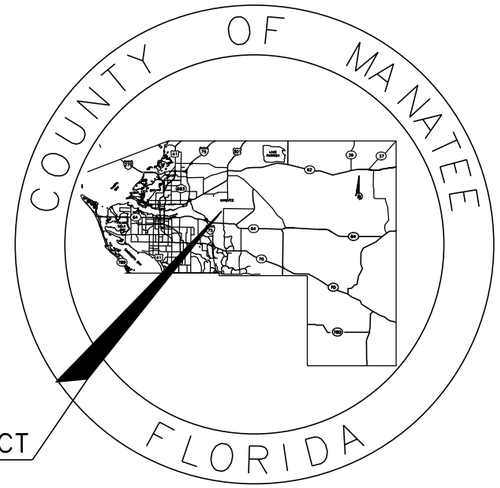
CONTRACT PLANS COMPONENTS

SIGNING AND PAVEMENT MARKING PLANS
SIGNALIZATION PLANS

STATE OF FLORIDA

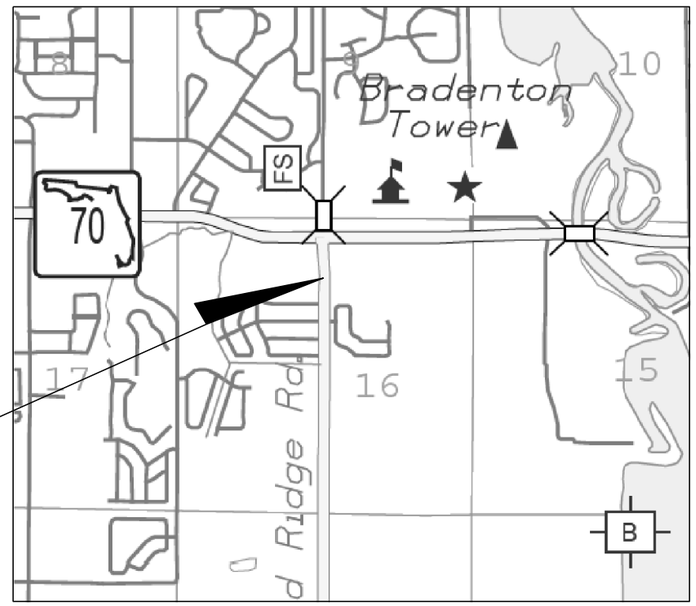
COUNTY OF MANATEE

PLANS OF PROPOSED
LOCKWOOD RIDGE ROAD AT SHOPPING CENTER
BRADENTON, FLORIDA
MC PROJECT No. 6099860



INDEX OF SIGNING AND PAVEMENT MARKING PLANS

SHEET NO.	*DESCRIPTION*
S-1	*KEY SHEET*
S-2	*SIGNATURE SHEET*
S-3	*TABULATION OF QUANTITIES*
S-4	*GENERAL NOTES*
S-5 - S-7	*SIGNING AND PAVEMENT MARKING PLAN*
S-8	*GUIDE SIGN WORKSHEET*
R-1	*ROADWAY PLAN*
R-2	*ROADWAY DETAILS*



PROJECT LOCATION

FINAL PLANS

NAVD 88 DATUM

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

Manatee County FLORIDA

KEY SHEET REVISIONS	
DATE	DESCRIPTION

THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STANDARD PLANS (ENGLISH UNITS) AND REVISIONS THERETO INCLUDED IN THIS CONTRACT PACKAGE SHALL GOVERN WORK PERFORMED UNDER THIS CONTRACT.
https://www.fdot.gov/design/standardplans/current/default.shtm

SIGNING AND PAVEMENT MARKING PLANS
PROFESSIONAL OF RECORD: MICHAEL J. OATES, P.E.

FLORIDA P.E. # 49282

SHEET NO.
S-1

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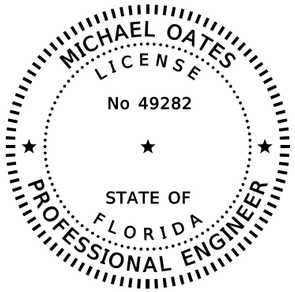

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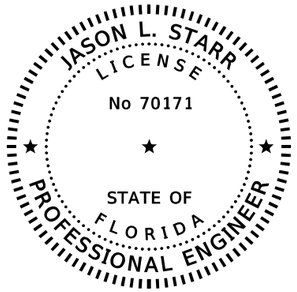
HDR ENGINEERING, INC.
2601 CATTLEMEN ROAD, SUITE 400
SARASOTA, FLORIDA 34232-6212
MICHAEL OATES, P.E. NO. 49282

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO.	SHEET DESCRIPTION
S-1	KEY SHEET
S-2	SIGNATURE SHEET
S-3	TABULATION OF QUANTITIES
S-4	GENERAL NOTES
S-5 - S-7	SIGNING AND PAVEMENT MARKING PLAN
S-8	GUIDE SIGN WORKSHEET
T-1	KEY SHEET
T-3	TABULATION OF QUANTITIES
T-4	GENERAL NOTES
T-5	PAY ITEM NOTES
T-6	SIGNALIZATION PLAN
T-7	GUIDE SIGN WORKSHEET
T-8	MAST ARM TABULATION
T-9	SPLICING DIAGRAM
T-10	CABINET, CCTV, MVDS AND BLUETOOTH DETAILS
T-11	CONCRETE APRON & CABLE ROUTE MARKER DETAILS
T-12	PEDESTRIAN SIGNAL AND CABINET BASE DETAILS
T-13	GENERATOR CABINET WIRING DIAGRAM
T-14	POLE DATA AND LEGEND
T-15	LIGHTING PLAN AND QUEUE DETECTION
T-16	LIGHT POLE SLAB DETAILS



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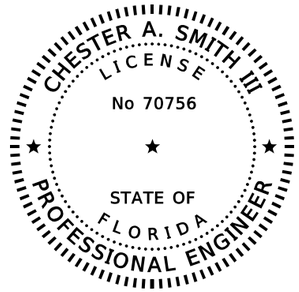
HDR ENGINEERING, INC.
2601 CATTLEMEN ROAD, SUITE 400
SARASOTA, FLORIDA 34232-6212
JASON L. STARR, P.E. NO. 70171

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO.	SHEET DESCRIPTION
S-2	SIGNATURE SHEET
R-1	ROADWAY PLAN
R-2	ROADWAY DETAILS



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HDR ENGINEERING, INC.
2601 CATTLEMEN ROAD, SUITE 400
SARASOTA, FLORIDA 34232-6212
CHESTER A. SMITH III, P.E. NO. 70756

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SIGNALIZATION PLANS

SHEET NO.	SHEET DESCRIPTION
S-2	SIGNATURE SHEET
T-17	MAST ARM DATA TABLE

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

SIGNATURE SHEET

SHEET NO.: S-2

2:57:19 PM 10/16/2020 PW:\3658\10001573\10227673\6.0_CAD_BIM\6.2_WIP\12345615201\signing\SIGNSP01.dgn

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL	
			S-5		S-6		S-7													
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL
700-1-11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS			6												6		6	
700-1-12	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS					1										1		1	
700-1-60	SINGLE POST SIGN, REMOVE	AS			3												3		3	
700-1-74	SINGLE POST SIGN, F&I CUSTOM, 31+ SF	AS					1										1		1	
700-2-14	MULTI- POST SIGN, F&I GROUND MOUNT, 31-50 SF	AS	1														1		1	
700-2-50	MULTI- POST SIGN, RELOCATE	AS			1												1		1	
705-10-1	OBJECT MARKER, TYPE 1	EA			2												2		2	
710-11-290	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	SF			19.0												19.0		19.0	
710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS			1												1		1	
*	RETRO-REFLECTIVE PAVEMENT MARKERS	EA																	38	
*	(WHITE/RED)				38												38			
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	GM			0.178												0.178		0.178	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR CROSSWALK AND ROUNDABOUT, 12"	LF			163												163		163	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID FOR STOP LINE OR CROSSWALK, 24"	LF			89												89		89	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SKIP, 10-30 OR 3-9 SKIP, 6" WIDE	GM			0.074												0.074		0.074	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 DOTTED EXT, 6"	GM			0.101												0.101		0.101	
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, MESSAGE	EA																	2	
	EAST						2										2			
*	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA																	12	
	LEFT				6												6			
	THRU/RIGHT				6												6			
*	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	GM			0.112												0.112		0.112	
711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF			163												163		163	
711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE	LF			89												89		89	
711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	GM			0.101												0.101		0.101	
711-11-160	THERMOPLASTIC, STANDARD, WHITE, MESSAGE																		2	
	EAST						2										2			
711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW																		12	
	LEFT				6												6			
	THRU/RIGHT				6												6			
711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF			250												250		250	
711-14-160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE (BIKE AND ROUTE SHIELD)	EA			3		2										5		5	
711-14-170	THERMOPLASTIC, PREFORMED, WHITE, ARROW (BIKE)	EA			2												2		2	
711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM			0.178												0.178		0.178	
711-16-131	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SKIP, 6",10-30 SKIP OR 3-9 LANE DROP	GM			0.074												0.074		0.074	
711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM			0.112												0.112		0.112	
711-17-1	THERMOPLASTIC, REMOVE EXISTING THERMOPLASTIC PAVEMENT MARKINGS- SURFACE TO REMAIN	SF			182												182		182	

* THESE QUANTITIES ARE PAID FOR UNDER PAINTED PAVEMENT MARKINGS (FINAL SURFACE), LUMP SUM ITEM NO. 710-90. THE QUANTITIES SHOWN ARE FOR ONE APPLICATION: SEE SPECIFICATION 710 FOR THE NUMBER OF APPLICATIONS REQUIRED.

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

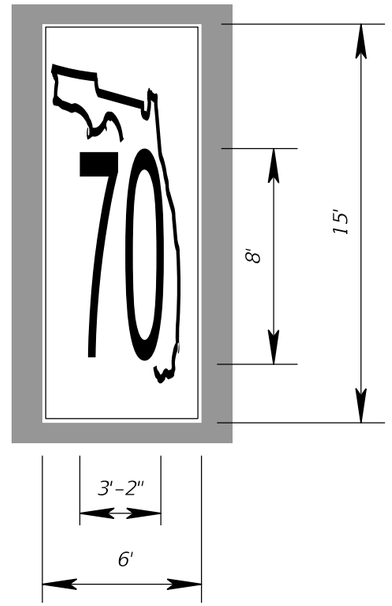
TABULATION OF QUANTITIES

SHEET NO.: S-3

2:03:40 PM 10/16/2020 TEASLEY 10/16/2020 2:03:39 PM PW:\

SIGNING AND PAVEMENT MARKING GENERAL NOTES:

1. ALL FLORIDA ROUTE MARKERS MUST CONFORM TO F.D.O.T. STANDARD PLANS INDEX NO. 700-102.
2. PAVEMENT MARKINGS SHALL BE PLACED AS SHOWN IN THE PLANS AND THE APPROPRIATE F.D.O.T. STANDARD PLANS.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LENGTH OF SIGN COLUMN SUPPORTS IN THE FIELD PRIOR TO FABRICATION.
4. REFER TO F.D.O.T. STANDARD PLANS INDEX NO. 706-001 FOR RETRO-REFLECTIVE PAVEMENT MARKER PLACEMENT DETAILS.
5. CAUTION SHALL BE EXERCISED WHILE RELOCATING EXISTING SIGNS SO AS TO PREVENT DAMAGE TO THE SIGNS. IF THE SIGNS ARE DAMAGED BEYOND USE, AS DETERMINED BY THE ENGINEER, THEY SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
6. THE SIGN LOCATIONS ARE APPROXIMATE AND MAY REQUIRE FIELD ADJUSTMENT AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING SIGN TO REMAIN THAT IS DISTURBED DURING CONSTRUCTION OR RELOCATED SHALL BE RESET TO CURRENT STANDARDS FOR HEIGHT, OFFSET, AND METHOD OF INSTALLATION. COST OF THIS WORK SHALL BE REFLECTED IN THE PAY ITEM NO. 102-1 IN THE SUMMARY OF ROADWAY PAY ITEMS.
8. CONTRACTOR SHALL USE W-SHAPE STEEL POSTS FOR MULTI-POST SIGNS. ALL COLUMNS (POSTS) FOR SINGLE COLUMN SIGNS SHALL BE ALUMINUM ROUND TUBE, UNLESS OTHERWISE INDICATED IN THE PLANS.
9. ANY EXISTING MULTI-POST SIGNS WITHIN THE PROJECT LIMITS SHALL REMAIN UNLESS OTHERWISE NOTED IN THE PLANS.
10. ALL SINGLE COLUMN SIGNS WITHIN THE LIMITS OF CLEARING AND GRUBBING SHALL BE REMOVED UNLESS OTHERWISE NOTED IN THE PLANS. PAYMENT SHALL BE REFLECTED IN THE PAY ITEM NO. 110-1-1 IN THE SUMMARY OF ROADWAY PAY ITEMS.
11. AT LOCATIONS WHERE UNDERGROUND UTILITIES ARE IN CLOSE PROXIMITY TO SIGN FOUNDATIONS AS DETERMINED BY THE CONTRACTOR, THE CONTRACTOR SHALL HAND DIG THE FIRST FOUR FEET OF THE HOLE FOR THE MULTI POST FOUNDATIONS.
12. UNLESS OTHERWISE NOTED ON PLAN SHEETS, ALL CROSSWALKS AT SIGNALIZED INTERSECTIONS SHALL BE TEN FEET (10') IN WIDTH. MEASUREMENTS SHALL BE FROM INSIDE TO INSIDE OF 12" STRIPES.
13. THE REMOVAL OF EXISTING DELINEATOR POSTS SHALL BE INCLUDED IN THE PAYMENT FOR CLEARING AND GRUBBING, PAY ITEM NO. 110-1-1.



PREFORMED THERMOPLASTIC "STATE ROUTE SHIELD"
NTS

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
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HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860
2:03:43 PM

MANATEE COUNTY PUBLIC WORKS
10/16/2020

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282
PW:\

GENERAL NOTES

SHEET NO.: S-4

Lockwood Ridge Rd.

56th Ave. Dr. E.

55th Ave. Dr. E.

1" = 40'

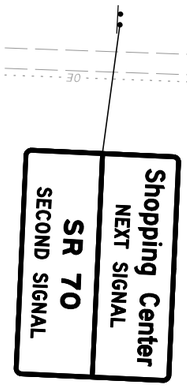
0 10 40

Feet

MATCHLINE STA. 11+70.00

10

11



SIGN 1
96" x 66"

700-2-14 1 AS

PLACE SIGN 1150' SOUTH
OF STOP BAR
(OPPOSITE 56TH AVE. DR. E.)

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No.	REVISIONS	DATE	BY

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Sarasota, FL 34232

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Manatee County FLORIDA
MANATEE COUNTY
PUBLIC WORKS
10/16/2020

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282
PW:\

SIGNING AND PAVEMENT MARKING PLAN (1)

SHEET NO.: S-5

Lockwood Ridge Rd.

1" = 40'

0 10 40

Feet

EXISTING SIGN TO REMAIN

ONLY

STOP

700-1-60 1 AS

STOP

R4-7
24" x 30"
OM1-1
18" x 18"

700-1-11 1 AS
705-10-1 1 EA

STA. 14+91

105' LT.

REMOVE EXISTING DIRECTIONAL ARROWS
711-17-1 46 SF

6" WHITE (2'-4' SKIP)

700-1-60 1 AS

6" WHITE (10'-30' SKIP) WITH W/R RPMs AT 40'

EXIST. R/W

6" WHITE

+71 +95 +47

6" WHITE

6" WHITE (2'-4' SKIP)

5' 12' 13'

24" PREFORMED WHITE
EXISTING 12" WHITE TO REMAIN

6" WHITE

6" WHITE WITH W/R RPM's AT 20'

EXIST. R/W

+12

12' 4' 11' 12' 11'

6" WHITE WITH W/R RPM's AT 20'

+12

24" WHITE

6" YELLOW

12 13 14 15 16 17

+18 +03

13' 11' 11' 5'

6" YELLOW

24" WHITE

12" WHITE

6" WHITE (2'-4' SKIP)

DELINEATOR TO REMAIN

24" PREFORMED WHITE

6" WHITE WITH W/R RPM's AT 20'

+93

6" WHITE WITH W/R RPMs AT 20'

6" WHITE

EXISTING 12" WHITE TO REMAIN

6" WHITE (10'-30' SKIP) WITH W/R RPMs AT 40'

6" WHITE (6'-10' SKIP)

EXIST. R/W

EXIST. R/W

6" WHITE

MATCHLINE STA. 11+70.00

MATCHLINE STA. 17+30.00

ONLY ONLY

R3-8b (MOD)
48" x 30"
700-1-11 2 AS
STA. 11+85

RELOCATE EXISTING MULTI-POST SIGN TO STA. 16+35

R3-7R
30" x 30"
SIGN 3
30" x 12"
700-1-11 2 AS
STA. 13+35
STA. 14+80

AT SR 70

RIGHT LANE MUST TURN RIGHT

EXISTING SIGN TO REMAIN

84' RT.

