



Matthew G. Bevin
Governor

**COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET**

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

Greg Thomas
Secretary

November 5, 2018

CALL NO. 202
CONTRACT ID NO. 184112
ADDENDUM # 1

Subject: HENDERSON-DAVISS-UNION-CHRISTIAN COUNTIES, 121GR18T005-HSIP
Letting November 16, 2018

- (1) Revised - Material Summary - Pages 88-92 of 238
- (2) Revised - Traffic Signal Plan Sheet T1 - Page 134 of 238
- (3) Revised - Signal Plan Sheet T13 - Page 146 of 238
- (4) Revised - Proposal Bid Items - Pages 236-238 of 238

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 cursive script that reads "Rachel Mills".

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:mr
Enclosures



An Equal Opportunity Employer M/F/D

MATERIAL SUMMARY

CONTRACT ID: 184112

121GR18T005-HSIP

0202416821801

HOPKINSVILLE BYPASS (KY 1682) IMPROVEMENTS AT THE INTERSECTION OF KY 1682 & KY 109 SIGNS-LIGHTING-SIGNALS, A DISTANCE OF .2 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0195	02650	MAINTAIN & CONTROL TRAFFIC - KY 1682 AT KY 109	1.00	LS
0200	02726	STAKING - KY 1682 AT KY 109	1.00	LS
0205	04844	CABLE-NO. 14/5C	1,400.00	LF
0210	24955ED	REMOVE SIGNAL EQUIPMENT	1.00	EACH
0215	20188NS835	INSTALL LED SIGNAL-3 SECTION	13.00	EACH
0220	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 184112

121GR18T005-HSIP

0203004311801

FREDERICA ST (US 431) IMPROVEMENTS AT THE INTERSECTION OF US 431 AND SALEM/GOETZ DRIVE. ASPHALT SURFACE WITH GRADE & DRAIN, A DISTANCE OF .17 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0435	00001	DGA BASE	588.00	TON
0440	00100	ASPHALT SEAL AGGREGATE	11.00	TON
0445	00103	ASPHALT SEAL COAT	1.30	TON
0450	00216	CL3 ASPH BASE 1.00D PG76-22	895.00	TON
0455	00332	CL3 ASPH SURF 0.50A PG76-22	386.00	TON
0460	00356	ASPHALT MATERIAL FOR TACK	1.70	TON
0465	00462	CULVERT PIPE-18 IN	26.00	LF
0470	01011	NON-PERFORATED PIPE-6 IN	4.00	LF
0475	01025	PERF PIPE HEADWALL TY 2-6 IN	1.00	EACH
0480	01310	REMOVE PIPE	4.00	LF
0485	01811	STANDARD CURB AND GUTTER MOD	585.00	LF
0490	01875	STANDARD HEADER CURB	37.00	LF
0495	01890	ISLAND HEADER CURB TYPE 1	10.00	LF
0500	01915	STANDARD BARRIER MEDIAN TYPE 1	118.00	SQYD
0505	02099	CEM CONC ENT PAVEMENT-6 IN	45.00	SQYD
0510	02200	ROADWAY EXCAVATION	1,105.00	CUYD
0515	02460	REMOVE TREES OR STUMPS	8.00	EACH
0520	02483	CHANNEL LINING CLASS II	14.00	TON
0525	02625	REMOVE HEADWALL	2.00	EACH
0530	02650	MAINTAIN & CONTROL TRAFFIC - US 431 AT SALEM/GOETZ DRIVE	1.00	LS
0535	02676	MOBILIZATION FOR MILL & TEXT - US 431 AT SALEM/GOETZ DRIVE	1.00	LS
0540	02677	ASPHALT PAVE MILLING & TEXTURING	247.00	TON
0545	02726	STAKING - US 431 AT SALEM/GOETZ DRIVE	1.00	LS
0550	02720	SIDEWALK-4 IN CONCRETE	73.00	SQYD
0555	02721	REMOVE CONCRETE SIDEWALK	130.00	SQYD

