CITY OF BRYAN

DEPARTMENT OF ENGINEERING SERVICES

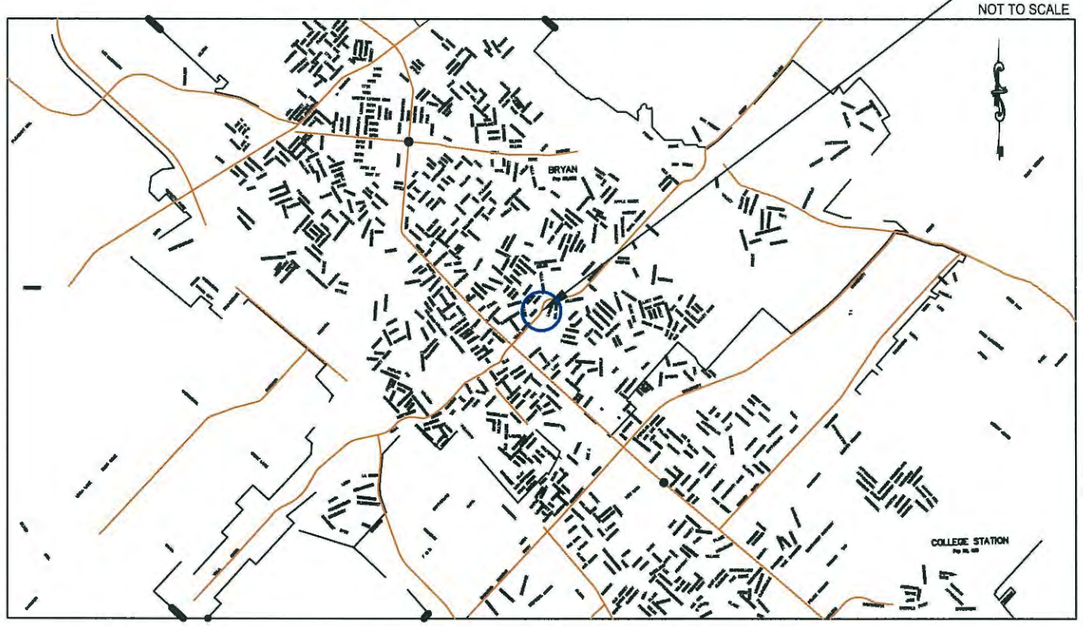
INTERSECTION IMPROVEMENTS
VILLA MARIA ROAD & CARTER CREEK PARKWAY
RFB# 16-019

SHEET INDEX

SHEET	TITLE
1-2	GENERAL NOTES-SIGNALS
3	QUANTITIES
4	EXISTING CONDITIONS
5	REMOVAL LAYOUT
6	INSTALLATION LAYOUT
7	INTERSECTION LAYOUT
8	ELEVATIONS
9	WIRING DIAGRAM
10	SUMMARY CHARTS
11	TS-FD DETAILS
12-13	SMA DETAILS
14	P&P CARTER CREEK RIGHT TURN LANE
15-17	ELECTRICAL DETAILS
18-20	BARRICADE DETAILS
21-22	TRAFFIC SIGNAL BARRICADE DETAILS

VILLA MARIA ROAD & CARTER CREEK PARKWAY

NOT TO SCALE



POSTED SPEED LIMIT= 35 MPH - VILLA MARIA ROAD
30 MPH - CARTER CREEK PARKWAY

CITY OF BRYAN
CITY COUNCIL

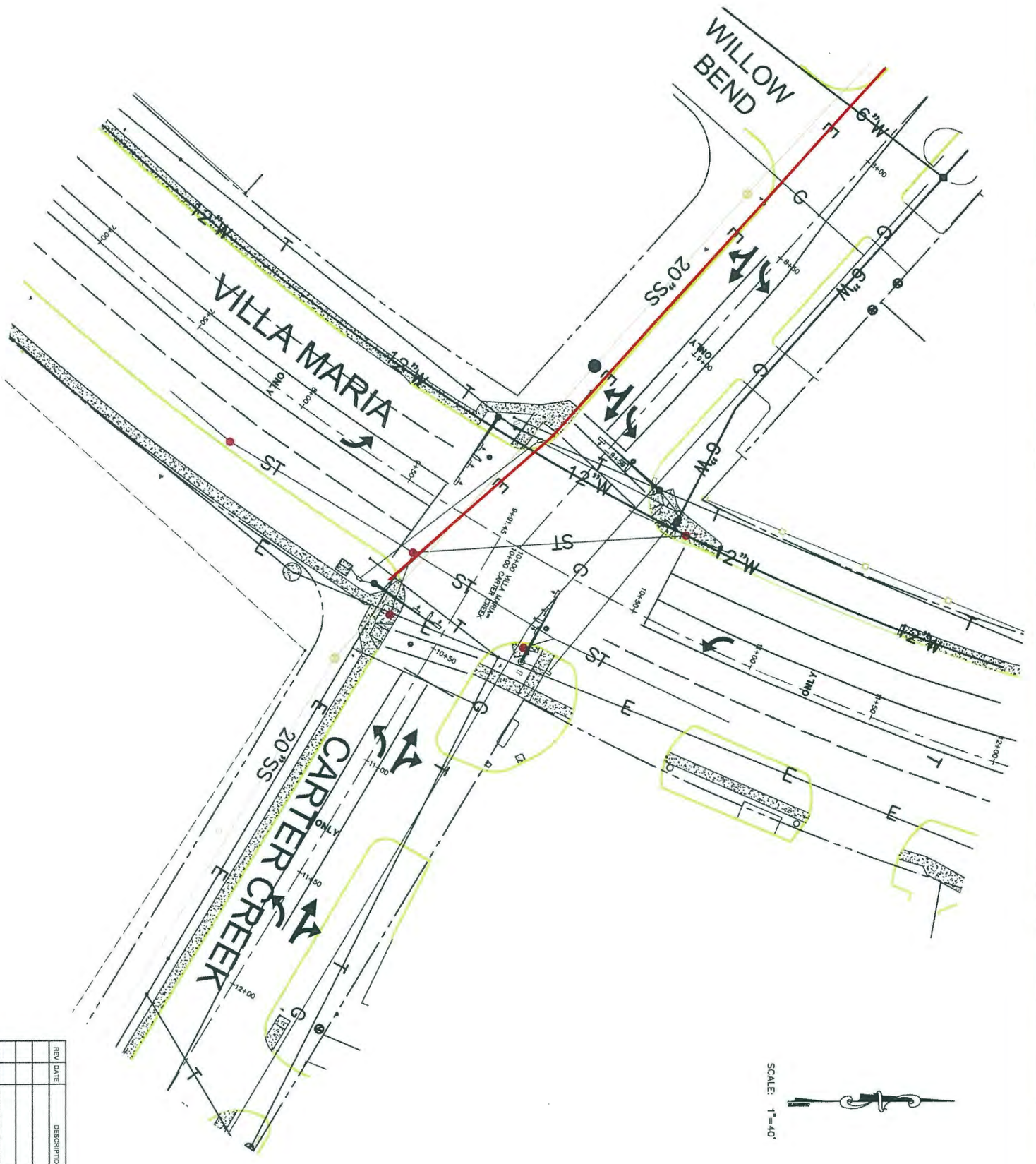
JASON BIENSKI	-	Mayor
AL SAENZ	-	Single Member District 1
RAFAEL PENA III	-	Single Member District 2
GREG OWENS	-	Single Member District 3
MIKE SOUTHERLAND	-	Single Member District 4
BEN HARDEMAN	-	Single Member District 5
BUPPY SIMANK	-	Place 6 - At Large