R4-7C
18" x 30"
OM1-1
18" x 18"
700-1-11 1 AS
705-10-1 1 EA
STA. 16+16

ONLY ONLY

700-2-50 1 AS
STA. 16+35

136 SF 711-17-1
REMOVE EXISTING DIRECTIONAL ARROWS AND "STOP" MESSAGES

152' RT.

STOP

700-1-60 1 AS

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No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860

Manatee County FLORIDA

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

SIGNING AND PAVEMENT MARKING PLAN (2)

SHEET NO.: S-6

11:10:10 AM 10/30/2020 PW:\3658\10001573\10227673\6.0_CAD_BIM\6.2_WIP\12345615201\signing\plansp02.dgn

Lockwood Ridge Rd.

53rd Ave. E. (SR 70)

EXISTING SIGN TO REMAIN

STOP

Shopping Center
NEXT SIGNAL

SIGN 2
96" x 36"
700-1-74 1 AS
STA. 19+04
CENTER SIGN ON POST

EXISTING SIGN TO REMAIN

SPEED LIMIT 40

EXIST. R/W

MATCHLINE STA. 17+30.00

18

THERMOPLASTIC PAVEMENT MESSAGE

+85 +19 EAST

PREFORMED PAVEMENT MESSAGE

19

20

THERMOPLASTIC PAVEMENT MESSAGE

+15 +49 EAST

PREFORMED PAVEMENT MESSAGE

21

22

EXIST. R/W

WEST 70

EAST 70

M3-4 24" x 12"
FTP-17-06 24" x 24"
M6-1L 21" x 15"

M3-2 24" x 12"
FTP-17-06 24" x 24"
M6-1R 21" x 15"

700-1-12 1 AS
STA. 17+63

1" = 40'

0 10 40

Feet

53rd Ave. E. (SR 70)

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No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

SIGNING AND PAVEMENT MARKING PLAN (3)

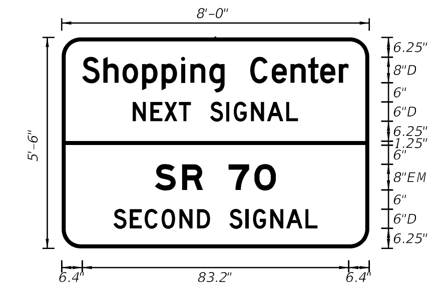
SHEET NO.: S-7

2:46:52 PM 10/16/2020 PW:\3658\10001573\10227673\6.0_CAD_BIM\6.2_WIP\12345615201\signing\plansp03.dgn

SIGN NAME	SIGN 1	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			
WIDTH	8'-0"	WIDTH	1.25"		
HEIGHT	5'-6"	RADII	6"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE STEEL		AVERAGE LENGTH
1	2		W 6x12		11.92'



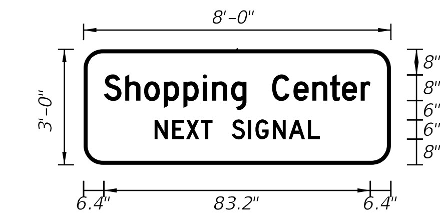
NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY		S	h	o	p	p	i	n	g		C	e	n	t	e	r		L
SPACE	6.4	6.6	5.9	6.2	6.1	6.1	2.9	5.9	4.8	8	6.7	5.8	5.5	3.8	5.8	3	6.4	83.2
COPY		N	E	X	T		S	I	G	N	A	L		L				
SPACE	22.2	5.5	4.3	4.6	3.7	6	5.1	2.3	5.4	5	6	3.7	22.2	51.6				
COPY		S	R		7	0		L										
SPACE	29.1	8.5	6.5	8	8.1	6.7	29.1	37.8										
COPY		S	E	C	O	N	D		S	I	G	N	A	L		L		
SPACE	16.2	5.1	4.6	5.3	5.6	5.5	4.1	6	5.1	2.3	5.4	5	6	3.7	16.2	63.7		
COPY																		
SPACE																		
COPY																		
SPACE																		

SIGN NAME	SIGN 2	QTY	1	SIGN NO.	STATION(S)
PANEL		BORDER			
WIDTH	8'-0"	WIDTH	1.25"		
HEIGHT	3'-0"	RADII	6"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE STEEL		AVERAGE LENGTH



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY		S	h	o	p	p	i	n	g		C	e	n	t	e	r		L
SPACE	6.4	6.6	5.9	6.2	6.1	6.1	2.9	5.9	4.8	8	6.7	5.8	5.5	3.8	5.8	3	6.4	83.2
COPY		N	E	X	T		S	I	G	N	A	L		L				
SPACE	22.2	5.5	4.3	4.6	3.7	6	5.1	2.3	5.4	5	6	3.7	22.2	51.6				
COPY																		
SPACE																		
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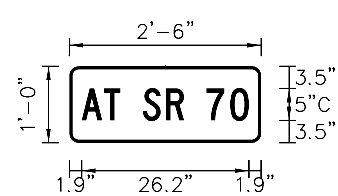
SPACE																		

SIGN NAME	SIGN 3	QTY	2	SIGN NO.	STATION(S)
PANEL		BORDER			13+35
WIDTH	2'-6"	WIDTH	0.5"		14+80
HEIGHT	1'-0"	RADII	1.5"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE STEEL		AVERAGE LENGTH



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY		A	T		S	R		7	0		L
SPACE	1.9	3.5	2.5	3.5	3.6	2.8	3.5	3.7	2.9	1.9	26.1
COPY											
SPACE											
COPY											
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SPACE											
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SPACE											

SIGN NAME		QTY		SIGN NO.	STATION(S)
PANEL		BORDER			
WIDTH		WIDTH			
HEIGHT		RADII			
LEGEND		COLOR			
COLOR					

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE STEEL		AVERAGE LENGTH

THIS SPACE
INTENTIONALLY
LEFT BLANK

NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY		
SPACE		
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THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

No.	REVISIONS	DATE	BY

SCALE AS NOTED
DESIGNED BY MJO
DRAWN BY SM
CHECKED BY IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE 10/2020
PROJECT NO. 6099860

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER MICHAEL J. OATES
FL. LICENSE NO. 49282

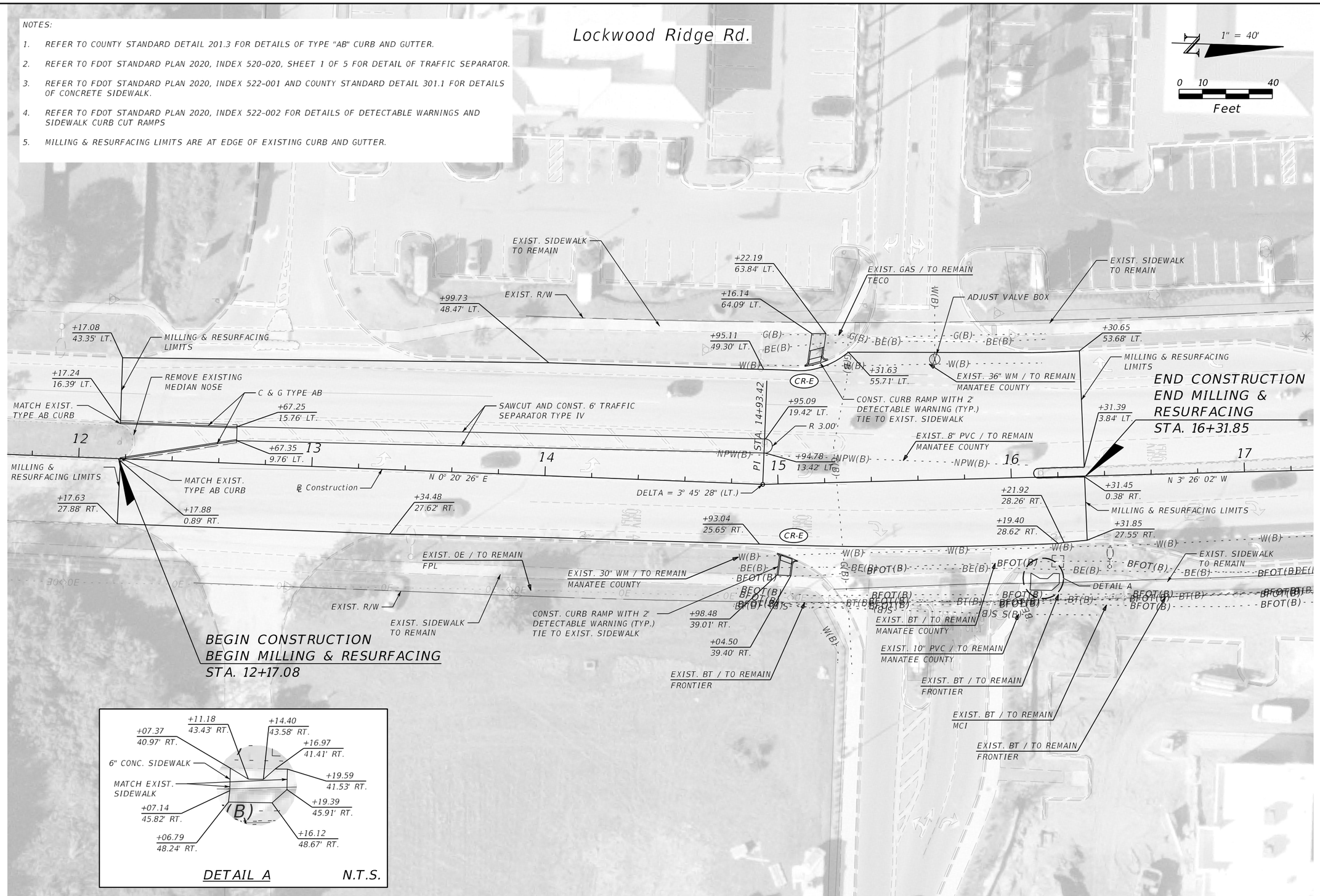
GUIDE SIGN WORKSHEET

SHEET NO. S-8

2:03:59 PM 10/16/2020 PW:\

NOTES:

1. REFER TO COUNTY STANDARD DETAIL 201.3 FOR DETAILS OF TYPE "AB" CURB AND GUTTER.
2. REFER TO FDOT STANDARD PLAN 2020, INDEX 520-020, SHEET 1 OF 5 FOR DETAIL OF TRAFFIC SEPARATOR.
3. REFER TO FDOT STANDARD PLAN 2020, INDEX 522-001 AND COUNTY STANDARD DETAIL 301.1 FOR DETAILS OF CONCRETE SIDEWALK.
4. REFER TO FDOT STANDARD PLAN 2020, INDEX 522-002 FOR DETAILS OF DETECTABLE WARNINGS AND SIDEWALK CURB CUT RAMPS
5. MILLING & RESURFACING LIMITS ARE AT EDGE OF EXISTING CURB AND GUTTER.



No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: JLS
DRAWN BY: DB
CHECKED BY: TTT

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232-6212

DATE: 10/2020
PROJECT NO.: 6099860
2:04:03 PM

Manatee County FLORIDA
MANATEE COUNTY PUBLIC WORKS
10/16/2020

DESIGN ENGINEER: JASON L. STARR
FL. LICENSE NO.: 70171
PW:\

ROADWAY PLAN (1)

SHEET NO.: R-1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

UTILITY CONTACTS:

TECO PEOPLE GAS
ANTHONY BAUBLITZ
8261 VICO COURT
SARASOTA, FL. 34240
(941) 342-4025
AFBaublitz@tecoenergy.com

FLORIDA POWER & LIGHT
GREG COKER
1253 12TH AVENUE EAST
PALMETTO, FL. 34221
(941) 723-4430
gregcoker@fpl.com

FRONTIER COMMUNICATIONS
DENISE HUTTON
1701 RINGLING BLVD.
SARASOTA, FL. 34236
(941) 906-6722
denise.hutton@ftr.com

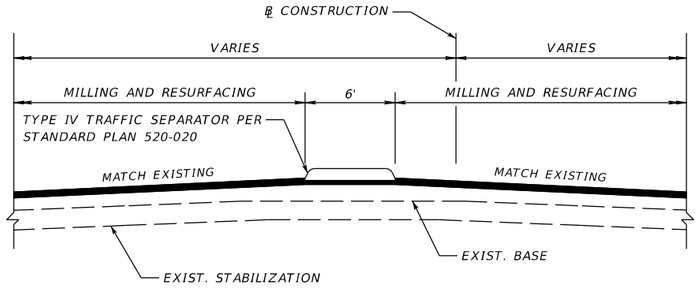
MANATEE COUNTY PUBLIC WORKS
SCOTT MAY
1022 26TH AVENUE EAST
BRADENTON, FL. 34208
(941) 708-7450
scott.may@mymanatee.org

CURVE AND COORDINATE DATA

BASELINE	CONTROL POINT	STATION	COORDINATES		Δ		BEARING AHEAD
			NORTH	EAST			
BL Construction	POT	10+00.00	1,130,490.686	429,245.111			N 0° 20' 26" E
	PI	14+93.42	1,130,984.096	492,248.044	3° 45' 28" (LT.)	N 0° 20' 26" E	N 3° 26' 02" W
	POT	22+09.05	1,131,698.442	492,205.181		N 3° 26' 02" W	

ROADWAY PLANS

ITEM NO.	ITEM	UNIT	QUANTITY
101-1	MOBILIZATION	LS	1
102-1	MAINTENANCE OF TRAFFIC	LS	1
110-1-1	CLEARING AND GRUBBING	AC	0.1
110-4-10	REMOVAL OF EXISTING CONCRETE	SY	13
110-23	TREE REMOVAL	EA	1
120-6	EMBANKMENT	CY	70
327-70-8	MILLING EXIST ASPH PAVT, 2 1/2" AVG DEPTH	SY	3424
337-7-83	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-12.5, PG76-22	TN	471
425-6	VALVE BOXES, ADJUST	EA	1
MC-201.3	CONCRETE CURB AND GUTTER, MODIFIED TYPE "AB"	LF	101
520-5-42	TRAFFIC SEPARATOR CONCRETE- TYPE IV, 6' WIDE	LF	230
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	23
527-2	DETECTABLE WARNINGS	SF	21
570-1-2	PERFORMANCE TURF(SOD)	SY	62



PAVEMENT DETAIL

TRAVEL AND BIKE LANES

MILL EXISTING ASPHALT PAVEMENT (2 ½" AVG. DEPTH)
FRICTION COURSE FC-12.5 (TRAFFIC C) (2 ½")

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: JLS
DRAWN BY: DB
CHECKED BY: TTT

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232-6212

DATE: 10/2020
PROJECT NO.: 6099860

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: JASON L. STARR
FL. LICENSE NO.: 70171

ROADWAY DETAILS (1)

SHEET NO.: R-2

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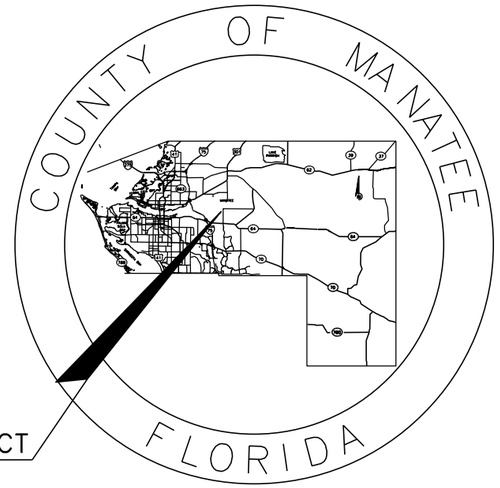
STATE OF FLORIDA

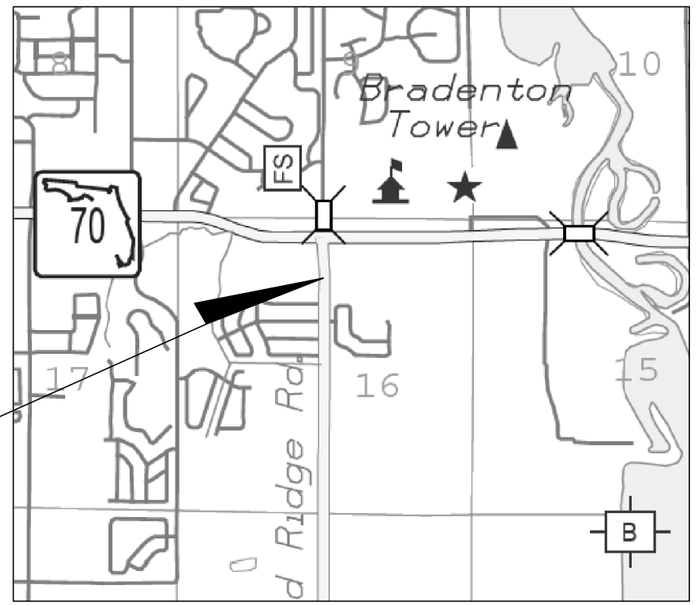
COUNTY OF MANATEE

PLANS OF PROPOSED
LOCKWOOD RIDGE ROAD
AT SHOPPING CENTER
BRADENTON, FLORIDA
MC PROJECT No. 6099860



LOCATION OF PROJECT

INDEX OF SIGNALIZATION PLANS



PROJECT LOCATION

FINAL PLANS

NAVD 88 DATUM

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

Manatee County FLORIDA

THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STANDARD PLANS (ENGLISH UNITS) AND REVISIONS THERETO INCLUDED IN THIS CONTRACT PACKAGE SHALL GOVERN WORK PERFORMED UNDER THIS CONTRACT.
https://www.fdot.gov/design/standardplans/current/default.shtm

KEY SHEET REVISIONS	
DATE	DESCRIPTION

SIGNALIZATION PLANS
PROFESSIONAL OF RECORD: MICHAEL J. OATES, P.E.

