



CALL NO. 301

CONTRACT ID. 191208

GRAVES COUNTY

FED/STATE PROJECT NUMBER FD04 SPP 042 0080 NEW LOC

DESCRIPTION MURRAY-MAYFIELD ROAD (KY 80)

WORK TYPE BRIDGE WITH GRADE, DRAIN & SURFACE

PRIMARY COMPLETION DATE 12/1/2020

LETTING DATE: March 22,2019

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME March 22,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

PLANS AVAILABLE FOR THIS PROJECT.

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

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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 01

CONTRACT ID - 191208

FD04 SPP 042 0080 NEW LOC

COUNTY - GRAVES

PCN - DE04200801908

FD04 SPP 042 0080 NEW LOC

KY 80 MURRY-MAYFIELD RD - EXTEND MAYFIELD SOUTHERN BYPASS FROM KY 303, SOUTH OF MAYFIELD, NORTHWEST TO JULIAN M. CARROLL PARKWAY (PURCHASE PARKWAY), A DISTANCE OF 02.80 MILES. BRIDGE WITH GRADE, DRAIN & SURFACE SYP NO. 01-00181.50.

GEOGRAPHIC COORDINATES LATITUDE 36:42:35.00 LONGITUDE 88:39:26.00

COMPLETION DATE(S):

COMPLETED BY 12/01/2020

APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by [KRS 14A.9-010](#) to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under [KRS 14A.9-030](#) unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.

Businesses can register with the Secretary of State at <https://secure.kentucky.gov/sos/ftbr/welcome.aspx>.

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to kytc.projectquestions@ky.gov. The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

The deadline for posting answers will be 3:00 pm Eastern Daylight Time, the day preceding the Letting. Questions may be submitted until this deadline with the understanding that the later a question is submitted, the less likely an answer will be able to be provided.

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website (www.transportation.ky.gov/contract). The answers provided shall be considered part of this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

HARDWOOD REMOVAL RESTRICTIONS

The US Department of Agriculture has imposed a quarantine in Kentucky and several surrounding states, to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the state. Chipping or burning on site is the preferred method of disposal.

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

ACCESS TO RECORDS

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

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

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

April 30, 2018

SPECIAL NOTE FOR RECIPROCAL PREFERENCE

RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS

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

April 30, 2018

ASPHALT MIXTURE

Unless otherwise noted, the Department estimates the rate of application for all asphalt mixtures to be 110 lbs/sy per inch of depth.

INCIDENTAL SURFACING

The Department has included in the quantities of asphalt mixtures established in the proposal estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, curve widening, ramp gores and tapers, and road and street approaches, as applicable. Pave these areas to the limits as shown on Standard Drawing RPM-110-06 or as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, pave the crossroads to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. Surface or resurface these areas as directed by the Engineer. The Department will not measure placing and compacting for separate payment but shall be incidental to the Contract unit price for the asphalt mixtures.

ASPHALT PAVEMENT RIDE QUALITY CATEGORY A

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

OPTION A

Be advised that the Department will accept compaction of asphalt mixtures furnished for driving lanes and ramps, at 1 inch (25mm) or greater, on this project according to OPTION A in accordance with Section 402 and Section 403 of the current Standard Specifications. The Department will require joint cores as described in Section 402.03.02 for surface mixtures only. The Department will accept compaction of all other asphalt mixtures according to OPTION B.

**DIVISION OF TRAFFIC OPERATIONS
 RECOMMENDATION FOR PICKUP OF ITEMS TO BE INSTALLED
 ON TRAFFIC SIGNALS/LIGHTING**

Item Number: 1-181.5
 County: Graves
 Description: _____

KY 80
KY 80 @ US 45/KY 58

Cabinets	Master code	Description of Item	
	0 T-01-0000	Aluminum Cabinet (Beacon)	
	0 T-01-0010	Pole Mounted 336 Cabinet	
	2 T-01-0020	Base Mounted 332 Cabinet	
	0 T-01-0100	170 Controller	
	1 T-01-0105	ATC Controller	
	1 T-01-0106	1C w/Maxtime (this should go with item ATC controller)	
	0 T-01-0200	School Clock	
	1 T-01-0501	Conflict Monitor, Model 2018	Special Order
	1 T-01-0510	Isolator, Model 242 (for ped detector and railroad)	
	8 T-01-0600	Loop Detector, Model 222	
	10 T-01-0700	Load Switches	

Signals	Master code	Description of Item	
	12 T-02-0009	Siemens 3 Section Signal	
	0 T-02-0010	McCain 3 Section, 12 Inch Signal	
	0 T-02-0015	Siemen 3 Section backplate w/tape	Special Order
	0 T-02-0016	Siemen 4 Section in-line backplate w/tape (poly only)	Special Order
	0 T-02-0017	Siemen 4 section Dbl. red backplate w/tape (poly only)	Special Order
	0 T-02-0021	McCain 3 section backplate	
	0 T-02-0022	McCain 3 section backplate w/tape	Special Order
	4 T-02-0032	Siemen 3 section backplate	
	2 T-02-0033	Siemen 4 section 12" signal (poly)	
	0 T-02-0034	Siemen 4 section 12" signal double red	
	0 T-02-0040	Siemen 5 section, 12 inch signal (poly)	
	0 T-02-0041	Siemen 5 section backplate	
	2 T-02-0043	Siemen 4-sec. straight signal backplate	
	0 T-02-0045	Siemen 5 section 12" signal w/backplate (aluminum)	
	0 T02-0046	Siemen 5 section 12" w/backplate and tape (aluminum)	Special Order
	0 T-02-0049	Siemen 5 section backplate w/tape (poly only)	Special Order
	0 T-02-0051	2" wide fluorescent yellow reflective tape	Special Order
	0 T-02-0080	12 inch red/yellow beacon	
	0 T-02-0090	Pedestrian signal housing	
	0 T-02-0099	Audible pedestrian detector	
	5 T-02-0300	LED Module 12" red arrow	
	7 T-02-0310	LED Module 12" yellow arrow	
	5 T-02-0320	LED Module 12" green arrow	
	9 T-02-0330	LED Module 12" red ball	
	9 T-02-0340	LED Module 12" yellow ball	
	9 T-02-0350	LED Module 12" green ball	
	0 T-02-0365	LED Countdown Pedestrian Module	

Special items	Master code	Description of Item	
	0 T-02-0400	Video Detection System Camera Detector, SP	# of left turns put here
	0 T-02-0401	Camera Mounting System	
	0 T-02-0500	MDS Radios 9810	
	1 T-02-0504	Router (this includes power supply/antenna/cabling)	
	0 T-02-0505	Encom Radios (get at electrical shop)	
	0 T-02-0510	Antenna 6 db omni	
	0 T-02-0520	Antenna 10 db yagi	
	0 T-02-0530	Antenna 9 db omni	
	0 T-03-0230	Jumper 3' N-N RG-58	
	0 T-03-0240	Jumper 60' N-N RG-213	
	0 T-06-0800	Surge Protector for Radio	
	0 T-09-0410	Sign Hanger for 48" signs	
	0 T-09-0415	30 X 36 through 36 X 36 sign hanger (New)	
	0 T-02-0650	Pedstl.top mntg.bkt One-way	
	0 T-02-0660	Pedstl.top mntg.bkt Two-way	
	0 T-02-0661	Post Top for Pedestal (each)	
	0 T-02-0670	Pedestal	
	0 T-06-0705	Ped Detector Flat Mount FSA Box	
	0 T-06-0710	Ped Detector Pole Mount FSA Box	
	0 T-06-0730	Ped Button w/o Plunger	
	0 T-17-0015	9 X 15 Countdown Ped Sign DBL Sided	
	0 T-01-0609	Epoxy Applicator	Special Order
	0 T-01-0610	In-Ground Sensor Sensys System Complete	Special Order
	0 T-01-0611	Access Point Controller Card	Special Order
	0 T-01-0612	Access Point Expansion Card	Special Order
	0 T-01-0613	Access Point Remote Radio	Special Order
	0 T-01-0614	Access Point Accessory Isolator	Special Order
	0 T-01-0615	Repeater	Special Order
	0 T-01-0616	Type T Sensor	Special Order
	0 T-01-0618	Sensor Clamshell Enclosure	Special Order
	0 T-01-0619	Sensor Installation Kit	Special Order

Poles	Master code	Description of Item
	0 T-04-0010	Steel Strain Pole 28 foot
	0 T-04-0020	Steel Strain Pole 30 foot
	0 T-04-0030	Steel Strain Pole 32 foot
	0 T-04-0040	Steel Strain Pole 34 foot
	3 T-04-0051	Steel Strain Pole 36 foot
	1 T-04-0054	Steel Strain Pole 38 foot
	0 T-04-0055	Steel Strain Pole 40 foot

Electrical Contractor Name _____ Contact number for Supervisor _____
 Electrical Contractor Supervisor _____ Contact number for Project Engineer _____
 Project Engineer David S. Lee, P.E.
 Project Engineer attests that the mentioned contractor is the actual electrical contractor on this project
 Signature of Project Engineer or Designee _____ 502/909-3255

SPECIAL NOTE FOR INLAID PAVEMENT MARKERS

I. DESCRIPTION

Except as provided herein, perform all work in accordance with the Department's Standard and Supplemental Specifications and applicable Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications. This work shall consist of:

- (1) Maintain and Control Traffic; and (2) Furnish and install Inlaid Pavement Markers (IPMs) in recessed grooves; and (3) Any other work as specified by these notes and the Contract.

II. MATERIALS

The Department will sample all materials in accordance with the Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing unless otherwise specified in these Notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Markers. Provide reflective lenses with depth control breakaway positioning tabs. Before furnishing the markers, provide to the Engineer the manufacturer's current recommendations for adhesives and installation procedures. Use one brand and design throughout the project. Use markers meeting the specifications in the table below.

SPECIFICATIONS FOR HOUSING AND REFLECTOR	
Material:	Polycarbonate Plastic
Weight:	Housing 2.00 oz.
	Reflector 2.00oz.
Housing Size:	5.00" x 3.00" x 0.70" high
Specific Intensity of Reflectivity at 0.2° Observation Angle	
White:	3.0 at 0°entrance angle
	1.2 at 20°entrance angle
Yellow:	60% of white values
Red:	25% of white values

C. Adhesives. Use adhesives that conform to the manufacturer's recommendation

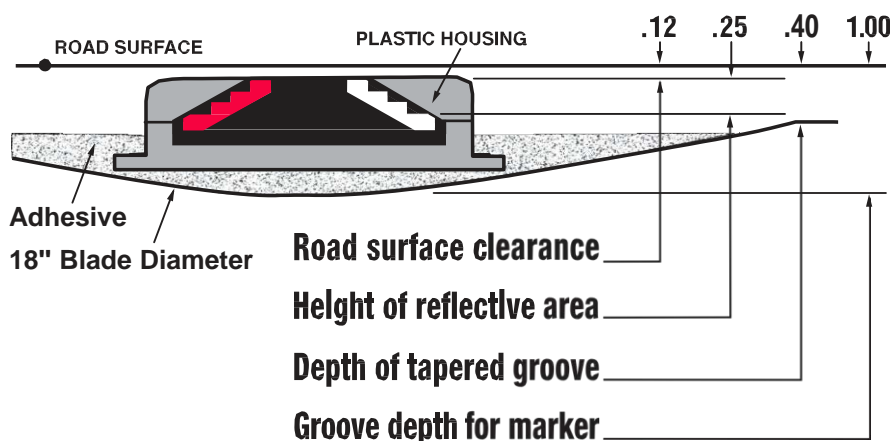
III. CONSTRUCTION

A. Experimental Evaluation. The University of Kentucky Transportation Center will be evaluating this installation of IPMs. Notify the Engineer a minimum of 14 calendar days prior to beginning work. The Engineer will coordinate the University's activities with the Contractor's work.

B. Maintain and Control Traffic. See Traffic Control Plan.

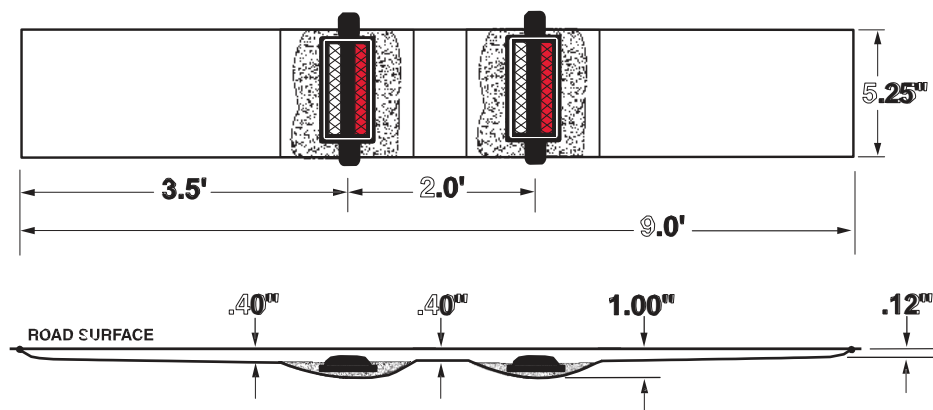
C. Installation. Install IPMs in recessed grooves cut into the final course of asphalt pavement according to the manufacturer's recommendations. Do not cut the grooves until the pavement has cured sufficiently to prevent tearing or raveling. Cut installation grooves using diamond blades on saws that accurately control groove dimensions. Remove all dirt, grease, oil, loose or unsound layers, and any other material from the marker area which would reduce the bond of the adhesive. Maintain pavement surfaces in a clean condition until placing markers.

Prepare the pavement surfaces, and install the markers in the recessed groove according to the drawing below. Use an approved snowplowable epoxy adhesive. Ensure that the adhesive bed area is equal to the bottom area of the marker, and apply adhesive in sufficient quantity to force excess out around the entire perimeter of the marker. Use materials, equipment, and construction procedures that ensure proper adhesion of the markers to the pavement surface according to the manufacturer's recommendations. Remove all excess adhesive from in front of the reflective faces. If any adhesive or foreign matter cannot be removed from the reflective faces, or if any marker fails to properly adhere to the pavement surface, remove and replace the marker at no additional cost to the Department.



D. Location and Spacing. Install the markers in the pattern for high reflectivity with two (2) IPMs per groove. Locate and space markers as shown in the current standard drawings or sepias (note: use Inlaid Pavement Markers wherever Type V Pavement Markers are called for). Do not install markers on bridge decks. Do not install a marker

on top of a pavement joint or crack. Offset the recessed groove a minimum of 2 inches from any longitudinal pavement joint or crack and at least one inch from the painted stripe, ensuring that the finished line of markers is straight with minimal lateral deviation. Give preference to maintaining the 2-inch offset between recessed groove and joint as opposed to keeping the line of markers straight.



Place inlaid markers as much in line with existing pavement striping as possible. Place markers installed along an edge line or channelizing line so that the near edge of the plastic housing is no more than one inch from the near edge of the line. Place markers installed along a lane line between and in line with the dashes. Do not place markers over the lines except where the lines deviate visibly from their correct alignment, and then only after obtaining the Engineer's prior approval of the location.

If conflicts between recessed groove placement in relation to pavement joint and striping cannot be resolved, obtain the Engineer's approval to eliminate the marker or revise the alignment.

E. Disposal of Waste. Dispose of all removed asphalt pavement, debris, and other waste at sites off the right of way obtained by the Contractor at no additional cost to the Department. See Special Note for waste and Borrow.

F. Restoration. Be responsible for all damage to public and/or private property resulting from the work. Restore all damaged features in like kind materials and design at no additional cost to the Department.

G. On-Site Inspection. Make a thorough inspection of the site prior to submitting a bid and be thoroughly familiar with existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid as evidence of this inspection having been made and will not honor any claims for money or grant Contract time extensions resulting from site conditions.

H. Caution. Do not take information shown on the drawings and in this proposal and the types and quantities of work listed as an accurate or complete evaluation of the

material and conditions to be encountered during construction, but consider the types and quantities of work listed as approximate only. The bidder must draw his own conclusion as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation or extension of Contract time if the conditions encountered are not in accordance with the information shown.

