

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

FINANCIAL PROJECT ID 436551-2-52-01

MANATEE COUNTY (13040000)

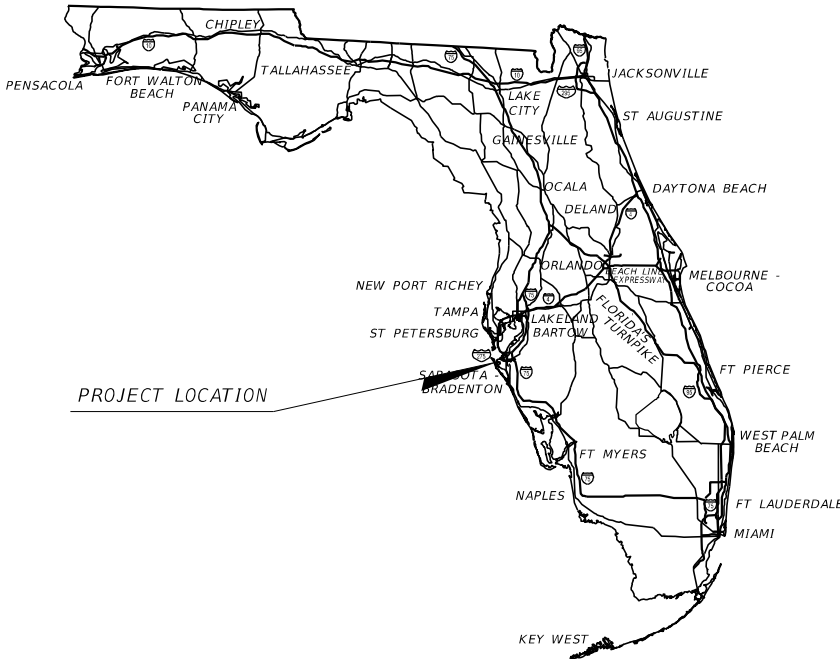
STATE ROAD NO. 684

LIGHTING PLANS

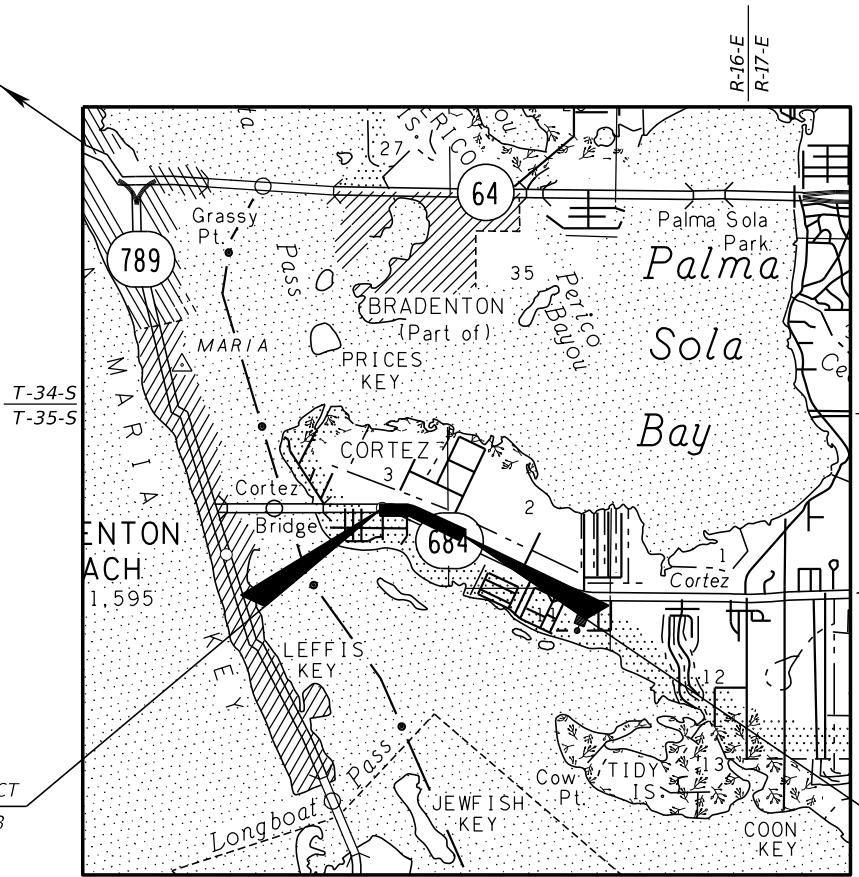
INDEX OF LIGHTING PLANS

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THIS PROJECT TO BE LET TO CONTRACT
WITH FINANCIAL PROJECT ID(S):
436551-1-52-01, 436551-1-52-02



TO
HOLMES
BEACH

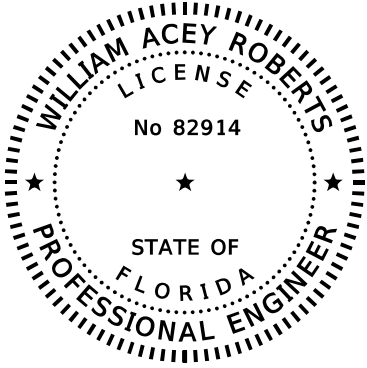


TO
BRADENTON

BEGIN PROJECT
STA. 52.34+53
MP 0.839

END PROJECT
STA. 73+00.00
MP 1.297

TO
LONGBOAT
KEY



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.

