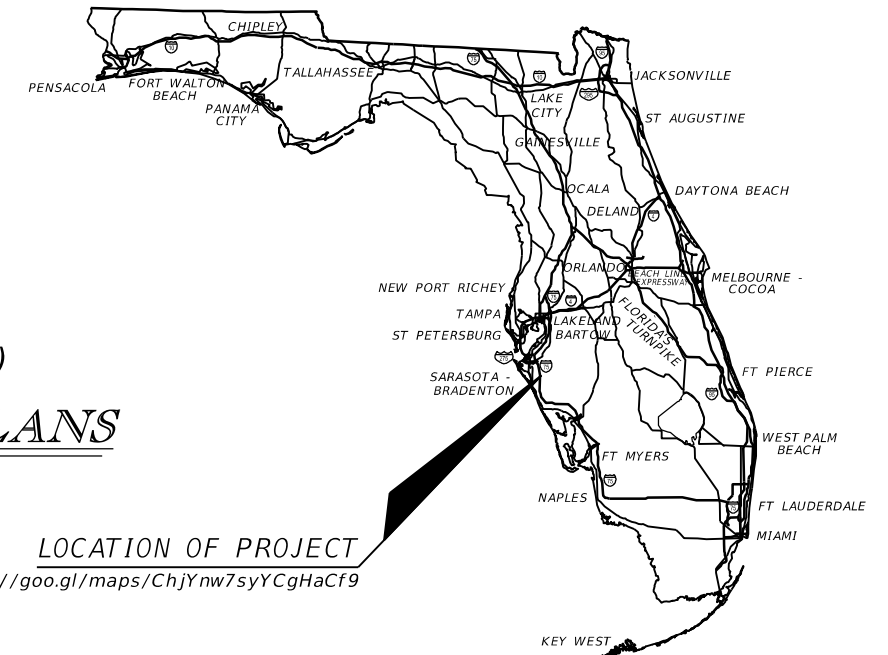


STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

FINANCIAL PROJECT ID 440324-1-58-01
(FEDERAL FUNDS)

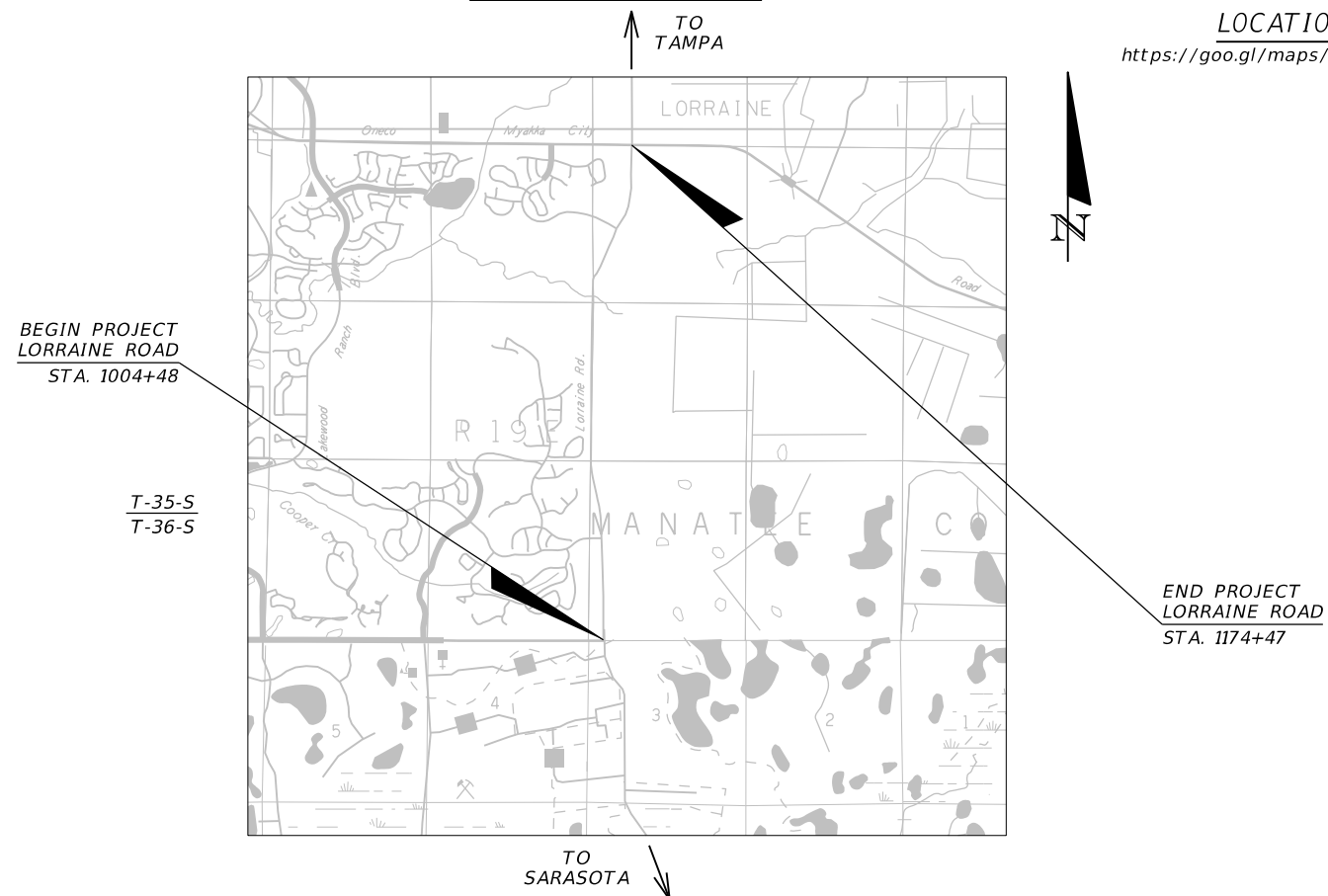
MANATEE COUNTY
ADVANCED TRANSPORTATION MANAGEMENT SYSTEM (ATMS)
INTELLIGENT TRANSPORTATION SYSTEM PLANS
PACKAGE 2



LOCATION OF PROJECT
<https://goo.gl/maps/ChjYnw7syYCgHaCf9>

INDEX OF ITS PLANS
SHEET NO. SHEET DESCRIPTION

1	KEY SHEET
2, 2A	SIGNATURE SHEET
3	SUMMARY OF PAY ITEMS
4	TABULATION OF QUANTITIES
5	SUMMARY OF DEVICES
6	POLE DATA
7	GENERAL NOTES
8	LEGEND
9	PROJECT LAYOUT
10 - 23	ITS PLAN SHEET
24	CANAL CROSSING DETAIL
25 - 27	ITS MOUNTING DETAILS
28	CABINET DETAILS
29	WIRING DIAGRAM
30 - 32	SPLICING DIAGRAMS
33	CONCRETE POLE SCHEDULE
34	EROSION CONTROL DETAILS
35	TRAFFIC CONTROL PLANS
SQ-1 - SQ-2	SUMMARY OF QUANTITIES



BEGIN PROJECT
LORRAINE ROAD
STA. 1004+48

T-35-S
T-36-S

END PROJECT
LORRAINE ROAD
STA. 1174+47

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY 2022-23 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, July 2022 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

REVISIONS:
FINANCIAL PROJECT ID 440324-1-58-1
ITS SHEETS 1,2A,3,4,5,7,8,13,21,25,26,
27,28,29 (REVISED 11/2/23)

KEY SHEET REVISIONS	
DATE	DESCRIPTION
11/2/23	1 ADDED SHEET 2A

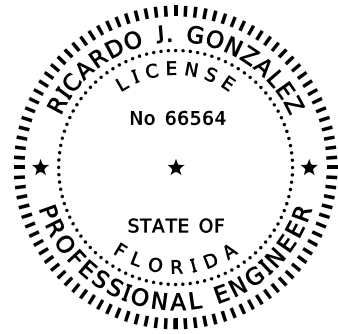
INTELLIGENT TRANSPORTATION
SYSTEMS PLANS
ENGINEER OF RECORD:

RICARDO GONZALEZ, P.E.
P.E. NO: 66564
METRIC ENGINEERING, INC.
11760 MARCO BEACH DRIVE, SUITE 1
JACKSONVILLE, FLORIDA 32224
CONTRACT NO.: T0000
VENDOR NO.: F-59-1685550

COUNTY PROJECT MANAGER:

ALBERT ROSENSTEIN, P.E.

FISCAL YEAR	SHEET NO.
22	1



THIS ITEM HAS BEEN DIGITALLY
SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL
PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED
ON THE ELECTRONIC COPIES.