IV. MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. "INLAID PAYMENT MARKER" shall be measured as each. One (1) installation of "INLAID PAVEMENT MARKER" will consist of grooving the pavement, removing asphalt cuttings and debris, preheating pavement to remove moisture, adhesives, and installation of two (2) markers with all lenses in accordance with this note.

Note: Each pay item of Inlaid Pavement Marker will require two markers.

V. PAYMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Inlaid Pavement Markers. The Department will make payment for the completed and accepted quantity of completely installed "INLAID PAVEMENT MARKERS" at the Contract unit price, each. Accept payment as full compensation for all labor, equipment, materials, and incidentals to accomplish this work to the satisfaction of the Engineer. A system of one (1) groove and two (2) markers shall be paid as one "INLAID PAVEMENT MARKER". The bid item "INLAID PAVEMENT MARKER" shall be used regardless of the color and type of lenses required.

SPECIAL NOTE

For Tree Removal

**Graves County
Murray-Mayfield Rd. Construction
Item No. 1-181.50**

NO CLEARING OF TREES 5 INCHES OR GREATER (DIAMETER BREST
HEIGHT) FROM JUNE 1 THROUGH JULY 31.

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

SPECIAL NOTE FOR PIPELINE INSPECTION

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

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

2.1 INSPECTION FOR DEFECTS AND DISTRESSES

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

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

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

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

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

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

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

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

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

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

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

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

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

3.6 AASHTO Nominal Diameters and Maximum Deflection Limits.

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

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

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

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

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

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

4.2 Record and submit all data.

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

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

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

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

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

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

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

Special Note for Bridge Demolition, Renovation and Asbestos Abatement

If the project includes any bridge demolition or renovation, the successful bidder is required to notify Kentucky Division for Air Quality (KDAQ) via filing of form (DEP 7036) a minimum of 10 days prior to commencement of any bridge demolition or renovation work.

Any available information regarding possible asbestos containing materials (ACM) on or within bridges to be affected by the project has been included in the bid documents. These are to be included with the Contractor's notification filed with the KDAQ. If not included in the bid documents, the Department will provide that information to the successful bidder for inclusion in the KDAQ notice as soon as possible. If there are no documents stating otherwise, the bidders should assume there are no asbestos containing materials that will in any way affect the work.



Linebach Funkhouser, Inc.
environmental compliance & consulting

August 6, 2018

Mr. Chris Cummins, P.G.
Kentucky Transportation Cabinet
Division of Environmental Analysis, 5th Floor
200 Mero Street
Frankfort, Kentucky 40622

Re: Asbestos Survey Report
Graves County: Item No. 1-181.50
Parcel 42
Linebach Funkhouser Project Number 249-18

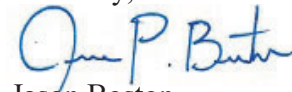
Dear Mr. Cummins:


Linebach Funkhouser, Inc. (LFI) has completed the authorized sample evaluation for asbestos-containing materials (ACMs) within the above listed parcel located in the right-of-way of the US68/KY80 (Auroral – Murray Road) near Mayfield, Graves County, Kentucky. The field survey was performed by Mr. Russell Brooks, a Kentucky accredited asbestos inspector, on July 26, 2018. A total of 26 samples of suspect ACMs were collected during the survey. Suspect ACMs obtained during the survey were analyzed by MRS, Inc. of Louisville, Kentucky using Polarized Light Microscopy (PLM) coupled with dispersion staining on August 4, 2018. Laboratory analytical data is attached as **Appendix A**.

The EPA recommends when a sample initially tests positive for the presence of asbestos, using PLM, at a concentration of 4% ACM or lower, the more accurate Point Count Method of analysis is recommended for that sample. If the result derived from the Point Count Method differs from the original result, it overrides the PLM result. Point counting is an analytical technique used to determine the quantity of a component in a specific type of material. At the request of the KYTC, the following samples were reanalyzed, Parcel 42 sample 7A and 7B indicated a positive ACM results of 3%, respectively. The sample results were verified by the Point Count Method and the results are 0.25% ACM, respectively, which is below the regulatory limit of 1%. Based on the analytical results there is no regulated ACM in the subject structures.

If you have any questions concerning this report or if we can be of further service, please contact us.

Sincerely,


Jason Boston
Staff Professional


Russell H. Brooks, P.G.
Senior Engineer
Kentucky Accredited Asbestos Inspector
#I18-06-9270

Attachment: Appendix A – Laboratory Analytical Data/Chain of Custody
Appendix B – Copy of Asbestos Inspector Certification

cc: Mr. Chuck Watkins, District 1, Paducah, Kentucky

Appendix A
Laboratory Analytical Data

<b style="font-size: 1.2em;">MRS, INC.	<i>MRS, Inc. Analytical Laboratory Division</i>
--	---

332 West Broadway / Suite # 902
Louisville, Kentucky - 40202 - 2133

(502) 495-1212
Fax: (502) 491-7111

BULK SAMPLE ASBESTOS ANALYSIS

Analysis N #	# 88043	Address:	(KYTC) Graves County
Client Name:	L F I	Parcel #	42
Sampled By:	Russell Brooks		

				% FIBROUS ASBESTOS				% NON-ASBESTOS FIBERS			
Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.
# 1 A	Red	Yes	No				None	58%			42%
# 1 B	Red	Yes	No				None	55%			45%
# 2 A	Yellow	Yes	No				None	63%			37%
# 2 B	Yellow	Yes	No				None	60%			40%
# 3 A	Beige	Yes	No				None	57%			43%
# 3 B	Beige	Yes	No				None	55%			45%
# 4 A	Beige	Yes	No				None	53%			47%
# 4 B	Beige	Yes	No				None	52%			48%
# 5 A	Beige	Yes	No				None	55%			45%
# 5 B	Beige	Yes	No				None	58%			42%
# 6 A	Yellow	Yes	Yes				None		99%		1%
# 6 B	Yellow	Yes	Yes				None		97%		3%
# 7 A	White	Yes	Yes	2%	(To Be	Point Counted)					98%
# 7 B	White	Yes	Yes	2%	(To Be	Point Counted)					98%
# 8 A	White	Yes	No				None	57%			43%
# 8 B	White	Yes	No				None	53%			47%
# 9 A	Gray	Yes	No				None				100%
# 9 B	Gray	Yes	No				None				100%
# 10 A	Gray	Yes	Yes				None	5%	62%		33%
# 10 B	Gray	Yes	Yes				None	3%	60%		37%

Methodology : EPA Method 600/R-93-116

Page # 1

Date Analyzed : 4-Aug-18
Analyst : Winterford Mensah

Reviewed By: 
Signature

The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S Government. Partial Reproduction of any part of this report is strictly prohibited. Samples shall be retained for (30) days.

MRS, INC. *MRS, Inc. Analytical Laboratory Division*

332 West Broadway / Suite # 902
Louisville, Kentucky - 40202 - 2133

Phone # : (502) 495-1212
E-Mail Address: CEOMRSInc@AOL.Com

Client: L F I
Address: 114 Fairfax Avenue
Louisville, Kentucky
40207
Attention : Russell Brooks, P.G.

Project No: # 88043
Sample ID: # 7 A
Sampled: 26-Jul-18
Received: 26-Jul-18
Analyzed: 04-Aug-18 - Point Count -

Bulk Sample Analysis

Sampled By : Russell Brooks
Facility/Location: Graves County - Parcel # 42
Field Description: Window Glazing

Laboratory Description:
Hard White Material

Asbestos Materials:
Chrysotile = 1/400 = 0.25 % (< 1 %) Sample Is Negative

Non-Asbestos Fibrous Materials :
Binders 99.75 %

Remarks: The sample was analyzed for asbestos content following the EPA Methodology (600/R-93/116). The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government.

Analyst: Winterford Mensah

Reviewed By: 
Signature

MRS, INC. *MRS, Inc. Analytical Laboratory Division*

332 West Broadway / Suite # 902
Louisville, Kentucky - 40202 - 2133

Phone # : (502) 495-1212
E-Mail Address: CEOMRSInc@AOL.Com

Client: L F I
Address: 114 Fairfax Avenue
Louisville, Kentucky
40207
Attention : Russell Brooks, P.G.

Project No: # 88043
Sample ID: # 7 B
Sampled: 26-Jul-18
Received: 26-Jul-18
Analyzed: 04-Aug-18 - Point Count -

Bulk Sample Analysis

Sampled By : Russell Brooks
Facility/Location: Graves County - Parcel # 42
Field Description: Window Glazing

Laboratory Description:
Hard White Material

Asbestos Materials:
Chrysotile = 1/400 = 0.25 % (< 1 %) Sample Is Negative

Non-Asbestos Fibrous Materials :
Binders 99.75 %

Remarks: The sample was analyzed for asbestos content following the EPA Methodology (600/R-93/116). The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government.

Analyst: Winterford Mensah

Reviewed By: 
Signature

MRS, Inc.
P.O. Box 19424
Louisville, Kentucky 40259-0424

Phon (502) 495 - 1212
Fax (502) 491 - 7111

Client : Linebach Funkhouser, Inc.
Project : KYTC- GRAVES

CHAIN OF CUSTODY RECORD

PROJECT: LFI Project # 242-18
LOCATION: Parcel 42
SAMPLED BY: R. Brooks
DATE: 7/26/18

COMMENTS AND/OR INSTRUCTIONS:
Stop First Positive
Point Count <4%

SAMPLE NUMBER	LOCATION	MATRIX	COLOR	SIZE	COMMENTS	T/L	W/C	PLM
1 A/B	Back Porch	LIN	Red	6x12		L/U		X
2 A/B	Kitchen	Layer 1 + 2	Brown / Yellow					X
3 A/B	Kitchen	Layer 3 + 4	Big Red					X
4 A/B	BATH Room	Top						X
5 A/B	BATH Room	Bottom						X
6 A/B	Insulation							X
7 A/B	Window Glazing							X
8 A/B	Bathroom Lin		White	6x12		L/U		X
9 A/B	Roofing material							X
10 A/B	Shingle							X
11 A/B	Tar paper							X
12 A/B	Daywall System							X
13 A/B	Glue Dot							X
14 A/B								X
15 A/B								X

Relinquished By: (Signature) <i>Russell H. Brooks</i>	Date <i>7/26/18</i>	Time	Received By: (Signature) <i>Walterford Mearns</i>
Relinquished By: (Signature)	Date	Time	Received By: (Signature)

Appendix B

Copy of Asbestos Inspector Certification

Commonwealth of Kentucky
Department for Environmental Protection
Division for Air Quality

Russell Henry Brooks

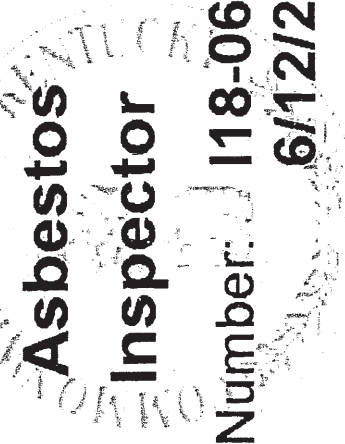
Has met the requirements of 401-KAR 58.005 and is accredited as an:

**Asbestos
Inspector**

Accreditation Number: 118-06-9270

Issue Date: 6/12/2018

Expiration Date: 6/5/2019



	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY & UTILITIES	TC 62-226 Rev. 01/2016 Page 1 of 1
RIGHT OF WAY CERTIFICATION		

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION	
ITEM #		COUNTY		PROJECT # (STATE)	
01-181.50		GRAVES		1100 FD04 C042 5162409R	
PROJECT DESCRIPTION		PROJECT # (FEDERAL)			
		N/A			

PROJECT DESCRIPTION
EXTEND MAYFIELD SOUTHERN BYPASS FROM KY 303 SOUTH OF MAYFIELD TO PURCHASE PARKWAY.

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

Condition # 1 (Additional Right of Way Required and Cleared)
All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

Condition # 2 (Additional Right of Way Required with Exception)
The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

Condition # 3 (Additional Right of Way Required with Exception)
The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.

Total Number of Parcels on Project	24	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired		P#11 P&L Railroad	All paperwork has been submitted to them; they are expected to sign within 2 weeks.
Signed Deed	21		
Condemnation	2		
Signed ROE			

Notes/ Comments (Use Additional Sheet if necessary)
Master Commissioner's deed for 2 condemnation parcels was recorded 12/14/18 in DB 520 Pg. 558. Parcel #11 is the only outstanding parcel.

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Greg L. Morgan
Signature		Signature	Digitally signed by Greg L. Morgan Date: 2019.02.27 10:08:44 -06'00'
Date		Date	
Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature	DM Loy	Signature	
Date	Digitally signed by DM Loy Date: 2019.02.27 11:17:39 -05'00'	Date	

UTILITIES AND RAIL CERTIFICATION NOTE

**GRAVES COUNTY,
FD04 042 51624 01U
AURORA-MURRAY ROAD (KY 80/US 68)/MAYFIELD BYPASS
ITEM NUMBER 1-181.50**

GENERAL PROJECT NOTE ON UTILITY PROTECTION

Please coordinate all efforts with KY 811, and contact all utilities to determine their participation therein.

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

None

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

Atmos Energy has completed relocation for this project.

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE COMPANY OR THE COMPANY'S SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT

Mayfield Electric has poles along US 45 that are due to be relocated before July 1st.

WKRECC has poles along Central Road that are due to be relocated before April 1st.

AT&T has overhead and buried fiber optic and copper cable along Central Road, US 45, and Compressor Drive, that are due to be relocated before May 1st.

Graves County Water Has a 6' line along Central Road that is due to be relocated before August 1st.

Mayfield Water has several lines of various sizes along US 45 that are due to be relocated before August 1st.

Mayfield Sewer has several lines and manholes along US 45 that are due to be relocated before October 1st. One line is crucial that no work be performed before it is relocated is near Sta. 375+60. This line will need to be open cut before fill is placed above it. MEWS will make this their first priority.

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

None

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

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

UTILITIES AND RAIL CERTIFICATION NOTE

**GRAVES COUNTY,
FD04 042 51624 01U
AURORA-MURRAY ROAD (KY 80/US 68)/MAYFIELD BYPASS
ITEM NUMBER 1-181.50**

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

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

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

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

Please Note: The information presented in this Utility Note is informational in nature and the information contained herein is not guaranteed.

UTILITIES AND RAIL CERTIFICATION NOTE

**GRAVES COUNTY,
FD04 042 51624 01U
AURORA-MURRAY ROAD (KY 80/US 68)/MAYFIELD BYPASS
ITEM NUMBER 1-181.50**

AREA UTILITIES CONTACT LIST

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
Mayfield Electric	Jason Weatherly	270-247-4661
Graves County Water	Kevin Leonard	270-247-4661
Mayfield Water and Sewer	Kevin Leonard	270-247-4661
WKRECC	Chad Freeman	270-247-1321
AT&T	Alan Shelby	270-444-5048



SPECIAL NOTES FOR PROTECTION OF RAILROAD INTEREST

Paducah and Louisville Railway, Inc.

I. AUTHORITY OF RAILROAD ENGINEER AND STATE ENGINEER:

- A. *The authorized representative of the Railroad Company, hereinafter referred to as Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of Railroad traffic of his Company including the adequacy of the foundations and structures supporting the Railroad tracks.*
- B. *The authorized representative of the State, hereinafter referred to as the Engineer, shall have authority over all other matters as prescribed herein and in the Project Specifications.*

II. NOTICE OF STARTING WORK:

- A. *The Contractor shall not commence any work on Railroad rights of way until he has complied with the following conditions:*
 - 1. Given the Railroad written notice, with copy to the Engineer who has been designated to be in charge of the work, **at least ten (10) days in advance** of the date he proposes to begin work on Railroad rights of way. **If flagging service is required, such notice shall be submitted at least thirty (30) days in advance** of the date scheduled to commence work. The Railroad's Contact information is on the Summary Sheet.
 - 2. Obtain written authorization from the Railroad to begin work on Railroad rights of way, such authorization to include an outline of specific conditions with which he must comply.
 - 3. Obtain written approval from the Railroad of Railroad Protective Insurance Liability coverage as required by paragraph 14 herein.
 - 4. Furnish a schedule for all work within the Railroad rights of way as required by paragraph 7, B, 1.
- B. *The Railroad's written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is*

designated, the area of responsibility of each representative shall be specified.

