCTION**

- Prior to the start of any work at the site (including saw-cutting), the Contractor and LWC Construction Inspector shall review the proposed pipeline alignment with respect to the utility locations marked by the authorized locating agency, trees, and other existing site improvements.

Field modifications to the proposed pipeline alignment may be necessary to avoid or minimize the effects of these potential conflicts. To avoid potential conflicts with existing utilities located perpendicular and/or parallel to the proposed main, the Contractor should anticipate the need to use offsets, bends and fittings when installing the new main, and for large service connections.

- Standard burial depth for new water mains is 42 inches, as measured from the top of ground to the top of the newly installed pipe. While the Contractor is expected to adhere to this standard burial depth requirement at all times, it is understood that revisions to the burial depth will be necessary when the installation of mains and large services conflict with existing utilities and other site improvements. With prior notification and approval from the LWC Project Manager, the depth of burial may be reduced to a minimum of 30 inches, or increased to a maximum of 72 inches, for short durations (20 feet or less) to avoid these conflicts. A situation requiring a depth of burial outside these maximum and minimum limits or of a longer duration requires approval from the LWC Chief Engineer.

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

- Unless otherwise specified or approved by the LWC Project Manager or the LWC Construction Inspector, all pipe replacement work in this project scope shall be constructed with LWC-supplied Pressure Class 350 ductile iron pipe using traditional trenching techniques. All new ductile iron pipe and fittings shall be encapsulated in two layers of blue polywrap. Care shall be exercised while handling pipe during wrapping to ensure that the asphalt coating or cement lining on the pipe is not damaged or disturbed. Forklifts or other material handling equipment shall not be inserted into the pipe for wrapping purposes or any other construction activity.

Polywrap shall be thoroughly inspected for cuts, rips or tears prior to burial. Small defects may be repaired with polytape. Larger tears and imperfections shall be covered with an additional layer of polywrap.

- The type, size and condition of the existing pipe shall be verified prior to completing tie-ins. When the existing pipe is other than indicated on the Project Plans, the LWC Construction Inspector, LWC Project Manager, and KTC Project Manager shall be contacted immediately to assess the need for revising the tie-in location.
- The Contractor is cautioned that he/she may encounter trees on the project alignment. Care will be required to minimize damage to trees and tree root systems. Excavations that encounter roots should be backfilled as soon as possible. Severed roots more than 2-inches in diameter shall be cut straight at an undamaged portion, maintained in a moist condition and then buried as soon as possible. Excavated soil shall not be placed within the dripline of any tree.

When installing water mains within the dripline of any tree with a diameter of 6 inches or larger, the root system shall be bored. The cost of the tree bore shall be considered incidental to the installation of the pipeline, and no extra compensation will be provided.

All tree root systems that require boring shall be bored a minimum of 30 feet; 15 feet either side of the tree trunk. The bore shall be located a minimum of 4 feet below the ground surface and a minimum of 5 feet from the center of the tree.

### **DELIVERY AND OFF-LOADING**

- All pipe shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the Contractor.
- Each pipe shipment shall be inspected prior to unloading to see if the load has shifted or otherwise been damaged. Each pipe shipment shall be checked for quantity and proper pipe size, color and type.
- Pipe shall be loaded, off-loaded, and otherwise handled in accordance with AWWA M23, and all of the pipe supplier's guidelines shall be followed.
- Off-loading devices such as chains, wire rope, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.
- During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.
- If appropriate unloading equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to insure that pipe is not dropped or damaged. Pipe should be carefully lowered, not dropped, from trucks.

### **HANDLING AND STORAGE**

- Any length of pipe showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. Damaged areas, or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the acceptable length of pipe shall be determined by the Project Manager.

- Any scratch or gouge greater than 10% of the wall thickness will be considered significant and can be rejected unless determined acceptable by the LWC Inspector or Project Manager.
- Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.
- Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch or otherwise abrade the piping in any way.
- Pipe shall not be stored on-site for periods greater than 3 months or as approved by the LWC Inspector and Project Manager.
- Pipe shall be stored and stacked per the pipe supplier's guidelines and as approved by the LWC Inspector and Project Manager.

#### **PREPARATION PRIOR TO MAKING CONNECTIONS INTO EXISTING PIPING SYSTEMS**

- Approximate locations for existing piping systems are shown in the construction documents. Prior to making connections into existing piping systems, the Contractor shall:
  - a) Field verify location, size, piping material and piping system of the existing pipe.
  - b) Obtain all required fittings, which may include saddles, sleeve type couplings, flanges, tees, or others as shown in the construction documents.
  - c) Have installed all temporary pumps and/or pipes in accordance with established connection plans.
- Unless otherwise specified or approved by the Project Manager or the LWC Construction Inspector, new piping systems shall be completely assembled and successfully tested prior to making connections into existing pipe systems.

#### **TRENCH CONSTRUCTION**

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

of the LWC Technical Specifications and Standard Drawing No. 4300 –Common Backfill and Lawn Restoration.

- When under the *pavement in state right-of-way*, the final backfill material shall be selected, placed and compacted in accordance with section 7 of the LWC Technical Specifications and Standard Drawing No. 4000 – State of Kentucky Backfill and Paving Restoration.
- When under *pavement other than state right-of-way*, (side streets, driveways, and entrances), the final backfill material shall be selected, placed and compacted in accordance with section 7 of the LWC Technical Specifications and Standard Drawing No. 4100 – Louisville and Jefferson County Metro Backfill and Paving Restoration.
- When under *concrete sidewalks*, the final backfill may consist of select granular material mechanically tamped sand, #57 stone or flowable fill and the concrete sidewalk. The surface of the DGA shall be level and free from surface depressions or potholes, and may serve as a temporary sidewalk until the concrete sidewalk is completed. Sidewalk thickness shall be 5 inches, driveways 6 inches and surface finish of the new sidewalk shall be light broom finish in transverse direction or match existing.
- When under *grassed areas*, the final backfill may consist of on-site excavated material, provided the material is free of objectionable constituents such as large rock, asphalt, concrete, organic material, and demolition debris.
- If septic system / lateral field is encountered, contractor shall put 6 inches of compacted DGA on all sides of pipe for a distance of 5 feet on each side of line encountered.

#### **CASING PIPE**

- Installation of steel casing pipe shall be accomplished in accordance with Section 6.3 of the Technical Specifications.
- Ends of casing pipe shall be grouted or End Seals installed to prevent debris and seepage from entering the casing pipe and extend a minimum of five (5) feet beyond the edge of pavement.

#### **ACCEPTANCE TESTING**

- Filling and disinfecting of all new water mains shall be accomplished in accordance with Section 8 of the LWC Technical Specifications and Standard Drawings for Pipeline Construction latest revision.

- All new ductile iron and PVC pipe installations longer than 50 feet shall be pig cleaned. Ductile iron and PVC pipe sections shorter than 50 feet in length may require pig cleaning at the direction of the LWC Construction Inspector. LWC will supply pigs for the ductile iron pipe. Pigs shall be used one time and discarded.
- Disinfection of all new mains shall be accomplished in accordance with Section 8.2.2 of the Technical Specifications.
- A chlorine injection system shall be used to fill the new main. The LWC Construction Inspector will provide the equipment needed to inject the chlorine-based solution into the main. The Contractor shall assist the LWC Construction Inspector with the connection of hoses and the operation of valves.
- Filling of the water main shall be done in accordance with Section 8.2.1 of the LWC Technical Specifications and Standard Drawings for Pipeline Construction latest revision.
- Pressure and leakage testing of the new ductile iron water main shall be performed in accordance with Section 8.5 of the LWC Technical Specifications and Standard Drawings for Pipeline Construction latest revision.

### **CUSTOMER SERVICES**

- The transfer and relocation of services shall include the upgrading of the meter, meter vault and service line to meet Louisville Water Company standards. Contractor may be required to install corporation stops on the inlet and outlet sides at the specified depth. A new meter vault may be required to accommodate the Louisville Water Company meter frame and cover. This work shall be considered incidental to the project and no additional compensation shall be provided.
- The renewal of 5/8" services shall include the upsizing of the service to 3/4".
- Prior to beginning any work that requires a shut-down of the main or individual services, the Contractor shall make a thorough evaluation of each service connection and meter vault within the limits of the shut-down. Discrepancies between the field conditions and the Project Plans shall be discussed with the LWC Construction Inspector.
- The use of copper couplings under paved areas shall be avoided. In situations where the new main is located on the opposite side of the roadway from the existing main or where the new main is located in the roadway and more than two feet from the existing main, "long" service transfers shall be completed by advancing a new service line from the new main to the meter vault.

- The type, size and condition of the existing customer service at the property line shall be verified before completing the service reconnection. Where lead is encountered at the property line and an existing property connection is not found, the Contractor shall extend the service excavation up to three (3) feet behind the property line to remove additional lead and to search for an existing property connection. The service reconnection shall then be completed at the three-foot distance, or less, if an existing property connection is encountered.
- When reconnecting renewed services to deteriorated galvanized service lines, the Contractor shall make at least two attempts to connect the tailpiece to the galvanized line. To make the second attempt, it may be necessary to encroach onto private property. The encroachment shall be limited to a maximum of three feet beyond the property line.

When the second attempt proves unsuccessful, the Contractor shall immediately notify the LWC Construction Inspector, obtain a representative sample of the deteriorated line, and assist the LWC Construction Inspector in providing a temporary service connection. The Louisville Water Company will supply the hose and fittings to complete the temporary connection.

- Flushing of renewed services shall be initiated immediately after the renewed service is reconnected, and continued for a minimum of 60 minutes. The Contractor shall be responsible for supplying all hoses, fixtures, and couplings needed to perform the lead service flush. The Contractor shall be responsible for proper disposal of the flush water.

It shall be the responsibility of the Contractor to identify, on a daily basis, those services that will require renewal the following workday. Residences requiring service renewals shall be investigated to determine if an outside spigot is accessible, available and functioning properly. The Contractor shall notify the LWC Construction Inspector when an outside spigot is not accessible, not available, or not properly functioning.

Services that cannot be flushed externally by the Contractor or internally by the customer at the time of the renewal, may be renewed, but shall be left in the "off" position immediately after the renewal is completed. The Contractor shall immediately notify the LWC Construction Inspector when any service is turned "off".

- New heavy frame and covers shall be used for meter vaults located in or relocated to paved areas or to areas subject to vehicular traffic.
- Temporary water lines installed for the pipe replacement operations on this project shall be installed and maintained in accordance with the following specifications.

The Contractor shall furnish all piping, fittings, and connections necessary to install a temporary water supply line for the customers located in the affected area.

Temporary lines that cross roadways or driveways shall be buried. In the event that construction work will be done during freezing weather conditions, temporary water mains shall be buried.

All temporary lines attached to fire hydrants shall be constructed to allow easy access to the hydrant should a fire emergency arise. Such connections shall be compatible with the standards of the Worthington Fire Department.

The piping, fittings, and hoses used to construct the temporary system and to make connections to customer services shall be FDA or NSF approved for human consumption.

All piping and hoses shall be clean, watertight, and compatible with the flow and pressure requirements of the LWC distribution system.

The Contractor shall disinfect the temporary piping and hoses prior to connection to any customer service. Similar to the acceptance of a water main, temporary water lines will require sampling and testing for chlorine, turbidity, taste, odor, and bacteria.

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

- Service discontinues may be indicated at several locations on the Project Plans. Prior to discontinuing a service, the site shall be thoroughly investigated by the LWC Construction Inspector. If the service requires reconnection (transfer or renewal), the Contractor shall make the appropriate connection.

Services shall be discontinued in accordance with Section 10.11 of the LWC Technical Specifications and Standard Drawings for Pipeline Construction latest revision, except that the discontinuation of services at the main will not be required for a main that is scheduled for abandonment as part of this project.

At some locations, meters and meter vaults have already been removed and/or abandoned, but the service lines and taps may still be in place and live. The Contractor shall exercise caution in the vicinity of these services to reduce the risk of "pulling" a live corporation.

### **RESTORATION**

- Unless otherwise noted on the Project Plans, surface restoration of grassy areas shall consist of seed and straw. The seed type used shall match the existing grass. Reseeded areas that are located within ditches or on other sloped ground shall be covered with erosion control netting secured with pins or stakes. As an alternative,

the Contractor may utilize prefabricated matting containing mulch, seed, and fertilizer.

- Areas that have landscaping shall be replaced with like materials (mulch, plants, etc.). The Contractor shall contact each customer with landscaping to be disturbed to give them the option of removing it prior to construction and replacing it. If the customer does not choose this option, the Contractor shall remove it for them or replace it with like materials following construction. The LWC general warranty period shall apply to this work.
- Sidewalks requiring replacement shall be constructed of Class A (3,500 psi) concrete with 6"x6"x10x10 Welded Wire Fabric (WWF) located at mid-depth. In lieu of WWF, the Contractor may utilize a fiber-filled concrete mix. The completed sidewalk finish shall match the existing width and finish. Thickness of the sidewalk shall be 5 inches except at driveway crossings where the thickness shall be increased to 6 inches. Expansion joints shall be provided at driveway crossings and on approximate 25-foot spacing. Tooled joints shall be provided on 4-6 foot spacing. Wheelchair accessible ramps shall be provided as required by the City of Louisville Specifications, Americans with Disabilities Act and all other authorized agencies.
- All pavement excavations shall include a 12" cutback except where flowable fill is used for the final backfill (See Backfill and Paving Restoration Detail No.'s 4000 and 4100). For asphalt restoration, the cutback shall extend a minimum of 12 inches beyond the edges of the trench. For concrete pavement, the cutback shall extend a minimum of 12 inches beyond the edges of the trench unless an existing crack or joint is located within six (6) feet of the edge of the trench. If a crack or joint is located within six feet, a new joint shall be established at that location. If a crack is encountered, the Contractor shall provide a clean straight cut behind the crack.
- Prior to repaving, Contractor shall repair any/all traffic loops that may have been damaged during construction. All striping, stop bars, etc. are to be replaced once road has been repaved using Kentucky Dept. of Highways approved materials.
- All driveways requiring replacement shall be restored in the following manner: (1) concrete driveways shall be replaced in their entirety to the nearest construction joint and (2) asphalt driveways shall be restored via a utility cut, as approved by the inspector and property owner.
- In lieu of making two sets of saw cuts, the Contractor may elect to make one set of saw cuts at the cut-back location and excavate all existing pavement materials down to the subgrade elevation for the full width of the cut-back. The pipeline trench can then be further excavated along the centerline of the cutback trench. If this option is exercised, the Contractor shall place the concrete cap over the

completed pipe installation, on a daily basis, to ensure that the concrete cap bears on "undisturbed" material outside the limits of the pipeline trench.

Unless otherwise directed, the asphalt pavement shall be a minimum of 1-1/2 inches in thickness and shall extend to the outer edge of the cutback.

### **POST CONSTRUCTION**

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

### **EROSION CONTROL MEASURES**

- Contractor shall refer to Louisville Water Company "Technical Specifications and Standard Drawings for Pipeline Construction (2008 Edition)", section 1.3.5 Soil Erosion Control Permit.
- As a minimum, erosion control features shall be provided at catch basins, headwalls and in small ditches where associated construction procedures may cause the transport of sediment into the storm drainage system. When soil is disturbed within grassy areas, erosion control protection shall also be provided at yard drains. Care will be required to minimize stockpiling or placing backfill or excavated materials on roadways.

### **WARRANTY**

- See Louisville Water Company Technical Specifications 2008, section 12.
- The Contractor warrants to the Company that materials and equipment furnished by the Contractor under the Contract will be new and of good quality unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Company, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
- Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of the Contractor's obligation to perform the work in accordance with the Contract Documents:

1. Observations by the Project Manager;
  2. Payment by the Company;
  3. Issuance of a certificate of Substantial Completion;
  4. Use or occupancy of any part of the Work by the Company;
  5. Review of Shop Drawings or other Submittals;
  6. Any inspection, test, or approval by others; or
  7. Any correction of defective Work by the Company.
- Failure on the part of the Company to insist on strict performance by the Contractor of any provision of this Contract is not a waiver of any of the Company's rights and/or remedies, nor shall it relieve the Contractor from performing any subsequent obligations strictly in accordance with the terms of this Contract.
  - The Company may, at its option, waive compliance with any particular Contract requirement. No waiver shall be effective unless in writing and signed by both the Company and the Contractor. Written waivers shall be limited to the specified provisions of this Contract specifically referred to herein, and shall not be deemed a waiver of any other provision. The written waiver shall not constitute a continuing waiver unless it states otherwise.
  - All work shall be warranted for two (2) years from the date of Final Completion unless specified otherwise. Paved surfaces and restoration of structures will be warranted for five (5) years. Contractor-furnished iron pipe materials shall be warranted for five (5) years after the iron pipeline is placed in service. Satisfactory performance of the iron water main and appurtenances, as they relate to installation, shall be warranted for two (2) years after the iron pipeline is placed in service. The Company reserves the right to require Contractor's presence at scheduled Warranty inspections held within the 12-month period following acceptance of the Project.
  - Contractor shall assign to the Company all manufacturers' warranties. All such warranties shall be directly enforceable by the Company. Such assignment shall in no way affect the Contractor's responsibilities and duties during the warranty period.

**UTILITY NOTES TO BE INCLUDED IN THE PROPOSAL  
TECHNICAL SPECIFICATIONS FOR RELOCATION OF THE  
MSD SANITARY FORCE MAIN SEWER**

**JEFFERSON COUNTY  
FD52 056 0022 004-005  
KY 22 & KY 1694 WIDENING AND NEW CHAMBERLAIN LANE  
ITEM NO. 5-320.20**

STANDARD SPECIFICATIONS

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STANDARD SPECIFICATIONS  
SECTION 1  
PIPEWORK

1.1. DESCRIPTION OF WORK

This work shall consist of the furnishing, bedding, laying, jointing, backfilling, compaction and testing of all sanitary sewers, force main or drainage pipe shown on the Plans or otherwise required by the Contract. The Contractor shall limit active pipe installation to assure clean up following such work, in accordance with Section 1.3.1. of these Specifications.

1.2. MATERIALS

1.2.1. General. Sanitary sewer, force main or drainage pipe may be any of the following types, unless shown otherwise in the Contract. Pipe strength classes listed are the minimum acceptable classes for each type of pipe. Conditions of the construction may warrant a stronger pipe than listed herein, and the pipe supplied shall be as required by the Specifications or shown on the Plans, subject to the approval of MSD. If the contractor requests a method other than that of the Plans and Specifications, and the method requires a stronger pipe or alternate, the contractor will incur the additional cost of the stronger pipe needed. Should MSD request a stronger or alternate pipe other than specified on the Plans and Specifications, MSD will reimburse the contractor for the stronger pipe. Any pipe found defective, or otherwise not meeting the Specifications shall be rejected and replaced by pipe meeting these Specifications at no additional cost to MSD. MSD reserves the right to randomly test up to 3 sections of pipe for each size furnished, in accordance with ASTM standards. Upon passing the tests, MSD shall reimburse the Contractor for the cost of the testing. The Contractor shall pay for any failed tests.

The Contractor shall furnish three copies of the supplier's certification stating that pipe materials were manufactured, sampled, tested and inspected in accordance with the standards listed in this Section and have been found to meet those requirements.

1.2.2. Sanitary Sewers

1.2.2.1. Concrete Pipe. Reinforced concrete pipe shall meet the requirements of ASTM C 76, Standard Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe. Unless shown otherwise on the Plans or required by the Contract, Class III, Wall B or thicker pipe shall be used. For circular pipe sizes 12-inch through 24-inch diameter, non-reinforced concrete pipe meeting ASTM C14, Class 3 can be used where reinforced concrete pipe Class III is allowed.

Cement used in the manufacture of reinforced concrete pipe shall meet the requirements of ASTM C 150, Standard Specification for Portland Cement, for Type II cement. All reinforcing cages shall be circular; elliptical reinforcement shall not be permitted unless shown on the Plans or allowed by MSD. Joints shall be sealed with Type A - rubber compression or confined O-ring or other MSD approved gaskets. Joints shall meet the requirements of ASTM C 443-05A, Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets. Unless otherwise directed by MSD, T-branch and Y-branch fittings shall be manufactured at the pre-cast plant and supplied to the Project site as single units. When field-fabricated branches are permitted, the openings in the pipe shall be properly cast at the time of manufacture.

1.2.2.2. Ductile Iron Pipe and Fittings. Ductile iron pipe shall meet the requirements of ANSI/AWWA C151/A21.51, Ductile Iron Pipe, and Centrifugally Cast in Metal Molds or Sand-Lined Molds for Water or Other Liquids. Unless shown otherwise on the Plans or in the Contract, the thickness class shall be determined based on a working pressure of 150 psi, in accordance with ANSI/AWWA C150/A21.50, Thickness Design for Ductile Iron Pipe.

Flanged joint ductile iron fittings shall meet the requirements of ANSI/AWWA C110/A21.10, Ductile Iron and Gray Iron Fittings, 3 inch through 48 inch for Water and Other Liquids. Unless shown otherwise on the Plans or in the Contracts, Class 250 fittings with class 53 wall thickness shall be used. Mechanical, push on and other such joints shall meet the requirements for ductile iron fittings, 3 in. through 16 in., ANSI/AWWA C153/A21.53. Where these short bodied compact fittings are to be fitted to aged existing cast iron pipe of larger diameter than specified in A21 standards, mechanical joint sleeves or bell-and-spigot sleeves shall provide transition.

All pipe and fittings shall be cement-lined in accordance with ANSI/AWWA C104/A21.4, Cement-Mortar Lining for Ductile Iron and Gray Iron Pipe and Fittings, or polyurethane lined over concrete or ductile iron or gray iron pipe and fittings. The polyurethane lining shall be an ASTM Type V, chemical cure, 100% solids, elastomeric and aromatic with no sand fillers or extenders added. It shall be capable of being spray applied to 50 mils nominal thickness in a single application. Minimum lining thickness shall be 40 mils. The polyurethane lining shall be a seamless flexible membrane that is corrosion, abrasion, and impact resistant; with a Shore "D" hardness of 60 to 65 at 78°F (25.5°C); a tensile strength of 2,878 psi and elongation of 52% per ASTM D-412; shall be resistant to abrasion as measured by a weight loss of no more than 42 mgs. per ASTM D-1044; and shall have a water vapor transmission rate (WVTR) of no more than 0.016 grams per 100 square inches (254 cm<sup>2</sup>) per 24 hours (75 mils DFT @ 73°F (22.7°C), 100% RH, per ASTM F-1249-90). Unless otherwise noted on the Plans or in the Special Provisions, all pipes shall be cement lined. Lining thickness per ANSI/AWWA C-104/A21.4 shall be 1/16 in. (min.) for 3 through 12 in. pipe, 3/32 in. for 14 in. through 24 in. pipe, and 1/8 in. for 30 through 54 in. pipe. Joints shall be push-on rubber gasket types which meet the requirements of ANSI/AWWA C111/A21.11, Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings.

When flanged joints are required, they shall meet the requirements of ANSI/AWWA C115/A21.15, Flanged Ductile Iron and Gray Iron Pipe with Threaded Flanges. Mechanical flanged restrained joints may be used when approved by MSD. All flanged and mechanical joints for ductile iron pipe and fittings shall be made with stainless steel nuts, bolts, etc.

1.2.2.3. Polyvinyl Chloride (PVC) Pipe and Fittings. Unless shown otherwise on the Plans, in the Contract, or stipulated by MSD, the Contractor may, at his option, use any of the following types of PVC pipe:

(A)

PVC pipe meeting the requirements of ASTM D 3034, Standard Specification for Type PSM Poly (Vinyl Chloride)(PVC) Sewer Pipe and Fittings. Unless shown otherwise on the Plans or in the Contract, SDR 35 pipe shall be required.

(B)

PVC pipe meeting the requirements of ASTM F 679, Standard Specification for Poly (Vinyl Chloride) (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings. Unless shown otherwise on the Plans or in the Contract, SDR 35 (approximate) shall be required.

(C)

PVC pipe meeting the requirements of ASTM F 789, Standard Specification for Type PS46 Poly (Vinyl Chloride) (PVC) Plastic Gravity Flow Sewer Pipe and Fittings.

(D)

PVC pipe meeting the requirements of ASTM D 1785, Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120. Unless shown otherwise on the Plans or in the Contract, Schedule 40 pipe shall be required. Fittings shall meet the requirements of ASTM D 2466, Standard 4 Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings.

(E)

PVC open or closed profile pipe meeting the requirements of ASTM F 794, Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter.

(F)

Corrugated PVC pipe meeting the requirements of ASTM F 949, Latest Revision, "Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings".

Polyvinyl Chloride Pipe shall be installed in accordance with these Specifications and ASTM Standards for "Underground Installation of Flexible Thermoplastic Sewer Pipe", D2321 requiring a minimum trench width of not less than the greater of either the pipe outside diameter plus 16 inches or the pipe outside diameter times 1.25 plus 12 inches.

Joints for PVC pipe meeting the requirements of ASTM D 3034, ASTM F 679, ASTM F 789, ASTM F949, and ASTM F 794 shall be gasket, bell and spigot, push-on types which meet the requirements of ASTM D 3212, Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals. Gaskets shall meet the requirements of ASTM F 477, Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe. For 4 inch diameter pipe meeting the ASTM F 949 requirements, double gaskets shall be used at the Tee/Wye.

1.2.2.4. Polyethylene Pipe and Fittings. Polyethylene pipe shall meet the requirements of ASTM F 894, Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe. The pipe shall be manufactured from material which meets the requirements of ASTM D 1248, Standard Specification for Polyethylene Plastics Molding and Extrusion Materials for Type III, Class C, Category 5, Grade P34 High Density Polyethylene. The pipe class shall be as shown on the Plans or in the Contract. Polyethylene pipe shall not be delivered to the site until MSD has provided approval for the pipe class to be used. Polyethylene pipe shall be installed in accordance with these Specifications and ASTM Standards for "Underground Installation of Flexible Thermoplastic Sewer Pipe", D2321.

Joints shall be gasket, bell and spigot, push-on types which meet the requirements of ASTM D 3212, Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals. Gaskets shall meet the requirements of ASTM F 477, Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

1.2.2.5. Adapters and Couplings. Connections of sanitary sewer pipes of dissimilar materials or different sizes shall be made with connectors or adapters of the compression or mechanical seal types, and which have been approved by MSD. Bitumastic, butyl resin and mastic types of connections will not be acceptable.

### 1.2.3. Force Mains

1.2.3.1. Polyvinyl Chloride (PVC) Pipe and Fittings. Unless shown otherwise on the Plans or in the Contract, the Contractor may use any of the following types of PVC pipe.

(A) PVC pipe meeting the requirements of AWWA C 900, Standard Specification for Polyvinyl Chloride (PVC) Pressure Pipe, 4 inch through 12 inch. The minimum pressure class allowance should be class 150 (DR18). PVC pipe meeting the requirements of AWWA C 905, Standard Specification for Polyvinyl Chloride (PVC) Water Transmission Pipe, Nominal Diameters 14 inch through 36 inch, pressure rated 165 psi (DR25). The minimum pressure class allowed shall be Class 150 (DR18). Joints shall be gasket, bell and spigot, push-on types which meet the requirements of AWWA C 900. Gaskets shall meet the requirements of ASTM F 477, Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

(B) PVC pipe meeting the requirements of ASTM D 1785, Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, 120. The minimum pressure rating allowed shall be 150 psi.

Joints can be solvent-cement joints on pipes less than 4 inch and shall meet the requirements of ASTM D 2855, Standard Specification for Making Solvent-Cement Joints with Poly (Vinyl Chloride) (PVC) Pipe Fittings. The solvent-cement shall meet the requirements of ASTM D 2564, Standard Specification for Solvent-Cement for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.

(C) PVC pipe meeting the requirements of ASTM D 2241, Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series). The minimum pressure rating shall be 150 psi.

Joints shall be gasket, bell and spigot, push-on types which meet the requirements of ASTM D 3139, Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals. Gaskets shall meet the requirements of ASTM F 477, Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

1.2.3.2. Ductile Iron Pipe and Fittings. Ductile iron pipe shall meet the requirements of ANSI/AWWA C151/A21.51, Ductile Iron Pipe, and Centrifugally Cast in Metal Molds or Sand-Lined Molds for Water or Other Liquids. Unless shown otherwise on the Plans or in the Contract, the thickness class shall be determined based on a working pressure of 150 psi, in accordance with ANSI/ AWWA C150/A21.50, Thickness Design for Ductile Iron Pipe.

Flanged joint ductile iron fittings shall meet the requirements of ANSI/AWWA C110/A21.10, Ductile Iron and Gray Iron Fittings, 3 inch through 48 inch for Water and Other Liquids. Unless shown otherwise on the Plans or in the Contracts, Class 250 fittings with class 53 wall thickness shall be used. Mechanical, push on and other such joints shall meet the requirements for ductile iron fittings, 3 in. through 16 in., ANSI/AWWA C153/A21.53.

Where these short bodied compact fittings are to be fitted to aged existing cast iron pipe of larger diameter than specified in A21 standards, mechanical joint sleeves or bell-and-spigot sleeves shall provide transition. All pipe and fittings shall be cement-lined in accordance with ANSI/AWWA C104/A21.4, Cement-Mortar Lining for Ductile Iron and Gray Iron Pipe and Fittings, or polyurethane lined over concrete or ductile iron or gray iron pipe and fittings. The polyurethane lining shall be an ASTM Type V, chemical cure, 100% solids, elastomeric and aromatic with no sand fillers or extenders added. It shall be capable of being spray applied to 50 mils nominal thickness in a single application. Minimum lining thickness shall be 40 mils. The polyurethane lining shall be a seamless flexible membrane that is corrosion, abrasion, and impact resistant; with a Shore "D" hardness of 60 to 65 at 78°F (25.5°C); a tensile strength of 2,878 psi and elongation of 52% per ASTM D-412; shall be resistant to abrasion as measured by a weight loss of no more than 42 mgs. per ASTM D-1044; and shall have a water vapor transmission rate (WVTR) of no more than 0.016 grams per 100 square inches (254 cm<sup>2</sup>) per 24 hours (75 mils DFT @ 73°F (22.7°C), 100% RH, per ASTM F-1249-90). Unless otherwise noted on the Plans or in the Special Provisions, all pipes shall be cement lined. Lining thickness per ANSI/AWWA C-104/A21.4 shall be 1/16 in. (min.) for 3 through 12 in. pipe, 3/32 in. for 14 in. through 24 in. pipe, and 1/8 in. for 30 through 54 in. pipe. Joints shall be push-on rubber gasket types which meet the requirements of ANSI/AWWA C111/A21.11, Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings. When flanged joints are required, they shall meet the requirements of ANSI/AWWA C115/A21.15, Flanged Ductile Iron and Gray Iron Pipe with Threaded Flanges. Mechanical flanged restrained joints may be used when approved by MSD. All flanged and mechanical joints for ductile iron pipe and fittings shall be made with stainless steel nuts, bolts, etc.

1.2.3.3. Polyethylene Pipe and Fittings. Polyethylene pipe shall meet the requirements of ASTM F 714, Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Inside Diameter. Materials shall meet the requirements of ASTM D 3350, Standard Specification for Polyethylene Plastic Pipe and Fittings Materials, for Polyethylene Cell Classification PE 345434C. Unless shown otherwise on the Plans or in the Contract, the pressure rating to be used shall be 160 psi (SDR 11). Joints shall be butt fused joints which meet the requirements of ASTM D 3261, Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.

1.2.4.4. Polyvinyl Chloride (PVC) Pipe and Fittings. Polyvinyl chloride pipe shall meet the requirements of Subsection 4.2.2.3. of these Specifications.

#### 1.2.5. Cast-In-Place Pipe

1.2.5.1. Concrete. Concrete for all cast-in-place sewer pipes and collars shall be Class A concrete as specified in Section 3 of these Specifications.

1.2.5.2. Steel Reinforcement. Deformed steel reinforcing bars shall be Grade 60 bars of the sizes, dimensions, spacings and locations shown on the Plans. Steel reinforcement and its storage shall be as specified in Section 3 of these Specifications.

1.2.5.3. Waterstops. Waterstops shall be PVC waterstops of the shape and dimensions as shown on the Plans and meeting the material requirements as specified for waterstops in Section 2 of these Specifications.

### 1.2.6. Cradles and Encasements

1.2.6.1. Crushed Stone. Crushed stone used to stabilize and backfill excavations shall be coarse aggregate conforming to Size No. 57 as set forth in Section 805 of the KTC Standard Specifications (latest edition) and shall be free from sharp, angular pieces which could, in the judgment of MSD, cause damage to the pipe.

