



CALL NO. 316

CONTRACT ID. 071209

ROWAN COUNTY

FED/STATE PROJECT NUMBER FD04 103 0519 007-010

LETTING DATE: March 23, 2007

Sealed Bids will be received in the Division of Construction Procurement and/or the Auditorium located on the 1st floor of the Transportation Cabinet Office Building until 10:00 AM EASTERN DAYLIGHT TIME March 23, 2007. Bids will be publicly opened and read at 10:00 AM EASTERN DAYLIGHT TIME.

ROAD AND/OR BRIDGE PLANS

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

(Check guaranty submitted: Cashier's Check Certified Check Bid Bond)

BID BONDS WHEN SUBMITTED WILL BE RETAINED WITH THE PROPOSAL

DBE General Plan Included

BID

PROPOSAL ISSUED TO: _____

SPECIMEN

Address

City

State

Zip

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PART I
SCOPE OF WORK

CONTRACT ID - 071209

ADMINISTRATIVE DISTRICT - 09

PROJECT(S) IDENTIFICATION AND DESCRIPTION:

COUNTY - ROWAN

FD04 103 0519 007-010

WEST LIBERTY-MOREHEAD ROAD (KY 519) RECONSTRUCT FROM 0.5 MILES SOUTH OF WARREN BRANCH TO US 60 BYPASS, A DISTANCE OF 4.12 KILOMETERS. BRIDGE WITH GRADE, DRAIN & SURFACE. SYP NO. 09-00156.01.

GEOGRAPHIC COORDINATES LATITUDE 38^08'00" LONGITUDE 83^25'00"

COMPLETION DATE(S) AND LIQUIDATED DAMAGES ESTABLISHED:

341 WORKING DAYS

APPLIES TO ENTIRE CONTRACT

SEE STANDARD SPECIFICATIONS FOR LIQUIDATED DAMAGES

CONTRACT NOTES

PROPOSAL ADDENDA

All addenda to this proposal must be incorporated into the proposal when the bid is submitted to the Kentucky Department of Highways. Failure to use the correct and most recent bid sheet(s) may result in the bid being rejected.

BID SUBMITTAL

Bidder must use the Department's Highway Bid Program available on the Internet web site of the Department of Highways, Division of Construction Procurement. (www.transportation.ky.gov/contract)

The Bidder must download the bid items created from the web site to prepare a bid proposal for submission to the Department. The bidder must insert the completed bid item sheets printed from the Program into the bidder's proposal and submit with the disk created by said program.

JOINT VENTURE BIDDING

Joint Venture bidding is permissible. However, both companies MUST purchase a bidding proposal. Either proposal may be submitted but must contain the company names and signatures of both parties where required. 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.

ASPHALT MIXTURE

The rate of application for all asphalt mixtures shall be estimated at 110 lbs/sy per inch of depth, unless otherwise noted.

INCIDENTAL SURFACING

The quantities established in the proposal include estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, and road and street approaches. These items are to be paved to the limits as shown on Standard Drawing RPM 110 or to the limits as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, the paving of the crossroads shall be to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. These areas are to be surfaced or resurfaced as directed by the Engineer and no direct payment will be allowed for placing and compacting.

ASPHALT PAVEMENT RIDE QUALITY

Pavement Rideability Requirements shall apply on this project in accordance with Section 410 of the *2004 Standard Specifications*.

FUEL AND ASPHALT PAY ADJUSTMENT

These contract items Lot Pay Adjustment, 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 *2004 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

Minimization and Mitigation of Potential Impacts to Gray Bat

Rowan County KY 519 Item No. 9-156.01

In order to minimize or nullify potential impacts to the Gray bat (*Myotis grisescens*), the following measures shall be adhered to:

- Construction activities will occur only during daylight hours except for the possibility of concrete pouring of the deck, which may occur at night. Because of increased heat and humidity experienced during the summer months, deck pouring may need to occur during times when *M. grisescens* actively forage. Pouring of concrete during night-time hours allows for proper curation to increase structural integrity and long-term sustainability of the bridge deck. Despite the current disturbance of traffic on KY 519 throughout the project, *M. grisescens* continues to actively forage throughout this corridor. Because of this, KYTC feels that deck pouring activities occurring at night will not alter the behavioral patterns of *M. grisescens* foraging over these creeks during these times.
- To reduce erosion and sedimentation effects of highway construction projects, KYTC is bound by the tenets of KPDES permit No. KYR10 for all construction projects involving soil disturbance. For the subject project, a site specific Erosion Control Plan (ECP), has been developed in order to outline potential water quality issues. Within the ECP, sediment control structures have been marked at each discharge point. These structures are suggestions based on good engineering practices developed by the Design Engineer. According to Section 213.03.01 of the KYTC Standard Specifications, a BMP Plan (in accordance with KPDES permit No. KYR10) will be developed jointly by the Resident Engineer and contractor prior to the Preconstruction Conference. The BMP Plan will be developed utilizing information contained within the ECP. Through progression of the project, the BMP Plan will be updated in order to address the ever-changing on-site conditions to assure the overall goal of erosion control and sediment containment. The BMP Plan shall be modified when there is a change in design, construction, operation or maintenance of the site which has a significant effect on the potential for the discharge of pollutants to waters of the Commonwealth. The BMP shall also be amended if any aspect (during inspections conducted by the Resident Engineer and contractor simultaneously every 7 days or after rain events greater than 0.5") is determined to be ineffective in controlling the discharge of pollutants to waters of the Commonwealth. Any changes in the BMP

Plan shall be implemented within 7 days of the monitoring or action event. Appropriate documentation of changes in the BMP Plan will be maintained throughout the duration of the project. Further, appropriate documentation (pictures, monitoring log, etc.) of inspections will be maintained on the construction site.

- The listed project will impact riparian corridors on all three creeks. As part of the stream mitigation plan, KYTC has agreed to replant native trees and shrubs in certain areas and also create new riparian corridors around culverts and portions of Morgan Fork to replace the riparian corridor that is disturbed by this project. Additionally, the same native tree species will be planted to replace any areas disturbed to create staging areas. Trees should be planted according to the same specifications and patterns as shown on the stream mitigation plans. Depending upon the location of the staging areas, the tree species mix may need to be modified as directed by the Resident Engineer in consultation with Division of Environmental Analysis biologists. Once construction activities have ceased, any disturbed riparian areas that are adjacent to the stream will be replanted with willow stakes. Willow stakes should be planted on a 1 meter grid pattern. Native tree species as specified in the stream mitigation plan should be planted at the top of bank in the disturbed riparian areas.
- Although highway runoff is likely to contain petroleum products and metals, no correlation between uptake of these species and affects to *M. grisescens* have been documented (Lacki, 1994). Given the influence (i.e., highway runoff) of the existing structure to over each of these creeks, *M. grisescens* continue to use the stream as a foraging and travel corridor.
- A premium will be placed on keeping debris attributed to Phase I and II removal out of any of the creeks. Debris that does enter the stream will be removed immediately. Due to on-site restraints, equipment will need to be placed on a temporary crossing during the removal of the old bridges. Temporary crossings will use only clean rock and will include culverts to allow the flow of water to continue.
- Pouring of concrete for piers and/or decking will be done such that spills into the stream do not occur. In the unforeseen event that spillage does occur, the Frankfort US Fish and Wildlife Service (USFWS) office will be notified and the resident engineer shall halt the activity immediately and not resume until appropriate remedial actions have been implemented.
- Equipment cleaning/staging areas will be located such that runoff from these areas will not directly enter the stream. Filtration of effluent from equipment cleaning/staging areas will be located such that effluent will be filtered through vegetated areas and proper sediment control structures located between the staging area and the creeks; therefore, minimizing the potential for stream impacts such as sedimentation and pollution.

- During footer/pier construction at any of the creeks, cofferdams may be utilized if needed. If so, water removed from inside the cofferdam will be pumped into detention basins for sediment filtration prior to release into the creeks in question.
- USFWS shall be contacted by the KYTC District Environmental Coordinator at least one week prior to the start of construction for the proposed project.
- Although construction of a temporary crossing temporarily reduces stream substrate, KYTC feels that this impact is significantly less than that of the alternative: allowing equipment directly into the stream channel. Placement of clean fill rock, appropriately sized, shall be placed in-stream to form the crossing and limit the amount of substrate disturbance. Culvert size and numbers will be determined by on site engineers. Culverts will be placed on the bottom of the stream and at the same slope as the bottom of the stream in order to allow continuous flow during construction and to ensure fish passage. Upon project completion, the temporary crossing will be removed. During removal of the temporary crossing, temporary stream substrate disturbance is anticipated. However, this impact is short-term in nature and is thought to be less impinging (by allowing natural stream flow, increased stream fauna habitat, etc) than allowing the structure to remain in-place. It is the responsibility of the contractor to obtain all necessary temporary crossing permits for the project from the US Army Corps of Engineers.
- To deal with possible erosion on Morgan Fork in the area of the proposed channel change, KYTC has developed the following plan keeping in mind that the stream has already been impacted by siltation due to a lack of riparian corridor upstream of the site. The channel will be lined with filter fabric in the area of the channel change as well as immediately up and down stream of the change. On top of this filter fabric will be placed boulder size rock and smaller size rock on both sides of the channel. This combination of fabric and large and small rock will both prevent further siltation down stream of the site. In addition, KYTC will plant trees and shrubs upstream of the site. This planting will help with the problem of erosion upstream and develop a usable riparian corridor for *M. grisescens*, which at the time is not present at the site. KYTC feels that the combination of these two actions, the rock/filter fabric and the planting, will prevent additional siltation at this site and improve the site for use by *M. grisescens*.

If there are any questions regarding this note, please contact David Waldner, Director, Division of Environmental Analysis, TCOB, 200 Mero Street, Frankfort, KY 40622, Phone: (502) 564-7250.

Approved
~~PROPOSED~~ **MITIGATION**
RIPARIAN ZONE ESTABLISHMENT

The Kentucky Transportation Cabinet, in an effort to provide available mitigation on site for this project, has bought additional right of way, where possible, in order to establish riparian zones along streams where riparian zones currently are limited or do not exist. Because of the semi urban nature of the project corridor, opportunities for on site mitigation are limited.

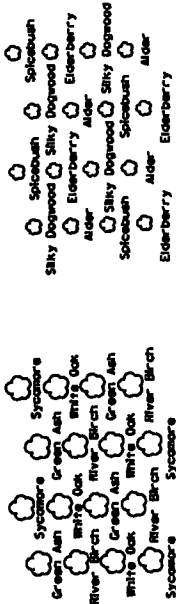
- 1) Station 100+106 – KYTC ~~proposes to~~ ^{shall} plant a 7.5 m (25') wide riparian zone with trees along the left and right bank of the unnamed ephemeral tributary to Morgan Fork. The riparian area will extend 15.6 m (51') from the end of the proposed 900 mm (3') diameter culvert and 3.7 m (12') downstream. The proposed riparian zone is contained all within KYTC right of way.
- 2) Station 100+816 – KYTC ~~proposes to~~ ^{shall} plant a 7.5 m (25') wide riparian zone with trees along the left and right bank of the unnamed ephemeral tributary to Morgan Fork. The riparian area extends 9.7 m (32') upstream of the proposed 1800 mm X 1200 mm (6' X 4') RCBC. The riparian zone is contained all within KYTC right of way.
- 3) Station 100+922.5 – KYTC ~~proposes to~~ ^{shall} plant a 7.5 m (25') wide riparian zone with trees along the left and right bank of the unnamed ephemeral tributary of Morgan Fork. The riparian area extends 10.9 m (36') upstream of the proposed 1200 mm (4') diameter culvert and 9 m (10') downstream. The riparian zone is contained all within KYTC right of way.
- 4) Station 101+025 to 101+175 – KYTC ~~proposes to~~ ^{shall} plant a minimum 7.5 m (25') wide riparian zone with trees along the right bank of Morgan Fork, a perennial stream, for 124 m (407') just upstream of the proposed bridge over Morgan Fork. KYTC will also provide an approximate 7.5 m (25') wide riparian zone along the left bank of Morgan Fork just upstream of the proposed bridge planted with shrubs for 17 m (56'). Just downstream of the bridge, KYTC will plant a 7.5 (25') wide riparian zone of trees along the left bank of Morgan Fork for 39 m (128') and 19 m (62') along the right bank. The riparian zone is contained all within KYTC right of way.
- 5) Station RT 101+025 to RT 101+175 – KYTC ~~proposes to~~ ^{shall} plant a minimum 7.5 m (25') wide riparian zone with trees along the left and right banks of the unnamed ephemeral tributary to Morgan Fork. The riparian zone extends 34.6 m (114') upstream of the proposed 1500 mm (5') diameter culvert and 45.9 m (151') downstream. The riparian zone is contained all within KYTC right of way.

- 6) Station 102+079 – KYTC ~~proposes to~~ ^{shall} plant a minimum 7.5 m (25') wide riparian zone with trees along the left bank and an average 5 m (16') wide riparian zone with trees on the right bank of the unnamed ephemeral tributary to Morgan Fork. The riparian zone extends 49 m (161') along the left bank and 46 m (151') along the right bank. The riparian zone is contained all within KYTC right of way.

- 7) Station 102+456 to 102+575 – KYTC ~~proposes to~~ ^{shall} plant a minimum 7.5 m (25') wide riparian zone with trees along the left and right bank of Morgan Fork, a perennial stream. The riparian zone extends 85.5 m (281') along the left bank of Morgan Fork and 22 m (72') along the right bank. The riparian zone is contained all within KYTC right of way.

COUNTY OF	ROWAN
ITEM NO.	07-156.01

PLANTING PATTERNS



Tree Planting Pattern

Riparian Zone A

Tree planting area includes the following:
 Sycamore (*Platanus occidentalis*)
 River Birch (*Betula nigra*)
 White Oak (*Quercus alba*)
 Green Ash (*Fraxinus nigra*)

Shrub Planting Pattern

Riparian Zone B

Shrub planting area includes the following:
 Silky Dogwood (*Cornus amomum*)
 Alder (*Alnus incana*)
 Elderberry (*Sambucus canadensis*)
 Spicebush (*Lonicera maackii*)

NOTES

- Trees/Shrubs shall be planted in rows with 6' spacing between trees in a 6' x 6' grid between rows.
- Trees/Shrubs shall be planted in a staggered grid pattern between rows.
- All trees/shrubs shall be 3 gallon container grown.
- Planting of container grown trees/shrubs shall be between the dates of October 15 and May 1.
- The first row of trees/shrubs nearest the channel shall be planted at or near the top of bank as directed by the Engineer.
- Plant equal numbers of tree/shrub species within the designated zones shown on the plans or as directed by the Engineer. The species to be planted are to be selected at the site.
- Shrub varieties are listed within the designated zones shown on the plans. The species to be planted shall be selected at the site.
- At no point shall shrubs be planted any closer than 6' from the proposed main line edge of pavement when placed behind guardrail.
- At no point shall shrubs be planted any closer than 10' from the proposed edge of pavement along approaches within the designated riparian zone B.
- At no point shall trees be planted any closer than 10' from the edge of pavement along the main line.
- Generally, on a wide riparian zone will be planted in rows with 6' spacing between trees and shrubs as shown. In some areas, the riparian zone may be shown more or less because of property owner concerns or right of way limitations.

SEED PLANTING SPECIFICATIONS
 RIPARIAN ZONE

PREPARATION FOR PLANTING
 FOR BROADCAST SEEDING OR HYDRO-SEEDING, THE FOLLOWING STEPS ARE ESSENTIAL TO ENSURE GOOD SEED TO SOIL CONTACT:

1. THE PREPARATION OF THE SITE MUST BE COMPLETED BY REMOVING THE SEED BED SO THERE ARE SPACES FOR SEED TO FILTER INTO CRACKS, HOLES, ETC., OTHERWISE IT MAY LIE ON THE SURFACE AND BE WASHED AWAY BY RAIN.
2. FERTILIZER - IF USED, THE FERTILIZER USED SHALL BE A COMMERCIAL GRADE OF 10-10-10 OR EQUIVALENT. THE FERTILIZER SHALL BE APPLIED AT A RATE OF 200 LBS PER ACRE. THE FERTILIZER SHALL BE APPLIED TO THE ENTIRE SEED BED. THE FERTILIZER SHALL BE APPLIED TO THE ENTIRE SEED BED. THE FERTILIZER SHALL BE APPLIED TO THE ENTIRE SEED BED.
3. SEEDING RATE - APPLY SEEDS AT A RATE OF 2 LBS. 1000 SQ. FT. OF SEEDING RATE.
4. PACKING - THE SITE SHALL BE PACKED USING A CULTI-PACKER OR EQUIVALENT WITH A POWER BLANKET MADE OF 100 PERCENT MACHINE SPIN WOVEN COIR MAT. THE MAT SHALL BE APPLIED TO THE ENTIRE SEED BED. THE MAT SHALL BE APPLIED TO THE ENTIRE SEED BED. THE MAT SHALL BE APPLIED TO THE ENTIRE SEED BED.
5. PACKING - THE SITE SHALL BE PACKED USING A CULTI-PACKER OR EQUIVALENT WITH A POWER BLANKET MADE OF 100 PERCENT MACHINE SPIN WOVEN COIR MAT. THE MAT SHALL BE APPLIED TO THE ENTIRE SEED BED. THE MAT SHALL BE APPLIED TO THE ENTIRE SEED BED. THE MAT SHALL BE APPLIED TO THE ENTIRE SEED BED.
6. CRACKS - CRACKS SHALL BE FILLED WITH A CRACK FILLER. THE CRACK FILLER SHALL BE APPLIED TO THE ENTIRE SEED BED. THE CRACK FILLER SHALL BE APPLIED TO THE ENTIRE SEED BED. THE CRACK FILLER SHALL BE APPLIED TO THE ENTIRE SEED BED.

RIPARIAN ZONE SEED MIX

THE FOLLOWING PERCENTAGE CONTROL SEEDING WILL BE SHOWN WITHIN ALL RIPARIAN ZONES:

- PERENNIAL RYE 10%
- LEGUME MEADOWS
- PANTRYOZE PEA 5%
- GRASS (MONOCULTURAL)
- GRASS (POLY-CULTURAL)
- CRACKING RED FESCUE 25%
- GAUSSIA CRASS
- DEERTONGUE GRASS 15%
- COMMON CLOVER/STRAW
- PURPLE TOP 15%
- TRIFOLIUM (VARIABLE)

PROCEDURES FOR MIXING WILL BE ACCORDING TO STANDARD SPECIFICATIONS. SEED RATES ARE GIVEN AS A PERCENTAGE OF THE TOTAL MIX BY WEIGHT. SEEDING SHALL BE PERFORMED AT A RATE OF 2 LBS/1000 SQ. FT. SEEDING SHALL BE PERFORMED BY EITHER BROADCAST SEEDING OR HYDROSEEDING. SEE SEED PLANTING SPECIFICATIONS

PLANTING
 THE GRASS SEED MIXTURE SHALL BE PLANTED BY ONE OF THE FOLLOWING METHODS:

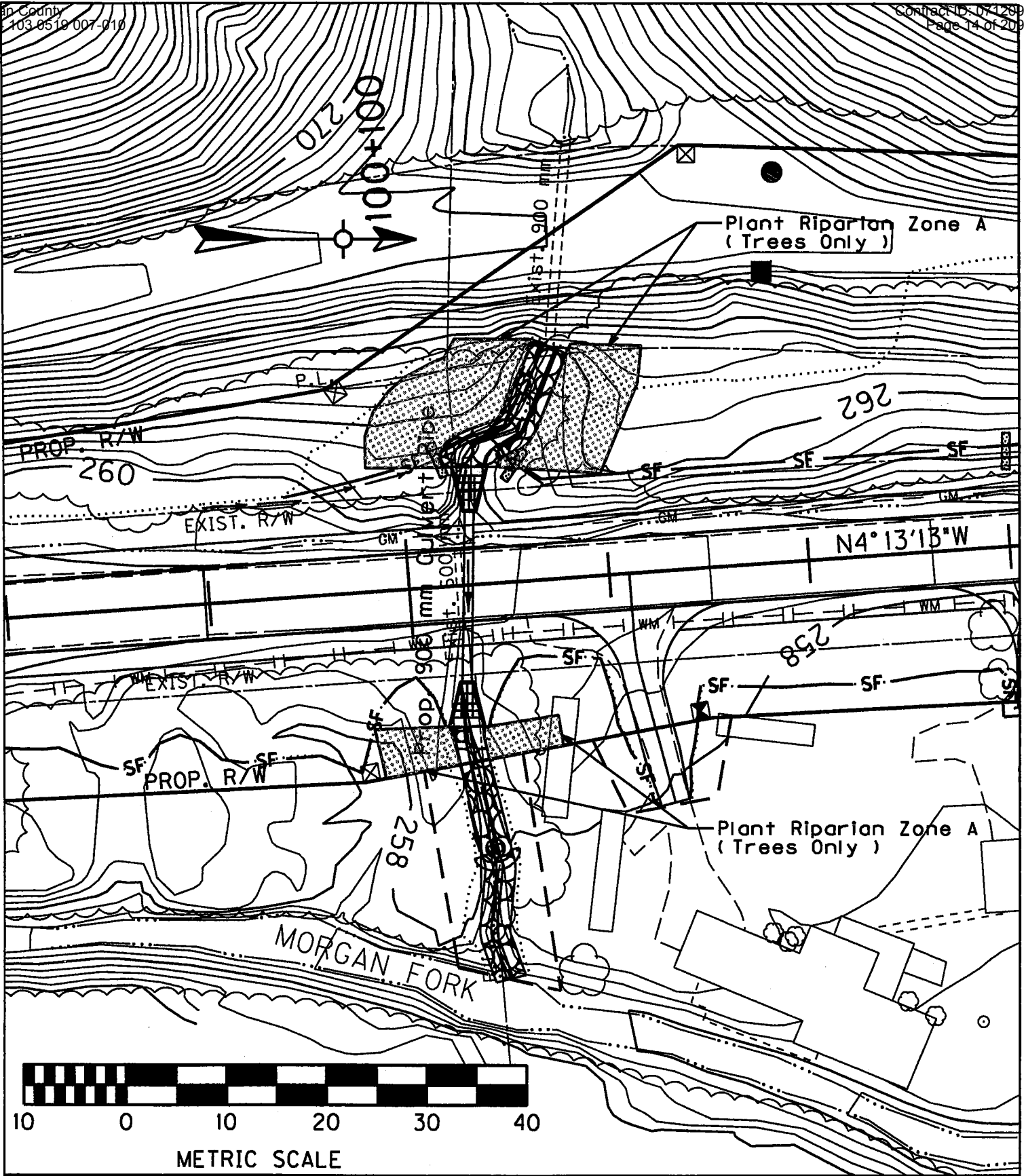
- METHOD 1 - BROADCAST SEEDING
 BROADCAST SEEDING IS PERFORMED EITHER WITH MECHANICAL CYCLONE SEEDERS OR BY HAND. BROADCAST SEEDING OF NATIVE GRASSES AND SEED MIXTURES MAY NOT BE DESIRABLE IF THE WEATHER IS HOT AND DRY AND/OR THE SOIL MOISTURE CONTENT IS LOW.
- SEED INSTALLATION - SEED SHALL BE INSTALLED BY BROADCASTING IT EVENLY OVER THE SOIL SURFACE. BROADCASTING SHALL BE PERFORMED BY HAND OR BY POWER SPREADERS MOUNTED ON ALL TERRAIN VEHICLES. SEED SHALL BE AVAILABLE FOR USE, RANGING FROM 1/2" TO 1" IN SIZE. SEED SHALL BE INSTALLED IN THE SPRINGER TO PREVENT SEPARATION AND SETTLING.

METHOD 2 - HYDRO-SEEDING
 HYDRO-SEEDING MIXTURES AND FORMS IS NOT RECOMMENDED IF THE EXTENDED WEATHER PATTERNS ARE HOT AND DRY, AND THE SOIL SURFACE IS DRY AND DUSTY.

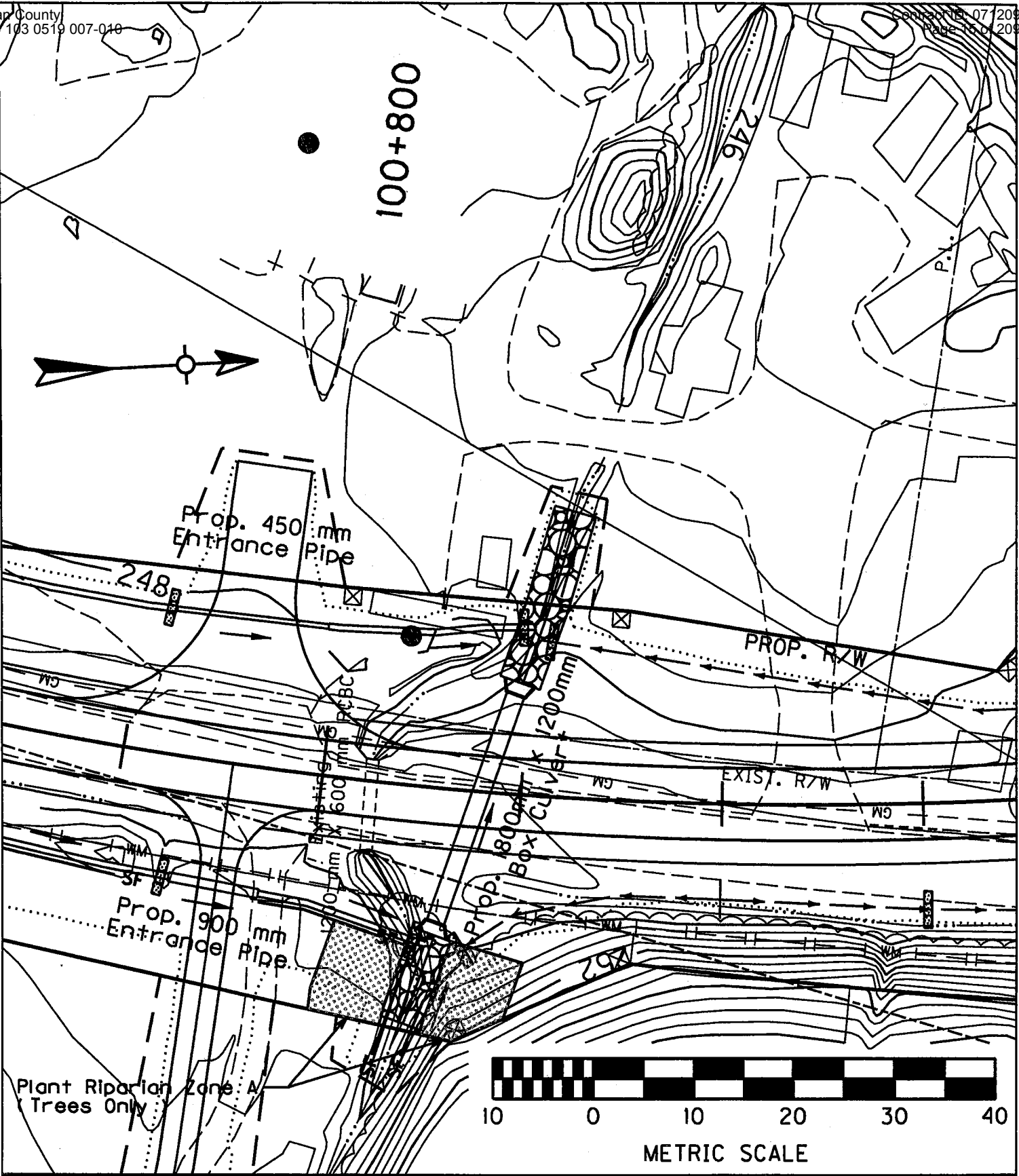
SEED INSTALLATION - THE SEED-WATER MIXTURE SHALL BE APPLIED WITHIN 10 MINUTES OF THE SEED MIXTURE. THE MIXTURE SHALL BE APPLIED TO THE SOIL SURFACE TO ENSURE EVEN DISTRIBUTION. A UNIFORM MATERIAL DISTRIBUTION IS INDICATED BY A UNIFORM SETTING OF THE SOIL SURFACE.

WHEN HYDRO-SEEDING IN CONJUNCTION WITH A HYDRAULIC SOIL STABILIZER, THE STABILIZER SHALL BE APPLIED TO THE SOIL SURFACE. THE STABILIZER SHALL BE APPLIED TO THE SOIL SURFACE. THE STABILIZER SHALL BE APPLIED TO THE SOIL SURFACE.

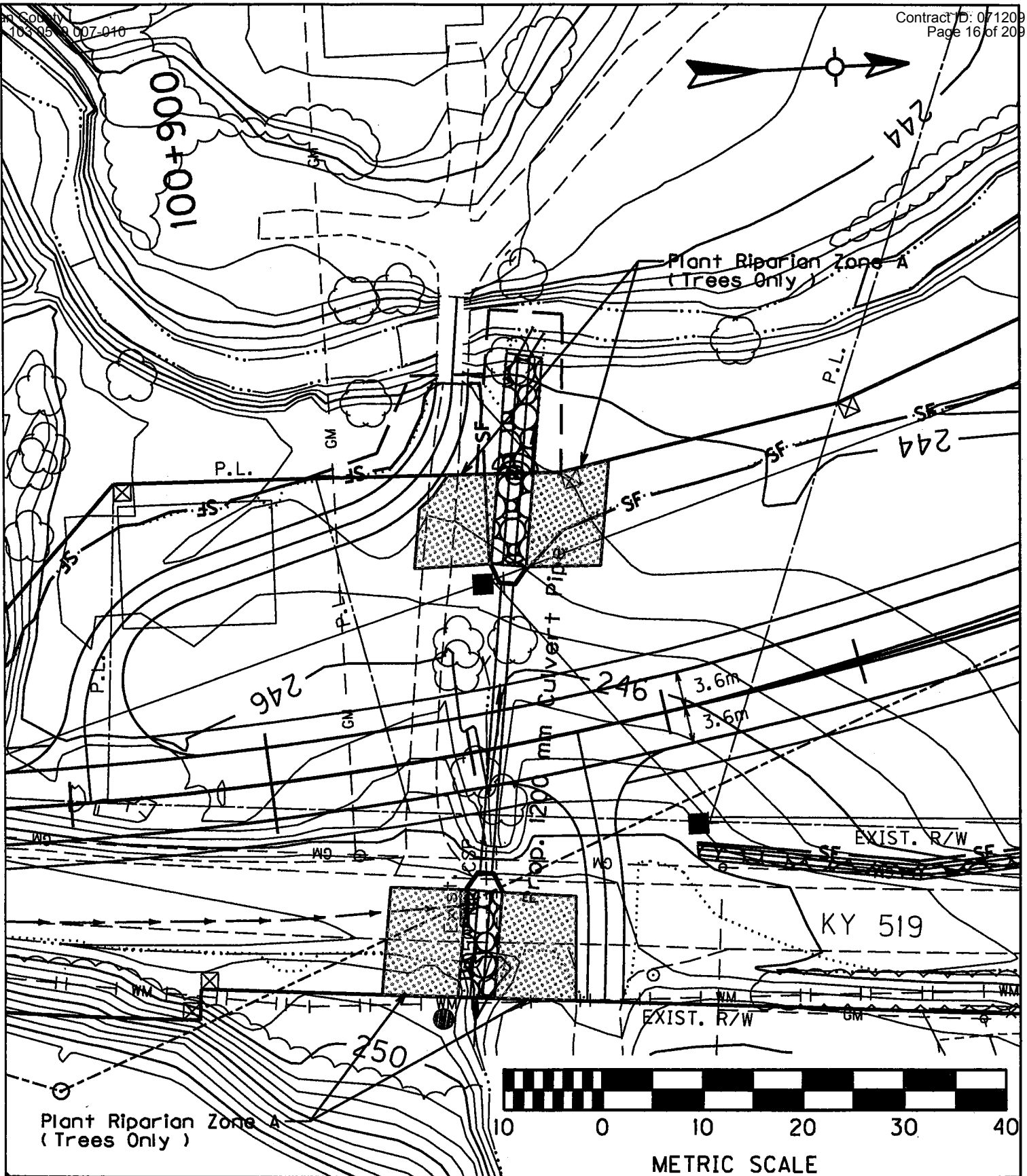
STREAM MITIGATION NOTES



~NOTES~	APPLICATION BY KENTUCKY TRANSPORTATION CABINET	900 mm CULVERT PIPE, STATION 100+106	
	DEPARTMENT OF HIGHWAYS	PROPOSED ACTIVITIES:	
	DIVISION OF ENVIRONMENTAL ANALYSIS	Ephemeral Drainage U. T. to Morgan Fork	
		STREAM NAME:	AT OR NEAR:
	COUNTY OF: Rowan	STATE OF: Kentucky	
	ROUTE NUMBER: KY 519	ITEM NO.: 09-156.01	SHEET NO.: of



<p>~NOTES~</p>	<p>APPLICATION BY KENTUCKY TRANSPORTATION CABINET</p>		<p>1800mm x 1200mm BOX CULVERT STATION 100+816</p>	
	<p>DEPARTMENT OF HIGHWAYS</p>		<p>PROPOSED ACTIVITIES: Ephemeral Drainage U. T. to Morgan Fork</p>	
	<p>DIVISION OF ENVIRONMENTAL ANALYSIS</p>		<p>AT OR NEAR:</p>	
	<p>COUNTY OF: ROWAN</p>		<p>STATE OF: Kentucky</p>	
<p>ROUTE NUMBER: KY 519</p>		<p>ITEM NO.: 09-156.01</p>		<p>of</p>
<p>ROUTE NUMBER:</p>		<p>ITEM NO.:</p>		<p>SHEET NO.:</p>



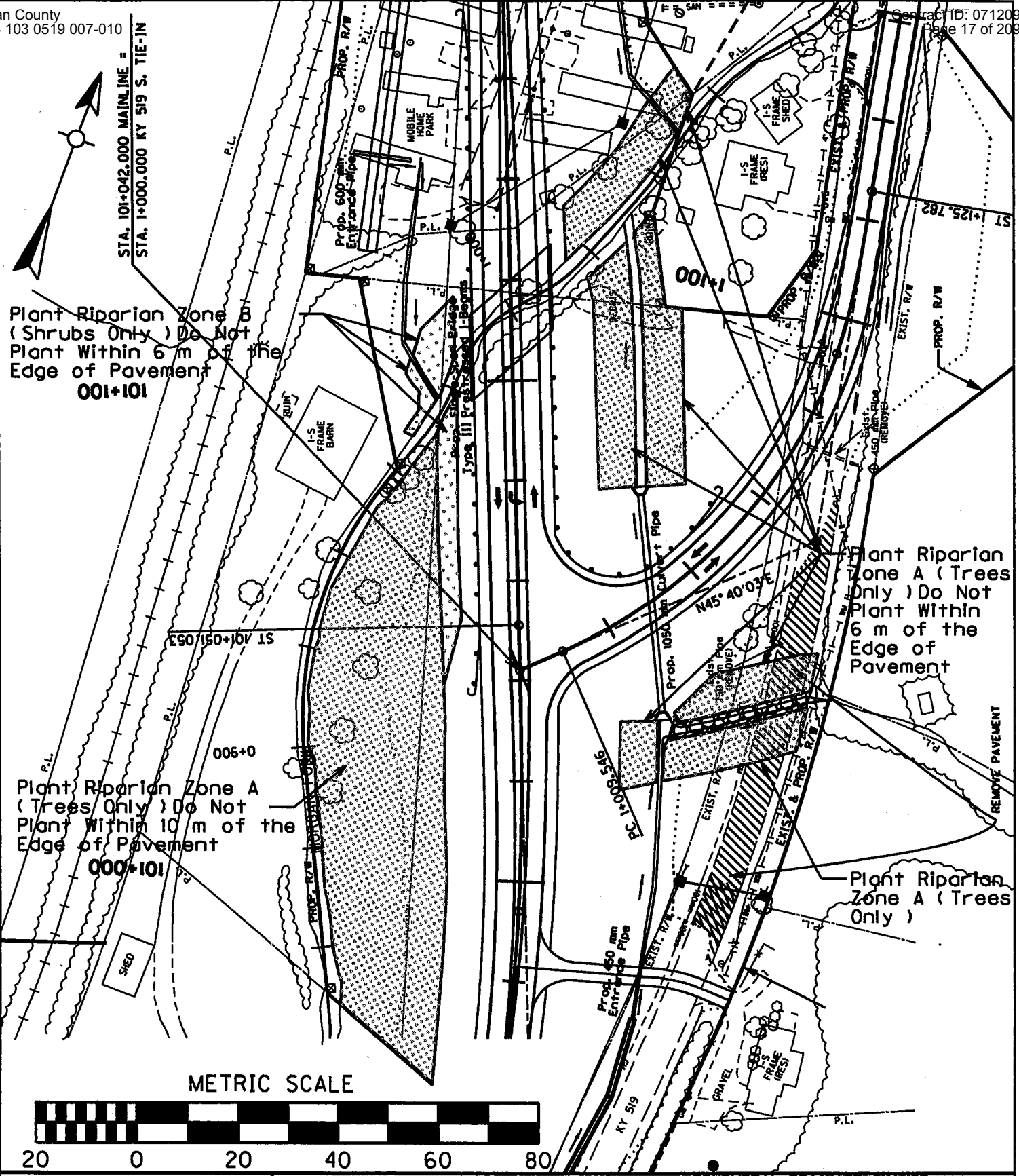
~NOTES~

APPLICATION BY
KENTUCKY TRANSPORTATION CABINET

DEPARTMENT OF HIGHWAYS

DIVISION OF
ENVIRONMENTAL ANALYSIS

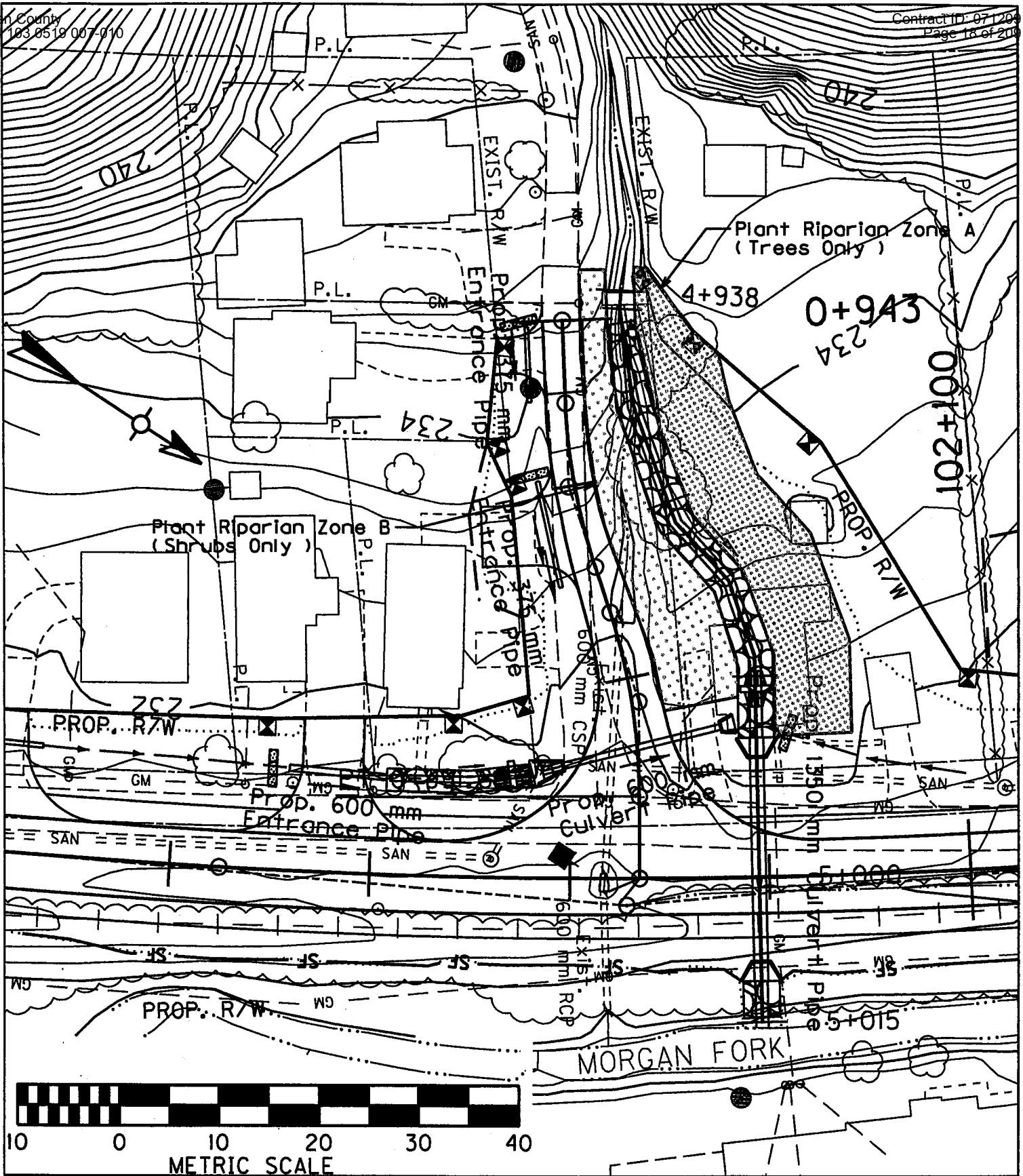
1200mm CULVERT PIPE, STATION 100+922.5		
PROPOSED ACTIVITIES:		
Ephemeral Drainage		
U. T. to Morgan Fork		
STREAM NAME:	AT OR NEAR:	
ROWAN	Kentucky	
COUNTY OF:	STATE OF:	
KY 519	09-156.01	of
ROUTE NUMBER:	ITEM NO.:	SHEET NO.:



~NOTES~

APPLICATION BY
 KENTUCKY TRANSPORTATION CABINET
 DEPARTMENT OF HIGHWAYS
 DIVISION OF
 ENVIRONMENTAL ANALYSIS

EPHEMERAL DRAINAGE CHANGE STATION RT 101+025 TO RT 101+175		
PROPOSED ACTIVITIES: Ephemeral Drainage U. T. to Morgan Fork		
STREAM NAME:		AT OR NEAR:
ROWAN		Kentucky
COUNTY OF:	STATE OF:	
KY 519	09-156.01	of
ROUTE NUMBER:	ITEM NO.:	SHEET NO.:



~NOTES~

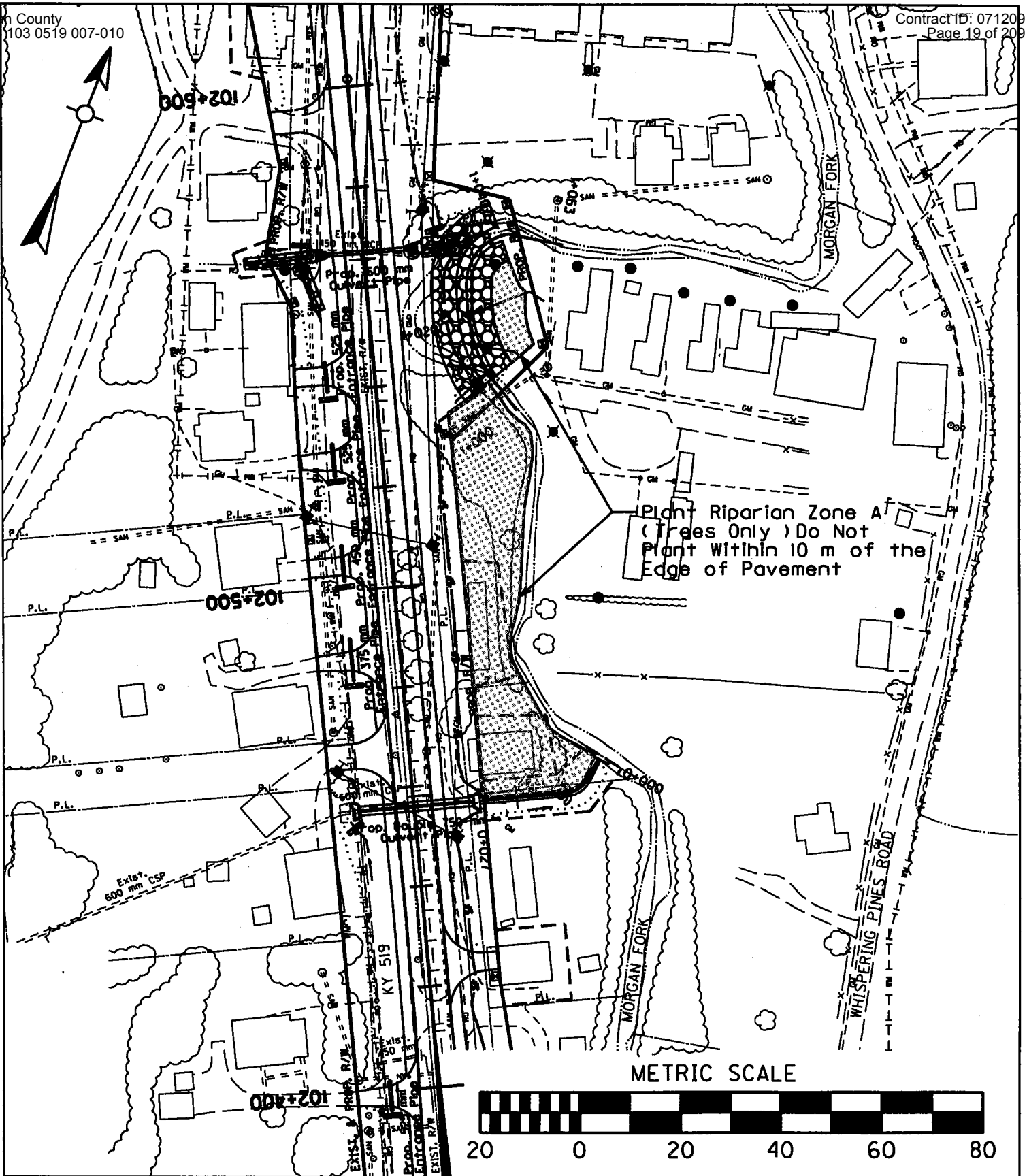
APPLICATION BY
KENTUCKY TRANSPORTATION CABINET

DEPARTMENT OF HIGHWAYS

DIVISION OF
ENVIRONMENTAL ANALYSIS

1350mm CULVERT PIPE, STATION 102+079

PROPOSED ACTIVITIES: Ephemeral Drainage U. T. to Morgan Fork		
STREAM NAME:	AT OR NEAR:	
ROWAN	Kentucky	
COUNTY OF:	STATE OF:	
KY 519	09-156.01	of
ROUTE NUMBER:	ITEM NO.:	SHEET NO.:



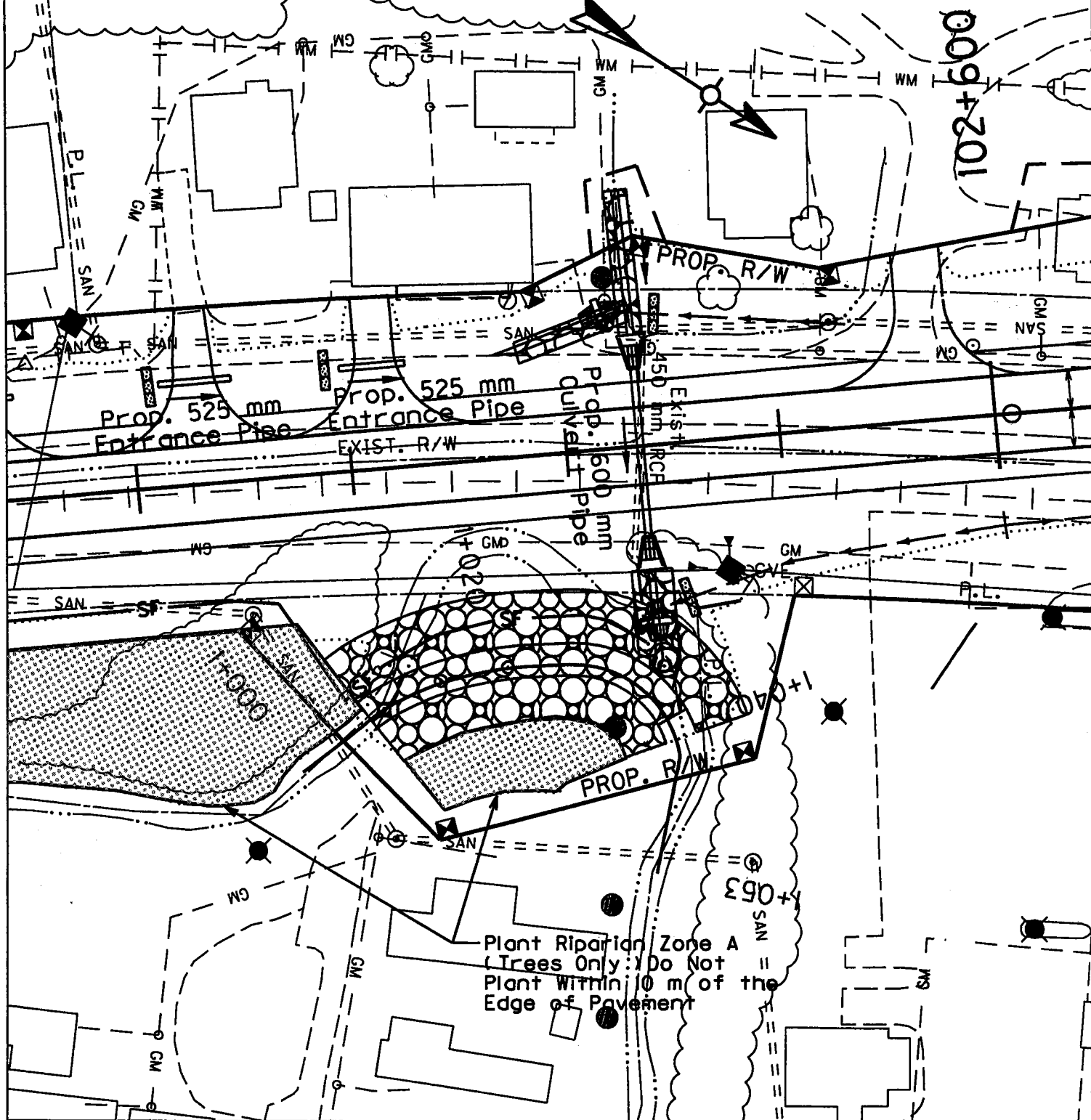
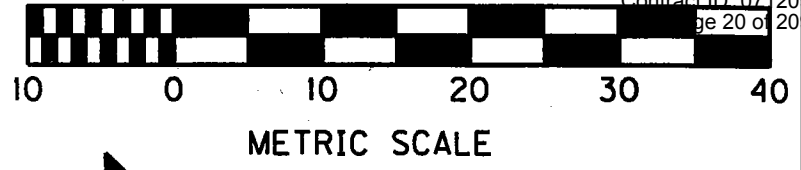
~NOTES~

APPLICATION BY
KENTUCKY TRANSPORTATION CABINET

DEPARTMENT OF HIGHWAYS

DIVISION OF
ENVIRONMENTAL ANALYSIS

CHANNEL CHANGE, RIPARIAN ZONE STA. RT 102+456 TO STA. RT 102+575		
PROPOSED ACTIVITIES: Ephemeral Drainage U. T. to Morgan Fork		
STREAM NAME:	AT OR NEAR:	
ROWAN	Kentucky	
COUNTY OF:	STATE OF:	
KY 519	09-156.01	of
ROUTE NUMBER:	ITEM NO.:	SHEET NO.:



~NOTES~

APPLICATION BY
KENTUCKY TRANSPORTATION CABINET

DEPARTMENT OF HIGHWAYS

DIVISION OF ENVIRONMENTAL ANALYSIS

CHANNEL CHANGE		
STATION RT 102+540 TO RT 102+575		
PROPOSED ACTIVITIES:		
MORGAN FORK		
STREAM NAME:		AT OR NEAR:
ROWAN		Kentucky
COUNTY OF:		STATE OF:
KY 519	09-156.01	of
ROUTE NUMBER:	ITEM NO.:	SHEET NO.:

1. The contractor is required to remove, store & re-erect all signs which conflict with construction operations. Furthermore, the contractor must store these signs in such a way as to ensure no damage. If any signs become damaged during removal, storage or re-erection, the contractor shall replace these signs at no additional cost to the KYTC or without any additional contract time.

2. The contractor is required to provide all signage and striping during all construction phases. Signage and striping must adhere to the Manual on Uniform Traffic Control Devices (MUTCD). The contractor must provide a professional engineer's seal and signature ensuring that the MUTCD is followed. The contractor shall submit the signage and striping plan to the resident engineer and district traffic engineer for review. Signage and striping WILL include, but is not limited to: regulatory signs, warning signs, guide signs, passing and non-passing zone signs and striping. Proper signage and striping must be in place prior to allowing traffic to use either an existing, modified or newly constructed roadway.

3. The contractor is required to provide all final signage and striping prior to the completion of the project. Signage and striping must adhere to the Manual on Uniform Traffic Control Devices (MUTCD). The contractor must provide a professional engineer's seal and signature ensuring that the MUTCD is followed. The contractor shall submit the signage and striping plan to the resident engineer and district traffic engineer for review. Signage and striping WILL include, but is not limited to: regulatory signs, warning signs, guide signs, passing and non-passing zone signs and striping. Proper signage and striping must be in place prior to allowing traffic to use the new roadway.

Temporary signage shall be paid by square foot. Permanent signage shall be paid as lump sum. Temporary and permanent striping shall be paid per linear foot.

Special Note for Contractor As-Built Plans Certification

This Special Note will apply as indicated herein and when referenced in the plans or the proposal. Section references are to the Department's 2004 Standard Specifications for Road and Bridge Construction.

- 1.0 Description.** Develop and submit to the Department as-built plans showing any deviations from the original plans outside of the construction tolerances allowed in the Standard Specifications or specified in the project plans or proposal. Perform the work under the direction of a Professional Engineer or Land Surveyor registered in Kentucky, and include a certifying statement as to the accuracy of the as-built plans. Neatly overlay the as-built drawings on the original plan sheets so as to clearly show variations outside construction tolerances.
- 2.0 Check Sections.** As a minimum, submit a check section showing the roadway template for every 500 feet long segment of the project. Include additional check-sections as needed so as to include at least one for each cut and fill area of the project. Include additional check sections in areas of marked deviation to show the limits of the deviations. Show an elevation at all breaks in the roadway template, including the pavement.
- 3.0 Drainage.** For each pipe, show the as-built field location, elevation, and type of drainage structure on the original plan and pipe sheets.
- 4.0 Structures.** Document the constructed roadway elevations of each abutment or end-bent of all bridges on the project. Include all changes in the elevations or types of foundations for the structure. Show the flow-line elevations for culverts. Document the location, height, and type of any retaining walls associated with the project.
- 5.0 Lighting and Signals.** Document and submit the as-built location of any poles, junction boxes, conduit, loops, or other features.
- 6.0 Signs.** Document and submit the location of all permanent signs constructed as part of the project. Show the elevation of overhead mounted signs.

- 7.0 Guardrail and Barrier Walls.** Show the physical location, length, and end treatments of any string of rail or wall.
- 8.0 Submittal.** The Department will furnish the original plans in electronic format. Super-impose the as-built plans on the originals. Print and submit a paper copy and the modified electronic plans. Include a statement from a Professional Engineer or Land Surveyor registered in Kentucky certifying the accuracy of the as-built plans. Prepare the as-built plans after the project is called complete by the Engineer. Include any changes made as part of the corrective work process. Contrary to Section 110, the Department will withhold any payment for the Demobilization bid item until the as-built plans are submitted and accepted by the Department.
- 9.0 Measurement.** The Department will measure the as-built plans submittal as a lump sum.
- 10.0 Payment.** The Department will make payment for the completed and accepted submittal under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
	As-Built Plans	Lump sum

SPECIAL NOTE FOR PROJECT IDENTIFICATION SIGNS

When directed by the Engineer, install Project Identification Signs furnished by the Department at each end of the project. The signs furnished by the Department will be approximately 44" X 72" or 72" X 120" aluminum sign blanks with standard color reflective sheeting with the applicable county and project names affixed. The Engineer will determine the size and location of the signs, if any, to be used on the project(s) at the time of construction.

Pick up the signs to be furnished by the Department at the District Traffic Operations Facility. Furnish posts and hardware for mounting the signs. Install the signs at locations determined by the Engineer. Maintain the signs during the duration of the project. Upon completion of the work, remove the signs and return them to District Traffic Operations Facility. Retain possession of the posts and hardware.

The Department will measure installation of the Project Identification Signs in individual units, Each. Payment at the contract unit price Each shall be full compensation for all labor, materials, equipment, and incidentals required for picking up, installing, maintaining, and returning the project identification signs furnished by the Department.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
20588NC	Install Project Identification Signs	Each

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.

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: February 1, 2007
Update #5

Project #: FD52 C103 6171401R County: ROWAN
Item #: 09-0156.01 Federal #: STPR 5319 01
Letting Date: 23-Mar-2007

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 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 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 certification form for this project prior to the start of construction, verifying that fair market value for all parcels has been paid or deposited with the court.


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 market 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 of 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 after start of construction.

Approved: Jack Litton _____ District ROW
Supervisor Printed Name Approved

Approved: _____ Director of ROW &
Utilities or Designee

Printed Name Approved

Approved:  2/5/07 FHWA, Right-of-Way Officer
Printed Name Approved

Date: February 1, 2007,
Update #5

Project #: FD52 C103 6171401R County: ROWAN
Item #: 09-0156.01 Federal #: STPR 5319 (13)
Letting Date: 23-Mar-2007

This project has 71 total number of parcels to be acquired, and 53 total number of individual or families to be relocated, as well as 35 total number of businesses to be relocated.

53 Parcels where acquired by a signed fee simple deed and fair market value has been paid
18 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*)
1 Relocatees have not been relocated from 60 and parcels:
(*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
60	Homer Gregory & Co.	When IOJ was granted the court allowed the property owner 30 days past the letting date of September 29, 2006 to vacate the right of way and move any personal property from the acquired right of way. With the change of the letting to March 23, 2007, the owner will now have until April 23, 2007 to vacate the right of way.	April 23, 2007

60	Homer Gregory & Co.	Improvements within the acquisition are a 1 story cb shed, large pile of scrap metal and 2 concrete loading ramps. Demolition of these items can't start until after April 23, 2007.	June 1, 2007
		<p><u>Note to be added to plans as follows:</u> Parcel No. 60-Homer Gregory, the property owner has 30 days after letting to vacate the right of way. The KYTC requires an additional 45 days to demo all improvements (75 days after letting). The Construction Contractor cannot enter parcel 60 until 75 days after the letting date.</p>	

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

There are 1 parcels 44 and . All have been acquired and are the responsibility of the project contractor to close/cap.

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

ROWAN COUNTY, ACSTPR 5319 (14)
FD52 103 61714 01 U
Morehead - West Liberty Road (KY 519)
Item No. 9 - 156.01

MARATHON ASHLAND PETROLEUM, LLC - The Company has a existing 24” crude oil pipeline located near station 102+353. The roadway contractor shall adhere to the following instructions:

1. The roadway contractor must use extreme caution in their operations in the area of this pipeline as noted on roadway plans.
2. The roadway contractor shall make the proper one-call notifications and notify Mr. Ron Collier (270) 926-5574 at least five working days prior to any work in the area of pipeline. The Company (MAPL) will provide someone on site to monitor the roadway work.
3. Construction activities in this area shall be limited to the area between the two pipeline markers where the pipeline is in casing.
4. Activities in this area shall be performed with equipment operating perpendicular to the pipeline.
5. Heavy equipment shall not be operated over the pipeline on either side of the casing without prior notification and approval of MAPL.

WINDSTREAM COMMUNICATIONS - The Telephone Company has facilities located on KY 519, South of US 60 which requires relocating. The Telephone Company will be relocated by Jan. 1, 2006.

KENTUCKY UTILITIES COMPANY - The Power Company has facilities located on KY 519, South of US 60 which requires relocating. The Power Company will be relocated by Dec 1, 2006.

DELTA NATURAL GAS COMPANY - The Gas Company has facilities located on KY 519, South of US 60 which requires relocating. All natural distribution gas lines are scheduled to be relocated by Mar 1, 2007. This date is pending on them acquiring easement for the gas line. Call Rob Miller (859)-744-6171 Ext 174 for details prior to construction.

MOREHEAD UTILITY PLANT BOARD - A part of the Roadway Contract

ROWAN WATER, INC. - A part of the Roadway Contract.

There are no railroads involved with this project.

PROTECTION OF UTILITIES

The location of utilities provided in the contact documents has been furnished by the facility owners and/or by reviewing record drawings 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.

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

TECHNICAL SPECIFICATION WATER MAIN RELOCATION

**Contract No. 11
(WEST LIBERTY – MOREHEAD ROAD)
FD52 C102 – STPR 5319, ITEM NO. 9-156.01**

**ROWAN WATER, INC.
MOREHEAD, KENTUCKY**

November 2005
O'Brien and Gere Project No. 37060

O'Brien and Gere Engineers, Inc.
1019 Majestic Drive, Suite 110
Lexington, Kentucky 40513
(859) 223-0137



O'BRIEN & GERE



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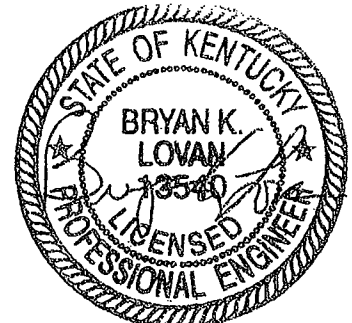
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1-3-06

SECTION 01040
COORDINATION

PART 1 - GENERAL

1.01 COORDINATION OF THE WORK

The Contractor shall coordinate the work of all the crafts, trades and subcontractors engaged on the Work, and he shall have final responsibility as regards the schedule, workmanship and completeness of each and all parts of the Work.

All crafts, trades and subcontractors shall be made to cooperate with each other and with others as they may be involved in the installation of work which adjoins, incorporates, precedes or follows the work of another. It shall be the Contractor's responsibility to point out areas of cooperation prior to the execution of subcontract agreements and the assignment of the parts of the Work. Each craft, trade and subcontractor shall be made responsible to the Owner, for furnishing embedded items, giving directions for doing all cutting and fitting, making all provisions for accommodating the Work, and for protecting, patching, repairing and cleaning as required to satisfactorily perform the Work.

The Contractor shall be responsible for all cutting, digging and other action of his subcontractors and workmen. Where such action impairs the safety or function of any structure or component of the Project, the Contractor shall make such repairs, alterations and additions as will, in the opinion of the Engineer, bring said structure or component back to its original design condition at no additional cost to the Owner.

Each subcontractor is expected to be familiar with the General Requirements and all sections of the Detailed Specifications for all other trades and to study all Drawings applicable to his work to the end that complete coordination between trades will be affected. Each Contractor shall consult with the Engineer if conflicts exist on the Drawings.

1.02 ADDITIONAL INFORMATION

The Contractor shall be advised that coordination and certain requirements shall be complied with for the completion of the project. It shall be the Contractor's responsibility to coordinate all work and consult with the Engineer if conflicts exist. Any delays shall be at the Contractors expense and at no cost to the Owner or Engineer.

A. All work shall be in accordance with these Specifications and include all work necessary for a finished product.

B. All excavation is bid unclassified.

- END OF SECTION -

SECTION 01016

OCCUPANCY

PART 1 - GENERAL

1.01 WORK INCLUDED

A. The Contractor shall be aware that after each major portion of the project is completed, the Contractor shall notify the Engineer that those specific operations are complete and prior to placing that portion of the work into service shall request an interim inspection of the work to be returned to or placed into service.

B. The interim inspection requested by the Contractor shall not preclude or supersede the final inspection of the project or reduce the Contractor's responsibility for the completed portion prior to final acceptance of the work by the Owner.

C. The Contractor shall provide all necessary temporary controls and other items required for operation of all work placed into service prior to final acceptance as required. At such time as new controls, etc. are complete and functioning, the Contractor shall remove all temporary installed items.

D. All connections to the existing water mains shall be coordinated by the Contractor with the Owner and the Engineer. The Contractor shall give the Owner a minimum of 48-hour notice before any connection is to be made. Prior to disruption of service, the Contractor shall have all the materials, equipment, labor force and fittings necessary to complete the connections in a timely fashion. The Contractor shall verify the existing pipe size, existing pipe type and location prior to ordering materials for the connection. Water service shall not be off for more than two hours for any connection without prior approval from the Owner.

- END OF SECTION -

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 WORK INCLUDED

Shop drawings, descriptive literature, project data and samples (when samples are specifically requested) for all manufactured or fabricated items shall be submitted by the Contractor to the Engineer for examination and review in the form and in the manner required by the Engineer. All submittals shall be furnished in at least six (6) copies and shall be checked and reviewed by the Contractor before submission to the Engineer. The review of the Drawings by the Engineer shall not be construed as a complete check but only for conformance with the design concept of the Project and for compliance with information given in the Contract Documents. Review of such drawings will not relieve the Contractor of the responsibility for any errors which may exist as the Contractor shall be responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work.

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. General Conditions.
- B. Section 01720 - Project Record Documents (As-Built).

1.03 DEFINITIONS

The term "submittals" shall mean shop drawings, manufacturer's drawings, catalog sheets, brochures, descriptive literature, diagrams, schedules, calculations, material lists, performance charts, test reports, office and field samples, and items of similar nature which are normally submitted for the Engineer's review for conformance with the design concept and compliance with the Contract Documents.

1.04 GENERAL CONDITIONS

A. Review by the Engineer of shop drawings or submittals of material and equipment shall not relieve the Contractor from the responsibilities of furnishing same of proper dimension, size, quality, quantity, materials and all performance characteristics to efficiently perform the requirements and intent of the Contract Documents. Review shall not relieve the Contractor from responsibility for errors of any kind on the shop drawings. Review is intended only to assure conformance with the design concept of the Project and compliance with the information given in the Contract Documents.

B. Review of shop drawings shall not be construed as releasing the Contractor from the responsibility of complying with the Specifications.

1.05 GENERAL REQUIREMENTS FOR SUBMITTALS

- A. Shop Drawings:
 - 1. Shop drawings shall be prepared by a qualified detailer. Details shall be identified by reference to sheet and detail numbers shown on Contract Drawings. Where applicable, show fabrication, layout, setting and erection details.
 - 2. Shop drawings are defined as original drawings prepared by the Contractor, subcontractors, suppliers, or distributors performing work under this Contract. Shop

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

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

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

D. All submittals shall be referenced to the applicable item, section and division of the Specifications, and to the applicable Drawing(s) or Drawing schedule(s).

E. The Contractor shall review and check submittals, and shall indicate his review by initials and date.

F. If the submittals deviate from the Contract Drawings and/or Specifications, the Contractor shall advise the Engineer, in letter of transmittal of the deviation and the reasons therefor. All changes shall be clearly marked on the submittal with a bold red mark. Any additional costs for modifications shall be borne by the Contractor.

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

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

I. Submittals for all electrically operated items (including instrumentation and controls) shall include complete wiring diagrams showing leads, runs, number of wires, wire size, color coding, all terminations and connections, and coordination with related equipment.

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

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

L. Where manufacturers' brand names are given in the Specifications for building and construction materials and products, such as grout, bonding compounds, curing compounds, masonry

cleaners, waterproofing solutions and similar products, the Contractor shall submit names and descriptive literature of such materials and products he proposes to use in this Contract.

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

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

1.06 CONTRACTOR RESPONSIBILITIES

- A. Verify field measurements, field construction criteria, catalog numbers and similar data.
- B. Coordinate each submittal with requirements of Work and of Contract Documents.
- C. Notify Engineer, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.
- D. Begin no work, and have no material or products fabricated or shipped which required submittals until return of submittals with Engineer's stamp and initials or signature indicating review.

- END OF SECTION -

SECTION 01450
QUALITY CONTROL

PART 1 - GENERAL

1.01 QUALITY CONTROL

A. Work of all crafts and trades shall be laid out to lines and elevations as established by the Contractor from the Drawings or from instructions by the Engineer.

B. Unless otherwise shown, all work shall be plumb and level, in straight lines and true planes, parallel or square to the established lines and levels. The Work shall be accurately measured and fitted to tolerance as established by the best practices of the crafts and trades involved, and shall be as required to fit all parts of the Work carefully and neatly together.

C. All equipment, materials and articles incorporated into the Work shall be new and of comparable quality as specified. All workmanship shall be first-class and shall be performed by mechanics skilled and regularly employed in their respective trades.

1.02 TESTS, INSPECTIONS, AND CERTIFICATIONS OF MATERIALS

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

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

C. Contractor shall deliver written notice to the Engineer at least 24 hours in advance of any inspections or tests to be made at the Project site. All inspections, tests, samples for water quality or other procedures requiring the Engineer to attest and to be conducted in the field shall be done in the presence of the Engineer or his representative.

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

- END OF SECTION -

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 COMPLIANCE WITH SAFETY REGULATIONS

The equipment items furnished shall comply with all governing Federal and State laws regarding safety, including all requirements of the Occupational Safety and Health Act of 1970 (OSHA).

PART 2 - PRODUCTS

2.01 REFERENCES

- A. Section 02610 - Pipe and Fittings.
- B. Section 02620 - Encasement Pipe.
- C. Section 02640 - Valves.

2.02 LISTING OF APPROVED MANUFACTURERS

All material shall meet applicable American Water Works Association (AWWA), American Standard Testing Methods (ASTM), Underwriters Laboratories (UL), Factory Mutual (FM) and National Sanitation Foundation (NSF) standards.

PART 3 - EXECUTION

3.01 REFERENCE

Section 02270 - Erosion Control, Sedimentation and Containment of Construction Materials: Part 3, Articles 3.01(C) and 3.01(D).

- END OF SECTION -

SECTION 01610

TRANSPORTATION AND HANDLING

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Handling and Distribution:

1. The Contractor shall handle, haul, and distribute all materials and all surplus materials on the different portions of the work, as necessary or required; shall provide suitable and adequate storage room for materials and equipment during the progress of the work, and be responsible for the protection, loss of, or damage to materials and equipment furnished by him, until the final completion and acceptance of the work.
2. Storage and demurrage charges by transportation companies and vendors shall be borne by the Contractor.

B. Storage of Materials and Equipment: All excavated materials and equipment to be incorporated in the work shall be placed so as not to injure any part of the work or the existing facilities and so that free access can be had at all times to all parts of the work and to all public utility installations in the vicinity of the work. Materials and equipment shall be kept neatly piled and compactly stored in such locations as will cause a minimum of inconvenience to public travel and adjoining owners, tenants and occupants.

- END OF SECTION -

SECTION 01700
PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Liquidated Damages: PROPOSAL, GENERAL CONDITIONS.
- B. Project Record Documents: Section 01720.

1.02 SUBSTANTIAL COMPLETION

- A. Contractor:
 - 1. Submit written certification to Engineer that project is substantially complete.
 - 2. Submit list of major items to be completed or corrected.
- B. Engineer will make an inspection within seven days after receipt of certification, together with Owner's Representative.
- C. Should Engineer consider that work is substantially complete:
 - 1. Contractor shall prepare, and submit to Engineer, a list of items to be completed or corrected, as determined by the inspection.
 - 2. Engineer will prepare and issue a Certificate of Substantial Completion, containing:
 - a. Date of Substantial Completion.
 - b. Contractor's list of items to be completed or corrected, verified and amended by Engineer.
 - c. The time within which Contractor shall complete or correct work of listed items.
 - d. Time and date Owner will assume possession of work or designated portion thereof.
 - e. Responsibilities of Owner and Contractor for:
 - (1) Insurance
 - (2) Utilities
 - (3) Operation of mechanical, electrical and other systems.
 - (4) Maintenance and cleaning.
 - (5) Security

- f. Signatures of:
 - (1) Engineer
 - (2) Contractor
 - (3) Owner
- 3. Owner occupancy of Project or Designated Portion of Project:
 - a. Contractor shall:
 - (1) Obtain certificate of occupancy.
 - (2) Perform final cleaning in accordance with Section 01710.
 - b. Owner will occupy Project, under provisions stated in Certificate of Substantial Completion.
- 4. Contractor shall complete work listed for completion or correction, within designated time.
- D. Should Engineer consider that work is not substantially complete.
 - 1. He shall immediately notify Contractor, in writing, stating reasons.
 - 2. Contractor shall complete work, and send second written notice to Engineer, certifying that Project, or designated portion of Project is substantially complete.
 - 3. Engineer will reinspect work.

1.03 FINAL INSPECTION

- A. Contractor shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Project has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in presence of Owner's Representative and are operational.
 - 5. Project is completed and ready for final inspection.
- B. Engineer will make final inspection within seven (7) days after receipt of certification.
- C. Should Engineer consider that work is finally complete in accordance with requirements of Contract Documents, he shall request Contractor to make Project Closeout submittals.
- D. Should Engineer consider that work is not finally complete:
 - 1. He shall notify Contractor, in writing, stating reasons.
 - 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to Engineer certifying that work is complete.

3. Engineer will reinspect work.

1.04 FINAL CLEAN UP

The Work will not be considered as completed and final payment made until all final clean up has been done by the Contractor in a manner satisfactory to the Engineer.

1.05 CLOSEOUT SUBMITTALS

Project Record Documents: To requirements of Section 01720.

1.06 FINAL APPLICATION FOR PAYMENT

Contractor shall submit final applications in accordance with requirements of the specifications.

1.07 FINAL CERTIFICATE FOR PAYMENT

A. Engineer will issue final certificate in accordance with provisions of the specifications.

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

1.08 AFFIDAVITS

The Contractor shall submit an affidavit for release of liens and payment of debts and claims before final payment for the project will be made. The Contractor shall submit a release of claims for all subcontractors and material suppliers for the project before final payment will be made to the Contractor.

- END OF SECTION -

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 WORK INCLUDED

A. The Contractor shall obtain from the Engineer, one (1) set of blueline prints of the Contract Drawings. These prints shall be kept and maintained in good condition at the project site and a qualified representative of the Contractor shall enter upon these prints, from day-to-day, the actual "as-built" record of the construction progress. Entries and notations shall be made in a neat and legible manner and these prints shall be delivered to the Engineer upon completion of the construction. APPROVAL FOR FINAL PAYMENT WILL BE CONTINGENT UPON COMPLIANCE WITH THIS PROVISION.

B. The final "as-built" record drawings shall be provided to the Engineer from the Contractor no later than 30 days after completion of all utility work under this contract.

1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE:

- A. Section 01300 - Submittals
- B. General Conditions

1.03 MAINTENANCE OF DOCUMENTS

- A. Maintain at job site, one copy of:
 - 1. Contract Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Reviewed Shop Drawings
 - 5. Change Orders
 - 6. Other Modifications to Contract
- B. Store documents in approved location, apart from documents used for construction.
- C. Provide files and racks for storage of documents.
- D. Maintain documents in clean, dry legible condition.
- E. Do not use record documents for construction purposes.
- F. Make documents available at all times for inspection by Engineer and Owner.

1.04 MARKING DEVICES

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

1.05 RECORDING

- A. Label each document "PROJECT RECORD" in 2-inch high printed letters.
- B. Keep record documents current.
- C. Do not permanently conceal any work until required information has been recorded.
- D. Contract Drawings: Legibly mark to record actual construction:
 - 1. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - 2. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - 3. Field changes of dimension and detail.
 - 4. Changes made by Change Order or Field Order.
 - 5. Details not on original Contract Drawings.
- E. Specifications and Addenda: Legibly mark up each Section to record:
 - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 - 2. Changes made by Change Order or Field Order.
 - 3. Other matters not originally specified.
- F. Shop Drawings: Maintain as record documents; legibly annotate Shop Drawings to record changes made after review.

