

633, CONTROLLER, MISC.; PREEMPT CONFIRMATION LIGHT

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT CONFIRMATION LIGHTS INCLUDING HARDWARE AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT CONFIRMATION LIGHT COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

A CONFIRMATION LIGHT SHALL BE SUPPLIED FOR EACH INTERSECTION TO INDICATE THAT THE EMERGENCY VEHICLE HAS ACHIEVED CONTROL OF THE TRAFFIC SIGNAL.

THE CONFIRMATION LIGHT SHALL BE A VAPOR TIGHT ALUMINUM LIGHTING FIXTURE. IT SHALL BE SUPPLIED WITH A CLEAR GLOBE, 150 WATT LAMP AND MOUNTING HARDWARE TO ATTACH TO THE TRAFFIC SIGNAL MAST ARM. THE CONFIRMATION LIGHT SHALL BE POWERED BY A LOAD SWITCH IN THE TRAFFIC SIGNAL CONTROLLER.

PAYMENT FOR ITEM 633 "CONTROLLER, MISC.; PREEMPTION CONFIRMATION LIGHT" SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH LIGHT IN PLACE, COMPLETELY INSTALLED IN THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED AND

633, CONTROLLER, MISC.; 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 SHALL CONFORM TO ODOT SPECIFICATION 633 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 LIGHT 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 CONTRACTOR SHALL SUPPLY OPTICOM PREEMPTION EQUIPMENT.

THE EQUIPMENT SHALL BE SHELF OR RACK MOUNTED AND EASILY REMOVABLE AND REPLACEABLE WITHIN THE CABINET. THE EQUIPMENT SHALL BE SUPPLIED 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 UP TO 1200 FEET FROM THE INTERSECTION.

EACH INTERSECTION SHOWN IN THE PLANS SHALL BE SUPPLIED WITH 3M OPTICOM PRIORITY CONTROL SYSTEMS WITH THE FOLLOWING COMPONENTS, EACH BID SEPARATELY:

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

THE CONTRACTOR SHALL INVENTORY THE CITIES EXISTING EMITTERS TO DETERMINE COMPATIBILITY WITH THE PROPOSED SYSTEM. IF EXISTING EMITTERS ARE FOUND TO BE NOT COMPATIBLE, THEN THE CITIES SHALL BE SUPPLIED (AT COSTS INCIDENTAL TO THE SYSTEM) WITH EMITTERS, TRANSMITTERS SWITCHES, WIRING AND ALL REQUIRED VEHICLE EQUIPMENT FOR EMERGENCY VEHICLES. THE CITIES SHALL BE RESPONSIBLE FOR INSTALLING VEHICLE EQUIPMENT. THE FOLLOWING LIST OF

CITIES THAT CURRENTLY USE PREEMPTION AND AN ESTIMATE OF THE NUMBER OF EMERGENCY VEHICLES.

CITY OF EASTLAKE
44 EMERGENCY VEHICLES

CITY OF WILLOUGHBY
46 EMERGENCY VEHICLES

CITY OF MENTOR
62 EMERGENCY VEHICLES

ALL CITIES SHALL BE SUPPLIED WITH SOFTWARE REQUIRED TO CALIBRATE, LOG, AND OPERATE THE SYSTEM. THE SOFTWARE SHALL BE CAPABLE OF OPERATING ON AN IBM OR IBM COMPATIBLE PERSONAL COMPUTER. TWO (2) OPERATING AND INSTRUCTION MANUALS SHALL BE SUPPLIED WITH THE SOFTWARE.

THE CONTRACTOR SHALL THOROUGHLY TEST THE INSTALLED SYSTEM. AS A MINIMUM, THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS ARE PROPERLY MADE TO THE CONTROLLER CABINETS. THE CONTRACTOR SHALL CHECK THAT THE RANGE SETTING IS PROPER FOR EACH INTERSECTION. THE CONTRACTOR SHALL DETERMINE THAT ALL PHASE SELECTORS ARE SELECTING THE PROPER PHASE AND TIMING ACCURATELY. THE CONTRACTOR SHALL VERIFY THAT ALL VEHICLE EMITTERS ARE BEING PROPERLY DETECTED.

