

ELECTRICAL ABBREVIATIONS

A/C - AIR CONDITIONING	F.C. - FOOTCANDLES	% - PERCENT
A.C. - ALTERNATING CURRENT	FVNR - FULL VOLTAGE NON-REVERSING	/ - PHASE
ADD - ADDENDUM	GAL. - GALLON	PL - COMPACT FLUORESCENT LAMP
A/E - ARCHITECT/ENGINEER (OR ENGINEER WHEN ARCHITECT NOT APPLICABLE)	GALV. - GALVANIZED	P.T. - POTENTIAL TRANSFORMER
AFD - ADJUSTABLE FREQUENCY DRIVE	GPH - GALLONS PER HOUR	PSF - POUNDS PER SQUARE FOOT
AF - ABOVE FINISHED FLOOR	GPM - GALLONS PER MINUTE	PSI - POUNDS PER SQUARE INCH
AFG - ABOVE FINISHED GRADE	GFI - GROUND FAULT INTERRUPTING	PULBOX - PULLBOX
AHU - AIR HANDLER UNIT	GRS - GALVANIZED RIGID STEEL CONDUIT	PNL - PANEL
AIC - AMPS INTERRUPTING CAPACITY	GND. - GROUND	PR - PAIR
AL - ALUMINUM	HTG - HEATERS	PRI. - PRIMARY
ALT - ALTERNATE	HT - HEIGHT	PVC - POLYVINYL CHLORIDE
AMP - AMPERE	HZ - HERTZ (CYCLES)	RECEPT. - RECEPTACLE
ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE	HPF - HIGH POWER FACTOR	RPM - REVOLUTIONS PER MINUTE
AWG - AMERICAN WIRE GAUGE	HPS - HIGH PRESSURE SODIUM	R.S. - RAPID START
⊙ - AT	HP. - HORSEPOWER	SCA - SHORT CIRCUIT AMPS
B.C. - BARE COPPER	HR. - HOUR	SEC. - SECONDARY
BIDS - BAGGAGE INFORMATION DISPLAY SYSTEM	H.S. - HEAT STRIP	SHI - SHEET
BLDG - BUILDING	IMC - INTERMEDIATE METALLIC CONDUIT	S/N - SOLID NEUTRAL
BRKR - BREAKER	INCAND. - INCANDESCENT	SPST - SINGLE POLE SINGLE THROW
BTU - BRITISH THERMAL UNIT	IN. - INCHES	SF - SQUARE FOOT
BTUH - BTU PER HOUR	J.B. - JUNCTION BOX	SW. - SWITCH
C. - CONDUIT	KVA - KILOVOLT AMPERE	SWBD - SWITCHBOARD
C.B. - CIRCUIT BREAKER	KW - KILOWATTS	SYS. - SYSTEM
CD. - CANDELA	KWH - KILOWATT HOUR	THHN; - THWN NYLON JACKETED WIRE
CBM - CERTIFIED BALLAST MANUFACTURERS	K - KELVIN	TIB - TELEPHONE TERMINAL BOARD
CFM - CUBIC FEET PER MINUTE	L.L.D. - LAMP LUMEN DEPRECIATION	TTC - TELEPHONE TERMINAL CABINET
CKT. - CIRCUIT	LED - LIGHT EMITTING DIODE	TV - TELEVISION
CKT BRKR - CIRCUIT BREAKER	LIU - LIGHT FIXTURE UNIT	TVTC - TELEVISION TERMINAL CABINET
C/L - CENTER LINE	LT. - LIGHT	TVEC - TELEVISION EQUIP. CABINET
CLG. - CEILING	LTG. - LIGHTING	TYP - TYPICAL
COMP. - COMPRESSOR	LTS. - LIGHTS	TEMP. - TEMPERATURE
CONN. - CONNECTION	L.P.F. - LOW POWER FACTOR	UL. - UNDERWRITERS' LABORATORIES
COND. - CONDENSER	M.C.B. - MAIN CIRCUIT BREAKER	VFD - VARIABLE FREQUENCY DRIVE
CONT. - CONTINUOUS	M.L.O. - MAIN LUGS ONLY	VHF - VERY HIGH FREQUENCY
C.R.I. - COLOR RENDERING INDEX	MAINT. - MAINTENANCE	VHO - VERY HIGH OUTPUT
C.T. - CURRENT TRANSFORMER	MH. - MANHOLE; METAL HALIDE	V - VOLT
CU. - COPPER	MFG. - MANUFACTURER	VA - VOLT AMPERES
C.U. - COMPRESSOR CONDENSER UNIT	MAX. - MAXIMUM	VOL. - VOLUME
C.W. - COLD WATER	MCM - THOUSAND CIRCULAR MILS	W - WIRE
D.B. - DIRECT BURIAL	MPH - MILES PER HOUR	W.P. - WEATHERPROOF
D.C. - DIRECT CURRENT	MM - MILLIMETER	XFMR - TRANSFORMER
DISC. - DISCONNECT	MIN. - MINIMUM	Y - WYE
DN. - DOWN	MCP - MOTOR CIRCUIT PROTECTOR	YD. - YARD
DPST - DOUBLE POLE SINGLE THROW	MTD - MOUNTED	YR. - YEAR
DWG - DRAWING	N. - NEUTRAL	3R - RAINPROOF
E.C. - ELECTRICAL CONTRACTOR (OR GENERAL CONTRACTOR)	NEC - NATIONAL ELECTRIC CODE	4X - STAINLESS STEEL DUSTTIGHT, WATERTIGHT
ELEV. - ELEVATOR	NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	
EMT - ELECTRIC METALLIC TUBING	NFPA - NATIONAL FIRE PROTECTION ASSOCIATION	
EQUIP. - EQUIPMENT	N.P.T. - NATIONAL PIPE THREAD	
EST - ESTIMATE	NF - NON FUSED	
FAAP - FIRE ALARM ANNUNCIATOR PANEL	N.C. - NORMALLY CLOSED	
FACP - FIRE ALARM CONTROL PANEL	N.O. - NORMALLY OPEN	
FATC - FIRE ALARM TERMINAL CABINET	NIC. - NOT IN CONTRACT	
FCCP - FIRE ALARM COMMAND CENTER PANEL	NO. - NUMBER	
FHC - FIRE HOSE CABINET	OB - OUTLET BOX	
FIDS - FLIGHT INFORMATION DISPLAY SYSTEM	OD - OUTSIDE DIAMETER	
FLA - FULL LOAD AMPERES	OL. - OVERLOAD	
FT. - FEET	OLS - OVERLOADS	
FLR - FLOOR	OS&Y - OUTSIDE SCREW AND YOKE (SPRINKLER)	

GENERAL NOTES

- 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 0-100 FEET FROM THE PANEL, ARE TO HAVE #12 MINIMUM BRANCH CIRCUIT WIRING THROUGHOUT CIRCUIT. (CONDUIT SIZE PER SPECIFICATION AND NEC).
- 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 101-175 FEET FROM THE PANEL, ARE TO HAVE #10 MINIMUM BRANCH CIRCUIT WIRING HOMERUN (3/4") FROM PANEL CIRCUIT BREAKER TO FIRST DEVICE AND #12 BRANCH CIRCUIT WIRING THROUGHOUT THE REMAINDER OF THE CIRCUIT. (CONDUIT SIZE PER SPECIFICATION AND NEC). FIRST 75 FEET OF COMBINED HOMERUN AND BRANCH CIRCUIT TO BE MINIMUM #10 WIRE. (3/4").
- 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 176-225 FEET FROM THE PANEL, ARE TO HAVE #10 MINIMUM BRANCH CIRCUIT WIRING HOMERUN (3/4") FROM PANEL CIRCUIT BREAKER TO FIRST DEVICE AND #10 BRANCH CIRCUIT WIRING THROUGHOUT THE REMAINDER OF THE CIRCUIT (3/4").
- 120 VOLT BRANCH CIRCUITS, WHERE THE LENGTH OF CIRCUIT CONDUCTORS COMPLETE FROM CIRCUIT BREAKER IN SOURCE PANEL TO ANY DEVICE ON THE CIRCUIT IS 226 FEET OR MORE FROM THE PANEL, ARE TO HAVE #8 MINIMUM BRANCH CIRCUIT WIRING HOMERUN (1") FROM PANEL CIRCUIT BREAKER TO FIRST DEVICE AND #10 BRANCH CIRCUIT WIRING THROUGHOUT THE REMAINDER OF THE CIRCUIT (3/4"). FIRST 125 FEET OF COMBINED HOMERUN AND BRANCH CIRCUIT TO BE MINIMUM #8 WIRE (1").
- NO MULTI-WIRE BRANCH CIRCUITS ARE TO BE USED. EACH CIRCUIT IS TO HAVE SEPARATE INDIVIDUAL NEUTRAL.
- VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
- READ SPECIFICATIONS.
- SEE RISER DIAGRAMS AND BUILDING PLANS.
- ALL EMPTY CONDUITS ARE TO HAVE PULL-STRINGS PROVIDED IN THEM.
A PHENOLIC OR BRASS NAMEPLATE SHALL BE ATTACHED TO EACH END INDICATING THE LOCATION OF BOTH ENDS OF CONDUIT AS FOLLOWS: THIS END = "LOCATION," OTHER END = "LOCATIONS."
- WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT. THE ROUTINGS SHOWN ARE PROPOSED CONDUIT ROUTINGS. CONTRACTOR TO COORDINATE ALL ROUTING WITH OTHER TRADES PRIOR TO BID. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND ROUTING OF CONDUIT PRIOR TO BID. CONTRACTOR IS RESPONSIBLE FOR RELOCATING CONDUIT FROM THE PROPOSED ROUTING SHOWN TO THE ROUTING REQUIRED TO FACILITATE INSTALLATION PER SPECIFICATIONS AND APPLICABLE CODES, COMPLETE WITH ALL COORDINATION AND EXISTING CONDITIONS TAKEN INTO ACCOUNT. CONTRACTOR IS RESPONSIBLE FOR ALL CEILING AND WALL REPAIR/REPLACEMENT AFTER ROUTING OF CONDUIT.
- SPICES IN POWER AND LIGHTING OUTLET BOXES SHALL BE KEPT TO A MINIMUM. PULL CONDUCTORS THROUGH TO DEVICES, EQUIPMENT CABINETS/PANLEOBARDS. SPlicing IN WIREWAYS IS NOT PERMITTED UNLESS SPECIAL WRITTEN PERMISSION IS GRANTED BY A/E.
- NO SPICES SHALL BE MADE IN COMMUNICATIONS OUTLET BOXES OR PULL BOXES (I.E., FIRE ALARM, COMPUTER, TELEPHONE, ETC.) UNLESS SPECIFIC WRITTEN APPROVAL HAS BEEN GIVEN BY ENGINEER. PULL CABLES THROUGH TO EQUIPMENT/TERMINAL CABINETS.
- NO SPICES SHALL BE MADE IN UNDERGROUND (OR FLUSH) IN-GRADE PULL BOXES UNLESS ENGINEER HAS GIVEN SPECIFIC APPROVAL.
- CONTRACTOR SHALL INCLUDE IN HIS BID THE TRANSPORT AND DISPOSAL OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH ALL RULES, REGULATIONS AND GUIDELINES APPLICABLE. CONTRACTOR SHALL COMPLY FULLY WITH FLORIDA STATUTE 403.7186 REGARDING MERCURY CONTAINING DEVICES AND LAMPS. LAMPS, BALLASTS AND OTHER MATERIALS SHALL BE TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH ALL DEP AND EPA GUIDELINES APPLICABLE AT THE TIME OF DISPOSAL. CONTRACTOR SHALL PROVIDE OWNER WITH WRITTEN CERTIFICATION OF ACCEPTED DISPOSAL.
- EXISTING CONDITIONS AND UTILITIES INDICATED ARE TAKEN FROM EXISTING CONSTRUCTION DOCUMENTS, VARIOUS SURVEYS, AND FIELD INVESTIGATIONS. IT IS TO BE UNDERSTOOD THAT UNFORESEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON THE DRAWINGS. COOPERATION WITH OTHER TRADES IN ROUTING AND/OR BURIAL DEPTHS AS DETERMINED DURING CONSTRUCTION AND AS DIRECTED BY THE ARCHITECT/ENGINEER MAY BE NECESSARY AND IT IS INTENDED THAT SUCH DEVIATIONS SHALL BE CONSIDERED A PART OF THIS CONTRACT. IT IS ALSO UNDERSTOOD THAT THE PLANS ARE NOT COMPLETELY TO SCALE. THIS CONTRACTOR IS TO FIELD VERIFY DIMENSIONS OF ALL SITE UTILITIES, ETC., PRIOR TO BID AND INCLUDE ANY DEVIATIONS IN THE FIELD RECORD.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN ON PLANS OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE COMPLETION OF THIS WORK. THE CONTRACTOR SHALL LOCATE ALL UTILITIES (BOTH KNOWN AND UNKNOWN) IN AREA OF WORK PRIOR TO EXCAVATION WITH THE USE OF ELECTRONIC LOCATOR/TRACER DEVICES AND EQUIPMENT SUITABLE FOR SUCH USE. REFLECT LOCATED UTILITIES ON AS-BUILT DOCUMENTS.
- REMOVE EXISTING POWER, LIGHTING, SYSTEMS, MATERIAL AND EQUIPMENT WHICH ARE MADE OBSOLETE OR WHICH INTERFERE WITH THE CONSTRUCTION OF THE PROJECT.

