ELECTRICAL NOTES

1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
2. PERMITS FOR ELECTRICAL WORK SHALL BE OBTAINED BY AND PAID BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PAY FOR ANY ADDITIONAL FEES FOR INSPECTIONS, TESTS, AND OTHER SERVICES AS REQUIRED FOR THE COMPLETION OF THE WORK.
3. THE ELECTRICAL CONTRACTOR AND ANY OF HIS SUBCONTRACTORS SHALL VISIT THE PROJECT SITE TO WITNESS EXISTING CONDITIONS AND BECOME FAMILIAR WITH THE SCOPE OF THE WORK REQUIRED PRIOR TO SUBMITTING BIDS. WORK REQUIRED BY EXISTING JOB CONDITIONS NOT INDICATED ON DRAWINGS SHALL BE INCLUDED IN THE BID.
4. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO RESULT IN THE PRODUCTION OF A COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND OTHER SERVICES AS NECESSARY TO COMPLETE THE WORK.
5. DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS THAT WILL AFFECT THE WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT, ENGINEER, AND/OR OWNER PRIOR TO SUBMITTING BIDS.
6. UNLESS NOTED OTHERWISE, ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND INCLUDE A 3RD PARTY LABEL (I.E.: UL, CSA, ETL, ETC.) LISTING APPROVAL FOR ITS INSTALLED APPLICATION.
7. REVIEW PLANS OF OTHER TRADES FOR COORDINATION OF WORK AND FOR RELATED AND ADJOINING WORK.
8. REVIEW COMPLETE PLAN SET FOR CONSTRUCTION TYPE, FINISHES, HEADROOM, ROOF FINISHES, CEILINGS, ETC. REVIEW COMPLETE PLAN SET FOR PROJECT PHASING AND STAGING. REVIEW COMPLETE PLAN SET FOR WORK COVERED BY ALTERNATE BID ITEMS.
9. COORDINATE DEVICE AND EQUIPMENT MOUNTING HEIGHTS WITH OTHER DISCIPLINE DRAWINGS, CASEWORK DETAILS & SUBMITTALS, EQUIPMENT DETAILS & SUBMITTALS, ETC.
10. PENETRATIONS OF FIRE-RATED WALLS, FLOORS, CEILINGS, AND PARTITIONS SHALL BE FIRE STOPPED IN ACCORDANCE WITH REQUIREMENTS OF THE STATE BUILDING CODE. COORDINATE WORK TO INSURE THAT FIRE STOPPING IS COMPLETED.
11. PENETRATIONS OF SMOKE PARTITIONS SHALL BE SEALED IN ACCORDANCE WITH REQUIREMENTS OF THE STATE BUILDING CODE. COORDINATE WORK TO INSURE THAT SMOKE PARTITION SEALING IS COMPLETED.
12. PENETRATIONS OF EXTERIOR BUILDING WALLS, FLOORS, OR ROOFS SHALL BE SEALED WATERTIGHT. INTERIORS OF RACEWAY PENETRATIONS THROUGH EXTERIOR WALLS SHALL BE SEALED WITH NON-HARDENING ELECTRICAL PUTTY.
13. CUTTING AND PATCHING TO INSTALL DEVICES AND EQUIPMENT SHALL BE PERFORMED WITH FINISHES RESTORED TO THEIR ORIGINAL CONDITION. SUCH WORK SHALL BE COMPLETED TO A DEGREE THAT IS ACCEPTABLE TO THE ARCHITECT, ENGINEER, AND/OR OWNER.
14. SEE SPECIFICATIONS FOR DIVISION OF RESPONSIBILITY FOR PROVIDING DISCONNECTS, STARTERS, DRIVES, ETC. FOR EQUIPMENT SUPPLIED BY OTHER SUBCONTRACTORS.
15. COORDINATE PRECISE LOCATION OF HVAC EQUIPMENT WITH THE MECHANICAL CONTRACTOR.
16. FOR HVAC EQUIPMENT, VERIFY CIRCUIT BREAKER RATINGS, FUSE RATINGS, AND WIRE SIZES. IF RATINGS DIFFER FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR DIRECTION. PROVIDE OVERCURRENT PROTECTION IN ACCORDANCE WITH EQUIPMENT MANUFACTURER NAMEPLATE DATA. IF THE EQUIPMENT LISTING LABEL REQUIRES FUSED PROTECTION, ENSURE THAT FUSES IN A FUSED DISCONNECT SWITCH AT THE EQUIPMENT ARE SIZED AS INDICATED ON THE EQUIPMENT LABEL.
17. VERIFY PROPER SIZING OF OVERLOAD DEVICES IN STARTERS BASED ON EQUIPMENT NAMEPLATE DATA.
18. IF HORSEPOWER OR LOAD RATINGS OF EQUIPMENT DIFFER FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR DIRECTION.
19. PROVIDE NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES.
20. RECEPTACLE, SWITCH, DATA/TELEPHONE OUTLETS SHALL BE FLUSH MOUNTED IN FINISHED SPACES UNLESS OTHERWISE NOTED.
21. WHERE INSTALLED IN PLENUM SPACES, CABLES SHALL BE PLENUM-RATED OR INSTALLED IN METAL RACEWAY.
22. PRIOR TO ORDERING LIGHT FIXTURES, CONTRACTOR SHALL VERIFY TYPE OF CEILING OR WALL BY REVIEW OF ARCHITECTURAL FINISH SCHEDULES AND PROVIDE SUITABLE TRIM AND APPURTENANCES TO MOUNT FIXTURES IN TYPE OF CEILING OR WALL INDICATED.
23. RECESSED LIGHT FIXTURES INSTALLED IN CEILINGS HAVING INSULATION INSTALLED OVER CEILING AND FIXTURES (AS INDICATED IN ARCHITECTURAL PLANS, OR FOUND AS EXISTING CONDITIONS) SHALL BE U.L. RATED FOR DIRECT CONTACT WITH INSULATION.
24. RECESSED LIGHT FIXTURES INSTALLED IN FIRE RATED CEILING SHALL BE U.L. RATED FOR USE IN FIRE RATED CEILINGS OR SHALL BE INSTALLED WITH "TENTING' IN ACCORDANCE WITH RATING REQUIREMENTS OF THE CEILING. ASSEMBLY.
25. EXIT AND EMERGENCY LIGHTS SHALL BE CONNECTED TO THE NEAREST UNSWITCHED CIRCUIT THAT SERVES LIGHT FIXTURES WITHIN THE SAME SPACE.
26. NO MOUNTING HARDWARE SHALL BE ATTACHED TO ROOF DECKS. ATTACHMENTS SHALL BE MADE TO THE ROOF SUPPORTING STRUCTURE.
27. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; PROTECT AND MAINTAIN IN OPERATION EXISTING LIFE SAFETY SYSTEMS, PUBLIC ADDRESS SYSTEMS, ELECTRICAL SYSTEMS, ETC. IF SHUTDOWNS ARE REQUIRED, NOTIFY THE ARCHITECT, ENGINEER, AND OWNER FOR COORDINATION WELL IN ADVANCE OF ANY SYSTEM SHUTDOWN. WHERE AN OUTAGE OF EXTENDED DURATION IS NOT ACCEPTABLE TO THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.
28. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; WORK MAY BE REQUIRED TO BE PERFORMED WHILE REMAINING OCCUPIED BY OWNER STAFF. WORK SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION TO THE OWNER.
29. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; EXISTING ABANDONED CIRCUITS USED TO CONNECT NEW LOADS IN THE SAME AREA SHALL BE CLEARLY IDENTIFIED ON AS-BUILT MARK-UP DRAWINGS WITH REGARD TO PANEL-CIRCUIT AND CIRCUITRY ROUTING CONFIGURATION.
30. ABANDONED CIRCUITRY (RACEWAY & CONDUCTORS) SHALL BE REMOVED IN ITS ENTIRETY FROM ITS SOURCE. ABANDONED LOW VOLTAGE CABLING SHALL BE REMOVED IN ITS ENTIRETY UNLESS OTHERWISE NOTED.
31. PANEL BUS MATERIAL: COPPER.
32. SHARED NEUTRAL CONDUCTORS SHALL NOT BE USED UNLESS SPECIFICALLY INDICATED SO ON HOMERUN CIRCUITRY DESIGNATIONS.
33. PANEL BREAKER CONFIGURATIONS SHALL BE INSTALLED AS INDICATED ON THE PANEL SCHEDULES OR AS NOTED. BREAKER POSITION REVISIONS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY THE ENGINEER.
34. LOAD CIRCUITS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS. CIRCUITRY REVISIONS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY THE ENGINEER.