IF THE PROPOSED PREEMPT SYSTEM IS NOT COMPATIBLE WITH THE EXISTING SYSTEM, THE CONTRACTOR SHALL PROVIDE TRAINING FOR UP TO FIFTEEN (15) PERSONS IN THE OPERATION OF THE SYSTEM. IT SHALL BE PROVIDED WITHIN 48 HOURS OF THE INSTALLATION OF THE SYSTEM. IT SHALL CONSIST OF HANDS-ON INSTRUCTION FOR A MINIMUM OF SIXTEEN (16) HOURS. THE CONTRACTOR SHALL PROVIDE TRAINING FOR UP TO FOUR (4) PERSONS IN THE INSTALLATION AND MAINTENANCE OF THE SYSTEM. IT SHALL CONSIST OF A MINIMUM OF EIGHT (8) HOURS OF INSTRUCTION. TRAINING SHALL BE SUPPLIED WITHIN SEVEN (7) DAYS OF THE INSTALLATION OF THE SYSTEM. ALL TRAINING SHALL BE HELD IN A COUNTY SUPPLIED LOCATION. TRAINING SHALL BE CONDUCTED BY SOMEONE WHO HAS PERFORMED THIS WITHIN THE LAST YEAR AND DOES IT ON A REGULAR BASIS. THE COST OF TRAINING, INCLUDING COURSE MATERIAL, TRAVEL SUBSISTENCE AND RELATED COSTS, SHALL BE ENTIRELY BORNE BY THE CONTRACTOR AND SHALL BE INCIDENTAL TO THE PREEMPTION EQUIPMENT.

PAYMENT FOR ITEM 633 "CONTROLLER, MISC.; PREEMPTION" SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH PREEMPTION IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS, EXCEPT FOR THOSE ITEMS BID SEPARATELY.

UNDERDRAINS FOR PULLBOXES

REFERENCE IS MADE TO THE STANDARD CONSTRUCTION DRAWINGS FOR DETAILS OR DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 40 FEET. AN ESTIMATED QUANTITY OF 240 FT. OF ITEM 603, 4" CONDUIT, TYPE E IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

633, CONTROLLER, MISC.; 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. 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.

PAYMENT FOR ITEM 633 "CONTROLLER, MISC.; PREEMPTION DETECTOR CABLE" SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR THE CABLE FURNISHED, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

633, CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TSI, AS PER PLAN

THE CONTROLLER SHALL BE PEEK 3000E OR EAGLE CONTROLLERS. THE CONTROLLER AND SOFTWARE SHALL BE COMPATIBLE WITH THE EXISTING INTERCONNECT SYSTEM ON LOST NATION ROAD. THE CONTROLLER SHALL INCORPORATE OR BE FURNISHED WITH ALL THE DESIGN FEATURES, AUXILIARY EQUIPMENT, ACCESSORIES, AND PREWIRED CABINET FEATURES AS REQUIRED IN THE STANDARD BID ITEM.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE FOR EACH, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

633, CONTROLLER MASTER, TRAFFIC RESPONSIVE, AS PER PLAN

THE MASTER CONTROLLER SHALL BE PEEK M3000E OR EAGLE CONTROLLERS. THE CONTROLLER AND SOFTWARE SHALL BE COMPATIBLE WITH THE EXISTING INTERCONNECT SYSTEM ON LOST NATION ROAD. THE CONTROLLER SHALL INCORPORATE OR BE FURNISHED WITH ALL THE DESIGN FEATURES, AUXILIARY EQUIPMENT, ACCESSORIES, AND PREWIRED CABINET FEATURES AS REQUIRED IN THE STANDARD BID ITEM.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE FOR EACH, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED AND ACCEPTED.

633, CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN EAGLE NEMA TS2 TYPE A2 MODEL EPAC 3108 M52 WITH FSK AND RS232 PORT 3 OPTION BOARD AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE CONTROLLER COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS AND COMPATIBLE WITH THE CITY OF MENTOR CLOSED LOOP SYSTEM.

