

SCOPE

THE PURPOSE OF THIS CONTRACT IS TO HAVE THE CONTRACTOR PROVIDE TROUBLESHOOTING, REPAIR, AND MAINTENANCE OF HIGHWAY LIGHTING AND TRAFFIC SIGNAL SYSTEMS ON THE STATE HIGHWAY SYSTEM IN MONTGOMERY COUNTY IN OHIO DEPARTMENT OF TRANSPORTATION DISTRICT SEVEN. WORK IS PRIMARILY IN MONTGOMERY COUNTY, HOWEVER, SOME SCHEDULED WORK IS LOCATED ELSEWHERE IN DISTRICT SEVEN AS DETAILED IN THESE PLANS. CONTRACTOR WILL BE REQUIRED TO PROVIDE SERVICES ON ELECTRICAL INSTALLATIONS THROUGHOUT DISTRICT SEVEN ON AN EMERGENCY BASIS AS NEEDED. ALL WORK SHALL BE SUBJECT TO AUTHORIZATION BY THE ENGINEER ON EITHER AN URGENT RESPONSE (ONE-HOUR) CALL OUT BASIS, SCHEDULED WORK (NEXT-DAY) CALL OUT BASIS, OR PREDETERMINED SCHEDULE OF MAINTENANCE.

IT IS THE INTENT OF THIS CONTRACT THAT FIRST PRIORITY SHALL BE GIVEN TO THOSE TASKS WHICH KEEP ALL OF ODOT'S ELECTRICAL ASSETS IN SERVICEABLE OPERATION. THE CONTRACTOR WILL GIVE THIS WORK HIS CONSTANT ATTENTION AND WILL BE REQUIRED TO FURNISH ALL MATERIALS, EQUIPMENT AND LABOR TO PERFORM AS NEEDED FROM THE FIRST DAY OF THE CONTRACT TO THE LAST. A MINIMUM OF TWO (2), TWO (2) MAN CREWS SHALL BE AVAILABLE IN DISTRICT 7 DURING REGULAR WORKING HOURS (MONDAY FRIDAY, 7:00 AM TO 3:30 PM) OR HOURS AS AGREED UPON AT THE PRE-CONSTRUCTION MEETING.

THIS CONTRACT CONSISTS OF THE INVESTIGATION AND REPAIR OF REPORTED OUTAGES OF INDIVIDUAL SYSTEMS OR CIRCUITS OR DEVICES, THE FURNISHING, TRANSPORTING AND ASSEMBLING OF REPLACEMENT MATERIALS AND DEVICES, THE REPAIR OR REPLACEMENT OF DEVICES, THE REMOVAL OF DEFECTIVE OR DAMAGED MATERIALS AND DEVICES, THE INSTALLATION OF NEW DEVICES, THE RESTORATION AND CLEAN-UP OF THE HIGHWAY, PERFORMING ROUTINE MAINTENANCE AND INSPECTIONS, UTILIZING ODOT'S FIELD MAPS APPLICATION TO MAINTAIN AN ACCURATE INVENTORY, AND TO RECORD SERVICE ACTIVITY, AND TO RECORD INSPECTIONS, AND CLEARING AND GRUBBING. ALL MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE STORED OFF OF THE PROJECT LIMITS. THE CONTRACT SHALL BE PERFORMED IN A MANNER WHICH WILL PROVIDE CONTINUOUS REPAIR SERVICE. ALL WORK WILL BE PERFORMED IN A MANNER WHICH WILL RESULT IN INSTALLATIONS WHICH ARE IN COMPLIANCE WITH ODOT'S CURRENT STANDARD CONSTRUCTION DRAWINGS AND CONSTRUCTION MATERIAL SPECIFICATION (CMS) UNLESS EXCEPTION IS APPROVED BY THE ENGINEER, IN ACCORDANCE WITH THE PAY ITEMS LISTED HEREIN. THE WORK LISTED ABOVE MAY OCCUR IN ANY COUNTY WITHIN DISTRICT 7.

CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, AND LABOR TO PERFORM THE WORK. MOBILIZATION SHALL BE INCIDENTAL TO ALL ITEMS OF WORK PERFORMED IN THIS CONTRACT. THE CONTRACTOR SHALL SUBMIT CATALOG CUTS OF MATERIAL USED FOR THE ITEMS OF WORK TO THE ENGINEER PER CMS 108 REQUIREMENTS. FAILURE TO COMPLY WITH ANY OF THE SPECIFICATIONS OF THE CONTRACT SHALL BE REGARDED AS A BREACH OF CONTRACT AND SHALL BE JUST CAUSE FOR CANCELLATION.

CONTRACTOR SHALL PROVIDE ACCURATE DRAWINGS AND DETAILED INFORMATION ON MODIFICATIONS TO EXISTING INSTALLATIONS SO ODOT CAN MAINTAIN DOCUMENTATION OF CURRENT INSTALLATION DETAILS, SUCH AS THE LOCATION OF TRENCH, CABLE AND DEVICES IN THE INSTALLATION. DRAWINGS SHALL INCLUDE MEASUREMENTS TO REFERENCES, SUCH AS EDGE OF PAVEMENT, STOP BAR, POLE, ETC.

CONTRACTOR MUST BE AUTHORIZED BY THE ENGINEER PRIOR TO PERFORMING THE WORK. THIS AUTHORIZATION SHALL CONSTITUTE THE APPROVAL TO DO WORK, WHICH SHALL BE PERFORMED AS APPROVED BY THE ENGINEER. REMOVAL AND DISPOSAL OF DAMAGED ITEMS AND RESTORATION TO A FUNCTIONAL CONDITION SHALL BE INCIDENTAL TO PAY ITEMS TO REPLACE THE DAMAGED ITEM.

CONTRACTOR SHALL PROVIDE A MAINTENANCE FACILITY WITHIN 10 MILES OF THE SERVICE AREA WHICH INCLUDES AN AREA FOR BENCH TESTING AND REPAIR OF SIGNAL CONTROL DEVICES AND STORAGE FOR MATERIALS LISTED IN THESE PLANS. THE REPAIR OF SIGNAL CONTROLLERS AND COORDINATION UNITS SHALL BE PERFORMED BY AN INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION (IMSA) LEVEL THREE CERTIFIED TECHNICIAN. THE CONTRACTOR SHALL PRESENT TO THE ENGINEER, PRIOR TO THE COMMENCEMENT OF WORK, THE IMSA LEVEL THREE CERTIFICATION PAPERS FOR TECHNICIANS WORKING ON THIS PROJECT.

NONE OF THE ITEM QUANTITIES OF THIS CONTRACT ARE GUARANTEED. IF ANY AUTHORIZED QUANTITIES EXCEED PLAN QUANTITY, THEN THE ENGINEER WILL ADJUST THE PLAN QUANTITY VIA CHANGE ORDER PER CMS 109.05. IF NONE OF THE STATED CONTRACT ITEM QUANTITIES ARE NEEDED TO MAINTAIN THE TRAFFIC SIGNAL AND LIGHTING SYSTEM ASSETS THAT ARE A PART OF THIS CONTRACT THEN THE CONTRACTOR WILL NOT BE PAID FOR THAT ITEM.

FAILURE TO COMPLY WITH ANY OF THE ABOVE WILL BE REGARDED AS FAILURE TO EXECUTE AND SHALL BE JUST CAUSE FOR CANCELLATION OF THE AWARD (103.07)

TERM OF THE CONTRACT

THE TERM OF THIS CONTRACT SHALL BE TEN (10) MONTHS BEGINNING SEPTEMBER 1, 2025, AND ENDING TEN (10) MONTHS LATER ON JUNE 30, 2026, WITH PROVISIONS TO EXTEND AS STATED BELOW.

INTERIM COMPLETION DATES ARE ESTABLISHED AS FOLLOWS.

2/28/2026 - TRAFFIC SIGNAL CABINET AND UPS INSPECTIONS.

02/28/2026 - FOUNDATION REPAIR AND NEW POLES AT TWO (2) LOCATIONS (POLE K2-13 AND K2-14) ON THE SOUTHBOUND INTERSTATE 75 RAMP TO EASTBOUND US 35.