1.2.6.2. Concrete. Concrete for cradles, encasements or caps shall be Class B concrete as set forth in Section 3 of these Specifications.

1.2.7. Marking Tape. Marking tape shall be a composite plastic metallic tape, at least 5 mils in thickness with impervious plastic film on both sides and aluminum foil in center. The minimum tensile strength shall be 185 lbs. The tape shall be at least 3 inches in width, colored green, and shall be permanently printed on both sides "Caution Buried Sewer Below".

### 1.3. EXECUTION OF WORK

1.3.1. General. Prior to beginning pipe laying operations, the trench shall have been excavated to the subgrade level and unsuitable foundation conditions, when encountered, shall be corrected in accordance with these Specifications. The pipe within the right-of-way shall be supported on a crushed stone cradle or a concrete cradle as shown on the plans, specified herein, or directed by MSD. Crushed stone or concrete shall be used to encase the pipe as specified herein or directed by MSD.

1.3.2. Cradle and Encasement. Cradle and encasement shall be of crushed stone or concrete and shall be installed as specified and within the limits shown on the Plans or directed by MSD.

1.3.2.1. Crushed Stone Cradle. Crushed stone cradle shall mean the placement of crushed stone from the subgrade level (6 inches below the outside of the pipe) up to the springline of the pipe. The crushed stone shall be deposited in the trench to grade, allowing for the thickness of the pipe wall. Bell holes shall be dug to relieve the bells of all concentrated loads and to provide uniform support throughout the pipe section. For larger pipes, the crushed stone shall be shoveled and shovel-sliced beneath the haunches of the pipe to assure uniform support. Unless shown otherwise on the Plans or directed by MSD, the following types of pipes shall be supported on a crushed stone cradle.

- A. Concrete Pipe
- B. Ductile Iron Pipe

1.3.2.2. Soil Bedding/Cradle. For concrete pipe installed outside the roadway right-of-way with 9 feet of cover or less, the crushed stone cradle can be eliminated and replaced with job excavated native soil material. The earth trench bottom foundation should be scarified for the middle third of the pipe O.D. or at the Contractors option a minimum thickness of granular bedding can be provided. For rock foundations provide a standard 6-inch thick granular bedding.

1.3.2.3. Crushed Stone Encasement. Crushed stone encasement shall mean the placement of additional crushed stone above the crushed stone cradle to a level at least 6 inches above the outside top of the pipe and leveled off between the trench walls.

The additional stone shall be placed in such manner to prevent damage to the pipe. Unless shown otherwise on the Plans or directed by MSD, the following types of pipe shall be encased in crushed stone.

- A. Polyvinyl Chloride Pipe
- B. Polyethylene Pipe
- C. Corrugated Polyethylene Pipe
- D. Corrugated Steel Pipe
- E. Corrugated Polyvinyl Chloride Pipe

1.3.2.4. Concrete Cradle. Where a concrete cradle is required as additional support for a sanitary sewer or storm drainage pipe, or if a sanitary sewer pipe will have less than 2 feet of vertical clearance above an existing or proposed storm drain or utility conduit, a concrete cradle shall be installed. The length of the concrete cradle shall be as shown on the Plans or 2 feet beyond the outside edge of the underlying storm drain or utility conduit. The pipe shall be laid to line and grade, and shall be supported on concrete blocks, bricks or saddles set to prevent both vertical and lateral movement of the pipe. The use of wooden blocks will not be permitted. Concrete shall be placed around the pipe up to the springline of the pipe. Proper bracing shall be provided to prevent displacement or flotation of the sewer pipe during placing of concrete.

1.3.2.5. Concrete Cap. The length of the concrete cap shall either be as shown on the plans; or 2 feet beyond the outside edge of the storm drain or utility conduit; or 2 feet beyond the point where the sewer pipe attains 30 inches of cover in an easement; or 4 feet of cover in a right-of way or surfaces subject to vehicular traffic, or as directed by MSD. The sewer pipe shall be laid and supported on a crushed stone cradle, and concrete shall be placed around the pipe and at least 6 inches above the top of the pipe for the full trench width, as shown on MSD's Standard Drawings. Proper bracing shall be provided to prevent displacement or flotation of the sewer pipe during placing of the concrete.

1.3.2.6. Concrete Encasement. Where shown on the Plans or where conditions exist requiring additional pipe protection (stream crossings, ditch crossings, shallow trench or poor soil conditions), pipes shall be encased in concrete, as determined by MSD. The length of the concrete encasement shall be at least 2 feet beyond the point where additional pipe protection is required, as shown on the Plans, or as directed by MSD. The sanitary sewer or storm drainage pipe shall be laid and supported as required for a concrete cradle, and concrete shall be placed around the pipe 6 inches either side of it and up to at least 6 inches over the top of the pipe. Proper bracing of the pipe shall be provided to prevent movement or flotation of the sewer pipe during placing of concrete. In rock-bottom streams, the encasement shall extend from 6 inches below the pipe up to the original rock level. Encasement shall be required when crossing a blue line stream and shall extend to 5 feet beyond the top of bank on each side of said stream. Concrete encasement is required for plastic pipe with less than 4 feet of cover in easements and less than 5 feet of cover in street rights-of-way. Unless otherwise directed by MSD, a 4-inch PVC drain pipe shall be placed in the trench next to the carrier pipe and shall extend through the concrete encasement and 5 feet into the crushed stone encasement on both sides. The drain pipe shall be open on both ends. This will allow unimpeded flow of any groundwater in the sewer trench.

1.3.2.7. Safeloading. Safeloading shall consist of completely filling the designated areas with grout in such a manner to make them safe from collapse or at the Contractor's option, safeloading may be done by filling the designated area with free-flowing grout of sand or other approved free flowing material.

Appreciable deposits of debris shall be removed from other structures prior to safeloading. The ends of existing culverts shall be plugged by use of bulkheads containing small openings at the tops through which the grout may be pumped at a minimum pressure of 15 pounds per square inch.

1.3.2.8. Thrust Block. Concrete Thrust Blocks, or reaction backing, shall be placed at all fittings used for changes of horizontal and vertical direction, at reducers, and at each valve, unless otherwise directed by the Engineer. Thrust blocks shall be installed in accordance with the details illustrated on the plans. Thrust blocks shall be placed between solid ground and the fitting to be anchored. The backing shall, unless otherwise shown or directed, be placed such that the pipe and fitting joints will be accessible for repair. Do not encase bolts or nuts. Class B Concrete shall be used to fabricate Thrust Blocks, in accordance with Section 1.3.4.3 of the Standard Specifications, and have a minimum 28-day compressive strength of 2,500 psi.

### 1.3.3. Pipe Installation

1.3.3.1. Inspection and Handling. All pipes shall be inspected on delivery and such pipe sections that do not conform to these Specifications and which are not suitable for use shall be rejected and immediately removed from the Work site. Equipment used to handle, lay, and joint pipe shall be so used to prevent damage to the pipe and its jointing materials. All pipe and fittings shall be carefully handled and lowered into the trench. Damaged pipe or jointing material shall not be installed.

1.3.3.2. Pipe Laying and Jointing. The laying of pipe shall begin at the lowest point and proceed upstream with the bell pointing upstream unless conditions dictate otherwise, in which case MSD approval must be obtained. Prior to making pipe joints, all joint surfaces shall be clean and dry and free from gravel or other extraneous materials. All necessary lubricants or adhesives shall be used as recommended by the pipe manufacturer. Suitable means shall be used to force the spigot or tongue end of the pipe the proper distance into the bell or groove end without damage to the pipe and its jointing materials and without disturbing previously laid pipe sections. Special care shall be taken to ensure that the pipe is solidly and uniformly cradled or encased in accordance with these Specifications. No section of pipe shall be brought into position for jointing until the preceding section has been bedded and secured in place.

1.3.3.3. Line and Grade. Each section of pipe shall be checked for vertical and horizontal alignment immediately after being laid. A calibrated survey transit shall be on site and in use at all times during pipe laying operations. All adjustments to line and grade must be made by scraping away or filling in under the barrel of the pipe and not by wedging or blocking up any portion of the pipe or striking the pipe in an effort to drive it down. Curved alignments may be allowed on a case-by-case basis, as approved by MSD, except on gravity sanitary sewers smaller than 48 inches in diameter.

1.3.3.4. Protection of Installed Pipe. As the Work progresses, the interior of the pipe shall be protected from and cleaned of all dirt, cement, extruded joint materials, debris, and other extraneous materials. Whenever pipe laying is stopped for any significant length of time, such as at the end of a workday, the unfinished end shall be protected from displacement, floatation, cave-in, and in-wash of soil or debris. A suitable temporary tight-fitting plug, stopper or bulkhead shall be placed in the exposed end of the pipe.

Water shall not be allowed to rise in the excavation until the joint materials and/or concrete cradle or encasement has hardened and cannot be damaged by the water. Particular care shall be used to prevent disturbance or damage to the pipe and the joints during backfilling or at any other time. Walking or working over the pipe, except as necessary for placing and compacting backfill, or operating compaction equipment directly over the pipe shall be allowed until a minimum of 24 inches of cover over the outside top of the pipe has been placed. Mechanical compaction in this zone shall be with manual pneumatic tampers or other hand-operated methods which will not damage the pipe.

1.3.3.7. Stoppers and Bulkheads. When the open ends of pipes or fittings smaller than 18 inches in diameter are to be sealed, the openings shall be sealed with stoppers, cemented into place using a rubber gasket between the stopper and bell or socket. Openings 18 inches in diameter or larger shall be sealed with concrete brick masonry or concrete bulkheads at least 4 inches thick, verified or redesigned by a professional engineer to meet pressure requirements. All openings into pipes shall be protected from the entrance of earth, water or other extraneous materials. If a temporary bulkhead is constructed to prevent sewage from backing into the excavation or to prevent extraneous material from entering the sewer, the Contractor shall be responsible for reconstructing, repairing or replacing those portions of the existing sewer removed or damaged by this operation. When an existing bulkhead is to be removed, its removal shall be coordinated with MSD. During construction, use a mechanical plug, properly braced and tied off, when tying into an existing sewer. The plug shall remain until the sewer lines are accepted by MSD. It is the Contractor's responsibility to remove the plug prior to approval of flow being allowed into the system. The Contractor shall assume full responsibility for any damage or claims due to the installation and removal of the plug.

1.3.3.8. Marking Tape for Force Mains. Detectable marking tape shall be as specified in Section 1.2.7 of these specifications, buried approximately 12 inches below the finished grade except under pavement, when it shall be 24 inches into the subgrade over all force mains and property service connections.

#### 1.3.4. Cast-In-Place Pipe

1.3.4.1. General. Cast-in-place pipe construction shall be performed in accordance with the applicable provisions of these Specifications.

1.3.4.2. Construction Joints. When shown on the Plans, concrete shall be placed in the invert and the arch sections of the barrel in two separate operations. A keyed construction joint shall be formed between the invert and arch sections. Transverse construction joints shall be constructed with key-ways and at locations shown on the Plans. Waterstops shall be placed at all longitudinal and transverse construction joints in cast-in-place sanitary sewer barrels.

1.3.4.3. Concrete Collar. Where cast-in-place pipes join precast pipe, a concrete collar shall be constructed around the joint, as shown on the Plans or as directed by MSD.

#### 1.3.5. Leakage Testing for Sanitary Sewers

1.3.5.1. General. Testing shall not be scheduled until at least 48 hours after verbal contact is made with the project inspector. The Contractor shall perform leakage tests on sanitary sewer pipes and force mains to ensure that installed pipes are not subject to excessive infiltration or exfiltration. Sanitary sewer pipes installed in areas where other underground facilities will

be constructed subsequent to the sanitary sewer shall be tested twice; at the completion of the sanitary sewer installation, and following the installation of the other underground facilities. All leakage testing must be performed in the presence of a representative of MSD. No leakage testing shall be performed prior to jetting. When conducting any leakage test, the Contractor shall provide all meters, weirs, gages, water, equipment and personnel necessary to perform the test as specified. MSD shall provide the inspection personnel, stopwatch, recording forms and calculations to demonstrate if the test passed or failed. If a pipe installation fails to pass the requirements as specified herein, the Contractor shall repair or replace all defective materials or Workmanship, and conduct additional leakage tests necessary to demonstrate that the repaired section meets the leakage requirements, at no additional cost to MSD. If requested by MSD the Contractor shall submit in writing a method of repair, and must be approved by MSD before repair can begin.

1.3.5.2. Low-Pressure Air Tests. When conducting a low-pressure air test, the Contractor shall securely install and brace all plugs prior to pressurizing the pipe. Personnel shall not be allowed to enter manholes when the sewer pipe is pressurized. Low-pressure air tests shall be conducted in accordance with the following:

(A)

Reinforced Concrete Pipe - ASTM C 924, Recommended Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Test Method.

(B)

Polyvinyl Chloride Pipe (PVC), Corrugated PVC Pipe, Polyethylene Pipe, Corrugated Polyethylene Pipe - UNI-B-6 Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe. The "half-time" testing method will be accepted for these pipes only if the section of pipe being tested has a zero drop in pressure for half the test time specified for the pipe's length to diameter ratio.

1.3.5.3. Infiltration/Exfiltration Tests for Concrete Pipe. Reinforced concrete pipe may be tested for direct infiltration or exfiltration in lieu of performing low-pressure air tests. Tests shall be performed in accordance with ASTM C 969, Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Lines, except that the allowable rate of infiltration or exfiltration shall be 150 gallons per 24 hours per inch diameter per mile of pipe. Regardless of the leakage test results, any spurting or gushing streams of water entering the sewer or manhole shall be sealed at no additional cost to MSD.

1.3.5.4. Hydrostatic Tests for Force Mains. Force mains shall be tested by performing a hydrostatic test. The force main shall be completely filled with water and subjected to an internal pressure of 100 psi or twice the surge plus operating pressure, whichever is greater, not to exceed 125 percent of the maximum pressure rating for the pipe, measured at the downstream end. The pressure shall be held for a period of 2 hours. During the test, leakage from the force main shall be measured. The maximum allowable leakage shall be 1/2 gallon per inch diameter per 1,000 feet of pipe per hour.

1.3.6. Deflection Tests for Storm Sewers and Sanitary Sewers. The Contractor shall test all thermoplastic main line pipe by use of a calibrated mandrel, or other device approved by MSD, to ensure that no pipe deflection has occurred greater than 5 percent of the inside diameter of the pipe. Pipe shall be fully backfilled and compacted at least 15 days prior to testing.

The Contractor shall test the entire length of the sewer installed. Any pipe section exhibiting greater than 5 percent deflection shall be replaced and retested, at no additional cost to MSD. Should this time frame for testing be waived, and MSD requires a second deflection test after 30 days, it will be at the Contractor's expense. Deflection testing shall be performed at the time of the first or final air test. If conditions warrant, the MSD inspector may request additional tests to be performed after final restoration.

NOTE: When failure of the second air test requires repair of the main line sewer, an additional deflection test shall be required.

## SECTION 2 STANDARD SPECIFICATIONS STRUCTURES

### 2.1. DESCRIPTION OF WORK

This Work shall consist of the construction of manholes, inlets, catch basins, junction boxes, headwalls, box culverts and other sanitary sewer or storm drainage structures of the kind and dimensions shown on the Plans. The construction shall be accomplished in accordance with these Specifications and in conformity with the lines, grades, cross-sections, and details shown on the Plans or established by MSD. The Work shall include such labor, material, equipment, removal and abandonment of structures, brick masonry, cast-in-place concrete construction, precast concrete construction, rims and covers, frames and grates, miscellaneous iron castings, and all other items as may be necessary to complete the structures as shown on the Plans.

### 2.2. MATERIALS

2.2.1. Concrete. Concrete for all cast-in-place sanitary sewer and storm drainage structures shall be Class A concrete as specified in Section 3 of these Specifications.

2.2.2. Steel Reinforcement. Deformed steel reinforcing bars shall be Grade 60 bars of the sizes, dimensions, spacings and locations shown on the Plans. Steel reinforcement and its storage shall be as specified in these Specifications.

2.2.3. Grout. Grout shall consist of a mixture of water and cement or cement with fly ash, or water and one part cement or cement with fly ash to two parts mortar sand as defined in Section 804.05 of the KYTC Standard Specifications (current edition), by volume. The water may be adjusted to produce a mixture of a consistency suitable for job conditions; however, not over 5 1/2 gallons of water shall be used per sack of cement.

2.2.4. Non-Shrink Grout. Non-shrink grout shall be an approved non-shrink, non-staining grout consisting of either a mixture of hydraulic cement, water, fine aggregate, and an approved nonferrous expansive admixture, or a packaged commercial product and shall meet the requirements of Section 601.03.03B3 of the KTC Standard Specifications.

2.2.5. Precast Structures. Any use of precast structures must be so noted on the Plans, including a typical detail for each type of structure for the Project. Round structures shall conform to ASTM C 478 and square and rectangular structures shall meet the requirements of ASTM C 913. Structures which require specially designed footings, cut-off walls, etc. will not be allowed as precast. Openings in precast structures for pipes shall be the outside diameter of the pipe plus a maximum of 6 inches. In order to use non-shrink grout, the opening shall be the outside diameter of pipe plus 3 inches.

(Outside diameter of pipe plus 4 1/2 inches is permissible when tapered hole forms are utilized). For precast structures (other than those with knockout panels) the opening around the pipe shall either be filled with non-shrink grout for the wall thickness of the structure or the pipe shall be encased with minimum 6 inch collar of concrete from the inside face of the wall to 1'-0" outside the outer face of the wall. The pipe shall be adequately supported to prevent settling while the grout or the concrete encasement is setting up. The inside faces of the structure walls shall be finished with a trowel and wet brush finish. For circular structures and rectangular structures (other than those with knockout panels) the minimum vertical distance from the holes for the pipes to the top of the structure wall shall be 4 inches. If this vertical distance is less than 12 inches, then additional reinforcing steel shall be furnished for this section. The top slab must be designed for AASHTO HS-20 loading. For precast structures with knockout panels, holes for the pipes shall not be cut into the structural members (i.e., top beams and corner columns) and non-shrink grout shall not be allowed to be placed around the pipes. The pipes shall be encased with concrete a minimum 6 inch collar around the outside of pipe or a minimum of 3 inches beyond the hole knocked in the wall, whichever is greater. Also, the concrete encasement shall extend from the inside face of the wall to 1'-0" outside the outer face of the wall. Precast structures with knockout panels shall not be used with more than 2 feet of earth cover, as measured from the top of the structure, unless load calculations are supplied. For rectangular structures where pipe will be installed in adjacent walls (other than those with knockout panels), at least 6 inches of wall (measured from the interior corner) is required on each side of the pipe beyond the precast opening for the pipe. This rule is not applicable for structures which have pipe installed in opposite walls or where one outlet reinforced concrete pipe is utilized. A wash is required in the bottom of catch basins to provide positive drainage (sloped toward outlet). Precast structures in roadways other than installed sanitary manholes and wet wells shall have a minimum of two 4" weep holes. There will be a 2 cubic foot burlap or plastic sack filled with No. 57 stone over the weep holes.

2.2.5.1. Precast Manhole Sections. All precast concrete manhole risers, cones, grade rings, flat slab tops, and bases shall conform to the requirements of ASTM C 478, Standard Specification for Precast Reinforced Concrete Manhole Sections, and MSD's Standard Drawings. All cone and transition sections shall be eccentric in shape. Base and riser sections shall be custom-made with openings to meet indicated pipe alignment conditions. The following applies as to the maximum inside diameter (or horizontal dimension) of pipe to be used with a given size of manhole.

Diameter of Structure	4'-0"	5'-0"	6'-0"	Maximum Size Pipe*
	24 inches	36 inches	48 inches	*Outside diameter may be considered on a case-by-case basis for other pipe materials.

The minimum distance allowed between precast holes for the pipes shall be 12 inches, or one-half the outside diameter, whichever is larger.

2.2.5.2. Precast Structures (Except Manholes). If precast structures are furnished, the following requirements shall apply. The structures furnished shall be products on the list of approved precast structures on file with MSD. To be considered for addition to the list, five copies of shop drawings shall be submitted for review. The shop drawings shall show details of any variation from MSD's Standard Drawings and shall include any special installation instructions necessary. Specifications for any special materials for joint construction shall be submitted with the shop drawings, and samples of joint materials shall be submitted when requested.

2.2.6. Watertight Sewer Pipe Connections. Watertight sewer pipe connections shall be elastomeric gaskets or couplings manufactured in accordance with ASTM C 923, Standard Specification for Resilient Connectors between Reinforced Concrete Manhole Structures and Pipes, and shall be on MSD's list of approved materials.

2.2.7. Joint Sealants.

Type A - Is a compression rubber gasket in conformance with ASTM C443-05a Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets. Note - in applications where a Type A joint is specified, the receiving structure joint will need to be manufactured such to accept the particular gasket type selected (Example O-Ring, Press-Seal, Forsheda, etc)

Type B - Is a preformed flexible butyl rubber sealant in conformance with ASTM C990-06 - Joints for Concrete Pipe Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealant. Neither bituminous mastic joint sealing material (brush on type) nor (oil-based) bitumastic asphaltic butyl shall be allowed in the construction of structure joints.

2.2.8. Exterior Joint Wrap.

A six-inch wide strip of polyolefin covered with butyl mastic joint sealant, or a hydrophilic sealant having a 50% expansion factor and being capable of withstanding 25 PSI of pressure shall be placed over all exterior manhole joints, including grade rings. The product will be in accordance with ASTM C877-08. Standard Specification for External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections.

2.2.9. Waterstops. Waterstops shall be extruded from an elastomeric plastic compound, the basic resin of which shall be polyvinylchloride. The compound shall contain any additional resins, plasticizers, stabilizers, or other materials needed to ensure that when the material is compounded it will meet the physical property requirements shown below:

Physical Property	Required Value	Test Method
Tensile Strength (Die "C")		
Sheet Material	2,000 psi	ASTM D 412
Finished Waterstop	1,700 psi	ASTM D 412
Ultimate Elongation (Die "C")		
Sheet Material	350% Min.	ASTM D 412
Finished Waterstop	300% Min.	ASTM D 412
Stiffness in Flexure	750 psi Min.	ASTM D 747
Accelerated Extraction	CRD C 572	
Tensile Strength (Die "C")	1,750 psi	ASTM D 412
Elongation (Die "C")	300%	ASTM D 412
Effect of Alkali (After 7 Days)		
Change in Weight	-0.1 to 0.25%	
Change in Hardness, shore Durometer	+ or - 5%	
Low Temperature Brittleness	-35°	ASTM D 746
Specific Gravity	1.3	ASTM D 792

When required, the Contractor shall submit a manufacturer's certificate stating that all of the physical property requirements specified above for the sheet material have been satisfied. Field splices for waterstops shall be performed by heat-sealing the adjacent surfaces in accordance with the manufacturer's recommendations. Waterstops shall be manufactured with an integral cross-section which shall be uniform within plus or minus 1/8 inch in width, and the web thickness or bulb diameter within plus 1/16 inch and minus 1/32 inch.

5.2.10. Manhole Steps. Manhole steps shall be polypropylene plastic-coated steel bar with treads having anti-skid properties for hand and foot grips. Manhole steps shall be cast, epoxy grouted, or attached by mechanical means into the walls of the manholes in such manner as to conform with ASTM C 478.

Steps shall be spaced not more than 12 inches vertically on centers and shall be so arranged that the lowest rung is no more than 12 inches above the bench, and the top rung is 18 inches below the bottom of the casting. The steps shall be arranged out of alignment of the flow channel, and shall be centered on the grate or lid opening.

2.2.11. Castings. Castings shall be of the standard MSD type as detailed on MSD's Castings Standards. Castings shall be of uniform good quality, free from scale, lumps, blowholes, shrinkage, distortions or other defects. They shall be smooth and thoroughly cleaned by shot-blasting. Castings shall meet the requirements of ASTM A 48, Standard Specification for Gray Iron Castings, for Class No. 35-B, Gray Iron. Manhole rims and covers and inlet frames and grates shall be machined or ground at touching surfaces so as to seat firmly and prevent rocking. Any set not matching perfectly shall be removed and replaced at no additional cost to MSD.

2.2.13. Chimney Seals. The manhole chimney section shall be sealed and made watertight using either a mechanically locking internal butyl rubber chimney seal or a chemically bonding chimney seal as identified on the plans. Installation of the chimney seals shall be performed by manufacturer certified personnel. The chimney-sealing product shall be on the MSD pre-approved product list. The actual product used shall be identified on the shop drawing submittal.

### 2.3. EXECUTION OF WORK

#### 2.3.1. Modification to Existing and Proposed Structures

2.3.1.1. Removal. Existing structures to be removed shall be indicated on the Plans or as directed by MSD. MSD reserves the right to retain or reject salvage of any materials encountered. Unless otherwise directed by MSD, all castings and mechanically locking internal chimney seals shall be retained by MSD. All salvage materials retained by MSD shall be delivered to the appropriate storage yard as directed by MSD. All remaining materials shall become the property of the Contractor who will be responsible for disposing of same. The excavation shall be backfilled in accordance with these Specifications.

2.3.1.2. Abandonment. Existing structures to be abandoned in place shall be as shown on the Plans or as identified by MSD. After removing structure frames, covers, grates, mechanically locking internal chimney seals and similar items, all pipes shall be bulkheaded as specified in these Specifications. The walls shall be lowered to 2 feet below final grade if in earth or to 12 inches below subgrade if in pavement. The remaining structures shall be filled with crushed stone or sand. In paved areas or where directed by MSD, a 12 inch thick plain concrete slab shall be installed over the manhole or structure top such that it extends 12 inches beyond the outside face of the manhole or structure. MSD reserves the right to retain or reject salvage of any materials encountered. All remaining materials shall become the property of the Contractor who will be responsible for disposing of same.

2.3.7. Adjusting Manholes and Catch Basins. All frame height and alignment adjustments shall be subject to field inspection by MSD and be subject to correction as directed by MSD. Concrete brick (conforming to ASTM C-55 for Type II Grade 5) may be used when adjusting the casting no more than 4 inches. Precast concrete riser rings may be used when the casting is raised more than 4 inches or when total combined height of existing and proposed exceeds 4 inches. If the concrete riser ring height will exceed 12 inches, use 1-ft. barrel sections.

Use the least number of standard size rings as required for proper grade. No wood shims, wood blocks or shot rock shall be used to adjust or reset the frame height. In asphalt pavement, the excavated area around the manhole or catch basin that is raised shall be backfilled with a minimum of 8 inches Class "A" concrete to a level 2 inches below the new top of grate or lid elevation. The remaining 2 inches shall be paved with bituminous surface. Prior to raising manhole or catch basin frames, the Contractor, Design Engineer, and MSD representative shall inspect for damaged frames and grates or lids. Damaged frames, grates or lids shall be replaced by the Contractor at no expense to MSD unless item was damaged prior to start of construction.

SECTION 3  
STANDARD SPECIFICATIONS  
CONCRETE

3.1. DESCRIPTION OF WORK

Concrete shall consist of a mixture of Portland cement, fine aggregate, coarse aggregate, and water, with air entrainment as specified, combined in the proportions and mixed to the consistency specified, and shall be formed or cast to dimensions indicated on the Plans or as directed by MSD. The Contractor shall provide materials, material proportions, equipment, and construction methods that will ensure that concrete produced meets the requirements of these Specifications.

3.2. MATERIALS

3.2.1. Portland Cement Concrete

3.2.1.1. Portland Cement. Portland cement shall meet requirements set forth in ASTM C 150, Standard Specification for Portland Cement, for Type I or Type II cement, and the requirements set forth in ASTM C 595, Standard Specification for Blended Hydraulic Cements, for Type IP cement.

3.2.1.2. Water. Water used in mixing or curing Portland cement concrete shall meet the requirements set forth in Section 803 of the KYTC Standard Specifications (latest edition).

3.2.1.3. Fine Aggregates. Fine aggregates shall meet the requirements set forth in Section 804 of the KYTC Standard Specifications (latest edition).

3.2.1.4. Coarse Aggregates. Coarse aggregates shall meet the requirements set forth in Section 805 of the KYTC Standard Specifications (latest edition).

3.2.1.5. Air-Entraining Admixtures. Air-entraining admixtures shall meet the requirements set forth in ASTM C 260, Standard Specification for Air-Entraining Admixtures for Concrete, except the chloride content shall not exceed one percent by weight.

3.2.1.6. Chemical Admixtures. Chemical admixtures shall meet the requirements set forth in ASTM C 494; Standard Specification for Chemical Admixtures for Concrete, except the chloride content shall not exceed one percent by weight.

3.2.1.7. Fly-Ash. Fly ash shall meet the requirements set forth in ASTM C 618, Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete, for Class F Fly Ash. The loss on ignition shall not exceed 3.0 percent, except 4.0 percent will be permitted when the uniformity requirements of ASTM C 618 are met.

### 3.2.2. Concrete Reinforcement

3.2.2.1. Steel Bars. Steel reinforcing bars shall be deformed bars meeting the requirements of ASTM A 615, Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement. All bar reinforcement shall be Grade 60 bars. When epoxy coated steel reinforcing bars are used, epoxy coated tie wire shall be required.

3.2.2.2. Welded Steel Wire Fabric. Welded steel wire fabric shall meet the requirements set forth in ASTM A 185, Standard Specification for Steel Welded Wire Fabric for Concrete Reinforcement.

3.2.2.3. Polypropylene Fibers. Fibers shall be 100 percent polypropylene fibers specifically designed for use as concrete reinforcement and shall contain no reprocessed olefin materials. No textile waste materials or other textile products will be allowed. The polypropylene fibers shall meet the following requirements:

MIN.	MAX.
Melt Temperature	320 F
Specific Gravity	0.87 - 0.93
Tensile Strength	70 - 110 ksi.
Fiber Fineness	Less than 100 Denier
Fiber Length	3/4 inch
Dosage Rate	2 Lbs/Cy

### 3.2.3. Curing and Finishing Materials

3.2.3.1. Concrete Curing Materials. Concrete curing materials shall meet the requirements set forth in Section 823 of the KYTC Standard Specifications (latest edition), for type 1D Clear, Class B.

3.2.3.2. Masonry Coating Materials. Masonry coating materials shall meet the requirements set forth in Section 828 of the KYTC Standard Specifications (latest edition).

### 3.3. EXECUTION OF WORK

3.3.1. Care, Storage, and Handling of Concrete Materials. Aggregates, cement, and fly ash shall be furnished, stocked and handled at the plant in accordance with the requirements set forth in Section 601.03 of the KYTC Standard Specifications (latest edition).

3.3.2. Admixtures. Chemical admixtures to improve workability, retard and/or accelerate the time of set shall be used where specified or directed. When not specified or directed for use, these admixtures may be used only upon written permission. Determination of quantities of water-reducing and retarding admixture required to produce the desired results shall be the responsibility of the Contractor. The Contractor shall also establish the quantity of air-entraining admixture necessary to produce a concrete mixture having a net air content, by volume, of 5.5 plus or minus 1.5 percent.

3.3.3. Proportioning. Proportioning of concrete mixtures shall be in accordance with Section 601.03.03 of the KYTC Standard Specifications (latest edition). For concrete exposed to sewage, the mixture shall contain the necessary proportions of Type II, Type IP, or Type I cement and fly ash to ensure a maximum Tricalcium Aluminate content of 8 percent of the total weight of cementitious materials.

3.3.4. Class of Concrete. The following classes of concrete shall be as specified in Section 601.03.03 of the KYTC Standard Specifications (latest edition) and shall be used in the types of construction designated, unless shown otherwise on the Plans, in the Contract, or directed by MSD. Concrete of all classes and for all uses above grade shall be air-entrained.

3.3.4.1. Class AA Concrete. Class AA concrete shall be used in structural concrete. It shall have a minimum 28-day compressive strength of 4,000 psi, a minimum slump of 2 inches and a maximum slump of 4 inches. For fiber reinforced concrete, a tolerance of + 1 inch shall be allowed outside the minimum and maximum specified.

3.3.4.2. Class A Concrete. Class A concrete shall be used in cast-in-place sewers, headwalls, catch basins, manholes, small retaining walls, culverts, sidewalks, curbs, driveways, pavements, paved ditches and paved channel linings. It shall have a minimum 28-day compressive strength of 3,500 psi, a minimum slump of 2 inches and a maximum slump of 4 inches. For fiber reinforced concrete, a tolerance of + 1 inch shall be allowed outside the minimum and maximum.