ABBREVIATIONS

ADA	AMERICAN DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLER UNIT
AIC	AMPS INTERRUPTING CAPABILITY
ARA	AREA OF RESCUE ASSISTANCE
BKR	BREAKER
C	CONDUIT
C/B	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CLG	CEILING
CKT	CIRCUIT
COMP	COMPRESSOR
CU	COPPER
DIA	DIAMETER
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSED
EXSTG	EXISTING
FACP	FIRE ALARM CONTROL PANEL
FACU	FIRE ALARM CONTROL UNIT
G	EQUIPMENT GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
HPF	HIGH POWER FACTOR
HP	HEAT PUMP
HP	HORSEPOWER
IMC	INTERMEDIATE METAL CONDUIT
ISO	ISOLATION MODULE
K	KILO (THOUSAND)
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
LTS	LIGHTS
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MLO	MAIN LUG ONLY
MSB	MAIN SWITCHBOARD
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
NTS	NOT TO SCALE
P	PHASE OR POLE
PH	PHASE
PNL	PANEL
PROJ	PROJECTOR
PS	PROJECTOR SCREEN
PVC	POLYVINYL CHLORIDE
REC	RECEPTACLE
RECPT	RECEPTACLE
REQ.	REQUIRED
RGC	RIGID GALVANIZED CONDUIT
RGS	RIGID GALVANIZED STEEL
S.S.	STAINLESS STEEL
SYS	SYSTEM
S/N	SOLID NEUTRAL
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT-AMPS
W	WATTS
W	WIRE
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER

ELECTRICAL SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE

METHOD OF COMPLIANCE
- -ENERGY CODE: ☒ PRESCRIPTIVE ☐ PERFORMANCE
- -ASHRAE 90.1: ☐ PRESCRIPTIVE ☐ PERFORMANCE

ADDITIONAL METHOD OF COMPLIANCE:
- ☐ 506.2.1 More Efficient Mechanical Equipment
- ☒ 506.2.2 Reduced Lighting Power Density
- ☐ 506.2.3 Energy Recovery Ventilation System
- ☐ 506.2.4 Higher Efficiency Service Water Heating
- ☐ 506.2.5 On-Site Supply of Renewable Energy
- ☐ 506.2.6 Automatic Daylighting Control Systems

LIGHTING SCHEDULE
Lamp Type Required in Fixtures
Number of Lamps in Fixtures
Ballast Types Used in Fixtures
Number of Ballasts Used in Fixtures
Total Wattage per Fixture
— SEE LIGHT FIXTURE / LUMINAIRE SCHEDULE

TOTAL WATTAGE SPECIFIED VERSUS ALLOWED – RENOVATION
Interior Specified: **4769 Watts**
Interior Allowed: **6560 Watts**

TOTAL WATTAGE SPECIFIED VERSUS ALLOWED – ADDITION
Interior Specified: **8379 Watts** Exterior Specified: **624 Watts**
Interior Allowed: **13271 Watts** Exterior Allowed: **2037 Watts**

DESIGNER STATEMENT

To the best of my knowledge and belief, the design of this building complies with the electrical systems and equipment requirements of the North Carolina State Building Code, Section 505 of the North Carolina Energy Conservation Code.