W. PAUL KASPAR, P.E. - City Engineer

Prepared By:

DON DURDEN, INC.
d.b.a. CIVIL ENGINEERING CONSULTANTS
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
TEL: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-2214

PROJECT MANAGER P.E. DATE 09/20/16



SCALE: 1"=40'

REV	DATE	DESCRIPTION

4

Traffic Signal
Villa Maria & Carter Creek

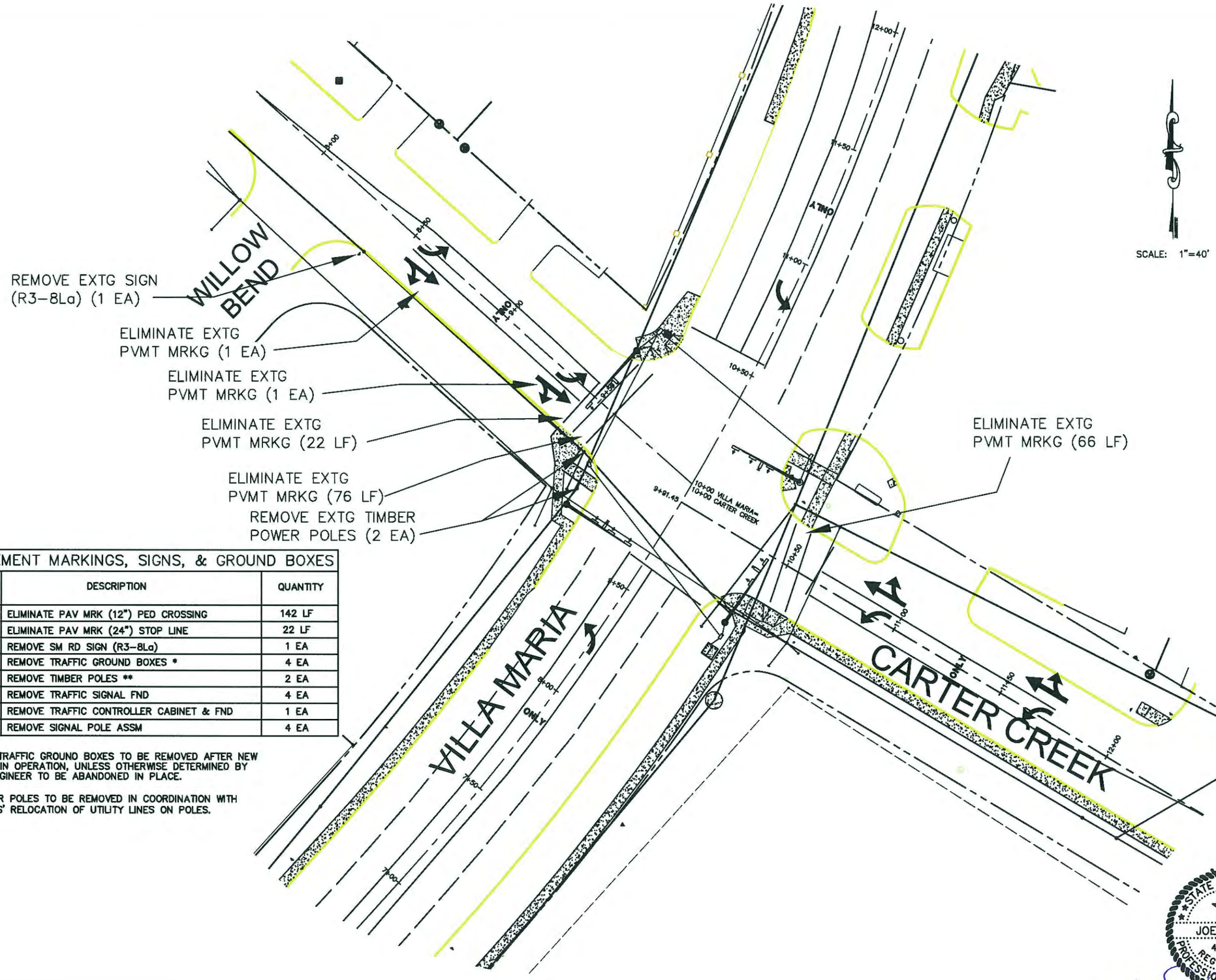
Existing Conditions

City of Bryan, Texas

Traffic Signal Design

CIVIL ENGINEERING CONSULTANTS
DON DURDEN, INC.
11550 I.H. 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230
TEL: (210) 641-9999
EMAIL: cec@cectexas.com
Engineering F-2214 & Surveying 100410

