

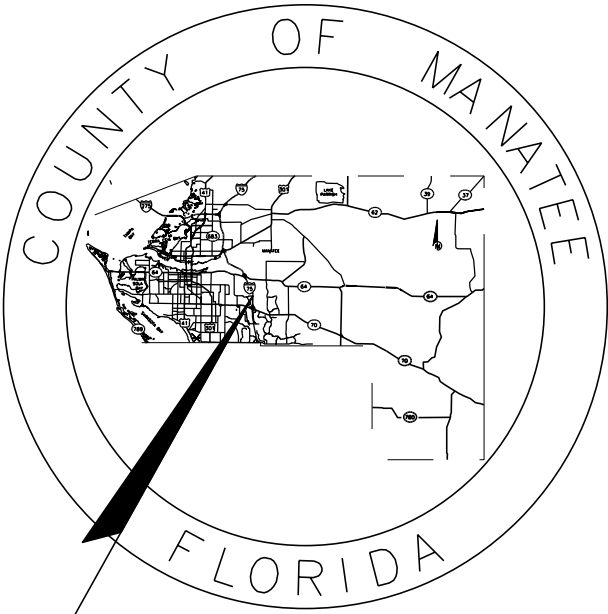
*MANATEE COUNTY  
PUBLIC WORKS DEPARTMENT  
CONTRACT PLANS*

**MANATEE COUNTY  
PROJECT NUMBER 6045662  
44TH AVENUE EAST  
PHASE 2  
WEST OF I-75 TO LAKEWOOD RANCH BOULEVARD**

*SIGNALIZATION PLANS*

*INDEX OF SIGNALIZATION PLANS*

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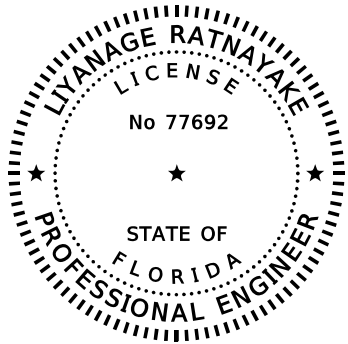
LOCATION OF PROJECT

**90% SUBMITTAL  
02/2022**

**SIGNALIZATION PLANS  
ENGINEER OF RECORD:**  
LIYANAGE RATNAYAKE, P.E.  
P.E. NO.: 77692  
HDR ENGINEERING, INC.  
2601 CATTLEMEN ROAD, SUITE 400  
SARASOTA, FLORIDA 34232  
VENDOR NO. 47-0680568  
CONTRACT NO. C9480

MANATEE CO. PROJECT MANAGER:  
ERIC S. SHROYER, P.E.

FISCAL YEAR	SHEET NO.
21	T-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  
ANY ELECTRONIC COPIES.

HDR ENGINEERING, INC.  
2601 CATTLEMEN ROAD, SUITE 400  
SARASOTA, FLORIDA 34232-6212  
LIYANAGE RATNAYAKE, PE NO. 77692

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
T-1	KEY SHEET
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T-21	MVDS BLOCK DIAGRAM
T-22	CABLE ROUTE MARKER DETAIL
T-23	SPLICING DIAGRAM

				SCALE	AS NOTED	HDR ENGINEERING, INC.  2601 CATTLEMEN ROAD, SUITE 400  SARASOTA, FLORIDA 34232	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	<i>SIGNATURE SHEET</i>	SHEET NO.
				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY			6045662		77692		
No.	REVISIONS	DATE	BY		MO						

### TABULATION OF QUANTITIES

[illegible]

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

### TABULATION OF QUANTITIES

[illegible]

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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. 7812), 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, CONTACT THE TRAFFIC SIGNAL INSPECTOR/LIAISON:  
  
MANATEE COUNTY PROJECT MANAGEMENT DIVISION  
ERIC S. SHROYER, P.E.  
1022 26TH AVENUE EAST  
BRADENTON, FLORIDA 34208  
PHONE: 941-708-7450 EXT. 7344

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  
ERIC S. SHROYER, P.E.  
1022 26TH AVENUE EAST  
BRADENTON, FLORIDA 34208  
PHONE: 941-708-7450 EXT. 7344

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., EAST BRADENTON, FL 34208. RECORD DRAWINGS MUST BE DELIVERED TO THE COUNTY 48 HOURS 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 OPERATIONS 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 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.

8. 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.


9. 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.

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

11. 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.
12. #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.
13. 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.
14. GROUNDING: ALL COSTS FOR GROUNDING SHALL BE INCLUDED IN THE COST OF THE ITEM BEING GROUNDED. ALL BONDING AND GROUNDING MUST COMPLY WITH FDOT DESIGN STANDARDS. 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.  
  
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.
15. IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING OR BORING.
16. CONTRACTOR SHALL SUPPLY ALL MATERIAL SUBMITTALS TO THE ENGINEER PRIOR TO CONSTRUCTION FOR APPROVAL.
17. UNDER SUPERVISION OF THE COUNTY, THE CONTRACTOR SHALL PERFORM AN INITIAL OPERATION TEST TO ENSURE THE MVDS ASSEMBLY HAS BEEN INSTALLED CORRECTLY AS A COMPLETE AND FUNCTIONALLY ACCEPTABLE INSTALLATION.
18. PRIOR TO ORDERING MATERIALS, 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.
19. 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.

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 CONFLICT IDENTIFY BY THE LOCATES. ANY SIGNIFICANT CHANGE SHALL BE APPROVED BY THE ENGINEER.
3. INSTALL ALL CONDUITS 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 UNDERGROUND CONFLICTS IN ADVANCE OF THE PLACEMENT OF ANY CONDUIT OR OTHER FACILITIES. 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 CONDUITS SHALL BE SCHEDULE 40 PVC WITH A MINIMUM SIZE OF 2" UNLESS OTHERWISE SPECIFIED IN THE PLANS.  
  
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.
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. 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.
8. 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".

				SCALE	AS NOTED	HDR ENGINEERING, INC.	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	GENERAL NOTES	SHEET NO.
				DESIGNED BY	IR	2601 CATTLEMEN ROAD, SUITE 400	02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM	SARASOTA, FLORIDA 34232	PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY	MO		6045662		77692		T-5
No.	REVISIONS	DATE	BY								

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.
2.

635-2-11, 635-2-12 & 635-2-13:

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. THE COST OF CABLE ROUTE MARKERS ARE INCLUDED IN PAY ITEMS 635-2-12 & 635-2-13. FIBER OPTIC ROUTE MARKERS SHOULD BE INSTALLED PER SECTION 630.3.10 OF THE FDOT SEPCIFICATIONS.
- STANDARD PULL BOX DIMENSIONS SHALL BE 17" x 30" x 12" AND THE LID SHALL BE STAMPED "MANATEE COUNTY TRAFFIC SIGNAL" ON THE COVER.


FIBER OPTIC PULL BOX DIMENSIONS SHALL BE 24" x 36" x 36" AND FIBER OPTIC SPLICE BOX DIMENSIONS SHALL BE 30" x 60" x 48". FIBER OPTIC PULL AND SPLICE BOX LIDS SHALL BE STAMPED "MANATEE COUNTY FIBER OPTIC SYSTEM" ON THE COVER.
3.

660-3-11:

SHALL INCLUDE ALL NECESSARY WAVETRONIX CLICKS UNITS FOR A COMPLETE AND OPERATIONAL SETUP.
4.

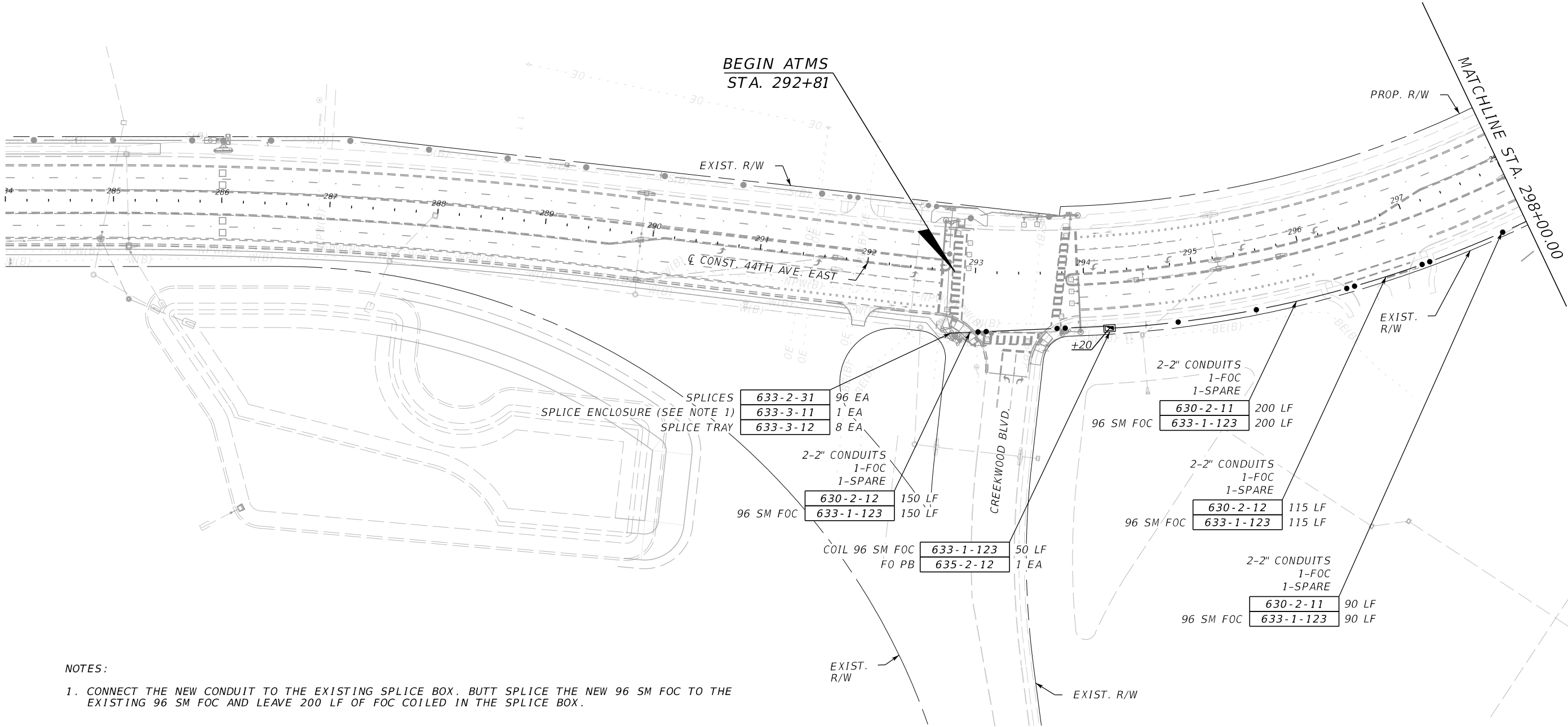
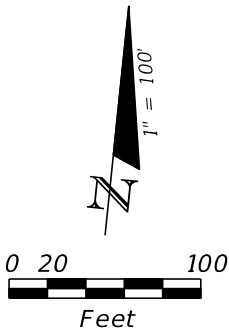
660-3-12:

SHALL INCLUDE WAVETRONIX SMART SENSOR ADVANCE FOR MAINLINE AND SMART SENSOR MATRIX 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.
- COORDINATE WAVETRONIX DETECTOR PLACEMENT WITH THE VENDOR AND PROVIDE DETECTION ZONE OVERLAYS FOR REVIEW.