SIGNED: Mark A. Ciarrocca
NAME: Mark A. Ciarrocca, P.E.
TITLE: Engineer

ESTIMATED LOAD SUMMARY

	EXIST. DEMAND (KVA)		NEW CONNECTED (KVA)			NEW DEMAND (KVA)		TOTAL KVA
	SINGLE PHASE	THREE PHASE	SINGLE PHASE	THREE PHASE	DIVERSITY FACTOR	SINGLE PHASE	THREE PHASE	EXISTING & NEW DEMAND
LIGHTING			13		125%	16.25	0	16.25
LARGEST MOTOR				26.6	125%	0	33.25	33.25
OTHER MOTORS				23.7	100%	0	23.7	23.7
RECEPTACLES			75.1		NEC 220.44	42.55	0	42.55
CONTINUOUS LOADS					125%	0	0	0
HEATING			156		100%	156	0	156
NON-CONTINUOUS LOADS			13.9	10	100%	13.9	10	23.9
KITCHEN EQUIPMENT					100%	0	0	0
NONCOINCIDENT / DIVERSE					100%	0	0	0
EXISTING PEAK DEMAND					NEC 220.87	0	0	0
EXISTING LOAD		298			100%	0	0	298
TOTAL								594

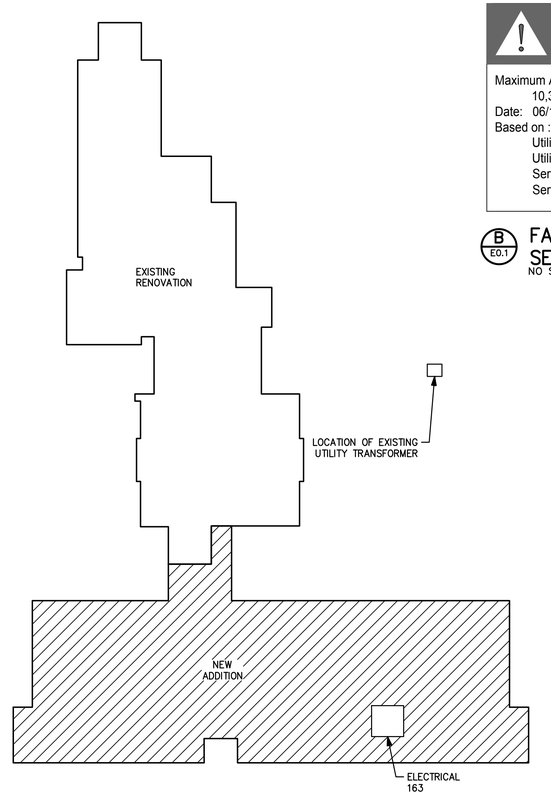
MISC. ELECTRICAL SYMBOL LEGEND

- EQUIPMENT CONNECTION
- SAFETY SWITCH DISCONNECT, HEAVY-DUTY, FUSED AT NAMEPLATE RATING OF EQUIPMENT SERVED, NEMA 1 INSIDE, NEMA 3R OUTSIDE (UNO), AMPERAGE AS INDICATED OR BASED ON SUPPLY CIRCUIT BREAKER RATING.
- PANELBOARD, SEE PANEL SCHEDULE
- TRANSFORMER, DRY TYPE, RATINGS INDICATED, NEMA 1 ENCLOSURE (UNO). PROVIDE 4" CONCRETE HOUSE KEEPING PAD IF A FLOOR MOUNTED UNIT IS PROVIDED.
- GROUND ROD, 3/4" X 10' COPPER CLAD. WHERE TWO RODS ARE INDICATED, SPACE A MINIMUM OF 20' APART.

1 HR FIREWALL

HOMERUN DESIGNATION, #12 CONDUCTORS UNLESS NOTED OTHERWISE.
EQUIPMENT GROUND CONDUCTOR
PHASE CONDUCTOR
NEUTRAL CONDUCTOR

A / E-505 — LETTER INDICATES ELEVATION OR DETAIL; NUMBER INDICATES PLAN OR SECTION; SHEET NUMBER WHERE PLAN, SECTION, ELEVATION OR DETAIL IS DRAWN



1 / E0.1 ELECTRICAL SITE PLAN
SCALE: 1"=30'
GRAPHIC SCALE: 1"=30'
0 7.5 15 30 60

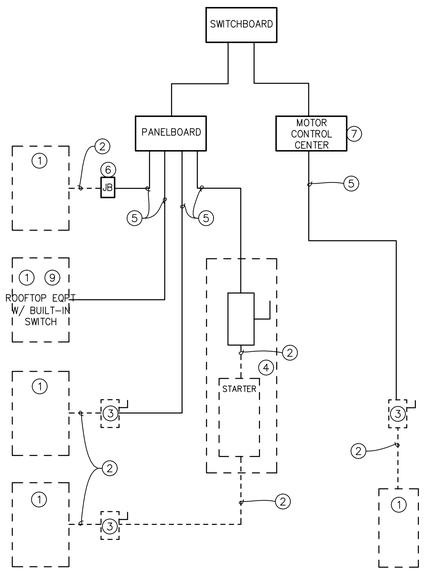
WARNING

Maximum Available Fault Current:
10,349 Symmetrical RMS Amperes
Date: 06/12/2018
Based on :
Utility Transformer: 300 kVA (Maxiumum)
Utility Transformer: 3.5% (Minimum)
Service Feeder: (3) #400 kcmil (Maximum) Copper
Service Feeder Length: 175' (Minimum)

