



**COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET**

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

Matthew G. Bevin
Governor

Greg Thomas
Secretary

March 19, 2019

CALL NO. 301
CONTRACT ID NO. 191208
ADDENDUM # 1

Subject: GRAVES COUNTY, FD04 SPP 042 0080 NEW LOC
Letting March 22, 2019

- (1) Revised - Proposal Bid Items - Pages 114-118 of 118
- (2) Revised - Plan Sheets - T1, T8, and T9

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 black ink that reads "Rachel Mills".

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

RM:mr
Enclosures



An Equal Opportunity Employer M/F/D

PROPOSAL BID ITEMS

191208

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Section: 0001 - PAVING

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

Section: 0002 - ROADWAY

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

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

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

Section: 0003 - DRAINAGE

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

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

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

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

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

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

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

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

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

Section: 0007 - SIGNALIZATION

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

Section: 0008 - DEMOBILIZATION &/OR MOBILIZATION

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

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

TOTAL UNITS	CODE	ITEM DESCRIPTION
130	4792	CONDUIT 1 INCH
11	4811	ELECTRICAL JUNCTION BOX TYPE B
1360	4820	TRENCHING AND BACKFILLING
3150	4830	LOOP WIRE
2635	4844	CABLE-NO. 14/5C
6625	4850	CABLE-NO. 14/1 PAIR
705	4886	MESSENGER-15400 LB
1275	4895	LOOP SAW SLOT AND FILL
2	4905	BLANKOUT SIGN
4	4932	INSTALL STEEL STRAIN POLE
12	20188NS835	INSTALL SIGNAL-3 SECTION LED
2	20266ES835	INSTALL SIGNAL-4 SECTION LED
1	20390NS835	INSTALL COORDINATING UNIT
280	21543EN	BORE AND JACK CONDUIT
19	23157EN	TRAFFIC SIGNAL POLE BASE
345	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80
540	24901EC	PVC CONDUIT-2 IN-SCHEDULE 80
1	24908EC	INSTALL SIGNAL CONTROLLER TY-ATC (WITH 1C ATC MODULE)

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. SEE SECTION 602 FOR SPIRAL REINFORCEMENT SPLICING.

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 FRANKFORT POLE YARD AND DELIVERING THESE ITEMS TO THE SITE. THE CONTRACTOR SHALL CONTACT FRANKFORT POLE YARD PERSONNEL (502-782-8994/ 502-330-8153 OR EMAIL KIM.STAMPER@KY.GOV) 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.IRISH@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 WORDING ADDED TO THE OUTER JACKET THAT STATES : * PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501*.

MEASUREMENT NOTES THAT ARE IN ADDITION TO SECTION 723

BLANKOUT SIGN - DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT FURNISHED AND INSTALLED. THE DEPARTMENT WILL NOT MEASURE CONNECTION TO SIGNAL CONDUCTORS OR SPAN WIRE HANGER ASSEMBLY (PELCO SE-3019 OR APPROVED EQUAL) AND WILL CONSIDER THESE INCIDENTAL TO THIS ITEM OF WORK.

INSTALL SIGNAL CONTROLLER TYPE ATC. THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE CONCRETE BASE, EXTENDING CONCRETE BASE FOR UPS CABINET, MOUNTING THE SIGNAL CONTROLLER/UPS 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 PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE CONNECTING THE INDUCTION LOOP AMPLIFIERS, PEDESTRIAN ISOLATORS, LOAD SWITCHES, MODEL 400 MODEM CARD FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL 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.

INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATION SHEETS.

INSTALL UPS CABINET ON EXTENDED CONCRETE BASE. THIS WORK WILL BE INCIDENTAL TO THE BID ITEM 24908EC.

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:

MAXIMUM SERVICE FORCES	DIAMETER (IN.)	DRILLED SHAFT DATA						VERTICAL BARS		TIES OR SPIRAL	
		DEPTH (FEET)						TOTAL	BAR SIZE	SPACING	
		< 2:1	ROCK	SOIL	ROCK	2:1 GROUND SLOPE*	VERTICAL			SIZE	OR PITCH (IN.)
0-9.9	36	6	6	6.5	6	6	13	#8	#4	12	
10-19.9	36	7	6	8.9	6	6	13	#8	#4	12	
20-29.9	36	8	6	10	6	6	13	#8	#4	12	
30-39.9	36	9.5	6	10.5	6	6	13	#8	#4	12	
40-49.9	36	10	6	11	6	6	13	#8	#4	12	
50-59.9	36	12.5	6	13.5	6	6	13	#8	#4	12	
60-69.9	36	15.5	6	17.5	6	6	13	#8	#4	12	
70-79.9	36	17.5	6	19.5	6	6	13	#8	#4	12	
80-89.9	36	18.5	6	21.5	6	6	13	#8	#4	12	
90-99.9	36	21.5	6	25	6	6	13	#8	#4	12	
100-139.9	36	21.5	6	25.5	6	6	13	#8	#4	12	
150-199.9	36	22.5	6	25.5	6	6	13	#8	#4	12	
200-249.9	42	22.5	6	25.5	6	6	13	#8	#4	12	
250-299.9	42	22.5	6	25.5	6	6	13	#8	#4	12	
300-399.9	42	22.5	6	25.5	6	6	13	#8	#4	12	
400-499.9	48	22.5	6	25.5	6	6	13	#8	#4	12	
500-600	48	22.5	6	25.5	6	6	13	#8	#4	12	

MATERIAL NOTES THAT ARE CONTRARY TO SECTION 835

SUBSECTION: 07.02 MAST ARM POLES
 REVISION: REPLACE ENTIRE 9) NOTE FOR "THE DETAIL ANALYSIS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING CALCULATIONS:" WITH THE FOLLOWING:
 LIMIT VERTICAL DEFLECTION TO 8 INCHES FOR GALLOPING FOR ALL ARMS .

