



TRANSPORTATION CABINET

Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

November 7, 2014

CALL NO. 201
CONTRACT ID NO. 141291
ADDENDUM # 1

Subject: Fayette County, 121GR14D091-NHPP & JL04
Letting November 21, 2014

- (1) Revised - Railroad Note - Pages 166-167 of 360
- (2) Added - Notes - Pages 1-41 of 41
- (3) Revised - Bid Items - Pages 347-360(a) of 360

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in blue ink that reads "Diana Castle Radcliffe".

Diana Castle Radcliffe
Director
Division of Construction Procurement

DR:ks
Enclosures



An Equal Opportunity Employer M/F/D



Kentucky Transportation Cabinet
Division of Right of Way & Utilities

TC 69-008
08/2010
Page 1 of 2

SUMMARY FOR KYTC PROJECTS THAT INVOLVE A RAILROAD

Date: 11/5/2014 (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: Fayette
Federal Number: N/A
State Number: FD04 034 85341 01U
Route: KY 4
Project Description: New Circle Road Rehab and widening
Item Number: 07-113.00 Highway Milepost: 008-011

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

Rail Company Name: RJ Corman Railroad Company/Central Kentucky Lines dba RJ Corman Railroad Company/Versailles Line
AAR-DOT# (if applicable): 719 884A & 719 885G Railroad Milepost: 21.65 & 21.67
Daily Freight: Train Count (6am to 6pm): 2 Train Count (6pm to 6am): 2 Train Count (24 hr total): 4 Max Speed: 10 mph
Passenger: Train Count (6am to 6pm): 2 Train Count (6pm to 6am): 2 Train Count (24 hr total): 4 Max 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: RJ Corman Railroad Company/Versailles Line
 - (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:

KYTC will be responsible for paying all flagging costs.

Hourly Rate:

\$65.00 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 1/2 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 1/2 times the normal rate.

Forecasted Rate Increases:

Rates will increase to \$0.00 per hour based on a 0 hour day effective _____ (enter using M/d/yyyy format).

RAILROAD CONTACTS

(to be provided by Railroad Company)

General Railroad Contact:

Debbie Hawley
R.J. Corman Railroad Company
Central Kentucky Lines
P.O. Box 788
Nicholasville, KY 40356
(Phone) 859-881-2499
(Email) djhawley@rjcorman.com

Regional Representative (Roadmaster):

Adam Boyles
R.J. Corman Railroad Company
Central Kentucky Lines

(Phone) 859-388-0288
(Email) Adam.Boyles@rjcorman.com

Insurance contact:

Debbie Hawley
R.J. Corman Railroad Company
Central Kentucky Lines
P.O. Box 788
Nicholasville, KY 40356
(Phone) 859-881-2499
(Email) djhawley@rjcorman.com

Railroad Designer Contact:

Contractor or In-House Employee? Consultant

George Zimmerman, PE
Sr. Associate/Engineering Director
STV Ralph Whitehead Assc.
3505 Kroger Blvd., Suite 205
Duluth, GA 30096
(Phone) 770-452-0797
(Email) George.Zimmerman@stvinc.com

Railroad Construction Contact:

Contractor or In-House Employee? Consultant

George Zimmerman, PE
Sr. Associate/Engineering Director
STV Ralph Whitehead Assc.
3505 Kroger Blvd., Suite 205
Duluth, GA 30096
(Phone) 770-452-0797
(Email) George.Zimmerman@stvinc.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:

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

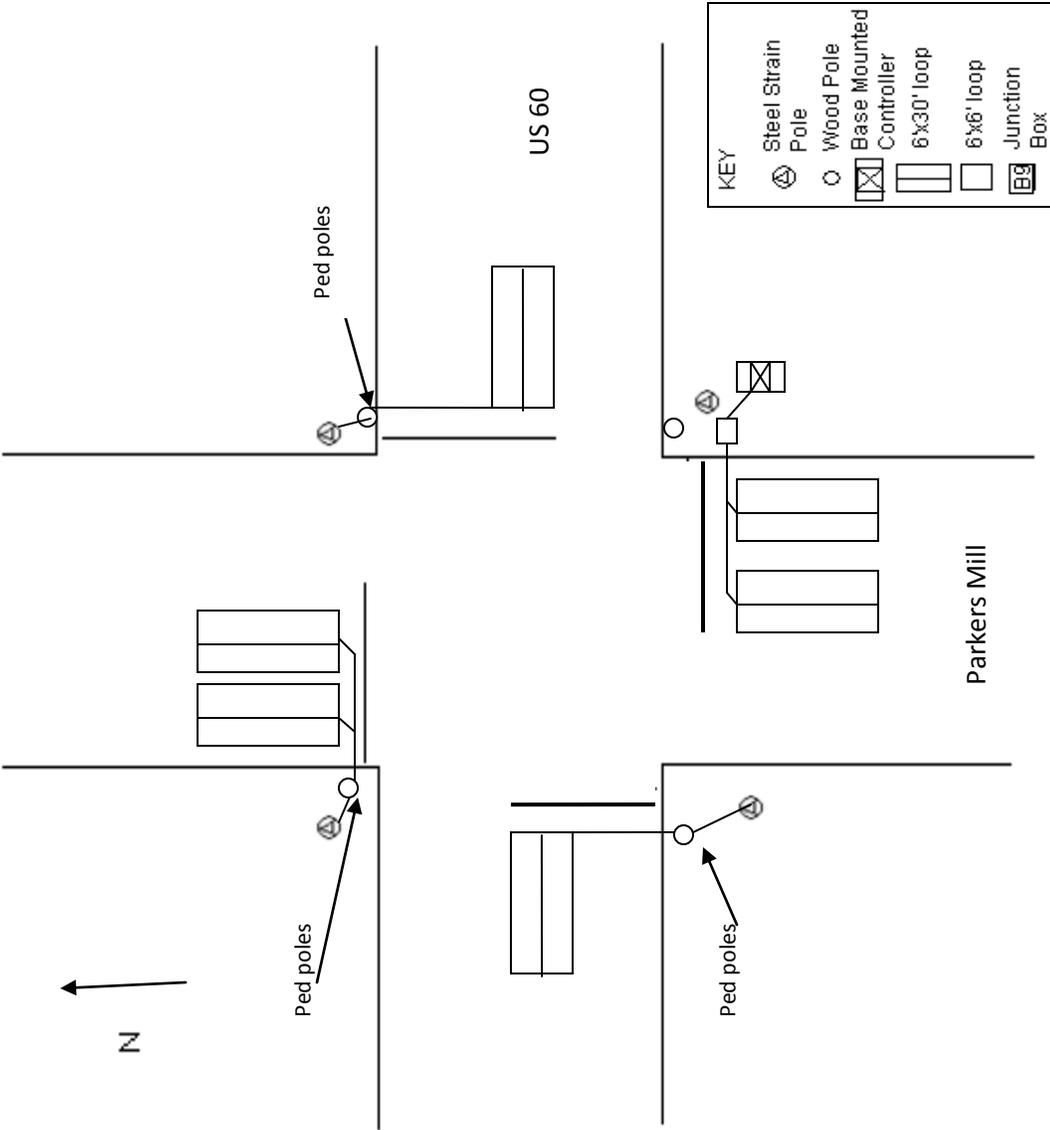
KYTC Construction Director:

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.

SIGNAL QTY ESTIMATE



County	Fayette
Route	US60- Versailles Rd
Side Street	Parkers Mill
MP	50272
Date	7/14/2014

COMMENTS:

JB located on SE corner. No other JB's visible. Quantities included

NOTE: Pertaining to Item 4850 Lead-in wire; contractor must test existing lead-in wire for re-usability. Quantity estimated in table below is for use only if existing is not adequate.

Bid item code	Bid item	Unit	EB Approach	WB Approach	NB Approach	SB Approach	Total
4830	Loop Wire	LF	365	365	675	635	2040
4850	Cable No. 14/1 pair	LF	170	210	40	570	990
4895	Loop saw slot and fill	LF	140	140	245	235	760
4793	Conduit (1 1/4")	LF	20	20	10	10	60
4820	Trenching & Backfilling	LF	20	20	10	10	60
4811	Junction Boxes Type B	Each	1	1	1	1	4

SIGNAL QTY ESTIMATE

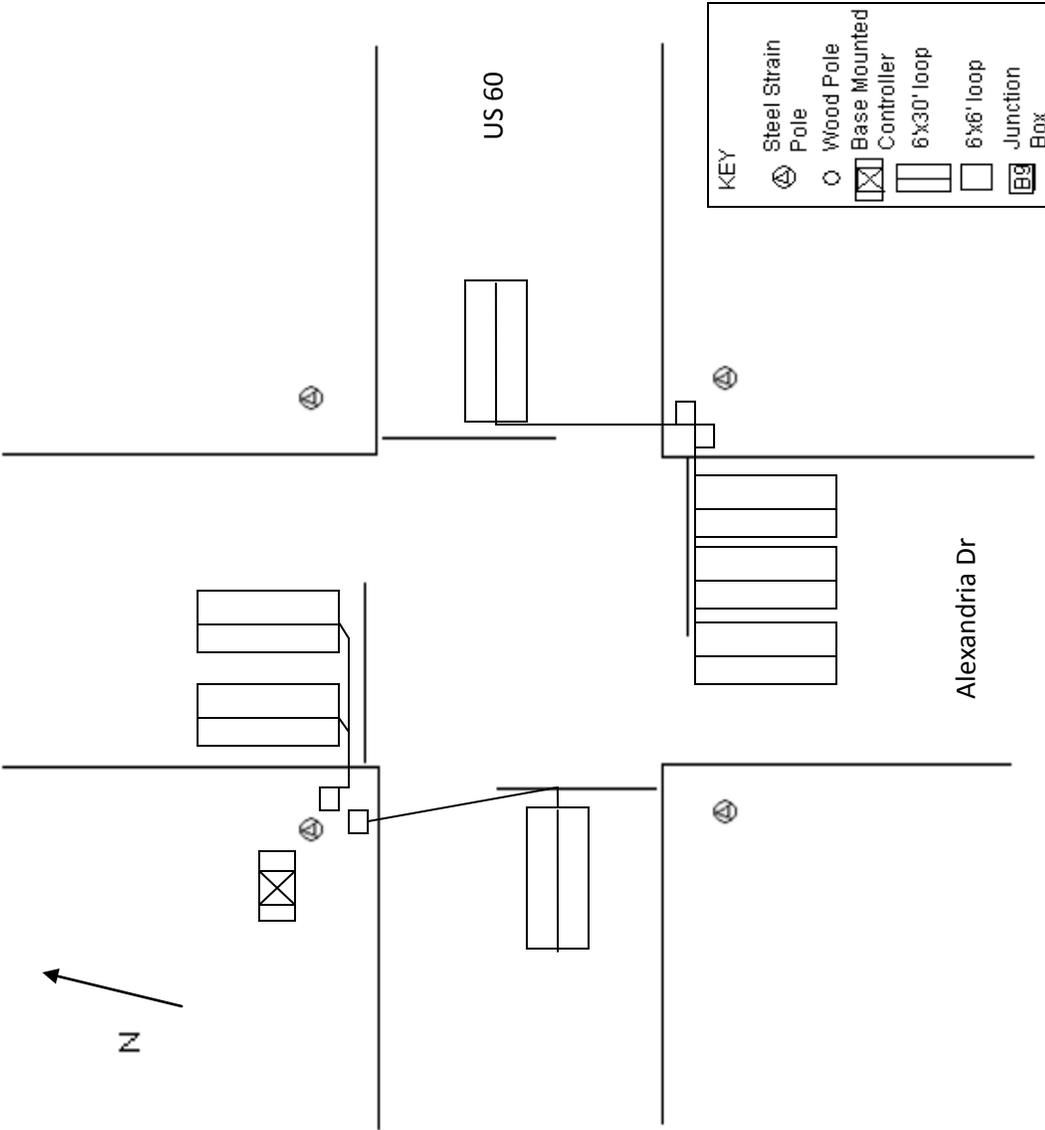
County	Fayette
Route	US 60 Versailles
Side Street	Alexandria Dr
MP	5.425
Date	3/4/2013

COMMENTS:

Added JB for EB phase 5 turn loop on cabinet side.

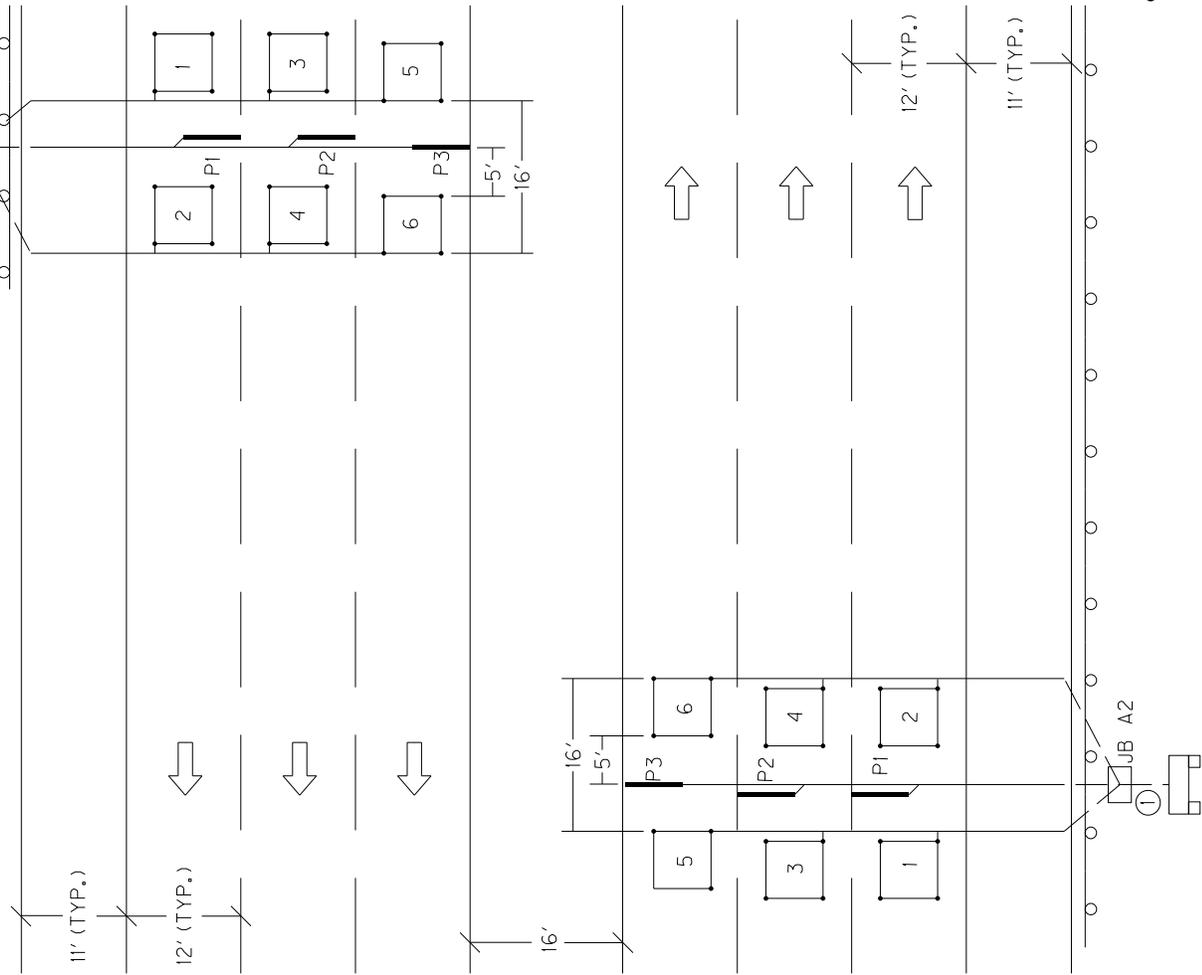
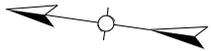
*WB Approach work may be eliminated in the field at the discretion of the Engineer.

NOTE: Pertaining to Item 4850 Lead-in wire; contractor must test existing lead-in wire for re-usability. Quantity provided in table below is for use only if existing is not adequate.



Bid item code	Bid item	Unit	EB Approach	WB Approach *	NB Approach	SB Approach	Total
4830	Loop Wire	LF	364	364	952	658	2338
4850	Cable No. 14/1 pair	LF	20	290	870	80	1260
4895	Loop saw slot and fill	LF	152	152	386	269	960
4793	Conduit (1 1/4")	LF	25				25
4820	Trenching & Backfilling	LF	20				20
4811	Junction Boxes Type B	Each	1				1

FAYETTE CO. US 60 m.p. 4.45
STATION G51



SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE EACH JUNCTION BOX AND CABINET. ALL LOOPS AND PIEZOS SHALL BE LABELED IN ALL JUNCTION BOXES AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

INSTALL ONE (1) 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

INSTALL TWO (2) TYPE A JUNCTION BOXES (JB A1 AND A2).

INSTALL TWO (2) 20"X20"X8" CABINETS MOUNTED TO TWO (2) WOOD POSTS (EACH).

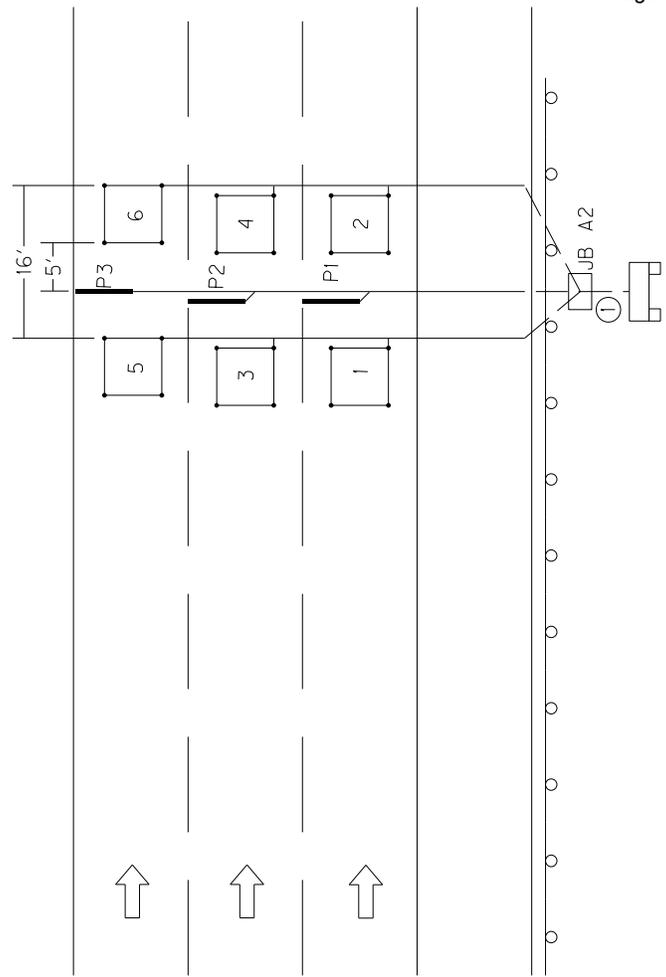
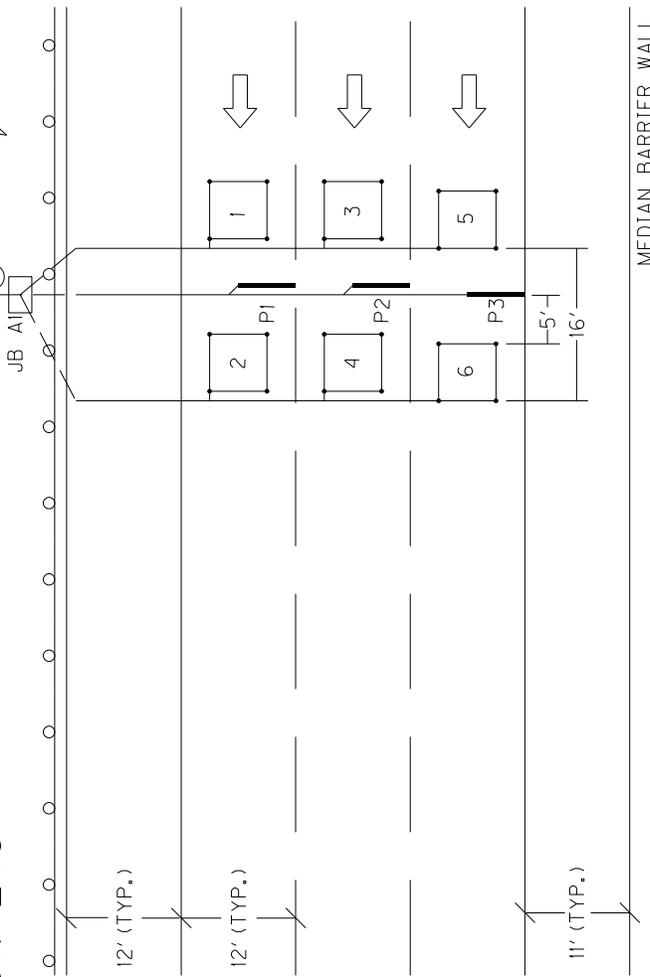
CODED NOTE:

- ① INSTALL ONE (1) 2" CONDUIT.

