

# CONTRACT PLANS

COUNTY PROJECT NO. 6096260, 6096560, 5400033, 5400034

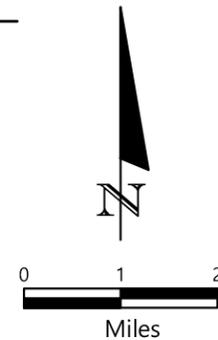
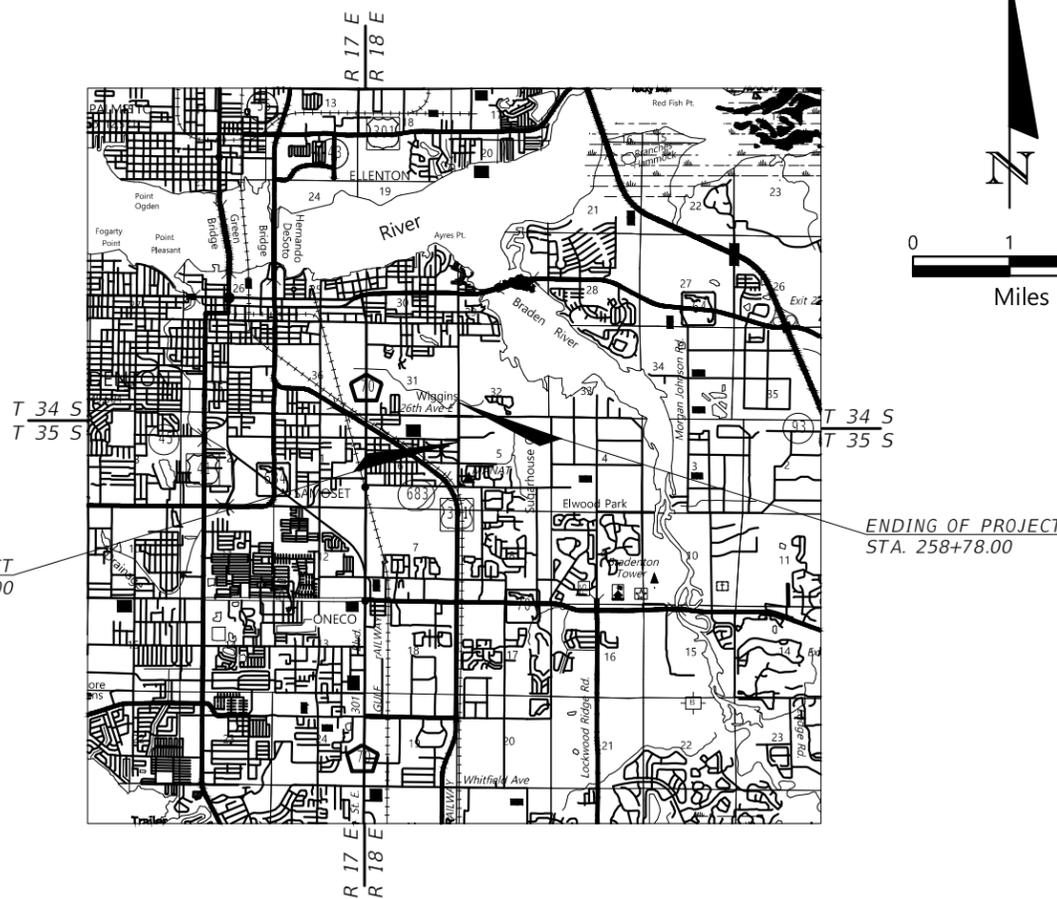
MANATEE COUNTY

27TH STREET EAST FROM  
38TH AVENUE EAST TO 26TH AVENUE EAST  
ADVANCED TRAFFIC MANAGEMENT SYSTEM PLANS

MAY 2025

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PROJECT LOCATION  
MANATEE COUNTY

PLANS PREPARED BY:

ATKINSREALIS  
482 SOUTH KELLER ROAD  
ORLANDO, FL 32810  
(407) 647-7275

CONTRACT NO. 6096560  
VENDOR NO. 45-3031954

NOTE: THE SCALE OF THESE PLANS MAY  
HAVE CHANGED DUE TO THE REPRODUCTION.

FINAL SUBMITTAL

SIGNALIZATION PLANS  
ENGINEER OF RECORD:

NATHAN J. MOZELESKI, P.E.  
P.E. NO.: 83308

GOVERNING STANDARD PLANS:  
Florida Department of Transportation, FY2020-21 Standard plans for  
Road and Bridge Construction and applicable Interim Revisions (IRs).  
<http://www.fdot.gov/design/Standardplans.shtm>  
Standard Plans for Road Construction and associated IRs are available  
at the following website:

APPLICABLE IRs: IR546-001-01, IR546-010-01

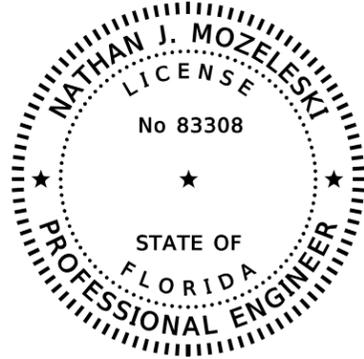
GOVERNING STANDARD SPECIFICATIONS:  
Florida Department of Transportation, July, 2020 Standard  
Specifications for Road and Bridge Construction at the following  
website:  
<http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

MANATEE COUNTY PROJECT MANAGER: AL NEUMANN, P.E.

FISCAL YEAR	SHEET NO.
24	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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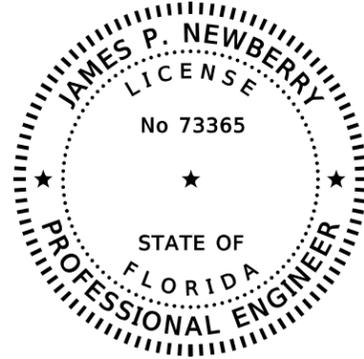
ATKINSREALIS  
482 SOUTH KELLER ROAD  
ORLANDO, FLORIDA 32810  
(407) 647-7275  
NATHAN MOZELESKI, P.E. #83308

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

SIGNALIZATION PLANS

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HARDESTY & HANOVER, INC.  
5110 EISENHOWER BLVD. SUITE 310  
TAMPA, FLORIDA 33634  
(813) 514-6832  
JAMES NEWBERRY, P.E. #73365

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SIGNALIZATION PLANS

SHEET NO.	SHEET DESCRIPTION
T-2	SIGNATURE SHEET
T-13	STANDARD MAST ARM ASSEMBLIES DATA TABLE

NO.	REVISIONS	DATE	BY	SCALE	AS NOTED	DESIGNED BY	NJM	DRAWN BY	ALC	CHECKED BY	PJM	ATKINSREALIS 482 SOUTH KELLER RD, ORLANDO, FL 32810 (407) 647-7275	DATE	MAY 2, 2025	PROJECT NO.	6096260 5400033 6096560 5400034	DESIGN ENGINEER	NATHAN J. MOZELESKI, P.E.	FL. LICENSE NO.	83308	SHEET NO.	T-2
																			<i>SIGNATURE SHEET</i>			



PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																				TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET
			T-8		T-9		T-10		T-11		T-15		T-16		T-17		T-18		PLAN	FINAL	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	173														1480						1653		1653		
630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	334														186						520		520		
632-7-1	SIGNAL CABLE, NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1																				1		1		
633-1-122	FIBER OPTIC CABLE, F&I, UNDERGROUND, 13-48 FIBERS	LF															1415		1500		1405		1901		6221	6221	
633-1-620	FIBER OPTIC CABLE, REMOVE, UNDERGROUND	LF															1165		1450		1355		1210		5180	5180	
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA															4						4		4		
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERMINATION	EA																					12		12		
633-3-14	FIBER OPTIC CONNECTION HARDWARE, F&I, BUFFER TUBE FAN-OUT KIT	EA															1						1		2	2	
633-3-16	FIBER OPTIC CONNECTION HARDWARE, F&I, PATCH PANEL-FIELD TERMINATED	EA																					1		1		
633-3-17	FIBER OPTIC CONNECTION HARDWARE, F&I, CONNECTOR PANEL	EA																					1		1		
633-3-51	FIBER OPTIC CONNECTION HARDWARE, MODIFY, SPLICE ENCLOSURE	EA															1						1		1		
633-3-52	FIBER OPTIC CONNECTION HARDWARE, MODIFY, SPLICE TRAY	EA															1						1		1		
635-2-11	PULL & SPLICE BOX, F&I, 17" X 30" COVER SIZE	EA	9																				3		12	12	
635-2-12	PULL & SPLICE BOX, F&I, 24" X 36" COVER SIZE	EA																					2		2		
635-2-13	PULL & SPLICE BOX, F&I, 36" ROUND COVER SIZE	EA																					1		1		
639-1-121	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER FURNISHED BY POWER COMPANY	AS	1																				1		1		
639-4-6	EMERGENCY GENERATOR-PORTABLE, HOUSING ONLY	EA	1																				1		1		
641-2-12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	1																				1		1		
641-2-60	PRESTRESSED CONCRETE POLE, COMPLETE REMOVAL - SERVICE POLE	EA	2																				2		2		
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	5																				5		5		
646-1-12	ALUMINUM SIGNALS POLE, FURNISH & INSTALL PEDESTRIAN DETECTOR POST	EA	2																				2		2		
646-2-120	ALUMINUM POLE-INDEX 17900/695-001, FURNISH & INSTALL, 20'	EA																					2		2		
646-1-60	ALUMINUM SIGNALS POLE, REMOVE	EA	8																				8		8		
649-21-3	STEEL MAST ARM ASSEMBLY, FURNISH & INSTALL, SINGLE ARM 40'	EA	1																				1		1		
649-21-6	STEEL MAST ARM ASSEMBLY, FURNISH & INSTALL, SINGLE ARM 50'	EA	2																				2		2		
649-21-15	STEEL MAST ARM ASSEMBLY, FURNISH & INSTALL, SINGLE ARM 70'	EA	1																				1		1		
650-1-34	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL, POLYCARBONATE, 3 SECTION, 1 WAY	AS								4													4		4		
650-1-36	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL, POLYCARBONATE, 4 SECTION CLUSTER, 1 WAY	AS								4													4		4		
650-1-39	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL, POLYCARBONATE, 5 SECTION CLUSTER, 1 WAY	AS								4													4		4		
653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS								6													6		6		
653-1-12	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 2 WAYS	AS								1													1		1		
660-3-11	VEHICLE DETECTION SYSTEM-MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	1																				1		2	2	
660-3-12	VEHICLE DETECTION SYSTEM-MICROWAVE, FURNISH & INSTALL ABOVE GROUND EQUIPMENT	EA	7																				9		9		
665-1-11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	8																				8		8		
670-5-111	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA, 1 PREEMPTION	AS	1																				1		1		
670-5-600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET	AS	1																				1		1		
682-1-113	ITS CCTV CAMERA, F&I, DOME PTZ ENCLOSURE-PRESSURIZED, IP, HD	EA																					1		1		
684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	1																				1		1		
685-1-13	UNINTERRUPTIBLE POWER SUPPLY, FURNISH & INSTALL, LINE INTERACTIVE WITH CABINET	EA	1																				1		1		
685-2-1	REMOTE POWER MANAGEMENT UNIT-RPMU, FURNISH & INSTALL	EA	1																				1		1		

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NO.	REVISIONS	DATE	BY	SCALE	 <p>ATKINSRÉALIS 482 SOUTH KELLER RD, ORLANDO, FL 32810 (407) 647-7275</p>	DATE	 <p>PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East, Bradenton, FL 34208</p>	DESIGN ENGINEER	<p>TABULATION OF QUANTITIES</p>	SHEET NO.	
				AS NOTED		MAY 2, 2025		NATHAN J. MOZELESKI, P.E.		83308	T-3
				DESIGNED BY		PROJECT NO.		FL. LICENSE NO.			
				DRAWN BY		6096260 5400033 6096560 5400034					
				CHECKED BY							



**GENERAL NOTES:**

- ONE (1) WEEK PRIOR TO THE BEGINNING OF THE TRAFFIC INSTALLATION, LOOP CUTTING, OR TURN ON OF A NEW SIGNAL, THE CONTRACTOR SHALL NOTIFY:  
  
 MANATEE COUNTY PUBLIC WORKS DEPARTMENT  
 MANATEE COUNTY PROJECT MANAGEMENT DIVISION  
 1026 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
- AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING DEPARTMENTS TO INFORM THEM OF CONSTRUCTION OPERATIONS:  
  
 MANATEE COUNTY TRAFFIC OPERATIONS DIVISION:  
 MR. AARON BURKETT 941-708-7509  
  
 MANATEE COUNTY TRAFFIC ENGINEERING DIVISION:  
 MR. VISHAL KAKKAD 941-749-3500
- 48 HOURS PRIOR TO CONTRACT START DATE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES IN WRITING GIVING THE LOCATION, START DATE AND EMERGENCY NUMBERS FOR AFTER HOURS REPAIRS:  
  