3.3.4.3. Class B Concrete. Class B concrete shall be used in concrete encasements, caps, cradles, stacks, gravity retaining walls and for all non-reinforced concrete deposited as fill for cavities or voids and mass footings. It shall have a minimum 28-day compressive strength of 2,500 psi, a minimum slump of 3 inches and a maximum slump of 5 inches. For fiber-reinforced concrete, a minimum slump of 2 inches and a maximum slump of 6 1/2 inches is allowed.

3.3.4.4. Class M1 Concrete. Class M concrete shall be used for high early strength in driveways and sidewalks, when required by the Special Provisions or the plans. It shall meet the requirements for Class M1 concrete set forth in Section 601.03.03 of the KYTC Standard Specifications (latest edition).

3.3.4.5. Flowable Fill. Flowable fill shall be used as required by the Special Provisions or the plans. It shall meet the requirements for flowable fill set forth in Section 601.03.03 of the KYTC Standard Specifications (latest edition).

### 3.3.5. Batching and Mixing

3.3.5.1 General. The concrete shall be batched and mixed in the quantities required for immediate use. Unless otherwise specified or directed, all concrete shall be manufactured by ready-mixed methods.

3.3.5.2. Ready-Mixed Concrete. Ready-mixed concrete shall be manufactured and supplied in accordance with ASTM C 94, Standard Specification for Ready-Mixed Concrete, Alternate No. 3. The placement shall commence within 60 minutes of batch to trucks as indicated on ticket. The interval between delivery of separate batches placed continuously in the Work shall not exceed 20 minutes unless otherwise permitted by MSD. Batch tickets with batch weight shown, shall be provided to MSD when requested.

3.3.5.3. Hand-Mixed Concrete. Hand mixing will not be permitted, except in case of emergency or in case of isolated small units such as pipe headwalls and then only by permission of MSD. When hand-mixing is permitted, proportioning by volume will be allowed and mixing shall be done only on water-tight platforms. The sand shall be spread evenly over the platform and then the cement spread upon it.

The sand and cement shall then be thoroughly mixed while dry by means of shovels until the mixture is of a uniform color, after which it shall be formed into a crater and water added in an amount necessary to produce mortar of the proper consistency. The total water content shall not exceed that specified in Section 601.03.03, of the KYTC Standard Specifications (latest edition). The material on the outer portion of the crater ring shall then be shoveled to the center and the entire mass turned and sliced until a uniform consistency is produced. The coarse aggregate shall then be added to the mortar and the entire mass turned and re-turned at least 6 times and until all coarse aggregate particles are thoroughly coated with mortar and the mixture is of a uniform color. Hand-mixed batches shall not exceed 1/2 cubic yard.

### 3.3.6. Forms

3.3.6.1. General. All forms shall be mortar-tight, true to the dimensions, lines, and grades of the structure, and of sufficient strength to prevent appreciable deflection during placing concrete. Aluminum or aluminum alloy forms will not be permitted except when provision is made to prevent their direct contact with the concrete, or be detrimental to masonry coating if the surface will be coated. The inside surfaces of forms shall be cleaned of all dirt, mortar, and foreign material. Forms, which will later be removed, shall be thoroughly coated with form oil, prior to use. The form oil shall be commercial quality form oil or other equivalent coating which will permit ready release of the forms and will not discolor the concrete, or be detrimental to masonry coating if the surface will be coated. Concrete shall not be deposited in forms until all work connected with constructing the forms has been completed, all materials required to be embedded in the concrete have been placed for the unit to be poured, and MSD has inspected forms and materials. Such Work shall include removal of all dirt, chips, sawdust, water, and other foreign material from the forms. Forms for all concrete surfaces, which will not be completely enclosed or hidden below the permanent ground surface, shall conform to the requirements herein for forms for exposed surfaces. Interior surfaces of underground sewers and structures will be considered to be completely enclosed surfaces. Forms for exposed concrete surfaces shall be designed and constructed so the formed surfaces of concrete do not undulate excessively in any direction between studs, joists, form stiffeners, form fasteners, or wales. Plywood forms shall be at least 3/4 inch thick and shall be placed with the face grain perpendicular to the studs or joists, unless the Contractor furnishes calculations showing that excessive deflection or stresses will not occur when the grain is parallel to the studs or joists. The clear span between supporting studs or joists shall be placed no more than 20 times the thickness of the form facing and in no case shall the deflection exceed 1/360 of the clear span. Should any form or forming system, even though previously reviewed prior to use, produce a surface with excessive undulations, its use shall be discontinued until modifications satisfactory to MSD have been made. All exposed surfaces of each element in a concrete structure shall be formed with the same forming material or with materials which produce similar surface texture, color, and appearance. Forms for exposed surfaces shall be faced with form panels. A form panel shall be considered to be the continuous section of form facing material, unbroken by joint marks, against which concrete is placed. Form panels for exposed surfaces shall be plywood conforming to the requirements of U. S. Product Standard PS-1 for Exterior B-B (Concrete Form) Class I Plywood or any material other than plywood which will produce a smooth uniform concrete surface substantially equal to that which would result from use of such plywood. Only form panels in good condition, free of defects, such as scars, dents, or delaminations, shall be used for exposed surfaces.

Form panels for exposed surfaces, in general, shall be furnished and placed in uniform widths of 3 feet or more and in uniform lengths of 5 feet or more, except where the dimensions of the member formed are less than these dimensions. Panels shall be arranged in symmetrical patterns conforming to the general lines of the structure. Form panels on each side of the panel joint shall be precisely aligned, by means of supports or fasteners common to both panels, to result in a continuous, unbroken concrete plane surface. Forms for exposed surfaces shall be constructed with chamfer strips no less than 3/4 inch by 3/4 inch attached to prevent mortar runs and to produce smooth, straight chamfers at all sharp edges of the concrete. Form fasteners consisting of form bolts, clamps, or other devices shall be used as necessary to prevent spreading of the forms during concrete placement. The use of ties consisting of twisted wire loops to hold forms in position will not be permitted. Metal ties or anchorages within the form shall be constructed to permit their removal to a depth of at least one inch from the face without injury to the concrete. All fittings or metal ties shall be of such design that upon their removal the cavities, which will remain, will be the smallest possible size. Cavities, regardless of their position in the completed construction, shall be rammed and filled with mortar and the surface shall be sound, smooth, even, and uniform in color. For narrow walls where access to the bottom of forms is not readily attainable otherwise, the lower form boards shall be left loose so they may be removed for removal of all chips, dirt, sawdust, or other extraneous material immediately prior to placing concrete. Forms which are intended for re-use shall be maintained in good condition to ensure accuracy of shape, strength, rigidity, water-tightness, and surface smoothness. Forms that are unsatisfactory in any respect in the opinion of MSD shall not be used and shall be removed immediately from the job site.

3.3.6.2. Removal of Falsework and Forms. In determination of the time for removal of falsework and forms, consideration shall be given to the location and character of the structure, weather, and other conditions influencing hardening of the concrete and materials used in the mixture. Removal of falsework and forms shall be done in accordance with the KYTC Standard Specifications (latest edition), Sections 601.03.14 and 601.03.15 unless otherwise directed by MSD. Forms shall be removed with care so as not to damage the surface of the concrete structure and shall be the sole responsibility of the Contractor.

### 3.3.7. Concrete Reinforcing

3.3.7.1. Protection of Steel Reinforcing. Proper care shall be used in handling and storing steel reinforcement or epoxy coated steel reinforcement to prevent bending, excessive rusting, or coating with objectionable substances. Steel reinforcement, when incorporated in the Work shall be reasonably free from dirt, paint, oil, grease, loose/thick rust, and other foreign substances, and when deemed necessary, shall be cleaned to the satisfaction of MSD.

3.3.7.2. Bending Steel Reinforcing Bars. Steel reinforcing bars shall be bent cold. Bars shall be bent accurately to the dimensions and shapes shown on the Plans and to within tolerances designated in the CRSI Manual of Standard Practice. Bars shall be bent in the shop before shipment and shall not be bent in the field, unless otherwise directed by MSD.

3.3.7.3. Placing and Fastening. All steel reinforcement shall be accurately placed in positions shown and firmly held in position during placement and hardening of concrete. All steel reinforcement, shall be spaced to within a tolerance of plus or minus 1/2 inch and placed to within a tolerance of plus or minus 1/4 inch of specified clearance from the face of concrete.

Dimensions shown from the face of concrete to bars are clear distances. Bar spacings are from center to center of bars. Bars shall be tied at all intersections, except where spacing is less than one foot in both directions, then alternate intersections shall be tied. Epoxy coated steel reinforcement shall be tied with coated tie-wire. Distances from forms shall be maintained by means of stays, blocks, ties, hangers, or other approved supports. Supports for holding reinforcement from contact with the forms shall be approved precast blocks composed of mortar or approved metal chairs. The tips of metal chair supports, which are in contact with the surface of the concrete, shall be plastic-coated steel. The steel placed in reinforced concrete slabs shall also be securely tied down to prevent any possibility of steel rising above the specified elevation during placing, vibrating, and finishing the concrete. The top mat and bottom mat of bars shall be separated by precast mortar blocks or by other equally suitable devices. The use of pebbles, pieces of broken stone or brick, metal pipe, and wooden blocks shall not be permitted as separators. Reinforcement in any member shall be securely placed and then inspected and approved before the placing of concrete begins. Concrete placed in violation of this provision may be rejected.

3.3.7.4. Splicing. No splicing of reinforcement will be permitted, except those splices of the types and at the locations shown, without written permission from MSD. Acceptable splices may include lapped splices, welded splices, mechanical splices, or other positive connection splices shown on the Plans or directed by MSD. Lapped splices, shall have lengths of not less than 40 times the nominal diameters of the reinforcement being spliced, unless otherwise shown on the Plans. Lapped splices in areas not designated on the Plans shall be made at points of low tensile stress, and the bars being spliced shall be rigidly clamped or wired together in an approved manner. Rolls of welded steel wire mesh shall overlap each other by 2 cells, to maintain a uniform strength, and shall be securely fastened at the ends and edges. Welded splices shall be in conformance with the AWS Reinforcing Steel Welding Code, current edition. Bars to be welded shall be butted and welded so as to develop, in tension, at least 125 percent of the specified yield strength of the bars. Welded splices will not be permitted unless shown on the Plans or approved by MSD.

3.3.7.5. Fiber Reinforcing. When fiber reinforcing is required by the Plans or Contract, the polypropylene fibers shall meet article 6.2.2.3 requirements. The fibers shall be added after other ingredients have been placed in the mixer and prior to leaving the batch plant. Each batch delivery ticket shall indicate the amount of fibrous concrete reinforcement material per cubic yard added to each batch of concrete. Wire mesh reinforcement shall not be used in conjunction with fiber reinforcement.

### 3.3.8. Placing Concrete

3.3.8.1. General. Unless other provisions are agreed upon, the contractor shall give MSD inspector 48-hour advance notice before concrete placement. Concrete shall be delivered to its final position of placement within the time required for delivery after mixing in accordance with ASTM C 94 and within the required time interval between delivery of batches as specified in Section 3.3.5.2. Forms and reinforcement shall be moistened with water immediately before placing the concrete. All equipment used for handling and/or placing concrete shall be such that it will accommodate concrete of the proportions and consistencies as specified. No adjustments in mixture proportions will be made to accommodate equipment, which is not capable of handling concrete of specified proportions and consistencies. Equipment used to transfer concrete from truck mixers or agitators shall be of adequate design and/

or dimensions to deposit concrete of the specified slump. Water shall be completely removed from all excavations before concrete is deposited. When it is necessary to deposit concrete under water, placement shall be in accordance with the requirements specified under Section 601.03.09, Part B of the KYTC Standard Specifications (latest edition). MSD's approval must be obtained prior to placing concrete under water. In general, concrete shall not be placed unless otherwise shown on the Plans or directed by MSD. The method and manner of placing concrete shall be such as to avoid segregation or separation of aggregates or displacement of reinforcement. The use of long chutes, troughs, belts, and pipes for conveying concrete from the point of delivery to the forms will be allowed only upon written permission. When such conveyers are allowed and the quality of concrete or methods of placing or working it therein are not satisfactory, the Contractor shall discontinue their use and equip his plant so that concrete will be placed in a satisfactory manner. Troughs, pipes, or chutes used as aids in placing concrete shall be arranged and used in such a manner that ingredients of the concrete are not separated. Where steep slopes are required, the chutes shall be equipped with baffle boards or be in short lengths that change the direction of movement. All chutes, troughs, and pipes shall be maintained clean and free from coating of hardened concrete by thoroughly flushing with water after each run or when out of operation for more than 30 minutes. Water used for flushing shall be discharged clear of concrete in place. The troughs, pipes, and chutes shall be either metal or metal-lined and shall extend as nearly as possible to the point of deposit. Aluminum or aluminum alloy troughs, pipes, or chutes will not be permitted. Dropping concrete in excess of 5 feet without the use of pipe or tremies, or depositing a large quantity at any point and running or working it along the forms will not be permitted. The discharge end of the pipe shall be maintained as close to the point of deposit as is feasible. Concrete placing shall be such to entirely fill but not bulge or distort the forms or to disturb their alignment. Special care shall be exercised to fill each part of the forms by depositing concrete as near its final position as possible, to work the coarser aggregate back from the face and to force concrete under and around reinforcing bars without displacing them. After concrete has taken its initial set, care shall be exercised to avoid jarring the forms or placing any strain on ends of projecting reinforcement. Concrete shall be compacted either by vibration as described herein or with approved spading tools. When vibration or spading is used, it shall be distinctly understood that formation of honeycombs, voids, or air pockets against the forms will not be allowed. Vibration shall be internal. Vibrators shall be of types and designs capable of transmitting vibration to the concrete at frequencies to adequately consolidate the concrete. Vibration shall be of sufficient intensity and duration to cause flow or settlement of the concrete and complete compaction, but shall not be used to cause concrete to flow over long distances in the forms. The Contractor shall provide and use a sufficient number of mechanical vibrators to ensure that compaction can be started immediately after concrete has been deposited in the forms. The mechanical vibrator shall not be attached to the forms or reinforcing steel or applied to the surface of the concrete. The vibrator shall be applied to the concrete immediately after deposit of the concrete and shall be moved throughout the mass, thoroughly working the concrete around the reinforcement, embedded fixtures, and into angles and corners of the forms. Vibration shall be of such duration to accomplish thorough compaction and complete embedment of reinforcement and fixtures, but shall not be unduly prolonged to cause segregation or the excess buildup of paste at the surface of the lift being consolidated. Forms shall be designed to provide for requirements of vibration. Concrete shall be placed in continuous horizontal layers, the thickness' of which shall not exceed 12 inches, unless otherwise specified for different types of structures.

In any given layer, consecutive batches shall be placed and compacted before the preceding batch has taken its initial set. Each layer of concrete shall retain a rough surface in order to secure efficient bonding with the next layer. A succeeding layer placed before the underlying layer has set shall be compacted in a manner that will entirely break up and obliterate the tendency to produce a cold joint between layers. The operations of depositing and compacting concrete shall be conducted to form a compact, dense, and impervious mass of uniform texture having smooth faces on exposed surfaces. When any section of concrete is defective, it shall be removed and satisfactorily replaced or repaired as directed.

3.3.8.2. Weather Limitations and Protection. Concrete shall be maintained at a minimum temperature of 45°F for three calendar days after placement and at a minimum temperature of 40°F for an additional four calendar days. When required, the Contractor shall submit a written outline of the method to be used for protecting concrete. The Contractor shall designate one of his employees to be responsible in order that he may be contacted by MSD in unexpected situations. MSD reserves the right to discontinue concrete placement when the means of protection and/or method of placement do not produce satisfactory results. In cold weather, 40°F or below, all water and/or aggregate shall be heated so the temperature of the mixed concrete shall be no less than 50°F or more than 90°F at the time of placement. When artificial heat is used, means shall be provided to maintain adequate moisture in the air within the enclosure. Surfaces of all concrete shall be maintained in a moist condition. When artificial heat is used, the temperature of concrete near the source of heat shall not exceed 80°F, and the temperature of concrete remote from the source of heat shall not be less than that designated (45°F or 40°F) for the time of curing after placement. When stoves or salamanders are used, adequate provisions shall be made for fire protection. In hot weather, efforts shall be made to maintain temperature of the mixture below 90°F. The temperature of the concrete mixture immediately before placing shall be between 50°F and 90°F. When the ambient air temperature is above 90°F, the forms, reinforcing steel, and other surfaces which will come in contact with the mixture shall be cooled to below 90°F by means of a water spray or other approved methods. Excess water shall be allowed to drain or shall be removed from the forms before concrete is placed. The Contractor shall assume all risks connected with placing concrete under these conditions and permission given by MSD to do the Work will in no way relieve the Contractor of responsibility for proper results. Should concrete placed under such conditions prove unsatisfactory, it shall be removed and replaced with satisfactory concrete and no allowance will be made for removing and replacing the defective concrete.

### 3.3.9. Joints

3.3.9.1. General. Unless authorized by MSD, all joints in non-road situations will be "tooled". The saw cutting of control and construction joints will not be allowed.

### 3.3.10. Curing Concrete

3.3.10.1. General. All surfaces, which are to receive a masonry coating finish, shall be wet-cured. All other concrete, shall either be wet-cured or shall be cured by application of a membrane forming compound. At any time MSD determines concrete on the Project is not being properly cured, all or any concreting operations on the Project may be suspended. At any time during the curing period when the atmospheric temperature is 45°F or less, the concrete shall be protected so as to satisfy the temperature requirements specified in these Specifications.

3.3.10.2. Wet Curing. Concrete shall be cured for a period of at least seven calendar days, beginning immediately after placement and finishing, by the frequent application of water to all surfaces so as to keep them continuously damp during the full seven-calendar-day curing period. Exposed concrete surfaces shall be protected from drying by application of a double thickness of wet burlap or similar material and the burlap or other approved material shall be kept continuously wet for a period of seven or more calendar days. When the structure or any portion thereof is enclosed and artificial heat is provided for protection, the requirement of moisture for curing will not be waived. When steamlines are used for heating, the pipe shall be left loose so as to permit the escape of sufficient steam into the housing in order to maintain a moist atmosphere at all times. When stoves or salamanders are used, vessels containing water shall be maintained on each stove or salamander to maintain a moist atmosphere at all times.

3.3.10.3. Membrane Curing. The membrane forming curing compound shall not be diluted or altered prior to use, but shall be thoroughly agitated immediately prior to use. When the compound is too viscous for application, it shall be warmed in a water bath to approximately 100°F prior to application. The compound shall be uniformly applied to a surface by use of an approved pressure sprayer. Curing compound may be applied in one application provided uniform and satisfactory coverage is achieved. If MSD directs that two applications are required because one application is not satisfactory, then each application shall be at the rate of one gallon per 300 or less square feet. The first application shall be started as soon as practicable after the final finish and as directed by MSD and the second application shall be started as soon as the first application is finished. The total actual application rate shall be at least one gallon per 150 square feet actual coverage. Curing compound shall not be applied to construction joints, reinforcing steel, or surfaces, which are to receive a masonry coating. When curing compound is applied to surfaces upon which the compound is not permitted for use, it shall be removed by sandblasting. The curing compound shall be protected and maintained in an acceptable condition for a period of at least seven calendar days. Surfaces upon which the curing compound is damaged before the end of the seven-calendar-day curing period shall be moistened and resprayed with curing compound.

### 3.3.11. Surface Finish

3.3.11.1. General. Unless otherwise indicated on the Plans, the surface finish that shall be applied to various parts of concrete structures shall be as follows:

Ordinary Surface Finish  
Masonry Coating Finish

Floated Surface Finish

Ordinary Surface Finish shall be applied to all concrete surfaces. Unless otherwise specified in the Contract, and provided requirements are satisfactorily met, ordinary surface finish shall be considered as a final finish on all surfaces not required to have a Masonry Coating Finish or a Floated Surface Finish.

3.3.11.2. Ordinary Surface Finish. During concrete placement, care shall be taken that methods of compaction used will result in a smooth surface of even texture free from honeycombs, water, and air pockets, and that the coarse aggregate is forced away from the forms in order to leave a mortar surface. As soon as the concrete has set sufficiently, the forms shall be carefully removed and all metal ties, anchorages, or tie wires used within the forms to hold them to correct alignment and location shall be removed as specified in Subsection 3.3.6.2. of these Specifications.

Immediately following removal of forms, all fins and irregular projections shall be removed from all surfaces, except those not to be exposed in the completed Work. On all surfaces, cavities and depressions resulting from removal of form ties and all other holes, honeycomb spots, broken corners or edges, and other defects shall be thoroughly cleaned, saturated with water, and carefully pointed and trued with a mortar of the same cement and fine aggregates mixed in the same proportions as used in the class of concrete being finished. The mortar used shall not be more than 30 minutes old and the mortar patches shall be cured as specified for the structures. After the mortar has thoroughly hardened, it shall be finished with a carborundum stone to obtain a uniform and smooth surface the same color and texture as in the surrounding concrete. When required, honeycomb areas shall be chipped out before pointing. All open and filled contraction and expansion joints in the completed Work shall be carefully tooled and free of all mortar and concrete. The joint filler shall be exposed for its full length with clean true edges. The objective of these requirements is to obtain smooth and even surfaces of uniform color and texture without unsightly bulges, patched areas, depressions, and other imperfections. The degree of care in building forms and the character of materials used in form work, and the care with which concrete is placed will be factors in determining whether additional finishing of concrete will be required.

3.3.11.3. Masonry Coating Finish. After the concrete surfaces of members designated to have a Masonry Coated Finish have been inspected and accepted as having a satisfactory Ordinary Surface Finish, the concrete surfaces shall be cleaned of all dust, foreign matter, and form oil, and an approved Masonry Coating Finish shall be applied. All surfaces to receive a masonry coating shall be thoroughly cleaned and free of oil, form oil, grease, dust, dirt, mud, curing compound, release agents, loose patching mortar, or any other substance deleterious to bonding. The ordinary surface finish to which the masonry coating is to be applied shall be approved by MSD before application of the masonry coating. All surfaces to receive a masonry coating shall be checked for the presence of dust by wiping a dark cloth across the surface of the concrete. If a white powder can be seen on the dark cloth, the concrete shall be cleaned by wire brushing, grinding, or water blasting and then allowed to thoroughly dry before the masonry coating is applied. The surface will be rechecked for the presence of dust after cleaning. All surfaces to receive a masonry coating shall be checked for the presence of oily conditions by sprinkling or fogging water on the surface of the concrete. If the water stands in droplets without spreading out immediately, this indicates the surface is contaminated with an oily substance, and cleaning, using a detergent and water followed by thorough rinsing with water, will be required. The surface will be rechecked for the presence of oily conditions after cleaning. All surfaces to receive a masonry coating shall be thoroughly dry before coating is applied, unless the coating manufacturer specifically recommends the surface to be wet. Surfaces will not be considered dry unless an absorbent paper pressed tightly against the surface does not show any trace of moisture. Coating application shall be suspended any time the ambient temperature or the temperature of the concrete does not comply with the coating manufacturer's recommendations. Prior to application of the materials, the Contractor shall furnish MSD with copies of the coating material manufacturer's brochures or booklets. Masonry coating materials shall be applied in strict conformity with the manufacturer's written instructions, except that in each instance the concrete surface shall be prepared to the satisfaction of MSD before application of the material is started and the material shall be applied at a uniform rate of 50 plus or minus 10 square feet per gallon. Any portions of the coating which are not clean, uniform in color, texture, thickness, tightly bonded, or which are damaged prior to final acceptance of the Project shall be satisfactorily repaired or removed and replaced with an acceptable finish and coating.

Care shall be exercised to secure a neat uniform appearance and to prevent the coating from being dripped, sprayed, or otherwise deposited upon concrete or steel surfaces not designated to receive the coating. Any objectionable deposits or material shall be removed and the surfaces repaired to the satisfaction of MSD.

3.3.11.4. Floated Surface Finish. Horizontal surfaces that do not receive the Masonry Coating Finish shall be finished by placing an excess of materials in the form and removing or striking off such excess with a wooden template, forcing coarse aggregate below the mortar surface. After the concrete has been struck off as described, the surface shall be thoroughly worked and floated by hand with a wooden float leaving a fine grained, smooth-sanded surface. Sidewalks and driveways shall receive a broom finish, prior to beginning the curing process.

#### 3.3.12. Sampling and Testing

3.3.12.1. Personnel. Structural concrete, such as foundations and any pour larger than 5 cubic yards, shall be sampled and tests will be performed throughout the work at the minimal frequencies indicated or more often as necessary to determine whether concrete supplied is of the quality specified. Tests will be performed by the Agency designated by MSD to provide concrete testing on Projects involving MSD facilities, according to procedures outlined below. On private developments and other than MSD advertised Projects, the testing company must be designated in writing and be approved by MSD prior to concrete placement. If the concrete plant is designated, MSD may elect to pay for samples to be taken from the same mix in order to run tests in parallel. The technician who samples and tests concrete shall have demonstrated a knowledge and ability to perform the necessary test procedures equivalent to the minimum guidelines for Certification of Concrete Field Testing Technicians, Grade I in accordance with the American Concrete Institute.

3.3.12.2. Sampling Fresh Concrete. Concrete shall be sampled in accordance with the procedures set forth in ASTM C 172, Standard Specification for Sampling Freshly Mixed Concrete.

3.3.12.3. Slump Test. Slump tests shall be performed in accordance with the procedures set forth in ASTM C 143, Standard Test Method for Slump of Portland Cement Concrete.

3.3.12.4. Air Content. The air content shall be determined by the volumetric or pressure methods in accordance with the procedures set forth in ASTM C 173, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method, or ASTM C 231, Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.

3.3.12.5. Test Cylinders. Concrete test cylinders shall be made and cured in accordance with the procedures set forth in ASTM C 31, Standard Practice for Making and Curing Concrete Test Specimens in the Field. Unless otherwise specified, four test cylinders shall be molded for each set. Cylinders to be used for determining form removal time shall be stored at the site as near to the concrete being represented as possible.

3.3.12.6. Compressive Strength Tests. The compressive strength of test cylinders shall be determined in accordance with the procedures set forth in ASTM C 39, Standard Test for Compressive Strength of Cylindrical Concrete Specimens.

3.3.12.7. Frequency of Tests. Unless otherwise directed by MSD, a minimum of one set of 4 test cylinders shall be made daily for each 50 cubic yards or portion thereof placed in each structure. Two cylinders shall be tested at 28 days to check the adequacy of the concrete mix. The remaining cylinders may be tested, as needed, to meet the provisions of Section 601.03.14 of the KYTC Standard Specifications (latest edition), if early form removal is desired. Slump and air content tests shall be made at the time of concrete placement as often as is necessary for control checks and acceptance purposes, and always when compressive strength specimens are made. If the measured slump or air content falls outside the specified limits, a check test shall be made immediately on another portion of the same sample. In the event of a second failure, the concrete shall be considered to have failed the requirements of these Specifications. The first and last 1/4 cubic yard discharged from the mixer are exempt from the slump and air content requirements of these Specifications.

KYTC BMP Plan for Contract ID #####



**Kentucky Transportation Cabinet**

**Highway District 5**

**And**

\_\_\_\_\_ **(2), Construction**

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

**Groundwater protection plan**

**For Highway Construction Activities**

**For**

**KY 22 Widening From Chamberlain Lane  
To Silver Wing Blvd. (Section 2)**

**Contract ID #####**

**Six Year Plan 5-320.20**

Revised  
1-28-08

KYTC BMP Plan for Contract ID #####

**Project Information**

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

1. Owner – Kentucky Transportation Cabinet, District 5
2. Resident Engineer: (2)
3. Contractor Name: (2)  
    Address: (2)  
    Phone number: (2)  
    Contact: (2)  
    Responsible Person: (3)
4. Contract ID Number: (2)
5. Route (Address): KY 22 (Brownsboro Road)
6. Latitude/Longitude (project mid-point) dd/mm/ss, dd/mm/ss: 38/18/45, 85/34/01
7. County (project mid-point): Jefferson
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KYTC BMP Plan for Contract ID #####

## 1.0 SITE DESCRIPTION.

- 1) Nature of construction activity (from letting project description). Widen KY 22 to six lanes from Chamberlain lane to Silver Wing Blvd.
- 2) Order of major soil disturbing activities. (2) and (3)
- 3) Projected volume of material to be moved. 39,190 cubic yards
- 4) Estimate of total project area (acres). 22.4 acres
- 5) Estimate of area to be disturbed (acres). 20.9 acres
- 6) Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information.
- 7) Data describing existing soil condition. Soils consist of low and high plasticity clays having the Unified Soil Classifications of CL and CH with textural descriptions of lean to fat clay, reddish brown to brown in color and moist in natural moisture content.
- 8) Data describing existing discharge water quality (if any). None (2)
- 9) Receiving water name. Wolf Pen Branch
- 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)

## 2.0 SEDIMENT AND EROSION CONTROL MEASURES.

**2.1 Erosion Control Sheets.** 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.

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**2.2 Annotations.** 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 BMPs shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA’s as the work progresses. All DDA’s will have adequate BMPs in place before being disturbed.

**2.3 Disturbed Drainage Areas.** As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:

- A) 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.
- B) Sources.** 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.
- C) Clearing and Grubbing.** The following BMPs will be considered and used where appropriate.
  - 1) Leaving areas undisturbed when possible.
  - 2) Silt Basins to provide silt volume for large areas.
  - 3) Silt Traps Type A for small areas.
  - 4) Silt Traps Type C in front of existing and drop inlets which are to be saved.
  - 5) Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
  - 6) Brush and/or other barriers to slow and/or divert runoff.
  - 7) Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
  - 8) Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
  - 9) Non-standard or innovative methods.
- D) Cut and Fill and Placement of Drainage Structures.** The BMP Plan will be modified to show additional BMPs such as:
  - 1) Silt Traps Type B in ditches and/or drainways as they are completed.
  - 2) Silt Traps Type C in front of pipes after they are placed.
  - 3) Channel Lining
  - 4) Erosion Control Blanket

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- 5) Temporary Mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
  - 6) Non-standard or innovative methods.
- E) Profile and X-Section in Place.** The BMP Plan will be modified to show elimination of BMPs which had to be removed and the addition of new BMPs as the roadway was shaped. Probably changes include:
- 1) 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.
  - 2) Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
  - 3) Additional Channel Lining and/or Erosion Control Blanket.
  - 4) Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
  - 5) Special BMPs such as Karst Policy.
- F) Finish Work (Paving, Seeding, Protect, etc.).** A final BMP Plan will result from modifications during this phase of construction. Probable changes include:
- 1) Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMPs which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
  - 2) Permanent Seeding and Protection.
  - 3) Placing Sod.
  - 4) Planting trees and/or shrubs where they are included in the project.
- G) Post Construction.** BMPs including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMPs to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are: Riprap channel lining to be constructed to control erosion and pollutants after construction is complete.

### 3.0 OTHER CONTROL MEASURES.

- 1) Solid Materials. 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

## KYTC BMP Plan for Contract ID #####

- 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 are 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.

**2.4 Good Housekeeping.** The following good housekeeping practices will be followed onsite during the construction project.

- 1) An effort will be made to store only enough product required to do the job.
- 2) 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.
- 3) Products will be kept in their original containers with the original manufacturer's label.
- 4) Substances will not be mixed with one another unless recommended by the manufacturer.
- 5) Whenever possible, all of the product will be used up before disposing of the container.
- 6) Manufacturers' recommendations for proper use and disposal will be followed
- 7) The site contractor will inspect daily to ensure proper use and disposal of materials onsite.

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

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

**2.6 The following product-specific practices will be followed onsite:**

- A) 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.

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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.

- B) 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.
- C) 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.
- D) 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
- E) 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:
  - 1) 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.
  - 2) 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.
  - 3) All spills will be cleaned up immediately after discovery.
  - 4) The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
  - 5) Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
  - 6) The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
  - 7) Spills of products will be cleaned up promptly. Wastes from spill clean up will be disposed in accordance with appropriate regulations.

**4.0 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,

## KYTC BMP Plan for Contract ID #####

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.

**5.0 MAINTENANCE.** 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.

**6.0 INSPECTIONS.** Inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- 1) All erosion prevention and sediment control measures will be inspected by the contractor at least once each week and following any rain of one-half inch or more.
- 2) 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.
- 3) Inspection reports will be written, signed, dated, and kept on file.
- 4) Areas at final grade will be seeded and mulched within 14 days.
- 5) 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.
- 6) All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported and completed within 5 days.
- 7) Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- 8) Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- 9) 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.
- 10) 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.
- 11) 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.

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- 12) 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.

**7.0 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:

- 1) Water from water line flushings.
- 2) Water from cleaning concrete trucks and equipment.
- 3) Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- 4) 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.

