

ABBREVIATIONS	
ADAG	AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES
AFG	AFTER FINISHED GRADE
ATFP	ANTI-TERRORISM / FORCE PROTECTION
BUCT	BUILDING DESIGN AND CONSTRUCTION TEAM
BFG	BELOW FINISHED GRADE
C	CONDUIT
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CRT	CIRCUIT
CMU	CONCRETE MASONRY UNIT
CO	CONDUIT ONLY
DC	DIRECT CURRENT
E	EAST
EC	ELECTRICAL CONTRACTOR
EOR	ENGINEER OF RECORD
EQ	EQUAL
EV	ELECTRIC VEHICLE
EVCS	ELECTRIC VEHICLE CHARGING SYSTEM
FO	FIBER OPTIC
G	GROUND CONDUCTOR
GC	GENERAL CONTRACTOR
GEC	GROUNDING ELECTRODE CONDUCTOR
GFGI	GOVERNMENT FURNISHED GOVERNMENT INSTALLED
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
KO	KNOCK OUT
N	NORTH
NEC	NATIONAL ELECTRIC CODE (NFPA 70)
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OAE	OR-APPROVED EQUAL
OH	OVERHEAD
PNL	PANEL
PV	PHOTOVOLTAIC
RMC	RIGID METAL CONDUIT
S	SOUTH
SM	SIMILAR
SS	STAINLESS STEEL
SYM	SYMMETRICAL
Typ	TYPICAL
UDS	UTILITY DISTRIBUTION SYSTEM
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
UNSW	UNSWITCHED
UCN	UNLESS OTHERWISE NOTED
V	VOLT
W	WALL MOUNTED
W	WATTS
W	WEST
WP	WEATHER-ROOF
WR	WEATHER-RESISTANT