III. INTERFERENCE WITH RAILROAD OPERATIONS:

- A. *The Contractor shall so arrange and conduct his work that there will be no interference with Railroad operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad Company or to poles, wires, and other facilities of tenants on the rights of way of the Railroad Company. Whenever work is liable to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires flagging service or inspection service (watchman) shall be deferred by the Contractor until the flagging protection required by the Railroad is available at the job site.*
- B. *Whenever work within Railroad rights of way is of such a nature that impediment to Railroad operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.*
- C. *Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of the Railroad, the Contractor shall make such provisions. If in the judgment of the Railroad Engineer, or in his absence, the Engineer, such provisions are insufficient, either may require or provide such provisions, as he deems necessary. In any event, such unusual provisions shall be at the Contractor's expense and without cost and/or time to the Railroad or the State.*

IV. TRACK CLEARANCES

- A. *The minimum track clearances to be maintained by the Contractor during construction are shown on the Project Plans. However, before undertaking any work within Railroad rights of way, or before placing any obstruction over any track, the Contractor shall:*
 - 1. Notify the Railroad's representative **at least 72 hours in advance** of the work.
 - 2. Receive assurance from the Railroad's representative that arrangements have been made for flagging service as necessary.
 - 3. Receive permission from the Railroad's representative to proceed with the work.
 - 4. Ascertain that the Engineer has received copies of notice to the Railroad and

of the Railroad's response thereto.

V. CONSTRUCTION PROCEDURES

A. *General:*

1. Construction work on Railroad property shall be:
 - a) Subject to the inspection and approval of the Railroad.
 - b) In accord with the Railroad's written outline of specific conditions.
 - c) In accord with the Railroad's general rules, regulations and requirements including those relating to safety, fall protection and personal protective equipment.
 - d) In accord with all Special Notes, Summaries, and Addendums.
2. The Railroad requires a submission of construction procedure that meets the requirements of these Special Notes and attachments. The Railroad's **submittal review period is thirty (30) days. Resubmissions will be reviewed within 2 weeks.**

B. *Excavation and shoring:*

1. The sub grade of an operated track shall be **maintained with edge of berm at least 10'0" from centerline of track and not more than 24 inches below top of rail.** Contractor will not be required to make existing section meet this specification if substandard, in which case the existing section will be maintained.
2. The Contractor will be required to take special precaution and care in connection with excavating and shoring pits, and in driving piles, or sheeting for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. The procedure for doing such work, including need of and plans for shoring, shall first be approved by the Engineer and the Railroad Engineer, but such approval shall not relieve the Contractor from liability.
3. The Contractor shall submit a detailed procedure for the installing of sheeting/shoring adjacent to Railroad Tracks.
4. Shoring protection shall be provided when excavating adjacent to an active track or railroad facility or as determined by the Railroad. Shoring will be provided in accordance with AREMA *Manual for Railway Engineering*

Chapter 8, part 28; except as noted below.

5. Shoring may not be required if all of the following conditions are satisfied:
 - a. Excavation does not encroach upon a 1½ horizontal: 1 vertical theoretical slope line starting 1'-6" below top of rail and at 12'-0" minimum from centerline of the track (live load influence zone).
 - b. Track is on level ground or in a cut section and on stable soil.
 - c. Excavation does not adversely impact the stability of a Railroad facility (i.e. signal bungalow, drainage facility, undergrade bridge, building, etc.)
 - d. Shoring is not required by any governing construction code.
6. When the track is on an embankment, excavating the toe of the embankment without shoring may affect the stability of the embankment. Therefore, excavation of the embankment toe without shoring will not be permitted.
7. Trench boxes are prohibited for use on Railroad property within the theoretical live load influence zone.
8. The required protection is the cofferdam type that completely encloses the excavation. Where dictated by conditions, partial cofferdams with opened sides away from the track may be used. Cofferdams shall be constructed using steel piling, or when approved by the engineer, steel soldier piles with timber lagging. Wales and struts shall be provided and designed as needed. The following shall be considered when designing cofferdams:
 - a. Shoring shall be designed to resist a vertical live load surcharge of 1,880 lbs. per square foot, in addition to active earth pressure. The surcharge shall be assumed to act on a continuous strip, 8'6" wide. Lateral pressures due to surcharge shall be computed using the strip load formula shown in *AREMA Manual for Railway Engineering*, Chapter 8, Part 20.
 - b. Allowable stresses in materials shall be in accordance with *AREMA Manual for Railway Engineering*, Chapter 7, 8, and 15.
 - c. A construction procedure for temporary shoring shall be shown on the drawing.
 - d. All shoring systems on or adjacent to Railroad right-of-way shall be equipped with railings or other approved fall protection.
 - e. A minimum horizontal clearance of 10'-0" from centerline of the track to face of nearest point of shoring shall be maintained provided a 12'-0" roadbed is maintained with a temporary walkway and handrail system.

9. The Contractor shall submit the following drawings and calculations (all shall be signed/sealed by a Professional Engineer) for the Railroad's review and approval.
 - a. Six (6) sets of detailed drawings of the shoring systems showing sizes of all structural members, details of connections, and distances from centerline of track to face of shoring. Drawing shall show a section showing height of shoring and track elevation in relation to bottom of excavation.
 - b. Six (6) sets of calculations of the shoring design. The drawings and calculations shall be prepared by a Licensed Professional Engineer and shall bear the Engineer's seal and signature. Shoring plans shall be approved by the Railroad's construction engineering and inspection representative.
 - c. For sheeting and shoring within 18'-0" of the centerline of the track, the live load influence zone, and in slopes, the Contractor shall use interlocked steel sheeting (sheet pile).
 - d. Sheet pile installed in slopes or within 18'-0" of the centerline shall not be removed.
 - e. Sheet pile shall be cut off a minimum of 3'-0" below the finished grade, ditch line invert, or as directed by the Engineer. The ground shall be backfilled and compacted immediately after sheet pile is cut off.
 - f. A procedure for cutting off the sheet pile and restoring the embankment shall be submitted to the Engineer for review and acceptance.

C. Demolition Procedure:

1. Railroad tracks and other railroad property, including signals, structures, and other facilities, must be protected from damage during the procedure. No crane or equipment may be set on the rails or track structure and no material may be dropped on Railroad property.
2. The Contractor is required to submit a plan showing the location of cranes, horizontally and vertically, operating radii, with delivery or disposal locations shown. The location of all tracks and other railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.
3. Crane rating sheets showing cranes to be adequate for **150% of the actual weight of the pick.** A complete set of crane charts, including crane,

counterweight, and boom nomenclature is to be submitted.

4. Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the existing and/or proposed structure showing complete and sufficient details with supporting data for the demolition or erection of the structure. If plans do not exist, lifting weights must be calculated from field measurements. If possible, field measurements shall be taken with a Railroad representative present.
5. A data sheet must be submitted listing the types, size, and arrangements of all rigging and connection equipment. The safe working load capacity of all rigging and connecting equipment shall be 150% above the calculated weight of the pick.
6. A complete procedure is to be submitted, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.
7. All erection or demolition plans, procedures, data sheets, etc. submitted must be prepared, signed and sealed by a Registered Professional Engineer.
8. The Railroad's representative must be present at the site during the entire demolition and erection procedure period.
9. All procedures, plans and calculations shall first be approved by the Engineer and the Railroad Engineer, but such approval does not relieve the Contractor from liability.
10. Loads shall not be supported while any trains are passing if that piece of equipment has the capacity to foul a 50' envelope.
11. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor's means and methods submission.
12. Existing, obsolete, bridge piers shall be removed to a minimum of 3'-0" below the finished grade, final ditch line invert, or as directed by the Engineer.
13. A minimum quantity of 25 tons of Railroad approved track ballast may be required to be furnished and stockpiled on site by the Contractor, or as directed by the Engineer.
14. On-track or ground debris shields such as crane mats are prohibited.
15. Overhead Demolition Debris Shield – Shall be installed prior to the

demolition of a bridge deck or other relevant portions of the superstructure.

- a. The demolition debris shield shall be erected from the underside of the bridge over the track area to catch all falling debris.
 - b. The Contractor shall include the demolition debris shield installation/removal means and methods as part of the proposed Controlled Demolition procedure submission.
 - c. The demolition debris shield shall provide 23'-0" minimum vertical clearance if the existing clearance is less than 23'-0" as approved by the Railroad. Horizontal clearance to the centerline of the track should not be reduced unless approved by the Engineer.
 - d. The vertical clearance ATR (above top of rail) is measured from the top of rail to the lowest point on the overhead shielding system measured within a distance of 6'-0" out from each side of the track centerline.
 - e. The demolition debris shield design and supporting calculations, all signed/sealed by a Professional Engineer, shall be submitted for review and acceptance.
 - f. The demolition debris shield shall have a **minimum** design load of 50 pounds per square foot **plus** the weight of the equipment, debris, personnel, and other loads to be carried.
 - g. The Contractor shall include the proposed bridge deck removal procedure in its demolition means and methods and shall verify that the size and quantity of the demolition debris generated by the procedure does not exceed the shield design loads.
 - h. The contractor shall clean the demolition debris shield daily or more frequently as dictated either by the approved design parameters or as directed by the Engineer.
16. Vertical Demolition Shield – This type of shield may be required for substructure removals in close proximity to track and other facilities, as determined by the Engineer.
- a. Prior to commencing the demolition activity, the Contractor shall install a ballast protection system consisting of geotextile to keep the railroad ballast from becoming fouled with construction or demolition debris and fines. The geotextile ballast protection system shall be installed and maintained by the Contractor for the project duration in accordance with the attached plan, or with additional

measures as directed by the Engineer.

- b. The Contractor shall submit detailed plans, with detailed calculations, prepared and submitted by a Professional Engineer of the protection shield and ballast protection systems for approval prior to the start of demolition.
 - c. Blasting will not be permitted to demolish a structure over or within Railroad right-of-way.
17. The Controlled Demolition procedure must be approved by the Engineer prior to undertaking work on the project.
 18. The Contractor shall provide timely communication to the Engineer when scheduling the demolition related work so that the Engineer may be present during the entire demolition procedure.
 19. At any time during demolition activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances which may create a potential hazard to rail operations or Railroad facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. The Railroad shall not be responsible for any additional costs or time claims associated with such revisions.

D. Erection Procedure:

The Contractor shall submit a detailed procedure for performing erection on/about Railroad property.

1. The Contractor shall submit six (6) copies of the detailed procedure for erection of the proposed structures over or adjacent to the tracks or right-of-way. This procedure shall include a plan showing the locations of cranes, horizontally and vertically, operating radii, with staging locations shown, including beam placement on ground or truck unloading staging plan. Plan should also include the location of all tracks, other railroad facilities; wires, poles, adjacent structures, or buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions should be shown. No crane or equipment may be set on the rails or track structure.
2. Also included with this submittal the following information:

- a. As-Built Bridge Seat Elevations - All as-built bridge seats and top of rail elevations shall be furnished to the Engineer for review and verification at least 30 days in advance of construction or erection, to ensure that minimum vertical clearances as approved in the plans will be achieved.
 - b. Computations showing weight of picks must be submitted. Computations shall be made from plans of the structure beams being erected and those plans or sections thereof shall also be included in the submittal; the weight shall include the weight of concrete or other materials including lifting rigging.
 - c. Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, maximum boom angle, and boom nomenclature is to be submitted. Safety factors that may have been “built in” to the crane charts are not to be considered when determining the 150% Factor of Safety.
 - d. A data sheet shall be prepared listing the type, size and arrangements of slings, shackles, or other connecting equipment. Include copies of a catalog or information sheets for specialized equipment. All specific components proposed for use shall be clearly identified and highlighted in the submitted documents. The safe working load capacity of the connecting equipment shall be 150% above the calculated weight of the pick.
 - e. A complete written procedure is to be included that describes the sequence of events, indicating the order of lifts and any repositioning or rehitching of the crane or cranes.
 - f. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical sub tasks (i.e., performing aerial splices, installing temporary bracing, etc.) shall be furnished so that the potential impact(s) to Railroad operations may be assessed and eliminated or minimized.
 - g. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor’s means and methods submission.
 - h. Design and supporting calculations prepared by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review. A guardrail will be required to be installed in a track where a temporary bent is located within twelve (12) feet from the centerline of that track.
3. The proposed Erection procedure must be approved by the Engineer prior to

undertaking work on the project.

4. The Contractor shall provide timely communication to the Engineer when scheduling the erection related work so that the Engineer may be present during the entire erection procedure.
5. At any time during construction activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances which may create a potential hazard to rail operations or Railroad facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. The Railroad shall not be responsible for any additional costs or time claims associated with such revisions.

E. Blasting:

1. The Contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosive on or adjacent to Railroad property. The request for permission to use explosives shall include a detailed blasting plan. If permission for use of explosives is granted, the Contractor will be required to comply with the following:
 - a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor and a licensed blaster.
 - b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
 - c) No blasting shall be done without the presence of an authorized representative of the Railroad. **At least 10 days advance notice** to the person designated in the Railroad's notice of authorization to proceed (see paragraph 2B above) will be required to arrange for the presence of an authorized Railroad representative and such flagging as the Railroad may require.
 - d) Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at his expense any track misalignment or other damage to Railroad property resulting from the blasting as directed by the Railway's authorized representative. If his actions result in delay of trains, the Contractor shall bear the entire cost thereof.
 - e) Explosives shall not be stored on Railroad Property.
 - f) At any time during the blasting activities, the Engineer may require

revisions to the previously approved procedures to address weather, site conditions, or other circumstance which may create a potential hazard to rail operations or Railroad facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. The Railroad shall not be responsible for any additional costs or time claims associated with such revisions.

2. The Railroad representative will:
 - a) Determine the approximate location of trains and advise the Contractor the approximate amount of time available for the blasting operation and clean-up.
 - b) Have the authority to order discontinuance of blasting if, in his opinion, blasting is too hazardous or is not in accord with these Special Notes.

F. Track Monitoring:

The Contractor shall submit for Railroad review and approval, a detailed track monitoring program to detect both horizontal and vertical movement of the track and roadbed, a minimum of 30-days in advance of start of work.

1. For the installation of temporary or permanent shoring systems, including but not limited to soldier piles and lagging, and interlocked steel sheeting on or adjacent to the Railroad's right-of-way, the contractor may be required to submit a detailed track monitoring program for the Railroad's approval prior to performing any work near the Railroad's right-of-way.
2. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. The Railroad reserves the right to modify the survey locations and monitoring frequency as necessary during the project.
3. The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Engineer for analysis.
4. If any movement has occurred as determined by the Engineer, the Railroad will be immediately notified. The Railroad, at its sole discretion, shall have the right to immediately require all contractor operations to be ceased, have the excavated area immediately backfilled and/or determine what corrective action is required. Any corrective action required by the Railroad or performed by the Railroad including monitoring of corrective action of the contractor will be at project expense.

G. Maintenance of Railroad Facilities:

1. The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from his operations and provide and maintain any erosion control measures as required. The Contractor shall provide erosion control measures during construction and use methods that accord with applicable state standard specifications for road and bridge construction, including either (1) silt fence; (2) berm or temporary ditches; (3) sediment basin; (4) aggregate checks; and (5) channel lining. The Contractor will promptly repair eroded areas with Railroad rights of way and to repair any other damage to the property of the Railroad or its tenants at the Contractor's expense.
2. All maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

H. Storage of Materials and Equipment:

1. Materials and equipment shall not be stored where they will interfere with Railroad operations, nor on the rights of way of the Railroad Company without first having obtained permission from the Railroad Engineer, and such permission will be with the understanding that the Railroad Company will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.
2. All grading or construction machinery that is left parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The Contractor shall protect, defend, indemnify and save Railroad, and any associated, controlled or affiliated corporation, harmless from and against all losses, costs, expenses, claim or liability for loss or damage to property or the loss of life or personal injury, arising out of or incident to the Contractor's failure to immobilize grading or construction machinery.