FLORIDA P.E. # 49282

SHEET NO.

T-1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL	
			T-6		T-15															
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	175		525												700		700	
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	330		130												460		460	
632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1														1		1	
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND,2-12 FIBERS	LF	290														290		290	
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	4														4		4	
633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA	1														1		1	
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA	1														1		1	
633-3-15	FIBER OPTIC CONNECTION HARDWARE, F&I, PRETERMINATED PATCH PANEL	EA	1														1		1	
633-8-1	MULTI-CONDUCTOR COMMUNICATION CABLE, FURNISH & INSTALL	LF			305												305		305	
635-2-11	PULL & SPLICE BOX, F&I, 17" x 30" COVER SIZE	EA	17		9												26		26	
635-2-12	PULL & SPLICE BOX, F&I, 24" x 36" COVER SIZE	EA	1														1		1	
635-2-13	PULL & SPLICE BOX, F&I, 30" X 60" RECTANGULAR OR 36" ROUND COVER SIZE	EA	1														1		1	
639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS	1														1		1	
639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	65														65		65	
639-4-6	EMERGENCY GENERATOR - PORTABLE, FURNISH & INSTALL	EA	1														1		1	
641-2-12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	1														1		1	
646-1-11	ALUMINUM SIGNALS POLE, FURNISH & INSTALL PEDESTAL	EA	6														6		6	
646-2-130	ALUMINUM POLE- INDEX 17900/695-001, FURNISH & INSTALL, 25'	EA			1												1		1	
649-21-24	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 78'-50'	EA	2														2		2	
650-1-14	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	12														12		12	
650-1-16	TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 4 SECTION, 1 WAY	AS	2														2		2	
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	6														6		6	
660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	1														1		1	
660-3-12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	6		1												7		7	
660-6-121	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, CABINET EQUIPMENT	EA	1														1		1	
660-6-122	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	1														1		1	
665-1-11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	6														6		6	
670-5-111	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA, 1 PREEMPTION	AS	1														1		1	
676-3-10	SMALL EQUIPMENT ENCLOSURE, FURNISH AND INSTALL, LESS THAN 10"W X 13"H X 11" D	EA			1												1		1	
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA	1														1		1	
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	1														1		1	
685-1-12	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, ONLINE/DOUBLE CONVERSION	EA	1														1		1	
700-3-201	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA	2														2		2	
700-5-22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	4														4		4	
715-1-12	LIGHTING CONDUCTORS, F&I, INSULATED, NO.8 - 6	LF			3303												3303		3303	
715-1-60	LIGHTING CONDUCTORS, REMOVE & DISPOSE, CONTRACTOR OWNS	LF			3000												3000		3000	
715-4-13	LIGHT POLE COMPLETE, FURNISH & INSTALL STANDARD POLE STANDARD FOUNDATION, 40' MOUNTING HEIGHT	EA			2												2		2	
715-11-211	LUMINAIRE, F&I- REPLACE EXISTING LUMINAIRE ON EXISTING POLE/ARM, ROADWAY, COBRA HEAD	EA			2												2		2	
715-500-1	POLE CABLE DISTRIBUTION SYSTEM, FURNISH AND INSTALL, CONVENTIONAL	EA			2												2		2	

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

TABULATION OF QUANTITIES

SHEET NO.: T-3

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GENERAL NOTES

1. THE CONTRACTOR SHALL CONTACT THE ENGINEER, IN CONJUNCTION WITH MANATEE COUNTY'S PROJECT MANAGEMENT DIVISION BEFORE STARTING WORK.

2. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, IN CONJUNCTION WITH MANATEE COUNTY'S TRAFFIC ENGINEERING DIVISION (941-749-3502 EXT. 7817), AT LEAST TWO WEEKS BEFORE ANY CABINET MODIFICATIONS ARE TO BE PERFORMED. THE ENGINEER, IN CONJUNCTION WITH MANATEE COUNTY ENGINEERING DIVISION PERSONNEL WILL REVIEW, ASSIST AND PROVIDE TECHNICAL SUPPORT RELEVANT TO ANY FIELD MODIFICATIONS THAT ARE NECESSARY.

3. AT LEAST TWO (2) FULL BUSINESS DAYS PRIOR TO BEGINNING THE TRAFFIC SIGNAL INSTALLATION, PERMITTEE TO CONTACT THE TRAFFIC SIGNAL INSPECTOR/LIAISON:

   MANATEE COUNTY PROJECT MANAGEMENT DIVISION
   DANIEL GARNER
   1022 26TH AVENUE EAST
   BRADENTON, FLORIDA 34208
   PHONE: 941-708-7450 EXT. 7236

4. ONE WEEK PRIOR TO THE BEGINNING OF THE TRAFFIC SIGNAL INSTALLATION OR TURN ON OF A NEW SIGNAL, THE CONTRACTOR SHALL NOTIFY THE ENGINEER:

   MANATEE COUNTY PROJECT MANAGEMENT DIVISION
   DANIEL GARNER
   1022 26TH AVENUE EAST
   BRADENTON, FLORIDA 34208
   PHONE: 941-708-7450 EXT. 7236

   MANATEE COUNTY TRAFFIC ENGINEERING DIVISION
   VISHAL KAKKAD
   2101 47TH TERRACE EAST
   BRADENTON, FLORIDA 34203
   PHONE: 941-749-3500 EXT. 7812

5. DELIVER THREE SETS OF RECORD DRAWINGS, TWO SETS OF IMSA INSPECTION FORMS AND ONE COMPACT DISC OF RECORD DRAWINGS TO MR. AARON BURKETT, THE MANATEE COUNTY TRAFFIC OPERATIONS DIVISION MANAGER AT 2904 12TH ST CT E, BRADENTON, FL 34208. RECORD DRAWINGS MUST BE DELIVERED TO THE COUNTY 5 BUSINESS DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION.

6. UPON PASSING THE FINAL INSPECTION THE CONTRACTOR SHALL SEND A WRITTEN REQUEST TO THE PROJECT MANAGEMENT DIVISION AND THE TRANSPORTATION DIVISION TO TRANSFER MAINTENANCE FROM THE CONTRACTOR TO MANATEE COUNTY. MANATEE COUNTY WILL RESPOND WITHIN 5 WORKING DAYS TO ESTABLISH A TIME TABLE FOR THE TRANSFER OF MAINTENANCE RESPONSIBILITY.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE LOCAL POWER COMPANY PROVIDING ELECTRICAL POWER TO DETERMINE IF A SERVICE PROCESSING FEE IS REQUIRED. ANY FEE SHALL BE INCLUDED AS PART OF PAYMENT FOR THE ELECTRICAL POWER SERVICE ASSEMBLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS OF THE ELECTRICAL SERVICE. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION, INSPECTION AND ENERGIZING OF THE NEW POWER SERVICE IN A TIMELY MANNER IN ORDER TO PROMOTE PROJECT COMPLETION WITHIN CONTRACT TIME.

8. THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR, VIA SUNSHINE STATE ONE CALL OF FLORIDA, INC AT 811 OR 1-800-432-4770, IN COORDINATION WITH UNDERGROUND AND OVERHEAD UTILITY OWNERS. THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS/AGENCIES LISTED WITHIN OR IMPACTED BY THESE PLANS, NOT LESS THAN TWO (2) FULL BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION.

9. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS IN ADVANCE OF POLE SETTING OPERATIONS WHERE CONFLICT WITH OVERHEAD ELECTRICAL CONDUCTORS IS EXPECTED AND IN ALL CASES WHERE JOINT USE POLES ARE CALLED FOR.

   THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY FOR THEIR ASSISTANCE IN PERFORMING ALL NECESSARY WORK UNDER POWER LINES AT SIGNAL POLES SUCH AS THE INSTALLATION OF SIGNAL CABLE, FIBERGLASS INSULATORS, AND SIGNAL POLES.

   AT LOCATIONS WHERE THE REQUIRED VERTICAL CLEARANCE TO THE POWER LINES CANNOT BE MAINTAINED, A QUALIFIED REPRESENTATIVE FROM THE POWER COMPANY SHALL BE PRESENT DURING ALL WORK UNDER POWER LINES. ANY COST ASSOCIATED WITH THIS SHALL BE INCLUDED IN THE RELATED PAY ITEMS.

10. THE CONTRACTOR SHALL HAND DIG THE FIRST 48 INCHES OF THE HOLE FOR THE POLE FOUNDATION OR CONDUIT RUN WHERE UTILITIES ARE IN CLOSE PROXIMITY.

11. THE CONTRACTOR IS TO DE-WATER THE POLE FOUNDATION EXCAVATION IF THE ELEVATION OF WATER IS HIGHER THAN THE ELEVATION OF THE FOUNDATION BASE.

12. ALL MATERIALS, EQUIPMENT, AND OTHER CONTRACTOR SUPPLIED ITEMS SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS, UNLESS SPECIFICALLY DIRECTED OTHERWISE BY THE ENGINEER.

13. #14 XHHW PULL WIRE SHALL BE INSTALLED IN ALL CONDUITS. AT LEAST 2 FEET OF PULL WIRE SHALL BE ACCESSIBLE AT EACH CONDUIT TERMINATION AND SECURED IN THE PULL BOX OR PLACE OF TERMINATION.

14. ALL ELECTRICAL WIRING SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION.

15. GROUNDING: ALL COSTS FOR GROUNDING SHALL BE INCLUDED IN THE COST OF THE ITEM BEING GROUNDED. ALL GROUND ROD ASSEMBLIES FOR POLES, SERVICES, CABINETS, AND OTHER RELATED EQUIPMENT SHALL BE BONDED TOGETHER TO FORM AN INTEGRATED GROUNDING SYSTEM USING #6 AWG THHN COPPER WIRE. THE UPPER END OF ALL GROUND RODS SHALL BE 18 INCHES BELOW GROUND ELEVATION. MARK GROUND ROD LOCATION WITH PERMANENT MARKER SUCH AS AN EPOXIED STICKER LOCATED ON THE NEAREST CURB, AND PROVIDE AS-BUILT DRAWINGS WITH THE LOCATION OF GROUND RODS MARKED. GROUNDING CONDUCTOR MUST BE #6 OR LARGER INSULATED COPPER.

   CONNECTING DEVICES SHALL BE NON-CORROSIVE SPLIT BOLTS, CLAMPS, PRESSURE CONNECTORS, OR OTHER APPROVED MEANS TO ENSURE A POSITIVE CONNECTION.

   GROUND RESISTANCE TESTER, OR OTHER APPROVED MEANS SHALL BE USED TO ACQUIRE THE GROUND ROD RESISTANCE. THE ENGINEER, OR A REPRESENTATIVE OF THE ENGINEER FROM THE TRAFFIC OPERATIONS DIVISION STAFF SHALL BE PRESENT DURING THE TEST.

16. ELEVATION OF THE TOP OF THE MAST ARM FOUNDATION SHALL BE SIX INCHES ABOVE EXISTING GRADE, UNLESS LOCATED DIRECTLY AT BACK OF SIDEWALK. IF LOCATED AT BACK OF SIDEWALK, THE FOUNDATION ELEVATION SHALL MATCH SIDEWALK GRADE. SEE TOP OF FOUNDATION ELEVATION ON "MAST ARM TABULATION" SHEET.

17. IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING OR BORING.

18. CONTRACTOR SHALL SUPPLY ALL MATERIAL SUBMITTALS TO THE ENGINEER PRIOR TO CONSTRUCTION FOR APPROVAL.

19. THE TYPE OF EQUIPMENT USED IN THE INSTALLATION OF MAST ARMS/ FOUNDATIONS SHALL MEET THE FOLLOWING REQUIREMENTS:
    1) OVERHEAD LINES SHALL STAY IN PLACE BOTH VERTICALLY AND HORIZONTALLY; AND
    2) CONTRACTOR SHALL MEET ALL APPLICABLE OSHA REQUIREMENTS. ANY COST ASSOCIATED WITH THE TYPE OF EQUIPMENT REQUIRED FOR THIS INSTALLATION SHALL BE INCLUDED IN THE RELATED PAY ITEMS.

20. CONTRACTOR SHALL UTILIZE FDOT STANDARD PLANS INDEX 102-600, 102-615, 102-616, 102-617 AND 102-660 AS APPLICABLE DURING MAINTENANCE OF TRAFFIC OPERATIONS.

21. EXISTING SPEED LIMITS ARE AS FOLLOWS:
    40 MPH ON LOCKWOOD RIDGE ROAD
    20 MPH ON COMMERCIAL DRIVEWAYS

22. UNDER SUPERVISION OF THE COUNTY, THE CONTRACTOR SHALL PERFORM AN INITIAL OPERATION TEST TO ENSURE THE CCTV ASSEMBLY HAS BEEN INSTALLED CORRECTLY AS A COMPLETE AND FUNCTIONALLY ACCEPTABLE INSTALLATION.

23. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW FOR ALL EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED. THE CONTRACTOR SHALL FURNISH COPIES OF ALL DRAWINGS, SCHEDULES AND COMPLETE DESCRIPTIVE AND TECHNICAL DATA ON ALL ITEMS TO THE PROJECT MANAGER.

24. THE ACCEPTANCE OF ANY SUBMITTED DATA FOR MATERIALS, EQUIPMENT, APPARATUS, DEVICES, ARRANGEMENTS AND/OR LAYOUTS SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PLACING SAME AND PROPER DIMENSIONS, CAPACITIES, SIZES, QUANTITY AND INSTALLATIONS DETAILS TO EFFICIENTLY PERFORM THE REQUIREMENTS AND INTENT OF THE CONTRACT. SUCH ACCEPTANCE SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OF ANY SORT ON THE SUBMITTAL DATA.

25. CONTRACTOR TO CONTACT TRAFFIC ENGINEERING DIVISION: MUKUNDA GOPALAKRISHNA (941-749-3500 EXT. 7813) TO OBTAIN IP ADDRESSES FOR FIELD DEVICES AND ETHERNET SWITCH CONFIGURATION INFORMATION.

26. WHEN A CONTRACTOR IS WORKING ON A SIGNAL IN AN INTERSECTION (INSTALLING CONDUIT IN THE STREET, REMOVING EXISTING SIGNAL EQUIPMENT, LOOPS, HOMERUNS OR TURNING ON OF NEW SIGNAL) WHERE A LANE IS CLOSED, THE ENGINEER MAY REQUIRE AN OFF DUTY LAW ENFORCEMENT OFFICER TO DIRECT TRAFFIC. THE HOURLY RATE FOR AN OFF DUTY LAW ENFORCEMENT OFFICER CAN BE OBTAINED FROM THE LOCAL LAW ENFORCEMENT OFFICE. THE COST OF THE OFFICER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN PAY ITEM 102-1-104.

27. CONTRACTOR SHALL COORDINATE PAVEMENT MARKINGS AND SIGNAGE WORK WITH SCHEDULING OF SIGNAL ACTIVATION. THE SIGNAL SHALL NOT BE FULLY ACTIVATED UNTIL ALL PROPOSED STOP BARS, CROSSWALKS, RAMPS, AND PAVEMENT REMOVAL WORK IS COMPLETE. THE EXISTING STOP SIGNS SHALL BE REMOVED UPON FULL SIGNAL ACTIVATION.

28. THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION FOR A LIST OF APPROVED ITS COMPONENTS FOR ALL ATMS MATERIAL PRIOR TO SUBMITTING SHOP DRAWINGS. THIS INCLUDES BUT NOT LIMITED TO ETHERNET SWITCH, FIBER PULL BOXES, SPLICE BOXES AND ROUTE MARKERS WITH CORRECT WORDING.

29. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TWO PORTABLE 4' x 8' VARIABLE-MESSAGE SIGNS (VMS) FOR A PERIOD OF TWO WEEKS. THE VMS WILL BE LOCATED AT AN APPROPRIATE DISTANCE IN ADVANCE OF EACH APPROACH TO THE NEW SIGNALIZED INTERSECTION AS SPECIFIED BY THE MAINTAINING AGENCY'S ENGINEER. THE VMS WILL BE PROVIDED (1) WEEK PRIOR TO THE SCHEDULED ACTIVATION TO FULL COLOR OPERATION AND SHALL REMAIN IN PLACE FOR ONE (1) WEEK FOLLOWING ACTIVATION. COST OF FURNISHING VMS TO BE INCLUDED UNDER THE ASSOCIATED PAY ITEM FOR MAINTENANCE OF TRAFFIC.

   PRIOR TO ACTIVATION, THE VMS SIGN SHALL BE:
   (PANEL ONE - LINE 1) "TRAFFIC"
   (PANEL ONE - LINE 2) "SIGNAL"
   (PANEL ONE - LINE 3) "WILL BE"
   (PANEL TWO - LINE 1) "ACTIVATED"
   (PANEL TWO - LINE 2) "ON DAY"
   (PANEL TWO - LINE 3) "MONTH XX"

   SUBSTITUTION FOR THE WORD "DAY" SHALL BE AS FOLLOWS:
   SUNDAY AS "SUN"
   MONDAY AS "MON"
   TUESDAY AS "TUES"
   WEDNESDAY AS "WED"
   THURSDAY AS "THUR"
   FRIDAY AS "FRI"
   SATURDAY AS "SAT"

   SUBSTITUTION FOR THE WORD "MONTH" SHALL BE AS FOLLOWS:
   JANUARY AS "JAN"
   FEBRUARY AS "FEB"
   MARCH AS "MAR"
   APRIL AS "APR"
   MAY AS "MAY"
   JUNE AS "JUN"
   JULY AS "JUL"
   AUGUST AS "AUG"
   SEPTEMBER AS "SEP"
   OCTOBER AS "OCT"
   NOVEMBER AS "NOV"
   DECEMBER AS "DEC"

   SUBSTITUTION FOR THE WORD "XX" SHALL BE AS FOLLOWS:
   THE NUMERICAL DAY OF THE MONTH, FROM ONE (1) TO THIRTY-ONE (31). DATES LESS THAN TEN (10) SHALL BE PRECEDED BY A ZERO (0); EXAMPLE: "JAN 03" FOR JANUARY 3RD. AFTER THE TURN-ON, THE VMS SHALL BE CHANGED TO

   (PANEL ONE - LINE 1) "TRAFFIC"
   (PANEL ONE - LINE 2) "SIGNAL"
   (PANEL TWO - LINE 1) "NOW"
   (PANEL TWO - LINE 2) "ACTIVE"

   PANEL TWO, LINE 1 AND LINE 2, SHALL FLASH THREE (3) TIMES BEFORE REVERTING TO PANEL ONE.

CONDUIT NOTES

1. ALL HDPE CONDUIT CONNECTIONS SHALL BE JOINED WITH A FUSION COUPLER OR FUSION SPLICE.

2. THE CONTRACTOR SHALL ADJUST THE CONDUIT RUNS, DEVICE POLES, BORES AND SERVICE POLE PLACEMENTS TO AVOID ANY UTILITY CONFLICTS IDENTIFIED BY THE LOCATES. ANY SIGNIFICANT CHANGE SHALL BE APPROVED BY THE ENGINEER.

3. THE CONDUITS TO BE INSTALLED ARE TO BE PLACED SO AS TO TOTALLY AVOID ANY CONFLICTS WITH EXISTING UTILITIES ALONG THE ROUTE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY INFORMATION REQUIRED TO PLAN THE WORK AHEAD FOR THE INSTALLATION OF THE REQUIRED CONDUITS WITHIN DESIGN OR SPECIFIED PARAMETERS, AND HIS TIME FRAME. THE CONTRACTOR SHALL ADJUST CONDUIT VERTICALLY OR HORIZONTALLY TO AVOID CONFLICT WITH UNDERGROUND UTILITIES. THE CONTRACTOR SHALL USE HAND EXCAVATION METHODS WHEN EXCAVATING NEAR EXISTING UTILITIES, NO SEPARATE PAYMENT SHALL BE MADE FOR THIS WORK. EXTREME CAUTION SHALL BE USED BY THE CONTRACTOR WHEN EXCAVATING, INSTALLING, BACK FILLING AND COMPACTING AROUND EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY.

4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD LOCATE ALL ABOVEGROUND AND UNDERGROUND CONFLICTS IN ADVANCE OF THE PLACEMENT OF ANY CONDUIT OR OTHER FACILITIES. THE CONTRACTOR SHALL FIELD MARK THE PROPOSED ALIGNMENT FOR REVIEW AND CONCURRENCE BY THE ENGINEER PRIOR TO TRENCHING AND/OR PLACEMENT. NO PULL BOXES SHALL BE LOCATED IN DRAINAGE SWALES, OR PAVED SHOULDERS.

5. WHEN TRENCHING FOR INSTALLATION, THE CONTRACTOR MAY RUN COMMUNICATIONS AND POWER SERVICE IN THE SAME TRENCH. THE POWER SERVICE SHALL HAVE SEPARATE PULL BOXES FOR ACCESS. THE CONTRACTOR SHALL NOT INSTALL COMMUNICATIONS AND POWER SERVICE IN THE SAME CONDUIT, PULL BOX OR MANHOLE.

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860

Manatee County FLORIDA
MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

GENERAL NOTES

SHEET NO.: T-4

3:44:37 PM 10/16/2020 PW:\

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

6. THE CONTRACTOR SHALL PLACE ALL CONDUITS IN A MANNER THAT MINIMIZES DEFLECTION BOTH HORIZONTALLY AND VERTICALLY, THUS MINIMIZING STRESS ON CABLES DURING CABLE INSTALLATION. CONDUIT FOR FIBER OPTIC CABLE IN TRENCHES SHALL NOT DEFLECT MORE THAN 1-INCH PER FOOT VERTICALLY OR HORIZONTALLY. BENDS SHALL NOT BE PERMITTED EXCEPT AS SPECIFIED ON THE PLANS.

7. THE CONDUIT DETAILS GIVEN ARE MEANT TO BE SCHEMATIC IN NATURE. DUE TO ACTUAL FIELD CONDITIONS AND/OR NEEDS, DEVIATIONS MAY BE NECESSARY. DIMENSIONAL DISTANCES FOR CONDUIT LOCATIONS ARE PROVIDED TO ASSIST THE CONTRACTOR WITH CONDUIT PLACEMENT. THE CONTRACTOR SHALL TAKE THIS INTO ACCOUNT WHEN PLACING CONDUIT. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING CONDUIT AROUND EXISTING UTILITIES AND OBSTRUCTIONS.

8. ALL CONDUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF THE WORKING DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. DO NOT OPEN ANY AREA THAT CANNOT BE BACKFILLED IN THE SAME DAY/ NIGHT OPERATION.

   BRACKETS AND SPACERS WHICH ARE REQUIRED TO OFFSET THE RIGID METAL CONDUIT FROM THE MOUNTING, SHALL BE OF SIMILAR MATERIALS TO PREVENT CATHODIC REACTION.

9. ALL NEW CONDUIT SHALL BE PLACED AT A MINIMUM DEPTH OF 30" UNLESS PLACED IN AN AREA OF NEW FILL, IN WHICH CASE THE CONDUIT SHALL BE 48". DIRECTIONALLY BORED CONDUIT SHALL BE AT A MINIMUM DEPTH OF 48".

PAY ITEM NOTES

1. 630-2-11 & 630-2-12:
   CONDUITS INSTALLED WITH THE DIRECTIONAL BORE METHOD SHALL BE HDPE WITH A MINIMUM SIZE OF 2" UNLESS OTHERWISE NOTED IN THE PLANS. COST OF PULL WIRE SHALL BE INCLUDED UNDER THIS PAY ITEM.

   #14 XHHW PULL WIRE SHALL BE INSTALLED IN ALL CONDUITS. AT LEAST 2 FEET OF PULL WIRE SHALL BE ACCESSIBLE.

   ALL CONDUIT RUNS SHOWN ON THE PLANS ARE SCHEMATIC AND FIELD ADJUSTMENTS MAY BE NECESSARY. WITH THE EXCEPTION OF ELECTRICAL POWER SERVICE DUCTS, JACK & BORE SLEEVES, AND DIRECTIONAL BORE CONDUITS, ALL UNDERGROUND AND UNDER PAVEMENT CONDUITS SHALL BE SCHEDULE 40 PVC WITH A MINIMUM SIZE OF 2" UNLESS OTHERWISE SPECIFIED IN THE PLANS. COST OF PULL WIRE SHALL BE INCLUDED UNDER THIS PAY ITEM.

   FOUR SEPARATE UNDERGROUND CONDUIT RUNS LOCATED 180 DEGREES APART ARE REQUIRED FOR ALL MAST ARMS. THE SPARE CONDUIT SHALL BE CAPPED IN THE NEAREST PULL BOX. THERE SHALL BE A MINIMUM OF FOUR RUNS OF 2" CONDUIT BETWEEN THE LAST LOW VOLTAGE PULL BOX LOCATED NEAR THE CONTROLLER CABINET & THE CONTROLLER CABINET, ITSELF.

2. 632-7-1:
   USE A MINIMUM OF 7 CONDUCTOR SIGNAL CABLES FOR SIGNAL HEADS AND PEDESTRIAN HEADS.

   EACH PHASE/MOVEMENT SHALL BE WIRED FROM THE SIGNAL DISPLAY TO THE CONTROLLER AS A SEPARATE PHASE/MOVEMENT. THIS INCLUDES THE LEFT TURN MOVEMENT WHICH SHALL HAVE CONDUCTORS AVAILABLE FOR EITHER PROTECTED OR PERMISSIVE MOVEMENTS. THE CONTRACTOR SHALL VERIFY COLOR CODES FOR SIGNAL CABLE WITH THE MANATEE COUNTY BEFORE ORDERING, AND WIRE THE SIGNAL IN ACCORDANCE WITH THAT COLOR CODE AND F.D.O.T. SPECIFICATIONS. THERE SHALL BE ONE NEUTRAL PER APPROACH. THIS PAY ITEM INCLUDES FURNISHING AND INSTALLING THE REQUIRED CABLING FOR THE PROPOSED PEDESTRIAN SIGNAL ASSEMBLIES. ALL PEDESTRIAN DETECTORS SHALL BE WIRED USING SEPARATE CABLE UTILIZING LOW VOLTAGE CONDUIT AND PULL BOXES.

3. 635-2-11 & 635-2-12:
   PULL BOXES SHALL BE TRAFFIC BEARING, ALL POLYMER CONSTRUCTION (NOT CONCRETE), PULL BOXES AND LIDS (QUAZITE OR ANOTHER EQUIVALENT FDOT APPROVED MANUFACTURER). PULL BOXES ARE TO BE PLACED BEHIND CURB AND GUTTER. IF THERE IS NO CURB AND GUTTER, PULL BOXES SHALL BE PLACED A MINIMUM OF 7' FROM THE EDGE OF PAVEMENT.

   STANDARD PULL BOX DIMENSIONS SHALL BE 17" X 30" X 12" AND THE LID SHALL BE STAMPED "MANATEE COUNTY TRAFFIC SIGNAL" ON THE COVER. STANDARD FIBER OPTIC COMMUNICATIONS PULL BOX DIMENSIONS SHALL BE 24" X 36" X 24" AND THE LID SHALL BE STAMPED "MANATEE COUNTY COMMUNICATIONS" ON THE COVER.

4. 639-1-122:
   THIS PAY ITEM SHALL INCLUDE THE COST OF ALL SPECIAL IMPACT CONNECTION FEES CHARGED BY LOCAL POWER COMPANIES FOR ELECTRICAL SERVICE CONNECTION . ANY CHARGES BY FPL (FLORIDA POWER AND LIGHT) TO BE ON SITE TO DE-ENERGIZE ELECTRIC SERVICE LINES AND MONITOR WORK WHILE LINES ARE REROUTED ONTO THE NEW SERVICE POLE WILL BE INCLUDED UNDER THIS PAY ITEM.

   THIS PAY ITEM INCLUDES METER BASE AND SERVICE DISCONNECT. ELECTRICAL SERVICE DISCONNECT SHALL BE COMPRISED OF SIX (6) CIRCUIT DISCONNECT BOX WITH THREE CIRCUIT BREAKERS – ONE 15 AMP FOR INTERNALLY ILLUMINATED STREET NAME SIGNS. ONE 15 AMP FOR FUTURE USE AND ONE 60 AMP FOR CONTROLLER CABINET MAIN BREAKER. ONE 15 AMP BREAKER FOR INTERNALLY ILLUMINATED SIGNS, ONE SIGNAL BREAKER AND SURGE SUPPRESSION BREAKER (FUTURE USE) SHOULD BE INSTALLED.

5. 639-4-6:
   MANATEE COUNTY WILL NOT FURNISH THIS ITEM. THE CONTRACTOR SHALL FURNISH AND INSTALL THE HOUSING AND FOUNDATION / PAD. ALL COSTS FOR THE HOUSING FOUNDATION / PAD IS INCLUDED IN THE COST OF THIS PAY ITEM. THE CONTRACTOR SHALL COORDINATE WITH MANATEE COUNTY TO OBTAIN THE DESIRED HOUSING DIMENSIONS.

6. 646-2-130:
   FOR THE QUEUE DETECTION POLE DETAILS, SEE FDOT INDEX 695-001. FOR THIS PAY ITEM INSTALL A 25' POLE.

7. 649-21-24:
   THE CONTRACTOR SHALL FIELD VERIFY ALL CRITICAL ELEVATIONS PRIOR TO ORDERING MAST ARM ASSEMBLIES.

   USE THREE 2" AND ONE 3/4" CONDUIT STUBBED OUT THROUGH THE MAST ARM POLE FOUNDATION AND TEMPORARILY SEALED.

   THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY FOR THEIR ASSISTANCE IN PERFORMING ALL NECESSARY WORK UNDER POWER LINES AT SIGNAL POLES. SUCH WORK SHALL INCLUDE, BUT IS NOT LIMITED TO THE INSTALLATION OF SIGNAL CABLE, INSTALLATION OF MAST ARM FOUNDATIONS OR POLES.

8. 650-1-14 & 650-1-16:
   USE SIGNAL HEAD SUPPORTING HANGER THAT IS CAPABLE OF ADJUSTING VERTICALLY A MINIMUM OF 1.5'.

   ALL SIGNAL HEADS SHALL HAVE ALUMINUM LOUVERED BACKPLATES INSTALLED. BACKPLATES SHALL BE MANUFACTURED FOR THE SIGNAL HEADS USED & INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. THE BACKPLATE SHALL HAVE A 2" YELLOW REFLECTORIZED (TYPE III REFLECTIVITY) OUTER EDGE BORDER UNLESS SPECIFIED OTHERWISE IN THE PLANS.

   THE EXTERNAL COLOR OF SIGNAL HOUSING SHALL BE BLACK. ALL TRAFFIC SIGNAL HEAD INDICATIONS SHALL BE 12" LED. ALL SIGNAL HEADS SHALL HAVE TUNNEL VISORS. THE COST FOR THE TUNNEL VISORS SHALL BE INCLUDED UNDER THIS PAY ITEM.

9. 653-1-11:
   PEDESTRIAN SIGNAL HEADS TO BE 16" INTERNATIONAL SYMBOL, LED COUNTDOWN TYPE. USE LOCKING COLLARS FOR MOUNTING PEDESTRIAN SIGNAL HEADS TO PEDESTRIAN PEDESTALS. USE BREAKAWAY ALUMINUM SQUARE BASE WITH ALUMINUM DOORS FOR PEDESTRIAN PEDESTALS.

10. 660-3-11:
    SHALL INCLUDE ALL NECESSARY WAVETRONIX CLICKS UNITS FOR A COMPLETE AND OPERATIONAL SETUP.

11. 660-3-12:
    SHALL INCLUDE WAVETRONIX SMARTSENSOR HD MATRIX, HD ADVANCE OR HD QUEUE DETECTION MVDS AS NOTED IN PLANS. THIS PAY ITEM WILL INCLUDE ALL NECESSARY MOUNTING BRACKETS AND CLAMPING EQUIPMENT. SHALL INCLUDE ANY COST ASSOCIATED WITH PHYSICAL INSTALLATION OF SENSOR AND ANY SOFTWARE NECESSARY TO PROGRAM THE SENSOR.

12. 660-6-121 & 660-6-122:
    THE CONTRACTOR SHALL FURNISH AND INSTALL BLUETOAD (BLUETOOTH UNIT) SPECTRA WITH RSU, POE UNIT AS SHOWN IN THE PLANS. (COORDINATE WITH THE VENDOR).

13. 665-1-11:
    SHALL INCLUDE ADDITIONAL COST OF LABOR AND MATERIALS REQUIRED FOR INSTALLATION OF PEDESTRIAN SIGNAL SIGN FTP-68B-06. THIS SIGN SHALL BE MOUNTED ABOVE EACH PEDESTRIAN DETECTOR. ALL PEDESTRIAN PUSH BUTTONS SHALL BE A.D.A. COMPLIANT. STREET NAMES SHALL BE IN ACCORDANCE WITH THE STREET NAMES ON THE PLAN SHEETS.

