

TRAFFIC SIGNAL/ROADWAY LIGHTING GENERAL NOTES

- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE PHONE NUMBER FOR J.U.L.I.E. IS 800-829-0123.
- THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF UNCOVERING OR HAND DIGGING AROUND UTILITIES AS NECESSARY, WHICH SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE CONTRACT PAY ITEM.
- THE EXACT SIGNAL LOCATIONS MAY BE MODIFIED IN THE FIELD TO AVOID EXISTING UTILITIES AS DIRECTED BY THE CITY ENGINEER.
- ALL SIGNAL BASES SHALL BE LOCATED A MINIMUM OF 6 FEET FROM THE FACE OF CURB OR AT THE LOCATIONS SHOWN ON THE PLANS, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.
- ALL MAST ARM POLE 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 AND SHALL BE INCLUDED IN THE COST OF THE STEEL COMBINATION MAST ARM ASSEMBLY AND POLE PAY ITEM.
- NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR PLACING CONDUIT AT GREATER THAN 2 FEET MINIMUM DEPTH TO AVOID OBSTACLES SUCH AS UNDERGROUND UTILITIES.
- ALL ELECTRIC CABLE REQUIRED FOR THE INSTALLATION OF THE LIGHT DETECTOR SHALL BE INCLUDED IN THE COST OF THE LIGHT DETECTOR PAY ITEM. SPLICES IN THE LIGHT DETECTOR CABLE SHALL NOT BE ALLOWED.
- DRILLING HOLES THROUGH EXISTING CURB AND GUTTER, INSERTING CONDUIT, AND FILLING WITH APPROVED SEALER FOR DETECTOR LOOPS SHALL BE INCLUDED IN THE COST OF THE DETECTOR LOOP PAY ITEM.
- ALL DETECTOR LOOP AMPLIFIERS SHALL BE RACK MOUNTED AND SHALL BE LABELED ON THE EDGE OF THE SHELF BELOW THE AMPLIFIERS WITH THEIR RESPECTIVE DIRECTIONS, PHASES, LOOP TERMINALS, AND CONTROLLER INPUTS. THIS WORK SHALL BE INCLUDED IN THE COST OF THE INDUCTIVE LOOP DETECTOR PAY ITEM.
- A 10 GAUGE STRANDED THHN WIRE SHALL BE FURNISHED AND LEFT IN PLACE IN ALL CONDUITS BETWEEN HANDHOLES AND FOUNDATIONS WITH 6 FEET OF SLACK AT EACH HANDHOLE AND SHALL BE INCLUDED IN THE COST OF THE CONDUIT PAY ITEM.
- ALL CONDUITS THAT ARE TO BE LEFT VACANT FOR FUTURE USE SHALL HAVE A 10 GAUGE STRANDED WIRE INSTALLED FOR THE PURPOSE OF LOCATING THE CONDUIT AND SHALL BE INCLUDED IN THE COST OF THE CONDUIT PAY ITEM.
- ALL HIGH DENSITY POLYETHYLENE (HDPE) CONDUITS SHALL BE SCHEDULE 80 AND COILABLE. ALL POLYVINYL CHLORIDE (PVC) CONDUITS SHALL BE SCHEDULE 80. ALL CONDUITS SHALL BE HDPE EXCEPT AT THE LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- THE DOUBLE HANDHOLE SHALL BE FURNISHED WITH RECESSED, INTEGRAL HINGED LIDS.
- ALL THREADS OF BOLTS USED IN ASSEMBLY OF TRAFFIC SIGNAL COMPONENTS SHALL BE COATED WITH A NON-LEAD BASED, ANTI-SEIZE COMPOUND, SIMILAR TO LEAD PLATE, PRIOR TO ASSEMBLY.
- ALL LED SIGNAL LENSES SHALL BE OF THE SAME TYPE, DESIGN, AND APPEARANCE AND SHALL BE FROM THE SAME MANUFACTURER FOR ANY GIVEN INTERSECTION.
- THE SIZES OF ALL LENSES SHALL BE 12 INCHES UNLESS OTHERWISE NOTED.
- ALL MAST ARM MOUNTED SIGNAL HEADS ON EACH INDIVIDUAL MAST ARM SHALL BE MOUNTED SO THAT THE RED INDICATIONS ARE LEVEL WITH EACH OTHER.
- ALL BRACKET MOUNTED SIGNAL HEADS SHALL BE MOUNTED ON THE SIDE OF THE POLE AS DIRECTED BY THE CITY ENGINEER IN ORDER TO MINIMIZE VEHICLE DAMAGE.
- ALL TRAFFIC SIGNAL HEADS SHALL HAVE LOUVERED BACKPLATES.
- A PEDESTRIAN PUSH-BUTTON SIGN SHALL BE MOUNTED ABOVE EACH PEDESTRIAN PUSH-BUTTON. THE SIGN SHALL BE ACCORDING TO SECTION 888 OF THE STANDARD SPECIFICATIONS AND SHALL BE INCLUDED IN THE COST OF THE PEDESTRIAN PUSH-BUTTON PAY ITEM.
- A 24" x 30" ALUMINUM 'LEFT TURN YIELD ON GREEN' SIGN SHALL BE MOUNTED ADJACENT TO EACH MAST ARM MOUNTED 5-SECTION HEAD LEFT TURN SIGNAL AS DIRECTED BY THE ENGINEER.
- A 24" x 30" ALUMINUM 'LEFT TURN YIELD ON GREEN' SIGN SHALL BE MOUNTED BELOW EACH BRACKET MOUNTED 5-SECTION HEAD LEFT TURN SIGNAL AS DIRECTED BY THE ENGINEER.
- THE ELECTRICAL CONDUCTORS FOR ALL TRAFFIC SIGNAL HEADS SHALL BE 14 GAUGE SOLID, SOFT COPPER.