I. Cleanup:

1. Upon completion of the work, the Contractor shall remove from within the limits of the Railroad rights of way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the Contractor, and leave said rights of way in a neat condition satisfactory to the Chief Engineer of the Railroad or his authorized representative.

VI. DAMAGES:

- A. *The Contractor shall assume all liability for any and all damages to his/her work, employees, equipment and materials caused by Railroad traffic.*
- B. *Any cost incurred by the Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Railroad by the Contractor.*

VII. FLAGGING SERVICES:

- A. *When Required:*
 - 1. Flagging services will not be provided until the contractor's insurance has been reviewed & approved by the Railroad.
 - 2. Under the terms of the agreement between the Department and the Railroad, the **Railroad has sole authority to determine the need for flagging** required to protect its operations. In general, the requirements of such services will be whenever the Contractor's personnel or equipment are likely to be, working on the Railroad's rights of way, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging. If any element (workers, equipment, tools, scaffolding, etc.) may exist or fall within 25-feet of the edge of track, a flagman is necessary.
 - 3. Normally, the Railroad will assign one flagman to a project; but in some cases, more than one may be necessary, such as yard limits where three- (3) flagmen may be required. However, if the Contractor works within distances that violate instructions given by the Railroad's authorized representative or performs work that has not been scheduled with the Railroad's authorized representative, a flagman or flagmen may be required until the project has been completed.
- B. *Scheduling and Notification:*
 - 1. Not later than the time that approval is initially requested to begin work on Railroad rights of way, Contractor shall furnish to the Railroad and the Department a schedule for all work required to complete the portion of the project within Railroad rights of way and arrange for a job site meeting between the Contractor, the Department, and the Railroad's authorized representative. Flagman or Flagmen may not be provided until the job site meeting has been conducted and the Contractor's work scheduled.
 - 2. The Contractor will be required to give the Railroad representative **at least**

10 working days of advance written notice of intent to begin work within Railroad rights of way. If it is necessary for the Railroad to advertise a flagging job for bid, it **may take up to 90-days to obtain service**. Once begun, when work is suspended at any time for any reason, the Contractor will be required to give the Railroad representative **at least 3 working days of notice** before resuming work on Railroad rights of way. Such notice shall include sufficient details of the proposed work to enable the Railroad representative to determine if flagging will be required. If such notice is in writing, the Contractor shall furnish the Engineer a copy; if notice is given verbally it shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagman, or flagmen is present at the job site. It **may take up to 30 days to obtain flagging initially** from the Railroad. When flagging begins the flagman is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and may be unable to be called for on a spot basis. If flagging becomes unnecessary and is suspended, it **may take up to 10 days to again obtain flagging services** from the Railroad. Due to labor agreements, it is necessary to give **5 working days notice before flagging service may be discontinued** and responsibility for payment stopped.

3. If, after the flagman is assigned to the project site, emergencies arise which require the flagman's presence elsewhere, and then the Contractor shall delay work on Railroad rights of way until such time as the flagman is again available. Any additional costs resulting from such delay shall be borne by the Contractor and not the Department or Railroad.
4. When demobilizing, the Contractor shall contact the flagman to avoid unnecessary flagging charges. This communication shall be documented.

C. *Payment:*

1. **The Cabinet will be responsible for paying the Railroad directly for any and all costs of flagging**, which may be required to accomplish the construction. **The Contractor shall adhere to the Special Note for Railroad Flagging, if applicable, and may be charged for flagging in excess of the allowable days, per said Special Note.**
2. The estimated cost of flagging is listed on the Summary Sheet. The charge to the Cabinet by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required.

3. Railroad work involved in preparing and handling bills will also be charged to the Cabinet. Charges to the Cabinet by the Railroad shall be in accordance with applicable provisions of 23 CRF 140, Subpart I and 23 CRF 646, Subpart B. Flagging costs are subject to change. The above estimates of flagging cost are provided for information only and are not binding in any way.

D. Verification:

1. The Contractor and Department will review and sign the Railroad flagman's time sheet, attesting that the flagman was present during the time recorded. Flagman may be removed by Railroad if form is not signed. If flagman is removed, the Contractor will not be allowed to re-enter the Railroad rights of way until the issue is resolved. Any complaints concerning flagman or flagmen must be resolved in a timely manner. If need for flagman or flagmen is questioned, please contact the Railroad's Representative listed on the Project Summary Sheet. All verbal complaints must be confirmed in writing by the Contractor within 5 working days with copy to the Highway Engineer. All written correspondence should be addressed to the Railroad's Representative listed on the Project Summary Sheet.
2. The Railroad flagman assigned to the project will be responsible for notifying the Project Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. The Project Engineer will document such notification in the project records. When requested, the Project Engineer will also sign the flagman's diary showing daily time spent and activity at the project site.

VIII. HAUL ACROSS RAILROAD:

- A. Where the plans show or imply that materials of any nature must be hauled across a Railroad, unless the plans clearly show that the State has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad. The Contractor will be required to bear all costs incidental, including flagging, to such crossings whether services are performed by his own forces or by Railroad personnel.*
- B. No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Railroad Company unless specific authority for is installation, maintenance, necessary watching and flagging thereof and removal, all at the expense of the Contractor, is first obtained from the Railroad Engineer. **The approval process for an agreement normally takes 90-days.***

IX. WORK FOR THE BENEFIT OF THE CONTRACTOR:

- A. *All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the State and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the State and/or the Railroad.*
- B. *Should the Contractor desire any changes in addition to the above, then he shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense.*

X. COOPERATION AND DELAYS:

- A. *It shall be the Contractor's responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging his schedule he shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.*
- B. *Train schedules cannot be provided to the Contractor. It is the Contractor's responsibility to contact the Railroad in order to arrange "Track Time." This "Track Time" will be an agreed upon prearranged time period that the Railroad will, without undue burden, schedule no train traffic to facilitate the Contractor's work on or near Railroad right-of-way. This track time must be arranged **at least 48 hours prior to the date of need.***
- C. *No charge or claims of the Contractor against either the Department or the Railroad will be allowed for hindrance or delay on account of railroad traffic; any work done by the Railroad or other delay incident to or necessary for safe maintenance of Railroad traffic or for any delays due to compliance with these Special Notes.*
- D. *The Contractor shall cooperate with others participating in the construction of the Project to the end that all work may be carried on to the best advantage.*
- E. *The Railroad does not assume any responsibility for work performed by others in connection with the Project. No claims of the Contractor against the Railroad for any inconvenience, delay, or additional cost incurred by the Contractor on account of operations by others.*

XI. TRAINMAN'S WALKWAYS:

- A. *Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for*

*trainman's use in walking along trains, extending to a line not less than 10 feet from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railroad's protective service is provided shall be removed before the close of each day. If there is any excavation near the walkway, a handrail, with **10'-0" minimum clearance from centerline of track**, shall be placed.*

XII. GUIDELINES FOR PERSONNEL ON RAILROAD RIGHTS OF WAY:

- A. *All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots cinched with straps which fit snugly about the ankle are adequate. Safety boots are strongly recommended.*
- B. *No one is allowed within **25' of the centerline of the track** without specific authorization from the flagman.*
- C. *All persons working near track when train is passing are to look out for dragging bands, chains and protruding or shifting cargo.*
- D. *No one is allowed to cross tracks without specific authorization from the flagman.*
- E. *All welders and cutting torches working within **25' of track must stop when train is passing.***
- F. *No steel tape or chain will be allowed to cross or touch rails without permission.*

XIII. GUIDELINES FOR EQUIPMENT ON RAILROAD RIGHTS OF WAY:

- A. *No crane or boom equipment will be allowed to set up to work or park within **boom distance plus 15' of centerline of track** without specific permission from railroad official and flagman.*
- B. *No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.*
- C. *All employees will stay with their machines when crane or boom equipment is pointed toward track.*
- D. *All cranes and boom equipment under load will stop work while a train is passing*

(including pile driving).

- E. Swinging loads must be secured to prevent movement while train is passing.*
- F. No loads will be suspended above a moving train.*
- G. No equipment will be allowed within **25' of centerline of track** without specific authorization of the flagman.*
- H. Trucks, tractors or any equipment will not touch ballast line without specific permission from railroad official and flagman.*
- I. No equipment or load movement **within 25' or above a standing train or other equipment** without specific authorization of the flagman.*
- J. All operating equipment within **25' of track must halt operations when a train is passing**. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.*
- K. All equipment, loads and cables are prohibited from touching rails.*
- L. While clearing and grubbing, no vegetation will be removed from railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.*
- M. No equipment or materials will be parked or stored on Railroad's property unless specific permission is granted from the Railroad Engineer.*
- N. All unattended equipment that is left parked on Railroad property shall be effectively immobilized so that it can not be moved by unauthorized persons.*
- O. All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.*

XIV. INSURANCE:

- A. In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the Contractor will be required to carry insurance of the following kinds:*
 - 1. Statutory Workers' Compensation and Employer's Liability insurance.*
 - 2. An Occurrence Form Railroad Protective Policy with limits of not less than Five Million (\$5,000,000.00) Dollars per occurrence for Bodily Injury Liability, Property Damage Liability and Physical Damage to Property, with Ten Million (\$10,000,000.00) Dollars aggregate for the term of the policy with respect to Bodily Injury, Liability, Property Damage Liability and*

Physical Damage to Property.

3. Automobile Liability in an amount not less than One Million (\$1,000,000.00) Dollars combined single limit.
4. Comprehensive General Liability in an amount not less than Five Million (\$5,000,000.00) Dollars combined single limit. In the event the policy is a Claims Made Policy, coverage shall include an aggregate of Ten Million (\$10,000,000.00) Dollars. Limits may be accomplished by use of underlying coverage with an umbrella as long as the umbrella follows form.

Each policy shall name P&L as a named insured and shall provide for not less than ten (10) days prior written notice to P&L of cancellation of, or any material change in the policies. The policies shall not contain any exclusions related to doing business on, near, or adjacent to Railroad facilities.

Applicant shall provide P&L with a Certificate of Insurance evidencing such coverage and, upon request, shall deliver a certified, true and complete copy of the policy or policies to P&L.

It is understood that, so long as this Agreement shall remain in force, P&L shall have the right, from time to time, to revise the amount or form of insurance coverage's provided in this exhibit as circumstances or changing economic conditions may require. P&L shall give Applicant written notice of any such requested change at least thirty (30) days prior to the date of expiration of the then existing policy or policies and Applicant shall provide P&L with such revised policy or policies therefore or otherwise agree to modify the Agreement to remove the limitation of indemnification to Applicant's limits of insurance.

All insurance provided must be primary and shall not be reduced or limited by any insurance procured by P&L.

XV. FAILURE TO COMPLY:

- A. *These Special Notes are supplemental and amendatory to the current edition of the Kentucky Department of Highways' Standard Specifications for Road and Bridge Construction and amendments thereof, and where in conflict therewith, these Special Notes shall govern.*
- B. *In the event the Contractor violates or fails to comply with any of the requirements of these Special Notes:*
 1. The Railroad Engineer may require that the Contractor vacate Railroad property.
 2. The Engineer may withhold all monies due the Contractor on monthly

statements.

3. Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

XVI. PAYMENT FOR COST OF COMPLIANCE:

- A. *No separate payment will be made for any extra cost incurred on account of compliance with these Special Notes. All such cost shall be included in prices bid for other items of the work as specified in the payment items.*



Kentucky Transportation Cabinet
Division of Right of Way & Utilities

TC 69-008
08/2010
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SUMMARY FOR KYTC PROJECTS THAT INVOLVE A RAILROAD

Date: 2/18/2019 (enter using M/d/yyyy format)

This project actively involves the below listed railroad company. This Project Summary provides an abbreviated listing of project specific railroad data. The detailed needs of the specified railroad company are included in the Special Notes for Protection of Railroad Interest in the proposal package. By submitting a bid, the contractor attests that they have dutifully considered and accepted the provisions as defined in both documents.

GENERAL ROAD PROJECT INFORMATION (This section must be provided by KYTC)

County: Graves
Federal Number: N/A
State Number: FD04 018 51624 11U
Route: KY 80/Us 68
Project Description: Extend Mayfield Bypass
Item Number: 01-181.50 **Highway Milepost:** _____

GENERAL RAIL INFORMATION (The below sections must be provided by Railroad Company)

Rail Company Name: Paducah and Louisville Railway
AAR-DOT# (if applicable): 297298L, 297299T **Railroad Milepost:** _____
Train Count (6am to 6pm): 2 **Train Count (6pm to 6am):** 1 **Train Count (24 hr total):** 3
Maximum Train Speed: 10 mph

(This information is necessary to acquire the necessary insurances when working with Railroad Right of Way)

INSURANCE REQUIREMENTS

The named insured, description of the work and designation of the job site to be shown on the Policy are as follows:

- (a) Named Insured: Paducah and Louisville
- (b) The project description should be as indicated in the General Road Project Information section.
- (c) The designation of the jobsite is the route, Milepost, and AAR-DOT# listed above.

FLAGGING INFORMATION

Flagging Estimate:

Flagging will be paid to the RR by KYTC. Contractor shall adhere to the Special Note for Railroad Flagging if applicable.

Hourly Rate:

\$92.62 per hour based on a 8 hour day effective as of the date of this document.

Work by a flagman in excess of 8 hours per day or 40 hours per week, but not more than 12 hours a day will result in overtime pay at 1 ½ times the appropriate rate. Work by a flagman in excess of 12 hours per day will result in overtime pay at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 ½ times the normal rate.

Forecasted Rate Increases:

Rates will increase to \$0.00 per hour based on a 8 hour day effective _____ (enter using M/d/yyyy format).

RAILROAD CONTACTS

(to be provided by Railroad Company)

General Railroad Contact:

Stony Bishop
Paducah and Louisville Railway, Inc.

200 Clark Street
Paducah, Kentucky 42003

(Phone) 270-444-4386

(Email) sbishop@palrr.com

Regional Representative (Roadmaster):

Stony Bishop
Paducah and Louisville Railway, Inc.

200 Clark Street
Paducah, Kentucky 42003

(Phone) 270-444-4386

(Email) sbishop@palrr.com

Insurance contact:

Stony Bishop
Paducah and Louisville Railway, Inc.

200 Clark Street
Paducah, Kentucky 42003

(Phone) 270-444-4386

(Email) sbishop@palrr.com

Railroad Designer Contact:

Contractor or In-House Employee? In-House

Stony Bishop
Paducah and Louisville Railway, Inc.

200 Clark Street
Paducah, Kentucky 42003

(Phone) 270-444-4386

(Email) sbishop@palrr.com

Railroad Construction Contact:

Contractor or In-House Employee? In-House

Stony Bishop
Paducah and Louisville Railway, Inc.

200 Clark Street
Paducah, Kentucky 42003

(Phone) 270-444-4386

(Email) sbishop@palrr.com

KENTUCKY TRANSPORTATION CABINET CONTACTS

(to be provided by KYTC)

KYTC Railroad Coordinator:

Allen Rust, PE
Div. of Right of Way & Utilities
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor East
Frankfort, Kentucky 40622
(Phone) 502-782-4950
(Email) allen.rust@ky.gov

KYTC Construction Procurement Director:

Rachel Mills, Director
Div. of Construction Procurement
Kentucky Transportation Cabinet
200 Mero Street, 3rd Floor West
Frankfort, Kentucky 40622
(Phone) 502-564-3500
(Email) Rachel.Mills@ky.gov

KYTC Construction Director:

Ryan Griffith, Director
Div. of Construction
Kentucky Transportation Cabinet
200 Mero Street, 3rd Floor West
Frankfort, Kentucky 40622
(Phone) 502-564-4780
(Email) ryan.griffith@ky.gov



The project specific information provided herein is valid as of the date indicated. However, the specific information may be subject to change due to the normal business operations of all parties. The terms and conditions defined here, and in the bid proposal in its entirety, are inclusive and constant.

