

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONT.)
 INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LEO WITH PATROL CAR FOR ASSISTANCE 8 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ITEM 625-PULL BOX, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 625 "PULL BOX" THIS ITEM SHALL INCLUDE RESTORATION OF SURROUNDING AREA DISTURBED FOR INSTALLATION OF THE PULL BOX. THIS INCLUDES, BUT IS NOT LIMITED TO CONCRETE SIDEWALK, CONCRETE CURB RAMPS, DECORATIVE PAVERS, AND SOIL/GRASS. PULL BOXES SHOULD NOT BE PLACED IN CURB RAMP, BUT IN THE EVENT A PULL BOX IS PLACED IN AN ADA COMPLAINT CURB RAMP, THE PULL BOX AND SUBSEQUENT RESTORATION SHALL REMAIN WITHIN ADA COMPLIANCE REQUIREMENTS.

ITEM 630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DELIVERY

ALL POST SUPPORTS MARKED FOR REMOVAL, SHALL BE REMOVED, STORED AND DELIVERED TO THE CITY OF LOVELAND. ALL DELIVERIES SHALL GO TO:

CITY OF LOVELAND PUBLIC WORKS
 10980 LOVELAND MADEIRA RD.
 LOVELAND, OHIO 45140

CONTACT THE CITY MANAGER'S OFFICE AS FOLLOWS:
 - DAVE KENNEDY (513) 707-1454
 - OR CHRIS WOJNICZ (513) 583-3020

IN ADDITION, THIS ITEM SHALL INCLUDE EXISTING ITEMS ATTACHED TO THE SUPPORTS SUCH AS SIGNS, PUSH BUTTONS, ETC. ALL ITEMS SHALL BE DELIVERED TO THE CITY.

THIS ITEM SHALL ALSO INCLUDE RESTORATION OF SURROUNDING AREA DISTURBED FROM REMOVAL OF THE POST SUPPORTS. THIS INCLUDES, BUT IS NOT LIMITED TO CONCRETE SIDEWALK, CONCRETE CURB RAMPS, DECORATIVE PAVERS, AND SOIL/GRASS.

ITEM 630 REMOVAL OF MISCELLANEOUS TRAFFIC CONTROL ITEM: PEDESTRIAN PUSHBUTTON

ALL ITEMS MARKED FOR REMOVAL, SHALL BE REMOVED, STORED AND DELIVERED TO THE CITY OF LOVELAND. ALL DELIVERIES SHALL GO TO:

CITY OF LOVELAND PUBLIC WORKS
 10980 LOVELAND MADEIRA RD.
 LOVELAND, OHIO 45140

CONTACT THE CITY MANAGER'S OFFICE AS FOLLOWS:
 - DAVE KENNEDY (513) 707-1454
 - OR CHRIS WOJNICZ (513) 583-3020

ITEM 630 REMOVAL OF MISCELLANEOUS TRAFFIC CONTROL ITEM: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY

ALL ITEMS MARKED FOR REMOVAL, SHALL BE REMOVED, STORED AND DELIVERED TO THE CITY OF LOVELAND. ALL DELIVERIES SHALL GO TO:

CITY OF LOVELAND PUBLIC WORKS
 10980 LOVELAND MADEIRA RD.
 LOVELAND, OHIO 45140

CONTACT THE CITY MANAGER'S OFFICE AS FOLLOWS:
 - DAVE KENNEDY (513) 707-1454
 - OR CHRIS WOJNICZ (513) 583-3020

IN ADDITION, THIS ITEM SHALL INCLUDE RESTORATION OF SURROUNDING AREA DISTURBED FROM REMOVAL OF THE TRAFFIC SIGNAL ITEM. THIS INCLUDES, BUT IS NOT LIMITED TO CONCRETE SIDEWALK, CONCRETE CURB RAMPS, DECORATIVE PAVERS, AND SOIL/GRASS.

ITEM 632 - PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632 "PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, PEDESTRIAN SIGNAL HEAD" HOUSINGS SHALL BE BLACK IN COLOR. THIS COLOR SHALL BE ACHIEVED THROUGH COLORED PLASTIC AND NOT THROUGH PAINTING.

