

02/16/17 G:\Projects\2278 12th Ave SE from SH 9 to Cedar Ln\CAD\QUANT Logn

TRAFFIC SIGNAL AND FIBER PAY QUANTITIES

12th Avenue SE at SH 9 in Norman, OK

Table with columns: ITEM, DESCRIPTION, UNIT, 12TH AVE. SE & SH 9, FIBER INTERCONNECT, TOTAL. Lists various traffic signal and fiber components with quantities.

GENERAL CONSTRUCTION NOTES

SYMBOLS AND LEGENDS ARE DIAGRAMMATIC ONLY AND LOCATIONS SHALL BE ADJUSTED FOR EXISTING FIELD CONDITIONS...

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC...

ALL BROKEN CONCRETE, WASTE MATERIAL, AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR...

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES...

PAY QUANTITY NOTES

(SP-1) THIS PROJECT INVOLVES THE INSTALLATION OF FIBER OPTIC CABLE TO INTERCONNECT THE 12TH AVENUE SE TRAFFIC SIGNAL AT SH 9 TO THE EXISTING SYSTEM...

A. PULL BOXES, SPLICES POINTS, FIBER LOCATING 1. ALL FIBER OPTIC GROUND BOXES SHALL BE GB36 (ODOT TYPICAL GB-36 GROUND BOX)...

2. PAY ITEM IS FOR ONE (1), 12 STRAND ARMORED PIG TAIL TO BE INSTALLED ON THIS PROJECT TO RUN FROM THE SIGNAL CONTROLLER CABINET AT SH 9 TO THE NEARBY SPLICE BOXES...

3. ALL FIBER OPTIC CABLE NEEDS TO BE ARMORED FIBER OPTIC CABLE. INSTALLATION DEPTH SHOULD BE BETWEEN 36" AND 48" IF INSTALLATION IS CONSTRAINED...

4. PAY ITEM IS FOR FOURTEEN (14) FIBER OPTIC ROUTE INDICATION SIGNS TO BE PLACED ALONG THE ROUTE OF THE FIBER OPTIC CABLE AT EACH GROUND BOX.

5. TWELVE (12) SPLICES REQUIRED AT SH 9 AND TWELVE (12) TERMINATIONS REQUIRED SH 9. THE COLOR OF BUFFER TUBE TO BE USED FOR THE PROJECT WILL BE PROVIDED BY THE CITY OF NORMAN I.T. DEPARTMENT AS THE PROJECT PROGRESSES.

B. FIBER - THE PAY QUANTITY IS FOR 144 STRAND, ARMORED, SINGLE-MODE FIBER OPTIC CABLE TO BE RUN FROM SH 9 TO CEDAR LANE, AS SHOWN IN THE PLANS.

C. SPLICE ENCLOSURES - SPLICE ENCLOSURES SHALL BE FULL COYOTE SPLICE ENCLOSURES, OR APPROVED EQUAL.

D. SPLICING RESPONSIBILITY 1. SPLICING WILL BE REQUIRED AT CEDAR LANE INTO DESIGNATED PAIRS OF EXISTING FIBER DIAGRAMS...

3. SPLICING WILL BE REQUIRED FOR THE 144 STRAND CABLE TO TIE INTO THE SPLICE CASE AT SH 9 & 12TH AVENUE SE.

E. PATCH PANEL 1. PAY ITEM IS FOR THE INSTALLATION OF ONE (1) CORNING OR COMSCOPE 12 PORT, SC PATCH PANELS TO BE MOUNTED UNDER THE TOP SHELF IN THE CABINET...

(SP-2) IN ORDER TO DEVELOP A SERVICEABLE INSTALLATION, ADDITIONAL FIBER AND COMMUNICATION EQUIPMENT IS REQUIRED. THIS WILL BE PAID FOR UNDER ITEM 819 8780 AND INCLUDES THE FOLLOWING:

A. CISCO SWITCH (TO BE DELIVERED TO THE CITY OF NORMAN IT DEPARTMENT FOR INSTALLATION) MODEL NUMBER WS-C3750X-12S-E. FINALLY, FIBER OPTIC MODULES ARE NEEDED TO PLUG INTO THE SWITCHES...

(SP-3) THE 2-INCH HIGH DENSITY PE PIPE USED ON THIS PROJECT SHALL BE SDR 11.

(SP-4) FIBER SHOULD BE COMSCOPE, LIGHTSCOPE, OUTSIDE PLANT, DOUBLE JACKET, SINGLE ARMORED, SINGLE MODE 144 STRAND AND 12 STRAND FIBER, OR APPROVED EQUAL.

(SP-5) THE POWER SHALL REQUIRE A TRANSFORMER OR A STEP DOWN TO SUPPLY THE PROPER POWER TO THE EQUIPMENT.

(ITS-2) THE INSTALLATION OF THE FIBER OPTIC CABLES, SPLICES AND TERMINATIONS SHALL BE THE RESPONSIBILITY OF THE FIBER CONTRACTOR FOR THIS PORTION OF THE PROJECT...