03/31/2026 - RELAMP EXISTING SIGNAL SECTION WITH LED LAMP UNITS AS PER PLAN.

03/31/2026 - NEW SIGNAL CABLE, SIGNS, SIGN HANGER ASSEMBLIES, RADAR DETECTION CABLE, AND VEHICULAR SIGNAL HEADS AT US 33 & OH 196 INTERSECTION.

05/31/2026 - NEW FOUNDATIONS, EXISTING POLE AND FOUNDATION REMOVAL, NEW POLES, AND PULL BOXES FOR AUGLAIZE COUNTY REST STOP ON US 33.

05/31/2026 - NEW FOUNDATIONS, FOUNDATION REMOVAL, AND REERECT POLES AT 15 LOCATIONS IN CLARK COUNTY.

IN MID-JUNE, ODOT WILL PERFORM A PRELIMINARY FINAL OPERATIONAL INSPECTION TO CREATE A PUNCH LIST TO BE COMPLETED PRIOR TO END OF CONTRACT.

EXTENSIONS

THE OHIO DEPARTMENT OF TRANSPORTATION RESERVES THE RIGHT TO EXTEND THE PERIOD COVERED BY THIS CONTRACT UNDER THE SAME PRICES, TERMS AND CONDITIONS STATED HEREIN, FOR A MAXIMUM OF ONE (1) YEAR BEYOND THE NORMAL EXPIRATION DATE OF THE CONTRACT.

INSPECTION

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WEEKLY UPDATES ON PLANNED WORK SCHEDULES SO INSPECTION SERVICES CAN BE SUPPLIED.

TRAINING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRAINING OF ITS CREWS SO THAT THEY WILL BE ABLE TO ACCOMPLISH ALL WORK IN ACCORDANCE WITH THE DEPARTMENT'S SPECIFICATIONS AND SHALL PERFORM A QUALITY OF WORK IN ACCORDANCE WITH GOOD WORKMANSHIP STANDARDS, IN COMPLIANCE WITH LOCAL CODES AND MANUFACTURER'S INSTRUCTIONS.

THE OHIO DEPARTMENT OF TRANSPORTATION WILL NOT PROVIDE TECHNICAL ASSISTANCE.

FACILITIES

CONTRACTOR SHALL PROVIDE A MAINTENANCE FACILITY WITHIN 10 MILES OF THE SERVICE AREA WHICH INCLUDES AN AREA FOR BENCH TESTING AND REPAIR OF SIGNAL CONTROL DEVICES AND STORAGE FOR MATERIALS LISTED IN THESE PLANS.

ITEMS (POLES, FRANGIBLE BASES, ETC.) WHICH DISTRICT 7 WILL PROVIDE TO THE CONTRACTOR WILL BE PICKED UP IN THE DISTRICT 7 COMPLEX IN SIDNEY OHIO. CONTRACTOR TIME AND EQUIPMENT TO PICK UP THESE ITEMS SHALL BE INCLUDED IN UNIT PRICING.

619 FIELD OFFICE, TYPE B, AS PER PLAN

CONTRACTOR IS REQUIRED TO PROVIDE ALL ITEMS DETAILED IN 619.02 EXCEPT THE FOLLOWING ITEMS.
- PLAN RACK IS NOT NEEDED.

NO SPACE IS NEEDED FOR MOISTURE AND DENSITY CONTROL OF CONSTRUCTION MATERIALS.

COOPERATION BETWEEN CONTRACTORS

THIS CONTRACT MAY BE ENTIRELY OR PARTIALLY WITHIN THE WORK LIMITS OF ANOTHER CONSTRUCTION PROJECT.

THE CONTRACTOR SHALL COOPERATE WITH THE OTHER CONTRACTOR(S) IN ACCORDANCE WITH 105.08 AND ARRANGE A MUTUALLY ACCEPTABLE WORK SCHEDULE, SUBJECT TO THE APPROVAL OF THE ENGINEER. ANY PROPOSED CHANGES TO THIS SCHEDULE SHALL MEET THE APPROVAL OF THE ENGINEER. ANY CONFLICTS BETWEEN CONTRACTORS INVOLVING WORK SCHEDULES, WORK AREA OR COOPERATION WILL BE RESOLVED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY OTHER CONTRACTORS ANY TIME A CIRCUIT MUST BE ENERGIZED. NO TWO CONTRACTORS MAY WORK ON ENERGIZED CIRCUITS AT THE SAME TIME.

COMPENSATION FOR THE ABOVE COOPERATION WILL BE INCIDENTAL TO THE VARIOUS PAY ITEMS INCLUDED WITHIN THIS PROJECT.

108.05 VEHICLES AND EQUIPMENT

THE CONTRACTOR SHALL PROVIDE ALL VEHICLES AND EQUIPMENT NEEDED TO PERFORM THE WORK AS DESCRIBED HEREIN.

ALL PROJECT VEHICLES, TEMPORARY TRAFFIC CONTROL DEVICES AND OTHER EQUIPMENT SHALL MEET THE REQUIREMENTS AS DEFINED IN 614.03. ALL VEHICLES WHICH ARE USED IN PERFORMANCE OF ANY WORK UNDER THE CONTRACT SHALL BE CONSPICUOUSLY IDENTIFIED WITH THE CONTRACTOR'S NAME AT ALL TIMES THAT SUCH VEHICLES ARE ON THE PROJECT. THIS INCLUDES SELF-PROPELLED VEHICLES LEASED BY THE CONTRACTOR.

ALL TESTING EQUIPMENT SHALL HAVE CURRENT CALIBRATION CERTIFICATES. THE MINIMUM EQUIPMENT THE CONTRACTOR SHALL PROVIDE IS AS FOLLOWS. THE CONTRACTOR SHALL ALSO HAVE TEST INSTRUMENTS CAPABLE OF PINPOINTING THE LOCATION OF TROUBLES IN UNDERGROUND CIRCUITS SO THAT ONLY A SMALL AMOUNT OF CABLE WOULD HAVE TO BE UNCOVERED.

- EQUIPMENT VEHICLES TO TRANSPORT ALL MATERIALS, EQUIPMENT AND CREWS FOR BOTH MINIMAL AND MAJOR MAINTENANCE
- EQUIPMENT TO SET POLES UP TO 50 FEET IN HEIGHT
- ONE (1) PERSONNEL BUCKET WHICH SHALL BE ABLE TO REACH EQUIPMENT MOUNTED ON 60 FEET HIGH POLE.
- A BACKHOE
- AN AUGER TRUCK CAPABLE OF DRILLING HOLES UP TO AND INCLUDING 3 FEET IN DIAMETER AND TEN (10) FEET DEEP.
- A TRENCHER
- A FLASHING ARROW BOARD CONFORMING TO SS821
- A CONCRETE SAW SUITABLE FOR DETECTOR LOOPS.
- ELECTRICAL TEST EQUIPMENT, INCLUDING VOLT-OHM METERS, MEGGERS, EARTH GROUND TESTERS, AUTOMATIC CONFLICT MONITOR/MALFUNCTION MANAGEMENT UNIT TESTER AND POWER LINE ANALYZER
- TIME DOMAIN REFLECTOMETER (TWISTED PAIR)
- OPTICAL TIME DOMAIN REFLECTOMETER (FIBER OPTIC)
- POWER METER (FIBER OPTIC)
- TRAFFIC CONTROLLERS, BY TYPE, FOR TEMPORARY USE AS NEEDED
- CONFLICT MONITORS, BY TYPE, FOR TEMPORARY USE AS NEEDED
- MALFUNCTION MANAGEMENT UNITS, BY TYPE, FOR TEMPORARY USE AS NEEDED
- MODEMS, BY TYPE, FOR TEMPORARY USE AS NEEDED
- COORDINATORS, BY TYPE, FOR TEMPORARY USE AS NEEDED
- PORTABLE COMPUTERS WITH THE CAPABILITY TO PROGRAM ALL SIGNAL CONTROL DEVICES
- IPHONE OR IPAD DEVICES WITH THE CAPABILITY TO UTILIZE ODOT'S FIELD MAPS APP AND OTHER SOFTWARE, AS NEEDED

DETECTION MAINTENANCE

IF VEHICLE DETECTION BECOMES UNEXPECTEDLY DISABLED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER. THE DISTRICT TRAFFIC ENGINEER SHALL ADVISE THE PROJECT ENGINEER AND CONTRACTOR ON THE APPROPRIATE ACTION TO RECTIFY ANY LOSS OF VEHICLE DETECTION. THIS MAY INCLUDE PLACING THE TRAFFIC SIGNAL ON MINIMUM OR MAXIMUM RECALL MODIFYING THE MINIMUM GREEN TIMES, REMOVING THE MALFUNCTIONING DETECTION FROM SERVICE AND THE REPLACEMENT OF THE VEHICLE DETECTION. THIS IS TO AVOID THE SIGNAL FROM MAXING OUT THE EFFECTED SIGNAL PHASE AND CREATING UNNECESSARY DELAYS. ANY CHANGES SHALL BE RECORDED IN THE FIELD MAPS APP WITH THE DATE AND TIME WHEN THE CHANGE WAS MADE.