ITEM 632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN

PRIOR TO ORDERING THE SIGNAL SUPPORTS, THE CONTRACTOR SHALL CONTACT OUPS TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD. THEN, THE CONTRACTOR SHALL MEET THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATIONS TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORTS.

DUE TO THE FURTHER POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATION FOR THIS ITEM, AND CONSEQUENTLY, THE DESIGN OF THE SUPPORT AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THE ITEM UNTIL THE FOUNDATIONS HAVE BEEN INSTALLED, AT FINAL GRADE, AND THE CONTRACTOR HAS RECEIVED, FROM ENGINEER, WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THE ITEM.

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND MAINTAINING AGENCY, WHO WILL DETERMINE THE REVISED LOCATION AND IF NEEDED, THE SUPPORT DESIGN. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE ENGINEER WILL INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY AND AUTHORIZE THE CONTRACTOR TO ORDER THE SUPPORT.

ITEM 632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN (CONT.)

THE CONTRACTOR SHALL, WHEN DEVELOPING THE PROGRESS SCHEDULE, AND THOSE OF SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND SHALL INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR ORDERING, MANUFACTURING, DELIVERY, AND INSTALLATION OF THE SUPPORT ITEMS AFTER THE FOUNDATIONS ARE IN PLACE.

NO PAYMENTS FOR DELIVERED MATERIALS FOR THE FOUNDATION OR SUPPORT ITEMS SHALL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THIS ITEM ARE REQUIRED, NO PAYMENT SHALL BE MADE FOR THE ITEMS MANUFACTURED TO THE ORIGINAL DESIGN.

VACUUM EXCAVATION OF ALL FOUNDATIONS BY A QUALIFIED CONTRACTOR WILL BE REQUIRED WHERE PROPOSED FOUNDATIONS ARE WITHIN PROXIMITY TO UTILITIES. THE COST OF THE VACUUM EXCAVATION SHALL BE INCIDENTAL TO ALL FOUNDATION ITEMS.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

ITEM 632 PEDESTAL FOUNDATION, AS PER PLAN

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND MAINTAINING AGENCY, WHO WILL DETERMINE THE REVISED LOCATION. THE ENGINEER WILL INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY AND AUTHORIZE THE CONTRACTOR TO ORDER THE SUPPORT.

THE CONTRACTOR SHALL, WHEN DEVELOPING THE PROGRESS SCHEDULE, AND THOSE OF SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND SHALL INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR ORDERING, MANUFACTURING, DELIVERY, AND INSTALLATION OF THE SUPPORT ITEMS AFTER THE FOUNDATIONS ARE IN PLACE.

NO PAYMENTS FOR DELIVERED MATERIALS FOR THE FOUNDATION OR SUPPORT ITEMS SHALL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THIS ITEM ARE REQUIRED, NO PAYMENT SHALL BE MADE FOR THE ITEMS MANUFACTURED TO THE ORIGINAL DESIGN.

VACUUM EXCAVATION OF ALL FOUNDATIONS BY A QUALIFIED CONTRACTOR WILL BE REQUIRED WHERE PROPOSED FOUNDATIONS ARE WITHIN PROXIMITY TO UTILITIES. THE COST OF THE VACUUM EXCAVATION SHALL BE INCIDENTAL TO ALL FOUNDATION ITEMS.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

ITEM 632 SIGNAL SUPPORT, TC-81.22, AS PER PLAN (ALTERNATE 1)

IN ADDITION TO THE REQUIREMENTS OF THE ODOT C&MS, FURNISH AND INSTALL SIGNAL POLES AS SPECIFIED IN THE PLANS.

ALL SIGNAL SUPPORTS SHALL BE POWDER COAT SEMI-GLOSS BLACK IN ACCORDANCE WITH ODOT SS 916.