14. 670-5-111:
    USE A NEMA TS2 TYPE 1 CONTROLLER, P-44 CABINET ASSEMBLY 7006-TS2/FL TYPE 6 ENCLOSURE AS SHOWN IN TABLE 7-1 OF THE 2003 NEMA STANDARD TS2. THE NAZTEC ATC CONTROLLER SHALL COME EQUIPPED WITH 6 SERIAL PORTS AND ONE ETHERNET PORT. ALL CONTROLLER EQUIPMENT TO BE COMPATIBLE WITH MANATEE COUNTY'S EXISTING ATMS SYSTEM (NAZTEC'S ATMS.NOW) AND SYNCHROGREEN TRAFFIC CONTROLLER SOFTWARE. THE CABINET SHALL COME EQUIPPED WITH A ETHERNET SWITCH PAID UNDER A SEPARATE PAY ITEM NUMBER AND ALL THE NECESSARY SYSTEM COMPONENTS FOR INTEGRATION INTO AN ETHERNET-BASED FIBER OPTIC NETWORK. CONTACT MANATEE COUNTY PRIOR TO ORDERING CONTROLLER ASSEMBLY TO CONFIRM EQUIPMENT COMPATIBILITY.

    TRAFFIC SIGNAL CONTROLLER BASE:
    THIS ITEM SHALL INCLUDE THE INSTALLATION OF A CONCRETE BASE FOR THE CONTROLLER ASSEMBLY. THE CONTROLLER ASSEMBLY FOUNDATION SHALL HAVE A MINIMUM OF FOUR (4) – 2" CONDUIT SPARES. TWO (2) OF THE SPARES SHALL BE TERMINATED IN THE NEAREST PULL BOX AND FITTED WITH A WEATHERPROOF CAP. THE OTHER TWO (2) SPARES SHALL BE TERMINATED IN THE SIGNAL CABLE AND LOW VOLTAGE PULL BOXES. THE CABINET BASE WHEN SECURED TO THE CONCRETE SLAB WITH CONTROLLER CABINET ATTACHED MUST WITHSTAND A MINIMUM WIND LOAD OF 130 MPH OR A 850 LB FORCE APPLIED AT 49" ABOVE THE BOTTOM OF THE BASE WITHOUT CAUSING THE BASE OR CABINET TO COME OUT OF THEIR ANCHORED POSITION OR CAUSE ANY PERMANENT DEFORMATION. ALL COSTS OF LABOR, CONCRETE, AND OTHER MATERIALS FOR THE CONTROLLER ASSEMBLY, TECHNICIAN PADS, STEPS AS REQUIRED, ARE INCLUDED IN THIS ITEM.

    INSTALL A PVC SLEEVE TO PREVENT THE GROUND ROD FROM DIRECT EMBEDMENT IN THE SLAB. EXTEND CONDUITS FOR FUTURE USE AT LEAST 18-INCHES FROM THE EDGE OF THE SLAB. TERMINATE UNDERGROUND WITH A COUPLING AND CAP AND SEAL SO THAT THE SEAL CAN BE REMOVED WITHOUT DAMAGING THE COUPLING. ANCHOR THE CONTROLLER CABINET TO THE BASE USING FOUR STAINLESS STEEL ½ -13 NC BOLTS.

    THE CONTROLLER BASE SHALL BE AT LEAST 2' HIGH OR THE SAME ELEVATION AS THE CROWN OF THE ROADWAY, WHICHEVER IS GREATER. THE MAXIMUM DISTANCE FROM THE TECHNICIAN PAD OR STEP TO THE FOUNDATION TOP IS 24". THE CABINET DOORS SHALL OPEN TOWARDS OR PARALLEL TO THE RIGHT-OF-WAY LINE AND AWAY FROM TRAFFIC.
    - TRAFFIC CONTROLLER: NAZTEC TS2 TYPE 1 980 ATC.
    - TRAFFIC CONTROLLER CABINET: NAZTEC TS2 TYPE 1, SIZE: TYPE – VI WITH FRONT AND BACK DOOR ACCESS.

15. 682-1-113:
    THE CCTV CAMERA UNIT SHALL BE BOSCH ITS 7000 STARLITE SERIES 1080P 30x40.

16. 684-1-1:
    THE ETHERNET SWITCH SHALL BE A RUGGEDCOM SWITCH MODEL NUMBER RSG920P, PART NUMBER 6GK6092-0PS23-0BA0-ZA05+B05+C02+D02.

17. 685-1-12:
    SHALL INCLUDE AN UNINTERRUPTED POWER SUPPLY UNIT (UPS) MODEL NO. ALPHA FXM 1100 EQUIPPED WITH AN ETHERNET PORT. ALL UNINTERRUPTIBLE POWER SUPPLIES SHALL SUPPORT SNMP (PROTOCOL) FOR REMOTE MONITORING AND MANAGEMENT. THE UPS SHALL BE SIZED TO ACCOMMODATE THE MAXIMUM CONNECTED LOAD. THE BATTERY BANK SHALL BE SIZED TO PROVIDE A MINIMUM 8 HOURS RUN TIME UNDER FULL LOAD.

18. 700-5-22:
    ALL INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE EDGE LIT LED TYPE AND SHALL BE LISTED IN THE FDOT APPROVED PRODUCT LIST. THE COST OF THIS ITEM SHALL INCLUDE PROPERLY DESIGNED AND SIZED ADJUSTABLE HANGERS, BRACKETS, CLAMPS, AND ALL MISCELLANEOUS HARDWARE NECESSARY TO MOUNT THE SIGNS AS SHOWN IN THE PLANS. THE SIGNS SHALL BE POWERED USING IMSA 50-2 CABLE. THIS ITEM SHALL ALSO INCLUDE INSTALLATION OF THE PHOTOCELL ON THE SERVICE POLE OR INSIDE SIGNAL CABINET. INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL HAVE 120 VOLT LED BULBS. BULB TUBES LESS THAN 8 FEET SHALL HAVE 28.5 WATTS POWER CONSUMPTION AT 1900 LUMENS AND TUBES 8 FOOT OR GREATER SHALL HAVE 38 WATTS POWER CONSUMPTION AT 2600 LUMENS.

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

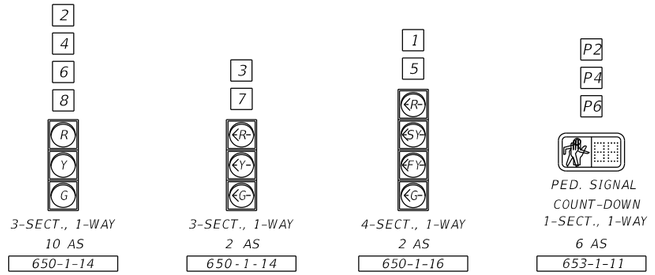
DATE: 10/2020
PROJECT NO.: 6099860

MANATEE COUNTY PUBLIC WORKS

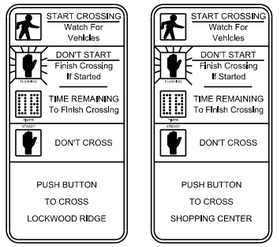
DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

PAY ITEM NOTES

SHEET NO.: T-5



USE LOUVERED ALUMINUM SIGNAL HEAD BACK PLATES WITH A 2" YELLOW REFLECTORIZED (TYPE III REFLECTIVITY) OUTER EDGE BORDER.



6 EA
FTP-68B-06
9" X 18"

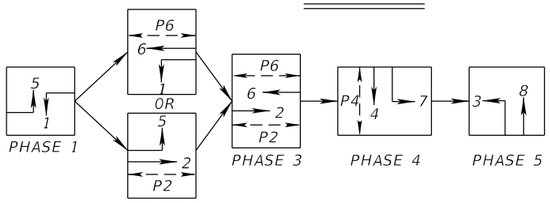
Ⓐ

Ⓑ

700-5-22 4 EA

Ⓒ

S.O.P. 9



FTP-85-13
30" x 36"

Ⓓ

700-3-201 2 EA

SIGN E
36" x 48"

Ⓔ

700-3-202 1 EA

CONTROLLER OPERATIONS:

1. MAJOR STREET IS LOCKWOOD RIDGE ROAD (MOVEMENTS 1, 2, 5 AND 6) AND MINOR STREET IS SHOPPING CENTER (MOVEMENTS 3, 4, 7 AND 8).
2. WHILE IN FLASH MODE, MOVEMENTS 2 & 6 SHALL FLASH YELLOW. ALL OTHER MOVEMENTS SHALL FLASH RED.
3. CONTROLLER CABINET SHALL BE WIRED AS AN SOP 10, BUT OPERATED AS AN SOP 9 AS SHOWN WITH THE FOLLOWING: CONCURRENT/ACTUATED PEDESTRIANS FOR MOVEMENTS 2 (P2), 4 (P4) AND 6 (P6).

SIGNALIZATION NOTES:

1. COUNTY REPRESENTATIVE OR ENGINEER OF RECORD SHALL FIELD LOCATE PEDESTRIAN SIGNAL POLES.
2. POWER SERVICE METER BASE AND DISCONNECT SHALL BE INSTALLED ON THE CONCRETE SERVICE POLE AS SHOWN ON THE PLANS AND PER STANDARD PLANS INDEX NUMBERS 639-001 AND 639-002.
3. FLORIDA POWER AND LIGHT (FPL) EXISTING TRANSFORMER SHALL BE USED FOR POWER SERVICE. THE CONTRACTOR SHALL COORDINATE WITH MANATEE COUNTY AND THE POWER COMPANY REGARDING THE EXACT LOCATION AND TIMING OF INSTALLATION.
4. INTERNALLY ILLUMINATED SIGNS SHALL BE RIGID MOUNTED TO MAST ARMS.

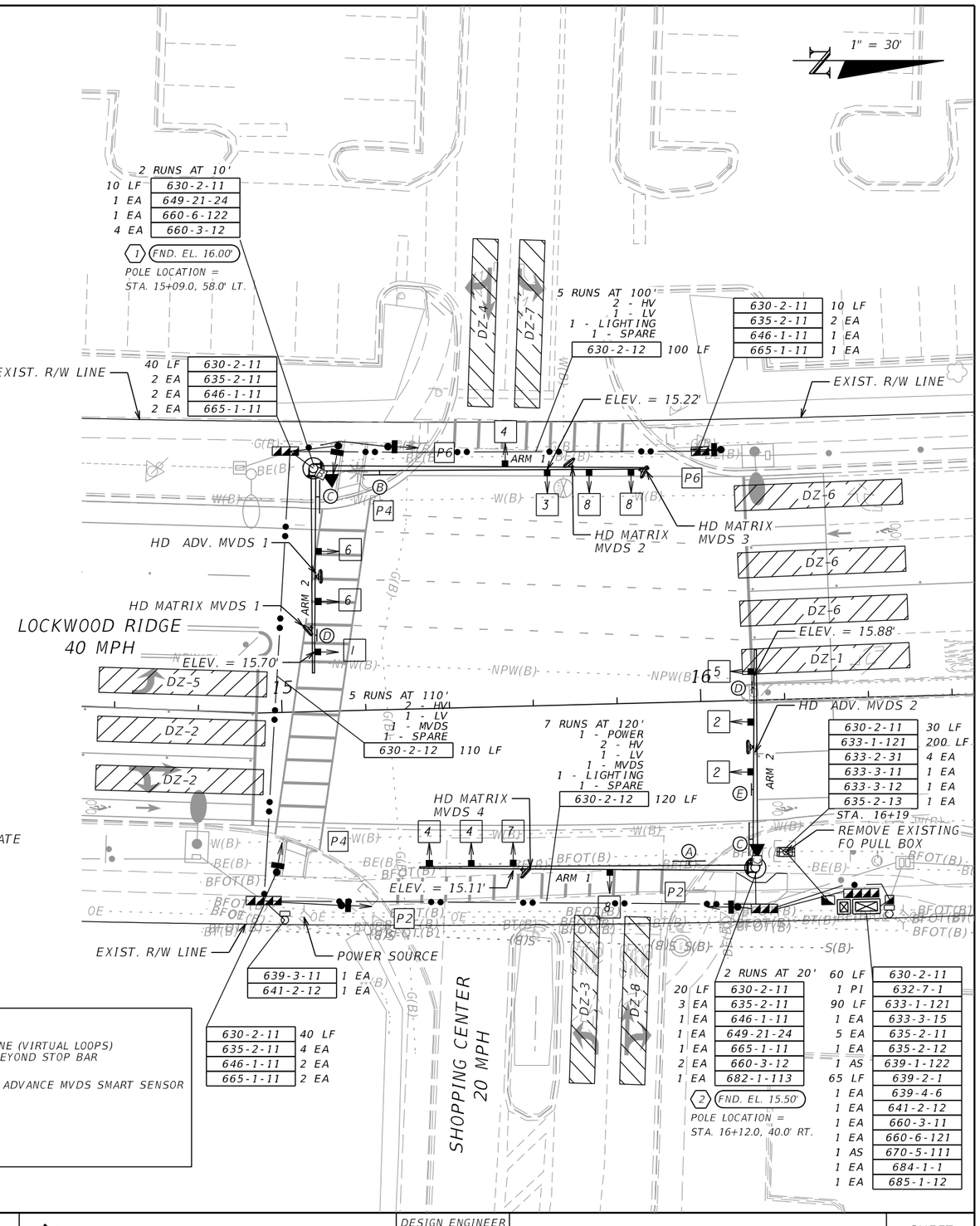
CONTROLLER TIMINGS									
TIMING FUNCTION									
	MOVEMENT NUMBER	1	2	3	4	5	6	7	8
TIMING FUNCTION	MINIMUM GREEN	7	20	7	7	7	20	7	7
	EXTENSION	3	3	3	3	3	3	3	3
	MAXIMUM GREEN 1	25	50	25	30	25	50	25	30
	MAXIMUM GREEN 2	-	-	-	-	-	-	-	-
	YELLOW CLEARANCE	4.4	4.4	3.4	3.4	4.4	4.4	3.4	3.4
	ALL RED	2.2	2.2	3.0	2.8	2.2	2.2	2.8	3.0
	PEDESTRIAN WALK	-	10	-	10	-	10	-	-
	PED. CLEARANCE	-	22	-	24	-	15	-	-
	RECALL	-	MIN	-	-	-	MIN	-	-

DELAY TIME IS INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY THE ENGINEER.