- REINSTALL ANY SUCH POWER, LIGHTING, SYSTEMS, MATERIALS AND EQUIPMENT WHICH ARE REQUIRED TO REMAIN ACTIVE FOR THE FACILITY TO BE FULLY FUNCTIONAL.
19. ALL EXISTING ELECTRICAL IS NOT SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BID.
20. ALL CONDUIT TO BE CONCEALED UNLESS IMPOSSIBLE DUE TO EXISTING CONDITIONS (I.E. EXPOSED CEILINGS, BUILDING EXTERIOR WALL RUNS, IMPOSSIBLE UNDERGROUND RUNS). CONCEAL ALL CONDUITS ABOVE CEILINGS OR IN WALL/COUNTERS.
21. ALL OUTLET BOXES WHERE FIXTURES OR DEVICES ARE REMOVED SHALL BE REMOVED AND CEILING OR WALL SHALL BE PATCHED TO MATCH EXISTING OR NEW FINISH. IF OUTLET BOX MUST REMAIN TO MAINTAIN CONTINUITY OF CIRCUITRY, AN APPROPRIATE ACCESSIBLE BLANK PLATE SHALL BE INSTALLED WITH FINISH TO MATCH EXISTING OR NEW, WHERE APPLICABLE. ALL OUTLET BOXES WHICH MUST BE REMOVED DUE TO REMOVAL OF WALL, AND WHICH MUST REMAIN ACTIVE IN ORDER TO MAINTAIN CIRCUITRY CONTINUITY SHALL BE RELOCATED IN CEILING OR FLOOR, SHALL BE ACCESSIBLE, AND SHALL HAVE BLANK COVERPLATE AS DESCRIBED ABOVE.
22. ALL EXISTING BRANCH CIRCUITS AND FEEDERS (REMAINING ACTIVE) WHICH ARE CONNECTED TO EXISTING PANELBOARDS THAT ARE AFFECTED BY THIS CONTRACT, SHALL BE TRACED-OUT AND PROPERLY NOTED AND IDENTIFIED ON NEW PANEL DIRECTORIES.
23. ALL PANELS, CIRCUIT BREAKERS, JUNCTION BOXES, ETC. THAT ARE ASSOCIATED WITH PROJECT SHALL BE PROPERLY IDENTIFIED AS PER SPECIFICATIONS.
24. PROVIDE NEW TYPED PANEL DIRECTORIES FOR ALL EXISTING AND NEW PANELBOARDS FOR PANELBOARDS ASSOCIATED WITH CONTRACT WHETHER SHOWN ON PLANS OR NOT REGARDLESS IF SCHEDULES/CIRCUITRY HAS BEEN CHANGED.
25. PROVIDE NEW PHENOLIC LABELS (PER SPEC'S) ON ALL (2) TWO POLE AND (3) THREE POLE CIRCUIT BREAKERS WITHIN ALL EXISTING AND NEW PANELBOARDS ASSOCIATED WITH CONTRACT WHETHER SHOWN ON PLANS OR NOT REGARDLESS IF SCHEDULES/CIRCUITRY HAS BEEN CHANGED.
26. ALL CONCRETE, WALL PATCHING, CEILING REPAIR, WALL FINISHES, AND OTHER GENERAL WORK REQUIRED FOR INSTALLING ELECTRICAL SYSTEMS SHALL BE REPAIRED TO "LIKE NEW/ORIGINAL CONDITION." (COORDINATE WITH GENERAL CONTRACTOR PRIOR TO BID.)
27. ALL PATCHES OR CEILING PLATES SHALL BE PATCHED OR PAINTED AS DIRECTED BY ENGINEER.
28. PAINT ALL EXPOSED CONDUIT, BOXES, ETC. TO MATCH WALL SURFACE.
29. ALL OPENINGS IN FIRE RATED WALLS AND FLOORS, ETC. MADE BY RENOVATION SHALL BE SEALED AND FIREPROOFED. PROVIDE AND INSTALL FIRESTOPPING ON ALL NEW OR EXISTING CONDUIT AND/OR CABLE THAT PENETRATES ANY FIRE RATED NEW OR EXISTING WALL IN ALL AREAS AFFECTED BY THIS PROJECT. VERIFY LOCATION OF FIRE RATED WALLS PRIOR TO BID. FIRESTOPPING SYSTEM SHALL BE AS REQUIRED BY UL FOR RATING OF WALL AND CONDUIT/CABLE PENETRATION.
30. DASHED ITEMS INDICATE EXISTING TO REMAIN.
31. "R" ADJACENT TO DEVICE INDICATES EXISTING TO BE REMOVED COMPLETE.
32. NEW UNDERGROUND RACEWAYS ARE TO BE HAND DUG. ROUTE UNDER EXISTING WALKWAYS AS REQUIRED BY OWNER.
33. ALL ITEMS REMOVED AND NOT RE-USED SHALL BE IMMEDIATELY TURNED OVER TO OWNERS AS THEY ARE MADE AVAILABLE BY RENOVATION. REMOVE ITEMS FROM JOB SITE AND DELIVER TO OWNERS STORAGE LOCATION(S) AS DIRECTED BY PROJECT MANAGER. DISCARD COMPLETE ITEMS WHICH OWNER ELECTS TO REFUSE.
34. WORK TO BE PERFORMED IN STRICT COMPLIANCE WITH ESTABLISHED WORK SCHEDULE BEING SET FORTH BY OWNER/TENANT. COORDINATE ALL WORK. THE CONTRACTOR SHALL FURNISH ADEQUATE FORCES, CONSTRUCTION PLANT, AND EQUIPMENT, AND SHALL WORK SUCH HOURS, INCLUDING NIGHT SHIFTS, OVERTIME OPERATIONS, SUNDAY, AND HOLIDAYS IN ACCORDANCE WITH THE OWNERS OPERATIONAL SCHEDULE. IF THE CONTRACTOR FALLS BEHIND PROGRESS REQUIRED IN THE OPERATIONAL SCHEDULE, THE CONTRACTOR SHALL TAKE SUCH STEPS AS MAY BE NECESSARY TO IMPROVE HIS PROGRESS, AND THE OWNER MAY REQUIRE HIM TO INCREASE THE NUMBER OF SHIFTS AND/OR OVERTIME OPERATIONS, DAY OF WORK AND/OR THE AMOUNT OF CONSTRUCTION PLANT, AT NO ADDITIONAL COST TO THE OWNER UNDER THIS CONTRACT. (IT SHALL BE UNDERSTOOD THAT SEVERAL BID PACKAGES MAY BE CONSTRUCTED BY VARIOUS CONTRACTOR/SUB-CONTRACTORS WITHIN THE SAME WORK SPACE SIMULTANEOUSLY.)
35. COORDINATE WITH OWNER DEMOLITION INCLUDING POWER, REPLACEMENT OF TRANSFORMER. PROVIDE ALL ELECTRICAL AS REQUIRED, WHETHER SHOWN OR NOT, TO PROVIDE TEMPORARY REACTIVATION OF POWER, AND FIRE ALARM TO CAMPUS.
36. USE OF MC CABLE IS NOT ACCEPTABLE.
37. SPRING STEEL CONDUIT STRAPS AND HANGERS (IE CADDY TYPE) SHALL NOT BE UTILIZED. CEILING WIRES AND INDEPENDENT SUPPORT WIRES SHALL NOT BE USED FOR SUPPORT OF CONDUITS OR BOXES.

ENG. BUS. No. ES-0005096	PHONE (407) 740-5020
CERT. OF AUTH. No. 5096	FAX (407) 740-0365





























MPE JOB # : 2022-195

[illegible]

SILVER SANDS MIDDLE SCHOOL
REPLACE MAIN ELECTRICAL
SWITCHGEAR BLDG. 12
VCS Project NO.2347949
1300 HERBERT STREET
PORT ORANGE, FLORIDA 32129

Engineer Adrian Baus		ARCHENOR OF RECORD	
DESIGNED BY AWB		DRAWN BY MM/AWB	
ISSUE DATE 12/09/2022		AE PROJECT NUMBER 2022-195	
SHEET TITLE <div> GENERAL NOTES, ABBREVIATIONS, AND LIGHT FIXTURE SCHEDULE </div>			
DRAWING NO. <div>E001</div>			

SYMBOL LEGEND					
SYMBOL	DESCRIPTION	DESIGN SELECTION	APPROVED SUBSTITUTION	APPROVED SUBSTITUTION	REMARKS
	WALL OUTLET BOX AND HD, FLUORESCENT OR INCANDESCENT FIXTURE	SEE FIXTURE SCHEDULE			d
	CEILING OUTLET BOX AND FLUORESCENT OR LED FIXTURE	SEE FIXTURE SCHEDULE			d
	OUTLET BOX AND FLUORESCENT OR LED LIGHT FIXTURE WITH EMERGENCY BATTERY UNIT	SEE FIXTURE SCHEDULE			d
	POLE WITH MOUNTING ARM AND CUT-OFF LIGHT FIXTURE, BOXES INDICATE NUMBER OF FIXTURES AND ORIENTATION	SEE FIXTURE SCHEDULE			
	WALL OUTLET BOX AND 20 AMP SINGLE POLE SWITCH (G INDICATES SWITCH-LEG)	P&S #PS20AC1	HUBBELL #HBL1221	LEVITON #1221-2	d
	WALL OUTLET BOX AND 20 AMP DOUBLE POLE SWITCH	P&S #PS20AC2	HUBBELL #HBL1222	LEVITON #1222-2	d
	WALL OUTLET BOX AND 20 AMP THREE-WAY SWITCH	P&S #PS20AC3	HUBBELL #HBL1223	LEVITON #1223-2	d
	WALL OUTLET BOX AND 20 AMP FOUR-WAY SWITCH	P&S #PS20AC4	HUBBELL #HBL1224	LEVITON #1224-2	d
	WALL OUTLET BOX AND 20 AMP SINGLE POLE KEY SWITCH	P&S #PS20AC1-L	HUBBELL #HBL1221L	LEVITON #1221-2L	d
	WALL OUTLET BOX AND 20 AMP DOUBLE POLE KEY SWITCH	P&S #PS20AC2-L	HUBBELL #HBL1222L	LEVITON #1222-2L	d
	WALL OUTLET BOX AND 20 AMP THREE-WAY KEY SWITCH	P&S #PS20AC3-L	HUBBELL #HBL1223L	LEVITON #1223-2L	d
	WALL OUTLET BOX AND 20 AMP FOUR-WAY KEY SWITCH	P&S #PS20AC4-L	HUBBELL #HBL1224L	LEVITON #1224-2L	d
	WALL OUTLET BOX AND SECURITY LOCKING KEY SWITCH, 20 AMP, SINGLE POLE, WITH S.S. PLATE, PROVIDE TWO KEYS	P&S #PS20AC1-KL-55-717	DEVICE: HUBBELL HBL1221RKL PLATE: S12RKL		d
	FLUSH WALL OUTLET BOX AND 20 AMP SINGLE POLE SWITCH, WITH DIE CAST WEATHERPROOF COVER	DEVICE: P&S #PS20AC1 PLATE: P&S #CA1-G	DEVICE: HUBBELL #HBL1221 PLATE: P&S #CA1-G	DEVICE: LEVITON #1221-2	a, d
	FLUSH WALL OUTLET BOX AND 20 AMP SINGLE POLE SWITCH, WITH LOCKING STAINLESS STEEL WEATHERPROOF COVER, MOUNT OUTLET BOX HORIZONTALLY.	DEVICE: P&S #20AC1 PLATE: P&S #WPH-1L	DEVICE: HUBBELL #HBL1221 PLATE: P&S #WPH-1L	DEVICE: LEVITON #1221-2	a, d
	CAST IRON ZINC PLATED SURFACE MTD, OUTLET BOX AND 20 AMP SINGLE POLE SWITCH, WITH COPPER FREE CAST ALUMINUM WEATHERPROOF COVER	DEVICE: P&S #PS20AC1 BOX AND PLATE: APPLETON #FS/FD/FSK-WT2	DEVICE: HUBBELL #HBL1221 BOX AND PLATE: APPLETON #FS/FD/FSK-WT2	DEVICE: LEVITON #1221-2	a, d, e, f, g
	WALL OUTLET BOX AND 6 HOUR MECHANICAL TIME SWITCH WITH HOLD, RATED 20 AMPS @ 120V, 10 AMPS @ 277V.	TORK #A506HH	INTERMATIC #FF6HH		d
	AUTOMATIC WALL SWITCH, DUAL TECHNOLOGY (PIR) PASSIVE INFRARED AND ULTRASONIC, DIP SWITCH PROGRAMMING, AUTOMATIC OR MANUAL OPERATION. RATED: 800 WATTS @ 120V, 1200 WATTS @ 277V.	WATTSOTOPPER DW-100	SENSOR SWITCH, INC.	HUBBELL	d
	WALL OUTLET BOX AND 20 AMP SINGLE RECEPTACLE	P&S #5361	HUBBELL #HBL5361	LEVITON #5351	d
	WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE	P&S #PS5362	HUBBELL #HBL5352	LEVITON #5362	d
	TWO GANG WALL OUTLET BOX AND TWO 20 AMP DUPLEX RECEPTACLES	(2)-P&S #PS5362	(2)-HUBBELL #HBL-5352	(2)-LEVITON #5362	d
	WALL OUTLET BOX AND 20 AMP GFI DUPLEX RECEPTACLE	P&S #2095	HUBBELL #GFR5362S	LEVITON #7899	d
	FLUSH WALL OUTLET BOX AND 20 AMP WEATHER RESISTANT GFI DUPLEX RECEPTACLE WITH CAST ALUMINUM WEATHER PROOF IN USE COVER	P&S #2095TRWR WITH THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	HUBBELL #GFR5362S WITH THOMAS & BETTS #CKMUV OR INTERMATIC #WP26M COVER	LEVITON #W7899-TR WITH THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	a, d
	FLUSH WALL OUTLET BOX AND 20 AMP WEATHER RESISTANT GFI DUPLEX RECEPTACLE WITH LOCKING STAINLESS STEEL WEATHER PROOF IN USE COVER. PROVIDE LOCK WITH COVER. ALL LOCKS SHALL BE SET TO THE SAME KEY	P&S #2095TRWR WITH THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	HUBBELL #GFR5362S WITH THOMAS & BETTS #CKMUV OR HUBBELL #WP26M COVER	LEVITON #W7899-TR WITH THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	a, d
	CAST IRON PLATED SURFACE MTD, OUTLET BOX AND 20 AMP WEATHER RESISTANT GFI DUPLEX RECEPTACLE WITH CAST ALUMINUM WEATHERPROOF IN USE COVER	P&S #2095TRWR WITH APPLETON #FS-ID AND THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	HUBBELL #GFR5362S APPLETON #FS-ID AND HUBBELL #WP26M COVER	LEVITON #W7899-TR APPLETON #FS-ID AND THOMAS & BETTS #CKMUV OR INTERMATIC #WP1010MC	a, c, d, e, f, g
	WALL OUTLET BOX AND SPECIAL PURPOSE RECEPTACLE AS NOTED ON PLANS	P&S	HUBBELL	LEVITON	d
	FLUSH WALL JUNCTION BOX AND BLANK PLATE	STEEL CITY	RACO		d
	JUNCTION BOX AND BLANK PLATE ABOVE CEILING	STEEL CITY	RACO		b, d
	SURFACE JUNCTION BOX AND BLANK PLATE, WALL MTD, OR MTD, TO CEILING/STRUCTURE AS INDICATED	STEEL CITY	RACO		b, d, g, h
	SURFACE MTD, WEATHERPROOF JUNCTION BOX AND COVER, AS NOTED ON PLANS	HOFFMAN			d, g, h
	CAST IRON ZINC PLATED SURFACE MTD, OUTLET BOX AND WEATHERPROOF BLANK PLATE	APPLETON #FS-ID WITH #S-100G COVER			a, d, e, f, g, h
	FLUSH GRADE PULLBOX OR MANHOLE AS NOTED.	BROOKS	A.C. MILLER	HUGHES	d, j
	PUSHBUTTON, AS NOTED, MOUNTED AT 48" TO TOP				d
	SWITCH SHUNT-TRIP BUTTON, LABEL "EMERGENCY MAIN DISCONNECT", MOUNTED AT 48" TO TOP	SQUARE "D" #K-15	ASCO #124200		d

