

ELECTRICAL SYMBOL LEGEND

SPECIFICATIONS:

BASIC MATERIALS

SYMBOL	DESCRIPTION
S ₀	SINGLE POLE SWITCH (SUBSCRIPT INDICATES ITEM CONTROLLED)
S ₃	THREE-WAY SWITCH
S ₄	FOUR-WAY SWITCH
S _P	SINGLE POLE SWITCH WITH PILOT LIGHT
S _{WP}	SINGLE POLE SWITCH WITH WEATHERPROOF COVER
S _{WST}	SPRING WOUND WALL SWITCH TIMER (30 MIN.)
S _K	SINGLE POLE KEY SWITCH
S _{3K}	THREE-WAY KEY SWITCH
S _{4K}	FOUR-WAY KEY SWITCH
S _L	SINGLE POLE SWITCH WITH SECURITY LOCKING KEY
S _{LV}	LOW VOLTAGE SWITCH
S _F	CEILING FAN/LIGHT CONTROL, DAN'S FAN CITY #423LW OR EQUAL WHITE COLOR
S _M	MOTOR RATED SNAP SWITCH, IHP MIN., 20A, 120/277V LEVITON I121-2 OR EQUAL
S _{MP}	MANUAL MOTOR STARTER WITH OVERLOAD HEATERS AND PILOT LIGHT
S _D	DIMMER SWITCH (500 WATTS UNLESS OTHERWISE INDICATED)
S _{TD}	SINGLE POLE SWITCH - TIME DELAY FOR EXHAUST FAN/LIGHTS
S _{DR}	DUPLEX RECEPTACLE, 5-20R UNLESS OTHERWISE NOTED
S _T	SINGLE 5-20R RECEPTACLE, T DENOTES TWIST-LOCK
S _{SP}	SURGE PROTECTION TYPE (TVSS) DUPLEX RECEPTACLE
S _{PM}	PEDESTAL MOUNTED RECEPTACLE
S _{FB}	FLOOR OUTLET BOX AND DUPLEX RECEPTACLE WITH APPROPRIATE FLANGE.
S _{FB}	FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE AND ONE COMBINATION W/ VOICE/DATA OUTLET
S _{FB}	FLOOR OUTLET BOX WITH TWO DUPLEX RECEPTACLES AND ONE COMBINATION W/ VOICE/DATA OUTLET
S _{PT}	POKE THRU
S _P	POWER POLE
S _S	SINGLE POLE SWITCH/RECEPTACLE COMBINATION
S _S	DUPLEX RECEPTACLE WITH EACH HALF ON SEPARATE CIRCUIT (BREAKER SHALL BE TWO POLE WITH COMMON TRIP)
S _S	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
S _S	DUPLEX TAMPER-RESISTANT RECEPTACLE, MOUNT COVER PLATE WITH SPANNER HEAD SCREWS
S _S	DUPLEX RECEPTACLE WITH TOP HALF SWITCHED
S _{EWC}	GFI RECEPTACLE (EWC DENOTES ELECTRIC WATER COOLER, COORDINATE WITH EWC INSTALLER FOR MOUNTING HEIGHT)
S _{WP}	GFI RECEPTACLE, WP DENOTES WEATHERPROOF COVER.
S _{WP}	GFI RECEPTACLE MOUNTED ABOVE COUNTER
S _{WP}	TWO DUPLEX RECEPTACLES WITH COMMON COVER
S _{WP}	TWO DUPLEX RECEPTACLES WITH COMMON COVER MOUNTED ABOVE COUNTER
S _{IG}	ISOLATED GROUND DUPLEX RECEPTACLE, (ORANGE DEVICE)
S _{IG}	DUPLEX RECEPTACLE
S _{IG}	NOTE: TICK MARKS SHOWN ON ANY DEVICE REPRESENTS RECEPTACLE CONNECTED TO THE EMERGENCY CIRCUIT (RED DEVICE) TYPICAL FOR ANY DEVICE IN LEGEND
S _{IG}	CLOCK RECEPTACLE
S _{IG}	SPECIAL PURPOSE RECEPTACLE, RATING AS NOTED
S _{IG}	LIGHTING CONTROL TIME CLOCK
S _{IG}	PHOTOCELL, MOUNTED ON ROOF FACING NORTH
S _{IG}	GROUND BAR
S _{IG}	PLUG-IN STRIP WITH RECEPTACLES, 18" O.C. UNLESS OTHERWISE INDICATED
S _{IG}	UNDER GROUND CONCRETE ENCASED DUCTBANK
S _{IG}	JUNCTION BOX
S _{IG}	JUNCTION BOX- WALL MOUNTED
S _{IG}	JUNCTION BOX- FURNITURE SYSTEM FEED
S _{IG}	CONDUIT SEAL-OFF FITTINGS
S _{IG}	SURGE PROTECTOR
S _{IG}	C ₃ = SERVICE ENTRANCE DEVICE, MAX 250KA PER PHASE B ₃ = DISTRIBUTION BOARD DEVICE, SEE RISER FOR RATING A ₃ = PANEL BOARD DEVICE, MAX 125KA PER PHASE
S _{IG}	SHUNT-TRIP BUTTON - FLUSH MOUNTED UNLESS OTHERWISE NOTED NEMA 3R FOR EXTERIOR LOCATIONS
S _{IG}	EDH-X ELECTRIC DUCT HEATER
S _{IG}	MOTOR CONNECTION.
S _{IG}	VFD VARIABLE FREQUENCY DRIVE
S _{IG}	HD ELECTRIC HAND DRYER
S _{IG}	DDX DIRECT DIGITAL CONTROL PANEL
S _{IG}	T TRANSFORMER
S _{IG}	GFCI DEAD FRONT/BLANK FACED, WHITE GFCI DEVICE, EATON # SFGD20 W. MOUNTED AT 48" AFF OR EQUAL

BASIC MATERIALS CONT.

SYMBOL	DESCRIPTION
AS	AUTOMATIC TRANSFER SWITCH
302J	NON-FUSED DISCONNECT SWITCH, AMP RATING / # OF POLES NEMA 1 IF INDOORS NEMA 3R IF OUTDOORS
30AR 20AF	FUSED DISCONNECT AR DENOTES AMP RATING OF SWITCH AF DENOTES AMP FUSE SIZE # DENOTES FUSE PER MANUFACTURER RECOMMENDATIONS
MCP SIZE	# OF POLES COMBINATION MAGNETIC MOTOR STARTER, SIZE & # OF POLES 3 POLE UNLESS OTHERWISE NOTED ENCLOSURE NEMA RATING. NEMA STARTER SIZE
	BRANCH CIRCUIT PANEL BOARD, UNDER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANEL BOARD, UNDER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT PANEL BOARD, OVER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANEL BOARD, OVER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT CONDUIT CONCEALED ABOVE CEILING OR IN WALL, CONDUIT SHALL INCLUDE PHASE, NEUTRAL AND GROUND CONDUCTORS AS REQUIRED FOR CIRCUITS (UNLESS OTHERWISE NOTED).
	BRANCH CIRCUIT CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDER FLOOR.
	BRANCH CIRCUIT CONDUIT EXPOSED
	GROUND OR GROUND ROD AS NOTED
	EMERGENCY BRANCH CONDUIT
UP	CONDUIT TURNING UP
DN	CONDUIT TURNING DOWN
	CONDUIT STUB
	CONDUIT CONTINUED
	FLEXIBLE CONDUIT
	EXISTING TO BE REMOVED
	EXISTING TO REMAIN
*	EXISTING AFFECTED BY THIS PROJECT
- - -	FUTURE
- - -	NEW

LIGHTING

FLUORESCENT STRIP FIXTURE	FLUORESCENT STRIP FIXTURE
FLUORESCENT FIXTURE	FLUORESCENT FIXTURE
LOWER CASE LETTER INDICATES CONTROL CIRCUIT SWITCH LEG	LOWER CASE LETTER INDICATES CONTROL CIRCUIT SWITCH LEG
FLUORESCENT FIXTURE	FLUORESCENT FIXTURE
DIAGONAL SHADING DENOTES EMERGENCY LIGHT FIXTURE.	DIAGONAL SHADING DENOTES EMERGENCY LIGHT FIXTURE.
FLUORESCENT WRAP AROUND OR SURFACE MOUNTED FIXTURE.	FLUORESCENT WRAP AROUND OR SURFACE MOUNTED FIXTURE.
FLUORESCENT WALL MOUNTED FIXTURE WITH WALL OUTLET BOX	FLUORESCENT WALL MOUNTED FIXTURE WITH WALL OUTLET BOX
HID, INCANDESCENT OR FLUORESCENT WALL MOUNTED FIXTURE	HID, INCANDESCENT OR FLUORESCENT WALL MOUNTED FIXTURE
HID, FLUORESCENT, OR INCANDESCENT FIXTURE	HID, FLUORESCENT, OR INCANDESCENT FIXTURE
FLUORESCENT, OR INCANDESCENT WALL WASHER.	FLUORESCENT, OR INCANDESCENT WALL WASHER.
ACCENT FLOOD LIGHTING - AIMING AS INDICATED	ACCENT FLOOD LIGHTING - AIMING AS INDICATED
EXIT LIGHT FIXTURE	EXIT LIGHT FIXTURE
DIRECTION ARROWS AS SHOWN (SHADED QUADRANT INDICATES FACE(S) OF FIXTURE)	DIRECTION ARROWS AS SHOWN (SHADED QUADRANT INDICATES FACE(S) OF FIXTURE)
WALL MOUNTED EXIT LIGHT FIXTURE	WALL MOUNTED EXIT LIGHT FIXTURE
COMBINATION EXIT/EMERGENCY LIGHT FIXTURE	COMBINATION EXIT/EMERGENCY LIGHT FIXTURE
EXTERIOR LIGHT FIXTURE WITH ARMS AS SHOWN ON DRAWINGS	EXTERIOR LIGHT FIXTURE WITH ARMS AS SHOWN ON DRAWINGS
ELECTRICAL PULL BOX	ELECTRICAL PULL BOX
TRACK WITH TRACK LIGHT FIXTURE (TRIANGLES INDICATE QUANTITY OF LIGHT FIXTURES)	TRACK WITH TRACK LIGHT FIXTURE (TRIANGLES INDICATE QUANTITY OF LIGHT FIXTURES)
BATTERY PACK WITH TWIN HEADS (CEILING MOUNT)	BATTERY PACK WITH TWIN HEADS (CEILING MOUNT)
BATTERY PACK WITH TWIN HEADS (WALL MOUNT)	BATTERY PACK WITH TWIN HEADS (WALL MOUNT)

MOTION/OCCUPANCY SENSOR SYSTEM

LCP	LIGHTING CONTROL PANEL
P	PASSIVE INFRARED OCCUPANCY SENSOR C = CEILING MOUNT W = WALL MOUNT
U	ULTRASONIC OCCUPANCY SENSOR C = CEILING MOUNT W = WALL MOUNT
D	PASSIVE INFRARED / ULTRASONIC OCCUPANCY SENSOR C = CEILING MOUNT W = WALL MOUNT
SMS	SINGLE POLE SWITCH - PASSIVE INFRARED OCCUPANCY SENSOR HUBBELL LHMTSGWH
PS	OCCUPANCY SENSOR POWER SUPPLY