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

TOTAL UNITS	CODE	ITEM DESCRIPTION
130	4792	CONDUIT 1 INCH
11	4811	ELECTRICAL JUNCTION BOX TYPE B
1360	4820	TRENCHING AND BACKFILLING
3150	4830	LOOP WIRE
2635	4844	CABLE-NO. 14/5C
6625	4850	CABLE-NO. 14/1 PAIR
705	4886	MESSENGER-15400 LB
1275	4895	LOOP SAW SLOT AND FILL
2	4905	BLANKOUT SIGN
4	4932	INSTALL STEEL STRAIN POLE
12	20188NS835	INSTALL SIGNAL-3 SECTION LED
2	20266ES835	INSTALL SIGNAL-4 SECTION LED
1	20390NS835	INSTALL COORDINATING UNIT
280	21543EN	BORE AND JACK CONDUIT
19	23157EN	TRAFFIC SIGNAL POLE BASE
345	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80
540	24901EC	PVC CONDUIT-2 IN-SCHEDULE 80
1	24908EC	INSTALL SIGNAL CONTROLLER TY--ATC (WITH 1C ATC MODULE)

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. SEE SECTION 602 FOR SPIRAL REINFORCEMENT SPLICING.

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 FRANKFORT POLE YARD AND DELIVERING THESE ITEMS TO THE SITE. THE CONTRACTOR SHALL CONTACT FRANKFORT POLE YARD PERSONNEL (502-782-8994/ 502-330-8153 OR EMAIL KIM.STAMPER@KY.GOV) 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.IRISH@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 WORDING ADDED TO THE OUTER JACKET THAT STATES : * PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501*.

MEASUREMENT NOTES THAT ARE IN ADDITION TO SECTION 723

BLANKOUT SIGN - DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT FURNISHED AND INSTALLED. THE DEPARTMENT WILL NOT MEASURE CONNECTION TO SIGNAL CONDUCTORS OR SPAN WIRE HANGER ASSEMBLY (PELCO SE-3019 OR APPROVED EQUAL) AND WILL CONSIDER THESE INCIDENTAL TO THIS ITEM OF WORK.

INSTALL SIGNAL CONTROLLER TYPE ATC. THE DEPARTMENT WILL MEASURE THE QUANTITY AS EACH INDIVIDUAL UNIT INSTALLED. THE DEPARTMENT WILL NOT MEASURE THE CONCRETE BASE, EXTENDING CONCRETE BASE FOR UPS CABINET, MOUNTING THE SIGNAL CONTROLLER/UPS 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 PAYMENT AND WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK. THE DEPARTMENT WILL ALSO NOT MEASURE CONNECTING THE INDUCTION LOOP AMPLIFIERS, PEDESTRIAN ISOLATORS, LOAD SWITCHES, MODEL 400 MODEM CARD FOR PAYMENT AND WILL CONSIDER THEM INCIDENTAL 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.

INSTALL ROUTER, ANTENNA, POWER SUPPLY AND CABLING AS SHOWN ON THE SPECIFICATION SHEETS.

INSTALL UPS CABINET ON EXTENDED CONCRETE BASE. THIS WORK WILL BE INCIDENTAL TO THE BID ITEM 24908EC.

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:

MAXIMUM SERVICE FORCES	DIAMETER (IN.)	DRILLED SHAFT DATA				VERTICAL BARS		TIES OR SPIRAL	
		SOIL	ROCK	SOIL	ROCK	SIZE	TOTAL	BAR SIZE	SPACING OR PITCH (IN.)
0-9.9	36	6	6.5	6	6	#8	13	#4	12
10-19.9	36	7	8.9	6	6	#8	13	#4	12
20-29.9	36	8	10	6	6	#8	13	#4	12
30-39.9	36	9.5	10.5	6	6	#8	13	#4	12
40-49.9	36	10	11	6	6	#8	13	#4	12
50-59.9	36	10	11	6	6	#8	13	#4	12
60-69.9	36	12.5	13.5	6	6	#8	13	#4	12
70-79.9	36	15.5	17	6	6	#8	13	#4	12
100-139.9	36	17.5	19.5	6	6	#8	13	#4	12
150-189.9	36	18.5	21.5	6.5	6.5	#8	13	#4	12
200-249.9	36	21.5	25	7.5	7.5	#8	13	#4	12
250-299.9	36	21.5	25	7.5	7.5	#8	13	#4	12
300-399.9	42	22.5	25.5	7.5	7.5	#8	13	#4	12
400-499.9	42	22.5	25.5	7.5	7.5	#8	13	#4	12
500-600	48	22.5	25.5	7.5	7.5	#8	13	#4	12

MATERIAL NOTES THAT ARE CONTRARY TO SECTION 835

SUBSECTION: 07.02 MAST ARM POLES
 REPLACE ENTIRE 9) NOTE FOR "THE DETAIL ANALYSIS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING CALCULATIONS:" WITH THE FOLLOWING:
 LIMIT VERTICAL DEFLECTION TO 8 INCHES FOR GALLOPING FOR ALL ARMS .

COUNTY OF	ITEM NO.	SHEET NO.
GRAVES	1-181.5	T1

REVISED 3/15/19

DESIGNED BY: DSL
 DATE SUBMITTED: 12-20-2018

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
 COUNTY OF

GRAVES

PROJECT F004 042 0080 011-019
 NUMBERS:

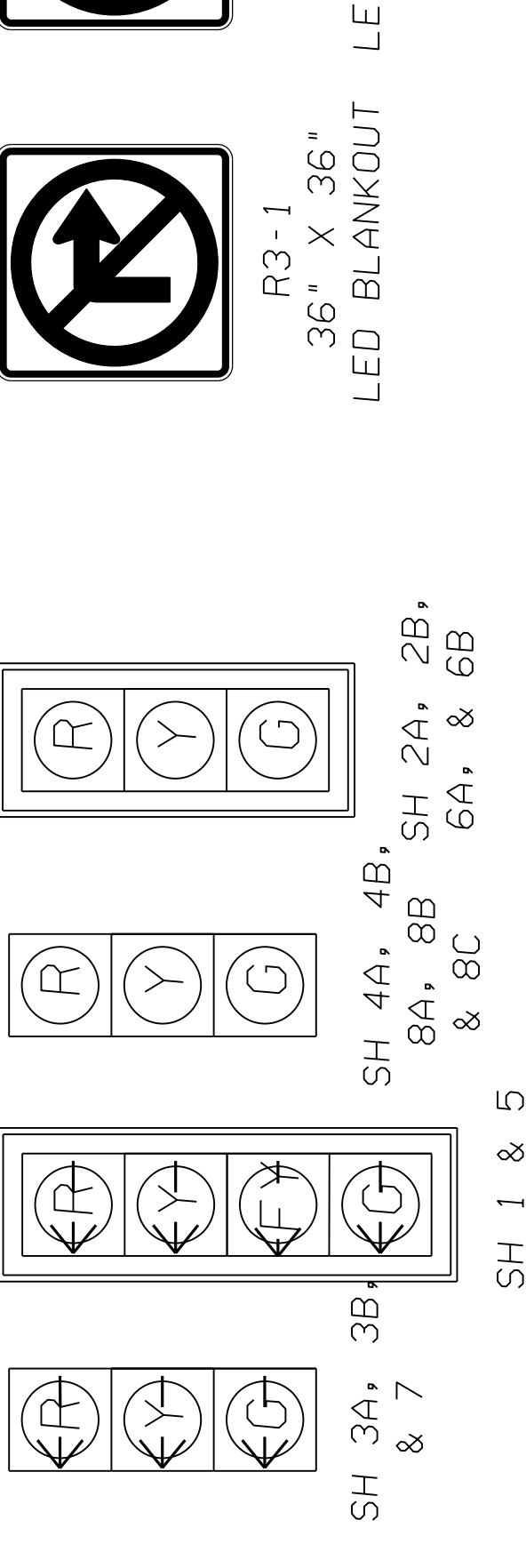
US45 / KY58 AND KY80
 TRAFFIC SIGNAL ESTIMATE OF QUANTITIES
 MEASUREMENT, CONST, AND MISC NOTES

COUNTY OF	ITEM NO.	SHEET NO.
GRAVES	1-181.50	T8

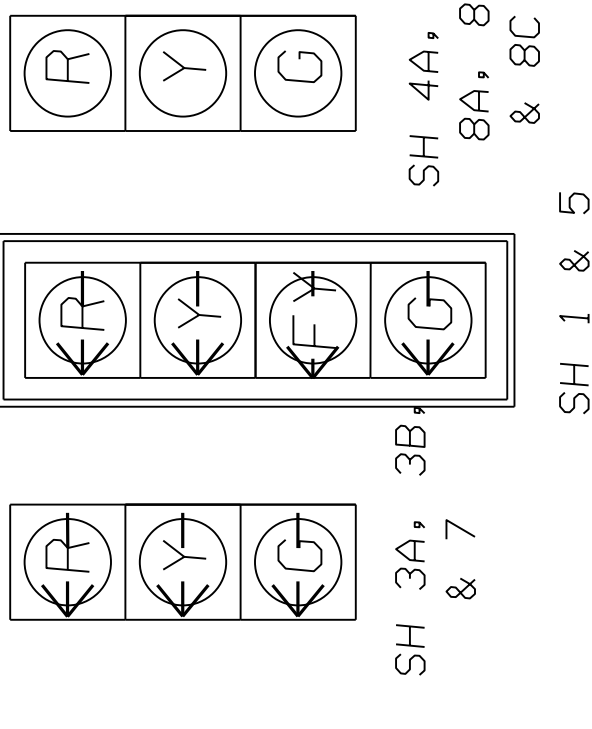
LEGEND

- PROPOSED STEEL STRAIN POLE
- PROPOSED SIGNAL HEAD
- PROPOSED LOOP DETECTOR
- PROPOSED JUNCTION BOX
- CONTROLLER CABINET
- PROPOSED 1" BURIED CONDUIT (UNLESS OTHERWISE NOTED)
- PROPOSED SIGN

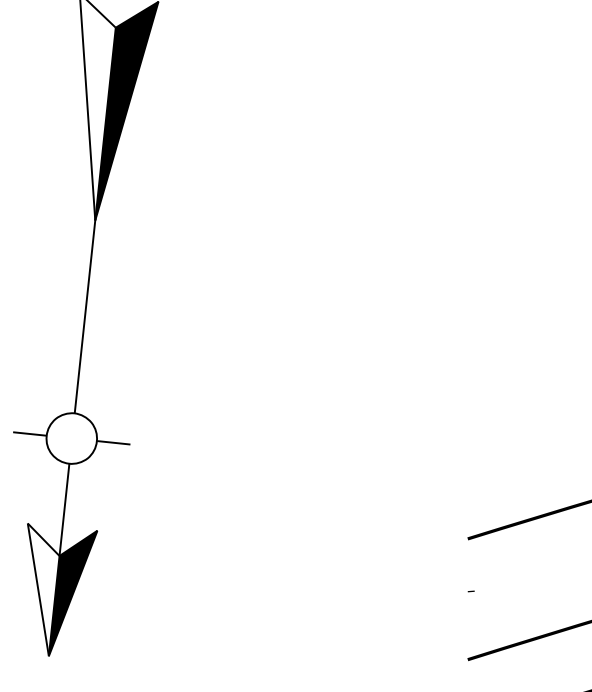
SIGNAL HEADS



SIGNAL HEADS



SIGNS



STEEL STRAIN POLES

POLE	HEIGHT	SPAN	ATTACHMENT HEIGHT	CALCULATED SERVICE MOMENT	SAG
A	36'	A-B	32'	205.79 K-FT	5%
B	36'	A-D	33.5'	243.50 K-FT	5%
C	36'	B-A	32.5'	231.81 K-FT	5%
D	38'	B-C	32.5'	320.05 K-FT	5%
		C-D	34.5'		
		D-C	33.5'		
		D-A	34.5'		