1.06 SUBMITTAL

- A. At completion of project, deliver record documents to Engineer.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
 - 1. Date
 - 2. Project Title and Number
 - 3. Contractor's Name and Address

4. Title and Number of Each Record Document
5. Certification that each Document as Submitted is Complete and Accurate
6. Signature of Contractor, or his authorized Representative

- END OF SECTION -

SECTION 01740
WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Compile specified warranties and bonds.
- B. Compile specified service and maintenance contracts.
- C. Co-execute submittals when so specified.
- D. Review submittals to verify compliance with Contract Documents.
- E. Related requirements specified elsewhere:
 - 1. Bid Bond: Instructions to Bidders.
 - 2. Performance and Payment Bonds: General Conditions.
 - 3. Guaranty: General Conditions.
 - 4. General Warranty of Construction: General Conditions.
 - 5. Project Closeout: Section 01700.
 - 6. Warranties and Bonds required for specific products: As listed herein.
 - 7. Provisions of Warranties and Bonds, Duration: Respective specification sections for particular products.

1.02 SUBMITTALS REQUIREMENTS

- A. Assemble warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors.
- B. Furnish two (2) original signed copies.
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product, equipment or work item.
 - 2. Firm name, address and telephone number.
 - 3. Scope
 - 4. Date of beginning of warranty, bond or service and maintenance contract.
 - 5. Duration of warranty, bond or service and maintenance contract.

6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty or bond.
7. Contractor name, address and telephone number.

1.03 FORM OF SUBMITTALS

- A. Prepare in duplicate packets.
- B. Format:
 1. Size 8-1/2 in. x 11 in., punch sheets for 3-ring binder: Fold larger sheets to fit into binders.
 2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS".
List:
 - a. Title of Project.
 - b. Name of Contractor.
- C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.04 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during progress of construction: Submit documents within 10 days after inspection and acceptance.
- B. Otherwise, make submittals within 10 days after date of substantial completion, prior to final request for payment.
- C. For items of work, where acceptance is delayed materially beyond the Date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing the date of acceptance as the start of the warranty period.

1.05 SUBMITTALS REQUIRED

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

1.06 RESPONSIBILITY FOR MAINTENANCE

- A. Prior to formal acceptance of the IMPROVEMENTS by the Owner, the CONTRACTOR shall be responsible for the maintenance and repair of the IMPROVEMENTS in compliance with these specifications for one year after final acceptance.
- B. After formal acceptance of the IMPROVEMENTS by the Owner, the Owner will maintain the water main and service lines from the main to the meter setting or water service valve provided they are inside or within three feet (3 ft.) of the right-of-way or easement limits. Otherwise, the Owner maintenance responsibility for water service lines shall terminate at the right-of-way or easement limits.

- END OF SECTION -

SECTION 02202

ROCK REMOVAL

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Removal of discovered rock during excavation.
- B. Rock removal is part of and incidental to unclassified excavation. No separate payment shall be made for rock removal.

1.02 RELATED WORK

- A. Section 02220 - Excavation

1.03 REFERENCES

- A. NFPA 495 - Code for Manufacture, Transportation, Storage and Use of Explosive Materials.
- B. Commonwealth of Kentucky Department of Mines and Minerals, Laws and Regulations Governing Explosives and Blasting.

1.04 QUALITY ASSURANCE

- A. Seismic Survey Firm: Company specializing in seismic surveys with five years documented experience.
- B. Explosives Firm: Company specializing in explosives for disintegration of subsurface rock with five years documented experience.

1.05 REGULATORY REQUIREMENTS

- A. All blasting work done shall conform to Kentucky Department of Mines and Minerals code for explosive disintegration of rock.
- B. The Contractor shall obtain permits from local authorities having jurisdiction before explosives are brought to site or drilling is started.
- C. The Contractor shall conform to all State, Federal, and City laws, ordinances and regulations in regard to transportation, use and handling of explosives.

1.06 SHOP DRAWINGS

- A. Submit shop drawings under provisions of Section 01300.
- B. Indicate proposed method of blasting, delay pattern, explosive types, type of blasting mat or cover, and intended rock recovery method.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Rock Definition: Solid mineral material that cannot be removed with a power shovel.
- B. Explosives: Type recommended by explosives firm and required by authorities having jurisdiction.
- C. Delay Devices: Type recommended by explosives firm and conforming to State regulations.
- D. Blasting Mat Materials: Type recommended by explosives firm and conforming to State regulations.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify site conditions and note irregularities affecting work of this Section.
- B. Beginning work of this Section means acceptance of existing condition.
- C. All excavation is Bid Unclassified - No additional payment will be made for rock excavation.

3.02 ROCK REMOVAL

- A. Excavate for and remove rock by a mechanical method.
- B. Cut away rock at excavation bottom to form even surface.
- C. In utility trenches, excavate to 6 inches below invert elevation of pipe and 24 inches wider than pipe diameter.
- D. Rock shall be disposed of in an approved manner acceptable to the Engineer. No payment will be made for hauling of rock.
- E. Correct unauthorized rock removal in accordance with backfilling and compaction requirements of Section 02610, Article 3.07.

3.03 ROCK REMOVAL - EXPLOSIVES METHODS

- A. If rock is uncovered requiring the explosives method for rock disintegration, notify the Engineer.
- B. Advise owners of adjacent buildings or structures in writing prior to setting up seismographs. Describe blasting and seismic operations.
- C. Peak particle velocity will be limited to 4.0 in/sec.
- D. Provide seismographic monitoring during progress of all blasting operations, or as required by State regulations.
- E. Disintegrate rock and remove from excavation in accordance with Article 3.02.

02202-2

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F. The Contractor shall be solely responsible for his blasting operations.

3.04 FIELD QUALITY CONTROL

Engineer or his representative shall approve the depth of final rock.

3.05 HAUL

No payment will be made separately or directly for haul on any part of the work for removed rock. All haul will be considered a necessary and incidental part of the work, and the cost thereof shall be considered by the Contractor in the contract unit price for the pay items of work involved.

- END OF SECTION -

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SECTION 02220

EXCAVATION

PART 1 - GENERAL

1.01 WORK INCLUDED

All excavation for the project is unclassified excavation. No separate payment shall be made for rock excavation.

PART 2 - PRODUCTS

2.01 IDENTIFICATION TAPE AND ABOVE GROUND UTILITY MARKER

A. The placement of detectable underground marking tape shall be installed over all utility lines. Care shall be taken to insure that the buried marking tape is not broken when installed and shall be Lineguard brand encased aluminum foil, Type III. The identification tape is manufactured by Lineguard, Inc., P.O. Box 426, Wheaton, IL 60187.

B. The identification tape shall bear the printed identification of the utility line below it, such as "CAUTION - BURIED FORCE MAIN BELOW." Tape shall be reverse printed, surface printing will not be acceptable. The tape shall be visible in all types and colors of soil and provide maximum color contrast to the soil. The tape shall meet the APWA color code, and shall be two (2) inches in width. Colors are: yellow - gas, green - sewer, red - electric, blue - water, orange -- telephone, brown - force main.

C. The tape shall be the last equipment installed in the ditch so as to be first out. The tape shall be buried 4 - 6 inches below top of grade. After trench backfilling, the tape shall be placed in the backfill and allowed to settle into place with the backfill. The tape may be plowed in after final settlement, installed with a tool during the trench backfilling process, unrolled before final restoration or installed in any other way acceptable to the owner or his agent or engineer.

D. An above ground utility marker shall be installed every 1,000 feet along the route of the underground utility main unless otherwise specified or as noted on the drawings. The marker shall be approximately 3" in width and 4.5 feet in length, as manufactured by Carsonite, Inc. or equal.

2.02 TRACING WIRE

Detectable underground copper tracing wire shall be installed with all utility lines. Insulated copper trace wire shall be attached to the top of the pipe with adhesive tape or other suitable devices. At each hydrant, valve, customer meter services and end of new pipe installation, the trace wire shall be daylighted and the ends connected together with split bolt connectors covered with waterproof connectors. For long runs of pipe, the maximum unbroken length of the trace wire shall be 2,500 feet. Underground splicing shall be made using brass split bolt electrical connectors and covered with waterproof tape or wrap. The trace wire shall be solid #14 AWG THWN copper.

PART 3 - EXECUTION

3.01 EXCAVATION FOR TRENCHES

A. If the foundation is good firm earth and the machine excavation has been accomplished, the remainder of the material shall be excavated by hand and the earth pared or molded to give full support to the lower quadrant of the barrel of each pipe. Where bell and spigot pipe are involved, bell holes shall be excavated during this latter operation to prevent the bells from being supported on undistributed earth. If for any reason the machine excavation in earth is carried below an elevation that will permit the type of bedding in undistributed earth, then a layer of granular material shall be placed so that the lower quadrant of the pipe will be securely bedded in the granular fill as described in Section 02610, Part 3.

B. If the foundation is rock and the excavation has been undercut as set out hereinbefore, a bed of No. 9 crushed stone aggregate shall be placed to provide continuous support for the lower quadrant of the pipe.

C. Trenches shall be of sufficient width to provide free working space on each side of the pipe and to permit proper backfilling around the pipe, but unless specifically authorized by the Engineer, trenches shall in no case be excavated or permitted to become wider than 2'-6" plus the nominal diameters of the pipe at the level of or below the top of pipe. Trenches cut in roads and streets shall not exceed a maximum width of 3'-6" plus the nominal diameters of the pipe at the level of the road or street surface.

D. All excavated materials shall be placed a minimum of 2 feet back from the edge of the trench.

E. Unless specifically directed otherwise by the Engineer, not more than 500 feet of trench shall be opened ahead of the pipe laying work of any one crew, and not more than 500 feet of open ditch shall be left behind the pipe laying work of any one crew. Watchmen or barricades, lanterns and other such signs and signals as may be necessary to warn the public of the dangers in connection with open trenches, excavations and other obstructions, shall be provided by and at the expense of the Contractor.

F. When so required, or when directed by the Engineer, only one-half of street crossings and road crossings shall be excavated before placing temporary bridges over the side excavated, for the convenience of the traveling public. All backfilled ditches shall be maintained in such manner that they will offer no hazard to the passage of traffic. The convenience of the traveling public and the property owners abutting the improvements shall be taken into consideration. All public or private drives shall be promptly backfilled at the direction of the Engineer.

G. Where existing drainage ditches coincide with the proposed water main alignment, the Contractor shall re-establish the drainage ditch after the water main has been laid and properly backfilled. The drainage ditch shall be of equal size as the previously existing one and free of any restrictions which might impede flow.

3.02 SHORING, SHEETING, AND BRACING OF EXCAVATION

A. Where unstable material is encountered or where the depth of excavation in earth exceeds five (5) feet, the sides of the trench or excavation shall be supported by substantial sheeting, bracing, and shoring, or the sides sloped to the angle of repose. Sloping the sides of the ditch to the angle will not be permitted in streets, roads, narrow rights-of-way or other constricted areas unless otherwise specified. The design and installation of all sheeting, sheet piling, bracing and shoring shall be based on computations of pressure exerted by the materials to be retained under obtaining conditions. Adequate and proper shoring of all excavations shall be the entire responsibility of the Contractor; however, the Engineer may require the submission of shoring plans (accompanied by supporting computations) for approval prior to the Contractor undertaking any portion of the work. The standards of the Federal Occupational Safety and Health Act and the Kentucky Labor Cabinet shall be followed.

B. Foundations, adjacent to where the excavation is to be made below the depth of the existing foundation, shall be supported by shoring, bracing or underpinning as long as the excavation shall remain open, or thereafter if required to insure the stability of the structure supported by the foundation, and the Contractor shall be held strictly responsible for any damage to said foundations.

C. Solid sheeting will be required for wet or unstable material. It shall consist of continuous vertical sheet piling of timber or steel with suitable wales and braces.

D. Care shall be taken to avoid excessive backfill loads on the completed pipelines and the trench width requirements at the level of the crown of the pipe and at the level of a road or street be strictly observed.

E. Trench sheeting shall not be removed until sufficient backfill has been placed to protect the pipe.

F. All sheeting, planking, timbering, bracing and bridging shall be placed, renewed and maintained as long as is necessary.

3.03 REMOVAL OF WATER

A. The Contractor, at his own expense, shall provide adequate facilities for promptly and continuously removing water from all excavation.

B. To ensure proper conditions at all times during construction, the Contractor shall provide and maintain ample means and devices (including spare units kept ready for immediate use in case of breakdowns) with which to remove promptly and dispose properly of all water entering trenches and other excavations. Such excavation shall be kept dry until the structures, pipes, and appurtenances to be built therein have been completed to such extent that they will not be floated or otherwise damaged.

C. All water pumped or drained from the work shall be disposed of in a suitable manner without undue interference with other work, damage to pavements, other surfaces, or property. Suitable temporary pipes, flumes, or channels shall be provided for water that may flow along or across the site of the work.

D. If necessary, the Contractor shall dewater the excavations by means of an efficient drainage wellpoint system which will drain the soil and prevent saturated soil from flowing into the excavation. The wellpoints shall be designed especially for this type of service. The pumping unit shall be designed for use with the wellpoints, and shall be capable of maintaining a high vacuum and of handling large volumes of air and water at the same time.

E. The installation of the wellpoints and pump shall be done under the supervision of a competent representative of the manufacturer. The Contractor shall do all special work such as surrounding the wellpoints with sand or gravel or other work which is necessary for the wellpoint system to operate for the successful dewatering of the excavation.

3.04 DISPOSITION OF EXCAVATED MATERIAL

Material excavated for pipe lines and structures not suitable or needed for backfilling purposes, shall be disposed of by the Contractor at his own expense in a manner satisfactory to the Engineer.

3.05 UNAUTHORIZED EXCAVATION

Whenever the excavation is carried beyond or below the required lines and grades, the Contractor, at his own expense, shall refill said excavated space with suitable material in a manner approved by the Engineer.

3.06 EXISTING UTILITIES AND OTHER OBSTRUCTIONS

Prior to the commencement of construction on the project, the Contractor shall contact the utility companies whose lines, above and below ground, may be affected during construction and verify the locations of the utilities as shown on the Contract Drawings. The Contractor shall ascertain from said companies if he will be allowed to displace or alter, by necessity, those lines encountered or replace those lines disturbed by accident during construction, or if the companies themselves are only permitted by policy to perform such work. If the Contractor is permitted to perform such work, he shall leave the lines in as good condition as were originally encountered and complete the work as quickly as possible. All such lines or underground structures damaged or molested in the construction shall be replaced at the Contractor's expense, unless, in the opinion of the Engineer, such damage was caused through no fault of the Contractor.

3.07 FINAL CLEANUP AND RESTORATION

A. Unless specifically approved by the Owner or Engineer, cleanup of all disturbed areas shall be kept current with construction activities and cleanup and restoration efforts are initiated by the Contractor no longer than a period of two (2) weeks after the trench excavation work has started. All excavated material not required for backfilling of the trench and any large rocks, stones or debris shall be removed from the site within reasonable time and shall not be an undue burden to the property owner(s) and/or adjacent properties. The Contractor may windrow or track-in the excavated material over the trench prior to final cleanup to allow for and to assist in the initial settlement of the trench. All disturbed areas must be seeded, at least with a temporary seed mix, if for some reason the area cannot be permanently seeded within the two (2) week period.

B. For the construction areas within existing highways, city streets or vehicular traffic lanes, and unless specifically approved by the Owner or Engineer in writing, not more than 300 feet of pipeline shall be laid and trench left open before cleanup and restoration efforts are initiated by the Contractor. All trench excavations shall be backfilled or steel plates covering the excavated trench at the end of each working day. No trench shall remain open for a period longer than forty eight (48) hours before backfilling of the excavated trench is begun. No excavated trench shall remain open over a weekend period. All excavated material not required for backfilling of the trench and any large rocks, stones or debris shall be removed from the site within reasonable time and shall not be an undue burden to the property owner(s) and/or adjacent properties. The Contractor at all times shall conduct the work in such manner as to cause as little interference as possible with private and public travel. The Contractor shall provide and maintain the construction area as may be required by the State of Kentucky, Department of Transportation and the local Road Department.

C. The Contractor shall be responsible for the notification of all police, fire and emergency departments should any highway, street, or alleyway need to be closed during the construction activity.

3.08 WATER LINES LAID IN DITCH LINES

At the locations shown and indicated on the Contract Drawings, sections of the water lines shall be laid in the ditch-lines of various highways. The backfill material shall be earth except for those locations indicating that dense graded aggregate (D.G.A.) is to be placed. After placement of the D.G.A. full depth in the trench, the surface shall be covered with dry stone riprap with all stones being generally flat and each stone not less than one-third (1/3) square foot in area. Riprap is not considered a separate pay item.

- END OF SECTION -

SECTION 02255

CRUSHED STONE AND DENSE GRADED AGGREGATE

PART 1 - GENERAL

1.01 SCOPE OF WORK

Furnish and install crushed stone for miscellaneous uses as shown on the Drawings or as called for in the Specifications.

PART 2 - PRODUCTS

2.01 MATERIALS

When referred to in these Specifications or as shown on the Drawings, crushed stone and dense graded aggregate shall be of the size and type specified below and shall conform to the specifications of the Kentucky Highway Department Standard Specifications for Road and Bridge Construction, latest revision, Section 703, Slope Protection and Channel Lining, and Section 805, Coarse Aggregates.

- A. No. 9-M
- B. No. 57
- C. Dense Graded Aggregate
- D. Cyclopean Stone Riprap
- E. Crushed Aggregate for Slope Protection
- F. Crushed Aggregate for Channel Lining

PART 3 - EXECUTION

3.01 INSTALLATION

A. Crushed stone aggregate shall be placed and compacted as specified elsewhere in these specifications or as shown on the Drawings.

B. Dense graded aggregate shall be placed and compacted in accordance with the Kentucky Highway Department Standard Specifications for Road and Bridge Construction, latest revision.

C. Crushed stone aggregate for riprap, slope protection and channel lining shall be placed and compacted in accordance with the Kentucky Highway Department Standard Specifications for Road and Bridge Construction, latest revision.

- END OF SECTION -

SECTION 02270

EROSION CONTROL, SEDIMENTATION AND CONTAINMENT OF CONSTRUCTION MATERIALS

PART 1 - GENERAL

1.01 WORK INCLUDED

A. The Contractor shall do all work and take all measures necessary to control soil erosion resulting from construction operations, shall prevent the flow of sediment from the construction site, and shall contain construction materials (including excavation and backfill) within his protected working area so as to prevent damage to the adjacent wetlands.

B. The Contractor shall not employ any construction method that violates a rule, regulation, guideline or procedure established by Federal, State or local agencies having jurisdiction over the environmental effects of construction.

C. Pollutants such as chemicals, fuels, lubricants, bitumen, raw sewage and other harmful waste shall not be discharged into or alongside of any body of water or into natural or man-made channels leading thereto.

D. Permits:

1. The Contractor shall apply for a permit (if applicable) for stormwater runoff from the construction site for the project. It shall be the Contractor's responsibility to determine if the proposed construction activities will require a permit from the federal, state and local regulatory agencies.
2. For this project, the stormwater permitting process falls under the Kentucky Pollutant Discharge Elimination System (KPDES) permit program administered by the Kentucky Division of Water, Frankfort, Kentucky.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Bales may be hay or straw, and shall be reasonably clean and free of noxious weeds and deleterious materials. Filter fabric for sediment traps shall be of suitable materials acceptable to the Engineer.

B. Temporary silt fence shall be in accordance with Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction - Section 213 - Water Pollution Control (latest edition).

PART 3 - EXECUTION

3.01 METHODS OF CONSTRUCTION

A. The Contractor shall use any of the acceptable methods necessary to control soil erosion and prevent the flow of sediment to the maximum extent possible. These methods shall include, but not be limited to, the use of water diversion structures, diversion ditches and settling basins.

B. Construction operations shall be restricted to the areas of work indicated on the Drawings and to the area which must be entered for the construction of temporary or permanent facilities. The Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and fill operations and to direct the Contractor to provide immediate permanent or temporary pollution control measures to prevent contamination of the wetlands and adjacent watercourses. Such work may involve the construction of temporary berms, dikes, dams, sediment basins, slope drains, and use of temporary mulches, mats, or other control devices or methods as necessary to control erosion.

C. Excavated soil material shall not be placed adjacent to the wetlands or watercourses in a manner that will cause it to be washed away by high water or runoff. Earth berms or diversions shall be constructed to intercept and divert runoff water away from critical areas. Diversion outlets shall be stable or shall be stabilized by means acceptable to the Engineer. If for any reason construction materials are washed away during the course of construction, the Contractor shall remove those materials from the fouled areas as directed by the Engineer.

D. For work within easements, all materials used in construction such as excavation, backfill, roadway, and pipe bedding and equipment shall be kept within the limits of the easements.

E. The Contractor shall not pump silt-laden water from trenches or other excavations into the wetlands, or adjacent watercourses. Instead, silt-laden water from his excavations shall be discharged within areas surrounded by baled hay or into sediment traps to ensure that only sediment-free water is returned to the watercourses. Damage to vegetation by excessive watering or silt accumulation in the discharge area shall be avoided.

F. Prohibited construction procedures include, but are not limited to, the following:

1. Dumping of spoil material into any streams, wetlands, surface waters, or unspecified locations.
2. Indiscriminate, arbitrary, or capricious operation of equipment in wetlands or surface waters.
3. Pumping of silt-laden water from trenches or excavations into surface waters, or wetlands.
4. Damaging vegetation adjacent to or outside of the construction area limits.
5. Disposal of trees, brush, debris, paints, chemicals, asphalt products, concrete curing compounds, fuels, lubricants, insecticides, washwater from concrete trucks or hydroseeders, or any other pollutant in wetlands, surface waters, or unspecified locations.
6. Permanent or unauthorized alteration of the flow line of any stream.
7. Open burning of debris from the construction work.

G. Any temporary working roadways required shall be clean fill approved by the Engineer. In the event fill is used, the Contractor shall take every precaution to prevent the fill from mixing with native materials of the site. All such foreign fill materials shall be removed from the site following construction.

3.02 EROSION CHECKS

A. The Contractor shall furnish and install baled hay or straw erosion checks in all locations indicated on the Drawings, surrounding the base of all deposits of stored excavated material outside of the disturbed area, and where indicated by the Engineer. Checks, where indicated on the Drawings, shall be installed immediately after the site is cleared and before trench excavation is begun at the location indicated.

Checks located surrounding stored material shall be located approximately 6 ft. from that material. Bales shall be held in place with two 2 in. by 2 in. by 3 ft. wooden stakes. Each bale shall be butted tightly against the adjoining bale to preclude shortcircuiting of the erosion check.

B. Temporary silt fence shall be installed in accordance with the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction and Department of Highways, Standard Drawings - RDX-210-02.

- END OF SECTION -

SECTION 02510

WALK, ROAD AND PARKING PAVING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Crushed stone paving course, compacted.
- B. Bituminous concrete paving (replacement of bituminous pavement disturbed during construction only).
- C. Concrete sidewalks.

1.02 REFERENCES

A. Unless noted, all specification designations refer to the Kentucky Highway Department Standard Specifications for Road and Bridge Construction (KHDSSRBC), latest edition. Appropriate portions of the referenced sections of the Specifications shall apply, but all work shall be included in the bid items described herein unless otherwise specified or shown on the Drawings.

- B. ASTM C33 - Aggregate for Concrete.

1.03 TESTS

Gradation of stone materials will be performed in accordance with ASTM C33.

PART 2 - PRODUCTS

2.01 MATERIALS

A. All materials used shall meet the appropriate physical test requirements of the latest edition and/or revision of Kentucky Highway Department Standard Specifications for Road and Bridge Construction.

B. Replacement of Bituminous Surface on City Streets and Secondary State Highways: Bituminous surfacing materials for replacement of City Streets and Secondary State Highways of bituminous construction shall be hot mixed bituminous concrete, as specified in the Kentucky Highway Department Standard Specifications for Road and Bridge Construction, Section 401, 402 and 403 (latest revision).

C. Bituminous Seal Coat Treatment: Bituminous seal coat treatment shall conform to the requirements as set forth in the Kentucky Highway Department Standard Specifications for Road and Bridge Construction Section 406 (latest revision).

D. Tack Coat: Bituminous material for tack coat shall be as specified in Kentucky Highway Department Standard Specifications for Road and Bridge Construction, Section 407 (latest revision).

E. Dense Graded Aggregate: Crushed rock for temporary or permanent traffic bound surfacing shall be No. 610 as specified in Section 301 and 302 (Kentucky Highway Department Standard Specifications for Road and Bridge Construction). The crushed stone shall be crushed limestone meeting the requirement of Section 805 of the Kentucky Highway Department Standard Specification for Road and Bridge Construction.

- F. Crushed stone shall conform to ASTM C33.

G. The sidewalks and/or curbs shall consist of 4" of 4000 PSI concrete reinforced with wire mesh placed over the previously prepared stone base. The shapes and sizes of the sidewalks shall be as indicated on the Drawings. The materials and methods of construction shall conform in all respects to the applicable sections under Section 505 and 506 of the Kentucky Highway Department Standard Specifications for Road and Bridge Construction.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify compacted subgrade.
- B. Verify compacted granular base is dry and ready to support paving and imposed loads.
- C. Verify gradients and elevations of base are correct.
- D. Verify surface of existing paved area is clean and prepared for application of tack coat and paving. condition
- E. Beginning of installation means acceptance of existing conditions.

3.02 PREPARATION

A. Concrete and Bituminous Paving Repair, Replacement or Resurfacing: In case of replacement of state highway paving, depth, other details and method of applying, including base, shall be as specified herein and as required by the Kentucky Highway Department. Pavement for state highway, county road, or city street paving replacement shall be as described in the following Specifications.

B. Trench Surface Repaving on City and County Streets and Roads:

1. Bituminous Paving Replacement: The cut edges of the existing paving surface shall be trimmed a depth of at least 2" to straight lines for uniform appearance and clean surface at joints. The area between the cut edges of the paving shall be removed to a depth of 8" (minimum) below the bottom of the existing paving. All unstable material in the trench shall be removed and replaced with compacted dense graded aggregate added as needed to bring the base surface to 8" below bottom of existing paving. Dense graded aggregate required for stabilizing the subgrade will be paid for as an extra with the width and weight limitations as specified. Concrete subslab shall be placed to bring the trench surface to within 2" of the existing pavement (see the Standard Details on the Drawings). No extra payment will be allowed for removal of unstable backfill.
2. The paving subgrade shall be compacted under the wheel of a loaded dual wheel vehicle until there is no observed settlement of the subgrade.
3. Prior to placing the paving material, the bottom and sides of surface to be paved shall be covered with a prime coat to insure adhesion.
4. Next, the bituminous paving shall be hot applied and rolled in accordance with the provisions of Division 400, KHDSSRBC. Surface shall then be graded to one-quarter inch above existing paving surface at edges and crowned to one-half inch above such surface at the center.

3.03 PLACING STONE PAVING AND STONE BASE

- A. Spread stone material over prepared base to a total compacted thickness of 12 inches.
- B. Place stone in 6 inch layers and compact.
- C. Level surfaces to elevations and gradients indicated.
- D. Add small quantities of sand to stone mix as appropriate to assist compaction.
- E. Adequately compact placed stone materials.
- F. Add water to assist compaction. With an excess water condition, rework topping and aerate to reduce moisture content.

3.04 SUBSOIL PREPARATION

- A. Eliminate uneven areas and low spots.
- B. Remove debris, roots, branches and stones in excess of one inch in size.

3.05 PLACING ASPHALT PAVEMENT

A. The preparation of the base shall include cleaning of original surface to be resurfaced, the removal of unstable material from the trench, removal of crushed rock from the trench and the addition of crushed rock to the trench where needed.

B. If temporary pavement has been placed, it shall be removed and the stone base course restored as hereinafter specified. All catch basin and manhole frames and covers, water and gas gates, and other structures in the roadway to receive the surface course shall be adjusted to the elevation required for the finished pavement to conform to the proper grade.

C. Prior to placing pavement, all backfill shall have been properly compacted as required to eliminate settling of backfill. No pavement shall be placed over poorly compacted backfill. Backfill and stone base course shall be compacted, brought to the proper elevation, and dressed so that new pavement construction shall be at the required grade. The Contractor shall maintain the surfaces of all excavated and disturbed areas until the pavement is placed. If there is a time lapse of more than 24 hours between completion of preparation of subgrade or placing of stone base course and placing of paving, or if subgrade or stone base course has been eroded or disturbed by traffic, the subgrade or stone base course shall be restored before placing paving.

D. After the stone base course has been rolled to the required grade, the edges of existing pavement shall be cut back 12" or more, as required, from the trench excavation wall or damaged area to sound undamaged material, straightened, cleaned, and painted with an approved cut back asphalt to insure a satisfactory bond between it and the newly placed permanent paving.

3.06 TEMPORARY PAVEMENT

A. The Contractor upon completing the backfilling of the trenches and the placing of the gravel base, may be required to construct a temporary pavement.

B. The temporary pavement shall be placed in one course and shall consist of 2" compacted thickness of bituminous concrete as directed by the Engineer. The pavement shall be maintained in good repair, flush with the existing pavement at all times, at the Contractor's expense.

C. The materials and methods of construction for temporary bituminous-concrete pavement shall conform in all respects to the applicable subsections under Section 401, of the Kentucky Highway Department Standard Specifications for Road and Bridge Construction.

3.07 TOLERANCES

- A. Flatness: Maximum variation of ½" measured with 10 feet straight edge.
- B. Compacted Scheduled Thickness: Within 1/4".
- C. Variation from True Elevation: Within ½".
- D. Top of Sidewalk and Curbs: Plus or minus 1 inch.

3.08 PROTECTION

Immediately after placement, protect pavement from damage until surface is sufficiently hardened for traffic.

3.09 SURFACE MAINTENANCE

Until the expiration of the guarantee period, the Contractor shall maintain surfacing placed under this contract and shall promptly correct all defects such as cracks, depressions, and holes that occur. At all times, the surfacing shall be kept in a safe and satisfactory condition for traffic. If defects occur in surfacing constructed by the Contractor, the Contractor shall remove all bituminous concrete and base course as is necessary to properly correct the defect. The Contractor shall replace the base course and bituminous concrete in accordance with the requirements of these Specifications.

3.10 COLD PATCH

A. General: Cold patch shall be used as a temporary pavement repair when hot mix asphalt is unavailable due to asphalt batch plant winter shutdown. The cold patch shall be removed and the utility cut repaired per the standard detail contained in the plans, when the asphalt plant reopens.

B. Materials: Cold patch shall be a mixture of asphalt binder and KDOH No. 8 crushed stone. The crushed stone shall be free of fine dust. The asphalt binder shall be KP-6 obtained from a KDOH approved supplier. The cold patch mix shall contain 6% KP-6 binder by weight.

C. Placement: The cold patch depth shall not exceed 2" and shall not be less than 1 ½". The patch will be placed on a 12" (minimum) thick compacted DGA base or 8-inch concrete sub-slab per the standard details. The existing pavement edges will be saw cut and free of any loose material. The cold patch will be compacted in place using a roller or plate compactor. Hand tamping will not be an acceptable means of compaction.

D. Maintenance: The contractor shall be responsible for maintaining the temporary repair in good condition until permanent repairs are completed. The temporary patch will be repaired when rutting exceeds 3/4".

E. Payment: No additional payment will be made for cold patch repairs or maintenance there of. Cold patch material, transport, installation, removal, maintenance and related cost are considered incidental to the overall project and therefore not eligible for separate payment.

- END OF SECTION -

SECTION 02610

PIPE AND FITTINGS - WATER MAINS

PART 1 - GENERAL

1.01 SCOPE

A. Furnish all labor, materials, equipment and incidentals necessary to install and test pipe and fittings as shown on the Drawings and required by the Specifications.

B. Piping shall be located substantially as shown. The Engineer reserves the right to make such modifications in locations as may be found desirable to avoid interference between pipes or for other reasons.

C. Wherever the word pipe or piping is used it shall mean pipe and fittings unless otherwise noted. All polyvinyl chloride pipe (PVC), ductile iron pipe (DIP) fittings, glands, and accessories shall be of the same manufacturer unless approved otherwise.

1.02 RELATED WORK

Excavation is included in this Division, Section 02220.

1.03 DESCRIPTION OF SYSTEM

A. Piping shall be installed substantially as shown on the Drawings so as to form a complete smooth flow path and workable system. All piping shall be laid continuously in so far as practicable without the use of in-line couplings to join sections of previously laid pipe.

B. The piping and materials specified herein are intended to be standard types of pipe for use in transporting the fluids as indicated on the Drawings. The pipe and fittings shall be designed, constructed, and installed in accordance with the best practices and methods and the manufacturer's recommendations.

C. Pipe materials for each line shall be as shown in the Drawings.

1.04 QUALIFICATIONS

All pipe and fittings under this section shall be furnished by manufacturers who are fully experienced, qualified, and regularly engaged in the manufacture of the materials to be furnished.

1.05 SUBMITTALS

A. The Contractor shall submit for review in accordance with Division 1, Section 01300, complete sets of shop drawings showing layout and details of materials, joints and methods of construction and installation of the pipe, specials and fittings required.

B. Before fabrication and/or shipping of the pipe is begun, the Contractor shall submit for approval a schedule of pipe lengths for the entire job. All pipe furnished under the Contract shall be fabricated in full accordance with the approved Drawings.

C. Submit to the Engineer within 30 days after execution of the Contract a list of materials to be furnished, the names of the suppliers and the approximate date of delivery of materials to the site.

1.06 INSPECTION

The manufacturer shall inspect all pipe joints for out-of-roundness and pipe ends for squareness. The manufacturer shall furnish to the Engineer a notarized affidavit stating all pipe meets the requirements of applicable ASTM Specifications, these Specifications, and the joint design with respect to square ends and out-of-round joint surfaces.

PART 2 - PRODUCTS

2.01 DUCTILE IRON PIPE (D.I.P.) AND FITTINGS

A. Ductile iron pipe (D.I.P.) shall conform to ANSI/AWWA C150/ A21.50, ANSI/AWWA C151/A21.51 Standard. The pipe shall conform to thickness class 350 unless noted otherwise. All pipe, fittings and joints shall be capable of accommodating pressure up to 350 psi.

B. Push-on type joints shall be single rubber gasket, with cast gasket socket and recessed bell with a tapered annular opening and flared socket and shall conform to ANSI/AWWA C111/A21.11. Plain spigot ends shall be suitably beveled to permit easy entry into the bell, centering and compressing the gasket. Field lock gaskets may be used to restrain push-on joint ductile iron pipe where required and indicated on the drawings with approval of the Engineer.

C. Ductile iron flanged joint pipe shall conform to ANSI/AWWA C115/A 21.15 Standard and have a thickness class of 53. The pipe shall have a rated working pressure of 350 psi with Class 125 flanges unless otherwise noted. Gaskets shall be ring gaskets with a thickness of 1/8-inch. Flange bolts shall conform to ANSI B16.1.

D. Flanged fittings shall meet all requirements of ANSI/AWWA C110/A21.10 and have Class 125 flanges. Fittings shall accommodate a working pressure up to 350 psi and be supplied with all accessories. Ductile iron pipe and flanged fittings shall be used in all vault and pit installations.

E. Ductile iron mechanical joint fittings shall have a body thickness and radii of curvature conforming to ANSI A21.10 and have joints in accordance with ANSI/AWWA C111/A21.11. Fittings and joints shall be supplied with all accessories.

F. All pipe and fittings shall be tar coated outside and shall receive a standard cement lining with bituminous seal coat on the inside in accordance with ASA Specification A21.40 (AWWA-C104).

G. Cement mortar lining and seal coating for pipe and fittings, where applicable, shall be in accordance with ANSI/AWWA C104/A21.4. Bituminous outside coating shall be in accordance with ANSI/AWWA C151/A21.51 for pipe and ANSI/AWWA C110/A21.10 for fittings.

H. All ductile fittings shall be rated at 350 psi water working pressure plus water hammer. Ductile iron fittings shall be ductile cast-iron per ASTM Specification A339-55.

I. River crossing pipe shall be ductile iron with ball and socket type joint. The joint shall be boltless with restraint provided by a bayonet-type locking of the retainer over the bell. All pipe components shall be rugged, high strength ductile iron. The barrel is cast of 60-42-10 ductile iron in accordance with American National Standard A21.51. The bell, ball, and retainer are cast of 70-50-05 ductile iron in accordance with the applicable requirements of American National Standard A21.10. The gasket will be of high quality rubber and symmetrical in shape. The first and last section of river crossing pipe shall be furnished with mechanical joint ends suitable for connection to the remaining system piping.

J. No separate pay item has been established for fittings and no determination of the number of fittings required on the job has been made. The Contractor, during the bidding phase, shall determine the number of fittings required on the job and include the cost of the fittings and installation in the unit price for pipe.

K. Restraint glands or fittings shall be either "Meg-a-Lug" or "Series 100" or "Series 1200" as manufactured by EBBA Iron Sales, Inc., Eastland, Texas.

L. Restrained Joint Pipe:

1. Restrained joints for 4" through 16" push-on joint pipe installation is required and indicated in the project plans or specifications, restrained push-on joint pipe and fittings utilizing ductile iron components shall be provided.
2. Restrained joint pipe shall be ductile iron manufactured in accordance with the requirements of ANSI/AWWA C151/A21.51. Push-on joints for such pipe shall be in accordance with ANSI/AWWA C111/A21.11. Pipe thickness shall be designed in accordance with ANSI/AWWA C150/A21.50, and shall be based on laying conditions and internal pressures as stated in the project plans and specifications. Pipe shall be U.S. Pipe TR FLEX pipe or equal.
3. Restrained joint fittings shall be ductile iron in accordance with applicable requirements of ANSI/AWWA C110/A21.10 with the exception of the manufacturer's proprietary design dimensions. Push-on joints for such fittings shall be in accordance with ANSI/AWWA C111/A21.11. Fittings shall be U.S. Pipe TR FLEX fittings or equal.
4. Cement mortar lining and seal coating for pipe and fittings, where applicable, shall be in accordance with ANSI/AWWA C104/A21.4. Bituminous outside coating shall be in accordance with ANSI/AWWA C151/A21.51 for pipe and ANSI/AWWA C110/A21.10 for fittings.
5. Restrained push-on joints for pipe and fittings shall be designed for a water working pressure of 350 psi in sizes 4" through 24" and 250 psi for sizes 30" through 54".
6. Restrained push-on joint pipe and fittings shall be capable of being deflected after assembly.