- THE PROPOSED TRAFFIC SIGNAL CONTROLLER CABINET SHALL BE FURNISHED WITH A DOOR SWITCH, CONFLICT FLASH AND MANUAL FLASH INPUTS WIRED TO THE APPROPRIATE CONTROLLER BY CONNECTOR INPUTS. THE CABINET SHALL ALSO BE FURNISHED WITH A MANUAL CONTROL SWITCH AND MANUAL CORD WITHIN THE POLICE COMPARTMENT DOOR. THESE ITEMS SHALL BE INCLUDED IN THE COST OF THE CONTROLLER PAY ITEM.
- AN INNOVATIVE TECHNOLOGIES MODEL HS-P-SP-120A-30A-RJ SUPPRESSOR OR APPROVED EQUAL WITH A 3 POSITION TERMINAL BLOCK SHALL BE MOUNTED ON AN ALUMINUM PLATE BELOW THE CABINET POWER DISTRIBUTION PANEL. INCOMING POWER SHALL CONNECT TO THE TERMINAL BLOCK WHICH SHALL FEED THE "IT" SUPPRESSOR THROUGH 10 GAUGE SOLID COPPER WIRE (AC+, AC-, GND.) WITH APPROXIMATELY TEN L5 TO 2 INCH COILS IN THE AC+ AND AC- LINES.
- THE CONTROLLER CABINET SHALL BE ORIENTED SUCH THAT INTERSECTION OPERATION AND CONTROLLER COMPONENTS CAN BE VIEWED SIMULTANEOUSLY.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL SIGNAL COMPONENTS TO THE CITY OF BLOOMINGTON FOR APPROVAL PRIOR TO ORDERING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ELECTRICAL SERVICE FOR THE TRAFFIC SIGNALS AND ROADWAY LIGHTING. THE CONTRACTOR SHALL CONTACT THE POWER SUPPLIER PRIOR TO BEGINNING WORK IN ORDER TO MEET THE POWER SUPPLIER'S REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 72 HOURS BEFORE THE CIRCUIT IS ENERGIZED.
- THE ENGINEER SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO SIGNAL TURN ON.
- THE CONTRACTOR SHALL ARRANGE FOR A FACTORY OR SUPPLIER REPRESENTATIVE TO BE PRESENT AT THE INTERSECTION WHEN THE SIGNALS ARE TURNED ON, WHICH SHALL BE INCLUDED IN THE COST OF THE CONTROLLER PAY ITEM.
- THE CITY RESERVES THE RIGHT TO CANCEL ANY SIGNAL TURN ON IF THE CITY DEEMS THE SITUATION UNSAFE FOR REASONS SUCH AS BAD WEATHER, PEAK HOUR TRAFFIC CONDITIONS, OR ROAD CONDITIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE CABINET ENERGIZED AND FULLY FUNCTIONAL WITH FIELD DISPLAYS TURNED OFF A MINIMUM OF 24 HOURS PRIOR TO THE SCHEDULED SIGNAL TURN ON.
- THE SIGNAL TURN ON SHALL BE SCHEDULED BETWEEN THE HOURS OF 9 AM AND 10 AM.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING AND INSTALLING A FULLY FUNCTIONAL CONTROLLER WITH THE TIMINGS SUPPLIED BY THE CITY. ALL PROGRAMMING CHANGES NEEDED DURING THE BURN-IN PERIOD SHALL BE PERFORMED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE CITY ELECTRICIANS BY CONTACTING 309-434-2225 A MINIMUM OF 72 HOURS PRIOR TO THE CONTROLLER BEING READY FOR PROGRAMMING.
- THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH THE CONTROLLER, CONFLICT MONITOR, AND ONE SET OF THE CABINET PRINTS A MINIMUM OF 72 HOURS PRIOR TO ENERGIZING THE CABINET.
- AS SOON AS WORK BEGINS ON TRAFFIC SIGNAL PAY ITEMS OR TEMPORARY SIGNALS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND LOCATING OF THE EXISTING TRAFFIC SIGNAL LIGHTING, EQUIPMENT, CONDUITS, ETC.
- THE COMBINATION MAST ARM LIGHTING SHALL BE ENERGIZED FROM THE OPPOSITE TRANSFORMER PHASE OF THE TRAFFIC SIGNALS.
- THE PHOTOCELL CONTROLLER FOR THE COMBINATION MAST ARM LIGHTING SHALL BE MOUNTED TO THE SAME EXISTING POWER POLE AS THE SERVICE INSTALLATION (SPECIAL).
- THE LUMINAIRE ARM, THE LUMINAIRE, AND THE LUMINAIRE WIRING SHALL BE SUPPLIED AND ERECTED WITH THE TRAFFIC SIGNAL MAST ARM BY THE CONTRACTOR. THE MAST ARM FOUNDATION SHALL INCLUDE A SEPARATE STUB AND CAP FOR THE LUMINAIRE WIRING. TRAFFIC SIGNAL CABLE AND ROADWAY LIGHTING CABLE SHALL NOT BE INSTALLED IN THE SAME CONDUIT.
- THE LUMINAIRE ARMS SHALL MEASURE 8 FEET IN LENGTH.
- ALL LUMINAIRES SHALL BE HIGH PRESSURE SODIUM, 400 WATT, 120 VOLT, AND HORIZONTAL MOUNT. ALL LUMINAIRES SHALL HAVE TYPE M-C-III DISTRIBUTION.
- ALL LUMINAIRES SHALL BE WIRED THROUGH THE PHOTOCELL CONTROLLER TO THE LOAD SIDE OF THE SERVICE DISCONNECT.
- THE AGENCY THAT IS RESPONSIBLE FOR ENERGY CHARGES IS THE CITY OF BLOOMINGTON.