LIGHTING PLANS
ENGINEER OF RECORD:

WILLIAM ACEY ROBERTS, P.E. #82914
ATKINS NORTH AMERICA, INC
4030 WEST BOY SCOUT BLVD. STE. 700
TAMPA, FLORIDA 33607
CONTRACT NO.: C9L49
VENDOR NO.: F-590-896-138-001
CERTIFICATE OF AUTHORIZATION NO.: 24

FDOT PROJECT MANAGER:
RICHARD (MOSE) HOWARD, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
T1720	19	L-1

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]

REVISIONS				WILLIAM ACEY ROBERTS P.E. NO. 82914 ATKINS NORTH AMERICA, INC. 4030 WEST BOY SCOUT BLVD. STE. 700 TAMPA, FLORIDA 33607 FBPE CERTIFICATE OF AUTHORIZATION NO. 24	<i>STATE OF FLORIDA</i>			<i>TABULATION OF QUANTITIES</i>	SHEET
DATE	DESCRIPTION	DATE	DESCRIPTION		<i>DEPARTMENT OF TRANSPORTATION</i>				NO.
					ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 684	MANATEE	436551-2-52-01		L-2

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<div>GENERAL NOTES</div> <div>=====</div> <div><div><div>1. SEE ROADWAY PLANS FOR UTILITY CONTACT AND VVH INFORMATION.</div><div>2. PRIOR TO ANY EQUIPMENT ORDER, SUBMIT FOR APPROVAL EQUIPMENT SPECIFICATION OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT. IF OTHER THAN THE BASES OF DESIGN IS PROPOSED THESE MUST SPECIFICALLY INCLUDE:<div>A) LUMINAIRE PHOTOMETRICS.</div><div>B) POLE STRENGTH CALCULATIONS</div><div>C) POLE FRANGIBILITY TEST</div><div>D) BOLT SPECIFICATIONS AND BOLT CIRCLE DIAMETER</div><div>E) POLE SHOP DRAWINGS</div><div>F) SERVICE POINT EQUIPMENT</div></div><div>FOUR (4) COPIES OF SHOP DRAWINGS AND DESIGN DATA FOR ROADWAY. LIGHTING EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER OF RECORD IN ACCORDANCE WITH THE SPECIFICATIONS.</div><div>3. 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 THAT UNDERGROUND UTILITIES EXIST. NOTIFY THE UTILITY COMPANY OWNER(S) FOR LOCATION AND STAKING OF UNDERGROUND FACILITIES BEFORE EXCAVATING.</div><div>4. SHOP DRAWING SUBMITTAL DATA SHALL INCLUDE A COMPUTER PRINTOUT SHOWING HORIZONTAL AND VERTICAL FOOT-CANDLE LEVELS TO BE OBTAINED USING THE SUBMITTED LUMINAIRES ON THIS PROJECT. AT FINAL INSPECTION VERIFY THE HORIZONTAL AND VERTICAL FOOT-CANDLE LEVELS ON THE ROADWAY WITH AN APPROVED CURRENTLY CALIBRATED LIGHT METER, AND SUBMIT REPORT FOR APPROVAL. ALSO A COMPUTER PRINT-OUT IS REQUERED IF ANOTHER LUMINAIRE OTHER THAN THE LUMINAIRE USED ON THE BASIS OF DESIGN IS SUBMITTED.</div><div>5. 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 ROADWAY LIGHTING POLE.</div><div>6. AT LOCATIONS WHERE UNDERGROUND UTILITIES ARE WITHIN 2' OF THE LIGHTING POLE FOUNDATIONS OR CONDUIT RUN, HAND DIG THE FIRST 4' OF THE HOLE FOR THE POLE FOUNDATION AND CONDUIT RUN.</div><div>7. PREPARE ACCURATELY DIMENSIONED "AS BUILT" PLANS OF FINAL POLE, CONTROLLER AND CONDUIT LOCATIONS. "AS BUILT" PLANS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO FINAL ACCEPTANCE. AFTER THE "AS BUILT" PLANS ARE APPROVED, SUBMIT TWO COPIES TO THE RESIDENT ENGINEER AND ONE COPY TO FDOT DISTRICT 1 MAINTENANCE IN BRADENTON, FL. COST OF SUCH PREPARATIONS SHALL BE INCIDENTAL TO PAY ITEMS PROVIDED.</div><div>8. THE WIRES AT THE POLE HANDHOLES AND PULLBOXES SHALL BE PLACED IN THE POLE AND PULL BOXES WITH A MINIMUM 24-INCH BY 10-INCH DIAMETER COILED CONDUCTOR MAINTENANCE LOOP SECURED WITH PLASTIC TIE WRAP.</div><div>9. CONTACT GREG COKER OF FPL, (941) 723-4430, FOR COORDINATION OF POWER FOR NEW LOAD CENTER.</div></div></div>				<div></div> <div>POLE IDENTIFICATION TAG DETAIL</div> <div>N.T.S.</div>	<div>715-4-70: CONTRACTOR IS TO TAKE OWNERSHIP OF THE REMOVED POLE(S).</div>	<div>GENERAL NOTES</div> <div>AND TAG DETAIL</div>	<div>SHEET NO.</div> <div>L-3</div>														
<div>REVISIONS</div> <table><tr><th>DATE</th><th>DESCRIPTION</th><th>DATE</th><th>DESCRIPTION</th></tr><tr><td></td><td></td><td></td><td></td></tr></table>				DATE	DESCRIPTION	DATE	DESCRIPTION					<div>WILLIAM ACEY ROBERTS</div> <div>P.E. NO. 82914</div> <div>ATKINS NORTH AMERICA, INC.</div> <div>4030 WEST BOY SCOUT BLVD. STE. 700</div> <div>TAMPA, FLORIDA 33607</div> <div>FBPE CERTIFICATE OF AUTHORIZATION NO. 24</div>	<div>STATE OF FLORIDA</div> <div>DEPARTMENT OF TRANSPORTATION</div> <table><tr><th>ROAD NO.</th><th>COUNTY</th><th>FINANCIAL PROJECT ID</th></tr><tr><td>SR 684</td><td>MANATEE</td><td>436551-2-52-01</td></tr></table>			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SR 684	MANATEE	436551-2-52-01
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POLE DATA