GENERAL NOTES

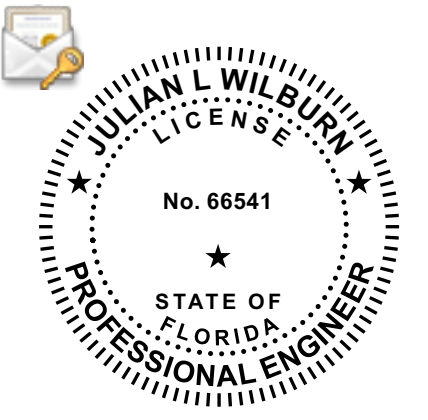
1. ALL ELECTRICAL WORK MUST COMPLY WITH THE NATIONAL ELECTRICAL CODE, THE ENERGY CONSERVATION CODE, THE NATIONAL FIRE CODES, THE AMERICANS WITH DISABILITIES ACT, AND THE FLORIDA BUILDING CODES.
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL, EQUIPMENT, LABOR, AND SERVICES TO CONSTRUCT AND INSTALL COMPLETE AND OPERATIONAL ELECTRICAL SYSTEMS AS SHOWN ON THE CONTRACT DRAWINGS.
3. CONTRACTOR SHALL VISIT THE SITE TO DETERMINE EXISTING CONDITIONS AND REQUIREMENTS. CONTRACTOR SHALL VERIFY ALL MEASUREMENTS BY ACTUAL OBSERVATION AT THE SITE AND SHALL BE RESPONSIBLE FOR ALL WORK FITTING TO OBTAIN A SATISFACTORY AND WORKMAN LIKE MANNER.
4. CONTRACTOR MUST THOROUGHLY REVIEW THE PROJECT TO ENSURE THAT ALL WORK MUST MEET OR EXCEED THE ABOVE REQUIREMENTS. ANY ALLEGED DISCREPANCIES MUST BE BROUGHT TO THE ENGINEER'S ATTENTION.
5. CONTRACTOR IS DIRECTED TO OBTAIN COPIES OF ALL RELATED PLANS, SHOP DRAWINGS, AND ADDENDA TO COORDINATE THE RELATED WORK AND SCHEDULING.
6. CONTRACTOR SHALL OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, AND TEST REQUIRED UPON COMPLETION OF THE WORK. OBTAIN AND SUBMIT CERTIFICATES OF INSPECTION AND APPROVAL, TO THE OWNER. THE CONTRACTOR IS TO PAY FOR ALL FEES AND EXPENSES FOR PERMITS, LICENSES, TESTS, AND INSPECTIONS.
7. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW, UL LISTED, AND MEET ALL INDUSTRY STANDARDS. FIRE ALARM SYSTEM COMPONENTS SHALL BE FM LISTED. ALL EQUIPMENT OF THE SAME SYSTEM SHALL BE OF THE SAME MANUFACTURER.
8. CONTRACTOR SHALL FURNISH AND INSTALL ELECTRICAL MATERIALS THAT ARE FREE FROM DEFECTS AND MANUFACTURED WITHIN THE PERIOD OF ONE YEAR FROM THE DATE OF PROJECT START.
9. ALL CONDUCTORS SHALL BE NEW AND HAVE SIZE, GRADE OF INSULATION, VOLTAGE RATING, AND MANUFACTURERS NAME ON THE INSULATION AT 12" INTERVALS AND SHALL BE DELIVERED IN COMPLETE COILS OR REELS WITH IDENTIFYING SIZE. ALL CONDUCTORS SHALL BE COPPER. ALUMINUM CONDUCTORS ARE NOT ACCEPTABLE.
10. FEEDER CONDUCTORS SHALL BE TYPE THHN. CON. BRANCH CIRCUIT WIRING SHALL BE TYPE THHN. MINIMUM CONDUIT SCHEDULE SHALL BE #12 AWG. CONDUIT SHALL BE INSTALLED IN CONDUIT.
11. MINIMUM SIZE CONDUIT SHALL BE 3/4". ALL EXTERIOR ABOVE GROUND CONDUITS SHALL BE GALVANIZED RIG TO 10". EXTERIOR UNDERGROUND CONDUITS SHALL BE PVC.
12. ALL CONDUIT RUNS MUST BE CONCEALED, UNON.
13. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS. CAST ALLOY WITH THREADED NUBS IN WET, DAMP, OR SURFACE MOUNTED LOCATIONS. SPECIAL ENCLOSURES FOR CLASSIFIED AREAS.
