

GENERAL CONSTRUCTION NOTES

SYMBOLS AND LEGENDS ARE DIAGRAMMATIC ONLY AND LOCATIONS SHALL BE ADJUSTED FOR EXISTING FIELD CONDITIONS, BUT NO MAJOR ALTERATIONS OR RELOCATIONS WILL BE MADE WITHOUT FIRST CONSULTING WITH THE TRAFFIC ENGINEERING DIVISION AT (405)521-2861.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

ALL BROKEN CONCRETE, WASTE MATERIAL, AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLECT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC.... PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES: THE "OKIE" NOTIFICATION CENTER 811 OR (405)522-6543 OR WWW.CALLOKIE.COM OR THE LOCAL COUNTY CLERK'S OFFICE.

PAY QUANTITY NOTES

(TL-24) 12 - ROADWAY LUMINAIRES SHALL BE 250 WATT HIGH PRESSURE SODIUM, WITH CLEAR LAMP OF 28,000 LUMENS, ILLUMINATION ENGINEERING SOCIETY DISTRIBUTION AS FOLLOWS:
VERTICAL = MEDIUM; LATERAL = TYPE 3;
CONTROL = SEMI; O.D.O.T. FIXTURE STYLE = A1.
SEE STD. HLD1-1-(LATEST REVISION).

(TL-35) SEE SERVICE POLE SCHEDULE FOR ADDITIONAL INFORMATION CONCERNING THE SERVICE POLE. CONTACT THE FOLLOWING PRIOR TO INSTALLATION:
PERSON'S NAME.....STUART CHAI
WITH THE COMPANY/CITY OF.....OKLAHOMA CITY.
COMPANY'S/CITY'S TELEPHONE NO. (405)297-2003.

(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 NEATLY STACK SUCH REMOVED MATERIAL AT A LOCATION ON THE JOB SITE AS DIRECTED BY THE ENGINEER. THE PRICE BID SHALL INCLUDE THE REMOVAL OF ALL FOOTINGS BELOW GROUND LEVEL OR AS DIRECTED BY THE ENGINEER. FOOTINGS TO BECOME THE PROPERTY OF THE CONTRACTOR.

(1) POLYMER CONCRETE PULL BOXES SHALL BE USED.

(2) THE CONTRACTOR SHALL CAREFULLY REMOVE ALL EXISTING TROPOS WI FI CELLS, POLICE CAMERAS, AND MICRONET UNITS AFFECTED BY CONSTRUCTION REMOVED EQUIPMENT SHALL BE PROVIDED TO THE CITY FOR STORAGE. ONCE INSTALLATION OF SIGNAL EQUIPMENT AND WIRING IS COMPLETED, CONTRACTOR TO CONTACT THE CITY AND THE CITY WILL REINSTALL THE EQUIPMENT ON THE NEW SIGNAL EQUIPMENT. REMOVAL OF TROPOS WIFI CELLS, POLICE CAMERAS, AND MICRONET UNITS SHALL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK.

(3) 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.

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

(5) THE CONTROLLERS FURNISHED ON THIS PROJECT SHALL BE A NAZTEC SERIES 900 TS2 TYPE 2. A MINIMUM OF SIXTEEN (16) LOAD SWITCH RECEPTACLES SHALL BE FURNISHED AND WIRED TO THE MOUNTING FRAME. ALL WIRING FROM THE FIELD TERMINALS SHALL BE WIRED TO THE MOUNTING FRAME FOR 8 PHASE OPERATION. ALL CORRESPONDING RECEPTACLE WIRING IN THE CABINET AND THE FIELD WIRING SHALL BE INSTALLED FOR THE CONTROLLERS AS REQUIRED EXCEPT FOR ADDITIONAL DETECTOR CONNECTOR CABLES WHEN THE CONTROLLER IS EXPANDED. CONTROLLERS SHALL BE CAPABLE OF PERFORMING AS SHOWN ON THE PHASE AND SEQUENCE DIAGRAMS. PEDESTRIAN ISOLATION SHALL BE PROVIDED IN THE CONTROLLER CABINETS. THE CONTROLLER CABINETS SHALL BE A TS2 TYPE 1 CABINETS.