**PERMANENT TRAFFIC DATA ACQUISITION STATIONS
 ESTIMATE OF QUANTITIES**

Bid Item Code	Description	Unit	Quantity
2562	SIGNS	SQ FT	
2650	MAINTAIN AND CONTROL TRAFFIC	LP SUM	
2775	FLASHING ARROW	EACH	
4791	CONDUIT ¾ INCH	LIN FT	
4793	CONDUIT 1 ¼ INCH	LIN FT	80
4795	CONDUIT 2 INCH	LIN FT	20
4810	JUNCTION BOX	EACH	
4811	JUNCTION BOX TYPE B	EACH	
4820	TRENCHING AND BACKFILLING	LIN FT	90
4821	OPEN CUT ROADWAY	LIN FT	
4829	PIEZOELECTRIC SENSOR	EACH	6
4830	LOOP WIRE	LIN FT	2900
4850	CABLE NO. 14/1 PAIR	LIN FT	
4871	POLE – 35’ WOODEN	EACH	
4895	LOOP SAW SLOT AND FILL	LIN FT	560
4899	ELECTRICAL SERVICE	EACH	
4901	TELEPHONE SERVICE	EACH	
20213EC	INSTALL PAD MOUNT ENCLOSURE	EACH	
20359EC	GALV STEEL CABINET	EACH	2
20360ES818	WOOD POST	EACH	4
20391ES835	JUNCTION BOX TYPE A	EACH	2
20392ES835	JUNCTION BOX TYPE C	EACH	
20468EC	JUNCTION BOX 10x8x4	EACH	
21543EN	BORE AND JACK PIPE – 2 IN	LIN FT	
23206EC	INSTALL CONTROLLER CABINET	EACH	

FAYETTE CO. KY 4 m.p. 5.51 (EB), 5.612 (WB)
STATION E49



SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED AND LABELED INSIDE EACH JUNCTION BOX AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

INSTALL ONE (1) 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

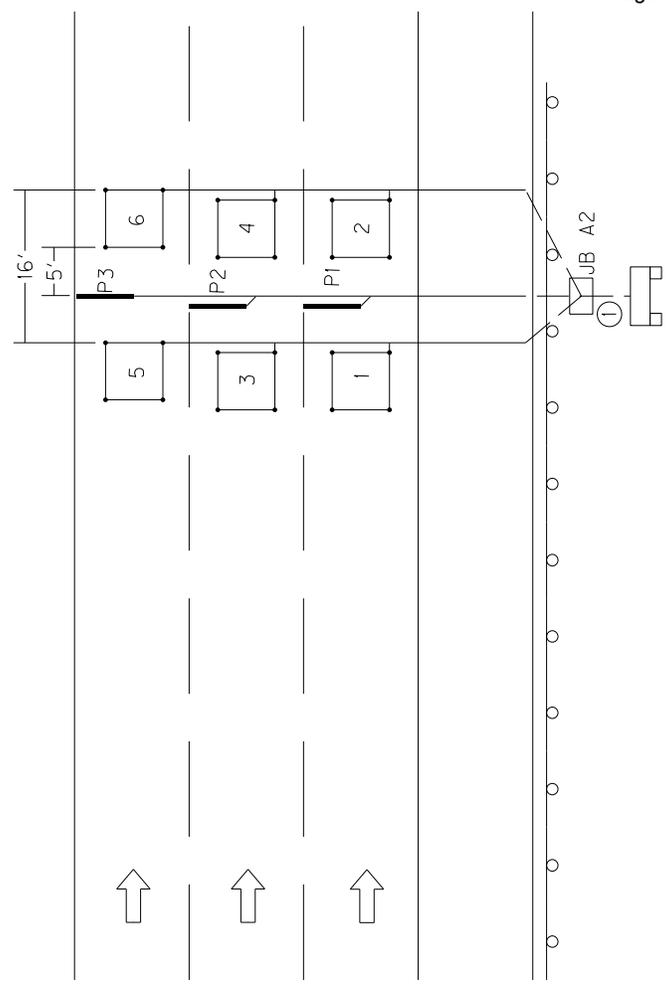
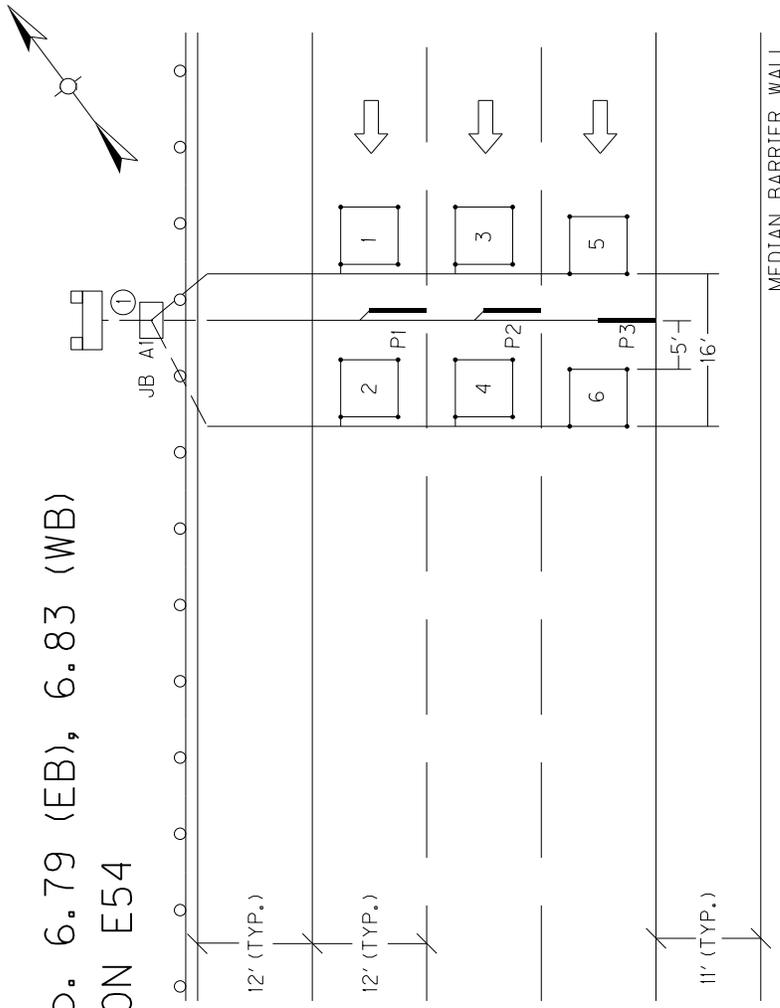
INSTALL TWO (2) TYPE A JUNCTION BOXES (JB A1 AND A2).

INSTALL TWO (2) 20"X20"X8" CABINETS MOUNTED TO TWO (2) WOOD POSTS (EACH).

CODED NOTE:

- ① INSTALL ONE (1) 2" CONDUIT.

FAYETTE CO. KY 4 m.p. 6.79 (EB), 6.83 (WB)
STATION E54



SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED AND LABELED INSIDE EACH JUNCTION BOX AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

INSTALL ONE (1) 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

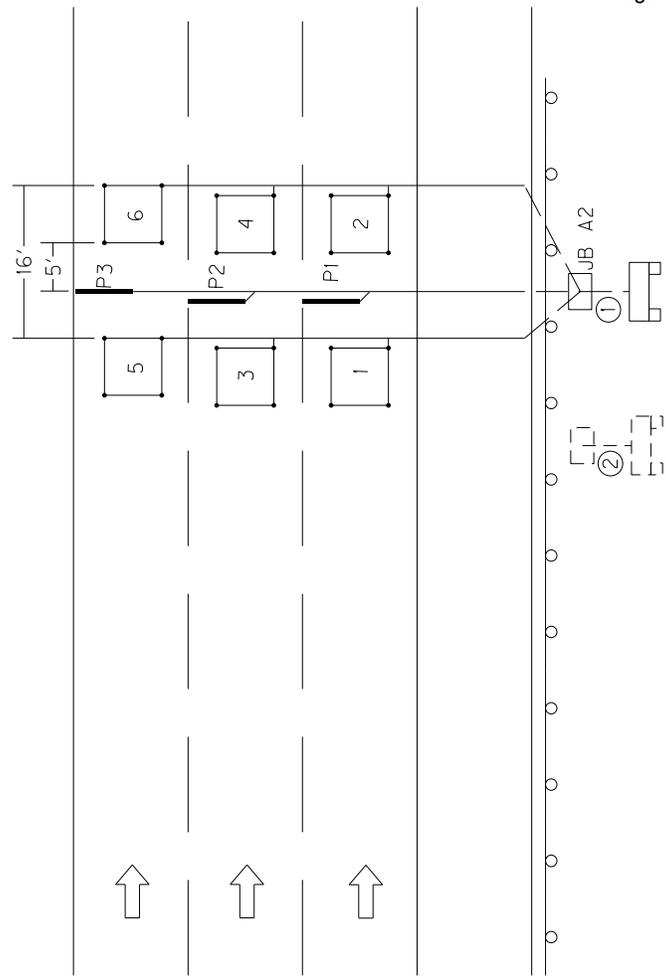
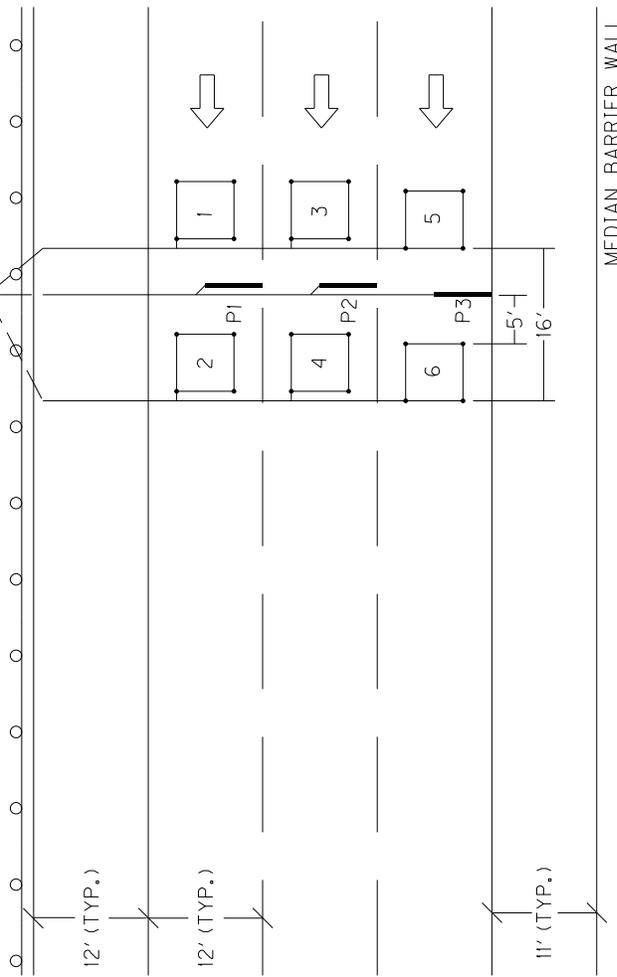
INSTALL TWO (2) TYPE A JUNCTION BOXES (JB A1 AND A2).

INSTALL TWO (2) 20"X20"X8" CABINETS MOUNTED TO TWO (2) WOOD POSTS (EACH).

CODED NOTE:

① INSTALL ONE (1) 2" CONDUIT.

FAYETTE CO. KY 4 m.p. 8.08 (EB), 8.10 (WB)
STATION E58



SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED AND LABELED INSIDE EACH JUNCTION BOX AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

INSTALL ONE (1) 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

INSTALL TWO (2) TYPE A JUNCTION BOXES (JB A1 AND A2).

INSTALL TWO (2) 20"X20"X8" CABINETS MOUNTED TO TWO (2) WOOD POSTS (EACH).

CODED NOTE:

- ① INSTALL ONE (1) 2" CONDUIT.
- ② REMOVE EXISTING 20"X20"X8" CABINET, JUNCTION BOX, CONDUIT, POSTS AND DISPOSE OF OFF THE PROJECT.

**PERMANENT TRAFFIC DATA ACQUISITION STATIONS
 ESTIMATE OF QUANTITIES**

Bid Item Code	Description	Unit	Quantity
2562	SIGNS	SQ FT	
2650	MAINTAIN AND CONTROL TRAFFIC	LP SUM	
2775	FLASHING ARROW	EACH	
4791	CONDUIT ¾ INCH	LIN FT	
4793	CONDUIT 1 ¼ INCH	LIN FT	240
4795	CONDUIT 2 INCH	LIN FT	60
4810	JUNCTION BOX	EACH	
4811	JUNCTION BOX TYPE B	EACH	
4820	TRENCHING AND BACKFILLING	LIN FT	270
4821	OPEN CUT ROADWAY	LIN FT	
4829	PIEZOELECTRIC SENSOR	EACH	18
4830	LOOP WIRE	LIN FT	8850
4850	CABLE NO. 14/1 PAIR	LIN FT	
4871	POLE – 35’ WOODEN	EACH	
4895	LOOP SAW SLOT AND FILL	LIN FT	1695
4899	ELECTRICAL SERVICE	EACH	
4901	TELEPHONE SERVICE	EACH	
20213EC	INSTALL PAD MOUNT ENCLOSURE	EACH	
20359EC	GALV STEEL CABINET	EACH	6
20360ES818	WOOD POST	EACH	12
20391ES835	JUNCTION BOX TYPE A	EACH	6
20392ES835	JUNCTION BOX TYPE C	EACH	
20468EC	JUNCTION BOX 10x8x4	EACH	
21543EN	BORE AND JACK PIPE – 2 IN	LIN FT	
23206EC	INSTALL CONTROLLER CABINET	EACH	

MATERIAL, INSTALLATION, AND BID ITEM NOTES FOR PERMANENT TRAFFIC DATA ACQUISITION STATIONS

1. DESCRIPTION

Except as specified in these notes, all work shall consist of furnishing and installing all materials necessary for permanent data acquisition station equipment installation(s) and shall be performed in accordance with the current editions of:

- The Contract
- Division of Planning Standard Detail Sheets
- Kentucky Transportation Cabinet, Department of Highways, *Standard Specifications for Road and Bridge Construction*
- Kentucky Transportation Cabinet, Department of Highways, Standard Drawings
- National Fire Protection Association (NFPA) 70: *National Electrical Code*
- Institute of Electrical and Electronic Engineers (IEEE), *National Electrical Safety Code*
- Federal Highway Administration, *Manual on Uniform Traffic Control Devices*
- American Association of State Highway and Transportation Officials (AASHTO), *Roadside Design Guide*.
- Standards of the utility company serving the installation, if applicable

The permanent traffic data acquisition station layout(s) indicate the extent and general arrangement of the proposed installation and are for general guidance. Any omission or commission shown or implied shall not be cause for deviation from the intent of the plans and specifications. Information shown on the plans and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusion as to the conditions encountered. The Department of Highways (Department) does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown. If any modifications of the plans or specifications are considered necessary by the Contractor, details of such modifications and the reasons, therefore, shall be submitted in writing to the Engineer for written approval prior to beginning such modified work.

The Contractor shall contact all utility companies and the district utility agent prior to beginning construction to insure proper clearance and shielding from existing and proposed utilities. The Contractor shall use all possible care in excavating on this project so as not to disturb any existing utilities whether shown on the plans or not shown on the plans. Any utilities disturbed or damaged by the Contractor during construction shall be replaced or repaired to original condition by the Contractor at no cost to the department. If necessary, to avoid existing utilities, the Contractor shall hand dig areas where poles or conduit cross utilities.

The Contractor shall be responsible for all damage to public and/or private property resulting from his work.

The Contractor shall inspect the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions. Submission of a bid will be considered an affirmation of this inspection having been completed. The Department will not honor any claims resulting from site conditions.

2. MATERIALS

All proposed materials shall be approved prior to being utilized. The Contractor shall submit for material approval an electronic file of descriptive literature, drawings and any requested design data for the proposed materials. After approval, no substitutions of any approved materials may be made without the written approval of the Engineer.

Materials requiring sampling shall be made available a sufficient time in advance of their use to allow for necessary testing.

2.1. Anchoring

2.1.1. Anchor and Anchor Rod

Anchor, except rock anchor, shall be expanding type, with a minimum area of 135 square inches.

Anchor rod shall be galvanized steel, double-eye, have a minimum diameter of 5/8 inches, and a minimum length of 84 inches. Minimum holding capacity shall be 15,400 lbs.

Rock anchor shall be galvanized steel, triple-eye, expanding type, with a minimum diameter of 3/4 inch, a minimum 53 inches long, and a minimum tensile strength of 23,000 lb.

2.1.2. Guy Wire and Guy Guard

Guy wire shall be Class A, Zinc-coated, 3/8 inch diameter, high strength grade steel (minimum 10,800 lb.) and galvanized per ASTM A475. Guy guard shall be 8' long, fully-rounded, yellow, and able to be securely attached to the guy wire.

2.1.3. Strandwise for Guy Wire

Strandwise for guy wire shall be 3/8 inch and rated to hold a minimum of 90% of the rated breaking strength (RBS) of the strand used.

2.2. Asphalt

Asphalt shall be a minimum CL2 Asph Surf 0.38C PG64-22 and conform to the *Standard Specifications for Road and Bridge Construction*.

2.3. Backer Rod

Backer rod shall be 1/2 inch diameter, closed cell polyethylene foam and shall meet or exceed the following physical properties:

- Density (average): 2.0 lbs/cu.ft. (minimum): ASTM D 1622 test method
- Tensile Strength: 50 PSI (minimum): ASTM D 1623 test method
- Compression Recovery: 90% (minimum): ASTM D 5249 test method
- Water Absorption: 0.03 gm/cc (maximum): ASTM C 1016 test method

2.4. Cabinets

2.4.1. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall be constructed of 16 or 14 gauge galvanized steel and shall meet or exceed the industry standards set forth by UL 50 and NEMA 3R. The finish shall be an ANSI 61 gray polyester powder finish inside and out over the galvanized steel. Cabinet shall have minimum inside dimensions of 20 inches high by 20 inches wide by 8 inches deep.

The cabinet shall be equipped with the following:

- Drip shield top
- Seam-free sides, front, and back, to provide protection in outdoor installations against rain, sleet, and snow
- Hinged cover with 16 gauge galvanized steel continuous stainless steel pin.
- Cover fastened with captive plated steel screws, knob or latch
- Hasp and staple for padlocking
- No gaskets or knockouts
- Back panel for terminal block installation
- Post mounting hardware
- Terminal Blocks

2.4.2. Anchor Bolt for Pad Mounted Cabinet

Anchor bolt for pad mounted cabinet shall be galvanized steel with minimum dimensions of 3/8 inch by 6 inches.

2.5. Concrete

Concrete shall be Class A and conform to the *Standard Specifications for Road and Bridge Construction*.

2.6. Conduit and Conduit Fittings

Conduit and conduit fittings shall be rigid steel unless otherwise specified.

Conduit shall be zinc galvanized inside and out and conform to the NEC, UL Standard 6, and ANSI C-80.1.

Rigid Steel Conduit Fittings shall be galvanized inside and out and conform to the NEC, UL Standard 514B, and ANSI C-80.4. Intermediate Metal Conduit (IMC) will not be approved as an acceptable alternative to rigid steel conduit.