 MANATEE COUNTY SHERIFF'S OFFICE  
 515 11TH STREET WEST  
 BRADENTON, FLORIDA 34205  
 941-747-3011
- THE CONTRACTOR SHALL PERFORM ALL WORK AS PER FDOT SPECIFICATIONS DATED JULY, 2020, AND THE FY 2020-21 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD 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.
- THE CONTRACTOR SHALL OBTAIN A COPY OF MANATEE COUNTY'S LATEST "TRAFFIC INFRASTRUCTURE DESIGN GUIDE" THROUGH THE COUNTY PROJECT MANAGER PRIOR TO ORDERING MATERIALS AND/OR EQUIPMENT. CONTACT THE MANATEE COUNTY TRAFFIC OPERATIONS DIVISION, MR. AARON BURKETT, 941-709-7506 FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR MUST NOTIFY THE TRAFFIC OPERATIONS DIVISION VIA THE PROJECT MANAGER AT LEAST FIVE (5) BUSINESS DAYS IN ADVANCE TO SCHEDULE THE INITIAL POWER SERVICE CONNECTION AND/OR TRAFFIC SIGNAL INSPECTION.
- THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR THE SIGNAL MAINTENANCE, TIMING AND OPERATION OF ANY AND ALL SIGNALS AND SIGNAGE FROM THE COMMENCEMENT TO THE ACCEPTANCE OF THE PROJECT (I.E.: EXISTING LOOPS CUT, SYSTEM COMMUNICATION TERMINATED, LANE OR PAVEMENT MODIFICATIONS, PEDESTRIAN MODIFICATIONS, TRAFFIC SIGNAL SCHOOL FLASHER, WARNING FLASHER, ROADWAY LIGHTING, COUNT STATIONS, AND ANY OTHER TRAFFIC RELATED DEVICE LOCATED WITHIN THE CONSTRUCTION ZONE). MANATEE COUNTY WILL ASSIST IN PROVIDING EXISTING SYSTEM TIMES WHEN RESPONSIBLE.
- PRIOR TO ORDERING MATERIALS, THE SIGNAL CONTRACTOR SHALL CONTACT THE TRAFFIC OPERATIONS DIVISION THROUGH THE PROJECT MANAGEMENT DEPARTMENT AND VERIFY CURRENT COLOR CODES TO BE USED FOR SIGNAL CABLE.
- THE CONTRACTOR SHALL PROVIDE A QUALIFIED TECHNICIAN, TO PERFORM CONSTRUCTION ENGINEERING & INSPECTION SERVICES FOR THE INSTALLATION OF THE TRAFFIC SIGNAL, AND TO CERTIFY THAT ALL WORK HAS BEEN DONE IN ACCORDANCE WITH THE COUNTY'S STANDARDS, SPECIFICATIONS, PERMIT REQUIREMENTS, AND ALL APPLICABLE FEDERAL, STATE AND LOCAL STATUTES, RULES, AND REGULATIONS. IN ADDITION, THE ON-SITE INSPECTOR SHALL BE IMSA LEVEL II CERTIFIED.

- THE SIGNAL CONTRACTOR SHALL BE AVAILABLE TO RESPOND TO TROUBLE CALLS TWENTY-FOUR HOURS A DAY, SEVEN DAYS A WEEK FOR THE DURATION OF THE PROJECT. THE PRIME CONTRACTOR SHALL PROVIDE CONTACT NUMBERS FOR THE SIGNAL CONTRACTOR TO THE TRAFFIC MANAGEMENT DIVISION AT COMMENCEMENT OF PROJECT. FURTHERMORE, WITHIN TWO HOURS OF NOTIFICATION OR DOCUMENTED ATTEMPTED NOTIFICATIONS, THE SIGNAL CONTRACTOR SHALL BE ON SITE MAKING NEEDED REPAIRS OR MODIFICATIONS. FAILURE TO MEET THE TIME REQUIREMENTS SHALL GIVE THE COUNTY, AT ITS DISCRETION, THE RIGHT TO REQUEST ASSISTANCE FROM THE MANATEE COUNTY SHERIFF'S DEPARTMENT TO CONTROL TRAFFIC FOR THE PERIOD OF TIME UNTIL THE CONTRACTOR RESPONDS AND MAKES THE NEEDED REPAIRS, THE INTERSECTION MUST BE RESTORED WITHIN TWENTY-FOUR (24) HOURS AT NO ADDITIONAL COST TO THE COUNTY.
- EXISTING SIGNALIZATION SHALL REMAIN IN PLACE TO THE EXTENT POSSIBLE, INCLUDING VEHICLE ACTUATION AND PEDESTRIAN SIGNAL OPERATION, AND SHALL BE USED FOR MAINTENANCE OF TRAFFIC AS REQUIRED. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY VEHICLE DETECTION FOR ALL APPROACHES AND PHASES THROUGHOUT THE CONSTRUCTION PROJECT. THE DETECTION DEVICES SHALL BE PROPERLY INSTALLED, PROGRAMMED AND TUNED TO ENSURE PROPER OPERATION. THE CONTRACTOR SHALL MAKE ALL ADJUSTMENTS AND REPAIRS AS NEEDED TO ENSURE THE DETECTION IS PROPERLY FUNCTIONING THROUGHOUT THE PROJECT OR UNTIL THE PERMANENT DETECTION IS INSTALLED AND UNTIL MANATEE COUNTY ACCEPTS THE PROJECT. ANY DAMAGE TO THE EXISTING DETECTION SYSTEM AT AN INTERSECTION MUST BE RESTORED WITHIN TWENTY-FOUR (24) HOURS AT NO ADDITIONAL COST TO THE COUNTY.
- THE TYPE OF EQUIPMENT USED IN THE INSTALLATION OF MAST ARMS/FOUNDATIONS, OVERHEAD CANTILEVER SIGNS/FOUNDATIONS, AND THE MOVEMENT/INSTALLATION OF STRAIN POLES SHALL MEET THE FOLLOWING REQUIREMENTS: 1) OVERHEAD LINES SHALL STAY IN PLACE BOTH VERTICALLY AND HORIZONTALLY AND; 2) CONTRACTOR SHALL MEET ALL LATEST APPLICABLE OSHA REQUIREMENTS. ANY COST ASSOCIATED WITH THE TYPE OF EQUIPMENT REQUIRED FOR THIS INSTALLATION IS INCLUDED IN THE RELATED PAY ITEMS.
- CONTRACTOR SHALL SUPPLY ALL MATERIAL SUBMITTALS TO MANATEE COUNTY TRAFFIC OPERATIONS DIVISION PRIOR TO CONSTRUCTION FOR APPROVAL.
- 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 OF PAY 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.
- GROUNDING: ALL GROUND ROD 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 LOCATIONS WITH PERMANENT MARKER SUCH AS AN EPOXY STICKER LOCATED ON THE NEAREST CURB AND PROVIDE AS-BUILT DRAWINGS WITH THE LOCATION OF GROUND RODS MARKED. EQUIPMENT SHALL NOT BE PLACED INTO OPERATIONAL SERVICE UNTIL THE ASSOCIATED GROUNDING SYSTEM HAS BEEN INSPECTED AND APPROVED BY A MEMBER OF THE MANATEE COUNTY TRAFFIC OPERATIONS STAFF.
- GROUND RESISTANCE TESTER, OR OTHER APPROVED MEANS WILL BE USED TO ACQUIRE THE GROUND ROD RESISTANCE. A MEMBER OF THE TRAFFIC OPERATIONS DIVISION STAFF SHALL BE PRESENT DURING THE TEST.
- NOTIFY AT LEAST THREE (3) FULL BUSINESS DAYS PRIOR TO ANY INSTALLATION THAT IS WITHIN THE CLEAR DISTANCE PER OSHA'S CURRENT REQUIREMENTS OF ENERGIZED ELECTRICAL CONDUCTORS. FLORIDA POWER AND LIGHT, AT ITS OPTION, WILL ASSIST THE CONTRACTOR TO COVER UP ENERGIZED CONDUCTORS AT INSTALLATION SITES OR TAKE OTHER SAFETY PRECAUTIONS AS NECESSARY. EXTREME CAUTION SHALL BE EXERCISED AT ALL TIMES IN PERFORMANCE OF WORK AROUND THE PRIMARY HIGH VOLTAGE COMPONENTS.

**MAINTENANCE OF COMMUNICATION NOTES:**

- REMOVE EX. FOC ALONG 26TH AVENUE, FROM 27TH STREET TO EX. SPLICE VAULT AT 15TH STREET, LEAVING EX. CONDUIT IN PLACE.
  - INSTALL "FIBER" PULL BOXES IN NORTHEAST (NE) AND NORTHWEST (NW) QUADRANTS OF 26TH AVENUE AT 27TH STREET.
  - INSTALL PROPOSED CONDUIT VIA DIRECTIONAL BORE ACROSS NORTHERN LEG OF INTERSECTION FROM NE QUADRANT "FIBER" PULL BOX TO NW QUADRANT "FIBER" PULL BOX.
  - INTERCEPT EX. CONDUIT IN NE QUADRANT WITHIN PROPOSED "FIBER" PULL BOX.
  - PULL PROPOSED 36 SM FOC ALONG 26TH AVENUE, FROM 27TH STREET TO EX. SPLICE VAULT AT 15TH STREET.
- PAY ITEM NOTES:**
- 630-2-11:  
ALL CONDUIT RUNS SHOWN ON THE PLANS ARE SCHEMATIC AND FIELD ADJUSTMENTS MAY BE NECESSARY.  
  
ALL UNDERGROUND AND UNDER PAVEMENT CONDUITS SHALL BE SCHEDULE 40 PVC WITH A MINIMUM SIZE OF TWO INCHES UNLESS OTHERWISE SPECIFIED IN THE PLANS. COST FOR PULL WIRE IS INCLUDED UNDER THIS PAY ITEM.  
  
INTERCONNECT CONDUIT INSTALLED USING TRENCHING METHOD SHALL BE COMPOSED OF TWO 2-INCH HDPE CONDUITS.
  - 630-2-12:  
ALL CONDUIT RUNS SHOWN ON THE PLANS ARE SCHEMATIC AND FIELD ADJUSTMENTS MAY BE NECESSARY.  
  
CONDUIT INSTALLED WITH THE DIRECTIONAL BORE METHOD SHALL BE HDPE WITH A MINIMUM SIZE OF TWO-INCHES UNLESS OTHERWISE NOTED IN THE PLANS. COST FOR PULL WIRE IS INCLUDED UNDER THIS PAY ITEM.
  - 633-1-122:  
THIS PAY ITEM SHALL INCLUDE THE FURNISHING AND INSTALLATION OF NEW FIBER OPTIC ROUTE MARKERS AND LOCATE WIRE ALONG THE LENGTH OF THE EXISTING ATMS FIBER OPTIC COMMUNICATION RUN AS SHOWN IN THE PLANS. THIS PAY ITEM SHALL ALSO COVER THE REMOVAL AND DISPOSAL OF EXISTING FIBER OPTIC ROUTE MARKERS AND LOCATE WIRE INSIDE CONDUIT RUNS AND PULL BOX.
  - 632-7-1:  
USE A MINIMUM OF 7 CONDUCTOR SIGNAL CABLE.
  - 635-2-11, 635-2-12, 635-2-13:  
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. USE POLYMER CONCRETE CONSTRUCTION PULL BOXES WITH POLYMER CONCRETE COVERS.  
  
STANDARD PULL BOXES SHALL BE SIZED TO 17"x30"x12". LID LOGOS SHALL READ "MANATEE COUNTY TRAFFIC SIGNAL".  
  
FIBER OPTIC PULL BOXES SHALL BE SIZED TO 24"x36"x36". LID LOGOS SHALL READ "MANATEE COUNTY FIBER OPTIC".  
  
FIBER OPTIC SPLICE BOXES SHALL BE SIZED TO 30"x60"x48". LID LOGOS SHALL READ "MANATEE COUNTY FIBER OPTIC".
  - 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.
  - 646-1-11:  
USE BREAKAWAY ALUMINUM SQUARE BASE ASSEMBLIES WITH ALUMINUM DOORS FOR PEDESTRIAN PEDESTALS. INSIDE DIAMETER OF PEDESTALS SHALL BE FOUR INCHES (4").  
  
USE LOCKING COLLARS WHEN MOUNTING PEDESTRIAN SIGNAL HEADS TO PEDESTRIAN PEDESTALS. USE LOCKING COLLARS WHEN MOUNTING ALUMINUM PEDESTRIAN POLES TO PEDESTRIAN PEDESTAL BASES.

NO.	REVISIONS	DATE	BY	SCALE	DATE	DESIGN ENGINEER	<b>GENERAL NOTES</b>	SHEET NO.
				AS NOTED	MAY 2, 2025	NATHAN J. MOZELESKI, P.E.		T-5
				DESIGNED BY	PROJECT NO.	FL. LICENSE NO.		
				NJM	6096260 5400033	83308		
				LNT	6096560 5400034			



ATKINSRÉALIS  
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(407) 647-7275



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1022 26th Avenue East, Bradenton, FL 34208

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PAY ITEM NOTES (CONT.):

8. 650-1-14, 650-1-19:  
USE SIGNAL HEAD SUPPORTING TUBE THAT IS CAPABLE OF ADJUSTING VERTICALLY A MINIMUM OF 1.5 FEET.  
  
THE EXTERNAL COLOR OF SIGNAL HOUSING SHALL BE BLACK. ALL TRAFFIC SIGNAL HEAD INDICATIONS SHALL BE 12 INCH LED. ALL SIGNAL HEADS SHALL HAVE TUNNEL VISORS AND LOUVERED BACK PLATES WITH 2" YELLOW REFLECTORIZED (TYPE III REFLECTORY) OUTER EDGE BORDER. THE COST FOR THE TUNNEL VISORS AND BACK PLATES SHALL BE INCLUDED UNDER THIS PAY ITEM. DO NOT USE PLASTIC GARBAGE BAGS AS A COVER FOR CONCEALING SIGNAL HEAD.
9. 660-3-11:  
THIS PAY ITEM SHALL INCLUDE ALL ABOVE GROUND EQUIPMENT, INCLUDING MOUNTING HARDWARE AND CABLING, NECESSARY FOR A COMPLETE MICROWAVE VEHICLE DETECTION SYSTEM INSTALLATION, PER THE APPLICATION NOTED IN THE PLANS:  
STOP BAR DETECTION: WAVETRONIX SMARTSENSOR MATRIX;  
ADVANCED DETECTION: WAVETRONIX SMARTSENSOR ADVANCE;  
MID-BLOCK DETECTION: WAVETRONIX EXPANSE SYSTEM XP20 SENSOR
10. 660-3-12:  
THIS PAY ITEM SHALL INCLUDE ALL IN-CABINET EQUIPMENT, INCLUDING POWER SUPPLIES, SURGE PROTECTION AND GROUNDING, AND MEDIA CONVERTERS, NECESSARY FOR A COMPLETE MICROWAVE VEHICLE DETECTION SYSTEM INSTALLATION, PER THE APPLICATION NOTED IN THE PLANS:  
STOP BAR / ADVANCED DETECTION: WAVETRONIX ARC 6;  
MID-BLOCK DETECTION: WAVETRONIX ARC 6.
11. 670-5-111:  
THIS PAY ITEM SHALL INCLUDE A FULLY OUTFITTED CUBIC | TRAFFICWARE (FORMERLY NAZTEC) NEMA TS-2, TYPE 1 SIZE VI CABINET WITH FRONT AND REAR DOOR ACCESS. THE PROVIDED CONTROLLER SHALL BE A CUBIC | TRAFFICWARE TS-2, TYPE 1 980 ATC MODEL WITH ADDITIONAL CONNECTED VEHICLE MODULE LICENSES PRELOADED.  
  