FIRE ALARM/DETECTION SYSTEM

SYMBOL	DESCRIPTION
F	MANUAL PULL STATION
☒	CEILING SMOKE DETECTOR, PHOTOELECTRIC TYPE UNLESS OTHERWISE NOTED
☒	DUCT SMOKE DETECTOR R = RETURN S = SUPPLY
R	SUPERVISED CONTROL RELAY
R	DUCT SMOKE REMOTE ALARM INDICATING LAMP, W/ TEST SWITCH, WALL MOUNTED 72" AFF
R	REMOTE INDICATING LAMP FIRE ALARM WITH TEST SWITCH WALL MOUNTED 72" AFF, SIMPLEX 4098-9842 OR EQUAL
FACD	COMBINATION AUDIBLE/VISUAL NOTIFICATION DEVICE CD = CANDELA RATING, MINIMUM 75 CD PER FBC II-4.28.3(4)
XXCD	
S	FIRE ALARM SPEAKER - CEILING MOUNTED
SS	WALL MOUNTED SPEAKER WITH STROBE CD = CANDELA RATING
SS	FIRE ALARM SPEAKER - WALL MOUNTED
F	FIRE ALARM SPEAKER WITH STROBE - CEILING MOUNTED CD = CANDELA RATING
F	VISUAL SIGNALING UNIT, WALL MOUNTED (NO AUDIO DEVICE)
F	FIREMAN'S PHONE JACK
TS	SPRINKLER TAMPER SWITCH CONNECTION
TS	SPRINKLER WATER FLOW SWITCH CONNECTION
F	FIRE ALARM SYSTEM PRINTER
ZM	ZONE ADDRESSABLE MODULE
H	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE
H	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE CONNECTION TO CLOSURE/ HOLDER
H	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE CONNECTION TO CLOSURE/ HOLDER INCLUDES DETECTOR
H	CEILING HEAT DETECTOR I35 F UNLESS OTHERWISE INDICATED.
T	BEAM DETECTOR - TRANSMITTER
R	BEAM DETECTOR - RECEIVER
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FAAP	FIRE ALARM ANNUNCIATOR PANEL - FLUSH MOUNTED
F	FIRE ALARM SYSTEM CONDUIT AND WIRING
E	FIREMAN'S ELEVATOR WARNING LIGHT

PAGING SYSTEM & BACKGROUND MUSIC

S	LOUDSPEAKER/ TRANSFORMER/ BAFFLE/ SUPPORT TRUSS, (CEILING MOUNTED) W = WALL MOUNTED
S	LOUDSPEAKER/ TRANSFORMER/ BAFFLE/ ENCLOSURE FOR EXPOSED CEILING AREAS W = WALL MOUNTED
S4	HORN/TRANSFORMER FOR HIGH NOISE AREAS
PAEC	PAGING SYSTEM EQUIPMENT CABINET
PATC	PAGING SYSTEM TERMINAL CABINET
DR	DOCTORS REGISTRY SYSTEM CONDUIT AND WIRING
V	VOLUME CONTROL

TELEPHONE/DATA SYSTEM

SYMBOL	DESCRIPTION
M ▲	PHONE/DATA OUTLETS MOUNTED AT RECEPTACLE HEIGHT UNLESS OTHERWISE NOTED. C = ABOVE THE COUNTER M = NUMBER OF DATA PORTS, DEFAULT = 1 N = NUMBER OF PHONE PORTS, DEFAULT = 1
M ▲	DATA OUTLET, 8P8C
△ N	PHONE OUTLET, RJ II
M ▲ N	COMBINED DATA/PHONE OUTLET, 8P8C/RJII
☒	TELEPHONE OUTLET FLOOR MOUNTED
TTB	TELEPHONE/COMPUTER TERMINAL BOARD
TTT	TELEPHONE TERMINAL CABINET
T	TELEPHONE SYSTEM RACEWAY

TELEVISION RACEWAY SYSTEM

TV	TELEVISION OUTLET FOR ANTENNA
TV	TELEVISION SIGNAL WALL OUTLET
TV	TV DISTRIBUTION SYSTEM RACEWAY
M	MAGNETIC LOCK
PTZ	PAN/ TILT/ ZOOM CCTV CAMERA W/ CONDUIT TO VIDEO JUNCTION BOX - MOUNTED MIN 15' AFF OR • CEILING

SYNCHRONOUS MASTER CLOCK SYSTEM

SC	SYNCHRONOUS SYSTEM CLOCK
FATC	MASTER CLOCK CONTROL PANEL
CL	MASTER CLOCK SYSTEM CONDUIT AND WIRING

DOORBELL SYSTEM

DB	DOOR PUSH-BUTTON STATION WP = WEATHERPROOF
DB	DOORBELL CHIME (SELF CONTAINED)
DB	DOORBELL SYSTEM CONDUIT AND WIRING

DOOR CONTROL SYSTEM

U	MOTION DETECTOR 360
K	CARD READER
K	DIGITAL KEYPAD
B	BALANCED MAGNETIC DOOR CONTACT

INTERCOM SYSTEM

M	MASTER STATION C = COUNTER D = DESK W = WALL MOUNTED H = HAND SET TYPE HF = HANDS FREE WP = WEATHER PROOF
M	INTERCOM SYSTEM SPEAKER W = WALL MOUNTED
IEC	INTERCOM EQUIPMENT CABINET
ICTC	INTERCOM TERMINAL CABINET
IC	INTERCOM SYSTEM CONDUIT AND WIRING
SSEC	SOUND SYSTEM EQUIPMENT CABINET
SSTC	SOUND SYSTEM TERMINAL CABINET
S	SOUND SYSTEM CONDUIT AND WIRING

- THE TOTAL ELECTRICAL INSTALLATION MUST MEET THE REQUIREMENTS OF THE 2014 EDITION OF NFPA 70, THE NATIONAL ELECTRICAL CODE, THE 2013 EDITION OF NFPA 72, THE NATIONAL FIRE ALARM AND SIGNALING CODE (EXCEPT AUDIBLE NOTIFICATION SHALL NOT EXCEED 100dB), THE 2017 FLORIDA BUILDING CODE, AND THE 2017 FLORIDA FIRE PREVENTION CODE.
- ALL ELECTRICAL PLAN SHEETS, E.G. "E-1", "E-2", ETC., THE TERM "CONTRACTOR" SHALL MEAN "ELECTRICAL CONTRACTOR", SOMETIMES ALSO ABBREVIATED AS "E.C."
- MATERIALS AND EQUIPMENT INSTALLED SHALL BE ENTIRELY NEW, UNLESS OTHERWISE NOTED, AND SHALL MEET U.L. REQUIREMENTS.
- EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.
- CONTRACTOR TO REMOVE AND INSTALL ELECTRICAL EQUIPMENT AND DEVICES IN ACCORDANCE WITH THESE PLANS, FROM THE EXISTING PANELS "P" AND "L" TO AND THROUGH A NEW BRANCH-CIRCUIT PANEL TO AND INCLUDING ALL OUTLETS, DEVICES AND EQUIPMENT FURNISHED BY OTHERS AS MAY BE REQUIRED. THE CONTRACTOR SHALL NOTE THAT BOTH 277/480V AND 120/208V SYSTEMS ARE PRESENT.
- PANEL "P" SHALL BE MARKED WITH THE MAXIMUM AVAILABLE FAULT CURRENT PER NEC I10.24 AND THE DATE OF THE MARKING. SEE RISER DIAGRAM SHEET OR PANEL SCHEDULE SHEET FOR FAULT CURRENT CALCULATIONS.
- CONTRACTOR TO COMPLETE ALL WORK INCIDENTAL TO MECHANICAL TRADES FOR A COMPLETE INSTALLATION, INCLUDING CONTROL WIRING, MOTOR STARTERS, DISCONNECT SWITCHES AND EQUIPMENT GROUNDS.
- CONTRACTOR TO MAKE NECESSARY PROVISIONS FOR THE INSTALLATION OF TELEPHONE, DATA, AND FIRE ALARM SYSTEMS INCLUDING RACEWAYS, CABINETS, PULL BOXES AND OUTLETS. SEE SHOP DRAWINGS FOR EACH SYSTEM FOR ADDITIONAL DETAILS AND INSTRUCTIONS. ALL FIRE ALARM SYSTEM SHALL BE THE BASIS OF DESIGN. CONTRACTOR TO OBTAIN DISTRICT'S STANDARD "SECTION 28311 DIGITAL ADDRESSABLE FIRE ALARM SYSTEM" SPECIFICATION.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL FIXTURES COMPLETE AS LISTED IN THE "LIGHTING FIXTURE SCHEDULE".
- PANELBOARDS, SWITCHBOARDS AND DISCONNECT SWITCHES SHALL HAVE COPPER OR COPPER (NOMINAL 15% BY VOLUME) CLAD ALUMINUM BUS.
- ALL PANELS, DISCONNECTS, TIME DEVICES, AND CONTACTORS SHALL BE LABELED WITH A PERMANENT ENGRAVED LABEL. IDENTIFICATION ON THE LABEL MUST CONFORM TO THESE ELECTRICAL DRAWINGS.
- TYPEWRITTEN CIRCUIT IDENTIFICATION SHALL BE INSTALLED AND UPDATED IN ALL PANELBOARDS, EACH BREAKER HAVING A DISTINCTIVE DESCRIPTION COMPLYING WITH NEC 408.4. THE FIRE ALARM CONTROL PANEL BREAKER AND ITS DESCRIPTION SHALL HAVE A CLEARLY VISIBLE RED MARKING.
- CONDUIT FOR UNDERGROUND SHALL BE SCHEDULE 40 PVC OR MC CABLE LISTED FOR UNDERGROUND USE UNLESS OTHERWISE SHOWN AND/OR REQUIRED BY CODE.
- CONDUIT FOR ABOVE GRADE SHALL BE "GRC", "IMC" OR "EMT". "LFNC" SHALL BE USED FOR CONNECTIONS TO AIR HANDLING UNITS, CONDENSING UNITS, WATER HEATERS AND OTHER EQUIPMENT. MC CABLE MAY BE USED FROM "J-BOXES" IN CEILING TO SWITCHES, RECEPTACLES AND BETWEEN DEVICES. SPARE CONDUITS SHALL HAVE A PULL WIRE INSTALLED.
- CONDUCTORS SHALL BE THHN/THWN EXCEPT WHERE SPECIFIED OTHERWISE IN THE DRAWINGS. CONDUCTORS NO. 8 AWG AND LARGER SHALL BE JOINED BY AN APPROVED PRESSURE CONNECTOR. CONNECTION TO GROUND CONDUCTORS NO. 1/0 AWG AND LARGER SHALL BE CAST BY FUSIBLE METAL PROCESS. ALL CONDUCTORS MUST BE INSTALLED IN CONDUIT, MC CABLE, OR LFNC. CONDUCTORS IN PANELS SHALL HAVE THEIR FACTORY LABELS VISIBLE TO A PERSON IN THE WORKING SPACE.
- CONDUCTORS OF MULTIWIRE CIRCUITS SHALL BE GROUPED IN AT LEAST ONE LOCATION WITHIN THE PANEL BOARD OR OTHER POINT OF ORIGIN BY WIRE TIES OR SIMILAR MEANS. MULTIWIRE CIRCUIT DISCONNECTS SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES.
- NO CONDUCTORS SMALLER THAN 12 AWG SHALL BE USED FOR POWER AND LIGHTING. ALL CONDUCTORS SHALL BE COPPER, UNLESS NOTED OTHERWISE.
- COLOR CODE FOR 208Y/120V 3Φ SYSTEM SHALL BE BLACK, RED, BLUE, WHITE, & GREEN. COLOR CODE FOR 480Y/277V 3Φ SYSTEM SHALL BE BLACK, RED, BLUE, ORANGE, YELLOW, GRAY & GREEN.
- CONTRACTOR SHALL VERIFY WITH ARCHITECT FOR DETAILED DIMENSIONS AND LOCATIONS OF OUTLETS AND EQUIPMENT AND FOR ANY REVISIONS IN LAYOUT.
- MOUNT WALL SWITCHES 44" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED ON DRAWING. GANG SWITCHES WHEREVER POSSIBLE.
- SWITCHES SHALL BE ROCKER TYPE, 120/277 VOLT, 20A, COMMERCIAL SPECIFICATION GRADE, UNLESS OTHERWISE NOTED. SWITCHES SHALL BE MOUNTED SUCH THAT THE SWITCHES CONTROLLING LINE-TO-NEUTRAL LIGHTING LOADS SHALL COMPLY WITH NEC 404.2(C).
- RECEPTACLES SHALL BE LOCATED 15" ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED. ABOVE-COUNTER RECEPTACLES SHALL BE MOUNTED 6" ABOVE BACK SPLASH TO CENTERLINE OF DEVICE.
- COVER PLATES SHALL BE WHITE PLASTIC, UNLESS OTHERWISE NOTED.
- RECEPTACLES WITH PLASTIC COVER PLATES SHALL BE MOUNTED SUCH THAT THE GROUND PIN IS MOUNTED DOWN, UNLESS OTHERWISE NOTED. RECEPTACLES WITH METAL COVER PLATES SHALL BE MOUNTED SUCH THAT THE GROUND PIN IS MOUNTED UP, UNLESS OTHERWISE NOTED.
- ALL NEW 125V RECEPTACLES SHALL BE NEMA 5-20R AND SHALL BE UL LISTED TAMPER-RESISTANT TYPE WHERE REQUIRED BY THE NEC. COLOR SHALL BE WHITE. OUTDOOR RECEPTACLES SHALL BE WEATHER RESISTANT.
- ALL DEVICES SHALL BE MOUNTED VERTICAL UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL CONNECT AIR CONDITIONERS, PUMPS, FANS AND OTHER EQUIPMENT.
- AIR CONDITIONER BREAKER SHALL BE MARKED "LISTED HACR TYPE" AS REQUIRED BY NEC I10.3(B). IF BREAKER IS NOT MARKED, THE OUTSIDE DISCONNECT SHALL BE CHANGED TO A FUSED DISCONNECT WITH RATING AS NOTED ON A/C EQUIPMENT.
- CONTRACTOR SHALL MAKE TESTS AND ADJUSTMENTS AS REQUIRED, UPON COMPLETION OF THE WORK AND BEFORE FINAL ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM IN THE PRESENCE OF THE ENGINEER/ARCHITECT FOR CONTINUITY, FUNCTION, CONTROL, PERFORMANCE, LOAD BALANCE, GROUNDS AND GROUND RESISTANCE, SHORT CIRCUITS, AND TO INSURE SATISFACTORY OPERATION AND CONFORMANCE TO CONTRACT REQUIREMENTS.
- EQUIPMENT, LABOR AND MATERIAL REQUIRED FOR TESTING SHALL BE FURNISHED BY THE CONTRACTOR(S) AS PART OF THIS CONTRACT.
- PRIOR TO COMPLETION OF THE WORK, THE CONTRACTOR SHALL MARK THE SERVICE EQUIPMENT WITH THE AVAILABLE FAULT CURRENT PER NEC I10.24, USING THE FAULT CIRCUIT CURRENT CALCULATION FROM THESE PLANS.
- AFTER COMPLETION OF THE WORK, THE CONTRACTOR SHALL SECURE CERTIFICATES OF FINAL INSPECTION AND APPROVAL FROM AUTHORITIES HAVING JURISDICTION (AHJ).
- WITHIN 30 DAYS OF ELECTRICAL SYSTEM ACCEPTANCE BY THE AHJ, THE CONTRACTOR SHALL PROVIDE THE BUILDING OWNER WITH RECORD DRAWINGS OF THE ACTUAL INSTALLATION. THE RECORD DRAWINGS SHALL INCLUDE A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION. IF PROVIDED WITH COMPLETE FIELD MARKUPS ON THESE PLAN SHEETS, THE ENGINEER SHALL MODIFY THESE PLAN SHEETS INTO SAID RECORD DRAWINGS AND PROVIDE A COPY TO THE OWNER AND TO THE CONTRACTOR AND RETURN THE ORIGINAL FIELD MARKUP TO THE CONTRACTOR.
- WITHIN 30 DAYS OF ELECTRICAL SYSTEM ACCEPTANCE BY THE AHJ, THE CONTRACTOR SHALL PROVIDE THE BUILDING OWNER AN OPERATING AND MAINTENANCE MANUAL FOR ALL ELECTRICAL SYSTEMS INSTALLED IN ACCORDANCE WITH THESE PLANS THAT REQUIRE MAINTENANCE. AT A MINIMUM, THE MANUAL SHALL INCLUDE:
 - EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.
 - OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.