2.7. Conduit sealant

Conduit sealant shall be weather-, mold-, and mildew-resistant and chemically resistant to gasoline, oil, dilute acids and bases. Conduit sealant shall be closed cell type and shall meet or exceed the following properties:

- Cure Time 20 minutes max.
- Density 64.4 kg/m³; 6 lbs/ft³
- Compressive Strength (ASTM 1691) 13.8 MPa; 330 or 300 psi

- Tensile Strength (ASTM 1623) 15.9 MPa; 270 or 250 psi
- Flexural Strength (ASTM D790) 14.5 MPa; 460 or 450 psi
- Service Temperature -20 to 200 F

2.8. Electrical Service Meter Base

Electrical service meter base shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

2.9. Electrical Service Disconnect

Electrical service disconnect shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

2.10. Flashing Arrow

Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction*.

2.11. Ground Fault Circuit Interrupter (GFCI) Receptacle

Ground Fault Circuit Interrupter Receptacle shall be 2-pole, 3-wire, 20 Amp, 125 Volt, 60 Hz, NEMA 5-20R configuration and meet or exceed the following standards and certifications:

- NEMA WD-1 and WD-6
- UL 498 and 943
- NOM 057
- ANSI C-73

This item shall include a UL listed, 4 inch x4 inch x 2¹/₈ inch box with ¾ inch side and end knockouts and a 1½ inches deep, single-receptacle cover to house the GFCI receptacle. Box and cover shall be hot rolled, galvanized steel with a minimum thickness of 0.62 inches.

2.12. Grounding

2.12.1. Ground Rod

Ground Rod shall be composite shaft consisting of a pure copper exterior (5 mil minimum) that has been inseparably molten welded to a steel core. Ground Rod shall have a minimum diameter of 5/8 inch, a minimum length of 8 feet and shall be manufactured for the sole purpose of providing electrical grounding.

2.12.2. Ground Rod Clamp

Ground rod shall be equipped with a one piece cast copper or bronze body with a non-ferrous hexagonal head set screw and designed to accommodate a 10 AWG solid through 2 AWG stranded grounding conductor.

2.13. Grout

2.13.1. Grout for Inductive Loop Installation

Grout for inductive loop installation shall be non-shrink, shall meet the requirements of the *Standard Specifications for Road and Bridge Construction*,

and shall be included on the KYTC Division of Materials, *List of Approved Materials*.

2.13.2. Grout for Piezoelectric Sensor Installation

Grout for piezoelectric sensor installation shall be per the piezoelectric sensor manufacturer's recommendation. Grout shall be suitable for installation in both asphalt and Portland cement pavements. Grout shall have a short curing time (tack free in ten minutes; open to traffic in forty minutes; and fully cured within sixty minutes) to prevent unnecessary lane closure time and should be of sufficient consistency to prevent running when applied on road surfaces with a drainage cross slope. Particulate matter within the grout shall not separate or settle and the grout shall not shrink during the curing process.

2.14. Hardware

Except where specified otherwise, all hardware such as nuts, bolts, washers, threaded ends of fastening devices, etc. with a diameter less than 5/8 inch shall be passivated stainless steel, alloy type 316 or type 304. Stainless steel hardware shall meet ASTM F593 and F594 for corrosion resistance. All other nuts and bolts shall meet ASTM A307 and shall be galvanized.

2.14.1. Conduit Strap

Conduit strap shall be double-hole, stainless steel, and sized to support specified conduit. Conduit strap shall attach to wood pole or post with two 2 1/4 inch wood screws.

2.14.2. Mounting Strap for Pole Mount Cabinet

Mounting strap for pole mount cabinet shall be 3/4 inch x 0.03 inch stainless steel; equipped with clips or buckles to securely hold strap

2.14.3. Metal Framing Channel and Fittings

Metal framing channel shall be 1 5/8 inches wide galvanized steel that conforms to ASTM A1011 and ASTM A653. One side of the channel shall have a continuous slot with in-turned edges to accommodate toothed fittings.

Fittings shall be punch pressed from steel plates and conform to ASTM A575 and the physical requirements of ASTM A1011.

2.15. Junction Box

2.15.1. Junction Box Type A, B, or C

Junction Box Type A, B, or C shall meet or exceed ANSI/SCTE 77-2007, Tier 15. Box shall have an open bottom. A removable, non-slip cover marked "PLANNING" shall be equipped with a lifting slot and attached with a minimum of two 3/8 inch stainless steel hex bolts and washers. Type A Box shall have nominal inside dimensions of 13 inches wide by 24 inches long by 18 inches deep. Type B Box shall have nominal inside dimensions of 11 inches wide by 18 inches long by 12

inches deep. Type C Box shall have nominal inside dimensions of 24 inches wide by 36 inches long by 30 inches deep.

2.15.2. Aggregate for Junction Box Type A, B, or C

Aggregate for junction box type A, B, or C shall be gradation size no. 57 and conform to the *Standard Specifications for Road and Bridge Construction*.

2.15.3. Junction Box 10x8x4

Junction Box Type 10x8x4 shall be constructed of a UV-stabilized, nonmetallic material or non-rusting metal and be weatherproof in accordance with NEMA 4X. Box shall be equipped with an overhanging door with a continuous durable weatherproof gasket between the body and door. Door shall be hinged with stainless steel screws, hinge(s) and pin(s) and shall be equipped with a stainless steel padlockable latch on the side opposite the hinge(s). Junction Box 10x8x4 shall have minimum inside dimensions of 10 inches high by 8 inches wide by 4 inches deep.

2.16. Maintain and Control Traffic

Materials for the bid item Maintain and Control Traffic shall conform to the *Standard Specifications for Road and Bridge Construction*, and the KYTC Department of Highways *Standard Drawings*.

2.17. Piezoelectric Sensor

Piezoelectric sensor (piezo) shall provide a consistent level voltage output signal when a vehicle axle passes over it, shall have a shielded transmission cable attached, and shall meet the following requirements:

- Dimensions: such that sensor will fit in a ¾ inch wide by 1 inch deep saw cut. Total length shall be as specified.
- Output uniformity: ± 7% (maximum)
- Typical output level range: 250mV (minimum) from a wheel load of 400 lbs.
- Working temperature range: -40° to 160° F.
- Sensor life: 30 million Equivalent Single Axle Loadings (minimum)

Shielded transmission cable shall be coaxial and shall meet the following requirements:

- RG 58C/U with a high density polyethylene outer jacket rated for direct burial
- Length shall be a minimum of 100 feet. Installations may exceed 100 feet so the piezo shall be supplied with a lead-in of appropriate length so that the cable can be installed splice-free from the piezo to the cabinet.
- Soldered, water resistant connection to the sensor.

One installation bracket for every 6 inches of sensor length shall also be supplied. Piezo shall be a RoadTrax BL Class I or approved equal.

2.18. Saw Slot Sealant

Saw Slot Sealant shall be non-shrink, non-stringing, moisture cure, polyurethane encapsulant suitable for use in both asphalt and concrete pavements. It shall provide a void-free encapsulation for detector loop cables and adequate compressive yield strength and flexibility to withstand heavy vehicular traffic and normal pavement movement.

The cured encapsulant shall meet or exceed the following:

- Hardness (Indentation): 35-65 Shore A, ASTM D2240
- Tensile Strength: 150 psi minimum, ASTM D412
- Elongation: 125% minimum 2 inch/minute pull, ASTM D412
- Tack-free Drying Time: 24 hours maximum, ASTM C679
- Complete Drying Time: 30 hours maximum, KM 64-447
- Chemical Interactions (seven day cure at room temperature, 24-hour immersion, KM 64-446):
 - Motor Oil: No effect
 - Deicing Chemicals: No effect
 - Gasoline: Slight swell
 - Hydraulic Brake Fluid: No effect
 - Calcium Chloride (5%): No effect

2.19. Seeding and Protection

Material for Seeding and Protection shall be Seed Mixture Type I and conform to the *Standard Specifications for Road and Bridge Construction*.

2.20. Signs

Materials for signs shall conform to the *Standard Specifications for Road and Bridge Construction*.

2.21. Splicing Materials

2.21.1. Electrical Tape

Electrical tape shall be a premium grade, UL-listed, all-weather, vinyl-insulating tape with a minimum thickness of 7 mil. Tape shall be flame retardant and resistant to abrasion, moisture, alkalis, acids, corrosion, and weather (including ultraviolet exposure).

2.21.2. Splice Kit

Splice kit shall be inline resin-type and rated for a minimum of 600V. Resin shall be electrical insulating-type and shall provide complete moisture and insulation resistance.

2.22. Steel Reinforcing Bar

Steel reinforcing bar shall be #5 and shall conform to the *Standard Specifications for Road and Bridge Construction*.

2.23. Terminal Block

Terminal block shall be rated for a minimum of 300 V and have a minimum of six terminal pairs with 9/16-inch nominal spacing (center to center) for connecting loop and piezoelectric sensor wires to cable assemblies. Terminal block shall have screw type terminal strips to accommodate wire with spade-tongue ends.

2.24. Warning Tape

Warning tape shall be acid and alkali resistant formulated for direct burial. Tape shall be a minimum of 3 inches wide by 4.0 mils (nominal) thick, and shall be permanently imprinted with a minimum 1 inch black legend on a red background warning of an electric line. Tape shall meet or exceed the following industry specifications:

- American Gas Association (AGA) 72-D-56
- American Petroleum Institute (API) RP 1109
- American Public Works Association (APWA) Uniform Color Code
- Department of Transportation (DOT) Office of Pipeline Safety USAS B31.8
- Federal Gas Safety Regulations S 192-321 (e)
- General Services Administration (GSA) Public Buildings Service Guide: PBS 4-1501, Amendment 2
- National Transportation Safety Board (NTSB) PSS 73-1
- Occupational Safety and Health Administration (OSHA) 1926.956 (c) (1)

2.25. Wire and Cable

All cable and wire shall be plainly marked in accordance with the National Electrical Code (NEC).

2.25.1. Loop Wire

Loop wire shall be 14 AWG, stranded, copper, single conductor, and shall conform to the International Municipal Signal Association (IMSA) Specification No. 51-7.

2.25.2. Cable No. 14/1 Pair

Cable No. 14/1 pair loop lead-in cable shall be 14 AWG, stranded, copper paired, electrically shielded conductors, and shall conform to IMSA 19-2.

2.25.3. Grounding conductor

Grounding conductor and bonding jumper shall be solid or stranded, 4 AWG bare copper.

2.25.4. Service Entrance Conductor

Service entrance conductor shall be stranded, copper, Type USE-2, sized as required to comply with the NEC.

2.25.5. Telephone Wire

Telephone wire shall be Category 3 (Cat 3) or Category 5 (Cat 5) and shall be equipped with an RJ-11 modular plug.

2.25.6. Terminal for electrical wire or cable

Terminal for electrical wires or cables shall be insulated, solderless, spade tongue terminals of correct wire and stud size. Terminal for electrical wires or cables shall be incidental to the wire or cable (including piezoelectric sensor transmission cable) to be connected to terminal strips.

2.26. Wood Post

Wood post shall be pretreated to conform to the American Wood Preservers' Association (AWPA) C-14 and shall have minimum dimensions of 4 inches by 4 inches by 8 feet long (for Galvanized Steel Cabinet) or 4 feet long (for Junction Box 10x8x4), sawed on all four sides with both ends square.

2.27. Wooden Pole

Wooden pole shall be a Class IV wood pole of the length specified and shall conform to the *Standard Specifications for Road and Bridge Construction* except the pole shall be treated in accordance with AWPA P9 Type A.

3. CONSTRUCTION METHODS

The plans indicate the extent and general arrangement of the installation and are for guidance. When the Contractor deems any modifications to the plans or specifications necessary, details of such changes and the reasons shall be submitted in writing to the engineer for written approval prior to beginning the modified work.

After the project has been let and awarded, the Division of Construction shall notify the Division of Planning of the scheduled date for a Pre-Construction meeting so that prior arrangements can be made to attend. This will allow the Division of Planning an opportunity to address any concerns and answer any questions that the Contractor may have before beginning the work.

The Division of Planning Equipment Management Team (502-564-7183) shall be notified a minimum of seven days before any work pertaining to these specifications begins to allow their personnel the option to be present during installation.

Unless otherwise specified, installed materials shall be new.

Construction involving the installation of loops or piezoelectric sensors shall not be performed when the temperature of the pavement is less than 38°F.

A final inspection will be performed by a member of the Central Office Division of Planning equipment staff after the installation is complete to verify that the installation is in compliance with the plans and specifications.

Any required corrective work shall be performed per the *Standard Specifications for Road and Bridge Construction*.

3.1. Anchoring

Furnish: Anchor, anchor rod, guy wire, strand vise, guy guard.

Anchor shall be installed in relatively dry and solid soil. Rock anchor shall be installed in solid rock. Excavate the hole at a 45° to 60° angle in line with the guy (hole size shall be slightly larger than the expanded anchor – see manufacturer's recommendation). Attach rod to anchor, install assembly into hole, and expand anchor. Backfill and tamp entire disturbed area. The effectiveness of the anchor is dependent upon the thoroughness of backfill tamping. Attach guy to strand vise on pole and anchor rod and tighten to required tension. Install guy guard on guy.

3.2. Bore and Jack Pipe – 2”

Furnish: Steel Encasement Pipe, 2”

Bore and jack pipe – 2” shall conform to the Section 706 of the *Standard Specifications for Road and Bridge Construction*.

3.3. Cleanup and Restoration

Furnish: Seed Mix Type 1 (as required); fertilizer (as required); agricultural limestone (as required); mulch or hydromulch (as required); tackifier (as required).

The Contractor shall be responsible for repairing any damage to public and/or private property resulting from his work. Upon completion of the work, restore all disturbed highway features in like kind design and materials. This shall include filling any ruts and leveling ground appropriately. Contractor shall dispose of all waste and debris off the project. Sow all disturbed earthen areas with Seed Mix Type 1 per Section 212 of the *Standard Specifications for Road and Bridge Construction*. All materials and labor necessary for cleanup and restoration shall be considered incidental to other bid items.

3.4. Conduit

Furnish: Conduit; conduit fittings; bushings (grounding where required); LB condulets (as required); weatherheads (as required); conduit straps; hardware; conduit sealant.

Conduit that may be subject to regular pressure from traffic shall be laid to a minimum depth of 24 inches below grade. Conduit that will not be subject to regular pressure from traffic shall be laid to a minimum depth of 18 inches below grade.

Conduit ends shall be reamed to remove burrs and sharp edges. Cuts shall be square and true so that the ends will butt together for the full circumference of the conduit. Tighten couplings until the ends of the conduit are brought together. Do not leave exposed threads. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with an Engineer-approved, rust inhibitive paint. Conduit bends shall have a radius of no less than 12 times the nominal diameter of the conduit, unless otherwise shown on the plans.

Contractor shall install a bushing (grounding bushing where required) on both ends of all conduits. Cap spare conduits on both ends with caps or conduit sealant.

Conduit openings in junction boxes and cabinets shall be waterproofed with a flexible, removable conduit, working it around the wires, and extending it a minimum 1 inch into the end of the conduit.

After the conduit has been installed and prior to backfilling, the conduit installation shall be inspected and approved by the Engineer.

3.5. Electrical Service

Furnish: Meter base, service disconnect, wire, GFCI AC duplex receptacle with box and cover; conduit, conduit fittings, bushings (grounding where required); LB condulets (as required); weatherhead; conduit straps; hardware; conduit sealant; ground rod with clamp; grounding conductor.

Prior to any construction, the Contractor shall initiate a work order with the local power

company for the installation of electrical service to the site. A representative from the Division of Planning and the local power company shall be consulted prior to choosing an exact location for the pole. The Contractor shall clear the right-of-way for the electrical service drop.

Contractor shall obtain electrical inspections, memberships, meter base, service disconnect and any other requirements by the utility serving the installation and pay all fees as required.

Install meter-base and disconnect panel with a 30-ampere, fused, circuit breaker inside. Install a manufactured weatherproof hub connectors to connect the conduit to the top of the meter base and service disconnect.

Install a rigid $\frac{3}{4}$ inch conduit with three 8 AWG service conductors from the cabinet, through the service disconnect to the meter base and a $1\frac{1}{4}$ " conduit with three 8 AWG service conductors from the meter base to a weatherhead two feet from the top of the electrical service pole. Install conduit straps 30 inches on center and provide a drip loop where the wire enters the weatherhead. Splice electric drop with service entrance conductors at the top of the pole.

The limit of conduit incidental to "Install Electrical Service" for a pad mounted cabinet is 24 inches beyond face of service pole.

Install a 120-volt, 20-amp GFCI AC duplex receptacle with box and cover in the automatic data recorder (ADR) cabinet.

Install a ground rod with clamp. Install a grounding conductor wire from the meter base, through the disconnect panel, to the ground rod clamp. Install grounding conductor in $1\frac{3}{4}$ " conduit from service disconnect to ground rod.

After completing the installation and before the electrical service is connected, obtain a certificate of compliance from the Kentucky Department of Housing, Buildings and Construction, Electrical Inspection Division.

3.6. Flashing Arrow

Furnish: Arrow Panel

Construction of Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction*.

3.7. Galvanized Steel Cabinet

Furnish: Cabinet; wood posts; concrete; conduit fittings; metal framing channel; pipe clamp; terminal block(s); spade tongue wire terminals; wire labels; hardware.

Where right-of-way allows, locate the cabinet such that it is outside the clear zone in accordance with the *Roadside Design Guide*. Install Cabinet such that the door of the

cabinet faces the roadway.

Excavate as required and install wood posts to a depth of 36 inches and place concrete around posts as shown on the standard detail sheets. Install metal framing channel with pipe clamp between posts.

Install Cabinet on wood posts 38 inches above the finished grade as shown on the standard detail sheets. Install a unistrut between posts when two posts are specified.

Install the required number of terminal blocks on the cabinet back plate. Install a spade tongue terminal on each loop and piezo sensor wire entering the cabinet and connect wires to terminal block(s). Wiring shall be neat and orderly. Label all wires and cables inside cabinet.

Install conduit from ground to cabinet and attach to pipe clamp. Install locknuts to attach conduit to cabinet and install a conduit bushing as shown on the standard detail sheets.

3.8. Grounding

Furnish: Ground rod with clamp; grounding conductor.

At sites with electrical or solar service, all conduits, poles, and cabinets shall be bonded to ground rods and the electrical system ground to form a complete grounded system.

Install such that top of ground rod is a minimum of 3 inches below finished grade.

Grounding systems shall have a maximum 25 ohms resistance to ground. If the resistance to ground is greater than 25 ohms, two or more ground rods connected in parallel shall be installed. Adjacent ground rods shall be separated by a minimum of 6 feet.

3.9. Install Pad Mount Enclosure

Furnish: Concrete; anchor bolts with washers and nuts; conduit; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the enclosure from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site.

Where right-of-way allows, locate the enclosure such that it is outside the clear zone in accordance with the *Roadside Design Guide*.

Excavate as required, and place concrete to construct the enclosure foundation as specified on the standard detail sheets. Install enclosure on the concrete base such that the door(s) of the enclosure opens away from traffic (hinges away from traffic). Install anchor bolts, washers, and nuts to secure the enclosure to the foundation.

Install ground rod with clamp and install one ¾ inch rigid conduit from enclosure base to

ground rod. Install a grounding conductor from ground rod to enclosure base and bond to each conduit bushing in the base.

Install two ¾ inch rigid steel conduits: one for electrical service and one for telephone service from the base of the enclosure to 24 inches beyond the concrete base. Make all field wiring connections to the electrical service and/or telephone service, as applicable.

If electrical and/or telephone service are not provided as bid items in the contract, plug conduit on both ends with a cap, conduit sealant, or electrical tape. Mark the location of the buried conduit end(s) with a wooden stake labeled “¾ in. conduit.”

Install specified rigid steel conduit(s) into the base of the enclosure for sensor wire entry. Install one spare 2 inch conduit from the enclosure base to 2 feet beyond the concrete base. Plug spare conduit on both ends with a cap, conduit sealant or electrical tape.

The limit of all conduits incidental to “Install Pad Mount Enclosure” is 24 inches beyond the edge of the concrete base.

