

TRAFFIC CONTROL GENERAL NOTES

SCOPE

THESE NOTES AND SPECIFICATIONS SUPPLEMENT THE STATE OF OHIO'S CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE SUPPLEMENTAL SPECIFICATIONS NOTED ON THE TITLE SHEET. THE WORK TO BE PERFORMED BY THE CONTRACTOR IN CONNECTION WITH FURNISHING LABOR, SUPPLIES, EQUIPMENT, MATERIALS, AND PERFORMING ALL OPERATIONS NECESSARY FOR THE ACCEPTABLE INSTALLATION OF THE TRAFFIC CONTROL DEVICES, IN STRICT ACCORDANCE WITH THESE PLANS, NOTES AND SPECIFICATIONS. THESE NOTES, SCHEDULES, AND DRAWINGS ARE INTENDED TO PROVIDE ALL MATERIAL AND LABOR REQUIRED TO FURNISH AND INSTALL A COMPLETE TRAFFIC CONTROL SYSTEM.

ITEM 625 - PULL BOX, MISC.: (SIZE VARIES), AS PER PLAN

SIZE: BOX - 13" X 24" X 26" DEEP (NOMINAL) & 24" X 30" X 26" DEEP (NOMINAL).

COVER AND BOX SHALL HAVE A MINIMUM VERTICAL TEST LOAD OF 10,000 LBS. OVER A 10" X 10" AREA PER ASTM C-857 AND SO BE IDENTIFIED ON THE SURFACE, ALL IN ACCORDANCE WITH THE WESTERN UNDERGROUND COMMITTEE - GUIDE 3.6 (W.U.C. 3.6). THE BOX MUST ALSO MEET THE STRUCTURAL REQUIREMENTS FOR LATERAL (SIDE) LOADING AS DEFINED IN W.U.C. GUIDE 3.6. THE PULL BOX SHALL BE SUITABLE FOR INSTALLATION AND USE THROUGH A TEMPERATURE RANGE OF -40° C TO +90° C.

THE PULL BOX COVER AND RING SHALL BE MADE OF HIGH DENSITY POLYMER CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 20,000 P.S.I. THE BODY OF THE BOX SHALL BE MADE OF FIBERGLASS REINFORCED POLYESTER (FRP), HIGH DENSITY POLYETHYLENE (HDPE), STRUCTURAL FOAM, OR STRUCTURAL THERMOPLASTIC SHALL NOT BE ACCEPTABLE.

THE COVER SHALL BE FASTENED TO THE BOX WITH TWO STAINLESS STEEL HEX HEAD BOLTS. THE BOX SHALL HAVE A "SELF-LOCATING" OR "FLOATING" THREADED INSERT MADE OF STAINLESS STEEL AND SHALL BE REPLACEABLE. COVER SURFACE SHALL BE SKID RESISTANT AND SHALL HAVE A MINIMUM COEFFICIENT OF FRICTION OF 0.50.

IDENTIFICATION "TRAFFIC" SHALL BE PERMANENTLY MOLDED ON THE TOP SURFACE OF THE PULL BOX COVER.

THE BOX SHALL BE WIDER AT THE BASE FOR STABILITY AND TAPERED INWARDS TOWARD THE TOP. THE BOX SHALL BE PROVIDED WITH A BOTTOM FLANGE AT LEAST 1-1/4" WIDE TO PREVENT SETTLING IN FIRM SOIL WHEN SUBJECTED TO SPECIFIED LOADS. TOP REGION OF THE BOX SHALL BE CONFIGURED TO PROVIDE "KEYING IN" TO LOCK THE BOX IN CONCRETE WHEN INSTALLED IN SIDEWALKS.

IF IT IS NECESSARY TO MAKE CONDUIT ENTRY HOLES IN THE FIELD, IT SHOULD BE POSSIBLE TO DO SO WITH A SIMPLE TOOL SUCH AS A WOOD HOLE CUTTING SAW.

NOTE: THE EXACT LOCATIONS OF PULL BOXES ARE TO BE STAKED AND CHECKED BY THE ENGINEER PRIOR TO PLACEMENT TO VERIFY CLEARANCE OF UNDERGROUND FACILITIES AND ANY ABOVE GROUND OBSTRUCTIONS. IF THERE ARE ANY CONFLICTS, THEY ARE TO BE ADJUSTED AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS IS INCIDENTAL TO ALL 625 ITEMS.