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0560	06407	SBM ALUM SHEET SIGNS .125 IN	22.30	SQFT
0565	06410	STEEL POST TYPE 1	200.00	LF
0570	06514	PAVE STRIPING-PERM PAINT-4 IN	5,283.00	LF
0575	06568	PAVE MARKING-THERMO STOP BAR-24IN	184.00	LF
0580	06569	PAVE MARKING-THERMO CROSS-HATCH	66.00	SQFT
0585	06574	PAVE MARKING-THERMO CURV ARROW	19.00	EACH
0590	06598	PAVEMENT MARKING REMOVAL	120.00	SQFT
0595	20430ED	SAW CUT	1,768.00	LF
0600	20597EC	DITCH EXCAVATION	180.00	CUYD
0605	21415ND	EROSION CONTROL - US 431 AT SALEM/GOETZ DRIVE	1.00	LS
0610	21596ND	GMSS TYPE D - SURFACE MOUNT	4.00	EACH
0615	24631EC	BARCODE SIGN INVENTORY	2.00	EACH
0620	22664EN	WATER BLASTING EXISTING STRIPE	54.00	LF
0625	22861EN	HIGH STRENGTH GEOTEXTILE FABRIC TY V	1,342.00	SQYD
0630	23839EC	REMOVE CONCRETE MEDIAN	39.00	SQYD
0635	24575ES610	HEADWALL - (SLOPED & MITERED CONCRETE - FOR 18 INCH PIPE)	2.00	EACH
0640	24679ED	PAVE MARK THERMO CHEVRON	292.00	SQFT
0645	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN - (6" WIDTH)	28.00	LF
0650	24785EC	FIBER REINFORCEMENT FOR HMA	943.00	TON
0655	22045NN	FLUME INLET TY 2-MOD	2.00	EACH
0660	23836EC	RELOCATE LIGHT POLE	1.00	EACH
0665	04724	BRACKET 12 FT	4.00	EACH
0670	04792	CONDUIT-1 IN	21.00	LF
0675	04811	ELECTRICAL JUNCTION BOX TYPE B	4.00	EACH
0680	04820	TRENCHING AND BACKFILLING	106.00	LF
0685	04830	LOOP WIRE	2,634.00	LF
0690	04844	CABLE-NO. 14/5C	1,527.00	LF
0695	04845	CABLE-NO. 14/7C	129.00	LF
0700	04850	CABLE-NO. 14/1 PAIR	1,461.00	LF
0705	04885	MESSENGER-10800 LB	462.00	LF
0710	04895	LOOP SAW SLOT AND FILL	974.00	LF
0715	24908EC	INSTALL SIGNAL CONTROLLER-TY ATC	1.00	EACH
0720	04932	INSTALL STEEL STRAIN POLE	4.00	EACH
0725	24955ED	REMOVE SIGNAL EQUIPMENT	1.00	EACH
0730	06472	INSTALL SPAN MOUNTED SIGN	5.00	EACH
0735	20188NS835	INSTALL LED SIGNAL-3 SECTION	11.00	EACH
0740	20189NS835	INSTALL LED SIGNAL-5 SECTION	1.00	EACH
0745	20266ES835	INSTALL LED SIGNAL- 4 SECTION	3.00	EACH
0750	20390NS835	INSTALL COORDINATING UNIT	1.00	EACH
0755	20094ES835	TEMP RELOCATION OF SIGNAL HEAD	30.00	EACH
0760	23157EN	TRAFFIC SIGNAL POLE BASE	17.20	CUYD
0765	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80	75.00	LF
0770	24901EC	PVC CONDUIT-2 IN-SCHEDULE 80	105.00	LF
0775	24617EC	INSTALL - WIRE (REVISED: 11-5-18)	1,000.00	LF
0780	02569	DEMOBILIZATION	1.00	LS
0785	21813NN	REMOVE AND RELOCATE SHEET SIGNS	18.00	EACH

MATERIAL SUMMARY

CONTRACT ID: 184112

121GR18T005-HSIP

020302831801

FREDERICA ST (KY 2831) IMPROVEMENTS AT THE INTERSECTION KY 2831 AND KY 54/KY 81 SIGNS-LIGHTING-SIGNALS, A DISTANCE OF .14 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0225	02650	MAINTAIN & CONTROL TRAFFIC - KY 2831 AT KY 54/KY 81	1.00	LS
0230	00330	CL3 ASPH SURF 0.50A PG64-22	363.00	TON
0235	00356	ASPHALT MATERIAL FOR TACK	.90	TON
0240	02676	MOBILIZATION FOR MILL & TEXT - KY 2831 AT KY 54/KY 81	1.00	LS
0245	02726	STAKING - KY 2831 AT KY 54/KY 81	1.00	LS
0250	02677	ASPHALT PAVE MILLING & TEXTURING	363.00	TON
0255	06514	PAVE STRIPING-PERM PAINT-4 IN	2,449.00	LF
0260	06565	PAVE MARKING-THERMO X-WALK-6 IN	450.00	LF
0265	06568	PAVE MARKING-THERMO STOP BAR-24IN	106.00	LF
0270	06569	PAVE MARKING-THERMO CROSS-HATCH	143.00	SQFT
0275	06574	PAVE MARKING-THERMO CURV ARROW	6.00	EACH
0280	24679ED	PAVE MARK THERMO CHEVRON	95.00	SQFT
0285	04700	POLE 30 FT MTG HT	1.00	EACH
0290	04721	BRACKET 6 FT	1.00	EACH
0295	04780	FUSED CONNECTOR KIT	7.00	EACH
0300	04792	CONDUIT-1 IN	20.00	LF
0305	04795	CONDUIT-2 IN	450.00	LF
0310	04811	ELECTRICAL JUNCTION BOX TYPE B	6.00	EACH
0315	04820	TRENCHING AND BACKFILLING	190.00	LF
0320	04821	OPEN CUT ROADWAY	176.00	LF
0325	04830	LOOP WIRE	1,928.00	LF
0330	04844	CABLE-NO. 14/5C	3,859.00	LF
0335	04850	CABLE-NO. 14/1 PAIR	1,015.00	LF
0340	04881	MAST ARM POLE	2.00	EACH
0345	04895	LOOP SAW SLOT AND FILL	732.00	LF
0350	24908EC	INSTALL SIGNAL CONTROLLER-TY ATC	1.00	EACH
0355	24955ED	REMOVE SIGNAL EQUIPMENT	1.00	EACH
0360	04960	REMOVE AND REPLACE SIDEWALK	24.00	SQYD
0365	20093NS835	INSTALL PEDESTRIAN HEAD-LED	8.00	EACH
0370	20188NS835	INSTALL LED SIGNAL-3 SECTION	10.00	EACH
0375	20266ES835	INSTALL LED SIGNAL- 4 SECTION	4.00	EACH
0380	20390NS835	INSTALL COORDINATING UNIT	1.00	EACH
0385	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	3.00	EACH
0390	23158ES505	DETECTABLE WARNINGS	10.00	SQFT
0395	21543EN	BORE AND JACK CONDUIT	176.00	LF
0400	21743NN	INSTALL PEDESTRIAN DETECTOR	8.00	EACH
0405	23157EN	TRAFFIC SIGNAL POLE BASE	6.60	CUYD
0410	24856ED	TRAFFIC SIGNAL POLE BASE ALTERNATE	2.00	EACH
0415	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80	34.00	LF
0420	24901EC	PVC CONDUIT-2 IN-SCHEDULE 80	1,000.00	LF
0425	24617EC	INSTALL - WIRE (REVISED: 11-5-18)	1,305.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0430	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 184112