Wiring in enclosure shall be neat and orderly. Label all wires and cables inside enclosure. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

3.10. Install Controller Cabinet

Furnish: Mounting brackets; mounting straps; conduit; LB condulets; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; cable staples; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the cabinet from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site. Any existing holes in the cabinet not to be reused shall be covered or plugged to meet NEC requirements.

Install mounting brackets and secure cabinet to pole with mounting straps.

Install a ground rod with clamp. Install grounding conductor in 1-¾” conduit from cabinet to ground rod.

Install one ¾ inch rigid steel conduit with two lb condulets from cabinet to electrical service disconnect box. Install one ¾ inch rigid steel conduit with two LB condulets from cabinet to telephone network interface device box. Make all field wiring connections to the electrical service and/or telephone service, as applicable.

If electrical and/or telephone service are not provided as bid items in the contract, plug conduit on both ends with cap, plumbers putty, conduit sealant, or electrical tape. Mark the location of the buried conduit end(s) with a wooden stake labeled “¾ in. conduit”.

Install specified rigid steel conduit(s) and type LB conduit(s) into the bottom of the cabinet for sensor wire entry. The limit of conduits incidental to "Install Controller Cabinet" is 24 inches beyond the face of the pole.

Wiring in cabinet shall be neat and orderly. Label all wires and cables inside cabinet. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

3.11. Junction Box Type 10x8x4

Furnish: Junction box; wood post; conduit fittings; wire labels; hardware.

Where right-of-way allows, locate the junction box such that it is outside the clear zone in accordance with the Roadside Design Guide.

Excavate as required and install wood post(s) to a depth of 18 inches. Install junction box on wood post such that the bottom of the box is 18 inches above the finished grade as shown on the standard detail sheets. Box shall be installed with four (4) 2½ inch wood screws and washers.

Install locknuts to attach conduit to junction box and install a conduit bushing as shown on the standard detail sheets.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

3.12. Junction Box Type A, B, or C

Furnish: Junction box, No. 57 aggregate; grounding conductor

Excavate as required and place approximately 12 inches of No. 57 aggregate beneath the proposed junction box to allow for drainage. Install specified junction box type A, B, or C near the edge of pavement, flush with finished grade per the detail sheets. Where required, orient the box so that the dimensions comply with the National Electrical Code. Stub conduits with grounding bushings into junction box at its base to accommodate wires and connect grounding conductor to all grounding bushings. Backfill to existing grade, and restore disturbed area to the satisfaction of the Engineer.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

3.13. Loops

Furnish: Wire; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for loop installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the precise layout locations on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist.

Upon completion of this meeting, the Contractor shall measure out and mark the

proposed loop locations with spray paint or chalk such that the saw slots will be parallel and perpendicular to the direction of traffic. Marked lines shall be straight and exact to the locations determined and sized as shown on the plans. Unless indicated otherwise, loops shall be 6 feet by 6 feet square and loops in the same lane shall be spaced 16 feet from leading edge to leading edge.

On resurfacing, rehabilitation, and new construction projects that include new asphalt pavement, the Contractor shall install loops prior to laying the final surface course. On projects with milling and texturing, the Contractor may install the loops prior to or after the milling operation; however, if installed prior to milling, the Contractor shall be responsible for ensuring that the loops are installed at a depth such that the milling operation will not disturb the newly installed loops. The Contractor shall correct damage caused by the milling operations to newly installed loops prior to placement of the final surface course at no additional cost to the Cabinet.

For projects that include the installation of new asphalt and piezoelectric sensors, the Contractor shall mark or otherwise reference all loops installed prior to the final surface course such that the loops can be accurately located when the piezoelectric sensors are installed after placement of the final surface course.

For projects that do not have asphalt surfacing, the Contractor shall install the loops in the surface of the pavement.

The Prime Contractor shall coordinate the installation of loops with the electrical sub-Contractor and the Engineer to ensure correct operation of the completed installation.

The following is a typical step by step procedure for the installation of a loop.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and centered in the lane.
- Make each saw-cut 3/8-inch wide and at a depth such that the top of the backer rod is a minimum of 2 inches below the surface of rigid (PCC/Concrete) pavement or 4 inches below the surface of asphalt pavement.
- Drill a 1½ inch core hole at each corner and use a chisel to smooth corners to prevent sharp bends in the wire.
- Clean ALL foreign and loose matter out of the slots and drilled cores and within 1 foot on all sides of the slots using a high pressure washer.
- Completely dry the slots and drilled cores and within 1 foot on all sides of the slots using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45° angle to the conduit adjacent to the roadway.

- Closely inspect all cuts, cores, and slots for jagged edges or protrusions prior to the placement of the wire. All jagged edges and protrusions shall be ground or re-cut and cleaned again.
- Place the loop wire splice-free from the termination point (cabinet or junction box) to the loop, continue around the loop for four turns, and return to the termination point.
- Push the wire into the saw slot with a blunt object such as a wooden stick. Make sure that the loop wire is pushed fully to the bottom of the saw slot.
- Install conduit sealant to a minimum of 1" deep into the cored 1½ inch hole.
- Apply loop sealant from the bottom up and fully encapsulate the loop wires in the saw slot. The wire should not be able to move when the sealant has set.
- Cover the encapsulated loop wire with a continuous layer of backer rod along the entire loop and home run saw slots such that no voids are present between the loop sealant and backer rod.
- Finish filling the saw cut with non-shrinkable grout per manufacturer's instructions. Alleviate all air pockets and refill low spaces. There shall be no concave portion to the grout in the saw slot. Any excess grout shall be cleaned from the roadway to alleviate tracking.
- Clean up the site and dispose of all waste off the project.
- Ensure that the grout has completely cured prior to subjecting the loop to traffic. Curing time varies with temperature and humidity.

Exceptions to installing loop wire splice-free to the junction box or cabinet may be considered on a case-by-case basis and must be pre-approved by the Engineer. If splices are allowed, they shall be located in a junction box and shall conform to the construction note for Splicing.

If loop lead-in cable (Cable No. 14/1 Pair) is specified, cable shall be installed splice free to the cabinet ensuring that extra cable is left in each junction box or cabinet. All wires and cables shall be labeled in each junction box and cabinet.

Loop inductance readings shall be between 100 and 300 microhenries. The difference of the loop inductance between two loops in the same lane shall be ± 20 microhenries. Inductance loop conductors shall test free of shorts and grounds. Upon completion of the project, all loops must pass an insulation resistance test of at least 100 million ohms to ground when tested with a 500 Volt direct current potential in a reasonably dry atmosphere between conductors and ground.

3.14. Maintain and Control Traffic

Furnish (all as required): Drums, traffic cones, barricades used for channelization purposes, delineators, and object markers.

Maintain and Control Traffic shall conform to the plans, the Standard Specifications for Road and Bridge Construction, and the KYTC Department of Highways Standard Drawings.

3.15. Open Cut Roadway

Furnish: Concrete, reinforcing bars.

Excavate trench by sawing and chipping away roadway to dimensions as indicated on the detail sheets. After placing conduit, install concrete and steel reinforcing bars per the *Standard Specifications for Road and Bridge Construction*. Restore any disturbed sidewalk to its original condition.

3.16. Piezoelectric Sensor

Furnish: Piezoelectric sensor and cable; sensor support brackets; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for piezoelectric sensor (piezo) installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the final layout on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist. Roadway ruts at the proposed piezo location shall not be in excess of ½ inch under a 4-foot straight edge.

Install the piezo perpendicular to traffic in the final surface course of the pavement. Locate the sensor in the lane as shown on the site layout drawing. Eleven-foot length sensors shall be centered in the lane.

The following is a typical step by step procedure for the installation of a piezo. Refer specifically to the manufacturer's instructions provided with the sensor prior to installation.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and properly positioned in the lane.
- It is strongly recommended that a ¾ inch wide diamond blade be used for cutting the slot, or that blades be ganged together to provide a single ¾ inch wide cut. The slot shall be wet cut to minimize damage to the pavement.
- Cut a slot ¾ inch wide ($\pm 1/16$ inch) by 1 inch minimum deep. The slot should be a minimum of 2 inches longer than the sensor (including the lead attachment). Drop the saw blade an extra ½ inch down on both ends of the sensor. The lead out of the passive cable should be centered on the slot.
- Cut the slot for the passive cable ¼ inch wide and at a depth so that the top of the backer rod is a minimum of 2 inches below the road surface.
- Clean ALL foreign and loose matter out of the slot and within 1 foot on all sides of the slot using a high pressure washer.
- Completely dry the slot and within 1 foot on all sides of the slot using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.

- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45° angle to the conduit adjacent to the roadway.
- Place strips of 2-4 inch wide tape strips on the pavement along the lengths of both sides of the sensor slot, 1/8 inch away from the slot.
- Wear clean, protective latex (or equivalent) gloves at all times when handling sensors. Visually inspect sensor to ensure it is straight. Check lead attachment and passive cable for cuts, gaps, cracks and/or bare wire. Verify that the correct sensor type and length is being installed by checking the data sheet. Verify there is sufficient cable to reach the cabinet. Piezo lead-in cable shall not be spliced.
- Test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within ±20% of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Record the sensor serial number and the test results and label “pre-installation.” This information should be stored in the counter cabinet and/or returned to Department Planning personnel.
- Lay the sensor next to the slot and ensure that it is straight and flat.
- Clean the sensor with steel wool or an emery pad and wipe with alcohol and a clean, lint-free cloth.
- Place the installation bracket clips every 6 inches along the length of the sensor.
- Bend the tip of the sensor downward at a 30° angle. Bend the lead attachment end down at a 15° angle and then 15° back up until level (forming a lazy Z).
- Place the sensor in the slot, with the brass element 3/8 inch below the road surface along the entire length. The tip of the sensor should be a minimum of 2 inches from the end of the slot and should not touch the bottom of the slot. The top of the plastic installation bracket clips should be 1/8 inch below the surface of the road. The lead attachment should not touch the bottom or sides of the slot. Ensure the sensor ends are pushed down per the manufacturer’s instructions.
- Visually inspect the length of the sensor to ensure it is at uniform depth along its length and it is level (not twisted, canted or bent).
- On the passive cable end, block the end of the slot approximately 3-5 inches beyond the end of the lead attachment area creating an adequate “dam” so that the sensor grout does not flow out.
- Use one bucket of sensor grout per piezo installation. Overfill the slot with sensor grout and allow to cure for a minimum of 10 minutes before continuing with the installation. Ensure that sensor grout fills around and beneath the sensor completely and that there is not a trough on top.
- Remove the tape along the sides of the saw slot when the adhesive starts to cure.
- Carefully remove the dam from the end of the sensor.
- Route the lead-in cable through the saw slot
- Install conduit sealant to a minimum of 1” deep into the cored 1½ inch hole.
- Cover the lead-in cable with encapsulant, backer rod, and grout.
- If necessary, after the grout has hardened, grind with an angle grinder until the profile is a 1/16 inch mound. There shall be no concave portion to the mound.

- Clean up the site and dispose of all waste off the project.
- Ensure that the sensor grout has completely cured prior to subjecting the sensor to traffic. Curing time will vary with temperature and humidity.

Upon installation, test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within +20% of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Perform a functional test of the piezo with an oscilloscope to ensure that the sensor is generating a proper response to the passage of vehicles.

Record the sensor serial number and the test results and label "post-installation." This information should be stored in the counter cabinet and/or returned to Department Planning personnel.

3.17. Pole – Wooden

Furnish: Pole; anchoring equipment (as required); hardware (as required).

Excavate and install wood pole to a minimum depth of one-sixth the total pole height. Place backfill material in hole and compact until flush with existing grade. Install guy wire, guy guard, anchor, anchor rod, and strand vise, if necessary. Anchor shall be a minimum of one-third the pole height from the face of the pole. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

3.18. Removal of Existing Equipment

The Contractor shall remove existing materials (including but not limited to: poles, anchors, cabinets, junction boxes, conduit and wire) not to be reused. Contractor shall dispose of all removed materials off the project. All materials and labor necessary for the removal of existing equipment shall be considered incidental to other bid items.

3.19. Signs

Furnish: Signs; sign standards; hardware.

Construction of signs shall conform to the *Standard Specifications for Road and Bridge Construction*.

3.20. Splicing

Furnish: Splice kit; solder.

These notes describe the splicing process (if permitted) and are not intended to grant permission to splice. Permission to splice shall be determined by the Division of Planning and the locations shall be shown on the layout sheet. If splicing is needed but not shown on the layout sheet, the Contractor shall receive prior written approval from the Division of Planning.

All splices shall conform to the provisions of the NEC.

Splices for loop and loop lead-in wire shall be twisted and soldered. Abrade the outer jacket of both wires to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground.

For piezos, the same type coax cable, supplied by the manufacturer, shall be used to splice to the sensor's lead-in cable. Cables shall be soldered. Abrade the outer jacket of both cables to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced piezo cables shall be tested and have a minimum resistance of 20 megohms, a maximum dissipation factor of 0.03, a capacitance within the manufacturer's recommended range based upon the length of additional cable. A functional test of the piezo shall be performed to ensure that the sensor is generating a proper response to the passage of vehicles.

3.21. Telephone Service

Furnish: Conduit; conduit fittings; grounding bushings; LB condulets (as required); weatherhead; conduit straps; hardware; conduit sealant.

The Contractor shall contact the local telephone company for the installation of telephone service to the site. Telephone Company will install service to a telephone network interface device (NID) on the pole.

Install rigid $\frac{3}{4}$ inch conduit with weatherhead from the cabinet to 72 inches above the finished grade and install conduit straps every 30 inches on center. Install telephone cable with and RJ-11 modular plug from NID to cabinet. Leave eight feet of additional telephone cable coiled inside cabinet.

The limit of conduit incidental to "Install Telephone Service" for a pad mounted cabinet is 24 inches beyond face of service pole.

3.22. Trenching and Backfilling

Furnish: Warning tape; seed mix type I; cereal rye or German foxtail-millet; mulch; concrete (as required); asphalt (as required).

Excavate trench and provide required cover as shown on the standard detail sheets. After placing conduit, backfill material shall be placed and compacted in lifts of 9 inches or less. Install warning tape as shown on the detail sheet. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required).

3.23. Wiring

Furnish: Wire; wire labels; spade tongue wire terminals (as required).

Installation of all wiring shall conform to the NEC. Permanent identification numbers shall be affixed to all wires in all junction boxes and cabinets (see Layout(s) for loop and piezo numbers).

Additional lengths of each loop and piezo sensor wire shall be neatly coiled in all cabinets and junction boxes as follows:

<u>Enclosure Type</u>	<u>Additional length of each wire</u>
Galvanized Steel Cabinet	2'
Pad Mount Cabinet (332)	8'
Pole Mount Cabinet (336)	4'
Junction Box Type 10x8x4	2'
Junction Box Type A, B, or C	2'

3.24. Wood Post

Furnish: Wood post; concrete (as required); seed mix type I; cereal rye or German foxtail-millet; mulch.

Excavate hole to specified depth and place concrete, if required. Install post, backfill to existing grade, and tamp backfill. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

4. BID ITEM NOTES AND METHOD OF MEASUREMENT FOR PAYMENT

Only the bid items listed will be measured for payment. All other items required to complete the vehicle detection installation shall be incidental to other items of work. Payment at the contract unit price shall be full compensation for all materials, labor, equipment and incidentals to furnish and install these items.

4.1. Bore and Jack Pipe – 2”

Bore and jack pipe – 2” shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.2. Conduit

Conduit shall include furnishing and installing specified conduit in accordance with the specifications. This item shall include conduit fittings, bodies, boxes, weatherheads, expansion joints, couplings, caps, conduit sealant, electrical tape, clamps, bonding straps and any other necessary hardware. Conduit will be measured in linear feet.

4.3. Electrical Service

Electrical Service shall include furnishing and installing all necessary materials and payment of all fees toward the complete installation of an electrical service which has passed all required inspections. Incidental to this item shall be furnishing and installing:

- Meter-base per utility company’s specifications
- Service disconnect panel per utility company’s specifications
- Meter base and service disconnect entrance hubs, waterproof
- Service entrance conductors
- Rigid steel conduit
- Rigid steel conduit fittings
- Conduit straps
- Weatherhead
- Duplex GFCI receptacle, 120-volt, 20-amp
- Ground rod with clamp
- Grounding conductor

Also incidental to this item shall be any necessary clearing of right of way for the electrical service drop.

Electrical service will be measured in individual units each.

4.4. Flashing Arrow

Flashing Arrow shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.5. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall include furnishing and installing galvanized steel cabinet on post as specified. Incidental to this item shall be furnishing and installing grounding hardware, and any necessary post/pole mounting hardware. Also incidental to this item shall be furnishing and installing the required number of terminal blocks and connection of all

sensors to the terminal blocks. Galvanized Steel Cabinet will be measured in individual units each.

4.6. Install Pad Mount Enclosure

Install Pad Mount Enclosure shall include installing a Department-furnished enclosure as specified on the detail sheets.

This item shall include obtaining the enclosure from KYTC and transporting it to the installation site and furnishing and installing the following:

- Concrete foundation (including any excavation necessary)
- Anchor bolts, lock washers, and nuts
- Conduit
- Conduit fittings (including grounding bushings)
- Weatherhead
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Pad Mount Enclosure will be measured in individual units each.

4.7. Install Controller Cabinet

Install Controller Cabinet shall include installing a Department-furnished cabinet as specified on the detail sheets.

This item shall include obtaining the cabinet from KYTC and transporting it to the installation site and furnishing and installing the following:

- Conduit
- Conduit Fittings
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Controller Cabinet will be measured in individual units each.

4.8. Junction Box Type 10" x 8" x 4"

Junction Box Type 10"x8"x4" shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include connectors, splice sleeves, conduit fittings, mounting materials and any other items required to complete the installation. Incidental to this item shall be furnishing and installing specified post (wood, channel, metal, etc.) as required for the installation. Junction Box Type 10"x8"x4" will be measured in individual units each.

4.9. Junction Box Type A, B, or C

Junction Box Type A, B, or C shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include excavation, furnishing and installing #57 aggregate, backfilling around the box, and restoration of disturbed areas to

the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing a grounding conductor bonding all conduit grounding bushings in the box. Junction Box Type A, B, or C will be measured in individual units each.

4.10. Loop Saw Slot and Fill

Loop Saw Slot and Fill shall include sawing and cleaning saw slots and furnishing and installing conduit sealant, loop sealant, backer rod, grout, or other specified material. Loop Saw Slot and Fill will be measured in linear feet of sawed slot.

4.11. Maintain and Control Traffic

Maintain and Control Traffic shall be measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.12. Open Cut Roadway

Open Cut Roadway shall include excavating trench (sawing and chipping roadway) to dimensions as indicated on the detail sheets and furnishing and placing concrete, steel reinforcing bars, and asphalt. This item also includes restoring any disturbed sidewalk to its original condition. Open Cut Roadway will be measured in linear feet.

4.13. Piezoelectric Sensor

Piezoelectric sensor (piezo) shall include sawing and cleaning saw slots and furnishing and installing piezo in accordance with the specifications. This item shall include furnishing and installing lead-in wire, conduit sealant, encapsulation material, backer rod, grout, testing, and accessories. Piezo will be measured in individual units each.

4.14. Pole – 35' Wooden

Pole – 35' Wooden shall include excavation, furnishing and installing specified wood pole, backfilling and restoring disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing guy wire, anchor and anchor rod, strand vise, and guy guard, if specified.

Pole – 35' Wooden will be measured in individual units each.

4.15. Signs

Signs shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.16. Telephone Service

Telephone Services shall include furnishing and installing all necessary materials and payment of all fees toward the complete installation of a telephone service, which has passed all required inspections. Incidental to this item shall be furnishing and installing:

- Telephone cable with an RJ-11 modular plug
- Rigid steel conduit
- Rigid steel conduit fittings
- Conduit straps
- Weatherhead

Telephone service will be measured in individual units each.