MATERIAL (106.01)

ALL MATERIALS USED SHALL BE IN ACCORDANCE WITH CONTRACT MATERIAL SPECIFICATIONS UNLESS AN ALTERNATE ITEM IS APPROVED BY THE ENGINEER. MATERIALS UTILIZED SHALL BE ON APPROVED LISTS PREPARED BY ODOT'S OFFICE OF MATERIALS MANAGEMENT OR OFFICE OF TRAFFIC ENGINEERING. ANY MATERIALS NOT FOUND ON THESE LISTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THEIR USE.

ALL MATERIAL UTILIZED SHALL BE STORED WITHIN THE PROJECT LIMITS.

CONTRACTOR MUST MAINTAIN A NINETY (90) DAY SUPPLY OF ALL MATERIAL UP TO THE LAST NINETY (90) DAYS OF THE CONTRACT, AT WHICH TIME HE SHALL MAINTAIN ENOUGH STOCK TO FINISH THE CONTRACT. THE QUANTITIES WILL DEPEND ON THE AMOUNT OF WORK REQUIRED TO MAINTAIN THE SYSTEM. INVENTORY IS SUBJECT TO INSPECTION BY THE ENGINEER.

ALL ODOT OWNED MATERIAL IN THE CONTRACTOR'S INVENTORY SHALL BE REINSTALLED TO REPLACE CONTRACTOR OWNED EQUIPMENT IN THE FIELD OR RETURNED TO ODOT WITHIN THIRTY (30) DAYS AFTER THE END OF THE CONTRACT. ODOT OWNED MATERIAL SHALL BE STORED SEPARATELY FROM CONTRACTOR MATERIAL AND BE TAGGED AS ODOT OWNED EQUIPMENT.

ALL MATERIAL IN STOCK AT THE END OF THE CONTRACT, EXCEPT THAT FURNISHED BY ODOT, WILL BE THE PROPERTY OF THE CONTRACTOR AND WILL NOT BE PURCHASED NOR WILL ANY FEES BE PAID BY THE STATE FOR RESTOCKING THESE ITEMS.

HAZARDOUS MATERIAL

NO MATERIALS FURNISHED UNDER THIS CONTRACT SHALL CONTAIN POLYCHLORINATED BIPHENYLS (PCB'S). TRANSFORMERS, BALLASTS, AND CAPACITORS SHALL BE MARKED "NO PCB'S" IN ACCORDANCE WITH THE FEDERAL ENVIRONMENTAL PROTECTION AGENCY REGULATION 40 CFR 761.

COMMUNICATION

THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH A SINGLE TELEPHONE NUMBER THAT IS ANSWERED TWENTY-FOUR HOURS A DAY, SEVEN DAYS A WEEK BY A PERSON AUTHORIZED TO DISPATCH REPAIR CREWS (ANSWERING MACHINES, VOICE MAIL, ETC. ARE NOT ACCEPTABLE). IN ADDITION, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A CELL PHONE FOR THE CONTRACTOR'S CREW FOREMAN. THE CELL PHONE SHALL BE WORN DURING REGULAR WORKING HOURS AND THE CONTRACT NUMBER SHALL BE LISTED WITH THE ENGINEER. ANY CALLS RECEIVED BY THE CONTRACTOR FROM OUTSIDE AGENCIES SHALL BE REFERRED TO THE ENGINEER.

DESIGN AGENCY



DESIGNER
CJP

REVIEWER
XXX MM-DD-YY

PROJECT ID
121504

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625 FRANGIBLE BASE, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NEW FRANGIBLE BASE OF AN APPROVED DESIGN PER CMS 725.21 EXCEPT AS NOTED BELOW. ALSO INCLUDED SHALL BE THE EXTENSION OF ANY CABLES, CONNECTOR OR SPLICE KITS, TESTING AND INCIDENTALS REQUIRED TO RESTORE THE UNIT TO NORMAL OPERATION. PROPOSED BASES MEETING AASHTO 1975 REQUIREMENTS SHALL REPLACE BASES MEETING 1975 REQUIREMENTS AND PROPOSED BASES MEETING 1985 AASHTO REQUIREMENTS SHALL REPLACE BASES MEETING 1985 REQUIREMENTS. A 17" VERTICAL HEIGHT FOR THE 1985 BASE IS ACCEPTABLE. TRANSFORMER BASES SHALL BE PERMANENTLY MARKED OR LABELED TO IDENTIFY THAT THEY MEET THE 1975 OR 1985 AASHTO REQUIREMENTS.

PAYMENT WILL BE MADE AT CONTRACT UNIT PRICE.

625 FRANGIBLE BASE, AS PER PLAN, INSTALLATION ONLY

THIS ITEM SHALL CONSIST OF INSTALLING A NEW FRANGIBLE BASE THAT IS PROVIDED BY ODOT. ALSO INCLUDED SHALL BE THE EXTENSION OF ANY CABLES, CONNECTOR OR SPLICE KITS, TESTING AND INCIDENTALS REQUIRED TO RESTORE THE UNIT TO NORMAL OPERATION.

PAYMENT WILL BE MADE AT CONTRACT UNIT PRICE.

625 REPAIR INTEGRAL LUMINAIRE LOWERING MECHANISM OF TOWER LIGHTING FIXTURES, AS PER PLAN

THIS ITEM CONSIST OF MAINTENANCE AND REPAIR OF A HEAD FRAME ASSEMBLY, A LUMINAIRE RING ASSEMBLY, AND A WINCH ASSEMBLY AS SPECIFIED IN CMS 725.21.

REPAIRS SHOULD BE MADE UTILIZING A CRANE WITH BASKET THAT CAN REACH UP TO 120' TOWERS. IF POWER CABLE REPLACEMENT IS NECESSARY, IT WILL BE PAID FOR UNDER ITS RESPECTIVE PAY ITEM.

PAYMENT WILL BE MADE AT CONTRACT UNIT PRICE PER EACH LOWERING MECHANISM REPAIRED.

625 SECONDARY SURGE PROTECTOR, AS PER PLAN (BY TYPE)

THIS ITEM SHALL CONSIST OF REMOVING AND DISPOSING OF A DEFECTIVE SECONDARY SURGE PROTECTOR, INSTALLING A NEW SECONDARY SURGE PROTECTOR, SQUARE D TYPE J9200-9A, OR EQUIVALENT FOR HIGH MAST (TOWER) FIXTURES. ALSO INCLUDED SHALL BE ANY CONNECTIONS, TESTING, AND INCIDENTALS REQUIRED TO RESTORE UNIT TO NORMAL OPERATION.

PAYMENT WILL BE MADE AT CONTRACT UNIT PRICE.