MICROWAVE VEHICLE DETECTION ASSIGNMENTS		
MICROWAVE DETECTION	DETECTION ZONE	DELAY TIME (SECS.)
HD MATRIX 1	DZ-2, DZ-5	
HD MATRIX 2	DZ-4	8
	DZ-7	8
HD MATRIX 3	DZ-1, DZ-6	
HD MATRIX 4	DZ-3	
	DZ-8	8
HD ADV 1	DZ-6	
HD ADV 2	DZ-2	

LEGEND

- DZ — PROPOSED DETECTION ZONE (VIRTUAL LOOPS) (40' x 6') POSITIONED 2' BEYOND STOP BAR
- PROPOSED HD MATRIX OR ADVANCE MVDS SMART SENSOR
- B — PROPOSED BLUETOAD
- C — PROPOSED CCTV



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2601 Cattlemen Road
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DATE: 10/2020
PROJECT NO.: 6099860

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

SIGNALIZATION PLAN

SHEET NO.: T-6

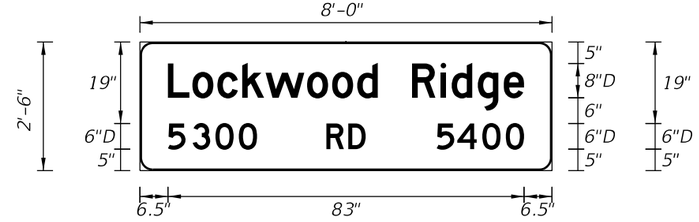
3:44:43 PM 10/16/2020 PW:\

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SIGN NAME	SIGN A	QTY	1	SIGN NUMBER	STATION(S)
PANEL		BORDER			
WIDTH	8'-0"	WIDTH	0.5"		
HEIGHT	2'-6"	RADII	3"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE		AVERAGE LENGTH



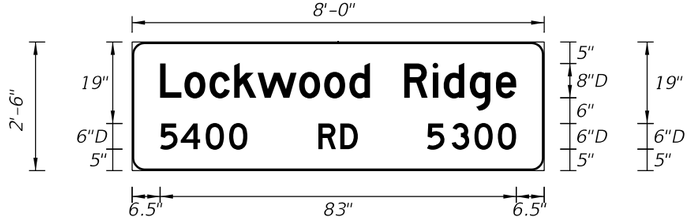
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

COPY		L	o	c	k	w	o	o	d		R	i	d	g	e		L					
SPACE	6.5	5.7	5.8	5.8	5.4	9.7	5.8	5.8	4.8	8	6.6	2.6	6.1	6.1	4.7	6.5	83					
COPY		5	3	0	0		L															
SPACE	6.5	5.8	5.3	5.5	4.3	68.7	20.8															
COPY		R	D		L																	
SPACE	43.4	5.1	4.1	43.4	9.2																	
COPY		5	4	0	0		L															
SPACE	69.1	4.8	5.8	5.5	4.3	6.5	20.3															
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						

SIGN NAME	SIGN B	QTY	1	SIGN NUMBER	STATION(S)
PANEL		BORDER			
WIDTH	8'-0"	WIDTH	0.5"		
HEIGHT	2'-6"	RADII	3"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE		AVERAGE LENGTH



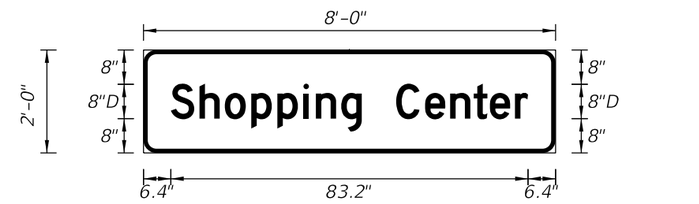
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

COPY		L	o	c	k	w	o	o	d		R	i	d	g	e		L					
SPACE	6.5	5.7	5.8	5.8	5.4	9.7	5.8	5.8	4.8	8	6.6	2.6	6.1	6.1	4.7	6.5	83					
COPY		5	4	0	0		L															
SPACE	6.5	4.8	5.8	5.5	4.3	69.1	20.3															
COPY		R	D		L																	
SPACE	43.4	5.1	4.1	43.4	9.2																	
COPY		5	3	0	0		L															
SPACE	68.7	5.8	5.3	5.5	4.3	6.5	20.8															
COPY																						
SPACE																						
COPY																						
SPACE																						

SIGN NAME	SIGN C	QTY	1	SIGN NUMBER	STATION(S)
PANEL		BORDER			
WIDTH	8'-0"	WIDTH	1"		
HEIGHT	2'-0"	RADII	3"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT

SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE		AVERAGE LENGTH



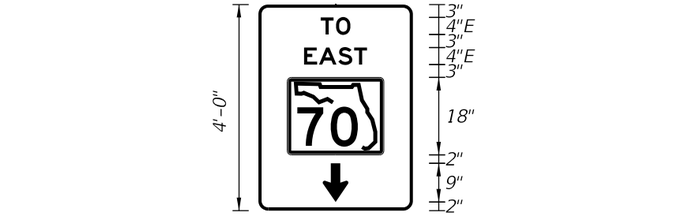
NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

COPY		S	h	o	p	p	i	n	g		C	e	n	t	e	r		L				
SPACE	6.4	6.6	5.9	6.2	6.1	6.1	2.9	5.9	4.8	8	6.7	5.8	5.5	3.8	5.8	3	6.4	83.2				
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						

SIGN NAME	SIGN E	QTY	1	SIGN NUMBER	STATION(S)
PANEL		BORDER			
WIDTH	3'-0"	WIDTH	0.75"		
HEIGHT	4'-0"	RADII	2.25"		
LEGEND	White	COLOR	White		
COLOR	Green				

SYMBOL(S)	ANGLE	X	Y	WID	HT
F28_2	0	6.7	13	22.5	18
AR_Type D	180	15	2	6	9

SIGN NUMBER	NUMBER OF POSTS	CLEARANCE Edge Of Land	COLUMN SIZE		AVERAGE LENGTH



NO. OF LIGHT FIXTURES | FIXTURE SPACING | PHOTOMETRIC CURVE | WATT | VOLTAGE

COPY		T	O		L																	
SPACE	14.5	3.6	3.4	14.5	6.9																	
COPY		E	A	S	T		L															
SPACE	10.7	3.4	4.5	3.7	3	10.7	14.6															
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						
COPY																						
SPACE																						

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

GUIDE SIGN WORKSHEET

SHEET NO.: T-7

3:44:48 PM 10/16/2020 PW:\

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

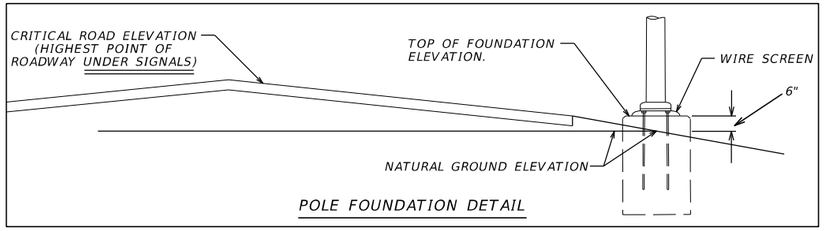
SPECIAL NOTES:

A. EACH POLE AND MAST ARM SHALL BE IDENTIFIED WITH A PERMANENT ONE INCH (1") HIGH ENGRAVED OR IMPRESSED MARK WHICH BEARS THE POLE IDENTIFICATION NUMBER SHOWN ON THE PLANS.

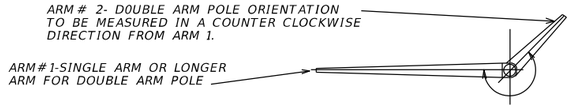
B. ANCHOR BOLT COVERS (ORNAMENTAL, NON-ORNAMENTAL, AND/OR PAINTED) SHALL BE GALVANIZED STEEL OR CAST ALUMINUM AND SHALL BE SECURED BY A MINIMUM OF TWO (2) THREADED FASTENERS. THE BOLT COVERS SHALL BE OF SUFFICIENT SIZE SO THAT THERE IS NO GAP BETWEEN ITSELF AND THE POLE SHAFT.

C. FIELD VERIFY ALL ELEVATIONS LISTED HEREIN.

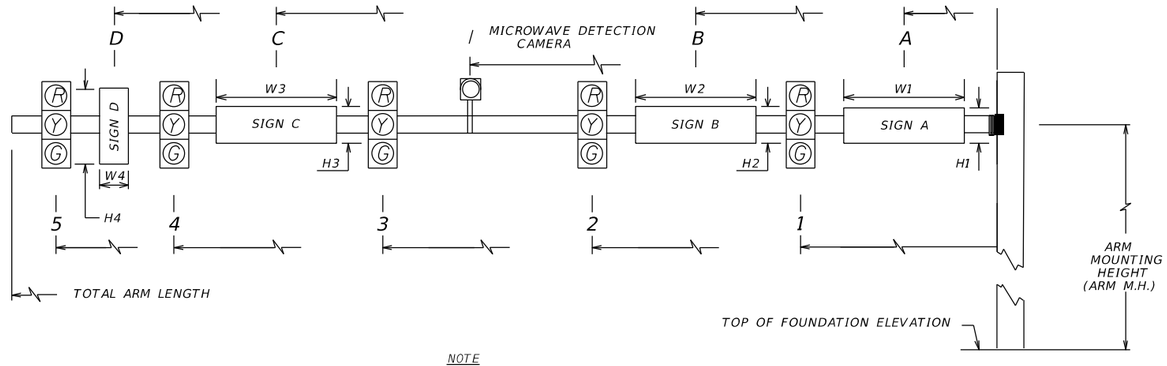
D. MAST ARMS SHALL BE GALVANIZED, NON-PAINTED.



POLE FOUNDATION DETAIL



INTERNALLY ILLUMINATED SIGNS SHALL BE RIGID MOUNTED ON MAST ARM.



NOTE

-IN SIGN DATA TABLE, SIGN DESIGNATION (A, B, C, D, E) IS FOR POSITION REFERENCE ONLY. PLAN SHEETS AND SIGN DETAILS SHOULD BE REFERENCED FOR THE EXACT SIGNS TO BE INSTALLED ON MAST ARMS.

* DENOTES NUMBER OF SECTIONS IN SIGNAL HEAD ASSEMBLY

** DENOTES FOUNDATION IS DESIGNED AS 0.5' ABOVE GRADE

							SIGNAL DATA												SIGN DATA																				CCTV DIST. FROM POLE	MVDS DISTANCE FROM POLE			
										DISTANCE FROM POLE											DISTANCE FROM POLE / HEIGHT AND WIDTH OF SIGN																										
STRUCT. ID NO.	POLE ID NO.	SHEET NO.	LOCATION BY STA.	TOP OF FOUNDATION ELEV.	CRITICAL ROAD ELEV.	RDWY ARM NO.	SIGNAL V/H	BACK PLATES Y/N	PED. SIGNAL Y/N	1	*	2	*	3	*	4	*	TOTAL ARM LENGTH	ARM M.H.	ANGLE BETWEEN DUAL ARMS 90/270	A	H1	W1	B	H2	W2	C	H3	W3	D	H4	W4	E	H5	W5	F	H6	W6	BLUE-TOAD	1	1	2	3	4
XX	1	T-6	15+09.0	**16.00'	15.22'	1	V	Y	N	44	3	54	3	64	3	74	3	78	20.5	270	14	2.5	8																			0		60	76		
---	----	----	-------- ----	-------	15.70'	2	V	Y	N	18	3	30	3	42	4			47		-----	5	2	8	38	3	2.5																	24	36		
XX	2	T-6	16+12.0	**15.50'	15.11'	1	V	Y	N	33	3	56	3	66	3	76	3	78	21	270	14	2.5	8																			0		54			
---	----	----	-------- ----	-------	15.88'	2	V	Y	N	21	3	33	3	45	4			50		-----	5	2	8	17	4	3	41	3	2.5														27				
---	---- -	----	-------- ----	------	------															-----																										
FUTURE SCENARIO																																															
XX	1	T-6	15+09.0	**16.00'	15.22'	1	V	Y	N	44	3	54	4	64	3	74	3	78	20.5	270	14	2.5	8	58	3	2.5																0		60	76		
---	----	----	-------- ----	-------	15.70'	2	V	Y	N	14	5	30	3	42	4			47		-----	5	2	8	20	3	3	38	3	2.5														24	36		
XX	2	T-6	16+12.0	**15.50'	15.11'	1	V	Y	N	33	3	56	4	66	3	76	3	78	21	270	14	2.5	8	52	3	2.5																0		54			
---	----	----	-------- ----	-------	15.88'	2	V	Y	N	16	5	33	3	45	4			50		-----	5	2	8	20	4	3	41	3	2.5														27				
---	---- -	----	-------- ----	------	------															-----																										

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860
3:44:51 PM 10/16/2020

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282
PW:\

MAST ARM TABULATION

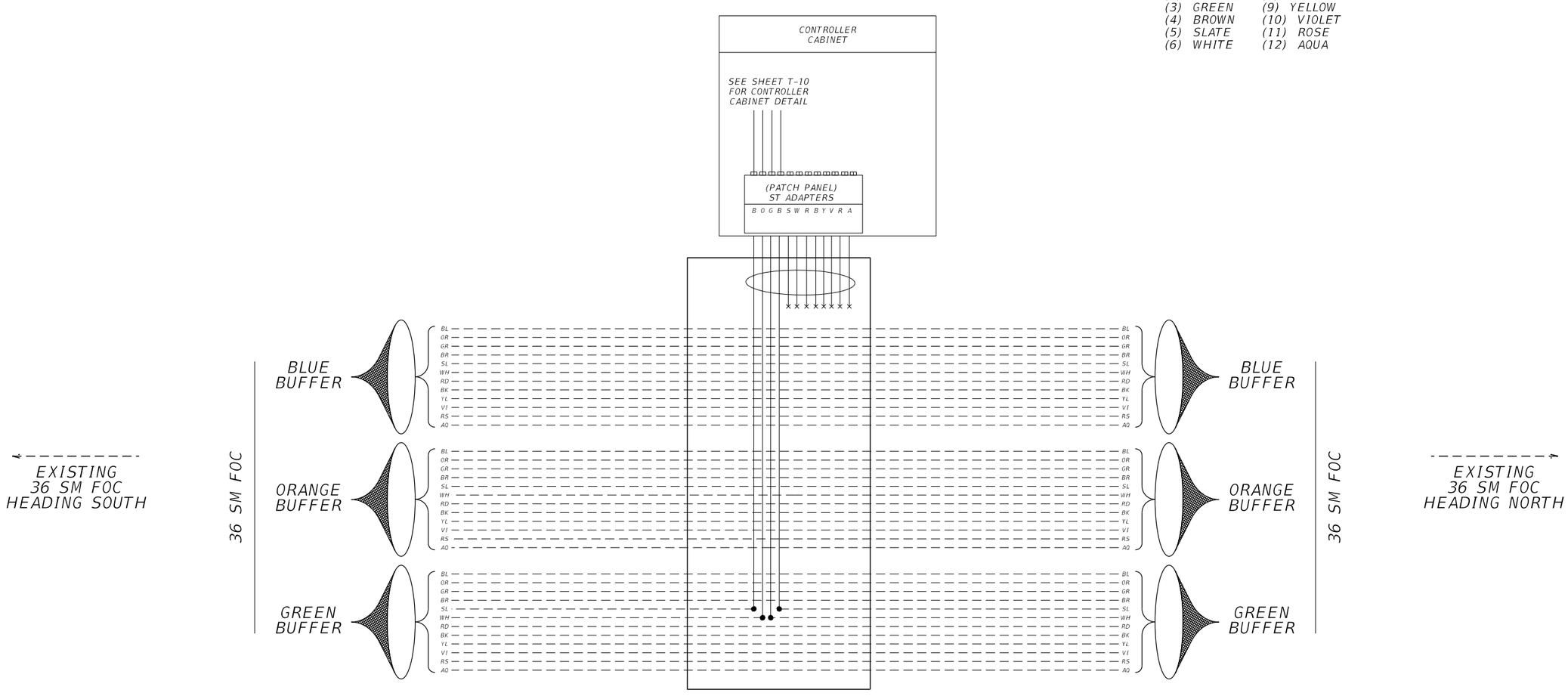
SHEET NO.: T-8

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

LOCKWOOD RIDGE AT SHOPPING CENTER

NOTES:
1. UNUSED FIBERS SHALL BE LEFT COILED, CAPPED, AND STORED IN SPLICE TRAY.
2. UNUSED BUFFER TUBES SHALL BE LEFT COILED AND STORED IN SPLICE TRAY.

COLOR CODE TIA/EIA 598A	
(1) BLUE	(7) RED
(2) ORANGE	(8) BLACK
(3) GREEN	(9) YELLOW
(4) BROWN	(10) VIOLET
(5) SLATE	(11) ROSE
(6) WHITE	(12) AQUA



PROPOSED SPLICE ENCLOSURE ~STA 16+19

LEGEND	DESCRIPTION
●	FUSION SPLICE
———	PROPOSED SECTION OF FIBER
– – – – –	EXISTING SECTION OF FIBER

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HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860

Manatee County FLORIDA

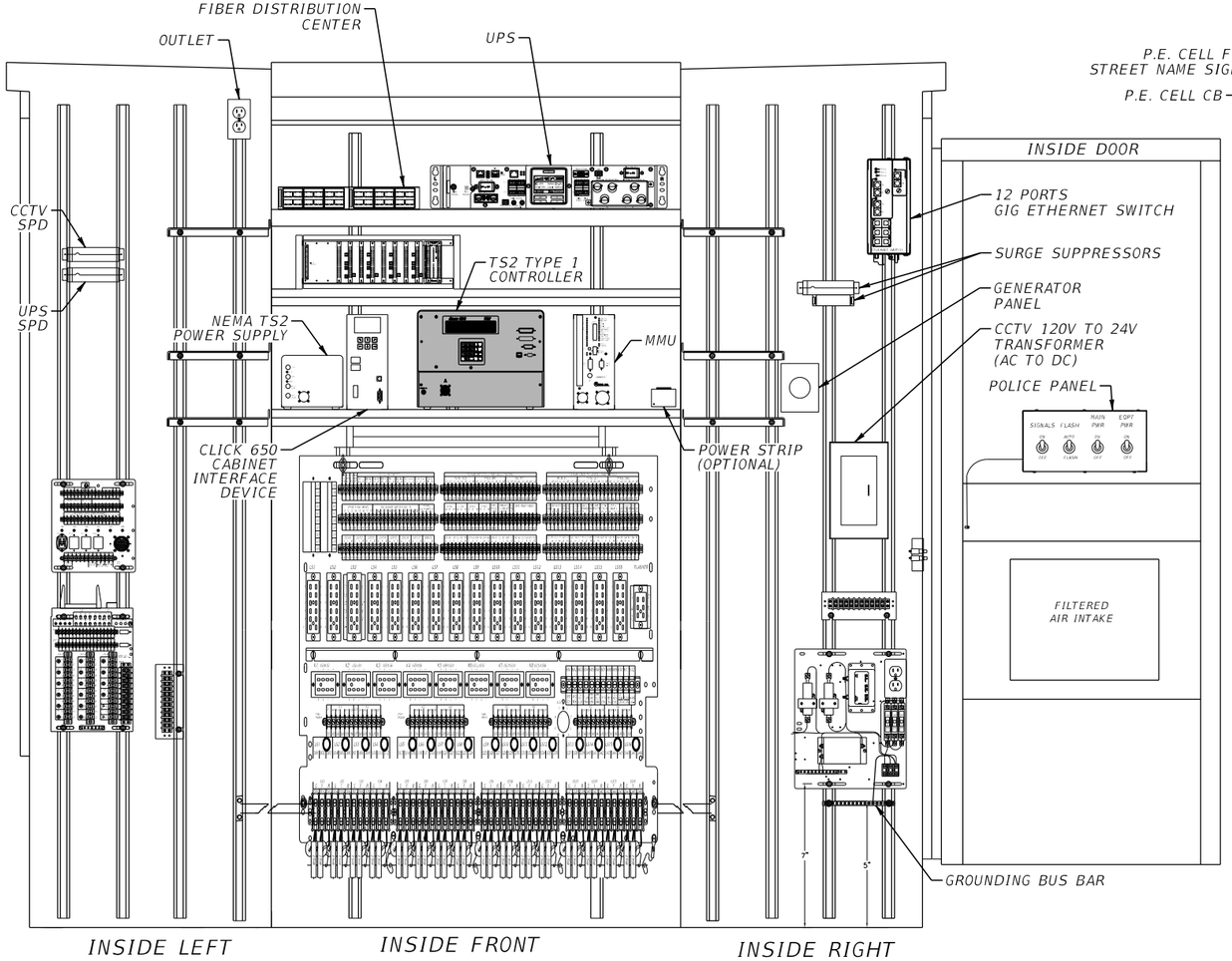
MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