(ITS-6) THE FIBER OPTIC CABLE SHALL BE PULLED WITH MULE TAPE, BY NEPTCO, INC., OR AN APPROVED EQUAL. NO GREATER THAN A 600 POUND PULL STRENGTH.

(ITS-7) THE INSTALLED FIBER OPTIC CABLE SHALL BE OTRD TESTED AND SHALL MEET INDUSTRY STANDARDS. LIGHT LOSS AS TESTED SHALL BE NO GREATER THAN .10 DB FOR THE ENTIRE FIBER RUN.

(ITS-12) SPLICING WILL BE DONE BY THE FUSION WELD METHOD AND THE WELDING PROCESS SHALL BE SPECIFICALLY DESIGNED FOR SPLICING SINGLE-MODE FIBERS...

(ITS-15) THE CONTRACTOR SHALL PROVIDE "AS-BUILT" DOCUMENTATION FOR ALL FIBER OPTIC CABLE ROUTES (TO/FROM), INDIVIDUAL FIBERS, TERMINATIONS, SPLICES, FINAL DESTINATIONS, AND OTRD READINGS.

(ITS-22) THE COST BID FOR THIS ITEM SHALL INCLUDE THE COST OF SHIELD ISOLATION PEDESTAL (RELIABLE SIP40), THE W-FLANGE POST, 2.5 LBS. FT., TWO FIBER OPTIC SIGNS, TAGGING AND IDENTIFYING OF EACH FIBER OPTIC CABLE...

(TL-35) SEE SERVICE POLE SCHEDULE; FOR ADDITIONAL INFORMATION CONCERNING THE SERVICE POLE, CONTACT THE FOLLOWING PRIOR TO INSTALLATION: PERSON'S NAME.....DAVID RIESLAND. WITH THE CITY OF.....NORMAN. CITY'S TELEPHONE NO.....405-329-0528.

(TP-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY. SEE THE 2009 SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

(TR-24) ALL TRAFFIC SIGNAL EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE CITY. THE CONTRACTOR SHALL DELIVER REMOVED EQUIPMENT TO THE CITY OF NORMAN AT 1311 DA VINCI STREET...

(1) POLYMER CONCRETE PULL BOXES SHALL BE USED.

(2) PAY ITEM IS FOR THE INSTALLATION OF OVERSIZED 17" X 30" X 12" PULL BOXES, AS SHOWN IN THE PLANS.

(3) QUANTITY INCLUDES AN S-55 FOOTING FROM THE "DUAL MAST ARM FOOTING DATA" TABLE FROM ODOT STANDARD DRAWING CFD1-2-00 TO BE INSTALLED FOR THE 60" MAST ARM POLE "E" ON THIS PROJECT...

(4) THE HAND HOLES AT THE BASE OF THE POLES SHALL BE PLACED AT 135 DEGREES CLOCKWISE FROM THE MAST ARMS IN ORDER TO AVOID CONFLICTS WITH THE PEDESTRIAN PUSH BUTTONS AND SIGNS BEING INSTALLED ON THIS PROJECT...

(5) THE PEDESTRIAN POLES TO BE SUPPLIED ON THIS PROJECT SHALL BE 10" DIAMETER POLES AND INCLUDE POLE AND BASE COLLAR ASSEMBLY PELCO PART NO. PB-5325-PNC.

(6) THE PEDESTRIAN POLES TO BE SUPPLIED ON THIS PROJECT SHALL BE AN LED HOLOPHANE LEDGEND FIXTURE IN ACCORDANCE WITH THE LATEST CITY OF NORMAN STANDARDS AND SPECIFICATIONS...

(7) THIS PAY ITEM IS TO BRING POWER TO THE CONTROLLER CABINET FROM THE SERVICE POLE.

(8) THE CONTROLLER(S) TO BE FURNISHED ON THIS PROJECT SHALL HAVE A NATURAL ALUMINUM FINISH AND BE VEHICLE ACTUATED SOLID STATE DIGITAL CONTROLLER(S) WITH VOLUME DENSITY FEATURES...

(9) CONTROLLER UNIT, CONFLICT MONITOR, AND VIDEO DETECTION SYSTEM SHALL EACH BE EQUIPPED WITH 10/100-TX ETHERNET COMMUNICATIONS PORT.

INTERSECTION 12TH AVE SE & SH 9 TYPE 8P CONFLICT & USER FLASH ALL RED

THE CONTROLLER(S) WITH 2P - 4P CAPABILITY SHALL BE FURNISHED WITH 8 LOAD RECEPTACLE BAYS. CONTROLLER(S) WITH 5P - 8P CAPABILITY SHALL BE FURNISHED WITH 16 LOAD SWITCH RECEPTACLE BAYS...

CABINET SHALL HAVE A 120V RECEPTACLE INSTALLED INSIDE OF THE CABINET IN ADDITION TO OR IN LIEU OF A RECEPTACLE INSTALLED ON THE DOOR. ALSO, ALL CABINETS THAT ARE TO BE INSTALLED IN A SIGNAL INTERCONNECT SYSTEM SHALL HAVE A PULL-OUT COMPUTER SHELF AND DRAWER INSTALLED FOR LAPTOP USE AT THE CONTROLLER CABINET.