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	December 2010
JOB NUMBER:	E0368202



	PAVEMENT MARKINGS, SIGNS, & GROUND BOXES		
ITEM NO.	CODE	DESCRIPTION	QUANTITY
0677	2005	ELIMINATE PAV MRK (12") PED CROSSING	142 LF
0677	2007	ELIMINATE PAV MRK (24") STOP LINE	22 LF
0644	2060	REMOVE SM RD SIGN (R3-8La)	1 EA
0690	2006	REMOVE TRAFFIC GROUND BOXES *	4 EA
0690	2021	REMOVE TIMBER POLES **	2 EA
0690	2033	REMOVE TRAFFIC SIGNAL FND	4 EA
0690	2038	REMOVE TRAFFIC CONTROLLER CABINET & FND	1 EA
0690	2051	REMOVE SIGNAL POLE ASSM	4 EA

* ALL EXISTING TRAFFIC GROUND BOXES TO BE REMOVED AFTER NEW TRAFFIC SIGNAL IN OPERATION, UNLESS OTHERWISE DETERMINED BY CITY TRAFFIC ENGINEER TO BE ABANDONED IN PLACE.

** TIMBER POWER POLES TO BE REMOVED IN COORDINATION WITH UTILITY AGENCIES' RELOCATION OF UTILITY LINES ON POLES.

STATE OF TEXAS
JOE F. NIX
41591
REGISTERED
PROFESSIONAL ENGINEER

09/20/10

DESIGNED BY:
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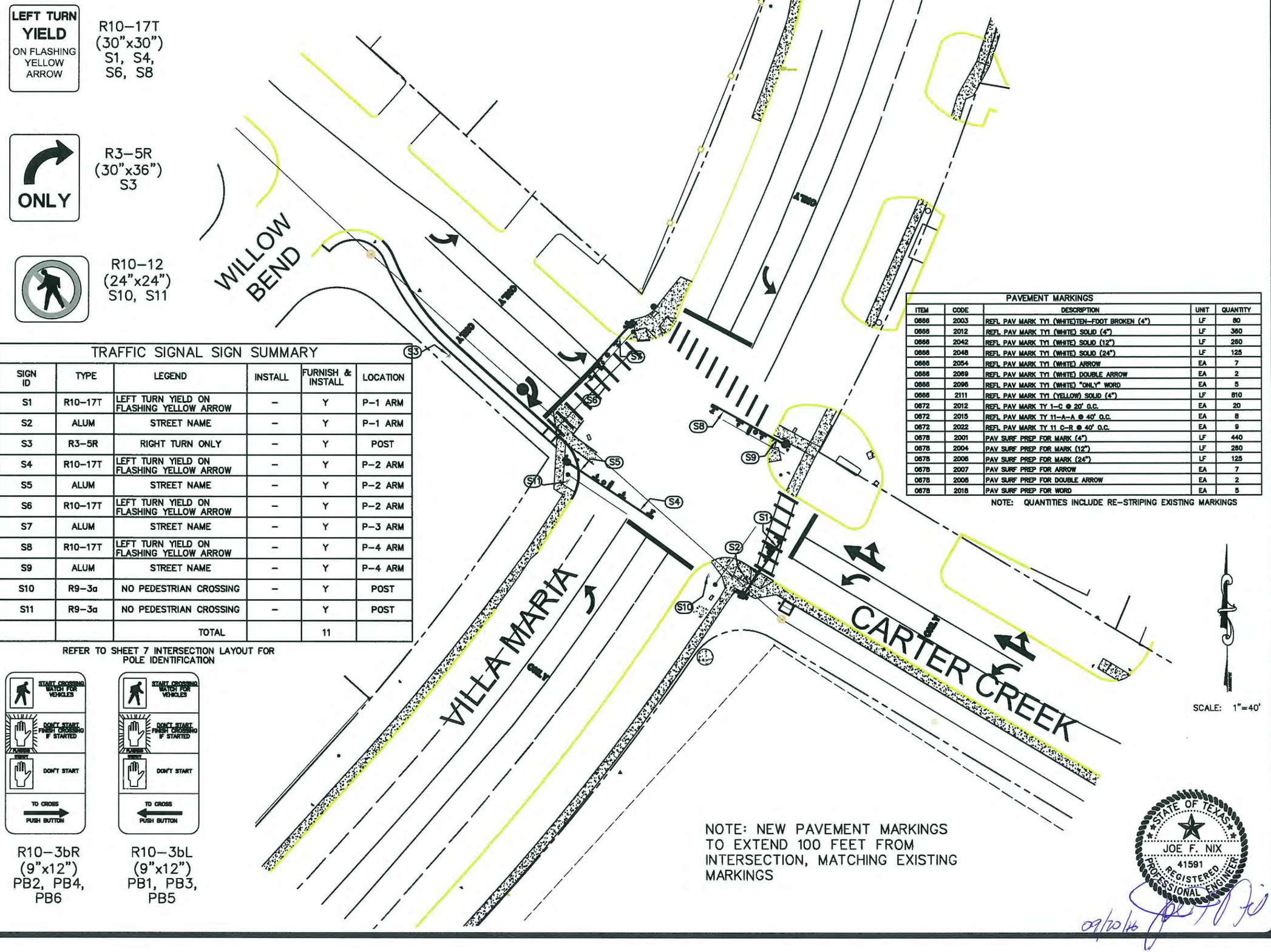
Engineering F-2214 & Surveying 100410