4.17. Trenching and Backfilling

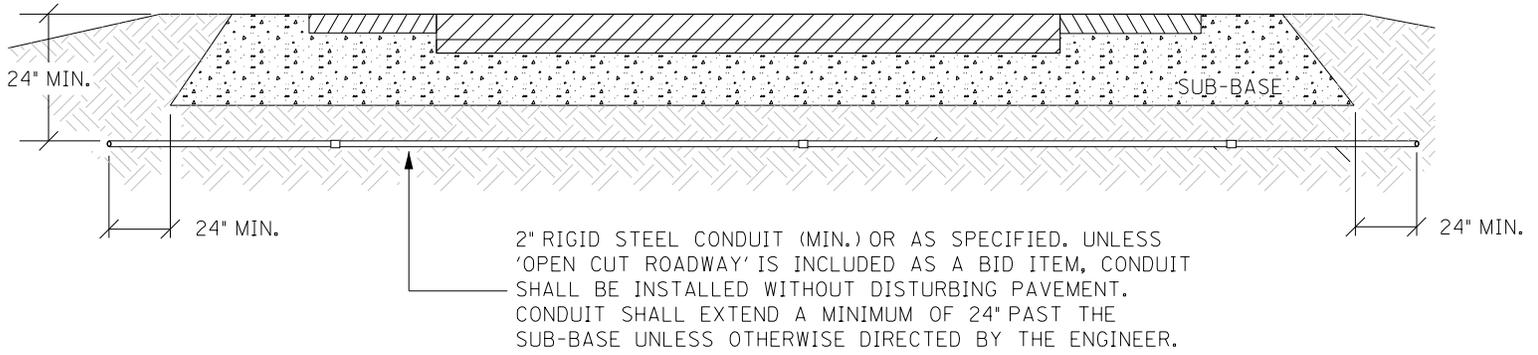
Trenching and Backfilling shall include excavation, warning tape, backfilling, temporary erosion control, seeding, protection and restoration of disturbed areas to original condition. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required). Trenching and backfilling will be measured in linear feet.

4.18. Wire or Cable

Wire or cable shall include furnishing and installing specified wire or cable within saw slot, conduit, junction box, cabinet, or overhead as indicated on the detail sheets. Incidental to this item shall be the labeling of all wires and cables in each junction box, cabinet and splice box, and furnishing and installing other hardware required for installing cable. Wire or Cable will be measured in linear feet.

4.19. Wood Post

Wood Post shall include furnishing and installing wood post as specified. This item shall include excavation, furnishing and placing concrete (if required), backfilling around the post, and restoration of disturbed areas to the satisfaction of the engineer. Wood Post will be measured in individual units each.

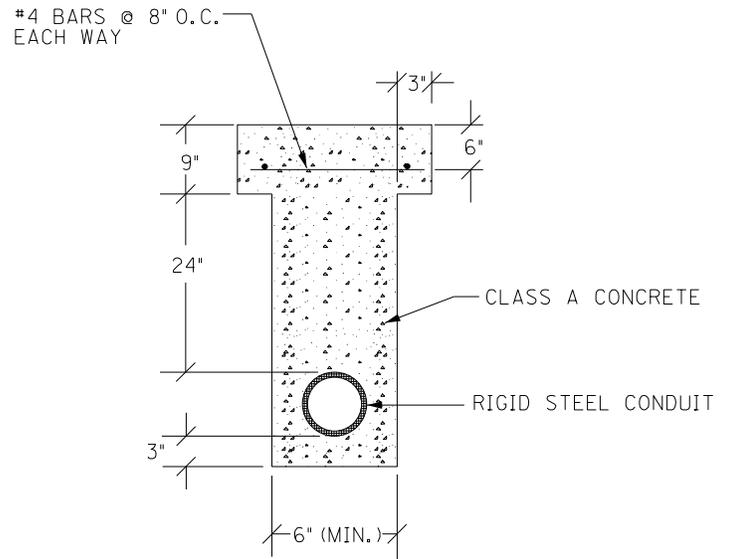
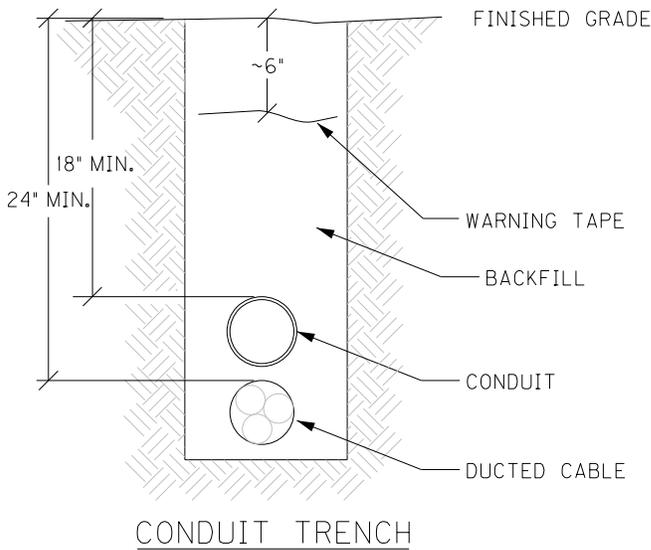


CONDUIT UNDER PAVEMENT

TOTAL TRENCH WIDTH SHALL BE 3" (NOM.) WIDER THAN THE SUM OF THE OUTSIDE DIAMETER(S) OF THE CONDUIT(S) INSTALLED. CONDUIT(S) SHALL BE CENTERED IN TRENCH.

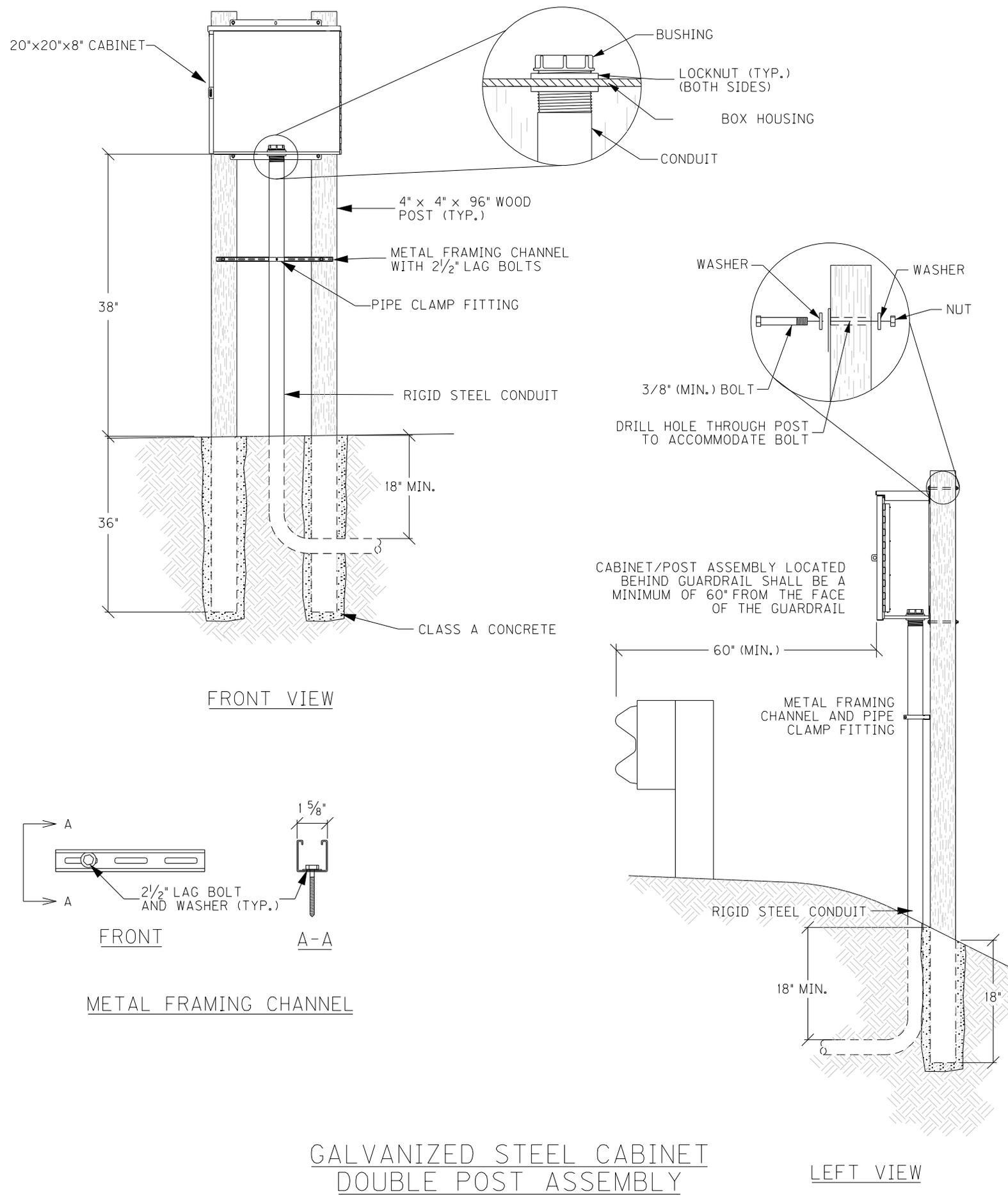
CONTRACTOR SHALL PLACE BACKFILL IN LIFTS (9" MAX.) COMPACT BACKFILL, AND RESTORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER

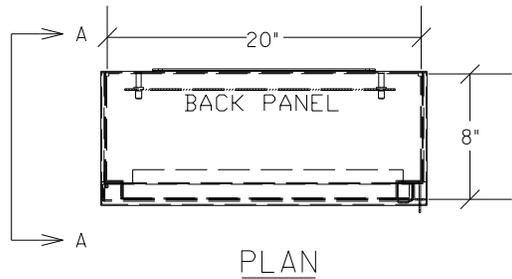
CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE ABOVE CONDUIT AS SHOWN.



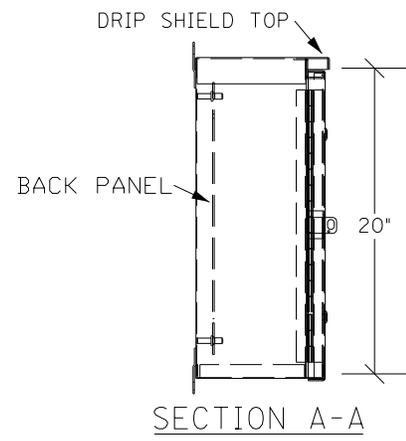
OPEN CUT PAVEMENT DETAIL

CONDUIT INSTALLATION

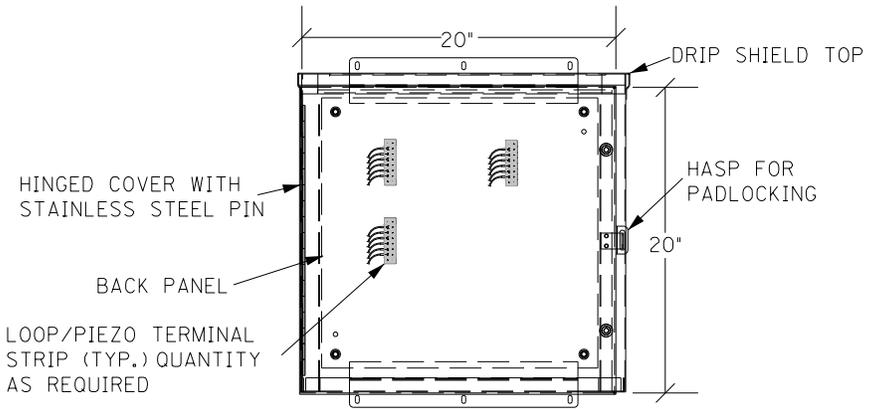




PLAN

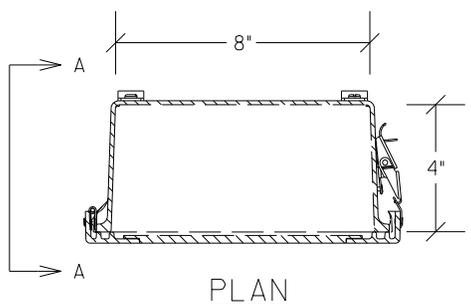


SECTION A-A

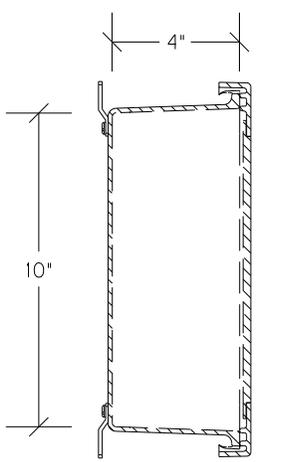


ELEVATION

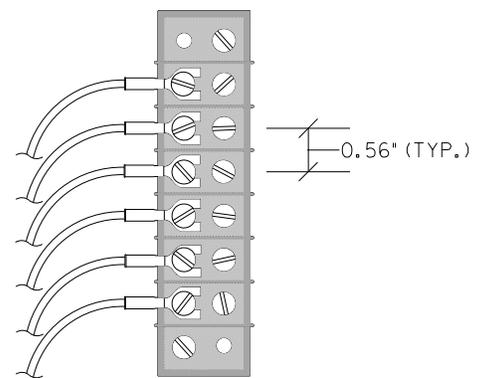
GALVANIZED STEEL CABINET



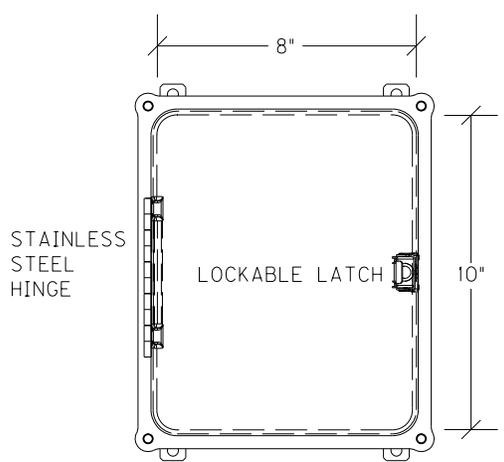
PLAN



SECTION A-A

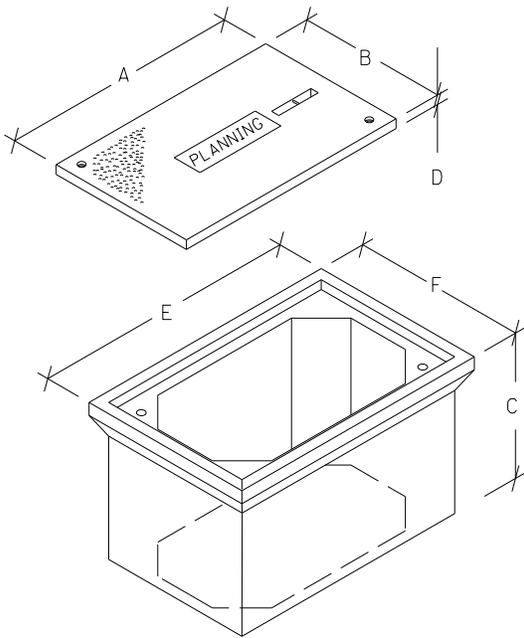


TERMINAL STRIP (TYP.)



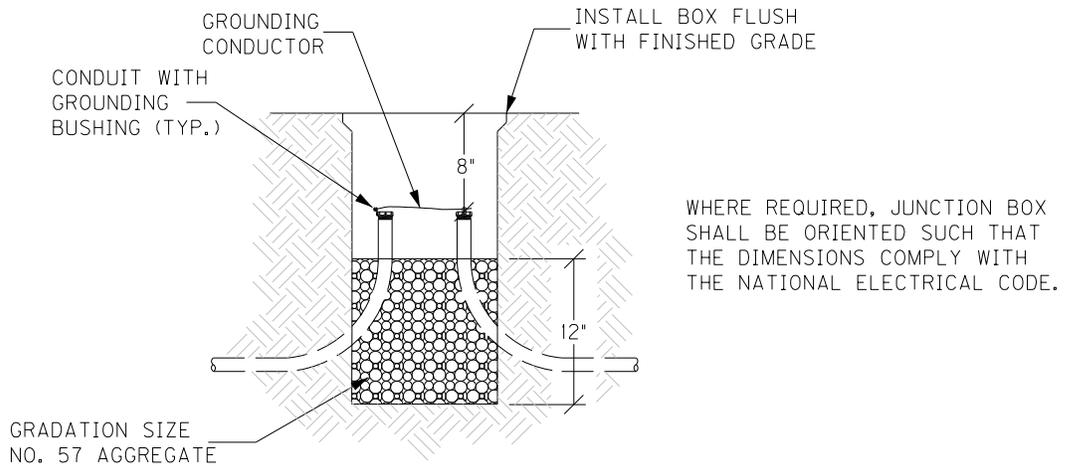
ELEVATION

JUNCTION BOX 10"X8"X4"



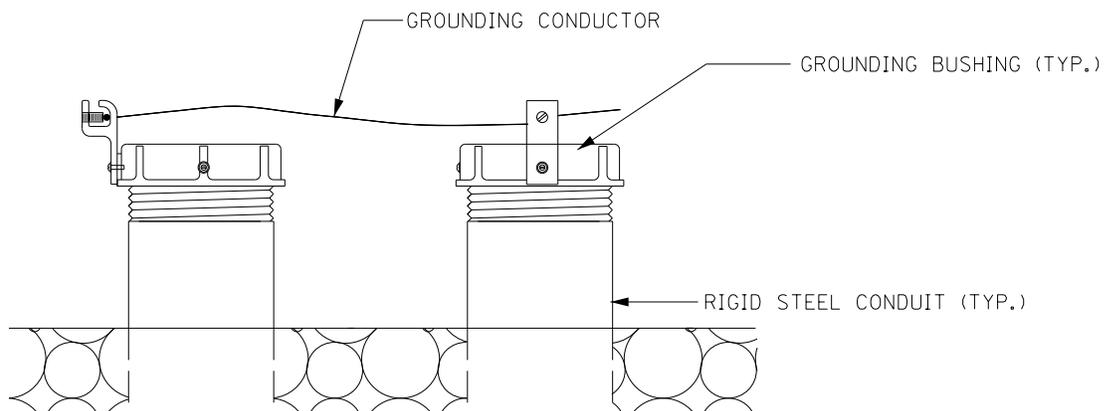
JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D*	E	F
TYPE A	23"	14"	18"	2"	25"	16"
TYPE B	18"	11"	12"	1¾"	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

* MINIMUM
STACKABLE BOXES ARE PERMITTED



WHERE REQUIRED, JUNCTION BOX SHALL BE ORIENTED SUCH THAT THE DIMENSIONS COMPLY WITH THE NATIONAL ELECTRICAL CODE.

ELEVATION

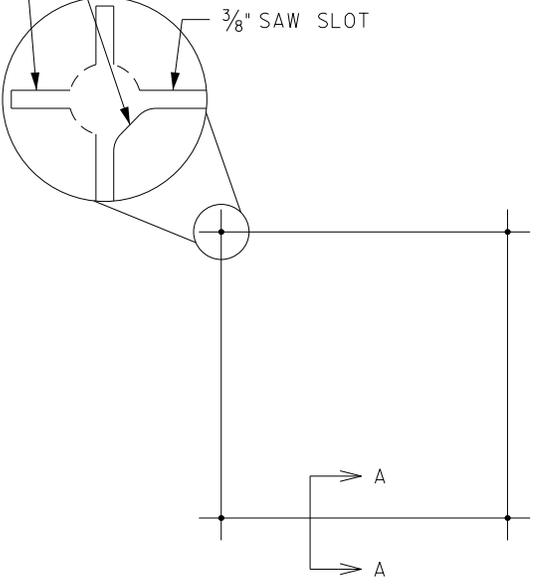


GROUNDING DETAIL

JUNCTION BOX - TYPE A, TYPE B, TYPE C

FAYETTE COUNTY
 121GR14D091-NHPP & JL04
 EXTEND CUT BEYOND CORNER
 TO ACHIEVE FULL DEPTH

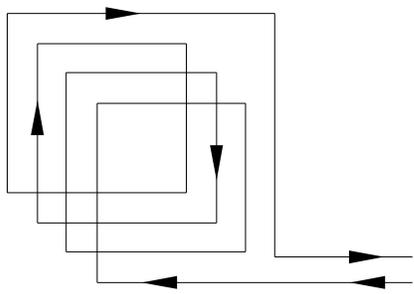
CORE DRILL 1 1/2" HOLE AND/OR
 CHISEL CORNER TO SLOT DEPTH
 TO ELIMINATE SHARP EDGES



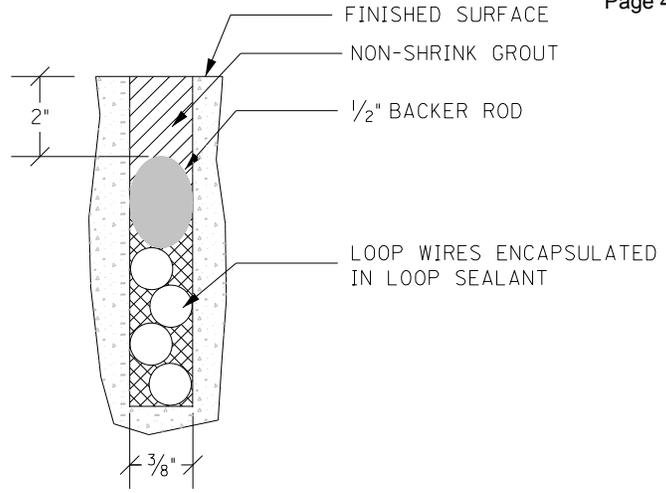
SAW CUT PLAN

UNLESS SPECIFIED OTHERWISE, ALL LOOPS SHALL BE 6' x 6' SQUARE, CENTERED IN EACH LANE, WITH FOUR TURNS OF 14 AWG LOOP WIRE.

