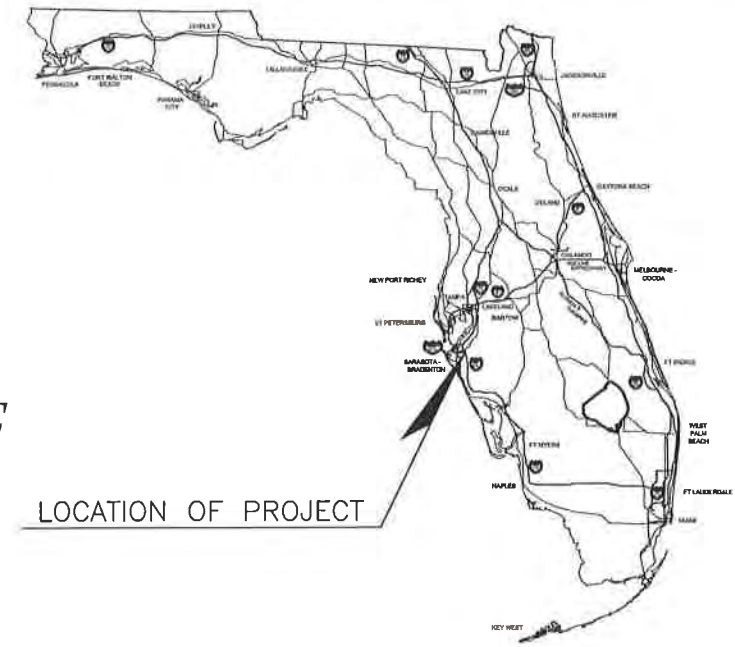




MANATEE COUNTY, FLORIDA
FORT HAMER BRIDGE
BRIDGE OVER MANATEE RIVER FROM UPPER MANATEE
RIVER ROAD TO NORTH OF FORT HAMER PARK
COUNTY PROJECT NUMBER 6035560



LOCATION OF PROJECT

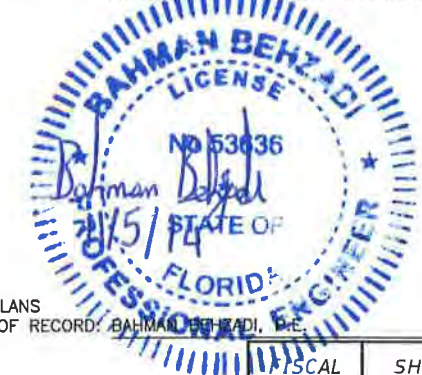
INDEX OF LIGHTING PLANS	
SHEET NO.	SHEET DESCRIPTION
L-1	LIGHTING KEY SHEET
L-2 & L-3	TABULATION OF QUANTITIES
L-4	GENERAL NOTES
L-5	PAY ITEM NOTES
L-6	POLE DATA
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L-8	LIGHTING LAYOUT
L-9 THRU L-19	LIGHTING PLANS
L-20	NAVIGATIONAL LIGHTING PLAN
L-21	NAVIGATIONAL LIGHTING DETAILS
L-22	LOAD CENTER DETAILS (1)
L-23	LOAD CENTER DETAILS (2)
L-24	PANELBOARD SCHEDULES

LIGHTING PLANS

SHOP DRAWINGS TO BE SUBMITTED TO:
 BAHMAN BEHZADI, P.E.
 URS CORPORATION SOUTHERN
 7650 West Courtney Campbell Causeway
 Waterford Plaza, Suite 700
 Tampa, Florida 33607-1462
 (813) 286-1711

PLANS PREPARED BY:
URS
 URS CORPORATION SOUTHERN
 7650 West Courtney Campbell Causeway
 Waterford Plaza, Suite 700
 Tampa, Florida 33607-1462
 (813) 286-1711

CERTIFICATE OF AUTHORIZATION NO. 00000002



KEY SHEET REVISIONS		
DATE	BY	DESCRIPTION

LIGHTING PLANS
 ENGINEER OF RECORD: BAHMAN BEHZADI, P.E.

DATE:
 P.E. NO.: 53636

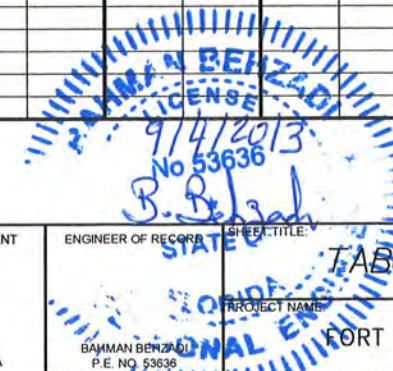
FISCAL YEAR	SHEET NO.
2014	L-1


MANATEE COUNTY PROJECT MANAGER : Kent D. Bontrager, PE

TABULATION OF QUANTITIES (SOUTH SECTION)

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																		TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET	
			L-9		L-10		L-11		L-12		L-13		L-19													
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL						
510-1	NAVIGATIONAL LIGHTING	LS	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-
715-1-12	LIGHTING CONDUCTORS, (F&I), INSUL.. NO. 8-6	LF	162		4568		4900		3551		-		1386										14,567			
630-2-11	LIGHTING-CONDUIT (F&I) (UNDERGROUND)	LF	53		807		470		403		-		198										1,931			
715-4-021	LIGHT POLE COMPLETE - SPECIAL FOUNDATION	EA	-		-		1		1		-		-										2		2	
715-4-121	LIGHT POLE COMPLETE, F&I, WIND SPEED 130, POLE HEIGHT 40'	EA	1		5		3		2		-		1										12			
715-7-11	LOAD CENTER (F&I) (SECONDARY VOLTAGE)	EA	-		-		-		-		-		1										1			
635-2-11	LIGHTING PULL BOX (F&I) (ROADSIDE-MOULDED)	EA	1		7		4		4		-		3										19			
715-500-1	LIGHT POLE CABLE DISTRIBUTION - CONVENTIONAL	EA	1		5		3		2		-		1										12			
715-500-3	LIGHT POLE CABLE DISTRIBUTION - WALL MOUNTED	EA	-		-		1		1		-		-										2			

SHEET NOTE:
REFER TO SHEET L-5 FOR PAY ITEM NOTES.



REVISIONS Date By Description			Drawn By: H. GRIMALDO Checked By: B. BEHZADI Designed By: B. BEHZADI Checked By: S. AHMED	URS URS Corporation Southern 7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462 C.A. No. 00000002	MANATEE COUNTY GOVERNMENT  MANATEE COUNTY, FLORIDA	ENGINEER OF RECORD BAHMAN BEHZADI P.E. NO. 53636	SHEET TITLE: TABULATION OF QUANTITIES (I) PROJECT NAME: FORT HAMER BRIDGE OVER MANATEE RIVER	REF. DWG. NO. SHEET NO. L-2
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TABULATION OF QUANTITIES (NORTH SECTION)

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET
			L-14		L-15		L-16		L-17		L-18												
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL			
715-1-12	LIGHTING CONDUCTORS, (F&I), INSUL.. NO. 8-6	LF	-	-	1490	5497	288											7,275	21,842				
630-2-11	LIGHTING-CONDUIT (F&I) (UNDERGROUND)	LF	-	-	513	1275	91											1,879	3,810				
715-4-121	LIGHT POLE COMPLETE, F&I, WIND SPEED 130, POLE HEIGHT 40'	EA	-	-	2	8	1											11	23				
715-7-11	LOAD CENTER (F&I) (SECONDARY VOLTAGE)	EA	-	-	-	1	-											1	2				
635-2-11	LIGHTING PULL BOX (F&I) (ROADSIDE-MOULDED)	EA	-	-	3	14	1											18	37				
715-500-1	LIGHT POLE CABLE DISTRIBUTION - CONVENTIONAL	EA	-	-	2	8	1											11	23				
715-500-3	LIGHT POLE CABLE DISTRIBUTION - WALL MOUNTED	EA	-	-	-	-	-											-	2				

SHEET NOTE:
REFER TO SHEET L-5 FOR PAY ITEM NOTES.



REVISIONS Date By Description			Drawn By: H. GRIMALDO Checked By: B. BEHZADI Designed By: B. BEHZADI Checked By: S. AHMED	URS URS Corporation Southern 7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462 C.A. No. 00000002	MANATEE COUNTY GOVERNMENT MANATEE COUNTY, FLORIDA	ENGINEER OF RECORD STATE OF FLORIDA BAHMAN BEHZADI P.E. NO. 53636	SHEET TITLE: TABULATION OF QUANTITIES (2) PROJECT NAME: FORT HAMER BRIDGE OVER MANATEE RIVER	REF. DWG. NO. SHEET NO. L-3
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GENERAL NOTES

1. FOR GENERAL NOTES SEE FDOT DESIGN STANDARDS. ALL INDEX REFERENCES ARE FOUND IN THIS BOOKLET.

2. PRIOR TO ANY EQUIPMENT ORDER, SUBMIT FOR APPROVAL EQUIPMENT SPECIFICATION OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT. THESE MUST SPECIFICALLY INCLUDE:
- A) LUMINAIRE PHOTOMETRICS
 - B) POLE STRENGTH CALCULATIONS
 - C) POLE FRANGIBILITY TEST
 - D) BOLT SPECIFICATIONS AND BOLT CIRCLE DIAMETER
 - E) POLE, SERVICE POINT EQUIPMENT AND LOAD CENTER SHOP DRAWINGS
 - F) LOAD CENTER ELECTRICAL EQUIPMENT

3. UTILITY OWNERS:

COMPANIES	CONTACT NAME	PHONE NUMBER
PEACE RIVER ELECTRIC COOPERATIVE	DAVID McCLINTOCK	863-767-4621
FLORIDA POWER AND LIGHT	GREG COKER	941-723-4430

4. THE LOCATIONS OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, ARE APPROXIMATE AND BASED ON THE INFORMATION FURNISHED TO THE ENGINEER BY THE UTILITY OWNER(S) AND ARE SHOWN AS NOTICE TO THE CONTRACTOR THAT UNDERGROUND UTILITIES EXIST. BEFORE EXCAVATING NOTIFY THE UTILITY COMPANY OWNER(S) AND REQUEST THEM TO LOCATE AND STAKE THEIR UNDERGROUND FACILITIES. UTILITIES ARE TO BE ADJUSTED BY OTHERS AS DIRECTED BY THE ENGINEER.

5. PROVIDE NOTICE TO THE UTILITY OWNER(S) PER FLORIDA STATUTE 553.851 (2004) AND 556 (2004). THESE STATUTES REQUIRE THAT BEFORE EXCAVATION, NOTICE BE GIVEN TO THE UTILITY OWNER A MINIMUM OF TWO (2) DAYS, EXCLUDING SATURDAY, SUNDAY AND LEGAL HOLIDAYS. NOT ALL UTILITY COMPANIES ARE MEMBERS OF "SUNSHINE" 1-800-432-4770.

6. THE LOCATION OF THE POLES, CONDUCTORS, CONDUITS, JUNCTION BOXES AND SERVICE POLES ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED BY THE CONTRACTOR TO ACCOMMODATE LOCAL CONDITIONS AND EXISTING UTILITY LOCATIONS.

7. ALUMINUM POLES, LUMINAIRES AND BASES SHALL BE FABRICATED IN ACCORDANCE WITH AASHTO'S "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" AND SHALL HAVE BEEN TESTED BY FHWA- APPROVED METHODS. CERTIFICATION FOR TESTS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.

8. SUBMITTAL DATA SHALL INCLUDE COMPUTER PRINTOUT SHOWING HORIZONTAL FOOTCANDLE LEVELS TO BE OBTAINED USING THE SUBMITTED LUMINAIRES ON THIS PROJECT. AT FINAL INSPECTION THE CONTRACTOR SHALL VERIFY THE HORIZONTAL FOOTCANDLE LEVELS ON THE ROADWAY WITH AN APPROVED RECENT CALIBRATED LIGHT METER CERTIFIED BY A PROFESSIONAL AGENCY.

9. ALL ELECTRICAL WORK SHALL MEET ALL REQUIREMENTS OF THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE, THE NATIONAL ELECTRICAL SAFETY CODE AND THE FOOT SPECIFICATIONS. ALL COMPONENTS SHALL BE PROPERLY GROUNDED AND BONDED PER N.E.C. REQUIREMENTS.

10. IN ACCORDANCE WITH N.E.C., IDENTIFY ALL CIRCUITS AND EQUIPMENT WITH "LAMACOID TAGS". INSTALL SIMILAR TAGS OF STAINLESS STEEL IDENTIFYING CIRCUIT FOR EACH LUMINAIRE AT ACCESS HANDHOLE FOR EACH POLE.

11. EXTREME CAUTION SHALL BE EXERCISED AT ALL TIMES IN PERFORMANCE OF WORK AROUND THE PRIMARY HIGH VOLTAGE COMPONENTS. NO ROADWAY LIGHTING FACILITIES SHALL BE PLACED WITHIN THE 10' OSHA CLEAR ZONE AREAS FOR OVERHEAD ELECTRIC LINES.

12. PULLING INSTRUCTIONS: CONNECT PULLING DEVICES TO COPPER WIRE AND NOT TO JACKET AND MEET MANUFACTURER'S REQUIREMENTS. USE PULLING COMPOUND PER MANUFACTURER'S REQUIREMENTS. ALL BEND RADIUS SHALL NOT BE LESS THAN RECOMMENDED BY N.E.C. OR N.E.S.C. FOR CABLE USED.

13. STAKE ALL POLE LOCATIONS AND REQUEST UTILITY COMPANIES TO LOCATE AND STAKE UNDERGROUND UTILITIES PRIOR TO EXCAVATING.

14. FURNISH AND INSTALL AN ALUMINUM IDENTIFICATION TAG ON EACH ROADWAY LIGHTING STANDARD AND ILLUMINATED OVERHEAD SIGNS. TAGS SHALL BE 2" X 8" IN SIZE WITH BLACK LETTERS ON YELLOW BACKGROUND, ATTACHED WITH APPROVED ADHESIVE (NO SCREWS OR RIVETS). NUMBERS SHALL BE AS SHOWN ON THE POLE IDENTIFICATION TAG DETAIL. COST OF TAGS SHALL BE INCLUDED IN THE BID ITEMS FOR LIGHT POLE COMPLETE. TAG SHALL BE PLACED 5 FEET ABOVE GRADE AND FACING THE ROADWAY. THE CONTRACTOR SHALL COORDINATE WITH MANATEE COUNTY ROADWAY MAINTENANCE FOR PROPER NUMBERING SEQUENCE OF LOAD CENTER, CIRCUITS, AND POLES BEFORE ORDERING TAGS.

15. VERIFY POLE LENGTHS REQUIRED PER THE ROADWAY CROSS SECTIONS AND OFFSETS IN ORDER TO ACHIEVE THE PROPER MOUNTING HEIGHT FOR EACH LUMINAIRE. THIS VERIFICATION SHALL OCCUR PRIOR TO THE SUBMISSION OF SHOP DRAWINGS. MOUNTING HEIGHTS ARE DETERMINED FROM THE BOTTOM OF THE LUMINAIRE HOUSING VERTICALLY TO PAVEMENT GRADE.

16. ALL CONDUITS UNDER ROADWAY (AND/OR SIDEWALK) SHALL BE INSTALLED PRIOR TO INSTALLATION OF ROADWAY BASE AND SURFACE (OR CONCRETE). EXCEPT WHERE OTHERWISE SPECIFIED IN THE PLANS.

17. JACK AND BORE OPERATIONS IF USED SHALL MEET THE REQUIREMENTS OF F.D.O.T.'S UTILITY ACCOMMODATION GUIDE. (LATEST EDITION).

18. ALL CONDUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSINGS BY THE END OF EACH WORKING DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. THE CONTRACTOR SHALL NOT OPEN ANY AREA THAT CAN NOT BE BACKFILLED IN THE SAME DAY/NIGHT OPERATION.

19. UPON FINAL ACCEPTANCE OF THE PROJECT, PREPARE ACCURATELY DIMENSIONED "AS-BUILT" PLANS OF THE FINAL POLE, LOAD CENTER CABINET, PULL BOXES, CABLE AND CONDUIT LOCATIONS. THE CONTRACTOR SHALL FORWARD A COMPLETE SET OF REVIEWED AND APPROVED AS-BUILT PLANS WITH ALL CHANGES MARKED IN RED TO THE MANATEE COUNTY OFFICE.

20. ALL ROADSIDE LIGHTING PULL BOXES SHALL BE MARKED "STREET LIGHTING". ALL PULL BOX METAL COVERS SHALL BE MARKED "STREET LIGHTING" AND SHALL BE PROVIDED WITH A GROUND LUG.

21. REFERENCE THE BRIDGE STRUCTURAL PLANS FOR THE EMBEDDED ELECTRICAL ITEMS: CONDUIT, PULL BOX, JUNCTION BOX AND THEIR LOCATIONS.

22. CONDUIT LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. CONDUIT MUST BE PLACED WITHIN THE RIGHT-OF-WAY BUT CAN BE ADJUSTED TO FIT AROUND THE EXISTING AND PROPOSED UTILITIES. WHERE PLANNED LOCATION OF LIGHTING CONDUIT RUNS 30" UNDER PAVEMENT IS FOUND TO CONFLICT WITH UNDERGROUND UTILITIES, THE LIGHTING CONDUIT POSITION SHALL BE ALTERED VERTICALLY OR HORIZONTALLY TO AVOID THE CONFLICT AS RECOMMENDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. A 24" ABSOLUTE MINIMUM DEPTH SHALL BE MAINTAINED WHERE LIGHTING CONDUITS ARE RELOCATED CLOSER THAN 30" BELOW THE GROUND SURFACE AND SHALL BE PLACED IN AN ADDITIONAL 3" PVC SLEEVE OR BACKFILLED WITH A MIN. OF 4"x4" OF CONCRETE. COST OF SUCH TREATMENT WILL BE INCIDENTAL TO PAY ITEMS PROVIDED.

23. ALL EXCESS DIRT AND DEBRIS EXCAVATED FROM POLE FOUNDATIONS SHALL BE REMOVED DAILY TO AREAS APPROVED BY THE ENGINEER AND PAID FOR UNDER PAY ITEM 715-5AB-CDD.

24. ALL SPLICES SHALL BE MADE IN PULL BOXES ONLY WITH COMPRESSION SLEEVES OR SPLIT BOLT CONNECTORS, PROPERLY TAPED AND WATERPROOFED. SPLICES AND CONNECTIONS MADE IN PULL BOXES SHALL BE LIMITED TO THE SERVICE POINT AND CONDUIT JUNCTION WITH MULTI-DIRECTIONAL CONDUITS AS INDICATED ON PLANS. THE CONNECTION MADE AT THESE POINTS SHALL BE PROPERLY TAPED AND WATERPROOFED.