PULL BOXES ARE TO BE PROVIDED A 4" DRAIN TO THE NEAREST STORM INLET, UNDERDRAIN OR OTHER SUITABLE OUTLET FROM THE PULL BOX. TWENTY (20) FEET OF 4" PVC CONDUIT SHALL BE USED AND BE INCLUDED IN THE PRICE OF THE PULL BOX. ADDITIONAL 4" CONDUIT IN THE AMOUNT OF 200 L.F. HAS BEEN INCLUDED IN THE BID PROPOSAL FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN

CONTRACTOR SHALL STORE MATERIALS AT A LOCATION AGREED UPON BY THE CITY OF MENTOR. THE CONTRACTOR SHALL ARRANGE WITH THE CITY OF MENTOR PUBLIC WORKS DEPARTMENT FOR PICKUP OF THE SIGNS. ANY ITEMS NOT PICKED UP BY THE CITY BY THE CONTRACT COMPLETION DATE SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

ITEM 625, PULLBOX REMOVED, AS PER PLAN

EXISTING PULLBOXES SHALL BE REMOVED AT THE LOCATIONS SHOWN IN THE PLANS. THIS ITEM SHALL BE USED FOR PULLBOXES REMOVED AT THE INTERSECTIONS WHERE PAVEMENT WIDENING OCCURS.

SIDEWALK REMOVAL AND REPLACEMENT

ANY EXISTING SIDEWALK SLAB DISTURBED BY TRENCHING SHALL BE REPLACED. EACH SLAB SHALL BE REMOVED AND PAID FOR IN ACCORDANCE WITH ITEM 202 WALK REMOVED. ALL TRENCHING OPERATIONS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF THE NEW SIDEWALK SHOWN IN THE PLANS. THE CONCRETE SIDEWALK SLAB REPLACEMENT SHALL BE PAID FOR AS STATED IN ITEM 608 CONCRETE WALK. ALL SIDEWALK QUANTITIES ARE ACCOUNTED FOR IN THE ROADWAY PLANS.

ITEM 632 VEHICULAR SIGNAL HEAD, 3-SECTION AND 5-SECTION 12" LENS, 1-WAY AS PER PLAN, RIGID MOUNT

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

- SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF UV STABILIZED POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS;
- PLASTIC LENSES SHALL BE USED;
- PIPE, SPACERS, AND FITTINGS CONSTRUCTED OF GALVANIZED STEEL OR ALUMINUM;
- PROPER EXTERIOR COLORS SHALL BE OBTAINED BY THE USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
- VEHICULAR SIGNAL HEADS SHALL HAVE A FEDERAL YELLOW FINISH.

THE CITY SHALL FIELD LOCATE ALL SIGNAL HEADS FOR THE CONTRACTOR.

ITEM 632 SIGNAL SUPPORT TYPE TC-81.10 BY DESIGN, AS PER PLAN

THE CONTRACTOR SHALL FIELD DRILL ALL HOLES INTO THE SIGNAL SUPPORT FOR VEHICLE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSH BUTTONS. THE VEHICLE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSH BUTTONS ARE TO BE LOCATED BY THE CITY OF MENTOR BEFORE THE CONTRACTOR FIELD DRILLS THE HOLES. NO PRE-DRILLED SIGNAL WIRING HOLES WILL BE ALLOWED.

CITY OF MENTOR CONTACT PERSON:

MR. PAUL CIUPA
ASSISTANT TO THE CITY ENGINEER - TRAFFIC
(440) 255-1100

ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

THIS WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING TRAFFIC SIGNAL EQUIPMENT INCLUDING SIGNAL HEADS, CABLE, PULL BOXES, POLES, CONTROLLER AND CABINET. THE CONTRACTOR SHALL STORE MATERIALS ON SITE AND SHALL ARRANGE WITH THE CITY OF MENTOR PUBLIC WORKS DEPARTMENT FOR PICKUP OF THE POLES, PULLBOXES, CONTROLLER, CABINET AND SIGNAL HEADS. THE SIGNAL CABLE AND MESSENGER WIRE SHALL BE DISPOSED OF BY THE CONTRACTOR. ANY ITEMS NOT PICKED UP BY THE CITY BY THE COMPLETION DATE SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

TRAFFIC CONTROL STANDARD DRAWINGS

REFERENCE TO SUPPLEMENTAL SPECIFICATIONS 857, 858, 861, 957, 958 AND 961 ON THE TRAFFIC CONTROL STANDARD CONSTRUCTION DRAWINGS IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS 630, 631, 633, 730, 731, AND 733.

ITEM 632 PEDESTRIAN SIGNAL HEADS, TYPE D-2, AS PER PLAN

SECTION 732.05 OF THE SPECIFICATIONS IS MODIFIED FOR THIS PROJECT AS FOLLOWS:

- SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF ALUMINUM AND MEET ITE SPECIFICATIONS.
- PLASTIC LENSES SHALL BE USED.
- PIPE, SPACERS, AND FITTINGS SHALL BE CONSTRUCTED OF ALUMINUM AND MEET ITE SPECIFICATIONS.
- LAMPS SHALL BE RATED FROM 8000 BURNING HOURS AND SHALL BE A MINIMUM OF 116 WATTS.
- THE PEDESTRIAN SIGNALS SHALL HAVE A BLACK OUTSIDE COLOR.
- THE PEDESTRIAN SIGNALS SHALL BE CLAM SHELL MOUNTED.