				SCALE	AS NOTED	HDR ENGINEERING, INC.  2601 CATTLEMEN ROAD, SUITE 400  SARASOTA, FLORIDA 34232	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	PAY ITEM NOTES	SHEET NO.
				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY			6045662		77692		
No.	REVISIONS	DATE	BY		MO						

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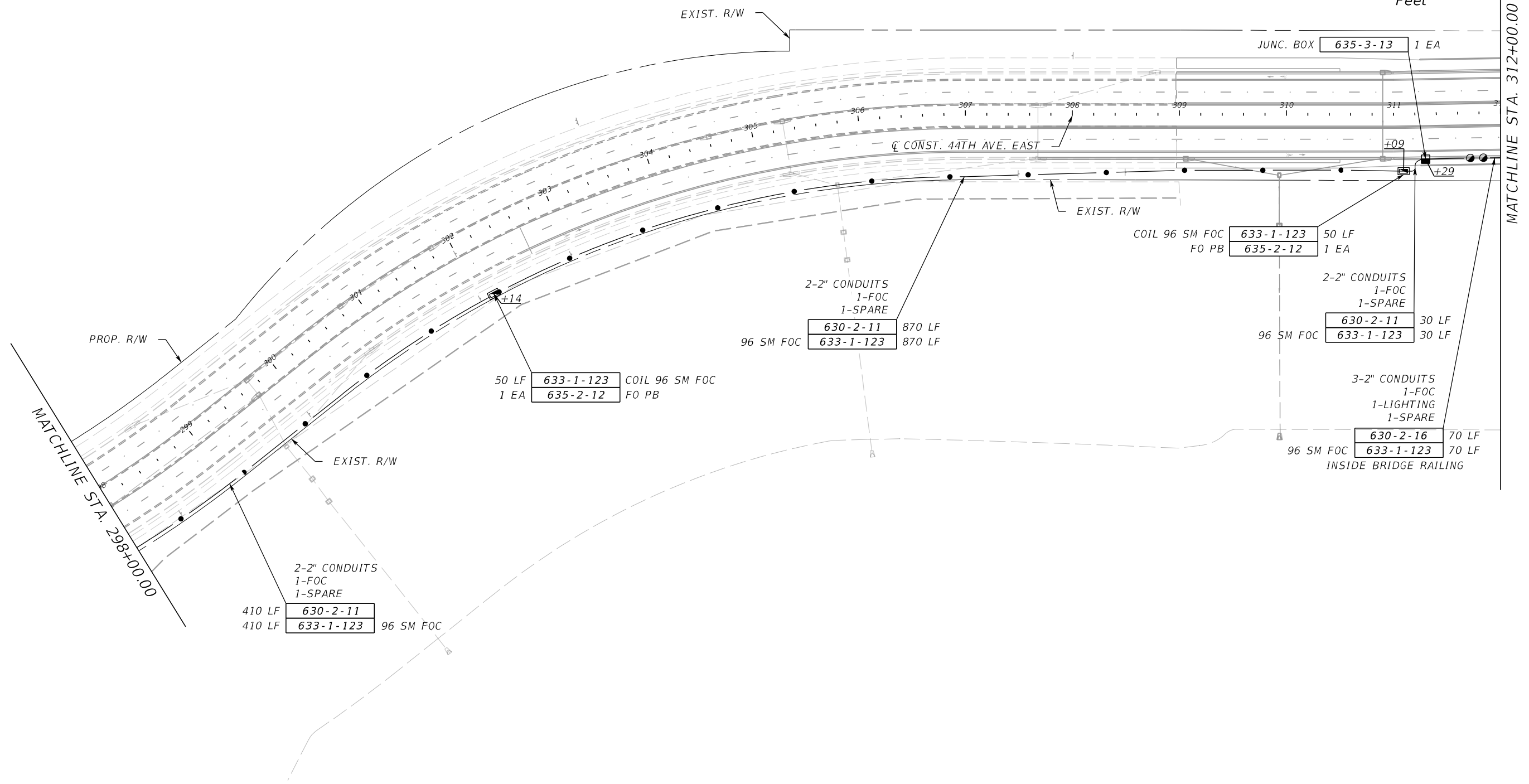
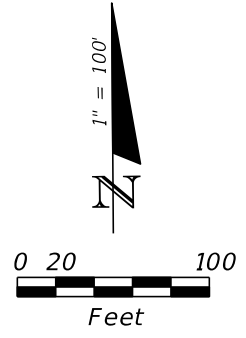
44TH AVENUE EAST




- NOTES:
1. CONNECT THE NEW CONDUIT TO THE EXISTING SPLICE BOX. BUTT SPLICE THE NEW 96 SM FOC TO THE EXISTING 96 SM FOC AND LEAVE 200 LF OF FOC COILED IN THE SPLICE BOX.

				SCALE AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 02/2022	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER LIYANAGE RATNAYAKE	ATMS PLAN (1)	SHEET NO.
				DESIGNED BY IR				FL. LICENSE NO. 77692		
				DRAWN BY SM		PROJECT NO. 6045662				
				CHECKED BY MO						T-7
No.	REVISIONS	DATE	BY							

44TH AVENUE EAST

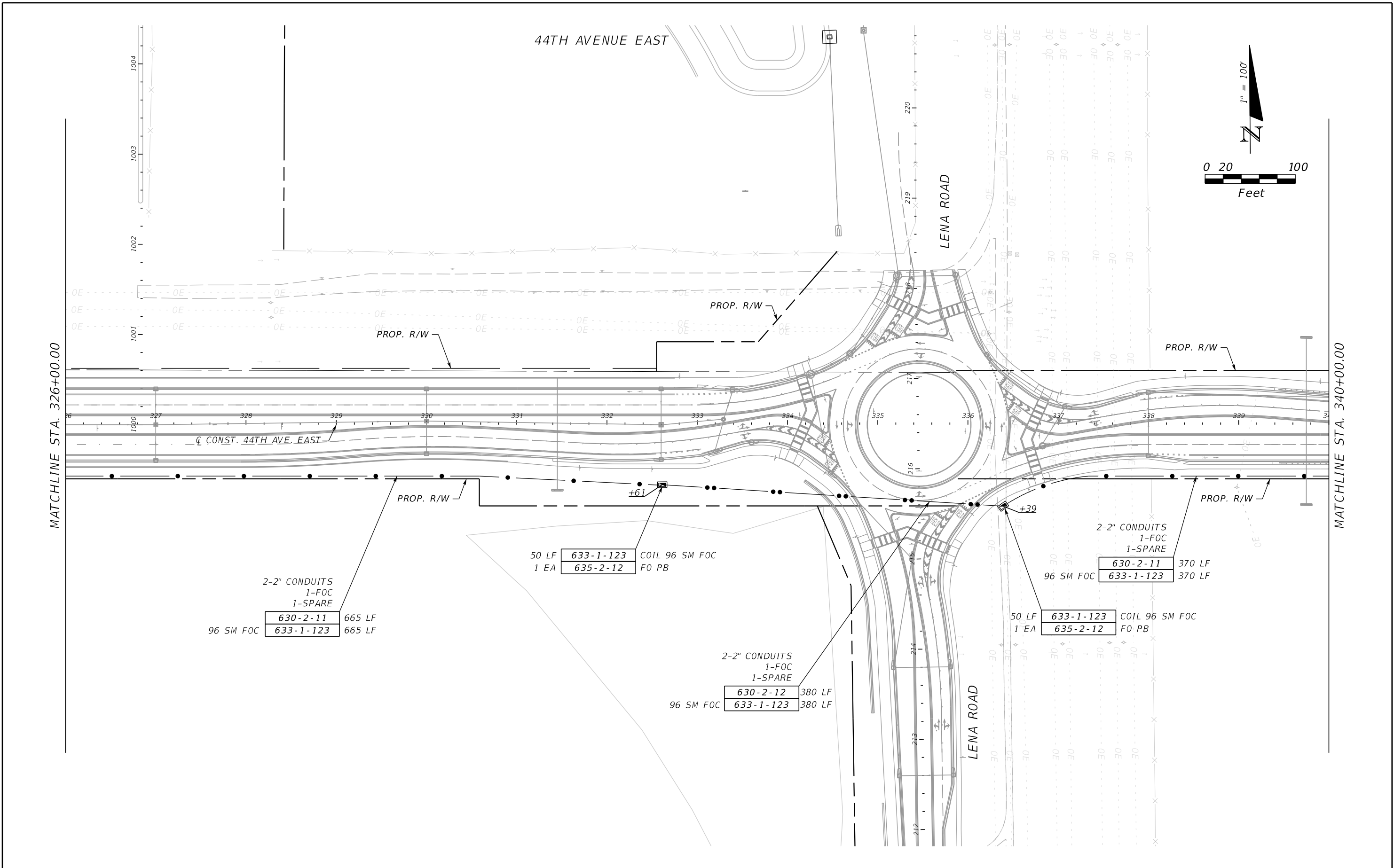



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				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY	MO		6045662		77692		T-8
No.	REVISIONS			DATE	BY						

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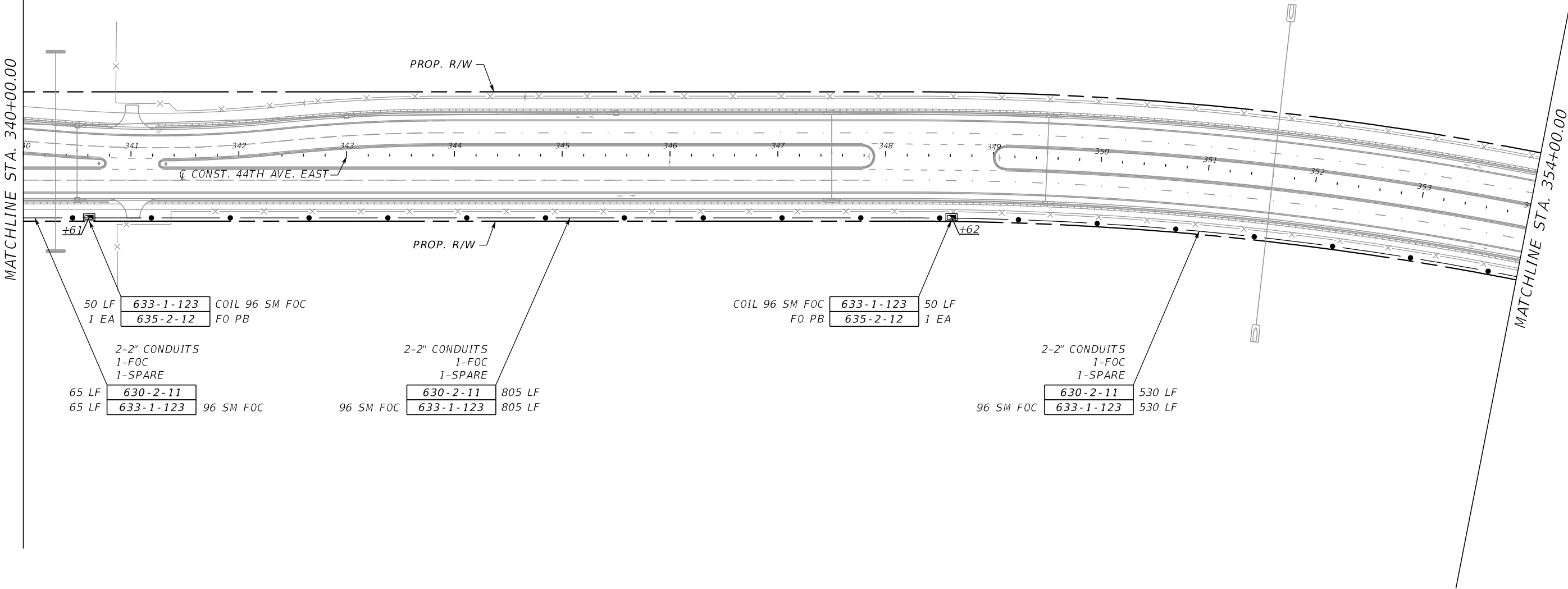
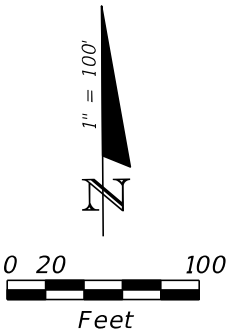