METRIC ENGINEERING, INC.
11760 MARCO BEACH DRIVE, SUITE 1
JACKSONVILLE FLORIDA 32224
CERTIFICATE OF AUTHORIZATION 2294
RICARDO J GONZALEZ, P.E. NO. 66564

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

INTELLIGENT TRANSPORTATION SYSTEM PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2A	SIGNATURE SHEET
3	SUMMARY OF PAY ITEMS
4	TABULATION OF QUANTITIES
5	SUMMARY OF DEVICES
7	GENERAL NOTES
8	LEGEND
12, 21	ITS PLAN SHEET
25 - 27	ITS MOUNTING DETAILS
28	CABINET DETAILS
29	WIRING DIAGRAM

REVISIONS				RICARDO J. GONZALEZ, P.E. P.E. LICENSE NUMBER 66564 METRIC ENGINEERING, INC. 11760 MARCO BEACH DRIVE, SUITE 1 JACKSONVILLE, FLORIDA 32224	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. 2A ¹
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
11/2/23	1 ADDED SHEET.				LORRAINE ROAD	MANATEE	440324-1-58-01	

SUMMARY OF ROADWAY					
SPC	ALT	ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY TOTAL
		101-1	MOBILIZATION	LS	1.00
		102-1	MAINTENANCE OF TRAFFIC	LS	1.00
		102-60	WORK ZONE SIGNS	ED	12180.00
		102-74-1	CHANNELIZING DEVICE- TYPES I, II, DI, VP, DRUM, OR LCD	ED	3318.00
		102-76	ARROW BOARD / ADVANCE WARNING ARROW PANEL	ED	35.00
		102-115	TYPE III BARRICADE	ED	70.00
		104-10-3	SEDIMENT BARRIER	LF	778.00
		107-1	LITTER REMOVAL	AC	49.17
		107-2	MOWING	AC	33.74
		110-1-1	CLEARING AND GRUBBING	LS	1.00
		110-4-10	REMOVAL OF EXISTING CONCRETE PAVEMENT	SY	11.20
		522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	11.00

SUMMARY OF ITS					
SPC	ALT	ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY TOTAL
		611-1-1	ITSFM SUBSURFACE DOCUMENTATION- PROJECT LENGTH	MI	3.22
		611-2-2	ITSFM LOCATION DOCUMENTATION- ITS SITE	EA	4.00 5.00
		630-2-11	CONDUIT, F&I, OPEN TRENCH	LF	11051.00
		630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	LF	6137.00
		630-2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF	20.00
		630-2-15	CONDUIT, F&I, BRIDGE MOUNT	LF	278.00
		633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND, 2-12 FIBERS	LF	262.00
		633-1-123	FIBER OPTIC CABLE, F&I, UNDERGROUND, 49-96 FIBERS	LF	20381.00
		633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	14.00
		633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA	2.00
		633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA	1.00
		633-3-15	FIBER OPTIC CONNECTION HARDWARE, F&I, PATCH PANEL- PRETERMINATED	EA	2.00
		633-3-51	FIBER OPTIC CONNECTION HARDWARE, ADJUST/MODIFY SPLICE ENCLOSURE	EA	1.00
		633-6	FIBER OPTIC CABLE LOCATOR	DA	200.00
		635-2-11	PULL & SPLICE BOX, F&I, 17" x 30" COVER SIZE	EA	6.00
		635-2-12	PULL & SPLICE BOX, F&I, 24" x 36" COVER SIZE	EA	35.00
		635-2-13	PULL & SPLICE BOX, F&I, 30" x 60" COVER SIZE	EA	6.00
		641-2-13	PRESTRESSED CONCRETE POLE, F&I, TYPE P-III	EA	3.00
		660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	2.00
		660-3-12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	2.00
		660-6-121	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, CABINET EQUIPMENT	EA	2.00
		660-6-122	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	2.00
		676-3-10	SMALL EQUIPMENT ENCLOSURE, FURNISH AND INSTALL, LESS THAN 10"W X 13"H X 11" D	EA	2.00
		682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, 1P, HIGH DEFINITION	EA	2.00
		684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	2.00
		685-2-1	REMOTE POWER MANAGEMENT UNIT-RPMU, FURNISH & INSTALL	EA	2.00

REVISIONS				RICARDO J. GONZALEZ, P.E. P.E. LICENSE NUMBER 66564 METRIC ENGINEERING, INC. 11760 MARCO BEACH DRIVE, SUITE 1 JACKSONVILLE, FLORIDA 32224	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. 3
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
11/2/23	1 REMOVED BLUETOOTH DEVICE AND NEMA ENCLOSURE.				LORRAINE ROAD	MANATEE	440324-1-58-01	

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																				TOTAL THIS SHEET		REF. SHEET
			10		11		12		13		14		15		16		17		18		19		PLAN	FINAL	
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL			
611-2-2	ITSFM LOCATION DOCUMENTATION- ITS SITE	EA							2														2		
630-2-11	CONDUIT, F&I, OPEN TRENCH	LF	385		1189			982		1021		1270		875		915		1091		616		677		9021	
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	LF	292		152		341		338		42		442		408		231		712		488		3446		
630-2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF							10														10		
630-2-15	CONDUIT, F&I, BRIDGE MOUNT	LF																				278	278		
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND, 2-12 FIBERS	LF							127														127		
633-1-123	FIBER OPTIC CABLE, F&I, UNDERGROUND, 49-96 FIBERS	LF	877		1491		1673		1633		1612		1417		1523		1622		1678		1454		14980		
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	2						4														6		
633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA							1														1		
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA																							
633-3-15	FIBER OPTIC CONNECTION HARDWARE, F&I, PATCH PANEL- PRETERMINATED	EA							1														1		
633-3-51	FIBER OPTIC CONNECTION HARDWARE, ADJUST/MODIFY SPLICE ENCLOSURE	EA																							
635-2-11	PULL & SPLICE BOX, F&I, 17" x 30" COVER SIZE	EA							3														3		
635-2-12	PULL & SPLICE BOX, F&I, 24" x 36" COVER SIZE	EA	2		3		3		2		2		2		4		2		3		3		26		
635-2-13	PULL & SPLICE BOX, F&I, 30" x 60" COVER SIZE	EA					1		1		1					1		1					5		
641-2-13	PRESTRESSED CONCRETE POLE, F&I, TYPE P-III	EA							2														2		
660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA																							
660-3-12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA																							
660-6-121	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, CABINET EQUIPMENT	EA																							
660-6-122	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA																							
676-3-10	SMALL EQUIPMENT ENCLOSURE, FURNISH AND INSTALL, LESS THAN 10"W X 13"H X 11" D	EA																							
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA							1														1		
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA							1														1		
685-2-1	REMOTE POWER MANAGEMENT UNIT-RPMU, FURNISH & INSTALL	EA							1														1		

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																				TOTAL THIS SHEET		GRAND TOTAL SHEET		REF. SHEET
			20		21		22		23												PLAN	FINAL					
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL							
611-2-2	ITSFM LOCATION DOCUMENTATION- ITS SITE	EA				X 2	1															X 2	1	X 4	1		
630-2-11	CONDUIT, F&I, OPEN TRENCH	LF	1155		875																	2030		11051			
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	LF	154		535		1331		671													2691		6137			
630-2-14	CONDUIT, FURNISH & INSTALL, ABOVEGROUND	LF			10																	10		20			
630-2-15	CONDUIT, F&I, BRIDGE MOUNT	LF																						278			
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND, 2-12 FIBERS	LF			135																	135		262			
633-1-123	FIBER OPTIC CABLE, F&I, UNDERGROUND, 49-96 FIBERS	LF	1459		1640		1481		821													5401		20381			
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA			4				4													8		14			
633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA			1																	1		2			
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA							1													1		1			
633-3-15	FIBER OPTIC CONNECTION HARDWARE, F&I, PATCH PANEL- PRETERMINATED	EA			1																	1		2			
633-3-51	FIBER OPTIC CONNECTION HARDWARE, ADJUST/MODIFY SPLICE ENCLOSURE	EA							1													1		1			
635-2-11	PULL & SPLICE BOX, F&I, 17" x 30" COVER SIZE	EA			3																	3		6			
635-2-12	PULL & SPLICE BOX, F&I, 24" x 36" COVER SIZE	EA	3		2		3		1													9		35			
635-2-13	PULL & SPLICE BOX, F&I, 30" x 60" COVER SIZE	EA			1																	1		6			
641-2-13	PRESTRESSED CONCRETE POLE, F&I, TYPE P-III	EA			1																	1		3			
660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA			1																	1		2			
660-3-12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA																									
660-6-121	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, CABINET EQUIPMENT	EA																									
660-6-122	VEHICLE DETECTION SYSTEM- AVI, BLUETOOTH, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA																									
676-3-10	SMALL EQUIPMENT ENCLOSURE, FURNISH AND INSTALL, LESS THAN 10"W X 13"H X 11" D	EA																									
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE - PRESSURIZED, IP, HIGH DEFINITION	EA																									
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA			1																	1		2			
685-2-1	REMOTE POWER MANAGEMENT UNIT-RPMU, FURNISH & INSTALL	EA			1																	1		2			

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
11/2/23	1 REMOVED BLUETOOTH DEVICE AND NEMA ENCLOSURE.		