14. ALL SPECIAL PURPOSE RECEPTACLE OUTLETS MUST BE FURNISHED AND INSTALLED TO MATCH EQUIPMENT TO BE SUPPLIED.
15. ALL CONDUITS MUST INCLUDE A SEPARATE GREEN EQUIPMENT GROUNDING CONDUCTOR.
16. ANY EXISTING UTILITIES LOCATED IN THE AREA OF CONSTRUCTION THAT REQUIRE LOCATION OR TIE-IN MUST BE COORDINATED WITH THE OWNERS REPRESENTATIVE. PROVIDE 72 HOUR ADVANCE NOTICE.
17. ALL DISCONNECT SWITCHES SHALL BE HP RATED, HEAVY DUTY, QUICK MAKE AND BREAK, FUSED DISCONNECTS MUST HAVE LITTLEFLUTE CLASS 1R, CLASS RNS, AND INDICATE CLASS RNS.
18. ELECTRICAL CONTRACT DRAWINGS ARE SCHEMATIC AND DIAGRAMMATIC ONLY. CONTRACTOR SHALL REFER TO FIELD CONDITIONS OR ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND/OR DIMENSIONS PRIOR TO INSTALLATION OF ALL ELECTRICAL ITEMS. ALL QUESTIONABLE LOCATIONS MUST BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION.
19. ALL EMPTY CONDUITS MUST CONTAIN TIE LINE #232 POLYOLEFIN 200 LB. TEST PULL STRING.
20. ALL WORK SHOWN ON THE ELECTRICAL PLANS MUST BE PERFORMED BY THE CONTRACTOR, UNON.
21. EXTERIOR BURIED CONDUIT RUNS MUST BE MINIMUM 24" BELOW FINISHED GRADE. FURNISH AND INSTALL CAUTION TAPE 12" BELOW GRADE. FURNISH AND INSTALL (1) SPRAYE WITH EACH UNDERGROUND RUN.
22. RACEWAYS INSTALLED IN OUTDOOR LOCATIONS MUST BE HOT DIPPED GALVANIZED, AT MINIMUM, FOR CORROSION RESISTANCE. FOR HIGHLY CORROSIVE ENVIRONMENTS, SUCH AS COASTAL AREAS, ALUMINUM, STAINLESS STEEL, OR PVC COATED RACEWAYS SHALL BE FURNISHED AND INSTALLED.
23. POWER CHANGE EXPENSE, RESULTING FROM EQUIPMENT SUBSTITUTIONS THAT DIFFER FROM ITEMS CALLED FOR IN DRAWINGS OR SPECIFICATIONS SHALL BE BORNE BY THE CONTRACTOR OR THEIR SUBCONTRACTOR. THESE MUST INCLUDE CHANGES IN VOLTAGE OR FULL LOAD AMPS RESULTING IN LARGER FEEDERS AND/OR CIRCUIT BREAKERS.
24. WATERPROOF RECEPTACLE COVER MUST BE WP EXTRA DUTY WHILE IN USE TYPE.
25. BEFORE INITIATING ANY UNDERGROUND WORK, CONTRACTOR MUST LOCATE ALL UTILITIES.
26. FURNISH AND INSTALL ALL FEEDERS AND BRANCH CIRCUIT WIRING COMPLETE WITH LOGS, CONNECTORS, SPLICE BOXES, AND MAKE ALL CONNECTIONS AS REQUIRED.
27. CONTRACTOR SHALL COORDINATE ELECTRICAL SERVICE WITH ENGINEER OF RECORD AND LOCAL ELECTRICAL UTILITY. SERVICE ENTRANCE INSTALLATION SHALL COMPLY WITH LOCAL ALL UTILITY REQUIREMENTS. CONTRACTOR SHALL COORDINATE DELIVERY OF SERVICE TRANSFORMER, METER ENCLOSURE, AND CT CABINET WITH LOCAL ELECTRICAL UTILITY.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF DAMAGES TO OTHER TRADES OR PREMISES DONE BY THEIR TRADESMEN.