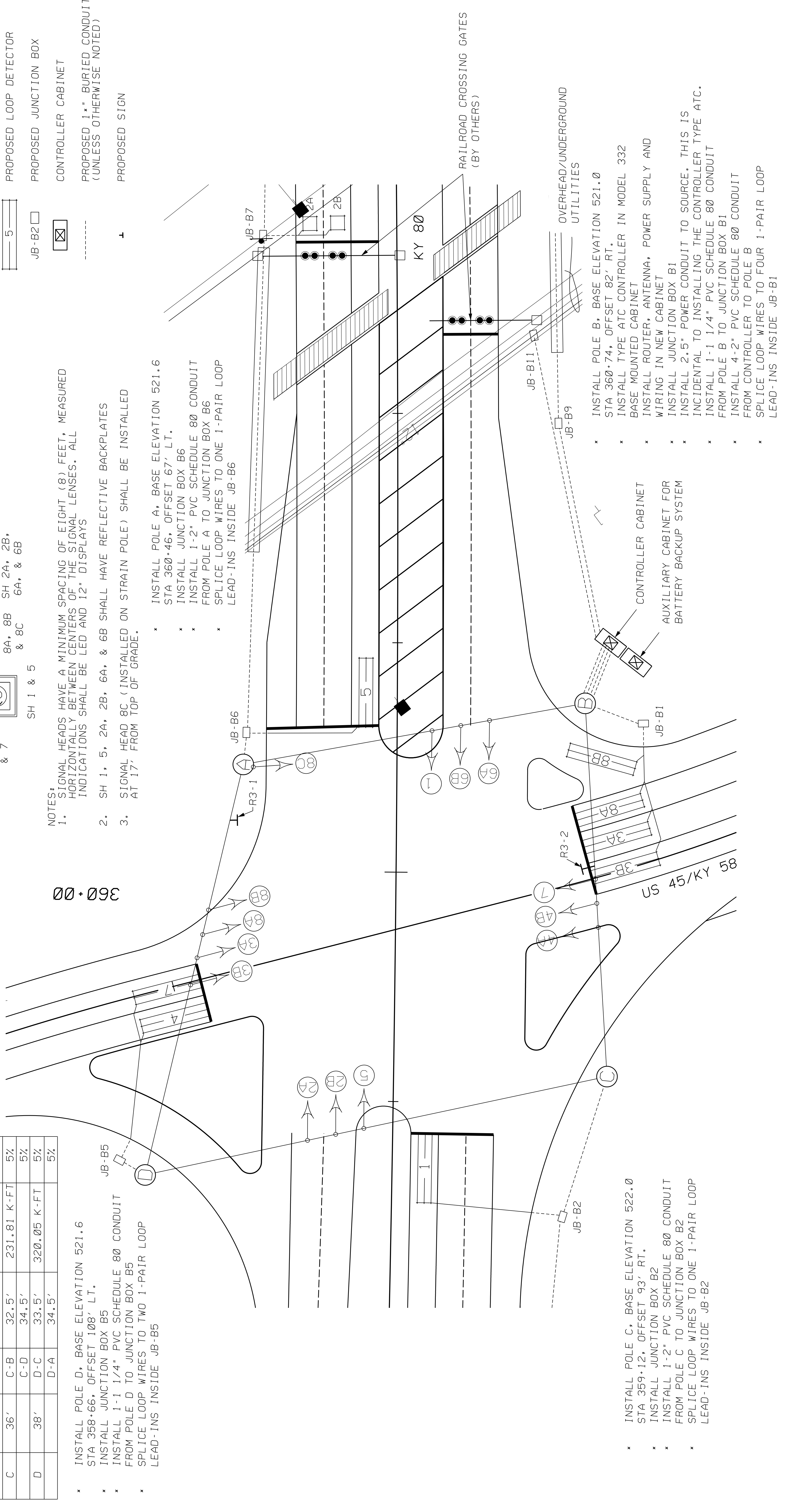
- * INSTALL POLE D, BASE ELEVATION 521.6 STA 358+66, OFFSET 108' LT.
- * INSTALL JUNCTION BOX B5
- * INSTALL 1-1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE D TO JUNCTION BOX B5
- * SPLICE LOOP WIRES TO TWO 1-PAIR LOOP LEAD-INS INSIDE JB-B5

- * INSTALL POLE C, BASE ELEVATION 522.0 STA 359+12, OFFSET 93' RT.
- * INSTALL JUNCTION BOX B2
- * INSTALL 1-2" PVC SCHEDULE 80 CONDUIT FROM POLE C TO JUNCTION BOX B2
- * SPLICE LOOP WIRES TO ONE 1-PAIR LOOP LEAD-INS INSIDE JB-B2

- NOTES:
- SIGNAL HEADS HAVE A MINIMUM SPACING OF EIGHT (8) FEET, MEASURED HORIZONTALLY BETWEEN CENTERS OF THE SIGNAL LENSES. ALL INDICATIONS SHALL BE LED AND 12" DISPLAYS
 - SH 1, 5, 2A, 2B, 6A, & 6B SHALL HAVE REFLECTIVE BACKPLATES
 - SIGNAL HEAD 8C (INSTALLED ON STRAIN POLE) SHALL BE INSTALLED AT 17' FROM TOP OF GRADE.

- * INSTALL POLE A, BASE ELEVATION 521.6 STA 360+46, OFFSET 67' LT.
- * INSTALL JUNCTION BOX B6
- * INSTALL 1-2" PVC SCHEDULE 80 CONDUIT FROM POLE A TO JUNCTION BOX B6
- * SPLICE LOOP WIRES TO ONE 1-PAIR LOOP LEAD-INS INSIDE JB-B6

- * INSTALL POLE B, BASE ELEVATION 521.0 STA 360+74, OFFSET 82' RT.
- * INSTALL TYPE ATC CONTROLLER IN MODEL 332 BASE MOUNTED CABINET
- * INSTALL ROUTER, ANTENNA, POWER SUPPLY AND WIRING IN NEW CABINET
- * INSTALL JUNCTION BOX B1
- * INSTALL 2.5" POWER CONDUIT TO SOURCE. THIS IS INCIDENTAL TO INSTALLING THE CONTROLLER TYPE ATC.
- * INSTALL 1-1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE B TO JUNCTION BOX B1
- * INSTALL 4-2" PVC SCHEDULE 80 CONDUIT FROM CONTROLLER TO POLE B
- * SPLICE LOOP WIRES TO FOUR 1-PAIR LOOP LEAD-INS INSIDE JB-B1



PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 APPROVED BY _____ DATE _____