SPLICING DIAGRAM

SHEET NO.: T-9

3:44:55 PM 10/16/2020 PW:\



TWO DOOR TRAFFICWARE TYPE VI CABINET

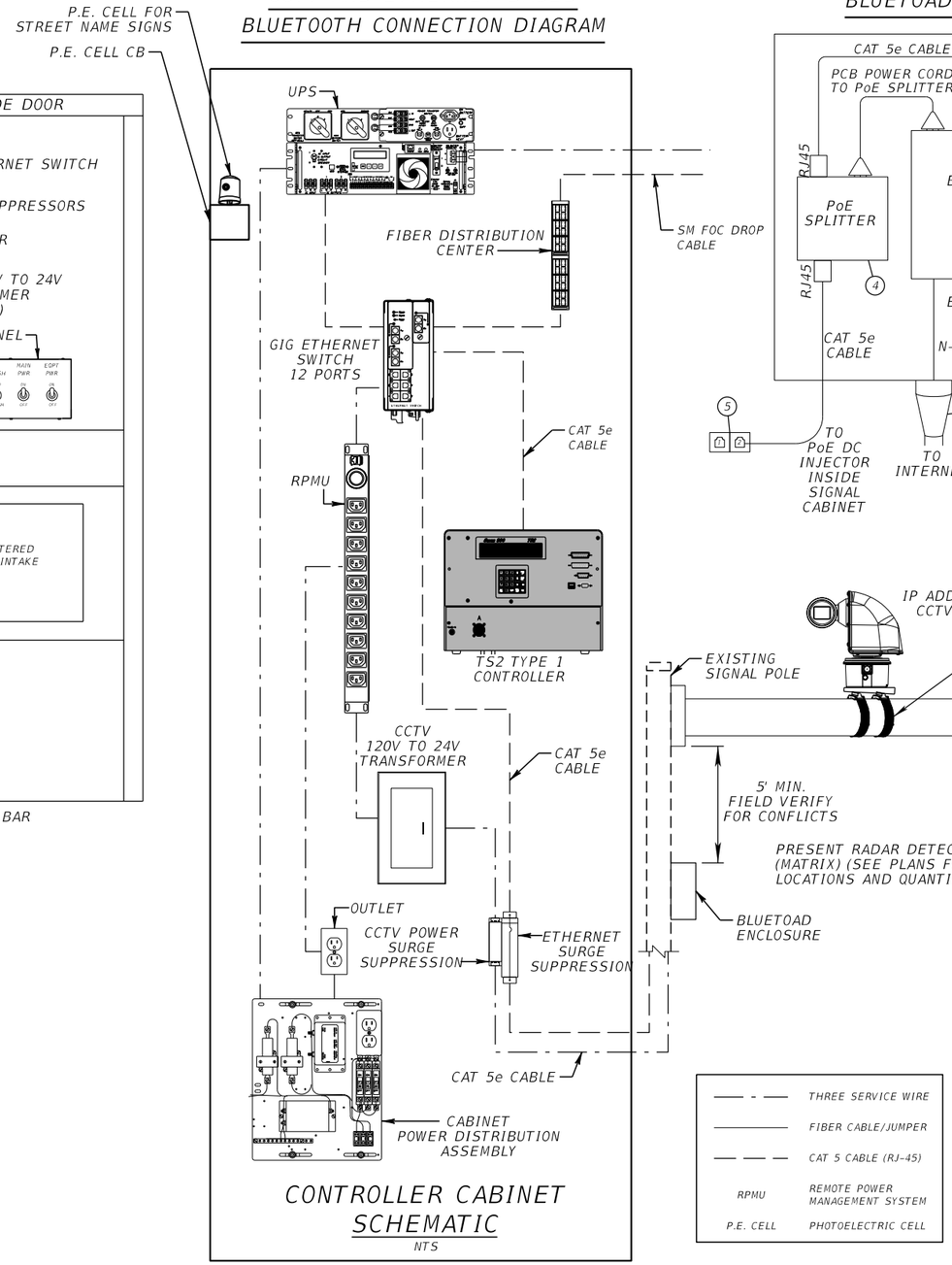
NTS

ETHERNET BASED BLUETOAD SYSTEM - COMPONENTS DETAIL

ITEM ID	DESCRIPTION	NOTE
1	FIBERGLASS ENCLOSURE	SEE NOTE 1
2	BLUETOOTH READER MODULE	ETHERNET BASED
3	BLUETOOTH ANTENNA	OMNI DIRECTIONAL
4	POWER OVER ETHERNET SPLITTER	
5	POWER OVER ETHERNET DC INJECTOR	POWERED BY AC IN TRAFFIC CONTROL CABINET

NOTE 1: FIBERGLASS NEMA 3R RATED ENCLOSURE WITH RAISED SNAP LATCH HINGED COVER 10" X 8" X 5.75". ENCLOSURE SHALL BE ATTACHED TO A POLE USING TWO GALVANNEALED STEEL AM BRACKETS.

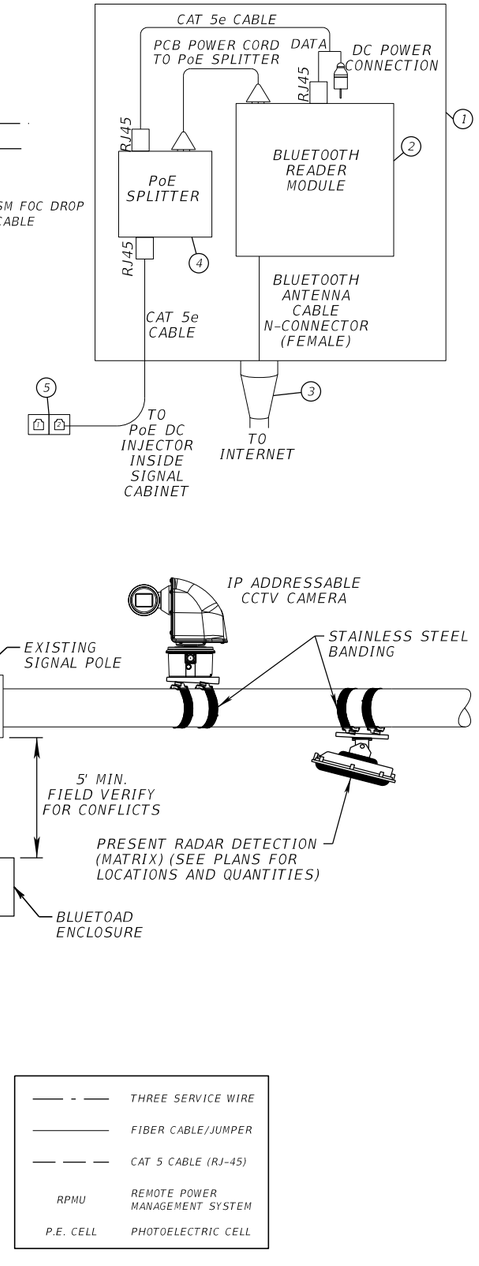
CCTV AND ETHERNET-BASED BLUETOOTH CONNECTION DIAGRAM



CONTROLLER CABINET SCHEMATIC

NTS

ETHERNET BASED BLUETOAD SYSTEM



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No.	REVISIONS	DATE	BY

SCALE: AS NOTED
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HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860
3:45:03 PM 10/16/2020

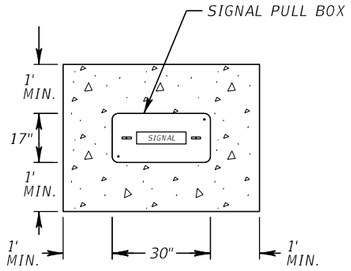
MANATEE COUNTY PUBLIC WORKS

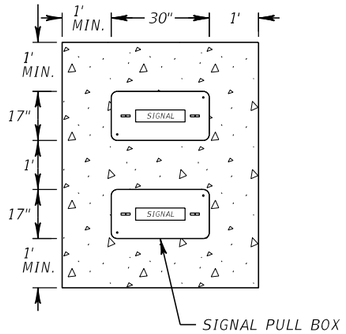
DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282
PW:\

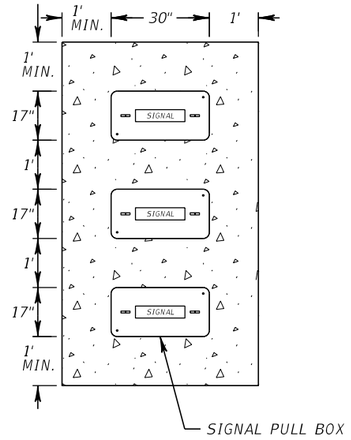
CABINET, CCTV, MVDS AND BLUETOOTH DETAILS

SHEET NO.: T-10

CONCRETE APRON DETAILS



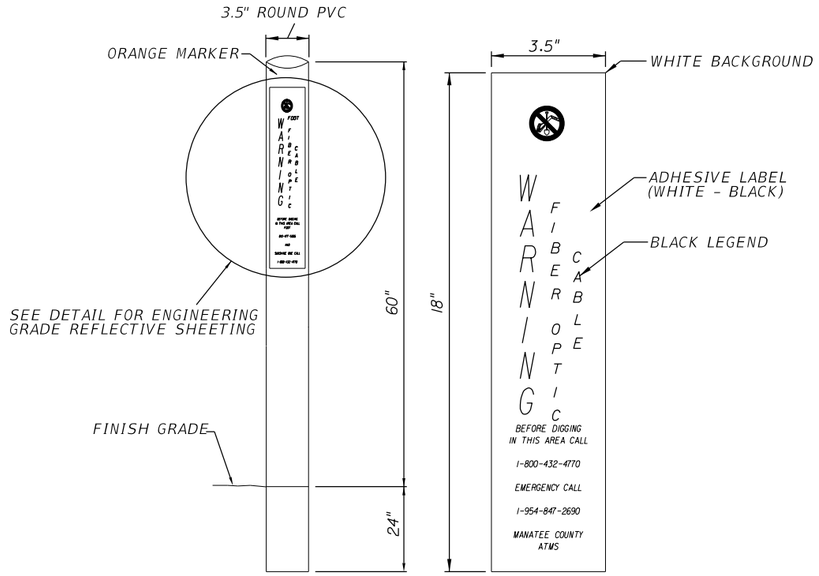




NOTES:

1. CONCRETE REINFORCEMENT AND INSTALLATION REQUIREMENTS TO BE PER STANDARD PLANS INDEX 715-001.
2. WHEN MULTIPLE CONFIGURATIONS OF PULL BOXES ARE ADJACENT TO ONE ANOTHER, THEY SHALL BE FORMED TOGETHER WITH AN EXPANSION JOINT BETWEEN THE APRONS UTILIZED TO AVOID CRACKING.
3. THE ORIENTATION OF CONCRETE APRONS WITH MULTIPLE PULL & JUNCTION BOXES SHALL BE DETERMINED IN THE FIELD.

FIBER OPTIC CABLE ROUTE MARKER



FRONT VIEW
NTS

NOTES:

1. FOR TRENCH LINES WITH BOTH FIBER OPTIC CABLE AND POWER SERVICE WIRE, INSTALL POWER MARKER ALTERNATING WITH FIBER MARKER.
2. INSTALL FIBER OPTIC CABLE MARKER AT EVERY FIBER PULL BOX AND EVERY CHANGE IN DIRECTION NOT TO EXCEED 500 FEET.
3. TUBULAR MARKER TO BE PLACED OVER A V-CHANNEL METALLIC FENCE POST.
4. NO SEPARATE PAYMENT FOR ROUTE MARKERS. SHALL BE INCIDENTAL TO CONDUIT INSTALLATION.
5. A POLYDOME TOP SHALL BE INSTALLED ON EACH MARKER ORANGE, FOR FIBER AND RED FOR POWER.
6. ALL ROUTE MARKERS SHALL MEET SECTION 630 OF STANDARD SPECIFICATIONS.

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

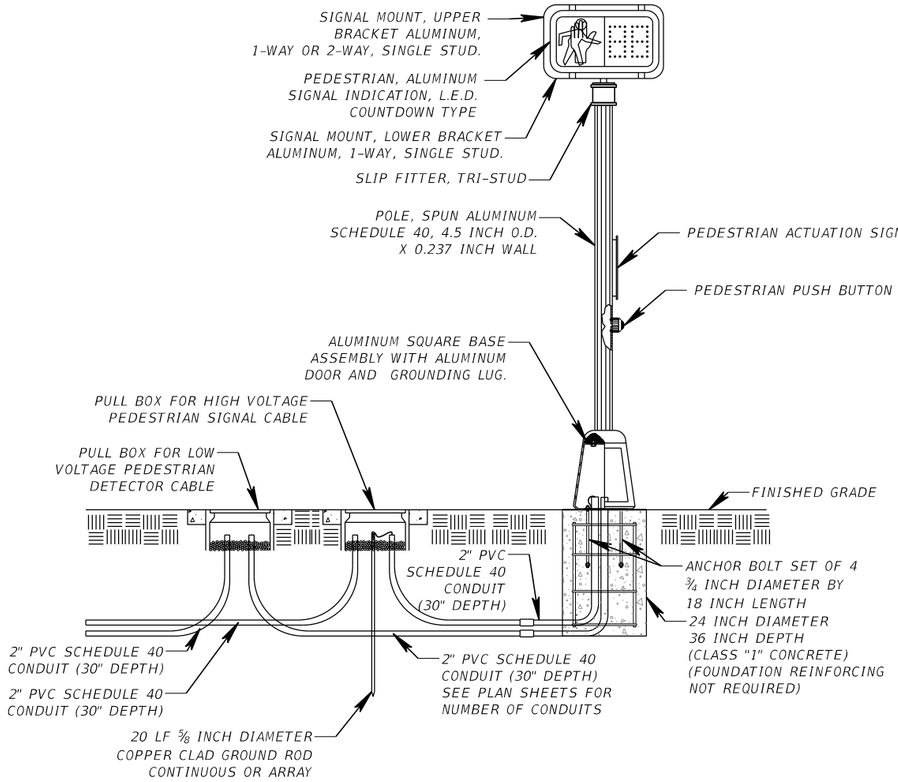
DATE: 10/2020
PROJECT NO.: 6099860
3:45:07 PM 10/16/2020

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282
PW:\

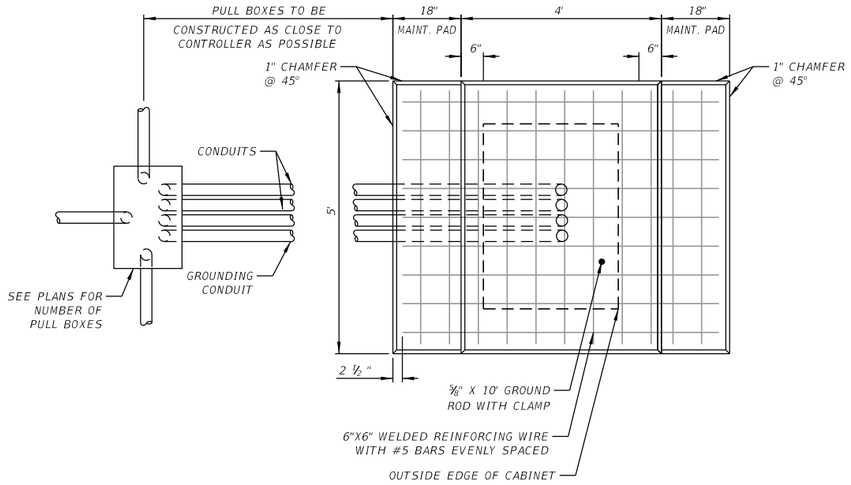
CONCRETE APRON & CABLE ROUTE MARKER DETAILS

SHEET NO.: T-11

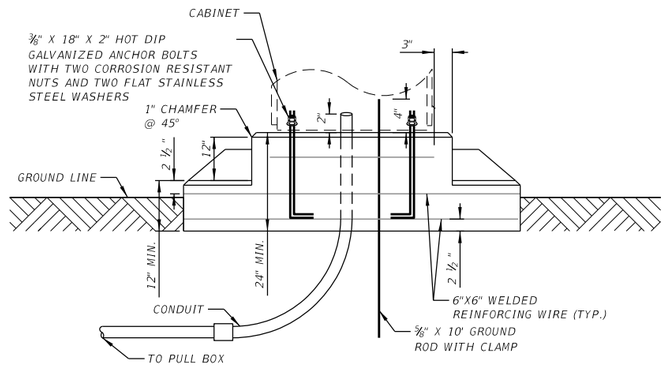


TYPICAL PEDESTRIAN SIGNAL DETAIL

NTS



TOP VIEW



SIDE VIEW

CONCRETE PAD DETAIL FOR TWO DOOR CONTROLLER CABINET

NTS

NOTE:

THE CABINET FOUNDATION WILL HAVE 13-2" PVC CONDUITS (4-HIGH VOLTAGE, 4-LOW VOLTAGE, 3-SPARE, 2-COMM) ALONG WITH 2-1" PVC CONDUITS (1-GROUND, 1-POWER). THE CONTRACTOR SHALL CONTACT MANATEE COUNTY FOR THE PROPER LAYOUT OF THE CONDUITS IN THE CONTROLLER FOUNDATION PRIOR TO POURING THE FOUNDATION.