29. CONTRACTOR SHALL RECEIVE, HANDLE, AND MOVE ALL ELECTRICAL MATERIALS AND EQUIPMENT TO REQUIRED LOCATIONS. CONTRACTOR SHALL PROTECT MATERIALS AND EQUIPMENT AGAINST THEFT AND DAMAGE. CONTRACTOR SHALL PROTECT ALL ELECTRICAL WORK UNTIL IT HAS BEEN TESTED AND ACCEPTED.
30. CONTRACTOR SHALL KEEP PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH. AT COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL RUBBISH FROM THE SITE AND LEAVE THE ELECTRICAL SYSTEMS CLEAN AND READY FOR USE. EQUIPMENT, LUMINAIRES, MATERIALS AND ACCESSORIES SHALL BE THOROUGHLY CLEANED OF CEMENT, PLASTER, PAINT, AND OTHER MATERIALS.
31. CONDUITS SHALL BE SECURED TO ALL BOXES AND CABINETS WITH BONDED LOCK NUTS. SO THAT THE ENTIRE SYSTEM IS CONTINUOUSLY AND COMPLETELY GROUNDED.
32. ALL SWITCHGEAR, MOTOR CONTROL CENTER, AND PANELBOARD BUSSING SHALL BE COPPER. ALUMINUM IS NOT ACCEPTABLE.
33. TWO AND THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP. THE HANDLES OR TENDONS ARE UNACCEPTABLE. ALL CIRCUIT BREAKERS SHALL BE BOLTON TYPE.
34. CONTRACTOR SHALL PROVIDE AND KEEP UP TO DATE A COMPLETE RECORD SET OF CONSTRUCTION "RECORD DRAWING" PRINTS WHICH SHALL BE CORRECTED DAILY, AND SHALL SHOW EVERY CHANGE FROM THE CONTRACTOR'S CONTRACT DRAWINGS. INCLUDING ADDENDA AND CHANGE ORDERS IN ACCORDANCE WITH GENERAL REQUIREMENTS AND SPECIAL CONDITIONS. THIS SET OF PRINTS SHALL BE KEPT ON THE JOB SITE, AND SHALL BE USED ONLY AS A RECORD SET. THIS SHALL NOT BE CONSTRUED AS METEOR PATTERN FOR THE CONTRACTORS TO MAKE CHANGES IN THE LAYOUT WITHOUT DEFINITE INSTRUCTION IN EACH CASE.
35. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CUTTING OF CONSTRUCTION MATERIALS WHICH IS REQUIRED FOR THE INSTALLATION OF DIVISION 26 WORK. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND THE OWNER BEFORE ANY CUTTING. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PATCHING, PAINTING, AND FINISH WORK.
36. ALL UNDERGROUND CONDUITS SHALL BE SLOPED TO DRAIN TO JUNCTION BOXES OR MANHOLES. IF THIS CANNOT BE ACCOMPLISHED, THEY SHALL BE FURNISHED AND INSTALLED WITH DRAINAGE TEES AT THE LOW POINTS OF THE CONDUIT RUNS.
37. CABLES AND CONDUCTORS IN ALL JUNCTION BOXES, MANHOLES, AND ALL UTILITY ENCLOSURES SHALL BE FURNISHED AND INSTALLED WITH INDIVIDUAL NONFERROUS METAL OR NYLON IDENTIFICATION TAGS.
38. ALL CONDUCTORS SHALL BE COLOR CODED AS REQUIRED BY PROJECT SPECIFICATIONS. CERTIFIED CONDUIT/TEST REPORTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