POLE NO.	CIRCUIT	STATION	DIST. OR ARM (FEET)	LUMINAIRE WATTAGE	MOUNTING HEIGHT (FEET)	POLE SETBACK	PAY ITEM
1	2	59+21.80	15'	180 WATT	25.00'	41.59' RT	715-511-125
2	2	59+30.23	15'	180 WATT	25.00'	30.24' LT	715-511-125
3	3	66+07.80	15'	145 WATT	35.00'	33.54' LT	715-4-12
4	3	66+74.60	15'	145 WATT	35.00'	32.75' LT	715-4-12
5	3	66+97.48	15'	145 WATT	35.00'	50.34' LT	715-4-12
6	3	66+88.77	15'	145 WATT	35.00'	67.20' LT	715-4-12
7	3	67+61.11	15'	145 WATT	35.00'	42.57' RT	715-4-12
8	3	66+49.80	15'	145 WATT	35.00'	48.35' RT	715-4-12

SIGNALIZED INTERSECTIONS
LIGHTING DESIGN CRITERIA

Average Initial Intensity (HFC)	1.5 Foot Candles
Average Initial Intensity (VFC)	1.5 Foot Candles
Uniformity Ratio Avg./Min.	4:1 Or Less
Max./Min.	10:1 Or Less
WIND SPEED	140 MPH

MIDBLOCK CROSSWALKS
LIGHTING DESIGN CRITERIA

Average Initial Intensity (VFC)	3.0 Foot Candles
Uniformity Ratio Avg./Min.	N/A
Max./Min.	N/A

LEGEND

SYMBOLS

DESCRIPTION



Single arm conventional 180W LED luminaire. Designed for Type III distribution. Luminaire wired for 120 volt operation. Pole mounting height 25 ft. Use Lumec Road Focus Luminaire, curve RFL-145W64LED4K-G2-R3M or equal.



Single arm conventional 145W LED luminaire. Designed for Type III distribution. Luminaire wired for 120 volt operation. Mast Arm mounting height 35 ft. Use Lumec Road Focus Luminaire, curve RFL-145W64LED4K-G2-R3M or equal.



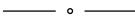
Single arm conventional 145W LED luminaire. Designed for Type III distribution. Luminaire wired for 120 volt operation. Pole mounting height 35 ft. Use Lumec Road Focus Luminaire, curve RFL-180W64LED4K-G2-R3M or equal.



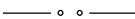
Existing pole and luminaire to remain.



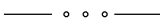
Existing pole and luminaire to be removed.



Schedule 40 PVC conduit with conductors inside (conductor size as shown on plan sheets). Run one (1) #6 AWG copper bond conductor (green insulation) inside conduit with other conductors.



HDPE conduit, directional bored under pavement with conductors inside (conductor size as shown on plan sheets).