PAYMENT FOR ITEM 632 "SIGNAL SUPPORT, TC-81.22, AS PER PLAN" SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH COMPLETE AND IN PLACE AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

ITEM 632 SIGNAL SUPPORT, TC-81.22, AS PER PLAN (ALTERNATE 2)

IN ADDITION TO THE REQUIREMENTS OF ITEM 632 "SIGNAL SUPPORT, TC-81.22, AS PER PLAN" (ALTERNATE 1), THE FOLLOWING MODIFICATIONS SHALL APPLY:

- a. ALL OF THE SIGNAL SUPPORTS, AS LISTED ABOVE THAT WILL BE INSTALLED AS PART OF THIS PROJECT SHALL BE POWDER COATED SEMI GLOSS BLACK.
- b. THE SIGNAL SUPPORTS SHALL USE RIGID SIGNAL HEAD MOUNTING HARDWARE.
- c. ALL SUPPORTS SHALL INCLUDE FLUTED TAPERED STEEL POLES AND TOP ORNAMENTS TO MATCH SIGNAL SUPPORTS AT THE OTHER LISTED CITY INTERSECTIONS: BROADWAY ST. AND 2ND STREET, LOVELAND AVENUE AND 2ND STREET AS WELL AS KARL BROWN WAY AND LOVELAND AVENUE OR APPROVED EQUAL

ITEM 632 SIGNAL SUPPORT, TC-81.22, AS PER PLAN (ALTERNATE 3)

IN ADDITION TO THE REQUIREMENTS OF ITEM 632 "SIGNAL SUPPORT, TC-81.22, AS PER PLAN" (ALTERNATE 2), THE FOLLOWING MODIFICATIONS SHALL APPLY:

- a. ALL OF THE SIGNAL SUPPORTS, AS LISTED ABOVE THAT WILL BE INSTALLED AS PART OF THIS PROJECT SHALL BE POWDER COATED SEMI GLOSS BLACK.
- b. THE SIGNAL SUPPORTS SHALL USE RIGID SIGNAL HEAD MOUNTING HARDWARE.
- c. ALL SUPPORTS SHALL INCLUDE A DECORATIVE BASE, FLUTED TAPERED STEEL POLES AND TOP ORNAMENTS TO MATCH SIGNAL SUPPORTS AT THE OTHER LISTED CITY INTERSECTIONS: BROADWAY ST. AND 2ND STREET, LOVELAND AVENUE AND 2ND STREET AS WELL AS KARL BROWN WAY AND LOVELAND AVENUE OR APPROVED EQUAL.

ITEM 632 PEDESTAL, 8' TRANSFORMER BASE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE ODOT C&MS, FURNISH AND INSTALL PEDESTALS AS SPECIFIED IN THE PLANS.

ALL PEDESTALS SHALL BE POWDER COAT SEMI-GLOSS BLACK IN ACCORDANCE WITH ODOT SS 916.

PAYMENT FOR ITEM 632 "PEDESTAL, 8' TRANSFORMER BASE, AS PER PLAN" SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH COMPLETE AND IN PLACE AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

ITEM 632 SIGNALIZATION, MISC: IMSA20-2, 6 PAIR, 14 AWG INTERCONNECT CABLE, AS PER PLAN

THIS ITEM OF WORK SHALL INCLUDE ALL PARTS, LABOR, AND MATERIALS REQUIRED TO PROVIDE AND INSTALL THE RAILROAD PREEMPTION INTERCONNECT CABLE BETWEEN THE TRAFFIC SIGNAL CONTROLLERS AND THE RAILROAD BUNGALOW ADJACENT PULL BOX. THIS ITEM IS TYPICALLY INCIDENTAL TO THE RAILROAD PREEMPTION INTERFACE BUT HAS BEEN QUANTIFIED SEPARATELY DUE TO THE ABNORMALLY LONG DISTANCE BETWEEN TRAFFIC SIGNALS AND THE BUNGALOW. THIS ITEM SHALL MEET ALL REQUIREMENTS OF TC-86.10 AND SS819.

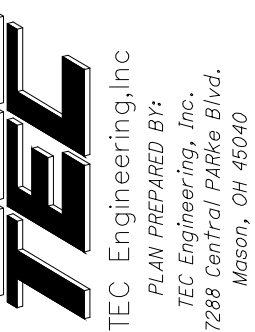
PAYMENT SHALL BE MADE PER FOOT OF CABLE PROVIDED, INSTALLED, AND TERMINATED.