RICARDO J. GONZALEZ, P.E.
P.E. LICENSE NUMBER 66564
METRIC ENGINEERING, INC.
11760 MARCO BEACH DRIVE, SUITE 1
JACKSONVILLE, FLORIDA 32224

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
LORRAINE ROAD	MANATEE	440324-1-58-01

TABULATION OF QUANTITIES

SHEET NO.
4

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

CCTV DEVICE SUMMARY					
	CCTV	STATION	SIGNAL CABINET	STRUCTURE TYPE	PLAN SHEET
1	CCTV-01	1039+95, RT	LORRAINE RD @ THE MASTERS AVE	PROPOSED CONCRETE POLE	13
2	CCTV-02	1145+24, RT	LORRAINE RD @ GREENBROOK BLVD	EXISTING MAST ARM	21

BT DEVICE SUMMARY					
	BT DEVICE	STATION	SIGNAL CABINET	STRUCTURE TYPE	PLAN SHEET
1	BT-01	1039+95, RT	LORRAINE RD @ THE MASTERS AVE	PROPOSED CONCRETE POLE	13
2	BT-02	1145+24, RT	LORRAINE RD @ GREENBROOK BLVD	EXISTING MAST ARM	21

MVDS DEVICE SUMMARY					
	MVDS DEVICE	STATION	SIGNAL CABINET	STRUCTURE TYPE	PLAN SHEET
1	MVDS-01	1047.91, RT	LORRAINE RD @ THE MASTERS AVE	PROPOSED CONCRETE POLE	13
2	MVDS-02	1153+36, RT	LORRAINE RD @ GREENBROOK BLVD	PROPOSED CONCRETE POLE	21

1

REVISIONS				RICARDO J. GONZALEZ, P.E. P.E. LICENSE NUMBER 66564 METRIC ENGINEERING, INC. 11760 MARCO BEACH DRIVE, SUITE 1 JACKSONVILLE, FLORIDA 32224	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>SUMMARY OF DEVICES</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
11/2/23	1 REMOVED BLUETOOTH DEVICE				LORRAINE ROAD	MANATEE	440324-1-58-01		5

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

GENERAL NOTES

1. THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNALS AND RELATED COMMUNICATIONS EQUIPMENT IS MANATEE COUNTY TRAFFIC OPERATIONS AND TRAFFIC ENGINEERING DIVISIONS.
2. PROVIDE SUBMITTAL DATA THAT IS COMPATIBLE WITH THE MAINTAINING AGENCY. PROVIDE THE MAINTAINING AGENCY'S REQUIRED EQUIPMENT AND VERIFY WITH THE MAINTAINING AGENCY PRIOR TO PURCHASING SUCH EQUIPMENT. CONTACT INFORMATION IS:

MUKUNDA GOPALAKRISHNA, EMAIL: mukunda.gopalakrishna@mymanatee.org, PHONE NO. 941-749-3500 EXT. 7813
3. COMPLY WITH THE MANATEE COUNTY PUBLIC WORKS MANUAL; PART 3 - HIGHWAY & TRAFFIC STANDARDS, SECTION 3.2.
4. BECOME FAMILIAR WITH AND COMPLY WITH MANATEE COUNTY'S INSPECTION PROCEDURES.
5. INSTALL FIBER OPTIC CABLES, CONDUITS, FIBER OPTIC CONNECTION HARDWARE, AND JUNCTION BOXES AS PER DIRECTION OF MANATEE COUNTY, AND SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM AND MEET MANATEE COUNTY STANDARDS.
6. ONE WEEK PRIOR TO THE BEGINNING OF THE ITS INSTALLATION, THE CONTRACTOR SHALL NOTIFY:

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
MANATEE COUNTY PROJECT MANAGEMENT DIVISION
1022 26TH AVENUE EAST
BRADENTON, FLORIDA 34208
PHONE: 941-708-7510

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
MANATEE COUNTY TRAFFIC ENGINEERING DIVISION
2101 47TH TERRACE EAST
BRADENTON, FLORIDA 34203
PHONE: 941-749-3502
7. THE CONTRACTOR SHALL PERFORM ALL WORK AS PER GOVERNING STANDARD PLANS AND SPECIFICATIONS. FDOT SPECIFICATIONS SHALL BE FOLLOWED. WHEN FDOT AND MANATEE COUNTY SPECIFICATIONS DIFFER, THE MORE STRINGENT SPECIFICATIONS WILL TAKE PRECEDENCE. MANATEE COUNTY TRAFFIC SPECIFICATIONS AND THE TRAFFIC SIGNAL DESIGN GUIDE SHALL BE OBTAINED BY THE CONTRACTOR FROM THE PROJECT MANAGEMENT DEPARTMENT.
8. NO BENCHMARK DATUM USED FOR THIS PROJECT. THE BASE MAPPING DEPICTED ON ALL PLAN SHEETS WAS OBTAINED FROM EXISTING PLANS PROVIDED BY FDOT AND AERIAL PHOTOGRAPHY. THEREFORE, THE ACCURACY OF THE BASE MAPPING IS NOT THAT OF SURVEYED MAPPING TYPICALLY USED WITH ROADWAY DESIGN PROJECTS AND SHOULD ONLY BE RELIED UPON FOR ESTABLISHING GENERAL LOCATIONS FOR EXISTING AND PROPOSED FEATURES.
9. BASELINE ON LORRAINE ROAD SHOWN ON THE PLANS ARE NOT SURVEYED AND ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT STAKED IN THE FIELD.
10. THE RIGHT OF WAY DESIGNATIONS SHOWN ON THE PLANS ARE NOT TIED TO A SURVEYED CENTERLINE AND AS SUCH ARE APPROXIMATE.
11. PULL BOXES ARE TO BE PLACED BEHIND CURB AND GUTTER OR A MINIMUM OF 7' FROM EDGE OF PAVEMENT WHERE CURB AND GUTTER IS NOT PRESENT. USE POLYMER CONCRETE CONSTRUCTION PULL BOXES WITH POLYMER CONCRETE COVERS.

PAY ITEM NOTES

1. 630-2-11, 630-2-12:
USE A MINIMUM OF 2' DIAMETER CONDUIT FOR FIBER OPTIC INTERCONNECT CABLE. USE MARKERS FOR FIBER OPTIC CONDUITS RUNS.
2. 635-2-12:
PULL BOX SHALL BE FDOT APPROVED POLYMER WITH DIMENSIONS OF 24"x36"x36" WITH "MANATEE COUNTY FIBER OPTIC SYSTEM" STAMPED ON THE COVER IN RAISED LETTERS.
3. 635-2-13:
FIBER OPTIC SPLICE VAULT DIMENSIONS SHALL BE 30"x60"x48". FIBER OPTIC SPLICE VAULT LIDS SHALL BE STAMPED "MANATEE COUNTY FIBER OPTIC SYSTEM" ON THE COVER.
4. 660-3-11, 660-3-12:
USE WAVETRONIX SMART SENSOR HD UNITS. EXPANSE SYSTEM WITH XP20 RADAR SENSOR AND ARC6 CABINET INTERFACE DEVICE.
5. 682-1-113:
CCTV CAMERAS SHALL BE COMPATIBLE WITH MANATEE COUNTY STANDARDS WITH A RESOLUTION OF AT LEAST 1080P. VERIFY THE LATEST REQUIREMENTS WITH MANATEE COUNTY.

UTILITY NOTES:

1. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED Vv, Vh, AND Vvh) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
2. WHERE FOOTER OR FOUNDATION ARE TO BE INSTALLED BY AUGERING OR DRILLING, SURVEY AND STAKE OR PAINT TO AN ACCURACY OF 0.1' PRIOR TO REQUESTING UTILITY LOCATES. STAKE OR PAINT THE CENTER OF EACH LOCATION AND CLEARLY LABEL WITH STATION, OFFSET, IDENTIFYING STRUCTURE NUMBER, AND DIAMETER OF EXCAVATION IN INCHES.
3. WHERE AUGERING OR DRILLING, EXCAVATE THE FIRST 4 FEET BY NON MECHANICAL AND NON DESTRUCTIVE MEANS.
4. UTILITY/AGENCIES OWNERS:

	COMPANY	TELEPHONE NUMBERS
1	AT&T - FLORIDA	941-951-1460
2	BRADEN RIVER UTILITIES	941-757-1578 x1578
3	BLACK & VEATCH	
4	FPL - MANATEE	941-927-4273
5	FRONTIER	941-906-6722
6	LAKWOOD RANCH COMMUNITY DEVELOPMENT DISTRICT	941-727-0899
7	LAKWOOD RANCH STEWARDSHIP	941-727-0899
8	CHARTER	941-748-3816
9	MANATEE COUNTY UTILITY OPERATIONS	941-708-7450 x7650
10	PEACE RIVER ELECTRIC COOPERATIVE	863-767-4650
11	SPECTRUM (OLD CHARTER)	941-213-0877
12	TECO PEOPLES GAS (SARASOTA)	813-275-3762
13	UNITI	251-422-3872
14	HOTWIRE COMMUNICATIONS	941-699-0900

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION
11/2/23	1 CHANGED WAVETRONIC DEVICE BRAND.		

RICARDO J. GONZALEZ, P.E.
P.E. LICENSE NUMBER 66564
METRIC ENGINEERING, INC.
11760 MARCO BEACH DRIVE, SUITE 1
JACKSONVILLE, FLORIDA 32224

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
LORRAINE ROAD	MANATEE	440324-1-58-01

GENERAL NOTES

SHEET NO.