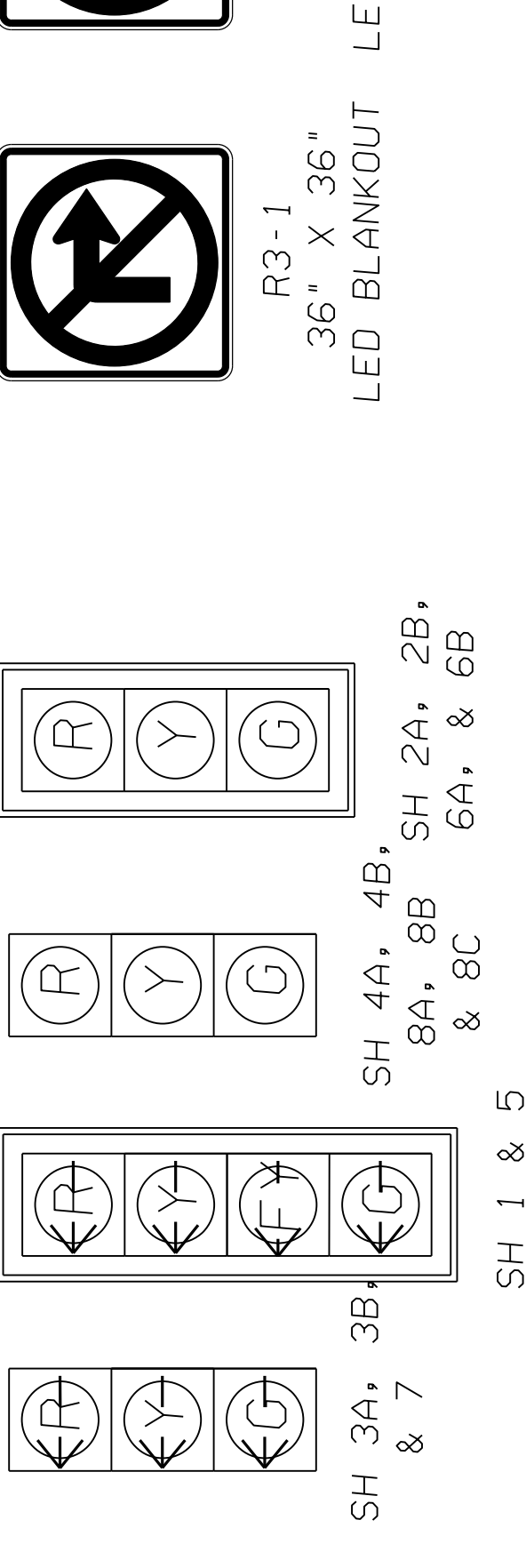
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COUNTY OF	ITEM NO.	SHEET NO.
GRAVES	1-181.50	T8

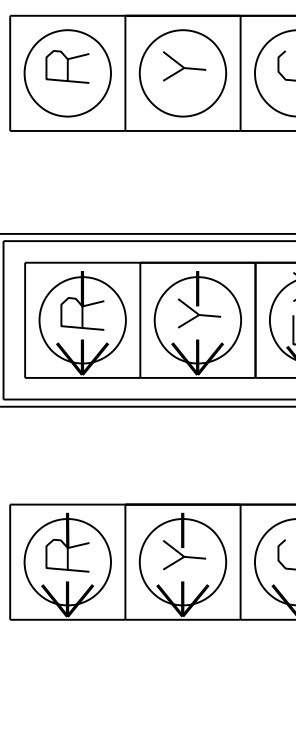
REVISIED 3/15/19

- LEGEND
- PROPOSED STEEL STRAIN POLE
 - PROPOSED SIGNAL HEAD
 - PROPOSED LOOP DETECTOR
 - PROPOSED JUNCTION BOX
 - CONTROLLER CABINET
 - PROPOSED 1" BURIED CONDUIT (UNLESS OTHERWISE NOTED)
 - PROPOSED SIGN

SIGNAL HEADS



SIGNS



- NOTES:
- SIGNAL HEADS HAVE A MINIMUM SPACING OF EIGHT (8) FEET, MEASURED HORIZONTALLY BETWEEN CENTERS OF THE SIGNAL LENSES. ALL INDICATIONS SHALL BE LED AND 12" DISPLAYS
 - SH 1, 5, 2A, 2B, 6A, & 6B SHALL HAVE REFLECTIVE BACKPLATES
 - SIGNAL HEAD 8C (INSTALLED ON STRAIN POLE) SHALL BE INSTALLED AT 17' FROM TOP OF GRADE.

- INSTALL POLE A, BASE ELEVATION 521.6 STA 360+46, OFFSET 67' LT.
- INSTALL JUNCTION BOX B6
- INSTALL 1-2" PVC SCHEDULE 80 CONDUIT FROM POLE A TO JUNCTION BOX B6
- SPLICE LOOP WIRES TO ONE 1-PAIR LOOP LEAD-INS INSIDE JB-B6