NOTE:
TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THESE PLANS AND SPECIFICATIONS COMPLY WITH THE 2017 FLORIDA BUILDING CODE AND THE 2017 FLORIDA FIRE PREVENTION CODE.

NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.

- WORKMANSHIP, MATERIALS AND APPARATUS UNDER THIS CONTRACT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.
- GREATER THAN BOX NONLINEAR LOADS: SHARED NEUTRALS AND GROUNDS ARE NOT PERMITTED FOR SINGLE PHASE CIRCUITS.
- WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH NEC I10, AND WITH NEC 210.8 FOR GFCI DEVICES.
- THE EXCLUSIVELY-DEDICATED SPACE EXTENDING FROM FLOOR TO STRUCTURAL CEILING WITH A WIDTH AND DEPTH OF THE PANEL BOARD OR SWITCHBOARD MUST BE CLEAR OF ALL PIPING, DUCTS OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES IN ACCORDANCE WITH NEC 408.
- WHEN ELECTRICAL BOXES ARE LOCATED IN VERTICAL FIRE-RESISTIVE ASSEMBLIES, (CLASSIFIED AS FIRE/SMOKE AND SMOKE PARTITIONS), THEY SHALL BE INSTALLED WITHOUT AFFECTING THE FIRE CLASSIFICATION. ALL OF THE FOLLOWING CONDITIONS SHALL BE MET PER FBC 302:
 - ALL ELECTRICAL BOXES SHALL BE METALLIC.
- BOX OPENING SHALL OCCUR ONLY ON ONE SIDE OF FRAMING SPACE.
- BOX OPENING SHALL NOT EXCEED 16 SQUARE INCHES.
- THE OPENING IN THE GYPSUM BOARD SHALL BE CUT NOT TO EXCEED 1/8" INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.
- ALL CLEARANCES BETWEEN OUTLET BOX AND GYPSUM BOARD SHALL BE COMPLETELY FILLED WITH JOINT COMPOUND (OR OTHER APPROVED MATERIAL).
- PROVIDE A WALL AROUND OUTLETS LARGER THAN 16 SQUARE INCHES. THE INTEGRITY OF THE WALL RATING SHALL BE MAINTAINED.
- THE TOTAL AGGREGATE SURFACE AREA OF THE BOXES SHALL NOT EXCEED 100 SQUARE INCHES PER 100 SQUARE FEET OF WALL AREA.
- OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE-RESISTIVE ASSEMBLIES SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES.
- OUTLET BOXES SHALL BE SECURELY FASTENED TO WALL FRAMING MEMBERS.

NO.	DATE	REVISIONS	TEC/TCT	CK	APP
	08-13-19				

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CLIENT: EBB ARCHITECTS
66 ROYAL PALM POINTE, SUITE D
300 BEACH, FLORIDA
33990

PROJECT NAME: SRIS LOCKER ROOM REMODEL

PROJECT LOCATION: SEBASTIAN RIVER HIGH SCHOOL
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ENGINEER SEAL

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THESE DOCUMENTS, ALONG WITH THE CONCEPTS AND/OR DESIGN PROVIDED HEREIN, ARE HEREBY OFFERED TO THE PROJECT OWNER AND CLIENT BY FORT PIERCE ENGINEERING, INC. FOR ACHIEVING THE BEST POSSIBLE DESIGN OF THE PROJECT. THESE DOCUMENTS, ALONG WITH THE CONCEPTS AND/OR DESIGN PROVIDED HEREIN, ARE HEREBY OFFERED TO THE PROJECT OWNER AND CLIENT BY FORT PIERCE ENGINEERING, INC. FOR ACHIEVING THE BEST POSSIBLE DESIGN OF THE PROJECT.

SHEET TITLE
ELECTRICAL SYMBOL LEGEND, GENERAL NOTES & ABBREVIATIONS

ISSUE DATE: 08-22-2018

DRAWN: TEC

APPROVED: TCT

DRAWING NUMBER
E-1

SHEET 1 OF 5
16003-01

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT.

GENERAL DRAWING NOTE:

THE CONTRACTOR SHALL VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE SUBMITTING PROPOSAL SO AS TO BECOME FAMILIAR WITH EXISTING WORK. SUBMISSION OF 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. IT IS TO BE UNDERSTOOD THAT UNFORESEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON THESE DRAWINGS.

COOPERATION WITH OTHER TRADES IN EQUIPMENT ROUTING AS DETERMINED DURING CONSTRUCTION AND AS DIRECTED BY THE ARCHITECT/ENGINEER MAY BE NECESSARY AND IT IS INTENDED THAT SUCH DEVIATIONS SHALL BE CONSIDERED AS PART OF THIS CONTRACT.

THIS CONTRACTOR IS TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND INCLUDE ANY DEVIATIONS IN THE CONTRACT.

ELECTRICAL DEMOLITION LEGEND	
SYMBOL	DESCRIPTION
<E>	EXISTING TO REMAIN.
<ER>	EXISTING TO BE RELOCATED.
<R>	REMOVE AND TURN OVER TO OWNER.
<ERP>	EXISTING TO BE REPLACED.
<ERC>	EXISTING TO BE RECIRCUITED.
<RE>	RELOCATED, EXISTING

GENERAL NOTE:

1. THESE DRAWINGS HAVE BEEN CREATED FROM PREVIOUS CONTRACT DOCUMENTS. WHILE ACTUAL CONDITIONS HAVE BEEN INVESTIGATED TO THE BEST OF THE ENGINEER'S ABILITY, THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDITIONS DURING THE COURSE OF WORK AND COORDINATE ANY DISCREPANCIES WITH THE ENGINEER.