SPECIAL NOTE FOR RAILROAD FLAGGING

Unless otherwise noted, Section references herein are to the Department's Standard Specifications for Road and Bridge Construction. All applicable portions of the Department's Standard Specifications apply unless specifically modified herein.

- 1. DESCRIPTION.** It is estimated this project will require 90 days of railroad flagging. Guidelines for determining when flagging protection will be needed are included in the Special Provisions for Protection of Railroad Interest. The Daily Rate for this project will be \$1,000.00
- 2. DEFINITION OF FLAGGING.** The particular Railroad(s) involved in this project will define when flagging is required (see Summary for KYTC Projects That Involve a Railroad and Special Provisions for Protection of Railroad Interest) and the number of flaggers needed. At least 2 weeks notice is required before flagging will be provided, but it could take up to 30 days. It will remain the Contractor's responsibility to schedule work including any down time (such as winter) so as to minimize the use of flagging services. The Department retains no responsibility for coordinating flagging services between the Railroad and the Contractor.
- 3. REDUCTION AND EXTENSION OF RAILROAD FLAGGING TIME.** Based upon the Kentucky Standard Specifications, any changes in contract time for this project will be by change order. If the nature of the work in the change order necessitates additional use of railroad flagging services, then that shall be identified in that change order and the number of calendar days for railroad flagging services shall be increased. By signing the change order, the contractor waives all rights to any future request to change the number of days of railroad flagging associated with the work in that change order. Since the number of days involves the cost to the Department and not the Contractor, the number of days of railroad flagging shall not be reduced.
- 4. MEASUREMENT.** The Department will keep track of calendar days that railroad flagging is performed. This will include any day that any railroad flagger charges a minimum of 5 hours of onsite flagging. Except that from April 1st thru November 30th this will not include days where the Contractor cannot perform at least 5 hours of the work that necessitates railroad flagging due to weather, seasonal, or temperature limitations of the Specifications, or other conditions beyond the control of the Contractor as judged by the Engineer. From Dec 1st thru March 30th any day that any railroad flagger charges a minimum of 5 hours of onsite flagging then a calendar day of railroad flagging will be counted; without regard to weather, seasonal or temperature limitations of the Specifications. The Engineer will furnish the Contractor bi-weekly statements showing the number of railroad flagging days charged for the period. The Contractor acknowledges acceptance of, and agreement with, all bi-weekly statements unless the Contractor submits a written protest containing supporting evidence for a change within 14 calendar days of receiving the bi-weekly statement.

If the number of calendar days of railroad flagging has exceeded 90 days, then the Contractor will be charged for each day that additional flagging is needed multiplied by the Daily Rate. This will be in addition to any liquidated damages or other reimbursements that the contract or the Kentucky Standard Specifications may require. This charge will continue, based upon actual flagging use, until Formal Acceptance.

If upon Formal Acceptance the total number of calendar days that railroad flagging is performed is less than 90 days no additional monies will be given to the Contractor.

N O T I C E

**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
(LETTER OF PERMISSION & LOP WQC AUTHORIZATION)**

PROJECT: Graves County, Item No. 1-181.50
New Route

The Section 404 & 401 activities for this project have been previously permitted under the authority of the Department of the Army Letter of Permission (LOP) & Division of Water LOP Water Quality Certification. In order for these authorizations to be valid, the attached conditions must be followed. The contractor shall post a copy of this LOP Permit & LOP WQC 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
MEMPHIS DISTRICT CORPS OF ENGINEERS
167 NORTH MAIN STREET B-202
MEMPHIS, TENNESSEE 38103-1894

October 19, 2016

Mr. Roy Collins
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, Kentucky 40622

Dear Mr. Collins:

In response to your request for a Department of the Army permit, enclosed is your copy of Federal Permit Number MVM-2016-185 for the proposed Kentucky 80 (Southern Bypass Extension) near Mayfield, Kentucky.

Your attention is invited to the expiration date shown on the first page of the permit. If the project cannot be completed prior to the permit expiration date and an extension of time is desired, a request should be submitted with an explanation at least 90 days in advance. The District Engineer may grant an extension if he determines that there have been no significant changes in the attendant circumstances since the authorization was issued. If circumstances have changed, regular processing procedures will be required. Requests for extensions of permits received after the expiration date are subject to new evaluation procedures.

Please notify personnel within the Regulatory Branch, Corps of Engineers, Memphis District, on commencement and completion of the work authorized by the permit. The enclosed certificate of compliance must be signed and returned upon project completion.

Please note the general and special conditions and further information listed within the permit. Copies of this letter and permit have been sent to EPA, Region IV in Atlanta, Georgia and the U.S. Fish and Wildlife Service in Frankfort, Kentucky.

If you have questions, contact Randy Clark at (901) 544-0735, and refer to File No. MVM-2016-185.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregg Williams".

Gregg Williams
Chief
Regulatory Branch

Enclosure

Certificate of Completion

Permit Name: MVM-2016-185 (RC)

Name of Permittee: Mr. Roy Collins

Date of Issuance: October 19, 2016

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

**Regulatory Branch
Corps of Engineers Memphis District
167 N Main Street Room B202
Memphis, TN 38103-1894**

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 (if needed) was completed in accordance with the permit conditions.

Signature of Permittee

DEPARTMENT OF THE ARMY PERMIT

Permittee: Mr. Roy Collins

Effective Date: October 19, 2016

Permit Number: MVM-2016-185 (RC)

Issuing Office: Memphis District, CE

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 of that office 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: The applicant proposes to construct a new route for the proposed Kentucky 80 (Southern Bypass Extension). The project involves the re-construction of 2.7 miles of roadway, which will result in 9 unavoidable individual impact sites with the construction of 5 culverts and 1 channel change within Kess Creek and its tributaries. Approximately 2,730 feet of stream and 0.052 acres of wetlands will be impacted by the project.

Project Location: The project site is located from State Highway 303 south of the City of Mayfield northwest to Julian M. Carroll Parkway at coordinates 36.7180° N and -88.6661° in Graves County, Kentucky.

Attachments: Attachment 1 (Location Map)

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on October 19, 2019. 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 of 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 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 in accordance with the terms and conditions of your permit.

Special Conditions:

a. The permittee will abide by all conditions set forth in the Commonwealth of Kentucky's water quality certification.

b. The project will impact a total of 0.052 acres of wetlands and 2,730 feet of stream. Both wetlands and stream impacts will be mitigated at the KTC Riley Advanced Mitigation Site. The impacts will be mitigated by adjustable Mitigation Units (AMU's). The stream impacts will be mitigated by 2,793.25 AMU's at \$300.00 per AMU's and the wetlands will be mitigated by 0.104 AMU's (2:1 ratio).

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

() Section 10 of the River and Harbor 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 projects.

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 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 measures 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 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.




(PERMITTEE)

10-7-16

(DATE)

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



(DISTRICT ENGINEER)
Michael A. Ellicott, Jr.
Colonel, Corps of Engineers

19 OCT 2016

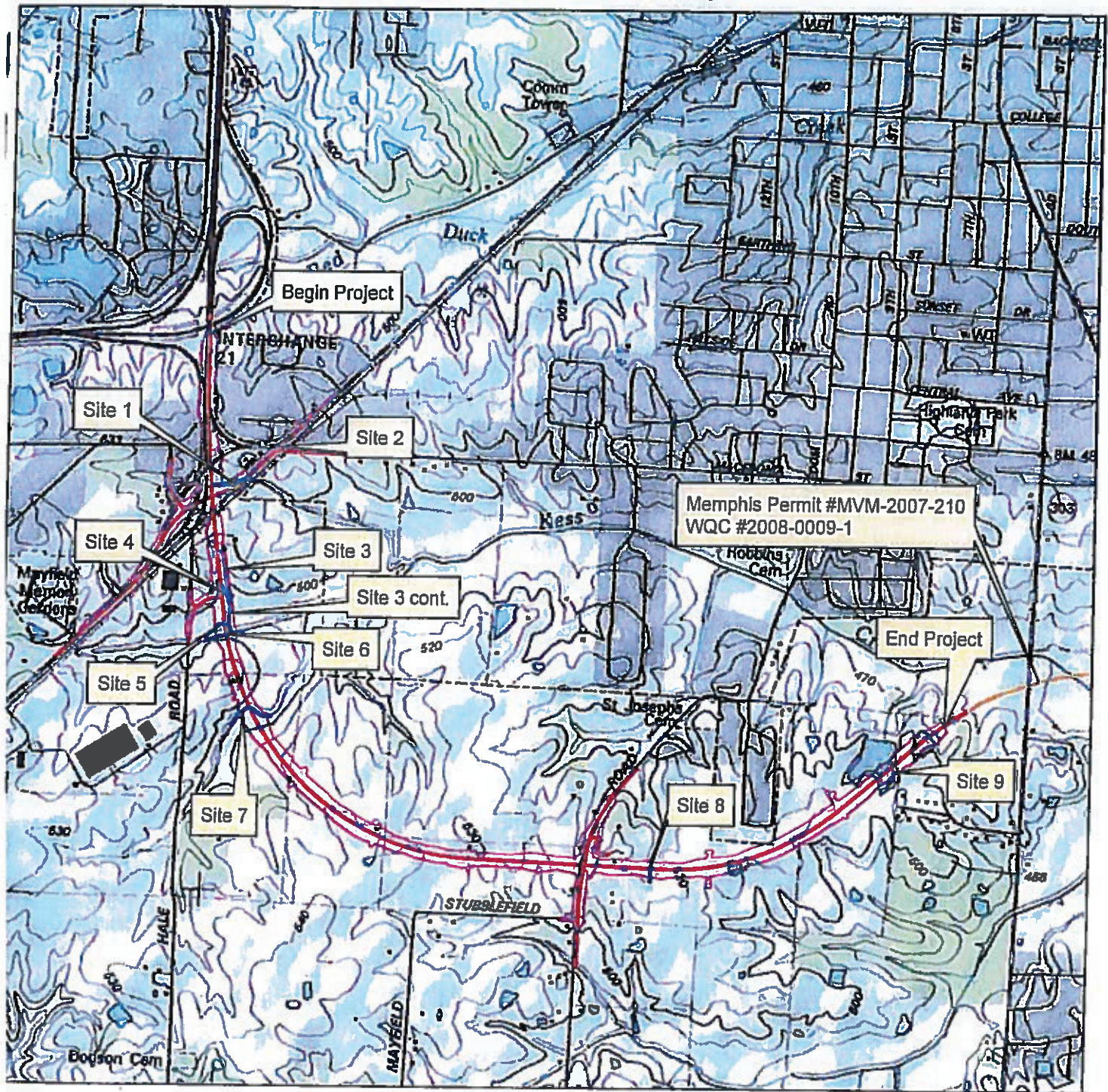
(DATE)

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.

(TRANSFEREE)

(DATE)

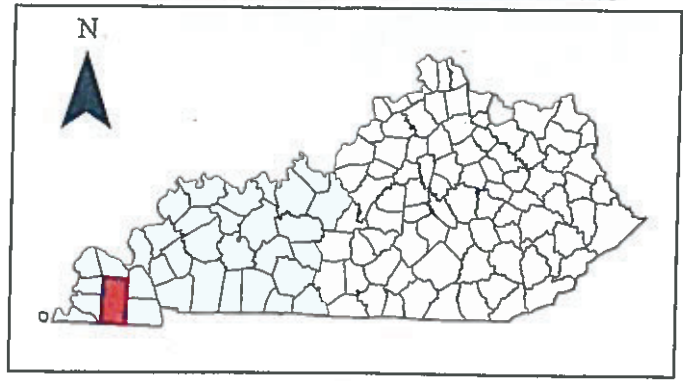
1-181.5 Impact Station Map



Legend

- Streams
- ▨ Wetlands
- Disturb Limits
- Centerline
- Existing 80

Graves County, KY
 Bayou De Chien-Mayfield, Kentucky, Tennessee
 KYTC Item # 1-181.5
 Extend Mayfield Southern Bypass
 from KY 303 to Julian M. Carroll Parkway
 IUC 14: 08010201010160, and 08010201010190





MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

**ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

AARON B. KEATLEY
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

July 14, 2016

David Waldner
Kentucky Transportation Cabinet (KYTC)
200 Mero St
Frankfort, KY 40622

Re: Letter of Permission No.: 2016-057-7
AI No.: 34834; Activity ID: APE20160001
KYTC Item No.: 1-181.5
USACE ID No.: MVM-2016-185
Kess Creek, UTs to Kess Creek and adjacent
wetlands
Graves County, Kentucky

Dear Mr. Waldner:

This letter transmits to you a copy of our General Water Quality Certification for the Letter of Permission Authorizing Transportation Projects for the Kentucky Transportation Cabinet – KY 80: Mayfield Southern Bypass Project in Graves County, Kentucky, in accordance with plans included in the “Application for Permit to Construct Across or Along a Stream and/or Water Quality Certification” dated May 16, 2016, including impacts to 2,730 linear feet of ephemeral, intermittent, and perennial stream (0.331 acre of channel fill) and 0.052 acre of wetland.

An individual Water Quality Certification is not necessary for this activity provided that this project has satisfies the Transportation Letter of Permission from the U.S. Army Corps of Engineers (Letter of Permission for Transportation Projects, Corps ID No. LRL-2006-259, issued October 03, 2007 and revised October 28, 2010) and all conditions of the attached General Water Quality Certification - Letter of Permission Authorizing Transportation Projects are met.

Although an Individual WQC is not needed, other permits from the Division of Water may be required. If the project will disturb one acre or more of land, or is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land, a Kentucky Pollution Discharge Elimination System (KPDES) stormwater permit shall be required from the Surface Water Permits Branch. This permit requires the development of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must include erosion prevention and sediment control measures. Contact: Surface Water Permits Branch (SWPB) Support (SWPBsupport@ky.gov)

All future correspondence on this project must reference **AI No. 34834**. If you should have any questions concerning this letter, please contact Cody Thayer of my staff, at (502) 782-7090 or Cody.Thayer@ky.gov.

Sincerely,

A handwritten signature in black ink that reads "Stephanie Hayes". The signature is written in a cursive style with a large, stylized 'S' and 'H'.

Stephanie Hayes, Supervisor
Water Quality Certification Section
Kentucky Division of Water

Attachment

cc: Roy Collins, KYTC: Frankfort (via email: RoyC.Collins@ky.gov)
Danny Peake, KYTC: Frankfort (via email: Danny.Peake@ky.gov)
Dave Harmon, KYTC: Frankfort (via email: Dave.Harmon@ky.gov)
Randy Clark, USACE: Memphis (via email: James.R.Clark@usace.army.mil)
Lee Andrews, USFWS: Frankfort (via email: Teresa_Hyatt@fws.gov)
Shannon McLeary, KDOW: Paducah Regional Office (via email: Shannon.McLeary@ky.gov)
Maggie Morgan, Four Rivers Basin Coordinator (via email: Maggie.Morgan@JPF.org)



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
Department for Environmental Protection

AARON B. KEATLEY
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

**General Certification -- Letter of Permission Authorizing Transportation
Projects (LRL-2006-259-pgj- Date: 28 Oct 2010)**

This general certification is issued February 26, 2016, by the Kentucky Division of Water, 401 Water Quality Certification Program in conformity with the requirements of Sections 301, 302, 304, 306 and 401, as amended (33 U.S.C. §1341), of the Clean Water Act, as well as Kentucky Statute KRS 224.16-050 and Kentucky Administrative Regulations Title 401, Chapter 9 and 10.