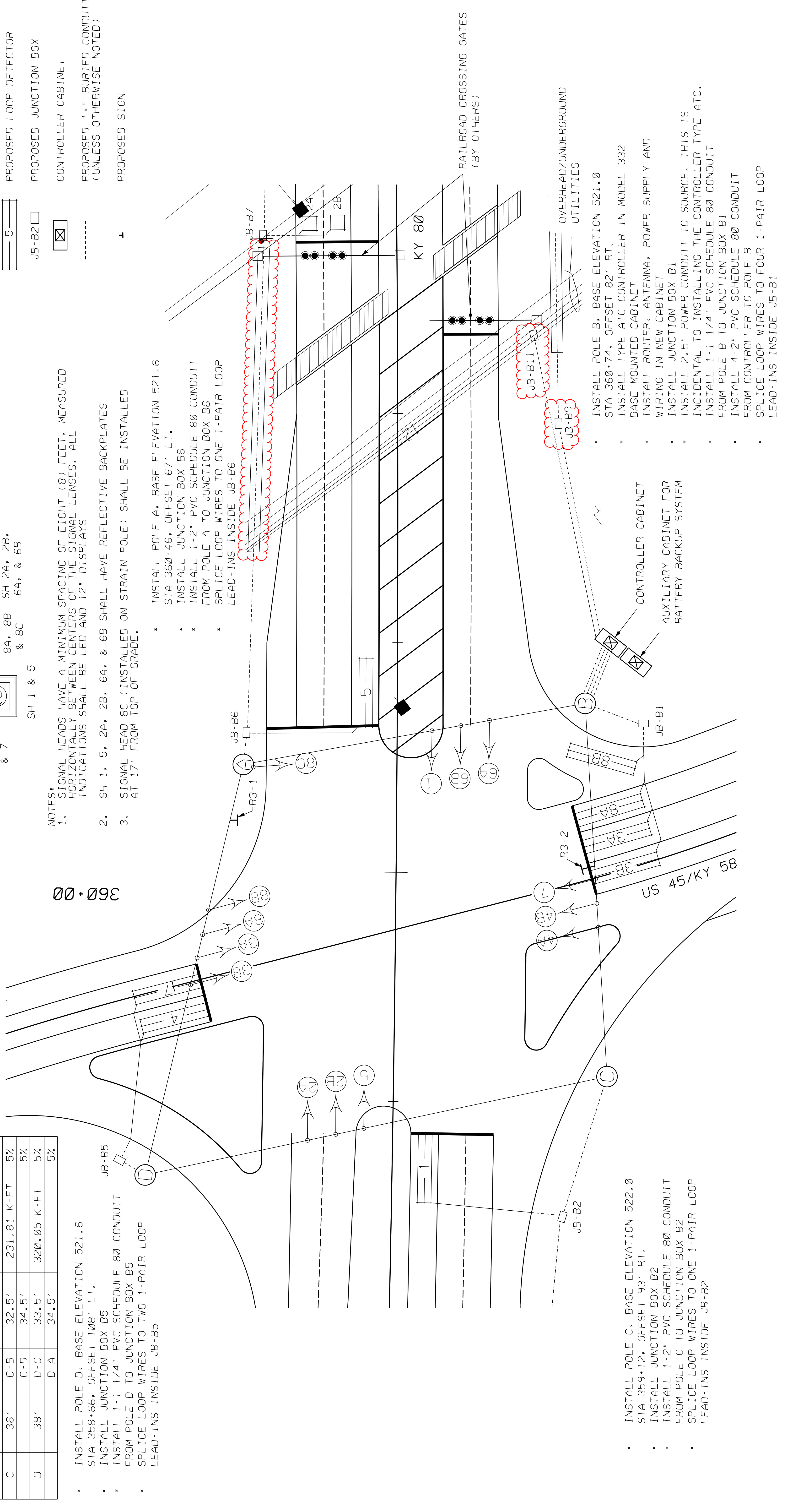
- INSTALL POLE C, BASE ELEVATION 522.0 STA 359+12, OFFSET 93' RT.
- INSTALL JUNCTION BOX B2
- INSTALL 1-2" PVC SCHEDULE 80 CONDUIT FROM POLE C TO JUNCTION BOX B2
- SPLICE LOOP WIRES TO ONE 1-PAIR LOOP LEAD-INS INSIDE JB-B2

- INSTALL POLE B, BASE ELEVATION 521.0 STA 360+74, OFFSET 82' RT.
- INSTALL TYPE ATC CONTROLLER IN MODEL 332 BASE MOUNTED CABINET
- INSTALL ROUTER, ANTENNA, POWER SUPPLY AND WIRING IN NEW CABINET
- INSTALL JUNCTION BOX B1
- INSTALL 2.5" POWER CONDUIT TO SOURCE. THIS IS INCIDENTAL TO INSTALLING THE CONTROLLER TYPE ATC.
- INSTALL 1-1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE B TO JUNCTION BOX B1
- INSTALL 4-2" PVC SCHEDULE 80 CONDUIT FROM CONTROLLER TO POLE B
- SPLICE LOOP WIRES TO FOUR 1-PAIR LOOP LEAD-INS INSIDE JB-B1

STEEL STRAIN POLES

POLE	HEIGHT	SPAN	ATTACHMENT HEIGHT	CALCULATED SERVICE MOMENT	SAG
A	36'	A-B	32'	205.79 K-FT	5%
		A-D	33.5'		5%
B	36'	B-A	32.5'	243.50 K-FT	5%
		B-C	32.5'		5%
C	36'	C-B	32.5'	231.81 K-FT	5%
		C-D	34.5'		5%
D	38'	D-C	33.5'	320.05 K-FT	5%
		D-A	34.5'		5%

- INSTALL POLE D, BASE ELEVATION 521.6 STA 358+66, OFFSET 108' LT.
- INSTALL JUNCTION BOX B5
- INSTALL 1-1 1/4" PVC SCHEDULE 80 CONDUIT FROM POLE D TO JUNCTION BOX B5
- SPLICE LOOP WIRES TO TWO 1-PAIR LOOP LEAD-INS INSIDE JB-B5



US45 / KY58 AND KY80
TRAFFIC SIGNAL PLAN
SCALE 1" = 20'

ALL MESSENGER CABLE IS 15,400 LB.

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 PREPARED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 APPROVED BY _____ DATE _____

LEGEND

PROPOSED STEEL STRAIN POLE

PROPOSED SIGNAL HEAD

PROPOSED LOOP DETECTOR

JB-B2

CONTROLLER JUNCTION BOX

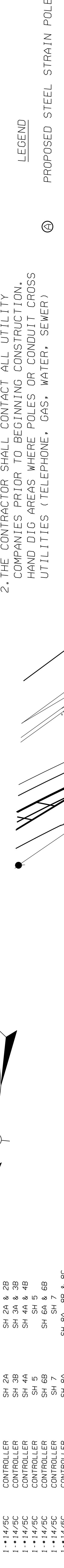
CONTROLLER CABINET

PROPOSED 1" BURIED CONDUIT (UNLESS OTHERWISE NOTED)

PROPOSED SIGN

NOTES:

1. INSTALL LOOPS PRIOR TO FINAL SURFACING.
2. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. HAND DIG AREAS WHERE POLES OR CONDUIT CROSS UTILITIES (TELEPHONE, GAS, WATER, SEWER)
3. THE CONTRACTOR SHALL CONTACT THE P&L RAILROAD PRIOR TO BEGINNING CONSTRUCTION.



FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	GREEN	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE

5-CONDUCTOR

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	GREEN	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE

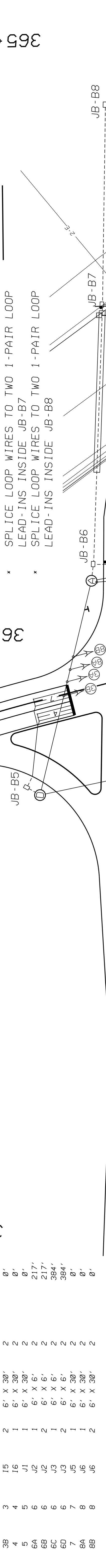
THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED *2PY 4PY 8PY* TO CONNECTOR *CMU 13,16,R,U* BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (STIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

LOOP SCHEDULE

LOOP	PHASE	SLOT	CHANNEL SIZE	# OF TURNS	DISTANCE FROM STOP BAR
1	1	11	1	2	0'
2A	2	12	1	2	217'
2B	2	12	2	2	217'
2C	2	13	1	2	384'
2D	2	13	2	2	384'
3A	3	15	1	2	0'
3B	3	15	2	2	0'
4	4	16	1	2	0'
5	5	J1	1	2	217'
6A	6	J2	1	2	217'
6B	6	J2	2	2	384'
6C	6	J3	1	2	384'
6D	6	J3	2	2	384'
7	7	J5	1	2	0'
8	8	J6	1	2	0'
8A	8	J6	2	2	0'
8B	8	J6	2	2	0'

LOOP SCHEDULE

LOOP	PHASE	SLOT	CHANNEL SIZE	# OF TURNS	DISTANCE FROM STOP BAR
4-14/1 PAIR		JB B1			LOOPS 3A, 3B, 8A & 8B
1-14/1 PAIR		JB B2			LOOP 1
2-14/1 PAIR		JB B3			LOOPS 6A & 6B
2-14/1 PAIR		JB B4			LOOPS 6C & 6D
2-14/1 PAIR		JB B5			LOOPS 4 & 7
1-14/1 PAIR		JB B6			LOOP 5
1-14/1 PAIR		JB B7			LOOPS 2A & 2B
2-14/1 PAIR		JB B8			LOOPS 2C & 2D



ALL 6' X 30' LOOPS SHALL BE QUADRAPOLE
ALL LOOPS SHALL BE CENTERED IN LANE

INSTALL JUNCTION BOX B7
INSTALL JUNCTION BOX B8
INSTALL 1-2" PVC SCHEDULE 80 CONDUIT FROM JUNCTION BOX B6 TO JUNCTION BOX B7 (BORE AND JACK CONDUIT WITHIN R/W LIMITS TO 48" DEPTH)
INSTALL 1-1 1/4" PVC SCHEDULE 80 CONDUIT FROM JUNCTION BOX B7 TO JUNCTION BOX B8
SPlice LOOP WIRES TO TWO 1-PAIR LOOP LEAD-INS INSIDE JB-B7
SPlice LOOP WIRES TO TWO 1-PAIR LOOP LEAD-INS INSIDE JB-B8

INSTALL JUNCTION BOX B9
INSTALL JUNCTION BOX B10
INSTALL JUNCTION BOX B11
INSTALL 1-2.5" RS CONDUIT FROM CONTROLLER CABINET TO POWER POLE WITH TRANSFORMER (BORE AND JACK CONDUIT WITHIN R/W LIMITS TO 48" DEPTH)
INSTALL 1-1" RS CONDUIT FROM CONTROLLER CABINET TO R/W LINE.

INSTALL JUNCTION BOX B3
INSTALL JUNCTION BOX B4
INSTALL 1-2" PVC SCHEDULE 80 CONDUIT FROM JUNCTION BOX B2 TO JUNCTION BOX B3
INSTALL 1-1 1/4" PVC SCHEDULE 80 CONDUIT FROM JUNCTION BOX B3 TO JUNCTION BOX B4
SPlice LOOP WIRES TO TWO 1-PAIR LOOP LEAD-INS INSIDE JB-B3
SPlice LOOP WIRES TO TWO 1-PAIR LOOP LEAD-INS INSIDE JB-B4



REVISIED 3/15/19

- LEGEND
- PROPOSED STEEL STRAIN POLE
 - PROPOSED SIGNAL HEAD
 - PROPOSED LOOP DETECTOR
 - JB-B2
 - CONTROLLER CABINET
 - PROPOSED 1" BURIED CONDUIT (UNLESS OTHERWISE NOTED)
 - PROPOSED SIGN

- NOTES:
- INSTALL LOOPS PRIOR TO FINAL SURFACING.
 - THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. HAND DIG AREAS WHERE POLES OR CONDUIT CROSS UTILITIES (TELEPHONE, GAS, WATER, SEWER)
 - THE CONTRACTOR SHALL CONTACT THE P&L RAILROAD PRIOR TO BEGINNING CONSTRUCTION.

FLASHING YELLOW ARROW SIGNAL WIRING AND SPECIAL REQUIREMENTS

CONNECTION	COLOR	OUTPUT FILE CONNECTION FOR FYA ON PHASE	OUTPUT FILE CONNECTION FOR FYA ON PHASE 5
RED ARROW	RED	PHASE 1 RED	PHASE 5 RED
STEADY YELLOW ARROW	ORANGE	PHASE 1 YELLOW	PHASE 5 YELLOW
FLASHING YELLOW ARROW	BLACK	PHASE 1 GREEN	PHASE 5 GREEN
GREEN ARROW	GREEN	PED YELLOW PHASE 2	PED YELLOW PHASE 6
NEUTRAL	WHITE	WHITE	WHITE

THE CONTRACTOR SHALL CONNECT THE CONNECTOR LABELED "2PY 4PY 8PY" TO CONNECTOR "CMU 13,16,R,U" BEHIND THE OUTPUT PANEL. IF IT IS A SOLID STATE CABINET (STIEMENS) ONLY HAVE 2 CONNECTORS WHICH SIMPLY NEED TO BE CONNECTED TOGETHER.