B / E0.1 FAULT CURRENT LABEL FOR SERVICE EQUIPMENT
NO SCALE

ELECTRICAL NOTES

1. EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
2. CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR, OR OTHER TRADES.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY THE NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
4. A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATE ADJACENT TO EQUIPMENT.
5. FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES & DRAWINGS FOR BREAKER AND WIRE SIZES.
6. JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR OR OTHER TRADES.
7. FOR PROJECTS UTILIZING A MOTOR CONTROL CENTER; THE STARTER, C/B, OR VFD IN THE MCC ARE PROVIDED BY THE ELECTRICAL CONTRACTOR.
8. IN ALL CASES, THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS AND PERFORM START-UP AND TESTING OF EQUIPMENT.
9. IF THE ROOF TOP FAN IS NOT PROVIDED WITH A BUILT-IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.
10. FOR A SINGLE PRIME CONTRACT, IT IS THE RESPONSIBILITY OF THE PRIME CONTRACTOR TO COORDINATE BETWEEN THE ELECTRICAL AND THE OTHER TRADES.



A / E-001 ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT
NO SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17595 MARK A. CIARROCCA 12 OCT 2018

Brunswick Community College Allied Health
Additions & Renovations

185 College Rd NE
Bolivia, NC 28422

Project No: 16-15828-01

Construction Documents
15 October, 2018

ELECTRICAL NOTES, LEGENDS, DETAILS

E0.1

DATA & TELEPHONE OUTLET LEGEND

SYMBOL	DESCRIPTION	MOUNTING	NOTES
TV	TV OUTLET	WALL, LOCATED BEHIND TV MOUNT IN RECESSED LCD OUTLET BOX (COORDINATE SPECIFIC LOCATION AND MOUNTING HEIGHT WITH OWNER/ARCHITECT).	SEE POWER PLANS FOR SHARED BOX WITH POWER OUTLET. DESIGN BASIS ARLINGTON #TVBS613 WITH COVER. 1"C TO CABLE TRAY. (1) CAT 6 CABLE TO OBSERVATION ROOM EQUIPMENT RACK
AP	DATA OUTLET FOR WIRELESS ACCESS POINT	4" SQUARE BOX MOUNTED 10' AFF	INSTALL (1) CAT 6 CABLE TO DATA ROOM. MOUNT OWNER PROVIDED EQUIPMENT AT CEILING OR WALL MOUNTED IF INDICATED. PROVIDE PATCH CORD FROM OUTLET TO EQUIPMENT.
C	DATA / TELEPHONE OUTLET	WALL, MTD 6" ABOVE COUNTER HEIGHT AFF UNO; 4" SQUARE, DEEP BOX	1"C TO CABLE TRAY. INSTALL (2) CAT 6 CABLES TO DATA ROOM
	DATA / TELEPHONE OUTLET	WALL, 18" AFF UNO; 4" SQUARE, DEEP BOX	AREAS WITH CEILING: STUB 1"C TO 6" ABOVE CEILING AREAS WITHOUT CEILING: 1"C ROUTED TO CABLE TRAY. INSTALL (2) CAT 6 CABLES TO DATA ROOM
OB	DATA / TELEPHONE OUTLET	WALL, 48" AFF UNO; 4" SQUARE, DEEP BOX	1"C TO UP 6" BELOW ROOF DECK AND ROUTED TO CABLE TRAY. INSTALL (2) CAT 6 CABLES TO OBSERVATION ROOM EQUIPMENT RACK.
	EQUIPMENT RACK, 19" X 7'	FLOOR	
OB	EQUIPMENT RACK FOR OBSERVATION ROOM	WALL	(4) CAT6 CABLES TO DATA ROOM VIA CABLE TRAY
	DATA / TELEPHONE OUTLET	FLOOR, INTEGRAL TO POWER FLOOR BOX WITH DIVIDER SEPARATING POWER & COMMUNICATIONS	AREAS WITH CEILING: ROUTE (2) 1" C UNDERGROUND, TURN UP INTO WALL CAVITY, & STUB UP TO 6" ABOVE CEILING AREAS WITHOUT CEILING: ROUTE (2) 1" C UNDERGROUND, TURN UP INTO WALL CAVITY, & STUB TO NEAREST CABLE TRAY INSTALL (2) CAT 6 CABLES TO DATA ROOM
PROJ	COMM OUTLET FOR PROJECTOR	4" SQUARE BOX SURFACE MOUNTED TO STRUCTURE	INSTALL (1) 1-1/4"C TO FLOOR BOX ROUTE UP TO 6" BELOW ROOF DECK AND OVER TO WALL CAVITY
PROJ	COMM OUTLET FOR PROJECTOR	CEILING MOUNTED IN PROJECTOR PAN	INSTALL (1) 1-1/4"C TO VIDEO CABLE OUTLET OR FLOOR BOX AS INDICATED ON PLANS.
V	VIDEO CABLE OUTLET	18" AFF, 4-11/16" SQUARE, DEEP BOX	AREAS WITH CEILING: STUB CONDUIT TO 6" ABOVE CEILING AREAS WITHOUT CEILING: CONDUIT TO CABLE TRAY OR PROJECTOR. (1) 1-1/4"C TO CEILING PROJECTOR. (1) 1-1/4"C WITH (2) CAT 6 CABLES TO DATA ROOM

