

# TRAFFIC CONTROL NOTES

|       |                 |                 |     |
|-------|-----------------|-----------------|-----|
| DATE: | LAK-20-7.30 AND | OHIO            | 3 A |
| DATE: | VARIOUS         | FHWA REGION 5   |     |
| DATE: | F-69 (110)      | FEDERAL PROJECT | 52  |
| DATE: | M-1099 (26)     |                 |     |

## 625 PULL BOX, 713.08, BY SIZE, AS PER PLAN

THIS ITEM SHALL CONSIST OF 18" OR 24" PRECAST CONCRETE TYPE. THE COVER SHALL BE MARKED WITH THE WORD "TRAFFIC" ON A PLATE IN ACCORDANCE WITH 713.09.

## 632 LOOP DETECTOR UNITS, BY TYPE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632 AND 732.07 OR 732.08, LOOP DETECTOR UNITS SHALL HAVE THE FOLLOWING REQUIREMENTS OR FEATURES:

THE OUTPUT DEVICE SHALL BE A RELAY, AND ALL CONTACTS SHALL BE INCLUDED IN THE WIRING HARNESS.

THE UNIT SHALL BE SELF TUNING.

THE UNIT'S ELECTRICAL CONNECTION PLUGS OR WIRING HARNESS SHALL ALLOW READY REPLACEMENT WITH A SINGLE CHANNEL AMPLIFIER AS DESCRIBED IN THE FINAL PARAGRAPH OF 732.07.

EACH AMPLIFIER SHALL BE NUMBERED TO CORRESPOND TO ITS LOOP NUMBER. THE LOOP NUMBERS ARE SHOWN ON EACH PLAN SHEET

## 632 VEHICULAR SIGNAL HEAD, 2,3,4 OR 5 SECTION, 12" LENS 1 & 2 WAY, AS PER PLAN

SECTION 732.01 OF THE SPECIFICATIONS IS MODIFIED FOR THIS PROJECT AS FOLLOWS:

- SIGNAL HEADS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITC SPECIFICATIONS.
- PLASTIC LENSES SHALL BE USED.
- PIPE, SPACERS, AND FITTINGS CONSTRUCTED OR POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
- PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

## 632 INTERCONNECT CABLE, INTEGRAL MESSENGER WIRE TYPE, 6 PAIR NO. 19 AWG, SOLID, REA (PE-38), AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING INTERCONNECT CABLE AS FOLLOWS:

- INTEGRAL MESSENGER TYPE INTERCONNECT CABLE MEETING THE REQUIREMENTS OF 732.19 AND REA (PE-38). UNDER THIS METHOD ANY SECTIONS OF CABLE SHOWN IN THE PLANS TO BE CONTAINED IN CONTROLLERS, CABINETS, POLES, CONDUITS OR SUPPORTED ON MESSENGER WIRE INSTALLED FOR OTHER PURPOSES SHALL HAVE THE SUPPORTING MESSENGER AND JACKET WEB NEATLY REMOVED BY A USE OF A TOOL SPECIFICALLY DESIGNED AND SIZED FOR THIS PURPOSE. DEVIATIONS FROM THE CABLE ROUTING SHOWN IN THE PLAN, FOR THE SOLE PURPOSE OF REDUCING THE AMOUNT OF MESSENGER TO BE REMOVED, WILL NOT BE PERMITTED. THE CABLE SHALL BE INSTALLED WITH APPROXIMATELY ONE TWIST FOR EACH 15 FEET OF SPAN LENGTH.

THE NUMBER OF SPLICE LOCATIONS SHALL BE KEPT TO A MINIMUM.

MEASUREMENT WILL BE BASED UPON THE NUMBER LINEAR FEET OF "INTERCONNECT CABLE, INTEGRAL MESSENGER WIRE TYPE, 6 PAIR NO. 19 AWG, SOLID, REA (PE-38), AS PER PLAN" IN PLACE IN ACCORDANCE WITH THE METHOD DESCRIBED IN 632.28.

## 633 CONTROLLER, MASTER, SOLID STATE DIGITAL MICROPROCESSOR, TRAFFIC RESPONSIVE, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING ACTUATED, SOLID STATE DIGITAL MICROPROCESSOR TYPE CONTROLLERS WITH MASTER COORDINATOR, MENU DRIVEN PROMPTS, INTERNAL TBC, TELEMETRY UNIT, TYPE "P" CABINET (WHICH WILL ALSO HOUSE THE LOCAL CONTROLLER), AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE CONTROLLER COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

THE CONTROLLER AND CABINET SHALL CONFORM TO O.D.O.T. SPECIFICATION 633 AND SHALL HAVE THE FOLLOWING FEATURES:

- THE LOAD SWITCHES SHALL PROVIDE INPUT AND OUTPUT INDICATIONS.
- THE CONFLICT MONITOR CAPABLE 2,4 OR 8 PHASE OPERATION AS PER PLAN AND SHALL HAVE EXTENDED MONITORING.
- THE FOLLOWING SWITCHES SHALL BE ACCESSIBLE VIA THE POLICE PANEL DOOR:
  - SIGNAL SHUTDOWN
  - FLASH CONTROL
- THE FOLLOWING SWITCHES SHALL BE MOUNTED ON THE SWITCH PANEL IN THE CABINET:
  - RUN/STOP-TIME
  - CONTROLLER SHUTDOWN
  - DETECTOR TEST
- A SERVICE LAMP WITH DOOR ACTIVATED ON/OFF SWITCH
- THE CABINET EXTERIOR SHALL BE ALUMINUM COLORED AND INTERIOR SHALL BE WHITE.
- THE CONTRACTOR SHALL FURNISH FOR APPROVAL A CABINET PLAN SHOWING COMPONENT PLACEMENT.

