

**TRAFFIC SIGNAL GENERAL NOTES:**

- INSTALL SIGNALS HORIZONTALLY ON MAST ARM, 17 FT. - 6 IN ABOVE THE ROADWAY.
- LOCATE CONTROLLER, MAST ARM POLES, VIVDS CAMERAS, ETC. AS APPROVED.
- REMOVE THE EXISTING STOP SIGN(S) AND THOSE ITEMS DEEMED SALVAGEABLE BY THE ENGINEER. STOCKPILE THOSE ITEMS WITHIN THE RIGHT OF WAY. REMOVE AND DISPOSE OTHER ITEMS AT NO EXPENSE TO THE CITY.
- REPAIR OR REPLACE PAVEMENT AND SIDEWALKS DAMAGED BY THE CONTRACTOR'S FORCES DURING CONSTRUCTION AT NO COST TO THE CITY.
- PLACE THE PAVEMENT MARKINGS AS SHOWN ON THE PLANS OR AS DIRECTED.
- VERIFY THE CORRECT MAST ARM POLE LENGTHS FOR THE SIGNALIZED INTERSECTION PRIOR TO ORDERING THE EQUIPMENT.
- FURNISH VEHICLE AND PEDESTRIAN SIGNALS WITH LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS.
- FURNISH SYMBOL TYPE PEDESTRIAN COUNTDOWN SIGNALS. INSTALL USING MOUNTING HEIGHT IN ACCORDANCE WITH THE LATEST TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- FURNISH MATERIALS NECESSARY TO INSTALL ACCESSIBLE PEDESTRIAN SIGNAL UNITS AND SIGNS AS SHOWN IN THE PLANS. INSTALL AT 3 FT.-6 IN TO 4 FT.-0 IN. ABOVE THE SIDEWALK OR CONCRETE WALKWAY.
- FURNISH AND INSTALL FULL ACTUATED CONTROLLER WITH INTERNAL TIME BASE COORDINATION UNIT IN A BASE MOUNTED CABINET. THE FURNISHED CONTROLLER AND FIBER OPTIC COMPONENTS ARE TO BE COMPATIBLE WITH THE EXISTING CLOSED LOOP SYSTEM ALONG THE ROADWAY.
- CAP SPARE CONDUITS INSTALLED IN POLE FOUNDATIONS AND GROUND BOXES USING APPROVED CAPPING DEVICES.
- DO NOT PLACE THE SIGNAL HEADS OVER THE ROADWAY UNTIL ALL NECESSARY MATERIALS ARE ON HAND AS APPROVED BUT NO SOONER THAN 2-WEEKS BEFORE SIGNAL GOES ACTIVE.
- PROVIDE CONTINUED OPERATION OF THE EXISTING SIGNAL(S) DURING CONSTRUCTION AND UNTIL THE PROPOSED OPERATION IS COMPLETED.
- ONCE THE INTEGRITY AND/OR FUNCTION OF THE EXISTING TRAFFIC SIGNAL(S) IS ALTERED BY THE CONTRACTOR, MAINTAIN AND OPERATE THE EXISTING TRAFFIC SIGNAL(S) UNTIL THE TRAFFIC SIGNAL WORK IS ACCEPTED BY THE CITY. DURING THE CONSTRUCTION OF THE PROPOSED TRAFFIC SIGNAL WORK, MAINTAIN THE EXISTING TRAFFIC SIGNAL(S) AND/OR TEMPORARY CONSTRUCTION TRAFFIC SIGNAL(S) IN CONFORMANCE WITH THE LATEST TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- MAINTAIN THE INTEGRITY AND FUNCTION OF EACH EXISTING SIGNALIZED INTERSECTION. ONCE THE INTEGRITY OR FUNCTION OF THE SIGNAL HAS BEEN ALTERED, PURSUE THE WORK AT THAT LOCATION WITHOUT DELAY OR INTERRUPTION TO RESTORE OPERATION TO ITS ORIGINAL OR FINAL OPERATION DESIGN.
- INSTALL A 5/8 IN. (MINIMUM) EYE BOLT FOR THE POINT OF ATTACHMENT BELOW THE SERVICE ENTRANCE WEATHERHEAD FOR THE SERVICE DROP TO STEEL POLE.
- WRAP TRAFFIC AND PEDESTRIAN SIGNAL HEADS WITH DARK PLASTIC OR SUITABLE MATERIAL TO CONCEAL THE SIGNAL FACES FROM THE TIME OF INSTALLATION UNTIL PLACING INTO OPERATION.
- GROUND STEEL MAST ARM POLE ASSEMBLIES IN ACCORDANCE WITH REQUIREMENTS SHOWN ON THE LATEST TRAFFIC SIGNAL POLE FOUNDATION STANDARD. USE THE GROUNDING LUG ON THE POLE TO GROUND THE POLE TO THE GROUND CONDUCTORS FROM THE CONDUITS.
- INSTALL A CLOSE NIPPLE WITH LOCK NUT AND BUSHING (SIZE AS REQUIRED) WHERE THE CABLES ENTERS THE UPPER PORTION OF THE SIGNAL POLE.
- FURNISH VIDEO IMAGING VEHICLE DETECTION SYSTEM (VIVDS) CABLE RECOMMENDED BY MANUFACTURER OR PURCHASE CABLE FROM THE SAME MANUFACTURER THAT SUPPLIED/PROVIDED THE VIVDS EQUIPMENT.
- THE LOCATION OF THE VIVDS DETECTION ZONE IS APPROXIMATE. THE EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER AND/OR THE CITY'S TRAFFIC OPERATION SECTION.
- GROUND ALL EXISTING METAL GROUND BOX COVERS AS OUTLINED ON LATEST TXDOT STANDARD DETAIL SHEETS. REPLACEMENT FOR THESE GROUND BOXES MUST BE MADE OF POLYMER CONCRETE AS DETAILED ON THE LATEST TXDOT STANDARD SHEET. THE MATERIALS AND LABOR ASSOCIATED WITH THIS WORK IS SUBSIDIARY TO VARIOUS BID ITEMS IN THE PROJECT.