2.02 POLYVINYL CHLORIDE (PVC) PIPE (SDR 21 OR SDR 17)

A. Polyvinyl chloride (PVC) pipe for water mains shall be Class 200 (SDR 21) or Class 250 (SDR 17) pressure rated pipe as shown on the Drawings or indicated in the proposal form with either twin gasket joints or integral bell joints with rubber O-ring seals.

B. All PVC pipe shall conform to the latest revisions of ASTM D-1784 (PVC Compounds), ASTM D-2241 (PVC Plastic Pipe, SDR) and ASTM D-2672 (Bell-End PVC Pipe). Rubber gasketed joints shall conform to ASTM D-3139. The gaskets for the PVC pipe joint shall conform to ASTM F-477 and D-1869.

C. Couplings shall be furnished by the pipe manufacturer and shall accommodate the pipe for which they are used. Rubber gasket joints shall provide adequate expansion to allow for a 50°F change in temperature on one length of pipe. Lubrication for rubber connected couplings shall be water soluble, non-toxic, be non-objectionable in taste and odor and have no deteriorating affect on the PVC or rubber gaskets and shall be as supplied by the pipe manufacturer. Couplings shall conform to ASTM D-3139.

D. All pipe and couplings shall bear identification markings that will remain legible during normal handling, storage and installation, which have been applied in a manner that will not reduce the strength of the pipe or coupling or otherwise damage them. Pipe and coupling markings shall include the nominal size and OD base, material code designation, dimension ratio number, ASTM Pressure Class, ASTM designation number for this standard manufacturer's name or trademark, seal (mark) of the testing agency that verified the suitability of the pipe material for potable-water service. Each marking shall be applied at intervals of not more than 5 feet for the pipe and shall be marked on each coupling.

2.03 POLYVINYL CHLORIDE (PVC) PIPE - C.I. PIPE SIZE (DR 18) (DR14)

A. Pipe shall meet the requirements of AWWA C-900 Polyvinyl Chlorine (PVC) Pressure Pipe. All Class 200 pipe shall meet the requirements of DR 14 and all Class 150 pipe shall meet the requirements of DR 18. Joints shall be integral bell or twin gasket joints with rubber O-ring seals.

B. All pipe shall be suitable for use as a pressure conduit. Provisions must be made for expansion and contractions at each joint with an elastomeric ring. The bell shall consist of an integral wall section with a solid cross-section elastomeric ring which meets the requirements of ASTM D-1869 and F-477. The bell section shall be designed to be at least as strong as the pipe wall. Sizes and dimensions shall be as shown in this specification.

C. Gaskets and lubricants intended for use with PVC pipe and couplings shall be made from materials that are compatible with the plastic material and with each other when used together, will not support the growth of bacteria, and will not adversely affect the potable qualities of the water that is to be transported. Gaskets and lubricants shall be supplied by the pipe manufacturer.

D. Physical Requirements:

1. Standard Laying Lengths - Standard laying lengths shall be 20 ft. (plus or minus 1") for all sizes. The total footage of pipe of any class and size shall be furnished in standard lengths. Each length of pipe shall be tested to four times the class pressure of the pipe for minimum of 5 second. The integral bell shall be tested with the pipe.

2. Pipe Stiffness - The pipe stiffness (PSI) using F/y for PVC class water pipe shall be as follows:

<u>Class</u>	<u>DR</u>	<u>F/y (PSI)</u>
150	18	364
200	14	815

3. Quick Burst Test: Randomly selected tested in accordance with ASTM D-1599 shall withstand without failure pressures listed below when applied in 60 - 70 seconds. Class 150 shall have a minimum burst pressure of 755 psi and Class 200 shall have a minimum burst pressure of 986 psi at 73 degrees F. for all sizes.

4. Drop Impact Test: Pipe shall withstand without failure at 73 degrees F. an impact of 120 ft/lbs created by a falling 12 lb missile with a 2" radius nose without visible evidence of shattering or splitting.

E. All pipe and couplings shall bear identification markings that will remain legible during normal handling, storage and installation, which have been applied in a manner that will not reduce the strength of

the pipe or coupling or otherwise damage them. Pipe and coupling markings shall include the nominal size and OD base, material code designation, dimension ratio number, AWWA Pressure Class, AWWA designation number for this standard, manufacturer's name or trademark, seal (mark) of the testing agency that verified the suitability of the pipe material for potable-water service. Each marking shall be applied at intervals of not more than 5 feet for the pipe and shall be marked on each coupling.

2.04 DUCTILE IRON MECHANICAL JOINT FITTINGS FOR PVC PIPE

A. General: Cast-iron mechanical joints shall conform to the latest revision of ANSI A21.11 for centrifugally cast-iron water pipe.

1. 3" to 12", All Working Pressures: Fittings shall conform to ANSI Specification A21.10 for 1725 kPa (250 psi) water working pressure plus water hammer.
2. Fittings 12" and Over, for 150 psi and less WWP: Fittings for use on 150 psi WWP pipe shall be AWWA Class D pattern.
3. Fittings 12" and larger, for 200 psi and above WWP: Fittings shall be ductile iron or gray iron rated at 250 psi working pressure plus water hammer. Ductile iron fittings only will be used with ductile iron pipe.

B. All ductile iron fittings shall be rated at 250 psi water working pressure plus water hammer. Ductile iron fittings shall be ductile cast-iron grade 0-60-03 per ASTM Specification A339-55. All fittings for connection to PVC pipe-all classes, shall be ductile iron.

C. No separate pay item has been established for fittings and no determination of the number of fittings required on the job has been made. The Contractor, during the bidding phase, shall determine the number of fittings required on the job and include the cost of the fittings and installation in the unit price for pipe.

D. Lining and Coating: All mechanical joint fittings shall be cement lined and bituminous seal coated per Federal Specification WW-P-421b and ANSI Specification A21.40 (AWWA C104). Bituminous outside coating shall be in accordance with ANSI/AWWA C110/A21.10.

E. Restraint glands or fittings shall be "Series 2000 PV" for use with AWWA C-900 or IPS OD PVC pipe as manufactured by EBBA Iron Sales, Inc., Eastland, Texas.

2.05 HIGH-DENSITY POLYETHYLENE - AWWA APPROVED POTABLE WATER PIPE -- (NOT APPLICABLE IN THIS CONTRACT)

A. General: This section is for High-density Polyethylene AWWA C906 and NSF 14 Approved Pipe for Potable Water Service in Sizes 4" to 24" DIPS (Ductile Iron Pipe Size) and defines the characteristics and properties of high-density polyethylene pipe. This specification governs the material, pipe, fittings, butt fusion, and general construction practice for HDPE piping systems.

1. Pipe shall have a hydrostatic design stress rating of 800 psi based on a material with a 1,600 psi at 23° hydrostatic design basis as determined in accordance with ASTM D-2837.
2. Fittings shall be molded or fabricated from material meeting the same standards as the pipe.

3. Joints shall be made by the thermal butt fusion system. All joints shall be completely watertight, airtight and as strong as or stronger than the pipe wall, in strict accordance with the manufacturer's recommendations.
4. Sections of polyethylene pipe shall be joined into continuous lengths on the job site above ground. The joining method shall be the heat fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. The heat fusion equipment used in the joining procedures shall be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements of 400°F, alignment, and 150 psi interfacial fusion pressure.
5. Heat fusion joining shall be 100% efficient offering a joint weld strength equal to or greater than the tensile strength of the pipe. Socket fusion shall not be used.

B. References: Where all or part of a Federal, ASTM, ANSI, AWWA, etc., standard specification is incorporated by reference in these Specifications, the reference standard shall be the latest edition and revision and considered a part of these specifications.

C. Material: Materials used for the manufacture of polyethylene pipe and fittings shall be extra high molecular weight, high density PE 3408 polyethylene resin. The material shall be listed by PPI (Plastics Pipe Institute, a division of the Society of the Plastics Industry) in PPI TR-4 with a 73°F hydrostatic design basis of 1,600 psi and a 140°F hydrostatic design basis of 800 psi. The PPI listing shall be in the name of the pipe manufacturer and shall be based on ASTM D 2837 testing.

D. Pipe and Fittings: Qualification of Manufacturers. The Manufacturer shall have manufacturing and quality assurance facilities capable of producing and assuring the quality of the pipe and fittings required by these Specifications. The Manufacturer's production facilities shall be open for inspection by the Owner or his Authorized Representative.

1. Pipe: Pipe supplied under this specification shall have a nominal DIPS (Ductile Iron Pipe Size) OD unless otherwise specified. The DR (Dimension Ratio) and the pressure rating of the pipe supplied shall be as shown on the drawings. The pipe shall be produced from approved HDPE pipe grade resin with the nominal physical properties as specified in the appropriate ASTM specifications for the sizes indicated. Pipe having a diameter 3" and larger will be made to the dimensions and tolerances specified in ASTM F 714.

APPROVED PIPE MANUFACTURERS:
PHILLIPS DRISCOPIPE, A Division of Phillips Petroleum Co.

The pipe shall contain no recycled compound except that generated in the manufacturer's own plant. The pipe shall be homogeneous throughout and free of visible cracks, holes, voids, foreign inclusions, or other defects that may affect the wall integrity.

2. Pipe Performance: The pipe will be extruded from resin meeting the specifications of ASTM D 3350 with a minimum cell classification of 345464C.
3. Fittings: HDPE fittings shall be in accordance with ASTM D 3261 and shall be manufactured by injection molding, a combination of extrusion and machining, or fabrication from HDPE pipe conforming to this specification. The fittings shall be fully pressure rated and provide a working pressure equal to that of the pipe with an

included 2:1 safety factor. The fittings shall be manufactured from the same base resin type and cell classification as the pipe itself. The fittings shall be homogeneous throughout and free from cracks, holes, foreign inclusions, voids, or other injurious defects.

1. Molded Fittings. Molded fittings shall be manufactured and tested in accordance with ASTM D 3261 and shall be so marked. Molded fittings shall be tested in accordance with AWWA C906.
5. X-Ray Inspection. The Manufacturer shall submit samples from each molded fittings production lot to x-ray inspection.
6. Fabricated Fittings. Fabricated fittings shall be made by heat fusion joining specially machined shapes cut from pipe, polyethylene sheet stock or molded fittings. Fabricated fittings shall be rated for internal pressure service at least equal to the full service pressure rating of the mating pipe. Fabricated fittings shall be tested in accordance with AWWA C906.
7. Polyethylene Flange Adapters. Flange adapters shall be made with sufficient throughbore length to be clamped in a butt fusion-joining machine without the use of a stub-end holder. The sealing surface of the flange adapter shall be machined with a series of small v-shaped grooves (serrations) to promote gasketless sealing, or restrain the gasket against blowout.

E. Joining - Butt Fusion: Sections of polyethylene pipe shall be joined by the butt fusion process into continuous lengths at the job site. The joining method shall be the heat fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. The heat fusion equipment used in the joining procedures should be capable of meeting all conditions recommended by the pipe manufacturer. Properly executed electrofusion fittings may be used. Extrusion welding or hot gas welding of HDPE shall not be used for pressure pipe applications or fabrications where shear or structural strength is important. Mechanical joint adapters, flanges, unions, grooved-couplers, transition fittings, and some mechanical couplings may be used to mechanically connect HDPE pipe. Refer to the manufacturer's recommendations.

F. Joining - Other Means: Polyethylene pipe and fittings may be joined together or to other materials by means of (a) flanged connections (flange adapters and back-up rings), (b) mechanical couplings designed for joining polyethylene pipe or for joining polyethylene pipe to another material, (c) MJ Adapters or (d) electrofusion. When joining by other means, the installation instructions of the joining device manufacturer shall be observed.

ID Stiffener and Restraint. A stiffener shall be installed in the bore of the polyethylene pipe when an OD compression mechanical coupling is used and when connecting plain end PE pipe to a mechanical joint pipe, fitting or appurtenance. External clamp and tie rod restraint shall be installed where PE pipe is connected to the socket of a mechanical joint pipe, fitting or appurtenance except where an MJ Adapter is used.

G. Quality and Workmanship: The pipe and/or fitting manufacturer's production facilities shall be open for inspection by the owner or his designated agents with a reasonable advanced notice. During inspection, the manufacturer shall demonstrate that it has facilities capable of manufacturing and testing the pipe and/or fittings to standards required by this specification. Pipe which has been tested by the manufacturer and falls outside of the appropriate limits set forth in this specification will be cause for rejection.

H. **QA Records:** QA/QC records shall be maintained intact for a minimum of one year from the date of production.

I. **Pipe Marking:** During extrusion production, the HDPE pipe shall be continuously marked with durable printing including the following information:

1. Nominal Size
2. Dimension Ratio
3. Pressure Class, psi
4. Manufacturer's Name and Product Series
5. Cell Class
6. ASTM Basis
7. "NSF-PW"
8. Pipe Test Category
9. Plant Code & Extruder
10. Production Date
11. Operator Number (Shift Letter optional)
12. Resin Supplier Code

J. **Pipe Packaging, Handling, & Storage:** The manufacturer shall package the pipe in a manner designed to deliver the pipe to the project neatly, intact, and without physical damage. The transportation carrier shall use appropriate methods and intermittent checks to insure the pipe is properly supported, stacked, and restrained during transport such that the pipe is not nicked, gouged, or physically damaged. Pipe shall be stored on clean, level ground to prevent undue scratching or gouging. If the pipe must be stacked for storage, such stacking shall be done in accordance with the pipe manufacturer's recommendations. The pipe shall be handled in such a manner that it is not pulled over sharp objects or cut by chokers or lifting equipment. Sections of pipe having been discovered with cuts or gouges in excess of 10% of the pipe wall thickness shall be cut out and removed. The undamaged portions of the pipe shall be rejoined using the heat fusion joining method. Fused segments of pipe shall be handled so as to avoid damage to the pipe. Chains or cable type chokers must be avoided when lifting fused sections of pipe. Nylon slings are preferred. Spreader bars are recommended when lifting long fused sections.

K. **Testing:**

2. **Fusion Quality.** The Contractor shall ensure the field set-up and operation of the fusion equipment, and the fusion procedure used by the Contractor's fusion operator while on site. Upon request by the Owner, the Contractor shall verify field fusion quality by making and testing a trial fusion. The trial fusion shall be allowed to cool completely; then test straps shall be cut out and bent strap tested in accordance with ASTM D 2657. If the bent strap test of the trial fusion fails at the joint, the field fusions represented by the trial fusion shall be rejected. The Contractor at his expense shall make all necessary corrections to equipment, set-up, operation and fusion procedure, and shall re-make the rejected fusions.
3. **Hydro-Test:** Pipelines shall be tested to the requirements and specifications of the engineer of record. HDPE pressure pipe shall be tested in accordance with the specifications and requirements of the engineer of record and/or with the manufacturer's recommendations. The pressure rating of the pipe is a function of temperature at the time of hydro-test. Refer to the manufacturer's temperature related pressure ratings. At a minimum and if not specified elsewhere, hydro-test the piping system at 1.5 times the pressure rating of the pipe for 2 to 3 hours per Driscopipe Technical Note #35. If a system component such as a fabricated or

mechanical fitting has a pressure rating less than that of the pipe, the piping system should be pressure tested to manufacturer's guidelines on that component.

PART 3 - EXECUTION

3.01 PIPE INSTALLATION AND LAYING DEPTHS FOR WATER MAINS

A. In general, water mains shall be laid with a minimum cover of 30" above the top of the main, unless otherwise noted on the Drawings, i.e. for minimum separation between water main and other utilities, connections to existing mains, valves, locations within the ditchline of the highway, etc.

B. The laying of pipe shall proceed with the spigot ends pointing with the nominal flow of the water.

C. Inspection and Handling: All pipe 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.

D. Pipe Laying and Jointing: 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 bedded, backfilled 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.

E. 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, flotation, cave-in, and in-wash of soil or debris. A suitable temporary tight-fitting plug, stopper or bulkhead shall be placed in the exposed bell or groove end of the pipe.

F. 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. No 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 30 inches of cover over the outside top of the pipe has been placed.

3.02 PIPE BEDDING

A. The foundation for pipes laid in trenches shall be prepared so that the entire load of the backfill on top of the pipe will be carried uniformly on the barrel of the pipe. Pipe bells shall not carry any of the load of the backfill.

B. When the "Undercutting Method" is used in rock bottom trenches, Class I granular bedding (No. 9 crushed stone aggregate) shall be of such depth that the bottom of the barrel of the pipe will be at least

6" above the bottom of the trench as excavated. Pipe bedding required in this paragraph is NOT considered a separate pay item.

C. In wet, yielding and mucky locations where pipe is in danger of sinking below grade or floating out of line or grade, the pipe must be weighted or secured permanently in place by such means as will provide effective. In areas where a high water table exists, the Contractor is cautioned to exercise extreme care in the placement of the backfill material to prevent flotation of the pipe at any time.

D. Where an unstable (i.e., water, mud, etc.) trench bottom is encountered, stabilization of the trench bottom is required. This is to be accomplished by undercutting the trench depth and replacing to grade with a foundation of crushed stone aggregate. The depth of the foundation is dependent upon the severity of the trench bottom. The size of stone aggregate used in the foundation will be determined by the condition of the unstable material. Once the trench bottom has been stabilized, the required Class I bedding can be placed. The amount of crushed stone aggregate required to bring the top of the foundation to the trench bottom prior to the removal of the unstable material will be considered a separate pay item following negotiation between the Contractor and Owner and constitute a change order item. No compensation will be made if the instability of the trench bottom is caused by the Contractor's neglect.

E. The Contractor shall use Class I granular bedding (No. 9 crushed stone aggregate) when the pipe is to be placed in rock bottom trenches or in trenches with excavated rock present. This type of bedding material shall be placed 12" above and 6" below the pipe as shown on the Contract Drawings as "Class C Bedding Detail". The Class I material used for pipe bedding in this paragraph is not a separate pay item and shall be included in unit price bid for water main.

F. It should be noted that no pipe shall be laid on solid or blasted rock. No rock shall be allowed to rest against the pipe once it is placed in the trench.

G. Pipe bedding as required in Paragraphs C and D of this Article is NOT considered as separate pay item.

3.03 PIPE LAYING

A. All pipe shall be laid with ends abutting and true to the lines and grades indicated on the Plans. Pipe shall be fitted and matched so that when laid it will provide a smooth and uniform invert. Supporting of pipe shall be as set out hereinbefore under "Pipe Bedding" and in no case shall be supporting of pipe on blocks be permitted.

B. Fittings and specials for the water main shall be provided and laid as and where directed by the Engineer or as shown on the Plans.

C. Before each piece of pipe is lowered into the trench, it shall be thoroughly swabbed out to insure its being clean. Any piece of pipe or fitting which is known to be defective shall not be laid or placed in the lines. If any defective pipe or fitting shall be discovered after the pipe is laid, it shall be removed and replaced with a satisfactory pipe or fitting it shall be so cut as to leave a smooth end at right angles to the longitudinal axis of the pipe.

D. The interior of the pipe, as the work progresses, shall be cleaned of dirt, jointing materials, and superfluous materials of every description. When laying of pipe is stopped for any reason, the exposed end of such pipe shall be closed with an appropriate type plug fitting into the pipe bells so as to exclude earth or other material and precautions shall be taken to prevent flotation of pipe by runoff into trench.

E. No backfilling (except for securing pipe in place) over pipe will be allowed until the Engineer has had an opportunity to make an inspection of the joints, alignment and grade in the section laid, but such

inspection shall not relieve the Contractor of further liability in case of defective joints, misalignment caused by backfilling and other such deficiencies that are noted later.

F. Anchorage of Bends, Tees, Plugs, Hydrants and Valves:

1. At all tees, plugs, caps and bends of 11-1/4 degrees and over, and at reducers or in fittings where changes in pipe diameter occur, movement shall be prevented by using suitable harness, thrust blocks or ballast. Hydrants and valves shall be provided with similar protection. Thrust blocks and supports shall be as shown in the typical details, with sufficient volumes of concrete being provided; however, care shall be taken to leave weep holes unobstructed and allow for future tightening of all nearby joints. Unless otherwise directed by the Engineer, thrust blocks shall be placed so that the pipe and fitting joints will be accessible for repair. Thrust blocks shall bear on undisturbed earth or rock.
2. Bridles, harness or pipe ballasting shall meet with the approval of the Engineer. Steel rods, nuts and clamps shall be stainless steel.
3. No extra pay shall be allowed for work on proper anchorage of pipe, fittings or other appurtenances; such items shall be included in the unit price bid for the supported item.
4. Restraint glands or restraint fittings and the use of stainless steel threaded rods may be required in areas of unstable soil or in areas where the Owner or Engineer deem necessary due to the number of fittings being used and the potential of possible blow-out of the water main. These areas are indicated on the drawings but may vary based on actual field conditions and at the direction of the Owner or Engineer.

3.04 HORIZONTAL DIRECTIONAL DRILLING -- (NOT APPLICABLE IN THIS CONTRACT)

Horizontal directional drilling technique shall be used for installing pipes and utility lines below ground using a surface-mounted drill rig that launches and places a drill string at a shallow angle to the surface and has tracking and steering capabilities. The drill shall be advanced underground, creating a borehole along its path. As the destination is reached, the drill string is angled upwards to penetrate the surface. After the borehole has been opened, a backreamer shall be attached to the head of the drill string and the HDPE pipe shall be attached to the backreamer. The drill string shall then be retracted. During retraction, the borehole will be expanded by the backreamer and the HDPE pipe drawn into the borehole. To protect HDPE pipe against excessive pulling load, a weak-link or breakaway device shall always be used at the head of the HDPE pipe. The allowable tensile load for setting weak-link devices shall be determined using ASTM F 1804 Standard Practice for Determining Allowable Tensile Load for Polyethylene (PE) Gas Pipe During Pull-In Installation. Horizontal Directional Drilling (HDD) applications shall be installed in accordance with ASTM F1962 Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit under Obstacle, Including river Crossings, Plastic Pipe Institute (PPI) Polyethylene Pipe for Horizontal Directional Drilling, and the Mini Horizontal Directional Drilling Manual published by the North American Society of Trenchless Technology (NASTT). Additional information is available in Plexco® Literature Trenchless Technology Bulletin No. 1 - Horizontal Directional Drilling Note.

3.05 WATER MAINS PUSHED UNDER DRIVEWAYS

The Contractor may be required to tunnel or bore under a bituminous or concrete surface driveway instead of open trenching as requested by the property owner. The opening under the driveway shall be of the smallest diameter possible to accommodate the water main to minimize settlement of the driveway.

Should settlement occur, the Contractor shall repair the driveway at his own expense in a manner satisfactory to the Engineer and the property owner.

3.06 JOINTING

Jointing shall be accomplished in accordance with the manufacturer's recommendations.

3.07 TYPES OF CRUSHED STONE MATERIAL

Two classes of crushed stone material are mentioned in the Detailed Specifications. The type of material used in each class is as follows:

Class I	No. 9 Aggregate
Class II	Dense Graded Aggregate

3.08 BACKFILLING

A. Initial Backfill:

1. This backfill is defined as that material which is placed over the water main from the spring line in an earth trench to a point 6" above the top of the pipe or from the trench bottom in a rock trench to a point 12" above the top of the pipe. The initial backfill for Case I situations shall be earth material free of rocks, acceptable to the Engineer or Class I material (No. 9 crushed stone aggregate). The initial backfill for Case II, Case III and Class IV situations shall be Class I material (No. 9 crushed stone aggregate).
2. In areas where large quantities of rock are excavated, and the excavated earth is insufficient, then the Contractor must either haul in earth or order crushed stone aggregate for backfilling over the top of the pipe. The earth nor crushed stone aggregate used to fulfill the backfill requirements is not considered a pay item.

B. Final Backfill: There are four cases where the method of final backfilling varies. The various cases and trench situations are as follows:

1. Case I: Areas not subject to vehicular traffic.
2. Case II: Gravel areas subject to light vehicular traffic such as residential driveways; church and commercial parking lots and entrances; and farm drives.
3. Case III: City and County gravel roads; gravel and bituminous road shoulders; all bituminous surface areas such as City and County streets, residential driveways, church and commercial parking lots, and entrances; City and County road shoulders.
4. Case IV: State maintained streets and road; road shoulders for State roads and streets.

C. In all cases, walking or working on the completed pipeline, except as may be necessary in backfilling, will not be permitted until the trench has been backfilled to a point 12 inches above the top of the pipe. The method of final backfilling for each of the above cases is as follows:

1. Case I - The trench shall be backfilled from a point 6" (12" for a rock trench) above the top of the pipe to a point 8" below the surface of the ground with earth material

free from large rock over 0.3 cubic feet, acceptable to the Engineer. The remainder of the trench to existing grade shall be backfilled with earth material reasonably free of any rocks.

Earth backfill used in this Case is not a separate pay item and is considered incidental to the work for the pay item "Water Main."

2. Case II - The trench shall be backfilled from a point 6" (12" for a rock trench) above the top of the pipe to a point 12" below the surface of the ground with Class I (No. 9 crushed stone aggregate) material. The trench shall be tamped to assure maximum possible compaction (approximately 80 to 85 percent of Standard Proctor density). Extreme care shall be exercised to prevent damage to the pipe during tamping operation. The remainder of the trench to existing grade shall be backfilled with Class II (dense graded aggregate) material with the material being mounded over the trench. The trench shall be tamped again to assure additional compaction. The trench may be left with a slight mound if permitted by the Engineer.

Class I material used and method of backfilling used in this case is not a separate pay item and is considered incidental to the work for the item "Water Main."

Class II material used in this method of backfill is not a separate pay item and is considered incidental to the work for the item "Water Main."

Sufficient stockpiles of Class II material shall be placed throughout the project area to insure immediate replacement by the Contractor of any settled areas. The Contractor shall maintain the trench and replace or fill any settled areas until the section of main is accepted by the Owner. No extra payment will be made for the filling in of settled areas by the Contractor. Earth material shall not be used in this Case for backfill material.

3. Case III - The trench shall be backfilled from a point 6" (12" for a rock trench) above the top of pipe to the height indicated in the "City and County Maintained Streets, Roads and Driveway Pavement Replacement" detail with Class I (No. 9 crushed stone aggregate) material. Said material shall be tamped as described for Case II. A 12-inch layer of Class II (dense graded aggregate) material shall be placed over the compacted backfill before bituminous or concrete surface is placed as shown in the previously mentioned details. The 12-inch layer of Class II material is NOT a separate pay item but such expense will be borne by the Contractor and is considered incidental to the bid items "Bituminous or Concrete Surface Replacement". Also considered incidental is all temporary stone required for a temporary surface between backfilling and pavement replacement.

Sufficient stockpiles of Class II material shall be placed throughout the project area to insure immediate replacement by the Contractor of any settled areas. The Contractor shall maintain the trench and replace or fill any settled areas with crushed stone until the section of main is accepted by the Owner or until the final bituminous or concrete surface is placed over the trench. No extra payment will be made for the filling in of settled areas by the Contractor. Class II material used in this method of backfill is considered incidental and as a support item under the item "Bituminous Surface Replacement" or "Concrete Surface Replacement" at its unit price.

Class I material used for backfilling is not a separate pay item and is considered incidental to the bid item "Water Main."

4. Class IV- The trench shall be backfilled from the spring line to a point 1 foot above the top of the pipe with earth material free from rock and acceptable to the Engineer, it shall be carefully and solidly tamped by approved mechanical methods. The remainder of the trench shall be backfilled to the height indicated in the "State Maintained Streets and Roads Pavement Replacement Detail" in the Contract Drawings, with material free from rock and acceptable to the Engineer; said material shall be mechanically tamped in approximately 6 inch layers to obtain the maximum possible compaction. The backfilling method is NOT a separate pay item. A 12 inch layer of dense graded aggregate shall be placed over the compacted earth backfill when a bituminous or concrete surface street or road has been trenched. The 12 inch layer of stone is not a separate pay item but such expense will be borne by the Contractor.

D. Excavated materials from trenches and tunnels, in excess of quantity required for trench backfill, shall be disposed of by the Contractor. The Contractor may contact the Owner regarding the location of a suitable disposal site; however, if the Owner cannot recommend a site, it shall be the responsibility of the Contractor to obtain locations or permits for the disposal of the waste material. Unit prices for the various pipe sizes shall include the cost of disposing of excess excavated materials, as set forth herein, no additional compensation being allowed for hauling or overhaul.

3.09 CRUSHED STONE SURFACE REPLACEMENT

A. The Class II granular material used in Case II backfill situations shall be dense graded aggregate (D.G.A.). This is not a separate bid item but is incidental to the work.

B. The Class II granular material used in Case III and IV backfill situations shall not be a separate bid item and is considered incidental to the work.

3.10 CONCRETE ENCASUREMENT-UTILITY CROSSING OR WATER/SAN. SEWER CROSSING

A. At locations shown on the Contract Drawings, or as required by the Specifications, and Contract Drawings, concrete encasement shall be used when the clearance between the proposed water main and any existing utility pipe is one (1) foot or less. Utility pipe includes underground gas, telephone and electrical conduit, storm sewers, sanitary sewers or any other underground utility pipe.

B. There are two cases of utility crossing encasement. Case I is applicable when the proposed water main is below the existing utility line. Case II is applicable when the proposed water main is laid above the utility line. In either case, the concrete shall extend to at least the spring line of each pipe involved.

C. When a water main crosses an existing sewer line, either above or below and less than two (2) feet vertical or ten (10) feet horizontal separation, the water main shall be encased in concrete as shown on the Standard Details, or as required by the Specifications and Contract Drawings.

D. Concrete shall be Class B 3000 psi and shall be mixed sufficiently wet to permit it to flow between the pipes and form a continuous bridge. In tamping the concrete, care shall be taken not to disturb the grade of line of either pipe or damage the joints.

E. Concrete placed outside the specified limits or without authorization from the Engineer will not be subject to payment. Concrete will not be a separate pay item, but will be paid for under the pay item "Water Main."

3.11 CONCRETE FOR CREEK CROSSING (TYPE "A", "B" AND "C" CREEK CROSSING)

A. At locations shown on the Contract Drawings, or as required by the Specifications, and Contract Drawings, concrete shall be used when the water main cross a stream or creek which is in rock or as directed by the Engineer.

B. All creek crossings (Type "A", "B" and "C") shall be constructed as per the detail shown on the Contract Drawings.

C. Concrete shall be Class B 3000 psi and shall be mixed sufficiently wet to permit flow around the pipe and to form a continuous bed. In tamping the concrete, care shall be taken not to disturb the grade or line of the pipe or injure the joints. Concrete shall be protected from excess water.

D. Concrete placed outside the specified limits or without authorization from the Engineer will not be subject to payment. Concrete will be paid under the pay item for the respective type of creek crossing.

3.12 TESTING OF LINES

A. Upon completion of the construction of water mains but prior to FINAL INSPECTION, all water mains and appurtenances shall be tested for leaks as specified herein. The OWNER shall be notified at least 24 hours in advanced of the scheduled test time and, at its own discretion, have an inspector present during the performance of the test.

B. Where practicable, pipelines shall be tested between line valves, temporary valves or temporary plugs in lengths of not more than 1,500 feet or between isolation valves. The CONTRACTOR may request, in writing, the testing of a section of line greater than 1,500 feet with the Engineer's approval. Testing shall proceed from the source of water toward the termination of the line. The line shall be tested upon the completion of the first 1,500 feet or the first isolation valve. After the completion of the first test without failure, the CONTRACTOR, at his option and with the Engineer's approval, may discontinue testing until the system is complete. The CONTRACTOR shall provide a recording pressure gauge which shall be used for the continuous measurement and recording of test pressures and test times.

C. Water mains shall be tested at a minimum of 150 pounds per square inch in compliance with AWWA C651 but not less than the pressure specified in the sub-paragraphs below. The CONTRACTOR shall furnish a recording pressure gauge which shall be used for the continuous measurement and recording of test pressures and test time.

1. Test pressure shall not be less than 1.25 times the working pressure at the highest point along the test section. Test pressure shall not exceed pipe or thrust-restraint design pressures. The hydrostatic test shall be at least a 2-hour duration. Test pressure shall not vary by more than ± 5 psi for the duration of the test.
2. Valves shall not be operated in either direction at differential pressure exceeding the rated valve working pressure. Use of a test pressure greater than the rated valve pressure can result in trapped test pressure greater than the rated valve pressure can result in trapped test pressure between the gates of a double-disc gate pendent of the valve. For test pressures, the test setup should include provision, independent of the valve, to reduce the line pressure to the rated valve pressure on completion of the test. The valve can then be opened enough to equalize the trapped pressure with the line pressure, or fully opened if desired.
3. Test pressure shall not exceed the rated pressure of the valves when the pressure boundary of the test section includes closed, resilient-seated gate valves or butterfly valves.

4. After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least 1.5 times the working pressure at the point of testing. Each valved section of pipe shall be slowly filled with water, and the specified test pressure, based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Owner. Valves shall not be operated in either the opening or closing direction at differential pressures above the rated pressure. It is good practice to allow the system to stabilize at the test pressure before conducting the leakage test.
5. Before applying the specified test pressure, air shall be expelled completely from the pipe, valves and hydrants. If permanent air vents are not located at all high points, the Contractor shall install corporation cocks at such points so that the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation cocks shall be closed and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed and plugged or left in place at the discretion of the Owner.
6. Any exposed pipe, fittings, valves, hydrants and joints shall be examined carefully during the test. Any damaged or defective pipe, fittings, valves, hydrants or joints that are discovered following the pressure test shall be repaired or replaced with sound material, and the test shall be repeated until it is satisfactory to the Owner.
7. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe or any valved section thereof to maintain pressure within 5 psi of the specified test pressure after the pipe has been filled with water and the air has been expelled. Leakage shall not be measured by a drop in pressure in a test section over a period of time.

D. Loss of water pressure during the test shall not exceed 10 psi in a 24 hour time period or 5 psi in a two (2) hour time period. Duration of test shall be not less than two (2) hours.

E. Where leaks are visible at exposed joints and/or evident on the surface where joints are covered, the joints shall be recaulked, repoured, bolts retightened or relaid, and leakage minimized, regardless of total pressure drop shown by the test.

F. When hydrants are in the test section, the test shall be made against closed hydrant valves.

3.13 PRESSURE TESTING AND LEAK TESTING OF HDPE PIPE -- (NOT APPLICABLE IN THIS CONTRACT)

A. All necessary precautions shall be taken to ensure the safety of persons and property while conducting leak tests. Leak tests should always be conducted using hydrostatic leak testing procedures. In general, the maximum allowable test pressure for leak testing is 150% of the pipe working pressure at the lowest elevation in the line; the maximum time allotted to conduct a leak test is eight (8) hours including bringing the line up to pressure, maintaining test pressure, and depressurizing; if leaks are found, depressurize the line before repairs are made; and if retesting is necessary, allow the line to relax for at least eight (8) hours before repressurizing the line. See Performance Pipe Technical Note PP-802 Leak Testing for recommended leak testing procedures.

B. Additional Information Concerning HDPE Pipe: Correctly made fusion joints should not leak. When pressurized, leakage at a faulty fusion joint may immediately precede catastrophic separation and result in violent and dangerous movement of piping or parts and the release of pipeline contents under pressure.

No persons should ever approach or attempt to repair or stop leaks while the pipeline is pressurized. Always depressurize the pipeline before making corrections. Faulty fusion joints cannot be repaired, they must be cut out and rejoined using proper heat fusion procedures.

3.14 LEAKAGE TEST

A. Only after the line has passed the hydrostatic test, shall the leakage test be used to determine if the line has passed. The leakage shall be defined as the quantity of water that must be supplied to the tested section to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water.

B. The allowable leakage shall not be greater than that determined by the following formula:

$$L = \frac{SD(P)^{1/2}}{133,200}$$

Where L is the allowable leakage in gallons per hour; S is the length of pipeline tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test, in pound per square inch gauge. This formula is based on an allowable leakage of 11.65 gpd/mi/in. of nominal diameter at a pressure of 150 psi.

D. All visible leaks are to be repaired regardless of the amount of leakage.

E. Acceptance shall be determined on the basis of allowable leakage. If any test of laid pipe discloses leakage greater than that specified, the Contractor shall, at his own expense, locate and make approved repairs as necessary until the leakage is within the specified allowance.

3.15 DISINFECTION OF WATER LINES

A. New potable water lines shall not be placed into service, either temporarily or permanently, until they have been thoroughly disinfected in accordance with the following requirements and to the satisfaction of the OWNER and in accordance with AWWA 651 (latest revision).

B. After pressure testing, a solution of hypochlorite using HTH or equal shall be introduced into the section of the line being disinfected sufficient to insure a chlorine dosage of at least 50 parts per million (PPM) in the entire water main. While the solution is being applied, the water should be allowed to escape at the ends of the line until tests indicate that a chlorine concentration of at least 50 PPM has been obtained throughout the complete water main. Open and close all valves and cocks while chlorinating agent is in the piping system. The chlorinated water shall remain in the pipe for 24 hours. Disinfection shall be repeated until a minimum chlorine residual of 25 PPM is measured after 24 hours. Once a chlorine residual of 25 PPM is obtained after 24 hours, the water main shall be thoroughly flushed until the residual chlorine content is not greater than 1.0 PPM.

C. The CONTRACTOR shall slowly fill the water main being disinfected to allow for full contact of the pipe with the chlorinated water to ensure full contact and proper disinfection per AWWA C-651.

D. Following disinfection of the line, bacteriological samples shall be collected and analyzed in accordance with the requirements of Kentucky Department of Natural Resources and Environmental Protection. When the samples have been tested and reported safe from contamination, the water line may be connected to the system. The Contractor shall provide to OWNER written documentation that the water sample passed the bacteriological test and is safe.