SYMBOL LEGEND (CONTINUED)					
SYMBOL	DESCRIPTION	DESIGN SELECTION	APPROVED SUBSTITUTION	APPROVED SUBSTITUTION	REMARKS
	MOTOR CONNECTION, AS NOTED				i
	RELAY, AS NOTED				
	CONTROL AND/OR POWER CONNECTION ON EQUIPMENT				i
	TIME CLOCK, 2-POLE, RESERVE SPRING, 24 HR. WITH CONTACTS AND COIL VOLTAGE AS REQUIRED FOR CIRCUITS (UNLESS OTHERWISE NOTED)	TORK (SEE DETAIL)	PARAGON (SEE DETAIL)	INTERMATIC (SEE DETAIL)	i
	PHOTO CELL	TORK (SEE DETAIL)	PARAGON (SEE DETAIL)	INTERMATIC (SEE DETAIL)	
	METER, AS NOTED				
	HEATER/ELECTRICAL RESISTANCE, AS NOTED				
	BUSBAR				
	MAGNETIC MOTOR STARTER, MOTOR CONTROLLER OR CONTACTOR, AS NOTED	SQUARE "D"	G.E. / EATON	SIEMENS	g, i
	DISCONNECT SWITCH, SIZE AS NOTED	SQUARE "D"	G.E. / EATON	SIEMENS	g, i
	STARTER/DISCONNECT SWITCH, SIZE AS NOTED	SQUARE "D"	G.E. / EATON	SIEMENS	g, i
	120/208V BRANCH CIRCUIT PANELBOARD SURFACE MOUNTED	SQUARE "D"	G.E. / EATON	SIEMENS	i
	120/208V BRANCH CIRCUIT PANELBOARD FLUSH MOUNTED	SQUARE "D"	G.E. / EATON	SIEMENS	i
	TRANSFORMER	SQUARE "D"	G.E. / EATON	SIEMENS	i
	SYSTEMS PANEL - SURFACE MOUNTED	SEE SYSTEMS LEGEND/SPECS			i, j
	SYSTEMS PANEL - FLUSH MOUNTED	SEE SYSTEMS LEGEND/SPECS			i, j
	SYSTEMS TERMINAL BOARD AS NOTED	SEE SYSTEMS LEGEND/SPECS			
	BRANCH CIRCUIT CONDUIT CONCEALED ABOVE CEILING OR IN WALL. SLASH MARKS INDICATE NUMBER OF CONDUCTORS (GROUND WIRE NOT SHOWN). TWO CONDUCTORS PLUS GROUND REQUIRED (UNLESS OTHERWISE NOTED OR MARKED)				
	BRANCH CIRCUIT CONDUIT CONCEALED BELOW SLAB OR UNDERGROUND				
	BRANCH CIRCUIT CONDUIT EXPOSED				
	HOME RUN WIRING. ONE CIRCUIT PER ARROW HEAD				
	CONDUIT CAPPED OFF				
	CONDUIT CONTINUED				
	CONDUIT RUN UP				
	CONDUIT RUN DOWN				
	CONDUIT SEAL-OFF FITTING	CROUSE HINDS	APPLETON		e
	GROUND WIRE, CONCEALED				
	GROUND OR GROUND ROD AS NOTED				

NOTES:

- 1) ALL DEVICES TO BE GREY WITH SMOOTH METAL #302 S.S. PLATES UNLESS OTHERWISE NOTED.
- 2) DASHED ITEM DENOTES "EXISTING".
- 3) "R" BY DEVICE DENOTES EXISTING TO BE REMOVED COMPLETELY.
- 4) "H" BY DEVICE DENOTES DEVICE TO BE MOUNTED HORIZONTALLY.
- 5) MOUNT SWITCHES AT 48" AFF TO TOP.
- 6) SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 7) ALL ITEMS NOTED ON THE LEGENDS DO NOT NECESSARILY APPEAR ON PLANS.

REMARKS:

- a) U.L. LISTED FOR WET LOCATION IN CLOSED POSITION.
- b) SUPPORT OUTLET BOX FROM STRUCTURE WITH (1) 3/8" ALL THREADS MINIMUM. BOXES LARGER THAN 25 SQUARE INCHES SHALL BE SUPPORTED WITH (2) 3/8" ALL THREADS MINIMUM.
- c) U.L. LISTED FOR WET LOCATION IN OPEN POSITION WITH ATTACHMENT PLUG INSERTED.
- d) JUNCTION/OUTLET BOX SHALL BE SIZED AS REQUIRED FOR CONDUCTOR/DEVICE FILL PER N.E.C.
- e) THREADED CONDUIT HUBS SHALL BE SIZED AND CONFIGURED AS REQUIRED FOR APPLICATION.
- f) IF WITHIN 30 MILES OF THE COAST LINE, COPPER FREE CAST ALUMINUM OUTLET BOXES SHALL BE USED FOR EXTERIOR APPLICATIONS.
- g) PROVIDE KINDORF MTG. RACK FOR FREE STANDING APPLICATIONS. KINDORF SHALL BE PVC COATED FOR EXTERIOR APPLICATIONS. ALL CUT ENDS ARE TO BE SEALED.
- h) WHEN SURFACE JUNCTION BOX SYMBOL IS COMBINED WITH DEVICE SYMBOL, PROVIDE APPROPRIATE SURFACE PLATE FOR OUTLET APPLICATION.
- i) MAINTAIN WORKING CLEARANCES IN STRICT ACCORDANCE WITH N.E.C. COORDINATE EXACT LOCATION OF EQUIPMENT WITH ALL DISCIPLINES (I.E. STRUCTURAL, HVAC, PLUMBING, FIRE PROTECTION, KITCHEN, MILLWORK, ETC.) PRIOR TO ROUGH-IN TO MAINTAIN CLEARANCES.
- j) OUTLET BOX SHALL BE SIZED PER SYSTEM INSTALLER REQUIREMENTS.

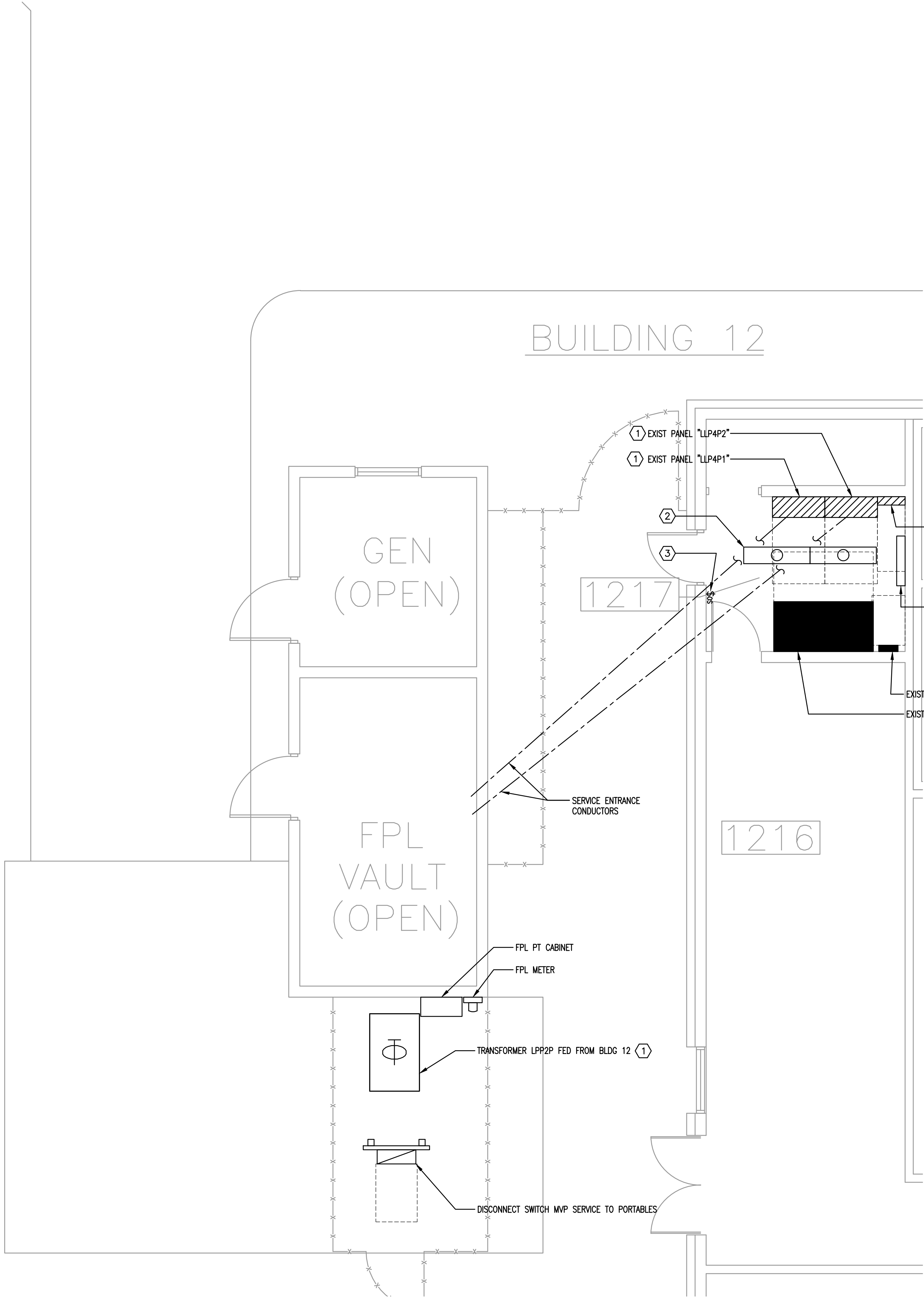
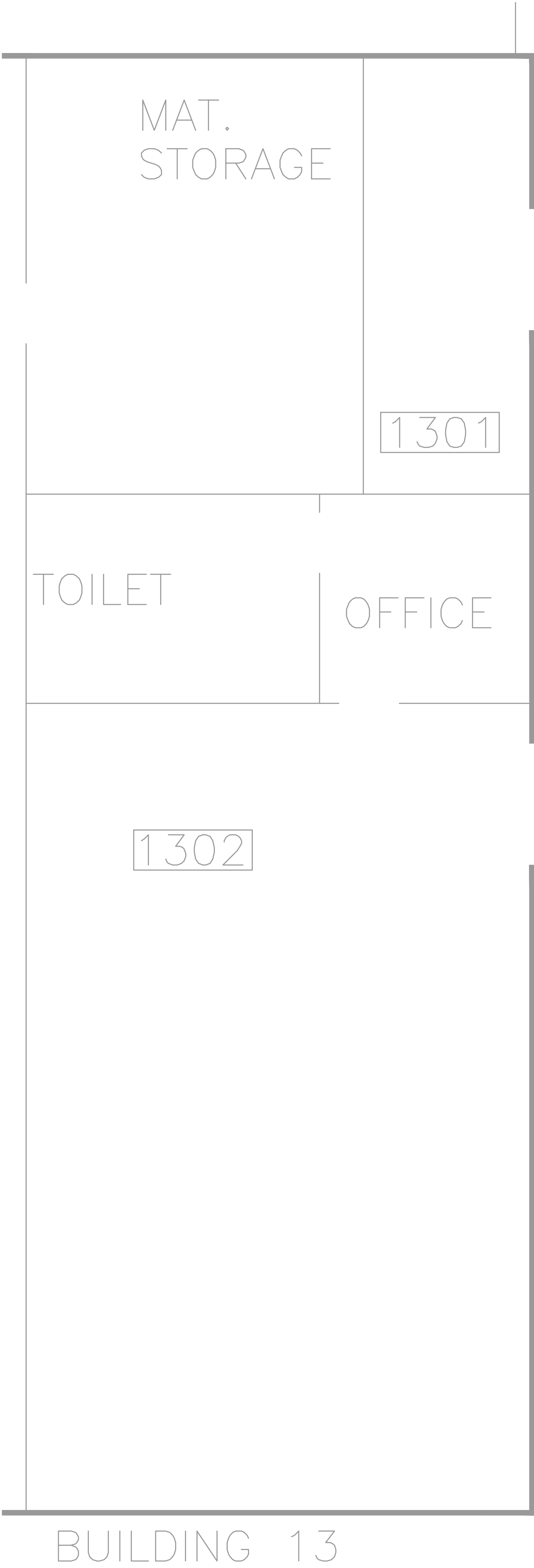
[illegible]