ITEM 632 PEDESTRIAN PUSH BUTTONS, AS PER PLAN

THE PUSH BUTTONS SHALL BE CAST ALUMINUM LEGEND TYPE, WITH ADA PUSH BUTTON, PEDESTRIAN SYMBOL, DIRECTIONAL ARROW AND A RED INDICATOR LIGHT. THE PUSH BUTTONS SHALL BE LOCATED BELOW THE PEDESTRIAN SIGNAL HEADS FOR EACH DIRECTION. ALL PUSH BUTTONS TO BE WIRED WITH A 3-CONDUCTOR CABLE AND TO BE FIELD DRILLED AFTER LOCATION BY THE ENGINEER.

PUSH BUTTON MANUFACTURERS:

PELCO PRODUCTS, INC. ALINCO ELECTRIC SALES
320 18TH STREET, S.W. HC81 BOX 1131, ROUTE 11
EDMOND, OKLAHOMA 73013 WEST NEWFIELD, MAINE 04095
(405)340-3434 (207)793-2177

POWER SUPPLY

POWER SUPPLY LINE (120V) SHALL BE BROUGHT INTO CABINET IN A 2" CONDUIT AND SHALL BE THE ONLY WIRE IN THE CONDUIT. NO DISCONNECT SHALL BE PROVIDED.

ITEM 632 DETECTOR LOOP, AS PER PLAN 2

THE SIGNAL CONTRACTOR SHALL CONTACT THE CITY OF MENTOR ENGINEERING DEPARTMENT BEFORE INSTALLATION OF VEHICLE DETECTION LOOPS FOR ASSISTANCE IN LOCATION MARKING. THE CITY OF MENTOR CONTACT PERSON FOR LOOP INSTALLATION IS:

MR. PAUL CIUPA
ASSISTANT TO THE CITY ENGINEER - TRAFFIC
(440) 255-1100

INSTALLATION IN CONCRETE PAVEMENT

LOOP DETECTORS INSTALLED IN CONCRETE PAVEMENT SHALL BE PREFORMED HEAVY DUTY RUBBER LOOP DETECTORS. THE PREFORMED LOOPS INSTALLED IN CONCRETE SHALL HAVE AN ADDITIONAL TURN OF WIRE OVER STANDARD LOOPS. THE LOOPS ARE TO BE TYE-WRAPPED TO THE REBAR OR DRAPED UNDER THE MESH. LOOPS SHOULD BE SECURED AT EVERY POINT THAT IT CROSSES REBAR OR EVERY FOOT MAXIMUM. LOOPS SHOULD NOT BE COVERED BY MORE THAN 6" OF CONCRETE. THE LOOPS SHALL BE CONSTRUCTED USING 3/8" SYNTHETIC CORD REINFORCED HYDRAULIC HOSE WITH A 250 PSI INTERNAL PRESSURE RATING. NO PAYMENT SHALL BE MADE FOR ANY LOOP NOT INSTALLED ACCORDING TO SPECIFICATIONS.

INSTALLATION IN ASPHALT PAVEMENT:

VEHICLE LOOP DETECTORS SHALL BE INSTALLED IN LEVELING COURSE (WHENEVER APPLICABLE) BEFORE FINAL OVERLAY.

ITEM 633 CONTROLLER FOUNDATION, AS PER PLAN

ONE SPARE 2" CONDUIT SHALL BE PROVIDED FROM THE CABINET TO THE NEAREST PULL BOX. THE PRICE PAID SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED.

STREET NAME SIGNS, AS PER PLAN

STREET NAME SIGNS SHALL BE WHITE LETTERING ON A BLUE BACKGROUND. SIGNS SHALL CONFORM TO STANDARD DIMENSIONING FOR TYPE D-14 SIGNS.

ITEM 633 CONTROLLER, ACTUATED, 8 PHASE, SOLID STATE DIGITAL MICROPROCESSOR, MODEL TRANSYT 1880 EL, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN ACTUATED, SOLID STATE DIGITAL MICROPROCESSOR TYPE CONTROLLER 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 AND COMPATIBLE WITH THE CITY CLOSED LOOP SYSTEM.