(6) THE TRAFFIC SIGNAL CONTROLLERS PROVIDED ON THIS PROJECT MUST HAVE A REMOVABLE DATA TRANSFER DEVICE. THE DATA TRANSFER DEVICE SHALL ALLOW THE TRANSFER OF PROGRAMMING DATA FROM ONE CONTROLLER TO ANOTHER BY COPYING DATA FROM A SOURCE CONTROLLER TO THE DEVICE IN ORDER TO BE LOADED INTO RAM ON ANOTHER CONTROLLER.

(7) AN INNOVATIVE TECHNOLOGY MODEL #HS-P-SP-120A-30A-RH PROTECTOR TRANSIENT VOLTAGE SURGE SUPPRESSOR OR EQUIVALENT SHALL BE INSTALLED BETWEEN THE AC POWER AND CABINET. THE SUPPRESSOR SHALL BE MOUNTED ON THE SIDE OF THE CABINET IMMEDIATELY ADJACENT TO THE AC TERMINAL BLOCK.

(8) CONTROLLER MUST BE ABLE TO COMMUNICATE OVER THE EXISTING CITY OF OKLAHOMA CITY WI FI ETHERNET SYSTEM VIA CUSTOMER PREMISES EQUIPMENT (CPE) INSTALLED BY THE CONTRACTOR. ALL DEVICES INSTALLED MUST BE COMPATIBLE WITH EXISTING CONTROLLER EQUIPMENT AND CITY WI FI SYSTEM. THE CITY WILL VERIFY COMMUNICATION EXISTS WITH THE CPE AT THIS LOCATION PRIOR TO FINAL ACCEPTANCE. COST OF EQUIPMENT AND INSTALLATION SHALL BE INCLUDED IN THE COST OF THIS ITEM. COST SHALL INCLUDE MMU TO TS2 CONTROLLER DATA CABLE, NAZTEC PART NO. 10225-2103.

(9) CONTROLLER CABINET SHALL INCLUDE AN EXTENSION BASE MANUFACTURED BY NAZTEC.

(10) CONTROLLERS SHALL BE EQUIPPED WITH CONTINUOUS POWER UNIT. THIS UNIT SHALL PROVIDE 400 WATTS OF CONTINUOUS POWER FOR A MINIMUM OF 8 HOURS. THIS UNIT SHALL ALSO INCLUDE BATTERIES, CABINET, WIRING AND FAD IF NECESSARY. THIS POWER UNIT SHALL INCLUDE AN INTERCHANGEABLE HARD DISK THAT IS CAPABLE OF STORING AND RETRIEVING ALL ACTIVITY DATA, SUCH AS TIME, DATE, AND DURATION OF EVENTS. ALSO THE SURGE PROTECTORS TO BE SUPPLIED ON THIS PROJECT FOR THE TRAFFIC SIGNALS SHALL BE INNOVATIVE TECHNOLOGY, INC. SURGE PROTECTORS, MODEL NO. HS-P-SP-120A-60A-RJ, OR APPROVED EQUAL.

(11) FIELD HARDENED ETHERNET SWITCH SHALL BE A KUSA KY-3182RM, 10 PORT ETHERNET SWITCH OR APPROVED EQUAL.

(12) THIS BID ITEM CONSISTS OF THE INSTALLATION OF FOUR RADAR PRESENCE DETECTORS (RPD), WAVETRONIX SMARTSENSOR MATRIX MODEL 225 OR APPROVED EQUAL AND FOUR CONTINUOUS TRACKING ADVANCE DETECTOR (CTAD) WAVETRONIX SMARTSENSOR ADVANCE MODEL 200V OR APPROVED EQUAL, ASSOCIATED WIRING/CABLES, CONTROLLER MODULES AND ALL OTHER NECESSARY ITEMS OF WORK FOR A COMPLETE OPERATIONAL VEHICLE DETECTION SYSTEM. THE RPD SHALL BE DESIGNED WITH A MATRIX OF 16 RADARS AND SHALL BE ABLE TO DETECT AND REPORT PRESENCE IN UP TO 10 LANES WITHIN A 90 DEGREE FIELD OF VIEW WITH BOUNDARIES AS CLOSE AS 6 FEET FROM THE BASE OF THE POLE ON WHICH THE RPD IS MOUNTED. THE RPD SHALL BE ABLE TO DETECT AND REPORT PRESENCE IN CURVED LANES AND AREAS WITH ISLANDS AND MEDIANS.