121GR18T005-HSIP

02051041A1801

NORTH GREEN STREET (US 41A) IMPROVEMENTS AT THE INTERSECTION OF US 41A AND RICHARDSON AVENUE GRADE & DRAIN, A DISTANCE OF .1 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0035	02650	MAINTAIN & CONTROL TRAFFIC - US 41A @ RICHARDSON AVENUE	1.00	LS
0040	02726	STAKING - US 41A @ RICHARDSON AVENUE	1.00	LS
0045	01919	STANDARD BARRIER MEDIAN TYPE 3	76.00	SQYD
0050	06406	SBM ALUM SHEET SIGNS .080 IN	38.60	SQFT
0055	06410	STEEL POST TYPE 1	104.00	LF
0060	06514	PAVE STRIPING-PERM PAINT-4 IN	1,199.00	LF
0065	06569	PAVE MARKING-THERMO CROSS-HATCH	306.00	SQFT
0070	06574	PAVE MARKING-THERMO CURV ARROW	5.00	EACH
0075	21373ND	REMOVE SIGN	5.00	EACH
0080	22520EN	PAVE MARKING-THERMO YIELD BAR-36 IN	35.00	LF
0085	23839EC	REMOVE CONCRETE MEDIAN	14.00	SQYD
0090	24631EC	BARCODE SIGN INVENTORY	8.00	EACH
0095	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 184112

121GR18T005-HSIP

02051041A1802

NORTH GREEN STREET (US 41A) IMPROVEMENTS AT THE INTERSECTION OF US 41A AND WASHINGTON STREET SIGNS-LIGHTING-SIGNALS, A DISTANCE OF .1 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	02650	MAINTAIN & CONTROL TRAFFIC - US 41A @ WASHINGTON STREET	1.00	LS
0010	02726	STAKING - US 41A @ WASHINGTON STREET	1.00	LS
0015	04844	CABLE-NO. 14/5C	255.00	LF
0020	24955ED	REMOVE SIGNAL EQUIPMENT - US 41A @ WASHINGTON STREET	1.00	EACH
0025	20188NS835	INSTALL LED SIGNAL-3 SECTION	10.00	EACH
0030	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 184112

121GR18T005-HSIP

02051041A1803

NORTH GREEN STREET (US 41A) IMPROVEMENTS AT THE INTERSECTION OF US 41A AND 5TH STREET
 SIGNS-LIGHTING-SIGNALS, A DISTANCE OF .1 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0125	04844	CABLE-NO. 14/5C	220.00	LF
0130	20188NS835	INSTALL LED SIGNAL-3 SECTION	10.00	EACH
0135	02650	MAINTAIN & CONTROL TRAFFIC - US 41A @ 5TH STREET	1.00	LS
0140	02726	STAKING - US 41A @ 5TH STREET	1.00	LS
0145	24955ED	REMOVE SIGNAL EQUIPMENT - US 41A @ 5TH STREET	1.00	EACH
0150	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 184112

121GR18T005-HSIP

0207504311801

US HIGHWAY 431 (US 431) IMPROVEMENTS NEAR THE INTERSECTION OF US 431 AND KY 85
 THERMOPLASTIC PAVEMENT STRIPING, A DISTANCE OF .5 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0100	06569	PAVE MARKING-THERMO CROSS-HATCH	4,440.00	SQFT
0105	02650	MAINTAIN & CONTROL TRAFFIC - US 431 & KY 85	1.00	LS
0110	02726	STAKING - US 431 & KY 85	1.00	LS
0115	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	50.00	EACH
0120	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 184112

121GR18T005-HSIP

0211300601801

US HIGHWAY 60 (US 60) IMPROVEMENTS AT THE INTERSECTION OF US 60, US 60B, & KY 3393. SIGNS-
 LIGHTING-SIGNALS, A DISTANCE OF .1 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0155	02650	MAINTAIN & CONTROL TRAFFIC - US 60 AT US 60 BYPASS/KY3393	1.00	LS
0160	02726	STAKING - US 60 AT US 60 BYPASS/KY 3393	1.00	LS
0165	04844	CABLE-NO. 14/5C	2,750.00	LF
0170	20188NS835	INSTALL LED SIGNAL-3 SECTION	12.00	EACH
0175	21659NN	RELOCATE SIGNAL HEAD	8.00	EACH
0180	20390NS835	INSTALL COORDINATING UNIT	1.00	EACH
0185	24908EC	INSTALL SIGNAL CONTROLLER-TY ATC	1.00	EACH
0190	02569	DEMOBILIZATION	1.00	LS

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

Table with columns: ITEM CODE, ITEM, UNIT, QUANTITY, TOTAL. Includes items like POLE 30' MTG HT, BRACKET 6', FUSED CONNECTOR KIT, CONDUIT - 2 INCH, ELECTRICAL JUNCTION BOX TYPE B, etc.

THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION, AND OTHER SPECIAL NOTES AND SPECIFICATIONS WILL APPLY ON THIS PROJECT. SEE SECTION 706, 723, AND 112 FOR MEASUREMENT AND OTHER DETAILS.

THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE PROJECT SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS. SUBMISSIONS OF A BID WILL BE CONSIDERED AN AFFIRMATION OF THIS INSPECTION HAVING BEEN COMPLETED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PICKING UP INSTALL ITEMS FROM THE FURNISHER FOR THE PROJECT AND THESE ITEMS FROM THE SITE. THE CONTRACTOR SHALL CONTACT PEABODY TRUCK RENTALS (502-782-8994/ 502-330-8153 OR EMAIL KIM STAMPER@PEABODY.COM) AND ARRANGE TO PICK UP INSTALL ITEMS A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO ARRIVAL. THE CONTRACTOR SHALL ALSO CONTACT THE SIGNAL SYSTEM BRANCH (502-782-5543/502-782-5547 OR EMAIL JOE.THOMPSON@KY.GOV/ LARRY.JRISH@KY.GOV) TO ARRANGE PROGRAMMING OF THE ROUTER USED FOR COMMUNICATION IN THE TRAFFIC SIGNAL A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO ARRIVAL. FAILURE TO PROVIDE POLE YARD PERSONNEL/ SIGNAL SYSTEM BRANCH THIS ADVANCE NOTICE COULD RESULT IN LONG DELAYS OR REFUSAL TO DISTRIBUTE EQUIPMENT UPON ARRIVAL.