7

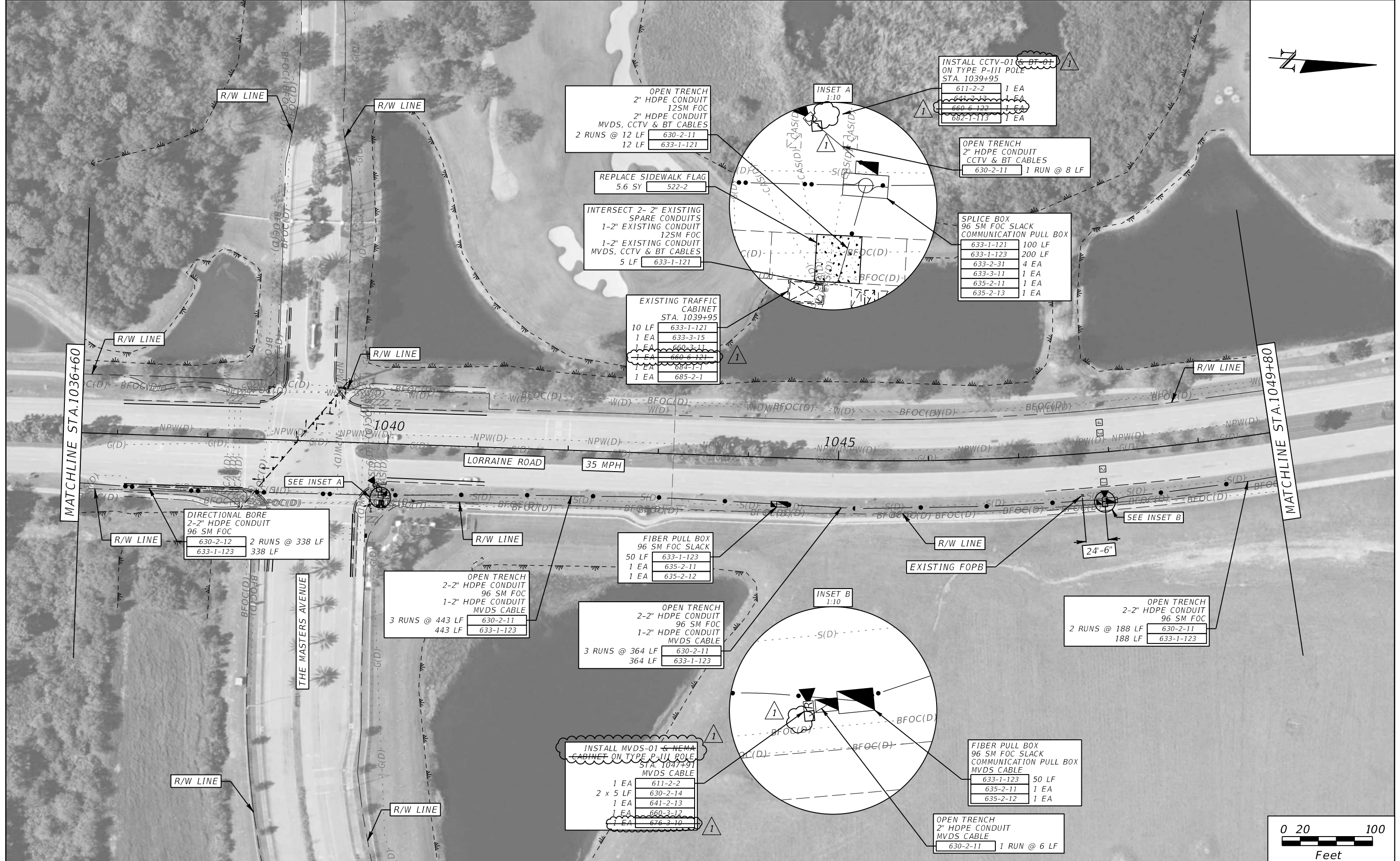
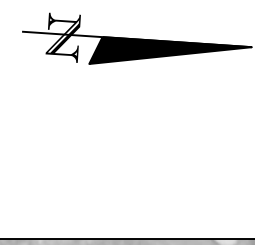
LEGEND	EXISTING	PROPOSED
ELECTRICAL PULL BOX		
FIBER OPTIC PULL BOX		
FIBER OPTIC SPLICE BOX		
SERVICE POLE		
CONCRETE POLE		
BASE MOUNTED CABINET		
NEMA CABINET		
HIGH MAST LIGHTING		
CLOSED CIRCUIT TELEVISION		
BLUETOOTH		
MICROWAVE VEHICLE DETECTION SYSTEM		
DIRECTIONAL BORE INSTALLED CONDUIT		
OPEN TRENCH INSTALLED CONDUIT		
EXISTING UNDERGROUND CONDUIT TO REMAIN		
EXISTING UNDERGROUND CONDUIT TO BE REMOVED		

LEGEND	EXISTING	PROPOSED
BURIED ELECTRIC		
BURIED FIBER OPTIC		
OVERHEAD FIBER OPTIC		
BURIED TELEPHONE		
OVERHEAD ELECTRIC		
SANITARY SEWER		
WATER MAIN		
GAS		
DRAINAGE PIPE		
WETLAND		

- ABBREVIATIONS**
- ATMS = ADVANCED TRAFFIC MANAGEMENT SYSTEM
 - AWG = AMERICAN WIRE GAUGE
 - BFOC = BURIED FIBER OPTIC CABLE
 - ~~BE = BURIED ELECTRIC~~
 - ~~BT = BLUETOOTH~~
 - CCTV = CLOSED CIRCUIT TELEVISION
 - COMM = COMMUNICATION
 - COMP = COMPOSITE
 - EOTL = EDGE OF TRAVEL LANE
 - EPB = ELECTRICAL PULL BOX
 - EXIST = EXISTING
 - FFOC = FRONT FACE OF CURB
 - FOC = FIBER OPTIC CABLE
 - FOPB = FIBER OPTIC PULL BOX
 - FOSV = FIBER OPTIC SPLICE VAULT
 - GND = GROUND
 - HDPE = HIGH DENSITY POLYETHYLENE
 - ITS = INTELLIGENT TRANSPORTATION SYSTEM
 - ITSPB = INTELLIGENT TRANSPORTATION SYSTEM PULL BOX
 - LF = LINEAR FEET
 - LHUB = LOCAL HUB
 - LPB = LOOP PULL BOX
 - MM = MILE MARKER
 - MVDS = MICROWAVE VEHICLE DETECTION SYSTEM
 - NTS = NOT TO SCALE
 - OE = OVERHEAD ELECTRIC
 - PVC = POLYVINYL CHLORIDE (CONDUIT)
 - RPMU = REMOTE POWER MANAGEMENT UNIT
 - RGS = RIGID GALVANIZED STEEL
 - R/W = RIGHT OF WAY
 - SM = SINGLE MODE
 - SPD = SURGE PROTECTION DEVICE
 - STR = STRAND
 - UPS = UNINTERRUPTABLE POWER SUPPLY
 - W = WATER LINE

REVISIONS				RICARDO J. GONZALEZ, P.E. P.E. LICENSE NUMBER 66564 METRIC ENGINEERING, INC. 11760 MARCO BEACH DRIVE, SUITE 1 JACKSONVILLE, FLORIDA 32224	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LEGEND	SHEET NO. 8
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
11/2/23	REMOVED BLUETOOTH DEVICE.				LORRAINE ROAD	MANATEE	440324-1-58-01		

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



MATCHLINE STA.1036+60

MATCHLINE STA.1049+80

DIRECTIONAL BORE
2-2" HDPE CONDUIT
96 SM FOC
630-2-12 2 RUNS @ 338 LF
633-1-123 338 LF

OPEN TRENCH
2-2" HDPE CONDUIT
96 SM FOC
1-2" HDPE CONDUIT
MVDS CABLE
3 RUNS @ 443 LF 630-2-11
443 LF 633-1-123

FIBER PULL BOX
96 SM FOC SLACK
50 LF 633-1-123
1 EA 635-2-11
1 EA 635-2-12

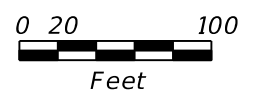
OPEN TRENCH
2-2" HDPE CONDUIT
96 SM FOC
1-2" HDPE CONDUIT
MVDS CABLE
3 RUNS @ 364 LF 630-2-11
364 LF 633-1-123

INSTALL MVDS-01 & NEMA
CABINET ON TYPE P-UII POLE
STA. 1047+91
MVDS CABLE
1 EA 611-2-2
2 x 5 LF 630-2-14
1 EA 641-2-13
1 EA 660-3-12
1 EA 676-3-10

FIBER PULL BOX
96 SM FOC SLACK
COMMUNICATION PULL BOX
MVDS CABLE
633-1-123 50 LF
635-2-11 1 EA
635-2-12 1 EA

OPEN TRENCH
2" HDPE CONDUIT
MVDS CABLE
630-2-11 1 RUN @ 6 LF

OPEN TRENCH
2-2" HDPE CONDUIT
96 SM FOC
2 RUNS @ 188 LF 630-2-11
188 LF 633-1-123



REVISIONS	
DATE	DESCRIPTION
11/2/23	1 REMOVED BLUETOOTH DEVICE AND NEMA ENCLOSURE.