625 "SPECIAL" EMERGENCY RESPONSE-KNOCKDOWN, ROADWAY HAZARD AND/OR LIVE EXPOSED WIRE

THIS ITEM SHALL CONSIST OF THE CONTRACTOR RESPONDING TO AN EMERGENCY CALL-OUT UPON NOTIFICATION BY THE ENGINEER. SOME EXAMPLES OF A HAZARDOUS CONDITION THAT WOULD WARRANT AN EMERGENCY CALL-OUT OF THE CONTRACTOR WOULD BE A KNOCKDOWN THAT REQUIRED THE USE OF HEAVY EQUIPMENT TO REMOVE A POLE, OR AN ACCIDENT THAT WOULD REQUIRE A MAINTENANCE CREW TO REMOVE AND/OR SECURE ELECTRICAL CIRCUITS. THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH A SINGLE TELEPHONE NUMBER OR ANSWERING SERVICE WHERE THEY CAN BE CONTACTED 24 HOURS A DAY, 7 DAYS A WEEK. THE CONTRACTOR'S RESPONSE TIME, FROM THE TIME OF NOTIFICATION UNTIL PERSONNEL ARRIVE AT THE EMERGENCY, SHALL NOT EXCEED TWO (2) HOURS.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO A KNOCKDOWN, ROADWAY HAZARD AND/OR LIVE EXPOSED WIRE, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE.

625 LIGHTING, MISC.: PHOTOELECTRIC CELL

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING A NEW PHOTOELECTRIC CELL. ALL PHOTOCELLS, REGARDLESS OF THEIR LOCATION, SHALL BE CHECKED FOR PROPER CYCLING. IF THE PHOTO-CELL IS NOT CYCLING PROPERLY, IT SHALL BE MECHANICALLY ADJUSTED OR REPLACED, AS NECESSARY. PHOTO-CELL SOCKETS WHICH ARE DEFECTIVE SHALL BE REPLACED WITH A NEW ONE.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT BID PRICE.

625 LIGHTING, MISC.: FUSED, PULL-APART CONNECTOR KIT

THIS ITEM CONSISTS OF REPLACING ANY DEFECTIVE PULL-APART CONNECTORS. WEATHERPROOF CONNECTORS ARE REQUIRED AS REPLACEMENTS AT ALL FRANGIBLE BASES. THIS INCLUDES ALL NECESSARY WIRING, TESTING, AND OTHER MISCELLANEOUS ITEMS REQUIRED TO RETURN THE SYSTEM TO NORMAL OPERATION.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT BID PRICE.

625 LIGHTING, MISC.: CONNECTOR KIT, KTK FUSE

REPLACE BLOWN FUSES LOCATED IN THE PULL-APART CONNECTOR KIT WITH FUSES OF PROPER TYPE, VOLTAGE AND AMP RATING IN THEIR PARTICULAR APPLICATION. THIS INCLUDES ALL NECESSARY WIRING, TESTING, AND OTHER MISCELLANEOUS ITEMS REQUIRED TO RETURN THE SYSTEM TO NORMAL OPERATION. AT EACH POLE, THE CONTRACTOR SHALL ONLY REPLACE A KTK FUSE TWICE IN 14 CALENDAR DAYS. THE CONTRACTOR SHALL OBTAIN THE ENGINEER'S APPROVAL PRIOR TO REPLACING A KTK FUSE AT A POLE MORE THAN TWICE IN THIS TIME FRAME.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT BID PRICE.

625 LIGHTING, MISC.: LAMP, (BY TYPE)

THE CONTRACTOR SHALL REPLACE ANY HIGH PRESSURE SODIUM, IF DEFECTIVE OR DAMAGED, FOR THE DURATION OF THE CONTRACT. ONLY NEW LAMPS THAT ARE LISTED ON THE QPL SHALL BE USED AS REPLACEMENTS.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH FOR LAMPS, AS PER PLAN (BY TYPE.)

625 LIGHTING, MISC.: RELAMP - CONVENTIONAL

THE CONTRACTOR SHALL REPLACE EACH HIGH PRESSURE SODIUM LAMP AS PART OF THE GROUP RE-LAMPING OF HIGH PRESSURE SODIUM LAMPS. ONLY NEW LAMPS THAT ARE LISTED ON THE QPL SHALL BE USED AS REPLACEMENTS. REPLACEMENT OF EACH LAMP SHALL OCCUR WHEN PERFORMING LUMINAIRE MAINTENANCE.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH FOR LAMPS, AS PER PLAN (BY TYPE.)

625 LIGHTING, MISC.: REMOVAL AND REERECTION OF LIGHT POLE FOR FRANGIBLE BASE REPLACEMENT

THIS ITEM SHALL CONSIST OF DISCONNECTING OF WIRING, REMOVING AN UNDAMAGED POLE (VERTICAL SUPPORT) FROM A DEFECTIVE OR NONEXISTENT BASE, RE-ERECTING THE UNDAMAGED POLE ON A NEW BASE AND RECONNECTION OF WIRING. THE WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS TO REMOVE AND REPLACE THE LIGHT POLE TO THE OPERATION THAT EXISTED PRIOR TO THE WORK. PAYMENT FOR A NEW FRANGIBLE BASE IS NOT INCLUDED IN THIS ITEM, BUT WILL BE PAID FOR UNDER ITS RESPECTIVE PAY ITEM.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH.

625 LIGHTING, MISC.: REMOVING CABLE IN EXISTING DUCT OR CONDUIT

THIS ITEM SHALL CONSIST OF THE REMOVAL OF DAMAGED OR DETERIORATED CABLE TO BE REPLACED. CABLE AS USED HEREIN IS DEFINED AS ONE OR MORE CONDUCTORS WHICH WOULD NORMALLY BE PULLED OUT OF THE DUCT OR CONDUIT AT THE SAME TIME.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT OF CABLE REMOVED AT ONE TIME.

625 LIGHTING, MISC.: FAULT DIAGNOSIS

THIS ITEM SHALL CONSIST OF INVESTIGATING, AT THE REQUEST OF THE ENGINEER, A CIRCUIT OF HIGHWAY LIGHTING TO DETERMINE CAUSE OF FAILURE OR MALFUNCTIONING AND TO REPORT FAULT AND RECOMMEND CORRECTIVE ACTION TO THE ENGINEER. VISUAL INSPECTION, FAULT FINDERS, MEGGERS, ETC., SHALL BE USED TO LOCATE FAULTS TO AN ACCURACY THAT THE ENGINEER CAN MAKE SOUND DECISIONS ON GIVING THE CONTRACTOR APPROVAL TO PROCEED WITH CORRECTIVE ACTION ITEMS. IF MORE THAN ONE (1) FAULT EXISTS BETWEEN TWO (2) CABLE SPLICE POINTS, APPROVAL TO REPEAT THIS ITEM MUST BE OBTAINED FROM THE ENGINEER.

PAYMENT WILL BE MADE PER MAN-HOUR OF FAULT DIAGNOSIS TIME REQUIRED AT THE CONTRACT UNIT BID PRICE FOR ONLY ONE (1) CIRCUIT FAULT DETERMINATION OR COMPONENT FAULT PER REQUEST. HOURLY UNITS MAY BE BILLED IN PARTIAL HOUR OR FULL HOUR AMOUNTS.

625 LIGHTING, MISC.: MARKING EXISTING LIGHTING CABLE LOCATION

THIS ITEM SHALL CONSIST OF LOCATING AND MARKING EXISTING UNDERGROUND LIGHTING CABLE BY THE CONTRACTOR.

AT THE REQUEST OF THE ENGINEER, THE CONTRACTOR SHALL LOCATE THE EXISTING UNDERGROUND CABLE AND PLACE MARKING ON THE GROUND DIRECTLY ABOVE THE CABLE. THE MARKINGS SHOULD BE MADE WITH RED PAINT OR FLAGS AND WILL BE RELIED UPON BY OTHERS TO BE AN ACCURATE INDICATION OF THE LOCATION OF LIGHTING CABLE.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE OF EACH HOUR.

TRAFFIC SIGNAL SPECIAL SPECIFICATIONS

201 CLEARING AND GRUBBING

THERE ARE AREAS AROUND CONTROLLER CABINETS, PEDESTALS AND POLES THAT WILL NEED CLEARING AND GRUBBING DURING THE COURSE OF THE PROJECT. ALL PROVISIONS AS SET FORTH IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 201 CLEARING AND GRUBBING.