SILVER SANDS MIDDLE SCHOOL
REPLACE MAIN ELECTRICAL
SWITCHGEAR BLDG. 12
VCS Project NO.2347949
1300 HERBERT STREET
PORT ORANGE, FLORIDA 32129

<p>ENGINEER Adrian Baus</p>		<p>ARCHITECT OF RECORD</p>
<p>DESIGNED BY AWB</p>	<p>DRAWN BY MM/AWB</p>	
<p>ISSUE DATE 12/09/2022</p>	<p>AE PROJECT NUMBER 2022-195</p>	
<p>SHEET TITLE</p>		
<p>SYMBOL LEGEND</p>		
<p>DRAWING NO.</p>		

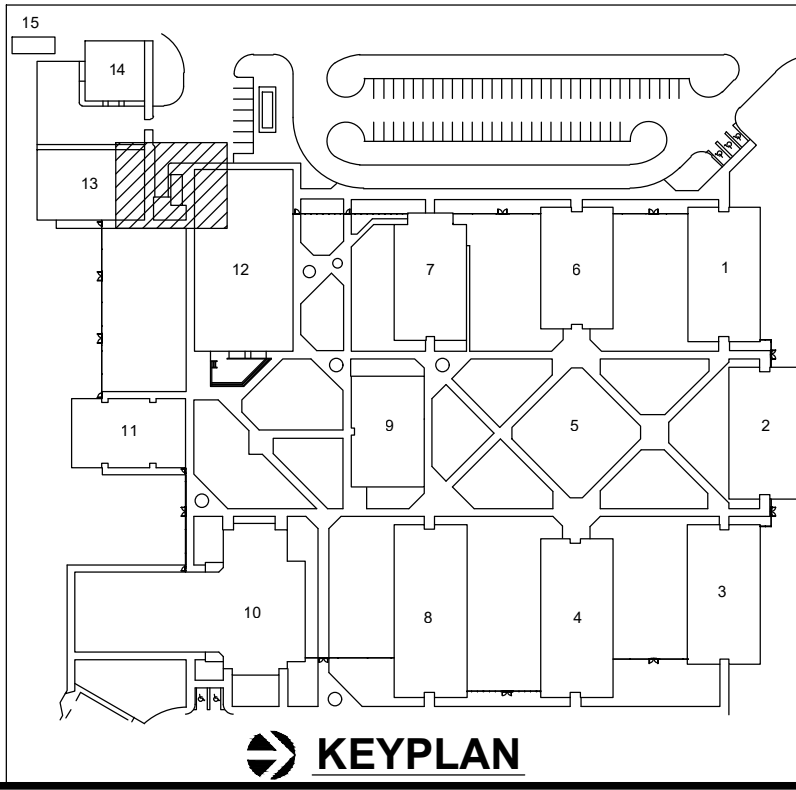
E002

WATERN PROFESSIONAL ENGINEERING PLOT DATE: 2/15/2023 6:29:55 AM FILENAME: i:\2022_jobs\2022-195_VCS Silver Sands MS- Replace Main Electrical Switchgear Bldg. 12 (2347949)\CAD\2022-195_ED101.dwg CREATE DATE: 2/14/2023 10:30:36 AM LAST SAVED: 2/14/2023 10:30:36 AM LAST SAVED BY: ABMAUS

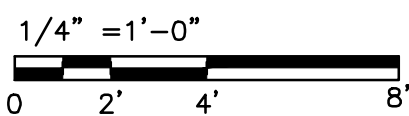


- GENERAL NOTES
- 1) REFER TO GENERAL NOTES.
 - 2) REFER TO SPECIFICATIONS.
 - 3) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
 - 4) REFER TO MECHANICAL EQUIPMENT FEEDER SCHEDULES FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT.
 - 3) REWORK/RELOCATE EXISTING ELECTRICAL AS REQUIRED TO FACILITATE CONSTRUCTION.
 - 4) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING DEVICES REMAINING.
 - 5) ALL EXISTING ELECTRICAL IS NOT SHOWN.
 - 6) VERIFY EXISTING PHASE ROTATIONS AT ALL EXISTING EQUIPMENT PRIOR TO DISCONNECTING ANY LOADS. VERIFY PHASE ROTATION HAS NOT CHANGED PRIOR TO REENERGIZING ANY LOADS.
 - 7) ALL CONNECTIONS TO EXTERIOR ENCLOSURES MADE AT OTHER THAN BOTTOM OF ENCLOSURE SHALL BE MADE WITH WEATHERPROOF MYERS HUBS.
 - 5) MAINTAIN OPERATION OF ELECTRICAL SYSTEM DURING BUILDING OPERATIONAL HOURS. ALL WORK SHALL BE DONE AT NIGHT AND ON WEEKENDS.
 - 6) ALL POWER OUTAGES SHALL BE SCHEDULED WITH AND APPROVED BY VCS PROJECT MANAGER 1 WEEK IN ADVANCE. FOR ANY OUTAGE LASTING MORE THAN 2 HOURS PROVIDE TEMPORARY POWER TO ANY AND ALL REFRIGERATORS AND FREEZERS IMPACTED BY OUTAGE.
 - 7) TRACE OUT CIRCUITS AND PROVIDE UPDATED TYPED PANEL SCHEDULE FOR ANY PANEL ASSOCIATED WITH PROJECT.
 - 8) PROVIDE NEW ENGRAVED NAMEPLATES NEW AND EXISTING EQUIPMENT CLEARLY IDENTIFYING LOAD SERVED AND THE SOURCE.

- HEX NOTES
- ① EQUIPMENT TO BE REPLACED WITH NEW.
 - ② EXISTING FLUORESCENT LIGHTS TO BE REPLACED WITH NEW LED LIGHTS.
 - ③ EXISTING OCCUPANCY SENSOR SWITCH TO BE REPLACED WITH WINDUP TIMER.



ELECTRICAL FLOOR PLAN - DEMOLITION



MATERN
Mechanical • Electrical • Plumbing • Fire Protection
Technology • Commissioning • Energy Engineers

130 Candace Drive
Maitland, FL 32751

ENG. BUS. No. EB-0005096 PHONE (407) 740-5020
CERT. OF AUTH. No. 5096 FAX (407) 740-0365

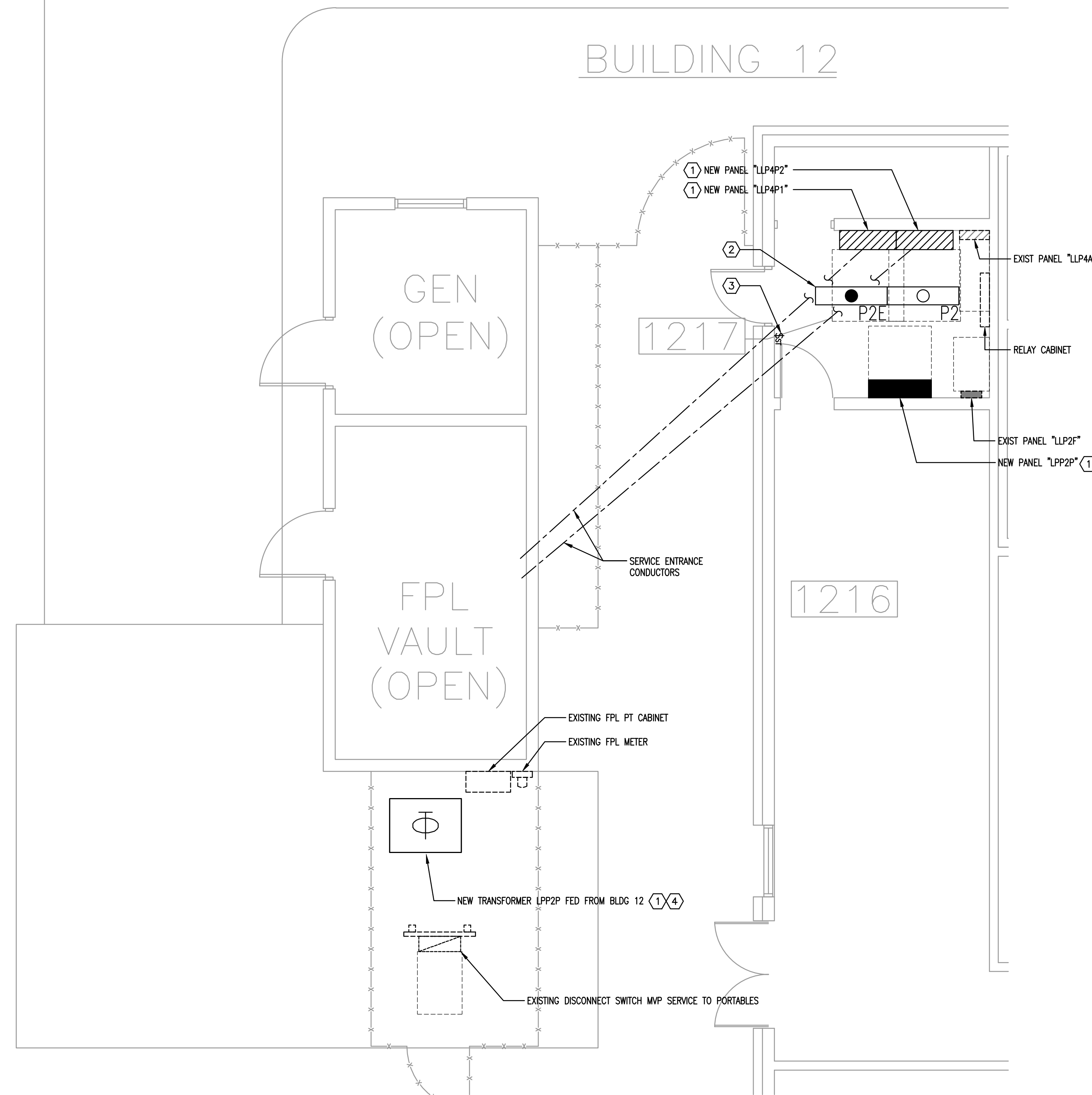
MPE JOB #: 2022-195

REVISIONS	
DOCUMENT HISTORY	
NO.	DATE
	12/14/23
DESCRIPTION	
	BID ISSUE


SILVER SANDS MIDDLE SCHOOL
REPLACE MAIN ELECTRICAL
SWITCHGEAR BLDG. 12
VCS Project NO.2347949
1300 HERBERT STREET
PORT ORANGE, FLORIDA 32129

Engineer Adrian Baus	
DESIGNED BY AWB	DRAWN BY MM/AWB
ISSUE DATE 12/09/2022	AE PROJECT NUMBER 2022-195
SHEET TITLE ELECTRICAL FLOOR PLAN - DEMOLITION	
DRAWING NO.	