25. INSPECT ALIGNMENT OF EACH INDIVIDUAL POLE AND FIXTURE AS FOLLOWS:

POLE ALIGNMENT: WITHIN ONE HALF DEGREE ON VERTICAL +/-, CONFIRM VERTICAL ALIGNMENT, VIEWING FROM ADJACENT SERIES OF POLES, IN BOTH DIRECTIONS.
 FIXTURE ALIGNMENT: WITHIN ONE DEGREE OF HORIZONTAL +/-, USING CALIBRATED LEVEL ALONG BOTH AXES OF CUT-OFF FIXTURE FACE, WITH LENS ONLY. NO REFRACTOR TYPE FIXTURES SHALL BE USED.

26. ALL CONDUITS SHALL BE MANDREL TESTED AND CLEANED. CONDUITS PLACED FOR FUTURE USE SHALL HAVE 1" POLYESTER CORD PULLED IN PLACE AND CAPPED, WITH NOTATION INSIDE CONDUIT AS TO LOCATION OF OPPOSITE END. PLACE DUCT MARKER OR MARK PULL BOXES TO INDICATE ENDS OF EMPTY CONDUITS.

27. SPARE CONDUIT AT MAINLINE AND ARTERIAL ROAD PAVEMENT CROSSINGS SHALL BE CAPPED AT BOTH ENDS.

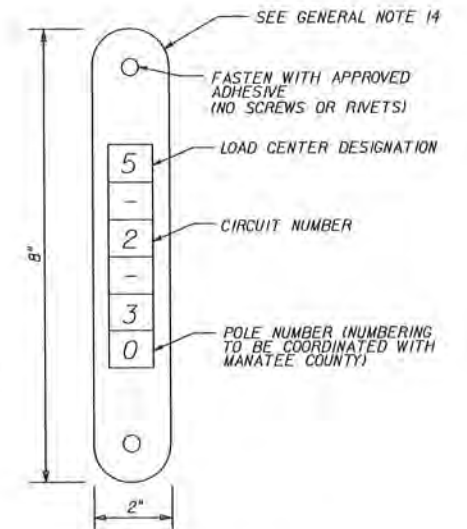
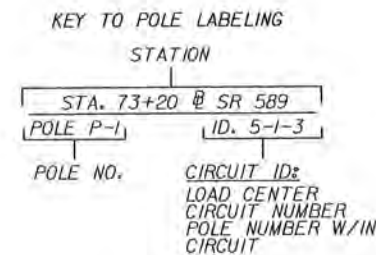
28. DO NOT INSTALL LIGHT POLES, PULL BOXES AND/OR LOAD CENTERS WITHIN ANY DITCHES OR AREAS THAT MAY CAUSE WATER INTRUSION.

29. AS PART OF THE 7 DAY TEST BURNING PERIOD, EACH CIRCUIT SHALL BE LABELED WITH THE LOAD AMPERAGE READING AT THE LOAD CENTER PANEL.

30. ALL POLES LOCATED ON SLOPES GREATER THAN 1:4 UP TO 1:2 HAVE BEEN FLAGGED ON THE POLE DATA SHEETS. FOUNDATIONS SHALL BE DESIGNED PER INDEX I7515. IF FIELD CONDITION CHANGES DURING CONSTRUCTION AFFECT A SIDE SLOPE, USE THE APPROPRIATE FOUNDATION FOR THE ACTUAL CONDITION.

31. AT LOCATIONS WHERE UNDERGROUND UTILITIES ARE WITHIN FIVE FEET OF A LIGHTING POLE FOUNDATIONS AND/OR CONDUIT RUNS, AS DETERMINED BY THE ENGINEER, THE CONTRACTOR WILL HAND DIG THE FIRST 4 FEET OF THE HOLE FOR THE POLE FOUNDATION AND/OR CONDUIT RUNS.

32. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE TRAFFIC CONTROL PLANS IN THE ROADWAY PLANS FOR TEMPORARY LIGHTING INSTALLATION DETAILS AND NOTES.



POLE IDENTIFICATION TAG DETAIL
N.T.S.



REVISIONS						Drawn By:	MANATEE COUNTY GOVERNMENT	ENGINEER OF RECORD:	SHEET TITLE:	REF. DWG. NO.
Date	By	Description	Date	By	Description	H. GRIMALDO	MANATEE COUNTY, FLORIDA	Bahman Behzadi	GENERAL NOTES	
						Checked By:				
						B. BEHZADI				
						Designed By:				
						B. BEHZADI				
						Checked By:				
						S. AHMED				



URS
 URS Corporation Southern
 7650 West Courtney
 Campbell Causeway
 Tampa, Florida 33607-1462
 C.A. No. 00000002

MANATEE COUNTY GOVERNMENT	ENGINEER OF RECORD:	SHEET TITLE:	REF. DWG. NO.
MANATEE COUNTY, FLORIDA	Bahman Behzadi	GENERAL NOTES	
	P.E. NO. 53836	FORT HAMER BRIDGE OVER MANATEE RIVER	
			SHEET NO.
			L-4

PAY ITEM NOTES

1. ITEM 510-1: INCLUDES ALL WORK RELATED TO THE NAVIGATION LIGHTS AND ACCESSORIES, INCLUDING GREEN CENTER CHANNEL LIGHTS, RED CHANNEL MARGIN LIGHTS, RED PIER LIGHTS, CONDUIT WIRING DEVICES, TRANSFORMERS, ENCLOSURES, GROUNDING SYSTEM, CONTROLS, AND PROTECTIVE DEVICES AS DETAILED IN THE SPECIFICATIONS AND DESIGN STANDARDS INDEX 21220.
2. ITEMS 715-1-12: INCLUDES CONDUCTORS AS INDICATED IN THE PLANS AND DESIGN STANDARDS. DESIGN QUANTITY SHALL BE BASED ON LINEAR FEET OF SINGLE CONDUCTOR.
3. ITEMS 630-2-AB: INCLUDES CONDUITS, ELBOWS, SWEEPS, CONNECTING HARDWARE, TRENCHING AND BACKFILL AS PER THE PLANS AND DESIGN STANDARDS. THE LINEAR FOOT PRICE FOR CONDUIT SHALL ALSO INCLUDE THE COST OF RESTORING SIDEWALKS AND PAVEMENT TO THEIR ORIGINAL CONDITION. SOD SHALL BE REPLACED IN LIKE KIND OF THE ADJACENT SURROUNDING.
4. ITEM 630-2-II: INCLUDES THE INSTALLATION OF CONDUIT UNDER PROPOSED PAVEMENT. CONDUIT SHOULD BE PLACED PRIOR TO INSTALLATION OF PAVEMENT.
5. ITEM 715-7-II: INCLUDE NEMA 4X SAFETY SWITCH, BASE MOUNTED ENCLOSURES, 480-120V CONTROL POWER TRANSFORMER, FUSES, SPD TYPE 1 (SURGE ARRESTER) ON OUTSIDE OF METER ENCLOSURE, SPD TYPE 2 ON THE INSIDE OF THE ENCLOSURE, CONDUIT AND FEEDER CONDUCTORS FROM THE POWER COMPANY POINT OF SERVICE, PULL BOX AND ALL MISCELLANEOUS HARDWARE FOR A COMPLETE INSTALLATION AS PER PLANS AND STANDARD INDEX 17504 DETAIL "A". INCLUDE THE COST OF FURNISHING AND INSTALLING TYPE P-II PRESTRESSED CONCRETE POLE AND ALL FEES FOR INSPECTION OF CONNECTION OF THE ELECTRICAL SERVICE.



REVISIONS						Drawn By: H. GRIMALDO	 URS Corporation Southern 7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462 C.A. No. 0000002	MANATEE COUNTY GOVERNMENT	ENGINEER OF RECORD	SHEET TITLE:	REF. DWG. NO.	
Date	By	Description	Date	By	Description	Checked By: B. BEHZADI		 MANATEE COUNTY, FLORIDA	B. BEHZADI P.E. No. 53636	PAY ITEM NOTES		
						Designed By: B. BEHZADI						SHEET NO.
						Checked By: S. AHMED						L-5

POLE DATA

POLE NO.	CIRCUIT ID	STATION	TILT (DEG.)	LUMINAIRE WATTAGE	MOUNTING HEIGHT	POLE SETBACK	PAY ITEM	NOTES
P-1	1-1-1	106+47 @ FT. HAMER RD.	0	400	40'	14' FROM EDGE OF TRAVEL LANE	715-4-121	
P-2	1-2-2	108+44 @ FT. HAMER RD.	0	400	40'	14' FROM EDGE OF TRAVEL LANE	715-4-121	
P-3	1-1-3	109+73 @ FT. HAMER RD.	0	400	40'	14' FROM EDGE OF TRAVEL LANE	715-4-121	
P-4	1-2-4	26+00 @ UPPER MANATEE RIVER RD.	0	400	40'	4' BEHIND FACE OF GUARDRAIL	715-4-121	
P-5	1-1-5	27+15 @ UPPER MANATEE RIVER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-6	1-2-6	111+38 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-7	1-1-7	113+02 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-8	1-2-8	115+04 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-9	1-1-9	116+90 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-10	1-2-10	118+70 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-11	1-1-11	120+50 @ FT. HAMER RD.	0	400	40'	MOUNT ON RETAINING WALL	715-4-021	
P-12	1-2-12	122+30 @ FT. HAMER RD.	0	400	40'	MOUNT ON RETAINING WALL	715-4-021	
P-13	1-1-13	124+18 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-14	1-2-14	126+08 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-28	2-2-28	152+27 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-29	2-1-29	154+12 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-30	2-2-30	156+04 @ FT. HAMER RD.	0	400	40'	1' FROM OUTSIDE EDGE OF SIDEWALK	715-4-121	
P-31	2-1-31	11+62 @ RIVER WILDERNESS RD.	0	400	40'	14' FROM EDGE OF TRAVEL LANE	715-4-121	
P-32	2-2-32	55+89 @ FT. HAMER RD.	0	400	40'	14' FROM EDGE OF TRAVEL LANE	715-4-121	
P-33	2-1-33	358+42 @ FT. HAMER RD.	0	400	40'	12' FROM EDGE OF TRAVEL LANE	715-4-121	
P-34	2-2-34	58+46 @ FT. HAMER RD.	0	400	40'	14' FROM EDGE OF TRAVEL LANE	715-4-121	
P-35	2-1-35	60+55 @ FT. HAMER RD.	0	400	40'	14' FROM EDGE OF TRAVEL LANE	715-4-121	
P-36	2-2-36	360+21 @ FT. HAMER RD.	0	400	40'	10' FROM EDGE OF TRAVEL LANE	715-4-121	
P-37	2-1-37	362+00 @ FT. HAMER RD.	0	400	40'	14' FROM EDGE OF TRAVEL LANE	715-4-121	
P-38	2-2-38	363+91 @ FT. HAMER RD.	0	400	40'	14' FROM EDGE OF TRAVEL LANE	715-4-121	



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By: H. GRIMALDO
 Checked By: B. BEHZADI
 Designed By: B. BEHZADI
 Checked By: S. AHMED

URS
 URS Corporation Southern
 7650 West Courtney
 Campbell Causeway
 Tampa, Florida 33607-1462
 C.A. No. 00000002









MANATEE COUNTY GOVERNMENT

 MANATEE COUNTY, FLORIDA




ENGINEER OF RECORD
 STATE OF FLORIDA
 9/4/2014
 BAHRMAN BEHZADI
 P.E. NO. 53636

REF. DWG. NO.
 SHEET NO.
POLE DATA
 FORT HAMER BRIDGE OVER MANATEE RIVER
 L-6

LEGEND




SYMBOLS	DESCRIPTION
— — — —	2" SCHEDULE 40 PVC CONDUIT, UNLESS OTHERWISE NOTED ON THE PLANS, DIRECT BURIED, CONTAINING CIRCUIT CONDUCTORS AS INDICATED ON PLANS. ALL CONDUCTORS SHALL BE STRANDED COPPER, WITH RHW-2-XLP INSULATION. GROUND CONDUCTORS SHALL HAVE GREEN COLOR INSULATION. RUN GROUND CONDUCTORS INSIDE CONDUIT WITH OTHER CONDUCTORS. SEE F.D.O.T. INDEX I772I.
— — — —	TWO (2) 2" SCHEDULE 40 PVC CONDUITS, ONE ACTIVE AND ONE SPARE, DIRECT BURIED UNDER EXISTING ROADWAY. EXTEND CONDUITS BEYOND EDGE OF PAVEMENT (BOTH SIDES) AND TERMINATE IN PULL BOXES. THE ACTIVE CONDUIT SHALL CONTAIN CONDUCTORS AS INDICATED ON PLANS. ALL CONDUCTORS SHALL BE STRANDED COPPER, WITH RHW-2-XLP INSULATION. GROUND CONDUCTORS SHALL HAVE GREEN COLOR INSULATION. RUN GROUND CONDUCTORS INSIDE ACTIVE CONDUIT WITH OTHER CONDUCTORS. SEE F.D.O.T. INDEX I772I. CAP BOTH ENDS OF SPARE CONDUITS.
— — — —	RIGID GALVANIZED STEEL CONDUIT, SIZE AS SPECIFIED IN THE PLANS, EXPOSED SURFACE MOUNT CONTAINING CIRCUIT CONDUCTORS AS INDICATED ON PLANS. ALL CONDUCTORS SHALL BE STANDARD COPPER, WITH RHW-2-XLP INSULATION. GROUND CONDUCTORS SHALL HAVE GREEN COLOR INSULATION. RUN GROUND CONDUCTORS INSIDE CONDUIT W/ OTHER CONDUCTORS.
	SINGLE ARM, SHOULDER MOUNT, LIGHTING STANDARD ALUMINUM POLE, COBRA HEAD WITH ARM, IDENTIFICATION TAG AND 400 WATT HIGH PRESSURE SODIUM (HPS) LUMINAIRES DESIGNED WITH CLEAR FLAT GLASS FOR MEDIUM CUTOFF, TYPE III PHOTOMETRIC DISTRIBUTION EQUAL TO AMERICAN ELECTRIC LIGHTING CATALOG NUMBER 32540SR3FGHP, CURVE NUMBER ITL70757-I, HINGED BALLAST ACCESS DOOR SIMILAR TO 325 SERIES, INTEGRAL MAGNETIC REGULATOR TYPE BALLAST WIRED FOR 480 VOLT OPERATION. MOUNTING HEIGHT 40', SYMBOL INCLUDES POLE CABLE DISTRIBUTION SYSTEM (PAID FOR SEPARATELY) ALUMINUM POLE WITH FRANGILE BASE, CONCRETE FOUNDATION, PULL BOX, CONCRETE PAD, AND GROUNDING SHALL BE AS FDOT STANDARD INDEX.
	SINGLE ARM, WALL MOUNT, LIGHTING STANDARD ALUMINUM POLE, COBRA HEAD WITH ARM, IDENTIFICATION TAG AND 400 WATT HIGH PRESSURE SODIUM (HPS) LUMINAIRES DESIGNED WITH CLEAR FLAT GLASS FOR MEDIUM CUTOFF, TYPE III PHOTOMETRIC DISTRIBUTION EQUAL TO AMERICAN ELECTRIC LIGHTING CATALOG NUMBER 32540SR3FGHP, CURVE NUMBER ITL70757-I, HINGED BALLAST ACCESS DOOR SIMILAR TO 325 SERIES, INTEGRAL MAGNETIC REGULATOR TYPE BALLAST WIRED FOR 480 VOLT OPERATION. MOUNTING HEIGHT 40', SYMBOL INCLUDES POLE CABLE DISTRIBUTION SYSTEM (PAID FOR SEPARATELY) ALUMINUM POLE WITH FRANGILE BASE, CONCRETE FOUNDATION, PULL BOX, CONCRETE PAD, AND GROUNDING SHALL BE AS FDOT STANDARD INDEX.
	PILASTER ON BRIDGE FOR FUTURE BRIDGE LIGHTING.
	SERVICE POINT LOAD CENTER. SEE F.D.O.T. INDEX I7504. PROVIDE LOAD CENTER, CONCRETE PAD, SERVICE DROP/LATERAL, FUSED DISCONNECT SWITCH, GROUND ROD AND MISCELLANEOUS APPURTENANCES AS DETAILED ON LOAD CENTER DETAIL SHEETS. THE LOAD CENTER, CONCRETE PAD, SERVICE LATERAL CONDUIT AND CONDUCTORS, DISCONNECT SWITCH, ALL UTILITY COMPANY FEES AND MISCELLANEOUS APPURTENANCES ARE INCIDENTAL TO THE LOAD CENTER.
	PULL BOX WITH CONCRETE PAD AND A 5/8" X 20 FT. GROUND ROD. SEE F.D.O.T. INDEX I7500. PROVIDE PULL BOXES WHERE SHOWN ON PLANS, AT BOTH ENDS OF CONDUIT AT ROADWAY CROSSINGS AND ELSEWHERE AS NECESSARY FOR THE COMPLETION OF THE PROJECT.
	PULL BOX EMBEDDED IN WALL (TRAFFIC RAILING BARRIER) OR BRIDGE TRAFFIC RAILING BARRIER. THE JUNCTION BOX IS INCIDENTAL TO THE WALL (TRAFFIC RAILING BARRIER) OR BRIDGE CONSTRUCTION AS APPLICABLE.
	JUNCTION BOX SURFACE MOUNTED ON BRIDGE STRUCTURE, TYPE RGS MATERIAL. SEE PLANS FOR SIZES AND LOCATION.
	UTILITY SERVICE POLE