**8.0 GROUNDWATER PROTECTION PLAN.**

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

Contractor's statement: (3)

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

\_\_\_\_\_ (e) Land treatment or land disposal of a pollutant;

\_\_\_\_\_ (f) Storing, treating, disposing, or related handling of hazardous waste, solid waste or special waste, or special waste in landfills, incinerators, surface impoundments, 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);

\_\_\_\_\_ (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;

\_\_\_\_\_ (j) Storing or related handling of road oils, dust suppressants, or deicing agents at a central location;

\_\_\_\_\_ (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);

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

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

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

The contractor is responsible for the preparation of a plan that addresses the 401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

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

KYTC BMP Plan for Contract ID #####

**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.

Contractor and Resident Engineer Certification:

(3)  
Signed \_\_\_\_\_ title \_\_\_\_\_ , \_\_\_\_\_  
*typed or printed name<sup>1</sup> signature*

(2)  
Signed \_\_\_\_\_ title \_\_\_\_\_ , \_\_\_\_\_  
*typed or printed name<sup>2</sup> 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 Contract ID number 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 Contract ID number and KPDES number when one has been issued.*

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**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:

Phone:

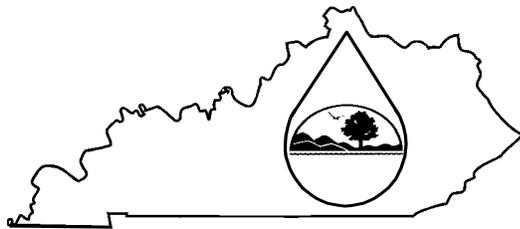
The part of BMP plan this subcontractor is responsible to implement is:

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* *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 Contract ID number 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**

<b>Name:</b>	KyTC District 5	<b>Phone:</b>	5022105400
<b>Address:</b>	8310 Westport Road	<b>Status of Owner/Operator:</b>	S
<b>City, State, Zip Code:</b>	Louisville, KY. 40242		

**II. Facility/Site Location Information**

<b>Name:</b>	KyTC PCN ##-####		
<b>Address:</b>	KY 22 (Brownsboro Road) Section2		
<b>City, State, Zip Code:</b>	Louisville, KY. 40241		
<b>County:</b>	Jefferson		
<b>Site Latitude: (degrees/minutes/seconds)</b>	38/18/45	<b>Site Longitude: (degrees/minutes/seconds)</b>	85/34/01

**III. Site Activity Information**

<b>MS4 Operator Name:</b>	Louisville and Jefferson County Metropolitan Sewer District		
<b>Receiving Water Body:</b>	Wolf Pen Branch		
<b>Are there existing quantitative data?</b>	Yes <input type="checkbox"/> If Yes, submit with this form. No <input checked="" type="checkbox"/>		
<b>SIC or Designated Activity Code Primary</b>	1611	2nd	3rd 4 <sup>th</sup>
<b>If this facility is a member of a Group Application, enter Group Application Number:</b>			
<b>If you have other existing KPDES Permits, enter Permit Numbers:</b>			

**IV. Additional Information Required FOR CONSTRUCTION ACTIVITIES ONLY**

<b>Project Start Date:</b>		<b>Completion Date:</b>	
<b>Estimated Area to be disturbed (in acres):</b>	20.9 acres		
<b>Is the Storm Water Pollution Prevention Plan in Compliance with State and/or Local Sediment and Erosion Plans?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

**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.

<b>Printed or Typed Name:</b>			
<b>Signature:</b>		<b>Date:</b>	

**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 authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

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

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

KYTC BMP Plan for Contract ID #####



**Kentucky Transportation Cabinet**

**Highway District 5**

**And**

\_\_\_\_\_ **(2), Construction**

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

**Groundwater protection plan**

**For Highway Construction Activities**

**For**

**KY 22 Widening From Silver Wing Blvd.  
To Murphy Lane (Sections 3 & 4)**

**Contract ID #####**

**Six Year Plan 5-320.30 & 5-320.40**

Revised  
1-28-08

KYTC BMP Plan for Contract ID #####

**Project Information**

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

1. Owner – Kentucky Transportation Cabinet, District 5
2. Resident Engineer: (2)
3. Contractor Name: (2)  
    Address: (2)  
    Phone number: (2)  
    Contact: (2)  
    Responsible Person: (3)
4. Contract ID Number: (2)
5. Route (Address): KY 22 (Ballardsville Road)
6. Latitude/Longitude (project mid-point) dd/mm/ss, dd/mm/ss: 38/19/02,85/33/00
7. County (project mid-point): Jefferson
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KYTC BMP Plan for Contract ID #####

## 1.0 SITE DESCRIPTION.

- 1) Nature of construction activity (from letting project description). Widen KY 22 to three lanes from Silver Wing Blvd. to Murphy Lane.
- 2) Order of major soil disturbing activities. (2) and (3)
- 3) Projected volume of material to be moved. 8,489 cubic yards
- 4) Estimate of total project area (acres). 13.7 acres
- 5) Estimate of area to be disturbed (acres). 11.4 acres
- 6) Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information.
- 7) Data describing existing soil condition. Soils consist of low and high plasticity clays having the Unified Soil Classifications of CL and CH with textural descriptions of lean to fat clay, reddish brown to brown in color and moist in natural moisture content.
- 8) Data describing existing discharge water quality (if any). None (2)
- 9) Receiving water name. Hite Creek
- 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)

## 2.0 SEDIMENT AND EROSION CONTROL MEASURES.

**2.1 Erosion Control Sheets.** 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.

KYTC BMP Plan for Contract ID #####

**2.2 Annotations.** 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 BMPs shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA’s as the work progresses. All DDA’s will have adequate BMPs in place before being disturbed.

**2.3 Disturbed Drainage Areas.** As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:

- A) 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.
- B) Sources.** 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.
- C) Clearing and Grubbing.** The following BMPs will be considered and used where appropriate.
  - 1) Leaving areas undisturbed when possible.
  - 2) Silt Basins to provide silt volume for large areas.
  - 3) Silt Traps Type A for small areas.
  - 4) Silt Traps Type C in front of existing and drop inlets which are to be saved.
  - 5) Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
  - 6) Brush and/or other barriers to slow and/or divert runoff.
  - 7) Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
  - 8) Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
  - 9) Non-standard or innovative methods.
- D) Cut and Fill and Placement of Drainage Structures.** The BMP Plan will be modified to show additional BMPs such as:
  - 1) Silt Traps Type B in ditches and/or drainways as they are completed.
  - 2) Silt Traps Type C in front of pipes after they are placed.
  - 3) Channel Lining
  - 4) Erosion Control Blanket

KYTC BMP Plan for Contract ID #####

- 5) Temporary Mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
  - 6) Non-standard or innovative methods.
- E) Profile and X-Section in Place.** The BMP Plan will be modified to show elimination of BMPs which had to be removed and the addition of new BMPs as the roadway was shaped. Probably changes include:
- 1) 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.
  - 2) Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
  - 3) Additional Channel Lining and/or Erosion Control Blanket.
  - 4) Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
  - 5) Special BMPs such as Karst Policy.
- F) Finish Work (Paving, Seeding, Protect, etc.).** A final BMP Plan will result from modifications during this phase of construction. Probable changes include:
- 1) Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMPs which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
  - 2) Permanent Seeding and Protection.
  - 3) Placing Sod.
  - 4) Planting trees and/or shrubs where they are included in the project.
- G) Post Construction.** BMPs including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMPs to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are: Riprap channel lining to be constructed to control erosion and pollutants after construction is complete.

### 3.0 OTHER CONTROL MEASURES.

- 1) Solid Materials. 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

KYTC BMP Plan for Contract ID #####

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 are 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.

**2.4 Good Housekeeping.** The following good housekeeping practices will be followed onsite during the construction project.

- 1) An effort will be made to store only enough product required to do the job.
- 2) 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.
- 3) Products will be kept in their original containers with the original manufacturer's label.
- 4) Substances will not be mixed with one another unless recommended by the manufacturer.
- 5) Whenever possible, all of the product will be used up before disposing of the container.
- 6) Manufacturers' recommendations for proper use and disposal will be followed
- 7) The site contractor will inspect daily to ensure proper use and disposal of materials onsite.

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

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

**2.6 The following product-specific practices will be followed onsite:**

- A) **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.

KYTC BMP Plan for Contract ID #####

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.

- B) 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.
- C) 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.
- D) 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
- E) 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:
  - 1) 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.
  - 2) 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.
  - 3) All spills will be cleaned up immediately after discovery.
  - 4) The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
  - 5) Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
  - 6) The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
  - 7) Spills of products will be cleaned up promptly. Wastes from spill clean up will be disposed in accordance with appropriate regulations.

**4.0 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,

## KYTC BMP Plan for Contract ID #####

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.

**5.0 MAINTENANCE.** 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.

**6.0 INSPECTIONS.** Inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- 1) All erosion prevention and sediment control measures will be inspected by the contractor at least once each week and following any rain of one-half inch or more.
- 2) 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.
- 3) Inspection reports will be written, signed, dated, and kept on file.
- 4) Areas at final grade will be seeded and mulched within 14 days.
- 5) 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.
- 6) All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported and completed within 5 days.
- 7) Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- 8) Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- 9) 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.
- 10) 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.
- 11) 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.

KYTC BMP Plan for Contract ID #####

- 12) 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.

**7.0 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:

- 1) Water from water line flushings.
- 2) Water from cleaning concrete trucks and equipment.
- 3) Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- 4) 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.

**8.0 GROUNDWATER PROTECTION PLAN.**

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

Contractor's statement: (3)

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

\_\_\_\_\_ (e) Land treatment or land disposal of a pollutant;

\_\_\_\_\_ (f) Storing, treating, disposing, or related handling of hazardous waste, solid waste or special waste, or special waste in landfills, incinerators, surface impoundments, 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);

\_\_\_\_\_ (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;

\_\_\_\_\_ (j) Storing or related handling of road oils, dust suppressants, or deicing agents at a central location;

\_\_\_\_\_ (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);

KYTC BMP Plan for Contract ID #####

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

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

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

The contractor is responsible for the preparation of a plan that addresses the 401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

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

KYTC BMP Plan for Contract ID #####

**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.

Contractor and Resident Engineer Certification:

(3)  
Signed \_\_\_\_\_ title \_\_\_\_\_ , \_\_\_\_\_  
*typed or printed name<sup>1</sup> signature*

(2)  
Signed \_\_\_\_\_ title \_\_\_\_\_ , \_\_\_\_\_  
*typed or printed name<sup>2</sup> 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 Contract ID number 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 Contract ID number and KPDES number when one has been issued.*

KYTC BMP Plan for Contract ID #####

**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:

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* *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 Contract ID number and KPDES number when one has been issued.*

**EXHIBIT #2**

**Item # 05-320.30 & 05-320.40  
Widen KY 22 (Ballardsville Road) Sections 3 & 4**

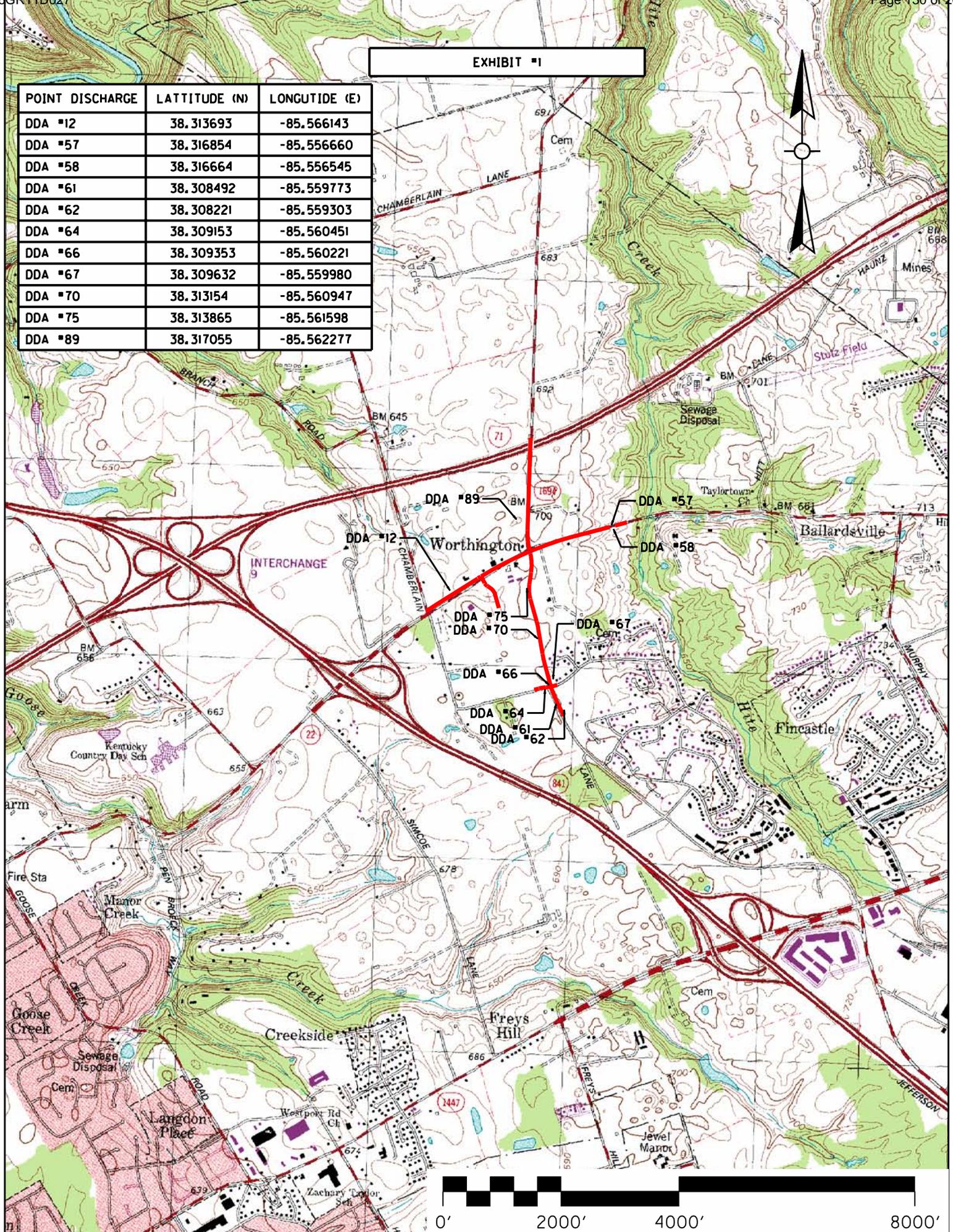
KPDES NOI for Stormwater Discharges Associated with Construction  
Activity Under the KPDES General Permit

Transaction ID:

0304336d-8d4a-4974-957e-81ae87ba51c0

EXHIBIT #1

POINT DISCHARGE	LATITUDE (N)	LONGITUDE (E)
DDA #12	38.313693	-85.566143
DDA #57	38.316854	-85.556660
DDA #58	38.316664	-85.556545
DDA #61	38.308492	-85.559773
DDA #62	38.308221	-85.559303
DDA #64	38.309153	-85.560451
DDA #66	38.309353	-85.560221
DDA #67	38.309632	-85.559980
DDA #70	38.313154	-85.560947
DDA #75	38.313865	-85.561598
DDA #89	38.317055	-85.562277



**KENTUCKY TRANSPORTATION CABINET  
COMMUNICATING ALL PROMISES (CAP)  
ACTIVE**

28 JUN 2011

<b>Item No.</b>	5 - 320.2			<b>Project Mgr.</b>	PAUL DAVIS
			<b>County</b>	JEFFERSON	<b>Route</b> KY-22
<b>CAP #</b>	<b>Date of Promise</b>	<b>Promise made to:</b>	<b>Location of Promise</b>		
1	17-DEC-10	Property Owner	Parcel No. 20		
<b>CAP Description</b>					
THE CONTRACTOR FOR THE PROJECT WILL RECONSTRUCT THE CHURCH ENTRANCE THROUGH THE ACCESS EASEMENT GRANTED BY THE BROWNSBORO GLEN HOMEOWNERS ASSOCIATION, TO BROWNSBORO GLEN ROAD. ALL DISTURBED AREAS WILL BE RE-GRADED AND RE-SEEDED. TREES THAT ARE LOCATED OUTSIDE THE DISTURBED LIMITS WILL REMAIN AND WILL BE DESIGNATED AS (DNR) DO NOT REMOVE.					
2	17-DEC-10	Property Owner	Parcel No. 22		
<b>CAP Description</b>					
1. OWNERS SHALL HAVE INGRESS AND EGRESS TO THEIR PARCEL DURING ALL CONSTRUCTION PERIODS. 2. DISRUPTION SHOULD BE KEPT AS LITTLE AS POSSIBLE.					
3	17-DEC-10	Property Owner	Parcel No. 23		
<b>CAP Description</b>					
1. RECONSTRUCTION OF THE SIGNATURE ENTRANCE, INCLUDING THE ELECTRICAL AND IRRIGATION OF THE SIGNATURE ENTRANCE AREA. 2. FENCING AND SIDEWALK ALONG THE ENTRANCE AREA. 3. "NO PARKING" SIGNS WILL BE INSTALLED ALONG BOTH SIDES OF BROWNSBORO GLEN ROAD UP TO THE THE INTERSECTION OF HEAD FARM ROAD, AS AGREED AND SHALL BE COMPLETED BY LOUISVILLE METRO GOVERNMENT'S CONTRACTOR FOR THE PROJECT. 4. CONTRACTOR WILL BE FULLY INSURED AND BONDED FOR THIS PROJECT. 5. ALL DISTURBED AREAS WILL BE RESTORES AS REASONABLY CLOSE TO PRECONSTRUCTION CONDITION UPON COMPLETION, WITH THE EXCEPTION OF THE SIGNATURE ENTRANCE LANDSCAPING.					
4	17-DEC-10	Property Owner	Parcel No. 31		
<b>CAP Description</b>					
1. THE LG&E SIGN LOCATED AT THE BALLARDSVILLE ROAD ENTRANCE SHALL REMAIN AND WILL BE DESIGNATED DNR ON THE PLANS. THE TRANSMISSION POLE LOCATED WITHIN THE TEMPORARY EASEMENT WILL NOT BE IMPACTED AND WILL REMAIN.					
5	17-DEC-10	Property Owner	Parcel No. 32		
<b>CAP Description</b>					
1. NO AREA ALONG THE FRONTAGE OF SHADOW RIDGE APARTMENTS SHALL BE USED FOR PARKING VEHICLES, EQUIPMENT, MACHINERY OR STAGING OR STORAGE OF SUPPLIES, EXCEPT DURING BUSINESS HOURS WHEN WORK IS ON PROCESS. 2. ALL DISTURBED AREAS SHALL BE REGARDED AND RESEEDED AND RESTORED TO AS NEAR PRECONSTRUCTION CONDITION AS POSSIBLE, UPON COMPLETION OF THE PROJECT. 3. THE PROJECT CONTRACTOR SHALL BE FULLY LICENSED, BONDED AND INSURED AND SHALL BE RESPONSIBLE FOR INCIDENTAL DAMAGES TO ANY PERSON OF ENTITY AS A RESULT OF THEIR WORK BEING PERFORMED FOR THE ROAD IMPROVEMENT PROJECT. 4. PROPERTY OWNER SHALL BE NOTIFIED 14 DAYS PRIOR TO THE COMMENCEMENT OF THE WORK IN THE DESCRIBED AREA AND PARCEL, SO THAT CONSTRUCTION NOTIFICATION CAN BE GIVEN TO RENTAL TENANTS.					
6	17-DEC-10	Property Owner	Parcel No. 41		
<b>CAP Description</b>					
1. THE PROPOSED RETAINING WALL ACROSS THE FRONTAGE SHALL BE CONSTRUCTED IN A DECORATIVE MANNER UTILIZING A DECORATIVE STAMP TO MATCH THE SIGNATURE ENTRANCE MONUMENT, AS CLOSE AS POSSIBLE. 2. THIRTY DAY NOTICE WILL BE PROVIDED PRIOR TO CONSTRUCTION EFFECTING THE ENTRANCE AREA TO ALLOW TIMELY REMOVAL OF THE EXIT/ENTRANCE GATE SYSTEM BY THE HOMEOWNERS ASSOCIATION. AT SUCH TIME, AT THE REQUEST OF THE HOMEOWNERS ASSOCIATION THE KY 1694 ENTRANCE WILL BE CLOSED. ROAD CLOSED BARRICADE AND CONSTRUCTION BARRELS WILL BE PLACED AT THE KY 1694 ENTRANCE AREA. 3. THE SIGNATURE ENTRANCE, LANDSCAPING, ELECTRICAL AND IRRIGATION SYSTEM SHALL BE RELOCATED BY THE PROJECT CONTRACTOR. 4. ALL DISTURBED AREAS WILL BE RE-GRADED AND RE-SEEDED UPON THE FINAL RESTORATION OF THE TEMPORARY AND PERMANENT EASEMENT AREAS.					

KENTUCKY TRANSPORTATION CABINET  
COMMUNICATING ALL PROMISES (CAP)  
ACTIVE

28 JUN 2011

<b>Item No.</b>	5	320.2			<b>Project Mgr.</b> PAUL DAVIS
7	17-DEC-10	Property Owner		Parcel No. 43	
<b>CAP Description</b>					
1. ALL DISTURBED AREA WILL BE RE-GRADED AND RE-SEEDED UPON COMPLETION OF THE PROJECT, WITH RIGHT OF WAY CLEARLY STAKED FOR THE RECONSTRUCTION OF THE SIGNATURE ENTRANCE AND FENCING.					
2. INGRESS AND EGRESS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.					

**KENTUCKY TRANSPORTATION CABINET**  
**COMMUNICATING ALL PROMISES (CAP)**

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**JEFFERSON COUNTY**

**5-320.30 & 5-320.40**

**(NO CAPS INVOLVED IN PROJECT)**

June 28, 2011

MATERIAL SUMMARY

CONTRACT ID: 111327

FD04 056 0022 004-005

PES NO: DE05600221108

BROWNSBORO ROAD (KY 22) SECTION 2 IMPLEMENT TRAFFIC FLOW IMPROVEMENT FROM  
CHAMBERLAIN LANE TO INTERSECTION OF HICKORY FOREST AND SILVER WING BOULEVARD , A  
DISTANCE OF 0.640000 MILES.

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
0140	01000	PERFORATED PIPE-4 IN	8,334.00	LF
0260	01810	STANDARD CURB AND GUTTER	12,337.00	LF
0270	01875	STANDARD HEADER CURB	814.00	LF
0290	01923	STANDARD BARRIER MEDIAN TYPE 5	1,051.00	SQYD
0300	01949	MOUNTABLE MEDIAN TYPE 6A	102.00	SQYD
1001	01982	DELINEATOR FOR GUARDRAIL-WHITE	4.00	EACH
0310	02014	BARRICADE-TYPE III	12.00	EACH
0330	02157	PAVED DITCH TYPE 1	275.00	SQYD
0340	02200	ROADWAY EXCAVATION	37,407.00	CUYD
0350	02351	GUARDRAIL-STEEL W BEAM-S FACE	375.00	LF
1002	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0360	02378	GUARDRAIL CONNECTOR TO BRIDGE END TY D	2.00	EACH
0370	02381	REMOVE GUARDRAIL	250.00	LF
0380	02391	GUARDRAIL END TREATMENT TYPE 4A	1.00	EACH
0390	02429	RIGHT-OF-WAY MONUMENT TYPE 1	36.00	EACH
0400	02432	WITNESS POST	22.00	EACH
0410	02478	CAP INLET	1.00	SQYD
0420	02545	CLEARING AND GRUBBING (BROWNSBORO ROAD 20.6 ACRE)	1.00	LS
0430	02555	CONCRETE-CLASS B	132.00	CUYD
0440	02562	SIGNS	635.00	SQFT
0450	02585	EDGE KEY	345.90	LF
0460	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	8,396.00	SQYD
0470	02612	HANDRAIL-TYPE A-2	175.00	LF
0480	02650	MAINTAIN & CONTROL TRAFFIC (BROWNSBORO ROAD)	1.00	LS
0500	02651	DIVERSIONS (BY-PASS DETOURS) (BROWNSBORO ROAD PHASE 1A)	1.00	LS
0490	02651	DIVERSIONS (BY-PASS DETOURS) (BROWNSBORO ROAD PHASE 1)	1.00	LS
0510	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0540	02678	SCARIFYING PAVEMENT	427.00	SQYD
0550	02690	SAFELOADING	36.00	CUYD
0560	02701	TEMP SILT FENCE	8,303.00	LF
0570	02703	SILT TRAP TYPE A	55.00	EACH
0580	02704	SILT TRAP TYPE B	55.00	EACH
0590	02705	SILT TRAP TYPE C	66.00	EACH
0600	02706	CLEAN SILT TRAP TYPE A	165.00	EACH
0610	02707	CLEAN SILT TRAP TYPE B	165.00	EACH
0620	02708	CLEAN SILT TRAP TYPE C	198.00	EACH
0630	02709	CLEAN TEMP SILT FENCE	16,606.00	LF
0640	02720	SIDEWALK-4 IN CONCRETE	4,933.00	SQYD
0650	02726	STAKING (BROWNSBORO ROAD)	1.00	LS
0660	02775	ARROW PANEL	1.00	EACH
0700	05952	TEMP MULCH	96,135.00	SQYD
0710	05953	TEMP SEEDING AND PROTECTION	96,135.00	SQYD
0720	05966	TOPDRESSING FERTILIZER	1.30	TON
0730	05985	SEEDING AND PROTECTION	26,973.00	SQYD
0740	05990	SODDING	4,114.00	SQYD
0750	06510	PAVE STRIPING-TEMP PAINT-4 IN	52,000.00	LF

MATERIAL SUMMARY

CONTRACT ID: 111327

0760	06513	PAVE STRIPING-TEMP PAINT-12 IN	96.00	LF
0770	06514	PAVE STRIPING-PERM PAINT-4 IN	46,422.00	LF
0780	06516	PAVE STRIPING-PERM PAINT-8 IN	1,240.00	LF
0790	06542	PAVE STRIPING-THERMO-6 IN W	361.00	LF
0800	06543	PAVE STRIPING-THERMO-6 IN Y	154.00	LF
0810	06546	PAVE STRIPING-THERMO-12 IN W	126.00	LF
0820	06547	PAVE STRIPING-THERMO-12 IN Y	27.00	LF
0830	06550	PAVE STRIPING-TEMP REM TAPE-W	1,050.00	LF
0840	06551	PAVE STRIPING-TEMP REM TAPE-Y	850.00	LF
0850	06565	PAVE MARKING-THERMO X-WALK-6 IN	898.00	LF
0860	06568	PAVE MARKING-THERMO STOP BAR-24IN	279.00	LF
0870	06574	PAVE MARKING-THERMO CURV ARROW	38.00	EACH
0880	06576	PAVE MARKING-THERMO ONLY	8.00	EACH
0890	06589	PAVEMENT MARKER TYPE V-MW	212.00	EACH
0900	06591	PAVEMENT MARKER TYPE V-BY	20.00	EACH
0910	08001	STRUCTURE EXCAVATION-COMMON	91.00	CUYD
0940	10020NS	FUEL ADJUSTMENT	47,952.00	DOLL
0950	10030NS	ASPHALT ADJUSTMENT	61,423.00	DOLL
0970	20914ED	ROLLED CURB AND GUTTER	277.00	LF
1003	21119ED	CONCRETE FORM LINER	165.00	SQYD
0980	21289ED	LONGITUDINAL EDGE KEY	1,897.00	LF
0990	22000ED	WOOD PLANK FENCE	138.00	LF
1010	23131ER701	PIPELINE VIDEO INSPECTION	3,412.00	LF
1020	23158ES505	DETECTABLE WARNINGS	490.00	SQFT
1030	23933EC	CREEKSTONE HEADWALL	1.00	EACH
1040	23934EC	DOUBLE FRAME & GRATE CURB BOX INLET	2.00	EACH
1050	04793	CONDUIT-1 1/4 IN	155.00	LF
1060	04795	CONDUIT-2 IN	105.00	LF
1070	04811	JUNCTION BOX TYPE B	4.00	EACH
1080	04820	TRENCHING AND BACKFILLING	175.00	LF
1090	04830	LOOP WIRE	3,720.00	LF
1100	04844	CABLE-NO. 14/5C	3,330.00	LF
1110	04845	CABLE-NO. 14/7C	300.00	LF
1120	04850	CABLE-NO. 14/1 PAIR	2,945.00	LF
1130	04886	MESSENGER-15400 LB	625.00	LF
1140	04895	LOOP SAW SLOT AND FILL	1,250.00	LF
1150	04931	INSTALL CONTROLLER TYPE 170	1.00	EACH
1160	04932	INSTALL STEEL STRAIN POLE	4.00	EACH
1170	04936	MAINTAIN SIGNAL OPERATION (BROWNSBORO ROAD)	1.00	LS
1180	06472	INSTALL SPAN MOUNTED SIGN	6.00	EACH
1190	20188NS835	INSTALL LED SIGNAL-3 SECTION	11.00	EACH
1200	20189NS835	INSTALL LED SIGNAL-5 SECTION	2.00	EACH
1210	20266ES835	INSTALL LED SIGNAL- 4 SECTION	2.00	EACH
1220	20390NS835	INSTALL COORDINATING UNIT	1.00	EACH
1230	21743NN	INSTALL PEDESTRIAN DETECTOR	8.00	EACH
1240	23064NN	INSTALL SIGNAL-PEDESTRIAN COUNTDOWN	8.00	EACH
1250	23157EN	TRAFFIC SIGNAL POLE BASE	21.80	CUYD
1260	23222EC	INSTALL SIGNAL PEDESTAL	1.00	EACH
1370	03432	REMOVE AND RELOCATE METER	13.00	EACH
1380	03434	REMOVE FIRE HYDRANT	4.00	EACH
1590	20150EC	TRANSFER SERVICE INSTALL	1.00	EACH
1600	20329EC	INSTALL FIRE HYDRANT	5.00	EACH
1610	20349NC	RELOCATE FIRE SERVICE LINE	3.00	EACH
1730	20831ND	REMOVE VALVE BOX	14.00	EACH
1810	21112ND	DISCONTINUE SERVICE	4.00	EACH
1830	21269ND	REMOVE-RELOCATE AND RECONNECT SERVICE	9.00	EACH
1860	21415ND	EROSION CONTROL (BROWNSBORO ROAD INSTALL)	1.00	LS
1870	21455ND	ABANDON VALVE INSTALL	10.00	EACH
1890	22951NN	INSTALL FOSTER ADAPTERS - 12 IN	2.00	EACH
1320	22954ED	DUCTILE IRON PIPE-12 IN-INSTALL	1,220.00	LF
1530	22955ND	SOLID SLEEVE-12 IN-INSTALL	1.00	EACH
1440	22956ND	GATE VALVE-12 IN-INSTALL	5.00	EACH
1490	22957ND	BEND 45 DEG-12 IN-INSTALL	4.00	EACH
1700	22958ND	GRIPPER GLAND-12 IN-INSTALL	28.00	EACH
1280	22959ED	STEEL ENCASMENT PIPE-24 IN-INSTALL	230.00	LF
1880	22960ED	BORE & JACK ENCASMENT PIPE-INSTALL	425.00	LF
1550	22961ND	CASING SPACERS-INSTALL	105.00	EACH
1560	22962ND	CASING END SEALS-INSTALL	8.00	EACH
1570	22963ED	POLYWRAP-INSTALL	11,300.00	LF
1580	22964ND	POLYTAPE-INSTALL	100.00	EACH