SWITCH LEGEND

SYMBOL	DESCRIPTION	NOTES
$ D	DIMMER SWITCH; MTD 42" AFF UNO	RATED FOR VOLTAGE WHERE APPLIED, 20A
$ D3	DIMMER SWITCH FOR 3-WAY CONTROL; MTD 42" AFF UNO	RATED FOR VOLTAGE WHERE APPLIED, 20A
$ 4	4-WAY SWITCH; MTD 42" AFF UNO	RATED FOR VOLTAGE WHERE APPLIED, 20A
$ OD	OCCUPANCY SENSOR WALL SWITCH, DIMMER; MTD 42" AFF UNO	RATED FOR VOLTAGE WHERE APPLIED, 20A
$ 01	OCCUPANCY SENSOR WALL SWITCH, SINGLE CKT, DUAL TECHNOLOGY; MTD 42" AFF UNO	RATED FOR VOLTAGE WHERE APPLIED, 20A
OD 1	OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL MTD @ 10' AFF UNO	INCORPORATE POWER PACK FOR CIRCUITRY SWITCHING, SEE WIRING DIAGRAMS
OR	OCCUPANCY SENSOR, DUAL TECHNOLOGY; CEILING MTD	INCORPORATE POWER PACK FOR CIRCUITRY SWITCHING, SEE WIRING DIAGRAMS
PC	PHOTOCELL, EXTERIOR; MOUNT ON NORTH FACE OF BLDG, FACING NORTH	
$	TOGGLE SWITCH, SINGLE POLE; MTD 42" AFF UNO	RATED FOR VOLTAGE WHERE APPLIED, 20A
$ 3P	3-POSITION SWITCH, CENTER OFF; MTD 42" AFF UNO	RATED FOR VOLTAGE WHERE APPLIED, 20A
$ 3	3-WAY SWITCH; MTD 42" AFF UNO	RATED FOR VOLTAGE WHERE APPLIED, 20A
$ TT	TWIST TIMER SWITCH, SPST; 125/277V, 20A/10A, 1 HP; MTD 42" AFF UNO	SEE WIRING DETAIL F/E5.3. DESIGN BASIS: TORK #C560M

PA & SECURITY LEGEND

SYMBOL	DESCRIPTION	MOUNTING	NOTES
HM	HANGING MICROPHONE	CEILING	INSTALL CONDUIT INFRASTRUCTURE ONLY. COORDINATE EXACT HEIGHT WITH MICROPHONE VENDOR. 3/4"C BACK TO OBSERVATION ROOM.
CM	SECURITY CAMERA		INSTALL CONDUIT AND BOX INFRASTRUCTURE ONLY. 4" SQUARE BOX RECESSED; STUB 3/4"C TO INDICATED LOCATION OR NEAREST ACCESSIBLE CEILING SPACE
360	360 DEGREE CAMERA	CEILING	
360 L	360 DEGREE CAMERA	CEILING	INSTALL CONDUIT AND BOX INFRASTRUCTURE ONLY. 4" SQUARE BOX; 3/4"C TO OBSERVATION ROOM. COORDINATE EXACT HEIGHT WITH ARCHITECT.
CM L	SECURITY CAMERA	CEILING	INSTALL CONDUIT AND BOX INFRASTRUCTURE ONLY. 4" SQUARE BOX; 3/4"C TO OBSERVATION ROOM. COORDINATE EXACT HEIGHT WITH ARCHITECT.
	DOOR SWITCH / CONTACT	RECESSED	INSTALL CONDUIT INFRASTRUCTURE ONLY. 1/2" FLEXIBLE METALLIC CONDUIT CONCEALED IN DOOR FRAME TO JUNCTION BOX MTD ABOVE CEILING
M	MOTION DETECTOR, ROOM COVERAGE	WALL	INSTALL CONDUIT AND BOX INFRASTRUCTURE ONLY. PROVIDE 4" SQUARE BOX RECESSED; STUB 3/4"C TO CABLE TRAY IN CORRIDOR.