COORDINATE WITH MANATEE COUNTY TRAFFIC ENGINEERING DIVISION TO OBTAIN THE LATEST TRAFFIC SIGNAL TIMING INFORMATION AND PLANS FROM THE CENTRAL ATMS. ALL NECESSARY DATABASE CONVERSION AND CONFIGURATION EFFORTS SHALL BE INCLUDED AS PART OF THIS PAY ITEM.
12. 682-1-113:  
THIS PAY ITEM SHALL INCLUDE ALL EQUIPMENT NECESSARY FOR A COMPLETE CCTV CAMERA INSTALLATION, INCLUDING A BOSCH ITS 7000 STARLITE SERIES - 7000I WITH 1080P AND 30X40 ZOOM, "CANDY CANE" MOUNTING ARM WITH BRACKET, POWER OVER ETHERNET (POE+) INJECTOR, SURGE PROTECTION AND GROUNDING EQUIPMENT, AND CABLING.
13. 684-1-1:  
THIS PAY ITEM SHALL INCLUDE A SIEMENS RUGGEDCOM RSG920P MANAGED FIELD ETHERNET SWITCH (MFES) WITH DIN RAIL MOUNTING KIT, HIGH-VOLTAGE POWER SUPPLY, AND SFP UPLINK PORT OPTIONS (MODEL NO. 6GK6092-0PS23-0BA0-Z A05+B05+C02+D02).
14. 685-1-13:  
THIS PAY ITEM SHALL INCLUDE AN ALPHA TECHNOLOGIES FXM HP 1100 UNINTERRUPTIBLE POWER SUPPLY (UPS) WITH FXM COMMUNICATION MODULE, 12 VOLT BATTERY ARRAY, AND SEPARATE "PIGGYBACK" CABINET ATTACHED TO THE SIDE OF THE TRAFFIC SIGNAL CONTROLLER CABINET.

ALL WORK SHOWN IN THE PLANS RELATED TO THE REPLACEMENT OF THE EXISTING ATMS FIBER OPTIC COMMUNICATION ALONG 26TH AVE E. SHALL BE CONSIDERED AN BID OPTION (ALTERNATIVE LINE ITEM) AND MAY BE INCLUDED OR REMOVED FROM THE PROJECT AT THE SOLE DISCRETION OF THE COUNTY. COORDINATE WITH THE PROJECT MANAGER TO DETERMINE SPECIFIC LIMITS OF WORK TO BE ADDED OR REMOVED.

ABBREVIATIONS

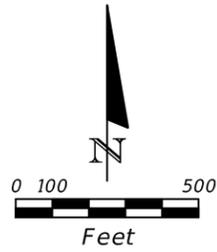
ATC	ADVANCED TRANSPORTATION CONTROLLER
ATMS	ADVANCED TRAFFIC MANAGEMENT SYSTEM
EVP	EMERGENCY VEHICLE PRE-EMPTION
FO	FIBER OPTIC
IMSA	INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION
LED	LIGHT-EMITTING DIODE
MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
PODL	POWER OVER DATA LINE
POE	POWER OVER ETHERNET
RPMU	REMOTE POWER MANAGEMENT UNIT
SM	SINGLE MODE
SPD	SURGE PROTECTIVE DEVICE
THHN	THERMOPLASTIC HIGH HEAT-RESISTANT NYLON
VDC	VOLTS, DIRECT CURRENT
VDS	VEHICLE DETECTION SYSTEM

LEGEND

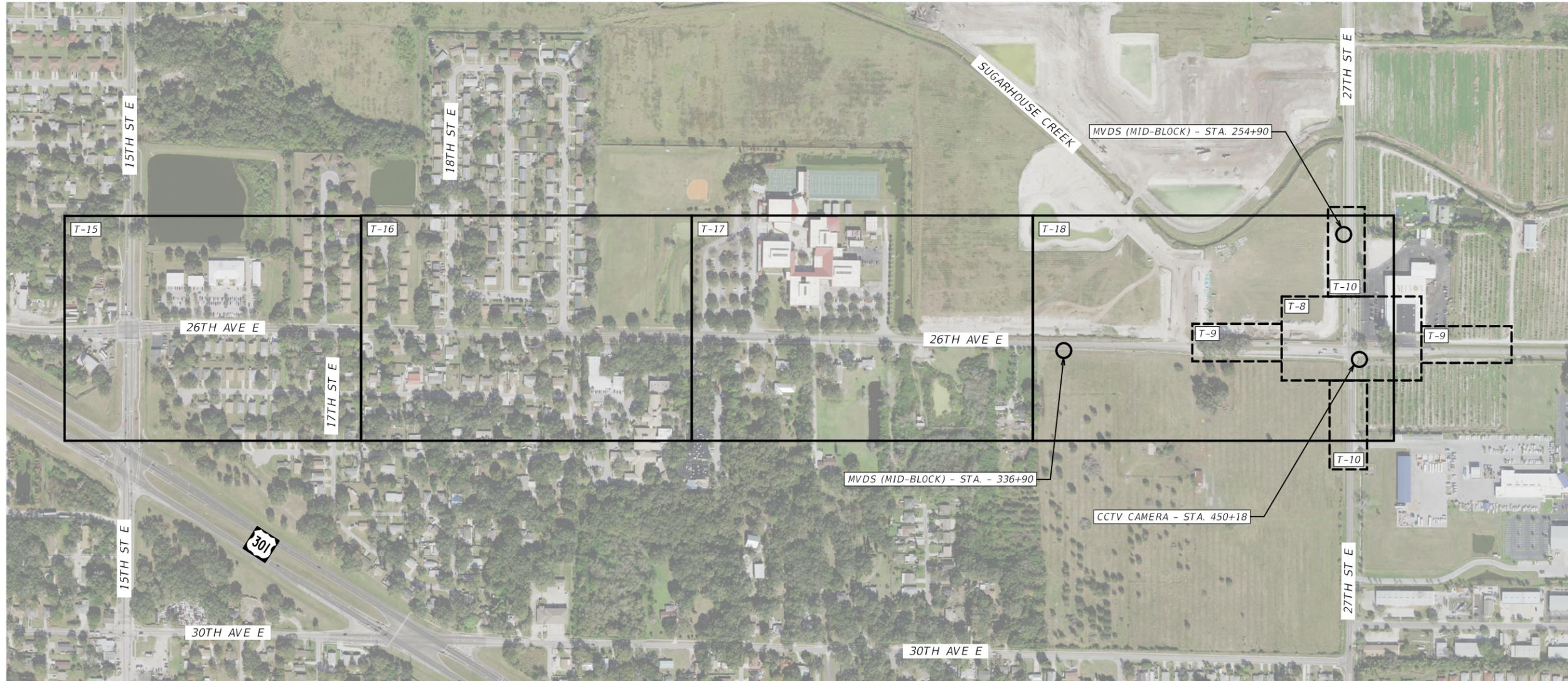
— · · · · ·	PROPOSED CONDUIT (OPEN TRENCH)
— · · · · ·	PROPOSED CONDUIT (DIRECTIONAL BORE)
---∅---∅---	EXISTING CONDUIT
	PROPOSED TRAFFIC SIGNAL CABINET
	PROPOSED PULL BOX
	PROPOSED FIBER OPTIC PULL BOX
	EXISTING FIBER OPTIC PULL BOX
	EXISTING FIBER OPTIC SPLICE VAULT
	PEDESTRIAN DETECTOR POST
	PEDESTRIAN SIGNAL HEAD
	TRAFFIC SIGNAL HEAD
	PROPOSED VEHICLE DETECTION ZONE
	PROPOSED MAST ARM
	PROPOSED CCTV
	PROPOSED MVDS (WAVETRONIX SMART EXPANSE XP20)
	PROPOSED MVDS (WAVETRONIX MATRIX SENSOR / WAVETRONIX SMARTSENSOR ADVANCE)
	PROPOSED OVERHEAD STREET NAME SIGN
	PROPOSED GENERATOR CABINET
	PROPOSED GROUND MOUNT SIGN

NO.	REVISIONS	DATE	BY	SCALE	<b>AtkinsRéalis</b> ATKINSRÉALIS 482 SOUTH KELLER RD, ORLANDO, FL 32810 (407) 647-7275	DATE	PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES <small>1022 26th Avenue East, Bradenton, FL 34208</small> Regalado, Jose E	DESIGN ENGINEER	<h2 style="margin: 0;">GENERAL NOTES</h2>	SHEET NO.	
				AS NOTED		MAY 2, 2025				NATHAN J. MOZELESKI, P.E.	
				DESIGNED BY		PROJECT NO.				FL. LICENSE NO.	
				DRAWN BY		6096260 5400033				83308	
				CHECKED BY		6096560 5400034					T-6

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- SIGNALIZATION PLANS (1" = 40' SCALE)
- INTELLIGENT TRANSPORTATION SYSTEMS PLANS (1" = 100' SCALE)



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NO.	REVISIONS	DATE	BY	SCALE	DATE	DESIGN ENGINEER	SHEET NO.	
				AS NOTED	MAY 2, 2025	NATHAN J. MOZELESKI, P.E.	<b>PROJECT LAYOUT SHEET</b>	
				DESIGNED BY NJM	PROJECT NO. 6096260 5400033 6096560 5400034	FL. LICENSE NO. 83308		
				DRAWN BY ALC	 ATKINSRÉALIS 482 SOUTH KELLER RD, ORLANDO, FL 32810 (407) 647-7275	T-7		
				CHECKED BY PJM				 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East, Bradenton, FL 34208

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**REMOVAL PAY ITEMS**

641-2-60	2 EA
646-1-60	8 EA
670-5-600	1 AS

1-1 EL 12.95

POLE LOCATION=  
STA. 348+59.07  
OFF. 74.0' (LT)

1 EA	649-21-15
2 EA	660-3-12
1 EA	700-5-22

**PED. PEDESTAL G**

1 EA	646-1-11
1 EA	665-1-11

2 RUNS at 8 LF 630-2-11  
(1) PED. SIGNAL-H  
(1) PED. DETECTION-L

2 EA 635-2-11  
7 RUNS at 5 LF 630-2-11  
(2) SIGNAL/PED. SIGNAL-H  
(1) PED. DETECTION-L  
(1) ITS DETECTION-L  
(1) ILLUMINATED SIGN-H  
(2) SPARE-H/L

2 RUNS at 25 LF 630-2-11  
(1) PED. SIGNAL-H  
(1) PED. DETECTION-L

7 RUNS at 114 LF 630-2-12  
(2) SIGNAL/PED. SIGNAL-H  
(1) PED. DETECTION-L  
(1) ITS DETECTION-L  
(1) ILLUMINATED SIGN-H  
(2) SPARE-H/L

**PED. POST F**

1 EA	646-1-12
1 EA	665-1-11

7 RUNS at 111 LF 630-2-12  
(2) SIGNAL/PED. SIGNAL-H  
(1) PED. DETECTION-L  
(1) ITS DETECTION-L  
(1) ILLUMINATED SIGN-H  
(2) SPARE-H/L

MATCHLINE (A) - REFER TO T-9

26TH AVE EAST

MATCHLINE (C) - REFER TO T-10

27TH ST EAST

**PED. PEDESTAL A**

646-1-11	1 EA
665-1-11	1 EA

630-2-11 2 RUNS at 15 LF  
(1) PED. SIGNAL-H  
(1) PED. DETECTION-L

635-2-11 2 EA

**PED. POST B**

646-1-12	1 EA
665-1-11	1 EA

630-2-11 1 RUN at 9 LF  
(1) PED. DETECTION-L

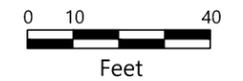
630-2-11 5 RUNS at 8 LF  
(2) SIGNAL/PED. SIGNAL-H  
(2) ITS DETECTION-L  
(1) ILLUMINATED SIGN-H

1-4 EL 12.90

POLE LOCATION=  
STA. 449+92.49  
OFF. 31.5' (LT)

649-21-6	1 EA
660-3-12	3 EA
700-5-22	1 EA

630-2-12 7 RUNS at 109 LF  
(2) SIGNAL/PED. SIGNAL-H  
(1) PED. DETECTION-L  
(1) ITS DETECTION-L  
(1) ILLUMINATED SIGN-H  
(2) SPARE-H/L



MATCHLINE (A) - REFER TO T-9

MATCHLINE (B) - REFER TO T-9

5 RUNS at 16 LF 630-2-11  
(2) SIGNAL/PED. SIGNAL-H  
(1) PED. DETECTION-L  
(1) CCTV/ITS DETECTION-L  
(1) ILLUMINATED SIGN-H

26TH AVE EAST

1-3 EL 13.11

POLE LOCATION=  
STA. 450+18.43  
OFF. 60.2' (RT)