ITEM 633 CONTROLLER ITEM, MISC: CONFLICT MONITOR

THIS ITEM OF WORK SHALL INCLUDE ALL PARTS, LABOR, AND MATERIALS REQUIRED TO REMOVE AND REPLACE THE EXISTING CONFLICT MONITOR UNIT AT EACH OF THE 3 INTERSECTIONS INDICATED ON THE PLANS. THE MONITOR SHALL MEET ALL ODOT SPECS AND SHALL BE PROGRAMMED BY THE CONTRACTOR OR SUPPLIER PRIOR TO INSTALLATION. ALL MONITORS ARE CALTRANS 33X TYPE AND EXISTING MONITORS SHALL REMAIN IN THE SIGNAL CABINET.

PAYMENT SHALL BE MADE FOR EACH CONFLICT MONITOR INSTALLED, PROGRAMMED AND TESTED.

DESIGN AGENCY



DESIGNER

AFS

REVIEWER

DGO 11/26/24

PROJECT ID

119065

SHEET TOTAL

4 15

ITEM 632 POWER SERVICE, AS PER PLAN

THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120/240 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE CITY OF LOVELAND.

ELECTRIC POWER SHALL BE OBTAINED FROM DUKE ENERGY AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS.

POWER SERVICE SHALL BE POLE MOUNTED IN THE LOCATION INDICATED ON THE PLANS. ALL ITEMS NECESSARY FOR THE POLE MOUNTED POWER SERVICE ARE INCLUDED IN THIS ITEM.

POWER CABLES SHALL BE ROUTED AS DIRECTED BY ENGINEER.

ITEM 633 CABINET, TYPE 332, AS PER PLAN

THE CABINET SHALL BE FURNISHED AND INSTALLED ACCORDING TO CMS 633 AND 733 AND BE LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS LIST (TAP).

THE GROUND-MOUNTED CABINET SHALL HAVE ENOUGH OUTPUTS TO ACCOMMODATE TYPICAL 8 PHASE OPERATION (VEHICLES AND PEDS) AS WELL AS EMERGENCY VEHICLE PREEMPTION (INCLUDING RECEIVER AND CONFIRMATION LIGHTS) AND RAILROAD PREEMPTION (INTERFACE PANEL, INDICATOR PANEL).

THE CABINET SHALL BE FURNISHED WITH AN EDI MMU AS ALLOWED ON THE TAP/APPROVED PRODUCTS LIST.

PAYMENT FOR ITEM 633 CABINET, TYPE 332, AS PER PLAN WILL BE AT THE CONTRACT BID PRICE PER EACH COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, A CABINET RISER (8-INCH MINIMUM) AND ANCHOR BOLTS WILL BE PROVIDED FOR BASE-MOUNTED CABINETS. BEFORE PERFORMING THE WORK, THE CONTRACTOR, THE CITY ENGINEER AND THE PROJECT ENGINEER WILL PERFORM A SITE INSPECTION TO ESTABLISH THE LOCATION OF THE UPS CABINET AND FOUNDATION.

THE UPS CABINET SHALL INCLUDE A GENERATOR POWER PANEL WITH A HEAVY-DUTY POWER RELAY VERSUS THE LINE VOLTAGE GENERATOR SWITCH. THE GENERATOR INLET SHALL BE A RECESSED PANEL WITH A DOOR THAT IS FLUSH WITH THE EXTERNAL SIDE OF THE UPS CABINET. IT SHALL INCLUDE A RECESSED PLUG, AUTOMATIC TRANSFER SWITCH AND A DOOR THAT SECURELY CLOSES OVER THE POWER CORD.

THE CABINET SHALL HAVE A DOOR STOP MECHANISM AND THERMOSTATICALLY CONTROLLED FAN. ADDITIONALLY, THE CABINET SHALL BE BUILT WITH ALL BATTERIES ALWAYS BELOW THE INVERTER TO AVOID POTENTIAL FURTHER BATTERY LEAKAGE ISSUES.

THE CABINET SHALL INCLUDE A BATTERY BALANCING DEVICE THAT REGULATES THE BATTERIES AND OPTIMIZES PERFORMANCE.

THE UPS FURNISHED SHALL BE LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS (TAP) LIST.

AFTER FOUR (4) HOURS OF BATTERY RUNTIME, THE SYSTEM SHALL BE PROGRAMMED TO SWITCH THE INTERSECTION FROM FULL OPERATION TO CONTROLLER AUTOMATIC FLASH OPERATION THROUGH THE MONITOR. THE CONTROLLER SHALL BE PROGRAMMED SO THAT FLASH OPERATION SHALL BEGIN ONCE THE INTERSECTION RUNS MINOR

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN (CONT.)