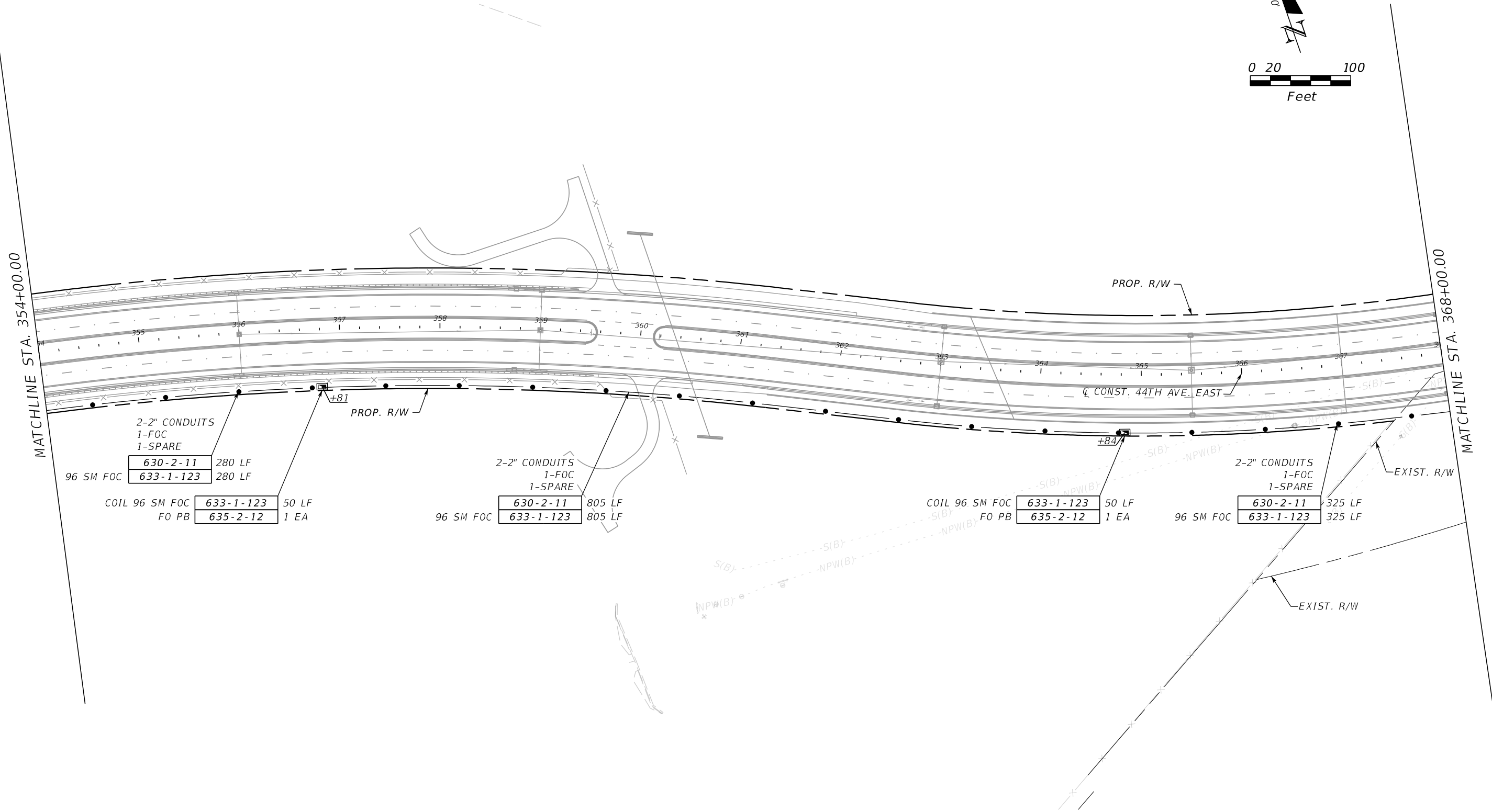
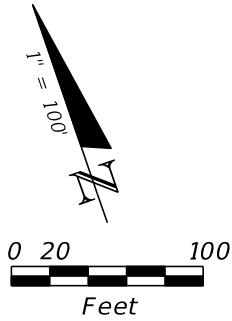
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				DESIGNED BY	IR				LIYANAGE RATNAYAKE		
				DRAWN BY	SM				FL. LICENSE NO.		
				CHECKED BY	MO				77692		
No.	REVISIONS			DATE	BY						


44TH AVENUE EAST



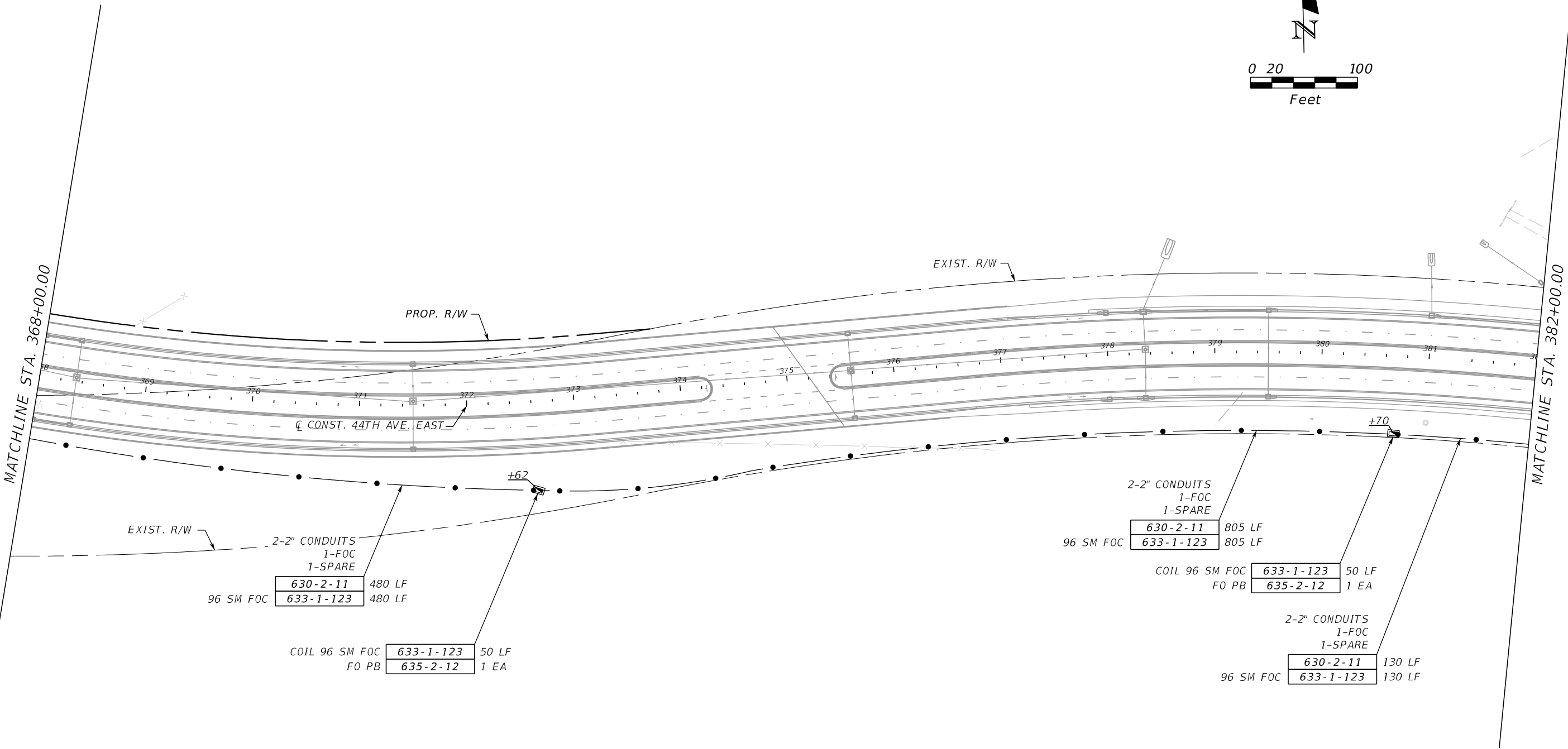
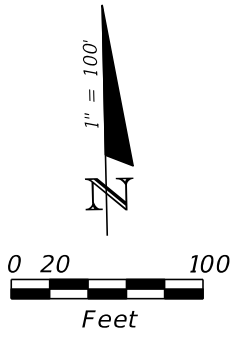
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				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY	MO		6045662		77692		T-II
No.	REVISIONS			DATE	BY						


44TH AVENUE EAST



				SCALE	AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 02/2022	 <b>MANATEE COUNTY PUBLIC WORKS</b>	DESIGN ENGINEER	<b>ATMS PLAN (6)</b>	SHEET NO.
				DESIGNED BY	IR				LIYANAGE RATNAYAKE		
				DRAWN BY	SM		FL. LICENSE NO. 77692		T-12		
				CHECKED BY	MO						
No.	REVISIONS			DATE	BY						