THE CTAD SHALL DETECT RANGE AND SPEED TO THE STOP BAR FOR VEHICLES OR CLUSTERS OF VEHICLES MOVING IN THE USER-SELECTED DIRECTION OF TRAVEL. THE CTAD SHALL DYNAMICALLY TRACK AND UPDATE THE ESTIMATED TIME OF ARRIVAL (ETA) FOR EACH VEHICLE AS IT APPROACHES THE STOP-BAR; EACH NEWLY-MEASURED ETA RESULT WILL BE CONTINUALLY COMPARED AGAINST THE PRE-DETERMINED ETA RANGES THAT DEFINE THE DILEMMA ZONE, AND A GREEN LIGHT EXTENSION REQUEST WILL BE PROVIDED TO THE CONTROLLER WHEN ONE OR MORE VEHICLES ARE WITHIN THAT RANGE. THE CTAD SHALL ALSO DETECT INSTANTANEOUS ROADWAY EFFICIENCY.

ITEM SHALL INCLUDE 2 TS-2 SDLC CABINET INTERFACES (CI) WAVETRONIX CLICK! MODEL 650 OR APPROVED EQUAL. CI SHALL BE AN ENCLOSED UNIT, SUITABLE FOR PLACEMENT ON A CONTROLLER CABINET SHELF. CI SHALL HAVE A MASTER POWER SWITCH, INDIVIDUAL SENSOR POWER SWITCHES, AND STANDARD 120VAC POWER PLUG. EACH CI SHALL PROVIDE UP TO 64 DETECTOR CHANNELS USING THE NEMA TS-2 SDLC CONNECTION. SENSOR CONNECTIONS TO THE CI SHALL BE ACCOMPLISHED BY COLOR-CODED, QUICK-CONNECT INSULATION DISPLACEMENT TERMINATIONS. CI SHALL HAVE A OLED ILLUMINATED DISPLAY PANEL AND SIX-BUTTON KEYPAD FOR NAVIGATION AND SETTINGS ENTRY/REVISION. CI SHALL BE CONFIGURABLE VIA ETHERNET RJ-45 PORT USING A STANDARD WEB BROWSER.

SYSTEM CONFIGURATION & INSTALLATION SHALL BE SUPERVISED BY A REPRESENTATIVE OF THE MANUFACTURER, OR A CONTRACTOR REPRESENTATIVE TRAINED & CERTIFIED BY THE MANUFACTURER TO PERFORM THIS WORK.

THE EQUIPMENT DESCRIBED IN THIS NOTE SHALL BE FOR EACH OF THE TWO (2) INTERSECTIONS ON THIS PROJECT THAT SHOW VIDEO DETECTION TO BE INSTALLED. CONTRACTOR SHALL BID THIS LUMP SUM PAY ITEM ACCORDINGLY.

(13) CONTRACTOR SHALL PROVIDE POLARA 2-WIRE NAVIGATOR ACCESSIBLE PEDESTRIAN SIGNAL PUSH BUTTON OR APPROVED EQUAL. R10-3B PEDESTRIAN PUSH BUTTON SIGNS SHALL BE USED.

(14) RED, YELLOW AND GREEN LED TRAFFIC SIGNAL HEADS SHALL BE FURNISHED AND INSTALLED ON THIS PROJECT. THE LED TRAFFIC MODULES, LENSES, AND ALL ASSOCIATED MATERIAL AND EQUIPMENT SHALL CONFORM TO I.T.E. VEHICLE TRAFFIC CONTROL SIGNAL HEAD (VTCSH) STANDARDS IN EFFECT AT THE TIME THAT THE ORDER IS PLACED. LED HEADS SHALL BE CAPABLE OF OPERATING WITHOUT A REFLECTOR.