649-21-3	1 EA
660-3-12	2 EA
700-5-22	1 EA

**PED. PEDESTAL E**

1 EA	646-1-11
1 EA	665-1-11

2 RUNS at 10 LF 630-2-11  
(1) PED. SIGNAL-H  
(1) PED. DETECTION-L

2 RUNS at 10 LF 630-2-11  
2 EA 635-2-11  
(1) PED. SIGNAL-H  
(1) PED. DETECTION-L

**PED. PEDESTAL D**

1 EA	646-1-11
1 EA	665-1-11

4 RUNS at 15 LF 630-2-11  
(1) SIGNAL-H  
(1) DETECTION-L  
(1) ITS DETECTION-L  
(1) ILLUMINATED SIGN-H

1-2 EL 12.84

POLE LOCATION=  
STA. 348+69.74  
OFF. 59.9' (RT)

1 EA	649-21-6
1 EA	700-5-22

635-2-11 3 EA

630-2-11 2 RUNS at 23 LF  
(1) PED. SIGNAL-H  
(1) PED. DETECTION-L

**PED. PEDESTAL C**

646-1-11	1 EA
665-1-11	2 EA

630-2-11 3 RUNS at 16 LF  
(1) SIGNAL/PED. SIGNAL-H  
(1) PED. DETECTION-L  
(1) CCTV/ITS DETECTION-L

630-2-11	11 RUNS at 10 LF
632-7-1	1 PI
639-1-121	1 AS
639-4-6	1 EA
641-2-12	1 EA

660-3-11	1 EA
670-5-111	1 EA
684-1-1	1 EA
685-1-13	1 EA
685-2-1	1 EA

(2) SIGNAL/PED. SIGNAL-H  
(2) PED. DETECTION-L  
(2) CCTV/ITS DETECTION-L  
(1) ILLUMINATED SIGN-H  
(1) GROUNDING  
(3) SPARE  
FOR ALL CONNECTIONS TO FOC, REFER TO INTELLIGENT TRANSPORTATION SYSTEM PLANS

NO.	REVISIONS	DATE	BY	SCALE
				AS NOTED
				DESIGNED BY NJM
				DRAWN BY LNT
				CHECKED BY

**AtkinsRéalis**  
ATKINSREALIS  
482 SOUTH KELLER RD, ORLANDO, FL 32810  
(407) 647-7275

DATE	MAY 2, 2025
PROJECT NO.	6096260 5400033 6096560 5400034

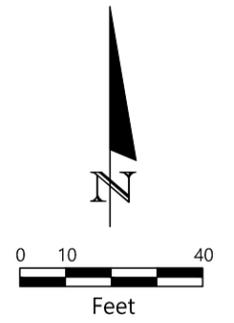
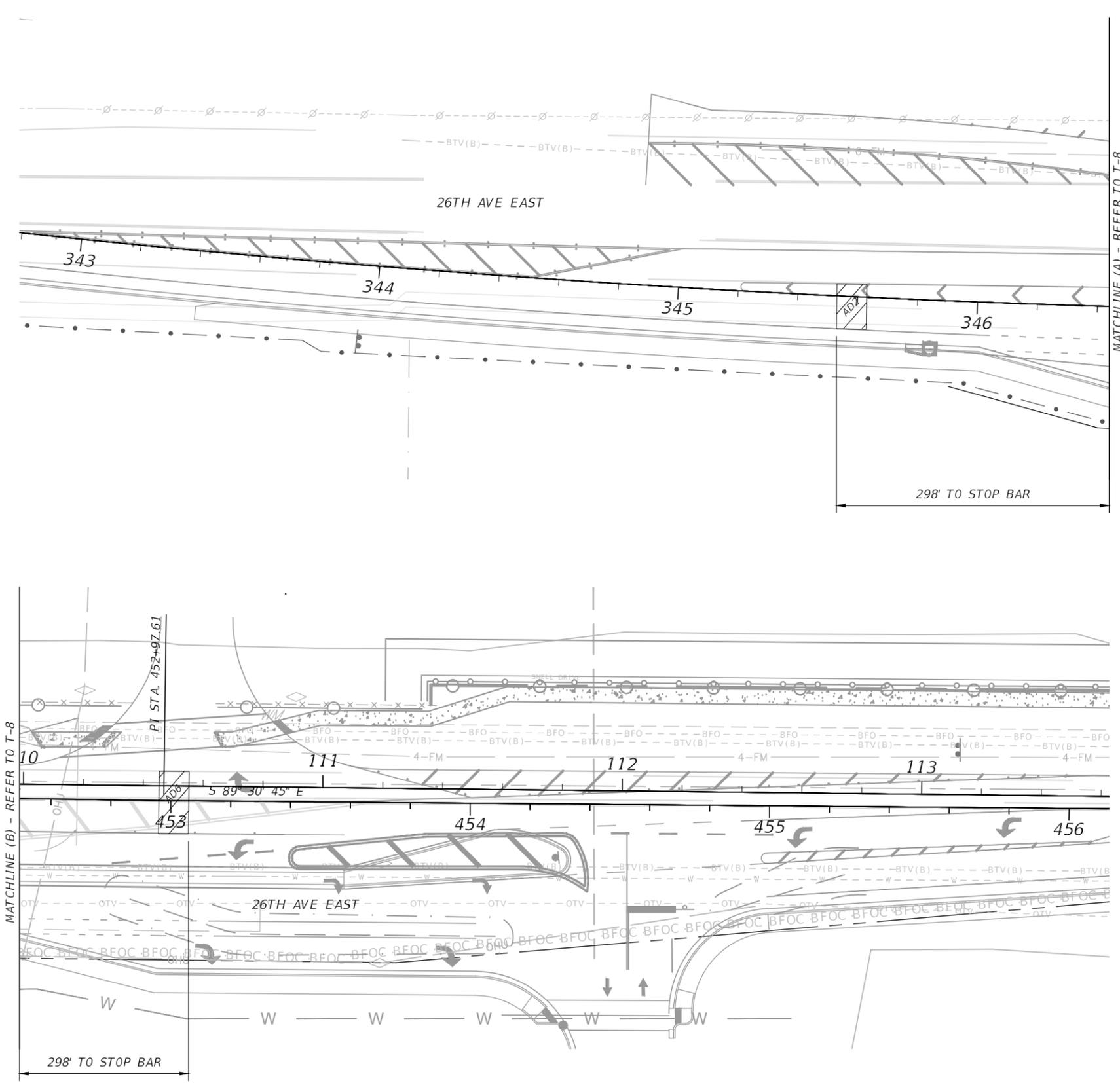
**Manatee County Florida**  
PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208  
Regalado, Jose E

DESIGN ENGINEER	NATHAN J. MOZELESKI, P.E.
FL. LICENSE NO.	83308

**SIGNALIZATION PLANS (1)**

SHEET NO.	T-8
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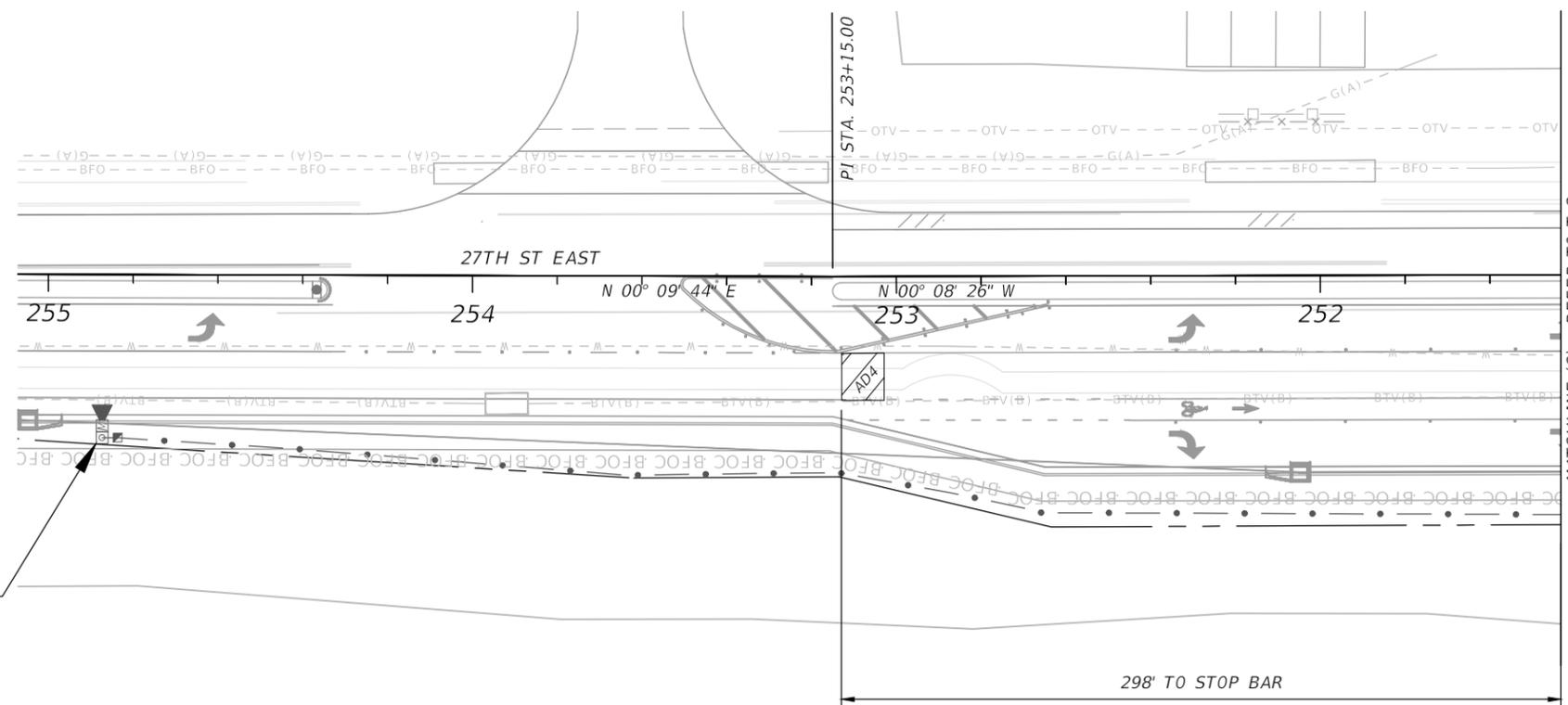
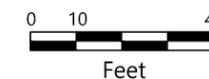
DATE  
 MAY 2, 2025  
 PROJECT NO.  
 6096260 5400033  
 6096560 5400034

PUBLIC WORKS DEPARTMENT  
 ENGINEERING SERVICES  
 1022 26th Avenue East, Bradenton, FL 34208  
 Regalado, Jose E

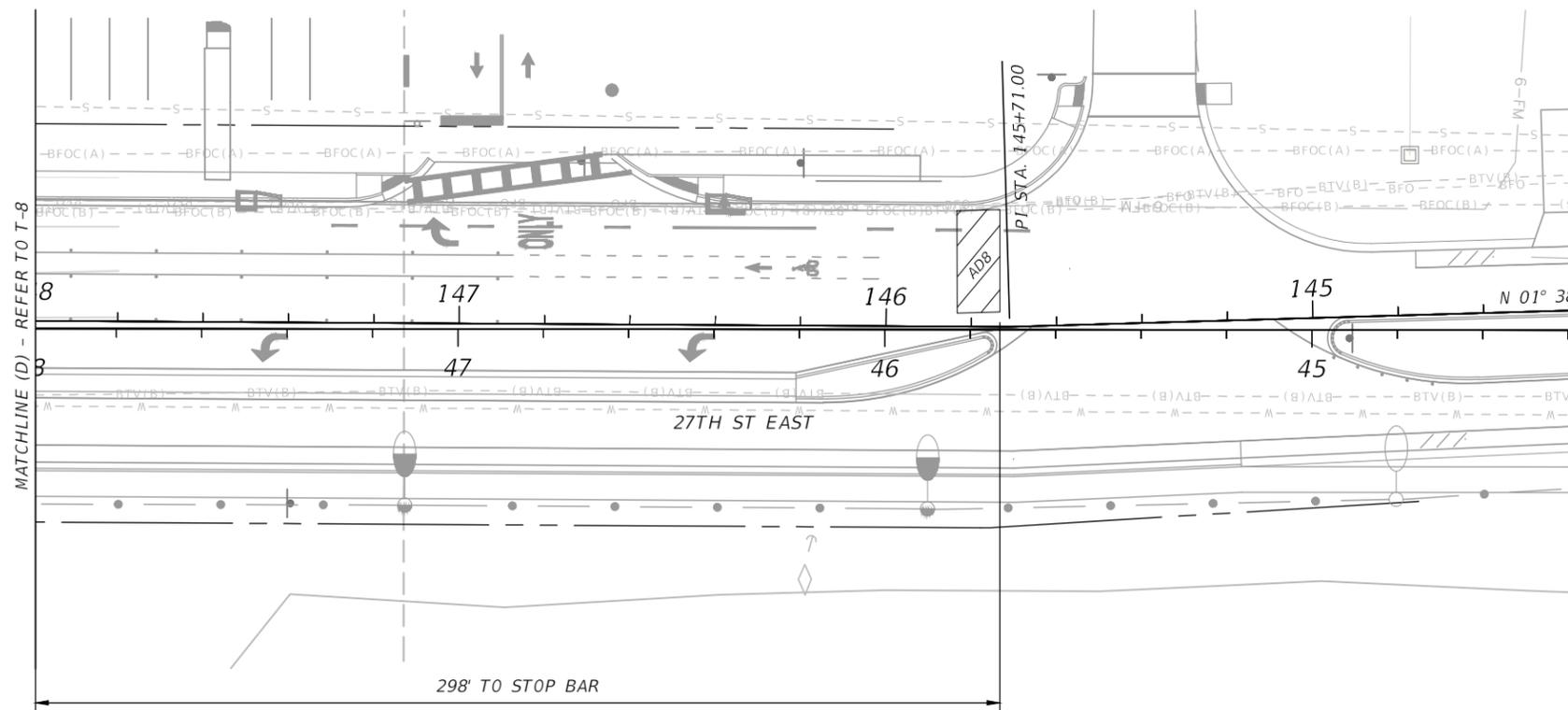
DESIGN ENGINEER  
 NATHAN J.  
 MOZELESKI, P.E.  
 FL. LICENSE NO.  
 83308

**SIGNALIZATION PLANS (2)**  
 SHEET NO.  
 T-9

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REFER TO ITS PLANS FOR ALL WORK RELATED TO THE INSTALLATION OF PROPOSED RADAR.