E. Bacteriological samples shall be taken in the following manner:

1. Two samples for the first one-half mile of water main and then one sample per mile thereafter.
2. Two samples when disconnecting or reconnecting a branch line or service line when two or more customers are affected.

F. All bacteriological sampling and testing shall be paid for by the Contractor and included in the unit price for the bid item "water main".

G. The CONTRACTOR shall provide its own chlorine residual analyzer test kit for sampling the chlorine concentration during the disinfection test period.

3.16 DISINFECTING OF HDPE PIPE -- (NOT APPLICABLE IN THIS CONTRACT)

Applicable procedures for disinfecting new and repaired potable water mains are presented elsewhere in these specifications and in industry standards such as ANSI/AWWA C651 Disinfecting Water Mains. ANSI/AWWA C651 uses liquid chlorine, sodium hypochlorite or calcium hypochlorite to chemically disinfect the main. Disinfecting solutions must not exceed 12% active chlorine because greater concentration can chemically attack and degrade polyethylene. After disinfecting, all disinfecting solution must be flushed from the system, especially from dead-end lines.

3.17 DECHLORINATION OF HEAVILY CHLORINATED WATER

A. Dechlorination of heavily chlorinated water shall be in accordance with AWWA C651 and shall be accomplished using sodium bisulfite, sodium thiosulfate, sodium sulfite, or calcium thiosulfate solution of a concentration sufficient to remove all chlorine to a level not to exceed 0.019 mg/l. The solution shall be applied by a metering pump directly into the chlorinated water flow stream by injection into a discharge line or into the free discharge from a hydrant. The treated water may then be conveyed to the nearest sanitary sewer, storm sewer, or local stream.

B. The feed rate (gpm) of solution shall be governed by the chlorine (ppm) concentration of the water to be dechlorinated and the rate (gpm) at which it can be discharged. Constant monitoring of the chlorine residual concentration shall be made using the colorimetric method to ensure the optimum solution feed rate.

C. Feed System: The dechlorinating agent shall be fed from prepared carboys utilizing a metering pump equipped with a suitable meter and valve to adjust/monitor the feed rate.

3.18 CLEAN-UP

A. Upon completion of the installation of the piping and appurtenances, the Contractor shall remove all debris and surplus construction materials resulting from the work. The Contractor shall grade the ground along each side of pipe trenches in a uniform and neat manner leaving the construction area in a shape as near as possible to the original ground line.

B. Unless specifically approved by the Owner or Engineer, cleanup of all disturbed areas shall be kept current with construction activities and restoration efforts shall be initiated by the Contractor no longer than a period of two (2) weeks after the trench excavation work has started. All excavated material not required for backfilling of the trench and any large rocks, stones or debris shall be removed from the site within reasonable time and shall not be an undue burden to the property owner(s) and/or adjacent properties. The Contractor may windrow or track-in the excavated material over the trench prior to final cleanup to allow for and to assist in the initial settlement of the trench. All disturbed areas must be seeded, at least with a

temporary seed mix, if for some reason the area cannot be permanently seeded within the two (2) week period.

3.19 CONNECTING TO THE WATER SYSTEM

Unless otherwise directed by the OWNER, the CONTRACTOR shall connect the new water main to the existing water system. The CONTRACTOR shall notify the OWNER when the connection is to be made so that representatives of the OWNER may operate existing valves and witness the connection. A minimum notice of at least 24 hours in advance of the connection shall be given to the UTILITY. The CONTRACTOR shall coordinate all connections and other work which require disruption of water service so as to minimize the amount of time the affected water lines are out of service.

- END OF SECTION -

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SECTION 02620
ENCASEMENT PIPE

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall furnish all labor, materials, tools and equipment necessary to complete the borings as shown on the Contract Drawings and as herein specified.

PART 2 - PRODUCTS

2.01 ENCASEMENT PIPE

A. The pipe shall be steel, new material, with a minimum yield of 35,000 psi and a wall thickness as shown below. All joints in the encasement pipe shall be of continuous solid weld.

TABLE OF MINIMUM WALL THICKNESS FOR STEEL CASING PIPE

<u>Minimum Thickness</u> <u>Inches</u>	<u>Normal Diameter</u> <u>Inches</u>
0.250	4 thru 16
0.375	18 thru 24
0.500	26 thru 42

B. The steel casing pipe for all highway crossings shall be as follows:

<u>Carrier Pipe Size</u>	<u>Casing Pipe Size</u>
2"	6"
3"	8"
4"	12"
6"	12"
8"	16"
10"	18"
12"	20"
14"	24"
16"	24"
20"	30"
24"	36"
30"	40"

C. Weldings of the steel casing pipe shall be solidly butt-welded with a smooth non-obstructing joint inside and conform to all specifications as required by American Welding Society (AWS). The casing pipe shall be installed without bends. All welders and welding operators shall be qualified as prescribed by AWS requirements.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Where shown on the Drawings, the Contractor shall install encasement pipe by the boring method. The encasement pipe will be pushed or jacked into the hole as the auger cuts out the material.

B. In the open-cut method, the encasement pipe shall be placed in the trench first then the carrier pipe will be placed inside the encasement pipe. Backfilling shall be as required in Section 02610 for the particular type of roadway the water main is crossing.

C. The carrier pipe shall not be permitted to rest on bells or couplings. The carrier pipe shall be installed in the encasement pipe by the following method:

Equally spaced plastic chocks shall be securely fastened to the carrier pipe. The plastic chocks shall be of sufficient thickness to center the carrier pipe in the encasement pipe and provide a minimum of 2 inches of clearance between the pipe bell or coupling and the encasement pipe. Place one (1) plastic chock one foot from each side of the pipe joint and at 10 foot O.C. maximum spacing. A minimum of three (3) chocks per 20 foot pipe section shall be used. One (1) chock shall be placed approximately 2 feet from each end of casing pipe.

D. When more than one carrier pipe is installed within the encasement pipe, each carrier pipe shall be individually secured to the plastic chocks members in the manner described in this article to provide the minimum clearance requirements and facilitate removal of the pipes when repair is necessary.

3.02 SEALING

After installation of the carrier pipe within the encasement pipe, the ends of the casing shall be sealed in the following manner. The space between the casing and the carrier pipe shall be filled with a waterproofing bitumastic compound until a tight seal is obtained. An Ethylene Propylene Diene Monomer (EPDM) elastomeric membrane or synthetic rubber shall be designed to accommodate the carrier pipe and encasement pipe or shall be wrapped around the end of the encasement pipe. The end seal shall then be securely bound to the casing and the carrier pipe barrel with stainless steel bands. The end seal membrane shall be a minimum of 1/8" thick and have a tear resistance of 125 lbs/in. The membrane shall be manufactured by Carlisle Tire & Rubber Co., Firestone Industrial Products Co., or approved equal.

3.03 DAMAGE

The cost of repairing damage which is caused by the boring operation to the highway or railroad above the bore shall be borne by the Contractor.

- END OF SECTION -

SECTION 02640

VALVES

PART 1 - GENERAL

1.01 SCOPE

The work to be accomplished under this section of the Specifications shall include purchasing, transporting and installing valves and appurtenances as described below and shown in detail on the Drawings.

PART 2 - PRODUCTS

2.01 GATE VALVES AND BOXES

A. All gate valves shall be of the resilient seat wedge, iron body, non-rising stem, fully bronze mounted with O-ring seals. Valves shall be of standard manufacture and of the highest quality both as to materials and workmanship and shall conform to the latest revisions of AWWA Specification C-500. Valves shall have a rated working pressure of 350 psi.

B. Gate valves for buried service shall be furnished with mechanical joint end connections, unless otherwise shown on the plans or specified herein. The end connections shall be suitable to receive ductile iron or PVC pipe.

C. All gate valves shall have the name or monogram of the manufacturer, the year the valve casting was made, the size of the valve, and the working pressure cast on the body of the valve.

D. Buried service gate valves shall be provided with a 2" square operating nut and shall be opened by turning to the left (counterclockwise).

E. Buried service gate valves shall be installed in a vertical position with valve box as detailed on the plans. They shall be set vertically and properly adjusted so that the cover will be in the same plane as the finished surface of the ground or street.

F. Valve boxes shall be cast iron, two-piece, screw type (as shown on the drawings) with drop-cover marked "Water". They shall be set vertically and properly adjusted so that the cover will be in the same plane as the finished surface of the ground or street. A concrete pad shall be placed around the valve box cover as shown on the drawings.

G. The Contractor shall furnish two (2) T-operating wrenches in the lengths necessary to operate the buried gate valves for an operator of average height in a normal working position.

H. Gate valves for installation in pits or vaults shall be flanged ANSI B16.1, Class 125 with handwheel operator, non-rising stem or OS&Y as indicated on the drawings.

I. Gate valves installed with tapping sleeves shall have a mechanical joint outlet and a flanged joint connection to the sleeves.

J. Gate valves 14" and larger shall be installed in the horizontal position and provided with a bevel gear for horizontal installations. All gears shall be machined cut teeth with grease case.

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K. All valves shall conform with the latest revision of AWWA Standard for Gate Valves for Ordinary Water Works Service, AWWA C500. Valves shall be manufactured by Mueller, Kennedy, or approved equal.

2.02 TAPPING VALVES AND SLEEVES

A. Tapping valves and sleeves shall be installed in the locations shown on the Contract Drawings. The valves shall be a resilient seat wedge, iron body, non-rising stem, gate valve with a mechanical joint outlet and a flanged joint connection to the sleeves. They shall be provided with a valve box, counterclockwise opening and installed as described in detail on the plans.

B. Tapping Sleeves: Tapping sleeves of the sizes indicated for connection to existing main shall be the cast gray, ductile, or malleable-iron, split-sleeve type with flanged outlet, and with bolts, follower rings and gaskets on each end of the sleeve. Construction shall be suitable for a maximum working pressure of 200 psi. Bolts shall have hexagonal heads and nuts. Longitudinal gaskets and mechanical joints with gaskets shall be as recommended by the manufacturer of the sleeve. When using grooved mechanical tee, it shall consist of an upper housing with full locating collar for rigid positioning which engages a machine-cut hole in pipe, encasing an elastomeric gasket which conforms to the pipe outside diameter around the hole and a lower housing with positioning lugs, secured together during assembly by nuts and bolts as specified, pretorqued to 50 foot-pound.

C. Tapping valves and sleeves for ductile iron pipe and C.I. size PVC pipe shall be as manufactured by Mueller, Kennedy, or approved equal and the sizes as shown on the Drawings.

D. Tapping valves shall be suitable for a maximum working pressure of 250 psi with 125 lb. flanges.

2.03 CUSTOMER SERVICE PRESSURE REDUCING VALVE

A. The individual customer service pressure reducing valve shall be hydraulically operated, spring loaded, diaphragm type control regulator. The valve shall be held open by the force of the compression spring above the diaphragm and shall maintain a constant delivery pressure downstream without shock or water hammer. Adjustments shall be made by an adjusting screw on top of the valve. Setting shall be as shown on the plans. The valve shall have a cast brass or bronze body and cover per ASTM B-62, stainless steel seat (Stainless Steel 303) and adjustment ranges of 40 to 300 psi.

B. The individual pressure reducing valve shall be equipped with a built-in by-pass to prevent a closed system on the customer's side of the meter service.

C. All valves shall be preceded by a strainer provided by the valve manufacturer and have a maximum working pressure the same as the pressure reducing valve.

D. The individual pressure reducing valve and strainer shall be as manufactured by Watts Regulator Co., Cla-Val Co., or Engineer approved equal.

2.04 MAIN LINE PRESSURE REDUCING VALVE -- (NOT APPLICABLE IN THIS CONTRACT)

A. The pressure reducing valve shall maintain a constant downstream pressure regardless of varying inlet pressure. This valve shall be a hydraulically operated, diaphragm actuated, globe pattern valve. It shall contain a resilient, synthetic rubber disc, having a rectangular cross section, contained on three and one-half sides by a disc retainer and forming a tight seal against a single removable seat insert. The diaphragm assembly containing a valve stem shall be fully guided at both ends by a bearing in the valve cover and integral bearing in the valve seat. This diaphragm assembly shall be the only moving part and shall form

a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure. The diaphragm shall consist of nylon fabric bonded with synthetic rubber and shall not be used as a seating surface. Packing glands and/or stuffing boxes are not permitted and there shall be no pistons operating the valve or pilot controls. All necessary repairs shall be possible without removing valve from the line.

B. The main valve body and cover shall be Cast Iron per ASTM A48, and the main valve trim shall be 303 stainless steel. The valve shall come equipped with a valve position indicator. The valve shall be equipped with a flow clean strainer, closing speed control, opening speed control and flow stabilizer. The valve shall be equipped with a V-port diaphragm plug for low flow conditions or approved equal by the Engineer.

C. The pilot control shall be a direct acting, adjustable, spring loaded, normally open, diaphragm valve, designed to permit flow when controlled pressure is less than the spring setting. The control system shall include a fixed orifice. The pilot control valve trim shall be 303 stainless steel.

D. The valve shall have a maximum working pressure rating as stated on the Drawings.

2.05 AIR RELEASE VALVE -- (NOT APPLICABLE IN THIS CONTRACT)

A. The valve shall have a 1" screwed inlet diameter with a 1" corporation stop and a minimum of 3/32" size orifice. The body and cover shall be constructed of cast iron while the float shall be stainless steel. All internal parts, such as lever pins, retaining rings, screws, etc. shall be of stainless steel or bronze construction. Valves shall be suitable for use in lines with an operating pressure up to 175 psi. Valves shall be a Model No. 50 as manufactured by APCO Valve and Primer Corp., or Engineer approved equal.

B. A service clamp shall be used to connect the air release valve to the water main. Service clamps and corporation stops shall be those as previously specified in Section 02650, except the corporation stops shall have a female IP thread outlet.

C. The air release valve box shall be a standard meter box with dimensions of 18" I.D. and a height of 36". The valve box cover shall be a standard water meter box cover.

2.06 BUTTERFLY VALVES

A. Butterfly valves and operators shall conform to the AWWA Standard Specifications for rubber seated butterfly valves, Designation C504, Class 150, except as hereinafter specified. Valves shall have a minimum 200 psi pressure rating.

B. All butterfly valves shall be of cast iron body per ASTM A-536, Grade 65-45-12, Class B. Valve discs shall be of ductile iron per ASTM A-536 and provide uninterrupted 360 degree seating edge. Permanently self-lubricating body bushings shall be provided and shall be sized to withstand bearing loads. Valve shafts shall be Type 304 stainless steel with V-type packing or O-ring seals.

C. Valve seats shall be full resilient seats of Buna N or Hycar and retained in the body or on the disc edge. If the resilient seat is in the body, the disc shall conform to ASTM A-436 Type 1 (Ni-Resist) or gray/ductile iron with corrosion resistant seating surface. If the resilient seat is mounted on the disc edge, it shall be securely attached with Type 304 stainless steel retaining ring or pins. The disc seating edge shall be Type 316 stainless steel.

D. Valve operators shall be manual actuators per AWWA C-504 designed for buried services for the rack and pinion or trailing nut design with stops at the open/close position. The valve shaft and actuators shall be designed for both torsional and shearing stresses when the valve is operated under its greatest torque.

E. Butterfly valves shall be installed with valve box as shown on the Drawings. They shall be set and properly adjusted so that the cover will be in the same plane as the finished surface.

F. Butterfly valves shall be as manufactured by Mueller, Kennedy, or approved equal.

PART 3 - EXECUTION

3.01 VALVES (FOR BURIED SERVICES)

A. After delivery, valves, including those in hydrants, shall be drained to prevent freezing and shall have the interiors cleaned of all foreign matter before installation. Stuffing boxes shall be tightened and valves shall be fully opened and fully closed to ensure that all parts are in working condition. Valves and valve boxes shall be installed where shown or specified, and shall be set plumb. Valve boxes shall be centered on the valves. Boxes shall be installed over each outside gate valve unless otherwise shown. Where feasible, valves shall be located outside the area of roads and streets. Earth fill shall be carefully tamped around each valve box or pit to a distance of 4 feet on all sides of the box, or the undisturbed trench face if less than 4 feet.

B. Valves shall be installed in accordance with the recommendations and instructions of the manufacturer in the locations shown on the Drawings. There shall be 36 inches (minimum) of cover over the main at the valve for buried service valves.

- END OF SECTION -

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SECTION 02645

HYDRANT ASSEMBLY

PART 1 - GENERAL

1.01 SCOPE

The Contractor shall furnish and install, where shown on the plans and additional locations as directed by the Owner, hydrant assemblies and blow-hydrants manufactured and equipped as described below.

PART 2 - PRODUCTS

2.01 HYDRANT ASSEMBLY

A. Hydrants shall conform in all respects to the requirements of AWWA C502. All hydrants shall have 6-inch mechanical joint shoe connection, two (2) 2-1/2" hose outlets, one (1) 4-1/2" pumper nozzle with caps. Connection threads and operation nuts shall conform to National Standard Specifications as adopted by National Board of Fire Underwriters. The hydrant shall be equipped with safety flanges designed to prevent barrel breakage when struck by a vehicle and an auxiliary gate valve.

B. Each hydrant shall be fully bronze mounted with the main valve having a threaded bronze seat ring assembly of such design that it is easily removable by unscrewing from a threaded bronze drain ring. Bronze drain ring shall have multiple ports providing positive automatic drainage as the main valve is opened or closed. Drainage waterways shall be completely bronze to prevent rust or corrosion.

C. Operating stems shall be equipped with anti-friction thrust bearing to reduce operating torque and assure easy opening. Stops shall be provided to limit stem travel. Stem threads shall be enclosed in a permanently sealed lubricant reservoir protected from weather and the waterway with O-ring seals.

D. Hydrants shall be designed for 250 psi working pressure and shop tested to 1250 psi pressure with main valve both opened and closed. Under test the valve shall not leak, the automatic drain shall function and there shall be no leakage into the bonnet. Hydrants shall have a UL/FM approved rating.

E. Each hydrant shall be installed with an auxiliary shut-off valve and valve box; valve box cover shall be marked "WATER" as required. Hydrants shall be secured to the shut-off valve by AWWA approved restraint joints, anchoring fittings, or rodding with four (4) equally spaced, stainless steel all thread rods and "Duc-Lugs", or other equally approved method.

F. Inlet cover depth shall be 36" and the minimum dimension from ground to centerline of lowest opening shall be 18". Hydrants shall be supported on a poured-in-place concrete thrust block and provided with a drainage pit as indicated on Standard Detail Sheet.

G. All hydrants shall receive two (2) field coats of Koppers Company, Inc. Glamortex enamel (red). The Owner shall be furnished with two (2) hydrant barrel wrenches, four (4) spanner wrenches and two (2) operating nut wrenches.

H. Below ground hydrants shall be flush type with the upper barrel and nozzles contained in a cast iron box with a non locking lid.

I. Above ground hydrants shall be Mueller Centurian as manufactured by Mueller Company, or Kennedy Guardian as manufactured by Kennedy Valve, Division of ITT Grinnell. Below ground or flush-type hydrants shall be Mueller Company Model A-415 or approved equal.

2.02 BLOW-OFF HYDRANTS

A. Blow-off hydrants shall be of non-freezing, self-draining type, with an overall length of 30". Set underground in a 30" meter box, these hydrants will be furnished with a 2" FIP inlet, a non-turning operating rod, 7/16 inch square operating nut, and shall open to the left. All of the working parts shall be of bronze-to-bronze design, and be serviceable from above grade with no digging. The outlet shall also be bronze and be 2-1/2" NST. Hydrants shall be lockable to prevent unauthorized use and as manufactured by Kupferle Foundry Co., St. Louis, MO, Model No. 78 or approved equal.

B. The Contractor shall furnish two (2) T-operating wrenches in the lengths necessary to operate the blow-off hydrants for an operator of average height in a normal working position.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Hydrants shall be located as shown on the drawings unless otherwise specified by the Owner. Each hydrant shall be connected to the main with a 6-inch branch line having at least as much cover as the distribution main. Hydrants shall be set plumb with pumper nozzle facing the roadway and the cast-iron valve box set flush with the finished surrounding grade. Except where approved otherwise, the backfill around hydrants shall be thoroughly compacted to the finished gradeline immediately after installation to obtain beneficial use of the hydrant as soon as practicable. All hydrants shall be provided with a shut-off valve in the hydrant lateral as shown. All hydrants shall be installed in accordance with the manufacturer's directions and as detailed on the Contract Drawings.

B. Blow-off hydrants shall be located as shown on the drawings unless otherwise specified by the Utility. Each blow-off hydrant shall be connected to the main with at least as much cover as the distribution main. Blow-off hydrants shall be set plumb with nozzle facing the roadway and with the box cover set flush with the finished surrounding grade. The backfill around each hydrant shall be thoroughly compacted to the finished gradeline immediately after installation to obtain beneficial use of the hydrant as soon as practicable. All blow-off hydrants shall be provided with a shut-off valve in the lateral as shown.

- END OF SECTION -

SECTION 02646

WATER SAMPLING STATIONS

PART 1 - GENERAL

1.01 SCOPE

The Contractor shall furnish and install, where shown on the plans and additional locations as directed by the Owner, water sampling stations manufactured and equipped as described below.

PART 2 - PRODUCTS

2.01 WATER SAMPLING STATIONS

A. The water sampling stations shall be 36" bury (minimum cover for the water main), with a 3/4" FIP inlet, and a 3/4" threaded nozzle.

B. All sampling stations shall be enclosed in a lockable, nonremovable, aluminum-cast housing. When opened, the station shall require no key for operation, and the water will flow in an all brass waterway.

C. All working parts shall be of brass construction and shall be removable from above ground with no digging. Exterior piping shall be galvanized steel.

D. A copper vent tube shall be installed to enable each station to be pumped free of standing water to prevent freezing and to minimize bacteria growth. A standard utility bilge pump and connectors shall be provided for these stations to the Owner for use in removing water from the waterway.

E. The water sampling station shall be an Eclipse No. 88 Sampling Station as manufactured by Kupferle Foundry, St. Louis, MO 63102.

PART 3 - EXECUTION

3.01 INSTALLATION

Water sampling stations shall be located as shown on the drawings unless otherwise specified by the Owner. Each station shall be connected to the main with a 2-inch branch line having at least as much cover as the distribution main. Sampling stations shall be set plumb and the valve box set flush with the finished surrounding grade. Except where approved otherwise, the backfill around the sampling stations shall be thoroughly compacted to the finished gradeline immediately after installation to obtain beneficial use of the station as soon as practicable. All sampling stations shall be provided with a shut-off valve in the lateral as shown. All sampling stations shall be installed in accordance with the manufacturer's directions and as detailed on the Contract Drawings.

- END OF SECTION -

SECTION 02650

CUSTOMER METER SERVICE AND SERVICE TUBING

PART 1 - GENERAL

1.01 SCOPE

The Contractor shall furnish all labor, tools, equipment, and materials necessary to complete the meter service connections as shown on the Contract Drawings and herein specified.

PART 2 - PRODUCTS

2.01 SERVICE CLAMPS

All service connections of all sizes shall be made through the use of service clamps or saddles. Service saddles shall have ductile iron body, double strapped with O-ring resilient gasket, suitable for use on ductile iron pipe or PVC pipe, and tapped with same threads as the corporation stops. Saddles for all mains shall be double strap type saddles as manufactured by Smith-Blair, Mueller Company, or approved equal and have a maximum working pressure of 350 psi.

2.02 CORPORATION STOPS

Corporation stops for use in service clamps shall be as manufactured by Ford, Mueller, or approved equal for 3/4", 1" and 2" service tubing and have a maximum working pressure of 300 psi. Corporation stops shall have iron pipe threads with pack or grip joint connection for CTS tubing and compression coupling connection for copper tubing outlets. Rigid stainless steel insert stiffeners shall be used inside the CTS service tubing at their jointing with the corporation stops.

2.03 SERVICE TUBING 3/4", 1" AND 2" POLYETHYLENE TUBING (CTS SERVICE TUBING)

A. Pipe shall be made from virgin, ultra-high molecular weight polyethylene resin meeting the requirements of Type III, Class C, Category P34 polyethylene as defined by ASTM D-1248, latest revision, "Polyethylene Plastics Molding and Extrusion Materials".

B. Dimensions and tolerances shall meet the values as listed in AWWA C-901, latest revision, "Polyethylene (PE) Pressure Pipe Tubing and Fittings". Standard dimension ratio shall be DR-7.3 (OD base), Pressure Class 200 psi.

C. Pipe shall be rated for use with water at 73.4 degrees F. at a hydrostatic design stress of 630 psi and a maximum working pressure of 200 psi. The pipe shall sustain a water pressure as defined in ASTM D 1598 for 1000 hours with water at 73.4 degrees F.

D. Surface shall be homogeneous inside and out and completely free of irregularity. Random testing shall be performed at intervals during all production runs to assure uniformity in all respects. The tubing shall carry the National Sanitation Foundation seal of approval for drinking water.

E. Pipe shall be marked in lettering at intervals of not more than five (5) feet and such marking shall include nominal size; manufacturer's name or trademark; pressure rating for water at 73.4 degrees F., 200 psi; applicable ASTM specification,; ASTM material specification, PE 3406; standard dimension ratio, DR-7.3; the National Sanitation Foundation Seal of Approval (NSF mark) and production code.

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F. Pipe shall be guaranteed in writing against rot, corrosion and defects for 50 years from date of installation, with pipe replacement and labor cost warranted in writing for 25 years from date of installation.

2.04 COPPER SERVICE TUBING

A. Copper service tubing shall be used in the areas of high pressures and as indicated on the Drawings.

B. Buried: Copper Pipe, 2" and Smaller: Type K soft drawn copper per ASTM B-88. Fittings and joints shall not be permitted in the service tubing.

C. All solder joints shall be soldered with an approved, lead free tin-silver solder. Acid core solder shall not be used.

2.05 METER SETTING EQUIPMENT

A. Meters shall be placed inside meter boxes using copper setters with 3/4" or 1" saddle nut connection for the meter or approved equal. All copper setters shall have an angle meter stop at the meter inlet and angle double check valve (accessible) at the meter outlet. Copper setters shall be 7 inches in height with connections for the service tubing. For setting more than one meter inside meter box, branch valve assemblies may be used on the inlet side of the meters, or approved equal.

B. For larger meters 1-1/2" and 2", the meters shall be installed with ball meter valves on inlet side and the meter outlet side. Meters shall be placed on concrete block or equivalent support inside the meter box.

C. For individual meter with pressure reducing valves, the copper setters shall be 12 inches in height.

D. A rigid stainless steel insert stiffener shall be used inside the PE tubing at all connections to both sides of the copper setters.

2.06 SERVICE METERS

SERVICE METERS - ROWAN WATER, INC.:

1. The service meter main body shall be of high grade bronze, with hinges, single lid cover and raised characters cast on the body indicating the direction of flow. Meter shall have a working pressure rating of 150 psi. The register shall be straight reading gallon type. The register unit shall be hermetically sealed, and driven by permanent magnets. The register shall have a center sweep hand and a test circle shall be divided into 100 equal parts and include a flow finder. The register shall carry a minimum 10-year warranty. Meters shall be as manufactured by Badger Meter, Inc., ABB Water Meter, Inc., or approved equal.

2.07 METER BOXES

Meter boxes shall be plastic or "Ultra-Rib" circular with dimension as shown on the Drawings. The meter box cover shall be cast iron lids with touch read pad, single lid covers, or approved equal. The meter box cover where installation is to be in roadways or sidewalks and shall have heavy duty lid for light vehicular traffic. The meter box where installation is to be roadways or sidewalks shall be of concrete construction for vehicular traffic. All covers shall have the large pentagon nut. The meter box, cover and meter setting shall be constructed as shown on the drawings or as directed by the Owner or Engineer.

2.08 MASTER METER – COMBO METER ASSEMBLY -- (NOT APPLICABLE IN THIS CONTRACT)

A. The master meter shall be an 8-inch combo meter assembly consisting of a stainless steel spool with bypass port, a turbine type meter with AWWA class II measuring chamber, a check valve with bypass piping, valves, and a by-pass disc meter. The meter assembly shall be designed to measure both low flow domestic use and high volume usage through a single water supply line. The meter shall be rated for 150 psi working pressure. It shall comply with the applicable provisions of AWWA. The meter shall be as manufactured by BadgerMeter, Inc. Recordall Combo Meter with an AWWA strainer. The register shall be a direct reading type with a six-digit permanently sealed totalizer reading in units of gallons and shall be accurate within "12% of true flow within a range of 30 to 4500 g.p.m. or an approved equal. The temperature range of the meter shall be 80° F normal to 120° F maximum.

B. The meter head shall be bronze and shall be connected to the tube by means of a flat gasket sealed connection with stainless steel bolts. The meter head shall be designed for easy removal of water wetted parts from the tube for inspection or repair without having to remove the complete tube. The multi-vane shall be set at the factory, capped and sealed to prevent unauthorized adjustment. Flow readings shall be obtained by rotor revolutions transmitted by magnetic drive coupling through the meter's cover plate to the sealed register. The magnetic drive is achieved by a right angle worm drive, coupling the rotor to a vertical transmission spindle, driving a gear set rotating the magnet carrier. Rotor rotation shall be transmitted to the register gearing through this magnetic coupling.

C. The measuring chamber shall be bronze and shall be removable from the meter head. The drive mechanism shall be a magnetic drive, through the use of high-strength magnets, providing positive, reliable and dependable register coupling for straight-reading, remote or automatic meter reading options.

D. The check valve shall be a spring loaded check valve on the downstream side of the clapper to hold the clapper in a normally closed position. Small water flows may by-pass the clapper and are registered on the 1-1/2" by-pass meter. When a major flow is required, water pressure shall overcome the mechanical advantages of the spring-loaded clapper and push it open, permitting full pipe capacity flow during high flow demand. A small amount of water may continue to flow through the by-pass when the spring-loaded clapper is fully open. The check valve shall contain dual bypass ports, allowing an extra 2" NPT connection as a test port.

E. The turbine meter totalizer shall be a six-digit, straight reading type with a 3" diameter, 100 division dial and center sweep test hand to permit timing for an accurate determination of flow rate. The totalizer shall be equipped with a leak detector hand to indicate very low flow. The totalizer shall be magnetic driven and shall be permanently sealed.

F. The By-pass line shall consists of piping 1-1/2" piping with a 1-1/2" disc meter, an isolation valve, and back flow preventing check valve. The by-pass line shall be capable to be installed on the right hand side or left hand side when specified.

G. Volumetric testing of the meter shall be performed and approved prior to shipment. The complete meter head assembly must be accuracy tested in the same pipe size and same type tube that the meter will be mounted in. The test shall be near minimum, intermediate and maximum manufacturers specified flow ranges of the meter. The amount of water used to conduct the test must be left on the totalizer. Prior to shipping, a tag shall be attached to the meter showing the totalizer reading after the test. The test facility must be certified annually to an accuracy of "0.2% and be traceable to the National Institute of Standards and Technology.

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PART 3 - EXECUTION

3.01 INSTALLATION OF METER SERVICES

A. All customer meter services shall be installed as shown on the Contract Drawings and shall be set near the property owner's property line and outside of the highway right-of-way. The Owner reserves the right to change the location of the meter services prior to installation for ease of daily operation of the system and reading the individual meters.

B. The Contractor shall be responsible for any plumbing permits necessary to relocate or reconnect any customer meter service or service line. Should a permit be required, the Contractor shall be responsible for all cost in obtaining said permits and meeting all requirements of the plumbing permit and employing the necessary licensed personnel.

3.02 INSTALLATION OF SERVICE TUBING

A. All service tubing installed beneath bituminous or concrete roads shall be jacked under the roads. When State maintained roads are being jacked and rock is encountered, permission to open cut the road shall be obtained by the Contractor from the Department of Transportation's District Permit Engineer. If permission is refused, the Contractor shall attempt to jack at another location and shall continue to do so until a successful crossing is obtained.

B. Minimum cover for all service lines shall be 30 inches (at all locations) when within the proposed and existing highway right-of-way and construction easements. Additional cover may be required at proposed drainage ditch, storm sewer, or other noted locations.

3.03 BACKFILLING SERVICE TUBING

When service tubing is laid in an open cut across a road of any type surface (crushed stone, bituminous or concrete), the backfill shall consist of Class II granular material (dense graded aggregate) and shall be placed full depth. Payment for Class II material used will not be paid as a separate pay item, but will be included in the price for installing the service tubing.

3.04 CONTRACTOR RESPONSIBILITY

The Contractor shall be responsible for any damage to exterior customer service lines caused by his construction activity for a period of thirty (30) days from the date of connection to the water main. The Contractor shall make any repairs necessary to restore the service line to satisfactory working condition at no cost to the individual customer, the Owner or the Engineer.

- END OF SECTION -

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SECTION 02699

CONNECTION TO EXISTING LINES

PART 1 - GENERAL

1.01 SCOPE

The work to be accomplished under this section of the Specifications consists of connecting to the existing water mains as shown on the Contract Drawings. All work shall include labor, materials, tools and equipment necessary to complete the work described herein. Connections made with tapping sleeve and valve when called for on the plans will be a separate pay item.

PART 2 - PRODUCTS

2.01 REFERENCES

- A. Section 02610 - Pipe and Fittings
- B. Section 02640 - Valves
- C. Section 02650 - Customer Meter Service and Service Tubing

PART 3 - EXECUTION

3.01 CONNECTION TO EXISTING WATER MAIN

A. All connections to the existing water mains shall be coordinated by the Contractor with the Owner and the Engineer. The Contractor shall give the Owner a minimum of 48-hour notice before any connection is to be made. Prior to disruption of service, the Contractor shall have all the materials, equipment, labor force and fittings necessary to complete the connections in a timely fashion. The Contractor shall verify the existing pipe size, existing pipe type and location prior to ordering materials for the connection. Water service shall not be off for more than two hours for any connection without prior approval from the Owner.

B. All water main connections 6" and greater which are not a tie-in at the end of a water main or as shown on the Drawings shall be wet taps to the existing line and made under pressure with a tapping sleeve and valve. The tapping sleeve and valve shall be as specified in Section 02640. Installation and blocking shall be as for gate valves and tee and as shown on the Contract Drawings.

3.02 WATER LINE-STOP

A. General: Linestopping under pressure shall include the installation of a temporary valve in a line where one presently does not exist or plugging an existing line under pressure. The existing pipe shall serve as part of the sealing surface for the temporary valves or plug. There are different types of linestops or pressure plugs. The first effects stoppage with a cylindrical plug sealing against machined surfaces of the pipe. These can either be the elastomer type stoppers or a steel wedge type stopper. Another is an elastomer cup seals against the pipe bore or an expandable elastomer stopper seals against the bore of the pipe.

B. When linestopping, the choice of method is extremely important. The correct technique depends upon the following variables:

1. Temperature
2. Pressure
3. Size of main and wall thickness
4. Interior condition of main deposits, corrosion, weld beads, etc.
5. Duration of the linestop
6. Degree of leakage tolerated
7. The flowing medium

C. Complete "bubble tight" shutoff is difficult to achieve. On hazardous jobs (steam, flammable, etc.) use of special flanges, etc. shall be used to decrease the hazard. The pipe I.D. must be verified exactly for every linestop. Sample inspection tags should always be conducted unless otherwise approved by the Engineer.

D. Linestop Procedure - Hydra-Stop[®] System

1. A special linestop fitting shall be installed on the pipeline by either welding or a mechanical seal. The fitting shall be 304 stainless steel type for a 4" through 8" main and carbon steel for a 10" thru 20" main. After pressure testings, a temporary valve is installed onto the fitting.
2. A pressure tap is made with a special cutter. When the tap is completed, the cutter and coupon are retracted into the tapping machine and the temporary valve is closed. If bypass taps are required, they shall also be made.
3. The tapping machine is removed from the temporary valve and replaced by a linestop machine. The valve is opened and the linestop plugging head is lowered in place cutting off flow in the pipeline.
4. To completely effect the plugging head seal and to test the seal efficiently, a bleed off point must be used. By opening the bleed off and reducing the pressure on the downstream side of the head, or in the case of double linestops, in between stops, the pipeline pressure will help seal the plugging head.
5. When the required work is completed and the linestop is to be removed, line pressure must be equalized on the "dead" side of the plugging head. This allows the head to be retracted and the line put back in service.
6. To complete the operation, the linestop machines are removed and completion machines are installed onto the temporary valves. A special closure plug is installed into the outlet flange of the linestop fitting. This allows the linestop machines and temporary valves to be removed. A blind flange is usually installed to finish the linestop operation.
7. Linestop equipment and procedures for water and/or gas main shall be as recommended and manufactured by Hydra-Stop[®], Inc. Tapping and Hydra-Stopping Equipment, Blue Island, Illinois.

- END OF SECTION -

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SECTION 02936

SEEDING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Preparation of subgrade to receive topsoil.
- B. Spreading topsoil.
- C. Seeding and fertilizing.
- D. Seed protection on slopes.
- E. Hydroseeding.
- F. Maintaining seeded areas until acceptance.

1.02 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.03 EXISTING CONDITIONS

Beginning work of this Section means acceptance of existing conditions.

PART 2 - PRODUCTS

2.01 GROWING MEDIA

- A. Existing Topsoil: Natural, fertile agricultural soil capable of sustaining vigorous plant growth, not in frozen or muddy condition, containing not less than 6 percent organic matter, and corrected to pH value of 5.9 to 7.0. Free from subsoil, slag, clay, stones, lumps, live plants, roots, sticks, crabgrass, couchgrass, noxious weeds, and foreign matter.
- B. Fertilizer: 10-10-10 commercial type with 50 percent of the elements derived from organic sources.

2.02 SEED

- A. Seed shall be proportioned by weight as follows: Endophyte Free Fescue 60%; Creeping Red Fescue, 20%; Annual Rye Grass, 20%.