(15) LED INTERNATIONAL HEADS DISPLAYING INCANDESCENT LOOKING FULLY-ILLUMINATED SYMBOLS (WALKING PERSON AND UPRaised HAND) SHALL BE REQUIRED ON THIS PROJECT. THESE PEDESTRIAN HEADS SHALL ALSO BE COUNTDOWN TYPE HEADS.

(16) PAY ITEM IS ALSO USED TO RUN FROM THE PEDESTRIAN PUSH BUTTONS TO THE TERMINAL STRIP AT THE BASE OF THE POLES.

(17) THE PREEMPTION CONTROL SYSTEM SHALL INTERFACE WITH THE TRAFFIC CONTROLLER TO GIVE EMERGENCY VEHICLES APPROACHING THE INTERSECTION A GREEN WITH ALL OTHER INDICATIONS BEING RED. THE SYSTEM SHALL BE CAPABLE OF TWO PRIORITY LEVELS AND LOG THE LAST 100 EVENTS WITH TIME DATE STAMP. EMITTER SHALL BE SELECTABLE TO TRANSMIT UP TO 9999 VEHICLE CODES. ALL EQUIPMENT IN THE SYSTEM SHALL MEET NEMA ENVIRONMENTAL STANDARDS. THE MANUFACTURER OR MANUFACTURER'S REPRESENTATIVES SHALL PROVIDE ASSISTANCE TO THE CONTRACTOR OR AGENCY INSTALLING THE EQUIPMENT AS TO THE BEST LOCATION FOR THE DETECTOR PLACEMENT AT EACH INTERSECTION INVOLVED WITH THE PROJECT. ALL EQUIPMENT MUST BE PLANLY MARKED AS TO THE MANUFACTURER OF THE EQUIPMENT TO PROVIDE CLEAR IDENTIFICATION AS TO THE MANUFACTURER'S MODEL AND SERIAL NUMBER OF EACH UNIT. NEMA CERTIFICATION, TEST REPORTS SHALL BE PROVIDED UPON REQUEST BY THE ENGINEER.

(18) MAST ARM MOUNTED STREET NAME SIGNS SHOWN ON THE PLANS ARE LARGER THAN THE MAXIMUM SIZE USED IN STANDARD ODOT POLE AND FOOTING DESIGNS. THE CONTRACTOR AND SUPPLIER SHALL PROVIDE CERTIFICATION AND DESIGN CALCULATIONS FOR HIGHER LOADING REQUIREMENTS.

(19) PAY ITEM IS FOR THE INSTALLATION OF FLASHING ASSEMBLY IN ACCORDANCE WITH DETAIL SHEET T-10 OF THE PLANS. THE PRICE BID FOR THIS ITEM SHALL INCLUDE ALL EQUIPMENT SHOWN IN THIS DETAIL SHEET AND DESCRIBED IN THE ASSOCIATED NOTES IN ORDER FOR THE INSTALLATION TO BE COMPLETELY FUNCTIONAL UPON COMPLETION OF THE PROJECT.