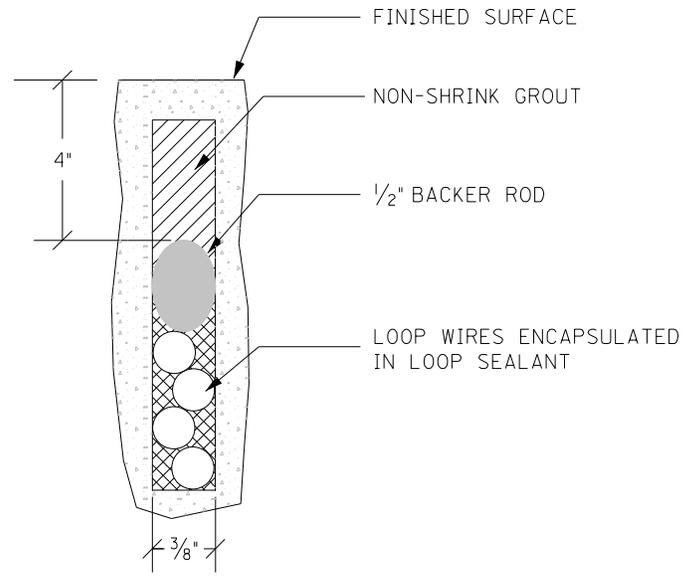
ADJACENT SAW SLOTS SHALL BE A MINIMUM OF 12" APART.



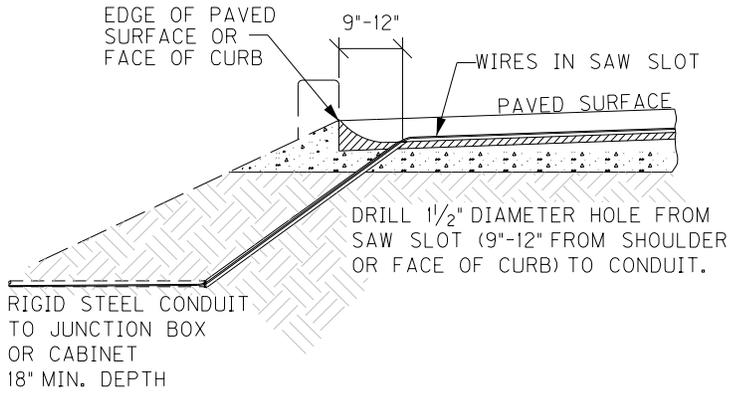
WIRING PLAN



SECTION A-A (CONCRETE)

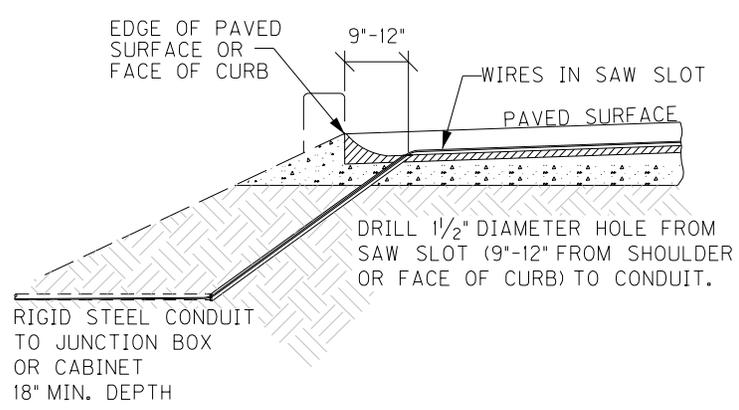
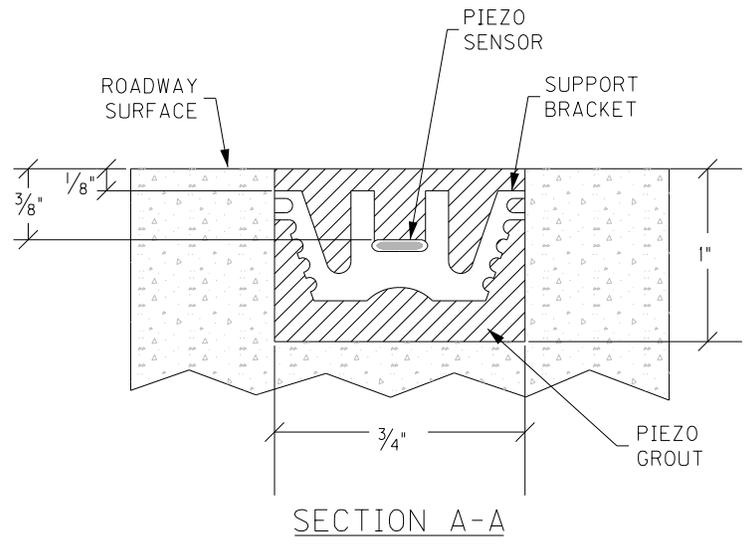
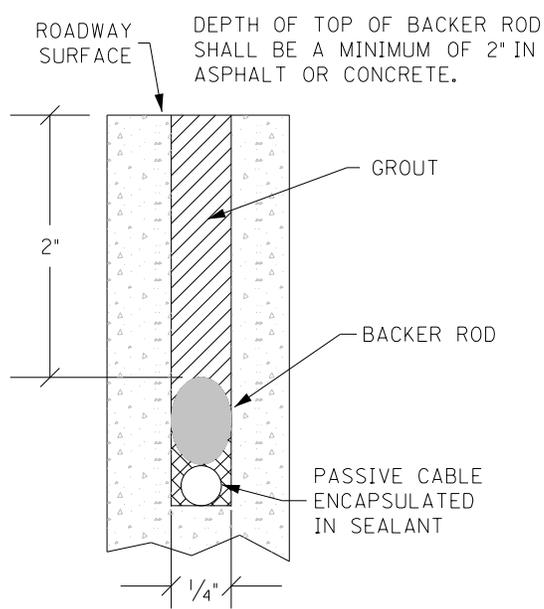
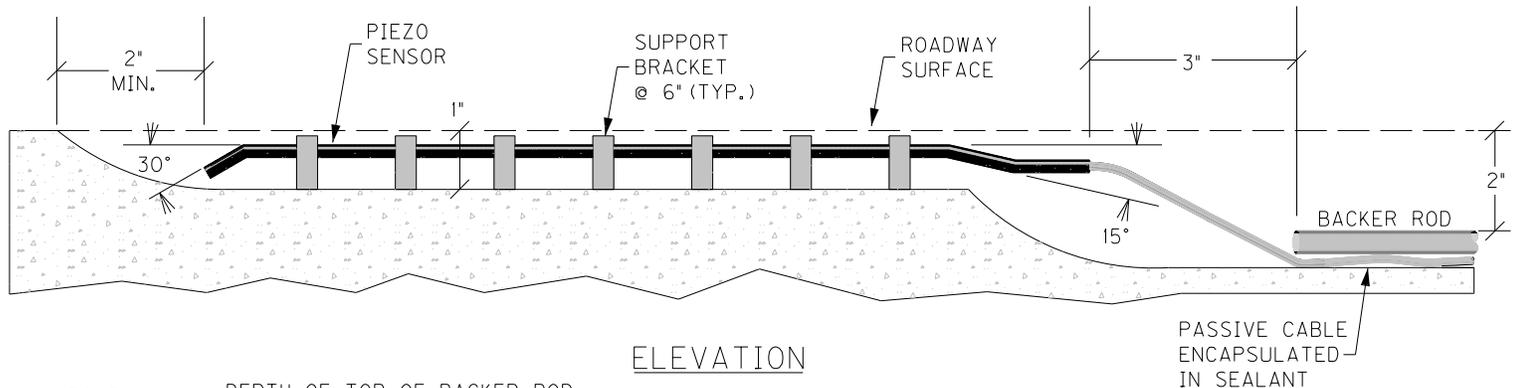
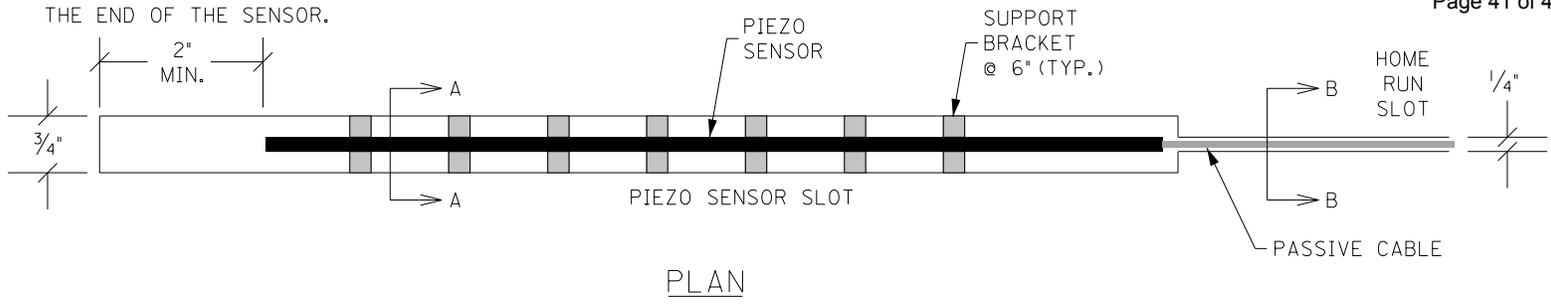


SECTION A-A (ASPHALT)



SAW SLOT EDGE OF PAVEMENT TRANSITION

INDUCTIVE LOOP DETECTOR



PIEZOELECTRIC SENSOR INSTALLATION

PROPOSAL BID ITEMS

141291

Page 1 of 15

Report Date 11/7/14

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	108,524.00	TON		\$	
0020	00018		DRAINAGE BLANKET-TYPE II-ASPH	17,410.00	TON		\$	
0030	00020		TRAFFIC BOUND BASE	2,000.00	TON		\$	
0040	00100		ASPHALT SEAL AGGREGATE	287.00	TON		\$	
0050	00103		ASPHALT SEAL COAT	38.00	TON		\$	
0060	00190		LEVELING & WEDGING PG64-22	19,277.00	TON		\$	
0070	00193		ASPHALT SCRATCH COURSE PG76-22	358.00	TON		\$	
0080	00212		CL2 ASPH BASE 1.00D PG64-22	6,484.00	TON		\$	
0090	00214		CL3 ASPH BASE 1.00D PG64-22	53,266.00	TON		\$	
0100	00216		CL3 ASPH BASE 1.00D PG76-22	14,488.00	TON		\$	
0110	00217		CL4 ASPH BASE 1.00D PG64-22	36,798.00	TON		\$	
0120	00219		CL4 ASPH BASE 1.00D PG76-22	16,346.00	TON		\$	
0130	00301		CL2 ASPH SURF 0.38D PG64-22	2,051.00	TON		\$	
0140	00307		CL2 ASPH SURF 0.38B PG64-22	43.00	TON		\$	
0150	00336		CL3 ASPH SURF 0.38A PG76-22	6,896.00	TON		\$	
0160	00339		CL3 ASPH SURF 0.38D PG64-22	4,061.00	TON		\$	
0170	00342		CL4 ASPH SURF 0.38A PG76-22	6,794.00	TON		\$	
0180	01820		LIP CURB AND GUTTER	3,471.00	LF		\$	
0190	01890		ISLAND HEADER CURB TYPE 1	1,902.00	LF		\$	
0200	01947		MOUNTABLE MEDIAN TYPE 3A	247.00	SQYD		\$	
0210	01949		MOUNTABLE MEDIAN TYPE 6A	277.00	SQYD		\$	
0220	02069		JPC PAVEMENT-10 IN	1,740.00	SQYD		\$	
0230	02677		ASPHALT PAVE MILLING & TEXTURING	26,281.00	TON		\$	
0240	22861EN		HIGH STRENGTH GEOTEXTILE FABRIC	163,208.00	SQYD		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1060	00021		DRAINAGE BLANKET-EMBANKMENT	6,200.00	CUYD		\$	
1070	00078		CRUSHED AGGREGATE SIZE NO 2	3,195.00	TON		\$	
1080	01000		PERFORATED PIPE-4 IN	3,090.00	LF		\$	
1090	01010		NON-PERFORATED PIPE-4 IN	66.50	LF		\$	
1100	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM (7-279)	1.00	LS		\$	
1110	01020		PERF PIPE HEADWALL TY 1-4 IN	1.00	EACH		\$	
1120	01028		PERF PIPE HEADWALL TY 3-4 IN	11.00	EACH		\$	
1130	01310		REMOVE PIPE	607.00	LF		\$	
1140	01655		REMOVE JUNCTION BOX	1.00	EACH		\$	
1150	01691		FLUME INLET TYPE 2	1.00	EACH		\$	
1160	01706		REMOVE CATCH BASIN	16.00	EACH		\$	
1170	01718		REMOVE INLET	21.00	EACH		\$	
1180	01740		CORED HOLE DRAINAGE BOX CON-4 IN	6.00	EACH		\$	
1190	01741		CORED HOLE DRAINAGE BOX CON-6 IN	39.00	EACH		\$	
1200	01787		REMOVE MANHOLE	1.00	EACH		\$	
1210	01825		ISLAND CURB AND GUTTER	242.00	LF		\$	
1220	01880		BARRIER HEADER CURB	32.00	LF		\$	
1230	01890		ISLAND HEADER CURB TYPE 1	1,078.00	LF		\$	

PROPOSAL BID ITEMS

141291

Page 2 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1240	01904		REMOVE CURB	16,027.00	LF		\$	
1250	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	233.00	EACH		\$	
1260	01983		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW	17.00	EACH		\$	
1270	01984		DELINEATOR FOR BARRIER - WHITE	1,129.00	EACH		\$	
1280	01985		DELINEATOR FOR BARRIER - YELLOW	4,796.00	EACH		\$	
1290	01986		DELINEATOR FOR BARRIER WALL-B/Y	8.00	EACH		\$	
1300	01990		DELINEATOR FOR BARRIER WALL-B/W	10.00	EACH		\$	
1310	02003		RELOCATE TEMP CONC BARRIER	47,200.00	LF		\$	
1320	02014		BARRICADE-TYPE III	40.00	EACH		\$	
1330	02091		REMOVE PAVEMENT	6,473.00	SQYD		\$	
1340	02157		PAVED DITCH TYPE 1	107.00	SQYD		\$	
1350	02159		TEMP DITCH	59,020.00	LF		\$	
1360	02160		CLEAN TEMP DITCH	177,060.00	LF		\$	
1370	02165		REMOVE PAVED DITCH	748.00	SQYD		\$	
1380	02200		ROADWAY EXCAVATION	196,501.00	CUYD		\$	
1390	02203		STRUCTURE EXCAV-UNCLASSIFIED	575.00	CUYD		\$	
1400	02223		GRANULAR EMBANKMENT	3,736.00	CUYD		\$	
1410	02235		BACKFILLING UNDERCUT	200.00	CUYD		\$	
1420	02242		WATER	1,957.00	MGAL		\$	
1430	02242		WATER (FOR DUST CONTROL)	500.00	MGAL		\$	
1440	02262		FENCE-WOVEN WIRE TYPE 1	2,694.00	LF		\$	
1450	02274		FENCE-6 FT CHAIN LINK	585.00	LF		\$	
1460	02351		GUARDRAIL-STEEL W BEAM-S FACE	9,456.00	LF		\$	
1470	02352		GUARDRAIL-STEEL W BEAM-D FACE	50.00	LF		\$	
1480	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	14.00	EACH		\$	
1490	02364		GUARDRAIL TERMINAL SECTION NO 2	5.00	EACH		\$	
1500	02367		GUARDRAIL END TREATMENT TYPE 1	16.00	EACH		\$	
1510	02369		GUARDRAIL END TREATMENT TYPE 2A	22.00	EACH		\$	
1520	02381		REMOVE GUARDRAIL	16,304.70	LF		\$	
1530	02387		GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	7.00	EACH		\$	
1540	02391		GUARDRAIL END TREATMENT TYPE 4A	7.00	EACH		\$	
1550	02429		RIGHT-OF-WAY MONUMENT TYPE 1	10.00	EACH		\$	
1560	02432		WITNESS POST	10.00	EACH		\$	
1570	02478		CAP INLET	1.00	SQYD		\$	
1580	02483		CHANNEL LINING CLASS II	3,177.90	TON		\$	
1590	02484		CHANNEL LINING CLASS III	2,348.00	TON		\$	
1600	02545		CLEARING AND GRUBBING (APPROXIMATELY 83.3 ACRES, 7-113.01)	1.00	LS		\$	
1610	02545		CLEARING AND GRUBBING (APPROXIMATELY 30 ACRES, 7-279)	1.00	LS		\$	
1620	02555		CONCRETE-CLASS B	456.70	CUYD		\$	
1630	02562		TEMPORARY SIGNS	2,712.60	SQFT		\$	
1640	02567		DELINEATOR POSTS	40.00	EACH		\$	
1650	02585		EDGE KEY	64.00	LF		\$	
1660	02596		FABRIC-GEOTEXTILE TYPE I	727.70	SQYD		\$	
1670	02599		FABRIC-GEOTEXTILE TYPE IV	46,700.00	SQYD		\$	
1680	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	45,152.00	SQYD	\$2.00	\$	\$90,304.00