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- B. Legume - Multi-Star Alfalfa 100%

2.03 ACCESSORIES

- A. Mulching Material: Straw from oat, wheat, rye or barley, reasonably free from seeds, foreign matter detrimental to plant life, and in dry condition. Hay is acceptable.
- B. Mulching Material: Wood or wood cellulose fiber free of growth or germination inhibiting ingredients.
- C. Establishment Blanket: Uniform, open weave jute matting.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Protect existing underground improvements from damage.
- B. Remove foreign materials, plants, roots, stones, and debris, from site. Do not bury foreign material.
- C. Remove contaminated subsoil.
- D. Cultivate to depth of 3 inches, area to receive topsoil. Repeat cultivation areas where equipment has compacted subgrade.

3.02 SPREADING TOPSOIL

- A. Spread topsoil to depth of 6 inches over area to be seeded. Place during dry weather, and on dry unfrozen subgrade.
- B. Cultivate topsoil to depth of 6 inches with mechanical tiller. Cultivate inaccessible areas by hand. Rake until surface is smooth.
- C. Remove from site, foreign materials collected during cultivation.
- D. Grade to eliminate rough spots and low areas where ponding may occur. Maintain smooth, uniform grade.
- E. Assure positive drainage away from buildings.
- F. Finish ground level firm and sufficient to prevent sinkage pockets when irrigation is applied.

3.03 FERTILIZING

- A. Apply fertilizer, at a rate of 15 lbs. per 1,000 sq. ft.
- B. Do not apply grass seed and fertilizer at same time in same machine.
- C. Lightly water to aid breakdown of fertilizer and to provide moist soil for seed.

3.04 SEED

- A. The seed shall not be applied until the area to receive the seed has been properly prepared.
- B. Apply seed at a rate of 6 lbs. per 1,000 sq. ft. evenly in two intersecting directions. Rake in lightly. Apply legume (alfalfa) at a rate of 0.6 lbs per 1,000 sq. ft. and rake in lightly.
- C. Do not sow immediately following rain, when ground is too dry, or during windy periods.
- D. Roll seeded area with roller not exceeding 112 lbs.
- E. Apply water with fine spray immediately after each area has been sown.
- F. Seed shall be sown from March 15 to May 31 or from August 25 to October 30.
- G. No seeding shall take place at any time other than the above period without authorization from the Engineer or Owner.
- H. All areas that have received seed shall receive mulch on the same day.

3.05 HYDROSEEDING

- A. Apply slurry at rate of 6 lbs., per 1,000 sq. ft. evenly in two intersecting direction and with hydraulic seeder for seed and at a rate of 0.6 lbs. per 1,000 sq. ft. for legume.
- B. Immediately following hydroseeding, mulch areas by means of mulch blower at rate of 1,200 pounds per acre on level grades, 2,000 lbs. per acre on slopes.
- C. Do not seed area in excess of that which can be mulched on the same day.

3.06 SEED PROTECTION ON SLOPES

- A. Cover seeded slopes where grade is 3:1 or greater with jute matting. Roll matting down over slopes without stretching or pulling.
- B. Lay matting smoothly on soil surface, boring top end of each section in narrow 6-inch trench. Leave 12-inch overlap from top roll over bottom roll. Leave 4 inches overlap over adjacent section.
- C. Staple outside edges and overlaps at 36-inch intervals.
- D. Lightly dress slopes with topsoil to ensure close contact between matting and soil.
- E. In ditches, unroll matting in direction of flow. Overlap ends of strips 6 inches with upstream section on top.

3.07 MAINTENANCE PERIOD

Maintenance Period: Until final acceptance.

3.08 MAINTENANCE

- A. Maintain surfaces and supply additional topsoil where necessary, including areas affected by erosion.

- B. Water to ensure uniform seed germination and to keep surface of soil damp.
- C. Apply water slowly so that surface of soil will not puddle and crust.
- D. Cut grass first time when it reaches height of 2-1/2 inches (60 mm) and maintain to minimum height of 2 inches. Do not cut more than 1/3 of blade at any one mowing. Remove clippings.
- E. After first mowing, water grass sufficiently to moisten soil from 3 inches to 5 inches (76 to 127 mm) deep.
- F. Apply approved weed killer when weeds start developing during calm weather when air temperature is above 50 degrees F.
- G. Replant damaged grass areas showing root growth failure, deterioration, bare or thin spots, and eroded areas.

3.09 RESTORATION

Restore grassed areas damaged during execution of work of this Section.

3.10 ACCEPTANCE

Seeded areas will be accepted at end of maintenance period when seeded areas are properly established and otherwise acceptable.

- END OF SECTION -

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SECTION 03340

CONCRETE FOR ENCASEMENT AND PAVEMENT REPLACEMENT

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The Contractor shall furnish all necessary materials and build all concrete work required under this contract and not otherwise provided for, as indicated on the drawings and as herein specified.
- B. All concrete shall be ready-mixed as produced by a plant acceptable to the Engineer.
- C. The work in this section shall include all excavation, formwork, shoring, bracing, and placement of concrete necessary to perform the work under this section.

PART 2 - PRODUCTS

2.01 CONCRETE

- A. Class A Concrete - 4000 psi
- B. Class B Concrete - 3000 psi

PART 3 - EXECUTION

3.01 CONCRETE ENCASEMENT AND THRUST BLOCKING

Concrete encasement and thrust blocking shall be placed where shown on the Contract Drawings, required by the specifications, or as directed by the Engineer. Concrete shall be Class "B" 3000 psi and shall be mixed sufficiently wet to permit it to flow under and over the pipe to form a continuous bed. In tamping concrete, care shall be taken not to disturb the grade or line of the pipe or injure the joints. Concrete placed outside the specified limits or without authorization from the Engineer will not be subject to payment.

3.02 BITUMINOUS AND CONCRETE PAVEMENT REPLACEMENT

- A. The Contractor shall replace those sections of pavement required to be removed to install the pipelines under this contract. The Contractor shall reconstruct same to the original lines and grades and in such manner as to leave all such surfaces in fully as good or better condition than that which existed prior to his operations.
- B. Prior to trenching, the pavement shall be scored or cut to straight edges at least 12" outside each edge of the proposed trench to avoid unnecessary damage to the remainder of the paving. Edges of the existing pavement shall be recut and trimmed to square, straight edges after the pipe has been installed and prior to replacing the new base and pavement.
- C. Backfilling of trenches shall be in accordance with the applicable portions of Section 02610, and as shown on the Contract Drawings.
- D. The bituminous pavement shall be specified in Section 02500.

E. A concrete sub-slab shall be required under any bituminous surface with a thickness of 2" or more in all State maintained streets and roads that are open trenched.

F. The sub-slab shall be placed as shown on the pavement replacement details on the Contract Drawings.

G. The concrete surface and sub-slab shall be Class A with a minimum compressive strength of 4000 psi at 28 days. Surface concrete shall have a rough finish.

3.03 CONCRETE FOR CREEK CROSSING TYPE "B" AND "C"

The concrete cap shall be placed where shown on the Contract Drawings, required by the specifications, or as directed by the Engineer. Concrete shall be Class B 3000 psi and shall be protected from excess water. Concrete placed outside the specified limits or without authorization from the Engineer will not be subject to payment.

- END OF SECTION -

N O T I C E

**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
(NATIONWIDE PERMIT AUTHORIZATION)**

PROJECT: Rowan County (KY-519), Item No. 09-0156.01
Reconstruction

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

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



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
EASTERN KENTUCKY REGULATORY OFFICE
845 Sassafras Creek Road
Sassafras, Kentucky 41759-8806

October 18, 2006

Operations Division
Regulatory Branch (South)
ID No. 200501507-teh

Mr. Ronald Rigney, II
Commonwealth of Kentucky Transportation Cabinet
Frankfort, Kentucky 40622

Dear Mr. Rigney:

This is in response to your request for authorization under Section 404 of the Clean Water Act (CWA) to relocate/reconstruct approximately 2.6 miles of KY 519 in Rowan County, Kentucky. The proposed work would impact Morgan Fork, Dry Creek, Triplett Creek and unnamed tributaries of Morgan Fork, unnamed tributaries of Dry Creek and unnamed tributary of Triplett Creek. The information necessary to complete the application was received on June 23, 2005. The application was originally submitted as a Department of the Army individual permit, however upon further review of the regulations, 14 sites qualify for Nationwide Permit authorization, except Site #15 (Sta. 103+960) which was reviewed as an Individual Permit.

The information supplied by you was reviewed to determine whether a Department of the Army (DA) permit will be required under the provisions of Section 404 of the Clean Water Act.

Your project is considered a discharge of backfill or bedding material for a road crossing. The project is authorized under the provisions of 33 CFR 330 A Nationwide Permit (NWP) No. 14, Linear Transportation Crossings, as published in the Federal Register January 15, 2002. Under the provisions of this authorization you must comply with the enclosed:

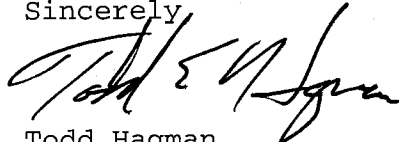
1. Terms for Nationwide Permit No. 14;
2. Nationwide Permit General Conditions
3. Water Quality Certification (WQC) Conditions for Nationwide Permit No. 14 dated March 17, 2002, issued by the Kentucky Division of Water.

4. The permittee shall adhere to the plans and conditions included in the 17 June 2005 application for Kentucky Transportation Cabinet, Item No. 9-156.01 for Department of the Army Permit.

Once you obtain your certification, or if no application was required, you may proceed with the project without further contact or verification from us. The enclosed Compliance Certification should be signed and returned when the project is completed. All of the existing NWPs are scheduled to be modified, reissued, or revoked prior to March 18, 2007. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this Nationwide Permit. A copy of this letter is being sent to the Division of Water.

If you have any questions, please contact me by writing to the above address, ATTN: CELRL-OP-FS, or by calling (606) 642-3404. Any correspondence on this matter should refer to our ID No. 200501507-teh.

Sincerely,



Todd Hagman
Regulatory Specialist
Regulatory Branch

Enclosure

Copy Furnished:

ADDRESS FOR COORDINATING AGENCY

Mr. David Morgan, Director
Division of Water
Natural Resources and Environmental
Protection Cabinet
18 Reilly Road, Ash Building
Frankfort, Kentucky 40601

Terms for Nationwide Permit No. 14

Linear Transportation Projects.

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

- a. This NWP is subject to the following acreage limits:
 - (1) For linear transportation projects in non-tidal waters, provided the discharge does not cause the loss of greater than 1/2-acre of waters of the US; or
 - (2) For linear transportation projects in tidal waters, provided the discharge does not cause the loss of greater than 1/3-acre of waters of the US.
- b. The permittee must notify the District Engineer in accordance with General Condition 13 if any of the following criteria are met:
 - (1) The discharge causes the loss of greater than 1/10-acre of waters of the US; or
 - (2) There is a discharge in a special aquatic site, including wetlands;
- c. The notification must include a compensatory mitigation proposal to offset permanent losses of waters of the US to ensure that those losses result only in minimal adverse effects to the aquatic environment and a statement describing how temporary losses will be minimized to the maximum extent practicable;
- d. For discharges in special aquatic sites, including wetlands, and stream riffle and pool complexes, the notification must include a delineation of the affected special aquatic sites;
- e. The width of the fill is limited to the minimum necessary for the crossing;

- f. This permit does not authorize stream channelization, and the authorized activities must not cause more than minimal changes to the hydraulic flow characteristics of the stream, increase flooding, or cause more than minimal degradation of water quality of any stream (see General Conditions 9 and 21);
- g. This permit cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars; and
- h. The crossing is a single and complete project for crossing waters of the US. Where a road segment (i.e., the shortest segment of a road with independent utility that is part of a larger project) has multiple crossings of streams (several single and complete projects) the Corps will consider whether it should use its discretionary authority to require an Individual Permit. (Sections 10 and 404)

Note: Some discharges for the construction of farm roads, forest roads, or temporary roads for moving mining equipment may be eligible for an exemption from the need for a Section 404 permit (see 33 CFR 323.4).

General Certification--Nationwide Permit #14--Road Crossings

This General Certification is issued on March 17, 2002, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33USC 1314), as well as Kentucky Statute KRS 224.16-070.

The Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 5, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under 33 CFR Part 330 Appendix A (B) (14), namely road crossings provided that the following conditions are met:

1. Individual road culvert or bridges, either for public or private purposes, that exceed 200 linear feet in width shall require an individual Water Quality Certification.
2. Stream and riparian impacts will be limited to the minimum necessary to construct the road crossing. For the purpose of this General Certification, streams are defined as a solid or dashed blue line on the most recent version of USGS 1:24,000 topographic map.
3. All equipment access and excavations within a stream, necessary to complete a road-crossing project, shall be done in such a manner as to prevent degradation of waters of the Commonwealth. Temporary equipment crossing structures shall be constructed with sufficient pipe capacity so as not to impede normal stream flow.
4. Stream bed gravel and rock shall not be used for construction material.
5. The stream crossing structure shall be constructed in such a manner that does not impede the movement of aquatic organisms. The bottom of any culverts shall be level with the stream bed.
6. This General Certification shall not apply to those waters of the Commonwealth identified as Outstanding Resource Waters, Exceptional Waters or Cold Water Aquatic Habitat Waters, as designated by the Division of Water. An individual Water Quality Certification will be required for projects in these waters.

7. Stream impacts covered under this nationwide permit and undertaken by those persons defined as an agricultural operation under the Agricultural Water Quality Act must be completed in compliance with the Kentucky Agricultural Water Quality Plan.

Non-compliance with the conditions of this general certification or violation of Kentucky water quality standards may result in civil penalties. This general certification will expire on March 19, 2007, or sooner if the COE makes significant changes to this nationwide permit.

Compliance Certification:

Permit Number: 200501507-teh

Name of Permittee: Kentucky Transportation Cabinet

Date of Issuance: 12 October 2006

Upon completion of the activity authorized by this permit and any mitigation required by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
CELRL-OP-FS
845 Sassafras Creek Road
Sassafras, Kentucky 41759

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

N O T I C E

**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
(INDIVIDUAL PERMIT AUTHORIZATION)**

PROJECT: Rowan County (KY-519), Item No. 09-0156.01
Reconstruction

The Section 404 activities for this project have been permitted under the authority of the Department of the Army Individual Permit. In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Individual Permit in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

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



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
EASTERN KENTUCKY REGULATORY OFFICE
845 Sassafras Creek Road
Sassafras, Kentucky 41759-8806

October 18, 2006

Operations Division
Regulatory Branch (South)
ID No. 200501507-teh

Mr. Ronald Rigney, II
Commonwealth of Kentucky Transportation Cabinet
Frankfort, Kentucky 40622

Dear Mr. Rigney:

Enclosed is Department of the Army (DA) Permit Number 200501507 authorizing the plan to relocate 1,104 linear feet of unnamed tributary of Triplett Creek of the Licking River watershed at Site #15 (Sta. 103+960) located near Morehead, Kentucky in Rowan County, Kentucky. Also enclosed is ENG Form 4336, "Notice of Authorization," which must be displayed at the construction site throughout construction.

Should any modification of the plans become necessary for any reason, approval from the District Engineer must be received prior to the start of the work. Copies of this letter will be sent to the appropriate coordinating agencies (see enclosure for addresses).

Sincerely,

A handwritten signature in black ink, appearing to read "Todd E. Hagman".

Todd Hagman
Regulatory Specialist/Biologist
Eastern Kentucky Regulatory Office

Enclosures

DEPARTMENT OF THE ARMY PERMIT

Permittee: Commonwealth of Kentucky Transportation Cabinet

Permit Number: ID NO. 200501507

Issuing Office: U.S. Army Engineer District, Louisville

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: construct 720' of 4' flat-bottomed class iii line open channel and construct a 7'x4' rcbc culvert 160' in length to replace 30' of 6'x4' rcbc and 48' of 5' pipe culvert an. The relocation impacts 1104' (not including existing culvert) of an unnamed tributary to Triplett Creek of the Licking River watershed.

Project Location: Unnamed tributary of Triplett Creek along KY-519 in Rowan County, Kentucky

Permit Conditions:

General Conditions:

1. The time limit for completing the authorized activity ends on **December 31, 2007**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification from this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of your permit.

Special Conditions:

- a. The permittee shall adhere to the plans and conditions included in the 17 June 2005 application for Kentucky Transportation Cabinet, Item No. 9-156.01 for Department of the Army Permit.
- b. The permittee shall install and maintain adequate erosion/sedimentation controls around all disturbed earthen areas until such time as those areas have been stabilized and revegetated.
- c. The permittee's responsibility to complete the required compensatory mitigation proposal in Special Condition #1 will not be considered fulfilled until mitigation success has been demonstrated and written verification is received from the U.S. Army Corps of Engineers.

Further Information:

1. Congressional Authorities. You have been authorized to undertake the activity described above pursuant to:
 - () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.
 - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

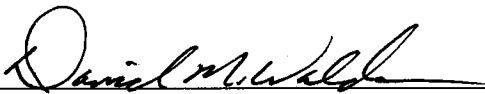
5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

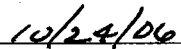
Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. **Extensions.** General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give you favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.




(PERMITEE)



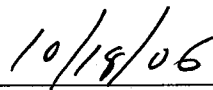
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

RAYMOND G. MIDKIFF
COLONEL, CORPS OF ENGINEERS
(COMMANDER AND DISTRICT ENGINEER)



BY: Lee Anne Devine
Chief, South Section
Regulatory Branch



(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEEEE)

(DATE)



This notice of authorization must be conspicuously displayed at the site of work.

United States Army Corps of Engineers

October 18, 2006

A permit to: CONSTRUCT 720' OF 4' FLAT-BOTTOMED CLASS III LINE OPEN CHANNEL AND CONSTRUCT A 7'X4' RCBC CULVERT 160' IN LENGTH TO REPLACE 30' OF 6'X4' RCBC AND 48' OF 5' PIPE CULVERT AN. THE RELOCATION IMPACTS 1104' (NOT INCLUDING EXISTING CULVERT) OF AN UNNAMED TRIBUTARY TO TRIPLETT CREEK OF THE LICKING RIVER WATERSHED

at: SITE #15 (STA. 103+960) UNNAMED TRIBUTARY OF TRIPLETT CREEK ALONG KY-519 IN ROWAN COUNTY, KENTUCKY.

has been issued to: COMMONWEALTH OF KENTUCKY TRANSPORTATION CABINET

ADDRESS OF PERMITTEE: STATE OFFICE BUILDING, 10TH FLOOR
FRANKFORT, KENTUCKY 40622

Permit No. 200501507

**RAYMOND G. MIDKIFF
COLONEL, CORPS OF ENGINEERS
District Commander**

BY:

**LEE ANNE DEVINE
CHIEF, SOUTH SECTION
REGULATORY BRANCH
OPERATIONS DIVISION**

ADDRESSES FOR COORDINATING AGENCIES

Mr. Ron Mikulak, Chief
Wetlands Regulatory Section
USEPA, Region IV
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303

Mr. Virgil Lee Andrews, Field Supervisor
U.S. Fish and Wildlife Service (KY)
3761 Georgetown Road
Frankfort, KY 40601

Mr. David Morgan, Director
Division of Water
Natural Resources and Environmental
Protection Cabinet
14 Reilly Road, Ash Building
Frankfort, Kentucky 40601

Dr. Jon Gassett, Commissioner
Department of Fish and Wildlife Resources
#1 Game Farm Road
Frankfort, Kentucky 40601

Mr. Billy P. Hartsell, PE
State Conservation Engineer
U.S. Department of Agriculture
Natural Resources Conservation Service
771 Corporate Drive, Suite 210
Lexington, Kentucky 40503-5479

Mr. David L. Morgan
State Historic Preservation Officer
Kentucky Heritage Council
300 Washington Street
Frankfort, Kentucky 40601

Information for DA Permit Tag

A permit to relocate 1,104 linear feet of unnamed tributary of Triplett Creek of the Licking River watershed at Site #15 (Sta. 103+960) located near Morehead, Kentucky in Rowan County, Kentucky.

has been issued to

Kentucky Transportation
Cabinet

on

October 18, 2006

Address of Permittee

State Office Building, 10th floor,
Frankfort, Kentucky 40622

Permit Number

200501507

by

Lee Anne Devine

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For your information, effective March 9, 1999, the Corps of Engineers instituted an administrative appeals process. A permit applicant may appeal an individual permit denial or an individual permit that was issued with conditions (a proffered individual permit). To initiate the appeals process regarding the terms and conditions of this permit, you must write a letter to the district engineer explaining your objections to the permit. The enclosed Notification of Applicant Options (NAO) outlines the initial appeals process and options available to you. The objection letter must be received by the district engineer within 60 days of the date of the NAO. Please be aware that no work can occur in jurisdictional waters until the appeals process is completed.

Compliance Inspector (Hagman)

N O T I C E

DIVISION OF WATER (WATER QUALITY CERTIFICATION)

PROJECT: Rowan County (KY-519), Item No. 09-0156.01
Reconstruction

The Division of Water has approved the Section 401 activities for this project by issuance of a Water Quality Certification. In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Water Quality Certification in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

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



ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Ernie Fletcher
Governor

Division of Water
14 Reilly Road
Frankfort, Kentucky 40601-1190
www.kentucky.gov
October 5, 2006

LaJuana S. Wilcher
Secretary

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

Re: Water Quality Certification #2006-0155-1,
USACE Public Notice No.: 200501507
AI No.: 76668, Activity ID: APE20050001,
Morgan Fork, Triplett Creek, and Dry Creek
Rowan County, Kentucky

Dear Mr. Waldner:

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

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

Sincerely,

A handwritten signature in cursive script that reads "Jennifer Garland".

Jennifer Garland, Supervisor
Water Quality Certification Section
Division of Water

JG:BJS:tw
Attachment

COPIES SENT TO:

Todd Hagman, USACE: Sassafras

Stephanie Fulton, USEPA: Atlanta

Lee Andrews, USFWS: Frankfort

Mike Hardin, KDFWR: Frankfort

Lajuanda Haight-Maybriar, KDOW: Frankfort

KTC Water Quality Certification

West Liberty-Morehead Road
Facility Requirements
Permit Number: WQC 2006-0155-1
Activity ID No.: APE20050001

Page 1 of 1

AAZZ1 (CWA Section 401 WQC) KY-519 Reconstruction (KTC 9-0156.01):

Narrative Requirements:

Condition No.	Condition
T-1	<p>The work approved by this certification shall be limited to:</p> <ul style="list-style-type: none">- The loss of 1,972 linear feet of Morgan Fork and unnamed tributaries to Morgan Fork (Sites 1-11).- The loss of 260 linear feet of Dry Creek and an unnamed tributary to Dry Creek (Sites 12 and 13).- The loss of 1,159 linear feet of Triplett Creek and an unnamed tributary to Triplett Creek (Sites 14 and 15). [Clean Water Act]
T-2	<p>All work performed under this certification shall adhere to the design and specifications set forth in the United States Army Corps of Engineers (USACE) Public Notice No. 200501507 and in the application materials submitted to the Kentucky Division of Water (KDOW) dated September 15, 2005. [Clean Water Act]</p>
T-3	<p>The unnamed tributary to Triplett Creek at Station 103+960 is contaminated with polyaromatic hydrocarbon constituents from an underground storage tank adjacent to the project. All soil contamination must be removed to the satisfaction of the Kentucky Division of Waste Management, Underground Storage Tank Branch, prior to the commencement of any construction at this location. [Clean Water Act]</p>
T-4	<p>The applicant is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sedimentation control plan must be designed, implemented, and maintained in effective operating condition at all times during construction. [Clean Water Act]</p>
T-5	<p>The Division of Water reserves the right to modify or revoke this certification should it be determined that the activity is in noncompliance with any condition set forth in this certification. [Clean Water Act]</p>
T-6	<p>If construction does not commence within two years of the date of this letter, this certification will become void. A letter requesting a renewal should be submitted. [Clean Water Act]</p>
T-7	<p>Other permits may be required from the Division of Water for this project. If this project takes place within the floodplain, a permit may be required from the Water Resources Branch. The contact person is Ali Daneshmand. If this project will disturb one acre or more of land, a KPDES general storm water permit will be required from the KPDES Branch. The contact person is Ronnie Thompson. Both can be reached at 502/564-3410. [Clean Water Act]</p>



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14 Reilly Road
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Lajuana S. Wilcher
Secretary

ATTENTION APPLICANT

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

***building in a floodplain** ***road culvert in a stream**

***streambank stabilization** ***stream cleanout**

***utility line crossing a stream**

***construction sites greater than 1 acre**

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

Contact: Ronnie Thompson

- Projects that involve filling in the floodplain will require a floodplain construction permit from the Water Resources Branch.

Contact: Ali Daneshmand

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

Contact: Jenni Garland

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

GENERAL CONDITIONS FOR WATER QUALITY CERTIFICATION

1. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
2. All dredged material shall be removed to an upland location and/or graded on adjacent areas (so long as such areas are not regulated wetlands), to obtain original streamside elevations, i.e. overbank flooding shall not be artificially obstructed.
3. In areas not riprapped or other wise stabilized, revegetation of stream banks and riparian zones shall occur concurrently with project progression. At a minimum, revegetation will approximate pre-disturbance conditions.
4. To the maximum extent practicable, all instream work under this certification shall be performed during low flow.
5. Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances where such instream work is unavoidable, then it shall be performed in such a manner and duration as to minimize resuspension of sediments and disturbance to substrates and bank or riparian vegetation.
6. Any fill or riprap including refuse fill, shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If riprap is utilized, it is to be of such weight and size that bank stress or slump conditions will not be created because of its placement.
7. If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when work will be done.
8. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.
9. Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/564-2380.

KyTC BMP Plan for Project PCN ## - #####/Item No. 9-156.01



Kentucky Transportation Cabinet

Highway District 9

And

_____ (2), Construction

Kentucky Pollutant Discharge Elimination System

Permit KYR10

Best Management Practices (BMP) plan

Groundwater protection plan

For Highway Construction Activities

For

Rowan County; KY 519

Reconstruct from 0.5 mile South of Warren

Branch to US 60 Bypass at Morehead, KY

Project: PCN ## - #####

Item No. 9-156.01

KyTC BMP Plan for Project PCN ## - #####/Item No. 9-156.01

Project information

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

1. Owner – Kentucky Transportation Cabinet, District _9_
2. Resident Engineer: (2)
3. Contractor name: (2)
Address: (2)

Phone number: (2)
Contact: (2)
Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number (2)
5. Route (Address) : KY 519
6. Latitude/Longitude (project mid-point) : 38/09/26, 83/25/27
7. County (project mid-point): Rowan
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KyTC BMP Plan for Project PCN ## - #####/Item No. 9-156.01

A. Site description:

1. Nature of Construction Activity (from letting project description):
Reconstruct from 0.5 mile South of Warren Branch to US 60 Bypass at Morehead, KY
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved: 113,058 cubic yards
4. Estimate of total project area (acres): 53.9 acres (taken from Clearing and Grubbing Quantity)
5. Estimate of area to be disturbed (acres): 36.3 acres (taken from Erosion Control Area)
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: Many of the soil horizons and slopes on the project are subject to erosion (Geotechnical Notes in roadway plans) & (2)
8. Data describing existing discharge water quality (if any): none (2)
9. Receiving water name: Triplett Creek
10. TMDLs and Pollutants of Concern in Receiving Waters: No TMDLs were involved on this project.
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.

KyTC BMP Plan for Project PCN ## - #####/Item No. 9-156.01

12. Potential sources of pollutants:

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

B. Sediment and Erosion Control Measures:

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

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

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as "Do Not Disturb" until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP's shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA's as the work progresses. All DDA's will have adequate BMP's in place before being disturbed.
3. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:
 - Construction Access – This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.

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- At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants. Areas that are a source of pollutants will receive appropriate cover or BMPs to arrest the introduction of pollutants into storm water. Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.
- Clearing and Grubbing – The following BMP's will be considered and used where appropriate.
 - Leaving areas undisturbed when possible.
 - Silt basins to provide silt volume for large areas.
 - Silt Traps Type A for small areas.
 - Silt Traps Type C in front of existing and drop inlets which are to be saved
 - Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
 - Brush and/or other barriers to slow and/or divert runoff.
 - Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
 - Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
 - Non-standard or innovative methods.
- Cut & Fill and placement of drainage structures - The BMP Plan will be modified to show additional BMP's such as:
 - Silt Traps Type B in ditches and/or drainways as they are completed
 - Silt Traps Type C in front of pipes after they are placed
 - Channel Lining
 - Erosion Control Blanket
 - Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
 - Non-standard or innovative methods
- Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:
 - Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
 - Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
 - Additional Channel Lining and/or Erosion Control Blanket.
 - Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
 - Special BMP's such as Karst Policy

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- Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably changes include:
 - Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
 - Permanent Seeding and Protection
 - Placing Sod
 - Planting trees and/or shrubs where they are included in the project
- BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are : None

C. Other Control Measures

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

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

3. Hazardous Waste

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

KyTC BMP Plan for Project PCN ## - #####/Item No. 9-156.01

4. Spill Prevention

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

➤ **Good Housekeeping:**

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

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

➤ **Hazardous Products:**

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

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

The following product-specific practices will be followed onsite:

➤ **Petroleum Products:**

Vehicles and equipment that are fueled and maintained on site will be monitored for leaks, and receive regular preventative maintenance to reduce the chance of

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leakage. Petroleum products onsite will be stored in tightly sealed containers, which are clearly labeled and will be protected from exposure to weather.

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

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

➤ **Fertilizers:**

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

➤ **Paints:**

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

➤ **Concrete Truck Washout:**

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

➤ **Spill Control Practices**

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

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.

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- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include as appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill clean up will be disposed in accordance with appropriate regulations.

D. Other State and Local Plans

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. (No additional requirements known; not an MS4 area)

E. Maintenance

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.
- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.
 - Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post construction storm water management with specific guidance for any non-routine maintenance. (None)

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F. Inspections

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

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

G. Non – Storm Water discharges

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

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

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

H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

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

KyTC BMP Plan for Project PCN ## - #####/Item No. 9-156.01

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

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

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

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

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

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

KyTC BMP Plan for Project PCN ## - #####/Item No. 9-156.01

Sub-Contractor Certification

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

Subcontractor

Name:
Address:
Address:

Phone:

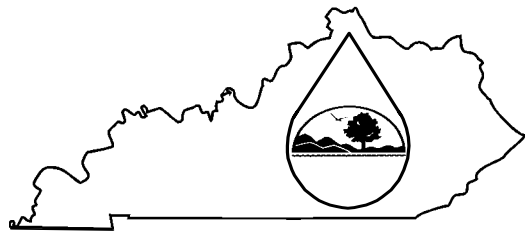
The part of BMP plan this subcontractor is responsible to implement is:

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

Signed _____ title _____, _____
Typed or printed name¹ signature

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

KPDES FORM NOI-SW



**Kentucky Pollutant Discharge Elimination System
(KPDES)
Notice of Intent (NOI)
for Storm Water Discharges
Associated with Industrial Activity Under the
KPDES General Permit**

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

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

I. Facility Operator Information

Name:	KYTC District 9	Phone:	6068452551
Address:	822 Elizaville Road	Status of Owner/Operator:	S
City, State, Zip Code:	Flemingsburg, KY 41041		

II. Facility/Site Location Information

Name:	KYTC PCN ##-####/ KYTC Item No. 9-156.01		
Address:	KY 519		
City, State, Zip Code:	Clearfield, KY 40313		
County:	Rowan		
Site Latitude: (degrees/minutes/seconds)	38/9/26	Site Longitude: (degrees/minutes/seconds)	83/25/27

III. Site Activity Information

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

IV. Additional Information Required FOR CONSTRUCTION ACTIVITIES ONLY

Project Start Date:		Completion Date:	
Estimated Area to be disturbed (in acres):	36.3		
Is the Storm Water Pollution Prevention Plan in Compliance with State and/or Local Sediment and Erosion Plans?	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.

Printed or Typed Name:	Katrina Bradley, P.E.		
Signature:		Date:	

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.

SYP8161

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

02 FEB 2007

Item No.	9 - 156.01	Project Mgr.	DARRIN ELDRIDGE	
		County	ROWAN	Route KY-519
CAP #	Date of Promise	Promise made to:	Location of Promise	
1	18-SEP-06	Homer Gregory	Parcel 60	
CAP Description				
THE PROPERTY OWNER HAS 30 DAYS AFTER THE LETTING TO VACATE THE RIGHT OF WAY. THE KYTC REQUIRES AN ADDITIONAL 45 DAYS TO REMOVE ALL IMPROVEMENTS (THE PROPERTY WILL BE CLEAR OF ALL IMPROVEMENTS 75 DAYS AFTER LETTING).				
2	01-FEB-07	Homer Gregory	Parcel 60	
CAP Description				
THE CONTRACTOR CAN NOT ENTER THE PROPERTY UNTIL 30 DAYS AFTER THE LETTING DATE.				

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2004 Edition**
(Effective with the January 19, 2007 Letting)

SUBSECTION: REVISION:	105.07 COOPERATION WITH UTILITIES. In the last paragraph, replace “KRS 367 Sections 1 through 10” with “KRS 367.4901 through 367.4917”
SUBSECTION: REVISION:	108.01 SUBCONTRACTING OF CONTRACT. Replace the second and third sentence of the first paragraph with the following: When the Engineer gives such consent, the Engineer will allow the Contractor to subcontract a portion, but the Contractor must perform with his own organization work amounting to no less than 30 percent of the total Contract cost. The Department will not allow any subcontractor to exceed the percentage to be performed by the Contractor and will require the Contractor to maintain a supervisory role over the entire project.
SUBSECTION: REVISION:	109.07 PRICE ADJUSTMENT. Replace the section with the following: 109.07 PRICE ADJUSTMENTS. Due to the fluctuating costs of petroleum products, the Department will adjust the compensation of specified liquid asphalt items and diesel fuel in contracts when contract quantity thresholds are met. 109.07.01 Liquid Asphalt. The Department will compare the Kentucky Average Price Index (KAPI), for the month that the Contract is let, to the index for the month that the Contractor places the material on the project to determine the percent change. When the original contract quantity for asphalt items is equal to or greater than 3,000 tons and when the average price of the liquid asphalt products increases or decreases more than 5 percent, the Department will adjust the Contractor’s compensation. The KAPI is calculated monthly using the average price, per ton at the terminal, from the active suppliers of liquid asphalt. <u>Adjustable Contract Items:</u> <ul style="list-style-type: none">• Asphalt Curing Seal• Asphalt Material for Prime• Asphalt Base, All Classes• Asphalt Binder• Asphalt Surface, All Classes• Sand Asphalt Surface• Asphalt Open-Graded Surface• Asphalt Seal Coat• Asphalt Mixture for Leveling and Wedging• Drainage Blanket - Type II - Asphalt The Department will determine the price adjustment using the following formulas: <u>When PC is greater than PL</u> Asphalt Price Adjustment = $(Q \times A)/100 \times PL \times [(PC-PL)/PL - 0.05]$ <u>When PC is less than PL</u> Asphalt Price Adjustment = $(Q \times A)/100 \times PL \times [(PC-PL)/PL + 0.05]$ Where: Q = Tons of material or mixture placed each month. A = Percent of material or mixture that is asphalt. PL = KAPI for the month that the Contract is let. PC = KAPI for the month that the Contractor places the material or mixture. The job-mix formula for asphalt base, binder, and surface mixtures determines “A”, which is the percent of asphalt. For recycled mixtures, the Department will determine the adjustment for the new asphalt cement only. The Department will consider materials for prime and seal as 100 percent asphalt.

**Supplemental Specifications to The Standard Specifications
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(Effective with the January 19, 2007 Letting)

Revision
Continued

109.07.02 Fuel. The Department will adjust the Contractor's compensation when the average price of diesel fuel increases or decreases more than 5 percent and the original Contract quantity for the item on which the fuel is consumed is equal to or greater than the threshold quantities listed in the following table.

<u>Item</u>	<u>Threshold Quantity</u>	<u>Fuel/Work</u>
Roadway Excavation	10,000 cubic yards	0.25
Embankment-in-Place	10,000 cubic yards	0.25
Borrow Excavation	10,000 cubic yards	0.25
DGA Base or Crushed Stone Base	5,000 tons	0.52
Stabilized Aggregate Base	5,000 tons	0.52
Drainage Blanket, Cement Treated or Untreated	5,000 tons	0.52
Drainage Blanket, Asphalt Treated	5,000 tons	3.00
Crushed Sandstone Base (Cement Treated)	5,000 tons	0.52
Hot-Mixed Asphalt Mixtures for Pavements or Shoulders	3,000 tons ⁽¹⁾	3.00
PCC Pavement, Base, or Shoulders	2,000 square yards ⁽²⁾	0.14

⁽¹⁾Total of all hot mixed asphalt Contract items.

⁽²⁾Total of all JPC pavement, JPC shoulder, and PCC base, Contract items.

The Department will determine the price adjustment using the following formulas:

When PC is greater than PL

$$\text{Fuel Price Adjustment} = Q \times F \times PL \times [(PC-PL)/PL - 0.05]$$

When PC is less than PL

$$\text{Fuel Price Adjustment} = Q \times F \times PL \times [(PC-PL)/PL + 0.05]$$

Where:

Q = Quantity for applicable item placed or performed that month.

F = The fuel to work unit ratio for each applicable item.

PL = Average reseller price of diesel fuel, excluding taxes, discounts, and superfund line items, in the Kentucky region for the month that the Contract is let.

PC = Average reseller price of diesel fuel, excluding taxes, discounts, and superfund line items, in the Kentucky region for the month that the Contractor uses the fuel on the project.

109.07.03 Payments and Deductions. When thresholds are met, the Department will adjust the Contractor's compensation for each eligible pay item, paid or deducted, monthly.

If later price decreases indicate that the Department made an overpayment, the Department will withhold the overpayment from succeeding pay estimates on the project, or the Contractor shall immediately refund the over payment to the Department.

When the Contractor places materials during any month after the month that the Contract time (including all approved time extensions) expires, the Department will use the average price for the month that the Contractor places the material or the average price for the last month of the Contract time; whichever is least.