THE CONTROLLER AND CABINET SHALL CONFORM TO ODOT SPECIFICATION 633 AND SHALL HAVE THE FOLLOWING FEATURES:

A) THE LOAD SWITCHES SHALL PROVIDE INPUT AND OUTPUT INDICATIONS.

B) THE CONFLICT MONITOR MODEL EDI MMU 16 LEC.

C) THE FOLLOWING SWITCHES SHALL BE ACCESSIBLE VIA POLICE PANEL DOOR:

- 1) SIGNAL SHUTDOWN
- 2) FLASH CONTROL
- 3) MANUAL CONTROL JACK ACTIVATING MANUAL CONTROL WITH SEPARATE MANUAL PUSHBUTTON CORD.

D) THE FOLLOWING SWITCHES SHALL BE MOUNTED ON THE SWITCH PANEL IN THE CABINET:

- 1) RUN-STOP NORMAL
- 2) CONTROLLER SHUTDOWN (REMOVES POWER TO TIMER ONLY)
- 3) FLASH CONTROL
- 4) DETECTOR TEST

E) AN INCANDESCENT LAMP IN A GOOSE NECK FIXTURE WITH MANUAL ON/OFF SWITCH.

F) THE CABINET EXTERIOR SHALL BE ALUMINUM COLORED AND THE INTERIOR SHALL BE WHITE.

G) THE CONTRACTOR SHALL FURNISH FOR A APPROVAL A CABINET SHOWING COMPONENT PLACEMENT.

H) THE SUPPLIER SHALL CONTACT THE CITY OF MENTOR FOR SYSTEM DETECTOR HOOK UP AND GRAPHICS DETECTOR HOOK UP.

I) BACK PANEL SHALL BE A 16 POSITION CONTINUOUS BACK PANEL.

J) ONE SPARE 2" CONDUIT TO THE CLOSET PULLBOX.

K) PROVIDE FACTORY INSTALLED CONFIRMATION LIGHT ISOLATION PANEL WITH LOAD SWITCH AND HARNESS, AS PER DETAILED DRAWINGS.

L) CABINET SHALL BE EQUIPPED WITH A GENERATOR POWER PANEL ON THE TOP RIGHT SIDE OF THE CABINET. THE GENERATOR POWER PANEL SHALL BE CONFIGURED TO OPERATE WITH THE CITY'S EXISTING GENERATORS.

M) CABINET SHALL BE PROVIDED WITH A DUPLEX RECEPTACLE WITH LIGHTNING PROTECTION.

N) A KEY HOLE COVER SHALL BE PLACED ON THE GENERATOR PANEL ENCLOSURE.

O) THE INTERCONNECT TERMINATION PANEL SHALL PROVIDE LIGHTNING PROTECTION.

P) HEAVY DUTY POWER SUPPLY MODEL CPS-105 SHALL BE PROVIDED.

Q) MODEM SHALL BE DI-PHASE MODEM AS SUPPLIED BY BLACK BOX CORP. OR AN APPROVED EQUAL.

645, PREFROMED PAVEMENT MARKINGS

THE PREFORMED PAVEMENT MARKINGS SHALL BE INLAID IN ACCORDANCE WITH 645.03 TYPE A.

646, EPOXY PAVEMENT MARKINGS, AS PER PLAN

THE WIDTH OF THE LANE LINE SHALL BE 6 INCHES.

646, PAVEMENT MARKING MISC.: WORD ON PAVEMENT, 44"

PAVEMENT MARKING MISC.: WORD ON PAVEMENT, 44" SHALL BE IN ACCORDANCE WITH C.M.S 646 AND PLAN NOTE 646, EPOXY PAVEMENT MARKINGS, AS PER PLAN (THIS SHEET). THE SIZE AND LETTERING SHALL BE IN ACCORDANCE WITH THE 2005 OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FIGURE 9C-6.

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TRAFFIC CONTROL GENERAL NOTES

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