630 SIGN HANGER ASSEMBLY, SPAN WIRE, AS PER PLAN

THE ITEM INCLUDES ALL NECESSARY HARDWARE TO ATTACH ONE INDIVIDUAL SIGN. SIGN SHOULD BE WEIGHTED WITH A 26 INCH LONG 3# BAR MOUNTED HORIZONTALLY WHERE BOTTOM BRACKET HOLES ARE NORMALLY LOCATED. DO NOT ATTACH SIGN TO BOTTOM TETHER.

632 VEHICULAR SIGNAL HEAD, LED, POLYCARBONATE BY TYPE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC WITH CUTAWAY VISORS AND MEET ITE SPECIFICATIONS.
2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
3. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
4. ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE YELLOW MODULE LOCATED IN FRONT OF THE MAST ARM.
5. ALUMINUM BACKPLATES SHALL BE IN ACCORDANCE WITH THE C&MS AND INCLUDE A FLUORESCENT YELLOW REFLECTIVE BORDER.
6. THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.
7. SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.11 INCHES.
8. SIGNAL HEADS SHALL INCLUDE A CUTAWAY TYPE VISORS WHEN PEDESTRIAN SIGNALS ARE NOT PRESENT. TUNNEL VISORS ARE USED WHEN PEDESTRIAN SIGNALS ARE PRESENT. IN CASES WHERE SIGNALS ARE REPLACING EXISTING HEADS, MATCHING THE PREVIOUS HEAD'S STYLE MAY OVERRULE OTHER GUIDANCE.
9. APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.
10. BALANCE ADJUSTERS SHALL NOT BE USED ON ONE-WAY HEADS OR TETHERED HEADS.

PAYMENT FOR ITEM 632 "VEHICULAR SIGNAL HEAD, LED, BLACK, (BY TYPE) WITH BACKPLATE, AS PER PLAN" SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

DESIGN AGENCY



DESIGNER

CJP

REVIEWER

XXX MM-DD-YY

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121504

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632 VEHICULAR SIGNAL HEAD, LED, (BY TYPE), ALUMINUM, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE FOLLOWING SHALL APPLY:

- ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.
- THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
- THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.
- SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.
- SIGNAL HEADS SHALL INCLUDE A CUTAWAY TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS. VISORS AND HEADS SHALL BE PAINTED YELLOW.
- APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.
- BALANCE ADJUSTERS SHALL NOT BE USED ON ONE-WAY HEADS OR TETHERED HEADS

PAYMENT FOR ITEM 632 "VEHICULAR SIGNAL HEAD, LED, (BY TYPE), AS PER PLAN" SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

632 RELAMP EXISTING SIGNAL SECTION WITH LED LAMP UNIT, BY LENS TYPE, AS PER PLAN

THE CONTRACTOR SHALL REPLACE AN EXISTING VEHICLE SIGNAL HEAD LIGHT EMITTING DIODE (LED) LAMP UNIT WITH THE APPROPRIATE LED LAMP UNIT OR REPLACE THE EXISTING PEDESTRIAN SIGNAL HEAD LAMP AND LENS WITH LED MODULE. LED SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF CMS 732.04. ALL LAMP UNIT REPLACEMENTS SHALL BE COMPLETED BY 3/31/2026. SEE TABLE ON THIS SHEET FOR LOCATIONS. QUANTITIES FROM THE TABLE HAVE BEEN CARRIED TO THE GENERAL SUMMARY AND ARE INCLUDED IN THE TOTAL QUANTITY.

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

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732 THE FOLLOWING SHALL APPLY:

- SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITC SPECIFICATIONS.
- PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
- PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
- THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.
- NEW ATTACHMENT HARDWARE AND FITTINGS SHALL USED.
- THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES

PAYMENT FOR ITEM 632 "PEDESTRIAN SIGNAL HEAD, LED, COUNTDOWN, (BY TYPE), AS PER PLAN" SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

632 PEDESTRIAN PUSHBUTTONS, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING PUSHBUTTON, IF PRESENT, AND INSTALLING AN ADA-COMPLIANT PEDESTRIAN PUSHBUTTON. ALL CONNECTIONS ARE INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE.

632 VEHICULAR SIGNAL HEAD BACKPLATE, BY TYPE, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING TRAFFIC SIGNAL HEAD BACKPLATE AND INSTALLING A NEW ALUMINUM BACKPLATE. THE BACKPLATES SHALL MEET THE REQUIREMENTS OF CMS 632 AND 732. ALUMINUM BACKPLATES SHALL HAVE A FLUORESCENT YELLOW REFLECTIVE BORDER. PAYMENT FOR ITEM 632 "VEHICULAR SIGNAL HEAD BACKPLATE, BY TYPE, AS PER PLAN" SHALL BE MADE FOR COMPLETE BACKPLATE REMOVAL, FURNISHED, AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

632 ACCESSIBLE PEDESTRIAN PUSHBUTTON, AS PER PLAN, YELLOW

IN ADDITION TO THE REQUIREMENTS OF CMS 632.09 AND 732.06, ITEM SHALL INCLUDE THE FOLLOWING.

- BEFORE ORDERING, FURNISHING AND INSTALLING ANY ACCESSIBLE PUSHBUTTONS, CONTRACTOR SHALL COMPLETE A SITE SURVEY OF THE CONTROLLER WIRING TO DETERMINE IF INSTALLATION IS FEASIBLE.
- PROVIDE AND RETROFIT AN ACCESSIBLE PEDESTRIAN PUSHBUTTON WITH SIGN. FURNISH MATERIALS ACCORDING TO ODOT'S QUALIFIED PRODUCTS LIST AND/OR TRAFFIC APPROVED PRODUCTS LIST.
- REMOVE EXISTING PEDESTRIAN PUSHBUTTONS.
- IF INSUFFICIENT CONDUCTORS EXIST, PROVIDE ALL REQUIRED CABLING. CABLE WILL BE PAID PER FOOT PER THE SIGNAL CABLE BID ITEM BY TYPE.
- PROVIDE AND INSTALL INTERFACE DEVICES AND PANELS IN THE CONTROLLER CABINET. PROVIDE, RETROFIT AND PROGRAM CONTROL UNITS, INTERCONNECT BOARDS, INTERNAL CABINET WIRING TO LOAD SWITCHES AND INTERNAL CABINET WIRING TO PEDESTRIAN CALL INPUTS.
- PROGRAM THE PUSHBUTTONS TO ADJUST TONE AND VOLUME AUTOMATICALLY BASED UPON THE AMBIENT NOISE LEVEL. PROGRAMMING SHALL INCLUDE CUSTOMIZED STREET NAME MESSAGE WHEN REQUESTED.
- TEST THE ACCESSIBLE PUSHBUTTON IN THE PRESENCE OF THE ENGINEER AFTER INSTALLATION IS COMPLETE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH ACCESSIBLE PEDESTRIAN PUSHBUTTON. ITEM INCLUDES ALL INCIDENTALS, INTERFACE DEVICES, WIRING PANELS, PEDESTRIAN PUSH BUTTON SIGNS, AND PROGRAMMING NECESSARY TO PROVIDE A COMPLETE, FULLY FUNCTIONING ACCESSIBLE PEDESTRIAN PUSH BUTTON SYSTEM.

632 DETECTOR LOOP, AS PER PLAN

THIS ITEM SHALL CONSIST OF SAWING SLOTS IN THE PAVEMENT FOR THE INSTALLATION OF THE LOOP WIRE AS PER 632.11 AND TC-82.10, IF NECESSARY, FURNISHING AND REPLACING LOOP DETECTOR WIRE, TYPE E. THIS ITEM INCLUDES THE NECESSARY LABOR AND MISCELLANEOUS HARDWARE, AND EQUIPMENT REQUIRED TO PROVIDE FOR THE LOOP DETECTOR TIE-IN AND OPERATION. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE.

632 MESSENGER WIRE, BY TYPE

THIS ITEM SHALL CONSIST OF FURNISHING AND REPLACING THE MESSENGER WIRE IN KIND. ALL NECESSARY CLAMPS, THIMBLES, BULL RINGS AND SIGNAL CABLES ARE INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT.