RECEPTACLE LEGEND

SYMBOL	NEMA	VOLTS	DESCRIPTION
	5-20R	120V 1P 2W	DUPLEX, MTD 6" ABOVE COUNTER HEIGHT UNO
G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 6" ABOVE COUNTER HEIGHT UNO
DDC		120V 1P 2W	J-BOX ABOVE CLG LEVEL FOR DDC OR MECHANICAL CONTROL POWER SOURCE
D	14-30R	208/120V 2P 3W	DRYER OUTLET, MTD 30" AFF UNO
	5-20R	120V 1P 2W	DUPLEX, MTD 18" AFF UNO
WAP	5-20R	120V 1P 2W	DUPLEX FOR WIRELESS ACCESS POINT ROUTER, MTD 10'-0" OR FLUSH IN CEILING UNO
EWC	5-20R	120V 1P 2W	DUPLEX ELECTRIC WATER COOLER OUTLET; SUPPLY FROM GROUND FAULT TYPE C/B; COORDINATE MTG LOCATION TO CONCEAL OUTLET WHEN COOLER IS INSTALLED
		120V 1P 2W	EXHAUST FAN; SEE MECHANICAL SCHEDULE. PROVIDE ADDITIONAL POWER PACK FOR SWITCHING WITH LIGHTING CEILING OCCUPANCY SENSOR.
W/G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" AFG UNO; LISTED WEATHER-RESISTANT TYPE; PROVIDE CAST ALUMINUM WEATHERPROOF IN-USE COVER WITH CAST ALUMINUM FD WEATHERPROOF BOX
FCPS		120V 1P 2W	POWER FOR FIRE ALARM SYSTEM FIELD CHARGING POWER SUPPLY
	5-20R	120V 1P 2W	QUAD, MTD IN FLUSH FLOOR BOX; SEE AUX SYS PLANS FOR SHARED BOX; PROVIDE DIVIDER FOR POWER SEPARATION FROM VOICE/DATA
G	5-20R	120V 1P 2W	DUPLEX GFCI, MTD 18" AFF UNO
G	5-20R	120V 1P 2W	QUAD GFCI, MTD 18" AFF UNO
ICE	5-20R	120V 1P 2W	POWER FOR ICE MACHINE; MTD 18" AFF UNO
MS		120V 1P 2W	POWER FOR MOTORIZED SHADE; COORDINATE CONNECTION LOCATION WITH SHADE VENDOR/INSTALLER; PROVIDE & WIRE THROUGH 3-POSITION SWITCH FOR UP-OFF-DOWN CONTROL. CONTRACTOR TO PROVIDE LOW VOLTAGE TRANSFORMER.
PROJ	5-20R	120V 1P 2W	DUPLEX FOR PROJECTOR IN AREAS WITH NO CEILING. COORDINATE MOUNTING HEIGHT WITH ARCHITECT. SUSPEND CONDUIT VERTICALLY WITH OUTLET BOX ON CONDUIT END.
PROJ	5-20R	120V 1P 2W	DUPLEX IN PREFAB CEILING PAN. PROVIDE CEILING PAN. SEE SPECIFICATIONS. SEE AUXILIARY SYSTEMS PLANS FOR PLACEMENT IN GRID. DESIGN BASIS: PEERLESS #CMJ455 SERIES.
	5-20R	120V 1P 2W	QUAD, MTD 18" AFF UNO
R	5-20R	120V 1P 2W	RED QUAD, MTD 42" AFF UNO.
R	5-20R	120V 1P 2W	DUPLEX FOR REFRIGERATOR; MOUNT 48" AFF UNO. SUPPLY FROM GFCI TYPE C/B.
TV	5-20R	120V 1P 2W	DUPLEX, LOCATED BEHIND TV MOUNT IN RECESSED LCD OUTLET BOX (COORDINATE SPECIFIC LOCATION WITH OWNER/ARCHITECT). SEE AUXILIARY SYSTEMS PLANS FOR SHARED BOX WITH DATA OUTLET. DESIGN BASIS ARLINGTON #TVBS613 WITH COVER. SEE DETAIL E/E5.3. MTD 66" AFF UNO.
UCR	5-20R	120V 1P 2W	DUPLEX FOR REFRIGERATOR; SUPPLY FROM GFCI TYPE C/B; COORDINATE MOUNTING HEIGHT WITH CASEWORK DRAWINGS.
V	5-20R	120V 1P 2W	DUPLEX FOR VENDING MACHINE, SUPPLY FROM GFCI TYPE C/B. MTD 30" AFF UNO.
W	5-20R	120V 1P 2W	DUPLEX FOR WASHER, MTD 30" AFF UNO

FIRE ALARM LEGEND

SYMBOL	DESCRIPTION	MOUNTING
F 15	HORN/STROBE, 15 CANDELA	CEILING
F 30	HORN/STROBE, 30 CANDELA	CEILING
F 75	HORN/STROBE, 75 CANDELA	CEILING
S 15	STROBE, 15 CANDELA	CEILING
CM	CONTROL / RELAY MODULE	
D	DUCT DETECTOR - PROVIDED BY FIRE ALARM VENDOR	BY MECH CONTRACTOR
FCPS	FIELD CHARGING EXPANDER POWER SUPPLY	WALL
FACP	FIRE ALARM PANEL	WALL
H	HEAT DETECTOR	CEILING
F 15	HORN/STROBE, 15 CANDELA	WALL
F 30	HORN/STROBE, 30 CANDELA	WALL
F 75	HORN/STROBE, 75 CANDELA	WALL
F	PULL STATION	WALL
R	REMOTE INDICATOR WITH TEST SWITCH FOR DUCT DETECTOR	CEILING / WALL
S	SMOKE DETECTOR	CEILING
S	SMOKE DETECTOR	WALL
S 15	STROBE, 15 CANDELA	WALL

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17511 MARK A. CIARROCCA 12 OCT 2018