ELECTRICAL DEMOLITION KEY NOTES:

- REMOVE ALL EXISTING ROUGHED IN ELECTRICAL ITEMS THAT ARE WITHIN THE DASHED LINE ENCLOSED AREA, INCLUDING LIGHTING, POWER AND SYSTEM DEVICES, EXCEPT WHERE NOTED WITH THE SYMBOL <E>, <ER>, <RE>, <ERC>, OR <ERP>. ANY WIRING AND CONDUIT CAN BE REUSED AT THE CONTRACTOR'S DISCRETION. CONTRACTOR SHALL ALSO REMOVE ANY OTHER ELECTRICAL EQUIPMENT THAT MAY NOT BE SHOWN, BUT IS PART OF THE DEMOLITION SHOWN BY ATTACHED NOTES. CONTRACTOR SHALL COORDINATE WITH THE ARCHITECTURAL DEMOLITION PLANS AND ALSO FIELD VERIFY, PRIOR TO ANY REMOVAL.
- ALL REMOVED EQUIPMENT SHALL BE DISPOSED OF BY THE CONTRACTOR UNLESS DIRECTED TO DO OTHERWISE BY THE OWNER. ALL DISPOSAL OF MATERIAL TO CONFORM TO EPA REGULATIONS.
- ALL EXISTING FLOOR BOXES (IF ANY) AND CONDUIT FOR POWER/TELEPHONE/DATA THAT ARE BEING REMOVED, SHALL BE ABANDONED IN PLACE. WIRE SHALL BE REMOVED AND PULL STRINGS INSTALLED WITH TAG, UNLESS NOTED "EXISTING TO REMAIN".
- ELECTRICAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE REPLACEMENT OF ANY DAMAGED EQUIPMENT AND OR MATERIALS NOT BEING REMOVED IN THIS DEMOLITION.
- HVAC CONDENSER UNITS, AND AHU UNITS ARE TO BE REMOVED. THE EXISTING DISCONNECTS AND BRANCH CIRCUIT WIRING TO BE REMOVED TO POINT OF ORIGIN. EXISTING CIRCUIT BREAKER TO BE MARKED AS SPARE.
- EXHAUST FAN TO BE REMOVED. EXISTING BRANCH CIRCUIT WIRING TO BE REMOVED TO POINT OF ORIGIN.
- WATER HEATER TO BE REMOVED. DISCONNECT AND REMOVE CONDUIT AND WIRING TO POINT OF ORIGIN.
- EXISTING FIRE ALARM SYSTEM CONTROL PANELS TO BE REMOVED AND TURNED OVER TO THE OWNER.

GENERAL DEMOLITION NOTES:

COORDINATE SEQUENCING WITH OWNER AND OTHER CONTRACTORS.

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN THE INTEGRITY OF THE REMAINING DEVICES AND EQUIPMENT.

ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE THE SITE PRIOR TO CONSTRUCTION TO ASCERTAIN THE EXISTING CONDITIONS AND LIMITS OF DEMOLITION AND CONSTRUCTION.

DISCONNECT, REMOVE OR RELOCATE ALL EXISTING ELECTRICAL MATERIAL AND EQUIPMENT THAT INTERFERES WITH NEW INSTALLATION. THIS INCLUDES BUT IS NOT LIMITED TO PANELS, LIGHTING FIXTURES, WIRING DEVICES, SIGNAL EQUIPMENT, EXHAUST FANS, BASEBOARD HEATERS, UNIT HEATERS, ETC.

SEE MECHANICAL DRAWINGS FOR HEATERS, EXHAUST FANS, ETC. WHICH MUST BE DISCONNECTED BY THIS CONTRACTOR FOR REMOVAL OR ABANDONMENT BY MECHANICAL CONTRACTOR.

ALL REMOVED EQUIPMENT SHALL BE DISPOSED OF BY THIS CONTRACTOR UNLESS DIRECTED TO DO OTHERWISE BY THE OWNER.

WHERE WORK BY GENERAL CONTRACTOR (WALL REMOVAL, NEW OR RELOCATED WALL OPENINGS, ETC.) RESULTS IN THE REMOVAL, RELOCATION OR REFEEDING OF ELECTRICAL DEVICES OR LIGHTING FIXTURES, THE ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT ALL ACTIVE DEVICES REMAINING. ANY SUCH CONNECTIONS SHALL BE CONCEALED UNLESS LOCATED IN UNFINISHED AREAS.

ANY EXISTING PANEL HOME RUNS, WHICH WILL REMAIN WITHIN THE AREA, MAY BE RETAINED AND USED AS PART OF THE NEW CIRCUITRY OR REMAIN AS SPARE EMPTY CONDUIT. SUCH EMPTY CONDUIT(S) SHALL BE MARKED AS TO PANEL AND END LOCATIONS. EXISTING OUTLET BOXES AND CONDUIT WHICH ARE LOCATED PROPERLY FOR NEW WORK MAY BE REUSED FOR NEW DEVICES AND WIRE.

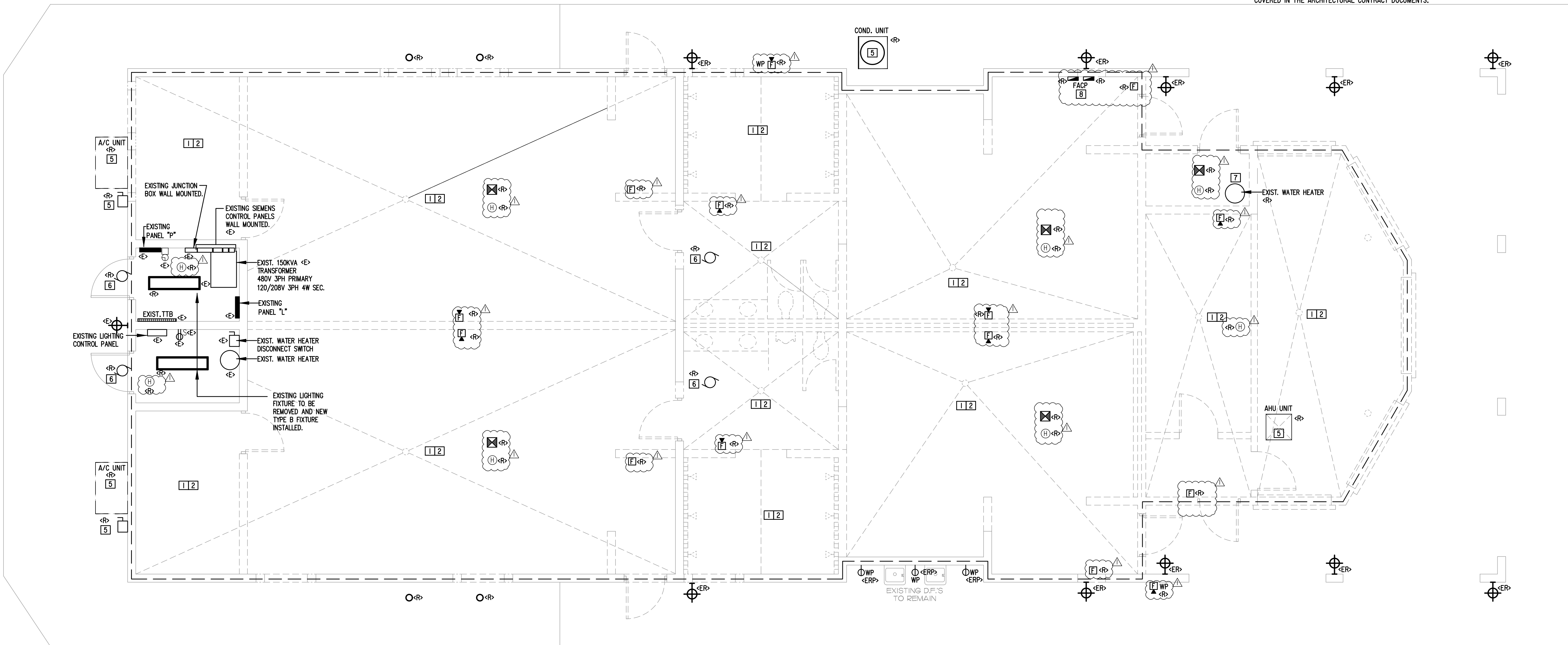
WHERE CONDUIT TO BE REMOVED STUBS THROUGH FLOORS, WALLS AND CEILINGS, SUCH CONDUIT SHALL BE REMOVED TO THE POINT WHERE THE FINISHED SURFACES CAN BE PATCHED ADEQUATELY SO THAT NO EVIDENCE OF THE FORMER INSTALLATION REMAINS.

ALL CONDUIT AND WIRE REMOVED SHALL BE REMOVED TO THE SOURCE OF SUPPLY.

ALL CUTTING, CORING AND PATCHING REQUIRED FOR ELECTRICAL WORK SHALL BE BY THE ELECTRICAL CONTRACTOR.

INSTALL A BLANK COVER PLATE WHERE REQUIRED.

* ANY ELECTRICAL ITEMS AND OR ELECTRICAL WORK THAT IS NOT COVERED UNDER "GENERAL DEMOLITION NOTES" SHALL FALL UNDER THE "OVERALL GENERAL DEMOLITION SPECIFICATIONS" COVERED IN THE ARCHITECTURAL CONTRACT DOCUMENTS.



ELECTRICAL DEMO PLAN SCALE 1/4" = 1'-0"

REVISIONS	DATE	NO.	DESCRIPTION
	09-13-18	1	

Fort Pierce Engineering, Inc.
 Dependable Mechanical, Electrical & Plumbing Design
 C.A. No. 28175



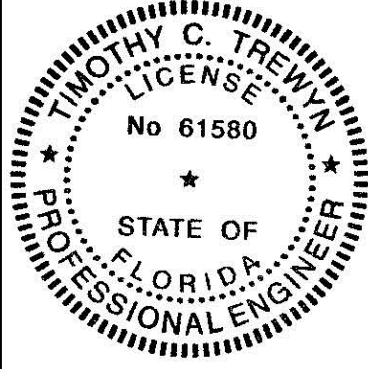
315 South 7th Street
 Fort Pierce, FL 34950
 Phone: 772-672-4636
 Fax: 772-672-4637