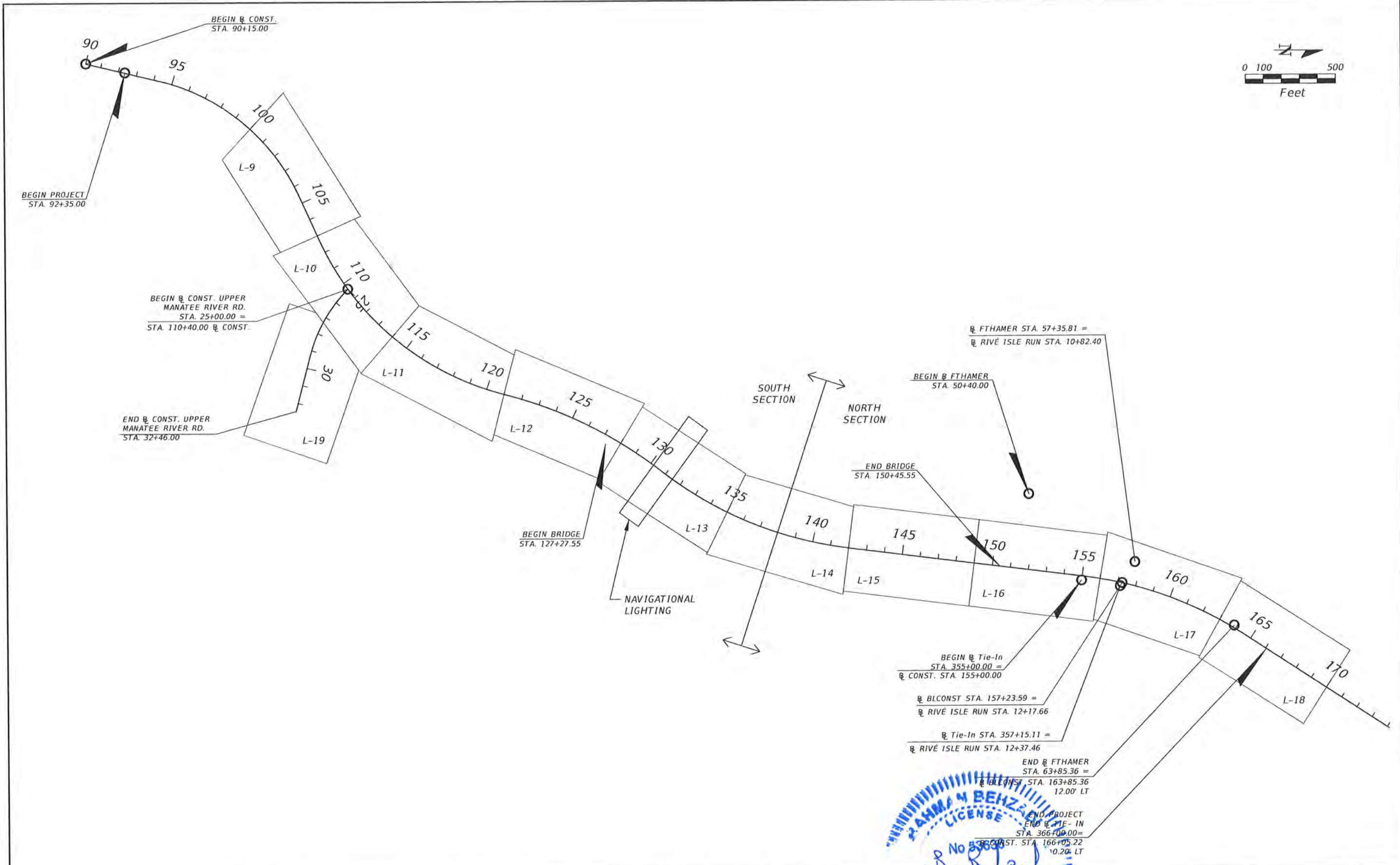
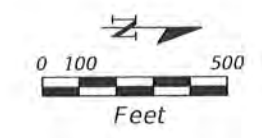
LEGEND

SYMBOLS	DESCRIPTION
 GCL	GREEN CENTER CHANNEL LIGHT SHALL BE MODEL CC, AS MANUFACTURED BY B&B ROADWAY, OR EQUIVALENT. A SINGLE MEDIUM BASE I-44W, 120V 100,000 HOUR LED LAMP SHALL BE PROVIDED IN A COLOR TO MATCH THE LENS. AN AUTOMATIC TRANSFER RELAY SHALL SWITCH TO THE BACKUP LAMP UPON FAILURE OF THE PRIMARY LAMP. HOUSING SHALL BE OF CAST ALUMINUM AND CONSTRUCTION SHALL BE RAIN-TIGHT AND FULLY GASKETED. LIGHT SHALL INCORPORATE VANDAL RESISTANT FEATURES. EXTERNAL FASTENERS SHALL BE STAINLESS STEEL AND TAMPER RESISTANT. LENS SHALL BE TEMPERED FRESNEL GLASS WITH 360 DEGREES MARINE GREEN AND A WIDE ANGLE OF DIVERGENCE OF MINIMUM 27 DEGREES.
 RFL	RED PIER LIGHT SHALL BE MODEL PL-VR, AS MANUFACTURER BY B&B ROADWAY, OR EQUIVALENT. A DUAL MEDIUM BASE 8W, 120V 100,000 HOUR LED LAMP SHALL BE PROVIDED IN A COLOR TO MATCH TO MATCH THE LENS. AN AUTOMATIC TRANSFER RELAY SHALL SWITCH POWER TO THE BACKUP LAMP UPON FAILURE OF THE PRIMARY LAMP. TRANSFER RELAY COMPONENTS SHALL BE CONTAINED IN A CAST BOX OF THE SAME MATERIAL AS THE FIXTURE HEAD. THE HOUSING SHALL BE OF CAST ALUMINUM AND CONSTRUCTION SHALL BE RAIN-TIGHT AND FULLY GASKETED. LIGHT SHALL INCORPORATE VANDAL RESISTANT FEATURES. EXTERNAL FASTENERS SHALL BE STAINLESS STEEL AND TAMPER RESISTANT. LENS SHALL BE TEMPERED FRESNEL GLASS WITH NOMINAL SECTION OF 180 DEGRRES. COLOR SHALL BE RED.
 RCL	RED CHANNEL MARGIN LIGHT SHALL BE MODEL PL-VR, AS MANUFACTURER BY B&B ROADWAY, OR EQUIVALENT. A DUAL MEDIUM BASE 8W, 120V 100,000 HOUR LED LAMP SHALL BE PROVIDED IN A COLOR TO MATCH TO MATCH THE LENS. AN AUTOMATIC TRANSFER RELAY SHALL SWITCH POWER TO THE BACKUP LAMP UPON FAILURE OF THE PRIMARY LAMP. TRANSFER RELAY COMPONENTS SHALL BE CONTAINED IN A CAST BOX OF THE SAME MATERIAL AS THE FIXTURE HEAD. THE HOUSING SHALL BE OF CAST ALUMINUM AND CONSTRUCTION SHALL BE RAIN-TIGHT AND FULLY GASKETED. LIGHT SHALL INCORPORATE VANDAL RESISTANT FEATURES. EXTERNAL FASTENERS SHALL BE STAINLESS STEEL AND TAMPER RESISTANT. LENS SHALL BE TEMPERED FRESNEL GLASS WITH NOMINAL SECTION OF 180 DEGRRES. COLOR SHALL BE RED.

CONVENTIONAL LIGHTING DESIGN CRITERIA

Average Initial Intensity (Roadway)	1.5 F.C.
Uniformity Ratio Avg./Min.	4:1 OR LESS
Uniformity Ratio MAX./Min.	10:1 OR LESS
Veiling Luminance Ratio	0.3:1 OR LESS
Basic Wind Speed	130 MPH

REVISIONS						Drawn By:	MANATEE COUNTY GOVERNMENT		ENGINEER OF RECORD	SHEET TITLE	REF. DWG. NO.			
Date	By	Description	Date	By	Description	H. GRIMALDO	 MANATEE COUNTY, FLORIDA		 B. BEHZADI No 53836 9/4/2014 MANATEE COUNTY, FLORIDA		LEGEND			
						Checked By:			 URS Corporation Southern 7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462 C.A. No. 00000002		PROJECT NAME FORT HAMER BRIDGE OVER MANATEE RIVER		SHEET NO. L-7	
						Designed By:								
						Checked By:								
						S. AHMED								



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By:
 H. GRIMALDO
 Checked By:
 B. BEHZADI
 Designed By:
 B. BEHZADI
 Checked By:
 S. AHMED



URS Corporation Southern
 7650 West Courtney
 Campbell Causeway
 Tampa, Florida 33607-1462
 C.A. No. 00000002

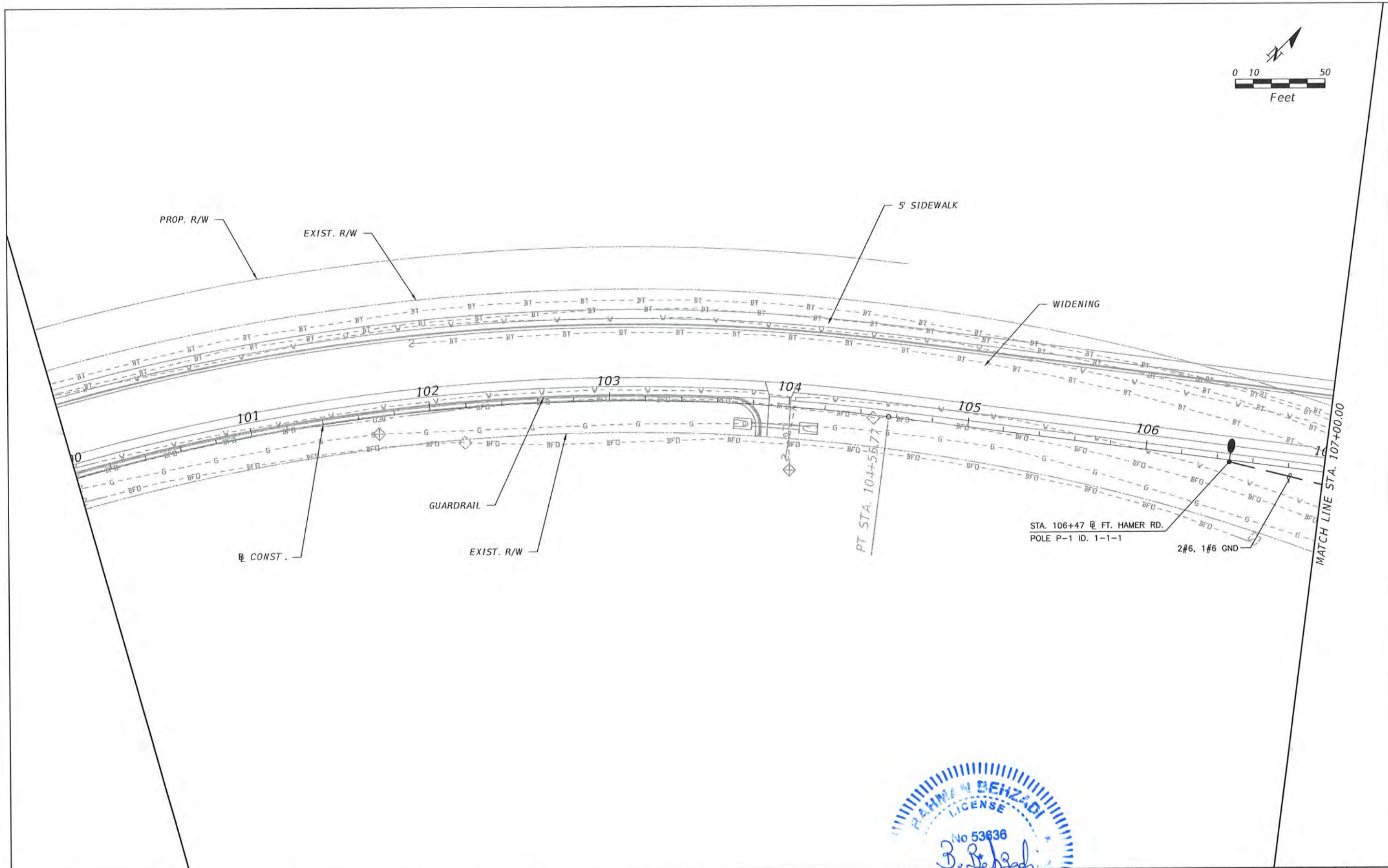
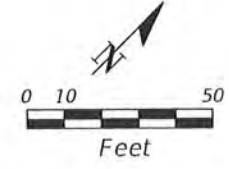


MANATEE COUNTY GOVERNMENT
 ENGINEER OF RECORD
 STATE OF FLORIDA
 PROJECT NAME
 BAHMAN BEHZADI
 P.E. NO. 9142

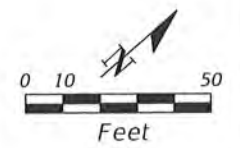
LIGHTING LAYOUT

FORT HAMER BRIDGE OVER MANATEE RIVER

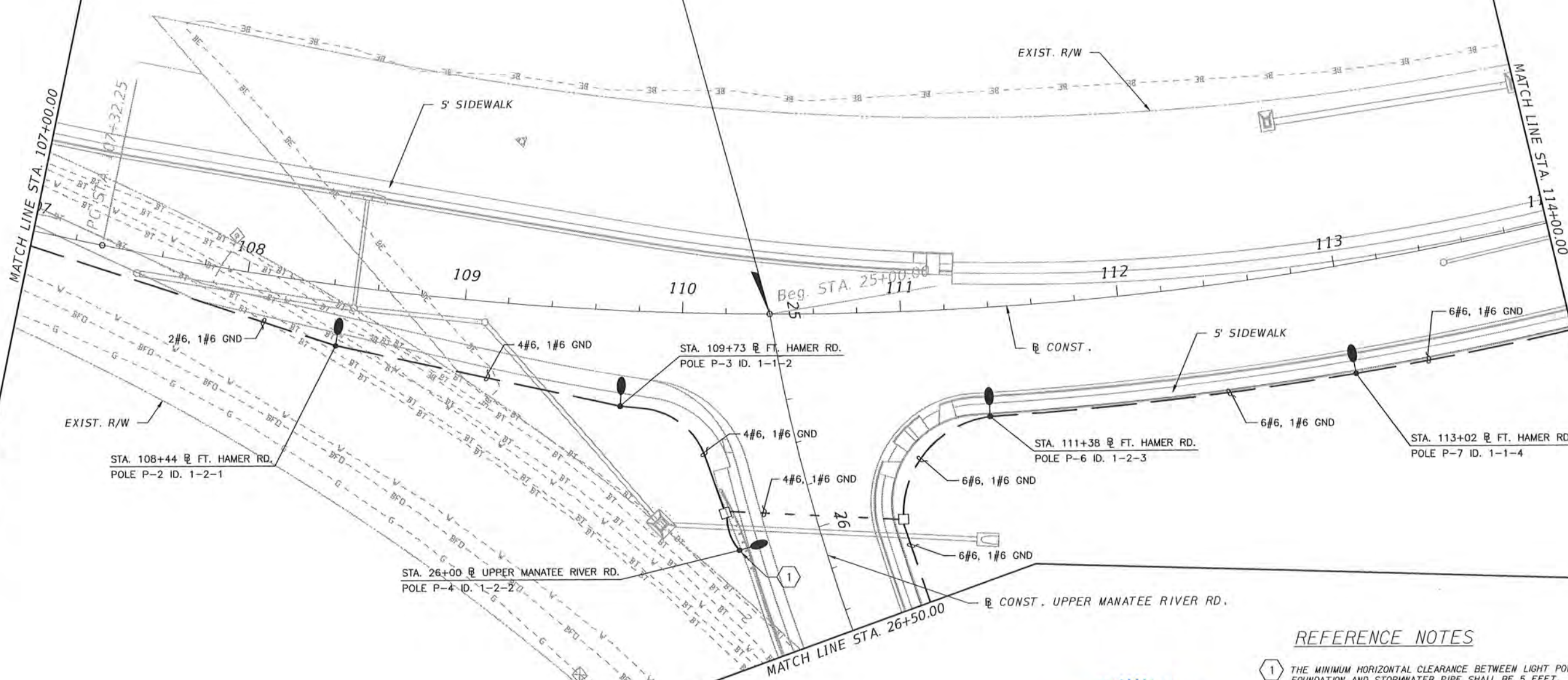
REF DWG. NO.
 SHEET NO.
 L-8



REVISIONS						Drawn By:	MANATEE COUNTY GOVERNMENT		ENGINEER OF RECORD	SHEET TITLE	REF. DWG. NO.
Date	By	Description	Date	By	Description	H. GRIMALDO	MANATEE COUNTY, FLORIDA		RAHMAN BEHZADI	FIGHTING PLAN SHEET (I)	
						Checked By:	URS Corporation Southern 7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462 C.A. No. 00000002		No 53636 9/4/2014	FORT HAMER BRIDGE OVER MANATEE RIVER	
						Designed By:			PROJECT NAME		SHEET NO.
						Checked By:			MANATEE COUNTY, FLORIDA		L-9
						S. AHMED					

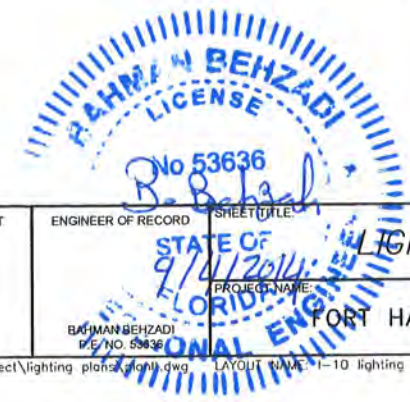


BEGIN \square CONST. UPPER MANATEE RIVER RD.
 STA. 25+00.00 =
 \square CONST.
 STA. 110+40.00, 0' RT



REFERENCE NOTES

1 THE MINIMUM HORIZONTAL CLEARANCE BETWEEN LIGHT POLE FOUNDATION AND STORMWATER PIPE SHALL BE 5 FEET.



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By:
H. GRIMALDO
 Checked By:
B. BEHZADI
 Designed By:
B. BEHZADI
 Checked By:
S. AHMED

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 URS Corporation Southern
 7650 West Courtney
 Campbell Causeway
 Tampa, Florida 33607-1462
 C.A. No. 00000002