City of Bryan, Texas
Traffic Signal Design

Traffic Signal
Villa Maria & Carter Creek
Removal Layout

5



TRAFFIC SIGNAL SIGN SUMMARY

SIGN ID	TYPE	LEGEND	INSTALL	FURNISH & INSTALL	LOCATION
S1	R10–17T	LEFT TURN YIELD ON FLASHING YELLOW ARROW	–	Y	P–1 ARM
S2	ALUM	STREET NAME	–	Y	P–1 ARM
S3	R3–5R	RIGHT TURN ONLY	–	Y	POST
S4	R10–17T	LEFT TURN YIELD ON FLASHING YELLOW ARROW	–	Y	P–2 ARM
S5	ALUM	STREET NAME	–	Y	P–2 ARM
S6	R10–17T	LEFT TURN YIELD ON FLASHING YELLOW ARROW	–	Y	P–2 ARM
S7	ALUM	STREET NAME	–	Y	P–3 ARM
S8	R10–17T	LEFT TURN YIELD ON FLASHING YELLOW ARROW	–	Y	P–4 ARM
S9	ALUM	STREET NAME	–	Y	P–4 ARM
S10	R9–3a	NO PEDESTRIAN CROSSING	–	Y	POST
S11	R9–3a	NO PEDESTRIAN CROSSING	–	Y	POST
		TOTAL		11	

REFER TO SHEET 7 INTERSECTION LAYOUT FOR POLE IDENTIFICATION

R10–3bR
(9"x12")
PB2, PB4,
PB6

R10–3bL
(9"x12")
PB1, PB3,
PB5

PAVEMENT MARKINGS

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY
0666	2003	REFL PAV MARK TYI (WHITE)TEN–FOOT BROKEN (4")	LF	80
0666	2012	REFL PAV MARK TYI (WHITE) SOLID (4")	LF	360
0666	2042	REFL PAV MARK TYI (WHITE) SOLID (12")	LF	280
0666	2048	REFL PAV MARK TYI (WHITE) SOLID (24")	LF	125
0666	2054	REFL PAV MARK TYI (WHITE) ARROW	EA	7
0666	2069	REFL PAV MARK TYI (WHITE) DOUBLE ARROW	EA	2
0666	2096	REFL PAV MARK TYI (WHITE) "ONLY" WORD	EA	5
0666	2111	REFL PAV MARK TYI (YELLOW) SOLID (4")	LF	810
0672	2012	REFL PAV MARK TY 1–C @ 20' O.C.	EA	20
0672	2015	REFL PAV MARK TY 11–A–A @ 40' O.C.	EA	8
0672	2022	REFL PAV MARK TY 11 C–R @ 40' O.C.	EA	9
0678	2001	PAV SURF PREP FOR MARK (4")	LF	440
0678	2004	PAV SURF PREP FOR MARK (12")	LF	280
0678	2006	PAV SURF PREP FOR MARK (24")	LF	125
0678	2007	PAV SURF PREP FOR ARROW	EA	7
0678	2008	PAV SURF PREP FOR DOUBLE ARROW	EA	2
0678	2018	PAV SURF PREP FOR WORD	EA	5

NOTE: QUANTITIES INCLUDE RE–STRIPING EXISTING MARKINGS

SCALE: 1"=40'

NOTE: NEW PAVEMENT MARKINGS TO EXTEND 100 FEET FROM INTERSECTION, MATCHING EXISTING MARKINGS

STATE OF TEXAS
JOE F. NIX
41591
REGISTERED
PROFESSIONAL ENGINEER
09/20/16

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SAN ANTONIO, TEXAS 78230
TEL. (210) 641-9999
EMAIL: cec@cectexas.com
Engineering F-2214 & Surveying 100470

City of Bryan, Texas

Traffic Signal Design

Traffic Signal
Villa Maria & Carter Creek
Installation Layout

6

SIGNAL HEAD TYPE H3

SIGNAL HEAD TYPE H4L

SIGNAL HEAD TYPE H5R

NOTES:

1. CONTRACTOR SHALL CONTACT THE CITY TRAFFIC ENGINEER, (979-209-5153), AT LEAST 48 HOURS PRIOR TO THE SIGNAL TURN-ON OF THE NEW EQUIPMENT. THE EXISTING SIGNAL WILL REMAIN OPERATIONAL UNTIL THAT TIME. A SIGNAL TECHNICIAN FROM THE CITY SHALL BE PRESENT WHEN THE NEW SIGNAL IS PLACED INTO OPERATION. THE INTERSECTION SHALL REMAIN IN ALL-WAY FLASH FOR AT LEAST 3 DAYS PRIOR TO BEING PLACED IN STOP-AND-GO OPERATION DURING THIS TIME, UNLESS OTHERWISE DIRECTED BY CITY TRAFFIC ENGINEER.

2. THE CITY WILL PROVIDE ALL TIMING FOR THE CONTROLLER. PROPER TRAFFIC CONTROL SHOULD BE COORDINATED WITH THE CITY OF BRYAN AND THE CITY OF BRYAN POLICE.

3. EQUIPMENT SUBMITTALS SHALL BE SENT TO THE CITY TRAFFIC ENGINEER FOR APPROVAL.

4. ALL BURIED CONDUIT TO BE SCHEDULE 40 PVC ELECTRICAL CONDUIT, CONFORMING TO SPECIFICATIONS. ALL EXPOSED CONDUIT TO BE GALVANIZED RMC

5. SEVERAL UTILITIES EXIST IN THE AREA AND ALL UTILITIES (OVERHEAD AND UNDERGROUND) SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING 1-800-DIG-TESS, 8-1-1 LOCALLY, BRYAN TEXAS UTILITIES AT 979-821-5700, THE CITY OF BRYAN UTILITIES AT 979-209-5900 AND ALL AFFECTED UTILITY COMPANIES FOR UTILTIY LOCATES PRIOR TO ANY DRILLING OR EXCAVACTION ON THE PROJECT.