ADD SENTENCE TO SECTION 835.15: ALL WIRE SHALL HAVE WORKING ADDED TO THE OUTER JACKET THAT STATES: *PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501.

MEASUREMENT NOTES THAT ARE IN ADDITION TO SECTION 716: INSTALL WIRE SHALL INCLUDE INSTALLING SPECIFIED WIRES OR CABLE AS INDICATED ON THE PLAN SHEETS. THE WIRES OR CABLES WILL BE FURNISHED BY OWENSBORO MUNICIPAL UTILITIES (OMU). CONTACT KEVIN BOWDOWS, 270-313-4387, TO ARRANGE PICK UP.

CONSTRUCTION AND MEASUREMENT NOTES THAT ARE CONTRARY TO SECTION 716: SUBSECTION: 04.01 POLE. ADD THE FOLLOWING: TRANSFORMER BASE INCLUDE A TRANSFORMER BASE FURNISHED AND INSTALLED PER UNIT IN THE STANDARD SPECIFICATIONS. THE TRANSFORMER BASE SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM POLE. ALL LABOR AND MATERIAL REQUIRED TO INSTALL NEW INCIDENTAL TO THE BID ITEM POLE.

PROCEDURE TO FIX ANCHOR BOLTS, DRILL EXISTING BOLT FROM CONCRETE. FOR UP TO 40 FOOT POLE WITH 15 FOOT ARM DRILL A 20" EMBEDMENT DEPTH AND USE THE 200 HILTI ANCHORING SYSTEM OR APPROVED EQUAL. FOR ANY POLE 30 FOOT AND USE THE 200 HILTI LOMER, DRILL A 19" EMBEDMENT DEPTH AND USE 500 HILTI ANCHORING SYSTEM OR APPROVED EQUAL.

MEASUREMENT NOTES THAT ARE IN ADDITION TO SECTION 723: INSTALL SIGNAL CONTROLLER TYPE ATC. THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE CONCRETE BASE, MOUNTING THE CABINET, CONNECTING THE SIGNAL AND DETECTORS, EXCAVATION, BACKFILLING, RESTORATION, ANY NECESSARY POLE MOUNTING HARDWARE, ELECTRIC SERVICE, ELECTRICAL INSPECTION FEES, AND REQUIRED BUILDING FEES INVOLVING UTILITY SECONDARY/PRIMARY SERVICE FOR DEPARTMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE CONNECTING TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE CONNECTING TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE FURNISHING AND INSTALLING ELECTRICAL SERVICE CONDUCTORS, CONDUITS, ANCHORS, METER BASE, FUSED CUTOFF, FUSES, GROUND RODS, GROUND LUGS, AND GROUND WIRES FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

CONSTRUCTION AND MEASUREMENT NOTES THAT ARE CONTRARY TO SECTION 723: SUBSECTION: 03.02 POLES AND BASES INSTALLATION. A) REVISION: REPLACE ENTIRE TABLE WITH THE FOLLOWING:

Table with columns: MAX SERVICE NOMINAL (FT-KNPS), DIAMETER (IN.), DEPTH (FEET), VERTICAL BARS, TIES OR SPIRAL. Includes rows for DRILLED SHAFT DATA and various pole configurations.

REPLACE THE PARAGRAPH WITH THE FOLLOWING: THE DEPARTMENT WILL MEASURE THE QUANTITY BY EACH. THE DEPARTMENT WILL NOT MEASURE BACKFILLING AND THE DISPOSAL OR TRANSPORTATION OF EQUIPMENT AND MATERIALS ASSOCIATED WITH ANY STRUCTURAL OR ELECTRICAL COMPONENT OF THE SIGNAL SYSTEM INCLUDING, BUT NOT LIMITED TO POLE BASES, POLES, JUNCTION BOXES, AND WOOD OR CONCRETE FOUNDATIONS FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

MATERIAL NOTES THAT ARE CONTRARY TO SECTION 835: SUBSECTION: 03.02 MAST ARM POLES. REPLACE THE FOLLOWING PARAGRAPH BUT NOT BE LIMITED TO, THE FOLLOWING CALCULATIONS: WITH THE FOLLOWING: LIMIT VERTICAL DEFLECTION TO 8 INCHES FOR GALLOPING FOR ALL ARMS.

Professional Engineer seal for Bob L. Flenner, State of Kentucky. Includes project information for Daviess County of Highways and contact details for the Department of Transportation.