1750	22966ND	ROUNDTOP AND LID #2-INSTALL	29.00	EACH
1500	23368EC	BEND 45 DEG-16 IN-INSTALL	24.00	EACH
1510	23369EC	BEND 45 DEG-8 IN-INSTALL	2.00	EACH
1640	23370EC	CUT AND PLUG-16 IN-INSTALL	4.00	EACH
1850	23371EC	CUT AND PLUG-8 IN-INSTALL	5.00	EACH
1520	23372EC	SOLID SLEEVE-8 IN-INSTALL	7.00	EACH
1540	23373EC	SOLID SLEEVE-16 IN-INSTALL	4.00	EACH
1310	23374EC	DUCTILE IRON PIPE-8 IN-INSTALL	620.00	LF
1330	23375EC	DUCTILE IRON PIPE-16 IN-INSTALL	2,284.00	LF
1300	23515EC	DUCTILE IRON PIPE-6 IN-INSTALL	40.00	LF
1450	23516EC	GATE VALVE-16 IN-INSTALL	8.00	EACH
1420	23517EC	GATE VALVE-6 IN-INSTALL	6.00	EACH
2030	23519EC	TEE-16 X 12 IN-INSTALL	2.00	EACH
1790	23520EC	TEE-12 X 6 IN-INSTALL	1.00	EACH
1960	23524EC	STEEL ENCASEMENT PIPE-30 IN-INSTALL	85.00	LF
1961	23676EC	STEEL ENCASEMENT PIPE-16 IN-INSTALL	110.00	LF
1480	23681EC	BEND 22.5 DEG 12 IN-INSTALL	1.00	EACH
1800	23682EC	ANCHOR TEE-8 X 6 IN-INSTALL (FIRE HYDRANT)	1.00	EACH
1680	23683EC	ANCHOR TEE-12 X 6 IN-INSTALL (FIRE HYDRANT)	1.00	EACH
1940	23684EC	ANCHOR TEE-16 X 6 IN-INSTALL (FIRE HYDRANT)	3.00	EACH
1780	23685EC	TEE 12 X 8 IN-INSTALL	3.00	EACH
1720	23689EC	GRIPPER GLAND-6 IN-INSTALL	14.00	EACH
1710	23690EC	GRIPPER GLAND-8 IN-INSTALL	47.00	EACH
1950	23691EC	INSTALL FOSTER ADAPTERS-8 IN	3.00	EACH
1390	23693EC	TIE IN-8 IN-INSTALL	5.00	EACH
1400	23694EC	TIE IN-12 IN-INSTALL	1.00	EACH
1430	23695EC	GATE VALVE-8 IN-INSTALL	8.00	EACH
1970	24043EC	REMOVE EXIST BEND 90 DEG-8 IN	1.00	EACH
1980	24044EC	REMOVE EXIST TEE-8 IN X 8 IN	1.00	EACH
1470	24152EC	BEND 11.25 DEG-16 IN-INSTALL	1.00	EACH
1920	24154EC	TEE-16 X 8 IN-INSTALL	2.00	EACH
1930	24155EC	TEE-16 X 16 IN-INSTALL	1.00	EACH
1690	24157EC	FIELD LOK GASKETS-12 IN-INSTALL	16.00	EACH
2000	24158EC	GRIPPER GLAND-16 IN-INSTALL	64.00	EACH
1900	24161EC	PLUG-12 IN-INSTALL	1.00	EACH
1650	24163EC	CUT AND PLUG-12 IN-INSTALL	1.00	EACH
1820	24164EC	TIE IN-16 IN-INSTALL	4.00	EACH
1660	24165EC	HYDROSTATIC TEST-8 IN MAIN-INSTALL	2.00	EACH
1670	24166EC	HYDROSTATIC TEST-12 IN MAIN-INSTALL	1.00	EACH
2010	24167EC	HYDROSTATIC TEST-16 IN MAIN-INSTALL	2.00	EACH
1340	24168EC	COPPER PIPE-3/4 IN-INSTALL	50.00	LF
1350	24169EC	COPPER PIPE-1 IN-INSTALL	50.00	LF
1290	24208EC	DUCTILE IRON PIPE-4 IN-INSTALL	40.00	LF
1410	24209EC	GATE VALVE-4 IN-INSTALL	2.00	EACH
1770	24210EC	AIR RELEASE VALVE-1 IN-INSTALL	1.00	EACH
1840	24211EC	TEMP BLOW OFF-4 IN-INSTALL	9.00	EACH
2040	24212EC	TEE 16X4 IN-INSTALL	1.00	EACH
1910	24213EC	TEE 8X8 IN-INSTALL	2.00	EACH
1941	24214EC	TEE 8X6 IN-INSTALL	1.00	EACH
1760	24215EC	FIELD LOK GASKET-8 IN-INSTALL	8.00	EACH
2020	24216EC	FIELD LOK GASKET-16 IN-INSTALL	6.00	EACH
1990	24217EC	GRIPPER GLAND-4 IN-INSTALL	6.00	EACH
1620	24219EC	PLUG-8 IN W/ 2 IN BLOW OFF-INSTALL	1.00	EACH
1360	24220EC	COPPER PIPE-2 IN-INSTALL	460.00	LF
1460	24221EC	BEND 11.25 DEG-8 IN-INSTALL	1.00	EACH
2050	24222EC	TEE-8 X 4 IN-INSTALL	1.00	EACH
2060	02556	CONCRETE CAP	13.70	CUYD
2070	03466	TIE-IN 6 IN	2.00	EACH
2080	03495	AIR RELEASE VALVE	1.00	EACH
2090	20084NN	CUT & CAP	2.00	EACH
2100	20554NC	BEND AND BLOCK-6 IN	4.00	EACH
2110	22984EN	PVC FORCE MAIN-6 IN	2,610.00	LF
2120	23561EC	EXCAVATION TRENCH-ROCK	100.00	LF
2130	02568	MOBILIZATION	1.00	LS
2140	02569	DEMobilIZATION	1.00	LS
0010	00001	DGA BASE	24,485.00	TON
0960	00005	GEOGRID REINFORCEMENT FOR SUBGRADE	62,200.00	SQYD
0020	00018	DRAINAGE BLANKET-TYPE II-ASPH	9,732.00	TON
0030	00020	TRAFFIC BOUND BASE	550.00	TON
0040	00190	LEVELING & WEDGING PG64-22	179.00	TON
0050	00214	CL3 ASPH BASE 1.00D PG64-22	20,944.00	TON
0320	02101	CEM CONC ENT PAVEMENT-8 IN	386.00	SQYD
0520	02676	MOBILIZATION FOR MILL & TEXT (BROWNSBORO ROAD)	1.00	LS
0530	02677	ASPHALT PAVE MILLING & TEXTURING	42.00	TON
1000	22906ES403	CL3 ASPH SURF 0.38A PG64-22	4,552.00	TON
0060	00521	STORM SEWER PIPE-15 IN	2,014.00	LF
0070	00522	STORM SEWER PIPE-18 IN	2,215.00	LF

0090	00524	STORM SEWER PIPE-24 IN	2,275.00	LF
0100	00525	STORM SEWER PIPE-27 IN	5.00	LF
0110	00528	STORM SEWER PIPE-36 IN	23.00	LF
0120	00530	STORM SEWER PIPE-48 IN	176.00	LF
0130	00551	STORM SEWER PIPE-15 IN EQUIV	25.00	LF
0150	01372	METAL END SECTION TY 1-21 IN	1.00	EACH
0160	01432	SLOPED BOX OUTLET TYPE 1-15 IN	2.00	EACH
0170	01433	SLOPED BOX OUTLET TYPE 1-18 IN	1.00	EACH
0180	01441	SLOPED BOX INLET-OUTLET TYPE 2	1.00	EACH
0190	01450	S & F BOX INLET-OUTLET-18 IN	2.00	EACH
0200	01456	CURB BOX INLET TYPE A	48.00	EACH
0210	01487	CURB BOX INLET TYPE F	2.00	EACH
0220	01490	DROP BOX INLET TYPE 1	3.00	EACH
0230	01496	DROP BOX INLET TYPE 3	1.00	EACH
0240	01538	DROP BOX INLET TYPE 7	1.00	EACH
0250	01568	DROP BOX INLET TYPE 13S	1.00	EACH
0670	03387	PVC PIPE-8 IN	20.00	LF
0680	03391	PVC PIPE-12 IN	30.00	LF
0690	04811	JUNCTION BOX TYPE B	2.00	EACH
0920	08100	CONCRETE-CLASS A	4.02	CUYD
0930	08150	STEEL REINFORCEMENT	255.00	LB

FD39 056 0022 004-006 PES NO: DE05600221127  
 BALLARDSVILLE ROAD (KY 22) SECTION 3 & 4 WIDEN AND RECONSTRUCT FROM SILVER WING  
 BOULEVARD TO MURPHY LANE , A DISTANCE OF 0.920000 MILES.

LINE NO	BID CODE	DESCRIPTION	QUANTITY	UNIT
1001	00071	CRUSHED AGGREGATE SIZE NO 57	12.00	TON
1002	01880	BARRIER HEADER CURB	147.00	LF
1003	01982	DELINEATOR FOR GUARDRAIL-WHITE	8.00	EACH
1004	02200	ROADWAY EXCAVATION	8,118.00	CUYD
1005	02351	GUARDRAIL-STEEL W BEAM-S FACE	737.50	LF
1006	02364	GUARDRAIL TERMINAL SECTION NO 2	2.00	EACH
1007	02381	REMOVE GUARDRAIL	675.00	LF
1008	02391	GUARDRAIL END TREATMENT TYPE 4A	4.00	EACH
1009	02399	EXTRA LENGTH GUARDRAIL POST	56.00	EACH
1010	02429	RIGHT-OF-WAY MONUMENT TYPE 1	38.00	EACH
1011	02432	WITNESS POST	12.00	EACH
1012	02484	CHANNEL LINING CLASS III	22.20	TON
1013	02545	CLEARING AND GRUBBING (BALLARDSVILLE ROAD 11.5 ACRES)	1.00	LS
1014	02555	CONCRETE-CLASS B	73.00	CUYD
1015	02562	SIGNS	320.00	SQFT
1016	02597	FABRIC-GEOTEXTILE TYPE II	140.00	SQYD
1017	02612	HANDRAIL-TYPE A-2	110.00	LF
1018	02625	REMOVE HEADWALL	1.00	EACH
1019	02650	MAINTAIN & CONTROL TRAFFIC (BALLARDSVILL ROAD)	1.00	LS
1020	02651	DIVERSIONS (BY-PASS DETOURS) (BALLARDSVILLE ROAD)	1.00	LS
1021	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
1022	02701	TEMP SILT FENCE	5,330.00	LF
1023	02703	SILT TRAP TYPE A	12.00	EACH
1024	02704	SILT TRAP TYPE B	12.00	EACH
1025	02705	SILT TRAP TYPE C	12.00	EACH
1026	02706	CLEAN SILT TRAP TYPE A	36.00	EACH
1027	02707	CLEAN SILT TRAP TYPE B	36.00	EACH
1028	02708	CLEAN SILT TRAP TYPE C	36.00	EACH
1029	02709	CLEAN TEMP SILT FENCE	10,660.00	LF
1030	02720	SIDEWALK-4 IN CONCRETE	12.00	SQYD
1031	02726	STAKING (BALLARDSVILLE ROAD)	1.00	LS
1032	05950	EROSION CONTROL BLANKET	645.00	SQYD
1036	05952	TEMP MULCH	43,400.00	SQYD
1033	05953	TEMP SEEDING AND PROTECTION	43,400.00	SQYD
1037	05966	TOPDRESSING FERTILIZER	0.80	TON
1034	05985	SEEDING AND PROTECTION	14,508.00	SQYD
1035	05989	SPECIAL SEEDING CROWN VETCH	3,010.00	SQYD
1039	06510	PAVE STRIPING-TEMP PAINT-4 IN	66,400.00	LF
1038	06514	PAVE STRIPING-PERM PAINT-4 IN	30,084.00	LF
1040	06568	PAVE MARKING-THERMO STOP BAR-24IN	36.00	LF
1041	06574	PAVE MARKING-THERMO CURV ARROW	13.00	EACH
1042	06589	PAVEMENT MARKER TYPE V-MW	18.00	EACH
1043	06591	PAVEMENT MARKER TYPE V-BY	231.00	EACH
1044	08001	STRUCTURE EXCAVATION-COMMON	150.00	CUYD
1049	10020NS	FUEL ADJUSTMENT	16,780.00	DOLL
1050	10030NS	ASPHALT ADJUSTMENT	29,569.00	DOLL
1045	20914ED	ROLLED CURB AND GUTTER	142.00	LF
1046	21119ED	CONCRETE FORM LINER	92.00	SQYD
1051	22664EN	WATER BLASTING EXISTING STRIPE	3,600.00	LF

1047	23158ES05	DETECTABLE WARNINGS	8.00	SQFT
1052	23274EN11F	TURF REINFORCEMENT MAT 1	2,339.00	SQYD
2001	00003	CRUSHED STONE BASE	4,994.00	TON
2002	00190	LEVELING & WEDGING PG64-22	130.00	TON
2003	00214	CL3 ASPH BASE 1.00D PG64-22	10,484.00	TON
2005	02101	CEM CONC ENT PAVEMENT-8 IN	83.00	SQYD
2006	02676	MOBILIZATION FOR MILL & TEXT (BALLARDSVILLE ROAD)	1.00	LS
2007	02677	ASPHALT PAVE MILLING & TEXTURING	3,065.00	TON
2004	22906ES403	CL3 ASPH SURF 0.38A PG64-22	1,790.00	TON
3001	00440	ENTRANCE PIPE-15 IN	158.00	LF
3002	00464	CULVERT PIPE-24 IN	18.00	LF
3003	00521	STORM SEWER PIPE-15 IN	45.00	LF
3004	00522	STORM SEWER PIPE-18 IN	74.00	LF
3005	00556	STORM SEWER PIPE-30 IN EQUIV	34.00	LF
3006	00558	STORM SEWER PIPE-36 IN EQUIV	68.00	LF
3007	01393	METAL END SECTION TY 3-24 IN	2.00	EACH
3008	01490	DROP BOX INLET TYPE 1	1.00	EACH
3009	01538	DROP BOX INLET TYPE 7	1.00	EACH
3011	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	364.00	SQYD
3012	08100	CONCRETE-CLASS A	3.51	CUYD
3013	08150	STEEL REINFORCEMENT	294.00	LB
3010	23562EC	DROP BOX INLET TYPE 12A MODIFIED	66.00	LF
4001	02569	DEMOBILIZATION	1.00	LS
5060	03432	REMOVE AND RELOCATE METER	6.00	EACH
5022	03434	REMOVE FIRE HYDRANT	3.00	EACH
5021	20329EC	INSTALL FIRE HYDRANT	3.00	EACH
5020	20831ND	REMOVE VALVE BOX	3.00	EACH
5057	21109ND	RELOCATE SERVICE	6.00	EACH
5058	21110ND	RENEW SERVICE	6.00	EACH
5054	21415ND	EROSION CONTROL (BALLARDSVILLE ROAD)	1.00	LS
5019	21455ND	ABANDON VALVE	3.00	EACH
5002	22954ED	DUCTILE IRON PIPE-12 IN-INSTALL	540.00	LF
5015	22956ND	GATE VALVE-12 IN-INSTALL	1.00	EACH
5027	22957ND	BEND 45 DEG-12 IN-INSTALL	2.00	EACH
5038	22958ND	GRIPPER GLAND-12 IN-INSTALL	16.00	EACH
5007	22959ED	STEEL ENCASMENT PIPE-24 IN-INSTALL	70.00	LF
5008	22960ED	BORE & JACK ENCASMENT PIPE-INSTALL	70.00	LF
5009	22961ND	CASING SPACERS-INSTALL	100.00	EACH
5010	22962ND	CASING END SEALS-INSTALL	2.00	EACH
5005	22963ED	POLYWRAP-INSTALL	8,000.00	LF
5006	22964ND	POLYTAPPE-INSTALL	100.00	EACH
5018	22965ND	KEYTUBE-7 IN-INSTALL	11.00	EACH
5017	22966ND	ROUNDTOP AND LID #2-INSTALL	11.00	EACH
5028	23368EC	BEND 45 DEG-16 IN-INSTALL	14.00	EACH
5026	23369EC	BEND 45 DEG-8 IN-INSTALL	2.00	EACH
5047	23370EC	CUT AND PLUG-16 IN-INSTALL	3.00	EACH
5045	23371EC	CUT AND PLUG-8 IN-INSTALL	1.00	EACH
5011	23372EC	SOLID SLEEVE-8 IN-INSTALL	1.00	EACH
5012	23373EC	SOLID SLEEVE-16 IN-INSTALL	2.00	EACH
5001	23374EC	DUCTILE IRON PIPE-8 IN-INSTALL	30.00	LF
5003	23375EC	DUCTILE IRON PIPE-16 IN-INSTALL	2,505.00	LF
5016	23516EC	GATE VALVE-16 IN-INSTALL	5.00	EACH
5013	23517EC	GATE VALVE-6 IN-INSTALL	3.00	EACH
5032	23519EC	TEE-16 X 12 IN-INSTALL	1.00	EACH
5004	23672EC	ADD FOR RESTRAINED JOINT-12 IN-INSTALL	8.00	EACH
5023	23680EC	BEND 11.25 DEG 12 IN-INSTALL	2.00	EACH
5029	23683EC	ANCHOR TEE-12 X 6 IN-INSTALL	1.00	EACH
5030	23684EC	ANCHOR TEE-16 X 6 IN-INSTALL	2.00	EACH
5036	23689EC	GRIPPER GLAND-6 IN-INSTALL	12.00	EACH
5037	23690EC	GRIPPER GLAND-8 IN-INSTALL	16.00	EACH
5040	23691EC	INSTALL FOSTER ADAPTERS-8 IN	1.00	EACH
5048	23693EC	TIE IN-8 IN-INSTALL	2.00	EACH
5049	23694EC	TIE IN-12 IN-INSTALL	1.00	EACH
5014	23695EC	GATE VALVE-8 IN-INSTALL	2.00	EACH
5024	24152EC	BEND 11.25 DEG-16 IN-INSTALL	4.00	EACH
5025	24153EC	BEND 22.50 DEG-16 IN-INSTALL	2.00	EACH
5031	24154EC	TEE-16 X 8 IN-INSTALL	1.00	EACH
5033	24155EC	TEE-16 X 16 IN-INSTALL	1.00	EACH
5034	24156EC	REDUCER-16 X 8 IN-INSTALL	1.00	EACH
5035	24157EC	FIELD LOK GASKETS-12 IN-INSTALL	8.00	EACH
5039	24158EC	GRIPPER GLAND-16 IN-INSTALL	76.00	EACH
5041	24159EC	FOSTER ADAPTERS-16 IN-INSTALL	4.00	EACH
5042	24160EC	PLUG-8 IN-INSTALL	1.00	EACH
5043	24161EC	PLUG-12 IN-INSTALL	1.00	EACH
5044	24162EC	PLUG-16 IN-INSTALL	3.00	EACH
5046	24163EC	CUT AND PLUG-12 IN-INSTALL	1.00	EACH
5050	24164EC	TIE IN-16 IN-INSTALL	2.00	EACH
5051	24165EC	HYDROSTATIC TEST-8 IN MAIN-INSTALL	1.00	EACH
5052	24166EC	HYDROSTATIC TEST-12 IN MAIN-INSTALL	1.00	EACH

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056GR11D027	5055	24168EC	COPPER PIPE-3/4 IN-INSTALL	540.00	LF
	5056	24169EC	COPPER PIPE-1 IN-INSTALL	50.00	LF
	5059	24170EC	SERVICE TAP-INSTALL	12.00	EACH
	5061	24171EC	EXCHANGE WATER METER	3.00	EACH
	5062	24172EC	METER FRAME AND COVER-INSTALL	6.00	EACH
	5063	24173EC	PVC VAULT-INSTALL	6.00	EACH
	5064	24174EC	CURB STOP-INSTALL	24.00	EACH
	5065	24175EC	CORP-INSTALL	12.00	EACH

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**PART II**  
**SPECIFICATIONS AND STANDARD DRAWINGS**

### **SPECIFICATIONS REFERENCE**

Any reference in the plans or proposal to the *Standard Specifications for Road and Bridge Construction, Edition of 2004*, and *Standard Drawings, Edition of 2000* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2008* and *Standard Drawings, Edition of 2003 with the 2008 Revision*.

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<b>SUBSECTION: REVISION:</b>	101.02 Abbreviations. Insert the following abbreviation and text into the section:  KEPSC     Kentucky Erosion Prevention and Sediment Control
<b>SUBSECTION: REVISION:</b>	101.03 Definitions. Replace the definition for Specifications – <i>Special Provisions</i> with the following:  Additions and revisions to the Standard and Supplemental Specifications covering conditions peculiar to an individual project.
<b>SUBSECTION: REVISION:</b>	102.03 Contents of the Bid Proposal Form. Replace the first sentence of the first paragraph with the following: The Bid Proposal form will be available on the Department internet website ( <a href="http://transportation.ky.gov/contract/">http://transportation.ky.gov/contract/</a> ).  Delete the second paragraph.  Delete the last paragraph.
<b>SUBSECTION: REVISION:</b>	102.04 Issuance of Bid Proposal Form. Replace Heading with the following:  102.04 Bidder Registration.  Replace the first sentence of the first paragraph with the following:  The Department reserves the right to disqualify or refuse to place a bidder on the eligible bidder's list for a project for any of the following reasons:  Replace the last sentence of the subsection with the following:  The Department will resume placing the bidder on the eligible bidder's list for projects after the bidder improves his operations to the satisfaction of the State Highway Engineer.
<b>SUBSECTION: REVISION:</b>	102.06 Examination of Plans, Specifications, Special Provisions, Special Notes, and Site of Work. Replace the first paragraph with the following:  Examine the site of the proposed work, the Bid Proposal, Plans, specifications, contract forms, and bulletins and addendums posted to the Department's website and the Bid Express Bidding Service Website before submitting the Bid Proposal. The Department considers the submission of a Bid Proposal prima facie evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the Contract.
<b>SUBSECTION: REVISION:</b>	102.07.01 General. Replace the first sentence with the following:  Submit the Bid Proposal on forms furnished on the Bid Express Bidding Service website ( <a href="http://www.bidx.com">www.bidx.com</a> ).  Replace the first sentence of the third paragraph with the following:  Bid proposals submitted shall use an eligible Digital ID issued by Bid Express.

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<p><b>SUBSECTION: REVISION:</b></p>	<p>102.07.02 Computer Bidding. Replace the first paragraph with the following:</p> <p>Subsequent to registering for a specific project, use the Department’s Expedite Bidding Program on the internet website of the Department of Highways, Division of Construction Procurement (<a href="http://transportation.ky.gov/contract/">http://transportation.ky.gov/contract/</a>). Download the bid file from the Bid Express Bidding Service Website to prepare a Bid Proposal for submission to the Department. Submit Bid Proposal electronically through Bid Express Bidding Service.</p> <p>Delete the second and third paragraph.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>102.08 Irregular Bid Proposals. Delete the following from the first paragraph: 4) fails to submit a disk created from the Highway Bid Program.</p> <p>Replace the second paragraph with the following: The Department will consider Bid Proposals irregular and may reject them for the following reasons:</p> <ol style="list-style-type: none"> <li>1) when there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the Bid Proposal incomplete, indefinite, or ambiguous as to its meaning; or</li> <li>2) when the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a Contract pursuant to an award; or</li> <li>3) any failure to comply with the provisions of Subsection 102.07; or</li> <li>4) Bid Proposals in which the Department determines that the prices are unbalanced; or when the sum of the total amount of the Bid Proposal under consideration exceeds the bidder’s Current Capacity Rating.</li> </ol>
<p><b>SUBSECTION: REVISION:</b></p>	<p>102.09 Bid Proposal Guaranty. Insert the following after the first sentence:</p> <p>Bid Proposals must have a bid proposal guaranty in the amount indicated in the bid proposal form accompany the submittal. A guaranty in the form of a paper bid bond, cashier’s check, or certified check in an amount no less than the amount indicated on the submitted electronic bid is required when the electronic bid bond was not utilized with the Bid Express Bidding Service. Paper bid bonds must be delivered to the Division of Construction Procurement prior to the time of the letting.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>102.10 Delivery of Bid Proposals. Replace paragraph with the following:</p> <p>Submit all Bid Proposals prior to the time specified in the Notice to Contractors. All bids shall be submitted electronically using Bid Express Bidding Services. Electronically submitted bids must be done in accordance with the requirements of the Bid Express Bidding Service.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>102.11 Withdrawal or Revision of Bid Proposals. Replace the paragraph with the following:</p> <p>Bid Proposals can be withdrawn in accordance the requirements of the Bid Express Bidding Service prior to the time of the Letting.</p>

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<b>SUBSECTION: REVISION:</b>	<p>102.13 Public Opening of Bid Proposals. Replace Heading with the following: 102.13 Public Announcement of Bid Proposals.</p> <p>Replace the paragraph with the following: The Department will publicly announce all Bid Proposals at the time indicated in the Notice to Contractors.</p>
<b>SUBSECTION: REVISION:</b>	<p>103.02 Award of Contract. Replace the first sentence of the third paragraph with the following:</p> <p>The Department will normally award the Contract within 10 working days after the date of receiving Bid Proposals unless the Department deems it best to hold the Bid Proposals of any or all bidders for a period not to exceed 60 calendar days for final disposition of award.</p>
<b>SUBSECTION: REVISION:</b>	<p>105.02 Plans and Working Drawings. Insert the following after the fourth paragraph:</p> <p>Submit electrical shop drawings, design data, and descriptive literature for materials in electronic format to the Division of Traffic Operations for approval. Drawings and literature shall be submitted for lighting and signal components. Notify the Engineer when submitting information to the Division of Traffic Operations. Do not begin work until shop drawings are approved.</p> <p>Submit shop drawings for traffic counting equipment and materials in electronic format to the Engineer or the Division of Planning. Notify the Engineer when submitting information directly to the Division of Planning. Do not begin work until shop drawings are reviewed and approved.</p>
<b>SUBSECTION: REVISION:</b>	<p>105.03 Record Plans. Replace the section with the following:</p> <p>Record Plans are those reproductions of the original Plans on which the accepted Bid Proposal was based and, and signed by a duly authorized representative of the Department. The Department will make these plans available for inspection in the Central Office at least 24 hours prior to the time of opening bids and up to the time of letting of a project or projects. The quantities appearing on the Record Plans are the same as those on which Bid Proposals are received. The Department will use these Record Plans as the controlling plans in the prosecution of the Contract. The Department will not make any changes on Record Plans subsequent to their issue unless done so by an approved contract modification. The Department will make 2 sets of Record Plans for each project, and will maintain one on file in the Central Office and one on file in the District Office. The Department will furnish the Contractor with the following: 1 full size, 2 half size and an electronic file copy of the Record Plans at the Pre-Construction conference.</p>

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<p><b>SUBSECTION: REVISION:</b></p>	<p>105.12 Final Inspection and Acceptance of Work. Insert the following paragraphs after the first paragraph:</p> <p>Notify the Engineer when all electrical items are complete. A notice of the electrical work completion shall be made in writing to the Contractor. Electrical items will be inspected when the electrical work is complete and are not subject to waiting until the project as a whole has been completed. The Engineer will notify the Division of Traffic Operations within 3 days that all electrical items are complete and ready for a final inspection. A final inspection will be completed within 90 days after the Engineer notifies the Division of Traffic Operations of the electrical work completion.</p> <p>Energize all electrical items prior to notifying the Engineer that all electrical items are complete. Electrical items must remain operational until the Division of Traffic Operations has inspected and accepted the electrical portion of the project. Payment for the electrical service is the responsibility of the Contractor from the time the electrical items are energized until the Division of Traffic Operations has accepted the work.</p> <p>Complete all corrective work within 90 calendar days of receiving the original electrical inspection report. Notify the Engineer when all corrective work is complete. The Engineer will notify the Division of Traffic Operations that the corrective work has been completed and the project is ready for a follow-up inspection. Upon re-inspection, if additional corrective work is required, complete within the same 90 calendar day allowance. The Department will not include time between completion of the corrective work and the follow up electrical inspection(s). The 90 calendar day allowance is cumulative regardless of the number of follow-up electrical inspections required.</p> <p>The Department will assume responsibility for the electrical service on a project once the Division of Traffic Operations gives final acceptance of the electrical items on the project. The Department will also assume routine maintenance of those items. Any damage done to accepted electrical work items by other Contractors shall be the responsibility of the Prime Contractor. The Department will not be responsible for repairing damage done by other contractors during the construction of the remaining project.</p> <p>Failure to complete the electrical corrective work within the 90 calendar day allowance will result in penalties assessed to the project. Penalties will be assessed at ½ the rate of liquidated damages established for the contract.</p> <p>Replace the following in the second sentence of the second paragraph:</p> <p>Replace Section 213 with Section 212.</p> <p>Delete the fifth paragraph from the section.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>105.13 Claim Resolution Process. Replace the last sentence of the 3. Bullet with the following:</p> <p>If the Contractor did not submit an as-bid schedule at the Pre-Construction Meeting or a written narrative in accordance with Subsection 108.02, the Cabinet will not consider the claim for delay.</p> <p>Delete the last paragraph from the section.</p>

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<p><b>SUBSECTION: REVISION:</b></p>	<p>106.04 Buy America Requirement. Replace the section with the following:</p> <p><b>106.04 Buy America Requirement.</b> Follow the “Buy America” provisions as required by Title 23 Code of Federal Regulations § 635.410. Except as expressly provided herein all manufacturing processes of steel or iron materials including but not limited to structural steel, guardrail materials, corrugated steel, culvert pipe, structural plate, prestressing strands, and steel reinforcing bars shall occur in the United States of America, including the application of:</p> <ul style="list-style-type: none"> <li>• Coating,</li> <li>• Galvanizing,</li> <li>• Painting, and</li> <li>• Other coating that protects or enhances the value of steel or iron products.</li> </ul> <p>The following are exempt, unless processed or refined to include substantial amounts of steel or iron material, and may be used regardless of source in the domestic manufacturing process for steel or iron material:</p> <ul style="list-style-type: none"> <li>• Pig iron,</li> <li>• Processed, pelletized, and reduced iron ore material, or</li> <li>• Processed alloys.</li> </ul> <p>The Contractor shall submit a certification stating that all manufacturing processes involved with the production of steel or iron materials occurred in the United States.</p> <p>Produce, mill, fabricate, and manufacture in the United States of America all aluminum components of bridges, tunnels, and large sign support systems, for which either shop fabrication, shop inspection, or certified mill test reports are required as the basis of acceptance by the Department.</p> <p>Use foreign materials only under the following conditions:</p> <ol style="list-style-type: none"> <li>1) When the materials are not permanently incorporated into the project; or</li> <li>2) When the delivered cost of such materials used does not exceed 0.1 percent of the total Contract amount or \$2,500.00, whichever is greater.</li> </ol> <p>The Contractor shall submit to the Engineer the origin and value of any foreign material used.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>106.10 Field Welder Certification Requirements. Insert the following sentence before the first sentence of the first paragraph:</p> <p>All field welding must be performed by a certified welder unless otherwise noted.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>108.02 Progress Schedule. Insert the following prior to the first paragraph:</p> <p>Specification 108.02 applies to all Cabinet projects except the following project types:</p> <ul style="list-style-type: none"> <li>• Right of Way Mowing and/or Litter Removal</li> <li>• Waterborne Paint Striping</li> <li>• Projects that contain Special Provision 82</li> <li>• Projects that contain the Special Note for CPM Scheduling</li> </ul> <p>Insert the following paragraph after paragraph two:</p> <p>Working without the submittal of a Written Narrative is violation of this specification and additionally voids the Contractor’s right to delay claims.</p> <p>Insert the following paragraph after paragraph six:</p> <p>The submittal of bar chart or Critical Path Method schedule does not relieve the Contractor’s requirement to submit a Written Narrative schedule.</p>

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	<p>Insert the following at the beginning of the first paragraph of A) Written Narrative.:</p> <p>Submit the Written Narrative Schedule using form TC 63-50 available at the Division of Construction's website (<a href="http://www.transportation.ky.gov/construction/ResCenter/ResCenter.htm">http://www.transportation.ky.gov/construction/ResCenter/ResCenter.htm</a>).</p> <p>Replace Part A) Written Narrative 1. And 2. with the following:</p> <ol style="list-style-type: none"> <li>1. Provide a description that includes how the Contractor will sequence and stage the work, how the Contractor plans to maintain and control traffic being specific and detailed, and what equipment and crew sizes are planned to execute the work.</li> <li>2. Provide a list of project milestones including, if applicable, winter shut-downs, holidays, or special events. The Contractor shall describe how these milestones and other dates effect the prosecution of the work. Also, include start date and completion date milestones for the contract, each project if the contract entails multiple projects, each phase of work, site of work, or segment of work as divided in the project plans, proposal, or as subdivided by the Contractor.</li> </ol>
<p><b>SUBSECTION: REVISION:</b></p>	<p>109.07.01 Liquid Asphalt. Add the following to the Adjustable Contract Items:</p> <ul style="list-style-type: none"> <li>• Stone Matrix Asphalt for Base</li> <li>• Stone Matrix Asphalt for Surface</li> </ul>
<p><b>SUBSECTION: REVISION:</b></p>	<p>110.01 Mobilization. Replace paragraph three with the following:</p> <p>Do not bid an amount for Mobilization that exceeds 5 percent of the sum of the total amounts bid for all items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives. The Department will automatically adjust any Bid Proposals that are in excess of this amount down to 5 percent to compare Bid Proposals and award the Contract. The Department will award a Contract for the actual amount bid when the amount bid for Mobilization is less than 5 percent, or the Department will award the Contract for the adjusted bid amount of 5 percent when the amount bid for Mobilization is greater than 5 percent. If any errors in unit bid prices for other Contract items in a Contractor's Bid Proposal are discovered after bid opening and such errors reduce the total amount bid for all other items, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives, so that the percent bid for Mobilization is larger than 5 percent, the Department will adjust the amount bid for Mobilization to 5 percent of the sum of the corrected total bid amounts.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>110.02 Demobilization. Replace the third paragraph with the following:</p> <p>Bid an amount for Demobilization that is a minimum of \$1,000 or 1.5 percent of the sum of the total amounts bid for all other items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives. The Department will automatically adjust any Bid Proposal that is less than this amount up to \$1,000 or 1.5 percent to compare Bid Proposals and award the Contract. The Department will award a Contract for the actual amount bid when the amount bid for demobilization exceeds 1.5 percent, or the Department will award the Contract for the adjusted bid amount when the amount bid for demobilization is less than the minimum of \$1,000 or less than 1.5 percent of the sum of the total amounts bid for all other items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>110.04 Payment. Insert the following paragraph following the demobilization payment schedule (4<sup>th</sup> paragraph):</p> <p>The Department will withhold an amount equal to \$1,000 for demobilization, regardless of the schedule listed above. The \$1,000 withheld for demobilization will be paid when the final estimate is paid.</p>