SHEET LIST

NUMBER	TITLE
ES001	ABBREVIATIONS AND LEGEND
ES101	SITE PLAN



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EV Charging
508 East Duval Street
Lake City, FL 32055

[illegible]

REVIEWED BY: JLW

DRAWN BY: RLB

DESIGNED BY: JLW

PROJECT NUMBER: 06.0019.01-2023

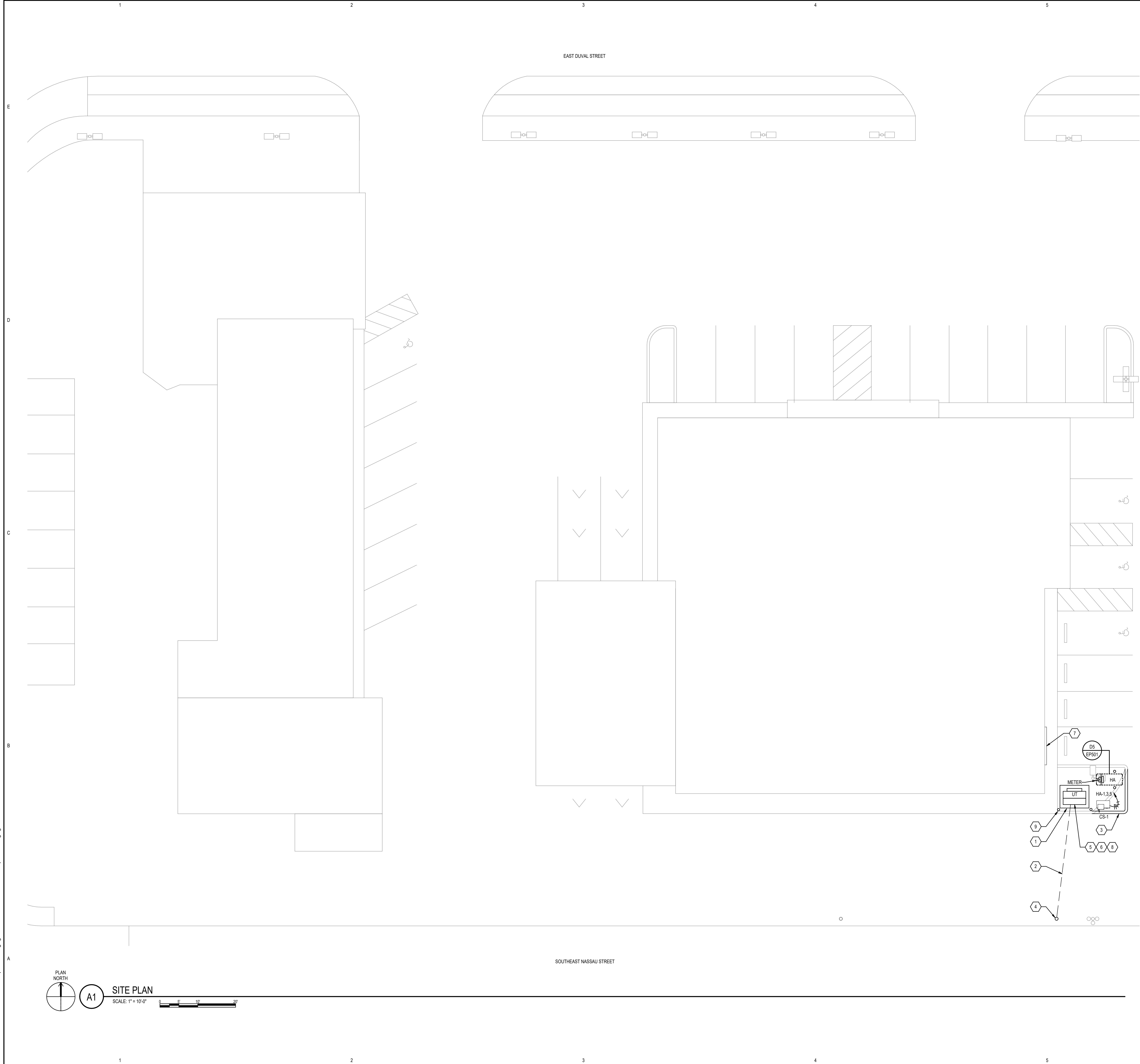
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SHEET TITLE

ABBREVIATIONS AND LEGEND

ES001

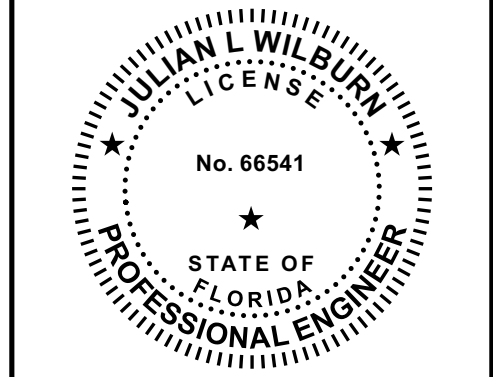
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BM 360/06/0019 Buick GMC Dealership - EV Charging.mxd



