

**TRAFFIC SIGNAL CONSTRUCTION NOTES**

1. ALL TRAFFIC SIGNALS AND PEDESTRIAN SECTIONS SHALL HAVE 12" SINGLE LED LENSES.
2. THE RED SECTIONS OF THE SIGNAL HEADS SHARING THE SAME MAST ARM SHALL BE LEVEL WITH ONE ANOTHER AND MAINTAIN A 16 FT. MINIMUM CLEARANCE FROM THE HIGHEST POINT OF THE ROADWAY.
3. THE PROPOSED MAST ARM MOUNTED TRAFFIC SIGNAL HEADS SHALL BE MOUNTED DIRECTLY OVER THE CENTER OF THEIR RESPECTIVE LANES.
4. THE #18 3-PAIR TWISTED/SHIELDED CABLE SHALL HAVE THE SAME SLACK AS OTHER SIGNAL CABLE AND WILL BE MEASURED IN PLACE FOR PAYMENT.
5. ALL DETECTOR LOOPS SHALL UTILIZE A SEPARATE PAIR OF LEAD-IN CABLE.
6. A TYPE II SPLICE SHALL BE USED FOR ALL DETECTOR LEAD-INS.
7. ALL DETECTOR LOOPS SHALL BE INSTALLED IN THE CENTER OF THEIR RESPECTIVE TRAVEL LANES. THE ENGINEER OF TRAFFIC SHALL BE NOTIFIED FOR VERIFICATION OF DETECTOR PLACEMENT BEFORE INSTALLATION.
8. ALL TRAFFIC SIGNAL HEAD BRACKETS ARE TO BE ALUMINUM WITH A NATURAL FINISH.
9. ALL TRAFFIC SIGNAL POSTS ARE TO BE GALVANIZED STEEL.
10. ALL SIGNAL CABINETS TO BE UNPAINTED ALUMINUM.
11. BACKPLATES SHALL BE POLYCARBONATE WITH A DEEP BACK LOUVERED FLANGE.
12. PROPOSED HANDHOLES SHALL BE CAST IN PLACE CONCRETE HANDHOLES.
13. THE HANDHOLE SHALL BE CONSTRUCTED SO THAT THE TOP OF THE FRAME WILL BE FLUSH WITH THE SURFACE OF THE MEDIAN, SIDEWALK, OR GROUND LINE.
14. THE LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE THE INSTALLATION OF ANY TRAFFIC SIGNAL COMPONENTS. CALL J.U.L.I.E. AT 800-892-0123.
15. THE CONTRACTOR IS RESPONSIBLE FOR UNCOVERING OR HAND DIGGING AROUND UTILITIES AS NECESSARY. THE COST OF THIS WORK IS TO BE INCLUDED WITH THE TRENCH AND BACKFILL FOR ELECTRICAL WORK PAY ITEM.
16. COILABLE POLYETHYLENE DUCT MAY BE SUBSTITUTED FOR PVC CONDUIT PUSHED OR TRENCHED.
17. THE TRAFFIC SIGNAL CONTROLLER SHALL BE ORIENTED SO THAT THE DOOR IS FACING AWAY FROM TRAFFIC.
18. THE DOUBLE HANDHOLE SHALL NOT BE USED IN LIEU OF THE CONTROLLER FOUNDATION PAD.
19. TRAFFIC SIGNAL HEADS SHALL BE PROPERLY COVERED PRIOR TO INTERSECTION TURN-ON OR AS DIRECTED BY THE ENGINEER. THIS COST SHALL BE INCLUDED WITH THE COST OF THE ASSOCIATED SIGNAL PAY ITEMS.
20. THE CONTRACTOR MAY ELECT TO PUSH A CONDUIT THAT IS SHOWN TO BE TRENCHED ON THE PLANS. HOWEVER, THIS WORK WILL BE MEASURED FOR PAYMENT AND PAID FOR AS CONDUIT IN TRENCH OF THE TYPE AND SIZE SPECIFIED AND TRENCH AND BACKFILL FOR ELECTRICAL WORK.
21. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR PLACING CONDUIT AT GREATER THAN 24 INCHES MINIMUM DEPTH TO AVOID OBSTACLES SUCH AS UNDERGROUND UTILITIES.
22. THE ELECTRICAL CONDUCTORS FOR ALL TRAFFIC SIGNAL HEADS SHALL BE SOLID, SOFT COPPER.
23. ALL MAST ARMS, POSTS, HANDHOLES (LIDS AND FRAMES), METALLIC CONDUIT AND CABINETS SHALL BE GROUNDED IN ACCORDANCE WITH NEC REQUIREMENTS. GROUND RODS SHALL BE SOLID COPPER ALLOY OR COPPER CLAD STEEL.
24. ALL MAST ARM BASES SHALL BE PROTECTED BY A STAINLESS STEEL MESH SCREENING AROUND THE BASE BOLTS TO PREVENT RODENT ENTRY. THE MESH SHALL BE SECURED TO THE BASE BY STAINLESS STEEL BANDING. THIS WORK SHALL BE INCLUDED IN THE COST OF THE MAST ARM ASSEMBLY PAY ITEM.
25. THE LOCATIONS FOR HANDHOLES, TRAFFIC SIGNAL POST FOUNDATIONS, AND MAST ARM FOUNDATIONS ARE PROVIDED FOR REFERENCE ONLY. THE ENGINEER OF TRAFFIC SHALL BE NOTIFIED FOR LOCATION VERIFICATION BEFORE INSTALLATION.
26. THE CONTRACTOR SHALL CONTACT AMEREN PRIOR TO BEGINNING WORK TO OBTAIN THE UTILITY COMPANY REQUIREMENTS FOR THE SERVICE INSTALLATION.
27. ALL SURPLUS MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS.
28. ALL STEEL COMBINATION MAST ARM ASSEMBLIES AND POLES SHALL BE EQUIPPED WITH 12 FT. LUMINIARE ARMS AND HAVE A 45 FT. LUMINIARE MOUNTING HEIGHT.
29. ALL GRASS DISTURBED BY THE CONTRACTOR SHALL BE RESTORED BY SEEDING AND/OR SOD TO THE SATISFACTION OF THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM TRENCH AND BACKFILL FOR ELECTRICAL WORK.