Brunswick Community College Allied Health
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185 College Rd NE
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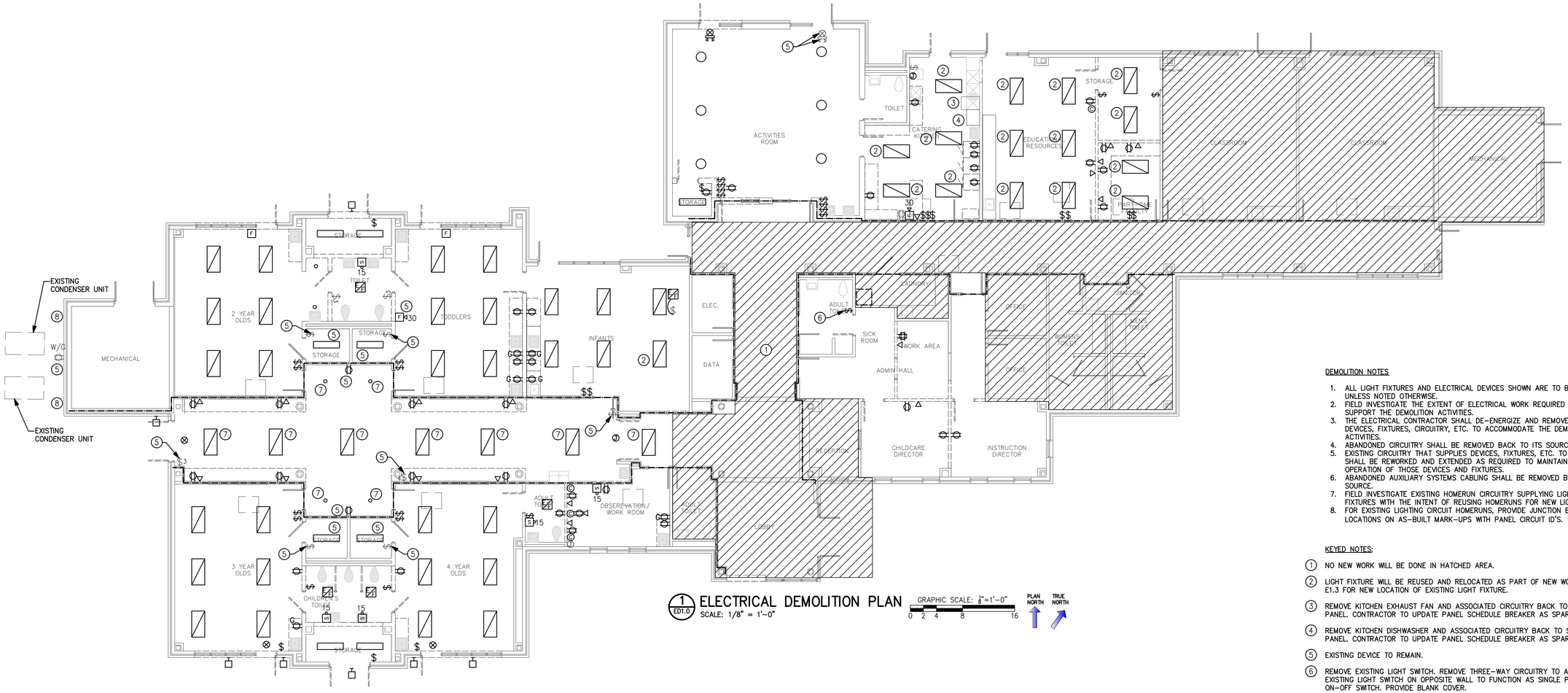
Project No: 16-15828-01

Construction Documents
15 October, 2018

ELECTRICAL LEGENDS

E0.2



1 ED1.0 ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1"=1'-0" (0 2 4 8 16)

PLAN NORTH

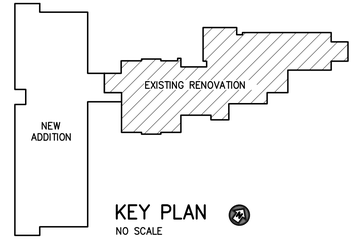
TRUE NORTH

DEMOLITION NOTES

1. ALL LIGHT FIXTURES AND ELECTRICAL DEVICES SHOWN ARE TO BE REMOVED UNLESS NOTED OTHERWISE.
2. FIELD INVESTIGATE THE EXTENT OF ELECTRICAL WORK REQUIRED TO SUPPORT THE DEMOLITION ACTIVITIES.
3. THE ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND REMOVE EXISTING DEVICES, FIXTURES, CIRCUITRY, ETC. TO ACCOMMODATE THE DEMOLITION ACTIVITIES.
4. ABANDONED CIRCUITRY SHALL BE REMOVED BACK TO ITS SOURCE.
5. EXISTING CIRCUITRY THAT SUPPLIES DEVICES, FIXTURES, ETC. TO REMAIN SHALL BE REWORKED AND EXTENDED AS REQUIRED TO MAINTAIN OPERATION OF THOSE DEVICES AND FIXTURES.
6. ABANDONED AUXILIARY SYSTEMS CABLING SHALL BE REMOVED BACK TO ITS SOURCE.
7. FIELD INVESTIGATE EXISTING HOMERUN CIRCUITRY SUPPLYING LIGHT FIXTURES WITH THE INTENT OF REUSING HOMERUNS FOR NEW LIGHTING.
8. FOR EXISTING LIGHTING CIRCUIT HOMERUNS, PROVIDE JUNCTION BOX LOCATIONS ON AS-BUILT MARK-UPS WITH PANEL CIRCUIT ID'S.

KEYED NOTES:

1. NO NEW WORK WILL BE DONE IN HATCHED AREA.
2. LIGHT FIXTURE WILL BE REUSED AND RELOCATED AS PART OF NEW WORK. SEE E1.3 FOR NEW LOCATION OF EXISTING LIGHT FIXTURE.
3. REMOVE KITCHEN EXHAUST FAN AND ASSOCIATED CIRCUITRY BACK TO SOURCE PANEL. CONTRACTOR TO UPDATE PANEL SCHEDULE BREAKER AS SPARE.
4. REMOVE KITCHEN DISHWASHER AND ASSOCIATED CIRCUITRY BACK TO SOURCE PANEL. CONTRACTOR TO UPDATE PANEL SCHEDULE BREAKER AS SPARE.
5. EXISTING DEVICE TO REMAIN.
6. REMOVE EXISTING LIGHT SWITCH. REMOVE THREE-WAY CIRCUITRY TO ALLOW EXISTING LIGHT SWITCH ON OPPOSITE WALL TO FUNCTION AS SINGLE POLE ON-OFF SWITCH. PROVIDE BLANK COVER.
7. LIGHT FIXTURE WILL BE REMOVED WITH CIRCUITRY LEFT IN PLACE. INSTALL NEW LIGHT FIXTURE IN SAME PLACE. SEE NEW WORK PLAN FOR LIGHT FIXTURE TYPE.
8. REMOVE EXISTING CONDENSER UNIT FUSED DISCONNECT AND RELOCATE TO NEW LOCATION. EXTEND CIRCUITRY TO ACCOMMODATE NEW CONDENSER LOCATION. SEE E1.2 FOR NEW CONDENSER UNIT LOCATIONS.