6. THE ELECTRIC SERVICE PANEL SHALL BE TYPE DC120/240)070(NS)GS(E)PS(U) AND SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL INSTALL THE SERVICE PANEL WITHIN 10 DAYS AFTER IT IS RECEIVED AND CONTACT BRYAN TEXAS UTILITIES TO OBTAIN POWER FOR THE PANEL (LEAD TIMES CAN BE AS LONG AS 60-90 DAYS).

7. INDICATION CONFIRMATION LIGHTS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR ON POLES P1, P2, P3, AND P4.

8. THE CONTRACTOR SHALL STAKE ALL SIGNAL POLE LOCATIONS, CONTROLLER FOUNDATION LOCATION, AND PULL-BOX LOCATIONS AFTER THE UTILITY LOCATES ARE FINALIZED. THE CITY MUST APPROVE THESE LOCATIONS PRIOR TO ANY DRILLING OR EXCAVATION ON THE PROJECT.

9. THE CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING EQUIPMENT ITEMS REQUIRED BY THE PROJECT. LABOR AND EQUIPMENT SUBSIDIARY TO ITEM 680 TO INSTALL THE FOLLOWING ITEMS:
   (A) SIGNAL CABINET AND ALL INTERNAL COMPONENTS;
   (B) VEHICLE IMAGE VEHICLE DETECTION SYSTEM (VIVDS) CAMERAS AND CABLE;
   (C) OPTICOM DETECTORS, LEAD-IN CABLE, AND CABINET EQUIPMENT;
   (D) BACK PLATES AND LED SECTIONS;
   (E) COUNTDOWN PEDS DISPLAYS;
   (F) ELECTRICAL PEDESTAL ENCLOSURE AND SERVICE PANEL;
   (G) TRAFFIC SIGNAL AND PEDESTAL POLE ASSEMBLIES;
   (H) PEDESTRIAN PUSHBUTTONS AND SIGNS;

EQUIPMENT SCHEDULE

NEW ELECTRIC SERVICE PEDESTAL WITH METER ON FOUNDATION

NEW ELECTRIC SERVICE DISCONNECT

NEW NEMA TS2 TYPE 1 CONTROLLER IN SIEMENS TYPE TS2-1 CABINET.

P1 NEW SMA 80 STEEL POLE WITH 30' MAST ARM WITH LED LUMINAIRE (SAME LOCATION AS EXISTING POLE TO BE REMOVED), TWO (2) TYPE H3 LED SIGNAL HEAD, ONE (1) TYPE H4 LED SIGNAL HEAD MOUNTED ON MAST ARM CENTERED OVER LANES AND ONE (1) TYPE H5R LED SIGNAL HEAD (MOUNTED ON POLE) ONE (1) VIVDS CAMERA, ONE (1) OPTICOM PRIORITY VEHICLE DETECTOR, ONE (1) LED COUNTDOWN PEDESTRIAN SIGNAL WITH PUSHBUTTON AND R10-3b(L) SIGN MOUNTED ON POLE, AND ONE (1) STANDARD ALUMINUM STREET NAME SIGN ON MAST ARM.

P2 NEW SMA 80 STEEL POLE WITH 44' MAST ARM (SAME LOCATION AS EXISTING POLE TO BE REMOVED), ONE (1) TYPE H4L LED SIGNAL HEAD, TWO (2) TYPE H3 LED SIGNAL HEADS MOUNTED ON MAST ARM AND CENTERED OVER LANES, ONE (1) VIVDS CAMERA, ONE (1) LED COUNTDOWN PEDESTRIAN SIGNAL WITH PUSHBUTTON AND R10-3b(R) SIGN MOUNTED ON POLE, AND ONE (1) STANDARD ALUMINUM STREET NAME SIGN ON MAST ARM.

P3 NEW SMA 80 STEEL POLE WITH 30' MAST ARM WITH LED LUMINAIRE (SAME LOCATION AS EXISTING POLE TO BE REMOVED), ONE (1) TYPE H4L LED SIGNAL HEAD, TWO (2) TYPE H3 LED SIGNAL HEADS MOUNTED ON MAST ARM AND CENTERED OVER LANES, ONE (1) VIVDS CAMERA, ONE TWO (2) LED COUNTDOWN PEDESTRIAN SIGNALS WITH PUSHBUTTONS AND ONE(1) R10-3b(L) SIGN MOUNTED ON POLE, AND ONE (1) STANDARD ALUMINUM STREET NAME SIGN ON MAST ARM.

P4 NEW PEDESTRIAN POLE ASSEMBLY WITH ONE (1) PUSHBUTTON AND R10-3b(R) SIGN

P5 NEW SMA 80 STEEL POLE WITH 36' MAST ARM (SAME LOCATION AS EXISTING POLE TO BE REMOVED), ONE (1) TYPE H4L LED SIGNAL HEAD, TWO (2) TYPE H3 LED SIGNAL HEADS MOUNTED ON MAST ARM AND CENTERED OVER LANES, ONE (1) VIVDS CAMERA, TWO (2) LED COUNTDOWN PEDESTRIAN SIGNALS AND R10-3b(L&R) SIGNS MOUNTED ON POLE MOUNTED ON POLE, AND ONE (1) STANDARD ALUMINUM STREET NAME SIGN ON MAST ARM.