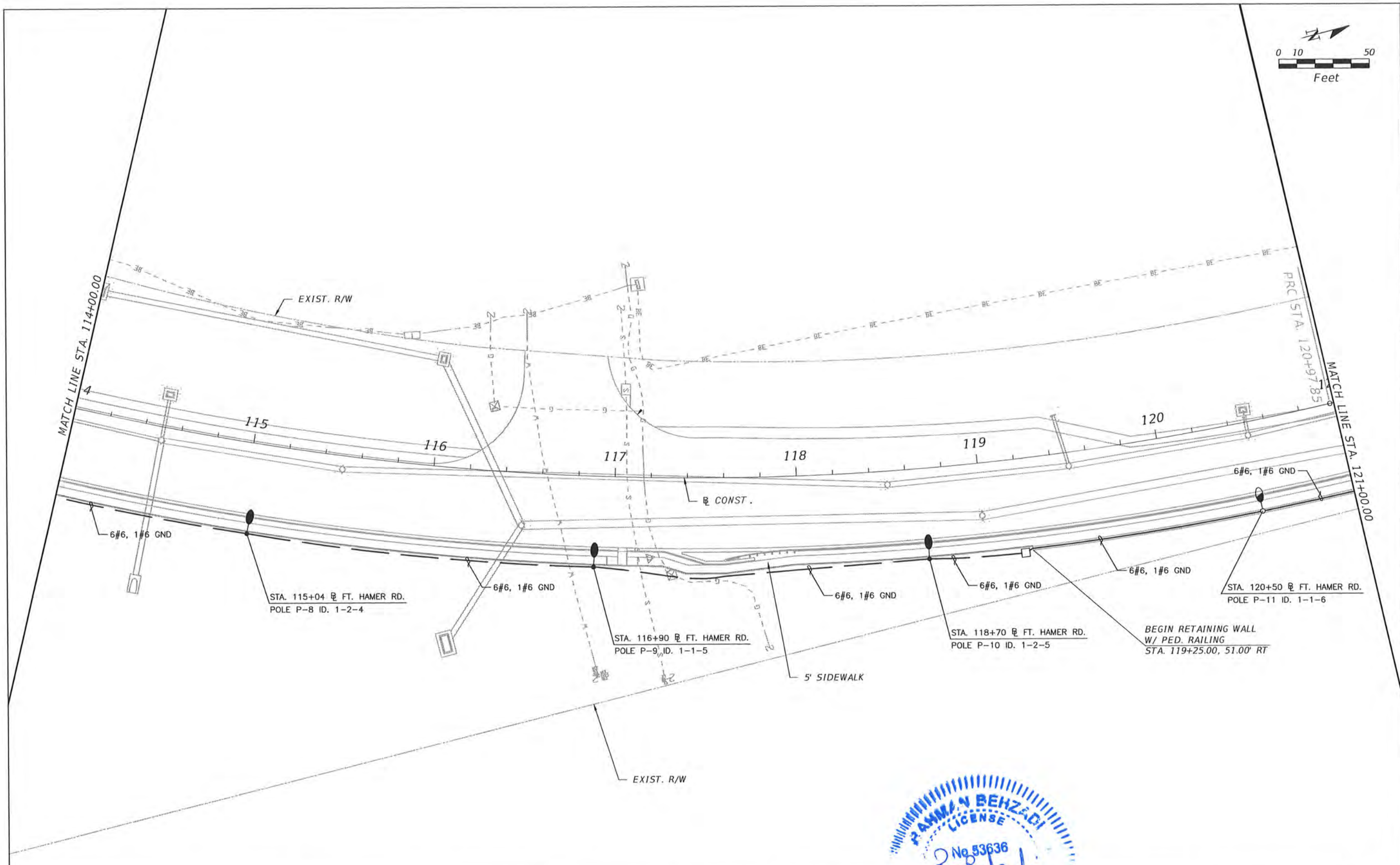
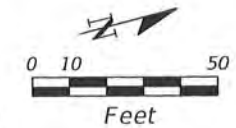
MANATEE COUNTY GOVERNMENT

 MANATEE COUNTY, FLORIDA

ENGINEER OF RECORD
 SHEET TITLE:
 STATE OF FLORIDA
 PROJECT NAME:
 PORT HAMER BRIDGE OVER MANATEE RIVER
 P.E. NO. 53636

LIGHTING PLAN SHEET (2)
 PORT HAMER BRIDGE OVER MANATEE RIVER

REF. DWG. NO.
 SHEET NO.
 L-10



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By:
H. GRIMALDO
Checked By:
B. BEHZADI
Designed By:
B. BEHZADI
Checked By:
S. AHMED

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URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, Florida 33607-1462
C.A. No. 00000002

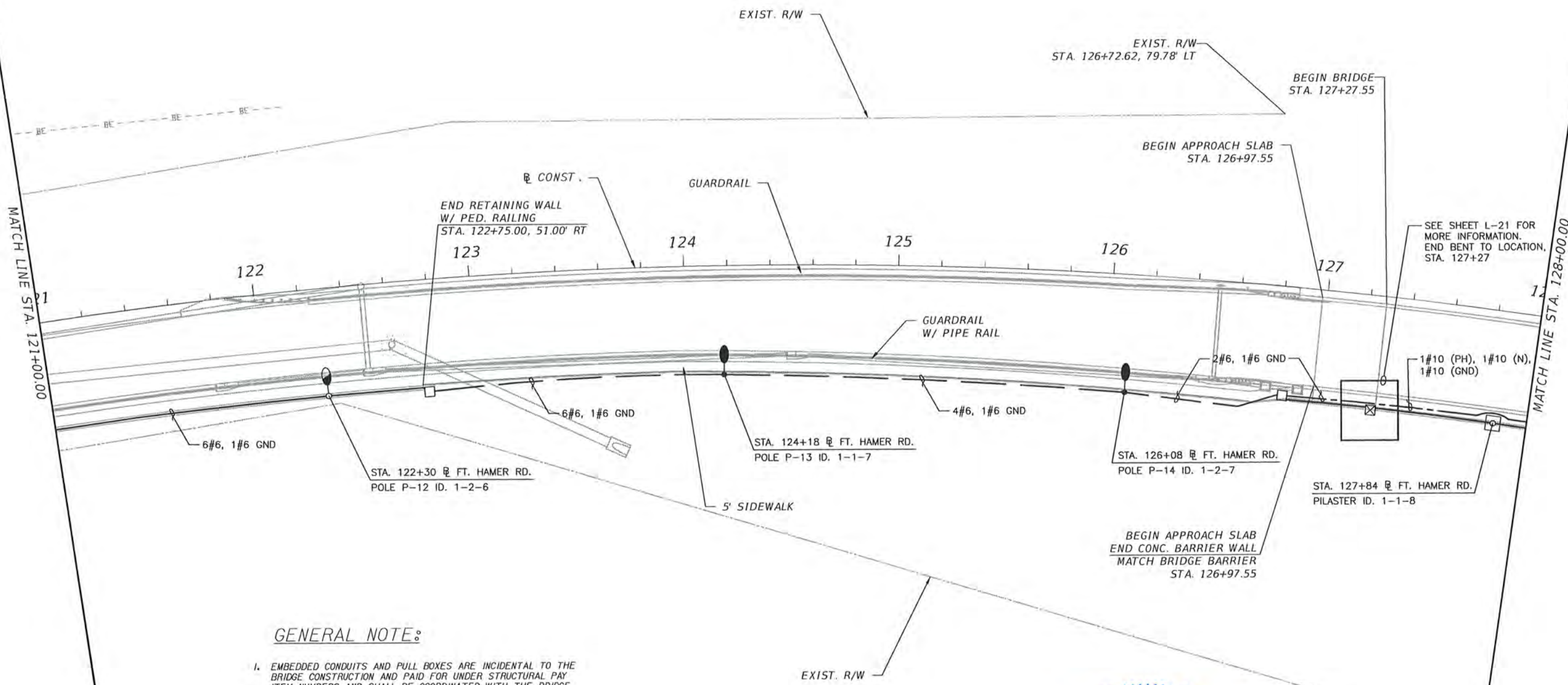
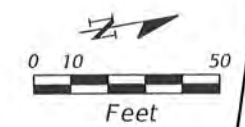
MANATEE COUNTY GOVERNMENT

MANATEE COUNTY, FLORIDA

ENGINEER OF RECORD
STATE OF FLORIDA
9/4/2014
BAHMAN BEHZADI
P.E. NO. 53636

SHEET TITLE:
LIGHTING PLAN SHEET (3)
PROJECT NAME:
FORT HAMER BRIDGE OVER MANATEE RIVER

REF. DWG. NO.
SHEET NO.
L-11

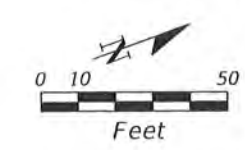


GENERAL NOTE:

- EMBEDDED CONDUITS AND PULL BOXES ARE INCIDENTAL TO THE BRIDGE CONSTRUCTION AND PAID FOR UNDER STRUCTURAL PAY ITEM NUMBERS AND SHALL BE COORDINATED WITH THE BRIDGE PLANS.

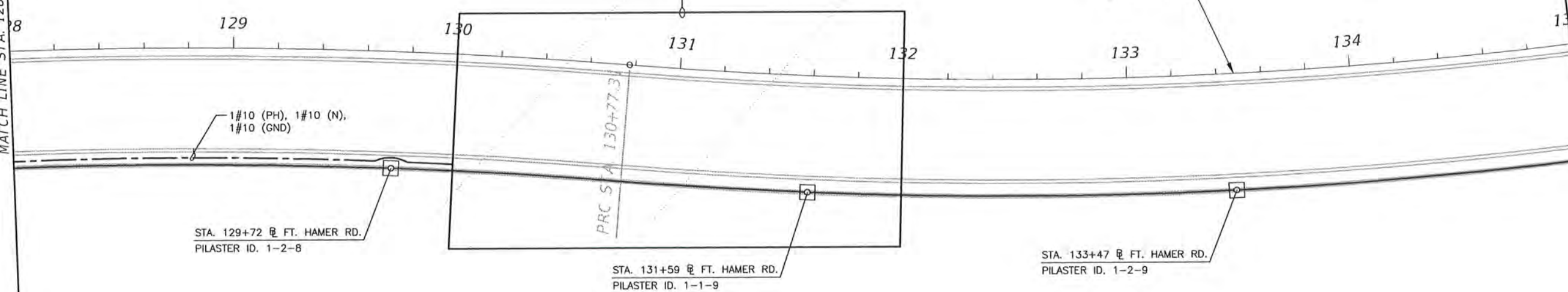


REVISIONS						Drawn By:	MANATEE COUNTY GOVERNMENT		ENGINEER OF RECORD	SHEET TITLE	REF. DWG. NO.
Date	By	Description	Date	By	Description	H. GRIMALDO	MANATEE COUNTY, FLORIDA		BAHMAN BEHZADI	LIGHTING PLAN SHEET (4)	
						Checked By:	MANATEE COUNTY, FLORIDA		9/4/2014	FORT HAMER BRIDGE OVER MANATEE RIVER	
						Designed By:			P.E. NO. 53636		
						Checked By:					L-12
						S. AHMED					



MATCH LINE STA. 128+00.00

MATCH LINE STA. 135+00.00



GENERAL NOTE:
 1. EMBEDDED CONDUITS AND PULL BOXES ARE INCIDENTAL TO THE BRIDGE CONSTRUCTION AND PAID FOR UNDER STRUCTURAL PAY ITEM NUMBERS AND SHALL BE COORDINATED WITH THE BRIDGE PLANS.



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By:
H. GRIMALDO
 Checked By:
B. BEHZADI
 Designed By:
B. BEHZADI
 Checked By:
S. AHMED

URS
 URS Corporation Southern
 7650 West Courtney
 Campbell Causeway
 Tampa, Florida 33607-1462
 C.A. No. 00000002

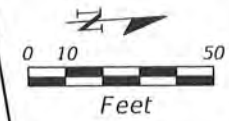
MANATEE COUNTY GOVERNMENT

 MANATEE COUNTY, FLORIDA

ENGINEER OF RECORD
 SHEET TITLE:
 PROJECT NAME:
 BAHMAN BEHZADI
 P.E. NO. 53636

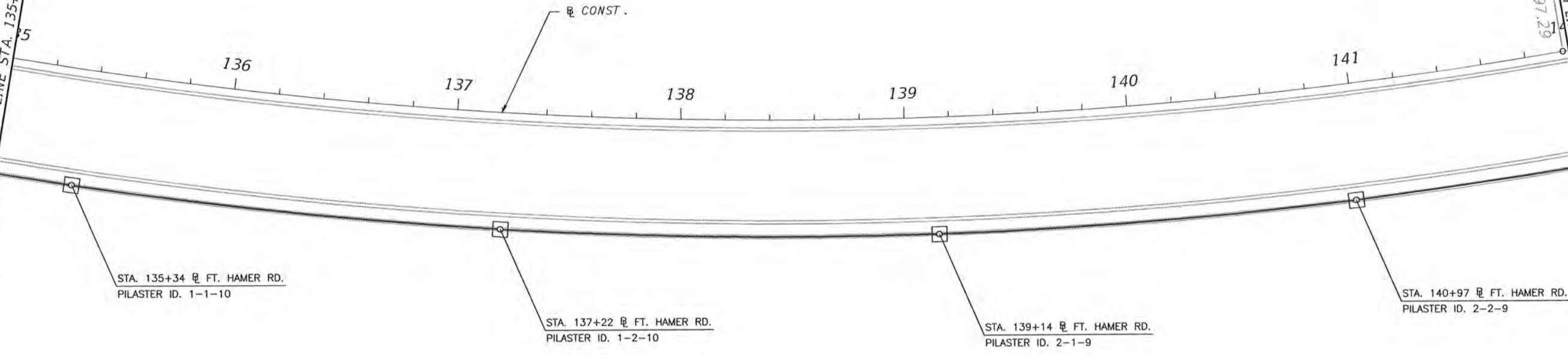
LIGHTING PLAN SHEET (5)
 FORT HAMER BRIDGE OVER MANATEE RIVER

REF. DWG. NO.
 SHEET NO.
 L-13



MATCH LINE STA. 135+00.00

MATCH LINE STA. 142+00.00
PT STA. 141+97.29



GENERAL NOTE:

1. EMBEDDED CONDUITS AND PULL BOXES ARE INCIDENTAL TO THE BRIDGE CONSTRUCTION AND PAID FOR UNDER STRUCTURAL PAY ITEM NUMBERS AND SHALL BE COORDINATED WITH THE BRIDGE PLANS.



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By:
H. GRIMALDO
Checked By:
B. BEHZADI
Designed By:
B. BEHZADI
Checked By:
S. AHMED

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URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, Florida 33607-1462
C.A. No. 00000002

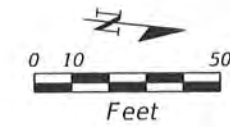
MANATEE COUNTY GOVERNMENT

MANATEE COUNTY, FLORIDA

ENGINEER OF RECORD
B. Behzadi
9/4/2014
STATE OF FLORIDA
PROFESSIONAL ENGINEER
B. BEHZADI
P.E. NO. 53636

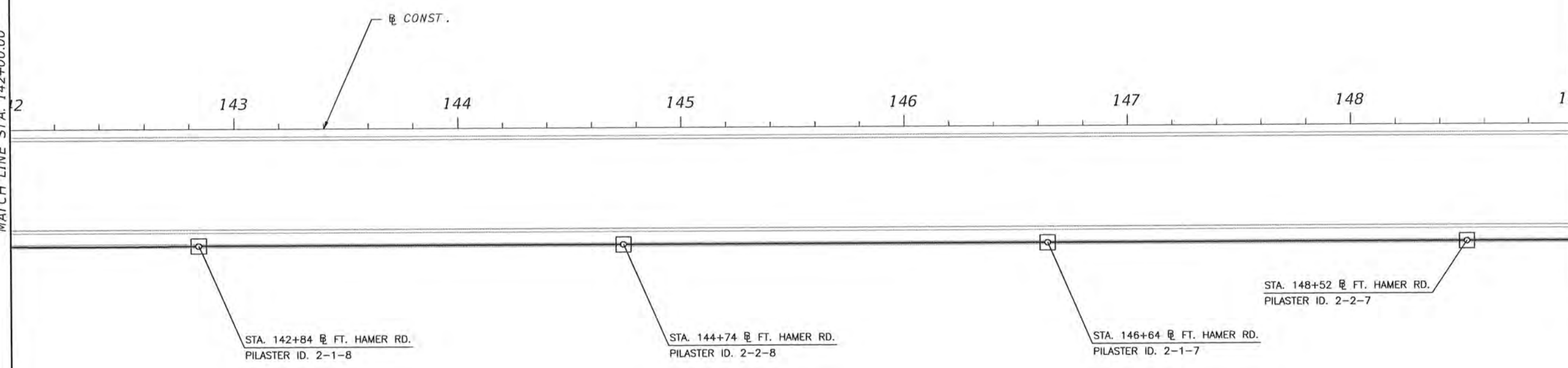
PROJECT NAME
LIGHTING PLAN SHEET (6)
FORT HAMER BRIDGE OVER MANATEE RIVER

REF. DWG. NO.
SHEET NO.
L-14



MATCH LINE STA. 142+00.00

MATCH LINE STA. 149+00.00

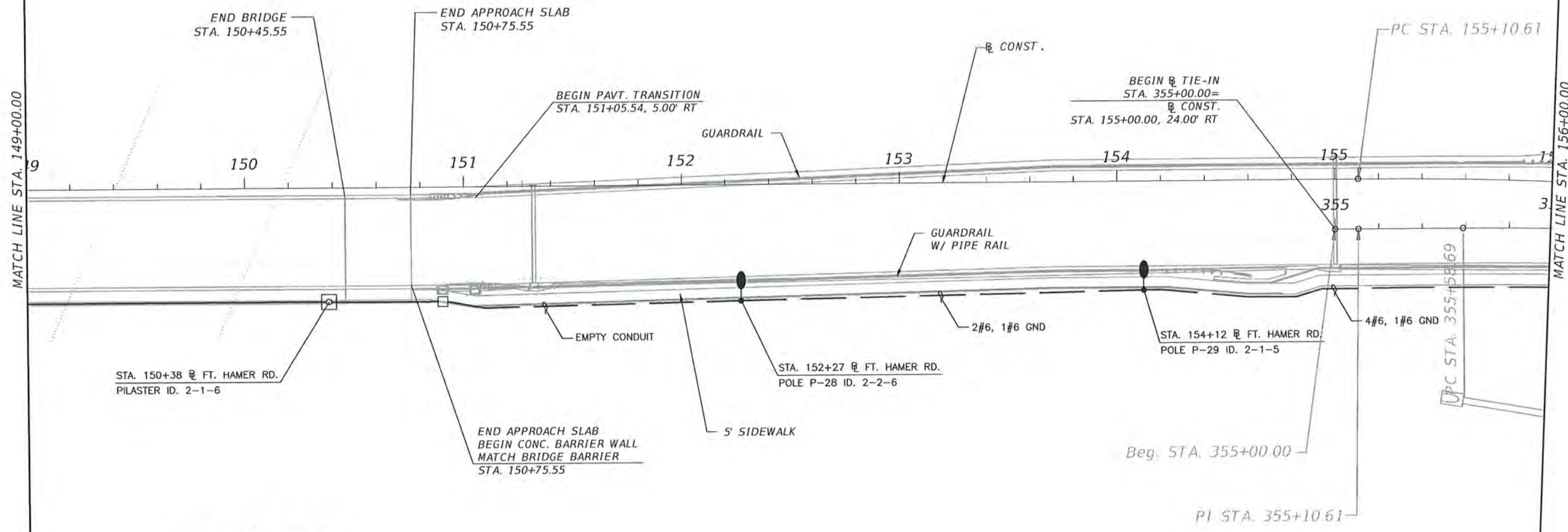
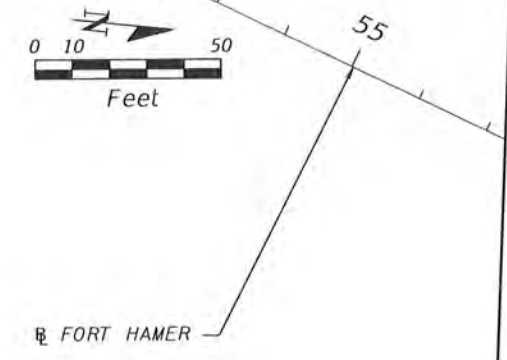


GENERAL NOTE:

- EMBEDDED CONDUITS AND PULL BOXES ARE INCIDENTAL TO THE BRIDGE CONSTRUCTION AND PAID FOR UNDER STRUCTURAL PAY ITEM NUMBERS AND SHALL BE COORDINATED WITH THE BRIDGE PLANS.