TRAFFIC SIGNAL/ROADWAY LIGHTING BILL OF MATERIALS

CODE NO.	ITEM	UNIT	QUANTITY
72000100	SIGN PANEL, TYPE 1	SQ FT	40
72000200	SIGN PANEL, TYPE 2	SQ FT	50
80501000	SERVICE INSTALLATION (SPECIAL)	EACH	1
81012600	CONDUIT IN TRENCH, 2" DIA., PVC	FOOT	140
81017515	CONDUIT IN TRENCH, 1 1/4" DIA., COILABLE NONMETALLIC CONDUIT	FOOT	200
81017525	CONDUIT IN TRENCH, 2" DIA., COILABLE NONMETALLIC CONDUIT	FOOT	1060
81017530	CONDUIT IN TRENCH, 2 1/2" DIA., COILABLE NONMETALLIC CONDUIT	FOOT	160
81017535	CONDUIT IN TRENCH, 3" DIA., COILABLE NONMETALLIC CONDUIT	FOOT	47
81017555	CONDUIT IN TRENCH, 5" DIA., COILABLE NONMETALLIC CONDUIT	FOOT	10
81028060	CONDUIT, BORED AND PULLED, COILABLE NONMETALLIC CONDUIT, 2"	FOOT	695
81028100	CONDUIT, BORED AND PULLED, COILABLE NONMETALLIC CONDUIT, 4"	FOOT	230
81028120	CONDUIT, BORED AND PULLED, COILABLE NONMETALLIC CONDUIT, 5"	FOOT	155
81306500	REMOVE EXISTING JUNCTION BOX	EACH	2
81400700	HANDHOLE, PORTLAND CEMENT CONCRETE	EACH	15
81400720	DOUBLE HANDHOLE, PORTLAND CEMENT CONCRETE	EACH	1
81702130	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 6	FOOT	1700
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	130
81900302	TRENCH AND BACKFILL WITH SCREENINGS OR SAND	FOOT	1490
82102400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	4
85700305	FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL	EACH	1
86200200	UNINTERRUPTABLE POWER SUPPLY, STANDARD	EACH	1
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C	FOOT	1450
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C	FOOT	1650
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C	FOOT	2375
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C	FOOT	2775
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	11600
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	75
87704188	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 54 FT. (SPECIAL)	EACH	4
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	12
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	60
88040070	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2
88040090	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	8
88040150	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	6
88040160	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	6
88200410	TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	22
88600100	DETECTOR LOOP, TYPE I	FOOT	1900
88700200	LIGHT DETECTOR	EACH	4
88700300	LIGHT DETECTOR AMPLIFIER	EACH	1
88800100	PEDESTRIAN PUSH-BUTTON	EACH	8
89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
89502380	REMOVE EXISTING HANDHOLE	EACH	5
89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
X0962500	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	L SUM	1
X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	2225
X8850106	INDUCTIVE LOOP DETECTOR, RACK MOUNTED	EACH	14
X8850107	INDUCTIVE LOOP DETECTOR, RACK MOUNT WITH SYSTEM OUTPUT	EACH	12
XX005931	TRAFFIC SIGNAL POST, 16 FOOT (SPECIAL)	EACH	4
XX006163	REMOVE ELECTRIC CABLE FROM CONDUIT (SPECIAL)	L SUM	1
XX006380	PHOTOCELL CONTROLLER	EACH	1
XX006533	PEDESTRIAN SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, BRACKET MOUNTED, COUNTDOWN TIMER	EACH	8
	PEDESTRIAN PUSH-BUTTON POST (SPECIAL)	EACH	4

EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED

A. THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE CITY OF BLOOMINGTON, AND SHALL BE MOVED TO AND STORED AT A LOCATION DESIGNATED BY THE ENGINEER FOR PICK-UP BY THE CITY'S FORCES:

ITEM	UNIT	QUANTITY
SIGN PANEL, TYPE 1	EACH	8
SIGN PANEL, TYPE 2	EACH	4
SERVICE INSTALLATION (INCLUDING ONE SERVICE POLE)	EACH	2
LUMINAIRE	EACH	4
CONTROLLER IN CABINET (COMPLETE)	EACH	1
PEDESTRIAN PUSH-BUTTON POST	EACH	4
COMBINATION MAST ARM ASSEMBLY AND POLE	EACH	4
TRAFFIC SIGNAL BACKPLATE	EACH	15
PEDESTRIAN PUSH-BUTTON	EACH	5
SIGNAL HEAD	EACH	15
PEDESTRIAN SIGNAL HEAD	EACH	4

THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT. REMOVAL OF INDIVIDUAL ITEMS WILL NOT BE PAID FOR SEPARATELY.

B. THE CONTRACTOR SHALL REMOVE THE FOLLOWING EXISTING TRAFFIC SIGNAL ITEMS AND DISPOSE OF THEM IN ACCORDANCE WITH THE CONTRACT DOCUMENTS:

ITEM	UNIT	QUANTITY
JUNCTION BOX	EACH	2
HANDHOLE	EACH	5
CONCRETE FOUNDATION	EACH	9

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR REMOVE EXISTING JUNCTION BOX, REMOVE EXISTING HANDHOLE, AND REMOVE EXISTING CONCRETE FOUNDATION.

C. THE CONTRACTOR SHALL REMOVE ALL EXISTING ELECTRIC CABLE, INCLUDING ALL SIGNAL, LEAD-IN, AND SERVICE CABLE, AND STORE THE CABLE AT A LOCATION DESIGNATED BY THE ENGINEER FOR PICK-UP BY THE CITY'S FORCES. THE EXISTING CABLE THAT IS REMOVED SHALL NOT BE REUSED. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR REMOVE ELECTRIC CABLE FROM CONDUIT (SPECIAL). REMOVAL OF INDIVIDUAL CABLES WILL NOT BE PAID FOR SEPARATELY.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6371	93-00295-03-PV	MCLEAN	109	87
STA.		TO STA.		
		ILLINOIS F.A. PROJ. NO. M-5227(046)		

CONTRACT NO. 91351

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL PLANS
HAMILTON ROAD & US ROUTE 51
 TRAFFIC SIGNAL/ROADWAY LIGHTING
 GENERAL NOTES AND BILL OF MATERIALS
 DATE : 6-09
 DRAWN BY : J.A.J.
 CHECKED BY : R.L.H.
 SCALE : NONE