- FURNISH BLACK HOUSING FOR VEHICLE AND PEDESTRIAN SIGNALS. FURNISH BLACK VEHICLE SIGNAL HEAD BACK PLATES.
- USE TYPE C HIGH SPECIFIC INTENSITY GRADE SHEETING FOR SIGNS MOUNTED UNDER OR ADJACENT TO THE SIGNAL HEADS.
- INSTALL A CONCRETE WALKWAY FROM THE END OF THE CURB RAMP OR EDGE OF PAVEMENT TO THE TRAFFIC SIGNAL POLE FOUNDATION TO PROVIDE ACCESS TO THE PEDESTRIAN PUSH BUTTON(S). PERFORM THIS WORK IN ACCORDANCE WITH ITEM, "CONCRETE SIDEWALKS".
- TRAFFIC OPERATION OFFICE WILL PROVIDE PHASING AND TIMING FOR PERMANENT TRAFFIC SIGNALS
- INSTALL TWO SET SCREWS ON ALL VEHICLE SIGNAL HEAD MOUNTING HARDWARE FITTINGS.
- FOR VIVDS CAMERA(S) MOUNTED TO LUMINAIRE ARMS, STRAP THE VIVDS CABLE TO THE LUMINAIRE ARMS WITH A METAL STRAP (ALUMINUM OR STAINLESS STEEL), 3/4 IN MINIMUM WIDTH AND TWO WRAPS AT 8 IN. MAXIMUM SPACING.
- ELECTRICAL POWER TO OPERATE THE TRAFFIC SIGNAL INSTALLATION(S) WILL BE PLACED IN CONTRACTOR'S NAME DURING CONSTRUCTION AND FINALLY TRANSFERED TO THE CITY. THIS INCLUDES ALL POWER TO OPERATE THE SIGNAL(S) DURING THE VARIOUS PHASES OF CONSTRUCTION AND DURING THE TEST PERIOD PRIOR TO ACCEPTANCE OF THE WORK BY THE CITY.
- REMOVE THE EXISTING PAVEMENT MARKING AS SHOWN ON PLANS OR AS DIRECTED. REMOVE THE PAVEMENT MARKINGS TO THE EXTENT THAT THEY ARE EITHER COMPLETELY REMOVED OR OBLITERATED TO THE SATISFACTION OF THE ENGINEER
- ROUTE CABLE FOR LUMINAIRES (#12/4C - TRAY CABLE) TO THE SERVICE ENCLOSURE.
- PROVIDE L.E.D. LUMINAIRES OPERATING AT 120 VOLTS PER CITY'S STANDARD.
- PROVIDE WIND DAMPER ON ALL MAST ARMS.