ED101



$1/4'' = 1' - 0''$

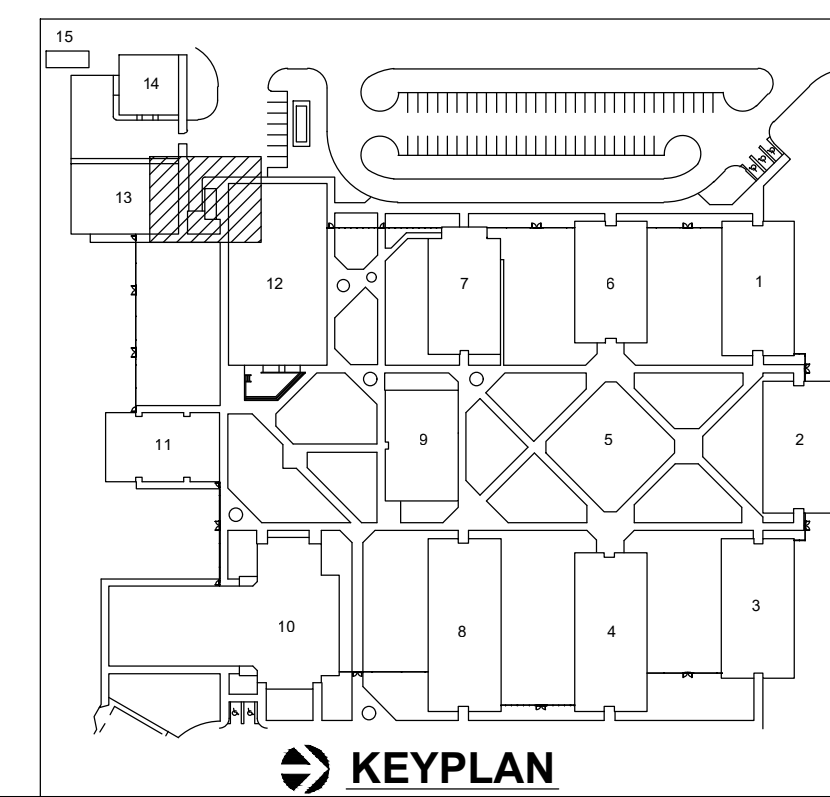


A horizontal graphic scale bar with tick marks at 0, 2', 4', and 8'. The bar is divided into four equal segments, each representing 2 feet.

- ### HEX NOTES
- 1) PROVIDE NEW EQUIPMENT TO REPLACE EXISTING.
 - 2) NEW LED LIGHTS TO REPLACE EXISTING.
 - 3) NEW WINDUP TIMER WITH A HOLD FUNCTION TO REPLACE EXISTING OCCUPANCY SENSOR.
 - 4) PROVIDE 10 INCH (MINIMUM) THICK REINFORCED HOUSING KEEP PAD FOR NEW TRANSFORMER. TOP OF PAD SHALL BE NOT LESS THAN 6 INCHES ABOVE FINISHED GRADE AND BOTTOM OF PAD NOT LESS THAN 4 INCHES BELOW GRADE.

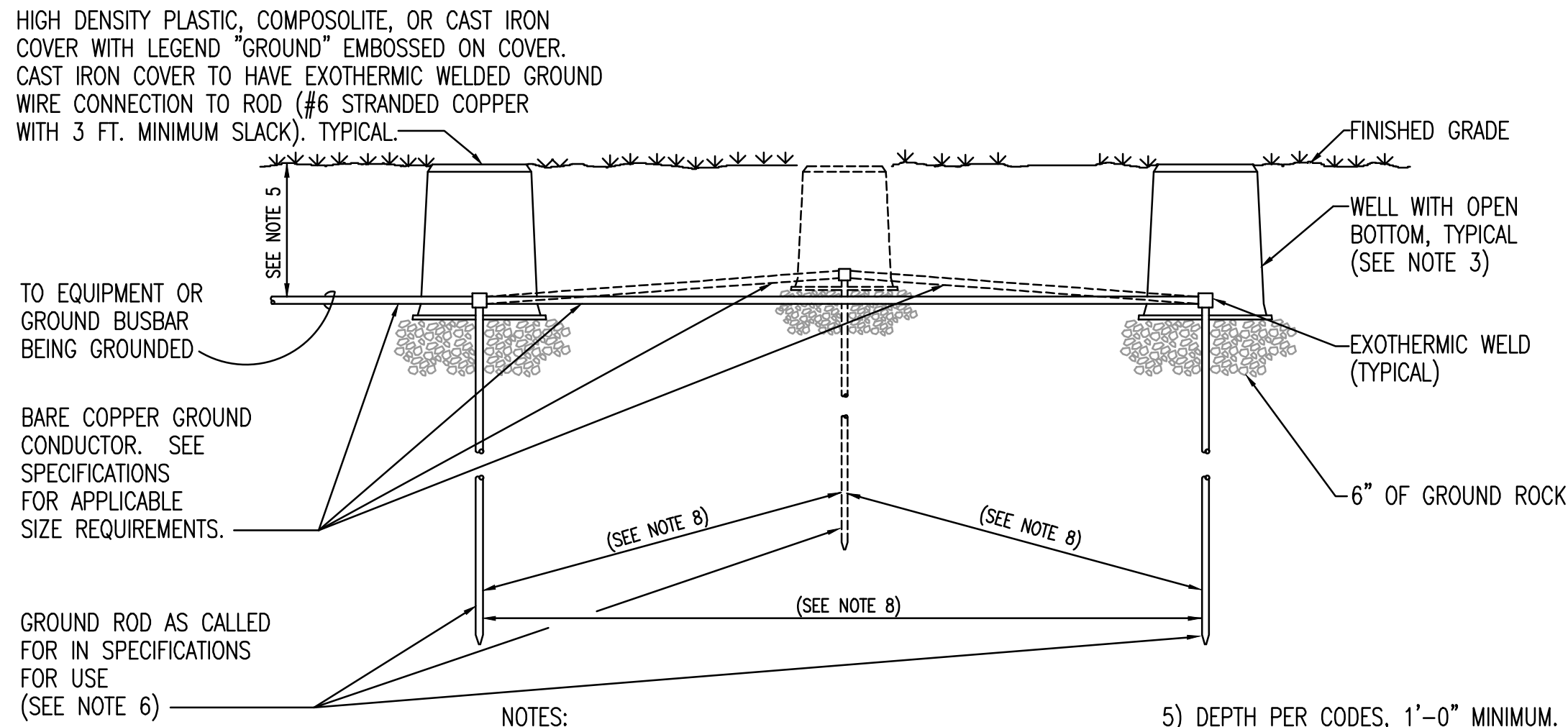
[illegible]

SILVER SANDS MIDDLE SCHOOL
REPLACE MAIN ELECTRICAL
SWITCHGEAR BLDG. 12
VCS Project NO.2347949
1300 HERBERT STREET
PORT ORANGE, FLORIDA 32129



Engineer Adrian Baus		ARCHENGR OF RECORD
DESIGNED BY AWB	DRAWN BY MM/AWB	
ISSUE DATE 12/09/2022	AE PROJECT NUMBER 2022-195	
SHEET TITLE ELECTRICAL FLOOR PLAN - RENOVATION		
DRAWING NO.		

E101



WELL: (SEE NOTE 3)

INSIDE DIMENSIONS: 12 INCHES (MINIMUM)
HEIGHT: 18 INCHES (MINIMUM).

MATERIAL: STRUCTURAL PLASTIC, CONCRETE,
OR COMPOSOLITE.

MANUF.: QUAZITE OR BROOKS PRODUCTS.

NOTES:

- 1) SEE SPECIFICATIONS, SECTION.
- 2) NOT FOR USE IN PAVED, ETC. LOCATIONS.
- 3) INCREASE DEPTH, DIAMETER, SIZE, ETC. IF REQUIRED DUE TO INSTALLATION AND ACCESS REQUIREMENTS.
- 4) CONCRETE COVERS ARE NOT ACCEPTABLE.
- 6) IF THREE RODS IN A DELTA CONFIGURATION DOES NOT PROVIDE SPECIFIED RESISTANCE, CHANGE ROD LENGTHS FROM MINIMUM RESISTANCE TO 40 OR MORE FEET AS REQUIRED TO PROVIDE SPECIFIED RESISTANCE.
- 7) MEASUREMENT OF RESISTANCE VALUES TO PROVE COMPLIANCE WITH SPECIFIED RESISTANCE SHALL BE WITH GROUND RODS CONNECTED IN DELTA CONFIGURATION BUT DISCONNECTED FROM EQUIPMENT OR BUSBAR BEING GROUNDED.
- 8) DIMENSION BETWEEN RODS SHALL BE EQUAL TO OR MORE THAN LENGTH OF ROD INSTALLED.

GROUND WELL DETAIL (MAIN SERVICE) FOR GRASSY UNPAVED NON-TRAFFIC AREAS

N.T.S.

GNDWEL3

REV: 8/16/06

CHILLER CH-1

HEAT TAPE

**20 AMP 120V 1PH 2W
FED FROM
1L1-73 LOCATED IN
BUILDING 1 ROOM 01-142**

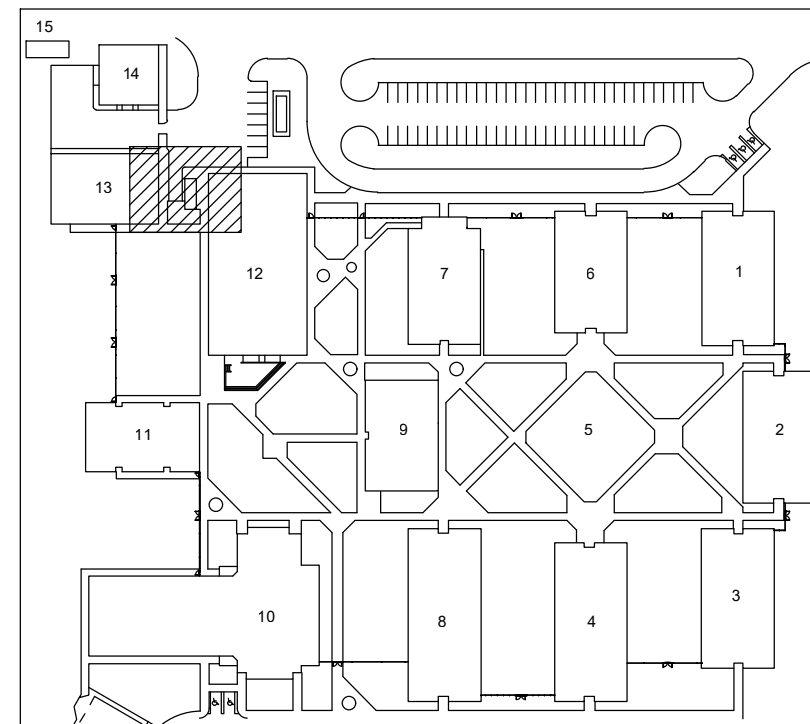
BLACK LAMACOID WITH WHITE CORE

GENERAL NOTES:

1. EQUIPMENT NAMEPLATES SHALL BE PROVIDED FOR ALL PANELS, SWITCHES AND LOADS.
2. NAMEPLATES SHALL COMPLY WITH NEC REQUIREMENTS AND CLEARLY IDENTIFY THE LOAD SERVED, THE SOURCE AND THE LOCATION OF THE SOURCE.
3. NAMEPLATES SHALL BE COLOR CODED PER SPECIFICATIONS AND EXISTING BUILDING CONVENTIONS.

TYPICAL NAMEPLATE

N.T.S

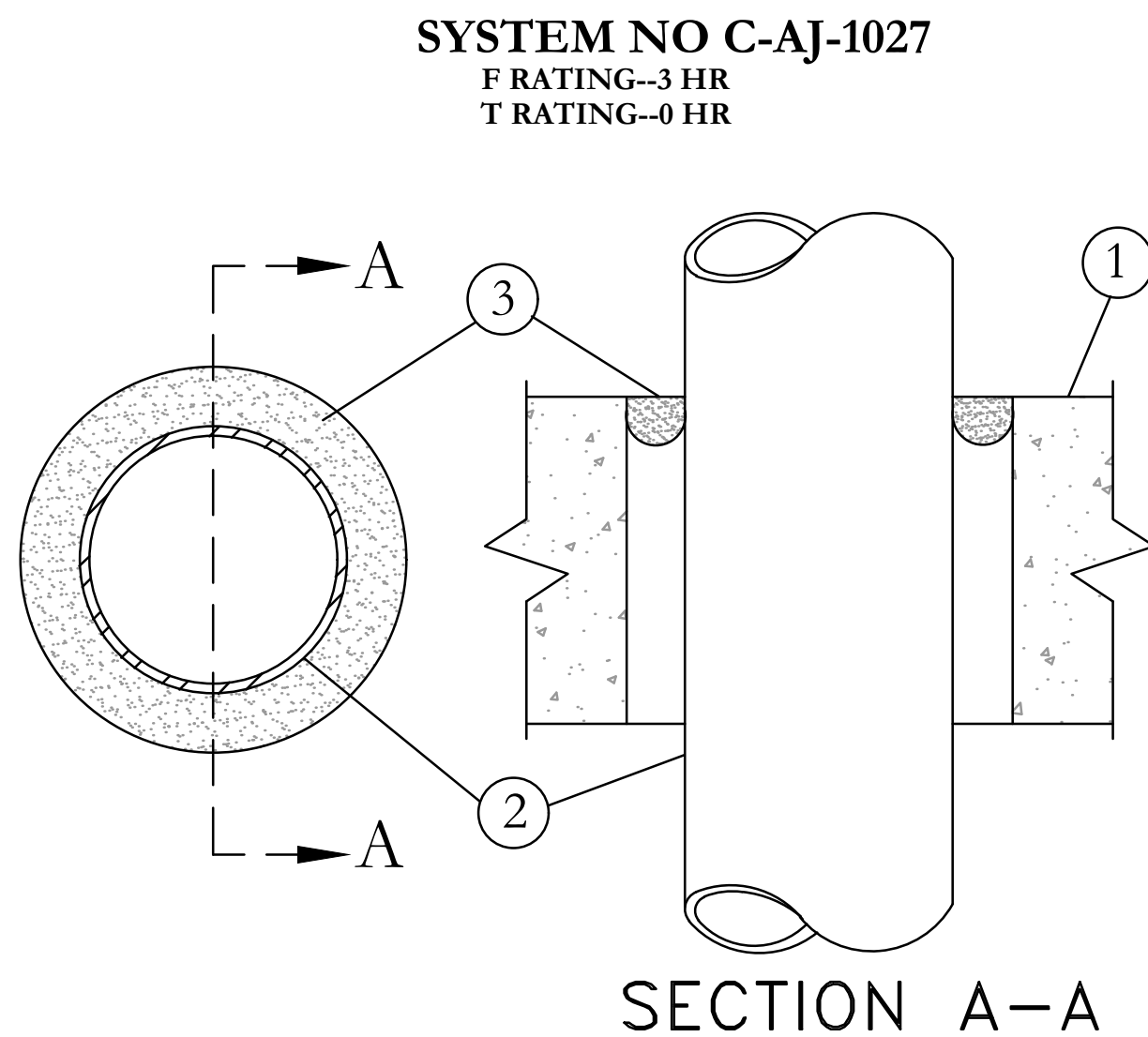


KEYPLAN

[illegible]

SILVER SANDS MIDDLE SCHOOL
REPLACE MAIN ELECTRICAL
SWITCHGEAR BLDG. 12
VCS Project NO.2347949
1300 HERBERT STREET
PORT ORANGE, FLORIDA 32129

Archeng of Record	
Engineer Adrian Baus	
DESIGNED BY	DRAWN BY
AWB	MMB/AWB
ISSUE DATE	AE PROJECT NUMBER
12/09/2022	2022-195
SHEET TITLE	
DETAILS	
DRAWING NO.	
E501	



1. Floor or Wall Assembly – Min 4-1/2 in. thick lightweight or normal weight (100–150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max dim of through opening is 12-1/4 in.