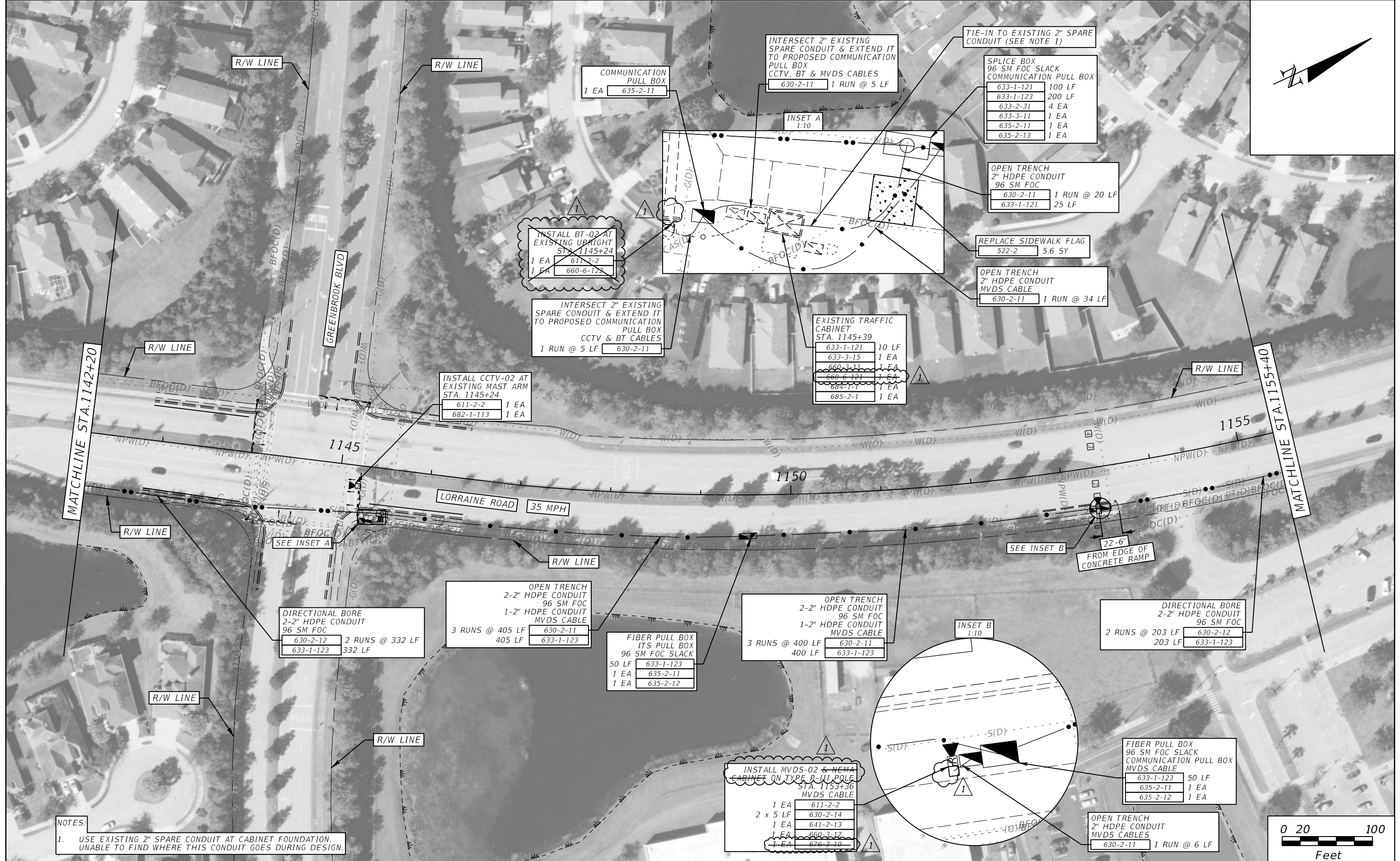
RICARDO J. GONZALEZ, P.E.
P.E. LICENSE NUMBER 66564
METRIC ENGINEERING, INC.
11760 MARCO BEACH DRIVE, SUITE 1
JACKSONVILLE, FLORIDA 32224

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
LORRAINE ROAD	MANATEE	440324-1-58-01

ITS PLAN SHEET (4)

SHEET NO.
13

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NOTES:
 1. USE EXISTING 2" SPARE CONDUIT AT CABINET FOUNDATION. UNABLE TO FIND WHERE THIS CONDUIT GOES DURING DESIGN.

REVISIONS		DATE	DESCRIPTION
1	REMOVED BLUETOOTH DEVICE AND NEMA ENCLOSURE.	11/2/23	

RICARDO J. GONZALEZ, P.E.
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 METRIC ENGINEERING, INC.
 11760 MARCO BEACH DRIVE, SUITE 1
 JACKSONVILLE, FLORIDA 32224

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
LORRAINE ROAD	MANATEE	440324-1-58-01

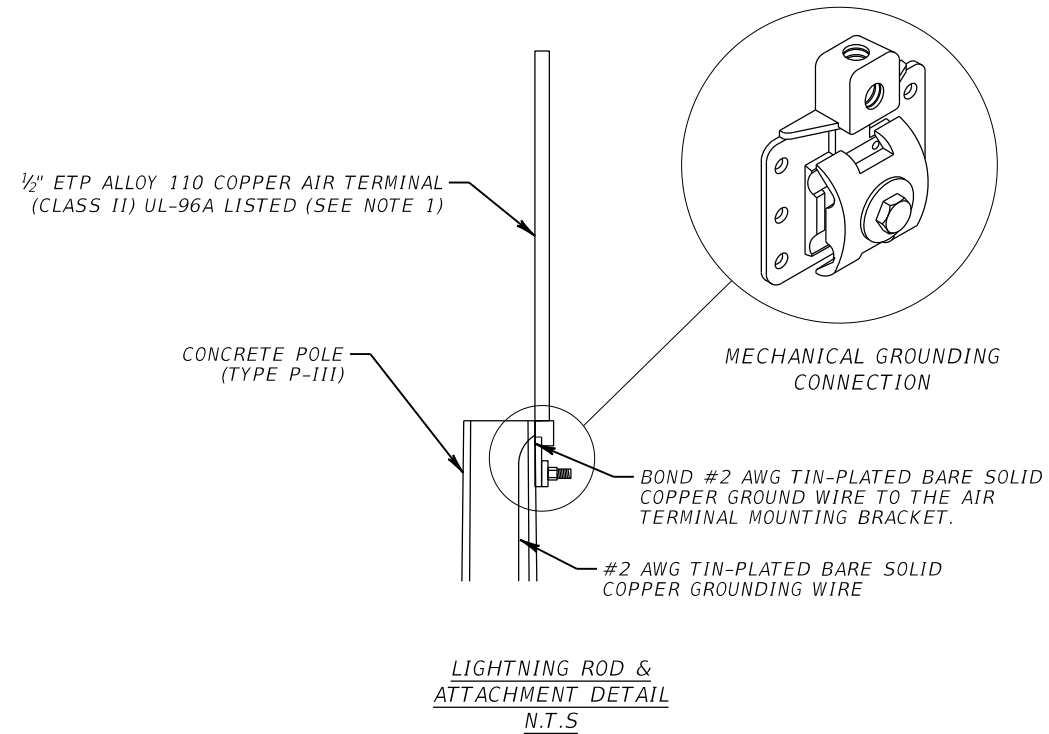
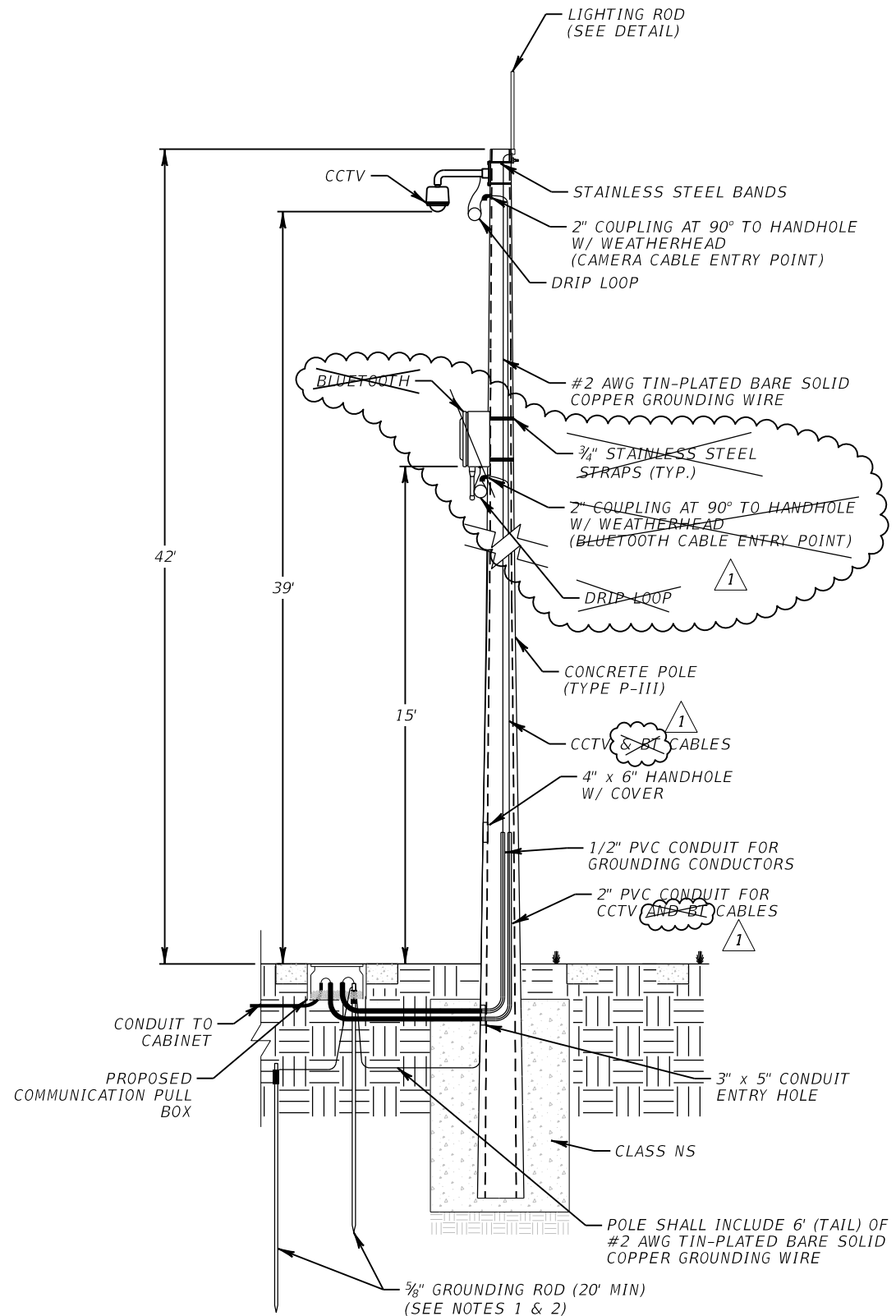
ITS PLAN SHEET (12)