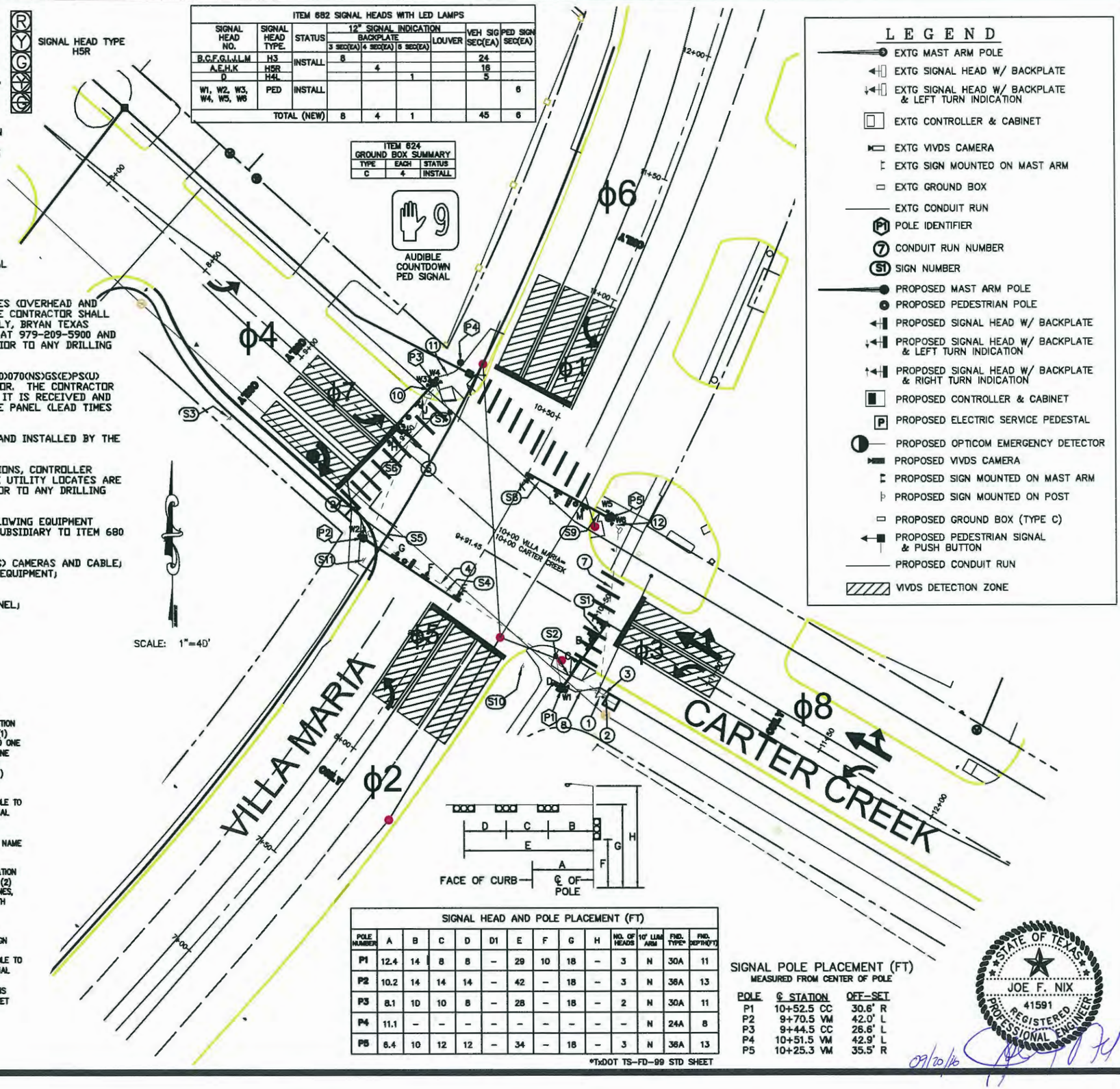
ITEM 682 SIGNAL HEADS WITH LED LAMPS

SIGNAL HEAD NO.	SIGNAL HEAD TYPE	STATUS	12" SIGNAL INDICATION BACKPLATE 3 SEC(EA)	4 SEC(EA)	5 SEC(EA)	LOUVER	VEH SIG SEC(EA)	PED SIGN SEC(EA)
B,C,F,G,I,J,L,M	H3	INSTALL	8				24	
A,E,H,K	H5R	INSTALL		4			16	
D	H4L	INSTALL			1		5	
W1, W2, W3, W4, W5, W6	PED	INSTALL						6
TOTAL (NEW)			8	4	1		45	6

ITEM 624 GROUND BOX SUMMARY

TYPE	EACH	STATUS
C	4	INSTALL

AUDIBLE COUNTDOWN PED SIGNAL



SCALE: 1"=40'

SIGNAL HEAD AND POLE PLACEMENT (FT)

POLE NUMBER	A	B	C	D	D1	E	F	G	H	NO. OF HEADS	10' LUM ARM	FND. TYPE*	FND. DEPTH(FT)
P1	12.4	14	8	8	–	29	10	18	–	3	N	30A	11
P2	10.2	14	14	14	–	42	–	18	–	3	N	36A	13
P3	8.1	10	10	8	–	28	–	18	–	2	N	30A	11
P4	11.1	–	–	–	–	–	–	–	–	–	N	24A	8
P5	6.4	10	12	12	–	34	–	18	–	3	N	36A	13

*TxDOT TS-FD-99 STD SHEET

SIGNAL POLE PLACEMENT (FT)
MEASURED FROM CENTER OF POLE

POLE	℄ STATION	OFF-SET
P1	10+52.5 CC	30.6' R
P2	9+70.5 VM	42.0' L
P3	9+44.5 CC	26.6' L
P4	10+51.5 VM	42.9' L
P5	10+25.3 VM	35.5' R