WIRING SCHEDULE

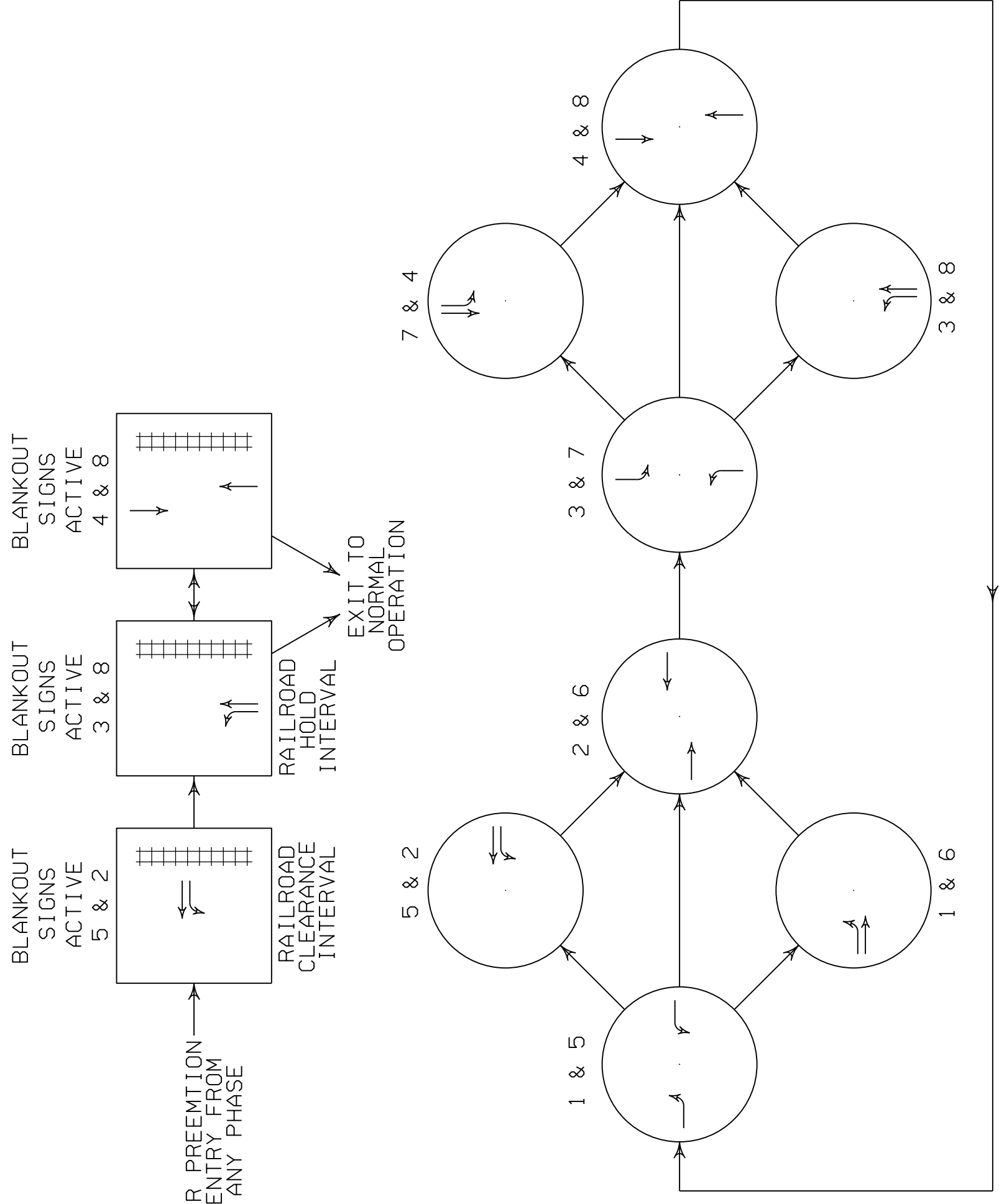
CABLE	ORIGIN	ENDING	CONNECTING
1-14/5C	CONTROLLER	SH 1	SH 1
1-14/5C	CONTROLLER	SH 2A	SH 2A & 2B
1-14/5C	CONTROLLER	SH 3B	SH 3A & 3B
1-14/5C	CONTROLLER	SH 4A	SH 4A & 4B
1-14/5C	CONTROLLER	SH 5	SH 5
1-14/5C	CONTROLLER	SH 6B	SH 6A & 6B
1-14/5C	CONTROLLER	SH 7	SH 7
1-14/5C	CONTROLLER	SH 8A, 8B & 8C	SH 8A, 8B & 8C
1-14/5C	CONTROLLER	RR R/W	RR SIGNALS
1-14/5C	CONTROLLER	SIGN R3-1	SIGN R3-1
1-14/5C	CONTROLLER	SIGN R3-2	SIGN R3-2
4-14/1 PAIR	CONTROLLER	JB B1	LOOPS 3A, 3B, 8A & 8B
1-14/1 PAIR	CONTROLLER	JB B2	LOOP 1
2-14/1 PAIR	CONTROLLER	JB B3	LOOPS 6A & 6B
2-14/1 PAIR	CONTROLLER	JB B4	LOOPS 6C & 6D
2-14/1 PAIR	CONTROLLER	JB B5	LOOPS 4 & 7
1-14/1 PAIR	CONTROLLER	JB B6	LOOP 5
1-14/1 PAIR	CONTROLLER	JB B7	LOOPS 2A & 2B
2-14/1 PAIR	CONTROLLER	JB B8	LOOPS 2C & 2D

LOOP SCHEDULE

LOOP	PHASE	SLOT	CHANNEL SIZE	# OF TURNS	DISTANCE FROM STOP BAR
1	1	11	6' X 30'	2	0'
2A	2	12	6' X 6'	2	217'
2B	2	12	6' X 6'	2	217'
2C	2	13	6' X 6'	2	384'
2D	2	13	6' X 6'	2	384'
3A	3	15	6' X 30'	2	0'
3B	3	15	6' X 30'	2	0'
4	4	16	6' X 30'	2	0'
5	5	J1	6' X 30'	2	217'
6A	6	J2	6' X 6'	2	217'
6B	6	J2	6' X 6'	2	217'
6C	6	J3	6' X 6'	2	384'
6D	6	J3	6' X 6'	2	384'
7	7	J5	6' X 30'	2	0'
8	8	J6	6' X 30'	2	0'
8A	8	J6	6' X 30'	2	0'
8B	8	J6	6' X 30'	2	0'

ALL 6' X 30' LOOPS SHALL BE QUADRAPOLE
ALL LOOPS SHALL BE CENTERED IN LANE

PHASING DIAGRAM



APPROVED BY _____ DATE _____
CHECKED BY _____ DATE _____
PREPARED BY _____ DATE _____

CELL LIBRARY: KYTC, CEL
CELL NAME: SP
DD-MM-YYYY HH:MM

ALL MESSENGER CABLE IS 15,400 LB.

US45 / KY58 AND KY80
TRAFFIC SIGNAL PLAN
SCALE 1" = 40'