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

- THE LOAD SWITCHES SHALL PROVIDE INPUT AND OUTPUT INDICATIONS.
- THE CONFLICT MONITOR SHALL BE CAPABLE OF 12 CHANNEL OPERATION AS PER PLAN AND SHALL HAVE EXTENDED MONITORING, LCD DISPLAY, FAULT/EVENT STORAGE AND REPORTING.
- THE FOLLOWING SWITCHES SHALL BE ACCESSIBLE VIA THE POLICE PANEL DOOR:
 - SIGNAL SHUTDOWN
 - FLASH CONTROL
 - MANUAL CONTROL JACK ACTIVATING MANUAL CONTROL WITH SEPARATE MANUAL PUSH BUTTON CORD.
- THE FOLLOWING SWITCHES SHALL BE MOUNTED ON THE SWITCH PANEL IN THE CABINET:
 - RUN-STOP NORMAL
 - CONTROLLER SHUTDOWN
 - DETECTOR TEST
- A FLUORESCENT SERVICE LAMP WITH DOOR ACTIVATED ON/OFF SWITCH.
- THE CABINET EXTERIOR SHALL BE ALUMINUM COLORED AND THE INTERIOR SHALL BE WHITE.
- THE CONTRACTOR SHALL FURNISH FOR APPROVAL A CABINET PLAN SHOWING COMPONENT PLACEMENT.
- THE SUPPLIER SHALL CONTACT THE CITY OF MENTOR FOR SYSTEM DETECTOR HOOK UP AND GRAPHICS DETECTOR HOOK-UP.
- BACK PANEL SHALL HAVE A MINIMUM OF 12 LOAD BAYS.
- ONE SPARE 2" CONDUIT TO THE CLOSEST PULLBOX.
- CONTROLLER CABINET SHALL HAVE A REAR ACCESS DOOR.
- CONTROLLER CABINET SHALL HAVE A GENERATOR POWER PANEL.

THE HOUSING SHALL HAVE AN ADD-ON GENERATOR POWER PANEL WITH ENCLOSURE. THIS ITEM SHALL ALLOW SIGNAL ELECTRICIANS TO OPERATE THE TRAFFIC SIGNAL DURING POWER OUTAGES, WITHOUT OPENING THE CABINET DOOR OR CONNECTING OR DISCONNECTING PERMANENT POWER CABLES. THE ENCLOSURE SHALL BE INSTALLED ON THE SIDE OF THE CONTROLLER CABINET CLOSEST TO THE POWER INPUT PANEL SUBJECT TO THE FOLLOWING MODIFICATION. THE GENERATOR POWER PANEL SHALL BE LOCATED ON THE SIDE OF THE CONTROLLER CABINET WHICH OFFERS THE BEST PROTECTION FROM ROAD SPRAY AND ACCIDENTAL CONTACT WITH PEDESTRIANS, BICYCLISTS AND VEHICLES. DESIGN AND LAYOUT OF THE CONTROLLER CABINET WILL DETERMINE EXACT PLACEMENT OF THE ENCLOSURE BUT IT SHOULD BE PLACED NEAR THE TOP OF GROUND MOUNTED CABINETS AND ABOUT 5 FEET FROM THE GROUND ON POLE MOUNTED CABINETS. DETAILS SHOWING THE ENCLOSURE, FRONT VIEW OF THE GENERATOR PANEL AND THE ELECTRICAL HOOKUP ARE INCLUDED ON PAGE G3 OF THIS PLAN. THE ENCLOSURE SHALL BE SEALED WITH A HIGH QUALITY SILICON CAULK AND ALL HOLES DRILLED INTO THE SIDE OF THE CONTROLLER CABINET SHALL BE CAULKED AND SEALED AFTER THE ELECTRICAL EQUIPMENT IS INSTALLED. ALL ELECTRICAL CONNECTIONS, SOLDERED OR SCREW TYPE TERMINALS, INVOLVED IN THE PAY ITEM SHALL BE COVERED WITH A CLEAR SILICON CAULK, AFTER ENSURING A GOOD CONNECTION EXCEPT THE FIELD CONNECTIONS AND GROUND TERMINALS. THIS IS TO REDUCE THE RISK OF ELECTRICAL SHOCK.

THE GENERATOR POWER PANEL ENCLOSURE CAN BE FABRICATED TO MEET THE ATTACHED SPECIFICATIONS.

THE GENERATOR RECEPTACLE SHALL BE 30 AMP, LOCKING, FOUR WIRE GROUNDING AND MEET THE NEMA L14-30P 30A 125/250V SPECIFICATION.

THE LINE VOLTAGE GENERATOR SWITCH SHALL BE 30 AMP, 125/250V AC, TWO (2) POLE, THREE (3) POSITION. (ON, OFF, ON, HUBBLE 1388.)

THE LINE VOLTAGE INDICATOR LIGHT SHALL BE 125V AC LIGHT EMITTING DIODE WITH A RED LENS.

THE LINE VOLTAGE CIRCUIT BREAKER SHALL BE SINGLE POLE SINGLE THROW AND A MINIMUM OF 30 AMPS. THE AMPERAGE SHALL BE INCREASED TO ACCOMMODATE GREATER LOADS, IF NECESSARY. THE GAUGE OF THE POWER CABLE SHALL BE OF PROPER SIZE PER THE N.E.C.