NO.	REVISIONS	DATE	BY	SCALE
				AS NOTED
				DESIGNED BY NJM
				DRAWN BY LNT
				CHECKED BY

**AtkinsRéalis**  
 ATKINSRÉALIS  
 482 SOUTH KELLER RD, ORLANDO, FL 32810  
 (407) 647-7275

DATE	PROJECT NO.
MAY 2, 2025	6096260 5400033
	6096560 5400034

**Manatee County FLORIDA**  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING SERVICES  
 1022 26th Avenue East, Bradenton, FL 34208  
 Regalado, Jose E

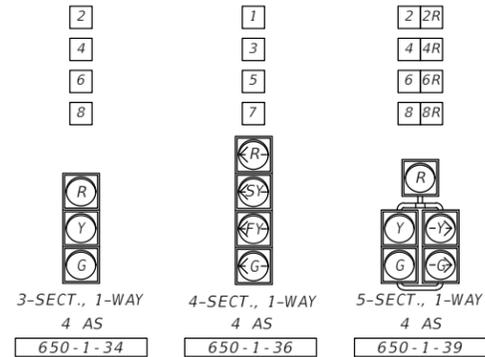
DESIGN ENGINEER	FL. LICENSE NO.
NATHAN J. MOZELESKI, P.E.	83308

**SIGNALIZATION PLANS (3)**

SHEET NO.
T-10

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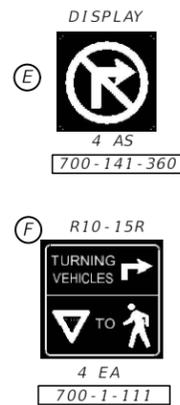
VEHICULAR SIGNALIZATION DETAILS



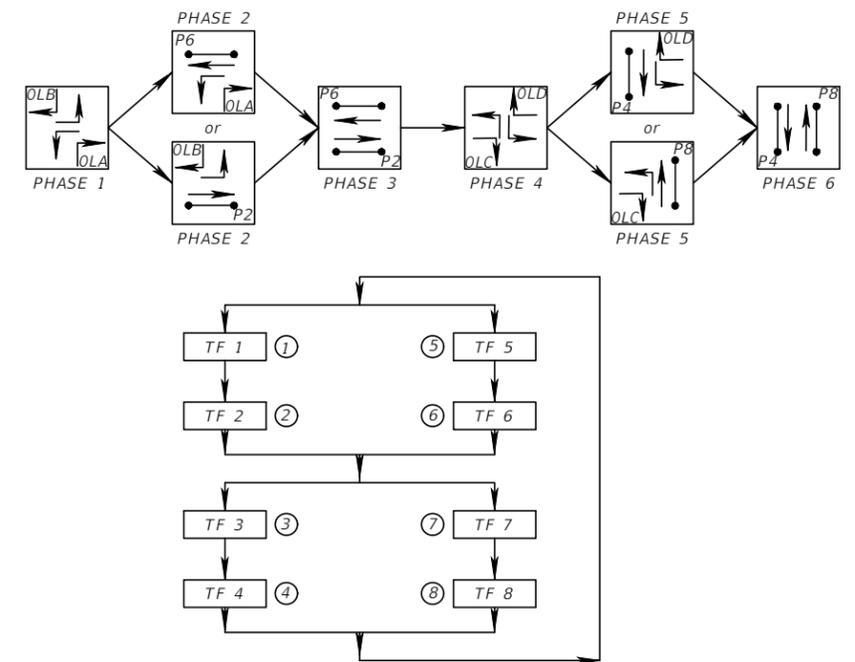
INTERNALLY ILLUMINATED SIGN DETAILS



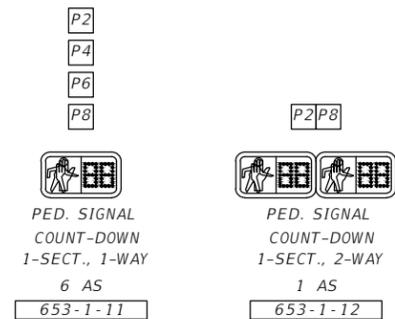
SIGN DETAILS



SOP 10



PEDESTRIAN SIGNALIZATION DETAILS



CONTROLLER PHASE	1	2	3	4	5	6	7	8
SIGNAL PHASE NUMBER	1	2	3	4	5	6	7	8
DIRECTION	WBL	EBTR	NBL	SBTR	EBL	WBTR	SBL	NBTR
MINIMUM GREEN	5	10	5	15	5	10	5	15
EXTENSION	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
MAXIMUM GREEN 1	20	50	20	50	20	50	20	50
MAXIMUM GREEN 2								
YELLOW CLEARANCE	4.0	4.0	3.7	3.7	4.0	4.0	3.7	3.7
ALL RED	2.6	2.6	3.0	3.0	2.6	2.6	3.0	3.0
PEDESTRIAN WALK		7		7		7		7
PED. CLEARANCE		22		22		18		24
RECALL		MIN				MIN		
LEAD PED INTERVAL		9		8		9		10

CONTROLLER OPERATIONS NOTES:

- MAJOR STREET IS 26TH AVENUE EAST, (MOVEMENTS 1, 2, 5, AND 6), AND MINOR STREET IS 27TH STREET EAST, (MOVEMENTS 3, 4, 7, AND 8).
- CONTRACTOR SHALL WIRE AND PROGRAM THE BLANK-OUT SIGN TO OPERATE AS FOLLOWS:
  - DURING RIGHT-TURN OVERLAP PHASING (1/5 & 3/7) - ALL BLANK-OUT SIGNS DISPLAY - BLANK
  - DURING DUAL ENTRY THROUGH PHASES 2 & 6 (ONLY DURING PEDESTRIAN ACTUATION) - BLANK-OUTS FOR PHASES 2 & 6 DISPLAY THE RIGHT TURN RESTRICTION SYMBOL FOR 5-7 SEC PRIOR TO THE BEGINNING OF P AND DURING THE "WALK" PORTION OF THE PEDESTRIAN INTERVAL
  - DURING DUAL ENTRY THROUGH PHASES 4 & 8 (ONLY DURING PEDESTRIAN ACTUATION) - BLANK-OUTS FOR PHASES 4 & 8 DISPLAY THE RIGHT TURN RESTRICTION SYMBOL FOR 5-7 SEC PRIOR TO THE BEGINNING OF P AND DURING THE "WALK" PORTION OF THE PEDESTRIAN INTERVAL.
  - ALL OTHER TIMES - SIGNS DISPLAY - BLANK (NO PEDESTRIAN ACTIVATION)

FTP-68B-06, 8 REQUIRED (INCLUDED W/ 665-1-11)

PED ID	PHASE	POLE TYPE	STA.	OFFSET	SIDE OF ROADWAY
A	P - 6	PEDESTAL	449+80	48.7'	LT
B	P - 8	POST	449+79	32.9'	LT
C	P - 8	PEDESTAL	449+74	88.5'	RT
	P - 2				
D	P - 2	PEDESTAL	348+71	53.3'	RT
E	P - 4	PEDESTAL	348+54	39.3'	RT
F	P - 4	POST	348+51	53.1'	LT
G	P - 6	PEDESTAL	348+66	79.8'	LT

DETECTOR	DETECTION ZONE	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC.)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH	ZONE LOCATION FROM STOP BAR
AD2	AD2	EB	PULSE	2	-	2	ADV DETECTION	10'	298'
AD4	AD4	SB	PULSE	4	-	4	ADV DETECTION	10'	298'
AD6	AD6	WB	PULSE	6	-	6	ADV DETECTION	10'	298'
AD8	AD8	NB	PULSE	8	-	8	ADV DETECTION	10'	298'
Z2	Z5	EB	PULSE	5	-	5	STOP BAR	40'	0'
	Z2	EB	PULSE	2	-	2	STOP BAR	40'	0'
	Z2R	EB	PULSE	2	-	2	STOP BAR	40'	0'
Z4	Z7	SB	PULSE	7	-	7	STOP BAR	40'	0'
	Z4	SB	PULSE	4	-	4	STOP BAR	40'	0'
Z6	Z4R	SB	PULSE	4	8	4	STOP BAR	40'	0'
	Z1	WB	PULSE	1	-	1	STOP BAR	40'	0'
Z8	Z6	WB	PULSE	6	-	6	STOP BAR	40'	0'
	Z6R	WB	PULSE	6	8	6	STOP BAR	40'	0'
	Z3	NB	PULSE	3	-	3	STOP BAR	40'	0'
Z8	Z8	NB	PULSE	8	-	8	STOP BAR	40'	0'
	Z8R	NB	PULSE	8	-	8	STOP BAR	40'	0'

NOTES:

- WAVETRONIX SMARTSENSORS MATRIX UNITS WILL BE UTILIZED FOR ALL STOP BAR DETECTION, WHEREAS ADVANCED DETECTION FOR SIGNAL PERFORMANCE MEASURES WILL UTILIZE THE WAVETRONIX SMARTSENSOR ADVANCE UNITS.

INTERSECTION:  
27TH STREET EAST AT  
26TH AVENUE EAST

NO.	REVISIONS	DATE	BY	SCALE	DATE	DESIGN ENGINEER	SHEET NO.
				AS NOTED	MAY 2, 2025	NATHAN J. MOZELESKI, P.E.	T-11
				DESIGNED BY NJM	PROJECT NO. 6096260 5400033	FL. LICENSE NO. 83308	
				DRAWN BY LNT	6096560 5400034		
				CHECKED BY			



ATKINSRÉALIS  
482 SOUTH KELLER RD, ORLANDO, FL 32810  
(407) 647-7275



PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER  
NATHAN J. MOZELESKI, P.E.  
FL. LICENSE NO. 83308

SIGNALIZATION PLANS (4)

SHEET NO.

T-11

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STANDARD MAST ARM ASSEMBLIES DATA TABLE											Table Date 11-01-16
	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.)	
1-1	A70/S - P5/S	A70/S	-	-	-	-	-	P5/S	-	22	DS/14/5
1-2	A50/S - P3/S	A50/S	-	-	-	-	-	P3/S	-	22	DS/12/4.5
1-3	A40/S - P2/S	A40/S	-	-	-	-	-	P2/S	-	22	DS/12/4.5
1-4	A50/S - P3/S	A50/S	-	-	-	-	-	P3/S	-	22	DS/12/4.5

NOTES:

- 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.
- 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.
- 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.
- WORK WITH INDEX 649-030 AND 649-031.
- DESIGN WIND SPEED = 150 MPH.

NO.	REVISIONS	DATE	BY	SCALE	DESIGNED BY	DATE	 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East, Bradenton, FL 34208	DESIGN ENGINEER	<b>STANDARD MAST ARM ASSEMBLIES DATA TABLE</b>	SHEET NO.
				AS NOTED	HARDESTY & HANOVER, LLC 5110 EISENHOWER BLVD. SUITE 310 TAMPA, FL 33634 (813)749-0823	DEC 2021		JAMES P. NEWBERRY, P.E.		T-13
				DJH		PROJECT NO. 6096260 5400033 6096560 5400034 6101900		FL. LICENSE NO.		
				DJH		73365				
				JPN						

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SIGN NAME <sub>A</sub>		QTY	SIGN NO.	STATION(S)
PANEL	BORDER			none
WIDTH 7'-0"	WIDTH 0.5"			
HEIGHT 2'-6"	RADII 3"			
LEGEND White	COLOR White			
COLOR Green				
SYMBOL(S)	ANGLE	X	Y	WID HT
SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE	AVERAGE LENGTH



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	2	7	t	h	S	t	E	L											
SPACE	12.9	20.8	28.8	35.6	40.8	46.8	55	59.2	65.2	58.2									
COPY	2	6	0	0	L														
SPACE	6.7	12.9	18.9	25.2	23.5														
COPY	2	5	0	0	L														
SPACE	53.7	59.9	66	72.2	23.6														
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			

SIGN NAME <sub>C</sub>		QTY	SIGN NO.	STATION(S)
PANEL	BORDER			none
WIDTH 7'-0"	WIDTH 0.5"			
HEIGHT 2'-6"	RADII 3"			
LEGEND White	COLOR White			
COLOR Green				
SYMBOL(S)	ANGLE	X	Y	WID HT
SIGN NO.	NO. OF POSTS	EDGE OF LANE CLEARANCE	COLUMN SIZE	AVERAGE LENGTH



NO. OF LIGHT FIXTURES	FIXTURE SPACING	PHOTOMETRIC CURVE	WATT	VOLTAGE

COPY	2	6	t	h	A	v	e	E	L										
SPACE	7.8	16	24.1	30.8	36.1	42.1	51.2	59	64.2	70.2	68.3								
COPY	2	6	0	0	L														
SPACE	7.8	14	20	26.3	23.5														
COPY	2	7	0	0	L														
SPACE	52.9	58.8	64.9	71.1	23.2														
COPY																			
SPACE																			
COPY																			
SPACE																			
COPY																			
SPACE																			