SHEET NO.
21

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

SITE LOCATIONS:

CCTV-01 & BT-01
 LORRAINE RD @ THE MASTERS AVE
 STA. 1039+92




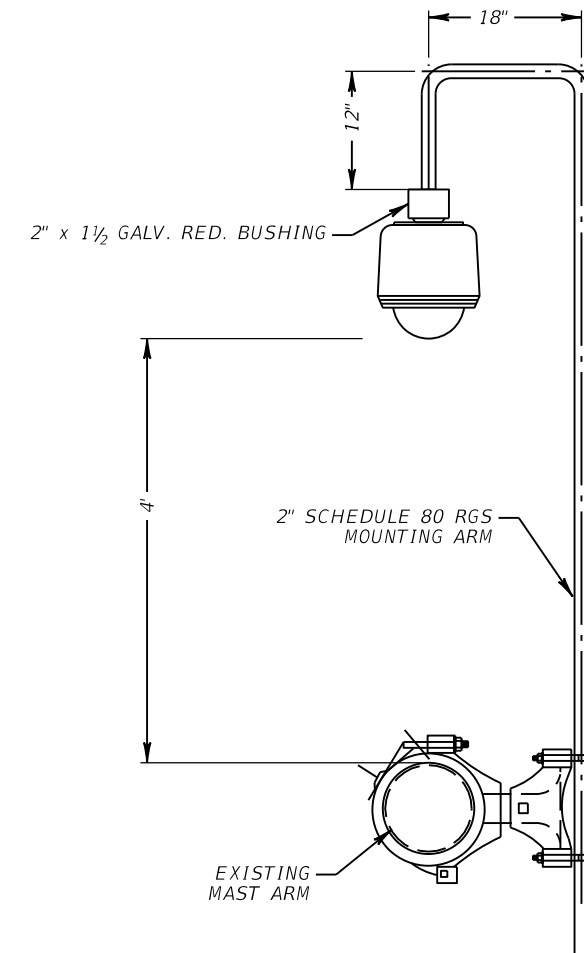
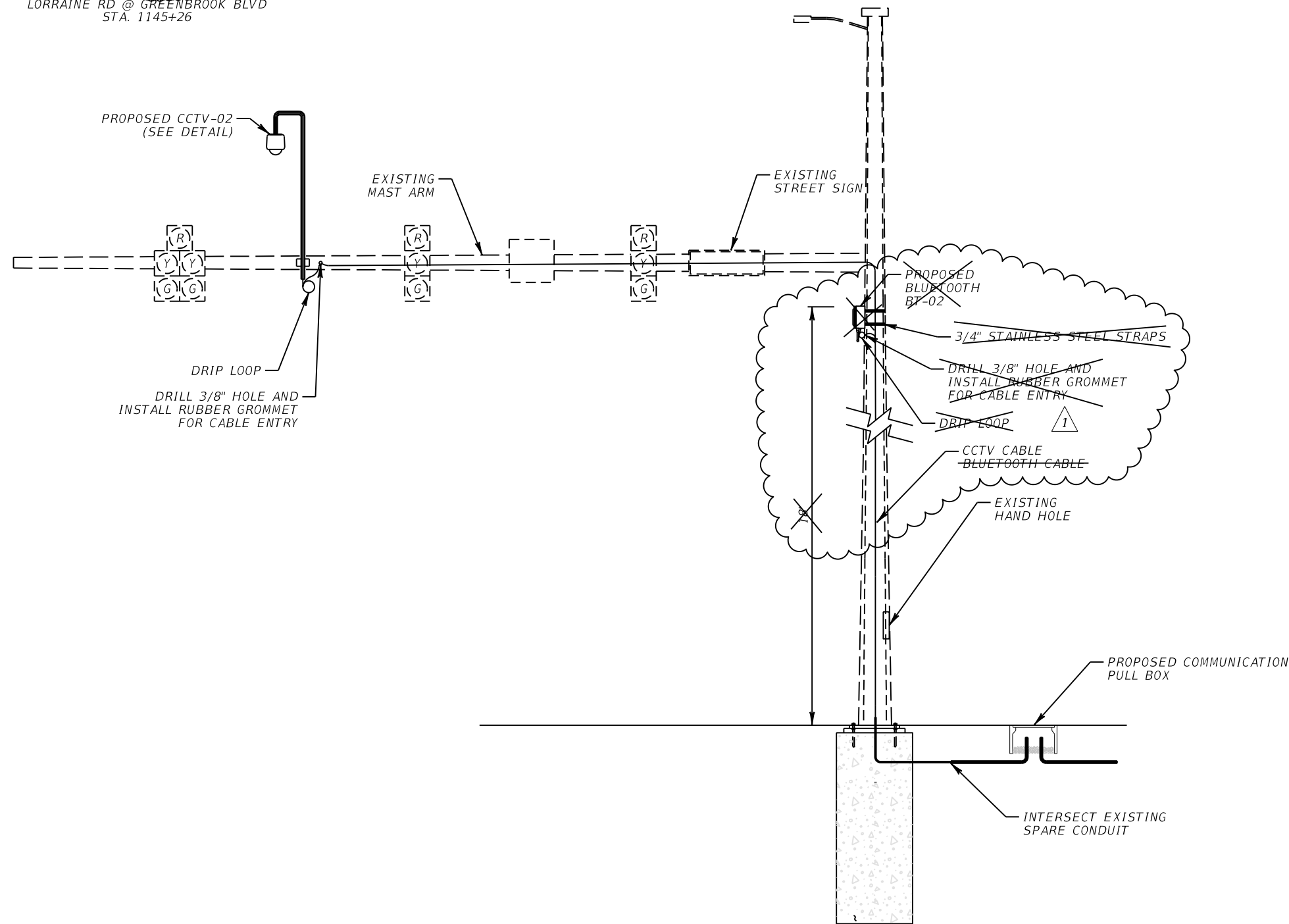
NOTE:

1. GROUNDING SHALL BE PER INDEX 641-020 SHEET 5 OF 5.
2. BOND CCTV POLE GROUNDING SYSTEM TO EXISTING TRAFFIC CABINET GROUNDING WITH #2 WAG SOLID CONDUCTOR.

REVISIONS				RICARDO J. GONZALEZ, P.E. P.E. LICENSE NUMBER 66564 METRIC ENGINEERING, INC. 11760 MARCO BEACH DRIVE, SUITE 1 JACKSONVILLE, FLORIDA 32224	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. 25
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
11/2/23	1 REMOVED BLUETOOTH DEVICE.				LORRAINE ROAD	MANATEE	440324-1-58-01	

SITE LOCATIONS:


CCTV-02 **G BT-02** 
 LORRAINE RD @ GREENBROOK BLVD
 STA. 1145+26



CCTV MOUNTING ARM DETAIL
 MAST ARM MOUNTED

NOTE:

1. WIRE ACCESS HOLES SHALL NOT EXCEED 1" DIAMETER AND SHALL INCLUDE A RUBBER GROMMET. ROUTE COMMUNICATION CABLE(S) THROUGH MAST ARM. DRILL HOLE AS TO NOT DAMAGE EXISTING SIGNAL WIRE. UTILIZE EXISTING SIGNAL ACCESS HOLE IF POSSIBLE.

REVISIONS				RICARDO J. GONZALEZ, P.E. P.E. LICENSE NUMBER 66564 METRIC ENGINEERING, INC. 11760 MARCO BEACH DRIVE, SUITE 1 JACKSONVILLE, FLORIDA 32224	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ITS MOUNTING DETAILS	SHEET NO. 26
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
11/2/23	 REMOVED BLUETOOTH DEVICE.				LORRAINE ROAD	MANATEE	440324-1-58-01		