For this and all general permits, the definition of surface water is as per 401 KAR 10:001 Chapter 10, Section 1(80): Surface Waters mean those waters having well-defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; marshes and wetlands; and any subterranean waters flowing in well-defined channels and having a demonstrable hydrologic connection with the surface. Lagoons used for waste treatment and effluent ditches that are situated on property owned, leased, or under valid easement by a permitted discharger are not considered surface waters of the commonwealth.

In addition to all the restrictions and conditions of the U.S. Army Corps of Engineers, Louisville District Letter of Permission Issuance (LRL-2006-259-pgj) hereby incorporated into this general certification (included herein), the following 401 Water Quality Certification criteria applies to all transportation projects certified under a Certified Letter of Permission issued by the Kentucky Division of Water, 401 Water Quality Certification Program:

1. The activity will not qualify for this general certification if it is proposed to occur within surface waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Water.
2. The activity will not qualify for this general certification if it is proposed to occur within surface waters of the Commonwealth identified as perpetually-protected (e.g. deed restriction, conservation easement) stream and/or wetland mitigation sites permitted by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

Certification of Transportation Letter of Permission

Page 2

3. The Kentucky Division of Water may require an individual certification for any project if the project is likely to have adverse impacts to water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.
4. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:
 - The proposed relocation of an existing stream or channel will be designed and constructed to ensure the stability of the relocated stream or channel. Stream habitat enhancements, such as bioengineering methods and/or best management practices for protecting water quality will be considered, on a case-by-case basis, during the design process. Documentation must be provided if stream habitat enhancements will not be used for the proposed stream relocation.
 - Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that state water quality are maintained (401 KAR Chapter 10).
 - Sediment and erosion control measures, such as check-dams constructed of any material, silt fencing, hay bales, etc., shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without notifying the Kentucky Division of Water. If placement of sediment and erosion control measures in surface waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in such a manner that may result in instability of streams that are adjacent to, upstream, or downstream of the structures. All sediment and erosion control devices shall be removed and the natural grade restored within the completion timeline of the activities.
 - Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
 - Removal of riparian vegetation in the right-of-way shall be limited to that necessary.
 - To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.
 - Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances in which such in-stream work is unavoidable, then it should be performed in low-flow or no-flow instances or in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.

Certification of Transportation Letter of Permission

Page 3

- Fill shall not be of such composition that it will adversely affect the biological, chemical, or physical properties of the receiving waters and associated water quality standards. If rip-rap is utilized, it should be of such weight and size that bank stress or slump conditions will not be created because of its placement.
- If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the public supply system when such work will be done.
- Should evidence of stream and/or wetland pollution 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 Environmental Response Team (ERT) shall be notified immediately by calling 1-800-928-2380 or 502-564-2380.

This general certification does not have an expiration date, however if the need for changes develop or if the U.S. Army Corps of Engineers, Louisville District makes modifications to the Letter of Permission (LRL-2006-259-pgj- Date: 28 Oct 2010) then a certification modification may be issued. Non-compliance with the conditions of this general certification or failure to maintain Kentucky state water quality standards may result in civil penalties.



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
Department for Environmental Protection

AARON B. KEATLEY
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

ATTENTION APPLICANT

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

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

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

Contact: Surface Water Permits Branch (SWPB) Support at SWPBsupport@ky.gov

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

Contact: Ron Dutta at (502) 782-6941

- **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: Stephanie Hayes at (502) 782-6970

A complete listing of environmental programs administered by the Kentucky Department for Environmental Protection is available from Pete Goodmann by calling (502) 782-6956.

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 otherwise 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 800/928-2380.

SPECIAL NOTE

Filing of eNOI for KPDES Construction Stormwater Permit

County: Graves

Route: KY 80

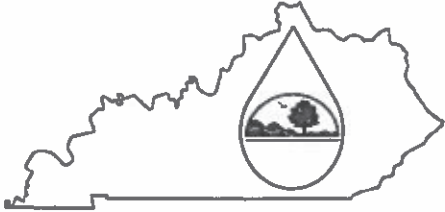
Item No.: 1-181.50

KDOW Submittal ID:

Project Description: Construct new KY 80 from KY 303 to I69

A Notice of Intent for obtaining coverage under the Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Stormwater Discharges Associated with Construction Activities (KYR10) has been drafted, copy of which is attached. Upon award, the Contractor will be identified in Section III of the form as the “Building Contractor” and it will be submitted for approval to the Kentucky Division of Water. The Contractor shall be responsible for advancing the work in a manner that is compliant with all applicable and appropriate KYTC specifications for sediment and erosion control as well as meeting the requirements of the KYR10 permit and the KDOW.

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

	<p style="text-align: center;">KENTUCKY POLLUTION DISCHARGE ELIMINATION SYSTEM (KPDES)</p> <p style="text-align: center;">Notice of Intent (NOI) for coverage of Storm Water Discharge Associated with Construction Activities Under the KPDES Storm Water General Permit KYR100000</p> <p style="text-align: center;">Click here for Instructions (Controls/KPDES_FormKYR10_Instructions.htm)</p> <p style="text-align: center;"><small>Click here to obtain information and a copy of the KPDES General Permit. (http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf)</small></p> <p style="text-align: center;"><small>(*) indicates a required field; (✓) indicates a field may be required based on user input or is an optionally required field</small></p>
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Reason for Submittal (*) <input type="text"/>	Agency Interest ID: <input type="text"/>	Permit Number:(✓) <input type="text"/>
--	---	---

If change to existing permit coverage is requested, describe the changes for which modification of coverage is being sought:(✓)

ELIGIBILITY:
 Stormwater discharges associated with construction activities disturbing individually one (1) acre or more, including, in the case of a common plan of development, contiguous construction activities that cumulatively equal one (1) acre or more of disturbance.

EXCLUSIONS:
 The following are excluded from coverage under this general permit:
 1) Are conducted at or on properties that have obtained an individual KPDES permit for the discharge of other wastewaters which requires the development and implementation of a Best Management Practices (BMP) plan;
 2) Any operation that the DOW determines an individual permit would better address the discharges from that operation;
 3) Any project that discharges to an Impaired Water listed in the most recent Integrated Report, §305(b) as impaired for sediment and for which an approved TMDL has been developed.

SECTION I – FACILITY OPERATOR INFORMATION (PERMITTEE)

Company Name (✓) <input type="text"/>	First Name (✓) <input type="text"/>	M.I.: <input type="text"/>	Last Name (✓) <input type="text"/>
Mailing Address (*) <input type="text"/>	City (*) <input type="text"/>	State: (*) <input type="text"/>	Zip: (*) <input type="text"/>
eMail Address (*) <input type="text"/>	Business Phone: (*) <input type="text"/>	Alternate Phone: <input type="text"/>	

SECTION II – GENERAL SITE LOCATION INFORMATION

Project Name: (*) <input type="text"/>	Status of Owner/Operator (*) <input type="text"/>	SIC Code (*) <input type="text"/>
Company Name (✓) <input type="text"/>	First Name (✓) <input type="text"/>	M.I.: <input type="text"/>
Site Physical Address: (*) <input type="text"/>		
City: (*) <input type="text"/>	State: (*) <input type="text"/>	Zip: (*) <input type="text"/>
County: (*) <input type="text"/>	Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal) <input type="text"/>	Longitude(decimal degrees)(*) <input type="text"/>

SECTION III – SPECIFIC SITE ACTIVITY INFORMATION

Project Description: (*)

a. For single projects provide the following information

Total Number of Acres In Project: (✓) <input type="text"/>	Total Number of Acres Disturbed: (✓) <input type="text"/>
---	--

Project Acres	Disturbed Acres										
Anticipated Start Date:(✓) <input style="width:95%;" type="text"/>	Anticipated Completion Date:(✓) <input style="width:95%;" type="text"/>										
b For common plans of development provide the following information											
Total Number of Acres in Project:(✓) # Acre(s) <input style="width:95%;" type="text"/>	Total Number of Acres Disturbed:(✓) # Acre(s) <input style="width:95%;" type="text"/>										
Number of individual lots in development, if applicable:(✓) # lot(s) <input style="width:95%;" type="text"/>	Number of lots in development:(✓) # lot(s) <input style="width:95%;" type="text"/>										
Total acreage of lots intended to be developed (✓) Project Acres <input style="width:95%;" type="text"/>	Number of acres intended to be disturbed at any one time:(✓) Disturbed Acres <input style="width:95%;" type="text"/>										
Anticipated Start Date:(✓) <input style="width:95%;" type="text"/>	Anticipated Completion Date:(✓) <input style="width:95%;" type="text"/>										
List Building Contractor(s) at the time of Application. (*)											
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">+</th> <th style="width:80%;">Company Name</th> <th style="width:10%;"><</th> <th style="width:10%;">></th> </tr> </thead> <tbody> <tr> <td style="height: 100px;"> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		+	Company Name	<	>						
+	Company Name	<	>								
SECTION IV – IF THE PERMITTED SITE DISCHARGES TO A WATER BODY THE FOLLOWING INFORMATION IS REQUIRED ?											
Discharge Point(s)											
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">+</th> <th style="width:20%;">Unnamed Tributary?</th> <th style="width:15%;">Latitude</th> <th style="width:15%;">Longitude</th> <th style="width:40%;">Receiving Water Name</th> </tr> </thead> <tbody> <tr> <td style="height: 100px;"> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		+	Unnamed Tributary?	Latitude	Longitude	Receiving Water Name					
+	Unnamed Tributary?	Latitude	Longitude	Receiving Water Name							
SECTION V – IF THE PERMITTED SITE DISCHARGES TO A MS4 THE FOLLOWING INFORMATION IS REQUIRED ?											
Name of MS4: <input style="width:95%;" type="text"/>											
Date of application/notification to the MS4 for construction site permit coverage: Date <input style="width:95%;" type="text"/>	Discharge Point(s): (*)										
	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">+</th> <th style="width:20%;">Latitude</th> <th style="width:15%;">Longitude</th> <th style="width:15%;"> </th> <th style="width:40%;"> </th> </tr> </thead> <tbody> <tr> <td style="height: 100px;"> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	+	Latitude	Longitude							
+	Latitude	Longitude									
SECTION VI -- WILL THE PROJECT REQUIRE CONSTRUCTION ACTIVITIES IN A WATER BODY OR THE RIPARIAN ZONE?											
Will the project require construction activities in a water body or the riparian zone?:(*)	<input style="width:95%;" type="text"/>										
If Yes, describe scope of activity (✓)	<input style="width:95%;" type="text"/>										
Is a Clean Water Act 404 permit required?:(*)	<input style="width:95%;" type="text"/>										
Is a Clean Water Act 401 Water Quality Certification required?:(*)	<input style="width:95%;" type="text"/>										
SECTION VII -- NOI PREPARER INFORMATION											

First Name:(*) First Name		M.I.: MI	Last Name:(*) Last Name		Company Name:(*) Company Name	
Mailing Address:(*) Mailing Address			City:(*) City		State:(*) ▼	Zip:(*) Zip
eMail Address:(*) eMail Address			Business Phone:(*) Phone		Alternate Phone: Phone	
SECTION VIII – ATTACHMENTS						
Facility Location Map:(*)				Upload file		
Supplemental Information:				Upload file		
SECTION IX – CERTIFICATION						
<p>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 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.</p>						
Signature:(*) Signature				Title (*) Title		
First Name:(*) First Name		M.I.: MI	Last Name:(*) Last Name			
eMail Address:(*) eMail Address		Business Phone (*) Phone		Alternate Phone: Phone		Signature Date (*) Date
<div style="display: flex; justify-content: space-around;"> Click to Save Values for Future Retrieval Click to Submit to EEC </div>						

KyTC BMP Plan for Project CID 01 - 801



Kentucky Transportation Cabinet

Highway District 1

And

_____ **(2), Construction**

Kentucky Pollutant Discharge Elimination System

Permit KYR10

Best Management Practices (BMP) plan

Groundwater protection plan

For Highway Construction Activities

For

Construct new KY 80 from KY 303 to I69

Graves County, KY

Project: PCN ##-####

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Project information

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

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

Phone number: (2)
Contact: (2)
Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number (2)
5. Route (Address) KY 80, Mayfield KY 42066
6. Latitude/Longitude (project mid-point) 36^42'36"N, 88^39'26"W
7. County (project mid-point) - Graves
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KyTC BMP Plan for Project CID 01 - 801

A. Site description:

1. Nature of Construction Activity (from letting project description) – Construct remaining portion of Mayfield Bypass/KY 80 from KY 303 to I69
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved 302,584 CY
4. Estimate of total project area (acres) 89.8 acres
5. Estimate of area to be disturbed (acres) 89.8 acres
6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information.
7. Data describing existing soil condition - The geologic mapping indicates that alluvial soils consisting of sand, silt, sandy gravel, and cherty rubble are present at the site.
8. Data describing existing discharge water quality (if any) (1) & (2)
9. Receiving water name – Kess Creek
10. TMDLs and Pollutants of Concern in Receiving Waters: (1 DEA)
11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.
12. Potential sources of pollutants:

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

KyTC BMP Plan for Project CID 01 - 801

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.
 - 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.

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

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

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- 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 : Channel Lining

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 Section Engineer if there any hazardous wastes being generated at the project site and how these wastes are being managed. Site personnel will be instructed with regard to proper storage and handling of hazardous wastes when required. The Transportation Cabinet will file for generator, registration when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.

4. Spill Prevention

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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. (1)

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E. Maintenance

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.
- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.
 - Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post construction storm water management with specific guidance for any non-routine maintenance. (1)

F. Inspections

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

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by individuals that have successfully completed the KEPSC-RI course as required by Section 213.02.02 of the Standard Specifications for Road and Bridge Construction, current edition.
- Inspection reports will be written, signed, dated, and kept on file.
- Areas at final grade will be seeded and mulched within 14 days.
- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.

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- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 50 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. Non – Storm Water discharges

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

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

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

H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

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

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

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

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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.)

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2012* and *Standard Drawings, Edition of 2016*.

SUPPLEMENTAL SPECIFICATIONS

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

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

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

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

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

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

2.3 Power.

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

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

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

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

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

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

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

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

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

Effective June 15, 2012

SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

1.0 DESCRIPTION. Install barcode label on sheeting signs. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

2.0 MATERIALS. The Department will provide the Contractor with a 2 inch x 1 inch foil barcode label for each permanent sheeting sign. A unique number will be assigned to each barcode label.

The Contractor shall contact the Operations and Pavement Management Branch in the Division of Maintenance at (502) 564-4556 to obtain the barcode labels.

3.0 CONSTRUCTION. Apply foil barcode label in the lower right quadrant of the sign back. Signs where the bottom edge is not parallel to the ground, the lowest corner of the sign shall serve as the location to place the barcode label. The barcode label shall be placed no less than one-inch and no more than three inches from any edge of the sign. The barcode must be placed so that the sign post does not cover the barcode label.

Barcodes shall be applied in an indoor setting with a minimum air temperature of 50°F or higher. Prior to application of the barcode label, the back of the sign must be clean and free of dust, oil, etc. If the sign is not clean, an alcohol swab shall be used to clean the area. The area must be allowed to dry prior to placement of the barcode label.

Data for each sign shall include the barcode number, MUTCD reference number, sheeting manufacturer, sheeting type, manufacture date, color of primary reflective surface, installation date, latitude and longitude using the North American Datum of 1983 (NAD83) or the State Plane Coordinates using an x and y ordinate of the installed location.

Data should be provided electronically on the TC 71-229 Sign Details Information and TC 71-230 Sign Assembly Information forms. The Contractor may choose to present the data in a different format provided that the information submitted to the Department is equivalent to the information required on the Department TC forms. The forms must be submitted in electronic format regardless of which type of form is used. The Department will not accept PDF or handwritten forms. These completed forms must be submitted to the Department prior to final inspection of the signs. The Department will not issue formal acceptance for the project until the TC 71-229 and TC-230 electronic forms are completed for all signs and sign assemblies on the project.

4.0 MEASUREMENT. The Department will measure all work required for the installation of the barcode label and all work associated with completion and submission of the sign inventory data (TC 71-229 and TC 71-230).