TYPICAL CONTROLLER CABINET INSTALLATION

NTS

MATERIAL SPECIFICATIONS

A. MATERIALS REQUIRED FOR THE CONTROLLER CABINET FOUNDATION, AND ALL PERTINENT EQUIPMENT AND ASSEMBLY IS INCLUDED IN THE PRICE BID FOR THE CONTROLLER.

B. THE CONTROLLER CABINET FOUNDATION SHALL BE CLASS "I" CONCRETE & 6" X 6" WELDED REINFORCING WIRE WITH 3 #5 BARS EVENLY SPACED.

C. A MINIMUM OF 4 EXPANSION BOLTS ARE REQUIRED. STAINLESS STEEL KWIK BOLT WITH A MIN. EMBEDMENT OF 18", SHALL BE USED TO MOUNT THE CONTROLLER CABINET TO THE CONCRETE PAD.

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860
3:45:09 PM 10/16/2020

Manatee County FLORIDA
MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282
PW:\

PEDESTRIAN SIGNAL AND CABINET BASE DETAILS

SHEET NO.: T-12

MANATEE COUNTY GENERATOR WITHOUT UPS

CB#1-40 AMP MAIN POWER
CB#2-40 AMP GENERATOR POWER
MALE 6' COORD TO GENERATOR

10" FAN
FAN
R/C
[18-WHT]
LAMP
OFF
LAMP
ON
POWER
RESTORE
INDICATOR
[18-BLK]
[18-RED]
[18-WHT]
VP-16
[WHT]
[BLK]
18/2 COND.

AC-
LIGHT
FAN
POWER
BACK
LIGHT
AC-
AC+
AC+
AC+

GENERATOR FAN
2AMP FUSE
LIGHT
2AMP FUSE
[18-RED]
[18-BLK]
[18-BLK]
[18-RED]
SPA
100T

GENERATOR PLUG
P/N
GENERATOR PLUG2

GENERATOR UTILITY
SLIDE BLOCK
CAN ONLY BE MOVED WHEN
BOTH BREAKERS ARE OFF.

POWER RESTORED
INDICATOR
120VAC
RELAY
POWER TO
CABINET
SHOWN IN NORMAL
OPERATING POSITION
SLIDE BLOCK
CAN ONLY BE MOVED WHEN
BOTH BREAKERS ARE OFF.
AC-
MAIN LINE
POWER IN
GENERATOR
POWER IN

MANATEE COUNTY POWER PANEL

UTILITY GENERATOR
[10-BLK]
[10-BLK]
[10-BLK]
CB1
CB2
[18-BLK]
120VAC
RELAY
AC-
[10 GRN]
GND
AC-
[10 WHT]
[18-BLK]
[10-BLK]
[18-BLK]

1
AC+ 2 POWER TO BACKUP
AC+ 3 POWER FROM BACKUP
AC+ 4 POWER FROM GENERATOR
AC+ 5 POWER TO CONTROLLER
6
7
8 UTILITY POWER
[10 BLK]

6FT RUBBER SO CORD P/N WIRES10/3

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MJO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232

DATE: 10/2020
PROJECT NO.: 6099860
3:45:12 PM 10/16/2020

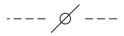
MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282
PW:\

GENERATOR CABINET WIRING DIAGRAM

SHEET NO.: T-13

LEGEND

SYMBOLS	DESCRIPTION
	278 WATT LED LUMINAIRE ATTACHED ON SHOULDER MOUNTED CONVENTIONAL LIGHT POLE. ANALYZED USING GENERAL ELECTRIC LIGHTING LUMINAIRE, PHOTOMETRIC CURVE NUMBER ERL2_30E340XXXXX AT 30000 LUMENS. POLE MOUNTING HEIGHT IS 40 FT AND ARM LENGTH IS 12 FT. SYMBOL INCLUDES LUMINAIRE, ARM, POLE WITH STANDARD FOUNDATION, BREAKAWAY TRANSFORMER BASE, AND POLE CABLE DISTRIBUTION SYSTEM. THE LUMINAIRE IS A CUTOFF FIXTURE DESIGNED FOR WIDE THROW TYPE II DISTRIBUTION WITH ZERO TILT.
	REPLACE EXISTING 400 WATT HPS LUMINAIRE WITH GE EVOLVE LED LUMINAIRE. ANALYZED USING GENERAL ELECTRIC LIGHTING LUMINAIRE, PHOTOMETRIC CURVE NUMBER ERL2_30E340XXXXX, 278 WATTS AT 30000 LUMENS. POLE MOUNTING HEIGHT IS 40 FT AND ARM LENGTH IS 12 FT. THE LUMINAIRE IS A CUTOFF FIXTURE DESIGNED FOR WIDE THROW TYPE II DISTRIBUTION WITH ZERO TILT.
	EXISTING HPS LIGHT POLE TO REMAIN.
	EXISTING CONDUIT TO REMAIN.
	CONDUIT INSTALLED BY OPEN TRENCH METHOD WITH CONDUCTORS INSIDE. RUN ONE (1) COPPER GROUND BONDING CONDUCTOR (GREEN INSULATION) INSIDE WITH OTHER CONDUCTORS.
	TWO CONDUITS INSTALLED BY DIRECTIONAL BORE METHOD WITH CONDUCTORS INSIDE. RUN ONE (1) COPPER GROUND BONDING CONDUCTOR (GREEN INSULATION) INSIDE WITH OTHER CONDUCTORS. RUN TWO (2) MULTI-CONDUCTOR COMMUNICATION CABLE.
	PROPOSED TYPICAL FDOT SHOULDER MOUNTED LIGHTING PULL BOX WITH CONCRETE SLAB PER FDOT DESIGN STANDARDS AND SPECIFICATIONS. PULL BOX COVER SIZE 13" X 24" UNLESS OTHERWISE NOTED. MODIFIED SLAB IS 36" x 36".

CONVENTIONAL LIGHTING DESIGN CRITERIA FOR SIGNALIZED INTERSECTION

DESIGN WIND SPEED	140 MPH
AVERAGE HORIZONTAL INITIAL ILLUMINATION	2.8 H.F.C.
AVERAGE TO MIN.	4:1 OR LESS
MAX TO MIN.	10:1 OR LESS

POLE DATA

POLE NO.	CIRCUIT	STATION	DIST. OR ARM	LUMINAIRE WATTAGE	MOUNTING HEIGHT	POLE SETBACK	PAY ITEM
42A3	EXIST. CKT.	14+90, LT	12'	278	40'	EXISTING	715-11-211
42B3	EXIST. CKT.	16+41, RT	12'	278	40'	EXISTING	715-11-211
42B31	EXIST. CKT.	14+81, RT	12'	278	40'	FOP 4' FROM BOC	715-4-13
42A21	EXIST. CKT.	16+14, LT	12'	278	40'	FOP 4' FROM BOC	715-4-13

BOC - BACK OF CURB
FOP - FACE OF POLE

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232-6212

DATE: 10/2020
PROJECT NO.: 6099860

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

POLE DATA AND LEGEND

SHEET NO.: T-14

1" = 40'

SEE SIGNALIZATION PLAN FOR CONDUIT DETAILS

3 #6 AWG

POLE No. 42A3
STA. 14+90, EXIST. CKT.
(SEE NOTE 1)

3 #6 AWG

POLE No. 42A21
STA. 16+14, EXIST. CKT.

3 #6 AWG

(SEE NOTE 1)
EXISTING LIGHT POLE
42A2 TO REMAIN

QUEUE DETECTION ZONE

14 15 16 17 18 19

POLE No. 42B3
STA. 16+41, EXIST. CKT.

1 - LIGHTING
1 - COMMUNICATION
2-2" HDPE CONDUIT

145 LF | 633-8-1

+73

1 - LIGHTING
1 - COMMUNICATION
2-2" HDPE CONDUIT

160 LF | 633-8-1

3 #6 AWG

(SEE NOTE 1)
EXISTING LIGHT POLE 42B2 TO REMAIN

QUEUE DETECTOR

646-2-130	1 EA
660-3-12	1 EA
676-3-10	1 EA

1 - LIGHTING
1 - COMMUNICATION
2-2" HDPE CONDUIT

POLE No. 42B31
STA. 14+81, EXIST. CKT.

3 #6 AWG

3 #6 AWG

SEE SIGNALIZATION PLAN FOR CONDUIT DETAILS

3 #6 AWG

1 - LIGHTING
1 - COMMUNICATION
2-2" HDPE CONDUIT

3 #6 AWG

EXISTING LIGHT POLE 42B4 TO REMAIN
(SEE NOTE 1)

REMOVAL PAY ITEM	
715-1-60	3000 LF

NOTES:

1. INTERCEPT EXISTING CONDUIT AND CONNECT TO THE NEW PULL BOX. REROUTE THE EXISTING CONDUCTOR INTO THE NEW PULL BOX AND SPLICE WITH THE NEW CONDUCTOR.

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232-6212

DATE: 10/2020
PROJECT NO.: 6099860

Manatee County FLORIDA

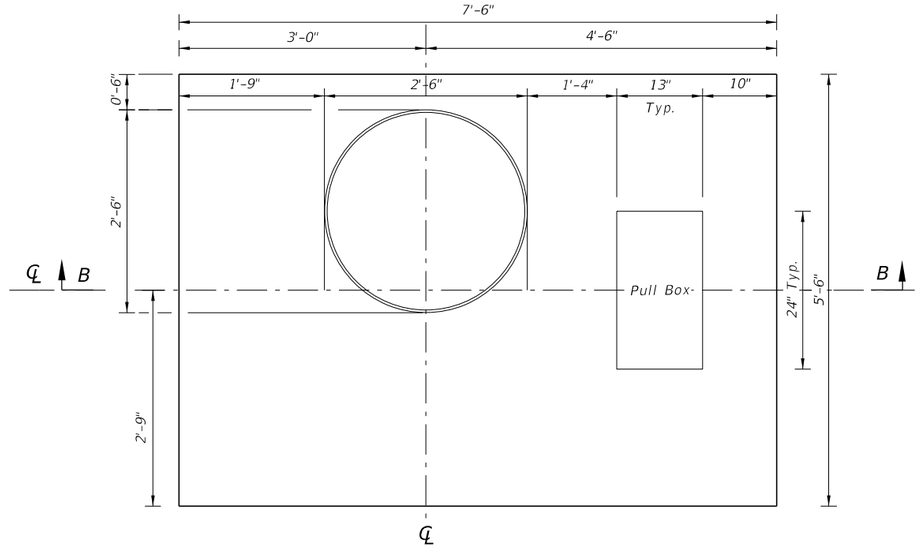
MANATEE COUNTY
PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282

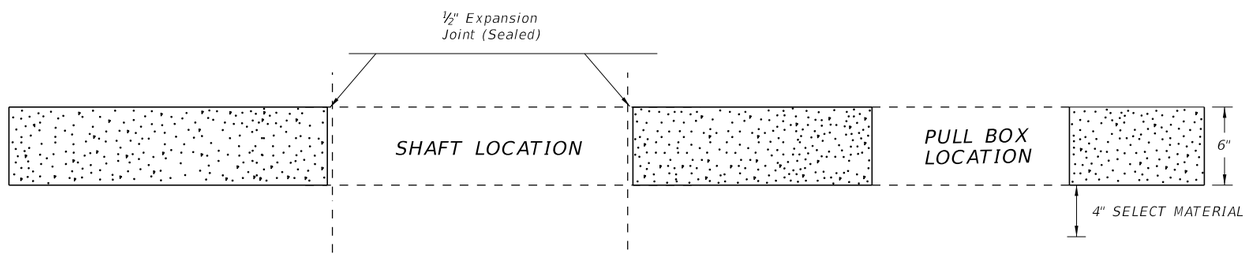
LIGHTING PLAN AND QUEUE DETECTION

SHEET NO.: T-15

3:45:22 PM 10/16/2020 PW:\



SLAB DETAIL FOR POLE 42A21



SECTION B-B

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: MO
DRAWN BY: SM
CHECKED BY: IR

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232-6212

DATE: 10/2020
PROJECT NO.: 6099860
3:45:26 PM 10/16/2020

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: MICHAEL J. OATES
FL. LICENSE NO.: 49282
PW:\

LIGHT POLE SLAB DETAILS

SHEET NO.: T-16

STANDARD MAST ARM ASSEMBLIES DATA TABLE

Table Date 11-01-16

POLE ID NUMBERS	DESIGNATION	FIRST ARM		SECOND ARM		UF (deg)	LL (deg)	POLE			DRILLED SHAFT ID
		ARM ID	FAA (ft.)	ARM ID	SAA (ft.)			POLE ID	UAA (ft.)	UB (ft.)	
POLE 1	A78/D-A50/D-P6/D	A78/D		A50/D	29.5	270		P6/D	23.5	20.5	*
POLE 2	A78/D-A50/D-P6/D	A78/D		A50/D		270		P6/D	24	21	*

NOTES [Notes Date 11-01-16]:

1. If an entry appears in column FAA, a shorter arm is required. This is obtained by removing length from the arm tip and the arm length shortened from FA to FAA. SAA Similar.

2. If an entry appears in column UAA, a shorter pole is required. This is obtained by removing length from the pole tip and the pole height shortened from UA to UAA.

3. Work this sheet with the Signal Designer's "Mast Arm Tabulation". See "Mast Arm Tabulation" for special instructions that include non-standard Handhole location, paint color, terminal compartment requirement, and pedestrian features.

4. Work with Index 649-030 and 649-031.

*SPECIAL FOUNDATION DATA TABLE

POLE ID NUMBERS	SHAFT AND REINFORCEMENT							
	DA (ft.)	DB (ft.)	RA	RB	RC	RD (in.)	RE	RF (in.)
POLE 1	21	5	11	18	10	8	-	-
POLE 2	20	5	11	18	10	8	-	-

FOUNDATION NOTE:

Assumptions and Values used in design:

FOUNDATION DESIGN PARAMETERS					
POLE ID NUMBERS	SOIL LAYER THICKNESS (ft.)	SOIL FRICTION ANGLE (deg)	SOIL WEIGHT (pcf) (1)	SOIL TYPE (2)	WEIGHTED AVERAGE N-VALUE (3)
POLE 1	30	32	48	SAND	10
POLE 2	30	32	48	SAND	11

(1) Design water table is 0 ft. below surface
(2) Soil type is sand (cohesionless) or clay (cohesive)
(3) This value is determined over the length of the drilled shaft 'DA'

No.	REVISIONS	DATE	BY

SCALE: AS NOTED
DESIGNED BY: QW
DRAWN BY: DRA
CHECKED BY: CAS

HDR Engineering, Inc.
2601 Cattlemen Road
Suite 400
Sarasota, FL 34232-6233

DATE: 10/2020
PROJECT NO.: 6099860
11:41:04 AM 10/14/2020

MANATEE COUNTY PUBLIC WORKS

DESIGN ENGINEER: CHESTER A. SMITH III
FL. LICENSE NO.: 70756
PW:\

MAST ARM DATA TABLE

SHEET NO.: T-17