WIRING SCHEDULE

CABLE	DESIGN	ENDING	CONNECTING
1-1/4"/5C	CONTROLLER	S,H, 1	S,H, 1
1-1/4"/5C	CONTROLLER	S,H, 2A	S,H, 2A & 2B
1-1/4"/5C	CONTROLLER	S,H, 3	S,H, 3
1-1/4"/5C	CONTROLLER	S,H, 4B	S,H, 4A & 4B
1-1/4"/5C	CONTROLLER	POLE "C"	S,H, 4C
1-1/4"/5C	CONTROLLER	S,H, 5	S,H, 5
1-1/4"/5C	CONTROLLER	S,H, 6A	S,H, 6A & 6B
1-1/4"/5C	CONTROLLER	S,H, 7	S,H, 7
1-1/4"/5C	CONTROLLER	S,H, 8A	S,H, 8A & 8B
2-1/4"/5C	CONTROLLER	EX POLE "A"	P,H, 6B & 8A, 2 PED BUTTONS
2-1/4"/5C	CONTROLLER	POLE "D"	P,H, 4B & 6A, 2 PED BUTTONS
2-1/4"/5C	CONTROLLER	POLE "B"	P,H, 2A & 8B, 2 PED BUTTONS
2-1/4"/5C	CONTROLLER	POLE "C"	P,H, 2B & 4A, 2 PED BUTTONS
1-1/4"/1 PAIR	CONTROLLER	JB "B3"	L1
2-1/4"/1 PAIR	CONTROLLER	JB "B1"	L3 & L8
2-1/4"/1 PAIR	CONTROLLER	JB "B6"	L4 & L7
1-1/4"/1 PAIR	CONTROLLER	JB "A3"	L5
DETECTION	CONTROLLER	EX POLE "A"	PREEMPTION
DETECTION	CONTROLLER	POLE "C"	PREEMPTION
12-2 UF W/GR	CONTROLLER	POLE "B"	LUMINAIRE
12-2 UF W/GR	CONTROLLER	POLE "C"	LUMINAIRE
12-2 UF W/GR	CONTROLLER	POLE "D"	LUMINAIRE

ALL EXISTING SIGNAL EQUIPMENT SHALL BE REMOVED EXCEPT FOR EXISTING SIGNAL ARM MAST POLE INDICATED AS EX POLE "A" AND LUMINAIRE AND PREEMPTION DEVICES AND LUMINAIRE AND PREEMPTION DEVICES EXISTING CONDUIT(S) FROM JB "A3" TO EXISTING POLE "A" SHALL BE REUSED FOR NEW CABLE.

ALL 6 X 30 FOOT LOOPS SHALL BE QUADRA-POLE

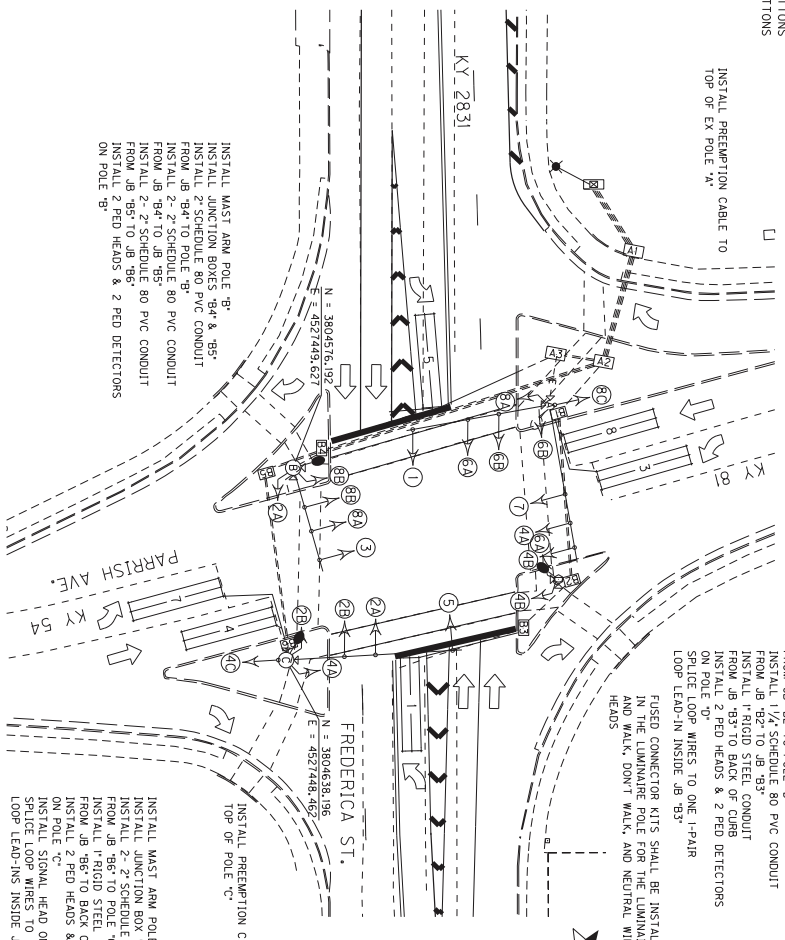
LOOP SCHEDULE

LOOP PHASE	SLOT	CHANNEL	SIZE	* OF TURNS	DIST. FROM STOP BAR
1	11	1	6x30	2	0'
3	3	1	6x30	2	0'
4	16	1	6x30	2	0'
5	5	1	6x30	2	0'
7	7	1	6x30	2	0'
8	J6	1	6x30	2	0'

SERVICE LOADS - KY 2831 @ KY 54 / KY 81

ARM LENGTH	POLE B	POLE C
34'	56'	56'
CALCULATED GROUNDLINE MOMENT (K-FT)	44.92	103.53
MAST ARM ATTACHMENT FROM POLE BASE (FT)	30	30
MAST ARM ATTACHMENT FROM POLE BASE (FT)	18	18
MAST ARM ATTACHMENT FROM POLE BASE (FT)	28	28

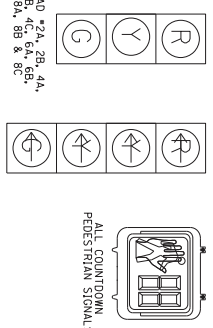
CALCULATED FORCES ARE APPROXIMATE. TO BE USED FOR ESTIMATING BASE DESIGN. POLE MANUFACTURER SHALL PERFORM STANDARD DESIGN AND PROVIDE INFORMATION ON SHOP DRAWINGS TO DETERMINE FINAL BASE DESIGN.