632 TETHER WIRE WITH ACCESSORIES, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING AND REPLACING A DAMAGED TETHER WIRE.

THE TETHER WIRE SHALL MEET THE REQUIREMENTS OF C&MS 632.225 AND 732.18

INSTALLATION OF THE TETHER WIRE SHALL BE IN ACCORDANCE STANDARD CONSTRUCTION DRAWING TC-85.21 AND TC-85.22.

PAYMENT FOR ITEM 632 "TETHER WIRE WITH ACCESSORIES, AS PER PLAN" WILL BE MEASURED BY THE NUMBER OF FEET IN PLACE, AND WILL INCLUDE ALL NECESSARY ACCESSORIES SUCH AS ANCHOR SHACKLES, S-HOOKS YIELDING ELEMENT, THIMBLES, TURNBUCKLES, GUY GRIPS, WIRE ROPE CLIPS, LOCK WIRE, SAFETY TIE WIRE, LEAD SHEET, AND SIGNAL HEAD TETHER ANCHORS AND EXTENDERS. MEASUREMENT WILL BE FROM POLE CENTER TO POLE CENTER, OR POLE CENTER TO BULLRING, OR BULLRING TO BULLRING. NO MEASUREMENT WILL BE MADE FOR ANY LENGTH OF TETHER WIRE FOR ATTACHMENT TO POLES OR BULLRINGS BY BENDING, LAPPING OR WRAPPING.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT.

632 SIGNAL CABLE, BY TYPE, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING SIGNAL CABLE AND FURNISHING AND REPLACING THE SIGNAL CABLE IN KIND. CONNECTORS, SPLICES, TERMINALS, REMOVAL AND REPLACEMENT OF LASHING ROD, AND SIMILAR ITEMS SHALL BE INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT.

A QUANTITY OF 1500 FEET HAS BEEN INCLUDED IN THE QUANTITY FOR THE REPLACEMENT OF THE SIGNAL CABLE AT THE INTERSECTION OF MERCER COUNTY US 33 & OH 196.

632 LOOP DETECTOR LEAD-IN CABLE, BY TYPE, BY SIZE, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND REPLACING AN UNDERGROUND LOOP DETECTOR LEAD-IN CABLE. REMOVING THE EXISTING LEAD-IN CABLE FROM THE CONDUIT AND THE INSTALLATION OF SPLICES SHALL BE INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE MADE AT THE CONTRACT BID PRICE PER FOOT.

632 POWER CABLE, BY TYPE, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING POWER CABLE AND FURNISHING AND REPLACING THE POWER CABLE BY TYPE AS NECESSARY. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT.

632 POWER SERVICE, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING AN EXISTING POWER SERVICE AND FURNISHING AND INSTALLING A NEW POWER SERVICE SO THAT THE CIRCUIT IS RETURNED TO NORMAL OPERATION. TWO (2) DISCONNECT SWITCHES MAY BE REQUIRED BY THE UTILITY COMPANY. THE COST OF THE SECOND DISCONNECT WILL BE INCLUDED IN THIS ITEM. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE.

632 CONDUIT RISER, BY SIZE, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE REMOVAL, IF NECESSARY, AND FURNISHING AND INSTALLING A CONDUIT RISER PER 632.20. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE.

No	County	Route	Crossing Route	Red Ball	Yellow Ball	Green Ball	Red Arrow	Yellow Arrow	Green Arrow
1	MOT	SR 4	& CR Farmersville-West Carrollton Road (CR 50)	8	8	8			
4	MOT	US 35	& CR Union Road (CR 125)	8	8	8		2	2
5	MOT	US 35	& CR Olive Road	8	8	8		2	2
7	MOT	US 35	& CR Infirmary Road (CR 149)	9	9	9	4	4	4
9	MOT	US 40	& CR Frederick Pike (CR 165)	9	9	9			
27	MOT	IR 70	WB Ramp & CR Hoke Road (CR 27)	6	6	6			
42	MOT	IR 75	SB Ramp & SR 741				5	5	5
58	MOT	IR 675	SB Ramp & CR Yankee-Leona Lane (CR 175)	8	8	8			2
59	MOT	IR 675	NB Ramp & SR 725	7	7	7			
61	MOT	IR 675	SB Ramp & SR 48	7	7	7			
65	MOT	SR 725	& PD Mall Park Drive (Mall Entrance #4)	8	8	8			
67	MOT	SR 725	& TR Kingsridge Drive (TR 2660)	8	8	8		4	4
68	MOT	SR 725	& PD South Towne Center Drive	8	8	8	1	2	2
69	MOT	SR 725	& TR Southwind/Southview Hospital	9	9	9		2	2
72	MOT	SR 725	& TR Lyons Road (TR 150)	8	8	8	1	4	4
74	MOT	SR 725	& CR Paragon Road (CR 145)	8	8	8	1	4	4
75	MOT	SR 725	& TR North Congress Park Drive (TR 3369)	8	8	8	1	2	2
76	MOT	SR 725	& TR Miller Farm Lane (TR 141)	8	8	8		2	2
81	MOT	SR 741	& TR Miami Village Drive (TR 3624)	8	8	8		2	2
82	MOT	SR 741	& TR Spring Valley Pike (TR 86)	8	8	8		2	2
83	MOT	SR 741	& TR Ferndown Drive (TR 3539)	8	8	8		1	1
84	MOT	SR 741	& TR Newmark Drive	8	8	8		1	1
86	MOT	SR 741	& TR Kingsridge Drive (TR 2660)	8	8	8		4	4
89	MOT	SR 741	& TR Carnation Road (TR 2519)	8	8	8			
TOTAL				183	183	183	13	43	45