PAYMENT FOR 633 CONTROLLER, MASTER, SOLID STATE DIGITAL MICROPROCESSOR, TRAFFIC RESPONSIVE, AS PER PLAN WILL BE MADE AT THE CONTRACT PRICE FOR EACH CONTROLLER IN PLACE, INCLUDING PREWIRED CABINET COMPLETELY INSTALLED, WIRED, TESTED, AND ACCEPTED.

## 633 CONTROLLER, ACTUATED, BY PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING ACTUATED, SOLID STATE DIGITAL MICROPROCESSOR TYPE CONTROLLERS WITH SECONDARY COORDINATOR, MENU DRIVEN PROMPTS, INTERNAL TBC, TELEMETRY UNIT, AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE CONTROLLER COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

THE CONTROLLER AND CABINET SHALL CONFORM TO O.D.O.T. SPECIFICATION 633 AND SHALL HAVE THE FOLLOWING FEATURES:

- THE LOAD SWITCHES SHALL PROVIDE INPUT AND OUTPUT INDICATIONS.
- THE CONFLICT MONITOR CAPABLE OF 2,4 OR 8 PHASE OPERATION AS PER PLAN AND SHALL HAVE EXTENDED MONITORING.
- THE FOLLOWING SWITCHES SHALL BE ACCESSIBLE VIA THE POLICE PANEL DOOR:
  - SIGNAL SHUTDOWN
  - FLASH CONTROL
- THE FOLLOWING SWITCHES SHALL BE MOUNTED ON THE SWITCH PANEL IN THE CABINET:
  - RUN-STOP NORMAL
  - CONTROLLER SHUTDOWN
  - DETECTOR TEST
- A SERVICE LAMP WITH DOOR ACTIVATED ON/OFF SWITCH
- THE CABINET EXTERIOR SHALL BE ALUMINUM COLORED AND INTERIOR SHALL BE WHITE.
- THE CONTRACTOR SHALL FURNISH FOR APPROVAL A CABINET PLAN SHOWING COMPONENT PLACEMENT.

PAYMENT FOR 633 CONTROLLER, ACTUATED, BY PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN WILL BE MADE AT THE CONTRACT PRICE FOR EACH CONTROLLER IN PLACE, INCLUDING PREWIRED CABINET COMPLETELY INSTALLED, WIRED, TESTED, AND ACCEPTED.

## SPECIAL: CENTRAL OFFICE MONITOR

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING THE CENTRAL OFFICE MONITORS TO BE LOCATED AT THE CITY OF MENTOR POLICE DISPATCHERS OFFICE AND THE CITY TRAFFIC ENGINEERING DEPARTMENT. THE BASIC CENTRAL EQUIPMENT COMPLEMENT SHALL BE SUPPLIED AND SHALL CONSIST OF THE FOLLOWING:

- AT BOTH OF THE ABOVE REFERENCED LOCATIONS, AN IBM PERSONAL SYSTEM 2, MODEL 55SX MICROCOMPUTER OR A ZENITH 386/AT SERIES WORKSTATION MICROCOMPUTER OR AN APPROVED EQUAL WITH 1 MB USER MEMORY, 1.44 MB INTERNAL 3.5 INCH FLOPPY DISKETTE DRIVE, 40 MB HARD DISK DRIVE, 1.2 MB INTERNAL 5.25 INCH FLOPPY DISK DRIVE, BUILT-IN VGA, THREE EXPANSION SLOTS, 80387 MATH CO-PROCESSOR, ONE SERIAL PORT, ONE PARALLEL PORT AND DOS VERSION 3.30 OR LATER.
  - AN EPSON FX-850 DOT MATRIX PRINTER OR AN OKIDATA ML380 DOT MATRIX PRINTER OR AN APPROVED EQUAL.
  - AN IBM MODEL 8514 COLOR MONITOR OR ZENITH MFM-200 COLOR MONITOR OR AN APPROVED EQUAL.
  - A HAYES 2400 OR ZENITH 2400 EXTERNAL MODEM OR AN APPROVED EQUAL.
  - A POWER LINE FILTER, VOLTAGE SURGE PROTECTOR AND A FUSE PROTECTED MULTI-SERVICE OUTLET WITH AT LEAST SIX POSITIONS.
  - ALL NECESSARY CABLES AND ACCESSORIES NEEDED TO MAKE THE SYSTEM OPERATE ACCORDING TO THESE SPECIFICATIONS.
  - PHONE DROP PROVIDED BY THE CITY OF MENTOR.
- ONE COMPAQ SLT286 OR ZENITH SUPER SPORT LAPTOP MICROCOMPUTER OR AN APPROVED EQUAL WITH 40MB HARD DISK DRIVE, 1.44MB INTERNAL 3.5 INCH FLOPPY DISK DRIVE AND 2400 BAUD INTERNAL MODEM WITH CARRYING CASE.
  - AN EPSON FX-850 DOT MATRIX PRINTER OR AN OKIDATA ML380 DOT MATRIX PRINTER OR AN APPROVED EQUAL.