TRAFFIC SIGNAL QUANTITIES			
PAY CODE	ITEM DESCRIPTION	UNIT	TOTAL QTY.
80500200	SERVICE INSTALLATION, TYPE B	EACH	1
81012600	CONDUIT IN TRENCH, 2" DIA., PVC	FOOT	795
81012800	CONDUIT IN TRENCH, 3" DIA., PVC	FOOT	277
81012900	CONDUIT IN TRENCH, 3 1/2" DIA., PVC	FOOT	166
81306500	REMOVE EXISTING JUNCTION BOX	EACH	3
81400700	HANDHOLE, PORTLAND CEMENT CONCRETE	EACH	5
81400720	DOUBLE HANDHOLE, PORTLAND CEMENT CONCRETE	EACH	1
81702130	ELECTRIC CABLE IN CONDUIT, 600V, (XLP-TYPE USE) 1/C NO. 6	FOOT	935
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	1238
82102400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	4
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	1689
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C	FOOT	2533
87301515	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 18 3 PAIR	FOOT	1770
87702990	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 54 FT.	EACH	1
87703020	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 58 FT.	EACH	2
87703030	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 60 FT.	EACH	1
87800200	CONCRETE FOUNDATION, TYPE D	FOOT	3.5
87800415	CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER	FOOT	78
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	8
88030070	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED	EACH	4
88030080	SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED	EACH	4
88102845	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 2-FACE, BRACKET MOUNTED WITH COUNT DOWN TIMER	EACH	4
88200310	TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	12
88500100	INDUCTIVE LOOP DETECTOR	EACH	12
88600100	DETECTOR LOOP, TYPE I	FOOT	1649
88700200	LIGHT DETECTOR	EACH	2
88700300	LIGHT DETECTOR AMPLIFIER	EACH	1
88800100	PEDESTRIAN PUSH-BUTTON	EACH	8
89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
89502380	REMOVE EXISTING HANDHOLE	EACH	1
89502382	REMOVE EXISTING DOUBLE HANDHOLE	EACH	1
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	1
X0324134	BATTERY BACKUP SYSTEM WITH CABINET	EACH	1
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	527
XX005703	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT, SPECIAL	L SUM	1

THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF TRAFFIC, RANDY LANINGA, AT (309) 671-4477 TO OBTAIN APPROVAL FOR ALL MAST ARM FOUNDATION LOCATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ALL COSTS REQUIRED TO REMOVE OR RELOCATE FACILITIES THAT WERE CONSTRUCTED WITHOUT OBTAINING LOCATION APPROVAL.