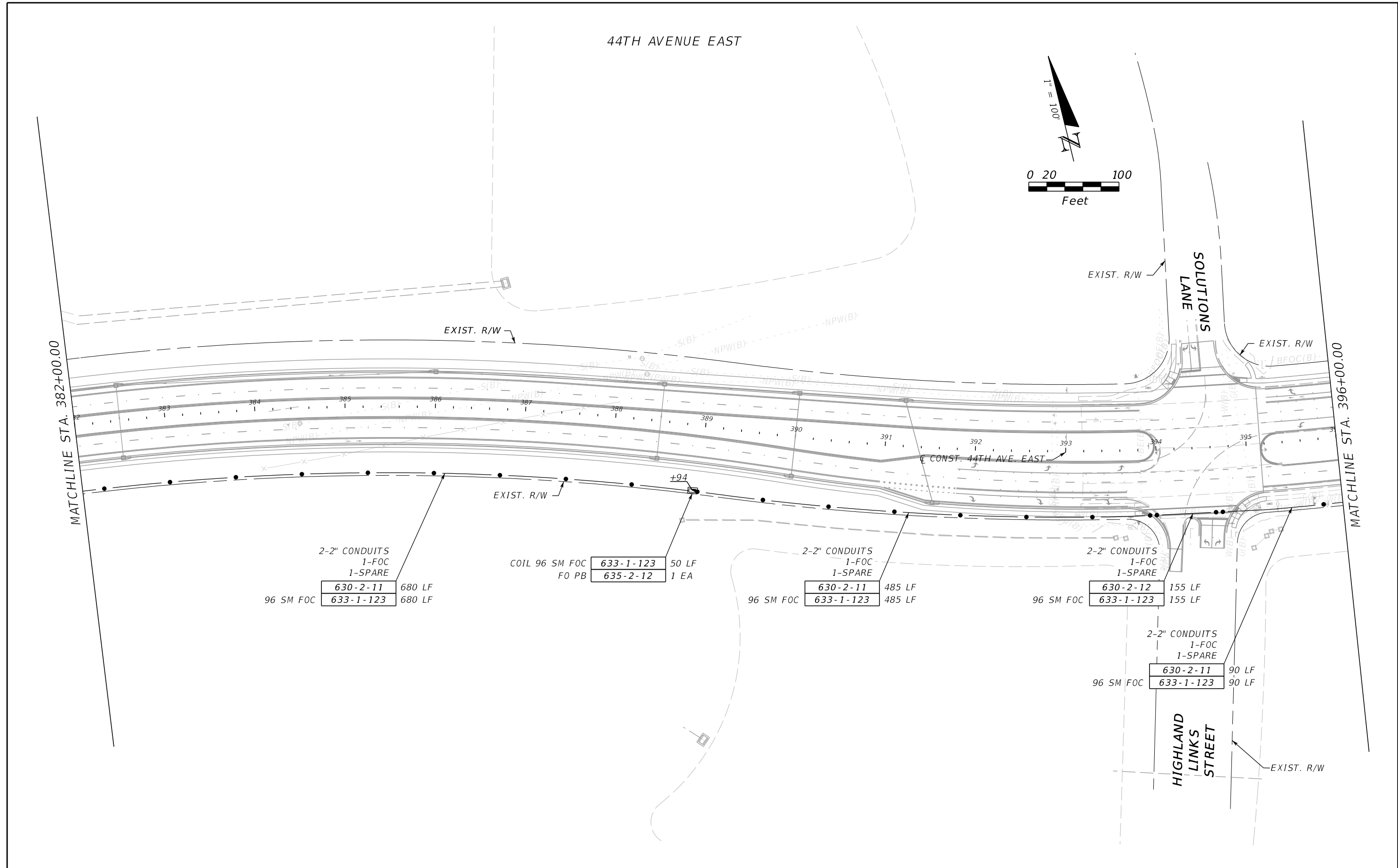
44TH AVENUE EAST

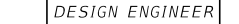


				SCALE	AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	ATMS PLAN (7)	SHEET NO.  T-13
				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO. 6045662		FL. LICENSE NO.		
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No.	REVISIONS			DATE	BY						

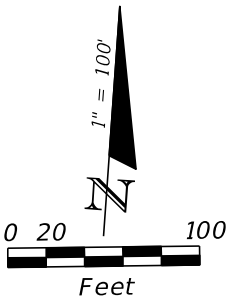
ATMS PLAN (7)

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				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO. 6045662		FL. LICENSE NO.		
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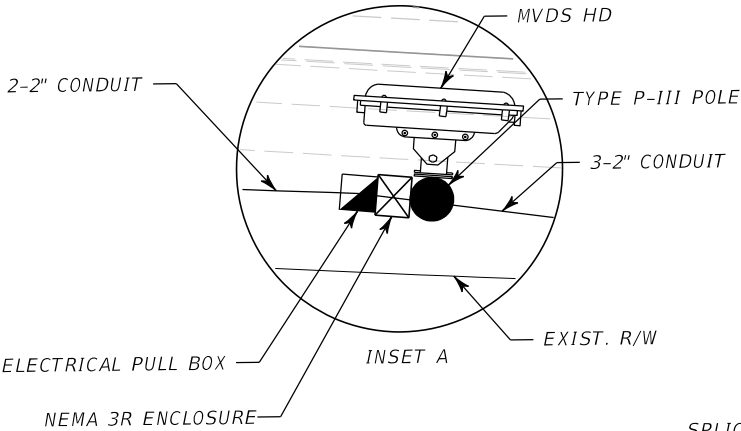
44TH AVENUE EAST



END ATMS  
STA. 410+18.02

TRAFFIC MONITORING SITE  
STA. 400+75  
SEE CROSS SECTION  
FOR DETAILS

10 LF	630-2-11	2-2" CONDUIT
10 LF	630-2-14	AG RGSC, CABINET GND
30 LF	630-2-14	AG PVC INSIDE POLE, MVDS CABLE RUN
1 EA	635-2-11	POWER PB
1 EA	641-2-13	TYPE P-III POLE
1 EA	660-3-11	MVDS CABINET EQUIPMENT
1 EA	660-3-12	MVDS HD
1 EA	676-3-10	SMALL EQUIP. ENCLOSURE



SEE NOTE 2			
96 SM FOC	633-1-123	200 LF	
SPLICE	633-2-31	64 EA	
SPLICE ENCLOSURE	633-3-11	6 EA	
FO SPLICE TRAY	633-3-12	1 EA	
FO SPLICE BOX	635-2-13	1 EA	

MATCHLINE STA. 396+00.00

LAKEMOOD RANCH BLD.

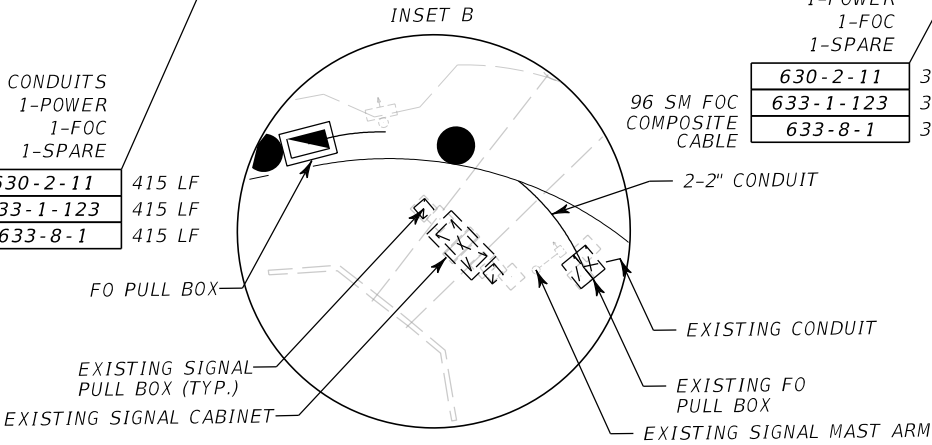
- NOTE:
- CONNECT THE #6 AWG CONDUCTORS TO A 30A SINGLE POLE BRANCH CIRCUIT BREAKER INSTALLED INSIDE THE SIGNAL CABINET TO FEED THE MVDS.
  - RUN THE PROPOSED FOC THROUGH EXISTING PULL BOXES AND DIRECTIONAL BORE CONDUITS TO THE PROPOSED SPLICE BOX AT THE SE CORNER OF THE INTERSECTION. SPLICE THE NEW 96 COUNT FOC TO THE EXISTING 72 COUNT FOC.

50 LF	633-1-123	COIL 96 SM FOC
1 EA	635-2-12	FO PB

2-2" CONDUITS		
1-FOC		
1-SPARE		
80 LF	630-2-11	
80 LF	633-1-123	96 SM FOC

2-2" CONDUITS		
1-FOC		
1-SPARE		
630-2-11	395 LF	
633-1-123	395 LF	96 SM FOC

3-2" CONDUITS		
1-POWER		
1-FOC		
1-SPARE		
630-2-11	415 LF	
633-1-123	415 LF	96 SM FOC
633-8-1	415 LF	COMPOSITE CABLE



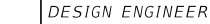
COIL 96 SM FOC	633-1-123	50 LF
FO PB	635-2-12	1 EA

3-2" CONDUITS		
1-POWER		
1-FOC		
1-SPARE		
630-2-11	390 LF	
633-1-123	390 LF	96 SM FOC
633-8-1	390 LF	COMPOSITE CABLE

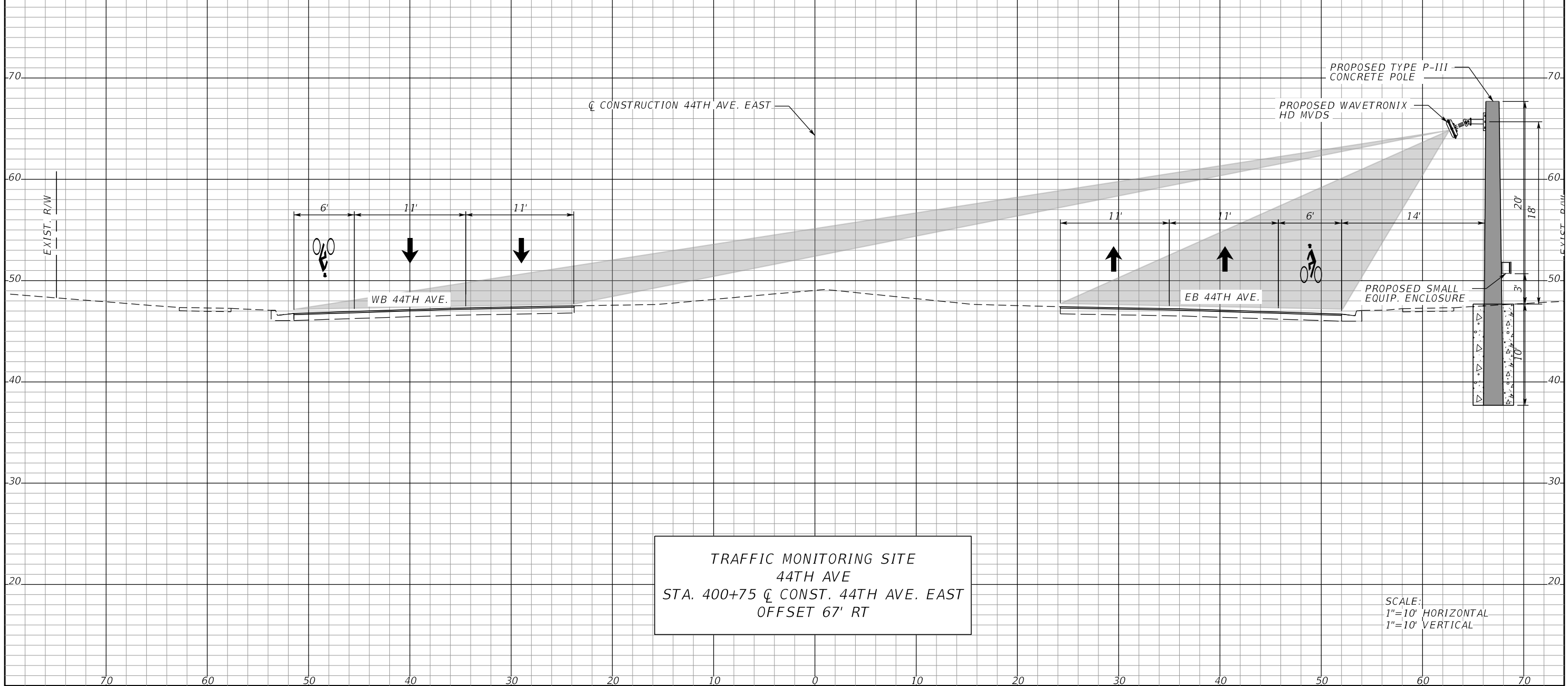
COIL 96 SM FOC	633-1-123	50 LF
FO PB	635-2-12	1 EA