The installation of the permanent sign will be measured in accordance to Section 715.

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

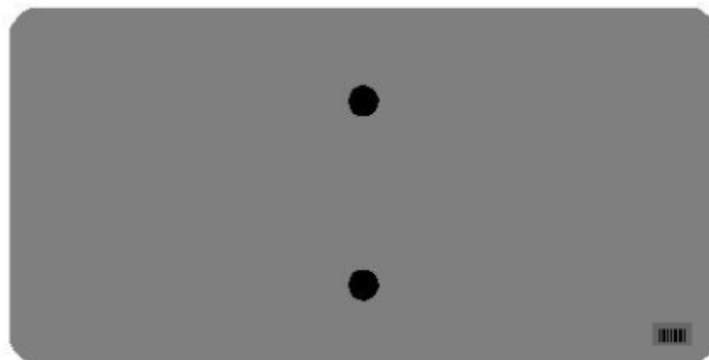
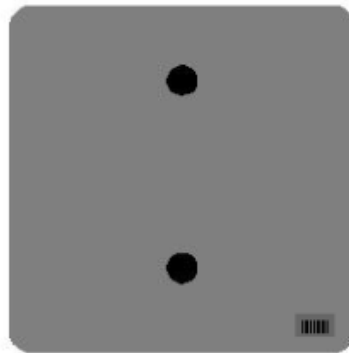
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

The Department will not make payment for this item until all barcodes are installed and sign inventory is complete on every permanent sign installed on the project. The Department will make payment for installation of the permanent sign in accordance to Section 715. The Department will consider payment as full compensation for all work required under this special note.

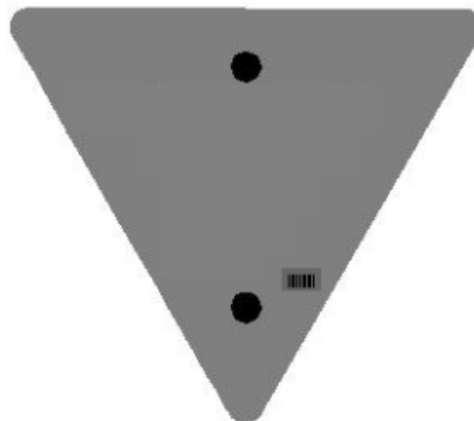
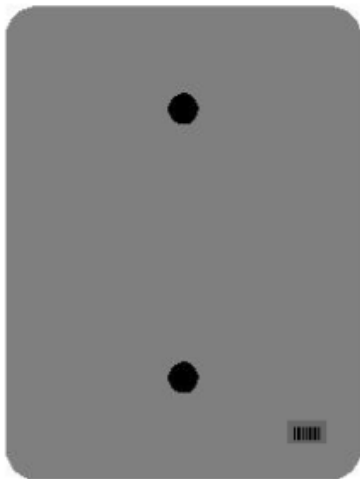
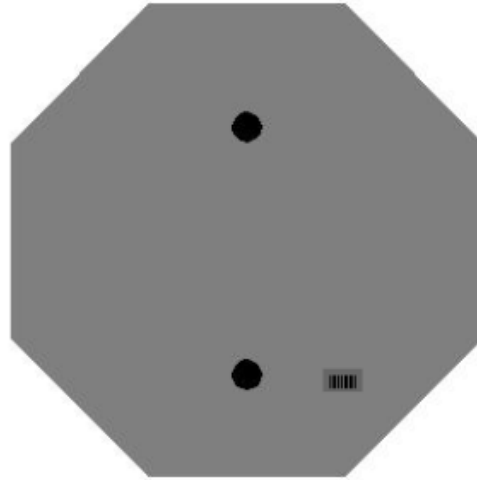
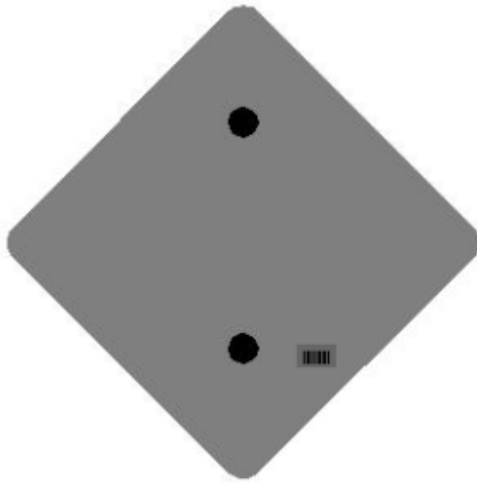
One Sign Post



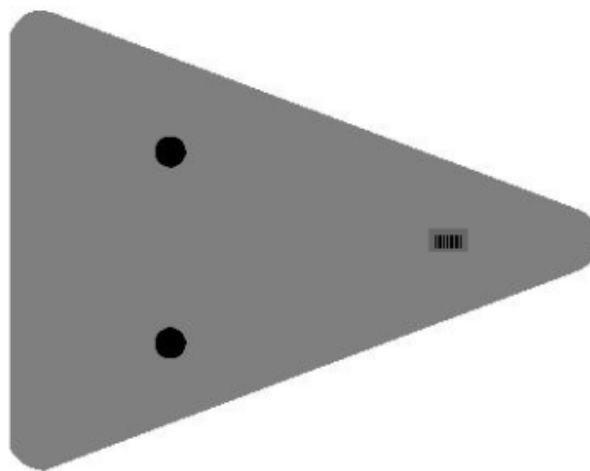
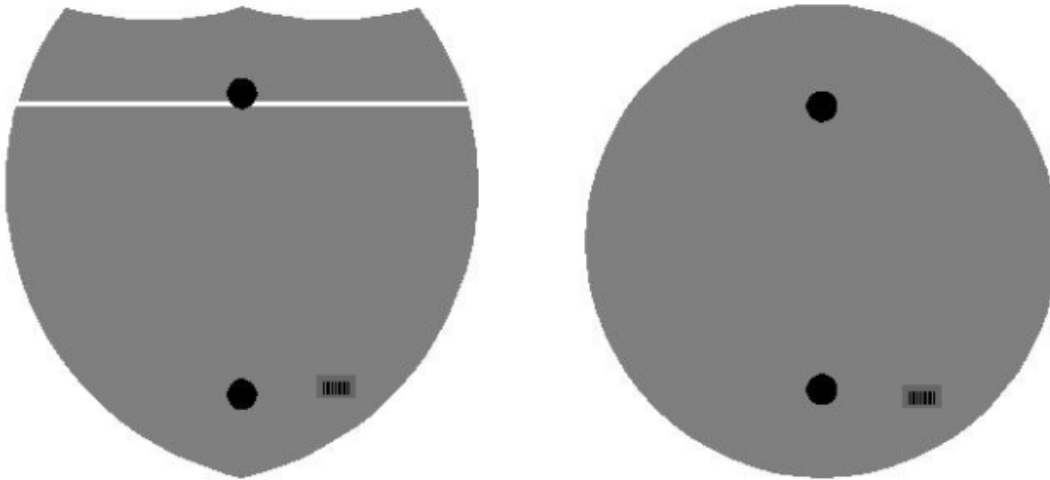
↑
2" Wide Post



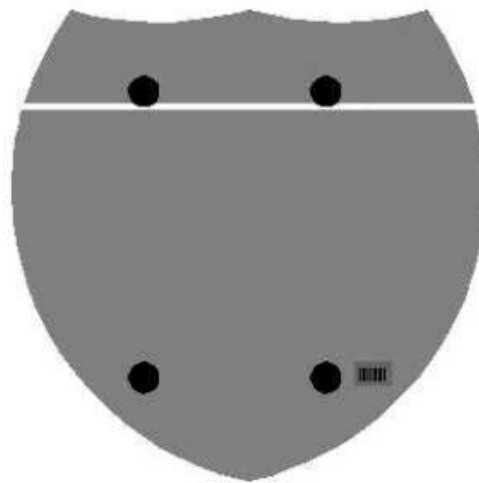
One Sign Post



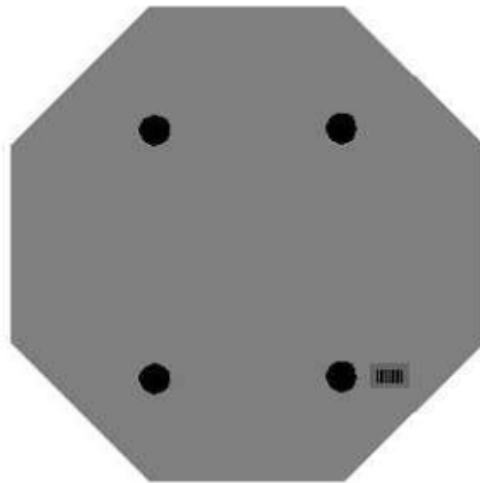
One Sign Post



Double Sign Post



Interstate
Shield

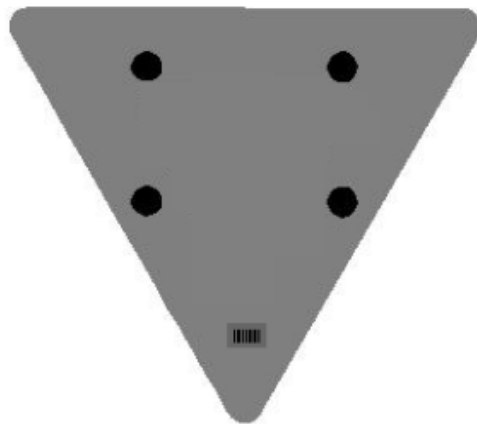


48" Stop

2 Post Signs



↑
2" Wide Post



SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE

1. DESCRIPTION. This specification covers the requirements and practices for applying an asphalt adhesive material to the longitudinal joint of the surface course of an asphalt pavement. Apply the adhesive to the face of longitudinal joint between driving lanes for the first lane paved. Then, place and compact the adjacent lane against the treated face to produce a strong, durable, waterproof longitudinal joint.
2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide an adhesive conforming to the following requirements:

Property	Specification	Test Procedure
Viscosity, 400 ° F (Pa·s)	4.0 – 10.0	ASTM D 4402
Cone Penetration, 77 ° F	60 – 100	ASTM D 5329
Flow, 140 ° F (mm)	5.0 max.	ASTM D 5329
Resilience, 77 ° F (%)	30 min.	ASTM D 5329
Ductility, 77 ° F (cm)	30.0 min.	ASTM D 113
Ductility, 39 ° F (cm)	30.0 min.	ASTM D 113
Tensile Adhesion, 77 ° F (%)	500 min.	ASTM D 5329, Type II
Softening Point, ° F	171 min.	AASHTO T 53
Asphalt Compatibility	Pass	ASTM D 5329

Ensure the temperature of the pavement joint adhesive is between 380 and 410 °F when the material is extruded in a 0.125-inch-thick band over the entire face of the longitudinal joint.

2.2. Equipment.

2.2.1 Melter Kettle. Provide an oil-jacketed, double-boiler, melter kettle equipped with any needed agitation and recirculating systems.

2.2.2 Applicator System. Provide a pressure-feed-wand applicator system with an applicator shoe attached.

2.3 Personnel. Ensure a technical representative from the manufacturer of the pavement joint adhesive is present during the initial construction activities and available upon the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the pavement joint adhesive, ensure the face of the longitudinal joint is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the joint face by the use of compressed air.

11N

Ensure this preparation process occurs shortly before application to prevent the return of debris on the joint face.

3.2 Pavement Joint Adhesive Application. Ensure the ambient temperature is a minimum of 40 ° F during the application of the pavement joint adhesive. Prior to applying the adhesive, demonstrate competence in applying the adhesive according to this note to the satisfaction of the Engineer. Heat the adhesive in the melter kettle to the specified temperature range. Pump the adhesive from the melter kettle through the wand onto the vertical face of the cold joint. Apply the adhesive in a continuous band over the entire face of the longitudinal joint. Do not use excessive material in either thickness or location. Ensure the edge of the extruded adhesive material is flush with the surface of the pavement. Then, place and compact the adjacent lane against the joint face. Remove any excessive material extruded from the joint after compaction (a small line of material may remain).

3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive's certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a random sample of pavement joint adhesive from each manufacturer's lot of material. Extrude two 5 lb. samples of the heated material and forward the sample to the Division of Materials for testing. Reynolds oven bags, turkey size, placed inside small cardboard boxes or cement cylinder molds have been found suitable. Ensure the product temperature is 400°F or below at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of Pavement Joint Adhesive in linear feet. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of Pavement Joint Adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the Pavement Joint Adhesive.
5. PAYMENT. The Department will pay for the Pavement Joint Adhesive at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

11N

Pavement Joint Adhesive Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Joint Adhesive Referenced in Subsection 2.1.1						
Viscosity, 400 ° F (Pa•s) ASTM D 3236	4.0-10.0	3.5-10.5	3.0-3.4 10.6-11.0	2.5-2.9 11.1-11.5	2.0-2.4 11.6-12.0	≤1.9 ≥ 12.1
Cone Penetration, 77 ° F ASTM D 5329	60-100	57-103	54-56 104-106	51-53 107-109	48-50 110-112	≤ 47 ≥ 113
Flow, 140 ° F (mm) ASTM D 5329	≤ 5.0	≤ 5.5	5.6-6.0	6.1-6.5	6.6-7.0	≥ 7.1
Resilience, 77 ° F (%) ASTM D 5329	≥ 30	≥ 28	26-27	24-25	22-23	≤ 21
Tensile Adhesion, 77 ° F (%) ASTM D 5329	≥ 500	≥ 490	480-489	470-479	460-469	≤ 459
Softening Point, ° F AASHTO T 53	≥ 171	≥ 169	166-168	163-165	160-162	≤ 159
Ductility, 77 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9
Ductility, 39 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9

Code
20071EC

Pay Item
Joint Adhesive

Pay Unit
Linear Foot

May 7, 2014

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)

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.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

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

Revised: January 25, 2017

II. NONDISCRIMINATION OF EMPLOYEES

**AN ACT OF THE KENTUCKY
GENERAL ASSEMBLY TO PREVENT
DISCRIMINATION IN EMPLOYMENT
KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

EXECUTIVE BRANCH CODE OF ETHICS

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

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

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

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

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

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

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

Kentucky Equal Employment Opportunity Act of 1978

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

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

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

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

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

EMPLOYEE RIGHTS UNDER THE FAIR LABOR STANDARDS ACT

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

FEDERAL MINIMUM WAGE

\$7.25 PER HOUR

BEGINNING JULY 24, 2009

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

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

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

No more than

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

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

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

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

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

ADDITIONAL INFORMATION

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

For additional information:



1-866-4-USWAGE

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



WWW.WAGEHOUR.DOL.GOV

PART IV
INSURANCE

INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

- 1) Commercial General Liability-Occurrence form – not less than \$2,000,000 General aggregate, \$2,000,000 Products & Completed Aggregate, \$1,000,000 Personal & Advertising, \$1,000,000 each occurrence.
- 2) Automobile Liability- \$1,000,000 per accident
- 3) Employers Liability:
 - a) \$100,000 Each Accident Bodily Injury
 - b) \$500,000 Policy limit Bodily Injury by Disease
 - c) \$100,000 Each Employee Bodily Injury by Disease
- 4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
 - a) "policy contains no deductible clauses."
 - b) "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."
- 5) KENTUCKY WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