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<p><b>SUBSECTION: REVISION:</b></p>	<p>112.03.01 General Traffic Control. Replace paragraph three with the following:</p> <p>All flaggers shall be trained in current MUTCD flagging procedures. Proof of training must be available for review at the Department's request. Flagging credentials must be current within the last 5 years.</p>
<p><b>SUBSECTION: PART: REVISION:</b></p>	<p>112.03.11 Temporary Pavement Markings. B) Placement and Removal of Temporary Striping. Replace the 2<sup>nd</sup> sentence of the first paragraph with the following:</p> <p>On interstates and parkways, and other roadways approved by the State Highway Engineer, install pavement striping that is 6 inches in width.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>112.03.12 Project Traffic Coordinator (PTC). Add the following at the end of the subsection:</p> <p>After October 1, 2008 the Department will require the PTC to have successfully completed the applicable qualification courses. Personnel that have not successfully completed the applicable courses by that date will not be considered qualified. Prior to October 1, 2008, conform to Subsection 108.06 A) and ensure the designated PTC has sufficient skill and experience to properly perform the task.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>112.03.15 Non-Compliance of Maintain and Control of Traffic. Add the following section:</p> <p><b>112.03.15 Non-Compliance of Maintain and Control of Traffic.</b> It is the Contractor's responsibility to conform to the traffic control requirements in the TCP, Proposal, plan sheets, specifications, and the Manual on Uniform Traffic Control Devices.</p> <p>Unless specified elsewhere in the contract, a penalty will be assessed in the event of non-compliance with Maintain and Control of Traffic requirements. These penalties will be assessed when the Contractor fails to correct a situation or condition of non-compliance with the contract traffic control requirements after being notified by the Engineer. The calculation of accrued penalties for non-compliance will be based upon the date/time of notification by the Engineer.</p> <p>The amount of the penalty assessed for non-compliance will be determined based upon the work zone duration, as defined by the MUTCD, and will be the greatest of the different calculation methods indicated below:</p> <p>A) Long-term stationary work that occupies a location more than 3 days.</p> <p>Correct the non-compliant issue within 24 hours from initial notification by the Engineer. If the issue is not corrected within 24 hours from the initial notification, a penalty for non-compliance will be assessed on a daily basis beginning from the initial notification of non-compliance. The Contractor will be assessed a \$1,000 daily penalty or the amount equal to the contract liquidated damages in Section 108.09, whichever of the 2 is greater. The penalty for non-compliance will escalate as follows for continued non-compliance after the initial notification.</p> <p>3 Days after Notification \$1,500 daily penalty or 1.5 times the contract liquidated damages daily charge rate in Section 108.09, whichever is greater.</p> <p>7 Days after Notification \$2,000 daily penalty or double the contract liquidated damages daily charge rate in Section 108.09, whichever is greater.</p>

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	<p>B) Intermediate-term stationary work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than 1 hour.</p> <p>Correct the non-compliant issue within 4 hours from initial notification by the Engineer. If the issue is not corrected within 4 hours from notification, a penalty for non-compliance will be assessed on an hourly basis beginning from the initial notification of non-compliance. The penalty for non-compliance will be assessed at \$200 per hour.</p> <p>C) Short-term stationary is work that occupies a location for more than 1 hour within a single 24-hour period.</p> <p>Correct the non-compliant issue within 1 hour from initial notification by the Engineer. If the issue is not corrected within 1 hour from notification, a penalty for non-compliance will be assessed on an hourly basis beginning from the initial notification of non-compliance. The penalty for non-compliance will be assessed at \$200 per hour.</p> <p>If the Contractor remains in violation of the Maintain and Control of Traffic requirements, or if the Department determines it to be in the public's interest, work will be suspended in accordance with Section 108.08 until the deficiencies are corrected. The Department reserves the right to correct deficiencies by any means available and charge the Contractor for labor, equipment, and material costs incurred in emergency situations.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>206.03.02 Embankment Replace the last paragraph with the following:</p> <p>When rock roadbed is specified, construct the upper 2 feet of the embankment according to Subsection 204.03.09 A).</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>213.03.03 Inspection and Maintenance. Replace the last sentence of the second paragraph with the following:</p> <p>Initiate corrective action within 24 hours of any noted deficiency and complete the work within 7 calendar days of receipt of the report. The Contractor shall make a concentrated effort to complete any corrective action required prior to the next predicted rainfall event.</p> <p>Insert the following paragraph after the second paragraph:</p> <p>When the Contractor is required to obtain the KPDES permit, it is their responsibility to ensure compliance with the inspection and maintenance requirements of the permit. The Engineer will perform verification inspections a minimum of once per month and within 7 days of a ½ inch or greater rainfall event. The Engineer will document these inspections using Form TC 63-61 A. The Engineer will provide copies of the inspection only when improvements to the BMP's are required. Verification inspections performed by the Engineer do not relieve the Contractor of any responsibility for compliance with the KPDES permit. Initiate corrective action within 24 hours of any noted deficiency and complete the work within 7 calendar days of receipt of the report. The Contractor shall make a concentrated effort to complete any corrective action required prior to the next predicted rainfall event.</p>

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<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>213.03.05 Temporary Control Measures. E) Temporary Seeding and Protection. Replace the first paragraph with the following:</p> <p>Apply an Annual Rye seed mix at a rate of 100 pounds per acre during the months of March through August. In addition to the Annual Rye, add 10 pounds of German Foxtail-Millet (<i>Setaria italica</i>), when performing temporary seeding during the months of June through August. During the months of September through February, apply Winter Wheat or Rye Grain at a rate of 100 pounds per acre. Obtain the Engineer's approval prior to the application of the seed mixture.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>213.03.05 Temporary Control Measures. F) Temporary Mulch. Replace the last sentence with the following:</p> <p>Place temporary mulch to an approximate 2-inch loose depth (2 tons per acre) and anchor it into the soil by mechanically crimping it into the soil surface or applying tackifier to provide a protective cover. Regardless of the anchoring method used, ensure the protective cover holds until disturbance is required or permanent controls are in installed.</p>
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>303.05 Payment. Replace the second paragraph of the section with the following:</p> <p>The Department will make payment for Drainage Blanket-Type II (ATDB) according to the Lot Pay Adjustment Schedule for Specialty Mixtures in Section 402.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>401.02.04 Special Requirements for Dryer Drum Plants. F) Production Quality Control. Replace the first sentence with the following:</p> <p>Stop mixing operations immediately if, at any time, a failure of the automatic electronic weighing system of the aggregate feed, asphalt binder feed, or water injection system control occurs.</p>
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>401.02.04 Special Requirements for Dryer Drum Plants. Add the following:</p> <p>Part G) <b>Water Injection System.</b> Provided each system has prior approval as specified in Subsection 402.01.01, the Department will allow the use of water injection systems for purposes of foaming the asphalt binder and lowering the mixture temperature for production of Warm Mix Asphalt (WMA).</p> <p>Ensure the equipment for water injection meets the following requirements:</p> <ol style="list-style-type: none"> <li>1) Injection equipment computer controls are automatically coupled to the plants controls (manual operation is not permitted);</li> <li>2) Injection equipment has variable controls that introduce water ratios based on production rates of mixtures;</li> <li>3) Injects water into the flow of asphalt binder prior to contacting the aggregate;</li> <li>4) Provides alarms on the water injection system that operate when the flow of water is interrupted or deviates from the prescribed water rate.</li> </ol>
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>401.03.01 Preparation of Mixtures. Replace the last sentence of the second paragraph with the following:</p> <p>Do not use asphalt binder while it is foaming in a storage tank.</p>

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<p><b>SUBSECTION: REVISION:</b></p>	<p>401.03.01 Preparation of Mixtures. Replace the third paragraph and Mixing and Laying Temperature table with the following:</p> <p>Maintain the temperature of the component materials and asphalt mixture within the ranges listed in the following table:</p> <table border="1"> <thead> <tr> <th colspan="4">MIXING AND LAYING TEMPERATURES (°F)</th> </tr> <tr> <th>Material</th> <th></th> <th>Minimum</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Aggregates</td> <td></td> <td>240</td> <td>330</td> </tr> <tr> <td>Aggregates used with Recycled Asphalt Pavement (RAP)</td> <td></td> <td>240</td> <td>—</td> </tr> <tr> <td rowspan="2">Asphalt Binders</td> <td>PG 64-22</td> <td>230</td> <td>330</td> </tr> <tr> <td>PG 76-22</td> <td>285</td> <td>350</td> </tr> <tr> <td rowspan="4">Asphalt Mixtures at Plant (Measured in Truck)</td> <td>PG 64-22 HMA</td> <td>250</td> <td>330</td> </tr> <tr> <td>PG 76-22 HMA</td> <td>310</td> <td>350</td> </tr> <tr> <td>PG 64-22 WMA</td> <td>230</td> <td>275</td> </tr> <tr> <td>PG 76-22 WMA</td> <td>250</td> <td>300</td> </tr> <tr> <td rowspan="4">Asphalt Mixtures at Project (Measured in Truck When Discharging)</td> <td>PG 64-22 HMA</td> <td>230</td> <td>330</td> </tr> <tr> <td>PG 76-22 HMA</td> <td>300</td> <td>350</td> </tr> <tr> <td>PG 64-22 WMA</td> <td>210</td> <td>275</td> </tr> <tr> <td>PG 76-22 WMA</td> <td>240</td> <td>300</td> </tr> </tbody> </table>	MIXING AND LAYING TEMPERATURES (°F)				Material		Minimum	Maximum	Aggregates		240	330	Aggregates used with Recycled Asphalt Pavement (RAP)		240	—	Asphalt Binders	PG 64-22	230	330	PG 76-22	285	350	Asphalt Mixtures at Plant (Measured in Truck)	PG 64-22 HMA	250	330	PG 76-22 HMA	310	350	PG 64-22 WMA	230	275	PG 76-22 WMA	250	300	Asphalt Mixtures at Project (Measured in Truck When Discharging)	PG 64-22 HMA	230	330	PG 76-22 HMA	300	350	PG 64-22 WMA	210	275	PG 76-22 WMA	240	300
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<p><b>SUBSECTION: REVISION:</b></p>	<p>402.01 Description. Replace the paragraph with the following:</p> <p>Provide the process control and acceptance testing of all classes and types of asphalt mixtures which may be furnished either as hot mix asphalt (HMA) or warm mix asphalt (WMA) produced with water injection systems.</p>																																																	
<p><b>SUBSECTION: REVISION:</b></p>	<p>402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. Add the following subsection:</p> <p>402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval. The Department will evaluate trial production of WMA by use of a water injection system provided the system is installed according to the manufacturer's requirements and satisfies the requirements of Section 401. Evaluation will include production and placement of WMA to demonstrate adequate mixture quality including volumetric properties and density by Option A as specified in Subsection 402.03.02 D). Do not place WMA for evaluation on Department projects. Provided production and placement operations satisfy the applicable quality levels, the Department will approve WMA production on Department projects using the water injection system as installed on the specific asphalt mixing plant evaluated.</p>																																																	
<p><b>SUBSECTION: REVISION:</b></p>	<p>402.05.02 Asphalt Mixtures and Mixtures With RAP. Replace Subsection Title as below:</p> <p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.</p>																																																	
<p><b>SUBSECTION: REVISION:</b></p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Replace the paragraph with the following:</p> <p>The Department will pay for the mixture at the Contract unit bid price and apply a Lot Pay Adjustment for each lot placed based on the degree of compliance with the specified tolerances. Using the appropriate Lot Pay Adjustment Schedule, the Department will assign a pay value for the applicable properties within each subplot and average the subplot pay values to determine the pay value for a given property for each lot. The Department will apply the Lot Pay Adjustment for each lot to a defined unit price of \$50.00 per ton. The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>																																																	

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<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. C) Conventional and RAP Mixtures Placed on Shoulders. Replace Title and Text with the following:</p> <p>C) HMA, WMA and RAP Mixtures Placed on Shoulders or Placed as Asphalt Pavement Wedge.</p> <ol style="list-style-type: none"> <li>1) Placed monolithically with the Mainline – Width of 4 feet or less. The Department will pay as mainline mixture.</li> <li>2) Placed monolithically with the Mainline – Width of greater than 4 feet. The Department will pay as mainline mixture but use 1.00 for the Lane and Joint Density Pay Value for shoulder or Asphalt Pavement Wedge quantities.</li> <li>3) Placed Separately. The Department will use 1.00 for the Lane and Joint Density Pay Value.</li> </ol>												
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. D) Conventional and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge. Replace the title with the following: D) HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.</p> <p>Delete the following: D) HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge. The Department will pay as mainline mixture but use a 1.00 pay value for all properties.</p>												
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>402.05.02 Asphalt Mixtures for Temporary Pavement. E) Asphalt Mixtures for Temporary Pavement. Replace E) Asphalt Mixtures for Temporary Pavement with the following:</p> <p>D) Asphalt Mixtures for Temporary Pavement.</p>												
<p><b>SUBSECTION:</b> <b>PART:</b> <b>TABLES:</b> <b>REVISION:</b></p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option A, Base and Binder Mixtures VMA Replace the VMA table with the following:</p> <table border="1"> <thead> <tr> <th colspan="2">VMA</th> </tr> <tr> <th>Pay Value</th> <th>Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>≥ min. VMA</td> </tr> <tr> <td>0.95</td> <td>0.1-0.5 below min.</td> </tr> <tr> <td>0.90</td> <td>0.6-1.0 below min.</td> </tr> <tr> <td>(1)</td> <td>&gt; 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥ min. VMA	0.95	0.1-0.5 below min.	0.90	0.6-1.0 below min.	(1)	> 1.0 below min.
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<p><b>SUBSECTION:</b> <b>PART:</b> <b>TABLES:</b> <b>REVISION:</b></p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option A, Surface Mixtures VMA Replace the VMA table with the following:</p> <table border="1"> <thead> <tr> <th colspan="2">VMA</th> </tr> <tr> <th>Pay Value</th> <th>Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>≥ min. VMA</td> </tr> <tr> <td>0.95</td> <td>0.1-0.5 below min.</td> </tr> <tr> <td>0.90</td> <td>0.6-1.0 below min.</td> </tr> <tr> <td>(1)</td> <td>&gt; 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥ min. VMA	0.95	0.1-0.5 below min.	0.90	0.6-1.0 below min.	(1)	> 1.0 below min.
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<p><b>SUBSECTION:</b> <b>PART:</b> <b>TABLE:</b> <b>REVISION:</b></p>	<p>402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP. Lot Pay Adjustment Schedule, Compaction Option B Mixtures VMA Replace the VMA table with the following:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">VMA</th> </tr> <tr> <th>Pay Value</th> <th>Deviation From Minimum</th> </tr> </thead> <tbody> <tr> <td>1.00</td> <td>≥min. VMA</td> </tr> <tr> <td>0.95</td> <td>0 1-0.5 bel w min.</td> </tr> <tr> <td>0.9</td> <td>0.6-1.0 below min.</td> </tr> <tr> <td><sup>(2)</sup></td> <td>&gt; 1.0 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≥min. VMA	0.95	0 1-0.5 bel w min.	0.9	0.6-1.0 below min.	<sup>(2)</sup>	> 1.0 below min.											
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<p><b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>REVISION:</b></p>	<p>403.03.03 Preparation of Mixture. C) Mix Design Criteria. 1) Preliminary Mix Design. Replace the last two sentences of the paragraph and table with the following:</p> <p>Complete the volumetric mix design at the appropriate number of gyrations as given in the table below for the number of 20-year ESAL's. The Department will define the relationship between ESAL classes, as given in the bid items for Superpave mixtures, and 20-year ESAL ranges as follows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Class</th> <th rowspan="2">ESAL's (millions)</th> <th colspan="3">Number of Gyration</th> </tr> <tr> <th><i>N</i><sub>initial</sub></th> <th><i>N</i><sub>design</sub></th> <th><i>N</i><sub>max</sub></th> </tr> </thead> <tbody> <tr> <td>2</td> <td>&lt; 3.0</td> <td>6</td> <td>50</td> <td>75</td> </tr> <tr> <td>3</td> <td>3.0 to &lt; 30.0</td> <td>7</td> <td>75</td> <td>115</td> </tr> <tr> <td>4</td> <td>≥ 30.0</td> <td>8</td> <td>100</td> <td>160</td> </tr> </tbody> </table>	Class	ESAL's (millions)	Number of Gyration			<i>N</i> <sub>initial</sub>	<i>N</i> <sub>design</sub>	<i>N</i> <sub>max</sub>	2	< 3.0	6	50	75	3	3.0 to < 30.0	7	75	115	4	≥ 30.0	8	100	160
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<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>403.03.09 Leveling and Wedging, and Scratch Course. A) Leveling and Wedging. Replace the first sentence of the first paragraph with the following:</p> <p>Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.</p>																							
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>403.03.09 Leveling and Wedging, and Scratch Course. B) Scratch Course. Replace the second sentence of the first paragraph with the following:</p> <p>Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.</p>																							
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>407.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:</p> <p>Construct a pavement wedge composed of a hot-mixed or warm-mixed asphalt mixture.</p>																							
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>409.01 DESCRIPTION. Replace the first sentence of the paragraph with the following:</p> <p>Use reclaimed asphalt pavement (RAP) from Department projects or other approved sources in hot mix asphalt (HMA) or warm mix asphalt (WMA) provided mixture requirements are satisfied.</p>																							
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>410.01 DESCRIPTION. Delete the second sentence of the paragraph.</p>																							

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<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>410.03.01 Corrective Work. Replace the last sentence of the paragraph with the following:  Provide a final surface comparable to the adjacent pavement that does not require corrective work in respect to texture, appearance, and skid resistance.</p>														
<p><b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>REVISION:</b></p>	<p>410.03.02 Ride Quality. B) Requirements. 1) Category A. Replace the last sentence of the first paragraph with the following:  At the Department's discretion, a pay deduction of \$1200 per 0.1-lane-mile section may be applied in lieu of corrective work.</p>														
<p><b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>REVISION:</b></p>	<p>410.03.02 Ride Quality. B) Requirements. 2) Category B. Replace the second and third sentence of the first paragraph with the following:  When the IRI is greater than 90 for a 0.1-mile section, perform corrective work, or remove and replace the pavement to achieve the specified IRI. At the Department's discretion, a pay deduction of \$750 per 0.1-lane-mile section may be applied in lieu of corrective work.</p>														
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>410.05 PAYMENT. Add the following sentence to the end of the first paragraph:  The sum of the pay value adjustments for ride quality shall not exceed \$0 for the project as a whole.</p>														
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>413.05.02 CL3 SMA BASE 1.00D PG76-22. Insert the following sentence between the first and second sentence of the first paragraph:  The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>														
<p><b>SUBSECTION:</b> <b>TABLE:</b> <b>REVISION:</b></p>	<p>413.05.02 CL3 SMA BASE 1.00D PG 76-22. JOINT DENSITY TABLE Replace the joint density table with the following:</p> <table border="1"> <thead> <tr> <th colspan="2">LANE DENSITY</th> </tr> <tr> <th>Pay Value</th> <th>Test Result (%)</th> </tr> </thead> <tbody> <tr> <td>1.05</td> <td>95.0-96.5</td> </tr> <tr> <td>1.00</td> <td>93.0-94.9</td> </tr> <tr> <td>0.95</td> <td>92.0-92.9 or 96.6-97.0</td> </tr> <tr> <td>0.90</td> <td>91.0-91.9 or 97.1-97.5</td> </tr> <tr> <td>(1)</td> <td>&lt; 91.0 or &gt; 97.5</td> </tr> </tbody> </table>	LANE DENSITY		Pay Value	Test Result (%)	1.05	95.0-96.5	1.00	93.0-94.9	0.95	92.0-92.9 or 96.6-97.0	0.90	91.0-91.9 or 97.1-97.5	(1)	< 91.0 or > 97.5
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<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22. Insert the following sentence between the first and second sentence of the first paragraph:  The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.</p>														

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<p><b>SUBSECTION:</b> <b>TABLE:</b> <b>REVISION:</b></p>	<p>413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22. JOINT DENSITY TABLE Replace the joint density table with the following:</p> <table border="1"> <thead> <tr> <th colspan="3">DENSITY</th> </tr> <tr> <th>Pay Value</th> <th>Lane Density Test Result (%)</th> <th>Joint Density Test Result (%)</th> </tr> </thead> <tbody> <tr> <td>1.05</td> <td>95.0-96.5</td> <td>92.0-96.0</td> </tr> <tr> <td>1.00</td> <td>93.0-94.9</td> <td>90.0-91.9</td> </tr> <tr> <td>0.95</td> <td>92.0-92.9 or 96.6-97.0</td> <td>89.0-89.9 or 96.1-96.5</td> </tr> <tr> <td>0.90</td> <td>91.0-91.9 or 97.1-97.5</td> <td>88.0-88.9 or 96.6-97.0</td> </tr> <tr> <td>0.75</td> <td>----</td> <td>&lt; 88.0 or &gt; 97.0</td> </tr> <tr> <td><sup>(1)</sup></td> <td>&lt; 91.0 or &gt; 97.5</td> <td>----</td> </tr> </tbody> </table>	DENSITY			Pay Value	Lane Density Test Result (%)	Joint Density Test Result (%)	1.05	95.0-96.5	92.0-96.0	1.00	93.0-94.9	90.0-91.9	0.95	92.0-92.9 or 96.6-97.0	89.0-89.9 or 96.1-96.5	0.90	91.0-91.9 or 97.1-97.5	88.0-88.9 or 96.6-97.0	0.75	----	< 88.0 or > 97.0	<sup>(1)</sup>	< 91.0 or > 97.5	----
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<sup>(1)</sup>	< 91.0 or > 97.5	----																							
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>501.05.02 Ride Quality. Add the following sentence to the end of the first paragraph:  The sum of the pay value adjustments for the ride quality shall not exceed \$0 for the project as a whole.</p>																								
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>505.03.04 Detectable Warnings. Replace the first sentence with the following:  Install detectable warning pavers at all sidewalk ramps and on all commercial entrances according to the Standard Drawings.</p>																								
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>505.04.04 Detectable Warnings. Replace the paragraph with the following:  The Department will measure the quantity in square feet. All retrofit applications for maintenance projects will require the removal of existing sidewalks to meet the requirements of the standard drawings applicable to the project. The cost associated with the removal of the existing sidewalk will be incidental to the detectable warnings bid item or incidental to the bid item for the construction of the concrete sidewalk unless otherwise noted.</p>																								
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>505.05 PAYMENT. Add the following to the bid item table:</p> <table border="0"> <tr> <td><u>Code</u></td> <td><u>Pay Item</u></td> <td><u>Pay Unit</u></td> </tr> <tr> <td>23158ES505</td> <td>Detectable Warnings</td> <td>Square Foot</td> </tr> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	23158ES505	Detectable Warnings	Square Foot																		
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23158ES505	Detectable Warnings	Square Foot																							
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>509.01 DESCRIPTION. Replace the second paragraph with the following:  The Department may allow the use of similar units that conform to the National Cooperative Highway Research Program (NCHRP) 350 Test Level 3 (TL-3) requirements and the typical features depicted by the Standard Drawings. Obtain the Engineers approval prior to use. Ensure the barrier wall shape, length, material, drain slot dimensions and locations typical features are met and the reported maximum deflection is 3 feet or less from the NCHRP 350 TL-3 for Test 3 – 11 (pickup truck impacting at 60 mph at a 25-degree angle.)</p>																								

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<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>601.03.02 Concrete Producer Responsibilities. Replace the first sentence with the following:</p> <p>Obtain the concrete from producers that are in compliance with KM 64-323 and on the Department's List of Approved Materials.</p> <p>Add the following to the first paragraph:</p> <p>If a concrete plant becomes unqualified during a project and there are no other qualified plants in the region, the Department will provide qualified personnel to witness and ensure the producer follows the required specifications. The Department will assess the Contractor a \$100 per hour charge for this service.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>601.03.02 Concrete Producer Responsibilities. B) Certified Personnel. Replace the second sentence with the following:</p> <p>Ensure that the concrete technicians are certified as ACI Level I (Level I) and KRMCA Level II (Level II).</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>601.03.02 Concrete Producer Responsibilities. C) Quality Control. Replace the second sentence with the following:</p> <p>Ensure that the Level II concrete technician is present when work is in progress and is responsible for inspecting trucks, batch weight calculations, monitoring batching, making mixture adjustments, reviewing the slump, air content, unit weight, temperature, and aggregate tests, all to provide conforming concrete to the project.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>601.03.02 Concrete Producer Responsibilities. D) Producer Testing. Replace with the following:</p> <p>When producing for state work, have a Qualified Concrete Aggregate Technician or KYTC Qualified Aggregate Technician perform, at a minimum, weekly gradations and minus 200 wash tests and daily moisture contents of coarse and fine aggregate (Fine aggregates will not require a minus 200 wash test). Using the daily moisture contents, adjust the approved mix design accordingly prior to production. Ensure that the Level II concrete technician is present when work is in progress and is responsible for inspecting trucks, batch weight calculations, monitoring batching, making mixture adjustments, reviewing the slump, air content, unit weight, temperature, and aggregate tests, all to provide conforming concrete to the project.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>601.03.02 Concrete Producer Responsibilities. E) Trip Tickets. Replace the second sentence with the following:</p> <p>Include on the trip ticket the Sample ID for the approved mix design and a statement certifying that the data on the ticket is correct and that the mixture conforms to the mix design.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>REVISION:</b></p>	<p>601.03.03 Proportioning and Requirements. C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures 2) Mineral Admixtures. Replace the second sentence with the following:</p> <p>Reduction of the total cement content by a combination of mineral admixtures will be allowed, up to a maximum of 40 percent.</p>

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<p><b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>LETTER:</b> <b>REVISION:</b></p>	<p>601.03.03 Proportioning and Requirements. C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures 2) Mineral Admixtures. a) Fly Ash. Delete the last sentence of the third paragraph.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>NUMBER:</b> <b>LETTER:</b> <b>REVISION:</b></p>	<p>601.03.03 Proportioning and Requirements. C) Mixtures Using Type IP, IS, and I(SM) Cement or Mineral Admixtures 2) Mineral Admixtures. b) Ground Granulated Blast Furnace Slag (GGBF Slag). Delete the second sentence of the third paragraph.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>601.03.03 Proportioning and Requirements. E) Measuring. Add the following sentence:  Conform to the individual ingredient material batching tolerances in Appendix A.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>601.03.09 Placing Concrete. A) General. Replace the last sentence of the fourth paragraph with the following:  Do not use aluminum or aluminum alloy troughs, pipes, or chutes that have surface damage or for lengths greater than 20 feet.  Replace the second sentence of the fifth paragraph with the following:  When pumping, equip the delivery pipe with a nozzle, having a minimum of 2 right angles, at the discharge end. Alternate nozzles or restriction devices may be allowed with prior approval by the Engineer.</p>
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>605.02.05 Forms. Delete the last sentence.</p>
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>605.03.04 Tack Welding. Replace with the following:  The Department does not allow tack welding.</p>
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>606.02.11 Coarse Aggregate. Replace with the following:  Conform to Section 805, size No. 8 or 9-M.</p>
<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>609.03.04 Expansion and Fixed Joints. D) Preformed Neoprene Joint Seals. Replace the last sentence of paragraph seven with the following:  Field splices will not be allowed during partial width construction. It is Contractor's responsibility to determine and install the length of seal required for the joint to barrier wall as per the standard drawing.</p>
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>609.03.09 Finish with Burlap Drag. Delete the entire section.</p>
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>609.04.06 Joint Sealing. Replace Subsection 601.04 with the following:  Subsection 606.04.08.</p>

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<p><b>SUBSECTION: REVISION:</b></p>	<p>609.05 Payment. Replace the Pay Unit for Joint Sealing with the following:  See Subsection 606.05.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>701.03.06 Initial Backfill. Replace the first sentence of the last paragraph with the following:  When the Contract specifies, perform quality control testing to verify compaction according to KM 64-512.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>701.03.08 Testing of Pipe. Replace and rename the subsection with the following:   <p align="center"><b>701.03.08 Inspection of Pipe.</b> The engineer will visually inspect all pipe. The Department will require camera/video inspection on a minimum of 50 percent of the linear feet of all installed pipe structures. Conduct camera/video inspection according to KM 64-114. The pipe to be installed under pavement will be selected first. If the total linear feet of pipe under pavement is less than 50 percent of the linear feet of all pipe installed, the Engineer will randomly select installations from the remaining pipe structures on the project to provide for the minimum inspection requirement. The pipe will be selected in complete runs (junction-junction or headwall-headwall) until the total linear feet of pipe to be inspected is at least 50 percent of the total linear feet of all installed pipe on the project.</p> <p>Unless the Engineer directs otherwise, schedule the inspections no sooner than 30 days after completing the installation and completion of earthwork to within 1 foot of the finished subgrade. When final surfacing conflicts with the 30-day minimum, conduct the inspections prior to placement of the final surface. The contractor must ensure that all pipe are free and clear of any debris so that a complete inspection is possible.</p> <p>Notify the Engineer immediately if distresses or locations of improper installation are discovered. When camera testing shows distresses or improper installation in the installed pipe, the Engineer may require additional sections to be tested. Provide the video and report to the Engineer when testing is complete in accordance with KM 64-114.</p> <p>Pipes that exhibit distress or signs of improper installation may necessitate repair or removal as the Engineer directs. These signs include, but are not limited to: deflection, cracking, joint separation, sagging or other interior damage. If corrugated metal or thermoplastic pipes exceed the deflection and installation thresholds indicated in the table below, provide the Department with an evaluation of each location conducted by a Professional Engineer addressing the severity of the deflection, structural integrity, environmental conditions, design service life, and an evaluation of the factor of safety using Section 12, "Buried Structures and Tunnel Liners," of the AASHTO LRFD Bridge Design Specifications. Based on the evaluation, the Department may allow the pipe to remain in place at a reduced unit price as shown in the table below. Provide 5 business days for the Department to review the evaluation. When the pipe shows deflection of 10 percent or greater, remove and replace the pipe. When the camera/video or laser inspection results are called into question, the Department may require direct measurements or mandrel testing.</p> <p>The Cabinet may elect to conduct Quality Assurance verifications of any pipe inspections.</p> </p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>701.04.07 Testing. Replace and rename the subsection with the following:   <p align="center"><b>701.04.07 Pipeline Video Inspection.</b> The Department will measure the quantity in linear feet along the pipe invert of the structure inspected. When inspection above the specified 50 percent is performed due to a disagreement or suspicion of additional distresses and the Department is found in error, the Department will measure the quantity as Extra Work according to Subsection 104.03. However, if additional distresses or non-conformance is found, the Department will not measure the additional inspection for payment.</p> </p>