SHEET KEYNOTES

- 1 SEE FPL ELECTRIC SERVICE STANDARDS FOR TRANSFORMER PAD, BOLLARDS, CONDUIT, AND METER REQUIREMENTS.
- 2 PROPOSED DIRECTIONAL BORE LOCATION.
- 3 EXTEND AND COORDINATE ISLAND DIMENSIONS WITH THE OWNER, CIVIL ENGINEER, AND EQUIPMENT REQUIREMENTS PRIOR TO CONSTRUCTION.
- 4 PROPOSED FPL PRIMARY SERVICE POINT OF CONNECTION.
- 5 TRANSFORMER DOORS MUST BE CLEAR TO OPEN THE FULL 180 DEGREES, AS PER FPL REQUIREMENTS.
- 6 VERIFY MINIMUM TRANSFORMER DISTANCE FROM THE BUILDING WITH PROPERTY INSURANCE PROVIDER PRIOR TO TRANSFORMER INSTALLATION.
- 7 EXISTING ROLL-UP DOOR; TRANSFORMER SHALL BE A MINIMUM OF 5' FROM OPENING.
- 8 THE MINIMUM TRANSFORMER WORKING CLEARANCE ON THE DOOR SIDE OF THE TRANSFORMER IS 8 FEET, AS PER FPL REQUIREMENTS.
- 9 FURNISH AND INSTALL BOLLARD, TYPICAL.

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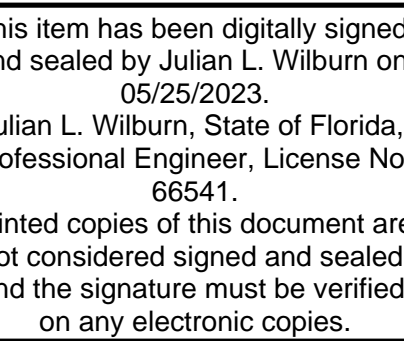


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508 East Duval Street
Lake City, FL 32055

A	ID	DATE	DESCRIPTION
1	05-25-2023	PI	
ISSUE			
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DRAWN BY: RLB			
DESIGNED BY: JLIW			
PROJECT NUMBER: 06.0019.01-2023			
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SITE PLAN

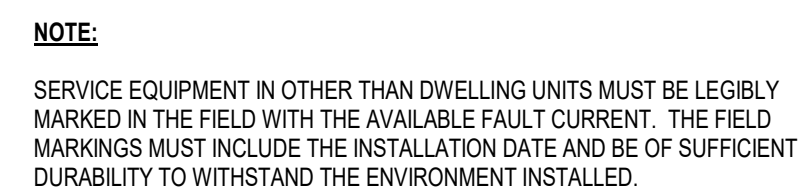
ES101



PERMANENTLY POSTED IDENTIFICATION IS REQUIRED
AT EACH PANELBOARD PER NEC.

NOTES:

1. PROVIDE SELF-ADHESIVE VINYL LABEL TO AFFIX TO ELECTRICAL EQUIPMENT TO WARN OF ARC FLASH HAZARDS. REFER TO SPECIFICATIONS FOR APPLICABLE EQUIPMENT.
2. THE LABEL FORMAT AND BLACK TEXT SHALL BE IN ACCORDANCE WITH THE FIGURE OVER ORANGE BACKGROUND AT TOP AND WHITE BACKGROUND IN BOTTOM AREA.
3. THE LABEL SHALL BE LOCATED ON THE EQUIPMENT TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF EQUIPMENT.
4. THE MINIMUM SIZE OF THE LABEL SHALL BE:
 - 2" X 3" FOR INDOOR EQUIPMENT
 - 4" X 6" FOR OUTDOOR EQUIPMENT