REVISIONS						Drawn By:	 URS Corporation Southern 7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462 C.A. No. 00000002	MANATEE COUNTY GOVERNMENT	ENGINEER OF RECORD	SHEET TITLE:	REF. DWG. NO.
Date	By	Description	Date	By	Description	H. GRIMALDO		 MANATEE COUNTY, FLORIDA	BAHMAN BEHZADI LICENSE No 53636 STATE OF FLORIDA 9/4/2014 PROFESSIONAL ENGINEER	LIGHTING PLAN SHEET (7)	
						B. BEHZADI				PROJECT NAME:	
						B. BEHZADI				FORT HAMER BRIDGE OVER MANATEE RIVER	
						S. AHMED	L-15				



GENERAL NOTE:

- EMBEDDED CONDUITS AND PULL BOXES ARE INCIDENTAL TO THE BRIDGE CONSTRUCTION AND PAID FOR UNDER STRUCTURAL PAY ITEM NUMBERS AND SHALL BE COORDINATED WITH THE BRIDGE PLANS.



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By:
H. GRIMALDO
Checked By:
B. BEHZADI
Designed By:
B. BEHZADI
Checked By:
S. AHMED

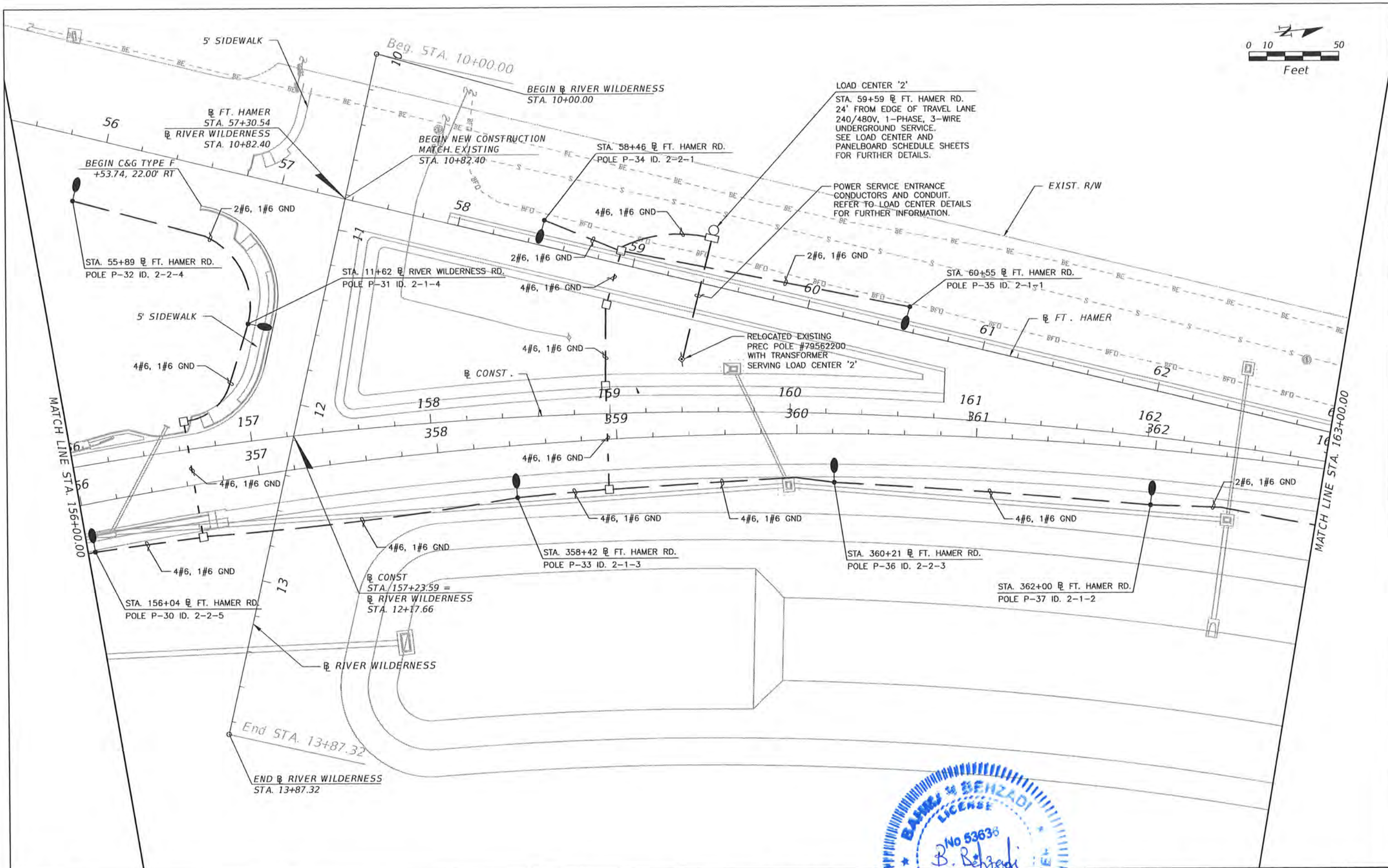
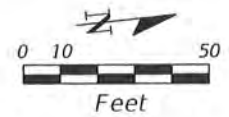
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7650 West Courtney
Campbell Causeway
Tampa, Florida 33607-1462
C.A. No. 00000002

MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

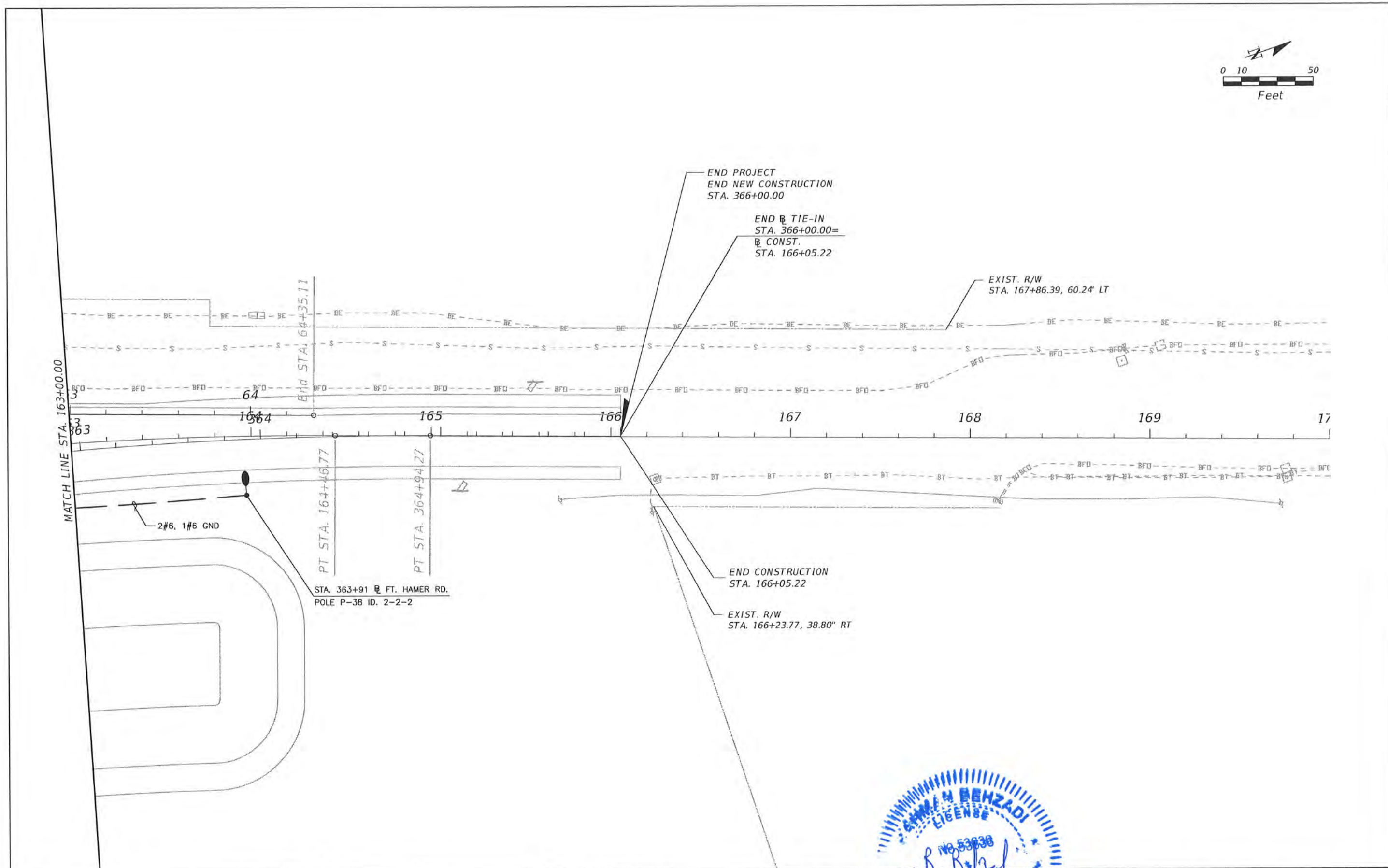
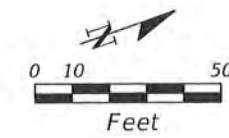
ENGINEER OF RECORD
STATE OF FLORIDA
PROFESSIONAL ENGINEER
BAHMAN BEHZADI
P.E. NO. 53636

PROJECT NAME
FORT HAMER BRIDGE OVER MANATEE RIVER
LIGHTING PLAN SHEET (8)

REF. DWG. NO.
SHEET NO.
L-16



REVISIONS						Drawn By:		URS Corporation Southern 7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462 C.A. No. 00000002	MANATEE COUNTY GOVERNMENT MANATEE COUNTY, FLORIDA	ENGINEER OF RECORD SHEET TITLE: LIGHTING PLAN SHEET (9) PROJECT NAME: FORT HAMER BRIDGE OVER MANATEE RIVER	REF. DWG. NO.
Date	By	Description	Date	By	Description	SHEET NO.					
						L-17					



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By:
H. GRIMALDO
Checked By:
B. BEHZADI
Designed By:
B. BEHZADI
Checked By:
S. AHMED

URS
URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, Florida 33607-1462
C.A. No. 00000002

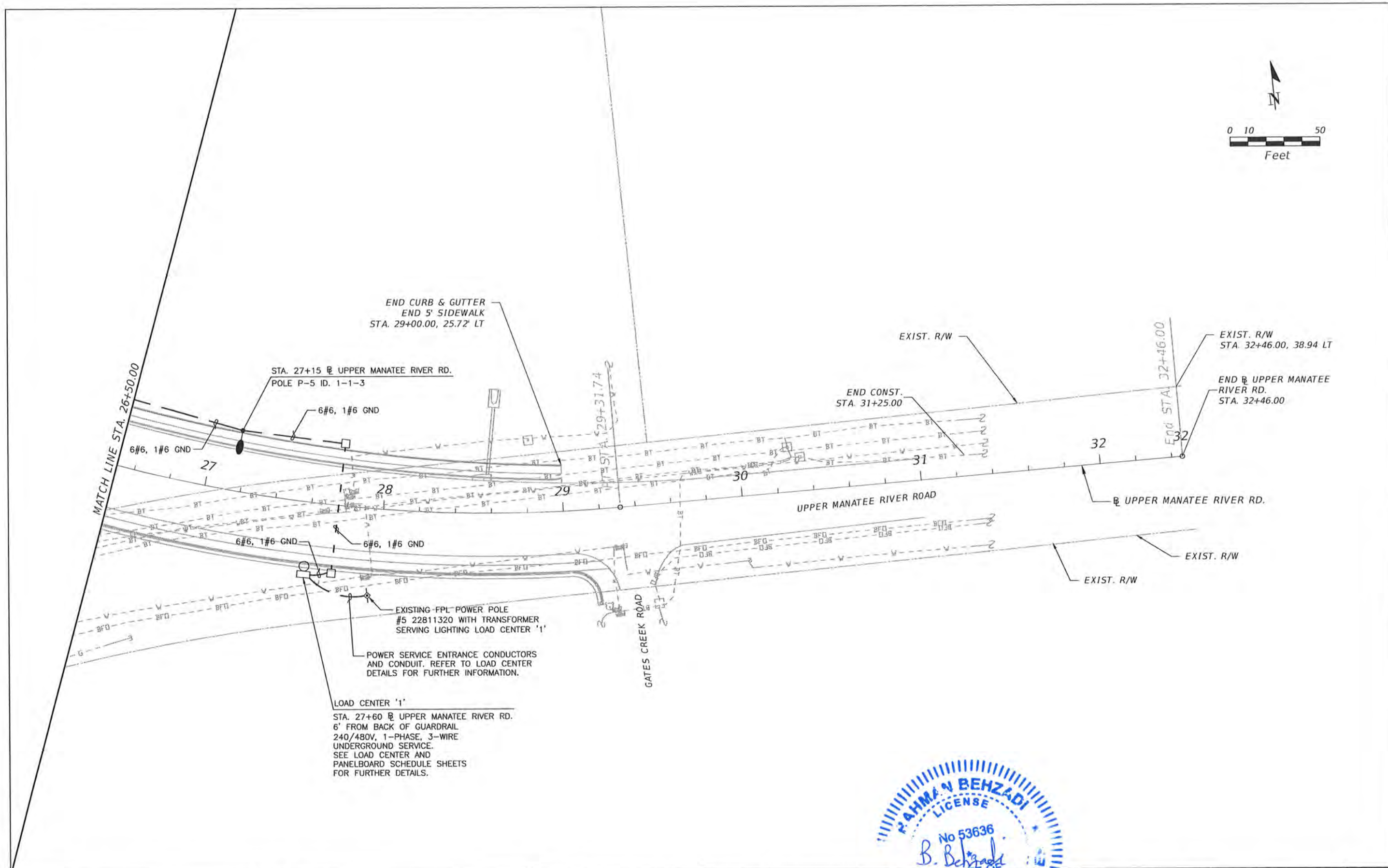
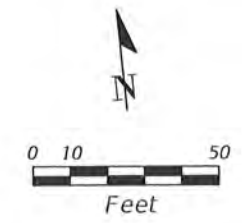
MANATEE COUNTY GOVERNMENT

MANATEE COUNTY, FLORIDA

ENGINEER OF RECORD
STATE OF FLORIDA
BAHMAN BEHZADI
P.E. NO. 53838

SHEET TITLE:
LIGHTING PLAN SHEET (10)
PROJECT NAME:
FORT HAMER BRIDGE OVER MANATEE RIVER

REF DWG. NO.
SHEET NO.
L-18



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By:
H. GRIMALDO
Checked By:
B. BEHZADI
Designed By:
B. BEHZADI
Checked By:
S. AHMED



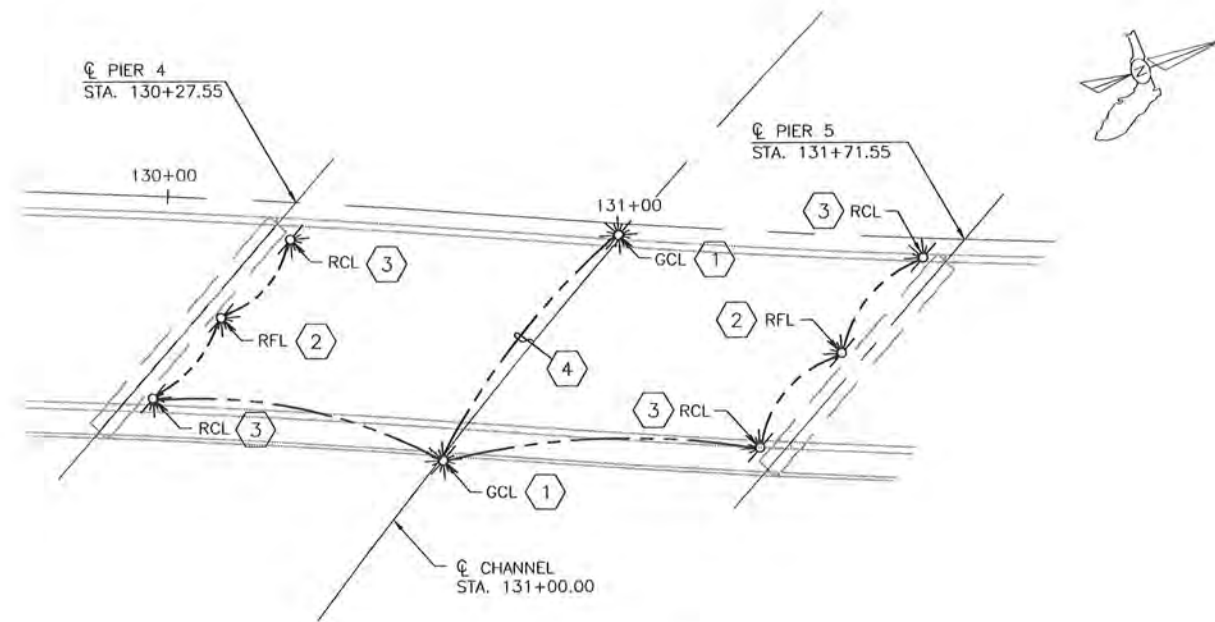
URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, Florida 33607-1462
C.A. No. 00000002

MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

ENGINEER OF RECORD
FAHMA V. BEHZADI
P.E. No. 53636

SHEET TITLE
LIGHTING PLAN SHEET (II)
PROJECT NAME
FORT HAMER BRIDGE OVER MANATEE RIVER

REF DWG NO.
SHEET NO.
L-19



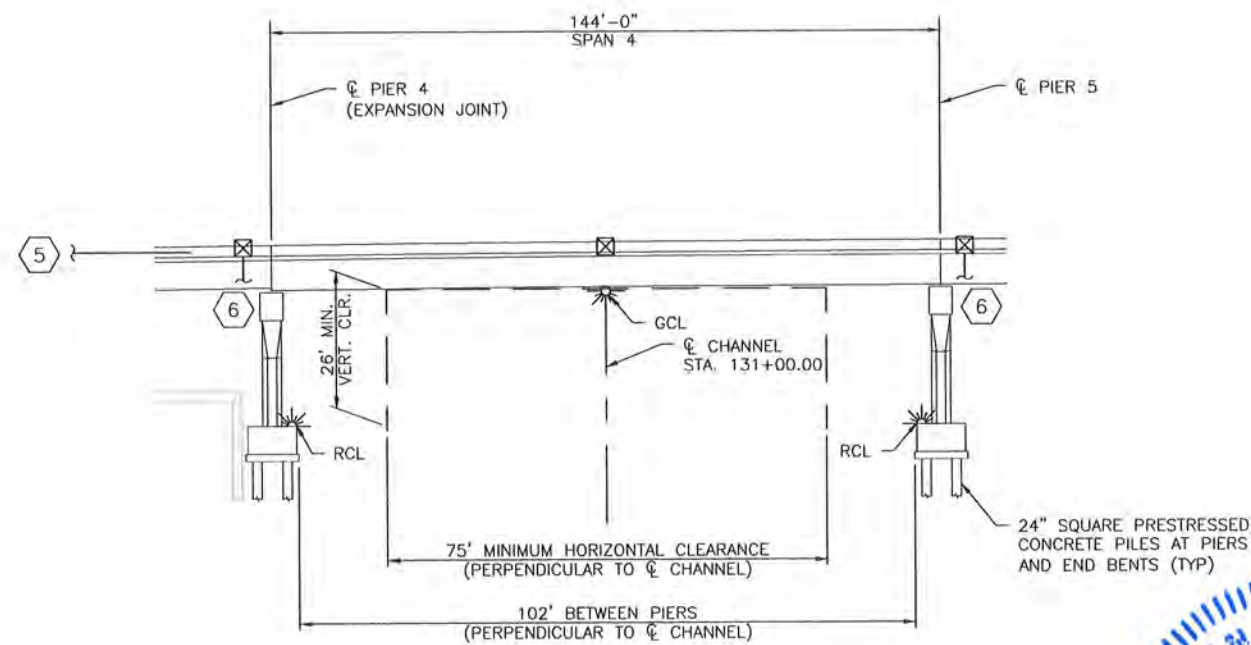
PARTIAL PLAN

GENERAL NOTES

1. ALL DETAILS OF NAVIGATION LIGHT SYSTEM SHALL COMPLY WITH THE LATEST EDITION OF CODE OF FEDERAL REGULATION NAVIGATION WATERS CFR 33, PART 118 FDOT STANDARD INDEX 21220, AND NATIONAL ELECTRICAL CODE (NEC).
2. INCLUDE ALL WIRING, CONDUITS, JUNCTION BOXES, FIXTURES, AND ANY OTHER ACCESSORIES AND SHALL BE FURNISHED, INSTALLED, AND PAID FOR UNDER "NAVIGATIONAL LIGHTING SYSTEM".
3. ALL ASPECTS OF THE NAVIGATIONAL LIGHTING SYSTEM SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW.

REFERENCE NOTES

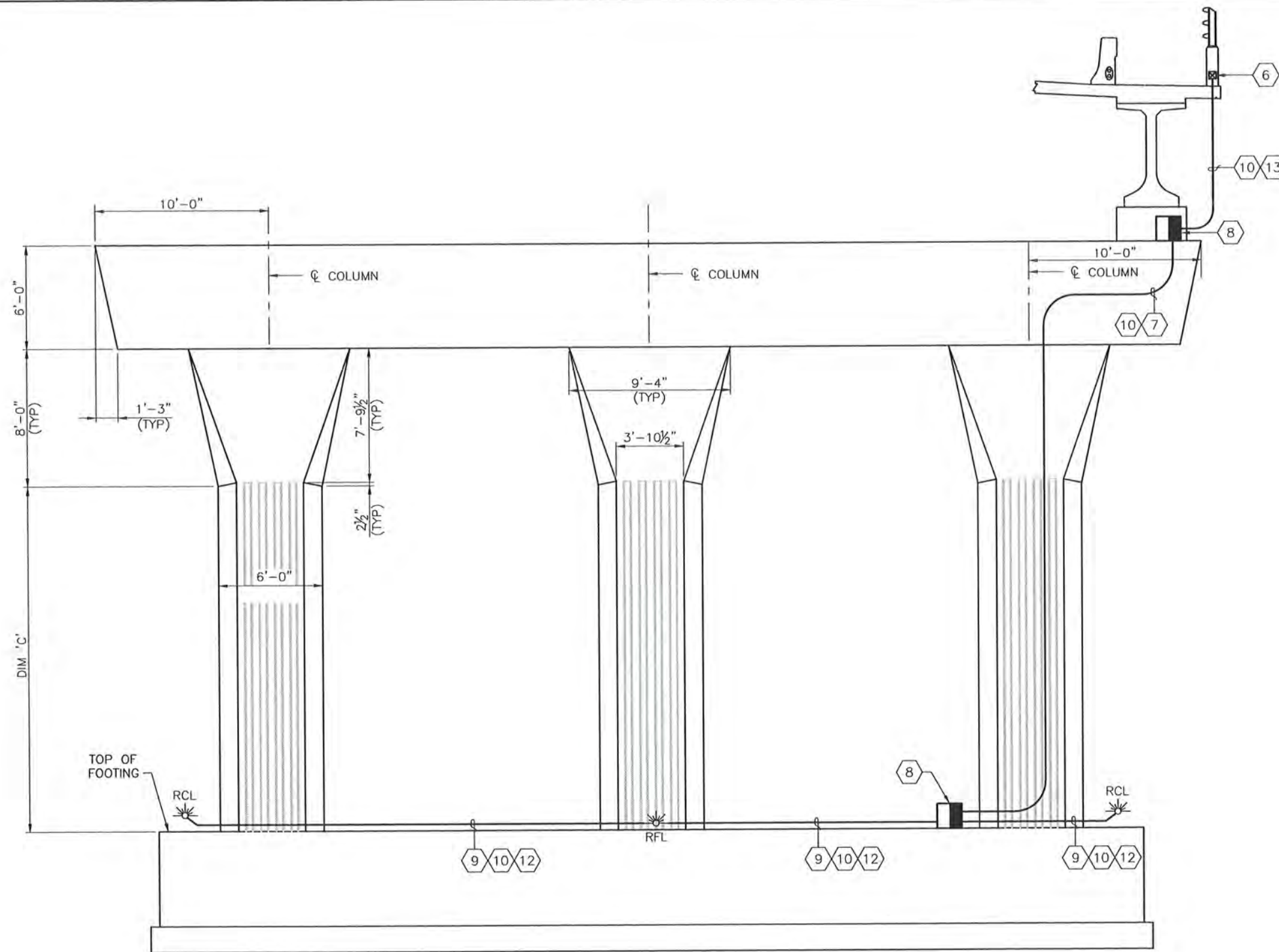
- 1 SUPERSTRUCTURE MOUNTED GREEN CENTER CHANNEL LIGHTS. REFER TO "LEGEND" SHEET FOR MORE INFORMATION.
- 2 SUBSTRUCTURE MOUNTED RED PIER LIGHT. REFER TO "LEGEND" SHEET FOR MORE INFORMATION.
- 3 SUBSTRUCTURE MOUNTED RED CHANNEL MARGIN LIGHT. REFER TO "LEGEND" SHEET FOR MORE INFORMATION.
- 4 1 1/2" PVC, SCH. 80 CONDUIT WITH CONDUCTORS 1#10 (PH), 1#10 (N), 1#10 (GND) EMBEDDED IN SUPERSTRUCTURE BRIDGE DECK.
- 5 INCOMING 120V, SINGLE PHASE NAVIGATIONAL LIGHTING CIRCUIT. REFER TO SHEET L-13 FOR MORE INFORMATION.
- 6 120V, SINGLE PHASE CIRCUIT TO POWER FEED THE PIER LIGHTS. REFER TO SHEET L-21 FOR MORE INFORMATION.



PARTIAL ELEVATION



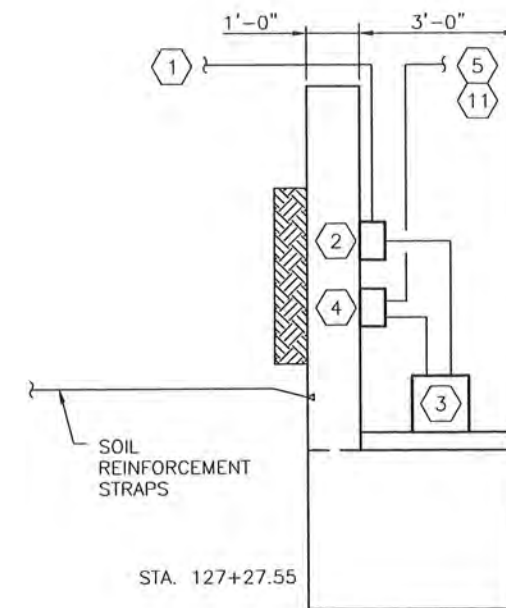
REVISIONS						Drawn By:	MANATEE COUNTY GOVERNMENT	ENGINEER OF RECORD:	SHEET TITLE:	REF. DWG. NO.
Date	By	Description	Date	By	Description	H. GRIMALDO	MANATEE COUNTY	BAHMAN BEHZADI	NAVIGATIONAL LIGHTING PLAN	
						Checked By: B. BEHZADI		9/14/2014	FORT HAMER BRIDGE OVER MANATEE RIVER	
						Designed By: B. BEHZADI				SHEET NO.
						Checked By: S. AHMED				L-20



PIER LIGHTS INSTALLATION (TYPICAL)
PIER #4 AND#5

REFERENCE NOTES

- 1 INCOMING 240/480V, SINGLE PHASE CIRCUIT TO NAVIGATIONAL LIGHTING SYSTEM.
- 2 NON-METALLIC JUNCTION BOX, 9"X9"X6" EQUIPPED WITH TWO 4A FUSES, LABELED FOR 480V CIRCUIT.
- 3 2KVA EPOXY-RESIN ENCAPSULATED TRANSFORMER IN A NEMA TYPE 3R STAINLESS STEEL ENCLOSURE. PRIMARY 480V, SECONDARY 120V.
- 4 NON-METALLIC JUNCTION BOX, 9"X9"X6" LABELED FOR 120V CIRCUIT, NAVIGATIONAL LIGHTING.
- 5 120V, SINGLE PHASE CIRCUIT IN 2" PVC CONDUIT EMBEDDED IN TRAFFIC RAILING.
- 6 PULL BOX IN TRAFFIC RAILING, REFER TO "LEGEND" SHEET FOR MORE INFORMATION.
- 7 1/2" PVC SCH. 80 CONDUIT EMBEDDED IN PIER COLUMN AND PIER CAP.
- 8 JUNCTION BOX, 9"X9"X6" LABELED FOR 120V CIRCUIT (PIER LIGHTS).
- 9 1" RGS SURFACE MOUNTED CONDUIT.
- 10 1#10 (PH), 1#10 (N), 1#10 (GND) CONDUCTORS TO FEED PIER LIGHTS.
- 11 1#10 (PH), 1#10 (N), 1#10 (GND) CONDUCTORS TO FEED NAVIGATIONAL LIGHTING SYSTEM.
- 12 PROVIDE CONDUIT SUPPORT SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE(TYPICAL).
- 13 1-INCH LIQUIDTIGHT FLEXIBLE METAL CONDUIT.



STEP-DOWN TRANSFORMER INSTALLATION
SECTION THRU END BENT STA. 127+27.55



REVISIONS					
Date	By	Description	Date	By	Description

Drawn By: H. GRIMALDO
 Checked By: B. BEHZADI
 Designed By: B. BEHZADI
 Checked By: S. AHMED
URS
 URS Corporation Southern
 7650 West Courtney
 Campbell Causeway
 Tampa, Florida 33607-1462
 C.A. No. 00000002



MANATEE COUNTY GOVERNMENT
 MANATEE COUNTY, FLORIDA
 ENGINEER OF RECORD
BAHMAN BEHZADI
 LICENSE NO. 53636
 STATE OF FLORIDA
 PROJECT TITLE: NAVIGATIONAL LIGHTING DETAILS
 PROJECT NAME: FORT HAMER BRIDGE OVER MANATEE RIVER

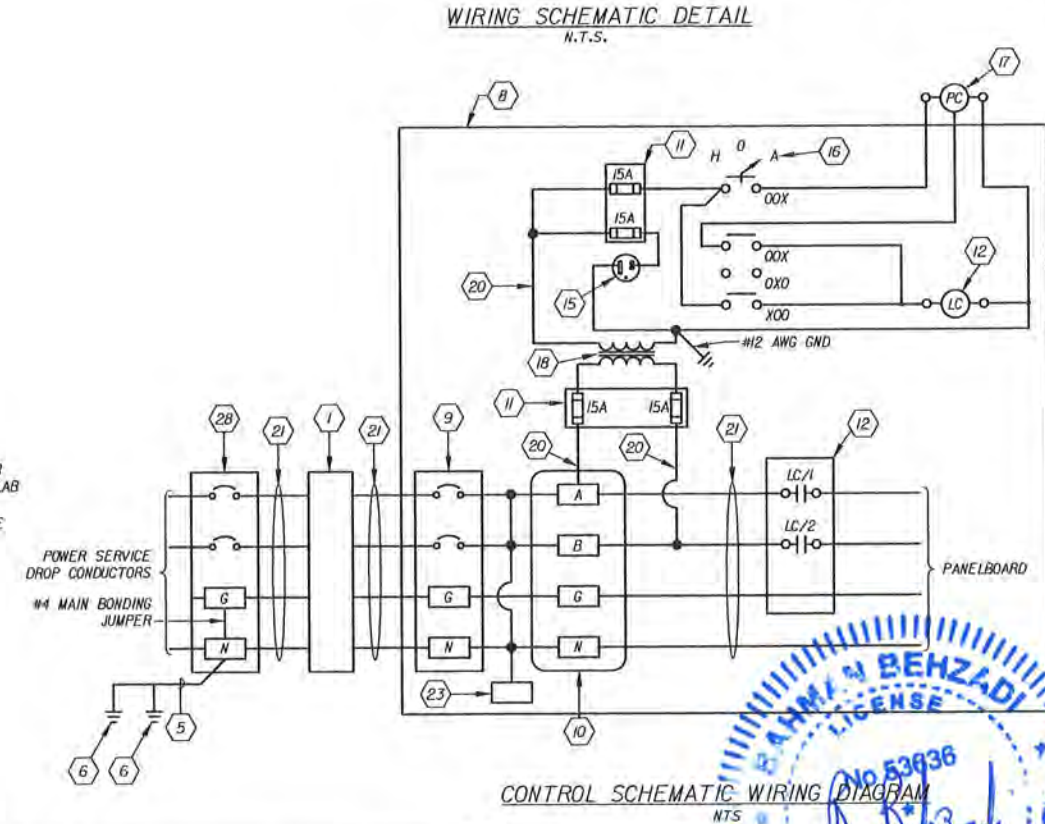
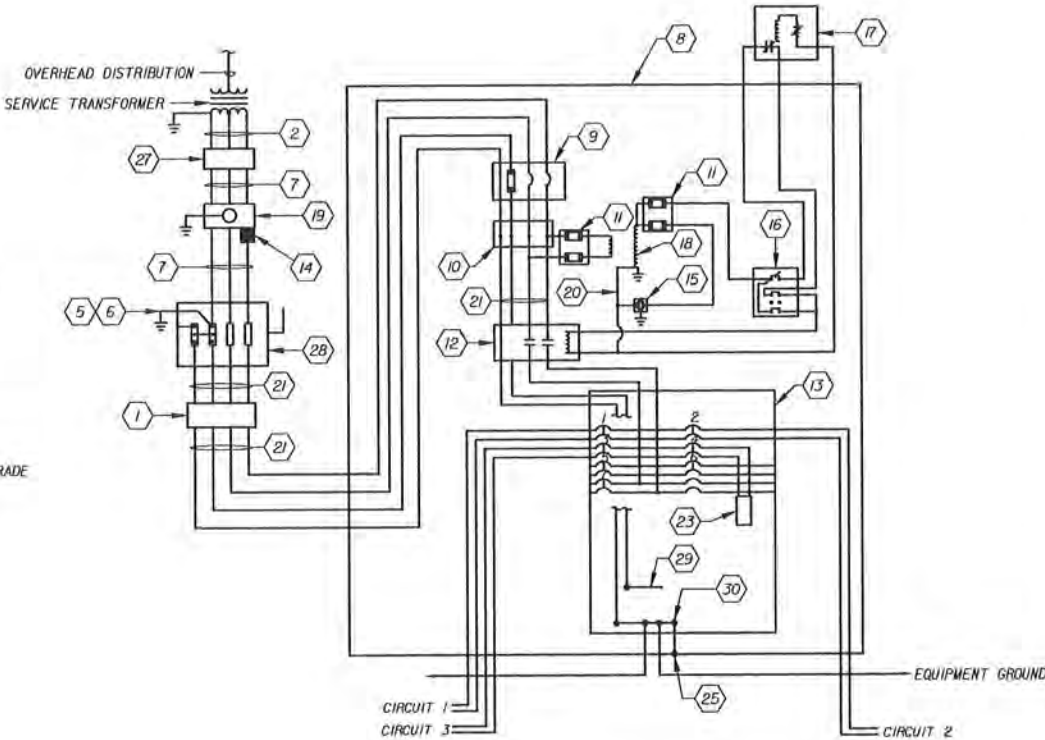
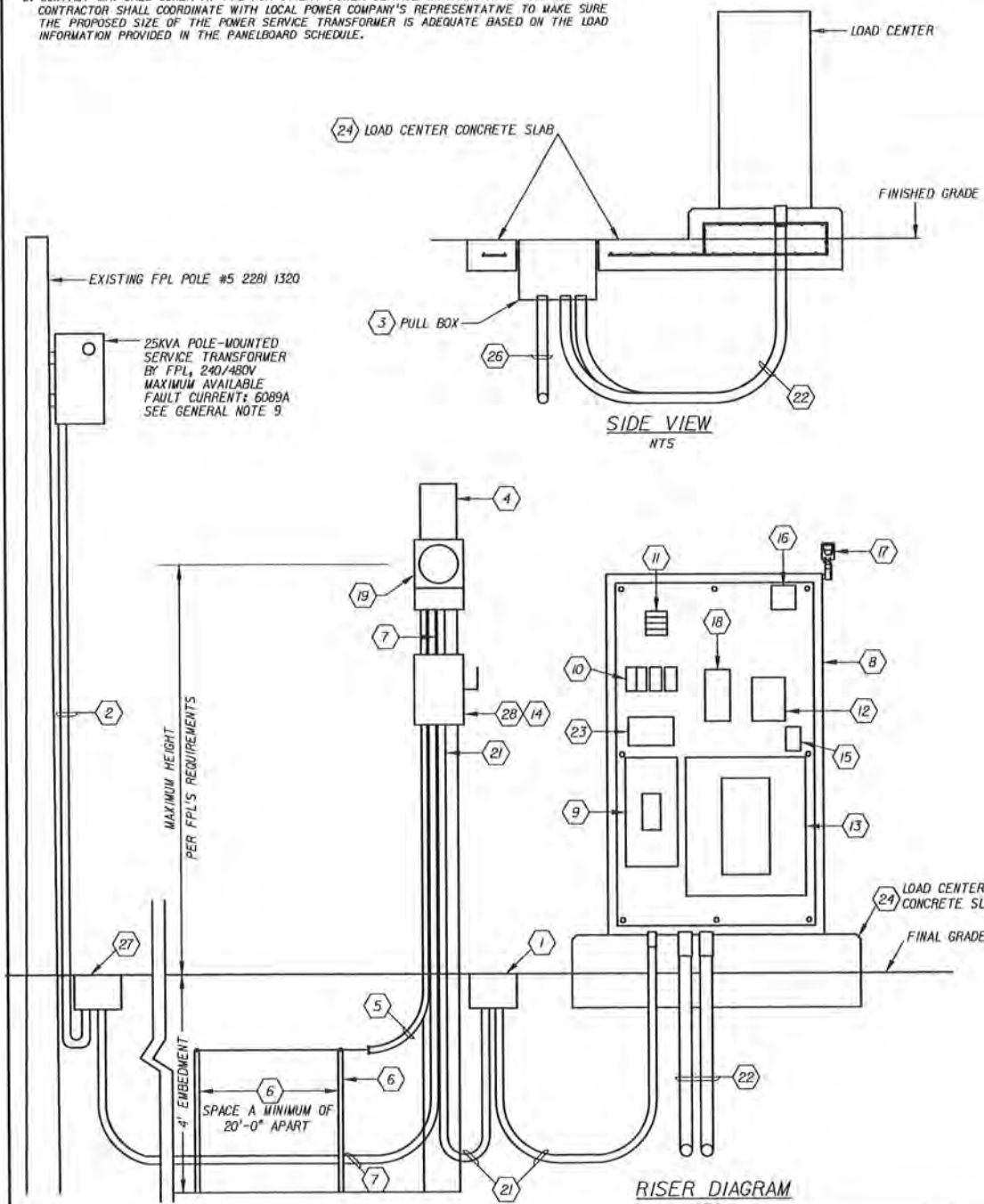
REF. DWG. NO.
 SHEET NO.
 L-21