CONTROLLER SHALL BE ECONOLITE ASC3-1000 TS-2 TYPE 1, WITH NTCP FIRMWARE, AND SHALL BE FULLY COMPATIBLE WITH AND ABLE TO USE ALL THE FEATURES OF THE CITY'S CENTRACS ADVANCED TRAFFIC MANAGEMENT SYSTEM...

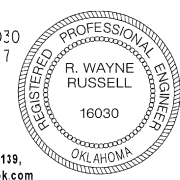
2-0 GENERAL EQUIPMENT 2.1 THE SYSTEM SHALL PROVIDE A 120 VAC 60 HZ PURE SINE WAVE. THE SYSTEM SHALL PROVIDE POWER FOR NORMAL SIGNAL OPERATION, FLASH OPERATION, AND NORMAL/FLASH COMBINATION MODE.

2.2 THE SYSTEM SHALL BE DESIGNED FOR OUTDOOR APPLICATIONS AND MEET THE ENVIRONMENTAL REQUIREMENTS AS IS STANDARD IN THE TRAFFIC INDUSTRY. IT SHALL CONFORM TO NEMA, NATIONAL ELECTRIC CODE (NEC), AND UNDERWRITERS LABORATORY (UL) STANDARDS.

R. WAYNE RUSSELL, P.E. # 16030 C.A. # 1160, RENEWAL 06-30-17

2-16-17 DATE

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Design RWR 02/16/17 Drawn SB 02/16/17



REVISIONS table with columns: NO., DESCRIPTION, DATE.

THE CONFLICT MONITOR TO BE INSTALLED ON THIS PROJECT SHALL BE AN EDI MMU2-16LEip SMART MONITOR.

(10) PAY ITEM WILL BE FOR THE RELOCATION OF THE TWO (2) PEDESTRIAN POLES IN THE MEDIANS, AS SHOWN IN THE PLANS. PRICE BID FOR THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING FOOTING...

THE FOOTING QUANTITIES, CONDUIT AND WIRING REQUIRED FOR THESE POLES WILL BE INCLUDED IN THEIR RESPECTIVE PAY ITEMS AND SHALL NOT BE INCLUDED IN THE PRICE BID FOR THIS ITEM.

(11) ALSO INCLUDED IN THE PRICE BID FOR THIS PAY ITEM SHALL BE THE INSTALLATION OF AN UNINTERRUPTIBLE POWER SUPPLY FOR TRAFFIC APPLICATIONS. THIS UNIT SHALL MEET THE FOLLOWING SPECIFICATION:

GENERAL DESCRIPTION: THE EQUIPMENT FURNISHED UNDER THIS SPECIFICATION SHALL BE THE LATEST PRODUCTION MODELS CONFORMING TO THE LATEST STANDARD SPECIFICATIONS OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AND THE CITY OF NORMAN.

THE EQUIPMENT TO BE SPECIFIED IS A TESCO CLASS 22-46 BATTERY BACKUP UNIT, OR AN APPROVED EQUAL. THE BELOW LISTED SPECIFICATIONS ARE THE DESIRED MINIMUM. BIDDER'S EQUIPMENT SHOULD EQUAL OR EXCEED THESE SPECIFICATIONS.

1-0 GENERAL

THE EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA). ANY EQUIPMENT MANUFACTURER SHALL SUPPLY CERTIFICATION SHOWING THAT THE PARTICULAR MODEL OF EQUIPMENT INTENDED TO BE FURNISHED, HAS BEEN TESTED AND APPROVED BY A QUALIFIED INDEPENDENT TESTING LABORATORY PER REQUIREMENTS SPECIFIED IN THE NEMA STANDARD...

1.1 THE BATTERY BACKUP SYSTEM SHALL HAVE MANUFACTURER'S CERTIFICATES (IF NEEDED), WARRANTY OF SERVICE, INSTRUCTION BOOKS, SERVICE MANUALS, A LIST OF GENERIC PART NUMBERS FOR SERVICE PERSONNEL, AND COMPLETE INSTALLATION INSTRUCTIONS.

1.2 THIS SPECIFICATION APPLICABLE TO A SPECIFIC INTERSECTION COVERS ONE COMPLETE UNIT OF UNINTERRUPTIBLE POWER SUPPLY TO BE ATTACHED TO TRAFFIC SIGNAL CABINETS TO OPERATE THE SIGNAL DURING POWER FAILURES.

2-0 GENERAL EQUIPMENT

2.1 THE SYSTEM SHALL PROVIDE A 120 VAC 60 HZ PURE SINE WAVE. THE SYSTEM SHALL PROVIDE POWER FOR NORMAL SIGNAL OPERATION, FLASH OPERATION, AND NORMAL/FLASH COMBINATION MODE. 2.2 THE SYSTEM SHALL BE DESIGNED FOR OUTDOOR APPLICATIONS AND MEET THE ENVIRONMENTAL REQUIREMENTS AS IS STANDARD IN THE TRAFFIC INDUSTRY...

TRAFFIC SIGNAL PAY QUANTITIES AND NOTES (1 OF 2)