The Department will not grant a time extension for any overrun in the Contract amount due to payments made according to this section. The Department will not make any additional compensation due to adjustments made according to this section.

The Department will adjust the Contractor's compensation on the following months pay estimate and on the final pay estimate. The Department will make the final adjustment of the Contractor's compensation on the final estimate for the project.

**Supplemental Specifications to The Standard Specifications
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SUBSECTION:	110.01 MOBILIZATION.
REVISION:	Replace the third paragraph with the following: 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 bids in excess of this amount to 5 percent for bid comparisons. The Department will base the award on the maximum allowable bid of 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.
SUBSECTION:	110.02 DEMOBILIZATION.
REVISION:	Replace the first sentence of the third paragraph with the following: Do not bid an amount for Demobilization that is 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.
SUBSECTION:	206.03.03 Compaction.
REVISION:	Replace "KM 64-412" with "KM 64-002"
SUBSECTION:	212.03.03 Permanent Seeding and Protection.
PART:	B) Procedures for Permanent Seeding.
REVISION:	Add the following after the fourth sentence: Unless the Engineer directs otherwise, track all slopes 3:1 or greater. Ensure that tracking is performed up and down and not across.
SUBSECTION:	213.03.01 Best Management Practices (BMP).
REVISION:	Replace the third sentence of the first paragraph with the following: Ensure that the BMP provides storage for 3,600 cubic feet of water per surface acre disturbed.
SUBSECTION:	213.03.03 Inspection and Maintenance
REVISION:	Replace both "0.1-inch" references with "0.5-inch".
SUBSECTION:	213.03.05 Temporary Control Measures.
PART:	B) Silt Checks.
REVISION:	B) Silt Checks. Use one of the following types: 1) Silt Check Type II - Crushed stone such as cyclopean stone riprap, quarry run stone, or other size material approved by the Engineer, dumped in place and shaped to the configuration required. 2) Silt Check Type III - Blasted or broken rock dumped in place and shaped to the configuration required. Remove and properly dispose of sediment deposited at silt checks as necessary. When no longer needed, remove the silt checks and dispose of surplus materials as excavated materials according to Section 204. Seed and protect the entire area disturbed, as directed. Do not leave silt checks in place after completion of the project unless allowed by the Engineer or specified in the Plans.
SUBSECTION:	213.03.05 Temporary Control Measures.
PART:	G) Temporary Mulch.
REVISION:	Replace the last sentence with the following: Place temporary mulch to an approximate 2-inch loose depth (2 tons per acre) and apply tackifier.
SUBSECTION:	213.04.15 Temporary Silt Ditch.
REVISION:	Replace with the following: The Department will measure the quantity in linear feet.

**Supplemental Specifications to The Standard Specifications
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SUBSECTION:	213.04 MEASUREMENT.
REVISION:	Add the following Subsection: 213.04.24 Clean Temporary Silt Ditch. The Department will measure the quantity in linear feet along the ditch line.
SUBSECTION:	213.05 PAYMENT.
REVISION:	Add the following lines: 20594 Temporary Silt Ditch Linear Foot 20601 Clean Temporary Silt Ditch Linear Foot
SUBSECTION:	303.03.01 Mixture
PART:	C) Cement Treated Mixture.
REVISION:	Delete the "For asphalt pavements" from the second paragraph.
SUBSECTION:	303.03.01 Mixture
PART:	C) Cement Treated Mixture.
REVISION:	Delete requirement "2".
SUBSECTION:	402.03.02 Acceptance.
PART:	D) Testing Responsibilities.
NUMBER:	4) Density.
REVISION:	Replace the first sentence of the third paragraph with the following: For surface mixtures placed on driving lanes and ramps, furnish 2 cores per subplot to the nearest laboratory facility (Contractor or Department lab) for density determination by the Engineer.
SUBSECTION:	402.03.02 Acceptance.
PART:	H) Unsatisfactory Work.
NUMBER:	1) Based on Lab Data.
REVISION:	Replace the "AASHTO MP2" references in the second paragraph with "AASHTO M 323".
SUBSECTION:	402.04 MEASUREMENT.
REVISION:	Replace the last sentence with the following: The Department will not measure construction of rolled rumble strips or pavement wedge texturing for payment and will consider them incidental to the asphalt mixture.
SUBSECTION:	402.04.01 Weight.
REVISION:	Replace first sentence of the second paragraph with the following: The Department will determine the bulk, oven-dry specific gravity for the fine and coarse aggregates according to KM64-605 and AASHTO T 85, respectively.
SUBSECTION:	402.04.02 Thickness on New Construction.
REVISION:	Delete the third paragraph and add the following at the end of the subsection: The Department will not measure initial thickness check coring or coring of corrective work for payment and will consider it incidental to the asphalt mixture.

**Supplemental Specifications to The Standard Specifications
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<p>SUBSECTION: 402.05.02 PARTS: Lot Pay Adjustment Schedule, Compaction Option A, Base and Binder Mixtures Lot Pay Adjustment Schedule, Compaction Option A, Surface Mixtures Lot Pay Adjustment Schedule, Compaction Option B Mixtures REVISION: 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 align="center">1.00</td> <td align="center">≤ 0.5 below min. VMA</td> </tr> <tr> <td align="center">0.95</td> <td align="center">0.6-1.0 below min.</td> </tr> <tr> <td align="center">0.90⁽²⁾</td> <td align="center">1.1-1.5 below min.</td> </tr> <tr> <td align="center">⁽¹⁾/₍₂₎</td> <td align="center">> 1.5 below min.</td> </tr> </tbody> </table>	VMA		Pay Value	Deviation From Minimum	1.00	≤ 0.5 below min. VMA	0.95	0.6-1.0 below min.	0.90 ⁽²⁾	1.1-1.5 below min.	⁽¹⁾ / ₍₂₎	> 1.5 below min.
VMA													
Pay Value	Deviation From Minimum												
1.00	≤ 0.5 below min. VMA												
0.95	0.6-1.0 below min.												
0.90 ⁽²⁾	1.1-1.5 below min.												
⁽¹⁾ / ₍₂₎	> 1.5 below min.												
<p>SUBSECTION: 403.03.03 Preparation of Mixture. PART: A) Mixture Composition. REVISION: Replace the “AASHTO MP2” reference in the first paragraph with “AASHTO M 323”.</p> <p>From the aggregate requirements list, delete 3) Type C.</p>													
<p>SUBSECTION: 403.03.03 Preparation of Mixture. PART: C) Mix Design Criteria. REVISION: Replace the “AASHTO MP2” references with “AASHTO M 323”.</p> <p>Replace the “AASHTO PP28” references in the second paragraph with “AASHTO R 35”.</p>													
<p>SUBSECTION: 403.03.03 Preparation of Mixture. PART: C) Mix Design Criteria. NUMBER 1) Preliminary Mix Design. REVISION: Add the following footnote to the table and associate it with the ESAL’s field “<0.3”:</p> <p>* For CL1 ASPH SURF 0.38D PG64-22 only.</p>													
<p>SUBSECTION: 403.03.06 Thickness Tolerances. PART: B) New Construction. REVISION: Replace the first paragraph with the following:</p> <p>Under the Engineer’s supervision, perform coring for thickness checks according to KM 64-420, as soon as practical after completion of all, or a major portion, of the asphalt base. The Engineer will measure the cores. Fill all core holes either with compacted asphalt mixture or non-shrink grout. Complete all remedial overlay work before placing the final course.</p>													

**Supplemental Specifications to The Standard Specifications
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SUBSECTION: 403.03.08 Rumble Strips.
REVISION: Replace with the following:

403.03.08 Shoulder Rumble Strips and Pavement Wedge Texturing.

A) Shoulder Rumble Strips.

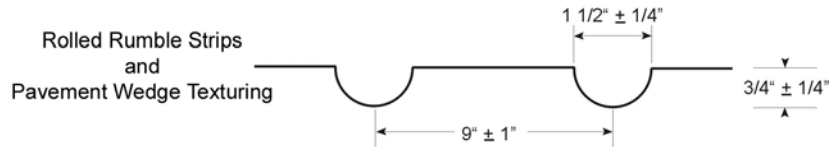
1) Interstates and Parkways. Construct sawed rumble strips on all mainline shoulders to the dimensions shown below. Do not place rumble strips on ramps.

2) Other Roads. Construct rolled rumble strips on shoulders of facilities with posted speed limits greater than 45 MPH. Unless specified in the plans or directed by the Engineer, do not construct rumble strips on facilities with posted speed limits of 45 MPH or less.

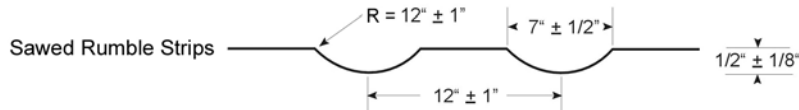
Construct rolled rumble strips on mainline shoulders to the dimensions shown below. On shoulders less than 3 feet wide, shorten the width and distance of the strips as the Engineer directs. Time the rolling operation so indentations are at the specified size and depth without causing unacceptable displacement of the asphalt mat. Correct unacceptable rolled rumble strips by sawing.

B) Pavement Wedge Texturing. Perform texturing on all pavement wedges constructed monolithically with the mainline or constructed using a surface mixture. When furnishing Asphalt Mixture for Pavement Wedge, binder, or a base mixture for the wedge, the Department will not require texturing.

Texture to the dimensions shown below. On wedges less than 3 feet, shorten the length and distance of the texturing as the Engineer directs. Time the rolling operation so indentations are at the specified size and depth without causing unacceptable displacement of the asphalt mat.



Place one foot out from the mainline pavement and to a width of 2 feet.



Place one foot out from the mainline pavement and to a width of 16 inches.

SUBSECTION: 403.04.03 Asphalt Mixtures.
REVISION: Replace the second sentence with the following:

The Department will not measure rolled rumble strips or pavement wedge texturing for payment and will consider them incidental to this bid item.

SUBSECTION: 403.04.07 Sawed Rumble Strips.
REVISION: Add the following subsection:

403.04.07 Sawed Rumble Strips. The Department will measure the quantity in linear feet. When rolled in rumble strips are specified, the Department will not measure sawed rumble strips for payment and will consider them incidental to the asphalt mixture.

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SUBSECTION:	403.05 PAYMENT						
REVISION:	Add the following bid item:						
	<table border="0"> <thead> <tr> <th align="left"><u>Code</u></th> <th align="left"><u>Pay Item</u></th> <th align="left"><u>Pay Unit</u></th> </tr> </thead> <tbody> <tr> <td>20362</td> <td>Shoulder Rumble Strips – Sawed</td> <td>Linear Foot</td> </tr> </tbody> </table>	<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>	20362	Shoulder Rumble Strips – Sawed	Linear Foot
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>					
20362	Shoulder Rumble Strips – Sawed	Linear Foot					
SUBSECTION:	501.03.20 Opening to Public Traffic.						
REVISION:	Delete the last sentence of the first paragraph.						
SUBSECTION:	501.03.21 Tolerance in Pavement Thickness.						
REVISION:	Add the following: Core the pavement as the Engineer directs.						
SUBSECTION:	501.04.06 Thickness.						
REVISION:	Add the following: The Department will not measure coring for payment and will consider it incidental to the concrete pay items.						
SUBSECTION:	502.03 CONSTRUCTION.						
PART:	C) Curing and Protecting Pavement.						
NUMBER:	3)						
REVISION:	Replace the last sentence with the following: The Department will allow permanent removal of the cover when the concrete attains the required opening strength of 3,000 psi.						
SUBSECTION:	502.03 CONSTRUCTION.						
PART:	D) Strength Testing and Opening to Traffic.						
NUMBER:	2) Testing.						
REVISION:	Replace the second paragraph with the following: When the average compressive strength is 3,000 psi, the Department will allow the pavement to be opened to traffic and will test the remaining sets of cylinders at the required age. When the average compressive strength is less than 3,000 psi at the required age, do not open the pavement to traffic until the pavement has been in place for 7 days. The Engineer may accept the pavement based on additional testing.						
SUBSECTION:	503.03.09 Ride Quality.						
REVISION:	Replace parts 5) and 6) with the following: 5) Perform corrective work to achieve the required IRI by regrinding the entire width of the traffic lane at areas having a high IRI. The Engineer may exclude pavement areas where grinding alone will not correct deficiency. 6) The Department will create a strip chart when the test results show that the IRI is greater than 60 or upon request for lower IRI values.						
SUBSECTION:	601.03.02 Concrete Producer Responsibilities.						
REVISION:	Replace the first sentence with the following: Use a concrete producer from the List of Approved Materials when the quantity of concrete delivered to the project in a plastic condition is 250 cubic yards or more. Ensure that the concrete producer complies with the following requirements:						

**Supplemental Specifications to The Standard Specifications
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<p>SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: C) Quality Control. REVISION: Replace the first paragraph with the following:</p>	<p>Take full responsibility for the batch weight calculations and quality control of concrete mixtures at the plant. 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 and unit weight tests, and monitoring the concrete temperature, all to provide concrete to the project conforming to specifications. A Level I concrete technician is responsible for testing production material for slump, entrained air, unit weight and temperature of the mixture. Ensure the technician performs all sampling and testing according to the appropriate Kentucky Methods.</p> <p>Delete the third paragraph.</p>
<p>SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: F) Records. REVISION: Retain all concrete technician records, test results and batch tickets pertaining to concrete produced for a Department project for at least 3 years after formal acceptance of the project. Make all records available to the Engineer and the Contractor on the project for review upon request.</p>	
<p>SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. REVISION: Replace the last sentence of the first paragraph with the following:</p>	<p>Before producing any concrete for the project, submit a proposed mixture design to the Engineer and obtain the District Materials engineer's or the Central Office Material's approval.</p>
<p>SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 1) New Mixture Designs. REVISION: Replace the first sentence with the following:</p>	<p>Base the proposed mix design on standard Department methods unless the District Materials Engineer, or Central Office Materials approves otherwise.</p>
<p>SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 1) Changes in Approved Mix Designs. REVISION: Replace the second sentence with the following:</p>	<p>The District Materials Engineer or Central Office Materials will provide an average value of the specific gravity aggregate absorption.</p>
<p>SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 3) Changes in Approved Mix Designs. LETTER: g) REVISION: Replace the fourth and fifth sentence with the following:</p>	<p>Central Office Materials will observe all phases of the trial batches. Have the producer submit a report containing mix proportions and test results for slump, air content, water/cement ratio, unit weight, and compressive strength for each trial batch to the Engineer for Central Office Materials review and approval.</p>
<p>SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 2) Approval. REVISION: Replace the first sentence with the following:</p>	<p>The District Materials Engineer or Central Office Materials will base approval of the mixture design on the following criteria:</p>

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<p>SUBSECTION: 601.03.02 Concrete Producer Responsibilities. PART: G) Mix Designs. NUMBER: 3) Changes in Approved Mix Designs. REVISION: Replace the first sentence with the following:</p> <p style="padding-left: 40px;">Do not change the source of supply of the mixture ingredients without the District Materials Engineer's or Central Office Materials written permission.</p> <p style="padding-left: 40px;">Replace the third sentence with the following:</p> <p style="padding-left: 40px;">Upon the District Materials Engineer's or Central Office Materials written approval, the Department will allow the use of aggregate from the new source.</p>
<p>SUBSECTION: 601.03.03 Proportioning and Requirements. PART: A) Concrete. TABLE: INGREDIENT PROPORTIONS AND REQUIREMENTS FOR VARIOUS CLASSES OF CONCRETE REVISION: Under Class of Concrete replace "A"AA⁽⁹⁾" with "AAA⁽⁸⁾"</p>
<p>SUBSECTION: 601.03.03 Proportioning and Requirements. PART: A) Concrete. FOOTNOTE: (6) REVISION: Add the following after the first sentence of the first paragraph:</p> <p style="padding-left: 40px;">For products with voids, the slump may be increased to 7 inches.</p> <p style="padding-left: 40px;">Replace the "0.3" requirement for Spring and Fall mix designs with "0.37".</p>
<p>SUBSECTION: 601.03.03 Proportioning and Requirements. PART: A) Concrete. FOOTNOTE: (7) REVISION: Replace with the following:</p> <p style="padding-left: 40px;">The precast fabricator may increase the slump of Class A concrete to a maximum of 7 inches provided the fabricator uses a high range water reducer (Type F and G) and maximum water/cement ratio of 0.46.</p>
<p>SUBSECTION: 601.03.03 Proportioning and Requirements. PART: E) Measuring. NUMBER: 3) Water. REVISION: Delete the last sentence of the second paragraph.</p>
<p>SUBSECTION: 601.03.03 Proportioning and Requirements. PART: E) Measuring. NUMBER: 4) Measuring Admixtures. REVISION: Replace with the following:</p> <p style="padding-left: 40px;">4) Measuring Admixtures. Introduce liquid admixtures into the concrete batch along with, or as part of, the mixing water. Keep air-entraining admixtures completely separate from all other admixtures until introduction into the batch. Maintain and equip dispensing equipment to ensure no chlorides are introduced into any Department mix.</p> <p style="padding-left: 40px;">Use approved dispensing equipment with a meter, gauge, or scale that can accurately be pre-set for the needed amount of admixture and can consistently deliver quantities of admixture to successive batches at any setting with satisfactory accuracy. The dispensing equipment must be visible to the batch operator if the actual dispensed amounts are not recorded on the computer batch ticket. Ensure admixture dispensers are inspected, calibrated and certified every 6 months.</p> <p style="padding-left: 40px;">The Department may allow admixtures to be added, to the truck, at the project site provided the Engineer's approval is obtained first.</p>

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SUBSECTION:	601.03.04 Classes and Primary Uses.
REVISION:	Add the following part: R) Dry Cast. Precast units.
SUBSECTION:	601.03.05 Admixtures.
REVISION:	Replace the last sentence of the fourth paragraph with the following: Store admixtures where the liquid temperatures can be maintained between 32 and 110 °F.
SUBSECTION:	601.03.09 Placing Concrete.
PART:	D) Weather Limitations and Protection.
REVISION:	Delete the last sentence of paragraph two.
SUBSECTION:	605.03 CONSTRUCTION.
REVISION:	Insert the following sentence after the first sentence: Ensure all non-composite box beam concrete contains an approved corrosion inhibitor from the List of Approved Materials.
SUBSECTION:	605.03.03 Casting.
REVISION:	Delete the first sentence in the first paragraph. Add the following after the first sentence of the third paragraph: Do not vibrate Self-Consolidating Concrete (SCC).
SUBSECTION:	605.03.04 Tack welding.
REVISION:	Replace the first sentence with the following: When tack welding steel reinforcement, use ASTM A 706 steel and conform to the following conditions.
SUBSECTION:	605.03.04 Tack Welding.
NUMBER:	3)
REVISION:	Replace the first sentence with the following: Tack weld only at intersections of bars except do not tack weld in any bend or within 2 bar diameters of a bend.
SUBSECTION:	605.03.04 Tack Welding.
NUMBER:	5)
REVISION:	Replace the last sentence with the following: Each sample must meet the minimum requirement for elongation, ductility, tensile and yield strength of the bar stock.
SUBSECTION:	605.03.04 Tack Welding.
NUMBER:	6)
REVISION:	Delete the last sentence.
SUBSECTION:	605.03.04 Tack Welding.
REVISION:	Change footnote “(4) (d)” to “(5)”
SUBSECTION:	605.03.07 Removal of Forms and Surface Finish.
REVISION:	Add the following sentence before the last sentence of the paragraph: Finish dry cast products according to the Precast/Prestressed Concrete Manual.
SUBSECTION:	611.02.01 Concrete.
REVISION:	Replace with the following: Conform to Subsections 601.02 and 601.03 and the Precast/Prestress Concrete Manual.
SUBSECTION:	611.03.02 Precast Unit Construction.
REVISION:	Replace “AASHTO C 1433” with “ASTM C 1433”

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SUBSECTION: NUMBER: REVISION:	611.03.02 Precast Unit Construction. 2) Replace with the paragraph with the following: Mark all box culverts sections with the following information on the inside top of each section with letters no less than 2 inches high: a) Span, rise, maximum and minimum design earth cover, and KY Table 3. b) Date of manufacture. c) Name and trademark of the manufacturer. For entrance and exit box sections, indent the required information. Mark interior sections by indenting or with waterproof paint.
SUBSECTION: PART: NUMBER: REVISION:	701.02.05 Backfill Materials. A) Granular Backfill. 1) Remove "A2" from the list of acceptable materials.
SUBSECTION: REVISION:	701.03.03 Pipe Bedding. Replace with the following: 701.03.03 Pipe Bedding. A) Reinforced Concrete Pipe. Construct bedding according to the Standard Drawings and this section. 1) Type 1 Installation. When working on a rock foundation, place bedding to a depth of 6 inches or equal to $Bc/12$, the pipe diameter in inches divided by 12, whichever is greater. For all other foundations, place a minimum of 4 inches of bedding. Shape the bedding to conform to the invert shape throughout the entire width and length of the proposed structure. Compact the bedding, but leave the center third of the pipe diameter ($Bc/3$) uncompacted. Place and compact additional bedding material in lifts 6 inches or less to an elevation of 0.30 the culvert diameter. 2) Type 4 Installation. When working on a rock foundation, place bedding to a depth of 6 inches or equal to $Bc/12$, the pipe diameter in inches divided by 12, whichever is greater. For all other foundations, place a minimum of 4 inches of bedding. B) Corrugated Metal, Thermoplastic, and Structural Plate Pipe. Place and compact bedding to provide 4 inches of bedding below the outside invert of the pipe after shaping. Shape the bedding to conform to the invert shape throughout the entire width and length of the proposed structure. Place and compact additional bedding material in lifts 6 inches or less to an elevation of 0.30 the culvert diameter.
SUBSECTION: PART: REVISION:	701.03.06 Initial Backfill. A) Reinforced Concrete Replace with the following: A) Reinforced Concrete Pipe. 1) Type 1 Installation. When the top of the pipe is not within one pipe diameter of the subgrade, backfill with granular backfill, additional bedding material, or flowable fill from the top of the bedding to an elevation equal to 1/2 the pipe diameter, and either granular backfill, flowable fill, or embankment material in 6-inch lifts to an elevation of one-foot above the pipe. 2) Type 4 Installation. Backfill from the top of the bedding with granular backfill, flowable fill, or embankment material in 6-inch lifts to an elevation of one-foot above the pipe. The Department will allow Type 4 installations for median drains and pipe installations located 35 feet or more from the edge of shoulder, back of curb, or any paved surface.

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SUBSECTION:	701.05 PAYMENT.
REVISION:	Replace bid item “2599 Fabric-Geotextile, Type IV Square Yard” with “21433ES214 Fabric-Geotextile, Type IV for Pipe Square Yard ⁽²⁾ ”
	Replace foot note “** The unit bid price is \$2.00 per square yard for Geotextile Fabric, Type III” with “ ⁽²⁾ The unit price is \$2.00 per square yard for Fabric-Geotextile, Type IV for Pipe”
SUBSECTION:	710.02.15 Plastic Adjusting Rings.
REVISION:	Replace this section with:
	710.02.15 Plastic or Rubber Adjusting Rings. Provide plastic or rubber adjusting rings that are on the Department’s List of Approved Materials.
SUBSECTION:	710.03.03 Adjusted Small Drainage Structures.
REVISION:	Replace the last sentence of the first paragraph:
	For plastic or rubber adjusting rings, install and seal according to the manufacturer’s recommendations.
SUBSECTION:	711.02 MATERIALS.
REVISION:	Replace with the following:
	Conform to the Contract requirements.
SUBSECTION:	713.03 CONSTRUCTION.
REVISION:	Add the following after the third paragraph:
	Offset longitudinal lines at least 2 inches from longitudinal pavement construction joints. Offset longitudinal lane lines on multi-lane highways 2 inches towards the median.
SUBSECTION:	714.03.06 Proving Period for Durable Markings.
PART:	B) Failure.
REVISION:	Replace the first sentence with the following:
	During the proving period, the Department will consider markings defective when the retroreflectivity falls below the minimum required or the material fails to meet the other requirements of A) above. Additionally, when more than 10 percent of any one-mile section or individual gore area is defective, the Department will consider the entire section defective.
SUBSECTION:	716.03.08 Testing.
REVISION:	Replace “10 megohms” with “100 megohms”
SUBSECTION:	723.03 CONSTRUCTION.
REVISION:	Replace the first sentence of the fourth paragraph with the following:
	Set right-of-way markers within 12 inches of the right-of-way line.
SUBSECTION:	724.02.01 Plants.
REVISION:	Replace the reference “American Association of Nurserymen” with “American Nursery and Landscape Association”.
SUBSECTION:	801.01 REQUIREMENTS.
REVISION:	Add the following sentence after the third sentence of the first paragraph:
	Mills must request and be approved by the Department to supply cement with an SO ₃ content above the value in Table 1 of ASTM C 150.
SUBSECTION:	804.01.03 Conglomerate Sand.
REVISION:	Replace second sentence of the paragraph with the following:
	Conglomerate sand may include some material which has been produced by crushing larger pieces of the parent material.
SUBSECTION:	804.02 Approval.
REVISION:	Replace first sentence of the second paragraph with the following:
	The Department will consider a source for inclusion on the Aggregate Source List when the aggregate producer complies with KM 64-608 and provides the following:

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SUBSECTION: 804.03 Concrete. REVISION: Second sentence in first paragraph should be a separate paragraph immediately following the first and should read as follows: Provide natural, crushed, or conglomerate sand. The Department will allow any combination of natural, crushed, or conglomerate sand when the combination is achieved in the concrete plant weigh hopper. The Engineer may allow other sands. Use natural or conglomerate sands as fine aggregates in concrete intended as a wearing surface for traffic. Conform to the following:
SUBSECTION: 804.04.03 Polish-Resistant Aggregate. REVISION: Add the following paragraph: Provide a signed certification from the aggregate producer for the manufactured polish-resistant fine aggregate stating that the aggregate is supplied from the approved parent material as found on the Department's List of Approved Materials, Polish-Resistant Aggregate Source List and Guidelines on the Division of Materials' webpage.
SUBSECTION: 804.04.04 Requirements for Combined Aggregates. PART: D) Absorption. REVISION: Delete the first sentence and replace the second sentence with the following: Provide total combined fine aggregates having a water absorption of no more than 4.0 percent.
SUBSECTION: 804.11 Sampling and Testing. REVISION: For Absorption (Fine Aggregate), replace method "AASHTO T 84" with "KM 64-605"
SUBSECTION: 805.02 Approval. REVISION: Replace first sentence of the second paragraph with the following: The Department will consider a source for inclusion on the Aggregate Source List when the aggregate producer complies with KM 64-608 and provides the following:
SUBSECTION: 805.04.01 JPC Base, JPC Pavement, JPC Shoulders, and Concrete for Bridge Decks. REVISION: Replace the subsection heading and first sentence with the following: 805.04.01 JPC Base, JPC Pavement, JPC Shoulders, Concrete for Bridge Decks, and Precast Products. Add the following paragraph: Provide a signed certification from the aggregate producer for the approved freeze-thaw coarse aggregate stating that the aggregate is supplied from the approved parent material as found on the Department's List of Approved Materials and Concrete Aggregate Restriction List.
SUBSECTION: 805.04.01 JPC Base, JPC Shoulders, and Concrete for Bridge Decks. PART: 3) REVISION: Replace the "tests" with "test" in the last sentence.
SUBSECTION: 805.05.05 Polish-Resistant Aggregate. REVISION: Add the following paragraph: Provide a signed certification from the aggregate producer for the manufactured polish-resistant coarse aggregate stating that the aggregate is supplied from the approved parent material as found on the Department's List of Approved Materials, Polish-Resistant Aggregate Source List and Guidelines on the Division of Materials' webpage.

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SUBSECTION: 805.13.01 Cyclopean Stone Riprap and Channel Lining Class III. REVISION: Replace the subsection with the following: 805.13.01 Cyclopean Stone Riprap and/or Channel Lining Class III. Provide material meeting the general requirements of Section 805. Ensure that 100 percent passes through a square opening of 16 inches by 16 inches, and no more than 20 percent passes through square openings of 8 inches by 8 inches. The Department may allow stones of smaller sizes for filling voids in the upper surface and dressing to the proper slope.
SUBSECTION: 806.03.03 Modification. REVISION: Replace the first sentence with the following: Use only styrene-butadiene (SB) or styrene-butadiene-styrene (SBS) modifiers.
SUBSECTION: 810.02 APPROVAL. REVISION: Replace reference "KM 114" with "KM 115".
SUBSECTION: 810.03.06 Identification and Markings. REVISION: Delete the following text from the first paragraph: "When the manufacturer has more than one plant, include the plant letter assigned by the Division of Materials after the date of manufacture as follows: L-Louisville N-London" Delete the following paragraph: "The Department will not require the certification on the shipment approval form to be notarized. The Department will not require the information under "Pipe Data" on the approval form when the manufacture's shipment ticket is attached and contains the necessary information."
SUBSECTION: 811.02.01 Requirements. REVISION: Replace the subsection with the following: Furnish bar reinforcement for bridges, cast-in-place culverts, and cast-in-place retaining walls that conforms to ASTM A 615 (billet) or ASTM A 996 (rail). ASTM A 706 steel is acceptable with prior approval of the Division of Materials. Do not weld any steel bar reinforcement unless it is ASTM A 706 rebar. The Engineer will accept rail steel bar reinforcement in straight lengths only. Do not use rail steel reinforcement where field bending is allowed or required.
SUBSECTION: 811.09.02 Dowel Bars. REVISION: Replace the reference to "ASTM A 616" with "ASTM A 996" Insert the following sentence between the third and fourth sentence of the first paragraph: Broken or sheared ends are acceptable with prior approval of the Division of Materials.
SUBSECTION: 811.06 BAR MATS. REVISION: Replace the subsection with the following: Conform to ASTM A 184 and fabricate by welding deformed Grade 60 weldable bars.
SUBSECTION: 811.09.02 Dowel Bars. REVISION: Replace the first paragraph with the following: Furnish dowel bars that are plain round bars conforming to ASTM A 706, A 615, A 996, or A 617 with respect to mechanical properties only. Provide either Grade 40, 50 or 60 steel. Saw cut the free ends of the dowels and ensure that they are free of burrs or projections. Broken or sheared ends are acceptable with prior approval of the Division of Materials. Coat dowel bars according to AASHTO M 254 with the following exceptions for Type B coatings:

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SUBSECTION:	811.10.02 Epoxy Coating Material.
REVISION:	Replace both the reference to "ASTM D 3963 Annex" and "ASTM D 3963" with "AASHTO M 284".
SUBSECTION:	812.01.02 Hot-Rolled Carbon Steel Sheets and Strip of Structural Quality, Grade 33 (Corrugated Steel Plank for Bridge Floors).
REVISION:	Replace the reference to "ASTM A 570" with "ASTM A 1011"
SUBSECTION:	827.04 SEED.
PART:	1)
REVISION:	Replace with the following: Obtain seed only through registered dealers holding a permit to label seed.
SUBSECTION:	827.04 SEED.
REVISION:	Replace the second paragraph with the following: Do not use seed (grasses, native grasses and legumes) if the seed test date is over 9 months old exclusive of the month tested, or if the limits of noxious weed seed is exceeded.
SUBSECTION:	827.04 SEED.
REVISION:	Replace the last paragraph with the following: Wildflower seed shall not be planted until approved by the Division of Materials
SUBSECTION:	828.02 APPROVAL.
REVISION:	Add the following: The Department will continue to include the masonry coatings on the list contingent upon receiving an annual certification containing the following information: <ol style="list-style-type: none"> 1) A statement that the masonry coating to be furnished during the particular calendar year is of the same composition as that previously approved for inclusion on the approved list. 2) A statement that the masonry coating conforms to the appropriate requirements of the Kentucky Standard Specifications for Road and Bridge Construction. 3) A statement that notification will be made to the Division of Materials of any changes in composition for review and approval before furnishing the material to projects.
SUBSECTION:	843.01.02 Acceptance Procedures for Non-Specification Fabric.
TABLE:	GRAB STRENGTH PAYMENT REDUCTION
REVISION:	Add the following note: The Department will use the lowest value of MACHINE and CROSS for the reduction calculation.
SUBSECTION:	844.02.01 Fly Ash.
PART:	1)
REVISION:	Delete the last sentence.
SUBSECTION:	844.02.01 Fly Ash.
REVISION:	Replace the subsection with the following: 844.02.01 Fly Ash. Select from the Department's List of Approved Materials for fly ash sources. To be placed on the list, furnish samples and ASTM C 618 test data developed over the previous 3 months, and confirm to the requirements in KM 64-325.

SPECIAL NOTE FOR CONTRACTOR QUALITY ASSURANCE PROGRAM

This Special Note will apply as indicated herein and when referenced in the plans or the proposal. Section references are to the Department's 2004 Standard Specifications for Road and Bridge Construction.

1.0 Description. Maintain an effective Quality Assurance System (QAS) to ensure all materials and work completed complies with the contract specifications. Develop, furnish, execute, and maintain a Quality Control Plan (QCP). Perform work required and detailed in the QCP by means of a Quality Control Manager (QCM) and Quality Team (QT). The Department is responsible for quality verification and will conduct random verification inspections, testing, and reviews of documentation.

2.0 Definitions. The following definitions are in addition to, or revise, those provided in Section 101:

- 2.1 Quality Assurance System (QAS). All those planned and systematic actions necessary to provide confidence that a product or facility will perform satisfactorily in service.
- 2.2 Quality Control Plan (QCP). On each project where a Contractor QAS is to be implemented, the contractor shall submit a QCP listing members of the QT and their areas of qualification. The Contractor will be responsible for submitting the QCP before being issued a notice to begin work. An example template for a QCP is provided (Appendix 1).
- 2.3 Quality Control Manager (QCM). The QCM will be the contractor's person in charge of assembling and managing the QT. The QCM will have sufficient authority with the company to replace team members due to illness, death, resignation, dismissal, or disqualification; and enact changes deemed necessary due to situational difficulties arising on the job dealing with quality of work. While the QCM will not be required to be qualified in any particular area of the QAS, (s)he will be required to submit a resume to the KYTC outlining the pertinent highway construction, maintenance, or operation experience qualifying her/him to fulfill this role.
- 2.4 Quality Team (QT). The Contractor's qualified personnel responsible for the various areas of the QAS included in the contract.

3.0 Contractor QAS System. Provide a QCM, QCP, and a QT. Provide for the execution of each quality assurance special note included in the proposal and address each area in the QCP. Provide qualified technicians, as appropriate, for items of work exceeding the thresholds indicated herein.

Provided all other requirements are met, it is acceptable to have a person with multiple qualifications fulfilling more than one QT requirement. However, if the Engineer determines the quality of work is suffering from this arrangement, additional technicians may be required.

Qualification	Threshold	Special Note
Superpave Plant Tech	All projects that include HMA mixtures	Standard Spec
Superpave Mix Design Technologist	All projects that include HMA mixtures	Standard Spec
Aggregate Tech	> 10000 tons aggregate base (CSB/DGA)	10V
ACI Level I	All projects that include Concrete Pavement	10E
	Structural/NonStructural > 100 cubic yards	10R
	Sidewalks > 250 square yards	10R
	Barrier Wall > 500 linear feet	10R
	Curb/Gutter > 1000 linear feet	10R
KRMCA Level II	Required if Contractor is concrete producer	Standard Spec
Grading Level I	> 50000 cubic yards of Excavation or Embankment	10F

¹ ACI – American Concrete Institute

² KRMCA – Kentucky Ready Mix Concrete Association

4.0 Quality Control Plan (QCP). Complete a Quality Control Plan (QCP) for each project. The QCP will be submitted to the Engineer prior to the preconstruction meeting. Require QCM to attend the preconstruction meeting. The acceptability of the QCP will be considered at the preconstruction meeting and revisions made as necessary. Obtain acceptance of the QCP prior to starting of construction. Do not begin work on an item until the quality assurance activities for the item are included in an accepted QCP. Update the QCP and resubmitted to the KYTC Project Manager for approval if changes in process or personnel occur during the course of the project.

Define the line of authority and responsibility. Describe plans, procedures and organization necessary to provide end results that comply with contract specifications. Identify all personnel, tests, records, and forms to be used. Include the following:

- 1) Designation of QCM. A written resume and statement of experience of the QCM.
- 2) Designation of the QT. Provide identification of all supporting staff with associated qualifications and their assignments.
- 3) Provide organization chart indicating lines of authority.
- 4) Identify specific controls designed to prevent and address non-complying work.
- 5) Identify system for tracking construction deficiencies and timely corrective action.
- 6) Submit quality assurance efforts to be provided by any subcontractors and how work will be coordinated with the QCM.
- 7) Provide schedule of items of work for the project.

Make immediate improvements to the system to correct inadequacies if Department verification testing and inspections indicate the contractor QAS is ineffective. Document and submit QCP revisions for review and approval.

5.0 Documentation. Ensure the QCM submits required documentation to KYTC Project Manager on a weekly basis. All documentation must be signed and dated by the QCM. The Department will defer the processing of any pay estimates due the Contractor for the project when weekly documentation is not provided.

Include the following:

- 1) Daily report of quality assurance activities indicating a description of work performed and QT members performing the work.
- 2) All inspection and test reports (spreadsheets as appropriate and required by the various quality assurance notes). Identify format of reports, not dictated by the special notes, in the QCP.
- 3) Provide certification statements for all materials. Provide associated quantities accepted based on certification.
- 4) Documentation of visual inspection where appropriate for individual materials, material quantities, or construction processes.
- 5) Documentation of proper notification and any corrective action for the period.

Failures or work that has been found to be non-compliant is an exception and is to be reported within 24 hours.

6.0 Final Inspection. Review all completed items of work. QCM confirms all required documentation has been completed for the contract. List any deficiencies or corrective action taken. Once completed the QCM notifies the KYTC Project Manager the project is ready for inspection by the Department.

7.0 False Statements. Inform all QAS personnel that state and federal law govern construction projects including Title 18, United States Code, Section 1020. Specifically, anyone making false statements or falsification of records or reports on Federal-aid projects, "Shall be fined not more than \$10,000 or imprisoned not more than 5 years, or both".