GENERAL NOTES:

- PERFORM ALL ELECTRICAL WORK IN ACCORDANCE WITH LOCAL POWER COMPANY REQUIREMENTS, FDOT STANDARDS AND SPECIFICATIONS, NEC, NESC, AND OSHA.
- SEE PLAN SHEET FOR APPROXIMATE LOCATION OF THE POINT OF CONNECTION. COORDINATE WITH THE LOCAL POWER COMPANY (FPL) FOR THE SERVICE SOURCE AND POINT OF CONNECTIONS EXACT LOCATIONS AND THE NECESSARY REQUIREMENTS FOR A COMPLETE AND OPERATIONAL ELECTRICAL POWER SERVICE.
- ALL CIRCUIT BREAKERS SHALL HAVE SYMMETRICAL MINIMUM SHORT CIRCUIT CAPACITY OF 14,000 AMPS.
- LOAD CENTER ENCLOSURE SHALL BE FACTORY ASSEMBLED AND TESTED PRIOR TO SHIPMENT TO THE PROJECT SITE FOR INSTALLATION. ALL COMPONENT DEVICES SHALL BE UL LISTED AND LABELED. THE FULLY ASSEMBLED LOAD CENTER ENCLOSURE SHALL BE CERTIFIED BY UL. LOAD CENTER ASSEMBLY SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF FDOT DESIGN STANDARD INDEX.
- FURNISH AND INSTALL THE 3-POLE LIGHTING CONTACTOR FOR 2-POLE APPLICATION IF NECESSARY. SEE KEY NOTE NO. 12 FOR MORE INFORMATION.
- THE ELECTRICAL COMPONENTS LAYOUT SHOWN IN RISER DIAGRAM AND WIRING SCHEMATIC DETAIL ARE DIAGRAMMATIC, TAKE RESPONSIBILITY TO INSTALL THE WHOLE SYSTEM IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NEC AND LOCAL POWER COMPANY (FPL) REQUIREMENTS.
- ENSURE NO LIVE PARTS ARE EXPOSED.
- REFER TO SHEET L-24 FOR PANELBOARD SCHEDULE.
- CONTACT MR. GREG COKER AT FPL FOR UTILITY POWER SERVICE INFORMATION AT 941-723-4430. CONTRACTOR SHALL COORDINATE WITH LOCAL POWER COMPANY'S REPRESENTATIVE TO MAKE SURE THE PROPOSED SIZE OF THE POWER SERVICE TRANSFORMER IS ADEQUATE BASED ON THE LOAD INFORMATION PROVIDED IN THE PANELBOARD SCHEDULE.

KEYED NOTES:

- PROVIDE A PULL BOX AT THE BASE OF THE SERVICE PEDESTAL. PULL BOX COVER LID SHALL BE MARKED "ELECTRIC".
- SERVICE LATERAL CONDUCTORS IN 2 1/2" RIGID CONDUIT BY FPL, 240/480V, SINGLE PHASE, THREE WIRE.
- PROVIDE PULL BOXES PER FDOT STANDARD SPECIFICATIONS AND NEC. PULL BOX COVER LID SHALL READ "STREET LIGHTING".
- NEW 12" PRESTRESSED CONCRETE PEDESTAL, TYPE P-II, DIRECT BURIAL, WITH MINIMUM 4'-0" EMBEDDED BELOW FINAL GRADE.
- PROVIDE #2 AWG BARE STRANDED COPPER GROUNDING CONDUCTOR IN 1" SCH. 80 PVC CONDUIT. BOND GROUNDING CONDUCTOR TO TOP OF GROUND RODS VIA THE EXOTHERMIC WELDING PROCESS.
- COPPER CLAD GROUND RODS 5/8" DIAMETER BY 10' SECTIONAL USING 40" LONG AT EACH GROUND ROD LOCATION. PROVIDE 2"x40" SECTIONAL RODS FOR A TOTAL OF 40' AS A MINIMUM INSTALLED 12" UNDER FINAL GRADE, AT LEAST 20' APART AND BONDED TOGETHER WITH #2 AWG TIN PLATED COPPER BARE CONDUCTOR BY EXOTHERMIC WELDING. ALL GROUNDING RODS SHALL BE INTERCONNECTED USING #2 AWG BARE COPPER GROUNDING CONDUCTOR.
- 2 #2 AWG SERVICE-ENTRANCE PHASE CONDUCTORS WITH RHM-2 XLP INSULATION AND 1 #2 AWG GROUND SERVICE CONDUCTOR WITH RHM-2 XLP INSTALLATION IN 2" SCH 80 FOR UNDERGROUND AND RGS FOR ABOVE GROUND CONDUITS. UNDERGROUND CONDUITS SHALL BE BURIED 30" MINIMUM BELOW GRADE.
- PROVIDE BASE MOUNT NEMA 4X, OPEN BOTTOM, SINGLE CONTINUOUS HINGED DOOR ENCLOSURE WITH BACK PANEL, 3-POINT T-HANDLE LATCHING MECHANISM WITH PLASTIC OR RUBBER ROLLER GUIDES, AND PAD LOCK HASP. ENCLOSURE AND BACK PANEL SHALL BE FABRICATED FROM MINIMUM 12 GAUGE 316 STAINLESS STEEL STOCK, AND ALL HARDWARE SHALL BE STAINLESS STEEL. DIMENSIONS SHALL BE AS REQUIRED TO ACCOMMODATE THE COMPONENT DEVICES AND MATERIALS SPECIFIED TO BE INSTALLED INSIDE.
- PROVIDE 600V, THERMAL-MAGNETIC 100 AMP MAIN CIRCUIT BREAKER WITH 14,000 AIC AS MIN, LISTED AS SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT, WITH SOLID-NEUTRAL KIT AND NEMA TYPE I ENCLOSURE. PROVIDE 2 1/2" CHASE NIPPLES IN TOP AND BOTTOM OF ENCLOSURE.
- PROVIDE TIN PLATED COPPER, 600V, (1) #4-500KCMIL (LINE-SIDE), (6) #14-#2 (LOAD-SIDE), PANEL MOUNT POWER DISTRIBUTION BLOCKS (PDB) SUITABLE FOR USE WITH COPPER CONDUCTORS. PROVIDE ONE 2P PDB (A AND B PHASES), ONE 1P PDB (NEUTRAL), AND ONE 1P PDB (GROUND).
- PROVIDE TIN PLATED COPPER ALLOY, 30A, 600V FUSE HOLDERS SUITABLE FOR USE WITH CLASS CC FUSES. PROVIDE ONE 2P FUSE HOLDER WITH TWO (2) 15A, 600V, CLASS CC FUSES USED ON THE PRIMARY SIDE OF CONTROL TRANSFORMER, ONE 2P FUSE HOLDER WITH TWO (2) 15A, 600V, CLASS CC FUSES FOR CONTROL CIRCUIT AND RECEPTACLE.
- PROVIDE 600V, 2P, 100 AMP ELECTRICALLY HELD, OPEN (PANEL MOUNT) LIGHTING CONTACTOR WITH 120V COIL.
- PROVIDE 240/480V, 1PH., 3W., 14,000 AIC MID PANELBOARD WITH COPPER BUSSING. ALL MAIN AND BRANCH BREAKERS, BUSSING AND FEED THROUGH LUGS SHALL BE FULLY RATED. PANELBOARD SHALL BE IN COMPLIANCE WITH UL 67 AND NEC 10-10. PROVIDE BRANCH CIRCUIT BREAKERS, QUANTITY AND SIZES AS INDICATED IN PANEL SCHEDULES, NEUTRAL BUS, GROUND BUS, AND NEMA TYPE I SURFACE MOUNT ENCLOSURE. PROVIDE ONE 2 1/2" CHASE NIPPLE IN THE TOP, AND FOUR (4) 2" CHASE NIPPLES IN THE BOTTOM OF ENCLOSURE. REFER TO PANELBOARD SCHEDULES FOR MORE INFORMATION.
- PROVIDE TYPE I SPD (SURGE ARRESTER) IN COMPLIANCE WITH THE CURRENT NEC, UL 1449 LATEST EDITION LISTED. SPD SHALL BE INSTALLED ON THE SECONDARY SIDE OF SERVICE-ENTRANCE RATED FUSED DISCONNECT SWITCH.
- PROVIDE 15A, 120V, NEMA 5-15R, INDUSTRIAL GRADE, GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE DUPLEX RECEPTACLE WITH PVC, DEAD-END, DEEP DEVICE BOX (TYPE FDI), AND MATCHING/MATING GASKETED SPRING-HINGE WEATHERPROOF PVC COVER.
- PROVIDE NEMA 4/13, RAIN/TIGHT/DILIGHT, WET LOCATIONS LISTED, NON-ILLUMINATED, MAINTAINED CONTACT, HAND-OFF-AUTO, 3-POSITION SELECTOR SWITCH COMPLETE WITH TYPE AND NUMBER OF CONTACTS REQUIRED TO IMPLEMENT SPECIFIED CONTROL, LEGEND PLATE, AND PANEL MOUNT SINGLE OPERATOR NEMA TYPE I ENCLOSURE. PROVIDE 1" CHASE NIPPLE IN BOTTOM OF ENCLOSURE.
- PROVIDE 2000W, 120V, SPST PHOTOCELL, TORK 2100 SERIES OR APPROVED EQUAL. MOUNT PHOTOCELL WITH BOTTOM ALIGNED WITH THE TOP OF THE LOAD CENTER ENCLOSURE, AIM PHOTOCELL TOWARD THE NORTH, AND ADJUST PHOTOCELL SENSOR SLIDE SHIELD FOR OPTIMAL PERFORMANCE AS DIRECTED BY THE ENGINEER.
- PROVIDE 480-120V, SINGLE PHASE, 3W, 60HZ, 3.0KVA CONTROL POWER TRANSFORMER WITH FUSE KIT BRACKETS.
- METER BASE BY CONTRACTOR PER FPL'S REQUIREMENTS. METER BY FPL. GROUND METER BASE PER FPL'S REQUIREMENTS.
- PROVIDE 1-#12 PH., 1-#12 NEUT., AND 1-#12 GND FOR ALL 120V CONTROL CIRCUITS.
- 2 #2 AWG SERVICE-ENTRANCE PHASE CONDUCTORS WITH RHM-2 XLP INSULATION, 1 #2 AWG GROUND SERVICE CONDUCTOR WITH RHM-2 XLP INSTALLATION AND #4 AWG EQUIPMENT GROUND CONDUCTOR IN 2" SCH 80 FOR UNDERGROUND AND RGS FOR ABOVE GROUND CONDUITS. UNDERGROUND CONDUITS SHALL BE BURIED 30" MINIMUM BELOW GRADE.
- PROVIDE MINIMUM ONE (1) 2" SCH. 40 PVC CONDUITS, ONE (1) 2" SCH. 40 PVC CONDUITS SPARE, FOR LIGHTING CIRCUIT WIRING. REFER TO PLAN SHEETS FOR MORE INFORMATION.
- PROVIDE TYPE 2 SURGE PROTECTION DEVICE (SPD) LOCATED INSIDE THE LOAD CENTER ENCLOSURE. SPD SHALL BE MANUFACTURED BY ADVANCED PROTECTION DEVICE (APT), MODEL TE-XF OR APPROVED EQUAL. SPD SHALL BE EQUIPPED WITH STATUS INDICATOR LIGHTS THAT ILLUMINATE GREEN DURING NORMAL OPERATION. SPD SHALL BE UL 1449 LATEST EDITION LISTED WITH A SHORT CIRCUIT CURRENT RATING. CONTRACTOR SHALL CONTACT APT'S REPRESENTATIVE, (800) 237-4567 FOR FIELD CONFIGURATION INSTRUCTIONS.
- CONCRETE SHALL HAVE A MINIMUM STRENGTH AT 28 DAYS OF 3,000 PSI. THE OUTSIDE EDGES OF THE SLAB SHALL BE CAST AGAINST FORMWORK. THE CONCRETE SLAB SHALL BE 24" WITH 18" ABOVE THE SURROUNDING GRADE.
- COPPER EQUIPMENT GROUND TERMINAL BUS BONDED TO ENCLOSURE.
- ACTIVE LIGHTING CIRCUIT WIRING. REFER TO PLAN SHEETS FOR MORE DETAILS.
- PROVIDE JUNCTION BOX AT THE BASE OF TECO UTILITY POWER POLE. COORDINATION WITH FPL REQUIRED.
- PROVIDE FUSIBLE PAD LOCKABLE SAFETY SWITCH, SERVICE ENTRANCE RATED, 600VAC, 100A/2P IN NEMA 4X ENCLOSURE WITH FUSES RATED AT 100A, OPERATING VOLTAGE 240/480V. USE #4 AWG FOR MAIN BONDING JUMPER BETWEEN EQUIPMENT GROUNDING BUS AND GROUNDING (NEUTRAL) BUS. EQUIPMENT GROUNDING BUS BONDED TO ENCLOSURE.
- COPPER GROUNDING NEUTRAL TERMINAL BUS.
- COPPER EQUIPMENT GROUND TERMINAL BUS.