PROPOSAL BID ITEMS

141291

Page 3 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1690	02625		REMOVE HEADWALL	41.00	EACH		\$	
1700	02650		MAINTAIN & CONTROL TRAFFIC (7-113.01)	1.00	LS		\$	
1710	02650		MAINTAIN & CONTROL TRAFFIC (7-279)	1.00	LS		\$	
1720	02651		DIVERSIONS (BY-PASS DETOURS) (#1, 7-279)	1.00	LS		\$	
1730	02651		DIVERSIONS (BY-PASS DETOURS) (#2, 7-279)	1.00	LS		\$	
1740	02651		DIVERSIONS (BY-PASS DETOURS) (#3, 7-279)	1.00	LS		\$	
1750	02651		DIVERSIONS (BY-PASS DETOURS) (#4, 7-279)	1.00	LS		\$	
1760	02671		PORTABLE CHANGEABLE MESSAGE SIGN	12.00	EACH		\$	
1770	02676		MOBILIZATION FOR MILL & TEXT (7-113.01)	1.00	LS		\$	
1780	02676		MOBILIZATION FOR MILL & TEXT (7-279)	1.00	LS		\$	
1790	02690		SAFELOADING	160.80	CUYD		\$	
1800	02696		SHOULDER RUMBLE STRIPS-SAWED	48,700.00	LF		\$	
1810	02701		TEMP SILT FENCE	59,020.00	LF		\$	
1820	02703		SILT TRAP TYPE A	134.00	EACH		\$	
1830	02704		SILT TRAP TYPE B	134.00	EACH		\$	
1840	02705		SILT TRAP TYPE C	134.00	EACH		\$	
1850	02706		CLEAN SILT TRAP TYPE A	402.00	EACH		\$	
1860	02707		CLEAN SILT TRAP TYPE B	402.00	EACH		\$	
1870	02708		CLEAN SILT TRAP TYPE C	402.00	EACH		\$	
1880	02709		CLEAN TEMP SILT FENCE	177,060.00	LF		\$	
1890	02726		STAKING (7-113.01)	1.00	LS		\$	
1900	02726		STAKING (7-279)	1.00	LS		\$	
1910	02731		REMOVE STRUCTURE (TWIN BRIDGES OVER ALEXANDRIA DRIVE, STA. 249+65.73)	1.00	LS		\$	
1920	02731		REMOVE STRUCTURE (TWIN BRIDGES OVER RJ CORMAN RAILROAD, STA. 276+91.5)	1.00	LS		\$	
1930	02731		REMOVE STRUCTURE (SINGLE BRIDGE OVER NEW CIRCLE ROAD, STA. 293+54.79)	1.00	LS		\$	
1940	02731		REMOVE STRUCTURE (TWIN BRIDGES OVER RJ CORMAN RAILROAD, STA. 317+31.29)	1.00	LS		\$	
1950	02775		ARROW PANEL	6.00	EACH		\$	
1960	03171		CONCRETE BARRIER WALL TYPE 9T	26,240.00	LF		\$	
1970	03225		TUBULAR MARKERS	120.00	EACH		\$	
1980	03260		CLEAN ROADWAY DRAINS	11.00	EACH		\$	
1990	04793		CONDUIT-1 1/4 IN (REVISED: 11-7-14)	240.00	LF		\$	
2000	04795		CONDUIT-2 IN (REVISED: 11-7-14)	60.00	LF		\$	
2010	04810		ELECTRICAL JUNCTION BOX	40.00	EACH		\$	
2020	04820		TRENCHING AND BACKFILLING (REVISED: 11-7-14)	270.00	LF		\$	

PROPOSAL BID ITEMS

141291

Page 4 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2030	04829		PIEZOELECTRIC SENSOR (REVISED: 11-7-14)	18.00	EACH		\$	
2040	04830		LOOP WIRE (REVISED: 11-7-14)	8,850.00	LF		\$	
2050	04895		LOOP SAW SLOT AND FILL (REVISED: 11-7-14)	1,695.00	LF		\$	
2060	05950		EROSION CONTROL BLANKET	14,478.00	SQYD		\$	
2070	05952		TEMP MULCH	691,757.00	SQYD		\$	
2080	05953		TEMP SEEDING AND PROTECTION	95,163.00	SQYD		\$	
2090	05963		INITIAL FERTILIZER	13.40	TON		\$	
2100	05964		20-10-10 FERTILIZER	21.70	TON		\$	
2110	05985		SEEDING AND PROTECTION	409,445.00	SQYD		\$	
2120	05989		SPECIAL SEEDING CROWN VETCH	53,600.00	SQYD		\$	
2130	05992		AGRICULTURAL LIMESTONE	253.80	TON		\$	
2140	06401		FLEXIBLE DELINEATOR POST-M/W	187.00	EACH		\$	
2150	06404		FLEXIBLE DELINEATOR POST-M/Y	88.00	EACH		\$	
2160	06510		PAVE STRIPING-TEMP PAINT-4 IN	16,600.00	LF		\$	
2170	06511		PAVE STRIPING-TEMP PAINT-6 IN	332,884.00	LF		\$	
2180	06514		PAVE STRIPING-PERM PAINT-4 IN	8,458.00	LF		\$	
2190	06514		PAVE STRIPING-PERM PAINT-4 IN (WHITE)	14,162.00	LF		\$	
2200	06514		PAVE STRIPING-PERM PAINT-4 IN (YELLOW)	13,157.00	LF		\$	
2210	06515		PAVE STRIPING-PERM PAINT-6 IN	79,252.00	LF		\$	
2220	06516		PAVE STRIPING-PERM PAINT-8 IN (WHITE)	1,430.00	LF		\$	
2230	06517		PAVE STRIPING-PERM PAINT-12 IN	4,018.00	LF		\$	
2240	06531		PAVE STRIPING REMOVAL-6 IN	14,100.00	LF		\$	
2250	06565		PAVE MARKING-THERMO X-WALK-6 IN	1,097.00	LF		\$	
2260	06568		PAVE MARKING-THERMO STOP BAR-24IN	326.00	LF		\$	
2270	06569		PAVE MARKING-THERMO CROSS-HATCH	2,647.00	SQFT		\$	
2280	06574		PAVE MARKING-THERMO CURV ARROW	52.00	EACH		\$	
2290	06576		PAVE MARKING-THERMO ONLY	7.00	EACH		\$	
2300	06589		PAVEMENT MARKER TYPE V-MW	321.00	EACH		\$	
2310	06591		PAVEMENT MARKER TYPE V-BY	141.00	EACH		\$	
2320	06592		PAVEMENT MARKER TYPE V-B W/R	972.00	EACH		\$	
2330	06593		PAVEMENT MARKER TYPE V-B Y/R	335.00	EACH		\$	
2340	06600		REMOVE PAVEMENT MARKER TYPE V	160.00	EACH		\$	
2350	08100		CONCRETE-CLASS A	50.40	CUYD		\$	
2360	08900		CRASH CUSHION TY VI CLASS B TL2	1.00	EACH		\$	
2370	08901		CRASH CUSHION TY VI CLASS BT TL2	37.00	EACH		\$	
2380	08904		CRASH CUSHION TY VI CLASS C	6.00	EACH		\$	
2390	10020NS		FUEL ADJUSTMENT	369,469.00	DOLL	\$1.00	\$	\$369,469.00
2400	10030NS		ASPHALT ADJUSTMENT	652,648.00	DOLL	\$1.00	\$	\$652,648.00
2410	20099ES842		PAVE MARK TEMP PAINT STOP BAR	142.00	LF		\$	
2420	20100ES842		PAVE MARK TEMP PAINT LINE ARROW	14.00	EACH		\$	
2430	20209EP69		GRANULAR PILE CORE	328.00	CUYD		\$	
2440	20210EP69		COHESIVE PILE CORE	46.00	CUYD		\$	
2450	20259ED		TEMPORARY MEDIAN CROSSOVER	2.00	EACH		\$	
2460	20359NN		GALVANIZED STEEL CABINET (REVISED: 11-7-14)	6.00	EACH		\$	

PROPOSAL BID ITEMS

141291

Page 5 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2470	20360ES818		WOOD POST (REVISED: 11-7-14)	12.00	EACH		\$	
2480	20391NS835		ELECTRICAL JUNCTION BOX TYPE A (REVISED: 11-7-14)	6.00	EACH		\$	
2490	20394ES835		PVC CONDUIT-3 IN- IN MEDIAN BARRIER WALL	8,953.00	LF		\$	
2500	20411ED		LAW ENFORCEMENT OFFICER	3,200.00	HOUR		\$	
2510	20430ED		SAW CUT	47,444.00	LF		\$	
2520	20432ES112		REMOVE CRASH CUSHION	2.00	EACH		\$	
2530	21342ED		FORM LINER	2,514.00	SQFT		\$	
2540	21370ED		LONGITUDINAL SAW CUT- 6 IN	9,861.00	LF		\$	
2550	21802EN		G/R STEEL W BEAM-S FACE (7 FT POST)	3,850.00	LF		\$	
2560	22664EN		WATER BLASTING EXISTING STRIPE	105,272.00	LF		\$	
2570	23131ER701		PIPELINE VIDEO INSPECTION	9,427.00	LF		\$	
2580	23148EN		END ANCHORS	1.00	EACH		\$	
2590	23274EN11F		TURF REINFORCEMENT MAT 1	15,916.00	SQYD		\$	
2600	24035EC		CONC MED BAR END FOR CRASH CUSHION TY IX	1.00	EACH		\$	
2610	24189ER		DURABLE WATERBORNE MARKING-6 IN W	12,953.00	LF		\$	
2620	24190ER		DURABLE WATERBORNE MARKING-6 IN Y	9,069.00	LF		\$	
2630	24191ER		DURABLE WATERBORNE MARKING-12 IN W	4,162.00	LF		\$	
2640	24255EC		REMOVE CABLE GUARDRAIL BARRIER SYSTEM	9,318.00	LF		\$	
2650	24654ED		SINGLE SLOPE MEDIAN BARRIER	10,188.00	LF		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3420	00445		ENTRANCE PIPE-30 IN	48.00	LF		\$	
3430	00461		CULVERT PIPE-15 IN	11.00	LF		\$	
3440	00461		CULVERT PIPE-15 IN (REINFORCED CONCRETE PIPE)	34.00	LF		\$	
3450	00462		CULVERT PIPE-18 IN	239.00	LF		\$	
3460	00464		CULVERT PIPE-24 IN	544.00	LF		\$	
3470	00464		CULVERT PIPE-24 IN (REINFORCED CONCRETE PIPE)	24.00	LF		\$	
3480	00466		CULVERT PIPE-30 IN	82.00	LF		\$	
3490	00469		CULVERT PIPE-42 IN	24.00	LF		\$	
3500	00494		CULVERT PIPE-30 IN EQUIV	48.00	LF		\$	
3510	00521		STORM SEWER PIPE-15 IN	3,967.00	LF		\$	
3520	00522		STORM SEWER PIPE-18 IN	2,583.00	LF		\$	
3530	00522		STORM SEWER PIPE-18 IN (REINFORCED CONCRETE PIPE)	31.00	LF		\$	
3540	00524		STORM SEWER PIPE-24 IN	1,986.00	LF		\$	
3550	01000		PERFORATED PIPE-4 IN	12,265.00	LF		\$	
3560	01001		PERFORATED PIPE-6 IN	9,761.00	LF		\$	
3570	01010		NON-PERFORATED PIPE-4 IN	1,017.00	LF		\$	
3580	01011		NON-PERFORATED PIPE-6 IN	312.00	LF		\$	
3590	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM (7-113.01)	1.00	LS		\$	
3600	01020		PERF PIPE HEADWALL TY 1-4 IN	50.00	EACH		\$	

PROPOSAL BID ITEMS

141291

Page 6 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3610	01024		PERF PIPE HEADWALL TY 2-4 IN	2.00	EACH		\$	
3620	01028		PERF PIPE HEADWALL TY 3-4 IN	11.00	EACH		\$	
3630	01032		PERF PIPE HEADWALL TY 4-4 IN	19.00	EACH		\$	
3640	01202		PIPE CULVERT HEADWALL-15 IN	4.00	EACH		\$	
3650	01202		PIPE CULVERT HEADWALL-15 IN	3.00	EACH		\$	
3660	01204		PIPE CULVERT HEADWALL-18 IN	5.00	EACH		\$	
3670	01208		PIPE CULVERT HEADWALL-24 IN	5.00	EACH		\$	
3680	01208		PIPE CULVERT HEADWALL-24 IN	2.00	EACH		\$	
3690	01210		PIPE CULVERT HEADWALL-30 IN	1.00	EACH		\$	
3700	01210		PIPE CULVERT HEADWALL-30 IN	1.00	EACH		\$	
3710	01214		PIPE CULVERT HEADWALL-42 IN	1.00	EACH		\$	
3720	01373		METAL END SECTION TY 1-24 IN	1.00	EACH		\$	
3730	01432		SLOPED BOX OUTLET TYPE 1-15 IN	2.00	EACH		\$	
3740	01433		SLOPED BOX OUTLET TYPE 1-18 IN	3.00	EACH		\$	
3750	01434		SLOPED BOX OUTLET TYPE 1-24 IN EQUIVALENT	1.00	EACH		\$	
3760	01440		SLOPED BOX INLET-OUTLET TYPE 1	4.00	EACH		\$	
3770	01450		S & F BOX INLET-OUTLET-18 IN	2.00	EACH		\$	
3780	01451		S & F BOX INLET-OUTLET-24 IN	1.00	EACH		\$	
3790	01456		CURB BOX INLET TYPE A	3.00	EACH		\$	
3800	01480		CURB BOX INLET TYPE B	7.00	EACH		\$	
3810	01490		DROP BOX INLET TYPE 1	5.00	EACH		\$	
3820	01496		DROP BOX INLET TYPE 3	5.00	EACH		\$	
3830	01517		DROP BOX INLET TYPE 5F	1.00	EACH		\$	
3840	01544		DROP BOX INLET TYPE 11	4.00	EACH		\$	
3850	01559		DROP BOX INLET TYPE 13G	5.00	EACH		\$	
3860	01568		DROP BOX INLET TYPE 13S	1.00	EACH		\$	
3870	01584		CAP DROP BOX INLET	2.00	EACH		\$	
3880	01585		REMOVE DROP BOX INLET	1.00	EACH		\$	
3890	01614		CONC MED BARR BOX INLET TY 14A2	3.00	EACH		\$	
3900	01615		CONC MED BARR BOX INLET TY 14B2	36.00	EACH		\$	
3910	01641		JUNCTION BOX-15 IN	2.00	EACH		\$	
3920	01642		JUNCTION BOX-18 IN	3.00	EACH		\$	
3930	01643		JUNCTION BOX-24 IN	3.00	EACH		\$	
3940	01650		JUNCTION BOX	1.00	EACH		\$	
3950	01651		JUNCTION BOX-MOD	1.00	EACH		\$	
3960	01719		ADJUST INLET	3.00	EACH		\$	
3970	01720		RECONSTRUCT INLET	2.00	EACH		\$	
3980	08100		CONCRETE-CLASS A	1.67	CUYD		\$	
3990	21799EN		BORE AND JACK PIPE-24 IN	537.00	LF		\$	
4000	21800EN		BORE AND JACK PIPE-30 IN	79.00	LF		\$	
4010	22628NN		DROP BOX INLET-MOD	1.00	EACH		\$	
4020	23126EN		BORE AND JACK PIPE-18 IN	577.00	LF		\$	
4030	24377EC		PREFAB BEND CONNECTION 25 DEG-15 IN	4.00	EACH		\$	
4040	24575ES610		HEADWALL (DOUBLE 24 IN PIPE CULVERT)	1.00	EACH		\$	
4050	24575ES610		HEADWALL (DOUBLE STANDARD, 24")	1.00	EACH		\$	
4060	24634EC		BEND (PREFAB CONNECTION 25 DEG-18 IN)	2.00	EACH		\$	

PROPOSAL BID ITEMS

141291

Page 7 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4070	24634EC		BEND (PREFAB CONNECTION 25 DE-24 IN)	2.00	EACH		\$	

Section: 0004 - BRIDGE - RAMP G OVER US 60 (VERSAILLES ROAD) DWG. 27087

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4080	02231		STRUCTURE GRANULAR BACKFILL	187.00	CUYD		\$	
4090	02998		MASONRY COATING	632.00	SQYD		\$	
4100	03299		ARMORED EDGE FOR CONCRETE	64.90	LF		\$	
4110	08020		CRUSHED AGGREGATE SLOPE PROT	152.00	TON		\$	
4120	08033		TEST PILES	63.00	LF		\$	
4130	08046		PILES-STEEL HP12X53	344.00	LF		\$	
4140	08094		PILE POINTS-12 IN	15.00	EACH		\$	
4150	08100		CONCRETE-CLASS A	183.10	CUYD		\$	
4160	08104		CONCRETE-CLASS AA	272.80	CUYD		\$	
4170	08150		STEEL REINFORCEMENT	50,860.00	LB		\$	
4180	08151		STEEL REINFORCEMENT-EPOXY COATED	71,167.00	LB		\$	
4190	08160		STRUCTURAL STEEL (APPROXIMATELY 304,369 LBS.)	1.00	LS		\$	
4200	08170		SHEAR CONNECTORS (APPROXIMATELY 5,442 LBS)	1.00	LS		\$	
4210	08434		CLEAN & PAINT STRUCTURAL STEEL	1.00	LS		\$	
4220	20745ED		ROCK SOUNDINGS	78.00	LF		\$	
4230	20746ED		ROCK CORINGS	90.00	LF		\$	
4240	21342ED		FORM LINER	724.00	SQFT		\$	
4250	21420ED		DRILLED SHAFT-66 IN (COMMON)	78.00	LF		\$	
4260	21421ED		DRILLED SHAFT-60 IN (SOLID ROCK)	60.00	LF		\$	
4270	21532ED		RAIL SYSTEM TYPE III	615.00	LF		\$	

Section: 0005 - BRIDGE - ALEXANDRIA DRIVE - DWG. 27028

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4280	02231		STRUCTURE GRANULAR BACKFILL	375.00	CUYD		\$	
4290	02998		MASONRY COATING	1,286.00	SQYD		\$	
4300	03299		ARMORED EDGE FOR CONCRETE	233.00	LF		\$	
4310	04797		CONDUIT-3 IN	539.00	LF		\$	
4320	08001		STRUCTURE EXCAVATION-COMMON	46.00	CUYD		\$	
4330	08020		CRUSHED AGGREGATE SLOPE PROT	829.00	TON		\$	
4340	08033		TEST PILES	155.00	LF		\$	
4350	08046		PILES-STEEL HP12X53	505.00	LF		\$	
4360	08094		PILE POINTS-12 IN	30.00	EACH		\$	
4370	08100		CONCRETE-CLASS A	273.60	CUYD		\$	
4380	08104		CONCRETE-CLASS AA	623.00	CUYD		\$	
4390	08130		MECHANICAL REINF COUPLER #5	24.00	EACH		\$	
4400	08133		MECHANICAL REINF COUPLER #8	32.00	EACH		\$	
4410	08140		MECHANICAL REINF COUPLER #5 EPOXY COATED	12.00	EACH		\$	
4420	08150		STEEL REINFORCEMENT	59,187.00	LB		\$	
4430	08151		STEEL REINFORCEMENT-EPOXY COATED	166,178.00	LB		\$	

PROPOSAL BID ITEMS

141291

Page 8 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4440	08671		PRECAST PC BOX BEAM SB33	2,090.70	LF		\$	
4450	20392NS835		ELECTRICAL JUNCTION BOX TYPE C	4.00	EACH		\$	
4460	20637ED		DRILLED SHAFT-ROCK 48 IN	22.70	LF		\$	
4470	20745ED		ROCK SOUNDINGS	172.20	LF		\$	
4480	20746ED		ROCK CORINGS	286.70	LF		\$	
4490	21532ED		RAIL SYSTEM TYPE III	306.00	LF		\$	
4500	23583EC		DRILLED SHAFT-48 IN-COMMON	148.30	LF		\$	
4510	23584EC		DRILLED SHAFT-42 IN-ROCK	96.00	LF		\$	
4520	24654ED		SINGLE SLOPE MEDIAN BARRIER	153.00	LF		\$	

Section: 0006 - BRIDGE - REPAIRS TO KY 4 OVER US 60 STA.535+32.56

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4530	02403		REMOVE CONCRETE MASONRY	31.00	CUYD		\$	
4540	02998		MASONRY COATING	489.00	SQYD		\$	
4550	03298		EXPAN JOINT REPLACE 4 IN	161.00	LF		\$	
4560	03299		ARMORED EDGE FOR CONCRETE	161.00	LF		\$	
4570	08100		CONCRETE-CLASS A	124.20	CUYD		\$	
4580	08104		CONCRETE-CLASS AA	50.30	CUYD		\$	
4590	08150		STEEL REINFORCEMENT	5,078.00	LB		\$	
4600	08151		STEEL REINFORCEMENT-EPOXY COATED	3,130.00	LB		\$	
4610	08434		CLEAN & PAINT STRUCTURAL STEEL	1.00	LS		\$	
4620	08435		JACK & SUPPORT BRIDGE SPAN	1.00	LS		\$	
4630	21969NN		BEARING REPLACEMENT	22.00	EACH		\$	