**CITY OF PEARLAND TRAFFIC SIGNAL EQUIPMENT LIST**

THE CITY OF PEARLAND APPROVES THE USE OF TRAFFIC SIGNAL EQUIPMENT AND MATERIALS PRE-QUALIFIED BY THE TEXAS DEPARTMENT OF TRANSPORTATION EXCEPT FOR THE ONES LISTED BELOW.

- TRAFFIC SIGNAL CABINET: SIEMENS NEMA TS-2 TYPE 1, 68" TALL  
MANUFACTURER: SIEMENS
- ROAD SENSORS: TRAFFICWARE WIRELESS MAGNETOMETER  
MANUFACTURER: TRAFFICWARE  
PRODUCTS: WIRELESS MAGNETOMETER VEHICLE DETECTION SYSTEM
- WIRELESS SWITCH  
MANUFACTURER: CISCO  
MODEL: SEE TABLE ON THIS SHEET FOR LIST OF EQUIMENTS
- MALFUNCTION MANAGEMENT UNIT (MMU)  
MANUFACTURER: TRAFFICWARE  
TYPE: MMU 516L-E LCD WITH ETHERNET
- BATTERY BACKUP SYSTEM  
MANUFACTURER: ALPHA  
MODEL: SE48-1616
- TRAFFIC SIGNAL POLES, MAST ARMS, AND PEDESTRIAN POLES TO BE SPECIAL NOSTALGIA DESIGN TRAFFIC POLES (AS MANUFACTURED BY UNION METAL CORP., OR VALMONT STRUCTURE, OR EQUAL) AND APPROVED BY THE CITY OF PEARLAND TRAFFIC DEPARTMENT.

NOTES:

- PLEASE CHECK TXDOT TRAFFIC OPERATION DIVISION MATERIAL/PRODUCER LIST TO VIEW THE MOST CURRENT LIST.
- ALL THE TRAFFIC SIGNAL SUBMITTALS ARE SUBJECT TO BE REVIEWED AND APPROVED BY THE COP TRAFFIC DEPARTMENT.