PROJECT NAME:
 SRHS LOCKER ROOM REMODEL

CLIENT:
 EBR ARCHITECTS
 65 ROYAL PALM POINTE, SUITE D
 SEASIDE BEACH, FLORIDA
 32960

PROJECT LOCATION:
 SEBASTIAN RIVER HIGH SCHOOL
 1500 SEBASTIAN, FL 32958

ENGINEER SEAL



Timothy C. Trewn, PE
 P.E. No. 61580

SHEET TITLE
ELECTRICAL POWER/LIGHTING SYSTEMS DEMO PLAN

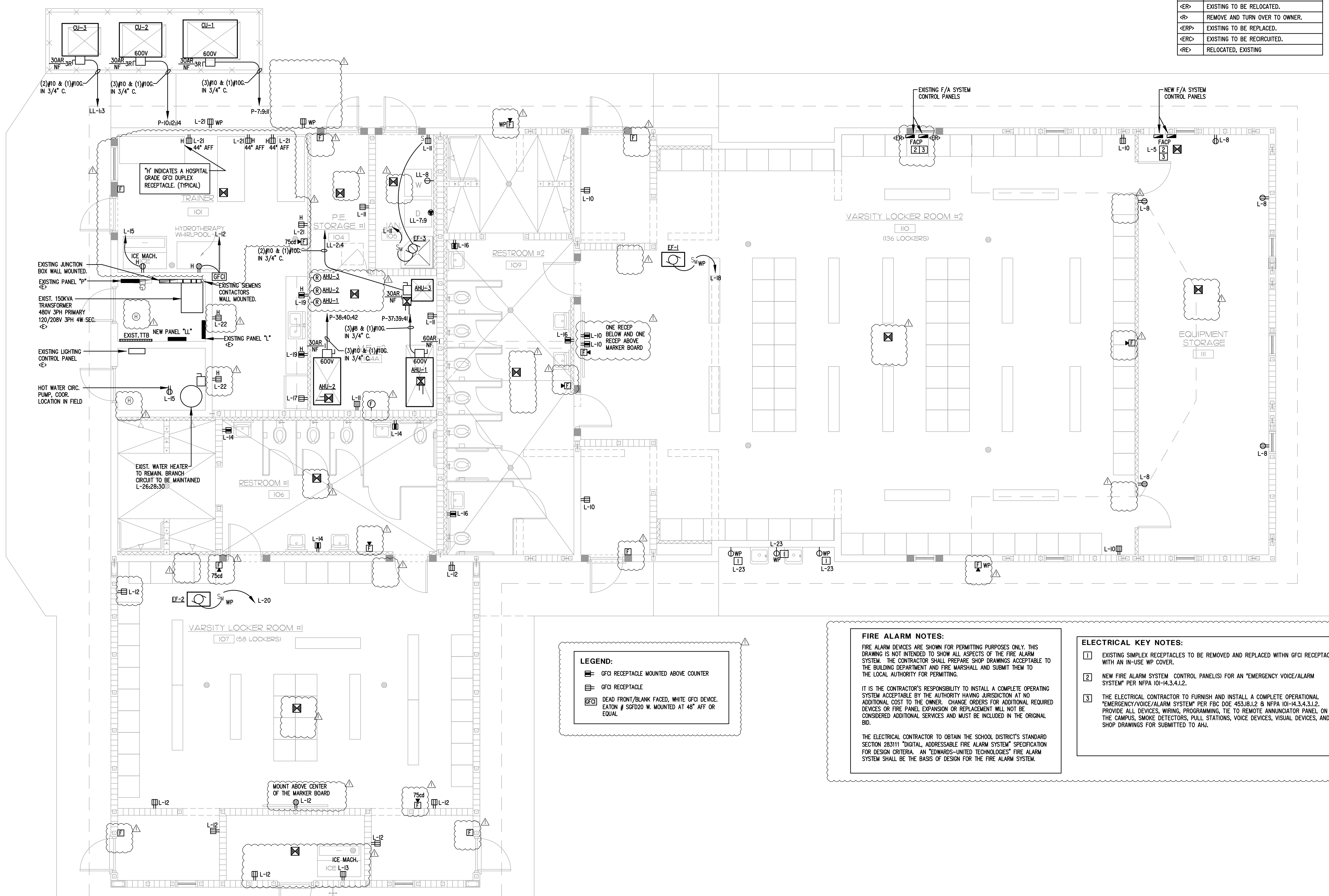
ISSUE DATE: 08-22-2018

DRAWN: TEC
APPROVED: TCT

DRAWING NUMBER
E-2.1

SHEET 2 OF 5
16003-01

ELECTRICAL DEMOLITION LEGEND	
SYMBOL	DESCRIPTION
<E>	EXISTING TO REMAIN.
<ER>	EXISTING TO BE RELOCATED.
<R>	REMOVE AND TURN OVER TO OWNER.
<ERP>	EXISTING TO BE REPLACED.
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<RE>	RELOCATED, EXISTING



LEGEND:

- GFCI RECEPTACLE MOUNTED ABOVE COUNTER
- GFCI RECEPTACLE
- DEAD FRONT/BLANK FACED, WHITE GFCI DEVICE. EATON # SGFD20 W. MOUNTED AT 48" AFF OR EQUAL.

FIRE ALARM NOTES:

FIRE ALARM DEVICES ARE SHOWN FOR PERMITTING PURPOSES ONLY. THIS DRAWING IS NOT INTENDED TO SHOW ALL ASPECTS OF THE FIRE ALARM SYSTEM. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS ACCEPTABLE TO THE BUILDING DEPARTMENT AND FIRE MARSHALL AND SUBMIT THEM TO THE LOCAL AUTHORITY FOR PERMITTING.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A COMPLETE OPERATING SYSTEM ACCEPTABLE BY THE AUTHORITY HAVING JURISDICTION AT NO ADDITIONAL COST TO THE OWNER. CHANGE ORDERS FOR ADDITIONAL REQUIRED DEVICES OR FIRE PANEL EXPANSION OR REPLACEMENT WILL NOT BE CONSIDERED ADDITIONAL SERVICES AND MUST BE INCLUDED IN THE ORIGINAL BID.

THE ELECTRICAL CONTRACTOR TO OBTAIN THE SCHOOL DISTRICT'S STANDARD SECTION 283111 "DIGITAL, ADDRESSABLE FIRE ALARM SYSTEM" SPECIFICATION FOR DESIGN CRITERIA. AN "EDWARDS-UNITED TECHNOLOGIES" FIRE ALARM SYSTEM SHALL BE THE BASIS OF DESIGN FOR THE FIRE ALARM SYSTEM.

ELECTRICAL KEY NOTES:

- 1 EXISTING SIMPLEX RECEPTACLES TO BE REMOVED AND REPLACED WITHIN GFCI RECEPTACLE WITH AN IN-USE WP COVER.
- 2 NEW FIRE ALARM SYSTEM CONTROL PANEL(S) FOR AN "EMERGENCY VOICE/ALARM SYSTEM" PER NFPA 101-4.3.4.1.2.
- 3 THE ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A COMPLETE OPERATIONAL "EMERGENCY VOICE/ALARM SYSTEM" PER FBC DOE 453J8.1.2 & NFPA 101-4.3.4.1.2. PROVIDE ALL DEVICES, WIRING, PROGRAMMING, TIE TO REMOTE ANNUNCIATOR PANEL ON THE CAMPUS, SMOKE DETECTORS, PULL STATIONS, VOICE DEVICES, VISUAL DEVICES, AND SHOP DRAWINGS FOR SUBMITTED TO AHJ.

POWER SYSTEMS PLAN

SCALE 1/4" = 1'-0"

NO.	DATE	REVISIONS

Fort Pierce Engineering, Inc.
 Dependable Mechanical, Electrical & Plumbing Design
 C.A. No. 28173

315 South 7th Street
 Fort Pierce, FL 34950
 Phone: 772-672-4636
 Fax: 772-672-4637

PROJECT NAME:
 SRHS LOCKER ROOM REMODEL

CLIENT:
 EDW ARCHITECTS
 65 ROYAL PALM POINTE, SUITE D
 SEASIDE BEACH, FLORIDA
 32960

PROJECT LOCATION:
 SEBASTIAN RIVER HIGH SCHOOL
 1500 W. WEAVER AVE.
 SEBASTIAN, FL 32958

ENGINEER SEAL

Timothy C. Trewn, PE
 P.E. No. 61580

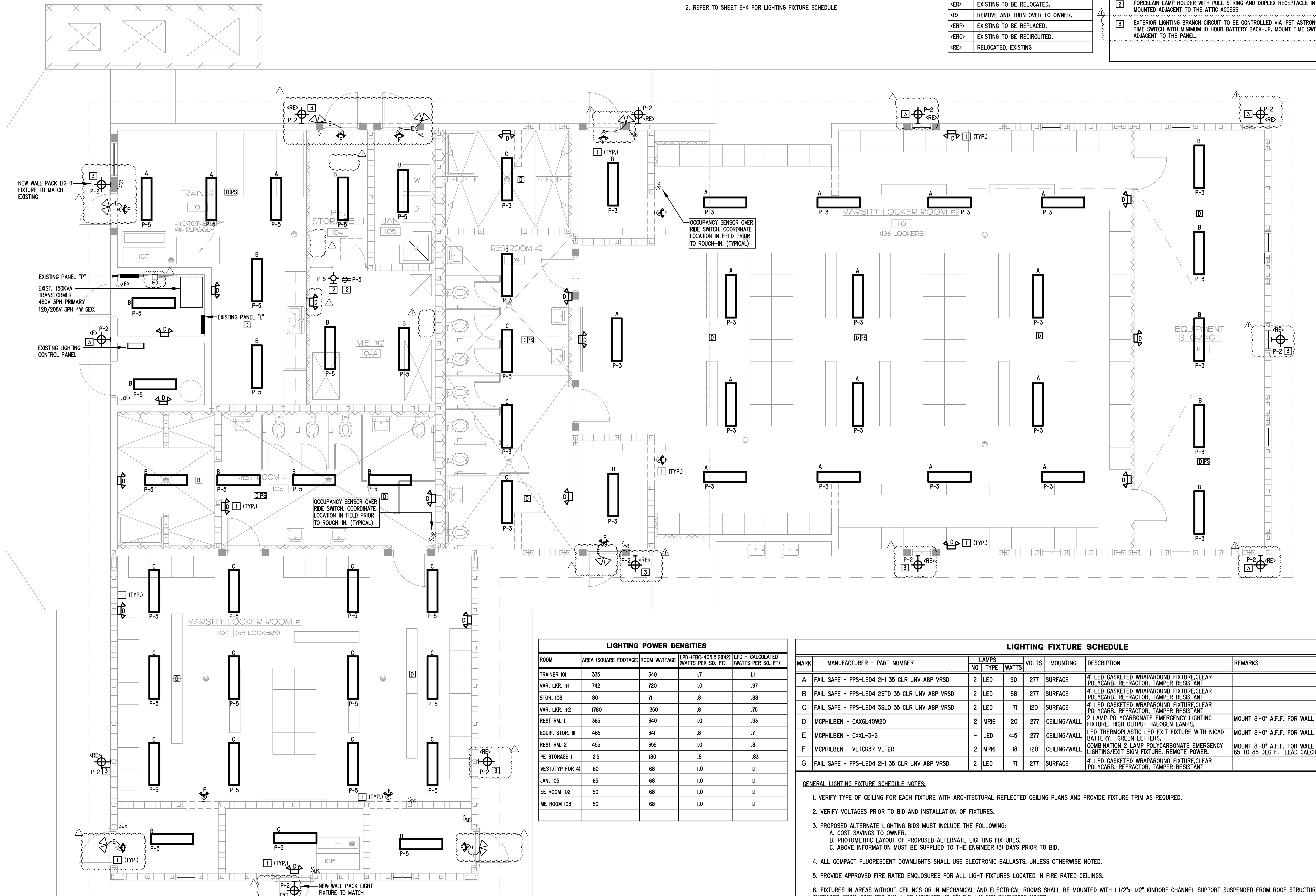
SHEET TITLE	
ELECTRICAL POWER SYSTEMS PLAN	
ISSUE DATE:	08-22-2018
DRAWN:	TEC
APPROVED:	TCT
DRAWING NUMBER	
E-2.2	
SHEET 3 OF 5	
16003-01	

LIGHTING SYSTEMS NOTES

1. SEE LIGHTING POWER DENSITY CALCULATIONS BELOW.
2. REFER TO SHEET E-4 FOR LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION
<E>	EXISTING TO REMAIN.
<ER>	EXISTING TO BE RELOCATED.
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<ERC>	EXISTING TO BE RECIRCUITED.
<RE>	RELOCATED, EXISTING

1	EXIT SIGNS AND EMERGENCY BATTERY UNITS TO BE CONNECTED TO THE LIGHTING CIRCUIT IN THE AREA AHEAD OF THE LIGHTING CONTROLS.
2	PORCELAIN LAMP HOLDER WITH PULL STRING AND DUPLEX RECEPTACLE IN ATTIC. MOUNTED ADJACENT TO THE ATTIC ACCESS.
3	EXTERIOR LIGHTING BRANCH CIRCUIT TO BE CONTROLLED VIA IPST ASTRONOMICAL TIME SWITCH WITH MINIMUM 10 HOUR BATTERY BACK-UP. MOUNT TIME SWITCH ADJACENT TO THE PANEL.