SHEET NUM.										PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
										01/SAF/21							
										LS	201	11001	LS			ROADWAY	9,13
										20	611	00400	20	FT	4" CONDUIT, TYPE E, 725.051		
										20	625	00480	20	EACH	CONNECTION, UNFUSED PERMANENT	9	
										350	625	10500	350	EACH	LIGHT POLE, MISC.: STRUCTURE MAINTENANCE	10	
										15	625	10503	15	EACH	LIGHT POLE (INSTALLATION ONLY), AS PER PLAN, CONVENTIONAL	10	
										1	625	10503	1	EACH	LIGHT POLE (INSTALLATION ONLY), AS PER PLAN, LOW MAST	10	
										10	625	10505	10	EACH	ERECTING REUSABLE DOWNED LIGHT POLE, AS PER PLAN	10	
										84	625	13500	84	EACH	LIGHT TOWER, MISC.: STRUCTURE MAINTENANCE	10	
										2	625	13500	2	EACH	LIGHT TOWER, MISC.: PLUG	11	
										2	625	13500	2	EACH	LIGHT TOWER, MISC.: JUNCTION BOX	11	
										2	625	13500	2	EACH	LIGHT TOWER, MISC.: PLUG ON TOWER RING, AS PER PLAN	11	
										2	625	14401	2	EACH	LIGHT POLE FOUNDATION REPAIR, AS PER PLAN	11	
										15	625	14500	15	EACH	LIGHT POLE FOUNDATION		
										1	625	15100	1	EACH	LIGHT TOWER FOUNDATION, 36" X 20' DEEP		
										1	625	18600	1	EACH	BRACKET ARM, MISC.: CONVENTIONAL LIGHT POLE	11	
										1	625	18600	1	EACH	BRACKET ARM, MISC.: LOW MAST LIGHT POLE	11	
										10	625	18600	10	EACH	BRACKET ARM, MISC.: INSTALLATION OF REUSABLE BRACKET ARM	11	
										2,000	625	23201	2,000	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE, AS PER PLAN	11	
										300	625	23301	300	FT	NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE, AS PER PLAN	11	
										1,500	625	23401	1,500	FT	NO. 10 AWG POLE AND BRACKET CABLE, AS PER PLAN	11	
										200	625	24101	200	FT	1-1/2" DUCT CABLE WITH TWO NO. 4 AWG 2400 VOLT CABLES, AS PER PLAN	11	
										200	625	24301	200	FT	1-1/2" DUCT CABLE WITH TWO NO. 2 AWG 2400 VOLT CABLES, AS PER PLAN	11	
										200	625	24321	200	FT	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES, AS PER PLAN	11	
										50	625	25400	50	FT	CONDUIT, 2", 725.04		
										300	625	25408	300	FT	CONDUIT, 2", 725.051		
										150	625	25900	150	FT	CONDUIT, JACKED OR DRILLED, 3"		
										225	625	26253	225	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, REMOVAL AND FURNISHING	11	
										2	625	26263	2	EACH	LUMINAIRE, HIGH MAST, SOLID STATE (LED), AS PER PLAN, REMOVAL AND FURNISHING	11	
										2	625	26273	2	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, REMOVAL AND FURNISHING	11	
										2	625	27503	2	EACH	LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN, REMOVAL AND FURNISHING	11	
										200	625	27600	200	EACH	LUMINAIRE, MISC.: LUMINAIRE MAINTENANCE	11	
										10	625	27600	10	EACH	LUMINAIRE, MISC.: LED DRIVER, CONVENTIONAL, 240V	11	
										10	625	27600	10	EACH	LUMINAIRE, MISC.: LED DRIVER, CONVENTIONAL, 480v	11	
										5	625	27600	5	EACH	LUMINAIRE, MISC.: LED DRIVER, LOW MAST, 480V	11	
										5	625	27600	5	EACH	LUMINAIRE, MISC.: LED DRIVER, TOWER, 480V	11	
										5	625	27600	5	EACH	LUMINAIRE, MISC.: LED DRIVER, UNDERPASS, 480V	11	
										300	625	29003	300	FT	TRENCH, 24" DEEP, AS PER PLAN	12	
										15	625	30700	15	EACH	PULL BOX, 725.08, 18"		
										1	625	30706	1	EACH	PULL BOX, 725.08, 24"		
										15	625	32001	15	EACH	GROUND ROD, AS PER PLAN	12	
										2	625	33100	2	EACH	CIRCUIT BREAKER, TOWER LIGHTING	12	
										1	625	34001	1	EACH	POWER SERVICE, AS PER PLAN, POLE MOUNTED	12	
										1	625	34001	1	EACH	POWER SERVICE, AS PER PLAN, GROUND MOUNTED	12	
										1	625	34451	1	EACH	CONTROL CENTER CABINET, COMPLETE, AS PER PLAN, 100 AMP	12	
										24	625	34507	24	EACH	CONTROL CENTER MAINTENANCE ITEM, AS PER PLAN, CONTROL CENTER CABINET & SITE MAINTENANCE	12	
										5	625	34507	5	EACH	CONTROL CENTER MAINTENANCE ITEM, AS PER PLAN, FUSE	12	
										3	625	34507	3	EACH	CONTROL CENTER MAINTENANCE ITEM, AS PER PLAN, CIRCUIT BREAKER	12	
										1	625	34507	1	EACH	CONTROL CENTER MAINTENANCE ITEM, AS PER PLAN, DISCONNECT SWITCH	12	
										3	625	34507	3	EACH	CONTROL CENTER MAINTENANCE ITEM, AS PER PLAN, CONTACTOR	12	
										1	625	34507	1	EACH	CONTROL CENTER MAINTENANCE ITEM, AS PER PLAN, PHOTO-CELL TRANSFORMER	12	
										1	625	34507	1	EACH	CONTROL CENTER MAINTENANCE ITEM, AS PER PLAN, H-O-A SWITCH	12	
										3	625	35101	3	EACH	REERECT EXISTING LUMINAIRE, AS PER PLAN	12	
										100	625	36201	100	FT	POWER CABLE FOR LIGHT TOWER, AS PER PLAN	12	
										3	625	50000	3	EACH	REPAIRING UNDERGROUND BREAK OF CABLE IN DUCT OR CONDUIT	12	
										10	625	50301	10	EACH	FRANGIBLE BASE, AS PER PLAN	13	
										10	625	50301	10	EACH	FRANGIBLE BASE, AS PER PLAN, INSTALLATION ONLY	13	
										1	625	50401	1	EACH	REPAIR INTEGRAL LUMINAIRE LOWERING MECHANISM OF TOWER LIGHTING FIXTURE, AS PER PLAN	13	

DESIGN AGENCY



DESIGNER
CJP

REVIEWER
XXX MM-DD-YY

PROJECT ID
121504

SHEET TOTAL
P.18 | 27

SHEET NUM.										PART.		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
										01/SAF/21			EXT	TOTAL			
LIGHTING																	
										3		625	50451	3	EACH	SECONDARY SURGE PROTECTOR, AS PER PLAN, TOWER	13
										3		625	50451	3	EACH	SECONDARY SURGE PROTECTOR, AS PER PLAN, CONVENTIONAL	13
										20	SPECIAL		6250500	20	EACH	EMERGENCY RESPONSE-KNOCKDOWN, ROADWAY HAZARD AND/OR LIVE EXPOSED WIRE	13
										15		625	75500	15	EACH	LIGHT POLE FOUNDATION REMOVED	11
										2		625	98000	2	EACH	LIGHTING, MISC.:BARRIER WALL FOUNDATION REPAIR	11
										10		625	98000	10	EACH	LIGHTING, MISC.: PHOTOELECTRIC CELL	13
										25		625	98000	25	EACH	LIGHTING, MISC.: FUSED, PULL-APART CONNECTOR KIT	13
										60		625	98000	60	EACH	LIGHTING, MISC.: CONNECTOR KIT, KTK FUSE	13
										3		625	98000	3	EACH	LIGHTING, MISC.: LAMP FOR LUMINAIRE, UNDERDECK OR WALL MOUNT	13
										3		625	98000	3	EACH	LIGHTING, MISC.: LAMP FOR LUMINAIRE, CONVENTIONAL	13
										3		625	98000	3	EACH	LIGHTING, MISC.: RELAMP FOR LUMINAIRE, CONVENTIONAL	13
										10		625	98000	10	EACH	LIGHTING, MISC.: REMOVAL AND REERECTION OF LIGHT POLE FOR FRANGIBLE BASE REPLACEMENT	13
										1,500		625	98100	1,500	FT	LIGHTING, MISC.: REMOVING CABLE IN EXISTING DUCT OR CONDUIT	13
										80		625	98700	80	HOUR	LIGHTING, MISC.: FAULT DIAGNOSIS	13
										200		625	98700	200	HOUR	LIGHTING, MISC.: MARKING EXISTING UNDERGROUND LIGHTING CABLE LOCATIONS	13
TRAFFIC CONTROL																	
										32		630	79001	32	EACH	SIGN HANGER ASSEMBLY, SPAN WIRE, AS PER PLAN	13
										32		630	79100	32	EACH	SIGN HANGER ASSEMBLY, MAST ARM	
										350		630	80100	350	SF	SIGN, FLAT SHEET	
TRAFFIC SIGNALS																	
										24		632	04000	24	EACH	VEHICULAR SIGNAL HEAD, MISC.:VEHICULAR SIGNAL HEAD, MISC.: BACKPLATE, 3 -SECTION, AS PER PLAN	14
										2		632	04000	2	EACH	VEHICULAR SIGNAL HEAD, MISC.:VEHICULAR SIGNAL HEAD, MISC.: BACKPLATE, 4 -SECTION, AS PER PLAN	14
										5		632	04000	5	EACH	VEHICULAR SIGNAL HEAD, MISC.:VEHICULAR SIGNAL HEAD, MISC.: BACKPLATE, 5 -SECTION, AS PER PLAN	14
										2		632	04911	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, ALUMINUM, AS PER PLAN, YELLOW	14
										12		632	05007	12	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW	13
										2		632	05061	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 4-SECTION, 12" LENS, 1-WAY, ALUMINUM, AS PER PLAN, YELLOW	14
										2		632	05065	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 4-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW	13
										2		632	05081	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, ALUMINUM, AS PER PLAN, YELLOW	14
										2		632	05087	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, YELLOW	13
										183		632	10101	183	EACH	RELAMP EXISTING SIGNAL SECTION WITH LED LAMP UNIT, AS PER PLAN, CIRCULAR RED	14
										183		632	10101	183	EACH	RELAMP EXISTING SIGNAL SECTION WITH LED LAMP UNIT, AS PER PLAN, CIRCULAR YELLOW	14
										183		632	10101	183	EACH	RELAMP EXISTING SIGNAL SECTION WITH LED LAMP UNIT, AS PER PLAN, CIRCULAR GREEN	14
										43		632	10101	43	EACH	RELAMP EXISTING SIGNAL SECTION WITH LED LAMP UNIT, AS PER PLAN, YELLOW ARROW	14
										45		632	10101	45	EACH	RELAMP EXISTING SIGNAL SECTION WITH LED LAMP UNIT, AS PER PLAN, GREEN ARROW	14
										13		632	10101	13	EACH	RELAMP EXISTING SIGNAL SECTION WITH LED LAMP UNIT, AS PER PLAN, RED ARROW	14
										10		632	10101	10	EACH	RELAMP EXISTING SIGNAL SECTION WITH LED LAMP UNIT, AS PER PLAN, PEDESTRIAN SIGNAL MODULE, TYPE D2 COUNTDOWN	14
										2		632	20731	2	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN, BLACK	14
										4		632	20751	4	EACH	ACCESSIBLE PEDESTRIAN PUSHBUTTON, AS PER PLAN, YELLOW	14
										4		632	26001	4	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN, YELLOW	14
										1		632	26501	1	EACH	DETECTOR LOOP, AS PER PLAN	14
										400		632	30200	400	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	14
										400		632	30601	400	FT	TETHER WIRE, WITH ACCESSORIES, AS PER PLAN	14
										100		632	40501	100	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG, AS PER PLAN	14
										1,500		632	40701	1,500	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG, AS PER PLAN	14
										1,500		632	43300	1,500	FT	SIGNAL CABLE, MISC.: RADAR DETECTION CABLE	14
										100		632	65301	100	FT	LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 14 AWG, AS PER PLAN	14
										100		632	67191	100	FT	POWER CABLE, 1 CONDUCTOR, NO. 8 AWG, AS PER PLAN	14
										1		632	70001	1	EACH	POWER SERVICE, AS PER PLAN	14
										1		632	70301	1	EACH	CONDUIT RISER, 1-1/2" DIAMETER, AS PER PLAN	14
										2		632	89500	2	EACH	PEDESTAL, 3'	
										8		632	89900	8	EACH	PEDESTAL, 8', TRANSFORMER BASE	
										LS		632	90300	LS		SIGNALIZATION, MISC.: IPAD/IPHONE DEVICES AND TRAINING FOR FIELD MAPS APPLICATION	6
										2		632	90400	2	EACH	SIGNALIZATION, MISC.: SPAN WIRE ADJUSTMENT	15
										3		632	90400	3	EACH	SIGNALIZATION, MISC.: REPLACEMENT OF S-HOOK FOR TETHER WIRE	15
										91		632	90400	91	EACH	SIGNALIZATION, MISC.: UPS SYSTEM INSPECTION & MAINTENANCE	15
										100		632	90400	100	EACH	SIGNALIZATION, MISC.: 1-HOUR CALL OUT	15