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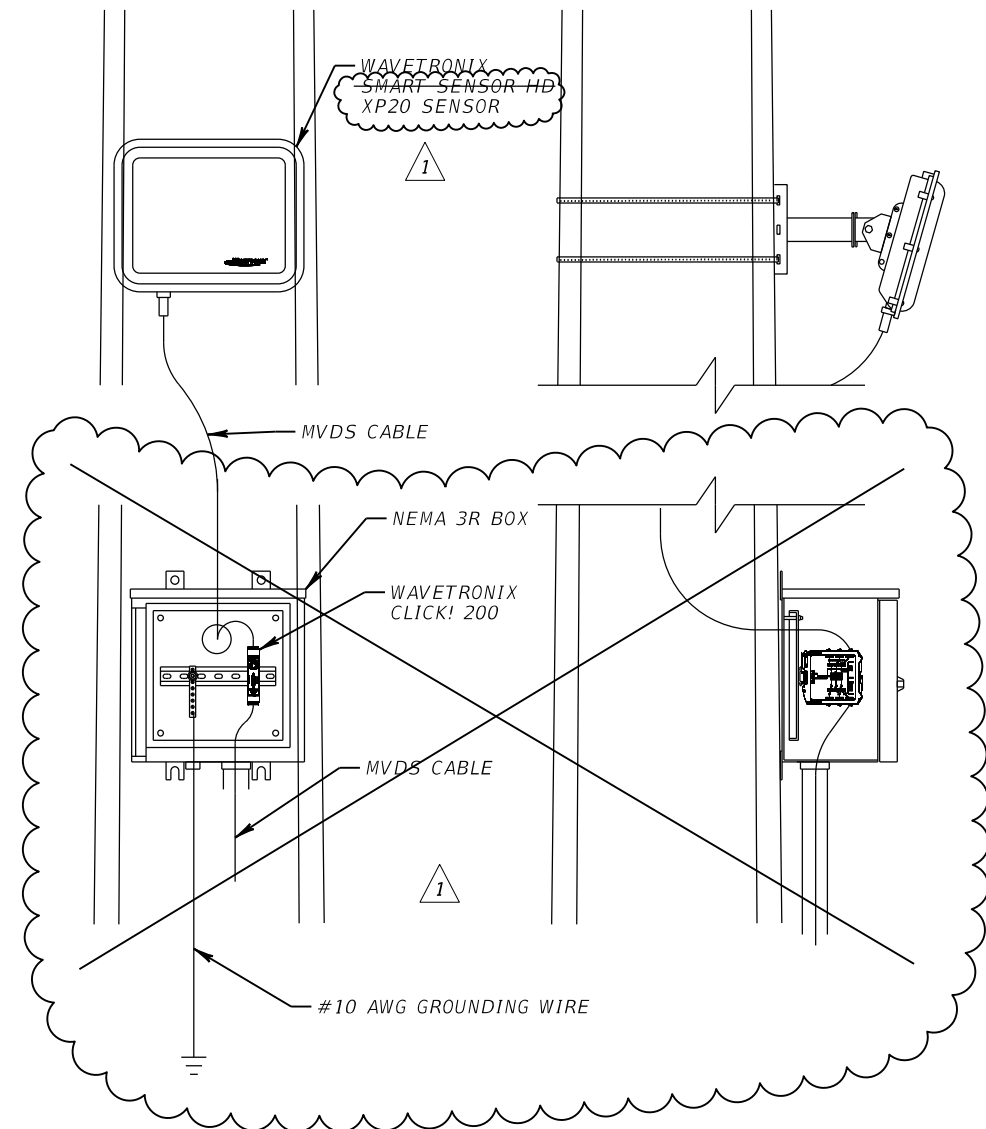
SITE LOCATIONS:

MVDS-01
NORTH OF LORRAINE RD @
THE MASTERS AVE INTERSECTION
STA. 1047+91

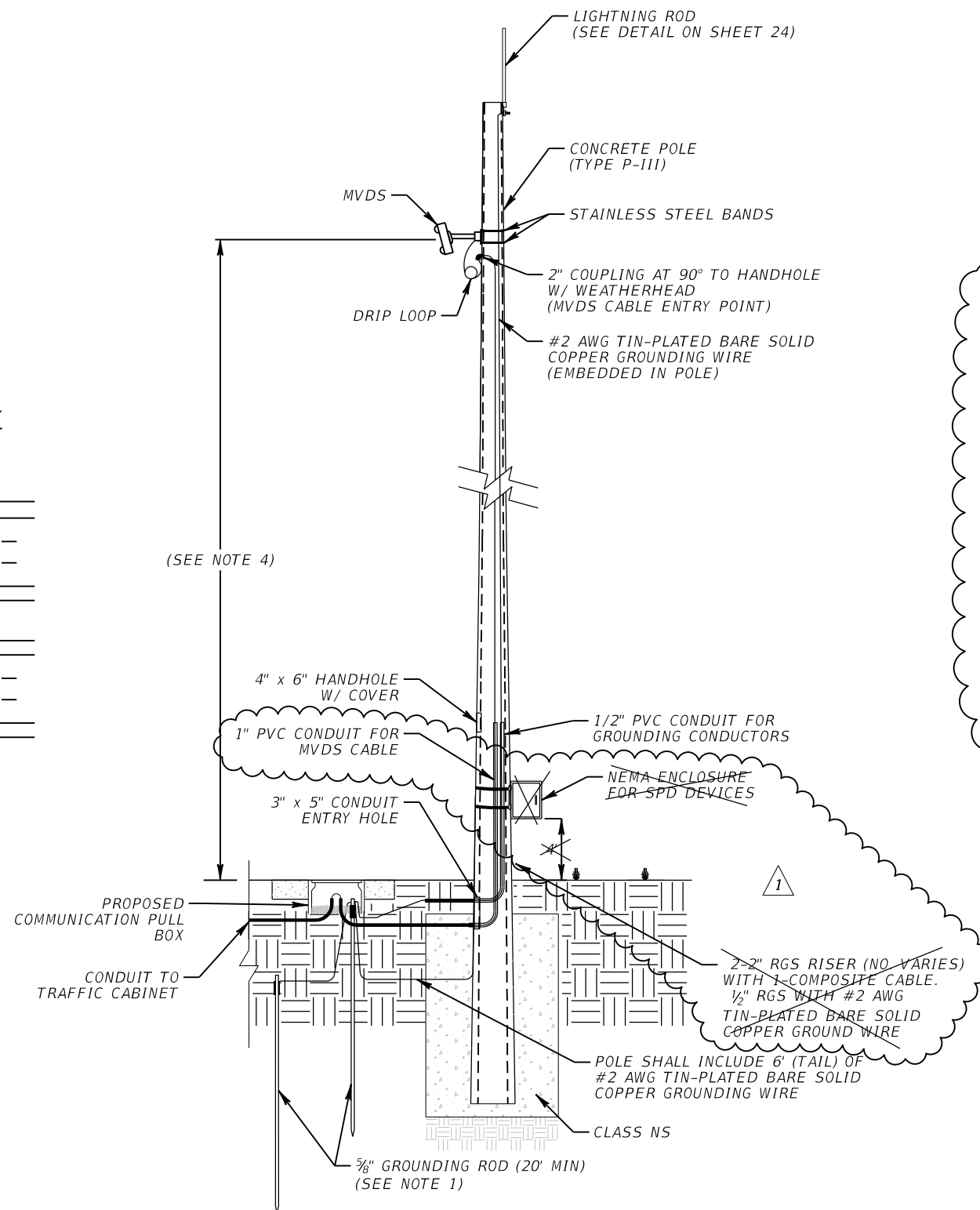
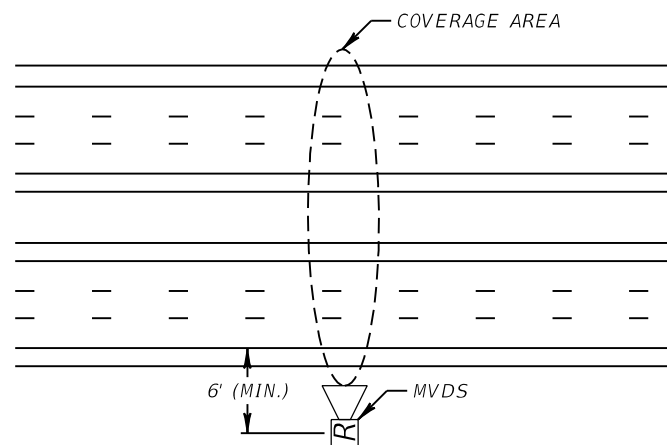
MVDS-02
NORTH OF LORRAINE RD @
GREENBROOK BLVD INTERSECTION
STA. 1153+36

FRONT VIEW
N.T.S.

SIDE VIEW
N.T.S.



TYPICAL 4 & 6 LANE DIVIDED HIGHWAY



NOTE:

1. GROUNDING SHALL BE PER INDEX 641-020 SHEET 5 OF 5.
2. CONFIRM MANUFACTURER RECOMMENDATIONS FOR ALL EQUIPMENT AND MOUNTING HEIGHT DIMENSIONS PRIOR TO INSTALLATION.
3. INTEGRATE THE MVDS INTO THE COUNTY'S EXISTING ATMS SYSTEM AND CALIBRATE THE MVDS UNITS IN THE PRESENCE OF COUNTY STAFF.
4. PER MANUFACTURER RECOMMENDATIONS.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
11/2/23	1 REMOVED NEMA ENCLOSURE.		