LEGEND

- EXTG MAST ARM POLE
- EXTG SIGNAL HEAD W/ BACKPLATE
- EXTG SIGNAL HEAD W/ BACKPLATE & LEFT TURN INDICATION
- EXTG CONTROLLER & CABINET
- EXTG VIVDS CAMERA
- EXTG SIGN MOUNTED ON MAST ARM
- EXTG GROUND BOX
- EXTG CONDUIT RUN
- POLE IDENTIFIER
- CONDUIT RUN NUMBER
- SIGN NUMBER
- PROPOSED MAST ARM POLE
- PROPOSED PEDESTRIAN POLE
- PROPOSED SIGNAL HEAD W/ BACKPLATE
- PROPOSED SIGNAL HEAD W/ BACKPLATE & LEFT TURN INDICATION
- PROPOSED SIGNAL HEAD W/ BACKPLATE & RIGHT TURN INDICATION
- PROPOSED CONTROLLER & CABINET
- PROPOSED ELECTRIC SERVICE PEDESTAL
- PROPOSED OPTICOM EMERGENCY DETECTOR
- PROPOSED VIVDS CAMERA
- PROPOSED SIGN MOUNTED ON MAST ARM
- PROPOSED SIGN MOUNTED ON POST
- PROPOSED GROUND BOX (TYPE C)
- PROPOSED PEDESTRIAN SIGNAL & PUSH BUTTON
- PROPOSED CONDUIT RUN
- VIVDS DETECTION ZONE

STATE OF TEXAS
JOE F. NIX
41591
REGISTERED PROFESSIONAL ENGINEER
09/20/16

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JOB NUMBER: E0368202

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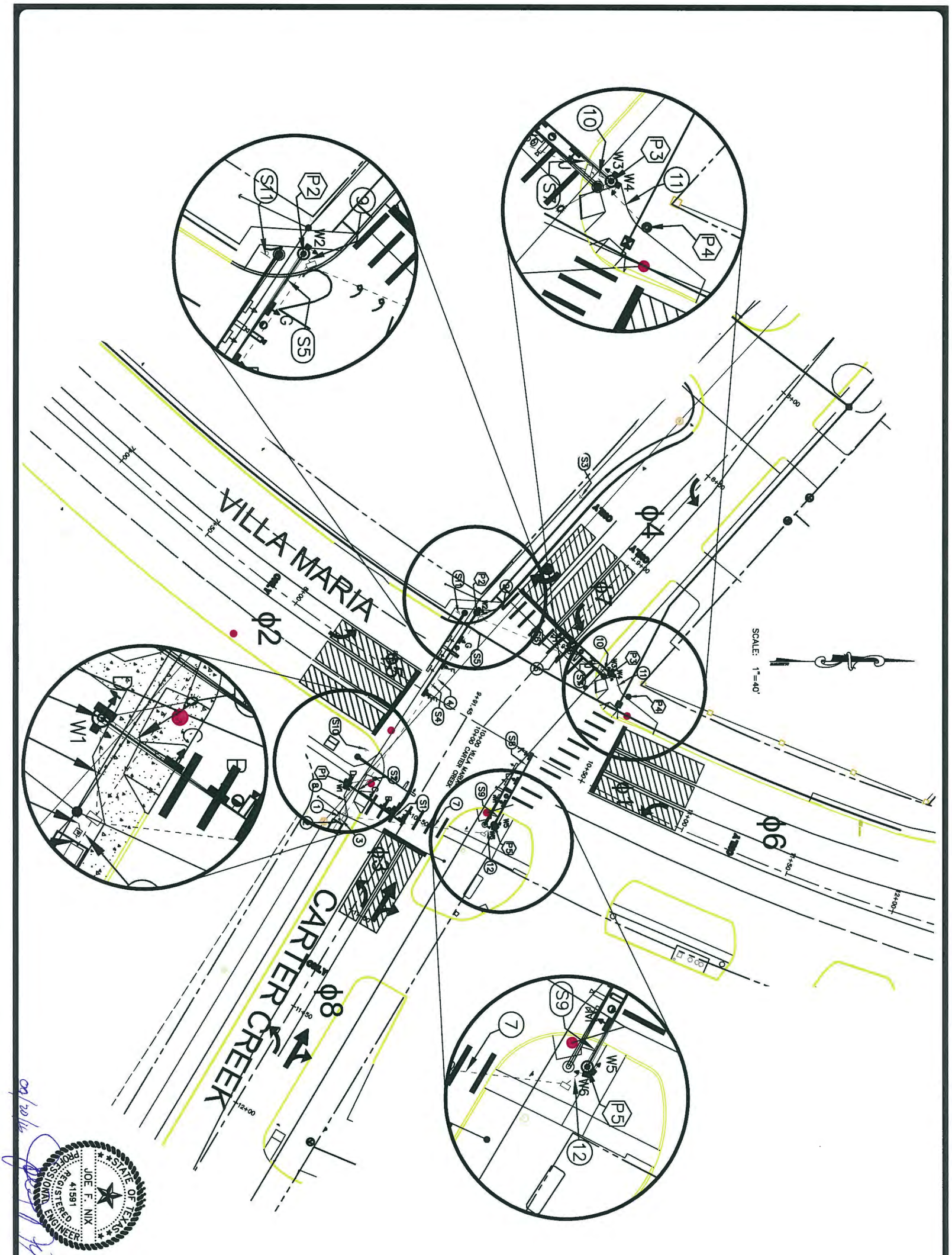
SAN ANTONIO, TEXAS 78230
TEL: (210) 641-9999
EMAIL: cec@cectexas.com
Engineering F-2214 & Surveying 100410

City of Bryan, Texas

Traffic Signal Design

Traffic Signal
Villa Maria & Carter Creek
Intersection Layout

7



7A

Traffic Signal
Villa Maria & Carter Creek
Intersection Layout -
Corner Enlargements