STREET GREEN (TYP. PH. 4 &8), ALL-RED CLEARANCE, AND THEN FLASH OPERATION.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL OR THROUGH THE CONTROLLER WITH A C11 TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

THIS ITEM SHALL INCLUDE A RED LED STATUS INDICATOR LAMP TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, RATED FOR OUTDOOR USE AND BE TAMPER/SHATTER RESISTANT. IT SHALL BE A DOMED ENCLOSURE CONTAINING A RED LENS WITH LED THAT IS VISIBLE FROM 100 FOOT MINIMUM. THE ENCLOSURE AND LED MODULE SHOULD BE PLACED ON THE SIDE OF THE UPS CABINET FACING TOWARDS THE MAINLINE ROADWAY AND SEALED FROM WATER INTRUSION. IT SHOULD BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY," WITH WIRE POLARITY INDICATED. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED.

ITEM-809 STOP LINE RADAR DETECTION

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A RADAR DETECTION UNIT CAPABLE OF DETECTING PEDESTRIANS AND BICYCLES. THE RADAR SHOULD BE SET UP TO EXTEND THE WALK TIME. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.
8. THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.

PAYMENT FOR ITEM 809 STOP-LINE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT AND CONNECTIONS TESTED AND ACCEPTED.

ITEM 809 ATC CONTROLLER, AS PER PLAN

THE CONTROLLER UNIT SHALL BE FURNISHED AND INSTALLED PER SS 809 AND SHALL BE AN ECONOLITE COBALT.

ITEM: 809- EMERGENCY VEHICLE PREEMPTION

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION EQUIPMENT IN THE LOCATIONS AND LOCAL CONTROLLERS AS SHOWN IN THE PLANS. THE PREEMPTION EQUIPMENT SHALL BE OPTICOM MANUFACTURED BY GLOBAL TRAFFIC TECHNOLOGIES AND SHOULD BE COMPATIBLE WITH THE CITY'S EXISTING SYSTEM. THE PREEMPTION SHALL CONFORM TO ODOT SUPPLEMENTAL SPECIFICATION 809 AND SHALL UTILIZE COMMUNICATIONS TO IDENTIFY THE PRESENCE OF AN EMERGENCY PRIORITY VEHICLE. IT SHALL CAUSE THE TRAFFIC SIGNAL CONTROLLER TO SELECT A PRE PROGRAMMED PREEMPTION PLAN THAT WILL DISPLAY AND HOLD THE DESIRED SIGNAL PHASE FOR THE DIRECTION OF THE EMERGENCY VEHICLE.

THE COMMUNICATIONS MEDIUM SHALL EMPLOY RADIO DETECTION TECHNIQUES TO DETERMINE AND LOG THE PRESENCE OF THE EMERGENCY VEHICLE. THE SYSTEM SHALL DETECT THE PRESENCE OF THE VEHICLE THROUGH AN EMITTING DEVICE LOCATED ON THE EMERGENCY VEHICLE. THE SYSTEM SHALL ACTIVATE THE PREEMPTION SEQUENCE BY APPLYING A SIGNAL TO ONE OF THE CONTROLLER'S PREEMPT DISCRETE INPUTS. THE SYSTEM SHALL BE COMPLETELY COMPATIBLE WITH THE CONTROLLER.

THE EQUIPMENT SHALL BE SHELF OR RACK MOUNTED AND EASILY REMOVABLE AND REPLACEABLE WITHIN THE CABINET. SUPPLY EQUIPMENT COMPLETELY WIRED IN THE CONTROLLER CABINET AND TESTED. THE SYSTEM SHALL BE CAPABLE OF PREEMPTING AND RECEIVING PRIORITY FOR EACH APPROACH TO THE INTERSECTION. IT SHALL BE POSSIBLE TO DETECT THE EMERGENCY VEHICLE AT LEAST 2000 FEET FROM THE INTERSECTION IN AN 80DB-A NOISE ENVIRONMENT.