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<b>SUBSECTION: REVISION:</b>	701.05 PAYMENT. Add the following pay item to the list of pay items: <table border="0"> <tr> <td><u>Code</u></td> <td><u>Pay Item</u></td> <td><u>Pay Unit</u></td> </tr> <tr> <td>23131ER701</td> <td>Pipeline Video Inspection</td> <td>Linear Foot</td> </tr> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	23131ER701	Pipeline Video Inspection	Linear Foot						
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23131ER701	Pipeline Video Inspection	Linear Foot											
<b>SUBSECTION: TABLE: REVISION:</b>	701.05 PAYMENT PIPE DEFLECTION DETERMINED BY CAMERA TESTING Replace this table with the following table and note: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">PIPE DEFLECTION</th> </tr> <tr> <th>Amount of Deflection (%)</th> <th>Payment</th> </tr> </thead> <tbody> <tr> <td>0.0 to 5.0</td> <td>100% of the Unit Bid Price</td> </tr> <tr> <td>5.1 to 9.9</td> <td>50% of the Unit Bid Price <sup>(1)</sup></td> </tr> <tr> <td>10 or greater</td> <td>Remove and Replace</td> </tr> </tbody> </table> <p>(1) Provide Structural Analysis as indicated above. Based on the structural analysis, pipe may be allowed to remain in place at the reduced unit price.</p>	PIPE DEFLECTION		Amount of Deflection (%)	Payment	0.0 to 5.0	100% of the Unit Bid Price	5.1 to 9.9	50% of the Unit Bid Price <sup>(1)</sup>	10 or greater	Remove and Replace		
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<b>SUBSECTION: TABLE: REVISION:</b>	701.05 PAYMENT PIPE DEFLECTION DETERMINED BY MANDREL TESTING Delete this table.												
<b>SUBSECTION: REVISION:</b>	713.02.01 Paint. Replace with the following:  Conform to Section 842 and Section 846.												
<b>SUBSECTION: REVISION:</b>	713.03 CONSTRUCTION. Replace the first sentence of the second paragraph with the following:  On interstates and parkways, and other routes approved by the State Highway Engineer, install pavement striping that is 6 inches in width.												
<b>SUBSECTION: REVISION:</b>	713.03.03 Paint Application. Replace the second paragraph with the following table: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Material</th> <th>Paint Application Rate</th> <th>Glass Beads Application Rate</th> </tr> </thead> <tbody> <tr> <td>4 inch waterborne paint</td> <td>Min. of 16.5 gallons/mile</td> <td>Min. of 6 pounds/gallon</td> </tr> <tr> <td>6 inch waterborne paint</td> <td>Min. of 24.8 gallons/mile</td> <td>Min. of 6 pounds/gallon</td> </tr> <tr> <td>6 inch durable waterborne paint</td> <td>Min. of 36 gallons/mile</td> <td>Min. of 6 pounds/gallon</td> </tr> </tbody> </table>	Material	Paint Application Rate	Glass Beads Application Rate	4 inch waterborne paint	Min. of 16.5 gallons/mile	Min. of 6 pounds/gallon	6 inch waterborne paint	Min. of 24.8 gallons/mile	Min. of 6 pounds/gallon	6 inch durable waterborne paint	Min. of 36 gallons/mile	Min. of 6 pounds/gallon
Material	Paint Application Rate	Glass Beads Application Rate											
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<b>SUBSECTION: REVISION:</b>	713.03.04 Marking Removal. Replace the last sentence of the paragraph with the following:  Vacuum all marking material and removal debris concurrently with the marking removal operation.												
<b>SUBSECTION: REVISION:</b>	713.05 PAYMENT. Insert the following codes and pay items below the Pavement Striping – Permanent Paint:  <table border="0"> <tr> <td><u>Code</u></td> <td><u>Pay Item</u></td> <td><u>Pay Unit</u></td> </tr> <tr> <td>24189ER</td> <td>Durable Waterborne Marking – 6 IN W</td> <td>Linear Foot</td> </tr> <tr> <td>24190ER</td> <td>Durable Waterborne Marking – 6 IN Y</td> <td>Linear Foot</td> </tr> <tr> <td>24191ER</td> <td>Durable Waterborne Marking – 12 IN W</td> <td>Linear Foot</td> </tr> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	24189ER	Durable Waterborne Marking – 6 IN W	Linear Foot	24190ER	Durable Waterborne Marking – 6 IN Y	Linear Foot	24191ER	Durable Waterborne Marking – 12 IN W	Linear Foot
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>											
24189ER	Durable Waterborne Marking – 6 IN W	Linear Foot											
24190ER	Durable Waterborne Marking – 6 IN Y	Linear Foot											
24191ER	Durable Waterborne Marking – 12 IN W	Linear Foot											

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<p><b>SUBSECTION: REVISION:</b></p>	<p>714.03 CONSTRUCTION. Insert the following paragraph at the end of the third paragraph:  Use Type I Tape for markings on bridge decks, JPC pavement and JPC intersections. Thermoplastic should only be used for markings on asphalt pavement.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>714.03.07 Marking Removal. Replace the third sentence of the paragraph with the following:  Vacuum all marking material and removal debris concurrently with the marking removal operation.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>716.01 DESCRIPTION. Insert the following after the first sentence:  Energize lighting as soon as it is fully functional and ready for inspection. Ensure that lighting remains operational until the Division of Traffic Operations has provided written acceptance of the electrical work.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>716.02.01 Roadway Lighting Materials. Replace the last two sentences of the paragraph with the following:  Submit for material approval an electronic file of descriptive literature, drawings, and any requested design data to the Division of Traffic Operations. Do not begin work until shop drawings are approved. Notify the Engineer when submitting any information to the Division of Traffic Operations. Do not make substitutions for approved materials without written permission as described above.</p>
<p><b>SECTION: REVISION:</b></p>	<p>717 – THERMOPLASTIC INTERSECTION MARKINGS. Replace the section name with the following:  INTERSECTION MARKINGS.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>717.01 DESCRIPTION: Replace the paragraph with the following:  Furnish and install thermoplastic or Type I tape intersection markings (Stop Bars, Crosswalks, Turn Arrows, etc.) Thermoplastic markings may be installed by either a machine applied, screed extrusion process or by applying preformed thermoplastic intersection marking material.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>717.02 MATERIALS AND EQUIPMENT. Insert the following subsection:  717.02.06 Type I Tape. Conform to Section 836.</p>
<p><b>SUBSECTION: REVISION:</b></p>	<p>717.03.03 Application. Insert the following part to the subsection:  B) Type I Tape Intersection Markings. Apply according to the manufacturer's recommendations. Cut all tape at pavement joints when applied to concrete surfaces.</p>

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<p><b>SUBSECTION:</b> <b>PART:</b> <b>REVISION:</b></p>	<p>717.03.05 Proving Period. A) Requirements. Insert the following to this section:</p> <p>2) Type I Tape. During the proving period, ensure that the pavement marking material shows no signs of failure due to blistering, excessive cracking, bleeding, staining, discoloration, oil content of the pavement materials, drippings, chipping, spalling, poor adhesion to the pavement, loss of retroreflectivity, vehicular damage, and normal wear. Type I Tape is manufactured off site and warranted by the manufacturer to meet certain retroreflective requirements. As long as the material is adequately bonded to the surface and shows no signs of failure due to the other items listed in Subsection 714.03.06 A) 1), retroreflectivity readings will not be required. In the absence of readings, the Department will accept tape based on a nighttime visual observation.</p>																																							
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>717.03.06 Marking Removal. Replace the third sentence of the paragraph with the following:</p> <p>Vacuum all marking material and removal debris concurrently with the marking removal operation.</p>																																							
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>717.05 PAYMENT. Insert the following bid item codes:</p> <table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Pay Unit</u></th> <th><u>Pay Item</u></th> </tr> </thead> <tbody> <tr> <td>06563</td> <td>Pave Marking – R/R X Bucks 16 IN</td> <td>Linear Foot</td> </tr> <tr> <td>20782NS714</td> <td>Pave Marking Thermo – Bike</td> <td>Each</td> </tr> <tr> <td>23251ES717, 23264ES717</td> <td>Pave Mark TY I Tape X-Walk, Size</td> <td>Linear Foot</td> </tr> <tr> <td>23252ES717, 23265ES717</td> <td>Pave Mark TY I Tape Stop Bar, Size</td> <td>Linear Foot</td> </tr> <tr> <td>23253ES717</td> <td>Pave Mark TY I Tape Cross Hatch</td> <td>Square Foot</td> </tr> <tr> <td>23254ES717</td> <td>Pave Mark TY I Tape Dotted Lane Extension</td> <td>Linear Foot</td> </tr> <tr> <td>23255ES717</td> <td>Pave Mark TY I Tape Arrow, Type</td> <td>Each</td> </tr> <tr> <td>23268ES717-23270ES717</td> <td></td> <td></td> </tr> <tr> <td>23256ES717</td> <td>Pave Mark TY I Tape- ONLY</td> <td>Each</td> </tr> <tr> <td>23257ES717</td> <td>Pave Mark TY I Tape- SCHOOL</td> <td>Each</td> </tr> <tr> <td>23266ES717</td> <td>Pave Mark TY 1 Tape R/R X Bucks-16 IN</td> <td>Linear Foot</td> </tr> <tr> <td>23267ES717</td> <td>Pave Mark TY 1 Tape-Bike</td> <td>Each</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Unit</u>	<u>Pay Item</u>	06563	Pave Marking – R/R X Bucks 16 IN	Linear Foot	20782NS714	Pave Marking Thermo – Bike	Each	23251ES717, 23264ES717	Pave Mark TY I Tape X-Walk, Size	Linear Foot	23252ES717, 23265ES717	Pave Mark TY I Tape Stop Bar, Size	Linear Foot	23253ES717	Pave Mark TY I Tape Cross Hatch	Square Foot	23254ES717	Pave Mark TY I Tape Dotted Lane Extension	Linear Foot	23255ES717	Pave Mark TY I Tape Arrow, Type	Each	23268ES717-23270ES717			23256ES717	Pave Mark TY I Tape- ONLY	Each	23257ES717	Pave Mark TY I Tape- SCHOOL	Each	23266ES717	Pave Mark TY 1 Tape R/R X Bucks-16 IN	Linear Foot	23267ES717	Pave Mark TY 1 Tape-Bike	Each
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23267ES717	Pave Mark TY 1 Tape-Bike	Each																																						
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>725.02.02 Type VI Class C &amp; CT. Replace bullet 2) with the following:</p> <p>2) The SCI100GM System as developed by SCI Products, Inc. of St. Charles, Illinois. For all miscellaneous metal work conform to ASTM A 36 and galvanize according to ASTM A 123. For the SCI100GM fender panels conform to AASHTO 180. Galvanize the SCI100GM fender panels and SCI100GM -beam connectors after fabrication according to ASTM A 123.</p>																																							
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>725.02.04 Type VII Class C. Replace bullet 2) with the following:</p> <p>2) The SCI100GM System as developed by SCI Products, Inc. of St. Charles, Illinois. For all miscellaneous metal work conform to ASTM A 36 and galvanize according to ASTM A 123. For the SCI100GM fender panels conform to AASHTO 180. Galvanize the SCI100GM fender panels and SCI100GM-beam connectors after fabrication according to ASTM A 123.</p>																																							
<p><b>SUBSECTION:</b> <b>REVISION:</b></p>	<p>801.01 REQUIREMENTS. Delete the fourth sentence of the first paragraph and add the following to the second paragraph.</p> <p>When supplying cement with a SO<sub>3</sub> content above the value in table I of ASTM C 150, include supportive ASTM C 1038 14-day expansion test data for the supplied SO<sub>3</sub> content on the certification.</p>																																							

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<b>SUBSECTION:</b> <b>REVISION:</b>	805.01 GENERAL. Replace the second paragraph with the following:  The Department's List of Approved Materials includes the Aggregate Source List, the list of Class A and Class B Polish-Resistant Aggregate Sources, and the Concrete Restriction List.
<b>SUBSECTION:</b> <b>REVISION:</b>	805.04 CONCRETE. Delete footnote (1) The permissible lightweight particle content of gravel coarse aggregate for reinforced concrete box culvert sections, concrete pipe, pipe arches, or for use only in concrete that will be permanently protected from freezing by 2 feet or more of cover is 10.0 percent.
<b>SUBSECTION:</b> <b>REVISION:</b>	805.04 CONCRETE. Replace the "AASHTO T 160" reference in first sentence of the third paragraph with "KM 64-629"
<b>SUBSECTION:</b> <b>TABLE:</b> <b>PART:</b> <b>REVISION:</b>	805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE. AGGREGATE SIZE USE Cement Concrete Structures and Incidental Construction Replace "9-M for Waterproofing Overlays" with "8 or 9-M for Waterproofing Overlays"

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**SUBSECTION:** 805.15 GRADUATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE.  
**REVISION:** Replace the "SIZES OF COARSE AGGREGATES" table in with the following:

SIZES OF COARSE AGGREGATES																	
AMOUNTS FINER THAN EACH LABORATORY SIEVE (SQUARE OPENINGS) PERCENTAGE BY WEIGHT																	
Aggregate Size	Sieve	4 inch	3 1/2 inch	3 inch	2 1/2 inch	2 inch	1 1/2 inch	1 inch	3/4 inch	1/2 inch	3/8 inch	No. 4	No. 8	No. 16	No. 30	No. 100	No. 200
Aggregate Size	Nominal <sup>(1)</sup> Maximum Aggregate Size																
1	3 1/2 inch	100	90-100		25-60		0-15		0-5								
2	2 1/2 inch			100	90-100	35-70	0-15		0-5								
23	2 inch			100		40-90		0-15		0-5							
3	2 inch				100	90-100	35-70	0-15		0-5							
357	2 inch				100	95-100		35-70		10-30		0-5					
4	1 1/2 inch				100	90-100	20-55	0-15		0-5							
467	1 1/2 inch				100	95-100		35-70		10-30		0-5					
5	1 inch					100	90-100	20-55	0-10	0-5							
57	1 inch					100	95-100		25-60		0-10	0-5					
610	1 inch					100	85-100		40-75		15-40						
67	3/4 inch					100	90-100		20-55		0-10	0-5					
68	3/4 inch					100	90-100		30-65		5-25	0-10	0-5				
710	3/4 inch					100	80-100		30-75		0-30						
78	1/2 inch					100		90-100	40-75	5-25	0-10	0-5					
8	3/8 inch					100	85-100		10-30		0-10	0-5					
9-M	3/8 inch					100	75-100		0-25		0-5						
10 <sup>(2)</sup>	No. 4					100		85-100		100		85-100				10-30	
11 <sup>(2)</sup>	No. 4					100		100		40-90		10-40				0-5	
DENSE GRADED AGGREGATE <sup>(1)</sup>	3/4 inch					100		70-100		50-80		30-65				10-40	
CRUSHED STONE BASE <sup>(1)</sup>	1 1/2 inch				100		90-100		60-95		30-70		15-55			5-20	

<sup>(1)</sup> Gradation performed by wet sieve KM 64-620 or AASHTO T 117 T7.  
<sup>(2)</sup> Sizes shown for convenience and are not to be considered as coarse aggregates.  
<sup>(3)</sup> Nominal Maximum Size is the largest sieve on the gradation table for an aggregate size on which any material may be retained.  
 Note: The Department will allow blending of same source/same type aggregate when precise procedures are used such as cold feed, belt, or equivalent and combining of sizes or types of aggregate using the weigh hopper at concrete plants or controlled feed belts at the pugmill to obtain designated sizes.

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<p><b>SUBSECTION: REVISION:</b></p>	<p>805.16 SAMPLING AND TESTING. Replace the "AASHTO T 160" method with the "KM 64-629" method for the Concrete Beam Expansion Test.  Replace the "ASTM D 3042" method with the "KM 64-625" method for Insoluble Residue.</p>									
<p><b>SUBSECTION: REVISION:</b></p>	<p>810.04.01 Coating Requirements. Replace the "Subsection 806.07" references with "Subsection 806.06"</p>									
<p><b>SUBSECTION: PART: REVISION:</b></p>	<p>810.06.01 Polyvinyl Chloride (PVC) Pipe. B) Culvert and Entrance Pipe. Replace the title with the following:  B) Culvert Pipe, Storm Sewer, and Entrance Pipe.</p>									
<p><b>SUBSECTION: REVISION:</b></p>	<p>823.02 LIQUID MEMBRANE FORMING COMPOUNDS. Add the following:  Effective July 1, 2011, to remain on or be added to the Department's approved list, products must have completed testing or been submitted for testing through the National Transportation Product Evaluation Program (NTPEP) for Concrete Curing Compounds.</p>									
<p><b>SUBSECTION: REVISION:</b></p>	<p>837.03 APPROVAL. Replace the last sentence with the following:  The Department will sample and evaluate for approval each lot of thermoplastic material delivered for use per contract prior to installation of the thermoplastic material. Do not allow the installation of thermoplastic material until it has been approved by the Division of Materials. Allow the Department a minimum of 10 working days to evaluate and approve thermoplastic material.</p>									
<p><b>SUBSECTION: REVISION:</b></p>	<p>837.03.01 Composition. COMPOSITION Table: Replace  <table border="1"> <tr> <td>Lead Chromate</td> <td>0.0 max.</td> <td>4.0 min.</td> </tr> <tr> <td colspan="3">with</td> </tr> <tr> <td>Heavy Metals Content</td> <td colspan="2">Comply with 40 CFR 261</td> </tr> </table> </p>	Lead Chromate	0.0 max.	4.0 min.	with			Heavy Metals Content	Comply with 40 CFR 261	
Lead Chromate	0.0 max.	4.0 min.								
with										
Heavy Metals Content	Comply with 40 CFR 261									
<p><b>SUBSECTION: TABLE: REVISION:</b></p>	<p>842.02 APPROVAL. PAINT COMPOSITION Revise the following in the table:  Replace the 2.0ΔE* values in the table with 4.0ΔE* for both Yellow and White Paint on both the Daytime and Nighttime Color Spectrophotometer.</p>									
<p><b>SECTION: REVISION:</b></p>	<p>DIVISION 800 MATERIAL DETAILS Add the following section in Division 800  <b>SECTION 846 – DURABLE WATERBORNE PAINT</b>  <b>846.01 DESCRIPTION.</b> This section covers quick-drying durable waterborne pavement striping paint for permanent applications. The paint shall be ready-mixed, one-component, 100% acrylic waterborne striping paint suitable for application on such traffic-bearing surfaces as Portland cement concrete, bituminous cement concrete, asphalt, tar, and previously painted areas of these surfaces.  <b>846.02 Approval.</b> Select materials that conform to the composition requirements below. Provide independent analysis data and certification for each formulation stating the total concentration of each heavy metal present, the test method used for each determination, and compliance to 40 CFR 261 for leachable heavy metals content. Submit initial samples for approval before beginning striping</p>									

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operations. The initial sample may be sent from the manufacture of the paint. The Department will randomly sample and evaluate the paint each week that the striping operations are in progress.

The non-volatile portion of the vehicle shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis. The acrylic resin used shall be a 100% cross-linking acrylic as evidenced by infrared peaks at wavelengths 1568, 1624, and 1672 cm<sup>-1</sup> with intensities equal to those produced by an acrylic resin known to be 100% cross-linking.

PAINT COMPOSITION		
Property and Test Method	Yellow	White
Daytime Color (CIELAB) Spectrophotometer using illuminant D65 at 45° illumination and 0° viewing with a 2° observer	L* 81.76 a* 19.79 b* 89.89 Maximum allowable variation 4.0ΔE*	L* 93.51 a* -1.01 b* 0.70 Maximum allowable variation 4.0ΔE*
Nighttime Color (CIELAB) Spectrophotometer using illuminant A at 45° illumination and 0° viewing with a 2° observer	L* 86.90 a* 24.80 b* 95.45 Maximum allowable variation 4.0ΔE*	L* 93.45 a* -0.79 b* 0.43 Maximum allowable variation 4.0ΔE*
Heavy Metals Content	Comply with 40 CFR 261	Comply with 40 CFR 261
Titanium Dioxide ASTM D 4764	NA	10% by weight of pigment min.
VOC ASTM D 2369 and D 4017	1.25 lb/gal max.	1.25 l /gal max.
Contrast Ratio (at 15 mils wft)	0.97	0.99

**846.02.01 Manufacturers Certification.** Provide a certification of analysis for each lot of traffic paint produced stating conformance to the requirements of this section. Report the formulation identification, traffic paint trade name, color, date of manufacturer, total quantity of lot produced, actual quantity of traffic paint represented, sampling method utilized to obtain the samples, and data for each sample tested to represent each lot produced.

**846.03 ACCEPTANCE PROCEDURES FOR NON-SPECIFICATION DURABLE WATERBORNE PAVEMENT STRIPING PAINT.** When non-specification paint is inadvertently incorporated into the work the Department will accept the material with a reduction in pay. The percentage deduction is cumulative based on its compositional properties, but will not exceed 60 percent. The Department will calculate the payment reduction on the unit bid price for the routes where the non-specification paint was used.

DURABLE WATERBORNE PAVEMENT STRIPING PAINT REDUCTION SCHEDULE						
Non-conforming Property	Resin	Color	Contrast	TiO <sub>2</sub>	VOC	Heavy Metals Content
Reduction Rate	60%	10%	10%	10%	60%	60%

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<b>APPENDIX A:</b> <b>PART:</b> <b>REVISION:</b>	TABLUTION OF CONSTRUCTION TOLERANCES. 601.03.03 Replace with the following:  Concrete accuracy of individual ingredient material for each batch. ± 2.0% for aggregates ± 1.0% for water ± 1.0% for cement in batches of 4 cubic yards or greater ± 1.0% for total cementitious materials in batches of 4 cubic yards or greater 0.0% to + 4.0% for cement in batches less than 4 cubic yards 0.0% to + 4.0% for total cementitious materials in batches less than 4 cubic yards ± 3.0% for admixtures
<b>APPENDIX A:</b> <b>PART:</b> <b>REVISION:</b>	TABLUTION OF CONSTRUCTION TOLERANCES. 601.03.03 C) 2) Delete

## **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 or flip disk/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) Allow direct wiring for operation of the sign or arrow board from an external power source when desired.
- 7) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
- 8) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
- 9) 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.
- 10) 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.

- 11) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 12) Provide a photocell control to provide automatic dimming.
- 13) Allow an on-off flashing sequence at an adjustable rate.
- 14) Provide a sight to aim the message.
- 15) Provide a LED display color of approximately 590 nm amber.
- 16) Provide a controller that is password protected.
- 17) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 18) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

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

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

**2.3 Requirements for Flip-Disc Type Signs.** Flip-disc type signs will have the following additional requirements:

- 1) Disc faces are fluorescent yellow on one side, and flat black on the reverse.
- 2) Discs are at least 3.5 square inches with a minimum character size of 5 discs horizontally by 7 discs vertically.
- 3) Discs are designed to operate without lubrication for at least 200 million operations.
- 4) Line change speed of 600 milliseconds or less.
- 5) When power is lost, the sign automatically becomes blank or displays a preprogrammed default message.

**2.4 Power.**

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. 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.
- 2) Diesel Power Source. Ensure the following is provided for:
  - a) At least 24 spare bulbs available on the project for quick replacement of burned out bulbs.
  - b) Black light at both top and bottom of each line to illuminate discs for visibility at night or under adverse weather conditions, for flip disk signs.

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- c) Diesel generator and electric start assembly, including batteries and a fuel capacity adequate to provide at least 72 hours continuous operation without refueling.
- d) Fuel gage.
- e) Provide all other specific features, such as bulb size, protection from sun glare, and shock protection for electronics and bulbs, to the satisfaction of the Engineer.

**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. Unless the Contract specifies flip-disk signs, use Class I signs on interstates and parkways.

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 or disk.

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

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02671	Portable Changeable Message Sign	Each

January 5, 2010

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**SPECIAL NOTE FOR WATERBLASTING STRIPING REMOVAL**

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.** Remove pavement striping, temporary or permanent, from asphalt or concrete pavement using ultra-high pressure water.

**2.0 MATERIALS AND EQUIPMENT.**

**2.1 Truck Mounted Ultra-high Pressure Pump and Water Tank.** Use a truck having a separate hydrostatic transmission capable of speed increments of ±1 foot per minute at operator’s discretion. Use a pump capable of delivering a minimum of 30,000 psi to a bumper mounted deck containing an operator controlled rotating manifold that is speed variable up to at least 3,000 rpm and accepts interchangeable waterjet nozzles. Provide all necessary waterjet nozzle setups and patterns to ensure clean sufficient removal. Ensure the deck’s discharge directs the water and removal material in a manner that is not hazardous to vehicles or pedestrians.

**2.2 Water.** Conform to Section 803.

**3.0 CONSTRUCTION.** Before starting work, provide the Engineer with a contractor work history of 2 projects where striping removal was completed acceptably for a similar type of pavement. If no history is available, complete 1,000 linear feet of striping removal and obtain the Engineer’s approval before continuing.

Conduct striping removal under lane closures meeting the conditions of the MUTCD and Kentucky Standard Drawings and Specifications. Waterblast to remove temporary or permanent striping completely as the Engineer directs. Do not damage the pavement in any way and protect all joint seals. If damage is observed, stop the removal process until the operator can make changes and demonstrate acceptable striping removal. Repair any damage to the pavement. Vacuum all marking material and removal debris concurrently with the blasting operation.

**4.0 MEASUREMENT.** The Department will measure the quantity in linear feet. When the removal area’s width exceeds 8 inches and a second pass is required, the Department will measure the length of the additional pass for Payment. The Department will not measure for payment additional passes for widths of 8 inches or less or passes to further eradicate markings. The Department will not measure repair of damaged pavement for payment and will consider it incidental to this item of work.

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
---	Waterblast Stripe Removal	Linear Foot

The Department will consider payment as full compensation for all work required under this note.

January 1, 2008

## SPECIAL NOTE FOR TURF REINFORCING MAT

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

### 2.0 MATERIALS.

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

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

### 2.2 Classifications

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

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

Turf Reinforcement Matting					
Properties <sup>1</sup>	Type 1	Type 2	Type 3	Type 4	Test Method
Minimum tensile Strength lbs/ft	125	150	175	3000 by 1500	ASTM D6818 <sup>2</sup>
UV stability (minimum % tensile retention)	80	80	80	90	ASTM D4355 <sup>3</sup> (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 <sup>2</sup> Channel applications	6.0 <sup>4</sup>	8.0 <sup>4</sup>	10.0 <sup>4</sup>	12.0 <sup>4</sup>	ASTM D6459 ASTM D6460-07

<sup>1</sup> For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting alone.

<sup>2</sup>Minimum Average Roll Values for tensile strength of sample material machine direction.

<sup>3</sup>Tensile Strength percentage retained after stated 1000 hr duration of exposure under ASTM D4355 testing. Based on nondegradable components exclusively.

<sup>4</sup>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:

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

April 18, 2009

## **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
- II. Nondiscrimination of Employees (KRS 344)
- III. Payment of Predetermined Minimum Wages
- IV. Statements and Payrolls

**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 administering 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](mailto:finance.contractcompliance@ky.gov)** or by phone at 502-564-2874.

General Decision Number: KY100211 07/01/2011 KY211

State: Kentucky

Construction Type: Highway

Counties: Anderson, Bath, Bourbon, Boyd, Boyle, Bracken, Breckinridge, Bullitt, Carroll, Carter, Clark, Elliott, Fayette, Fleming, Franklin, Gallatin, Grant, Grayson, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Lewis, Madison, Marion, Mason, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Rowan, Scott, Shelby, Spencer, Trimble, Washington and Woodford Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	10/22/2010
1	11/05/2010
2	12/03/2010
3	12/17/2010
4	12/31/2010
5	01/28/2011
6	03/25/2011
7	05/06/2011
8	06/03/2011
9	07/01/2011

BRIN0004-003 04/01/2010

BRECKENRIDGE COUNTY

	Rates	Fringes
BRICKLAYER.....	\$ 27.47	12.53

BRKY0001-005 06/01/2009

BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, & TRIMBLE COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 24.11	9.97

BRKY0002-006 11/01/2010

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 26.44	10.01

BRKY0007-004 06/01/2011

BOYD, CARTER, ELLIOT, FLEMING, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 28.29	16.80

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BRKY0017-004 06/01/2009

ANDERSON, BATH, BOURBON, BOYLE, CLARK, FAYETTE, FRANKLIN,  
HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS,  
OWEN, SCOTT, WASHINGTON & WOODFORD COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 24.11	9.97

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CARP0064-001 07/01/2010

	Rates	Fringes
CARPENTER.....	\$ 25.45	12.21
Diver.....	\$ 37.64	10.23
PILEDRIVERMAN.....	\$ 25.09	10.23

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ELEC0212-008 05/31/2010

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 26.11	14.34

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ELEC0212-014 01/01/2006

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician.....	\$ 20.45	6.95

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ELEC0317-012 06/01/2010

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
Electricians:		
Cable Splicer.....	\$ 32.68	18.13
Electrician.....	\$ 31.87	19.58

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ELEC0369-007 05/26/2010

ANDERSON, BATH, BOURBON, BOYLE, BRECKINRIDGE, BULLITT, CARROLL,  
CLARK, FAYETTE, FRAONKLIN, GRAYSON, HARDIN, HARRISON, HENRY,  
JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER,  
MONTGOMERY, NELSON, NICHOLAS, OLDHAM, OWEN, ROBERTSON, SCOTT,  
SHELBY, SPENCER, TRIMBLE, WASHINGTON, & WOODFORD COUNTIES:

Rates Fringes

ELECTRICIAN.....\$ 29.27 13.08

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ELEC0575-002 05/31/2010

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 30.69	12.48

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\* ENGI0181-018 07/01/2011

	Rates	Fringes
Operating Engineer:		
GROUP 1.....	\$ 26.50	13.00
GROUP 2.....	\$ 24.08	13.00
GROUP 3.....	\$ 24.46	13.00
GROUP 4.....	\$ 23.82	13.00

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Gurrries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting Engine (Two or More Drums); Horizontal Directional Drill Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (Over 900 cu. ft. per min.); Bituminous Mixer; Boom Type Tamping Machine; Bull Float; Concrete Mixer (Under 21 cu. ft.); Dredge Engineer; Electric Vibrator; Compactor/Self-Propelled Compactor; Elevator (One Drum or Buck Hoist); Elevator (When used to Hoist Building Material); Finish Machine; Firemen & Hoist (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Concrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher; Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger; Welding Machine; Well Points; & Whirley Oiler

GROUP 3 - All Off Road Material Handling Equipment, including Articulating Dump Trucks; Greaser on Grease

Facilities servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine; Cement Gun; Concrete Saw; Conveyor; Deckhand Oiler; Grout Pump; Hydraulic Post Driver; Hydro Seeder; Mud Jack; Oiler; Paving Joint Machine; Power Form Handling Equipment; Pump; Roller (Earth); Steerman; Tamping Machine; Tractor (Under 50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where the length of the boom in combination with the length of the piling leads equals or exceeds 150 ft. - \$1.00 over Group 1 rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID 10% ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT WORK.