CITY OF BRYAN

City of Bryan, Texas
Traffic Signal Design

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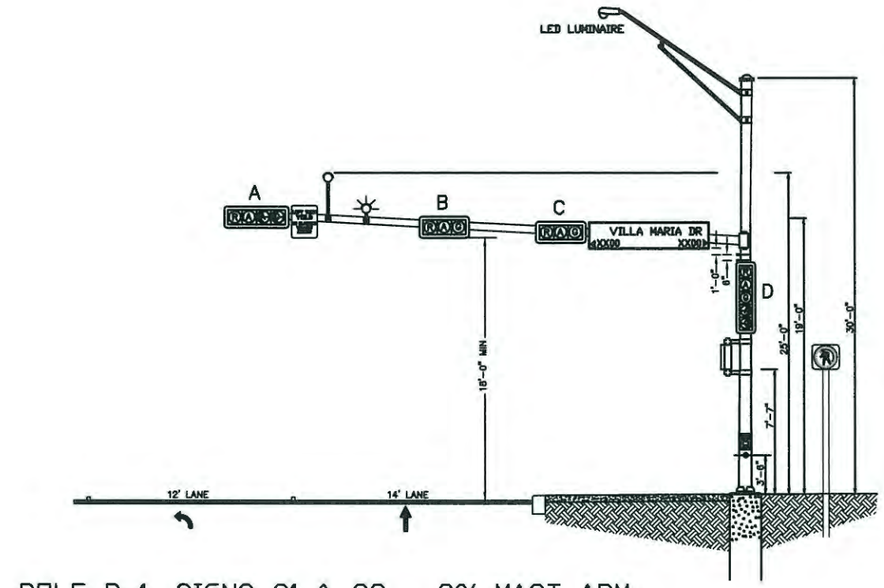
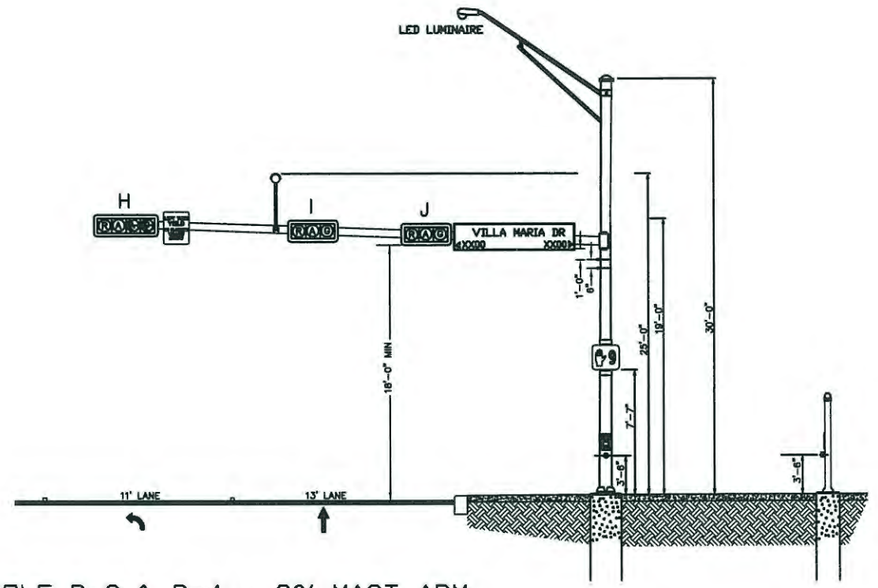


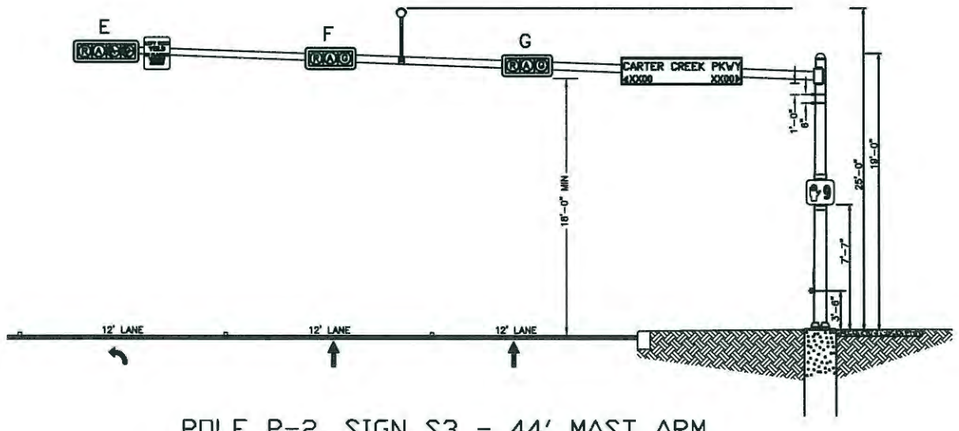
POLE P-1, SIGNS S1 & S2 - 30' MAST ARM

N. T. S.



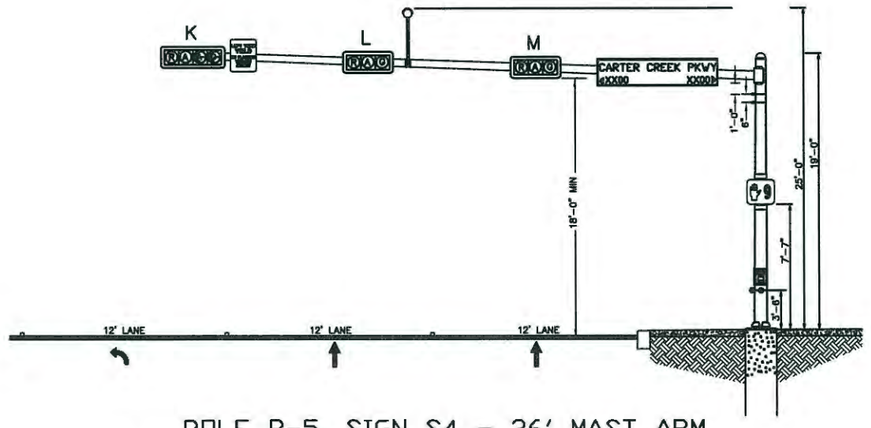
POLE P-3 & P-4 - 30' MAST ARM

N. T. S.



POLE P-2, SIGN S3 - 44' MAST ARM

N. T. S.



POLE P-5, SIGN S4 - 36' MAST ARM

N. T. S.

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City of Bryan, Texas

Traffic Signal Design

CITY OF BRYAN

Traffic Signal
Villa Maria & Carter Creek
Elevations

8