NO.	REVISIONS	DATE	BY

SCALE	AS NOTED
DESIGNED BY	NJM
DRAWN BY	LNT
CHECKED BY	---

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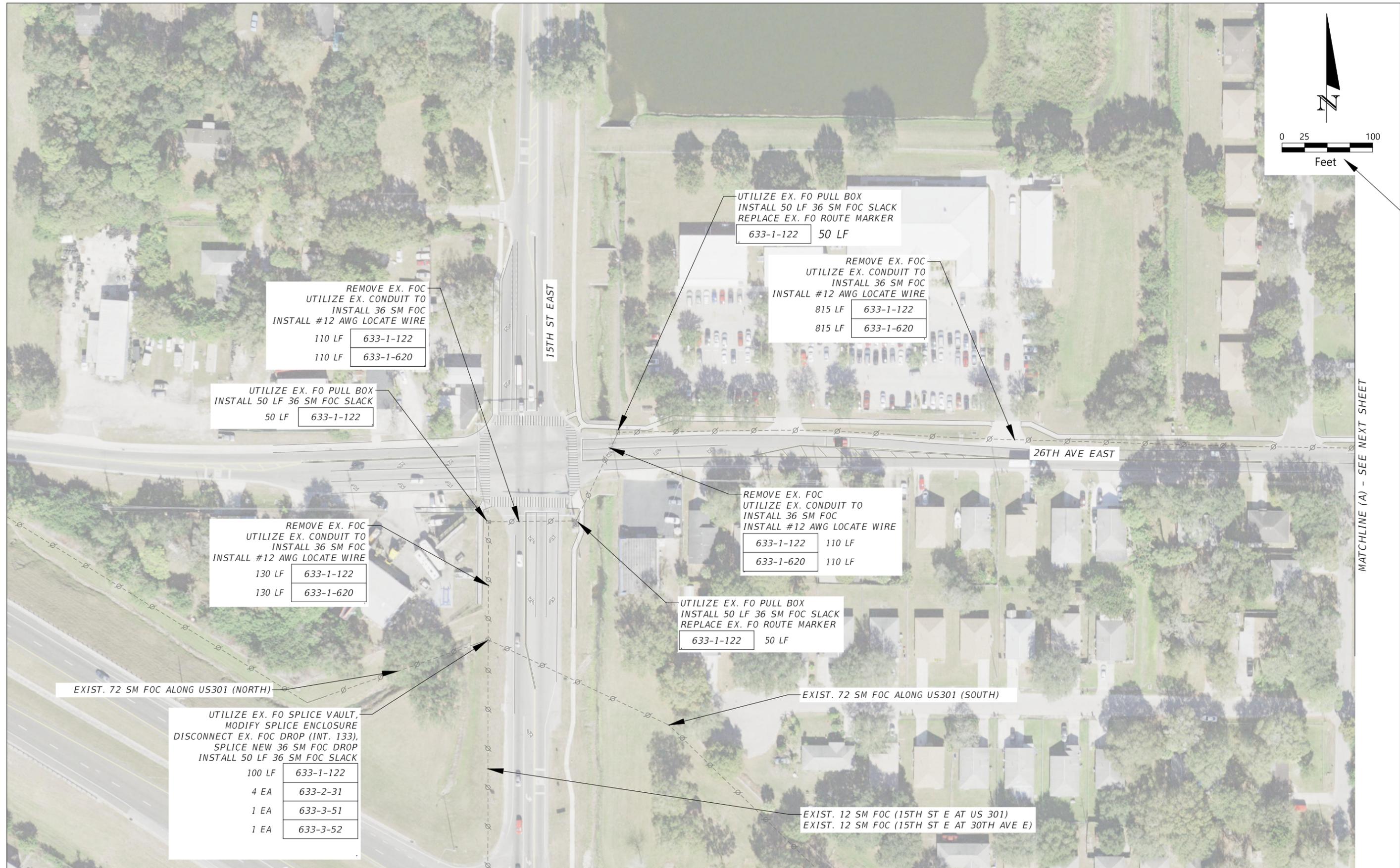
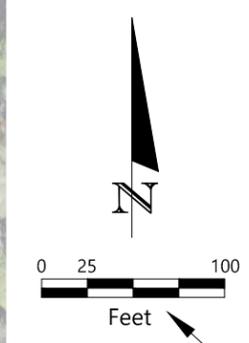
DATE	MAY 2, 2025
PROJECT NO.	6096260 5400033 6096560 5400034

**Manatee County**  
 FLORIDA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING SERVICES  
 1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER	NATHAN J. MOZELESKI, P.E.
FL. LICENSE NO.	83308

**GUIDE SIGN WORKSHEET**

SHEET NO.	T-14
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MATCHLINE (A) - SEE NEXT SHEET

UTILIZ  
INSTA  
REPLA

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	NJM		
	ALC		
	PJM		

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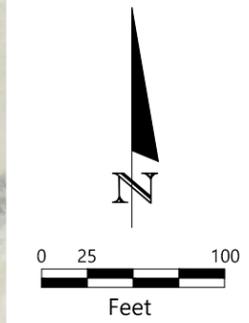
DATE
MAY 2, 2025

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 FLORIDA  
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 ENGINEERING SERVICES  
 1022 26th Avenue East, Bradenton, FL 34208  
 Regalado, Jose E

DESIGN ENGINEER
NATHAN J. MOZELESKI, P.E.
FL. LICENSE NO.
83308

**INTELLIGENT TRANSPORTATION SYSTEMS PLANS (1)**

SHEET NO.
T-15



NO.	REVISIONS	DATE	BY	SCALE	DATE	DESIGN ENGINEER	SHEET NO.
				AS NOTED			
				DESIGNED BY	MAY 2, 2025	NATHAN J. MOZELESKI, P.E.	INTELLIGENT TRANSPORTATION SYSTEMS PLANS (2)
				DRAWN BY	PROJECT NO.	FL. LICENSE NO.	
				CHECKED BY	6096260 5400033 6096560 5400034	83308	

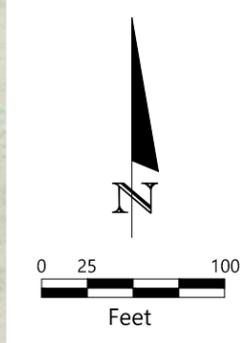
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(407) 647-7275

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PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208  
Regalado, Jose E

DESIGN ENGINEER  
NATHAN J. MOZELESKI, P.E.  
FL. LICENSE NO.  
83308

SHEET NO.  
T-16

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UTILIZE EX. FO PULL BOX  
 INSTALL 50 LF 36 SM FOC SLACK  
 50 LF 633-1-122

REMOVE EX. FOC  
 UTILIZE EX. CONDUIT TO  
 INSTALL 36 SM FOC  
 INSTALL #12 AWG LOCATE WIRE  
 355 LF 633-1-122  
 355 LF 633-1-620

REMOVE EX. FOC  
 UTILIZE EX. CONDUIT TO  
 INSTALL 36 SM FOC  
 INSTALL #12 AWG LOCATE WIRE  
 1000 LF 633-1-122  
 1000 LF 633-1-620

MATCHLINE (B) - SEE NEXT SHEET

MATCHLINE (C) - SEE NEXT SHEET



NO.	REVISIONS	DATE	BY
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	DESIGNED BY		NJM
	DRAWN BY		ALC
	CHECKED BY		PJM

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DATE
MAY 2, 2025

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 PUBLIC WORKS DEPARTMENT  
 ENGINEERING SERVICES  
 1022 26th Avenue East, Bradenton, FL 34208  
 Regalado, Jose E

DESIGN ENGINEER
NATHAN J. MOZELESKI, P.E.
FL. LICENSE NO.
83308

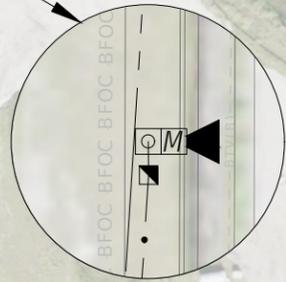
**INTELLIGENT TRANSPORTATION  
 SYSTEMS PLANS (3)**

SHEET NO.
T-17

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INSTALL NEW 4" ALUMINUM POLE  
W/ MVDS UNIT & "ITS" PULL BOX

1 EA	635-2-11
1 EA	646-2-120
1 EA	660-3-12



INSET B

UTILIZE EX. FO PULL BOX  
INSTALL 50 LF 36 SM FOC SLACK

50 LF	633-1-122
-------	-----------

REMOVE EX. FOC  
UTILIZE EX. CONDUIT,  
INSTALL 36 SM FOC

390 LF	633-1-122
390 LF	633-1-620

REMOVE EX. FOC  
UTILIZE EX. CONDUIT TO  
INSTALL 36 SM FOC  
INSTALL #12 AWG LOCATE WIRE

820 LF	633-1-122
820 LF	633-1-620

INSTALL 2-2" UNDERGROUND  
CONDUIT W/ 36 SM FOC  
INSTALL #12 AWG LOCATE WIRE

86 LF	630-2-12
86 LF	633-1-122

UTILIZE PROPOSED "SIGNAL" PULL  
BOXES AND CONDUIT TO TIE MVDS  
COMPOSITE CABLE BACK INTO CABINET

INSTALL "FIBER" PULL BOX, INTERCEPT CONDUIT.  
SEE MAINTENANCE OF COMMUNICATION NOTES.

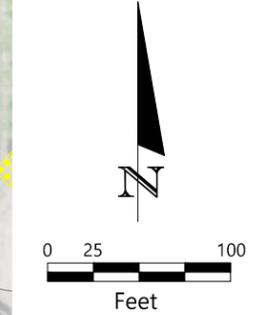
1 EA	635-2-12
------	----------

INSTALL 1-2" CONDUIT  
W/ MVDS COMPOSITE  
CABLE (PODL)

495 LF	630-2-11
--------	----------

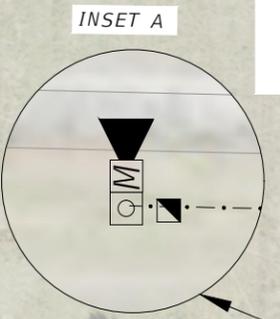
INSTALL "FIBER" PULL BOX  
INSTALL 50 LF 36 SM FOC SLACK

50 LF	633-1-122
1 EA	635-2-12



MATCHLINE (C) - SEE NEXT SHEET

REFER TO INSET A



INSET A

INSTALL 1-2" CONDUIT  
W/ MVDS COMPOSITE  
CABLE (PODL)

500 LF	630-2-11
--------	----------

INSTALL "ITS" PULL BOX

1 EA	635-2-11
------	----------

INSTALL NEW 4" ALUMINUM POLE  
W/ MVDS UNIT & "ITS" PULL BOX

635-2-11	1 EA
646-2-120	1 EA
660-3-12	1 EA

INSTALL 1-2" CONDUIT  
W/ MVDS COMPOSITE  
CABLE (PODL)

680 LF	630-2-11
--------	----------

UTILIZE PROPOSED "SIGNAL" PULL  
BOXES AND CONDUIT TO TIE MVDS  
COMPOSITE CABLE BACK INTO CABINET

INSTALL "FIBER" SPLICE VAULT  
INSTALL 200 LF 36 SM FOC SLACK

200 LF	633-1-122
1 EA	635-2-13

INSTALL FIELD-TERMINATED PATCH PANEL IN  
SIGNAL CONTROLLER CABINET. REFER TO  
SIGNALIZATION PLANS FOR CABINET DETAILS.  
INSTALL 2-2" UNDERGROUND CONDUIT W/ 36 SM FOC

10 LF	630-2-11	1 EA	633-3-16
12 EA	633-2-32	1 EA	633-3-17
1 EA	633-3-14	1 EA	660-3-11

INSTALL 2-2" UNDERGROUND  
CONDUIT W/ 36 SM FOC  
INSTALL #12 AWG LOCATE  
WIRE

630-2-12	100 LF
633-1-122	100 LF

INSTALL CCTV CAMERA TO  
SIGNAL SUPPORT UPRIGHT.  
UTILIZE PROP. SIGNAL  
CONDUIT AND PULL BOXES  
TO TIE CCTV CABLE BACK  
INTO CABINET.