Galvanized metal conduit with conductors inside (conductor size as shown on plan sheets).



Pull box. For specifications see Section 635 of Standard Specifications For Road And Bridge Construction.

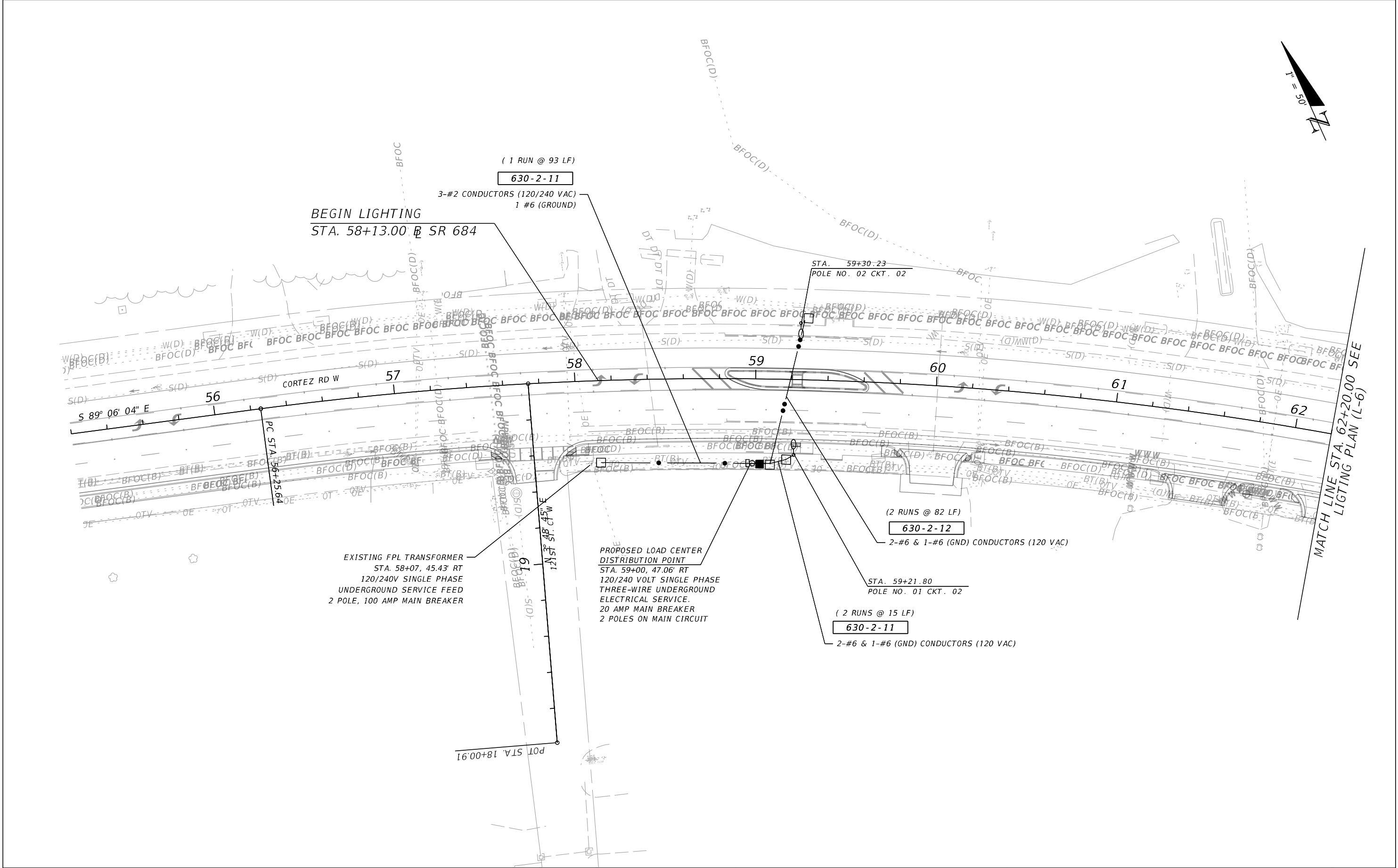


Distribution point. For requirements see Standard Plans Index No. 639-001.



Proposed electrical power service. For requirements see Standard Plans Index No. 639-001. Cost of establishing power service to be paid uder pay item 639-1-112 by contractor.