ROOM	AREA (SQ. FT.)	ROOM WATTAGE	LPD-(FBC-405.5.2)(2) (WATTS PER SQ. FT.)	LPD - CALCULATED (WATTS PER SQ. FT.)
TRAINER 101	335	340	1.7	1.1
VAR. LKR. #1	742	720	1.0	.97
STOR. 108	80	71	.8	.88
VAR. LKR. #2	1780	1350	.8	.75
REST RM. 1	365	340	1.0	.93
EQUIP. STOR. III	465	341	.8	.7
REST RM. 2	455	355	1.0	.8
PE STORAGE I	215	180	.8	.83
VEST.(TYP FOR 4)	60	68	1.0	1.1
JAN. 105	65	68	1.0	1.1
EE ROOM 102	50	68	1.0	1.1
ME ROOM 103	50	68	1.0	1.1

MARK	MANUFACTURER - PART NUMBER	LAMPS		VOLTS	MOUNTING	DESCRIPTION	REMARKS
		NO	TYPE				
A	FAIL SAFE - FPS-LED4 2HI 35 CLR UNV ABP VRSD	2	LED	90	277	SURFACE	4" LED GASKETED WRAPAROUND FIXTURE, CLEAR POLYCARB. REFRACTOR, TAMPER RESISTANT
B	FAIL SAFE - FPS-LED4 2STD 35 CLR UNV ABP VRSD	2	LED	68	277	SURFACE	4" LED GASKETED WRAPAROUND FIXTURE, CLEAR POLYCARB. REFRACTOR, TAMPER RESISTANT
C	FAIL SAFE - FPS-LED4 3SLO 35 CLR UNV ABP VRSD	2	LED	71	120	SURFACE	4" LED GASKETED WRAPAROUND FIXTURE, CLEAR POLYCARB. REFRACTOR, TAMPER RESISTANT
D	MCPHILBEN - CAXGL40W20	2	MRIG	20	277	CEILING/WALL	2 LAMP POLYCARBONATE EMERGENCY LIGHTING FIXTURE. HIGH OUTPUT HALOGEN LAMPS.
E	MCPHILBEN - CXXL-3-G	-	LED	<=5	277	CEILING/WALL	LED THERMOPLASTIC LED EXIT FIXTURE WITH NICAD BATTERY. GREEN LETTERS.
F	MCPHILBEN - VLTCG3R-VLT2R	2	MRIG	18	120	CEILING/WALL	COMBINATION 2 LAMP POLYCARBONATE EMERGENCY LIGHTING/EXIT SIGN FIXTURE. REMOTE POWER.
G	FAIL SAFE - FPS-LED4 2HI 35 CLR UNV ABP VRSD	2	LED	71	277	SURFACE	4" LED GASKETED WRAPAROUND FIXTURE, CLEAR POLYCARB. REFRACTOR, TAMPER RESISTANT

- GENERAL LIGHTING FIXTURE SCHEDULE NOTES:**
1. VERIFY TYPE OF CEILING FOR EACH FIXTURE WITH ARCHITECTURAL REFLECTED CEILING PLANS AND PROVIDE FIXTURE TRIM AS REQUIRED.
 2. VERIFY VOLTAGES PRIOR TO BID AND INSTALLATION OF FIXTURES.
 3. PROPOSED ALTERNATE LIGHTING BIDS MUST INCLUDE THE FOLLOWING:
 - A. COST SAVINGS TO OWNER.
 - B. PHOTOMETRIC LAYOUT OF PROPOSED ALTERNATE LIGHTING FIXTURES.
 - C. ABOVE INFORMATION MUST BE SUPPLIED TO THE ENGINEER (3) DAYS PRIOR TO BID.
 4. ALL COMPACT FLUORESCENT DOWNLIGHTS SHALL USE ELECTRONIC BALLASTS, UNLESS OTHERWISE NOTED.
 5. PROVIDE APPROVED FIRE RATED ENCLOSURES FOR ALL LIGHT FIXTURES LOCATED IN FIRE RATED CEILINGS.
 6. FIXTURES IN AREAS WITHOUT CEILINGS OR IN MECHANICAL AND ELECTRICAL ROOMS SHALL BE MOUNTED WITH 1/2"x1/2" KINDORF CHANNEL SUPPORT SUSPENDED FROM ROOF STRUCTURE WITH THREADED RODS. FIXTURES SHALL BE MOUNTED 10'-0"A.F.F. UNLESS OTHERWISE NOTED.
 7. ALL ACRYLIC LENSED FIXTURES SHALL HAVE A MINIMUM LENS THICKNESS OF .125 INCHES.
 8. ALL SHEET STEEL USED IN FIXTURES ABOVE SHALL HAVE A PHOSPHATE LAYER APPLIED PRIOR TO PAINTING.

NO.	DATE	REVISIONS

Fort Pierce Engineering, Inc.
Dependable Mechanical, Electrical & Plumbing Design
C.A. No. 28173



315 South 7th Street
Fort Pierce, FL 34950
Phone: 772 672-4636
Fax: 772 672-4637

TEC/TCT/CT
DR CK APP

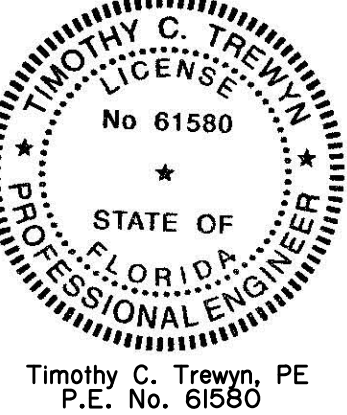
PROJECT NAME: SRHS LOCKER ROOM REMODEL

CLIENT: EDH ARCHITECTS

PROJECT LOCATION: SEBASTIAN RIVER HIGH SCHOOL, SUITE D
65 ROYAL PALM POINTE, FLORIDA
VERO BEACH, FLORIDA
32960

NO. 09-28-18

ENGINEER SEAL



Timothy C. Trewyn, PE
P.E. No. 61580

SHEET TITLE

ELECTRICAL LIGHTING SYSTEMS PLAN

ISSUE DATE: 08-22-2018

DRAWN: TEC

APPROVED: TCT

DRAWING NUMBER

E-3

SHEET 4 OF 5

16003-01

PANEL:		VOLTAGE:		BUS/BREAKER AIC RATING:		RATING:	
"LL" NEW		120/208V 3PH 4W		22KA/10KA		100A	
ELECTRICAL ROOM		LOCATION:		MOUNTING:		MAIN CONNECTION:	
		SURFACE - NEMA 1		SURFACE - NEMA 1		M.L.O.	
FED FROM:		PANEL L		SQUARE D QO OR EQUAL		DEVICE FAMILY:	
DESCRIPTION	SIZE	QTY	P	CONNECTED KVA	NO.	CONNECTED KVA	DESCRIPTION
HVAC-CU-3-HACR C/B	10	25	2	1.55	1	3.06	HVAC-AHU-3
MCA-14.9	10			1.55	3	3.06	HTR-SKW, FAN-SHP
SPARE		20	1		5		SPARE
R-ELECTRIC DRYER-JAN. CLO.	10	30	2	2.7	7	1.4	R-WASHER-JAN. CLO.
SPARE		20	1		11		SPARE
NO SPACE				0	13	14	NO SPACE
NO SPACE				0	15	16	NO SPACE
NO SPACE				0	17	18	NO SPACE
NO SPACE				0	19	20	NO SPACE
NO SPACE				0	21	22	NO SPACE
NO SPACE				0	23	24	NO SPACE
NO SPACE				0	25	26	NO SPACE
NO SPACE				0	27	28	NO SPACE
NO SPACE				0	29	30	NO SPACE
SERVES				4.25	0	TOTAL	17.02
CONNECTED LOAD - KVA				DF	CALCULATED DEMAND - KVA		
LIGHTING				0.00	1.25	0.00	
RECEPTACLES (FIRST 10 KVA)				1.40	1	1.40	
RECEPTACLES (OVER 10 KVA)				0.00	0.5	0.00	
LARGEST MOTOR				1.12	1.25	1.40	
OTHER MOTORS				1.00	1	1.00	
EQUIPMENT/HEAT				10.40	1	10.40	
KITCHEN EQUIPMENT				0.00	1	0.00	
TOTAL DEMAND KVA				14.20			
TOTAL AMPERAGE				39.42			

PANEL:		VOLTAGE:		BUS/BREAKER AIC RATING:		RATING:	
"L" EXISTING		120/208V 3PH 4W		22KA/10KA		400A	
ELECTRICAL ROOM		LOCATION:		MOUNTING:		MAIN CONNECTION:	
		SURFACE - NEMA 1		SURFACE - NEMA 1		M.L.O.	
FED FROM:		PANEL "P" THRU TRANSFORMER		SQUARE D-NQ00		DEVICE FAMILY:	
DESCRIPTION	SIZE	QTY	P	CONNECTED KVA	NO.	CONNECTED KVA	DESCRIPTION
PANEL "CS"	3	100	3	5.93	6.06	4.8	PANEL-BALL FIELD
R-RM 105 E ENTRANCE	12	20	1	0.18	1	2	EXISTING CIRCUIT
R-COVY RMS 101-102-103-104	12	20	1	0.72	3	4	
FIA CONTROL PANEL-RED C/B	12	20	1	0.25	5	6	
				1.54	7	8	
R-PE STOR. JC CLO-NOTE 5	12	20	1	1.80	9	10	R-BOYS' LOCKER N WALL
R-TRAINER 101-ICE MACH. NOTE 5	12	20	1	1.60	15	16	FAN CONTROL INTERLOCK POWER
R-TRAINER 101-REFRIG. NOTE 5	12	20	1	0.50	17	18	R-RIST ROOM GFCI'S
R-TRAINER 101-COUNTER. NOTE 5	12	20	1	0.36	19	20	RM 106 GIRLS RR HAND DRYER
R-TRAINER 101-S.E WALLS NOTE 5	12	20	1	0.90	21	22	RM 107 BOYS RR HAND DRYER
R-W EXT. ALCOVE, EXT. EWC GFCI	12	20	1	1.09	23	24	HVAC-EF-1 8.32 AMPS - NOTE 5
NEW PANEL "LL"	3	100	3	7.16	25	26	HVAC-EF-2 6.65A - NOTE 5
NOTE 8				5.76	27	28	R-TRAINER ROOM-NOTE 5
NO SPACE				0.00	29	30	SPARE-NOTE 7
NO SPACE				0.00	0.00	0.00	EXISTING WATER HEATER
NO SPACE				0.00	0.00	0.00	
SERVES				16.97	16.58	6.16	TOTAL
CONNECTED LOAD - KVA				DF	24.60	23.98	23.22
LIGHTING				8.00	1.25	12.00	TOTAL CONNECTED KVA
RECEPTACLES (FIRST 10 KVA)				10.00	1	10.00	
RECEPTACLES (OVER 10 KVA)				22.91	0.5	11.46	
LARGEST MOTOR				1.12	1.25	1.40	
OTHER MOTORS				3.95	1	3.95	
EQUIPMENT/HEAT				54.45	1	54.45	
KITCHEN EQUIPMENT				3.30	1	3.30	
TOTAL DEMAND KVA				96.55			
TOTAL AMPERAGE				268.00			