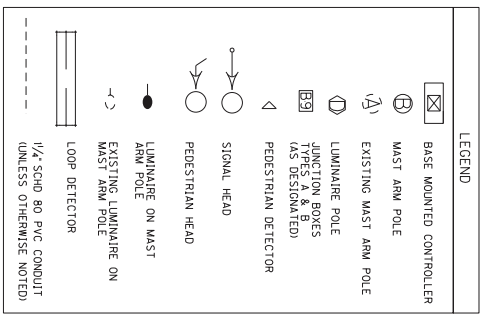
INSTALL ATC CONTROLLER IN MODEL 332 BASE MOUNT CABINET
 INSTALL ROUTER, ANTENNA, POWER SUPPLY, AND CABLEING ON CABINET AS SHOWN ON DRAWING SHEETS
 INSTALL 4-2" SCHEDULE 80 PVC CONDUIT FROM CONTROLLER TO JB "A1"
 INSTALL 4-2" SCHEDULE 80 PVC CONDUIT FROM JB "A1" TO JB "A2"
 INSTALL 2-2" SCHEDULE 80 PVC CONDUIT FROM JB "A2" TO JB "B4"
 INSTALL 2-2" SCHEDULE 80 PVC CONDUIT FROM JB "B4" TO JB "B2"
 INSTALL 1" RIGID STEEL CONDUIT FROM JB "B1" TO BACK OF CURB
 INSTALL 2 PED HEADS & 2 PED DETECTORS ON EX POLE "A"
 INSTALL 2 PED HEADS & 2 PED DETECTORS ON EX POLE "B"
 INSTALL 2 PED HEADS & 2 PED DETECTORS ON EX POLE "C"
 INSTALL 2 PED HEADS & 2 PED DETECTORS ON EX POLE "D"
 INSTALL 1/2" SCHEDULE 80 PVC CONDUIT FROM JB "B2" TO JB "B3"
 INSTALL 1" RIGID STEEL CONDUIT FROM JB "B3" TO BACK OF CURB
 INSTALL 2 PED HEADS & 2 PED DETECTORS ON EX POLE "B"
 INSTALL 2 PED HEADS & 2 PED DETECTORS ON EX POLE "C"
 INSTALL 2 PED HEADS & 2 PED DETECTORS ON EX POLE "D"

ALL EXISTING EQUIPMENT REMOVED SHALL BE RETURNED TO OWENSBORO MUNICIPAL UTILITIES. NEW INSTALLATION OF LUMINAIRES AND PREEMPTION EQUIPMENT SHALL BE UNDER THE INSTALL WIRE BID ITEM. ODU SHALL PROVIDE THE CABLES REQUIRED FOR LIGHTING AND PREEMPTION EQUIPMENT SHALL BE INSTALLED BY THE CONTRACTOR AT 210.513.1381 TO COORDINATE DELIVERY AND PICKUP OF MATERIALS.
 INSTALL PROPOSED CONDUIT IN EXISTING CONCRETE BASE BY USING METHOD SIMILAR TO CONDUIT IN EXISTING CONCRETE BASE. THE EXPOSED CONDUIT SHALL NOT BE USED.
 FUSED CONNECTOR KITS SHALL BE INSTALLED IN THE LUMINAIRE POLE FOR THE LUMINAIRE WIRE AND MAIN, DON'T WALK, AND NEUTRAL WIRES TO THE PED HEADS

SIGNAL HEADS



COUNT OF	ITEM NO.	SHEET NO.
DAVIESS	2-9004,10	113



SIGNAL PLAN SHEET
 KY 2831 (FREDERICA ST.) @
 KY 54 / KY 81 (PARRISH AVE.)

PROPOSAL BID ITEMS

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Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	588.00	TON		\$	
0020	00100		ASPHALT SEAL AGGREGATE	11.00	TON		\$	
0030	00103		ASPHALT SEAL COAT	1.30	TON		\$	
0040	00216		CL3 ASPH BASE 1.00D PG76-22	895.00	TON		\$	
0050	00330		CL3 ASPH SURF 0.50A PG64-22	363.00	TON		\$	
0060	00332		CL3 ASPH SURF 0.50A PG76-22	386.00	TON		\$	
0070	00356		ASPHALT MATERIAL FOR TACK	2.60	TON		\$	
0080	02676		MOBILIZATION FOR MILL & TEXT KY 2831 AT KY 54/KY 81	1.00	LS		\$	
0090	02677		ASPHALT PAVE MILLING & TEXTURING	363.00	TON		\$	
0100	22861EN		HIGH STRENGTH GEOTEXTILE FABRIC TY V	1,342.00	SQYD		\$	
0110	24785EC		FIBER REINFORCEMENT FOR HMA	943.00	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0120	00462		CULVERT PIPE-18 IN	26.00	LF		\$	
0130	01011		NON-PERFORATED PIPE-6 IN	4.00	LF		\$	
0140	01025		PERF PIPE HEADWALL TY 2-6 IN	1.00	EACH		\$	
0150	01310		REMOVE PIPE	4.00	LF		\$	
0160	01811		STANDARD CURB AND GUTTER MOD	585.00	LF		\$	
0170	01875		STANDARD HEADER CURB	37.00	LF		\$	
0180	01890		ISLAND HEADER CURB TYPE 1	10.00	LF		\$	
0190	01915		STANDARD BARRIER MEDIAN TYPE 1	118.00	SQYD		\$	
0200	01919		STANDARD BARRIER MEDIAN TYPE 3	76.00	SQYD		\$	
0210	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	50.00	EACH		\$	
0220	02099		CEM CONC ENT PAVEMENT-6 IN	45.00	SQYD		\$	
0230	02200		ROADWAY EXCAVATION	1,105.00	CUYD		\$	
0240	02460		REMOVE TREES OR STUMPS	8.00	EACH		\$	
0250	02483		CHANNEL LINING CLASS II	14.00	TON		\$	
0260	02625		REMOVE HEADWALL	2.00	EACH		\$	
0270	02650		MAINTAIN & CONTROL TRAFFIC US 431 AT SALEM/GOETZ DRIVE	1.00	LS		\$	
0280	02650		MAINTAIN & CONTROL TRAFFIC US 60 AT US 60 BYPASS/KY3393	1.00	LS		\$	
0290	02650		MAINTAIN & CONTROL TRAFFIC KY 1682 AT KY 109	1.00	LS		\$	
0300	02650		MAINTAIN & CONTROL TRAFFIC KY 2831 AT KY 54/KY 81	1.00	LS		\$	
0310	02650		MAINTAIN & CONTROL TRAFFIC US 41A @ 5TH STREET	1.00	LS		\$	
0320	02650		MAINTAIN & CONTROL TRAFFIC US 41A @ RICHARDSON AVENUE	1.00	LS		\$	
0330	02650		MAINTAIN & CONTROL TRAFFIC US 41A @ WASHINGTON STREET	1.00	LS		\$	
0340	02650		MAINTAIN & CONTROL TRAFFIC US 431 & KY 85	1.00	LS		\$	