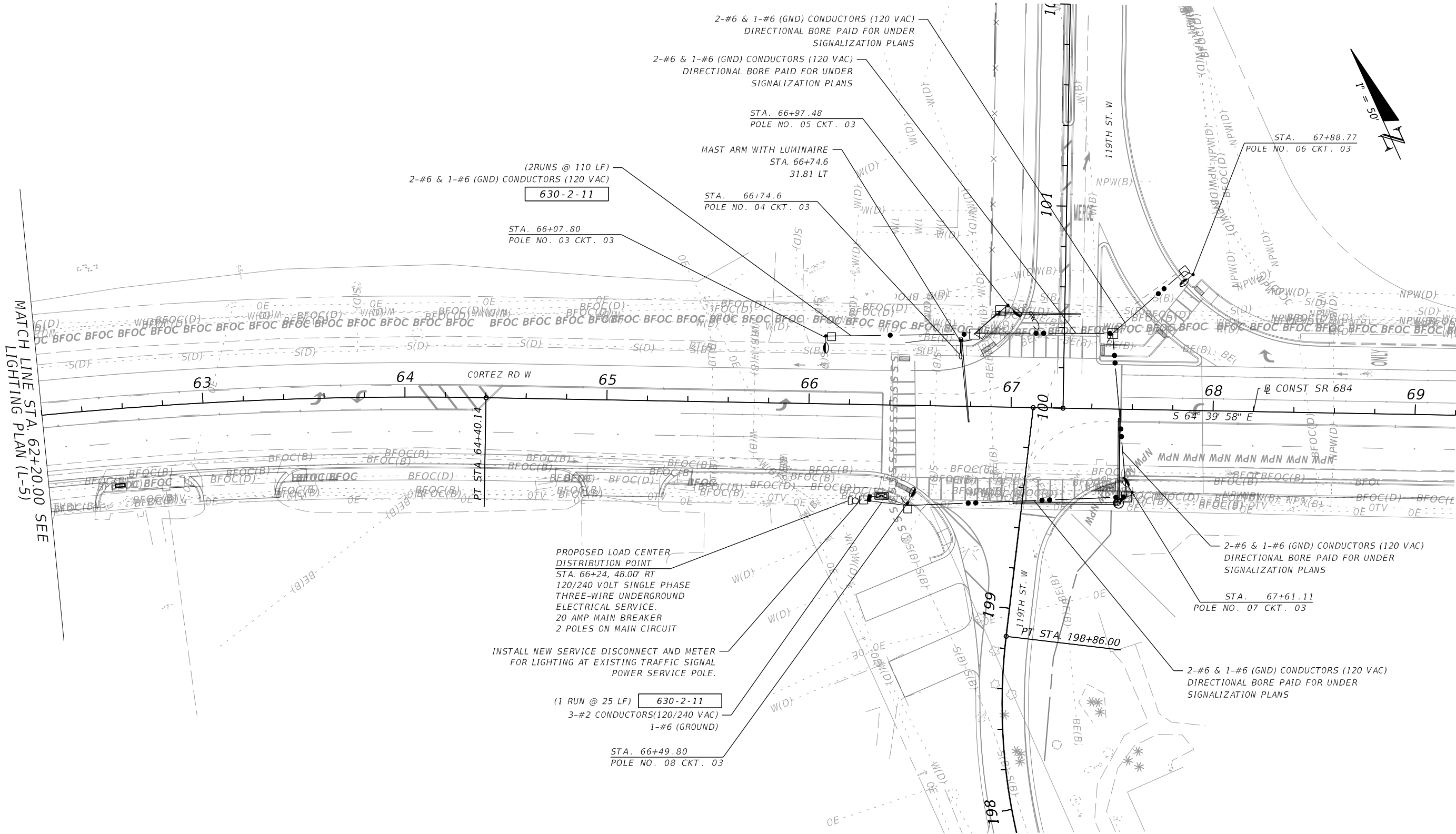
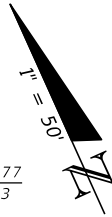
REVISIONS				WILLIAM ACEY ROBERTS P.E. NO. 82914 ATKINS NORTH AMERICA, INC. 4030 WEST BOY SCOUT BLVD. STE. 700 TAMPA, FLORIDA 33607 FBPE CERTIFICATE OF AUTHORIZATION NO. 24	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			POLE DATA AND LEGEND		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			L-4
					SR 684	MANATEE	436551-2-52-01			



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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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MATCH LINE STA. 62+20.00 SEE
LIGHTING PLAN (L-5)



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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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KEYED NOTES:

- 1 PULL BOX
2 METER SOCKET BY CONTRACTOR
3 #6 INSULATED COPPER GROUND WIRE IN 1/2" RIGID GALVANIZED STEEL OR BARE WIRE IF UNDERGROUND
4 COPPER CLAD GROUND ROD 5/8" DIA. 20' LONG.
5A 25' ALUMINUM LIGHTING POLE WITH 180 WATT LED FIXTURE
6A FSS 30 AMP, 240/120V, 2-POLE WITH 30 AMP FUSES & SURGE PROTECTION DEVICE AS MANUFACTURED BY EATON, MODEL #DH-2-2-I-NDKW-CVXJ NEMA 4X.
9 1" SCH. 40 PVC CONDUIT
9A INSTALL (1) #6, (1) #6 NEUTRAL & (1) #10 GROUND CONDUCTORS
10 1" RIGID GALVANIZED STEEL CONDUIT
10A INSTALL (2) #6 & (1) #6 NEUTRAL CONDUCTORS
12 LIQUID-TIGHT FLEX CONDUIT
13 CONCRETE POLE TYPE P-11, FDOT INDEX #639-001 and #641-010.