96 SM FOC	633-1-123	155 LF
INSTALL 96 SM FOC THROUGH EXISTING COMMUNICATION CONDUIT		

2-2" CONDUITS		
1-FOC		
1-SPARE		
630-2-11	45 LF	
633-1-123	45 LF	96 SM FOC


				SCALE	AS NOTED	HDR ENGINEERING, INC.  2601 CATTLEMEN ROAD, SUITE 400  SARASOTA, FLORIDA 34232	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	ATMS PLAN (9)	SHEET NO.
				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY	MO		6045662		77692		T-15
No.	REVISIONS	DATE	BY								

- NOTES:
1. UTILITY LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OF THE ITS POLE.
  2. SUBMIT THE ACTUAL ELEVATIONS WITH THE ITS POLE STRUCTURE SHOP DRAWINGS PRIOR TO FABRICATION.
  3. PRIOR TO FOOTING INSTALLATIONS, BOTH THE CONTRACTOR AND THE ENGINEER SHALL CONFIRM THAT ALL LOCATIONS AND ELEVATIONS WILL CORRECTLY ACCOMMODATE THE CLEARANCES AND THE TOTAL LENGTH OF THE POLE AS SHOWN.

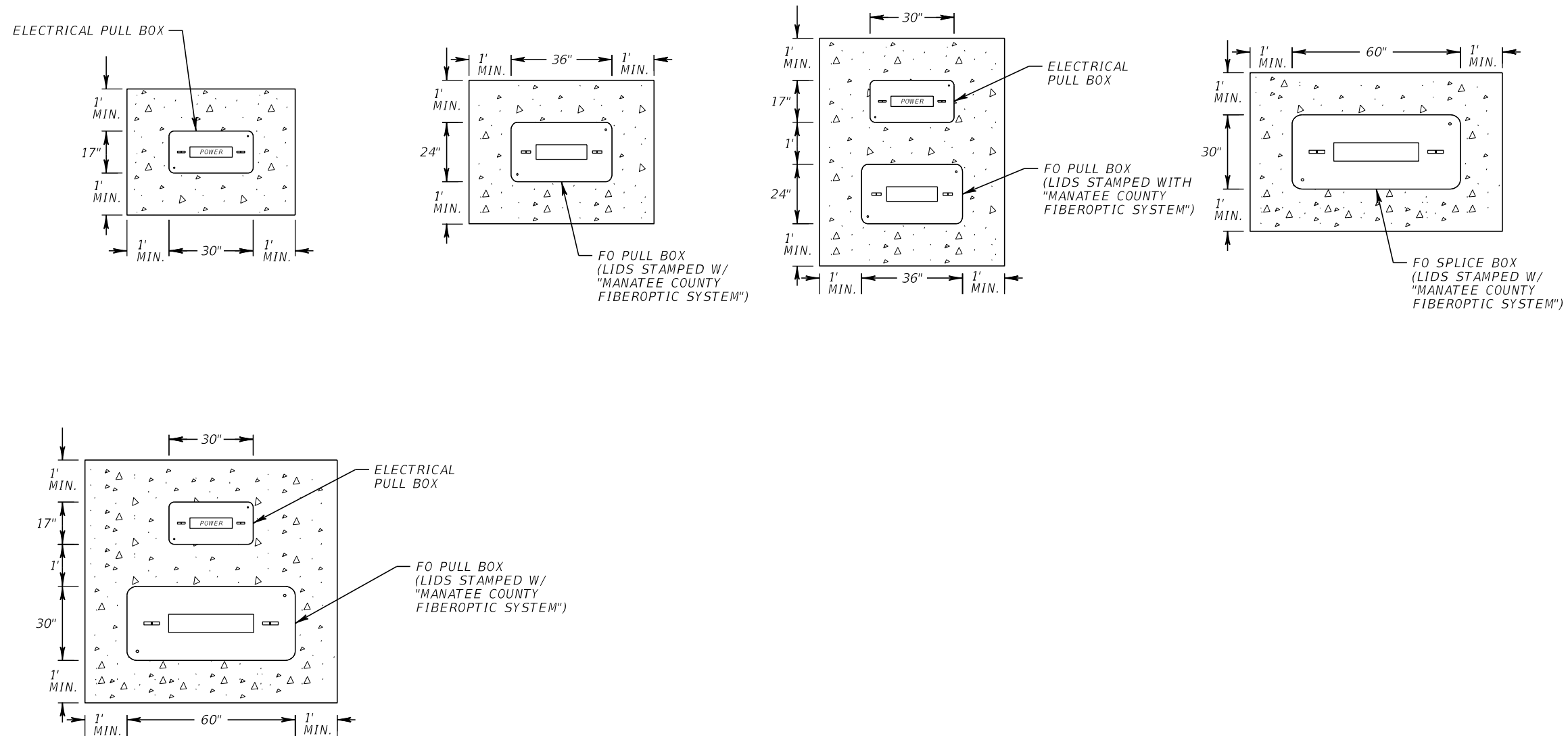


TRAFFIC MONITORING SITE  
44TH AVE  
STA. 400+75  $\bar{C}$  CONST. 44TH AVE. EAST  
OFFSET 67' RT

SCALE:  
1"=10' HORIZONTAL  
1"=10' VERTICAL


				SCALE	AS NOTED	HDR ENGINEERING, INC.	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	TRAFFIC MONITORING SITE CROSS SECTION	SHEET NO.
				DESIGNED BY	IR	2601 CATTLEMEN ROAD, SUITE 400	02/2022		LIYANAGE RATNAYAKE		T-16
				DRAWN BY	SM	SARASOTA, FLORIDA 34232	PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY	MO		6045662		77692		
No.	REVISIONS			DATE	BY						

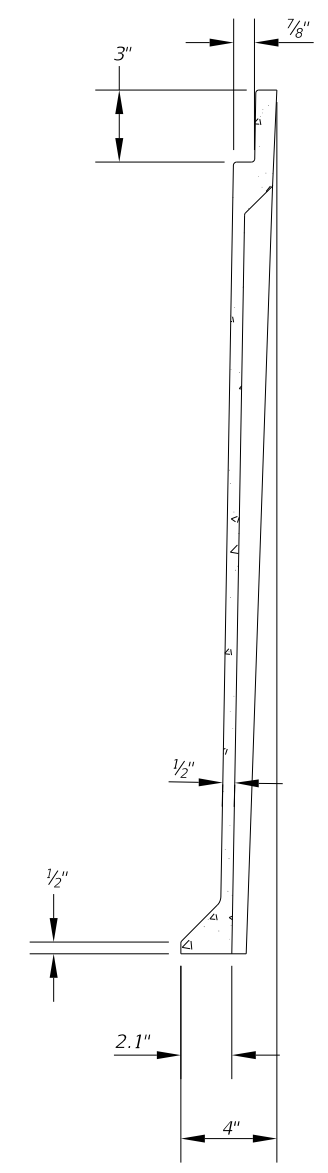
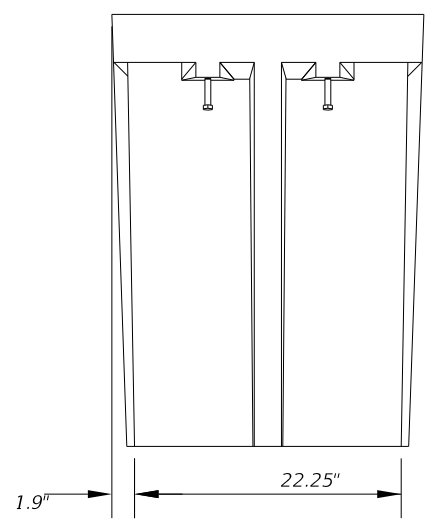
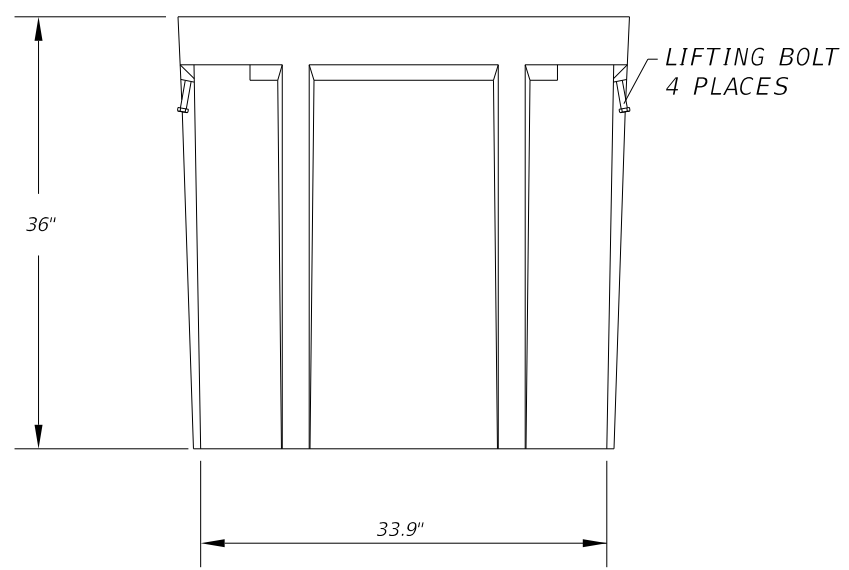
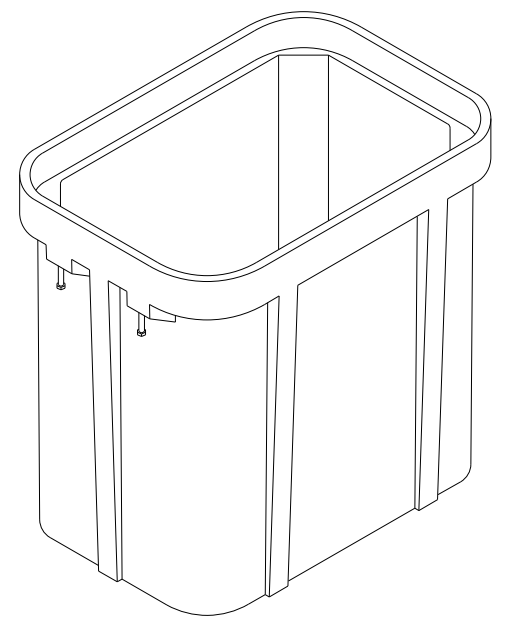
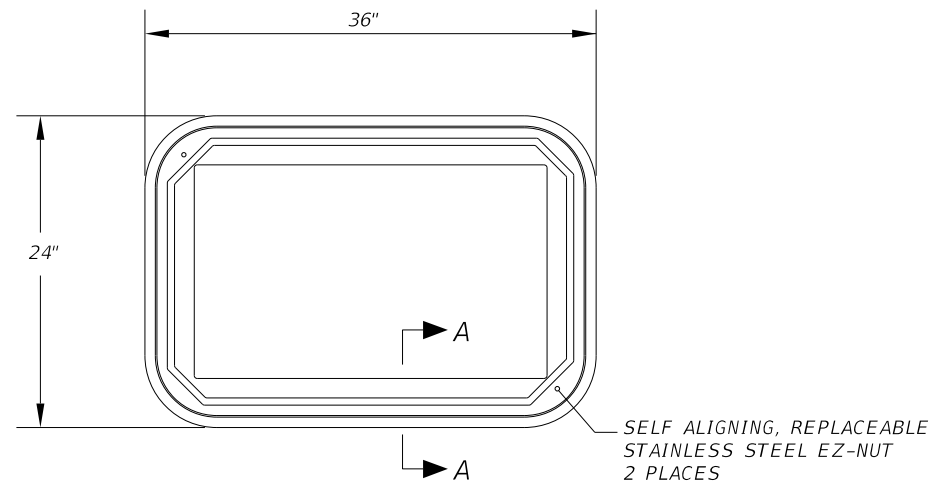