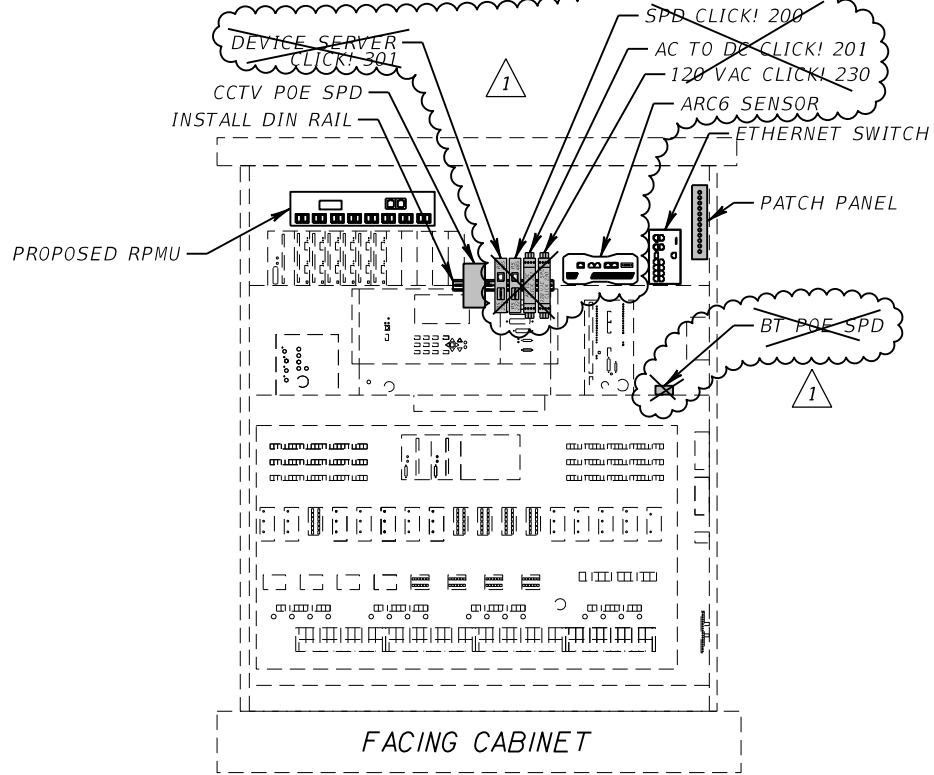
RICARDO J. GONZALEZ, P.E.
P.E. LICENSE NUMBER 66564
METRIC ENGINEERING, INC.
11760 MARCO BEACH DRIVE, SUITE 1
JACKSONVILLE, FLORIDA 32224

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
LORRAINE ROAD	MANATEE	440324-1-58-01

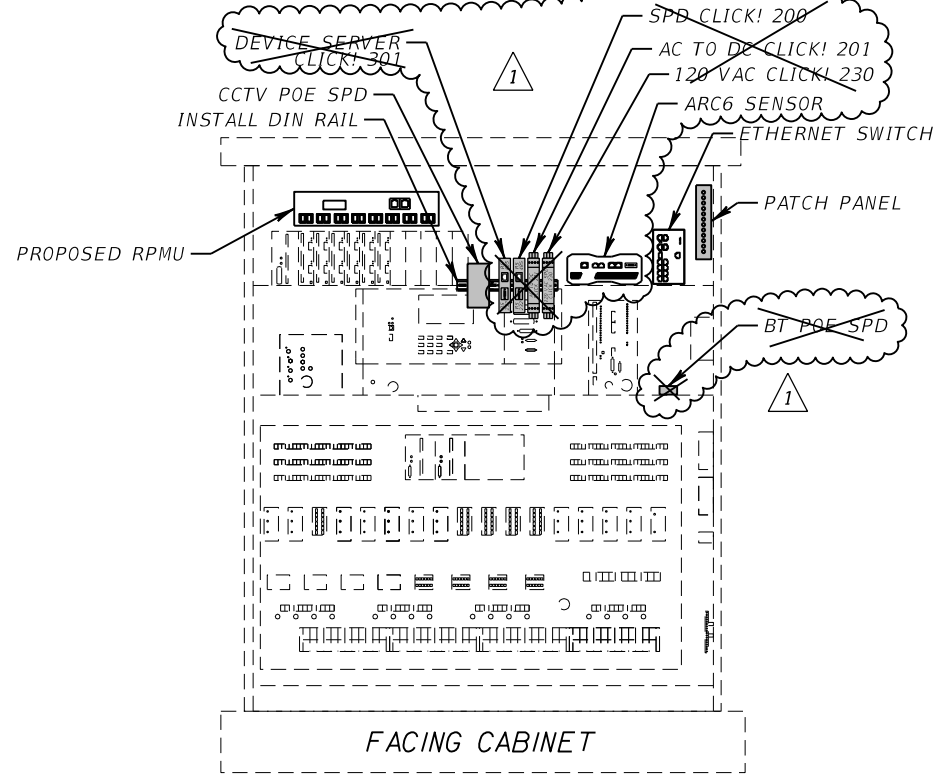
ITS MOUNTING DETAILS

SHEET NO.
27

LORRAINE ROAD @ THE MASTER AVENUE
STA. 1039+95



LORRAINE ROAD @ GREENBROOK BLVD
STA. 1145+39



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
11/2/23	1 REMOVED BLUETOOTH DEVICE AND DEVICE SERVERS. ADDED ARC 6.		

RICARDO J. GONZALEZ, P.E.
P.E. LICENSE NUMBER 66564
METRIC ENGINEERING, INC.
11760 MARCO BEACH DRIVE, SUITE 1
JACKSONVILLE, FLORIDA 32224

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
LORRAINE ROAD	MANATEE	440324-1-58-01

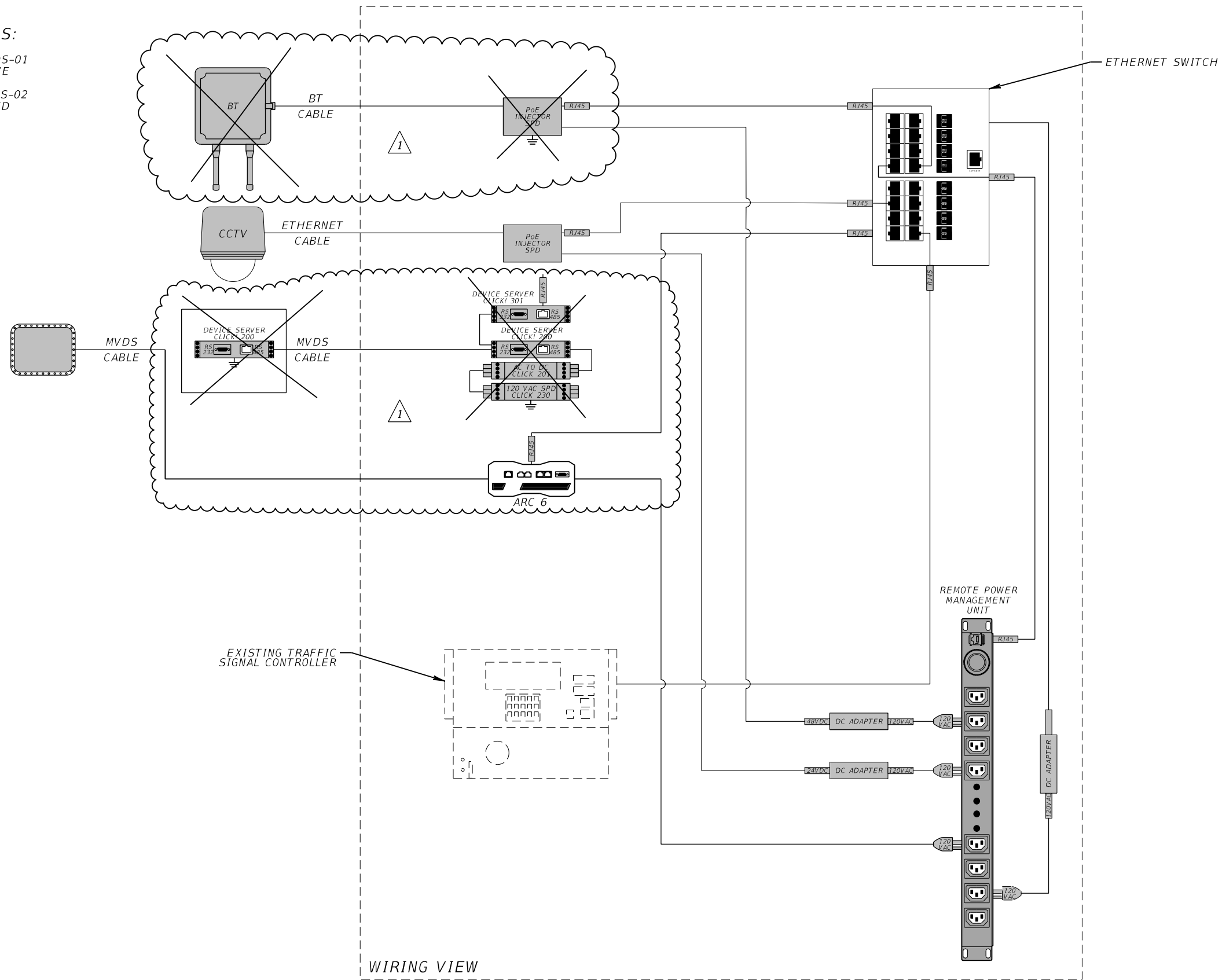
CABINET DETAILS

SHEET NO.
28

SITE LOCATIONS:

CCTV-01, BT-01 & MVDS-01
@ THE MASTERS AVE

CCTV-02, BT-02 & MVDS-02
@ GREENBROOK BLVD



WIRING VIEW

REVISIONS	
DATE	DESCRIPTION
11/2/23	1 REMOVED BLUETOOTH DEVICE, NEMA ENCLOSURE, AND DEVICE SERVERS. ADDED ARC 6.

RICARDO J. GONZALEZ, P.E.
P.E. LICENSE NUMBER 66564
METRIC ENGINEERING, INC.
11760 MARCO BEACH DRIVE, SUITE 1
JACKSONVILLE, FLORIDA 32224

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
LORRAINE ROAD	MANATEE	440324-1-58-01

WIRING DIAGRAM

SHEET NO.
29

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