ALL PREEMPTION PLANS SHOULD BE PROGRAMMED TO PREVENT THE YELLOW TRAP, UNLESS AS DIRECTED BY THE CITY TRAFFIC ENGINEER. YELLOW TRAP PREVENT WILL FORCE THE TRANSITION THROUGH YELLOW CHANGE AND RED CLEARANCE FOR RESOLUTION OF YELLOW TRAP IF ANY PHASE OPPOSING THE PREEMPTION CLEARANCE PHASE(S) IS ACTIVE AND DISPLAYING A GREEN OR FLASHING YELLOW ARROW INDICATION WHEN THE PREEMPTION PLAN IS ACTIVATED AND THE PREEMPTION CLEARANCE PHASE(S) ARE GREEN.

SUPPLY EACH INTERSECTION SHOWN IN THE PLANS WITH THE FOLLOWING COMPONENTS, EACH BID SEPARATELY:

1. PREEMPT RECEIVING UNIT.
2. PREEMPT DETECTOR CABLE.
3. PREEMPT PHASE SELECTOR ASSEMBLY AND INTERFACE WIRING PANEL.

ITEM 809 - PREEMPTION RECEIVING UNIT

RECEIVING UNITS SHALL CONSIST OF A LIGHTWEIGHT, WEATHERPROOF AND DIRECTIONAL ASSEMBLY. EACH RECEIVING UNIT SHALL BE 360 DEGREE ADJUSTABLE. THE RECEIVING UNIT SHALL BE CAPABLE OF SENDING THE PROPER ELECTRICAL SIGNAL TO THE TRAFFIC SIGNAL CONTROLLER VIA THE PREEMPTION DETECTOR CABLE. RECEIVING UNITS SHALL BE SUPPLIED WITH MAST ARM MOUNTING HARDWARE AS SHOWN IN THE PLANS. FURNISH PREEMPTION RECEIVING UNITS WITH 60-MONTH WARRANTIES OR FOR THE MANUFACTURER'S STANDARD WARRANTY WHICHEVER IS GREATER. ENSURE THAT THE WARRANTY PERIOD BEGINS ON THE DATE OF SHIPMENT TO THE PROJECT. ENSURE THAT EACH UNIT HAS A PERMANENT LABEL OR STAMP INDICATING THE DATE OF SHIPMENT.

PAYMENT FOR ITEM 809 PREEMPTION RECEIVING UNIT SHALL BE AT THE CONTRACT UNIT FOR EACH RECEIVING UNIT IN PLACE, COMPLETELY INSTALLED AT THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

ITEM-809 PREEMPTION DETECTOR CABLE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPTION DETECTOR HOME RUN CABLE IN THE LOCATIONS SHOWN IN THE PLANS. IT SHALL CONNECT THE PREEMPT RECEIVING UNITS TO THE PHASE SELECTORS IN THE LOCAL CONTROLLER CABINET.

PREEMPTION DETECTOR CABLE SHALL CONFORM TO ODOT SPECIFICATION 632. ONLY ONE EXTERNAL SPLICE SHALL BE PERMITTED BETWEEN PREEMPTION RECEIVER UNIT AND CONTROLLER CABINET. THIS SPLICE SHALL MEET THE REQUIREMENTS OF C&MS 632.23 USING A WATERPROOF EPOXY SPLICE KIT. THE CABLE SHALL BE APPROVED FOR BOTH OVERHEAD AND UNDERGROUND USE. THE JACKET SHALL WITHSTAND EXPOSURE TO SUNLIGHT AND ATMOSPHERIC TEMPERATURES AND STRESSES REASONABLY EXPECTED IN NORMAL INSTALLATIONS.

ITEM - 809 PREEMPT PHASE SELECTOR

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT PHASE SELECTORS INCLUDING WIRING INTERFACE PANELS IN THE LOCAL CONTROLLER CABINET AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTORS COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS. THIS ITEM SHALL INCLUDE THE EXTRA CABINET SPACE NECESSARY TO BE LOCATED IN THE LOCAL CONTROLLER CABINETS WHERE INDICATED IN THE PLANS.