PART V
BID ITEMS

PROPOSAL BID ITEMS

191208

Page 1 of 5

Report Date 3/19/19

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	101,008.00	TON		\$	
0020	00008		CEMENT STABILIZED ROADBED	139,653.00	SQYD		\$	
0030	00100		ASPHALT SEAL AGGREGATE	546.00	TON		\$	
0040	00103		ASPHALT SEAL COAT	65.00	TON		\$	
0050	00190		LEVELING & WEDGING PG64-22	187.00	TON		\$	
0060	00212		CL2 ASPH BASE 1.00D PG64-22	44,702.00	TON		\$	
0070	00221		CL2 ASPH BASE 0.75D PG64-22	896.00	TON		\$	
0080	00301		CL2 ASPH SURF 0.38D PG64-22	13,649.00	TON		\$	
0090	00356		ASPHALT MATERIAL FOR TACK	70.30	TON		\$	
0100	00358		ASPHALT CURING SEAL	148.00	TON		\$	
0110	02084		JPC PAVEMENT-8 IN	635.50	SQYD		\$	
0120	02542		CEMENT	2,815.00	TON		\$	
0130	02599		FABRIC-GEOTEXTILE TYPE IV	34,158.00	SQYD		\$	
0140	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0150	02677		ASPHALT PAVE MILLING & TEXTURING	102.00	TON		\$	
0160	02702		SAND FOR BLOTTER	371.00	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0170	00078		CRUSHED AGGREGATE SIZE NO 2	14.00	TON		\$	
0180	01001		PERFORATED PIPE-6 IN	871.00	LF		\$	
0190	01011		NON-PERFORATED PIPE-6 IN	180.00	LF		\$	
0200	01029		PERF PIPE HEADWALL TY 3-6 IN	5.00	EACH		\$	
0210	01033		PERF PIPE HEADWALL TY 4-6 IN	9.00	EACH		\$	
0220	01310		REMOVE PIPE	1,115.00	LF		\$	
0230	01718		REMOVE INLET	1.00	EACH		\$	
0240	01741		CORED HOLE DRAINAGE BOX CON-6 IN	1.00	EACH		\$	
0250	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	2.00	EACH		\$	
0260	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	8.00	EACH		\$	
0270	02014		BARRICADE-TYPE III	22.00	EACH		\$	
0280	02091		REMOVE PAVEMENT	7,733.00	SQYD		\$	
0290	02159		TEMP DITCH	6,964.00	LF		\$	
0300	02160		CLEAN TEMP DITCH	3,482.00	LF		\$	
0310	02200		ROADWAY EXCAVATION	302,584.00	CUYD		\$	
0320	02219		PIPE UNDERCUT	685.00	CUYD		\$	
0330	02223		GRANULAR EMBANKMENT	5,474.00	CUYD		\$	
0340	02242		WATER (FOR DUST CONTROL)	736.00	MGAL		\$	
0350	02262		FENCE-WOVEN WIRE TYPE 1	27,155.00	LF		\$	
0360	02265		REMOVE FENCE	6,740.00	LF		\$	
0370	02351		GUARDRAIL-STEEL W BEAM-S FACE	700.00	LF		\$	
0380	02360		GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH		\$	
0390	02367		GUARDRAIL END TREATMENT TYPE 1	2.00	EACH		\$	
0400	02369		GUARDRAIL END TREATMENT TYPE 2A	2.00	EACH		\$	

PROPOSAL BID ITEMS

191208

Page 2 of 5

Report Date 3/19/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0410	02381		REMOVE GUARDRAIL	2,601.00	LF		\$	
0420	02404		SEPTIC TANK TREATMENT	2.00	EACH		\$	
0430	02429		RIGHT-OF-WAY MONUMENT TYPE 1	38.00	EACH		\$	
0440	02430		RIGHT-OF-WAY MONUMENT TYPE 1A	1.00	EACH		\$	
0450	02432		WITNESS POST	39.00	EACH		\$	
0460	02475		PLUG WATER WELL	2.00	EACH		\$	
0470	02483		CHANNEL LINING CLASS II	6,679.00	TON		\$	
0480	02484		CHANNEL LINING CLASS III	1,522.00	TON		\$	
0490	02545		CLEARING AND GRUBBING (APPROXIMATELY 118 ACRES)	1.00	LS		\$	
0500	02555		CONCRETE-CLASS B	45.00	CUYD		\$	
0510	02562		TEMPORARY SIGNS	1,652.00	SQFT		\$	
0520	02585		EDGE KEY	299.00	LF		\$	
0530	02596		FABRIC-GEOTEXTILE TYPE I	12,974.00	SQYD		\$	
0540	02598		FABRIC-GEOTEXTILE TYPE III	10,250.00	SQYD		\$	
0550	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	6,732.00	SQYD	\$2.00	\$	\$13,464.00
0560	02625		REMOVE HEADWALL	18.00	EACH		\$	
0570	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0580	02651		DIVERSIONS (BY-PASS DETOURS) (CENTRAL ROAD STA. 6+76 TO STA. 32+06)	1.00	LS		\$	
0590	02651		DIVERSIONS (BY-PASS DETOURS) (US 45/KY 58 STA. 3+48 TO STA. 22+21)	1.00	LS		\$	
0600	02651		DIVERSIONS (BY-PASS DETOURS) (US 45/KY 58 STA. 30+00 TO STA. 50+27)	1.00	LS		\$	
0610	02653		LANE CLOSURE	2.00	EACH		\$	
0620	02671		PORTABLE CHANGEABLE MESSAGE SIGN	5.00	EACH		\$	
0630	02696		SHOULDER RUMBLE STRIPS	51,175.00	LF		\$	
0640	02701		TEMP SILT FENCE	6,964.00	LF		\$	
0650	02703		SILT TRAP TYPE A	118.00	EACH		\$	
0660	02704		SILT TRAP TYPE B	118.00	EACH		\$	
0670	02705		SILT TRAP TYPE C	118.00	EACH		\$	
0680	02706		CLEAN SILT TRAP TYPE A	118.00	EACH		\$	
0690	02707		CLEAN SILT TRAP TYPE B	118.00	EACH		\$	
0700	02708		CLEAN SILT TRAP TYPE C	118.00	EACH		\$	
0710	02726		STAKING	1.00	LS		\$	
0720	02731		REMOVE STRUCTURE (2 SPAN CONCRETE BRIDGE @ STA. 356+39 KY 80)	1.00	LS		\$	
0730	02731		REMOVE STRUCTURE (4'X4' BOX CULVERT @ STA. 34+40 US 45/KY 58)	1.00	LS		\$	
0740	02775		ARROW PANEL	4.00	EACH		\$	
0750	03171		CONCRETE BARRIER WALL TYPE 9T	620.00	LF		\$	
0760	04934		TEMP SIGNAL MULTI PHASE	1.00	EACH		\$	
0770	05950		EROSION CONTROL BLANKET	39,081.00	SQYD		\$	
0780	05952		TEMP MULCH	380,747.00	SQYD		\$	
0790	05953		TEMP SEEDING AND PROTECTION	285,560.00	SQYD		\$	
0800	05963		INITIAL FERTILIZER	11.00	TON		\$	
0810	05964		MAINTENANCE FERTILIZER	18.00	TON		\$	
0820	05985		SEEDING AND PROTECTION	280,034.00	SQYD		\$	
0830	05990		SODDING	29,128.00	SQYD		\$	
0840	05992		AGRICULTURAL LIMESTONE	174.00	TON		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0850	06401		FLEXIBLE DELINEATOR POST-M/W	304.00	EACH		\$	
0860	06449		REM OVERHEAD SIGN SUPPORT STR	6.00	EACH		\$	
0870	06450		REM OVERHEAD STRUC CONC BASE	6.00	EACH		\$	
0880	06451		REMOVE SIGN SUPPORT BEAM	3.00	EACH		\$	
0890	06510		PAVE STRIPING-TEMP PAINT-4 IN	36,643.00	LF		\$	
0900	06514		PAVE STRIPING-PERM PAINT-4 IN	108,573.00	LF		\$	
0910	06517		PAVE STRIPING-PERM PAINT-12 IN	795.00	LF		\$	
0920	06550		PAVE STRIPING-TEMP REM TAPE-W	1,175.00	LF		\$	
0930	06551		PAVE STRIPING-TEMP REM TAPE-Y	1,472.00	LF		\$	
0940	06562		PAVE MARKING-THERMO R 6 FT	10.00	EACH		\$	
0950	06563		PAVE MARKING-R/R XBUCKS 16 IN	100.00	LF		\$	
0960	06568		PAVE MARKING-THERMO STOP BAR-24IN	689.00	LF		\$	
0970	06569		PAVE MARKING-THERMO CROSS-HATCH	41,004.00	SQFT		\$	
0980	06572		PAVE MARKING-DOTTED LANE EXTEN	179.00	LF		\$	
0990	06574		PAVE MARKING-THERMO CURV ARROW	67.00	EACH		\$	
1000	06588		PAVEMENT MARKER TY IVA-BY TEMP	532.00	EACH		\$	
1010	08100		CONCRETE-CLASS A	9.00	CUYD		\$	
1020	08150		STEEL REINFORCEMENT	163.00	LB		\$	
1030	08900		CRASH CUSHION TY VI CLASS B TL2	1.00	EACH		\$	
1040	10020NS		FUEL ADJUSTMENT	197,115.00	DOLL	\$1.00	\$	\$197,115.00
1050	10030NS		ASPHALT ADJUSTMENT	233,470.00	DOLL	\$1.00	\$	\$233,470.00
1060	20099ES842		PAVE MARK TEMP PAINT STOP BAR	208.00	LF		\$	
1070	20100ES842		PAVE MARK TEMP PAINT LINE ARROW	11.00	EACH		\$	
1080	20191ED		OBJECT MARKER TY 3	2.00	EACH		\$	
1090	20432ES112		REMOVE CRASH CUSHION	1.00	EACH		\$	
1100	20591EC		REMOVE BARRIER	660.00	LF		\$	
1110	23265ES717		PAVE MARK TY 1 TAPE STOP BAR-24 IN	15.00	LF		\$	
1120	23649EC		DRAIN POND (STA. 474+00)	1.00	LS		\$	
1130	23649EC		DRAIN POND (STA. 480+00)	1.00	LS		\$	
1140	24489EC		INLAID PAVEMENT MARKER	719.00	EACH		\$	
1150	24631EC		BARCODE SIGN INVENTORY	2.00	EACH		\$	
1160	24679ED		PAVE MARK THERMO CHEVRON	3,924.00	SQFT		\$	
1170	24814EC		PIPELINE INSPECTION	1,664.00	LF		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1180	00440		ENTRANCE PIPE-15 IN	692.00	LF		\$	
1190	00441		ENTRANCE PIPE-18 IN	49.00	LF		\$	
1200	00443		ENTRANCE PIPE-24 IN	151.00	LF		\$	
1210	00445		ENTRANCE PIPE-30 IN	56.00	LF		\$	
1220	00451		ENTRANCE PIPE-18 IN EQUIV	36.00	LF		\$	
1230	00452		ENTRANCE PIPE-24 IN EQUIV	138.00	LF		\$	
1240	00462		CULVERT PIPE-18 IN	1,755.00	LF		\$	
1250	00464		CULVERT PIPE-24 IN	882.00	LF		\$	
1260	00464		CULVERT PIPE-24 IN (CMP 16 GAGE - NO ALTERNATE)	33.00	LF		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1270	00466		CULVERT PIPE-30 IN	148.00	LF		\$	
1280	00469		CULVERT PIPE-42 IN	50.00	LF		\$	
1290	00470		CULVERT PIPE-48 IN	251.00	LF		\$	
1300	00491		CULVERT PIPE-18 IN EQUIV	61.00	LF		\$	
1310	00492		CULVERT PIPE-24 IN EQUIV	148.00	LF		\$	
1320	01204		PIPE CULVERT HEADWALL-18 IN	8.00	EACH		\$	
1330	01208		PIPE CULVERT HEADWALL-24 IN	8.00	EACH		\$	
1340	01216		PIPE CULVERT HEADWALL-48 IN	2.00	EACH		\$	
1350	01370		METAL END SECTION TY 1-15 IN	30.00	EACH		\$	
1360	01371		METAL END SECTION TY 1-18 IN	2.00	EACH		\$	
1370	01373		METAL END SECTION TY 1-24 IN	4.00	EACH		\$	
1380	01374		METAL END SECTION TY 1-30 IN	2.00	EACH		\$	
1390	01391		METAL END SECTION TY 3-18 IN	10.00	EACH		\$	
1400	01393		METAL END SECTION TY 3-24 IN	8.00	EACH		\$	
1410	01394		METAL END SECTION TY 3-30 IN	2.00	EACH		\$	
1420	01396		METAL END SECTION TY 3-42 IN	2.00	EACH		\$	
1430	01411		METAL END SECTION TY 4-18 IN	9.00	EACH		\$	
1440	01420		METAL END SECTION TY 1-24 IN (EQUIV)	8.00	EACH		\$	
1450	01421		METAL END SECTION TY 3-18 IN (EQUIV)	2.00	EACH		\$	
1460	01422		METAL END SECTION TY 4-24 IN (EQUIV)	1.00	EACH		\$	
1470	01505		DROP BOX INLET TYPE 5B	18.00	EACH		\$	
1480	23987EC		METAL END SECTION TY 3-24 IN (EQUIV)	1.00	EACH		\$	
1490	24697EC		METAL END SECTION TY 1-18 IN (EQUIV)	2.00	EACH		\$	

Section: 0004 - BRIDGE - CULVERT - STA. 376+19.00 - DWG. 25416

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1500	02223		GRANULAR EMBANKMENT	187.00	CUYD		\$	
1510	08001		STRUCTURE EXCAVATION-COMMON	242.00	CUYD		\$	
1520	08003		FOUNDATION PREPARATION	1.00	LS		\$	
1530	08100		CONCRETE-CLASS A	405.80	CUYD		\$	
1540	08150		STEEL REINFORCEMENT	54,336.00	LB		\$	

Section: 0005 - BRIDGE - CULVERT - STA. 386+39.00 - DWG. 25417

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1550	08003		FOUNDATION PREPARATION	1.00	LS		\$	
1560	08100		CONCRETE-CLASS A	396.40	CUYD		\$	
1570	08150		STEEL REINFORCEMENT	67,025.00	LB		\$	

Section: 0006 - BRIDGE - CULVERT - STA. 34+40 - DWG. 25418

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1580	02231		STRUCTURE GRANULAR BACKFILL	1,069.00	CUYD		\$	
1590	08003		FOUNDATION PREPARATION	1.00	LS		\$	
1600	08100		CONCRETE-CLASS A	256.30	CUYD		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1610	08150		STEEL REINFORCEMENT	22,753.00	LB		\$	

Section: 0007 - SIGNALIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1620	04792		CONDUIT-1 IN	130.00	LF		\$	
1630	04811		ELECTRICAL JUNCTION BOX TYPE B (REVISED: 3-19-19)	11.00	EACH		\$	
1640	04820		TRENCHING AND BACKFILLING	1,360.00	LF		\$	
1650	04830		LOOP WIRE	3,150.00	LF		\$	
1660	04844		CABLE-NO. 14/5C	2,635.00	LF		\$	
1670	04850		CABLE-NO. 14/1 PAIR	6,625.00	LF		\$	
1680	04886		MESSENGER-15400 LB	705.00	LF		\$	
1690	04895		LOOP SAW SLOT AND FILL	1,275.00	LF		\$	
1700	04905		BLANKOUT SIGN	2.00	EACH		\$	
1710	04932		INSTALL STEEL STRAIN POLE	4.00	EACH		\$	
1720	20188NS835		INSTALL LED SIGNAL-3 SECTION	12.00	EACH		\$	
1730	20266ES835		INSTALL LED SIGNAL- 4 SECTION	2.00	EACH		\$	
1740	20390NS835		INSTALL COORDINATING UNIT	1.00	EACH		\$	
1750	21543EN		BORE AND JACK CONDUIT (REVISED: 3-19-19)	280.00	LF		\$	
1760	23157EN		TRAFFIC SIGNAL POLE BASE	19.00	CUYD		\$	
1770	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80	345.00	LF		\$	
1780	24901EC		PVC CONDUIT-2 IN-SCHEDULE 80	540.00	LF		\$	
1790	24908EC		INSTALL SIGNAL CONTROLLER-TY ATC	1.00	EACH		\$	

Section: 0008 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1800	02568		MOBILIZATION	1.00	LS		\$	
1810	02569		DEMOBILIZATION	1.00	LS		\$	