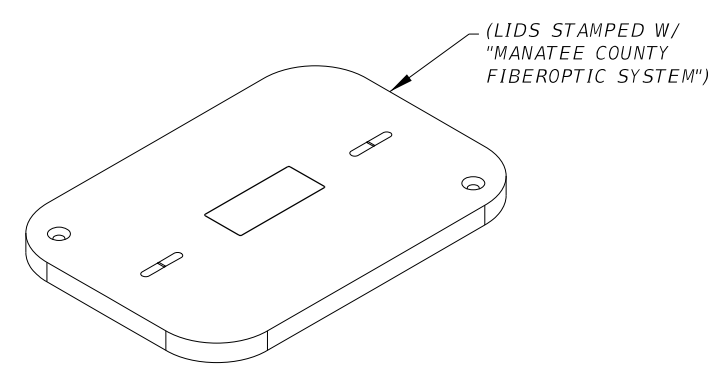
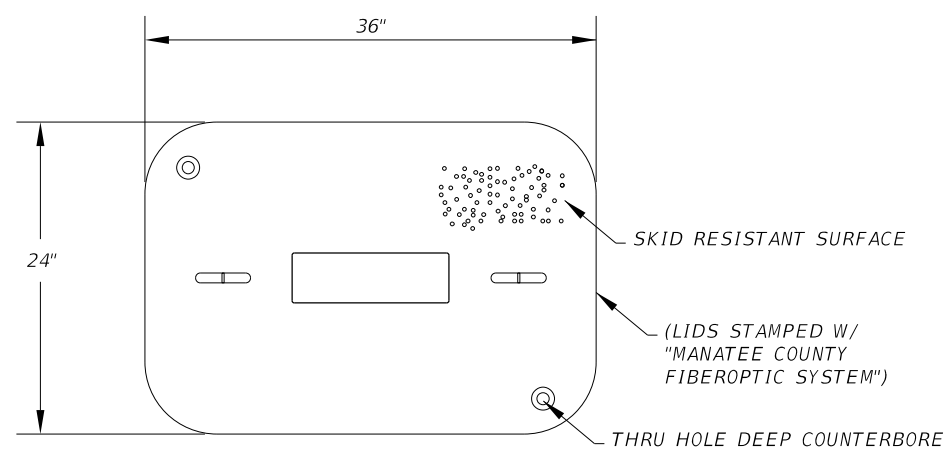
NOTES:


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.

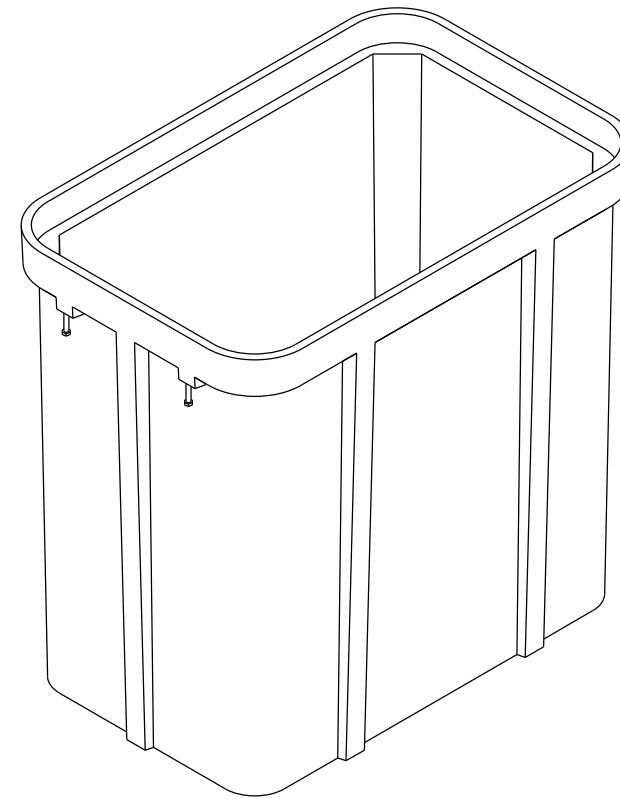
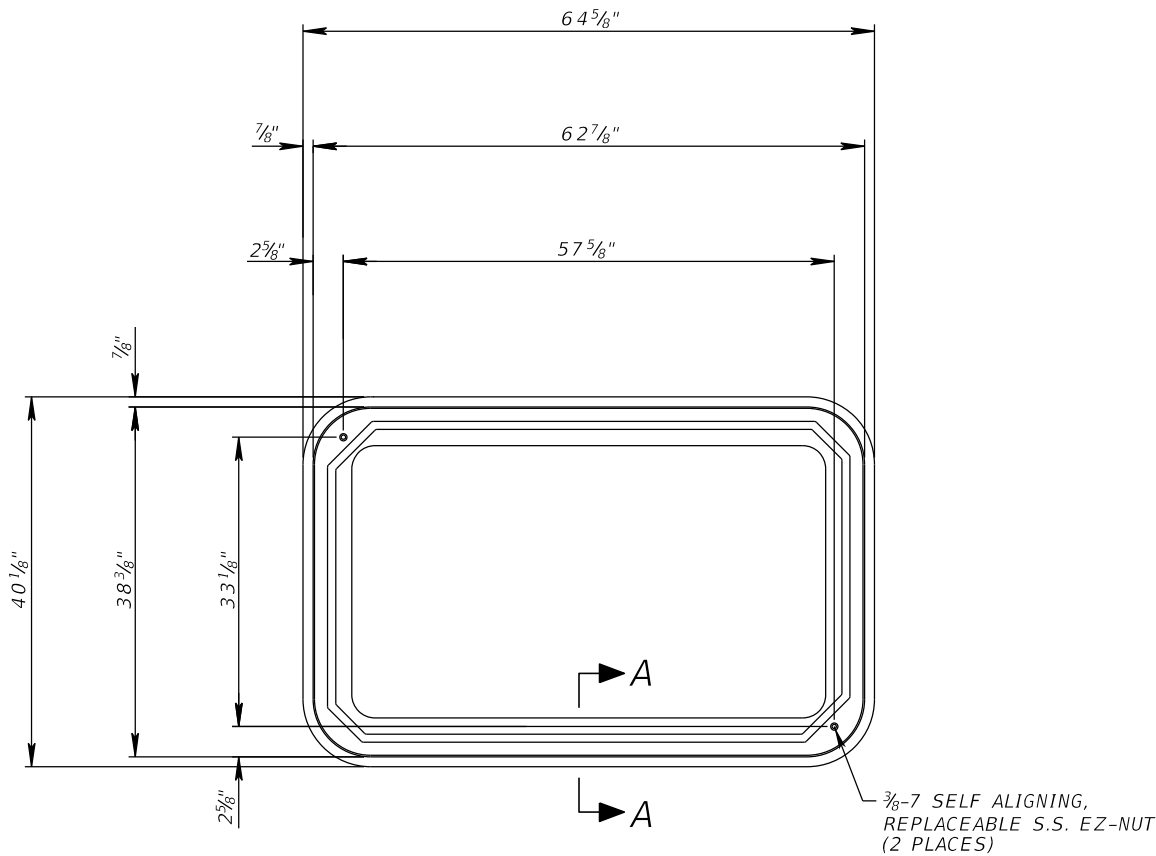
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				DESIGNED BY	IR	2601 CATTLEMEN ROAD, SUITE 400	02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM	SARASOTA, FLORIDA 34232	PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY	MO		6045662		77692		T-17
No.	REVISIONS	DATE	BY								



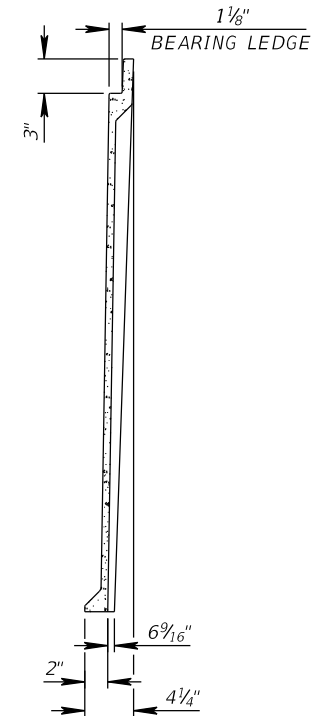
SECTION A-A



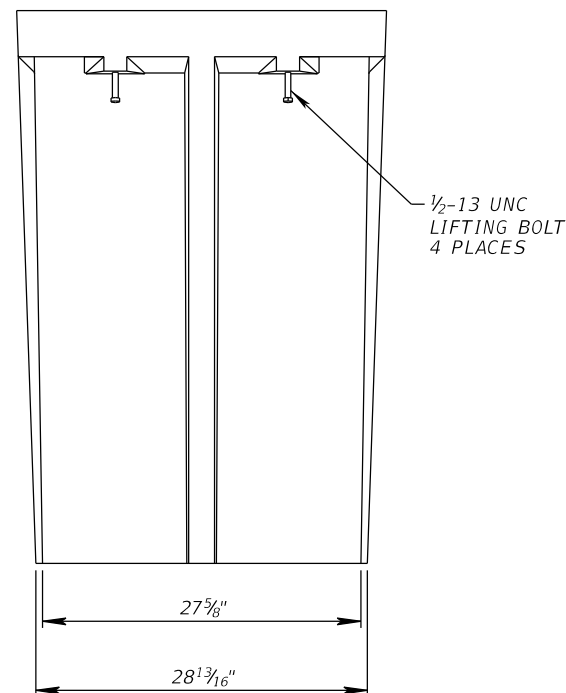
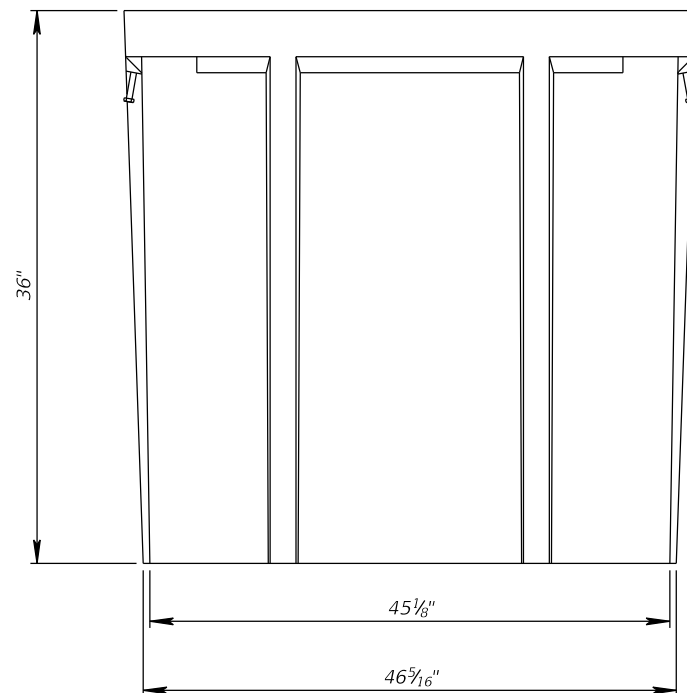
				SCALE	AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	FIBER OPTIC PULL BOX DETAILS	SHEET NO.
				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY	MO		6045662		77692		
No.	REVISIONS			DATE	BY	T-18					