682-1-113	1 EA
-----------	------

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	DRAWN BY		ALC
	CHECKED BY		PJM

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DATE	MAY 2, 2025
PROJECT NO.	6096260 5400033 6096560 5400034

**Manatee County Florida**  
PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208  
Regalado, Jose E

DESIGN ENGINEER	NATHAN J. MOZELESKI, P.E.
FL. LICENSE NO.	83308

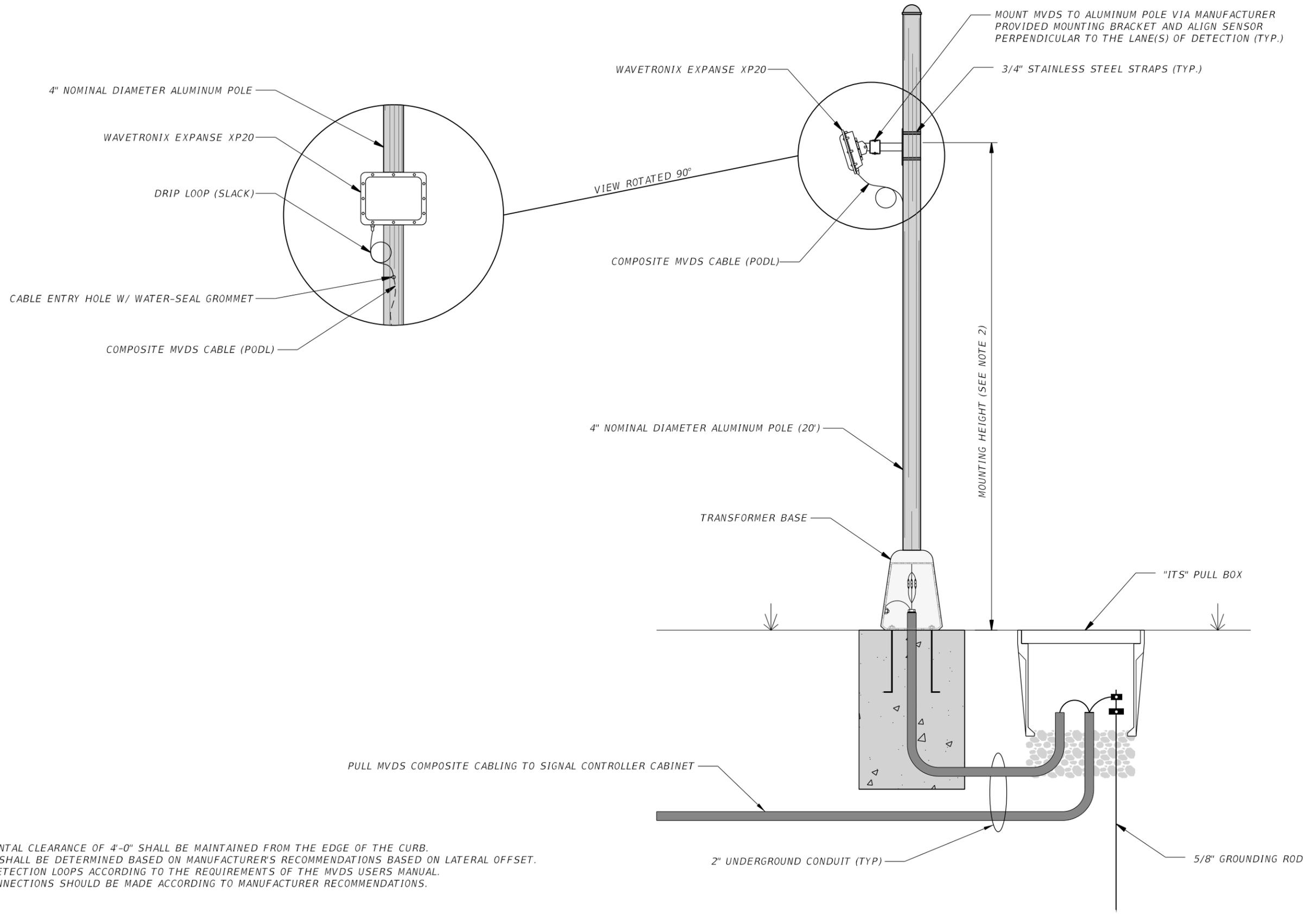
**INTELLIGENT TRANSPORTATION  
SYSTEMS PLANS (4)**

SHEET NO.	T-18
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# MIDBLOCK MVDS INSTALLATION DETAIL

(NOT TO SCALE)



- NOTES:
1. A MINIMUM HORIZONTAL CLEARANCE OF 4'-0" SHALL BE MAINTAINED FROM THE EDGE OF THE CURB.
  2. MOUNTING HEIGHT SHALL BE DETERMINED BASED ON MANUFACTURER'S RECOMMENDATIONS BASED ON LATERAL OFFSET.
  3. SET UP VIRTUAL DETECTION LOOPS ACCORDING TO THE REQUIREMENTS OF THE MVDS USERS MANUAL.
  4. ALL EQUIPMENT CONNECTIONS SHOULD BE MADE ACCORDING TO MANUFACTURER RECOMMENDATIONS.

NO.	REVISIONS	DATE	BY	SCALE	DATE	DESIGN ENGINEER	SHEET NO.
				AS NOTED	MAY 2, 2025	NATHAN J. MOZELESKI, P.E.	T-19
			NJM	DESIGNED BY	PROJECT NO.	FL. LICENSE NO.	
			ALC	DRAWN BY	6096260 5400033	83308	
			PJM	CHECKED BY	6096560 5400034		

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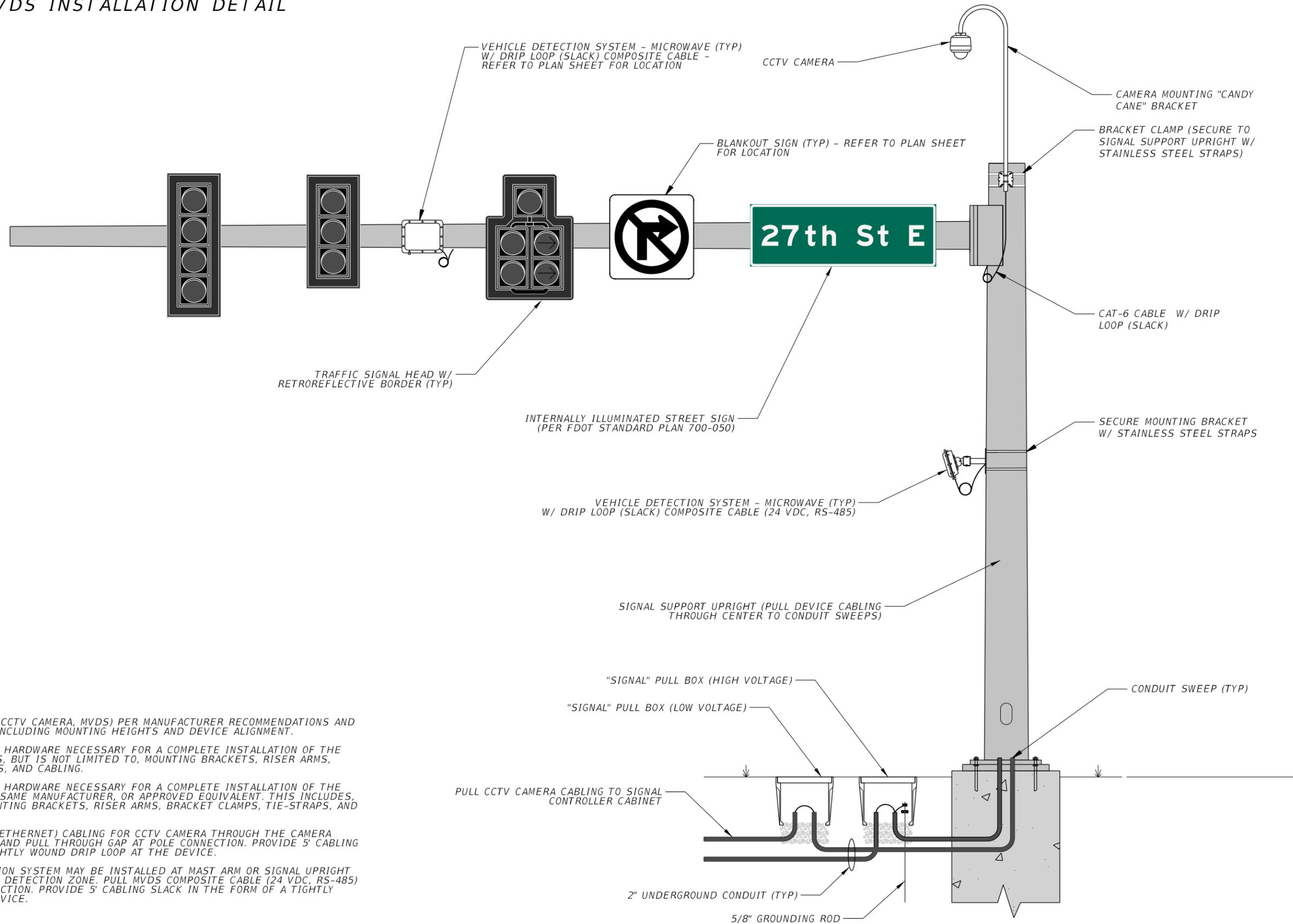
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## MOUNTING DETAILS (1)

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# CCTV CAMERA, MVDS INSTALLATION DETAIL

(NOT TO SCALE)

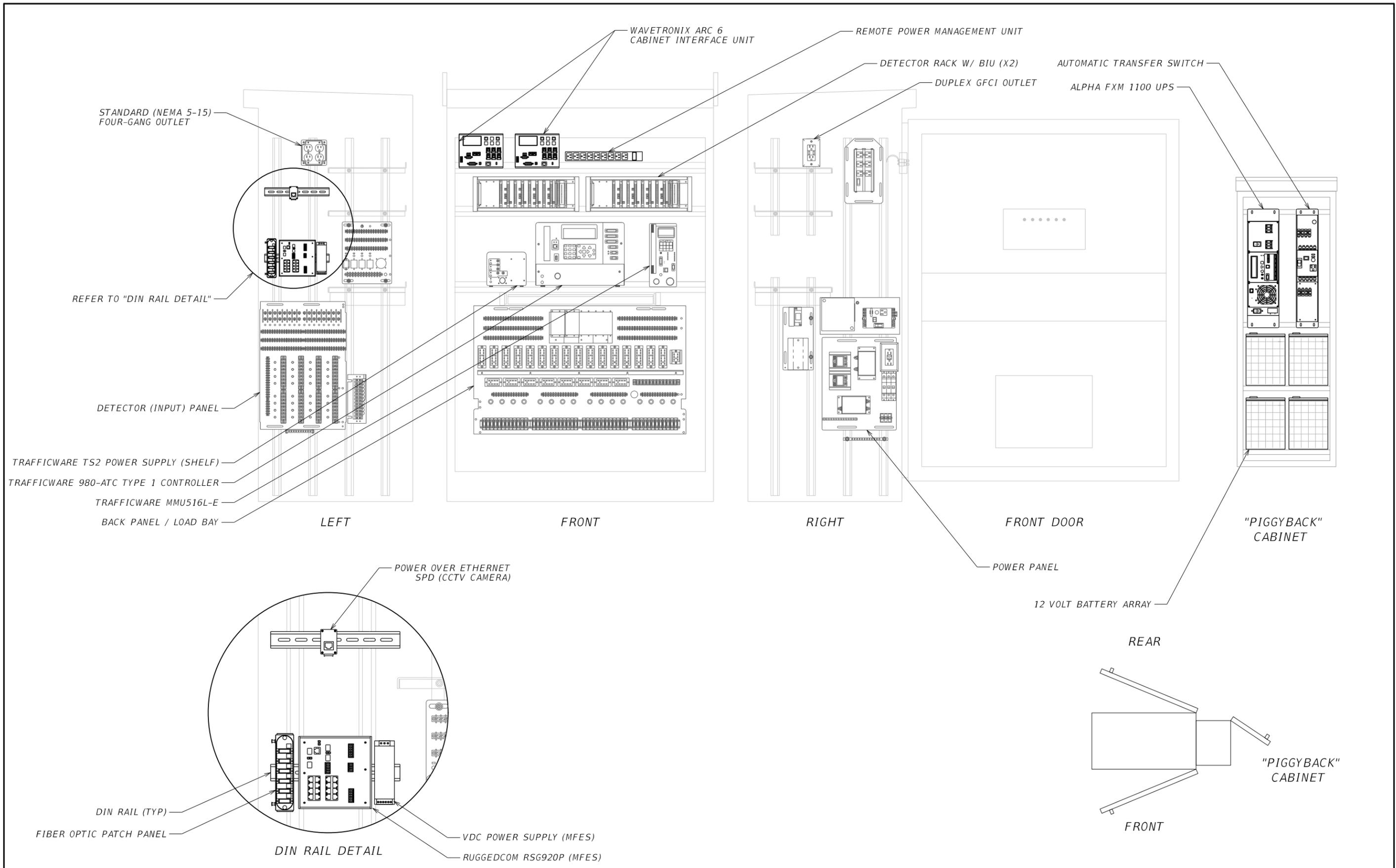


**NOTES:**

1. INSTALL FIELD DEVICES (I.E. CCTV CAMERA, MVDS) PER MANUFACTURER RECOMMENDATIONS AND INSTALLATION PROCEDURES, INCLUDING MOUNTING HEIGHTS AND DEVICE ALIGNMENT.
2. PROVIDE ALL EQUIPMENT AND HARDWARE NECESSARY FOR A COMPLETE INSTALLATION OF THE CCTV CAMERA. THIS INCLUDES, BUT IS NOT LIMITED TO, MOUNTING BRACKETS, RISER ARMS, BRACKET CLAMPS, TIE-STRAPS, AND CABLING.
3. PROVIDE ALL EQUIPMENT AND HARDWARE NECESSARY FOR A COMPLETE INSTALLATION OF THE MVDS FURNISHED FROM THE SAME MANUFACTURER, OR APPROVED EQUIVALENT. THIS INCLUDES, BUT IS NOT LIMITED TO, MOUNTING BRACKETS, RISER ARMS, BRACKET CLAMPS, TIE-STRAPS, AND CABLING.
4. INSTALL CAT-6 (POWER OVER ETHERNET) CABLING FOR CCTV CAMERA THROUGH THE CAMERA MOUNTING "CANDY CANE" ARM AND PULL THROUGH GAP AT POLE CONNECTION. PROVIDE 5' CABLING SLACK IN THE FORM OF A TIGHTLY WOUND DRIP LOOP AT THE DEVICE.
5. MICROWAVE VEHICLE DETECTION SYSTEM MAY BE INSTALLED AT MAST ARM OR SIGNAL UPRIGHT LOCATIONS, DEPENDENT UPON DETECTION ZONE. PULL MVDS COMPOSITE CABLE (24 VDC, RS-485) THROUGH GAP AT POLE CONNECTION. PROVIDE 5' CABLING SLACK IN THE FORM OF A TIGHTLY WOUND DRIP LOOP AT THE DEVICE.