8.0 Measurement. The Department will measure QAS as lump sum.

9.0 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>
21539NN11A	Contractor QAS	Lump Sum

April 10, 2006

Inspection Items, Testing Frequency, Laboratories and Equipment

The following Inspection and Materials Handling will be performed:

The following Laboratories, Equipment, Testing Facilities & Procedures will be used:

Subcontracts

The following items will be sub-contracted with corresponding plans submitted:

Any changes to the Quality Control Plan shall be submitted to the Resident Engineer for approval.

Submitted by: _____ Date _____
Quality Manager/Project Manager

Approved by: _____ Date _____
Resident Engineer

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
Division of Construction
Subcontractor Quality Control Plan**

County _____ Route _____

Project No. _____ PCN _____

_____ *Company Name* acting as a Subcontractor for the project listed above will provide and maintain quality assurance to ensure conformance to the contract requirements for the following items: _____

This plan will assure that all materials and products submitted to the Department for acceptance will conform to the contract requirements whether manufactured or processed by our employees or procured from producers, subcontractors, or vendors. Qualified personnel will be maintained throughout the project and inspection and testing will be performed to substantiate product conformance. Equipment calibrations and verifications will be performed along with submitting and maintaining documentation as required by the contract.

Quality Control Personnel

Quality Control Manager

Name _____

Company _____ Telephone No. _____

Address _____

Technicians

The following Qualified-Technicians will perform the quality control as appropriate for their qualification:

Name	Qualification	Qual. No./Exp. Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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Name	Qualification	Qual. No./Exp. Date
_____	_____	_____
_____	_____	_____

Inspection Items, Testing Frequency, Laboratories and Equipment

The following Inspection and Materials Handling will be performed:

The following Laboratories, Equipment, Testing Facilities & Procedures will be used:

Any changes to the Quality Control Plan shall be submitted to the Resident Engineer for approval.

Submitted by: _____
Quality Manager Date

Approved by: _____
Prime Contractor Quality Manager/ Project Manager Date

Approved by: _____
Resident Engineer Date

**SPECIAL PROVISION FOR EMBANKMENT AT
BRIDGE END BENT STRUCTURES**

This Special Provision will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2004 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Construct a soil, granular, or rock embankment with granular or cohesive pile core and place structure granular backfill, as the Plans require. Construct the embankment according to the requirements of this Special Provision, the Plans, Standard Drawing RGX 100 and 105, and the 2004 Standard Specifications.

2.0 MATERIALS.

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

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

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

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

2.5 Structure Granular Backfill. Conform to Subsection 805.11

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

3.0 CONSTRUCTION.

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

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

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

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

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

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

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

After placing the end bent cap and removing adjacent forms, fill the excavation

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

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

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

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

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

For erodible or unstable materials having 50 percent or more passing the No. 4 sieve, protect with geotextile fabric. Extend the fabric from the original ground to the top of slope over the entire area of the embankment slopes on each side of, and in front of, the end bent. Cover the fabric with at least 12 inches of non-erodible material.

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

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

4.0 MEASUREMENT.

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

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

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specified or permitted.

4.2 Rock Embankment. The Department will not measure for payment any rock embankment and will consider it incidental to roadway excavation or embankment in place, as applicable. (embankments requiring rock with none present within project excavation limits will be constructed using granular embankment)

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

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

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

When following construction sequence "A", as shown on the Standard Drawings, the Department will not measure structure excavation at the end bent for payment and will consider it incidental to Structure Granular Backfill.

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

4.4 4.6 Geotextile Fabric. The Department will measure the quantities as specified in Section 214. The Department will not measure the quantity of fabric used for separating granular or rock embankment and cohesive pile core and will consider it incidental to cohesive pile core.

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

5.0 PAYMENT. The Department will make payment for the completed and

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accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
2223	Granular Embankment	Cubic Yards
20209EP69	Granular Pile Core	Cubic Yards
20210EP69	Cohesive Pile Core	Cubic Yards
2231	Structure Granular Backfill	Cubic Yards
2596, 2599	Geotextile Fabric, Type	See Section 214

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

January 10, 2005

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** or by phone at 502-564-2874.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

HIGHWAY BASIC HOURLY RATES	FRINGE BENEFIT PAYMENTS COMBINED
<u>CRAFTS:</u>	
Breckinridge County:	
Bricklayers.....	25.25..... 10.20
Bullitt, Carroll, Grayson, Hardin, Henry, Jefferson, Larue, Marion, Meade, Nelson, Oldham, Shelby, Spencer and Trimble Counties:	
Bricklayers.....	22.33..... 8.35
Bracken, Gallatin, Grant, Mason and Robertson Counties:	
Bricklayers.....	25.96..... 8.64
Boyd, Carter, Elliott, Fleming, Greenup, Lewis and Rowan Counties:	
Bricklayers.....	24.44..... 13.56
Anderson, Bath, Bourbon, Boyle, Clark, Fayette, Franklin, Harrison, Jessamine, Madison, Mercer, Montgomery, Nicholas, Owen, Scott, Washington and Woodford Counties:	
Bricklayers.....	22.33..... 8.35
Bricklayers (Layout Men)	22.58..... 8.35
Refractory/Acid Brick/Glass.....	22.83..... 8.35
All Counties	
Carpenters:	23.60..... 8.97
Divers	35.78..... 8.97
Piledrivermen.....	23.85..... 8.97
Bracken and Grant Counties:	
Millwrights	21.90..... 7.92
Anderson, Bath, Bourbon, Boyle, Clark, Fayette, Franklin, Harrison, Jessamine, Madison, Mercer, Montgomery, Nicholas, Owen, Scott and Woodford Counties:	
Millwrights	21.00..... 12.05
Boyd, Carter, Elliott, Fleming, Greenup, Lewis, Mason, Robertson, and Rowan Counties:	
Millwrights	28.34..... 11.67
Breckinridge, Bullitt, Carroll, Gallatin, Grayson, Hardin, Henry, Jefferson, Larue, Marion, Meade, Nelson, Oldham, Shelby, Spencer, Trimble and Washington Counties:	
Millwrights	23.25..... 13.52
Bracken, Gallatin and Grant Counties:	
Electricians	24.24..... 9.34
Sound Communications:	
CablePuller	9.00..... 2.64
Installer.....	18.00..... 3.475

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

HIGHWAY BASIC HOURLY RATES	FRINGE BENEFIT PAYMENTS COMBINED
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CRAFTS: (continued)

Boyd, Carter, Elliott and Rowan Counties:

Electricians:

Cable Splicers	27.46.....	16.12
Electricians	26.15.....	16.08

Anderson, Bath, Bourbon, Boyle, Breckinridge, Bullitt, Carroll, Clark, Fayette, Franklin, Grayson, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Madison, Marion, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Scott, Shelby, Spencer, Trimble, Washington and Woodford Counties:

Electricians	25.91.....	23.5% + 4.55
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Fleming, Greenup, Lewis and Mason Counties:

Electricians	27.94.....	11.35
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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, Peckstridge, 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) & Bracken, Gallatin, Grant, Harrison & Robertson Counties:

Ironworkers:

Fence Erector	22.05.....	14.62
Structural.....	24.50.....	14.62

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, Stamping Ground & Woodlake); Anderson, Boyle, Breckinridge, Bullitt, Fayette, Franklin, Grayson, Hardin, Henry, Jefferson,

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

HIGHWAY BASIC HOURLY RATES	FRINGE BENEFIT PAYMENTS COMBINED
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CRAFTS: (continued)

Jessamine, Larue, Madison, Marion, Meade, Mercer, Nelson, Oldham, Shelby, Spencer, Trimble, Washington & Woodford Counties:

Ironworkers..... 23.49..... 14.80

Bourbon (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan); Carroll (Eastern third, including the Townships of Ghent); Fleming (Western part, excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksville, 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); Bracken, Gallatin, Grant, Harrison & Robertson Counties:

Ironworkers:

Up to and including 30- mile radius of Hamilton County, Ohio Courthouse 23.95.....14.00

Beyond 30- mile radius of Hamilton County, Ohio Courthouse 23.70.....14.00

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, Pecksville, 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); Bath, Boyd, Carter, Elliott, Greenup, Lewis, Montgomery & Rowan Counties:

Ironworkers:

Zone 1 26.17..... 15.07

Zone 2 26.57..... 15.07

Zone 3 28.17..... 15.07

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.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

HIGHWAY BASIC HOURLY RATES	FRINGE BENEFIT PAYMENTS COMBINED
<u>CRAFTS:</u> (continued)	
Anderson, Breckinridge, Bullitt, Carroll, Grayson, Hardin, Henry, Jefferson, Larue, Marion, Meade, Nelson, Oldham, Shelby, Spencer, Trimble and Washington Counties:	
Painters:	
Brush & Roller	17.37..... 8.32
Spray, Sand Blast, Power Tools,	
Water Blast & Steam Cleaning	17.87..... 8.32
Bracken, Gallatin, Grant, Mason, and Owen Counties:	
Painters:	
(Heavy and Highway Bridges- Guardrails–Lightpoles-Striping):	
Bridge/Equipment Tender and Containment Builder	
19.93.....	6.20
Brush and Roller	22.45..... 6.20
Elevated Tanks;	
Steeplejack Work; Bridge & Lead Abatement.....	
23.45.....	6.20
Sand Blasting & Water Blasting	
23.20	6.20
Spray	22.95..... 6.20
Bath, Bourbon, Boyle, Clark, Fayette, Fleming, Franklin, Harrison, Jessamine, Madison, Mercer, Montgomery, Nicholas, Robertson, Scott and Woodford Counties	
Painters:	
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
Bridge/Equipment Tender and/or Containment Builder	
18.90.....	5.90
Boyd, Carter, Elliott, Greenup, Lewis and Rowan Counties	
Painters:	
Bridges	24.93..... 10.90
All Other Work.....	20.38..... 10.90

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

HIGHWAY BASIC HOURLY RATES	FRINGE BENEFIT PAYMENTS COMBINED
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CRAFTS: (continued)

Breckinridge, Bullitt, Carroll (Western Half), Franklin (Western three-fourths), Grayson, Hardin, Henry, Jefferson, Larue, Marion, Meade, Nelson, Oldham, Shelby, Spencer, Trimble and Washington Counties:

Plumber 27.20 12.47

Boyd, Carter, Elliott, Greenup, Lewis and Rowan Counties:

Plumbers and Steamfitters 24.61 15.98

Bracken, Carroll (Eastern Half), Gallatin, Grant, Mason, Owen and Robertson Counties:

Pipefitters and Plumbers 26.93 12.61

LABORERS:

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, & Woodford Counties:

GROUP 1 - Aging and 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 and Hazardous Waste - Level D, Flagperson, Grade Checker, Hand Digging and Hand Back Filling, Highway Marker Placer, Landscaping Mesh Handler and Placer, Puddler, Railroad, Rip-Rap and Grouter, Right-of-Way Sign, Guard rail and Fence Installer, Signal Person, Sound Barrier Installer, Storm and Sanitary Sewer, Swamper, Truck Spotter and Dumper, and Wrecking of Concrete Forms, General Cleanup.

BASE RATE 18.83

FRINGE BENEFITS 8.78

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

BASE RATE 19.08

FRINGE BENEFITS 8.78

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

LABORERS: (continued)

GROUP 3 - Asphalt Luteman and Raker, Gunnite Nozzleman, Gunnite Operator and Mixer, Grout Pump Operator, Side Rail Setter, Rail Paved Ditch, Screw Operator, Tunnel (Free Air) and Water Blaster.

BASE RATE 19.13
FRINGE BENEFITS 8.78

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

BASE RATE 19.73
FRINGE BENEFITS 8.78

LABORERS:

Anderson, Bullitt, Carroll, Hardin, Henry, Jefferson, Larue, Marion, Meade, Nelson, Oldham, Shelby, Spencer, Trimble & Washington Counties:

GROUP 1 - Aging and 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 and Hazardous Waste - Level D, Flagperson, Grade Checker, Hand Digging and Hand Back Filling, Highway Marker Placer, Landscaping Mesh Handler and Placer, Puddler, Railroad, Rip-Rap and Grouter, Right-of-Way Sign, Guard rail and Fence Installer, Signal Person, Sound Barrier Installer, Storm and Sanitary Sewer, Swamper, Truck Spotter and Dumper, and Wrecking of Concrete Forms, General Cleanup.

BASE RATE 18.73
FRINGE BENEFITS 8.88

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

BASE RATE 18.98
FRINGE BENEFITS 8.88

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

LABORERS: (continued)

GROUP 3 - Asphalt Luteman and Raker, Gunnite Nozzleman, Gunnite Operator and Mixer, Grout Pump Operator, Side Rail Setter, Rail Paved Ditch, Screw Operator, Tunnel (Free Air) and Water Blaster.

BASE RATE 19.03
FRINGE BENEFITS 8.88

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

BASE RATE 19.63
FRINGE BENEFITS 8.88

LABORERS:

Breckinridge & Grayson Counties:

GROUP 1 - Aging and 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 and Hazardous Waste - Level D, Flagperson, Grade Checker, Hand Digging and Hand Back Filling, Highway Marker Placer, Landscaping Mesh Handler and Placer, Puddler, Railroad, Rip-Rap and Grouter, Right-of-Way Sign, Guard rail and Fence Installer, Signal Person, Sound Barrier Installer, Storm and Sanitary Sewer, Swamper, Truck Spotter and Dumper, and Wrecking of Concrete Forms, General Cleanup.

BASE RATE 19.18
FRINGE BENEFITS 8.43

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

BASE RATE 19.43
FRINGE BENEFITS 8.43

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

LABORERS: (continued)

GROUP 3 - Asphalt Lutean and Raker, Gunnite Nozzleman, Gunnite Operator and Mixer, Grout Pump Operator, Side Rail Setter, Rail Paved Ditch, Screw Operator, Tunnel (Free Air) and Water Blaster.

BASE RATE 19.48
FRINGE BENEFITS 8.43

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

BASE RATE 20.08
FRINGE BENEFITS 8.43

TRUCK DRIVER CLASSIFICATIONS:

BASE RATE

GROUP 1 - Mobile Batch Truck Tender 16.57

GROUP 2 - Greaser, Tire Changer and Mechanic Tender 16.68

GROUP 3 - Single Axle Dump, Flatbed, Semi-trailer or Pole Trailer when used to pull building materials and equipment, Tandem Axle Dump, Distributor, Mixer and Truck Mechanic 16.86

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 and Pavement Breaker..... 16.96

FRINGE BENEFITS 7.34

OPERATING ENGINEERS:

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, Clamshell, Concrete Mixer (21 Cu. Ft. or Over), Concrete Paver, Truck-Mounted Concrete Pump, Core Drill, Crane, Crusher Plant, Derrick, Derrick Boat, Ditching and Trenching Machine, Dragline, Dredge Operator, Dredge Engineer, Elevating Grader and Loaders, Grade-All, Gurries, Heavy Equipment Robotics Operator/Mechanic, High Lift, Hoe-Type Machine, Hoist (two or more drums), Hoisting Engine (two or more drums), Horizontal Directional Drill Operator, Hydrocrane, Hyster, Kecal Loader, Letourneau, Locomotive,

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

OPERATING ENGINEERS: (continued)

Mechanically Operated Laser Screed, Mechanic Welder, Mucking Machine, Motor Scraper, Orangepeel Bucket, Piledriver, Power Blade, Pumpcrete, Push Dozer, Rock Spreader Attached to Equipment, Rotary Drill, Roller (Bituminous), Scarifier, Scoopmobile, Shovel, Side Boom, Subgrader, Tailboom, Telescoping Type Forklift, Tow or Push Boat, Tower Crane (French, German and other types), Tractor Shovel and Truck Crane, Tunnel Mining Machines, Including Moles, Shields or similar types of Tunnel Mining Equipment.

BASE RATE 22.95
FRINGE BENEFITS 11.90

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, Fireman & 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 and Road Widening Trencher, Tractor (50 H.P. or over), Truck Crane Oiler, Tugger, Welding Machine, Well Points and Whirley Oiler.

BASE RATE 20.53
FRINGE BENEFITS 11.90

All off road material handling equipment, including Articulating Dump Trucks, Greaser on Grease facilities servicing heavy equipment.

BASE RATE 20.91
FRINGE BENEFITS 11.90

Bituminous Distributor, Burlap and 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.) and Vibrator.

BASE RATE 20.27
FRINGE BENEFITS 11.90

Cranes - with Booms 150 ft. and 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.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

Employees assigned to work below ground level are to be paid 10% above basic wage rate. This does not apply to open cut work.

WELDERS - Receive rate for craft in which welding is incidental.

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

These rates are listed pursuant to Kentucky Determination No. CR-05-III HWY dated May 16, 2006 and/or Federal Decision Number KY20070027 dated February 9, 2007.

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.

**TRANSPORTATION CABINET
DIVISION OF CONSTRUCTION PROCUREMENT
COMPLIANCE SECTION
PROJECT WAGE RATES**

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.

Steve Waddle, Director
Division of Construction Procurement
Frankfort, Kentucky 40622

PART IV
INSURANCE

INSURANCE

The Contractor shall carry the following insurance in addition to the insurance required by law:

1. Contractor's Public Liability Insurance not less than \$100,000.00 for damages arising out of bodily injuries to or death to one person. Not less than \$300,000.00 for damages arising out of bodily injuries to or death to two or more persons.
2. Contractor's Property Damages Liability Insurance. Not less than \$100,000.00 for all damages arising out of injury or destruction of property in any one accident. Not less than \$300,000.00 for all damages during the policy period.
3. Contractor's Protective Public Liability and Property Damage Insurance. The contractor shall furnish evidence with respect to operations performed for him by subcontractors that he carries in his own behalf for the above stipulated amounts.
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. 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.

PART V

STATEMENT OF INCOMPLETE WORK

PART VI

BID ITEMS

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 1

Contract ID: 07-1209

ROWAN COUNTY

FD04 103 0519 007-010

Letting: 3/23/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
		ROADWAY			.	.
0010	00003M	CRUSHED STONE BASE	40,119.00	MTON	.	.
0020	00020M	TRAFFIC BOUND BASE	557.00	MTON	.	.
0030	00100M	ASPHALT SEAL AGGREGATE	236.00	MTON	.	.
0040	00190M	LEVELING & WEDGING PG64-22	1,634.00	MTON	.	.
0050	00212M	CL2 ASPH BASE 25.0D PG64-22	31,217.00	MTON	.	.
0060	00221M	CL2 ASPH BASE 19.0D PG64-22	6,750.00	MTON	.	.
0070	00291M	EMULSIFIED ASPHALT RS-2	29.00	MTON	.	.
0080	00301M	CL2 ASPH SURF 9.50D PG64-22	2,480.00	MTON	.	.
0090	00307M	CL2 ASPH SURF 9.50B PG64-22	2,715.00	MTON	.	.
0100	00440M	ENTRANCE PIPE-375 MM	126.51	M	.	.
0110	00441M	ENTRANCE PIPE-450 MM	160.47	M	.	.
0120	00442M	ENTRANCE PIPE-525 MM	18.91	M	.	.
0130	00443M	ENTRANCE PIPE-600 MM	46.32	M	.	.
0140	00445M	ENTRANCE PIPE-750 MM	16.46	M	.	.
0150	00447M	ENTRANCE PIPE-900 MM	9.14	M	.	.
0160	00450M	ENTRANCE PIPE-375 MM EQUIV	51.74	M	.	.
0170	00461M	CULVERT PIPE-375 MM	44.82	M	.	.
0180	00462M	CULVERT PIPE-450 MM	81.81	M	.	.
0190	00464M	CULVERT PIPE-600 MM	156.71	M	.	.
0200	00466M	CULVERT PIPE-750 MM	46.02	M	.	.
0210	00468M	CULVERT PIPE-900 MM	39.92	M	.	.
0220	00469M	CULVERT PIPE-1050 MM	43.89	M	.	.
0230	00470M	CULVERT PIPE-1200 MM	57.00	M	.	.
0240	00471M	CULVERT PIPE-1350 MM	20.57	M	.	.
0250	00490M	CULVERT PIPE-375 MM EQUIV	14.17	M	.	.
0260	00522M	STORM SEWER PIPE-450 MM	58.40	M	.	.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 2

Contract ID: 07-1209

ROWAN COUNTY

FD04 103 0519 007-010

Letting: 3/23/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
0270	00524M	STORM SEWER PIPE-600 MM	46.48	M	.	.
0280	00528M	STORM SEWER PIPE-900 MM	177.50	M	.	.
0290	00981M	SLOTTED DRAIN PIPE-375 MM	18.30	M	.	.
0300	00984M	SLOTTED DRAIN PIPE-600 MM	18.29	M	.	.
0310	01432M	SLOPED BOX OUTLET TYPE 1-375 MM	2.00	EACH	.	.
0320	01440	SLOPED BOX INLET-OUTLET TYPE 1	2.00	EACH	.	.
0330	01450M	S & F BOX INLET-OUTLET-450 MM	6.00	EACH	.	.
0340	01451M	S & F BOX INLET-OUTLET-600 MM	11.00	EACH	.	.
0350	01453M	S & F BOX INLET-OUTLET-900 MM	5.00	EACH	.	.
0360	01490	DROP BOX INLET TYPE 1	3.00	EACH	.	.
0370	01517	DROP BOX INLET TYPE 5F	4.00	EACH	.	.
0380	01544	DROP BOX INLET TYPE 11	1.00	EACH	.	.
0390	01577	DROP BOX INLET TYPE 14	1.00	EACH	.	.
0400	01642M	JUNCTION BOX-450 MM	1.00	EACH	.	.
0410	01767	MANHOLE TYPE C	1.00	EACH	.	.
0420	01825M	ISLAND CURB AND GUTTER	62.00	M	.	.
0430	02014	BARRICADE-TYPE III	4.00	EACH	.	.
0440	02069M	JPC PAVEMENT-250 MM	852.00	SQ M	.	.
0450	02083M	JPC PAVEMENT-250 MM SHLD	218.00	SQ M	.	.
0460	02091M	REMOVE PAVEMENT	2,203.00	SQ M	.	.
0470	02159M	TEMPORARY DITCH	4,120.00	M	.	.
0480	02200M	ROADWAY EXCAVATION	87,269.00	CU M	.	.
0490	02223M	GRANULAR EMBANKMENT	1,691.00	CU M	.	.
0500	02242M	WATER	12,360.00	CU M	.	.
0510	02351M	GUARDRAIL-STEEL W BEAM-S FACE	1,294.00	M	.	.
0520	02360	GUARDRAIL TERMINAL SECTION NO 1	8.00	EACH	.	.
0530	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	12.00	EACH	.	.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 3

Contract ID: 07-1209

ROWAN COUNTY

FD04 103 0519 007-010

Letting: 3/23/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
0540	02381M	REMOVE GUARDRAIL	442.50	M	.	.
0550	02391	GUARDRAIL END TREATMENT TYPE 4A	14.00	EACH	.	.
0560	02434	R/W MARKER RURAL TYPE 1	143.00	EACH	.	.
0570	02437	R/W MARKER MUNICIPAL TYPE 1	72.00	EACH	.	.
0580	02483M	CHANNEL LINING CLASS II	1,647.00	MTON	.	.
0590	02484M	CHANNEL LINING CLASS III	1,831.00	MTON	.	.
0600	02545	CLEARING AND GRUBBING 21.8 HECTARES	1.00	LS	.	.
0610	02562M	SIGNS	45.00	SQ M	.	.
0620	02596M	FABRIC-GEOTEXTILE TYPE I	1,438.00	SQ M	.	.
0630	02598M	FABRIC-GEOTEXTILE TYPE III	1,440.00	SQ M	.	.
0640	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS	.	.
0650	02671	VAR MESSAGE SIGN-PORT 3 LINE	1.00	EACH	.	.
0660	02690M	SAFELOADING	6.70	CU M	.	.
0670	02701M	TEMPORARY SILT FENCE	4,734.00	M	.	.
0680	02703	SILT TRAP TYPE A	20.00	EACH	.	.
0690	02704	SILT TRAP TYPE B	115.00	EACH	.	.
0700	02706	CLEAN SILT TRAP TYPE A	40.00	EACH	.	.
0710	02707	CLEAN SILT TRAP TYPE B	115.00	EACH	.	.
0720	02709M	CLEAN TEMPORARY SILT FENCE	9,468.00	M	.	.
0730	02726	STAKING	1.00	LS	.	.
0740	02731	REMOVE STRUCTURE	1.00	LS	.	.
0750	02894	CRASH CUSHION TYPE VI-T	2.00	EACH	.	.
0760	03171M	CONCRETE BARRIER WALL TYPE 230T	36.00	M	.	.
0770	05950M	EROSION CONTROL BLANKET	10,957.00	SQ M	.	.
0780	05952M	TEMPORARY MULCH	134,144.00	SQ M	.	.
0790	05953M	TEMP SEEDING AND PROTECTION	14,700.00	SQ M	.	.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 4

Contract ID: 07-1209

ROWAN COUNTY

FD04 103 0519 007-010

Letting: 3/23/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
0800	05985M	SEEDING AND PROTECTION	134,144.00	SQ M	.	.
0810	05989M	SPECIAL SEEDING CROWN VETCH	8,259.00	SQ M	.	.
0820	05990M	SODDING	2,156.00	SQ M	.	.
0830	06510M	PAVE STRIPING-TEMP PAINT-100MM	8,242.00	M	.	.
0840	06514M	PAVE STRIPING-PERM PAINT-100MM	16,484.00	M	.	.
0850	06550M	PAVE STRIPING-TEMP REM TAPE-W	8,242.00	M	.	.
0860	06551M	PAVE STRIPING-TEMP REM TAPE-Y	8,242.00	M	.	.
0870	08100M	CONCRETE-CLASS A	74.15	CU M	.	.
0880	08150M	STEEL REINFORCEMENT	2,628.30	KG	.	.
0890	10000NS	LOT PAY ADJUSTMENT	99,300.00	DOLL	1.0000	99,300.00
0900	10020NS	FUEL ADJUSTMENT	17,383.00	DOLL	1.0000	17,383.00
0910	10030NS	ASPHALT ADJUSTMENT	29,700.00	DOLL	1.0000	29,700.00
0920	20496NS843	SILT TRAP TYPE C	5.00	EACH	.	.
0930	20497NS843	CLEAN SILT TRAP TYPE C	10.00	EACH	.	.
0940	20588NC	INSTALL PROJECT IDENTIFICATION SIGNS	2.00	EACH	.	.
0950	20992MD	EDGE KEY	40.30	M	.	.
0960	21435MS214	FABRIC GEOTEXTILE TY IV FOR PIPE	76.00	SQ M	2.0000	152.00
0970	21539NN11A	CONTRACTOR QAS	1.00	LS	.	.
0980	21546ED	CURB BOX INLET TYPE B MODIFIED	12.00	EACH	.	.
0990	21792MN	PRECAST RCBC-1800MM X 1200MM STA. 1+231	20.73	M	.	.
1000	21792MN	PRECAST RCBC-1800MM X 1200MM STA. 100+816	24.38	M	.	.
1010	21794MN	PRECAST RCBC-2100MM X 1200MM STA. 101+427	28.04	M	.	.
1020	21794MN	PRECAST RCBC-2100MM X 1200MM STA. 101+816	23.16	M	.	.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 5

Contract ID: 07-1209

ROWAN COUNTY

FD04 103 0519 007-010

Letting: 3/23/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
1030	21794MN	PRECAST RCBC-2100MM X 1200MM STA. 103+960	48.77	M	.	.
1040	22048NN	AS-BUILT PLANS BRIDGE	1.00	LS	.	.
1050	02231M	STRUCTURE GRANULAR BACKFILL	236.00	CU M	.	.
1060	02403M	REMOVE CONCRETE MASONRY	245.00	CU M	.	.
1070	02596M	FABRIC-GEOTEXTILE TYPE I	378.00	SQ M	.	.
1080	02998M	MASONRY COATING	1,097.00	SQ M	.	.
1090	03299M	ARMORED EDGE FOR CONCRETE	107.80	M	.	.
1100	08002M	STRUCTURE EXCAV-SOLID ROCK	118.00	CU M	.	.
1110	08003	FOUNDATION PREPARATION 25658	1.00	LS	.	.
1120	08003	FOUNDATION PREPARATION 25661	1.00	LS	.	.
1130	08003	FOUNDATION PREPARATION 25662	1.00	LS	.	.
1140	08019M	CYCLOPEAN STONE RIP RAP	411.00	MTON	.	.
1150	08033M	TEST PILES	15.00	M	.	.
1160	08046M	PILES-STEEL HP310X79	128.00	M	.	.
1170	08094M	PILE POINTS-310 MM	22.00	EACH	.	.
1180	08100M	CONCRETE-CLASS A	1,039.10	CU M	.	.
1190	08104M	CONCRETE-CLASS AA	624.30	CU M	.	.
1200	08150M	STEEL REINFORCEMENT	62,476.00	KG	.	.
1210	08151M	STEEL REINFORCEMENT-EPOXY COATED	94,594.00	KG	.	.
1220	08632M	PRECAST PC I BEAM TYPE 2	121.60	M	.	.
1230	08634M	PRECAST PC I BEAM TYPE 4	454.20	M	.	.
1240	08670M	PRECAST PC BOX BEAM SB685	176.50	M	.	.
1250	21798MD	RAIL SYSTEM TYPE III	62.00	M	.	.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 6

Contract ID: 07-1209

ROWAN COUNTY

FD04 103 0519 007-010

Letting: 3/23/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
		SIGNALIZATION			.	.
1260	04793M	CONDUIT-31 MM	309.00	M	.	.
1270	04795M	CONDUIT-50 MM	24.00	M	.	.
1280	04811	JUNCTION BOX TYPE B	8.00	EACH	.	.
1290	04820M	TRENCHING AND BACKFILLING	333.00	M	.	.
1300	04830M	LOOP WIRE	640.00	M	.	.
1310	04844M	CABLE-NO. 14/5C	123.00	M	.	.
1320	04845M	CABLE-NO. 14/7C	91.00	M	.	.
1330	04850M	CABLE-NO. 14/1 PAIR	600.00	M	.	.
1340	04885M	MESSENGER-48.0 KN	122.00	M	.	.
1350	04895M	LOOP SAW SLOT AND FILL	315.00	M	.	.
1360	04900	PEDESTRIAN DETECTOR	2.00	EACH	.	.
1370	04931	INSTALL CONTROLLER TYPE 170	1.00	EACH	.	.
1380	04932	INSTALL STEEL STRAIN POLE	4.00	EACH	.	.
1390	04950	REMOVE SIGNAL EQUIPMENT	1.00	EACH	.	.
1400	20093ES835	INSTALL PEDESTRIAN HEAD-LED	2.00	EACH	.	.
1410	20188MS835	INSTALL LED SIGNAL-3 SECTION	6.00	EACH	.	.
1420	20189MS835	INSTALL LED SIGNAL-5 SECTION	2.00	EACH	.	.
		WATERLINE			.	.
1430	01061M	STEEL ENCASEMENT PIPE-100 MM OPEN CUT	13.00	M	.	.
1440	01063M	STEEL ENCASEMENT PIPE-150 MM OPEN CUT	18.00	M	.	.
1450	01065M	STEEL ENCASEMENT PIPE-200 MM OPEN CUT	235.00	M	.	.
1460	01065M	STEEL ENCASEMENT PIPE-200 MM OPEN CUT W/CONC. CAP	18.00	M	.	.
1470	03379M	PVC PIPE-19 MM	200.00	M	.	.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 7

Contract ID: 07-1209

ROWAN COUNTY

FD04 103 0519 007-010

Letting: 3/23/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
1480	03380M	PVC PIPE-25 MM	200.00	M	.	.
1490	03382M	PVC PIPE-75 MM	267.00	M	.	.
1500	03383M	PVC PIPE-100 MM	2,976.00	M	.	.
1510	03387M	PVC PIPE-200 MM	55.00	M	.	.
1520	03411M	WATER LINE-50 MM	100.00	M	.	.
1530	03432	REMOVE AND RELOCATE METER	15.00	EACH	.	.
1540	03432	REMOVE AND RELOCATE METER 1 1/2"	1.00	EACH	.	.
1550	03437	RECONNECT SERVICE	37.00	EACH	.	.
1560	03439	FLUSH HYDRANT	4.00	EACH	.	.
1570	03522M	GATE VALVE-50 MM	3.00	EACH	.	.
1580	03523M	GATE VALVE-75 MM	5.00	EACH	.	.
1590	03524M	GATE VALVE-100 MM	14.00	EACH	.	.
1600	03528M	GATE VALVE-200 MM	6.00	EACH	.	.
1610	20081MC	CONNECT TO WATER MAIN 100MM TO 100MM	5.00	EACH	.	.
1620	20081MC	CONNECT TO WATER MAIN 200MM TO 200MM	2.00	EACH	.	.
1630	20081MC	CONNECT TO WATER MAIN 25MM TO 100MM	1.00	EACH	.	.
1640	20081MC	CONNECT TO WATER MAIN 50MM TO 100MM	2.00	EACH	.	.
1650	20081MC	CONNECT TO WATER MAIN 75MM TO 75MM	2.00	EACH	.	.
1660	20081MC	CONNECT TO WATER MAIN 75MM TO 100MM	1.00	EACH	.	.
1670	20243MD	CREEK CROSSING TYPE B	18.00	M	.	.
1680	20243MD	CREEK CROSSING TYPE C	12.00	M	.	.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 8

Contract ID: 07-1209

ROWAN COUNTY

FD04 103 0519 007-010

Letting: 3/23/07

THE BIDDER MUST MAKE THE EXTENSIONS AND ADDITIONS
SHOWING TOTAL AMOUNT BID USING FIGURES ONLY

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
1690	21232ND	WATER SAMPLING STATION ASSEMBLY	2.00	EACH	.	.
1700	21409ND	CUT AND BLOCK 100MM	3.00	EACH	.	.
1710	21409ND	CUT AND BLOCK 200MM	2.00	EACH	.	.
1720	21409ND	CUT AND BLOCK 50MM	2.00	EACH	.	.
1730	21795MN	BORE AND JACK PIPE-400MM	24.00	M	.	.
1740	21796MN	BORE AND JACK PIPE-200MM	88.00	M	.	.
1750	21797MN	BORE AND JACK PIPE-150MM	21.00	M	.	.
		LANDSCAPING			.	.
1760	20050ES724	AMERICAN SYCAMORE	526.00	EACH	.	.
1770	20231MD	LIVE STAKES	1,050.00	EACH	.	.
1780	20235MS724	GREEN ASH	526.00	EACH	.	.
1790	20237MS724	SILKY DOGWOOD	36.00	EACH	.	.
1800	20238MS724	SPICEBUSH	36.00	EACH	.	.
1810	20446MS724	ELDERBERRY	36.00	EACH	.	.
1820	20451MS724	WHITE OAK	526.00	EACH	.	.
1830	20534MD	MITIGATION SEEDING	6,884.00	SQ M	.	.
1840	20537NS724	RIVER BIRCH	526.00	EACH	.	.
1850	21151NS724	SMOOTH ALDER	35.00	EACH	.	.
		MOBILIZATION & DEMOBILIZATION			.	.
1860	02568	MOBILIZATION	1.00	LS	.	.
1870	02569	DEMOBILIZATION	1.00	LS	.	.
TOTAL BID					\$.

PART VII
CERTIFICATIONS

PROVISIONS RELATIVE TO SENATE BILL 258 (1994)

During the performance of the contract, the contractor agrees to comply with applicable provisions of:

1. KRS 136 Corporation and Utility Taxes
2. KRS 139 Sale and Use Taxes
3. KRS 141 Income Taxes
4. KRS 337 Wages and Hours
5. KRS 338 Occupational Safety and Health of Employees
6. KRS 341 Unemployment Compensation
7. KRS 342 Workers Compensation

Any final determinations of a violation by the contractor within the previous five (5) years pursuant to the applicable statutes above are revealed as follows:

NON-COLLUSION CERTIFICATION

COMMONWEALTH OF KENTUCKY

COUNTY _____

PROJECT NO. _____

I, _____, _____, under
(Name of officer signing certification) (Title)

penalty of perjury under the laws of the United States, do hereby certify that

(Insert name of Individual, Joint Venture, Co-partnership, or Corporation submitting bid)

its agent, officers or employees have not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding in connection with this proposal.

(Signature)

(Title)

REVISED: 8-23-89

NON-COLLUSION CERTIFICATION

COMMONWEALTH OF KENTUCKY

COUNTY _____

PROJECT NO. _____

I, _____, _____, under
(Name of officer signing certification) (Title)

penalty of perjury under the laws of the United States, do hereby certify that

(Insert name of Individual, Joint Venture, Co-partnership, or Corporation submitting bid)

its agent, officers or employees have not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding in connection with this proposal.

(Signature)

(Title)

REVISED: 8-23-89

CERTIFICATION OF BID PROPOSAL

We (I) propose to furnish all labor, equipment and materials necessary to construct and/or improve the subject project in accordance with the plans, the Transportation Cabinet's Standard Specifications for Road and Bridge Construction, current edition, special provisions, notes applicable to the project as indicated herein and all addenda issued on this project subsequent to purchase of proposal.

We (I) attach a bid proposal guaranty as provided in the special provisions in an amount not less than 5% of the total bid. We agree to execute a contract in accordance with this bid proposal within 15 calendar days after the receipt of the notice of award for the project.

We (I) have examined the site of proposed work, project plans, specifications, special provisions, and notes applicable to the project referred to herein. We understand that the quantities shown herein are estimated quantities subject to increase or decrease as provided in the specifications.

We (I) acknowledge receipt of all addendum(s) (if applicable) and have made the necessary revisions to the bid proposal. We have considered all addendum(s) in the calculation of the submitted bid and applied the updated bid items, which are included.

Name of Contracting Firm

BY: _____
Authorized Agent (Signature) Title

Address City State Zip Code

Telephone Number

When two or more organizations bid as a joint venture, enter names of each organization and an authorized agent for each organization must sign above.