ABBREVIATIONS

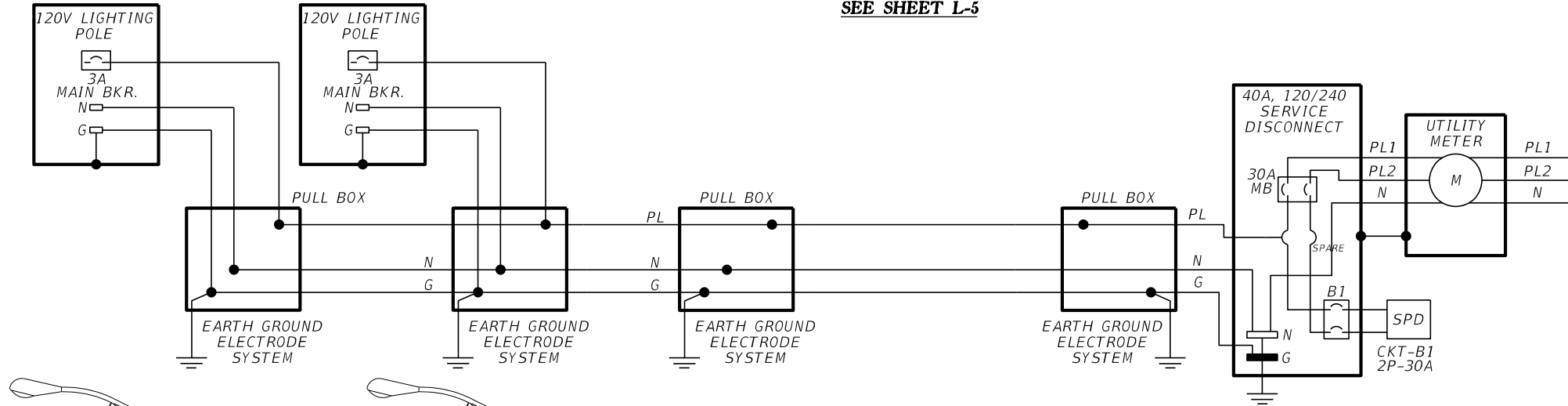
AMP - AMPERES
CKT - CIRCUIT
FSS - FUSIBLE SAFETY SWITCH