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IRON0044-009 06/01/2009

BRACKEN, GALLATIN, GRANT, HARRISON, ROBERTSON,  
BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);  
CARROLL (Eastern third, including the Township of Ghent);  
FLEMING (Western part, excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);  
MASON (Western two-thirds, including Townships of Dover, Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);  
NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);  
OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);  
SCOTT (Northern two-thirds, including Townships of Biddle, Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall)

Rates Fringes

IRONWORKER

Fence Erector.....	\$ 23.55	16.72
Structural.....	\$ 26.17	16.72

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IRON0070-006 06/01/2011

ANDERSON, BOYLE, BRECKINRIDGE, BULLITT, FAYETTE, FRANKLIN,  
GRAYSON, HARDIN, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON,  
MARION, MEADE, MERCER, NELSON, OLDHAM, SHELBY, SPENCER,  
TRIMBLE, WASHINGTON & WOODFORD  
BOURBON (Southern two-thirds, including Townships of Austerlity, Centerville, Clintonville, Elizabeth, Hutchison, Littlerock, North Middletown & Paris);  
CARROLL (Western two-thirds, including Townships of Carrollton, Easterday, English, Locust, Louis, Prestonville & Worthville);  
CLARK (Western two-thirds, including Townships of Becknerville,

Flanagan, Ford, Pine Grove, Winchester & Wyandotte);  
OWEN (Eastern eighth, including Townships of Glenmary, Gratz,  
Monterey, Perry Park & Tacketts Mill);  
SCOTT (Southern third, including Townships of Georgetown, Great  
Crossing, Newtown, Stampling Ground & Woodlake);

	Rates	Fringes
IRONWORKER.....	\$ 25.77	18.28

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IRON0372-006 06/01/2010

BRACKEN, GALLATIN, GRANT, HARRISON and ROBERTSON  
BOURBON (Northern third, including Townships of Jackson,  
Millersburg, Ruddel Mills & Shawhan);  
CARROLL (Eastern third, including the Township of Ghent);  
FLEMING (Western part, Excluding Townships of Beechburg, Colfax,  
Elizaville, Flemingsburg, Flemingsburg Junction, Foxport,  
Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills,  
Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar  
Plains,  
Ringos Mills, Tilton & Wallingford);  
MASON (Western two-thirds, including Townships of Dover,  
Lewisburg, Mays Lick, Maysville, Minerva, Moranburg,  
Murphysville, Ripley, Sardis, Shannon, South Ripley &  
Washington);  
NICHOLAS (Townships of Barefoot, Barterville, Carlisle,  
Ellisville, Headquarters, Henryville, Morningglory, Myers &  
Oakland Mills);  
OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook,  
Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New  
Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita &  
Wheatley);  
SCOTT (Northern two-thirds, including Townships of Biddle,  
Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers  
Gap, Sadieville, Skinnersburg & Stonewall) COUNTIES

	Rates	Fringes
IRONWORKER, REINFORCING		
Beyond 30-mile radius of Hamilton County, Ohio		
Courthouse.....	\$ 26.55	17.10
Up to & including 30-mile radius of Hamilton County, Ohio Courthouse.....	\$ 26.30	17.10

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IRON0769-007 06/01/2011

BATH, BOYD, CARTER, ELLIOTT, GREENUP, LEWIS, MONTGOMERY & ROWAN  
CLARK (Eastern third, including townships of Bloomingdale,  
Hunt, Indian Fields, Kiddville, Loglick, Rightangele & Thomson);  
FLEMING (Townships of Beechburg, Colfax, Elizaville,  
Flemingsburg, Flemingsburg Junction, Foxport, Grange City,  
Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton,  
Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains,  
Ringos Mills, Tilton & Wallingford);  
MASON (Eastern third, including Townships of Helena, Marshall,  
Orangeburg, Plumville & Springdale);  
NICHOLAS (Eastern eighth, including the Township of Moorefield  
Sprout)

	Rates	Fringes
IRONWORKER.....	\$ 30.96	18.07
ZONE 1.....	\$ 29.59	18.07
ZONE 2.....	\$ 31.36	18.07
ZONE 3.....	\$ 32.96	18.07

ZONE 1 - Up to 10 mi. radius of union hall, Ashland, Ky.,  
1643 Greenup Avenue  
ZONE 2 - 10 to 50 mi. radius of union hall;  
ZONE 3 - 50 mi. radius and beyond

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LABO0189-003 07/01/2010

BATH, BOURBON, BOYD, BOYLE, BRACKEN, CARTER, CLARK, ELLIOTT,  
FAYETTE, FLEMING, FRANKLIN, GALLATIN, GRANT, GREENUP, HARRISON,  
JESSAMINE, LEWIS, MADISON, MASON, MERCER, MONTGOMERY, NICHOLAS,  
OWEN, ROBERTSON, ROWAN, SCOTT, & WOOLFORD COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 20.61	10.35
GROUP 2.....	\$ 20.86	10.35
GROUP 3.....	\$ 20.91	10.35
GROUP 4.....	\$ 21.51	10.35

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement  
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter  
Tender; Cement Mason Tender; Cleaning of Machines;  
Concrete; Demolition; Dredging; Environmental - Nuclear,  
Radiation, Toxic & Hazardous Waste - Level D; Flagperson;  
Grade Checker; Hand Digging & Hand Back Filling; Highway  
Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;  
Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail  
& Fence Installer; Signal Person; Sound Barrier Installer;  
Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper;  
Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);  
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;  
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete  
Saw Operator; Deckhand Scow Man; Dry Cement Handler;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Level C; Forklift Operator for Masonary; Form Setter;  
Green Concrete Cutting; Hand Operated Grouter & Grinder  
Machine Operator; Jackhammer; Pavement Breaker; Paving  
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven  
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;  
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind  
Trencher; Sand Blaster; Concrete Chipper; Surface Grinder;  
Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman;  
Gunnite Operator & Mixer; Grout Pump Operator; Side Rail  
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free  
Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;  
& Tunnel Mucker (Free Air); Directional & Horizontal  
Boring; Air Track Drillers (All Types); Powdermen &  
Blasters; Troxler & Concrete Tester if Laborer is Utilized

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LABO0189-008 07/01/2010

ANDERSON, BULLITT, CARROLL, HARDIN, HENRY, JEFFERSON, LARUE,  
MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE &  
WASHINGTON COUNTIES

Rates Fringes

Laborers:

GROUP 1.....	\$ 20.91	10.05
GROUP 2.....	\$ 21.16	10.05
GROUP 3.....	\$ 21.21	10.05
GROUP 4.....	\$ 21.81	10.05

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement  
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter  
Tender; Cement Mason Tender; Cleaning of Machines;  
Concrete; Demolition; Dredging; Environmental - Nuclear,  
Radiation, Toxic & Hazardous Waste - Level D; Flagperson;  
Grade Checker; Hand Digging & Hand Back Filling; Highway  
Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;  
Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail  
& Fence Installer; Signal Person; Sound Barrier Installer;  
Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper;  
Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);  
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;  
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete  
Saw Operator; Deckhand Scow Man; Dry Cement Handler;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Level C; Forklift Operator for Masonary; Form Setter;  
Green Concrete Cutting; Hand Operated Grouter & Grinder  
Machine Operator; Jackhammer; Pavement Breaker; Paving  
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven  
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;  
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind  
Trencher; Sand Blaster; Concrete Chipper; Surface Grinder;  
Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman;  
Gunnite Operator & Mixer; Grout Pump Operator; Side Rail  
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free  
Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;  
& Tunnel Mucker (Free Air); Directional & Horizontal  
Boring; Air Track Drillers (All Types); Powdermen &  
Blasters; Troxler & Concrete Tester if Laborer is Utilized

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LABO0189-009 07/01/2010

BRECKINRIDGE & GRAYSON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 21.16	9.80
GROUP 2.....	\$ 21.41	9.80
GROUP 3.....	\$ 21.46	9.80
GROUP 4.....	\$ 22.06	9.80

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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PAIN0012-005 06/11/2005

BATH, BOURBON, BOYLE, CLARK, FAYETTE, FLEMING, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, ROBERTSON, SCOTT & WOODFORD COUNTIES:

	Rates	Fringes
PAINTER		
Bridge/Equipment Tender and/or Containment Builder..	\$ 18.90	5.90

Brush & Roller.....	\$ 21.30	5.90
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement.....	\$ 22.30	5.90
Sandblasting & Waterblasting.....	\$ 22.05	5.90
Spray.....	\$ 21.80	5.90

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PAIN0012-017 06/01/2010

BRACKEN, GALLATIN, GRANT, MASON & OWEN COUNTIES:

	Rates	Fringes
PAINTER (Heavy & Highway Bridges - Guardrails - Lightpoles - Striping)		
Bridge Equipment Tender and Containment Builder.....	\$ 20.27	8.10
Brush & Roller.....	\$ 22.85	8.10
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement.....	\$ 23.85	8.10
Sandblasting & Water Blasting.....	\$ 23.60	8.10
Spray.....	\$ 23.35	8.10

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PAIN0118-004 05/01/2010

ANDERSON, BRECKINRIDGE, BULLITT, CARROLL, GRAYSON, HARDIN,  
HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY,  
SPENCER, TRIMBLE & WASHINGTON COUNTIES:

	Rates	Fringes
PAINTER		
Brush & Roller.....	\$ 18.50	10.30
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning.....	\$ 19.50	10.30

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PAIN1072-003 12/01/2010

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS and ROWAN COUNTIES

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations.....	\$ 29.03	11.90
Power Generating Facilities.	\$ 25.79	11.90

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PLUM0248-003 06/01/2011

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
Plumber and Steamfitter.....	\$ 32.00	16.24

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PLUM0392-007 06/01/2008

BRACKEN, CARROLL (Eastern Half), GALLATIN, GRANT, MASON, OWEN &  
ROBERTSON COUNTIES:

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 28.39	14.30
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PLUM0502-003 08/01/2010		

BRECKINRIDGE, BULLITT, CARROLL (Western Half), FRANKLIN  
(Western three-fourths), GRAYSON, HARDIN, HENRY, JEFFERSON,  
LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE &  
WASHINGTON COUNTIES

	Rates	Fringes
PLUMBER.....	\$ 30.50	15.13
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SUKY2010-160 10/08/2001		

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 16.57	7.34
GROUP 2.....	\$ 16.68	7.34
GROUP 3.....	\$ 16.86	7.34
GROUP 4.....	\$ 16.96	7.34

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Mobile Batch Truck Tender

GROUP 2 - Greaser; Tire Changer; & Mechanic Tender

GROUP 3 - Single Axle Dump; Flatbed; Semi-trailer or Pole  
Trailer when used to pull building materials and equipment;  
Tandem Axle Dump; Distributor; Mixer; & Truck Mechanic

GROUP 4 - Euclid & Other Heavy Earthmoving Equipment &  
Lowboy; Articulator Cat; 5-Axle Vehicle; Winch & A-Frame  
when used in transporting materials; Ross Carrier; Forklift  
when used to transport building materials; & Pavement  
Breaker

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WELDERS - Receive rate prescribed for craft performing  
operation to which welding is incidental.

=====  
Unlisted classifications needed for work not included within  
the scope of the  
classifications listed may be added after award only as  
provided in the labor  
standards contract clauses (29 CFR 5.5(a)(1)(ii)).  
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In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7).

Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested

party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

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

These rates are listed pursuant to the Kentucky Determination No. CR-10-III- HWY dated July 12, 2010.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

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

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

**TO: EMPLOYERS/EMPLOYEES**

**PREVAILING WAGE SCHEDULE:**

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

**OVERTIME:**

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

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: 111327  
COUNTY: JEFFERSON  
PROPOSAL: 056GR11D027

PAGE: 1  
LETTING: 07/15/11  
CALL NO: 423

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
SECTION 0001 PAVING					
0010	00001	DGA BASE	24,485.000 TON		
0020	00003	CRUSHED STONE BASE	4,994.000 TON		
0030	00005	GEOGRID REINFORCEMENT FOR SUBGRADE	62,200.000 SQYD		
0040	00018	DRAINAGE BLANKET-TYPE II-ASPH	9,732.000 TON		
0050	00020	TRAFFIC BOUND BASE	550.000 TON		
0060	00190	LEVELING & WEDGING PG64-22	309.000 TON		
0070	00214	CL3 ASPH BASE 1.00D PG64-22	31,428.000 TON		
0080	02101	CEM CONC ENT PAVEMENT-8 IN	469.000 SQYD		
0090	02676	MOBILIZATION FOR MILL & TEXT (BALLARDSVILLE ROAD)	( 1.00) LS		
0100	02676	MOBILIZATION FOR MILL & TEXT (BROWNSBORO ROAD)	( 1.00) LS		
0110	02677	ASPHALT PAVE MILLING & TEXTURING	3,107.000 TON		
0120	22906ES403	CL3 ASPH SURF 0.38A PG64-22	6,342.000 TON		
SECTION 0002 ROADWAY					
0130	00071	CRUSHED AGGREGATE SIZE NO 57	12.000 TON		
0140	01000	PERFORATED PIPE-4 IN	8,334.000 LF		
0150	01810	STANDARD CURB AND GUTTER	12,337.000 LF		
0160	01875	STANDARD HEADER CURB	814.000 LF		
0170	01880	BARRIER HEADER CURB	147.000 LF		
0180	01923	STANDARD BARRIER MEDIAN TYPE 5	1,051.000 SQYD		
0190	01949	MOUNTABLE MEDIAN TYPE 6A	102.000 SQYD		

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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0200	01982	DELINEATOR FOR GUARDRAIL-WHITE	12.000	EACH		
0210	02014	BARRICADE-TYPE III	12.000	EACH		
0220	02157	PAVED DITCH TYPE 1	275.000	SQYD		
0230	02200	ROADWAY EXCAVATION	45,525.000	CUYD		
0240	02351	GUARDRAIL-STEEL W BEAM-S FACE	1,112.500	LF		
0250	02360	GUARDRAIL TERMINAL SECTION NO 1	1.000	EACH		
0260	02364	GUARDRAIL TERMINAL SECTION NO 2	2.000	EACH		
0270	02378	GUARDRAIL CONNECTOR TO BRIDGE END TY D	2.000	EACH		
0280	02381	REMOVE GUARDRAIL	925.000	LF		
0290	02391	GUARDRAIL END TREATMENT TYPE 4A	5.000	EACH		
0300	02399	EXTRA LENGTH GUARDRAIL POST	56.000	EACH		
0310	02429	RIGHT-OF-WAY MONUMENT TYPE 1	74.000	EACH		
0320	02432	WITNESS POST	34.000	EACH		
0330	02478	CAP INLET	1.000	SQYD		
0340	02484	CHANNEL LINING CLASS III	22.200	TON		
0350	02545	CLEARING AND GRUBBING (BALLARDSVILLE ROAD 11.5 ACRES)	( 1.00)	LS		
0360	02545	CLEARING AND GRUBBING (BROWNSBORO ROAD 20.6 ACRE)	( 1.00)	LS		
0370	02555	CONCRETE-CLASS B	205.000	CUYD		
0380	02562	SIGNS	955.000	SQFT		
0390	02585	EDGE KEY	345.900	LF		
0400	02597	FABRIC-GEOTEXTILE TYPE II	140.000	SQYD		

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0410	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	8,396.000	SQYD	2.00	16,792.00
0420	02612	HANDRAIL-TYPE A-2	285.000	LF		
0430	02625	REMOVE HEADWALL	1.000	EACH		
0440	02650	MAINTAIN & CONTROL TRAFFIC (BALLARDSVILL ROAD)	( 1.00)	LS		
0450	02650	MAINTAIN & CONTROL TRAFFIC (BROWNSBORO ROAD)	( 1.00)	LS		
0460	02651	DIVERSIONS (BY-PASS DETOURS) (BALLARDSVILLE ROAD)	( 1.00)	LS		
0470	02651	DIVERSIONS (BY-PASS DETOURS) (BROWNSBORO ROAD PHASE 1)	( 1.00)	LS		
0480	02651	DIVERSIONS (BY-PASS DETOURS) (BROWNSBORO ROAD PHASE 1A)	( 1.00)	LS		
0490	02671	PORTABLE CHANGEABLE MESSAGE SIGN	6.000	EACH		
0500	02678	SCARIFYING PAVEMENT	427.000	SQYD		
0510	02690	SAFELOADING	36.000	CUYD		
0520	02701	TEMP SILT FENCE	13,633.000	LF		
0530	02703	SILT TRAP TYPE A	67.000	EACH		
0540	02704	SILT TRAP TYPE B	67.000	EACH		
0550	02705	SILT TRAP TYPE C	78.000	EACH		
0560	02706	CLEAN SILT TRAP TYPE A	201.000	EACH		
0570	02707	CLEAN SILT TRAP TYPE B	201.000	EACH		
0580	02708	CLEAN SILT TRAP TYPE C	234.000	EACH		
0590	02709	CLEAN TEMP SILT FENCE	27,266.000	LF		
0600	02720	SIDEWALK-4 IN CONCRETE	4,945.000	SQYD		
0610	02726	STAKING (BALLARDSVILLE ROAD)	( 1.00)	LS		

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0620	02726	STAKING (BROWNSBORO ROAD)	( 1.00)	LS		
0630	02775	ARROW PANEL	1.000	EACH		
0640	05950	EROSION CONTROL BLANKET	645.000	SQYD		
0650	05952	TEMP MULCH	139,535.000	SQYD		
0660	05953	TEMP SEEDING AND PROTECTION	139,535.000	SQYD		
0670	05966	TOPDRESSING FERTILIZER	2.100	TON		
0680	05985	SEEDING AND PROTECTION	41,481.000	SQYD		
0690	05989	SPECIAL SEEDING CROWN VETCH	3,010.000	SQYD		
0700	05990	SODDING	4,114.000	SQYD		
0710	06510	PAVE STRIPING-TEMP PAINT-4 IN	118,400.000	LF		
0720	06513	PAVE STRIPING-TEMP PAINT-12 IN	96.000	LF		
0730	06514	PAVE STRIPING-PERM PAINT-4 IN	76,506.000	LF		
0740	06516	PAVE STRIPING-PERM PAINT-8 IN	1,240.000	LF		
0750	06542	PAVE STRIPING-THERMO-6 IN W	361.000	LF		
0760	06543	PAVE STRIPING-THERMO-6 IN Y	154.000	LF		
0770	06546	PAVE STRIPING-THERMO-12 IN W	126.000	LF		
0780	06547	PAVE STRIPING-THERMO-12 IN Y	27.000	LF		
0790	06550	PAVE STRIPING-TEMP REM TAPE-W	1,050.000	LF		
0800	06551	PAVE STRIPING-TEMP REM TAPE-Y	850.000	LF		
0810	06565	PAVE MARKING-THERMO X-WALK-6 IN	898.000	LF		
0820	06568	PAVE MARKING-THERMO STOP BAR-24IN	315.000	LF		

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0830	06574	PAVE MARKING-THERMO CURV ARROW	51.000	EACH		
0840	06576	PAVE MARKING-THERMO ONLY	8.000	EACH		
0850	06589	PAVEMENT MARKER TYPE V-MW	230.000	EACH		
0860	06591	PAVEMENT MARKER TYPE V-BY	251.000	EACH		
0870	08001	STRUCTURE EXCAVATION-COMMON	241.000	CUYD		
0880	10020NS	FUEL ADJUSTMENT	64,732.000	DOLL	1.00	64,732.00
0890	10030NS	ASPHALT ADJUSTMENT	90,992.000	DOLL	1.00	90,992.00
0900	20914ED	ROLLED CURB AND GUTTER	419.000	LF		
0910	21119ED	CONCRETE FORM LINER	257.000	SQYD		
0920	21289ED	LONGITUDINAL EDGE KEY	1,897.000	LF		
0930	22000ED	WOOD PLANK FENCE	138.000	LF		
0940	22664EN	WATER BLASTING EXISTING STRIPE	3,600.000	LF		
0950	23131ER701	PIPELINE VIDEO INSPECTION	3,532.000	LF		
0960	23158ES505	DETECTABLE WARNINGS	498.000	SQFT		
0970	23274EN11F	TURF REINFORCEMENT MAT 1	2,339.000	SQYD		
0980	23933EC	CREEKSTONE HEADWALL	1.000	EACH		
0990	23934EC	DOUBLE FRAME & GRATE CURB BOX INLET	2.000	EACH		
SECTION 0003 DRAINAGE						
1000	00440	ENTRANCE PIPE-15 IN	158.000	LF		
1010	00464	CULVERT PIPE-24 IN	18.000	LF		
1020	00521	STORM SEWER PIPE-15 IN	2,059.000	LF		

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1030	00522	STORM SEWER PIPE-18 IN	2,289.000	LF		
1040	00523	STORM SEWER PIPE-21 IN	175.000	LF		
1050	00524	STORM SEWER PIPE-24 IN	2,275.000	LF		
1060	00525	STORM SEWER PIPE-27 IN	5.000	LF		
1070	00528	STORM SEWER PIPE-36 IN	23.000	LF		
1080	00530	STORM SEWER PIPE-48 IN	176.000	LF		
1090	00551	STORM SEWER PIPE-15 IN EQUIV	25.000	LF		
1100	00556	STORM SEWER PIPE-30 IN EQUIV	34.000	LF		
1110	00558	STORM SEWER PIPE-36 IN EQUIV	68.000	LF		
1120	01372	METAL END SECTION TY 1-21 IN	1.000	EACH		
1130	01393	METAL END SECTION TY 3-24 IN	2.000	EACH		
1140	01432	SLOPED BOX OUTLET TYPE 1-15 IN	2.000	EACH		
1150	01433	SLOPED BOX OUTLET TYPE 1-18 IN	1.000	EACH		
1160	01441	SLOPED BOX INLET-OUTLET TYPE 2	1.000	EACH		
1170	01450	S & F BOX INLET-OUTLET-18 IN	2.000	EACH		
1180	01456	CURB BOX INLET TYPE A	48.000	EACH		
1190	01487	CURB BOX INLET TYPE F	2.000	EACH		
1200	01490	DROP BOX INLET TYPE 1	4.000	EACH		
1210	01496	DROP BOX INLET TYPE 3	1.000	EACH		
1220	01538	DROP BOX INLET TYPE 7	2.000	EACH		
1230	01568	DROP BOX INLET TYPE 13S	1.000	EACH		

KENTUCKY TRANSPORTATION CABINET  
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LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1240	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	364.000	SQYD	2.00	728.00
1250	03387	PVC PIPE-8 IN	20.000	LF		
1260	03391	PVC PIPE-12 IN	30.000	LF		
1270	04811	JUNCTION BOX TYPE B	2.000	EACH		
1280	08100	CONCRETE-CLASS A	7.530	CUYD		
1290	08150	STEEL REINFORCEMENT	549.000	LB		
1300	23562EC	DROP BOX INLET TYPE 12A MODIFIED	66.000	LF		
SECTION 0004 SEWER						
1310	02556	CONCRETE CAP	13.700	CUYD		
1320	03466	TIE-IN 6 IN	2.000	EACH		
1330	03495	AIR RELEASE VALVE	1.000	EACH		
1340	20084NN	CUT & CAP	2.000	EACH		
1350	20554NC	BEND AND BLOCK-6 IN	4.000	EACH		
1360	22984EN	PVC FORCE MAIN-6 IN	2,610.000	LF		
1370	23561EC	EXCAVATION TRENCH-ROCK	100.000	LF		
SECTION 0005 SIGNALIZATION						
1380	04793	CONDUIT-1 1/4 IN	155.000	LF		
1390	04795	CONDUIT-2 IN	105.000	LF		
1400	04811	JUNCTION BOX TYPE B	4.000	EACH		
1410	04820	TRENCHING AND BACKFILLING	175.000	LF		
1420	04830	LOOP WIRE	3,720.000	LF		

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1430	04844	CABLE-NO. 14/5C	3,330.000	LF		
1440	04845	CABLE-NO. 14/7C	300.000	LF		
1450	04850	CABLE-NO. 14/1 PAIR	2,945.000	LF		
1460	04886	MESSENGER-15400 LB	625.000	LF		
1470	04895	LOOP SAW SLOT AND FILL	1,250.000	LF		
1480	04931	INSTALL CONTROLLER TYPE 170	1.000	EACH		
1490	04932	INSTALL STEEL STRAIN POLE	4.000	EACH		
1500	04936	MAINTAIN SIGNAL OPERATION (BROWNSBORO ROAD)	( 1.00)	LS		
1510	06472	INSTALL SPAN MOUNTED SIGN	6.000	EACH		
1520	20188NS835	INSTALL LED SIGNAL-3 SECTION	11.000	EACH		
1530	20189NS835	INSTALL LED SIGNAL-5 SECTION	2.000	EACH		
1540	20266ES835	INSTALL LED SIGNAL- 4 SECTION	2.000	EACH		
1550	20390NS835	INSTALL COORDINATING UNIT	1.000	EACH		
1560	21743NN	INSTALL PEDESTRIAN DETECTOR	8.000	EACH		
1570	23064NN	INSTALL SIGNAL-PEDESTRIAN COUNTDOWN	8.000	EACH		
1580	23157EN	TRAFFIC SIGNAL POLE BASE	21.800	CUYD		
1590	23222EC	INSTALL SIGNAL PEDESTAL	1.000	EACH		
SECTION 0006 WATERLINE						
1600	03432	REMOVE AND RELOCATE METER	19.000	EACH		
1610	03434	REMOVE FIRE HYDRANT	7.000	EACH		
1620	20150EC	TRANSFER SERVICE INSTALL	1.000	EACH		

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1630	20329EC	INSTALL FIRE HYDRANT	8.000	EACH		
1640	20349NC	RELOCATE FIRE SERVICE LINE	3.000	EACH		
1650	20831ND	REMOVE VALVE BOX	17.000	EACH		
1660	21109ND	RELOCATE SERVICE	6.000	EACH		
1670	21110ND	RENEW SERVICE	6.000	EACH		
1680	21112ND	DISCONTINUE SERVICE	4.000	EACH		
1690	21269ND	REMOVE-RELOCATE AND RECONNECT SERVICE	9.000	EACH		
1700	21415ND	EROSION CONTROL (BALLARDSVILLE ROAD)	( 1.00)	LS		
1710	21415ND	EROSION CONTROL (BROWNSBORO ROAD INSTALL)	( 1.00)	LS		
1720	21455ND	ABANDON VALVE	3.000	EACH		
1730	21455ND	ABANDON VALVE INSTALL	10.000	EACH		
1740	22951NN	INSTALL FOSTER ADAPTERS - 12 IN	2.000	EACH		
1750	22954ED	DUCTILE IRON PIPE-12 IN-INSTALL	1,760.000	LF		
1760	22955ND	SOLID SLEEVE-12 IN-INSTALL	1.000	EACH		
1770	22956ND	GATE VALVE-12 IN-INSTALL	6.000	EACH		
1780	22957ND	BEND 45 DEG-12 IN-INSTALL	6.000	EACH		
1790	22958ND	GRIPPER GLAND-12 IN-INSTALL	44.000	EACH		
1800	22959ED	STEEL ENCASEMENT PIPE-24 IN-INSTALL	300.000	LF		
1810	22960ED	BORE & JACK ENCASEMENT PIPE-INSTALL	495.000	LF		
1820	22961ND	CASING SPACERS-INSTALL	205.000	EACH		
1830	22962ND	CASING END SEALS-INSTALL	10.000	EACH		

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1840	22963ED	POLYWRAP-INSTALL	19,300.000 LF		
1850	22964ND	POLYTAPE-INSTALL	200.000 EACH		
1860	22965ND	KEYTUBE-7 IN-INSTALL	40.000 EACH		
1870	22966ND	ROUNDTOP AND LID #2-INSTALL	40.000 EACH		
1880	23368EC	BEND 45 DEG-16 IN-INSTALL	38.000 EACH		
1890	23369EC	BEND 45 DEG-8 IN-INSTALL	4.000 EACH		
1900	23370EC	CUT AND PLUG-16 IN-INSTALL	7.000 EACH		
1910	23371EC	CUT AND PLUG-8 IN-INSTALL	6.000 EACH		
1920	23372EC	SOLID SLEEVE-8 IN-INSTALL	8.000 EACH		
1930	23373EC	SOLID SLEEVE-16 IN-INSTALL	6.000 EACH		
1940	23374EC	DUCTILE IRON PIPE-8 IN-INSTALL	650.000 LF		
1950	23375EC	DUCTILE IRON PIPE-16 IN-INSTALL	4,789.000 LF		
1960	23515EC	DUCTILE IRON PIPE-6 IN-INSTALL	40.000 LF		
1970	23516EC	GATE VALVE-16 IN-INSTALL	13.000 EACH		
1980	23517EC	GATE VALVE-6 IN-INSTALL	9.000 EACH		
1990	23519EC	TEE-16 X 12 IN-INSTALL	3.000 EACH		
2000	23520EC	TEE-12 X 6 IN-INSTALL	1.000 EACH		
2010	23524EC	STEEL ENCASMENT PIPE-30 IN-INSTALL	85.000 LF		
2020	23672EC	ADD FOR RESTRAINED JOINT-12 IN-INSTALL	8.000 EACH		
2030	23676EC	STEEL ENCASMENT PIPE-16 IN-INSTALL	110.000 LF		
2040	23680EC	BEND 11.25 DEG 12 IN-INSTALL	2.000 EACH		

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2050	23681EC	BEND 22.5 DEG 12 IN-INSTALL	1.000	EACH		
2060	23682EC	ANCHOR TEE-8 X 6 IN-INSTALL (FIRE HYDRANT)	1.000	EACH		
2070	23683EC	ANCHOR TEE-12 X 6 IN-INSTALL	1.000	EACH		
2080	23683EC	ANCHOR TEE-12 X 6 IN-INSTALL (FIRE HYDRANT)	1.000	EACH		
2090	23684EC	ANCHOR TEE-16 X 6 IN-INSTALL	2.000	EACH		
2100	23684EC	ANCHOR TEE-16 X 6 IN-INSTALL (FIRE HYDRANT)	3.000	EACH		
2110	23685EC	TEE 12 X 8 IN-INSTALL	3.000	EACH		
2120	23689EC	GRIPPER GLAND-6 IN-INSTALL	26.000	EACH		
2130	23690EC	GRIPPER GLAND-8 IN-INSTALL	63.000	EACH		
2140	23691EC	INSTALL FOSTER ADAPTERS-8 IN	4.000	EACH		
2150	23693EC	TIE IN-8 IN-INSTALL	7.000	EACH		
2160	23694EC	TIE IN-12 IN-INSTALL	2.000	EACH		
2170	23695EC	GATE VALVE-8 IN-INSTALL	10.000	EACH		
2180	24043EC	REMOVE EXIST BEND 90 DEG-8 IN	1.000	EACH		
2190	24044EC	REMOVE EXIST TEE-8 IN X 8 IN	1.000	EACH		
2200	24152EC	BEND 11.25 DEG-16 IN-INSTALL	5.000	EACH		
2210	24153EC	BEND 22.50 DEG-16 IN-INSTALL	2.000	EACH		
2220	24154EC	TEE-16 X 8 IN-INSTALL	3.000	EACH		
2230	24155EC	TEE-16 X 16 IN-INSTALL	2.000	EACH		
2240	24156EC	REDUCER-16 X 8 IN-INSTALL	1.000	EACH		
2250	24157EC	FIELD LOK GASKETS-12 IN-INSTALL	24.000	EACH		

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2260	24158EC	GRIPPER GLAND-16 IN-INSTALL	140.000	EACH		
2270	24159EC	FOSTER ADAPTERS-16 IN-INSTALL	4.000	EACH		
2280	24160EC	PLUG-8 IN-INSTALL	1.000	EACH		
2290	24161EC	PLUG-12 IN-INSTALL	2.000	EACH		
2300	24162EC	PLUG-16 IN-INSTALL	3.000	EACH		
2310	24163EC	CUT AND PLUG-12 IN-INSTALL	2.000	EACH		
2320	24164EC	TIE IN-16 IN-INSTALL	6.000	EACH		
2330	24165EC	HYDROSTATIC TEST-8 IN MAIN-INSTALL	3.000	EACH		
2340	24166EC	HYDROSTATIC TEST-12 IN MAIN-INSTALL	2.000	EACH		
2350	24167EC	HYDROSTATIC TEST-16 IN MAIN-INSTALL	4.000	EACH		
2360	24168EC	COPPER PIPE-3/4 IN-INSTALL	590.000	LF		
2370	24169EC	COPPER PIPE-1 IN-INSTALL	100.000	LF		
2380	24170EC	SERVICE TAP-INSTALL	12.000	EACH		
2390	24171EC	EXCHANGE WATER METER	3.000	EACH		
2400	24172EC	METER FRAME AND COVER-INSTALL	6.000	EACH		
2410	24173EC	PVC VAULT-INSTALL	6.000	EACH		
2420	24174EC	CURB STOP-INSTALL	24.000	EACH		
2430	24175EC	CORP-INSTALL	12.000	EACH		
2440	24208EC	DUCTILE IRON PIPE-4 IN-INSTALL	40.000	LF		
2450	24209EC	GATE VALVE-4 IN-INSTALL	2.000	EACH		
2460	24210EC	AIR RELEASE VALVE-1 IN-INSTALL	1.000	EACH		

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2470	24211EC	TEMP BLOW OFF-4 IN-INSTALL	9.000	EACH		
2480	24212EC	TEE 16X4 IN-INSTALL	1.000	EACH		
2490	24213EC	TEE 8X8 IN-INSTALL	2.000	EACH		
2500	24214EC	TEE 8X6 IN-INSTALL	1.000	EACH		
2510	24215EC	FIELD LOK GASKET-8 IN-INSTALL	8.000	EACH		
2520	24216EC	FIELD LOK GASKET-16 IN-INSTALL	6.000	EACH		
2530	24217EC	GRIPPER GLAND-4 IN-INSTALL	6.000	EACH		
2540	24219EC	PLUG-8 IN W/ 2 IN BLOW OFF-INSTALL	1.000	EACH		
2550	24220EC	COPPER PIPE-2 IN-INSTALL	460.000	LF		
2560	24221EC	BEND 11.25 DEG-8 IN-INSTALL	1.000	EACH		
2570	24222EC	TEE-8 X 4 IN-INSTALL	1.000	EACH		
SECTION 0007 DEMOBILIZATION						
2580	02568	MOBILIZATION (NO MORE THAN 5%)		LUMP		
2590	02569	DEMOBILIZATION (AT LEAST 1.5%)		LUMP		
		TOTAL BID				