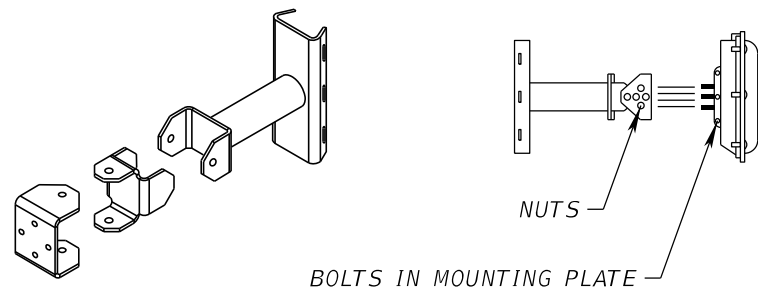
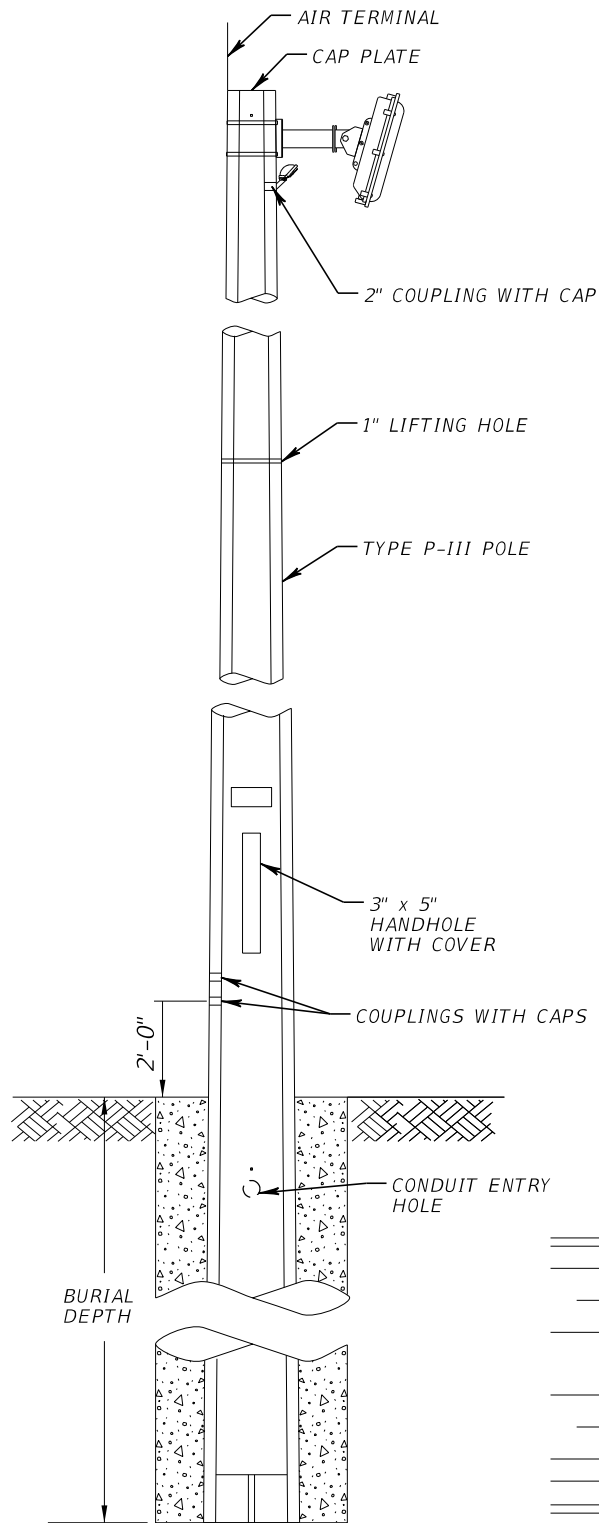
30" W x 60" L x 48" D  
DESIGN LOAD: 22,500 LBS



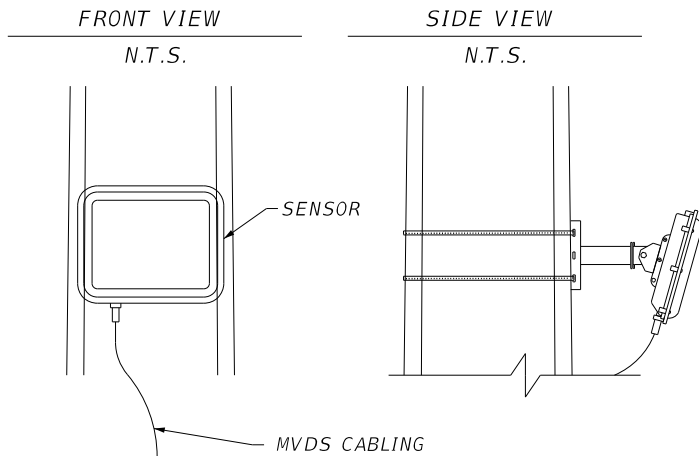
SECTION A-A



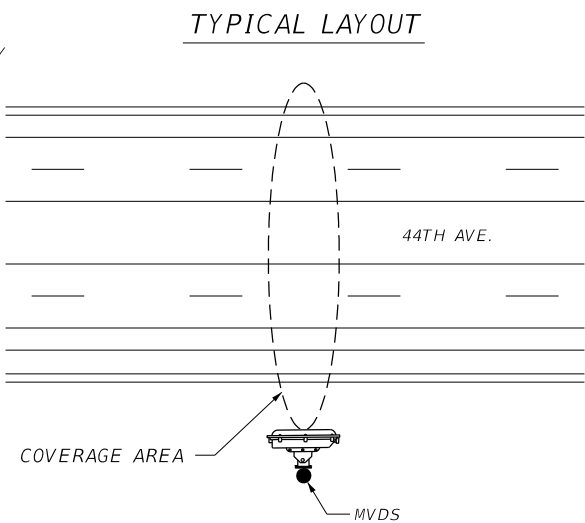
				SCALE	AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 02/2022	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	FIBER OPTIC SPLICE BOX DETAILS	SHEET NO.
				DESIGNED BY	IR				LIYANAGE RATNAYAKE		
				DRAWN BY	SM		FL. LICENSE NO.		T-19		
				CHECKED BY	MO		77692				
No.	REVISIONS			DATE	BY						



SMART SENSOR ADVANCE  
ATTACHMENT DETAIL  
NTS



HD MVDS MOUNTING DETAILS  
NTS

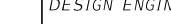


GROUNDING NOTES:

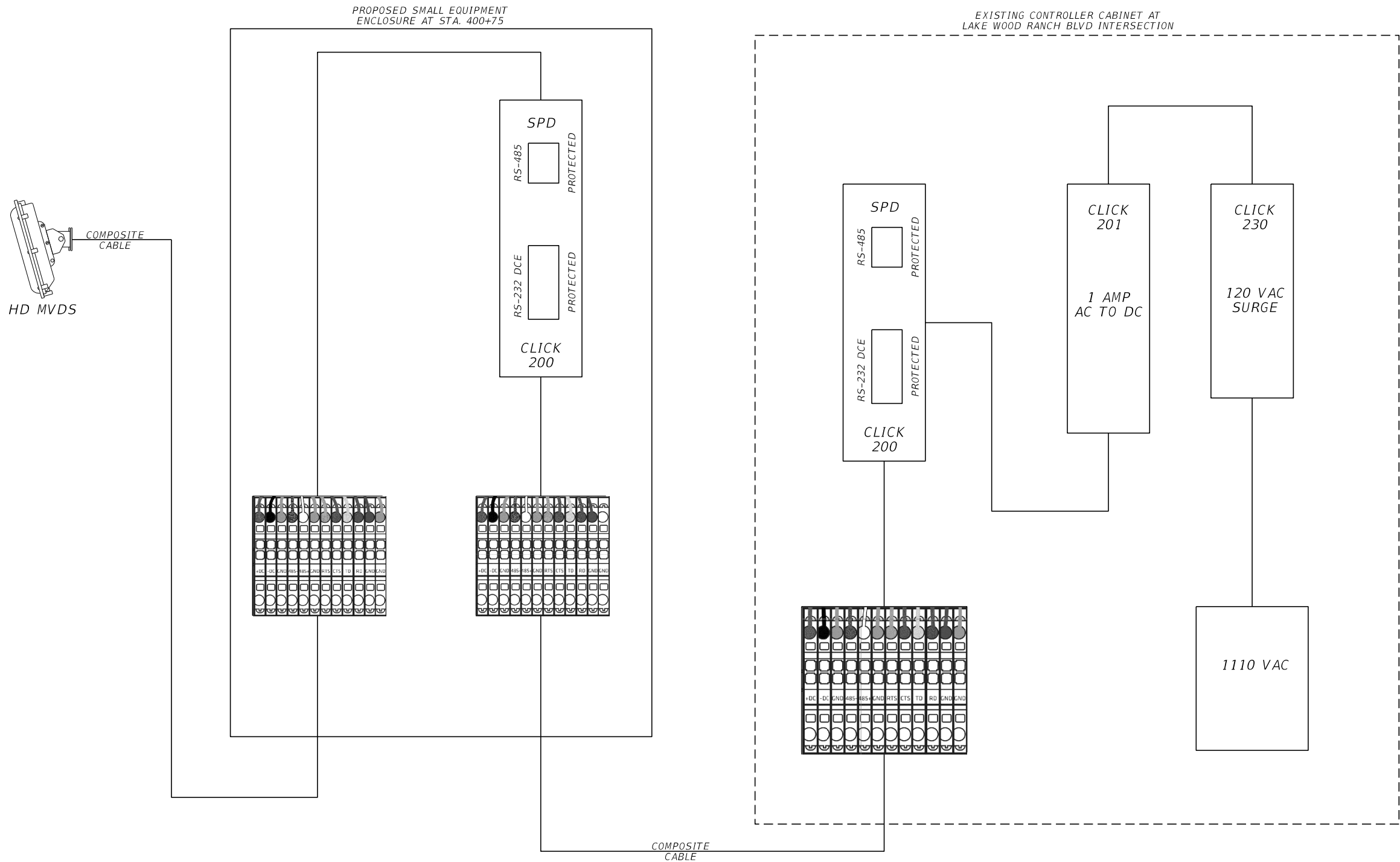
1. ALL EXOTHERMIC WELDS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS.
2. USE EXOTHERMIC WELD MOLDS RECOMMENDED BY THE MANUFACTURER SPECIFIC TO EACH WELD APPLICATION. MOLDS SHALL BE APPROVED BY THE MANUFACTURER FOR #2 AWG TIN-PLATED SOLID CONDUCTOR WIRE.
3. THE STRUCTURE SHALL BE CONNECTED TO THE GROUNDING ARRAY.
4. GROUND WIRE LEADS SHALL BE BONDED TO EQUIPMENT CABINETS WITH A COPPER GROUND BAR. BOND SHALL BE LOCATED ON THE INSIDE OF THE CABINET WITH THE EARTH WIRE TERMINATED IN A CABLE LUG, BOLTED TO THE GROUND BAR AND PROTECTED WITH NO-OX COMPOUND.
5. THE GROUNDING SYSTEM SHALL MEET THE REQUIREMENT OF 5 OHMS OR LESS AS MEASURED FROM THE SIGN STRUCTURE USING THE THREE-POINT GROUND MEASUREMENT TECHNIQUE. REFER TO STANDARD SPEC. 630 FOR MORE DETAILS ON GROUNDING INSTALLATION REQUIREMENTS.
6. GROUNDING CONDUCTOR SHALL BE BONDED AT TOP AND BOTTOM OF RIGID GALVANIZED CONDUIT PER N.E.C.
7. ALL GROUNDING MATERIALS SHALL MEET THE REQUIREMENTS OF SECTION 630 OF THE FDOT SPECIFICATIONS UNLESS OTHERWISE NOTED.
8. 5/8" x 24" ZINC ANODE ROD. INSTALL A COMPRESSION FITTING TO ZINC ANODE ROD TO DIRECTLY CONNECT # 2 AWG TIN-PLATED BARE COPPER WIRE TO MAIN GROUND ROD.
9. INSTALL GROUND ENHANCEMENT MATERIALS PER MANUFACTURER'S RECOMMENDATION AT GROUNDING ARRAYS.