REVISIONS			
Date	By	Description	

Drawn By:
H. GRIMALDO
Checked By:
B. BEHZADI
Designed By:
B. BEHZADI
Checked By:
S. AHMED

URS
URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, Florida 33607-1462
C.A. No. 00000002

MANATEE COUNTY GOVERNMENT
MANATEE COUNTY, FLORIDA

ENGINEER OF RECORD
BAYMAN BEHZADI
P.E. NO. 58999

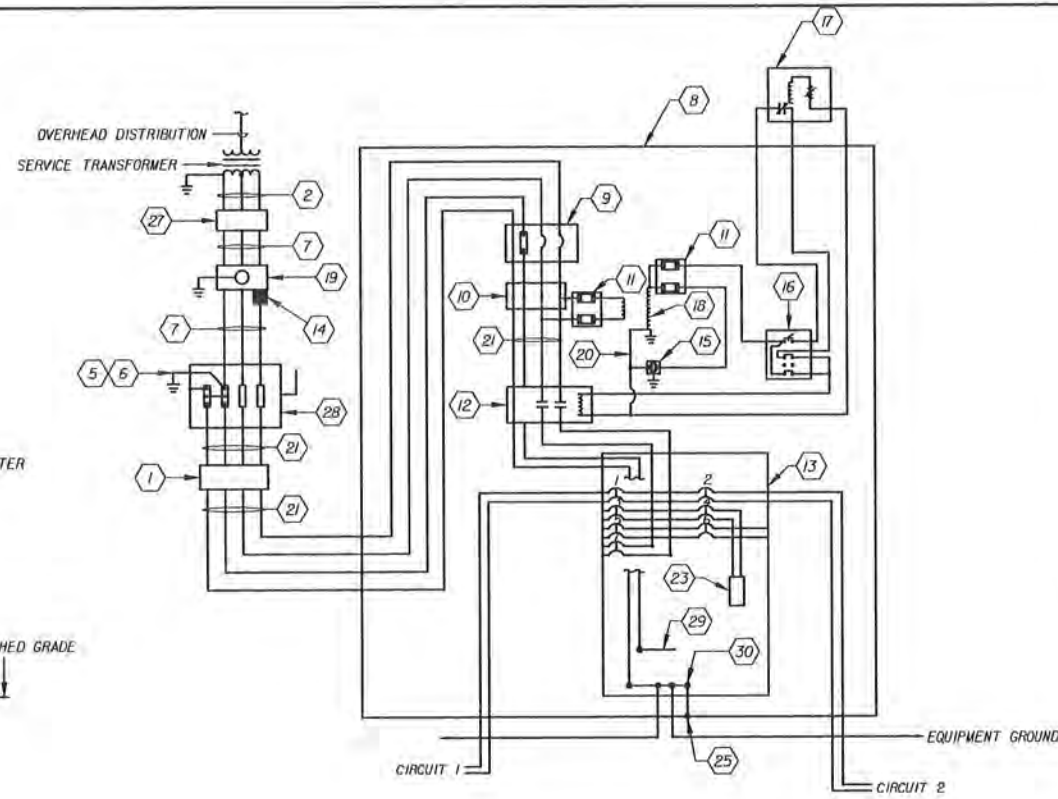
LOAD CENTER DETAILS (1)
PORT HAMER BRIDGE OVER MANATEE RIVER
SHEET NO.
L-22

GENERAL NOTES:

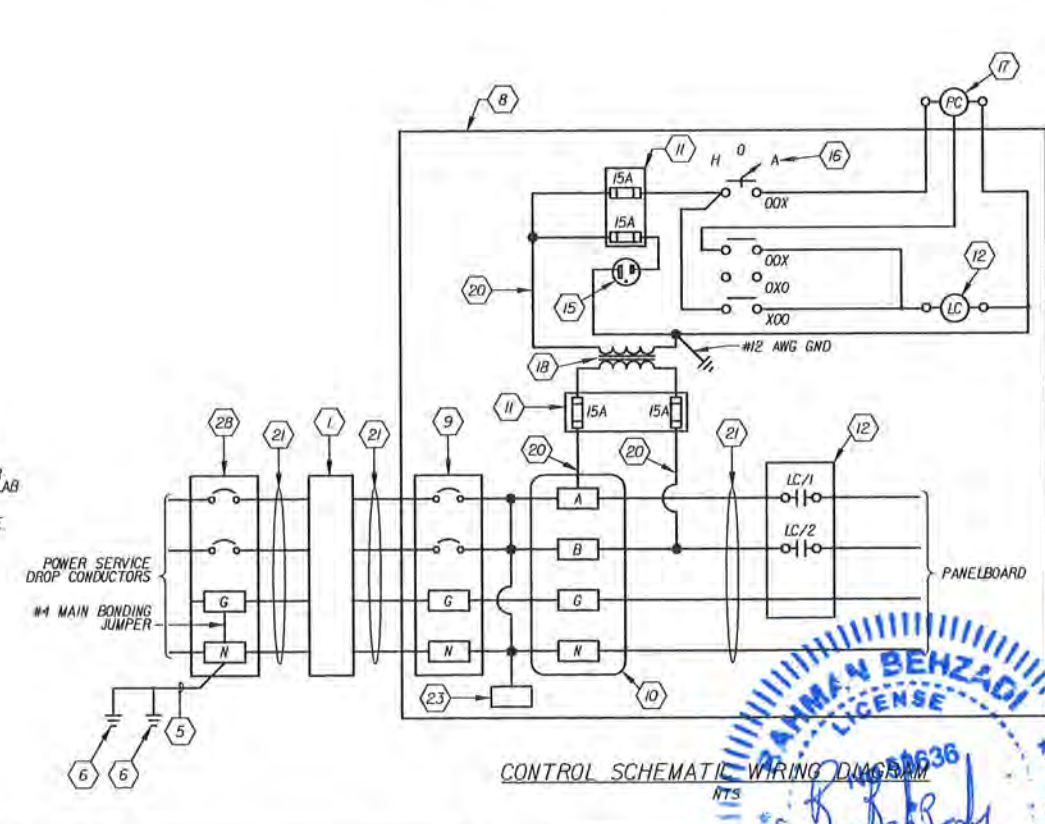
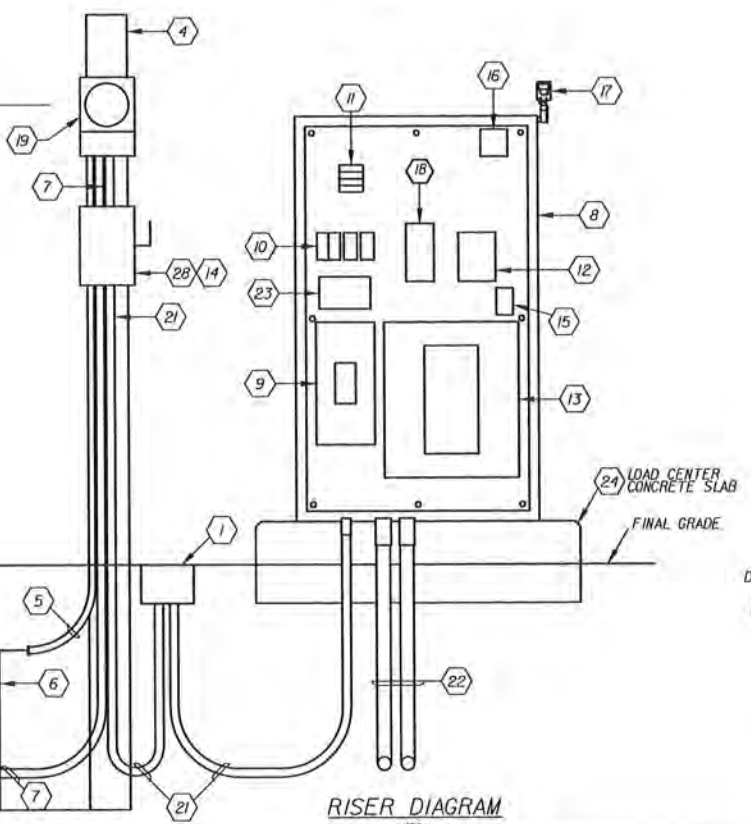
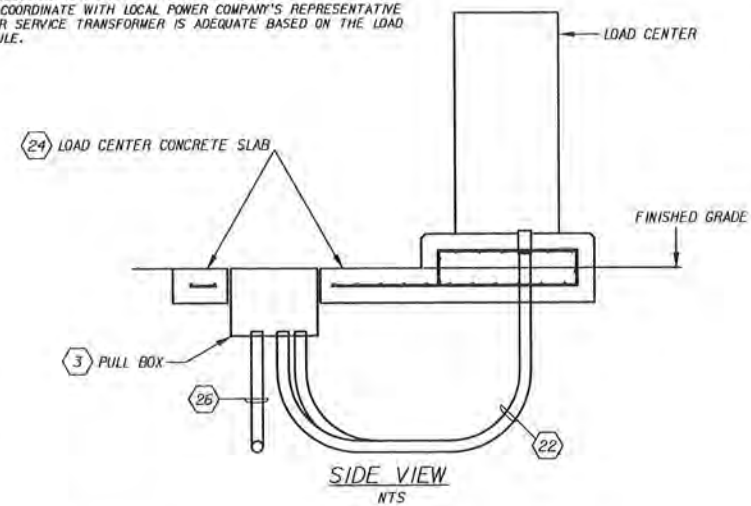
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- REFER TO SHEET L-24 FOR PANELBOARD SCHEDULE.
- CONTACT MR. DAVID MCCLINTOCK AT PEACE RIVER ELECTRIC COOPERATIVE (PREC) FOR UTILITY POWER SERVICE INFORMATION AT 853-767-4629. CONTRACTOR SHALL COORDINATE WITH LOCAL POWER COMPANY'S REPRESENTATIVE TO MAKE SURE THE PROPOSED SIZE OF THE POWER SERVICE TRANSFORMER IS ADEQUATE BASED ON THE LOAD INFORMATION PROVIDED IN THE PANELBOARD SCHEDULE.

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- PROVIDE #2 AWG BARE STRANDED COPPER GROUNDING CONDUCTOR IN 1" SCH. 80 PVC CONDUIT. BOND GROUNDING CONDUCTOR TO TOP OF GROUND ROD(S) VIA THE EXOTHERMIC WELDING PROCESS.
- COPPER CLAD GROUND RODS 5/8" DIAMETER BY 10' SECTIONAL USING 40' LONG AT EACH GROUND ROD LOCATION. PROVIDE 2"x40" SECTIONAL RODS FOR A TOTAL OF 40' AS A MINIMUM INSTALLED 12" UNDER FINAL GRADE, AT LEAST 20' APART AND BONDED TOGETHER WITH #2 AWG TIN PLATED COPPER BARE CONDUCTOR BY EXOTHERMIC WELDING. ALL GROUNDING RODS SHALL BE INTERCONNECTED USING #2 AWG BARE COPPER GROUNDING CONDUCTOR.
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- PROVIDE TIN PLATED COPPER, 600V, (1) #4-500KCMIL (LINE-SIDE), (6) #4-#2 (LOAD-SIDE), PANEL MOUNT POWER DISTRIBUTION BLOCKS (PDB) SUITABLE FOR USE WITH COPPER CONDUCTORS. PROVIDE ONE 2P PDB (A AND B PHASES), ONE 1P PDB (NEUTRAL), AND ONE 1P PDB (GROUND).
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- PROVIDE TYPE 1 SPD (SURGE ARRESTER) IN COMPLIANCE WITH THE CURRENT NEC, UL 1449 LATEST EDITION LISTED. SPD SHALL BE INSTALLED ON THE SECONDARY SIDE OF SERVICE-ENTRANCE RATED FUSED DISCONNECT SWITCH.
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- PROVIDE NEMA 4/13, RAINTIGHT/OILTIGHT, WET LOCATIONS LISTED, NON-ILLUMINATED, MAINTAINED CONTACT, HAND-OFF-AUTO, 3-POSITION SELECTOR SWITCH COMPLETE WITH TYPE AND NUMBER OF CONTACTS REQUIRED TO IMPLEMENT SPECIFIED CONTROL, LEGEND PLATE, AND PANEL MOUNT SINGLE OPERATOR NEMA TYPE I ENCLOSURE. PROVIDE 1" CHASE NIPPLE IN BOTTOM OF ENCLOSURE.
- PROVIDE 2000W, 120V, SPST PHOTOCELL, TORK 2100 SERIES OR APPROVED EQUAL. MOUNT PHOTOCELL WITH BOTTOM ALIGNED WITH THE TOP OF THE LOAD CENTER ENCLOSURE, AIM PHOTOCELL TOWARD THE NORTH, AND ADJUST PHOTOCELL SENSOR SLIDE SHIELD FOR OPTIMAL PERFORMANCE AS DIRECTED BY THE ENGINEER.
- PROVIDE 480-120V, SINGLE PHASE, 3W, 60HZ, 3.0KVA CONTROL POWER TRANSFORMER WITH FUSE KIT BRACKETS.
- METER BASE BY CONTRACTOR PER PREC'S REQUIREMENTS. METER BY PREC. GROUND METER BASE PER PREC'S REQUIREMENTS.
- PROVIDE 1-#12 PH., 1-#12 NEUT., AND 1-#12 GND FOR ALL 120V CONTROL CIRCUITS.
- 2 #2 AWG SERVICE-ENTRANCE PHASE CONDUCTORS WITH RHM-2 XLP INSULATION, 1 #2 AWG GROUNDING SERVICE CONDUCTOR WITH RHM-2 XLP INSTALLATION AND #4 AWG EQUIPMENT GROUND CONDUCTOR IN 2" SCH 80 FOR UNDERGROUND AND RGS FOR ABOVE GROUND CONDUITS. UNDERGROUND CONDUITS SHALL BE BURIED 30" MINIMUM BELOW GRADE.
- PROVIDE MINIMUM ONE (1) 2" SCH. 40 PVC CONDUITS, ONE (1) 2" SCH. 40 PVC CONDUITS SPARE, FOR LIGHTING CIRCUIT WIRING. REFER TO PLAN SHEETS FOR MORE INFORMATION.
- PROVIDE TYPE 2 SURGE PROTECTION DEVICE (SPD) LOCATED INSIDE THE LOAD CENTER ENCLOSURE. SPD SHALL BE MANUFACTURED BY ADVANCED PROTECTION DEVICE (APT), MODEL TE/XF OR APPROVED EQUAL. SPD SHALL BE EQUIPPED WITH STATUS INDICATOR LIGHTS THAT ILLUMINATE GREEN DURING NORMAL OPERATION. SPD SHALL BE UL 1449 LATEST EDITION LISTED WITH A SHORT CIRCUIT CURRENT RATING. CONTRACTOR SHALL CONTACT APT'S REPRESENTATIVE, (800) 237-4567 FOR FIELD CONFIGURATION INSTRUCTIONS.
- CONCRETE SHALL HAVE A MINIMUM STRENGTH AT 28 DAYS OF 3,000 PSI. THE OUTSIDE EDGES OF THE SLAB SHALL BE CAST AGAINST FORMWORK. THE CONCRETE SLAB SHALL BE 24" WITH 18" ABOVE THE SURROUNDING GRADE.
- COPPER EQUIPMENT GROUND TERMINAL BUS BONDED TO ENCLOSURE.
- ACTIVE LIGHTING CIRCUIT WIRING. REFER TO PLAN SHEETS FOR MORE DETAILS.
- PROVIDE JUNCTION BOX AT THE BASE OF TEOC UTILITY POWER POLE. COORDINATION WITH PREC REQUIRED.
- PROVIDE FUSIBLE PAD LOCKABLE SAFETY SWITCH, SERVICE ENTRANCE RATED, 600VAC, 100A/2P IN NEMA 4X ENCLOSURE WITH FUSES RATED AT 100A, OPERATING VOLTAGE 240/480V. USE #4 AWG FOR MAIN BONDING JUMPER BETWEEN EQUIPMENT GROUNDING BUS AND GROUNDING (NEUTRAL) BUS. EQUIPMENT GROUNDING BUS BONDED TO ENCLOSURE.
- COPPER GROUNDING NEUTRAL TERMINAL BUS.
- COPPER EQUIPMENT GROUND TERMINAL BUS.



WIRING SCHEMATIC DETAIL
N.T.S.



CONTROL SCHEMATIC WIRING DIAGRAM
NTS

REVISIONS					
Date	By	Description	Date	By	Description

Drawn By:
H. GRIMALDO
Checked By:
B. BEHZADI
Designed By:
B. BEHZADI
Checked By:
S. AHMED

URS
URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, Florida 33607-1462
C.A. No. 00000002

MANATEE COUNTY GOVERNMENT
ENGINEER OF RECORD
MANATEE COUNTY, FLORIDA

MANATEE COUNTY
974 201 1234
BAMMAN BEHZADI
P.E. NO. 51999

LOAD CENTER DETAILS (2)
FORT HAMER BRIDGE OVER MANATEE RIVER
SHEET NO.
L-23

240/480V., JPH, 3W WITH GROUND BUS				LOAD CENTER '1' PANELBOARD SCHEDULE				100A., M.L.O. NEMA 1 ENCLOSURE			
CKT. NO.	KVA	AMPS/PHASE	BKR	LOAD	CKT. NO.	KVA	AMPS/PHASE	BKR	LOAD		
1	4.8	10	30/2	ROADWAY LIGHTING	2	4.8	10	30/2	ROADWAY LIGHTING		
3	0.96	2	30/2	NAVIGATIONAL LIGHTING	4	-	-	30/2	TYPE 2 SPD (TVSS)		
5	-	-	-	SPACE	6	-	-	-	SPACE		
7	-	-	-	SPACE	8	-	-	-	SPACE		

MCB: 100A-2P
 TECO PROPOSED TRANSFORMER SIZE: 25 KVA
 CONNECTED LOAD: 10.56 KVA
 22 AMPS
 NEC DEMAND LOAD: 10.56 KVA
 22 AMPS

240/480V., JPH, 3W WITH GROUND BUS				LOAD CENTER '2' PANELBOARD SCHEDULE				100A., M.L.O. NEMA 1 ENCLOSURE			
CKT. NO.	KVA	AMPS/PHASE	BKR	LOAD	CKT. NO.	KVA	AMPS/PHASE	BKR	LOAD		
1	4.32	9	30/2	ROADWAY LIGHTING	2	4.32	9	30/2	ROADWAY LIGHTING		
3	-	-	30/2	ROADWAY LIGHTING	4	-	-	30/2	TYPE 2 SPD (TVSS)		
5	-	-	-	SPACE	6	-	-	-	SPACE		
7	-	-	-	SPACE	8	-	-	-	SPACE		

MCB: 100A-2P
 TECO PROPOSED TRANSFORMER SIZE: - KVA
 CONNECTED LOAD: 8.64 KVA
 18 AMPS
 NEC DEMAND LOAD: 8.64 KVA
 18 AMPS

NOTES:

- ALL CIRCUIT BREAKERS SHALL HAVE A MINIMUM 14,000 AMPS FULLY RATED INTERRUPTING CAPACITY. REFER TO LOAD CENTER DETAILS FOR MORE INFORMATION.
- PANELBOARDS WITH NEMA 1, UL 67 RATINGS SHALL BE INSTALLED INSIDE PAD-MOUNTED NEMA 4X ALUMINUM CABINET AT POWER SERVICE ENTRANCE LOCATIONS. REFER TO LOAD CENTER DETAILS FOR MORE INFORMATION.
- THE LEAD LENGTH OF SPDs DURING INSTALLATION SHALL BE AS SHORT AND STRAIGHT AS POSSIBLE.
- THE TOTAL CONNECTED LOADS SHOWN IN PANELBOARD SCHEDULES WILL INCLUDE THE FUTURE BRIDGE LIGHTING SYSTEM.



REVISIONS						Drawn By: H. GRIMALDO Checked By: B. BEHZADI Designed By: B. BEHZADI Checked By: S. AHMED	URS URS Corporation Southern 7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462 C.A. No. 00000002	MANATEE COUNTY GOVERNMENT MANATEE COUNTY, FLORIDA	ENGINEER OF RECORD SHEET TITLE: PANELBOARD SCHEDULES PROJECT NAME: FORT HAMER BRIDGE OVER MANATEE RIVER	REF. DWG. NO. SHEET NO. L-24
Date	By	Description	Date	By	Description					