PROPOSAL BID ITEMS

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Report Date 11/5/18

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	588.00	TON		\$	
0020	00100		ASPHALT SEAL AGGREGATE	11.00	TON		\$	
0030	00103		ASPHALT SEAL COAT	1.30	TON		\$	
0040	00216		CL3 ASPH BASE 1.00D PG76-22	895.00	TON		\$	
0050	00330		CL3 ASPH SURF 0.50A PG64-22	363.00	TON		\$	
0060	00332		CL3 ASPH SURF 0.50A PG76-22	386.00	TON		\$	
0070	00356		ASPHALT MATERIAL FOR TACK	2.60	TON		\$	
0080	02676		MOBILIZATION FOR MILL & TEXT KY 2831 AT KY 54/KY 81	1.00	LS		\$	
0090	02677		ASPHALT PAVE MILLING & TEXTURING	363.00	TON		\$	
0100	22861EN		HIGH STRENGTH GEOTEXTILE FABRIC TY V	1,342.00	SQYD		\$	
0110	24785EC		FIBER REINFORCEMENT FOR HMA	943.00	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0120	00462		CULVERT PIPE-18 IN	26.00	LF		\$	
0130	01011		NON-PERFORATED PIPE-6 IN	4.00	LF		\$	
0140	01025		PERF PIPE HEADWALL TY 2-6 IN	1.00	EACH		\$	
0150	01310		REMOVE PIPE	4.00	LF		\$	
0160	01811		STANDARD CURB AND GUTTER MOD	585.00	LF		\$	
0170	01875		STANDARD HEADER CURB	37.00	LF		\$	
0180	01890		ISLAND HEADER CURB TYPE 1	10.00	LF		\$	
0190	01915		STANDARD BARRIER MEDIAN TYPE 1	118.00	SQYD		\$	
0200	01919		STANDARD BARRIER MEDIAN TYPE 3	76.00	SQYD		\$	
0210	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	50.00	EACH		\$	
0220	02099		CEM CONC ENT PAVEMENT-6 IN	45.00	SQYD		\$	
0230	02200		ROADWAY EXCAVATION	1,105.00	CUYD		\$	
0240	02460		REMOVE TREES OR STUMPS	8.00	EACH		\$	
0250	02483		CHANNEL LINING CLASS II	14.00	TON		\$	
0260	02625		REMOVE HEADWALL	2.00	EACH		\$	
0270	02650		MAINTAIN & CONTROL TRAFFIC US 431 AT SALEM/GOETZ DRIVE	1.00	LS		\$	
0280	02650		MAINTAIN & CONTROL TRAFFIC US 60 AT US 60 BYPASS/KY3393	1.00	LS		\$	
0290	02650		MAINTAIN & CONTROL TRAFFIC KY 1682 AT KY 109	1.00	LS		\$	
0300	02650		MAINTAIN & CONTROL TRAFFIC KY 2831 AT KY 54/KY 81	1.00	LS		\$	
0310	02650		MAINTAIN & CONTROL TRAFFIC US 41A @ 5TH STREET	1.00	LS		\$	
0320	02650		MAINTAIN & CONTROL TRAFFIC US 41A @ RICHARDSON AVENUE	1.00	LS		\$	
0330	02650		MAINTAIN & CONTROL TRAFFIC US 41A @ WASHINGTON STREET	1.00	LS		\$	
0340	02650		MAINTAIN & CONTROL TRAFFIC US 431 & KY 85	1.00	LS		\$	