GENERAL NOTES

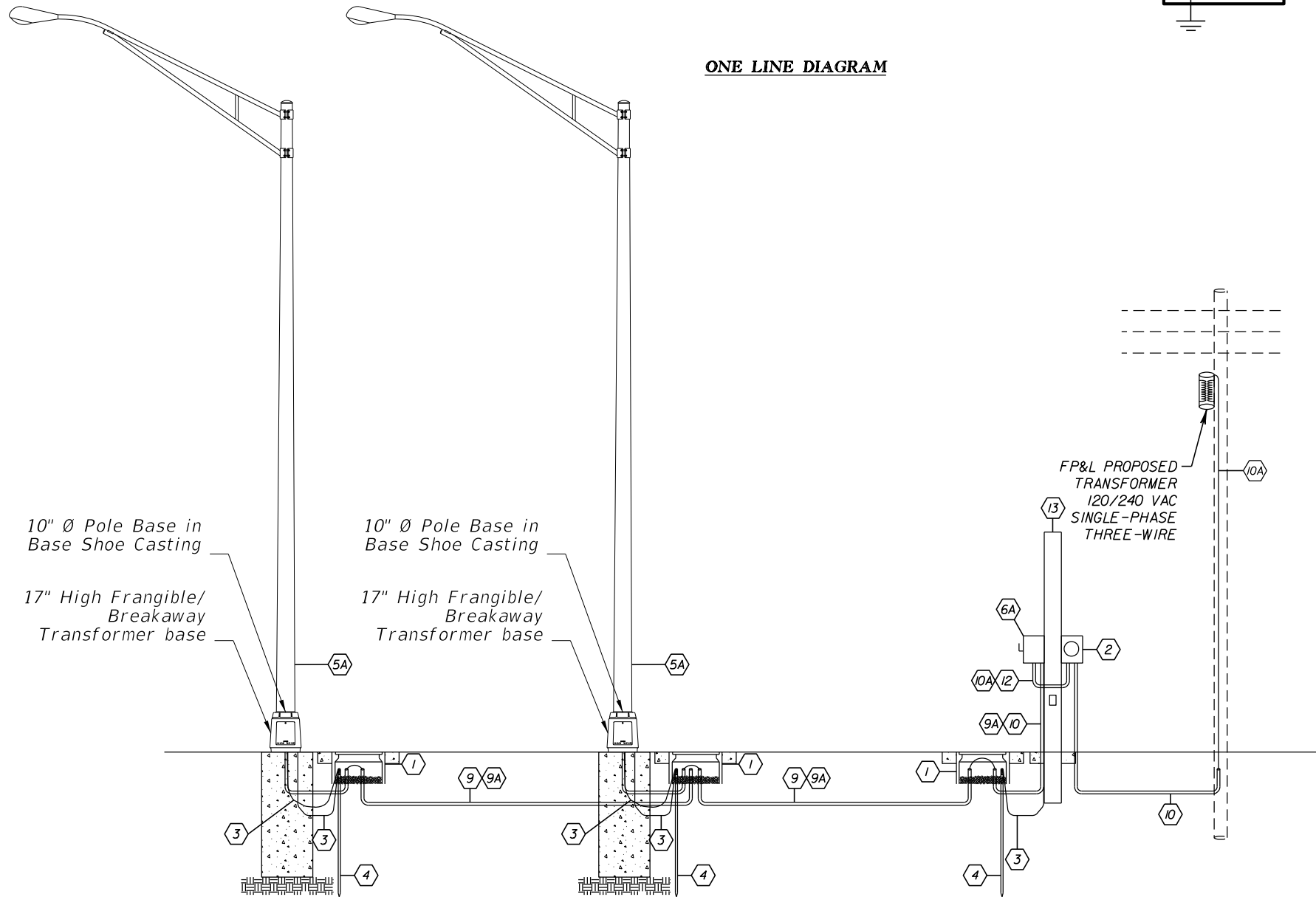
1. SEE SHEET L-5 FOR LOCATION OF UTILITY SERVICE AND LIGHTING POLE.
2. THE WORK PRACTICES EMPLOYED ON THIS PROJECT SHALL AT ALL TIMES COMPLY WITH OR EXCEED THE LATEST ADOPTED EDITION OF THE NEC (NATIONAL ELECTRICAL CODE). CONTRACTOR SHALL PROVIDE OR OBTAIN ALL REQUIRED LABOR, MATERIAL, EQUIPMENT, INSURANCE, TOOLS, PERMITS, INSPECTIONS, ETC. TO PERFORM THE PROJECT ELECTRICAL WORK AS PER NEC, LOCAL AGENCIES, AND OWNER REQUIREMENTS.
3. CONDUCTORS SHALL BE STRANDED COPPER TYPE THHN/THWN-2 UNLESS NOTED OTHERWISE.
4. FOLLOW OWNER, NATIONAL AND LOCAL AGENCIES, ETC. SAFETY REGULATIONS AND PROCEDURES. PROVIDE ADEQUATE EQUIPMENT AND WORKING AREA PROTECTION TO PREVENT INJURIES AND DAMAGE TO PROPERTY.

TYPICAL POWER SERVICE

SEE SHEET L-5



ONE LINE DIAGRAM



SERVICE DETAIL

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KEYED NOTES:

- (1) PULL BOX
(2) METER SOCKET BY CONTRACTOR
(3) #6 INSULATED COPPER GROUND WIRE IN 1/2" RIGID GALVANIZED STEEL OR BARE WIRE IF UNDERGROUND
(4) COPPER CLAD GROUND ROD 5/8" DIA. 20' LONG.
(5A) 35' ALUMINUM LIGHTING POLE WITH 145 WATT LED FIXTURE
(6A) FSS 30 AMP, 240/120V, 2-POLE WITH 30 AMP FUSES & SURGE PROTECTION DEVICE AS MANUFACTURED BY EATON, MODEL #DH-2-2-I-NDKW-CVXJ NEMA 4X.
(9) 1" SCH. 40 PVC CONDUIT
(9A) INSTALL (1) #6, (1) #6 NEUTRAL & (1) #10 GROUND CONDUCTORS
(10) 1" RIGID GALVANIZED STEEL CONDUIT
(10A) INSTALL (2) #10 & (1) #10 NEUTRAL CONDUCTORS
(12) LIQUID-TIGHT FLEX CONDUIT
(13) CONCRETE POLE TYPE P-II, FDOT INDEX #639-001 and #641-010.