2. Use Certified Blocks (CAZT) category in Fire Resistance Directory for names of manufacturers.

3. Through Penetrants – Use metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system.

4. Min annular space between pipe, conduit or tubing and edge of opening is 0 in. (point contact).

5. Max annular space is dependent on pipe, conduit or tubing type and size as well as the F Rating of the system, as shown in Table 1.

6. Through Penetrants – Use metallic pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

- A. Steel Pipe – Nom 10 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
- B. Steel Pipe – Nom 6 in. diam (or smaller) rigid steel conduit.
- C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing or steel conduit.
- D. Copper – Tubing Nom 3 in. diam (or smaller) Type L (or heavier) copper tubing.
- E. Copper – Pipe Nom 3 in. diam (or smaller) Regular (or heavier) copper pipe.
- F. Iron Pipe – Nom 10 in. diam (or smaller) cast or ductile iron pipe.

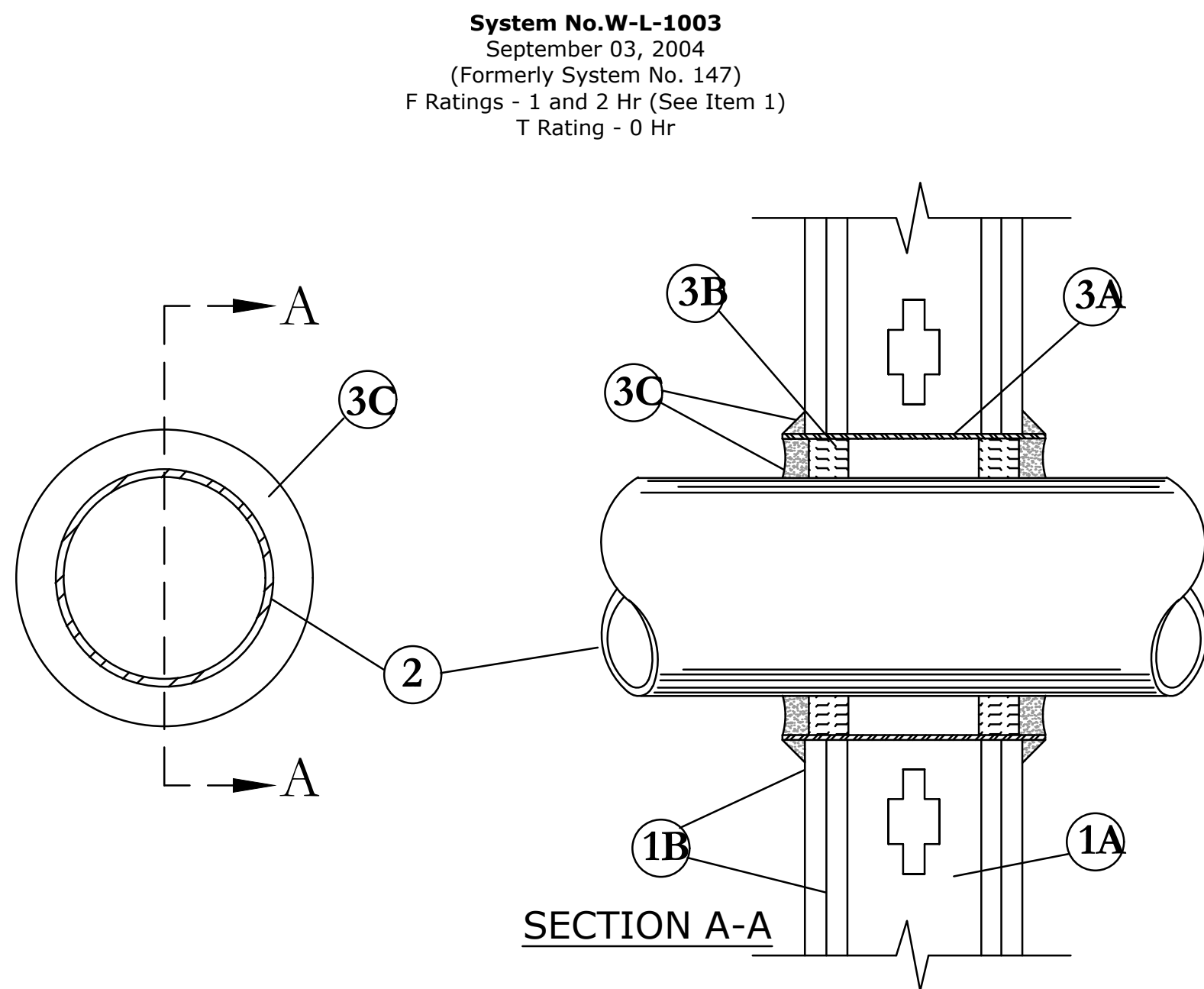
Pipe Conduit or Tubing Type	Max Nom Pipe Conduit or Tubing Diam In.	F Rating Hr	Max Annular Space In.
2-1/2	1/2-12	3	3/4
2-1/2	1/2-12	3	3/4
4-1/2	1/2-6	3	1-1/2
4-1/2	1/2-12	3	3/4
4-1/2	1/2-20	2	7/8

3. Fill Void or Cavity Materials* – Putty – Moldable putty material kneaded by hand and applied to fill annular space to a min depth of 1 in., flush with top surface of floor. In wall assemblies, required putty thickness to be installed symmetrically on both sides of wall.

MINNESOTA MINING & MFG CO – MPS-2+

*Bearing the UL Classification Marking

PENETRATION FIRESTOP FOR 10" MAX. DIA.
METAL PIPE/CONDUIT THROUGH A CONCRETE WALL OR FLOOR
 N.T.S. UL SYSTEM #202 (1 OR 2 HOUR RATING)



1. Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-1/2 in. wide with 1-3/8 in. deep channels spaced max 24 in. OC.

B. Gypsum Board* – nom 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual US300 or 1400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 15 in.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Through Penetrant – One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The space between pipes, conduits or tubing and the steel sleeve (Item 3A) shall be min of 0 in. (point contact) to max 2-3/8 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

- A. Steel Pipe – Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
- B. Iron Pipe – Nom 12 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.
- C. Conduit – Nom 6 in. diam (or smaller) steel conduit or nom 4 in. diam (or smaller) steel electrical metallic tubing.
- D. Copper Tubing – Nom 6 in. diam (or smaller) type L (or heavier) copper tubing.
- E. Copper Pipe – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

3. Firestop System - Installed symmetrically on both sides of wall assembly. The details of the firestop system shall be as follows.

A. Steel Sleeve – Cylindrical sleeve fabricated from min 0.019 in. thick (No. 28 gauge) galv sheet steel and having a min 2 in. lap along the longitudinal seam. Length of steel sleeve to be equal to thickness of wall plus 1 to 4 in. such that, when installed, the ends of the sleeve will project approximately 1/2 to 2 in. beyond the surface of the wall on both sides of the wall assembly. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers.

B. Packing Material - Min 1 in. thickness of mineral wool batt insulation firmly packed into steel sleeve on both sides of the wall assembly as permanent forms. Packing material to be recessed min 1/2 in. from end of steel sleeve (flush with or recessed into gypsum wallboard surface) on both sides of wall assembly.

B1. Packing Material - (Not shown) - As an alternate to Item B, nom 1 in. thick polyethylene backer rod may be used. The backer rod is to be recessed within the steel sleeve a min of 1 in. from each surface of wall.

C. Fill/Void or Cavity Materials* - Caulk or Sealant - When mineral wool batt insulation is used, applied to fill the steel sleeve to a min depth of 1/2 in. on both sides of wall assembly. When backer rod is used, a min thickness of 1 in. of CP-25WB+ caulk is required flush with surface of wall. A nom 1/4 in. diam continuous bead of caulk or sealant shall be applied around the circumference of the steel sleeve at its egress from the gypsum wallboard layers on both sides of the wall assembly.

3M COMPANY - CP 25WB+ caulk or FB-3000 WT sealant

***Bearing the UL Classification Marking**

**PENETRATION FIRESTOP FOR 12" MAX. DIA. METAL
PIPE/CONDUIT THROUGH GYPSUM WALLBOARD ASSEMBLY**
N.T.S. UL SYSTEM #147A (1 OR 2 HOUR RATING) FIREST5

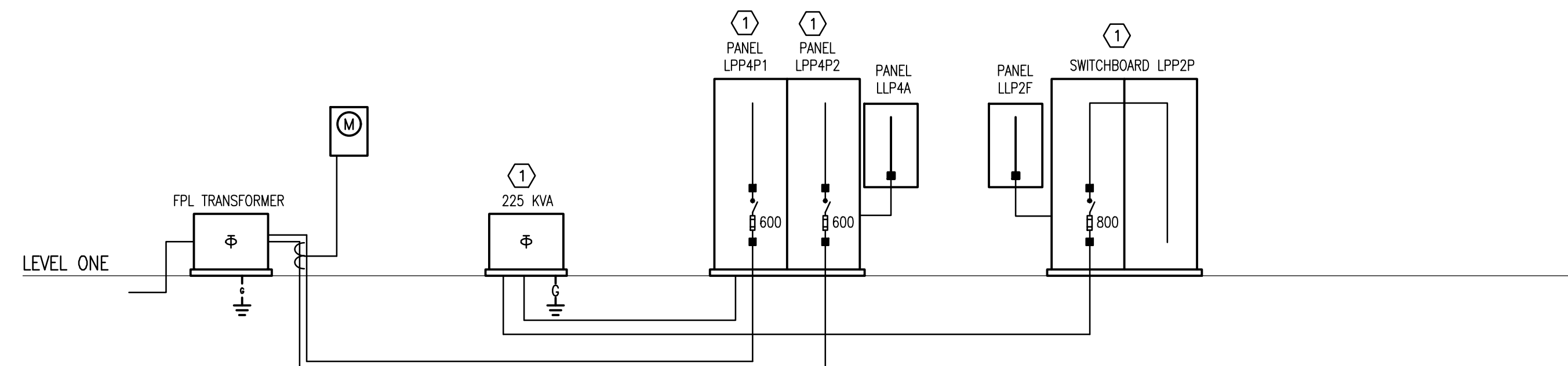
NOTES FOR FIRE STOPPING DETAILS (NEC & UL)

- 1) FIRE STOPPING DETAILS ARE SHOWN FOR GENERAL INTENT. PROVIDE FIRE STOPPING ASSEMBLY SUITABLE FOR THE APPLICATION IN COMPLIANCE WITH FLORIDA BUILDING CODE AND U.L.
- 2) DETAILS ARE BASED ON 3M PRODUCTS AND THEIR RECOMMENDED USAGE/ DETAILS. SUBSTITUTED PRODUCTS SHALL BE SUBMITTED AS OUTLINED IN SPECIFICATIONS. U.L. FIRE STOPPING ASSEMBLY DETAILS SHALL BE INCLUDED WITH PRODUCT DATA FOR REVIEW PRIOR TO INSTALLATION.