Section: 0007 - BRIDGE - RJ CORMAN RAILROAD - (VERSAILLES LINE) DWG. 27029

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4640	02223		GRANULAR EMBANKMENT	30.00	CUYD		\$	
4650	02231		STRUCTURE GRANULAR BACKFILL	1,177.00	CUYD		\$	
4660	02998		MASONRY COATING	1,167.00	SQYD		\$	
4670	03299		ARMORED EDGE FOR CONCRETE	297.30	LF		\$	
4680	04797		CONDUIT-3 IN	600.00	LF		\$	
4690	08001		STRUCTURE EXCAVATION-COMMON	282.00	CUYD		\$	
4700	08020		CRUSHED AGGREGATE SLOPE PROT	984.00	TON		\$	
4710	08033		TEST PILES	245.00	LF		\$	
4720	08051		PILES-STEEL HP14X89	1,122.00	LF		\$	
4730	08095		PILE POINTS-14 IN	37.00	EACH		\$	
4740	08100		CONCRETE-CLASS A	633.80	CUYD		\$	
4750	08104		CONCRETE-CLASS AA	834.30	CUYD		\$	
4760	08130		MECHANICAL REINF COUPLER #5	88.00	EACH		\$	
4770	08133		MECHANICAL REINF COUPLER #8	32.00	EACH		\$	
4780	08140		MECHANICAL REINF COUPLER #5 EPOXY COATED	28.00	EACH		\$	
4790	08150		STEEL REINFORCEMENT	126,832.00	LB		\$	
4800	08151		STEEL REINFORCEMENT-EPOXY COATED	243,815.00	LB		\$	
4810	08711		BRIDGE CHAIN LINK FENCE-6 FT	333.50	LF		\$	
4820	20392NS835		ELECTRICAL JUNCTION BOX TYPE C	4.00	EACH		\$	

PROPOSAL BID ITEMS

141291

Page 9 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4830	20637ED		DRILLED SHAFT-ROCK 48 IN	112.00	LF		\$	
4840	20743ED		DRILLED SHAFT 54 IN-SOLID ROCK	27.40	LF		\$	
4850	20745ED		ROCK SOUNDINGS	292.50	LF		\$	
4860	20746ED		ROCK CORINGS	331.40	LF		\$	
4870	21532ED		RAIL SYSTEM TYPE III	359.00	LF		\$	
4880	21777EN		DRILLED SHAFT COMMON-54 IN	253.60	LF		\$	
4890	23963EC		PPC I-BEAM TYPE HN36-49	2,365.90	LF		\$	
4900	24654ED		SINGLE SLOPE MEDIAN BARRIER	173.40	LF		\$	

Section: 0008 - BRIDGE - RAMP A RETAINING WALL - DWG. 27199

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4910	08003		FOUNDATION PREPARATION	1.00	LS		\$	
4920	08100		CONCRETE-CLASS A	94.30	CUYD		\$	
4930	08150		STEEL REINFORCEMENT	8,659.00	LB		\$	
4940	24596EN		GRANULAR BACKFILL	428.00	CUYD		\$	

Section: 0009 - BRIDGE - RJ CORMAN RR (LOUISVILLE TO WINCHESTER, CENTRAL LIN

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4950	02231		STRUCTURE GRANULAR BACKFILL	564.00	CUYD		\$	
4960	02998		MASONRY COATING	940.00	SQYD		\$	
4970	03299		ARMORED EDGE FOR CONCRETE	267.30	LF		\$	
4980	04797		CONDUIT-3 IN	620.00	LF		\$	
4990	08001		STRUCTURE EXCAVATION-COMMON	58.40	CUYD		\$	
5000	08020		CRUSHED AGGREGATE SLOPE PROT	1,086.00	TON		\$	
5010	08033		TEST PILES	240.00	LF		\$	
5020	08039		PRE-DRILLING FOR PILES	760.00	LF		\$	
5030	08046		PILES-STEEL HP12X53	1,216.00	LF		\$	
5040	08094		PILE POINTS-12 IN	40.00	EACH		\$	
5050	08100		CONCRETE-CLASS A	399.60	CUYD		\$	
5060	08104		CONCRETE-CLASS AA	827.80	CUYD		\$	
5070	08130		MECHANICAL REINF COUPLER #5	40.00	EACH		\$	
5080	08133		MECHANICAL REINF COUPLER #8	32.00	EACH		\$	
5090	08140		MECHANICAL REINF COUPLER #5 EPOXY COATED	16.00	EACH		\$	
5100	08141		MECHANICAL REINF COUPLER #6 EPOXY COATED	1,432.00	EACH		\$	
5110	08150		STEEL REINFORCEMENT	104,587.00	LB		\$	
5120	08151		STEEL REINFORCEMENT-EPOXY COATED	282,552.00	LB		\$	
5130	08711		BRIDGE CHAIN LINK FENCE-6 FT	348.00	LF		\$	
5140	20392NS835		ELECTRICAL JUNCTION BOX TYPE C	4.00	EACH		\$	
5150	20637ED		DRILLED SHAFT-ROCK 48 IN	98.00	LF		\$	
5160	20743ED		DRILLED SHAFT 54 IN-SOLID ROCK	14.00	LF		\$	
5170	20745ED		ROCK SOUNDINGS	203.00	LF		\$	
5180	20746ED		ROCK CORINGS	266.00	LF		\$	
5190	21532ED		RAIL SYSTEM TYPE III	360.20	LF		\$	
5200	21777EN		DRILLED SHAFT COMMON-54 IN	125.20	LF		\$	

PROPOSAL BID ITEMS

141291

Page 10 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
5210	23963EC		PPC I-BEAM TYPE HN36-49	2,292.30	LF		\$	
5220	24405EC		MECHANICAL REINF COUPLER-#8 EPOXY COATED	4.00	EACH		\$	
5230	24654ED		SINGLE SLOPE MEDIAN BARRIER	180.10	LF		\$	

Section: 0010 - BRIDGE - RAMP C RETAINING WALL - DWG. 27200

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0250	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0260	08100		CONCRETE-CLASS A	245.00	CUYD		\$	
0270	08150		STEEL REINFORCEMENT	23,500.00	LB		\$	
0280	24596EN		GRANULAR BACKFILL	1,101.00	CUYD		\$	

Section: 0011 - BRIDGE - OLD FRANKFORT PIKE (KY 1861) - DWG. 27031

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0290	02231		STRUCTURE GRANULAR BACKFILL	505.00	CUYD		\$	
0300	02998		MASONRY COATING	2,158.00	SQYD		\$	
0310	03299		ARMORED EDGE FOR CONCRETE	167.10	LF		\$	
0320	04797		CONDUIT-3 IN	720.00	LF		\$	
0330	04810		ELECTRICAL JUNCTION BOX	2.00	EACH		\$	
0340	08001		STRUCTURE EXCAVATION-COMMON	135.00	CUYD		\$	
0350	08002		STRUCTURE EXCAV-SOLID ROCK	591.00	CUYD		\$	
0360	08020		CRUSHED AGGREGATE SLOPE PROT	473.00	TON		\$	
0370	08033		TEST PILES	46.00	LF		\$	
0380	08039		PRE-DRILLING FOR PILES	290.00	LF		\$	
0390	08046		PILES-STEEL HP12X53	331.00	LF		\$	
0400	08094		PILE POINTS-12 IN	29.00	EACH		\$	
0410	08100		CONCRETE-CLASS A	581.90	CUYD		\$	
0420	08104		CONCRETE-CLASS AA	759.80	CUYD		\$	
0430	08150		STEEL REINFORCEMENT	130,405.00	LB		\$	
0440	08151		STEEL REINFORCEMENT-EPOXY COATED	195,643.00	LB		\$	
0450	08634		PRECAST PC I BEAM TYPE 4	2,516.20	LF		\$	
0460	20392NS835		ELECTRICAL JUNCTION BOX TYPE C	4.00	EACH		\$	
0470	21532ED		RAIL SYSTEM TYPE III	639.80	LF		\$	

Section: 0012 - BRIDGE - RAMP D RETAINING WALL -DWG. 27201

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0480	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0490	08100		CONCRETE-CLASS A	161.00	CUYD		\$	
0500	08150		STEEL REINFORCEMENT	14,600.00	LB		\$	
0510	24596EN		GRANULAR BACKFILL	542.00	CUYD		\$	

Section: 0013 - BRIDGE - WOLFE RUN CREEK DBL. CULVERT, 14' X 10', DWG. 27030

PROPOSAL BID ITEMS

141291

Page 11 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0520	02403		REMOVE CONCRETE MASONRY	30.20	CUYD		\$	
0530	08002		STRUCTURE EXCAV-SOLID ROCK	43.00	CUYD		\$	
0540	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0550	08100		CONCRETE-CLASS A	119.40	CUYD		\$	
0560	08150		STEEL REINFORCEMENT	11,014.00	LB		\$	
0570	23930EC		LIGHTWEIGHT CELLULAR CONCRETE FILL	1,909.00	CUYD		\$	

Section: 0014 - BRIDGE - RAMP E SOIL NAIL RETAINING WALL - DWG. 27202

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0580	02572		QUALITY CONTROL	1.00	LS		\$	
0590	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0600	20603ED		SOIL NAIL WALL	3,372.00	SQFT		\$	

Section: 0015 - BRIDGE - TOWN BRANCH CREEK DBL. CULVERT, 14' X 10', DWG. 27058

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0610	02403		REMOVE CONCRETE MASONRY	77.00	CUYD		\$	
0620	08002		STRUCTURE EXCAV-SOLID ROCK	24.00	CUYD		\$	
0630	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0640	08100		CONCRETE-CLASS A	229.20	CUYD		\$	
0650	08150		STEEL REINFORCEMENT	25,865.00	LB		\$	
0660	23930EC		LIGHTWEIGHT CELLULAR CONCRETE FILL	1,167.70	CUYD		\$	

Section: 0016 - BRIDGE - RAMP G RETAINING WALL - DWG. 27136

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0670	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0680	08100		CONCRETE-CLASS A	942.00	CUYD		\$	
0690	08150		STEEL REINFORCEMENT	127,000.00	LB		\$	
0700	24596EN		GRANULAR BACKFILL	6,122.00	CUYD		\$	

Section: 0017 - BRIDGE - MSE RETAINING WALL - KY 1681- DWG 27158

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0710	02203		STRUCTURE EXCAV-UNCLASSIFIED	3,549.00	CUYD		\$	
0720	02223		GRANULAR EMBANKMENT	760.00	CUYD		\$	
0730	08018		RETAINING WALL	7,275.00	SQFT		\$	

Section: 0018 - BRIDGE - SOLDIER PILE RETAINING WALLS - KY 4 - DWG. 27159

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0740	02155		PAVED DITCH TYPE 1 MOD	774.00	SQYD		\$	
0750	02203		STRUCTURE EXCAV-UNCLASSIFIED	1,904.00	CUYD		\$	

PROPOSAL BID ITEMS

141291

Page 12 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0760	02231		STRUCTURE GRANULAR BACKFILL	314.00	CUYD		\$	
0770	02998		MASONRY COATING	459.00	SQYD		\$	
0780	08018		RETAINING WALL	30,660.00	SQFT		\$	
0790	08033		TEST PILES	730.00	LF		\$	
0800	08039		PRE-DRILLING FOR PILES	8,206.00	LF		\$	
0810	08170		SHEAR CONNECTORS (APPROXIMATELY 7,196, 7-113.01)	1.00	LS		\$	
0820	21432NC		CONCRETE FORMLINER	25,900.00	SQFT		\$	
0830	24718EC		PILES-STEEL W21 X 166	3,631.00	LF		\$	
0840	24719EC		PILES-STEEL W21 X 122	3,060.00	LF		\$	
0850	24720EC		PILES-STEEL W21 X 93	553.00	LF		\$	

Section: 0019 - SEWER

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0860	01065		STEEL ENCASEMENT PIPE-8 IN	256.00	LF		\$	
0870	01067		STEEL ENCASEMENT PIPE-10 IN	150.00	LF		\$	
0880	03537		BEND 11.25 DEG 4 IN	4.00	EACH		\$	
0890	03538		BEND 11.25 DEG 6 IN	2.00	EACH		\$	
0900	03544		BEND 22.50 DEG 4 IN	3.00	EACH		\$	
0910	03545		BEND 22.50 DEG 6 IN	3.00	EACH		\$	
0920	03553		BEND 45 DEG 4 IN	1.00	EACH		\$	
0930	03554		BEND 45 DEG 6 IN	1.00	EACH		\$	
0940	03559		BEND 90 DEG 4 IN	1.00	EACH		\$	
0950	03560		BEND 90 DEG 6 IN	2.00	EACH		\$	
0960	20154ND		DRAIN ASSEMBLY (4")	3.00	EACH		\$	
0970	20154ND		DRAIN ASSEMBLY (6")	3.00	EACH		\$	
0980	21353ND		TIE-IN TO FORCE MAIN	4.00	EACH		\$	
0990	22082NN		AIR RELEASE VALVE ASSEMBLY (4")	2.00	EACH		\$	
1000	22082NN		AIR RELEASE VALVE ASSEMBLY (6")	2.00	EACH		\$	
1010	22960ED		BORE & JACK ENCASEMENT PIPE-INSTALL (8")	256.00	LF		\$	
1020	22984EN		PVC FORCE MAIN-6 IN	3,291.00	LF		\$	
1030	23528EC		PVC FORCE MAIN-4 IN-INSTALL	2,823.00	LF		\$	
1040	24149EC		BORE AND JACK PIPE-10 IN	150.00	LF		\$	
1050	24544EC		REMOVE (6" FORCE MAIN)	180.00	LF		\$	

Section: 0020 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2660	06400		GMSS GALV STEEL TYPE A	13,241.00	LB		\$	
2670	06401		FLEXIBLE DELINEATOR POST-M/W	70.00	EACH		\$	
2680	06404		FLEXIBLE DELINEATOR POST-M/Y	70.00	EACH		\$	
2690	06405		SBM ALUMINUM PANEL SIGNS	6,615.00	SQFT		\$	

PROPOSAL BID ITEMS

141291

Page 13 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2700	06406		SBM ALUM SHEET SIGNS .080 IN	498.00	SQFT		\$	
2710	06407		SBM ALUM SHEET SIGNS .125 IN	1,241.00	SQFT		\$	
2720	06410		STEEL POST TYPE 1	2,759.00	LF		\$	
2730	06412		STEEL POST MILE MARKERS	6.00	EACH		\$	
2740	06415		OSS GALV STEEL CANTILEVER	2.00	EACH		\$	
2750	06438		OSS ALUMINUM 80 FT TRUSS	1.00	EACH		\$	
2760	06441		GMSS GALV STEEL TYPE C	11,856.00	LB		\$	
2770	06449		REM OVERHEAD SIGN SUPPORT STR	1.00	EACH		\$	
2780	06450		REM OVERHEAD STRUC CONC BASE	1.00	EACH		\$	
2790	06451		REMOVE SIGN SUPPORT BEAM	45.00	EACH		\$	
2800	06490		CLASS A CONCRETE FOR SIGNS	82.00	CUYD		\$	
2810	06491		STEEL REINFORCEMENT FOR SIGNS	4,432.00	LB		\$	
2820	20418ED		REMOVE & RELOCATE SIGNS	6.00	EACH		\$	
2830	20419ND		ROADWAY CROSS SECTION	20.00	EACH		\$	
2840	20912ND		BARRIER WALL POST	10.00	EACH		\$	
2850	21373ND		REMOVE SIGN	36.00	EACH		\$	
2860	21596ND		GMSS TYPE D	26.00	EACH		\$	
2870	24631EC		BARCODE SIGN INVENTORY	253.00	EACH		\$	

Section: 0021 - SIGNALIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2880	04793		CONDUIT-1 1/4 IN	80.00	LF		\$	
2890	04795		CONDUIT-2 IN	20.00	LF		\$	
2900	04811		ELECTRICAL JUNCTION BOX TYPE B	5.00	EACH		\$	
2910	04820		TRENCHING AND BACKFILLING	170.00	LF		\$	
2920	04829		PIEZOELECTRIC SENSOR	6.00	EACH		\$	
2930	04830		LOOP WIRE	7,278.00	LF		\$	
2940	04850		CABLE-NO. 14/1 PAIR	2,250.00	LF		\$	
2950	04895		LOOP SAW SLOT AND FILL	2,280.00	LF		\$	
2960	20359NN		GALVANIZED STEEL CABINET	2.00	EACH		\$	
2970	20360ES818		WOOD POST	4.00	EACH		\$	
2980	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	2.00	EACH		\$	

Section: 0022 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2990	04700		POLE 30 FT MTG HT	49.00	EACH		\$	
3000	04701		POLE 40 FT MTG HT	44.00	EACH		\$	
3010	04710		POLE 80 FT MTG HT HIGH MAST	9.00	EACH		\$	
3020	04720		BRACKET 4 FT	9.00	EACH		\$	
3030	04721		BRACKET 6 FT	53.00	EACH		\$	
3040	04723		BRACKET 10 FT	18.00	EACH		\$	
3050	04725		BRACKET 15 FT	14.00	EACH		\$	
3060	04740		POLE BASE	92.00	EACH		\$	
3070	04741		POLE BASE IN MEDIAN WALL	40.00	EACH		\$	
3080	04750		TRANSFORMER BASE	92.00	EACH		\$	
3090	04761		LIGHTING CONTROL EQUIPMENT	4.00	EACH		\$	

PROPOSAL BID ITEMS

141291

Page 14 of 15

Report Date 11/7/14

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3100	04780		FUSED CONNECTOR KIT	270.00	EACH		\$	
3110	04797		CONDUIT-3 IN	2,433.00	LF		\$	
3120	04800		MARKER	13.00	EACH		\$	
3130	04820		TRENCHING AND BACKFILLING	22,630.00	LF		\$	
3140	04832		WIRE-NO. 12	18,835.00	LF		\$	
3150	04833		WIRE-NO. 8	7,800.00	LF		\$	
3160	04834		WIRE-NO. 6	21,000.00	LF		\$	
3170	04860		CABLE-NO. 8/3C DUCTED	26,390.00	LF		\$	
3180	04861		CABLE-NO. 6/3C DUCTED	1,200.00	LF		\$	
3190	04862		CABLE-NO. 4/3C DUCTED	2,500.00	LF		\$	
3200	04940		REMOVE LIGHTING (7-113.01)	1.00	LS		\$	
3210	04940		REMOVE LIGHTING (7-279)	1.00	LS		\$	
3220	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	32.00	EACH		\$	
3230	20392NS835		ELECTRICAL JUNCTION BOX TYPE C	2.00	EACH		\$	
3240	20410ED		MAINTAIN LIGHTING (7-113.01)	1.00	LS		\$	
3250	21543EN		BORE AND JACK CONDUIT	2,295.00	LF		\$	
3260	23161EN		POLE BASE-HIGH MAST	95.00	CUYD		\$	
3270	24589ED		LED LUMINAIRE	134.00	EACH		\$	
3280	24739EC		POLE 40 FT MTG HT W/12 IN ARM	40.00	EACH		\$	
3290	24749EC		HIGH MAST LED LUMINAIRE	48.00	EACH		\$	

Section: 0023 - LANDSCAPING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3300	20000ES724		TREE (EUROPEAN CRANBERRY VIBURNUM)	251.00	EACH		\$	
3310	20511NS724		PIN OAK	44.00	EACH		\$	
3320	21426NS724		NORWAY SPRUCE	42.00	EACH		\$	
3330	21429NS724		GREY OWL JUNIPER	506.00	EACH		\$	
3340	22000ED		WOOD PLANK FENCE	435.00	LF		\$	
3350	24394ES724		HAWTHORN (WINTER KING)	133.00	EACH		\$	

Section: 0024 - TRAINEES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3360	02742		TRAINEE PAYMENT REIMBURSEMENT GROUP 1 OPERATOR	1,600.00	HOUR		\$	
3370	02742		TRAINEE PAYMENT REIMBURSEMENT CEMENT MASON	1,200.00	HOUR		\$	
3380	02742		TRAINEE PAYMENT REIMBURSEMENT GROUP 2, 3 OR 4 OPERATOR	1,400.00	HOUR		\$	
3390	02742		TRAINEE PAYMENT REIMBURSEMENT GROUP 2, 3 OR 4 OPERATOR	1,400.00	HOUR		\$	

PROPOSAL BID ITEMS

141291

Page 15 of 15

Report Date 11/7/14

Section: 0025 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3400	02568		MOBILIZATION	1.00	LS		\$	
3410	02569		DEMOBILIZATION	1.00	LS		\$	