PANEL:		VOLTAGE:		BUS/BREAKER AIC RATING:		RATING:	
"P" EXISTING		277/480V 3PH 4W		100KA/18KA		400A	
ELECTRICAL ROOM		LOCATION:		MOUNTING:		MAIN CONNECTION:	
		SURFACE - NEMA 1		SURFACE - NEMA 1		M.C.B.	
FED FROM:		CAMPUS MAIN SWITCHGEAR		SQUARE D I-LINE		DEVICE FAMILY:	
DESCRIPTION	SIZE	QTY	P	CONNECTED KVA	NO.	CONNECTED KVA	DESCRIPTION
L-SHOWER, TOILET ROOMS-NOTE 6	12	20	1	0.75	1	2	L-OUTSIDE - EX. TO REMAIN-NOTE 8
L-CONCESSION-NOTE 5	12	20	1	0.58	3	4	L-WEST SIDE-EXISTING TO REMAIN
L-NORTH ROOM-EX. TO REMAIN	12	20	1	0.21	5	6	IRRIGATION PUMP NOTE 7
HVAC-CU-1	10	25	3	3.36	7	8	(SHP)
MCA-21A	10			3.36	9	10	HVAC-CU-2
NOTE 4	10			3.36	11	12	MCA-17A
PRACTICE-SOUTH	4	80	3	8.87	13	14	NOTE 4
				8.87	15	16	L-EXISTING LOAD
				8.87	17	18	NOTE 7
SOFT BALL	3	100	3	9.97	19	20	150 KVA TRANSFORMER
				9.97	21	22	
				9.97	23	24	
BASEBALL	100	150	3	11.50	25	26	30
				11.50	27	28	
				11.50	29	30	
PRACTICE-NORTH	8	50	3	6.93	31	32	L-MENS ROOM
				6.93	33	34	SPACE
				6.93	35	36	SPACE
HVAC-AHU-1	8	50	3	10.67	37	38	HVAC-AHU-2
(25KW HEAT, SHP FAN)	8			10.56	39	40	(15KW HEAT, 2HP FAN)
NOTE 8	8			52.05	51.77	51.51	NOTE 8
SERVES				52.05	51.77	51.51	TOTAL
CONNECTED LOAD - KVA				DF	54.72	50.76	52.39
LIGHTING				120.85	1.25	102.31	TOTAL CONNECTED KVA
RECEPTACLES (FIRST 10 KVA)				10.00	1	10.00	
RECEPTACLES (OVER 10 KVA)				24.71	0.5	12.36	
LARGEST MOTOR				1.00	1.25	8.78	
OTHER MOTORS				9.75	1	9.75	
EQUIPMENT/HEAT				103.83	1	103.83	
KITCHEN EQUIPMENT				3.30	1	3.30	
TOTAL DEMAND KVA				310.42			
TOTAL AMPERAGE				373.38			

THREE PHASE SHORT-CIRCUIT CURRENT CALCULATION
150KVA=TRANSFORMER SIZE
TRANSFORMER TO PANEL "L" (1 SET 500MCM, 7 FEET, EMT)

$$I_{sc} = \frac{150000 \text{ VA}}{1.73 \times 208\text{V}} \times \frac{100}{4.5\%Z} = 9253 \text{ AMPS}$$

$$f = \frac{1.73}{1} \times \frac{7}{22,185} \times \frac{9253A}{208\text{V}} = 0.024$$

$$M = \frac{1}{1 + 0.024} = 0.976$$

9253 AMPS X 0.976 = 9033 AMPS

THREE PHASE SHORT-CIRCUIT CURRENT CALCULATION
2000KVA=TRANSFORMER SIZE
TRANSFORMER TO MAIN BUS TAP (12 SETS 600MCM, 50 FEET, PVC)

$$I_{sc} = \frac{2000000 \text{ VA}}{1.73 \times 480\text{V}} \times \frac{100}{5.66\%Z} = 42503 \text{ AMPS}$$

$$f = \frac{1.73}{12} \times \frac{50'}{28,033} \times \frac{42503A}{480\text{V}} = 0.023$$