Item	Part #	Qty.	Description Per Intersection Cisco Equipment
1	IE-4000-4T4P4G-E	1	IE 4000 4 x RJ45 10/100M, 4 x PoE 10/100M, 4 x 1G Combo , LA
2	IND-IE-PROMO	1	IND Promotional License for Managing IE switches
3	PWR-IE170W-PC-AC	1	IE family power supply 170W. AC to DC
4	AIR-AP1572EAC-B-K9	1	802.11ac Outdoor AP, External-Ant, AC-power, Reg. Domain-B
5	S157K9W7-15303JC	1	Cisco 1570 Series IOS WIRELESS LAN
6	SW1570-UM01A01-K9	1	SW Cisco AP1570: Unified Mesh(8.0.TBD)
7	AIR-ANT2568VG-N	4	2.4 GHz 6dBi/5 GHz 8dBi Dual Band Omni Ant., Gray, N conn.
8	AIR-ANT-GPS-1	1	GPS Antenna for AP1570
9	AIR-PWR-ST-LT-R3P	1	1520 Series Street Light Power Tap, 4 ft.
10	AIR-ACCPMK1570-2	1	1570 Series Pole-Mount Kit (Type-2)
11	AIR-ACC15-SFP-GLD	1	Outdoor-AP1570, SFP Port Gland, Bag of 5 units
12	GLC-LX-SM-RGD	2	1000Mbps Single Mode Rugged SFP
13	GLC-SX-MM-RGD	2	1000Mbps Multi-Mode Rugged SFP
14	C1-CAT-ADD	1	Cisco ONE for Catalyst Switches - CHOOSE ONLY QTY 1 HERE
15	CON-ECMU-C1CATADD	1	SWSS UPGRADES Cisco ONE Add On for Catalyst Switches
16	C1FACAT29001K9	1	Cisco ONE Found. Lite Perpetual - Cat 2900 24 Port & IE 2000
17	CON-ECMU-C1FPC291	1	SWSS UPGRADES C1 FND Perpetual - Cat2900 24 Port
18	C1-PI-LFAS-2K3K-K9	1	Cisco ONE PI Device License for LF & AS for Cat 2k, 3k
19	C1-ISE-BASE-24P	1	Cisco ONE Identity Services Engine 50 EndPoint Base Lic
20	C1-EGW-50-K9	1	Cisco ONE Energy Mgmt Perpetual Lic - 50 DO End Points
21	C1F1VCAT29001-02	1	Tracker PID v02 Fnd Perpetual IE4K5K1 - no delivery
22	C1-AIR-K9	1	Cisco ONE Access - Wireless - CHOOSE ONLY QTY 1 HERE
23	CON-ECMU-C1AIRK	1	SWSS UPGRADES Cisco ONE - Wireless
24	DNA-VOUCHER	1	Tracker Eligibility SKU for DNA Offers
25	C1-MSE-PAK	1	Cisco ONE MSE License PAK
26	C1FPAIRK9	1	Cisco ONE Foundation Perpetual - Wireless
27	CON-ECMU-C1FPAIR	1	SWSS UPGRADES C1 Foundation Perpetual - Wireless
28	C1-WLC-1	1	Cisco ONE Wireless LAN Controller AP License (any WLC)
29	C1-WLC-PAK	1	Cisco ONE Wireless LAN Controller AP License PAK (any WLC)
30	C1-PI-LFAS-AP-K9	1	Cisco ONE PI Device License for LF & AS for WLAN
31	C1-ISE-BASE-AP	1	Cisco ONE Identity Services Engine 25 EndPoint Base Lic
32	C1-MSE-LS-1	1	Cisco ONE CMX Base (Location + Connect) - 1AP license
33	C1-CEM-25-K9	1	Cisco ONE Energy Mgmt Perpetual Lic - 25 DO End Points
34	C1-LC-5-1Y	1	Cisco ONE StealthWatch 5 FPS Lic 1 YR
35	C1F1VAIR-03	1	Tracker PID v03 Fnd Perpetual AIR - no delivery

PLEASE READ THE APPLICABLE COP SPECIFICATION SECTIONS FOR DETAILED INFORMATION.

THIS DETAIL SHEET HAS BEEN PREPARED FOR USE ON STANDARD CITY OF PEARLAND PROJECTS. AN ENGINEER WHO INCORPORATES THE DETAILS ON THIS SHEET BECOMES RESPONSIBLE FOR ITS USE IN THE END PRODUCT IN ACCORDANCE WITH RULE 137.33 (b) AND (c) OF THE TEXAS STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS.



City of Pearland, Texas

STANDARD DETAILS

TRAFFIC SIGNAL GENERAL NOTES AND EQUIPMENT LISTS

Job No.:	Scale:	SHEET
Date: APRIL 2017	HORZ: 1"=NONE VERT: 1"=NONE	1
Drawn By: R Shrestho	CAD FILE:	
Chkd By: Ed kupferer	COP- TSGN	OF 1