NO.	REVISIONS	DATE	BY	SCALE	DATE	DESIGN ENGINEER	SHEET NO.
				AS NOTED	MAY 2, 2025	NATHAN J. MOZELESKI, P.E.	T-20
				DESIGNED BY NJM	PROJECT NO. 6096260 5400033 6096560 5400034	FL. LICENSE NO. 83308	
				DRAWN BY ALC	 ATKINSRÉALIS 482 SOUTH KELLER RD, ORLANDO, FL 32810 (407) 647-7275		
				CHECKED BY PJM	 PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East, Bradenton, FL 34208		

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MAY 2, 2025
PROJECT NO.
6096260 5400033
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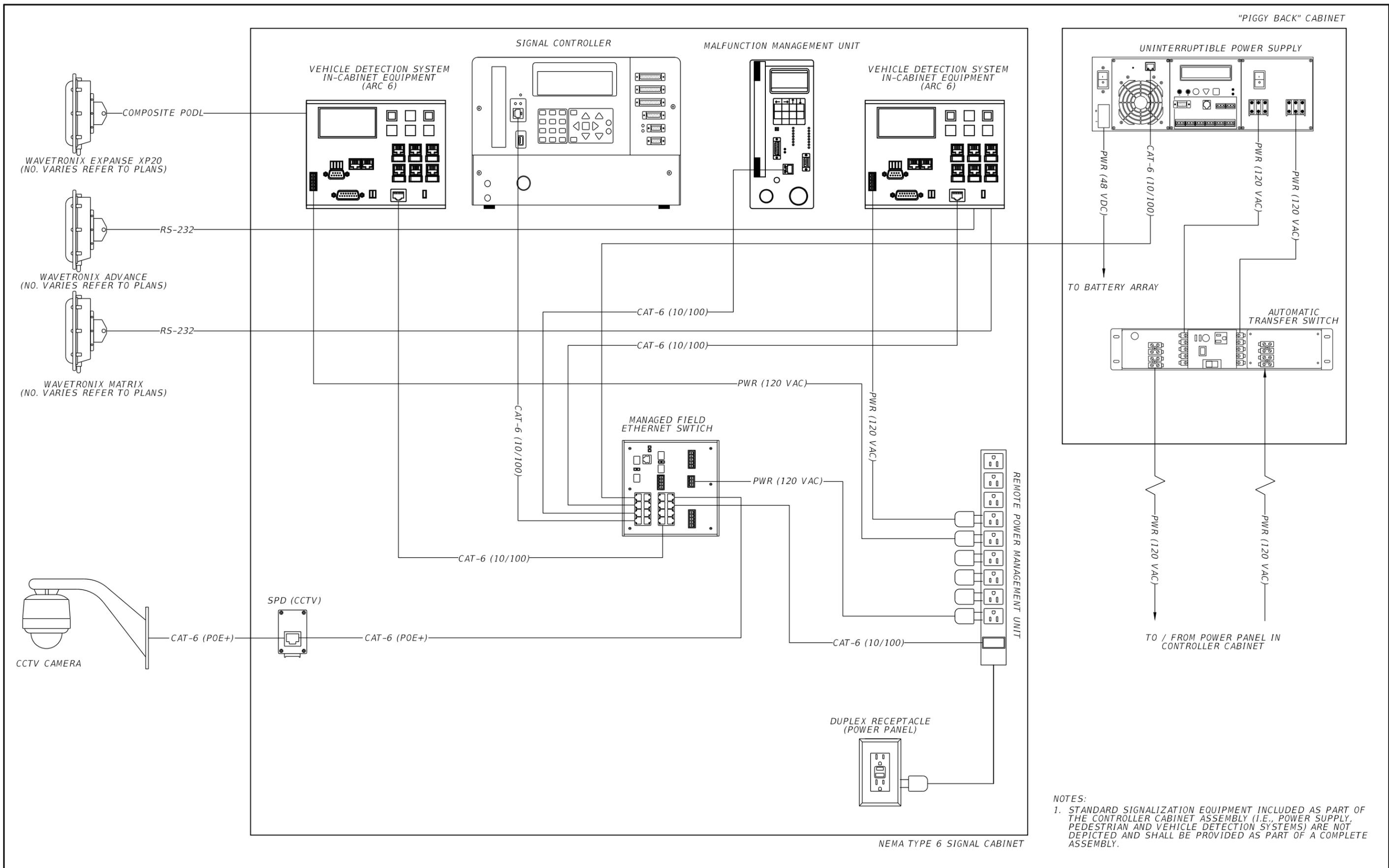
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 ENGINEERING SERVICES
   
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DESIGN ENGINEER
NATHAN J. MOZELESKI, P.E.
FL. LICENSE NO.
83308

CABINET DETAILS

SHEET NO.
T-21

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NOTES:  
 1. STANDARD SIGNALIZATION EQUIPMENT INCLUDED AS PART OF THE CONTROLLER CABINET ASSEMBLY (I.E., POWER SUPPLY, PEDESTRIAN AND VEHICLE DETECTION SYSTEMS) ARE NOT DEPICTED AND SHALL BE PROVIDED AS PART OF A COMPLETE ASSEMBLY.

NO.	REVISIONS	DATE	BY	SCALE
	AS NOTED			
	NJM			
	ALC			
	PJM			

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DATE
MAY 2, 2025
PROJECT NO.
6096260 5400033 6096560 5400034

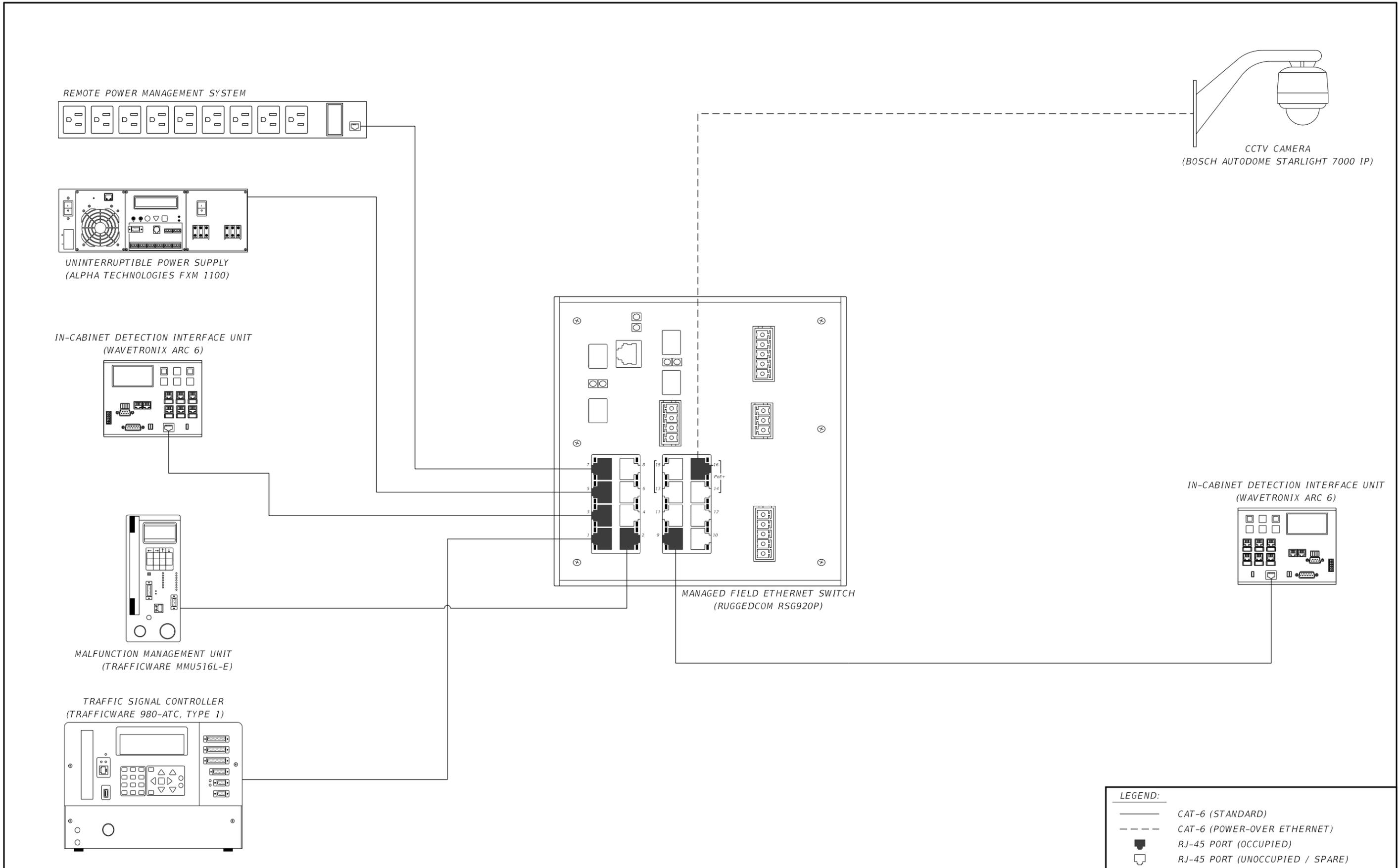
**Manatee County Florida**  
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 ENGINEERING SERVICES  
 1022 26th Avenue East, Bradenton, FL 34208  
 USER: REGA6848

DESIGN ENGINEER
NATHAN J. MOZELESKI, P.E.
FL. LICENSE NO.
83308

**WIRING DIAGRAM**

SHEET NO.
T-22

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	PJM			

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DATE	PROJECT NO.
MAY 2, 2025	6096260 5400033 6096560 5400034

**Manatee County FLORIDA**  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING SERVICES  
 1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER	FL. LICENSE NO.
NATHAN J. MOZELESKI, P.E.	83308

**MANAGED FIELD ETHERNET SWITCH DETAIL**

SHEET NO.
T-23

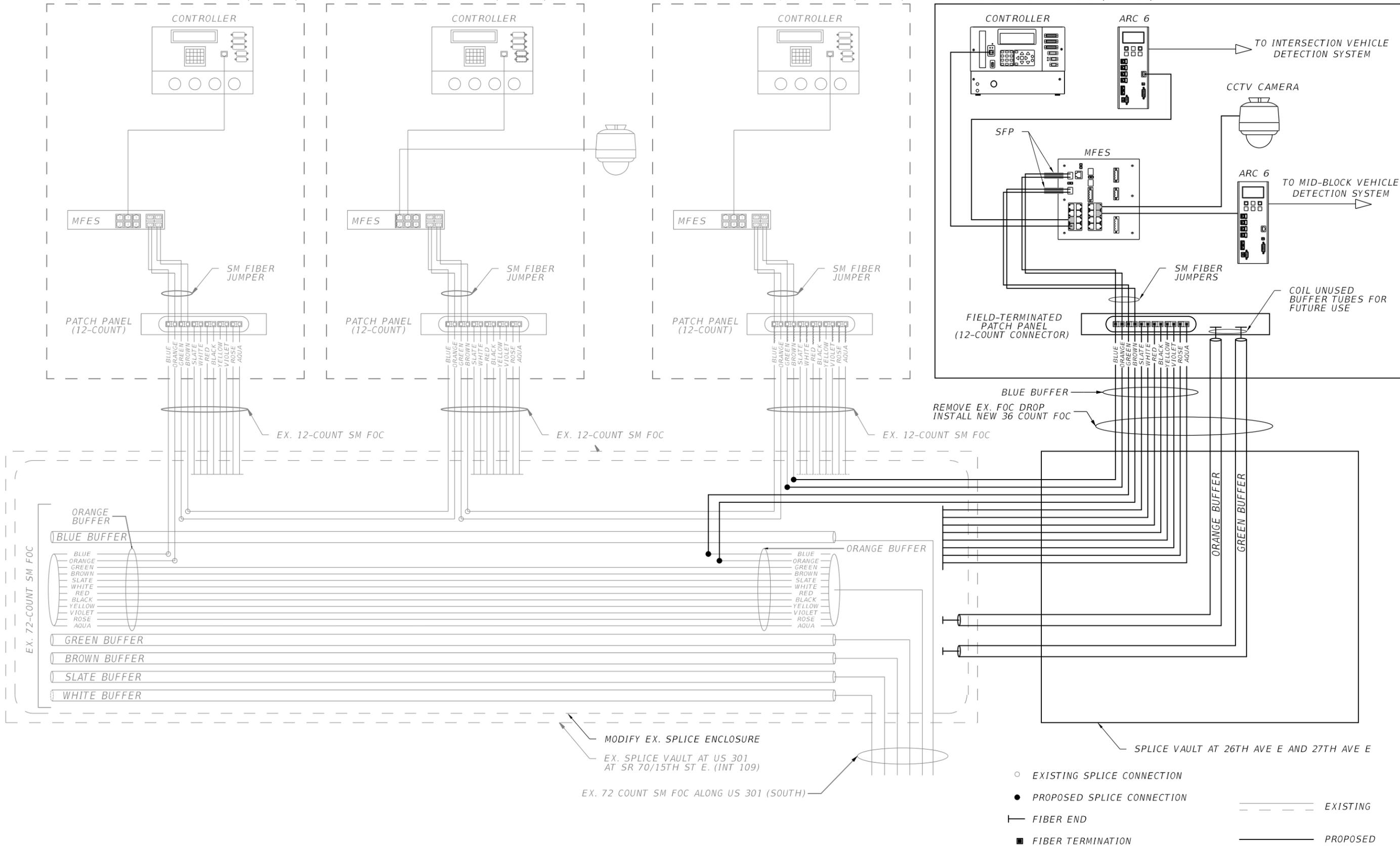
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EX. CONTROLLER CABINET  
SR 70/15TH ST E. AT 30TH AVE E. (INT 138)

EX. CONTROLLER CABINET  
US 301 AT SR 70/15TH ST E. (INT 109)

EX. CONTROLLER CABINET  
26TH AVE E. AT SR 70/15TH ST E. (INT 132)

PROPOSED CONTROLLER CABINET  
26TH AVE E. AT 27TH AVE E. (INT 133)



NO.	REVISIONS	DATE	BY	SCALE	DATE	DESIGN ENGINEER	SHEET NO.
	AS NOTED				MAY 2, 2025	NATHAN J. MOZELESKI, P.E.	T-24
	NJM				PROJECT NO.	FL. LICENSE NO.	
	ALC				6096260 5400033	83308	
	PJM				6096560 5400034		

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1022 26th Avenue East, Bradenton, FL 34208

DESIGN ENGINEER  
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FL. LICENSE NO.  
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**SPLICE DIAGRAMS**

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