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SHEET NUM.											PART.		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
											01/SAF/21		EXT	TOTAL				
TRAFFIC SIGNALS																		
											150		632	90400	150	EACH	SIGNALIZATION, MISC.: NEXT-DAY CALL OUT	15
											90		632	90400	90	EACH	SIGNALIZATION, MISC.: INSIDE CABINET MAINTENANCE	15
											1		632	90400	1	EACH	SIGNALIZATION, MISC.: INSIDE CABINET MAINTENANCE - CFI INTERSECTION	15
											90		632	90400	90	EACH	SIGNALIZATION, MISC.: OUTSIDE CABINET MAINTENANCE	15
											1		632	90400	1	EACH	SIGNALIZATION, MISC.: OUTSIDE CABINET MAINTENANCE - CFI INTERSECTION	16
											2		632	90400	2	EACH	SIGNALIZATION, MISC.: REPAIR OF UNDERGROUND CABLES	16
											50		632	90500	50	FT	SIGNALIZATION, MISC.: RESEALING LOOP DETECTORS	16
											100		632	90500	100	FT	SIGNALIZATION, MISC.: LASHING RODS	16
											150		632	90800	150	HOUR	SIGNALIZATION, MISC.: MARKING EXISTING UNDERGROUND UTILITIES	16
											1		633	65511	1	EACH	CABINET, TYPE TS-2, AS PER PLAN, GROUND MOUNTED	16
											1		633	67200	1	EACH	CONTROLLER WORK PAD	16
											4		633	67501	4	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), BATTERY REPLACEMENT, AS PER PLAN	16
											1		633	75000	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT	16
											1		633	99000	1	EACH	CONTROLLER ITEM, MISC.: SHELF MOUNTED DETECTOR AMPLIFIER REPLACEMENT	16
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: VIDEO IMAGING DETECTION CAMERA REPLACEMENT	16
											1		633	99000	1	EACH	CONTROLLER ITEM, MISC.: LOOP DETECTOR WIRING HARNESS	16
											5		633	99000	5	EACH	CONTROLLER ITEM, MISC.: LOAD SWITCH/FLASHER REPLACEMENT	16
											5		633	99000	5	EACH	CONTROLLER ITEM, MISC.: BUS INTERFACE UNIT REPLACEMENT	16
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: POWER SUPPLY REPLACEMENT	16
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: TROUBLESHOOTING FIBER OPTIC COMMUNICATION	17
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: INTERIM HOUSING ASSEMBLY WITH CONTROLLER, AS PER PLAN	17
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: REMOVE AND REPLACE FLASH TRANSFER RELAY	17
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: REMOVE AND REPLACE MERCURY RELAY SWITCH	17
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: REPLACE CAMERA CARD	17
											3		633	99000	3	EACH	CONTROLLER ITEM, MISC.: REPLACE DETECTOR CARD	17
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: REPLACE RADAR DETECTOR CARD	17
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: REPLACE RADAR DETECTOR MODULE	17
											2		633	99000	2	EACH	CONTROLLER ITEM, MISC.: UNINTERRUPTIBLE POWER SUPPLY (UPS), INVERTER	17
											4		633	99000	4	EACH	CONTROLLER ITEM, MISC.: UNINTERRUPTIBLE POWER SUPPLY (UPS) BATTERY REPLACEMENT, INSTALLATION ONLY	17
											4		633	99000	4	EACH	CONTROLLER ITEM, MISC.: MALFUNCTION MANAGEMENT UNIT (MMU) REPLACEMENT, 16 CHANNEL, INSTALLATION ONLY	17
											40		633	99400	40	HOUR	CONTROLLER ITEM, MISC.: ENGINEERING SERVICES SIGNAL TIMING REGULAR RATE	17
											15		633	99400	15	HOUR	CONTROLLER ITEM, MISC.: ENGINEERING SERVICES SIGNAL TIMING OVERTIME RATE	17
											5		804	35001	5	EACH	FUSION SPLICE, AS PER PLAN	17
											4		809	69000	4	EACH	ADVANCE RADAR DETECTION	17
											8		809	69001	8	EACH	ADVANCE RADAR DETECTION, AS PER PLAN	17
											4		809	69100	4	EACH	STOP LINE RADAR DETECTION	17
											8		809	69101	8	EACH	STOP LINE RADAR DETECTION, AS PER PLAN	17
											1		809	69123	1	EACH	ATC CONTROLLER, AS PER PLAN	17
MAINTENANCE OF TRAFFIC																		
											75		614	11110	75	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	9
											LS		614	11000	LS		MAINTAINING TRAFFIC	7
											LS		614	12420	LS		DETOUR SIGNING	17A
INCIDENTALS																		
											LS		103	05000	LS		PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND	
											10		619	16011	10	MNTH	FIELD OFFICE, TYPE B, AS PER PLAN	5
											LS		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS		624	10000	LS		MOBILIZATION	

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