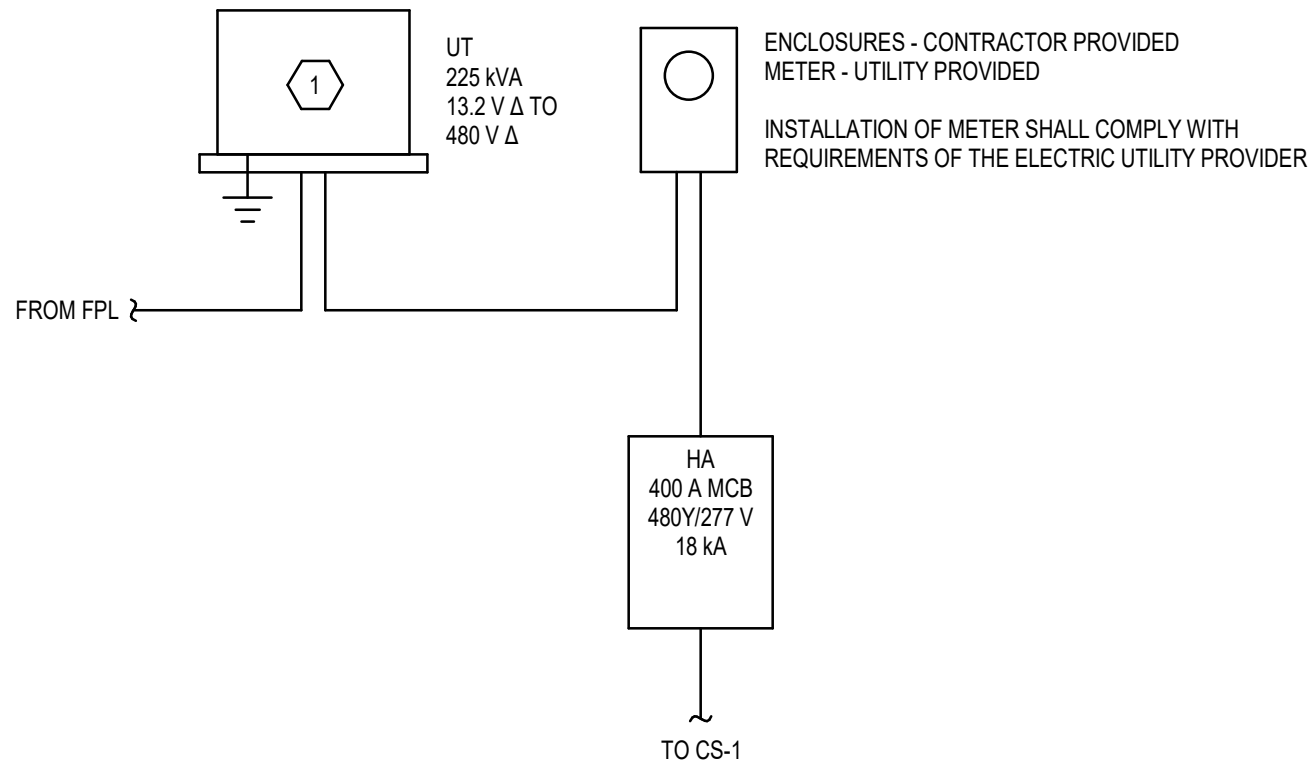
NOTE:

SERVICE EQUIPMENT IN OTHER THAN DWELLING UNITS MUST BE LEGIBLY MARKED IN THE FIELD WITH THE AVAILABLE FAULT CURRENT. THE FIELD MARKINGS MUST INCLUDE THE INSTALLATION DATE AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INSTALLED.

A6 ARC FLASH WARNING LABEL
SCALE: NTS

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480Y/277 VAC					PANELBOARD HA										400 A BUS W/ 400 A MCB									
3 PHASE 4 WIRE					LOCATION EV CHARGING ISLAND										18 kA SCRR, BOTTOM FEED, SURFACE MOUNT									
CKT NO	BREAKER TRIP / POLE	LOAD CLASS & LOCATION		ID	NOTES	L1	L2	L3	L1	L2	L3	NOTES	ID	LOAD CLASS & LOCATION		BREAKER TRIP / POLE	CKT NO							
1																	2							
3	100 A	3	CONT	CS-1	2	20785											4							
5						20785											6							
7							20785										8							
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29											0		1		SPD	3	30 A							
						L1	L2	L3																
CONNECTED LOAD:						20785 VA	20785 VA	20785 VA										CODE LOAD TOTALS						
																		NONCONTINUOUS: 0 VA						
																		CONTINUOUS: 62354 VA						
																		NONCONTINUOUS + 125% CONTINUOUS: 77942 VA						
																		NONCONTINUOUS + 125% CONTINUOUS: 94 A						
GENERAL NOTES:																								
NOTES:																								
1. FURNISH AND INSTALL TYPE 1/2 SPD.																								
2. FURNISH AND INSTALL LOCKABLE OPEN BREAKER DEVICE.																								