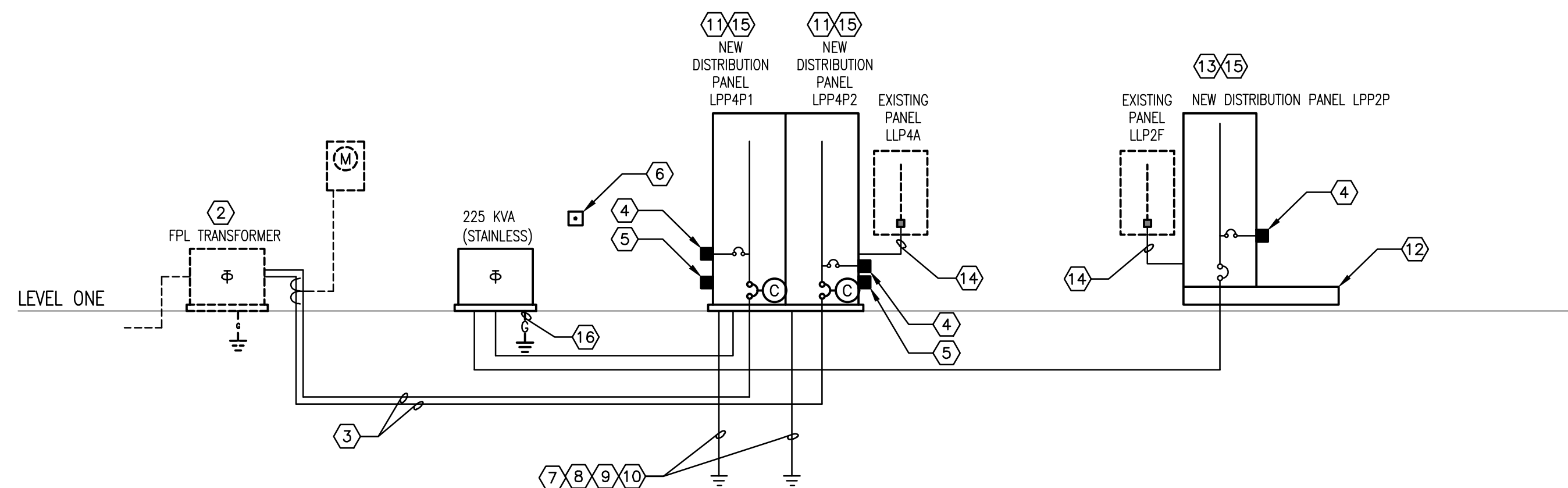
[illegible]

SILVER SANDS MIDDLE SCHOOL
REPLACE MAIN ELECTRICAL
SWITCHGEAR BLDG. 12
VCS Project NO.2347949
1300 HERBERT STREET
PORT ORANGE, FLORIDA 32129

Engineer Adrian Baus		ARCHENG OF RECORD	
DESIGNED BY AWB	DRAWN BY MM/AWB		
ISSUE DATE 12/09/2022	AE PROJECT NUMBER 2022-195		
SHEET TITLE			
DETAILS			
DRAWING NO.			
E502			



PARTIAL POWER RISER DIAGRAM - DEMOLITION



PARTIAL POWER RISER DIAGRAM - RENOVATION

[illegible]

GENERAL NOTES:

- 1) CONDUIT SIZE IS BASED ON 2017 N.E.C. FOR EMT, IMC, RMC, FLEXIBLE METAL, AND SCHED 40 PVC. IF ANY OTHER TYPE OF CONDUIT/TUBING IS USED, THE CONTRACTOR SHALL RESIZE CONDUIT AND SIZE AS REQUIRED TO COMPLY WITH THE N.E.C..
- 2) USE CABLE REDUCERS AT TERMINATIONS AND/OR AT IN JUNCTION BOX NEAR TERMINATIONS AS REQUIRED TO COORDINATE OVERSIZED PHASE OR NEUTRAL CONDUCTORS WITH TERMINATION LUG SIZE OR PROVIDE TERMINATION/LUGS SIZED FOR FEEDERS.
- 3) CONTRACTOR IS TO MEGGER TEST ALL FEEDERS PER SPECIFICATIONS.
- 4) WHERE DISCONNECT SWITCH (DISC SW) IS INCLUDED IN THE NAME UNDER "FEEDER FEEDING", PROVIDE DISC SW TO MEET ALL ELECTRICAL CHARACTERISTICS PER THIS SCHEDULE, INCLUDING SCCR RATING. PROVIDE FUSE IN FUSIBLE SWITCHES OR PROVIDE UPSTREAM CIRCUIT BREAKER, WHERE NON-FUSED SWITCHES ARE USED, AS REQUIRED BY DISCONNECT SWITCH MANUFACTURER FOR SHORT CIRCUIT AMPS SHOWN.

GENERAL NOTES

- 1) REFER TO GENERAL NOTES FOR THIS DISCIPLINE.
- 2) REFER TO SPECIFICATIONS.
- 3) WHERE CONDUIT ROUTING IS SHOWN, THE CONDUITS ARE SHOWN FOR DIAGRAMMATIC PURPOSES AND ARE NOT NECESSARILY REPRESENTATIVE OF EXACT PLACEMENT.
- 4) REWORK/RELOCATE EXISTING ELECTRICAL AS REQUIRED TO FACILITATE CONSTRUCTION.
- 5) CONTRACTOR SHALL MAINTAIN CONTINUITY TO EXISTING DEVICES REMAINING.
- 6) ALL EXISTING ELECTRICAL IS NOT SHOWN.
- 7) VERIFY EXISTING PHASE ROTATIONS AT ALL EXISTING EQUIPMENT PRIOR TO DISCONNECTING ANY LOADS. VERIFY PHASE ROTATION HAS NOT CHANGED PRIOR TO REENERGIZING ANY LOADS.
- 8) ALL CONNECTIONS TO EXTERIOR ENCLOSURES MADE AT OTHER THAN BOTTOM OF ENCLOSURE SHALL BE MADE WITH WEATHERPROOF MYERS TRUS.
- 9) TRACE OUT CIRCUITS AND PROVIDE UPDATED TYPED PANEL SCHEDULE FOR ANY PANEL ASSOCIATED WITH PROJECT.
- 10) PROVIDE NEW ENGRAVED NAMEPLATES FOR ALL NEW AND EXISTING EQUIPMENT FED FROM ANY NEW EQUIPMENT CLEARLY IDENTIFYING LOAD SERVED AND THE SOURCE.
- 11) MAINTAIN OPERATION OF ELECTRICAL SYSTEM DURING BUILDING OPERATIONAL HOURS. ALL WORK INVOLVING OUTAGES WORK SHALL BE DONE AT NIGHT, WEEKENDS, AND HOLIDAYS.
- 12) ALL POWER OUTAGES SHALL BE SCHEDULED WITH AND APPROVED BY VCS PROJECT MANAGER 2 WEEKS IN ADVANCE. FOR ANY OUTAGE LASTING MORE THAN 2 HOURS PROVIDE TEMPORARY POWER TO ANY AND ALL REFRIGERATORS AND FREEZERS IMPACTED BY OUTAGE.

HEX NOTES

- (1) EXISTING EQUIPMENT SHALL BE REPLACED WITH NEW.
- (2) COORDINATE ALL WORK WITH FLORIDA POWER AND LIGHT, PRIOR TO BID AND PROVIDE ALL ELECTRICAL REQUIRED.
- (3) EXISTING SERVICE ENTRANCE CONDUCTORS SHALL BE REPLACED WITH NEW.
- (4) SURGE SUPPRESSION UNIT. REFER TO SPECIFICATIONS.
- (5) LIGHTNING ARRESTOR ON LINE SIDE OF MAIN BREAKER. REFER TO SPECIFICATIONS.
- (6) SHUNT TRIP BUTTON FOR MAIN POWER SERVICE. LABEL "MAIN POWER SHUT-OFF BUILDINGS ____".
- (7) #3/0 COPPER GROUND WIRE TO BUILDING STEEL.
- (8) #3/0 COPPER GROUND WIRE TO COLD WATER PIPE.
- (9) #3/0 COPPER GROUND WIRE TO BUILDING STEEL IN EXISTING BUILDING.
- (10) #3/0 COPPER GROUND WIRE TO (3) 5/8"x50"-0" COPPERWELD GROUND RODS.
- (11) NEW PANEL TO BE DIMENSIONALLY COMPATIBLE WITH EXISTING CONDUIT LOCATIONS FIELD CONDITIONS. COORDINATE PLACEMENT OF BREAKERS TO MINIMIZE NUMBER OF EXISTING FEEDERS THAT REQUIRE SPLICING. ANY CONDUCTORS THAT ARE NOT LONG ENOUGH TO REACH POSITION OF NEW TERMINATION SHALL BE EXTENDED USING LONG BARREL COMPRESSION SPLICES CRIMPED WITH MATCHING CIRCUMFERENTIAL DIE. SPLICE SHALL BE INSULATED WITH RAYCHEM HEAVY WALL HEAT SHRINK TUBING.
- (12) PROVIDE NEW WIREWAY THAT IS DIMENSIONALLY COMPATIBLE WITH EXISTING CONDUIT LOCATIONS FIELD CONDITIONS.
- (13) COORDINATE PLACEMENT OF BREAKERS TO MINIMIZE NUMBER OF EXISTING FEEDERS THAT REQUIRE SPLICING. ANY CONDUCTORS THAT ARE NOT LONG ENOUGH TO REACH POSITION OF NEW TERMINATION SHALL BE EXTENDED USING LONG BARREL COMPRESSION SPLICES CRIMPED WITH MATCHING CIRCUMFERENTIAL DIE. SPLICE SHALL BE INSULATED WITH RAYCHEM HEAVY WALL HEAT SHRINK TUBING.
- (14) PROVIDE NEW FEEDER TO EXISTING PANEL.
- (15) PROVIDE PERMANENT LOCK OUT PROVISIONS THAT REMAIN IN PLACE FOR ALL BREAKERS IN THIS PANEL.
- (16) COPPER GROUND WIRE TO BUILDING STEEL AND COLD WATER PIPING PER N.E.C.

[illegible]

[illegible]

SECTION I - MAINS										COPYRIGHT ME, LLC 06/01/03										VERSION: C11e8										REVISED: 09/09/21																			
VOLTS L/N: 277										SECTION LN: 1																																							
VOLTS PH: 480										DIST PANEL: LP4P1 (EXIST)																														EXISTING: YES									
PHASE: 3										MLO 600										LOCATION:																				NEMA 3R: 1									
MOUNTING: Surface										MCB																																							
TYPE: 1										SH.TRIP																																							
MFR: SQ D										GFP																																							

GENERAL NOTES:										<div style="border: 1px solid black; padding: 5px; text-align: center;"> <div style="display: flex; justify-content: space-between;"> ← AIC RATING → </div> <div style="display: flex; justify-content: space-between;"> SERIES RATED KA(1) FULLY RATED 65 KA </div> </div>										NOTES AND REFERENCE NOTES:									
(1) ALL C.B.'S FEEDING HVAC EQUIPMENT TO BE HACR TYPE. (2) ALL C.B.'S FEEDING ELEV EQUIP TO BE SHUNT-TRIP TYPE. (3) ALL C.B.'S FEEDING ELEV EQUIP TO BE SIZED AS REQ'D BY MFR. (4) ALL C.B.'S FEEDING HID LTG TO BE HID RATED. (5) NO MULTIWIRE BRANCH CKTS ARE ALLOWED (6) NOT USED. (7) IF MCP-SU PANEL THEN ALL BREAKERS TO BE ON ONE SIDE.										MFR = SIZE CB PER MFR. RECOMMENDATIONS. S = NEW CB IN EXIST SPACE & = REPLACE EXIST CB WITH NEW SH = SHUNT TRIP C.B. AF = ARC FAULT CB G1 GFCI CB G2 GPPE CB																			

TOTAL AMPS A PH 389										TOTAL AMPS B PH 389										TOTAL AMPS C PH 389										INFO CODE:																			

(***) NOTE: SIZE SHOWN IS MINIMUM ACCEPTABLE MLO AMPERAGE.
 INCREASE SIZE IF REQUIRED AS CALLED FOR IN SCHEDULE.

OPTIONAL CALC	NO	
CONNECTED LOAD	323	KVA 389 AMPS
DEMAND	323	KVA 389 AMPS
DIVERSITY	323	KVA 389 AMPS
TRANSFORMER SIZE		KVA

SECTION 1 WITH MAINS																														WIDTH: 38 DEPTH: 15									
LOAD															LOAD																								
DESCRIPTION	CONN	TYPE	AMPS	AMPS	AMPS	C.B. AMPS	C.B. POLE	REF NOTE	CKT. NO.	CKT. NO.	REF NOTE	C.B. POLE	C.B. AMPS	AMPS	AMPS	AMPS	DESCRIPTION	CONN	TYPE																				
SPACE						1	1	2	3	15							SPARE		0.2																				
							3	4											0.2																				
							5	6											0.2																				
SPARE			0.2			15	3	7	8	3	15						SPARE		0.2																				
			0.2					9	10										0.2																				
			0.2					11	12										0.2																				
SPARE			0.2			15	3	13	14	1							SPACE		0.2																				
			0.2					15	16																														
			0.2					17	18																														
SPACE						1		19	20	3	15	9					AHU-L2		9 5.0																				
								21	22					9				9 5.0																					
								23	24						9			9 5.0																					
SPARE			0.2			30	3	25	26	3	25	17					AHU-L4		17 5.0																				
			0.2					27	28				17					17 5.0																					
			0.2					29	30					17				17 5.0																					
SPARE			0.2			30	3	31	32	3	15	11					PUMP P4		11 8.0																				
			0.2					33	34				11					11 8.0																					
			0.2					35	36					11				11 8.0																					
SPARE			0.2			30	3	37	38	3	15	7					PUMP P5																						

SECTION I - MAINS

VOLTS L/N: 277

VOLTS PH: 480

PHASE : 3

MOUNTING : Surface

TYPE : SIEMENS

MFR :

COPYRIGHT ME, LLC 06/01/03

VOLTS L/N: MLO

VOLTS PH: MCB

PHASE : SH.TRIP

MOUNTING : YES

TYPE : OFF

MFR :

VERSION: C11e8

REVISED: 09/09/21

DIST PANEL : LP4P2 (NEW)

LOCATION:

REPLACEMENT OF EXISTING : YES

NEMA 3R : YES

GENERAL NOTES:
(1) ALL C.B.'S FEEDING HVAC EQUIPMENT TO BE HACR TYPE.
(2) ALL C.B.'S FEEDING ELEV EQUIP TO BE SHUNT-TRIP TYPE.
(3) ALL C.B.'S FEEDING ELEV EQUIP TO BE SIZED AS REQ'D BY MFR.
(4) ALL C.B.'S FEEDING HID LTG TO BE HID RATED.
(5) NO MULTIWIRE BRANCH CKTS ARE ALLOWED
(6) NOT USED.
(7) IF HCP-SU PANEL THEN ALL BREAKERS TO BE ON ONE SIDE.