NOTES:

1. COMPONENT ARMS FOR THE MVDS ARE TO BE ATTACHED TO THE POLE USING 1/2" OR GREATER STAINLESS STEEL BANDING.
2. SET UP VIRTUAL SPEED PAIRS ACCORDING TO THE REQUIREMENTS OF THE MVDS USER MANUAL.
3. FABRICATE AND INSTALL THE TYPE P-III POLE ENSURING THE HAND HOLE WITH COVER, THE CONDUIT ENTRY HOLE, AND THE COUPLERS ARE IN CONFORMANCE WITH THE STANDARD PLANS INDEX 641-010, AND ACCEPTABLE ITS CABINET MOUNTING IS ACHIEVED.
4. INSTALL THE ITS CABINET, GROUND ROD ARRAY, AND AIR TERMINAL IN CONFORMANCE WITH THE STANDARD PLANS INDEX 641-020.
5. ALL ABOVE GROUND CONDUITS SHALL BE INSIDE THE POLE EXCEPT FOR THE GROUNDING CONDUIT.

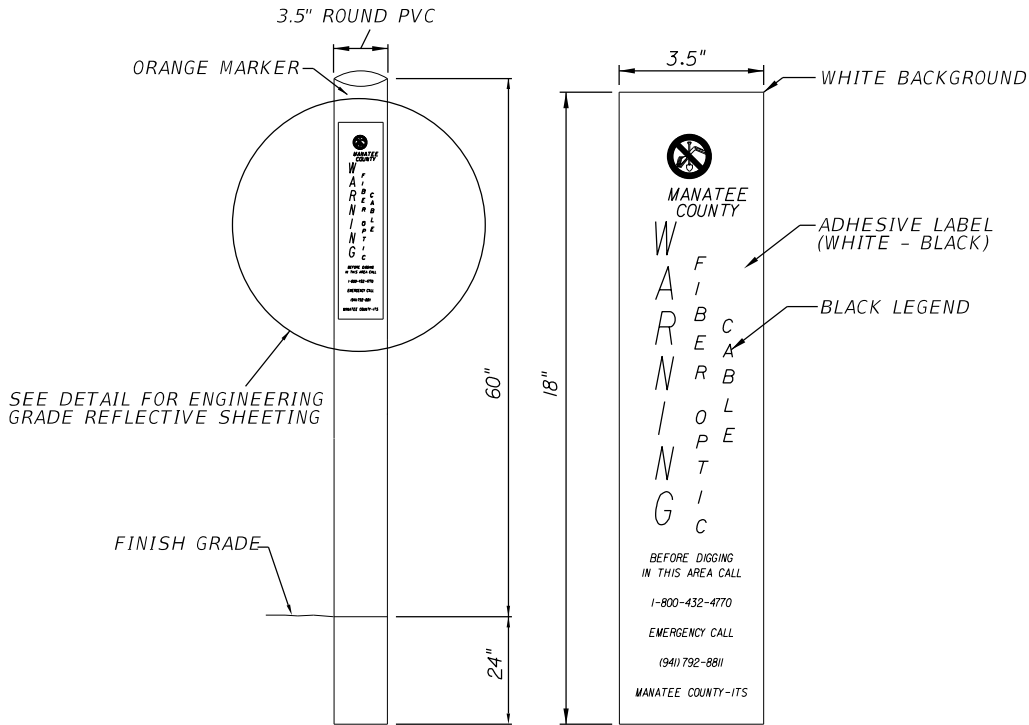
				SCALE	AS NOTED	HDR ENGINEERING, INC.  2601 CATTLEMEN ROAD, SUITE 400  SARASOTA, FLORIDA 34232	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MVDS SITE  INSTALLATION DETAIL	SHEET NO.
				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY	MO		6045662		77692		
No.	REVISIONS			DATE	BY						

MVDS CONNECTION DIAGRAM



				SCALE	AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	MVDS BLOCK DIAGRAM	SHEET NO.
				DESIGNED BY	IR		02/2022		LIYANAGE RATNAYAKE		
				DRAWN BY	SM		PROJECT NO.		FL. LICENSE NO.		
				CHECKED BY	MO		6045662		77692		
No.	REVISIONS			DATE	BY						

FIBER OPTIC CABLE ROUTE MARKER

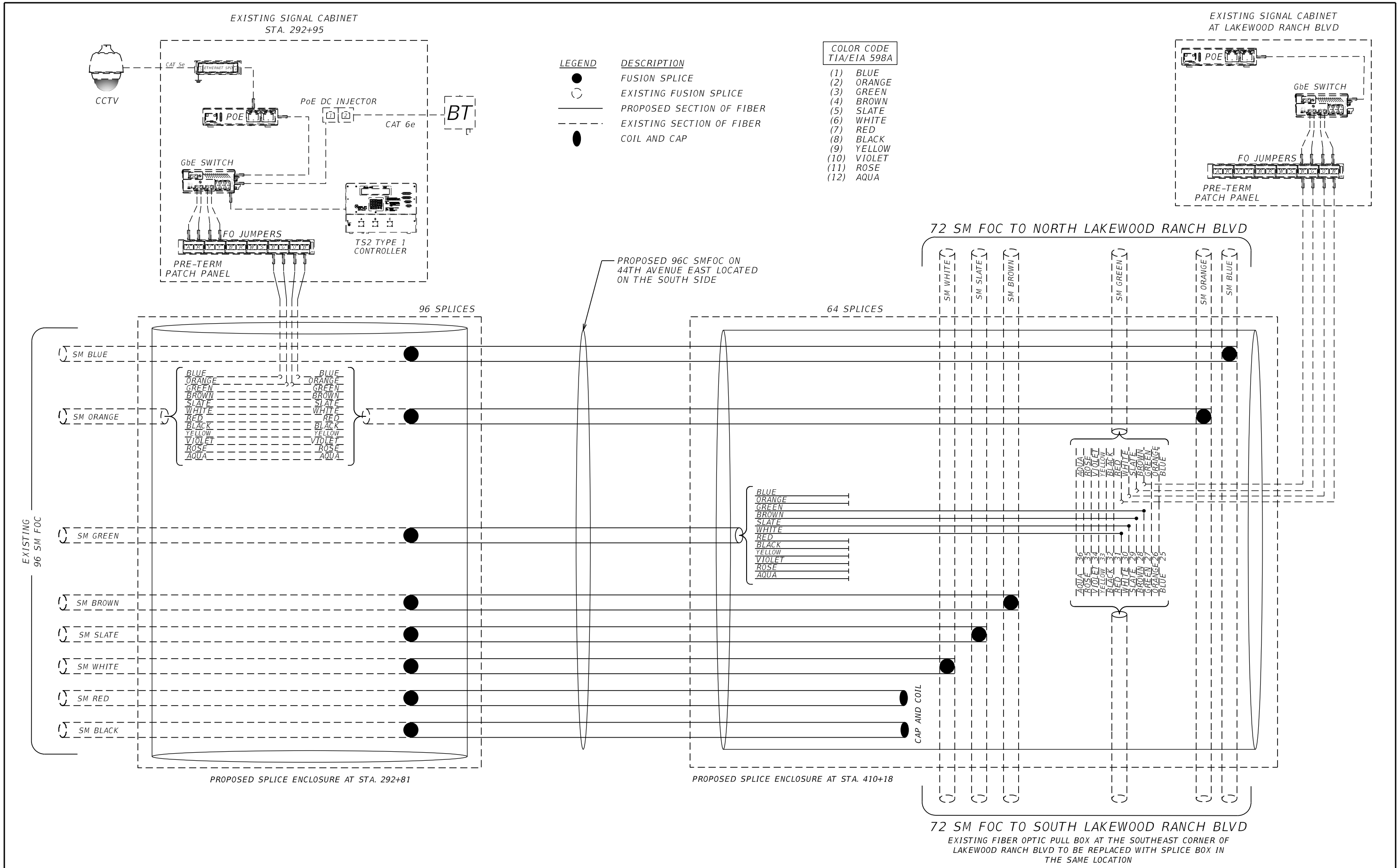


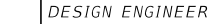
FRONT VIEW  
NTS

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.
6. ALL ROUTE MARKERS SHALL MEET SECTION 630 OF STANDARD SPECIFICATIONS.

				SCALE	AS NOTED	HDR ENGINEERING, INC.	DATE	2/23/2022	DESIGN ENGINEER	LIYANAGE RATNAYAKE	CABLE ROUTE MARKER DETAIL	SHEET NO.
				DESIGNED BY	IR	2601 CATTLEMEN ROAD, SUITE 400	PROJECT NO.	6045662	FL. LICENSE NO.	77692		T-22
				DRAWN BY	SM	SARASOTA, FLORIDA 34232						
No.	REVISIONS	DATE	BY	CHECKED BY	MO							



				SCALE	AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 02/2022	 <b>MANATEE COUNTY PUBLIC WORKS</b>	DESIGN ENGINEER	<b>SPLICING DIAGRAM</b>	SHEET NO.
				DESIGNED BY	IR				LIYANAGE RATNAYAKE		
				DRAWN BY	SM		FL. LICENSE NO. 77692		T-23		
				CHECKED BY	MO						
No.	REVISIONS			DATE	BY						