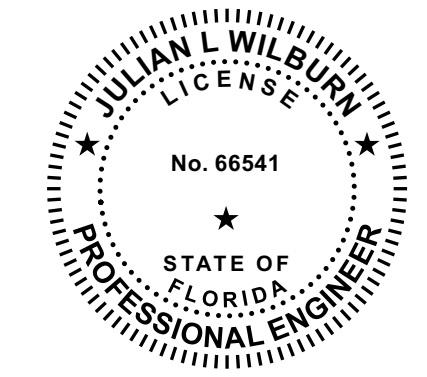
B4 ELECTRICAL POWER ONE-LINE DIAGRAM
SCALE: NTS

FEEDER SCHEDULE						
BRAKER TRIP (AMPS)	TYPE	CONDUCTOR			MIN. GEC (SE) MIN. EGC (Δ/Y)	MINIMUM CONDUIT SIZE
		SETS	QUANTITY	GAUGE		
400	SE	1	4	500 KCMIL	#10	3 1/2"
	Δ		3			
	Y		4			
G	REFER TO "GROUNDING RISER DETAIL" FOR CONDUCTOR SIZE.					
T	REFER TO "TRANSFORMER SCHEDULE" FOR CONDUCTOR SIZE.					
U	REFER TO "ELECTRICAL UTILITY MATIX" FOR ADDITIONAL INFORMATION.					
GENERAL NOTES:						
1. ALL FEEDER TYPES SCHEDULED MAY NOT APPLY TO THIS PROJECT.						
2. MAXIMUM 2% VOLTAGE DROP FOR FEEDERS, 3% VOLTAGE DROP FOR BRANCH CIRCUITS.						
3. ADJUST CONDUCTOR & GEC SIZE FOR LONG RUNS AND TEMPERATURE ABOVE DESIGN AMBIENT TEMPERATURE.						
4. CONDUIT SIZING IS BASED ON CONDUCTORS WITH THHW INSULATION.						

BRANCH CIRCUIT SCHEDULE									
BREAKER TRIP (AMPS)	CONDUCTOR GAUGE (CU 75°C)	GROUND GAUGE (MIN. EGC)	MINIMUM CONDUIT SIZE	MAXIMUM DISTANCE (FEET)					
				10	30	40	50	60	70
20	#12	#12	3/4"	56'	130'	114'	262'		
	#10	#10	3/4"	94'	216'	181'	418'		
	#10	#10	3/4"	62'	144'	121'	279'		
	#8	#8	3/4"	1'	96'	222'	192'	444'	
30	#3	#8	1 1/4"	92'	212'	184'	424'		
	#2	#6	1 1/4"	116'	267'	232'	534'		
GENERAL NOTES:									
1. SEE DRAWINGS FOR WIRE SIZING WHEN DISTANCE EXCEEDS VALUES SHOWN.									
2. DISTANCE IS WIRE LENGTH TO FIRST OUTLET/DEVICE/EQUIPMENT FROM OVERCURRENT PROTECTION.									
3. BASIS OF VOLTAGE DROP CALCULATIONS IS 3% DROP, 80% CIRCUIT LOAD, THHN/THWN INSULATION, 100% POWER FACTOR, BALANCED LOAD, NEGLIGIBLE REACTANCE, AND 6 OR LESS CURRENT-CARRYING CONDUCTORS IN RACEWAY.									

SHEET KEYNOTES

1. APPROVAL FROM FPL IS REQUIRED TO INSTALL CURRENT TRANSFORMERS IN THE SECONDARY COMPARTMENT OF THE UTILITY TRANSFORMER.



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