ABBREVIATIONS

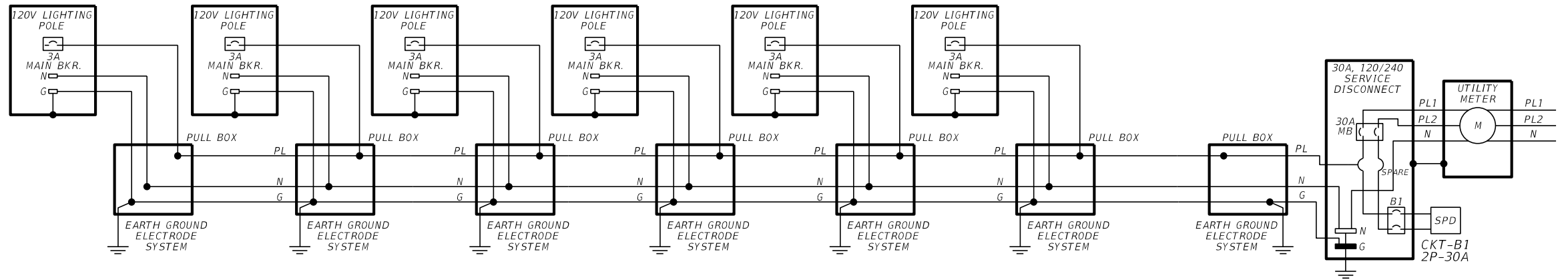
AMP - AMPERES
CKT - CIRCUIT
FSS - FUSIBLE SAFETY SWITCH

GENERAL NOTES

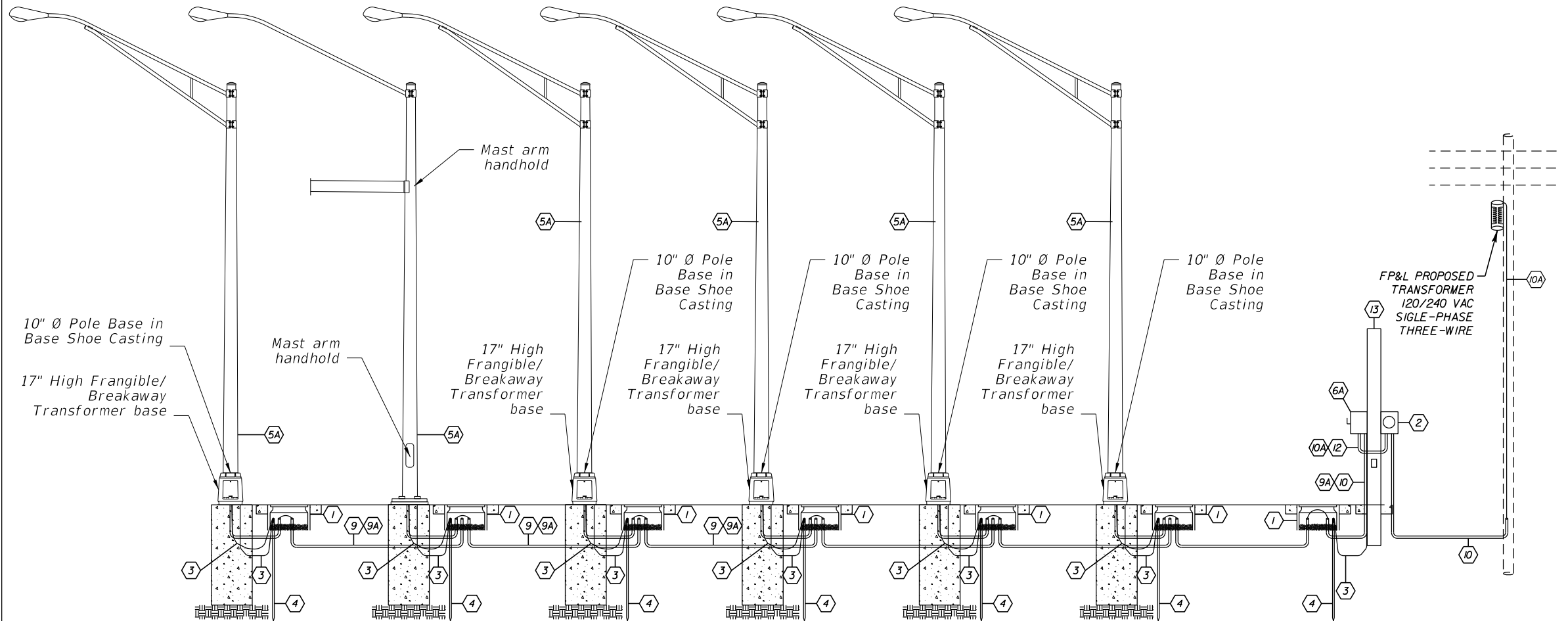
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3. CONDUCTORS SHALL BE STRANDED COPPER TYPE THHN/THWN-2 UNLESS NOTED OTHERWISE.
4. FOLLOW OWNER, NATIONAL AND LOCAL AGENCIES, ETC. SAFETY REGULATIONS AND PROCEDURES. PROVIDE ADEQUATE EQUIPMENT AND WORKING AREA PROTECTION TO PREVENT INJURIES AND DAMAGE TO PROPERTY.

TYPICAL POWER SERVICE

SEE SHEET L-6



ONE LINE DIAGRAM



SERVICE DETAIL

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