$$M = \frac{1}{1 + 0.023} = 0.978$$

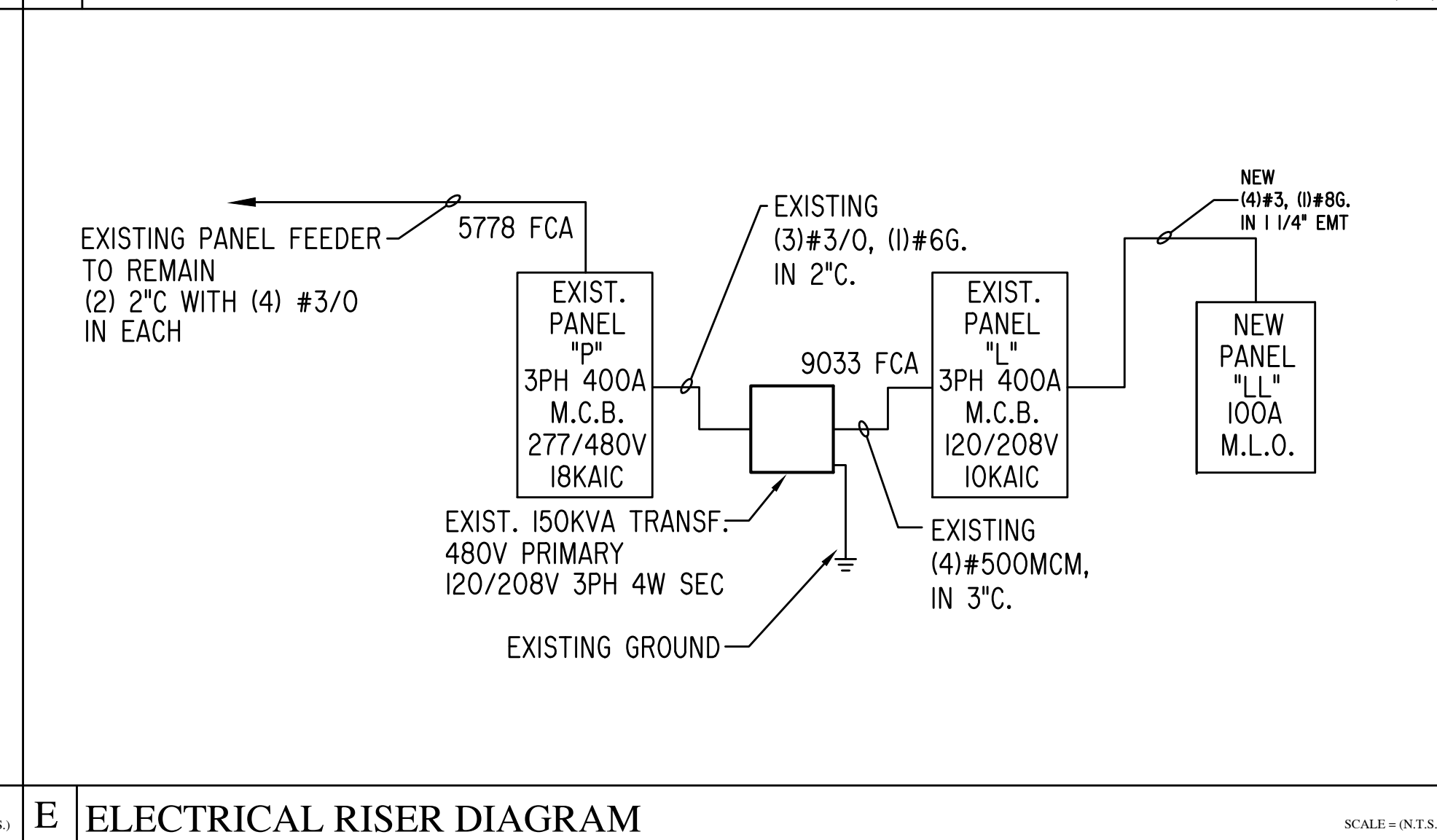
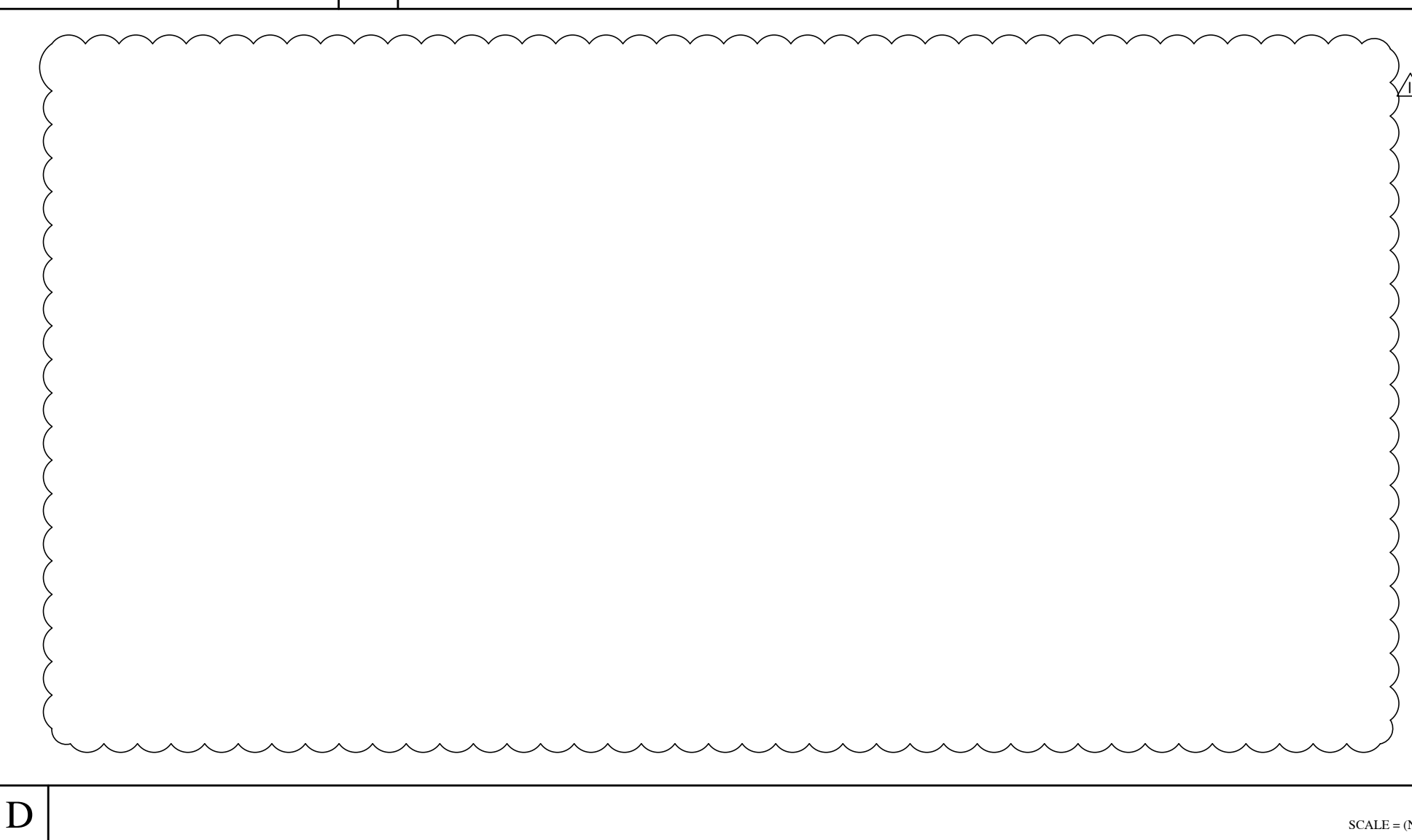
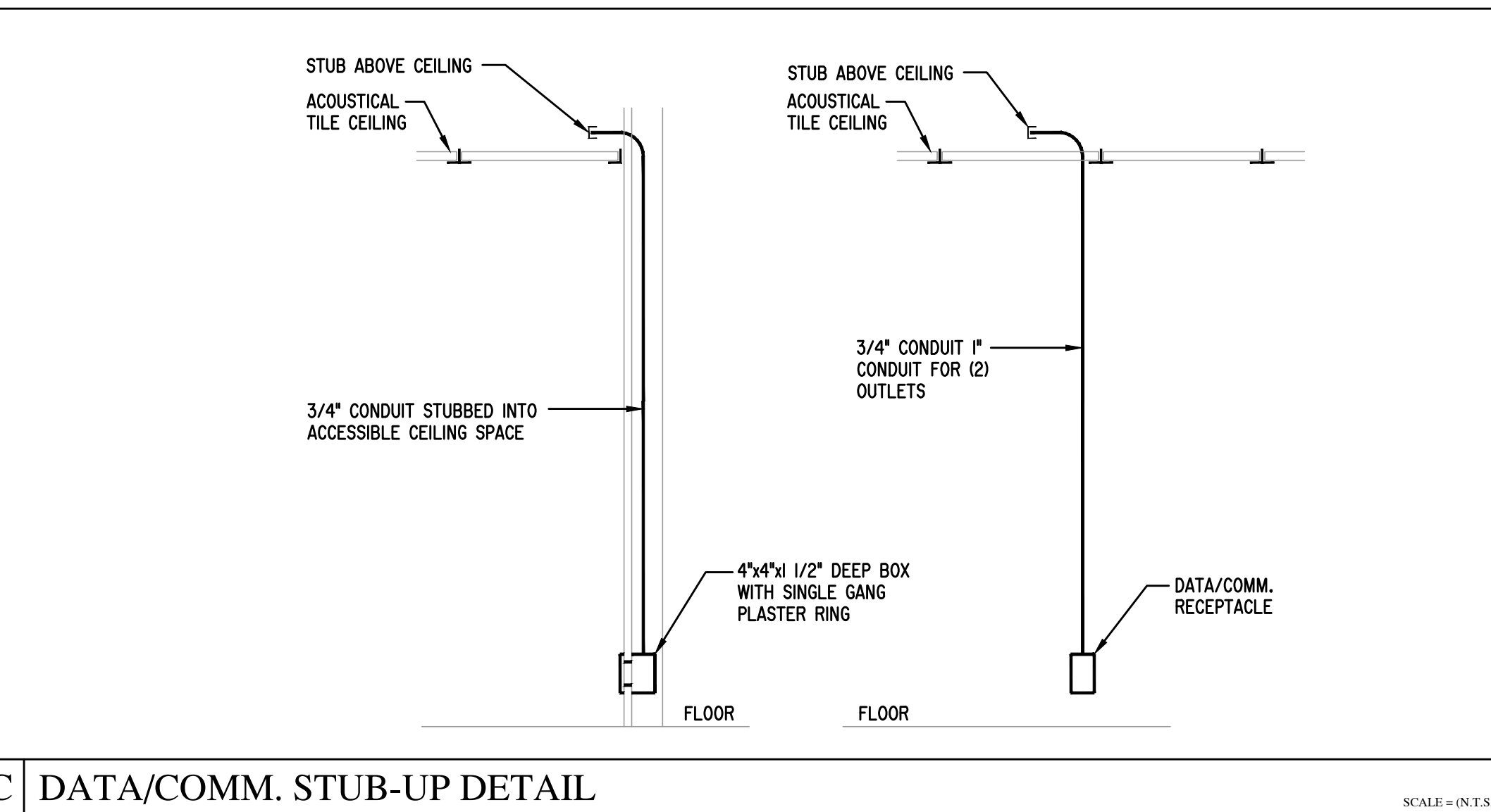
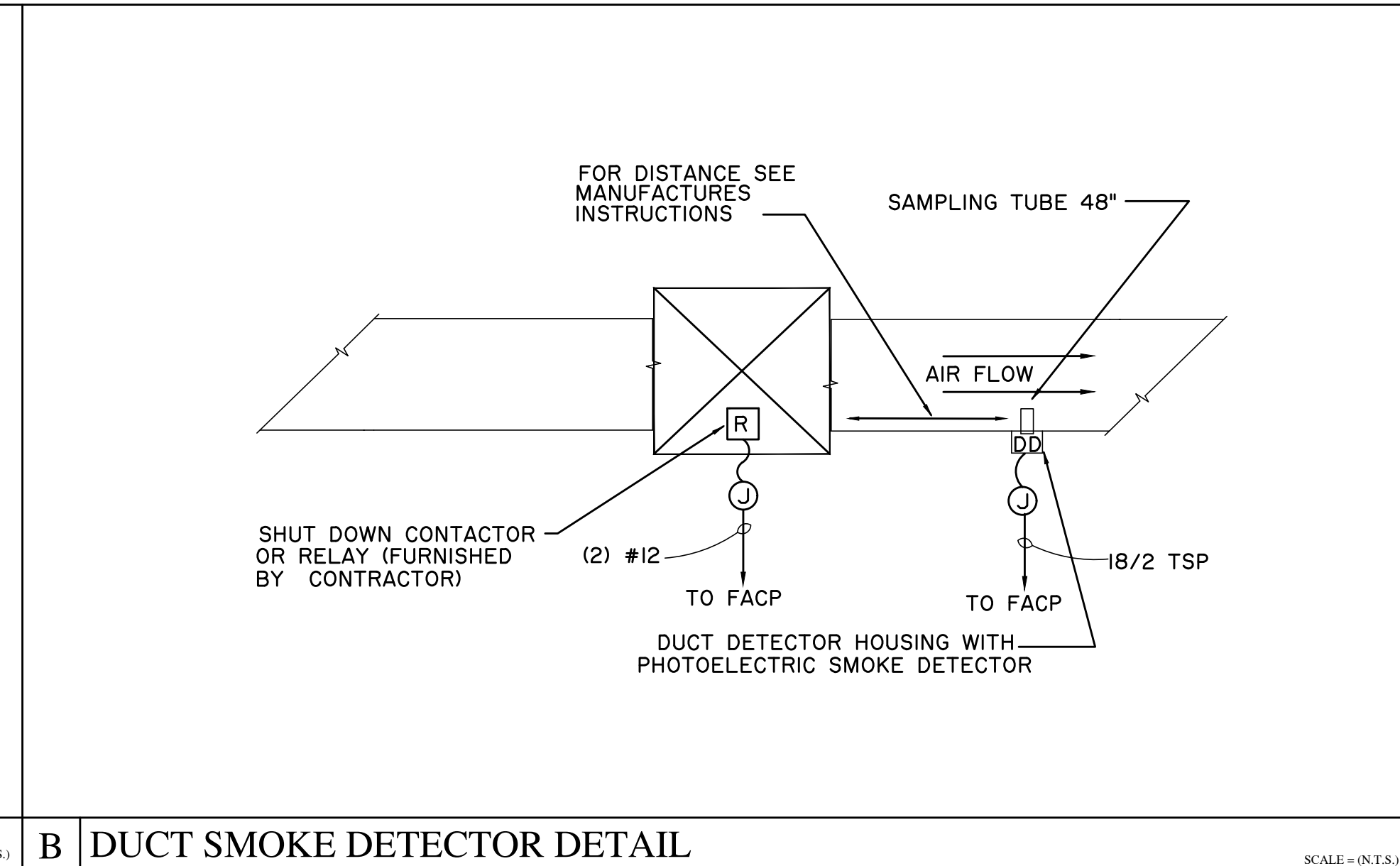
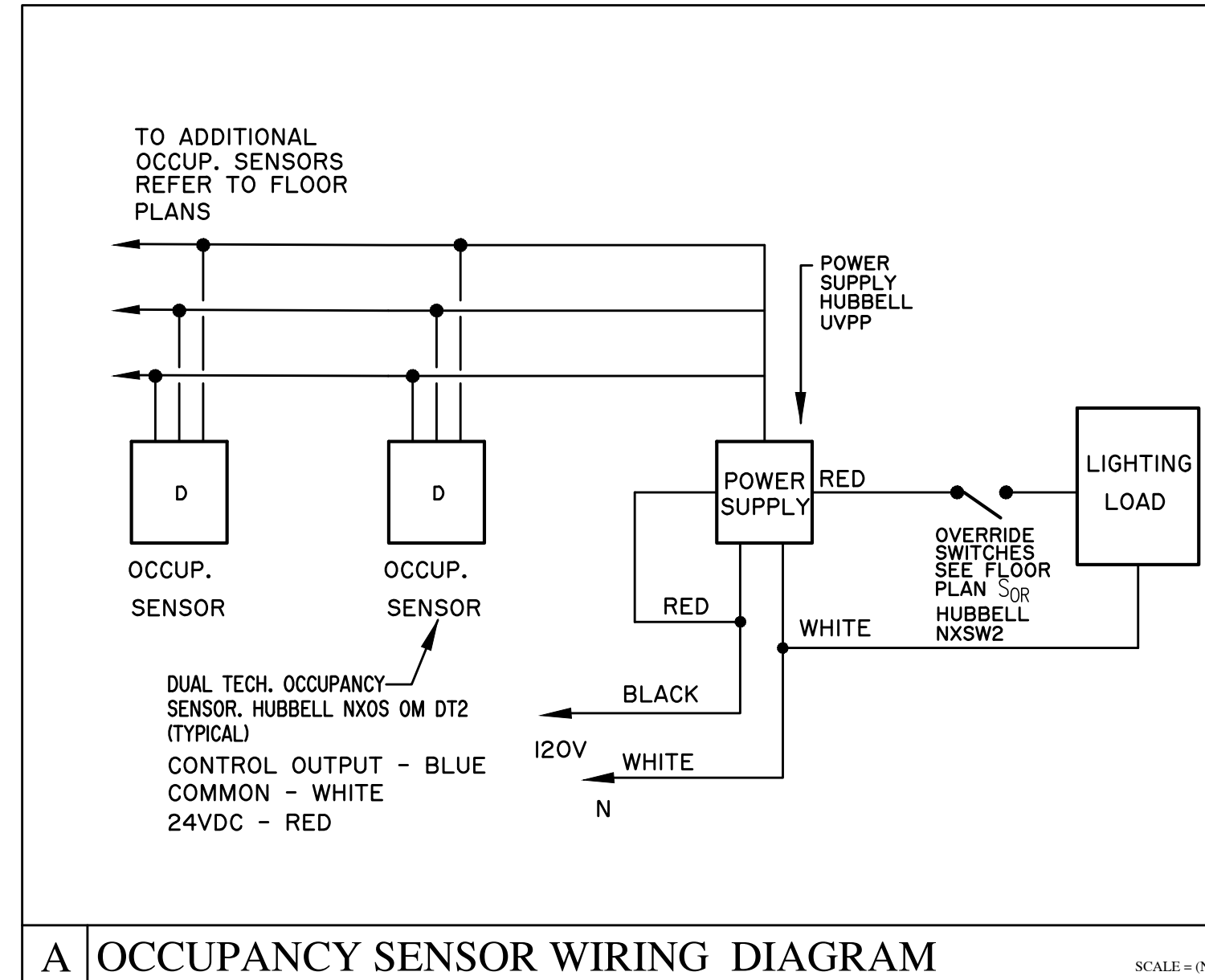
42503 AMPS X 0.978 = 41556 AMPS

MAIN BUS TAP TO PANEL P (2 SETS 3/0, 1150 FEET, PVC)

$$f = \frac{1.73}{2} \times \frac{1150'}{13,923} \times \frac{41556A}{480\text{V}} = 6.193$$

$$M = \frac{1}{1 + 6.193} = 0.139$$

41556 AMPS X 0.139 = 5778 AMPS



REVISIONS

DATE

NO.

OS-13-1B

REVISED PER REVIEW COMMENTS

TEC/TCT

DR CK AP

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DETAILS, RISERS
& SCHEDULES

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DRAWN: TEC

APPROVED: TCT

DRAWING NUMBER
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SHEET 5 OF 5
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