PAY QUANTITIES

0300 TRAFFIC SIGNALS		SH 74				
ITEM	DESCRIPTION	UNIT	SH 74			TOTAL
			178TH	192ND	206TH	
802(B) 8332	1" PVC SCH. 40 PLASTIC CONDUIT BORED	(TP-1) LF			120.00	120.00
802(B) 8336	1 1/2" PVC SCH. 40 PLASTIC CONDUIT BORED	(TP-1) LF			325.00	325.00
802(B) 8338	1 1/2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	(TP-1) LF			1320.00	1320.00
802(B) 8342	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	(TP-1) LF	350.00	225.00	125.00	700.00
802(B) 8344	3" PVC SCH. 40 PLASTIC CONDUIT BORED	(TP-1) LF	490.00	435.00	390.00	1315.00
802(B) 8346	3" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	(TP-1) LF	70.00	70.00	60.00	200.00
803(A) 8065	PULL BOX (SIZE I)	(1) EA			11.00	11.00
803(A) 8066	PULL BOX (SIZE II)	(1) EA	4.00	4.00	1.00	9.00
804(A) 2915	STRUCTURAL CONCRETE	(TP-1) CY	31.10	29.80	28.00	88.90
804(B) 2916	REINFORCING STEEL	(TP-1) LB	4389.60	4268.80	4095.20	12753.60
805(A) 8726	(PL) REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	(TR-24)(2) LSUM	1.00	1.00		1.00
806(A) 8314	32' MH POLE 50' TS & 10' LMA (G.STL.)	(3) EA			2.00	2.00
806(A) 8353	32' MH POLE, 55' TS & 10' LMA (G.STL.)	(3) EA	4.00	4.00	2.00	10.00
806(B) 8894	10' MTG. HT. TS PED. POLE (G.STL.)	EA	2.00	4.00		6.00
806(B) 8896	12' MTG. HT. TS PED. POLE (G.STL.)	EA	4.00			4.00
809(A) 8090	ROADWAY LUMINAIRE	(TL-24) EA	4.00	4.00	4.00	12.00
810(A) 3118	SERVICE POLE	(TL-35) EA	1.00	1.00	1.00	3.00
811 8040	1/C NO. 6 ELECTRICAL CONDUCTOR	(TP-1)(4) LF	200.00	200.00	200.00	600.00
811 8044	1/C NO. 10 ELECTRICAL CONDUCTOR	(TP-1) LF	2695.00	2300.00	1950.00	6945.00
825 8550	TRAFFIC SIGNAL CONTROLLER ASSEMBLY	(5,7,8,9,10,11) EA	1.00	1.00	1.00	3.00
828 8132	(PL) DETECTION SYSTEM (VIDEO)	(12) LSUM	1.00	1.00		1.00
828(A) 8142	VEHICLE LOOP DETECTOR	EA			12.00	12.00
828(B) 8136	LOOP DETECTOR WIRE	(TP-1) LF			4315.00	4315.00
830 8000	PEDESTRIAN PUSH BUTTON	(13) EA	8.00	8.00		16.00
831 8231	1WAY 3SEC. ADJ. SIG. HD. S-6	(14) EA	12.00	8.00	8.00	28.00
831 8252	1WAY 3SEC. ADJ. SIG. HD. S-9	(14) EA	6.00	2.00	4.00	12.00
831 8262	1WAY 3SEC. ADJ. SIG. HD. S-10	(14) EA			2.00	2.00
831 8280	1WAY 4SEC. ADJ. SIG. HD. S-13	(14) EA		2.00	1.00	3.00
831 8286	1WAY 5SEC. ADJ. SIG. HD. S-19	(14) EA	4.00			4.00
831 8295	1WAY 2SEC. ADJ. PED. SIG. HD. S-20	(15) EA	8.00	8.00		16.00
833 3030	BACKPLATE	EA	22.00	12.00	15.00	49.00
834(A) 8207	5/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1) LF	4160.00	3805.00	770.00	8735.00
834(A) 8208	7/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1) LF	1395.00	160.00	75.00	1630.00
834(A) 8213	21/C TRAFFIC SIGNAL ELECTRICAL CABLE	(TP-1) LF	1255.00	1030.00	870.00	3155.00
834(B) 8220	2/C SHIELDED LOOP DETECTOR LEAD-IN CABLE	(TP-1)(16) LF	40.00	40.00	4575.00	4655.00
836 8425	REGULATORY OR WARNING SIGN ASSEMBLY	(14)(19) EA	4.00	4.00	4.00	12.00
840(A) 8592	E.P.S. OPTICAL EMITTER	(17) EA	3.00		2.00	5.00
840(B) 8593	E.P.S. OPTICAL DETECTOR	(17) EA	4.00	4.00	4.00	12.00
840(C) 8594	E.P.S. OPTICAL DETECTOR CABLE	(TP-1)(17) LF	1575.00	1350.00	1175.00	4100.00
840(D) 8595	E.P.S. 2 CHANNEL PHASE SELECTOR	(17) EA	2.00	2.00		6.00
850(C) 8118	MAST ARM MOUNTED SIGNS (ALUMINUM)	(18) SF	67.00	63.00	57.50	187.50

Design	RWR	08/10/17
Drawn	SB	08/10/17



**TRAFFIC SIGNAL
PAY QUANTITIES & NOTES**

G:\0\Projects\T-1662B SH 74 @ NW 178th, NW 192nd & NW 206th\CAD\OUNT SIG.dgn 08/10/17