PROPOSAL BID ITEMS

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Report Date 11/5/18

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0350	02676		MOBILIZATION FOR MILL & TEXT US 431 AT SALEM/GOETZ DRIVE	1.00	LS		\$	
0360	02677		ASPHALT PAVE MILLING & TEXTURING	247.00	TON		\$	
0370	02720		SIDEWALK-4 IN CONCRETE	73.00	SQYD		\$	
0380	02721		REMOVE CONCRETE SIDEWALK	130.00	SQYD		\$	
0390	02726		STAKING KY 1682 AT KY 109	1.00	LS		\$	
0400	02726		STAKING US 431 AT SALEM/GOETZ DRIVE	1.00	LS		\$	
0410	02726		STAKING US 60 AT US 60 BYPASS/KY 3393	1.00	LS		\$	
0420	02726		STAKING KY 2831 AT KY 54/KY 81	1.00	LS		\$	
0430	02726		STAKING US 41A @ 5TH STREET	1.00	LS		\$	
0440	02726		STAKING US 41A @ RICHARDSON AVENUE	1.00	LS		\$	
0450	02726		STAKING US 41A @ WASHINGTON STREET	1.00	LS		\$	
0460	02726		STAKING US 431 & KY 85	1.00	LS		\$	
0470	06406		SBM ALUM SHEET SIGNS .080 IN	38.60	SQFT		\$	
0480	06407		SBM ALUM SHEET SIGNS .125 IN	22.30	SQFT		\$	
0490	06410		STEEL POST TYPE 1	304.00	LF		\$	
0500	06514		PAVE STRIPING-PERM PAINT-4 IN	8,931.00	LF		\$	
0510	06565		PAVE MARKING-THERMO X-WALK-6 IN	450.00	LF		\$	
0520	06568		PAVE MARKING-THERMO STOP BAR-24IN	290.00	LF		\$	
0530	06569		PAVE MARKING-THERMO CROSS-HATCH	4,955.00	SQFT		\$	
0540	06574		PAVE MARKING-THERMO CURV ARROW	30.00	EACH		\$	
0550	06598		PAVEMENT MARKING REMOVAL	120.00	SQFT		\$	
0560	20430ED		SAW CUT	1,768.00	LF		\$	
0570	20597EC		DITCH EXCAVATION	180.00	CUYD		\$	
0580	21373ND		REMOVE SIGN	5.00	EACH		\$	
0590	21415ND		EROSION CONTROL US 431 AT SALEM/GOETZ DRIVE	1.00	LS		\$	
0600	21596ND		GMSS TYPE D SURFACE MOUNT	4.00	EACH		\$	
0610	21813NN		REMOVE AND RELOCATE SHEET SIGNS	18.00	EACH		\$	
0620	22045NN		FLUME INLET TY 2-MOD	2.00	EACH		\$	
0630	22520EN		PAVE MARKING-THERMO YIELD BAR-36 IN	35.00	LF		\$	
0640	22664EN		WATER BLASTING EXISTING STRIPE	54.00	LF		\$	
0650	23839EC		REMOVE CONCRETE MEDIAN	53.00	SQYD		\$	
0660	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE - FOR 18 INCH PIPE)	2.00	EACH		\$	
0670	24631EC		BARCODE SIGN INVENTORY	10.00	EACH		\$	
0680	24679ED		PAVE MARK THERMO CHEVRON	387.00	SQFT		\$	
0690	24683ED		PAVE MARKING-THERMO DOTTED LANE EXTEN (6" WIDTH)	28.00	LF		\$	

Section: 0003 - SIGNALIZATION

PROPOSAL BID ITEMS

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Report Date 11/5/18

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0700	04700		POLE 30 FT MTG HT	1.00	EACH		\$	
0710	04721		BRACKET 6 FT	1.00	EACH		\$	
0720	04724		BRACKET 12 FT	4.00	EACH		\$	
0730	04780		FUSED CONNECTOR KIT	7.00	EACH		\$	
0740	04792		CONDUIT-1 IN	41.00	LF		\$	
0750	04795		CONDUIT-2 IN	450.00	LF		\$	
0760	04811		ELECTRICAL JUNCTION BOX TYPE B	10.00	EACH		\$	
0770	04820		TRENCHING AND BACKFILLING	296.00	LF		\$	
0780	04821		OPEN CUT ROADWAY	176.00	LF		\$	
0790	04830		LOOP WIRE	4,562.00	LF		\$	
0800	04844		CABLE-NO. 14/5C	10,011.00	LF		\$	
0810	04845		CABLE-NO. 14/7C	129.00	LF		\$	
0820	04850		CABLE-NO. 14/1 PAIR	2,476.00	LF		\$	
0830	04881		MAST ARM POLE	2.00	EACH		\$	
0840	04885		MESSENGER-10800 LB	462.00	LF		\$	
0850	04895		LOOP SAW SLOT AND FILL	1,706.00	LF		\$	
0860	04932		INSTALL STEEL STRAIN POLE	4.00	EACH		\$	
0870	04960		REMOVE AND REPLACE SIDEWALK	24.00	SQYD		\$	
0880	06472		INSTALL SPAN MOUNTED SIGN	5.00	EACH		\$	
0890	20093NS835		INSTALL PEDESTRIAN HEAD-LED	8.00	EACH		\$	
0900	20094ES835		TEMP RELOCATION OF SIGNAL HEAD	30.00	EACH		\$	
0910	20188NS835		INSTALL LED SIGNAL-3 SECTION	66.00	EACH		\$	
0920	20189NS835		INSTALL LED SIGNAL-5 SECTION	1.00	EACH		\$	
0930	20266ES835		INSTALL LED SIGNAL- 4 SECTION	7.00	EACH		\$	
0940	20390NS835		INSTALL COORDINATING UNIT	3.00	EACH		\$	
0950	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	3.00	EACH		\$	
0960	21543EN		BORE AND JACK CONDUIT	176.00	LF		\$	
0970	21659NN		RELOCATE SIGNAL HEAD	8.00	EACH		\$	
0980	21743NN		INSTALL PEDESTRIAN DETECTOR	8.00	EACH		\$	
0990	23157EN		TRAFFIC SIGNAL POLE BASE	23.80	CUYD		\$	
1000	23158ES505		DETECTABLE WARNINGS	10.00	SQFT		\$	
1010	23836EC		RELOCATE LIGHT POLE	1.00	EACH		\$	
1020	24617EC		INSTALL WIRE (REVISED: 11-5-18)	2,305.00	LF		\$	
1030	24856ED		TRAFFIC SIGNAL POLE BASE ALTERNATE	2.00	EACH		\$	
1040	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80	109.00	LF		\$	
1050	24901EC		PVC CONDUIT-2 IN-SCHEDULE 80	1,105.00	LF		\$	
1060	24908EC		INSTALL SIGNAL CONTROLLER-TY ATC	3.00	EACH		\$	
1070	24955ED		REMOVE SIGNAL EQUIPMENT	3.00	EACH		\$	
1080	24955ED		REMOVE SIGNAL EQUIPMENT US 41A @ 5TH STREET	1.00	EACH		\$	
1090	24955ED		REMOVE SIGNAL EQUIPMENT US 41A @ WASHINGTON STREET	1.00	EACH		\$	

Section: 0004 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1100	02569		DEMOBILIZATION	1.00	LS		\$	