SERIES RATED
FULLY RATED

←AIC RATING→
65 KA(1)
KA

(*) NOTE: MAY REQUIRE FULL RATING TO ACHIEVE

NOTES AND REFERENCE NOTES:
MFR = SIZE CB PER MFR. RECOMMENDATIONS.
S = NEW CB IN EXIST SPACE
S = REPLACE EXIST CB WITH NEW
SH = SHUNT TRIP C.B.
AF = ARC FAULT CB
G1 GFCl CB
G2 GPFE CB

TOTAL AMPS A PH 548
TOTAL AMPS B PH 548
TOTAL AMPS C PH 548
INFO CODE:

(***) NOTE: SIZE SHOWN IS MINIMUM ACCEPTABLE MLO AMPERAGE.

INCREASE SIZE IF REQUIRED TO ACHIEVE QUANTITY OF POLES OR BREAKER SIZE/AIC RATING AS CALLED FOR IN SCHEDULE.

OPTIONAL CALC

CONNECTED LOAD 456 KVA 548 AMPS

DEMAND 378 KVA 455 AMPS

DIVERSITY 378 KVA 455 AMPS

TRANSFORMER SIZE KVA

SECTION 1 WITH MAINS

LOAD

DESCRIPTION

CONN

TYPE

AMPS

AMPS

C.B. AMPS

C.B. POLE

REF NOTE

CKT. NO.

CKT. NO.

REF NOTE

C.B. POLE

C.B. AMPS

AMPS

AMPS

AMPS

DESCRIPTION

CONN

TYPE

HOOD EXHAUST FAN

15

5.0

15

15

30

3

1

2

3

30

SURGE

18.0

WELL PUMP 1

11

8.0

11

11

20

3

7

8

3

20

11

WELL PUMP 2

11

8.0

AHU HLP

40

5.0

40

40

50

3

13

14

60

27

11

PUMP P1

27

8.0

PUMP P12

34

8.0

34

34

45

3

19

20

3

100

40

PANEL LLP4A

40

5.0

BOOSTER HEATER

55

5.0

55

55

70

3

25

26

3

100

SPARE

0.2

SPARE

55

5.0

55

100

3

29

30

1

32

SPARE

0.2

SPARE

55

5.0

55

100

3

31

32

1

32

SPARE

0.2

AHU-L1

75

5.0

75

75

100

3

43

44

3

70

50

BUILDING N

50

5.0

COOLING TOWER

90

5.0

90

90

125

3

45

46

48

49

50

50

SPARE

50

BUILDING K

100

5.0

100

100

150

3

51

52

53

54

55

56

SPARE

50

SECTION I - MAINS				COPYRIGHT ME, LLC 06/01/03				VERSION: C11e8				REVISED: 09/09/21							
VOLTS LN: 277																			
VOLTS PH: 480																			
PHASE: 3																			
MOUNTING: Surface																			
TYPE: SQ D																			
MFR:																			

DIST PANEL : LP4P2 (EXIST)		LOCATION:		EXISTING : YES	
MLO 600		MCB		NEMA 3R :	
SH.TRIP		GFP		:	
:		:		:	

GENERAL NOTES:

(1) ALL C.B.'S FEEDING HVAC EQUIPMENT TO BE HACR TYPE.

(2) ALL C.B.'S FEEDING ELEV EQUIP TO BE SHUNT TRIP TYPE.

(3) ALL C.B.'S FEEDING ELEV EQUIP TO BE SIZED AS REQ'D BY MFR.

(4) ALL C.B.'S FEEDING HID LTG TO BE HID RATED.

(5) NO MULTIWIRE BRANCH CKTS ARE ALLOWED

(6) NOT USED.

(7) IF HCP-SU PANEL THEN ALL BREAKERS TO BE ON ONE SIDE.

NOTES AND REFERENCE NOTES:

MFR = SIZE CB PER MFR. RECOMMENDATIONS.

S = NEW CB IN EXIST SPACE

& = REPLACE EXIST CB WITH NEW

SF = SHUNT TRIP C.B.

AF = ARC FAULT CB

G1 GFCl CB

G2 GPPE CB

← AIC RATING →		KA(*)	
SERIES RATED	FULLY RATED	65	KA
(*) NOTE: MAY REQUIRE FULL RATING TO ACHIEVE			

TOTAL AMPS A PH 548

TOTAL AMPS B PH 548

TOTAL AMPS C PH 548

INFO CODE:

(***) NOTE: SIZE SHOWN IS MINIMUM ACCEPTABLE MLO AMPERAGE.

INCREASE SIZE IF REQUIRED AS CALLED FOR IN SCHEDULE.

										OPTIONAL CALC		NO			
										CONNECTED LOAD		456		KVA	
										DEMAND		378		KVA	
										DIVERSITY		378		KVA	
										TRANSFORMER SIZE		378		KVA	

SECTION 1 WITH MAINS															WIDTH: 38		DEPTH: 15	
LOAD															LOAD			
DESCRIPTION	CONN	TYPE	AMPS	AMPS	C.B. AMPS	C.B. POLE	REF NOTE	CKT. NO.	CKT. NO.	REF NOTE	C.B. POLE	C.B. AMPS	AMPS	AMPS	AMPS	DESCRIPTION	CONN	TYPE
HOOD EXHAUST FAN	18	5.0	15		30	3		1	2		3	30				SURGE		18.0
				15														18.0
																		18.0
WELL PUMP 1	11	8.0	11		20	3		7	8		3	20	11			WELL PUMP 2	11	8.0
	11	8.0		11				9	10					11				11
	11	8.0			11			11	12						11			11
AHU HLP	40	5.0	40		50	3		13	14		3	60	27			PUMP P1	27	8.0
	40	5.0		40				15	16					27				27
	40	5.0			40			17	18					27				27
PUMP P12	34	8.0	34		45	3		19	20		3	50	40			PANEL LLP4A	40	5.0
	34	8.0		34				21	22					40				40
				34				23	24						40			40
BOOSTER HEATER	55	5.0	55		70	3		25	26		3	100				SPARE		0.2
	55	5.0		55				27	28									0.2
	55	5.0						29	30									0.2
AHU-H	75	5.																

TYPE WRITTEN PANEL DIRECTORIES SHALL BE PROVIDED FOR EACH PANEL AS REQUIRED BY THE 2017 NEC. DIRECTORIES SHALL IDENTIFY LOAD AND THE ROOM(S) WHERE LOADS ARE LOCATED IN SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS. ROOM NUMBERS SHALL BE ACTUAL ROOM NUMBERS USED FOR ROOM SIGNAGE.	SCHEDULE KEY	
	LPP4P1 (NEW)	LPP4P2 (NEW)
	LPP4P1 (EXIST)	LPP4P2 (EXIST)

ENG. BUS. No. EB-0005096	PHONE (407) 740-5020
CERT. OF AUTH. No. 5096	FAX (407) 740-0365

MPE JOB #: 2022-195

[illegible]

SILVER SANDS MIDDLE SCHOOL
REPLACE MAIN ELECTRICAL
SWITCHGEAR BLDG. 12
VCS Project NO.2347949
1300 HERBERT STREET
PORT ORANGE, FLORIDA 32129

Engineer Adrian Baus	
DESIGNED BY	DRAWN BY
MM/WAB	MM/WAB
ISSUE DATE	A/E PROJECT NUMBER
12/09/2022	2022-195
SHEET TITLE	
SCHEDULES	
DRAWING NO.	
E601	

SECTION I - MAINS						COPYRIGHT ME, LLC 06/01/03								VERSION: C11e8						REVISED: 09/09/21									
VOLTS LIN : 120						DIST PANEL : LPP2P (NEW) <div style="display: flex; justify-content: space-around;"> <div>MLO MCB SH.TRIP GFP</div> <div style="border-bottom: 1px solid black; width: 100px;"></div> </div>										LOCATION: <div style="border-bottom: 1px solid black; width: 100px;"></div>						REPLACEMENT OF EXISTING : YES NEMA 3R : _____ _____ _____							
PHASE : 3																													
MOUNTING : Surface																													
TYPE : SQ D																													
GENERAL NOTES: (1) ALL C.B.'S FEEDING HVAC EQUIPMENT TO BE HACR TYPE. (2) ALL C.B.'S FEEDING ELEV EQUIP TO BE SHUNT TRIP TYPE. (3) ALL C.B.'S FEEDING ELEV EQUIP TO BE SIZED AS REQ'D BY MFR. (4) ALL C.B.'S FEEDING MID LGT TO BE HID RATED. (5) NO MULTIWIRE BRANCH CKTS ARE ALLOWED. (6) NOT USED. (7) IF HCP-SU PANEL THEN ALL BREAKERS TO BE ON ONE SIDE.						<div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: fit-content;"> ←-----AIC RATING-----→ SERIES RATED KA(*) FULLY RATED 65 KA (†) NOTE: MAY REQUIRE FULL RATNG TO ACHIEVE </div>										NOTES AND REFERENCE NOTES: MFR = SIZE CB PER MFR. RECOMMENDATIONS. S = NEW CB IN EXIST SPACE & = REPLACE EXIST CB WITH NEW SH = SHUNT TRIP C.B. AF = ARC FAULT CB G1 GFCI CB G2 GFPE CB													
TOTAL AMPS A PH 835						(***) NOTE: SIZE SHOWN IS MINIMUM ACCEPTABLE MLO AMPERAGE. INCREASE SIZE IF REQUIRED TO ACCEPTABLE QUANTITY OF POLES OR BREAKER SIZE/AIC RATING AS CALLED FOR IN SCHEDULE.										OPTIONAL CALC													
TOTAL AMPS B PH 835																CONNECTED LOAD NO 301 KVA 835 AMPS													
TOTAL AMPS C PH 835																DEMAND 150 KVA 501 AMPS													
INFO CODE: _____																DIVERSITY 150 KVA 501 AMPS													
																TRANSFORMER SIZE 225.0 KVA													

SECTION I WITH MAINS															WIDTH: 42		DEPTH: 9.50					
LOAD																			LOAD			
DESCRIPTION	CONN	TYPE	AMPS	AMPS	AMPS	C.B. AMPS	C.B. POLE	REF NOTE	CKT. NO.	CKT. NO.	REF NOTE	C.B. POLE	C.B. AMPS	AMPS	AMPS	AMPS	DESCRIPTION	CONN	TYPE			
SPARE	0.2					60	3		1	2		1					SPACE					
	0.2								3	4												
	0.2								5	6												
	0.2					60	3		7	8		1				SPACE						
	0.2								9	10												
SPARE	0.2								11	12												
	0.2					60	3		13	14		3	40	30		PANEL LLP2E	30	5.0				
	0.2								15	16					30							
	0.2								17	18					30							
	0.2								19	20		3	125	90		PANEL LLP2F	90	5.0				
SPACE									21	22					90							
									23	24					90							
BUILDING K	70	5.0	70			100	3		25	26		3	100	70			STAGE PANEL	70	5.0			
	70	5.0		70					27	28					70							
	70	5.0			70				29	30												
PANEL LLP2B	50	5.0	50			70	3		31	32		1					SPACE					
	50	5.0		50					33	34												
	50	5.0			50				35	36												
PANEL LLP2C	125	5.0	125			175	3		37	38		1					SPACE					
	125</																					

TYPE WRITTEN PANEL DIRECTORIES SHALL BE PROVIDED FOR EACH PANEL AS REQUIRED BY THE 2017 NEC. DIRECTORIES SHALL IDENTIFY LOAD AND THE ROOM(S) WHERE LOADS ARE LOCATED IN SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS. ROOM NUMBERS SHALL BE ACTUAL ROOM NUMBERS USED FOR ROOM SIGNAGE.	SCHEDULE KEY	
		LPP2P (NEW)

ENG. BUS. No. EB-0005096	PHONE (407) 740-5020
CERT. OF AUTH. No. 5096	FAX (407) 740-0365

MPE JOB #. 2022-195

[illegible]

SILVER SANDS MIDDLE SCHOOL
REPLACE MAIN ELECTRICAL
SWITCHGEAR BLDG. 12
VCS Project NO.2347949
1300 HERBERT STREET
PORT ORANGE, FLORIDA 32129

Engineer Adrian Baus		ARCHITECT OF RECORD
DESIGNED BY AWB	DRAWN BY MM/ABW	
ISSUE DATE 12/09/2022	AE PROJECT NUMBER 2022-195	
SHEET TITLE SCHEDULES		
DRAWING NO. E602		