THE PHASE SELECTORS SHALL CONSIST OF A MODULE OR MODULES THAT WILL PROVIDE THE NECESSARY INPUTS TO THE CONTROLLER. PHASE SELECTORS SHALL BE SUPPLIED WITH SUFFICIENT QUANTITIES OF CHANNELS TO PROVIDE PREEMPTION FOR ALL APPROACHES TO THE INTERSECTION SEPARATELY. POWER SHALL BE OBTAINED FROM THE PHASE SELECTOR OR PHASE SELECTOR POWER SUPPLY AND NOT FROM THE LOCAL CONTROLLER TIMER.

THE PHASE SELECTORS SHALL HAVE FRONT PANEL INDICATORS FOR ACTIVE PREEMPT CHANNEL STATUS. IT SHALL HAVE TEST SWITCHES TO ACTIVATE ALL PREEMPT CHANNELS.

FURNISH PREEMPT PHASE SELECTORS WITH 60-MONTH WARRANTIES OR FOR THE MANUFACTURER'S STANDARD WARRANTY WHICHEVER IS GREATER. ENSURE THAT THE WARRANTY PERIOD BEGINS ON THE DATE OF SHIPMENT TO THE PROJECT. ENSURE THAT EACH UNIT HAS A PERMANENT LABEL OR STAMP INDICATING THE DATE OF SHIPMENT.

PAYMENT FOR ITEM 809 PREEMPT PHASE SELECTOR SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PHASE SELECTOR IN PLACE, COMPLETELY INSTALLED IN THE LOCAL CONTROLLER SHOWN IN THE PLANS, WIRED, TESTED AND ACCEPTED.

ITEM - 819 RAILROAD PREEMPTION INTERFACE, AS PER PLAN, BY TYPE

THIS ITEM OF WORK SHALL CONSIST OF PROVIDING RAILROAD PREEMPTION INTERFACES IN THE SIGNAL CABINETS AS INDICATED ON THE PLANS AT THE FOLLOWING TRAFFIC SIGNALS:
 -LOVELAND AVENUE & KARL BROWN WAY
 -LOVELAND AVENUE & LITTLE MIAMI SCENIC TRAIL
 -LOVELAND AVENUE & SECOND STREET (SR48)
 -2ND STREET/BROADWAY/KARL BROWN

EACH INTERFACE SHALL BE PROCESSOR BASED.

EACH INTERFACE SHALL COMMUNICATE WITH THE RAILROAD CIRCUITRY TO PROVIDE INDICATIONS NOTED IN ODOT SCD TC-86.10 AS WELL AS THE SPECIFICATIONS FROM ODOT SS 819 AND 919. A "HOME RUN" 6-PAIR CABLE IS PROVIDED UNDER A SEPARATE PAY ITEM BETWEEN EACH CABINET AND THE RAILROAD BUNGALOW. THE CONTRACTOR SHALL COORDINATE INSTALLATION, AND IMPLEMENTATION WITH THE RAILROAD AND ORDC. REFER TO SIGNAL DETAIL SHEETS FOR RR PREEMPT PHASING AT EACH SIGNAL.

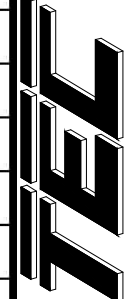
DESIGN AGENCY	
 TEC Engineering, Inc. PLAN PREPARED BY: TEC Engineering, Inc. 7888 Central Parke Blvd., Mason, OH 45040	
DESIGNER	AFS
REVIEWER	AFS
PROJECT ID	DGO 11/26/24
SHEET	119065
TOTAL	5
	15

CLE LMST CROSSING SIGNAL

MODEL: Sheet_PAPER: 34x22 (in.) DATE: 11/26/2024 TIME: 12:24:09 PM USER: Dylan Osborn
 \\10.1.1.4\Projects\2022_Projects\22185 Loveland, City of\007 Traffic Signal Design - W Loveland & Bike Path\Drawings\GEN_SUM.dwg

SHEET NUM.					PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	8	14	15	01/MPO/28/LOVE	02/SAE/21							
TRAFFIC SIGNALS												
	49					49	625	25410	49	FT	CONDUIT, 2", 725.052	
	22					22	625	25606	22	FT	CONDUIT, 4", 725.052	
		654	440				625	25908	1,094	FT	CONDUIT, JACKED OR DRILLED, 725.052, 2"	
	48					48	625	25902	48	FT	CONDUIT, JACKED OR DRILLED, 725.04, 4"	
	55					55	625	29002	55	FT	TRENCH, 24" DEEP	
		2	1				625	30701	3	EACH	PULL BOX, 725.08, 18", AS PER PLAN	4
	2					2	625	30707	2	EACH	PULL BOX, 725.08, 24", AS PER PLAN	4
	4					4	625	32000	4	EACH	GROUND ROD	
	55					55	625	36010	55	FT	UNDERGROUND WARNING/MARKING TAPE	
	4					4	632	05006	4	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, BLACK	3
	2					2	632	20730	2	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, BLACK	3
	4					4	632	25000	4	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
	2					2	632	25010	2	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
						2	632	20750	2	EACH	ACCESSIBLE PEDESTRIAN PUSHBUTTON	3
	134					134	632	40500	134	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
	320					320	632	40700	320	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
	1					1	632	64011	1	EACH	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	4
	2					2	632	64021	2	EACH	PEDESTAL FOUNDATION, AS PER PLAN	4
	134					134	632	65200	134	FT	LOOP DETECTOR LEAD-IN CABLE	
	140					140	632	67300	140	FT	POWER CABLE, 3 CONDUCTOR, NO. 8 AWG	4
	1					1	632	70001	1	EACH	POWER SERVICE, AS PER PLAN	5
	2					2	632	89901	2	EACH	PEDESTAL, 8", TRANSFORMER BASE, AS PER PLAN	4
		1,500	550				632	90500	2,050	FT	SIGNALIZATION, MISC.: IMSA 20-2, 6 PAIR, 14 AWG INTERCONNECT CABLE	4
	1					1	633	65521	1	EACH	CABINET, TYPE 332, AS PER PLAN	4
	1					1	633	67100	1	EACH	CABINET FOUNDATION	
	1					1	633	75001	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	4
		2	1				633	99000	3	EACH	CONTROLLER ITEM, MISC.: CONFLICT MONITOR	4
	4					4	809	69101	4	EACH	STOP LINE RADAR DETECTION, AS PER PLAN	5
	1	2	1			1	809	69123	4	EACH	ATC CONTROLLER, AS PER PLAN	5
	1					1	809	69201	1	EACH	EMERGENCY VEHICLE PREEMPTION, AS PER PLAN	5
						1	809	69210	1	EACH	PREEMPT RECEIVING UNIT	
						100	809	69220	100	FT	PREEMPT DETECTOR CABLE	
						1	809	69230	1	EACH	PREEMPT PHASE SELECTOR	
	3	1					819	10001	4	EACH	RAILROAD PREEMPTION INTERFACE, AS PER PLAN, xRPS	5
TRAFFIC CONTROL												
	20					20	644	00500	20	FT	STOP LINE	
	70					70	642	30000	70	FT	REMOVAL OF PAVEMENT MARKING	
	2					2	630	86050	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DELIVERY	
	2					2	630	89902	2	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC CONTROL ITEM: PEDESTRIAN PUSHBUTTON	4
	2					2	630	89902	2	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC CONTROL ITEM: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY	4
EROSION CONTROL												
						1	832	30000	1	EACH	EROSION CONTROL	
TRAFFIC SIGNALS ALTERNATES												
	1					1	632	72131	1	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN (ALTERNATE 1 - GENERIC BLACK)	4
	1					1	632	72131	1	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN (ALTERNATE 2 - DECORATIVE POLE)	4
	1					1	632	72131	1	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN (ALTERNATE 3 - DECORATIVE POLE AND BASE)	4
INCIDENTALS												
						8	614	11111	8	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE, AS PER PLAN	3
						LS	624	10000	LS		MOBILIZATION	
						LS	614	11000	LS		MAINTAINING TRAFFIC	2

GENERAL SUMMARY
WEST LOVELAND AVENUE & LITTLE MIAMI SCENIC TRAIL

DESIGN AGENCY

 TEC Engineering, Inc.
 PLAN PREPARED BY:
 TEC Engineering, Inc.
 7288 Central Parke Blvd.
 Mason, OH 45040

DESIGNER
AFS

REVIEWER
DGO 11/26/24

PROJECT ID
119065

SHEET TOTAL
6 15