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15 OCT 2018

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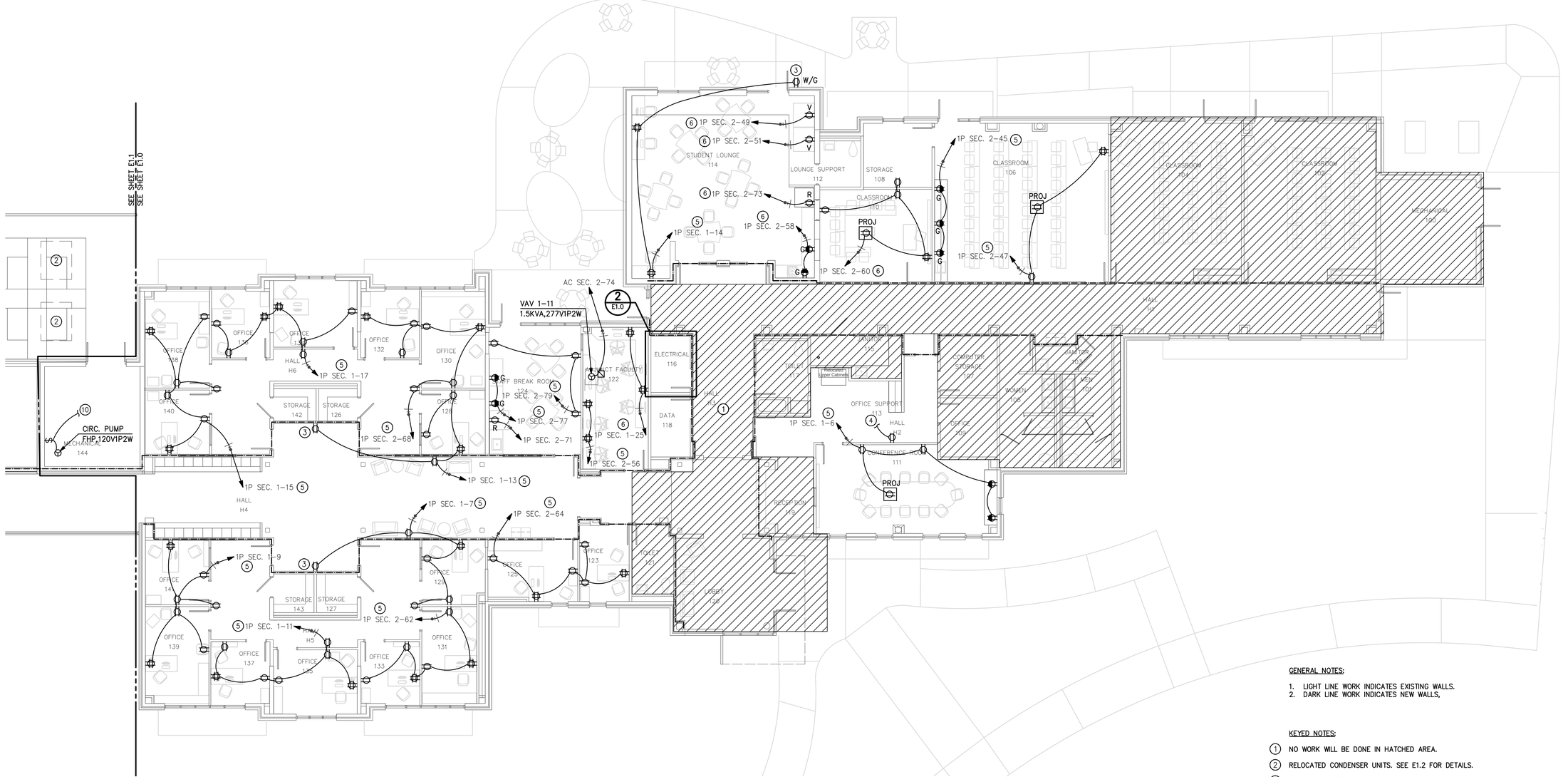
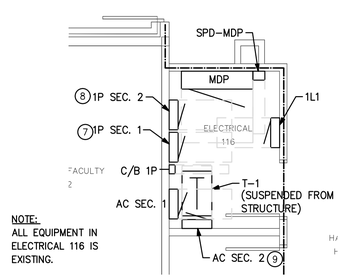
ELECTRICAL DEMOLITION PLAN

ED1.0



1 E1.0 ELECTRICAL POWER PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1"=1'-0"
0 2 4 8 16
PLAN NORTH
TRUE NORTH



NOTE:
ALL EQUIPMENT IN ELECTRICAL 116 IS EXISTING.

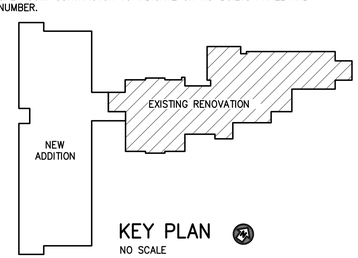
2 E1.0 ELECTRICAL ENLARGED PLAN – ELECTRICAL 116
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. LIGHT LINE WORK INDICATES EXISTING WALLS.
2. DARK LINE WORK INDICATES NEW WALLS,

KEYED NOTES:

1. NO WORK WILL BE DONE IN HATCHED AREA.
2. RELOCATED CONDENSER UNITS. SEE E1.2 FOR DETAILS.
3. EXISTING DEVICE.
4. EXTEND NEW RECEPTACLE CIRCUITRY TO EXISTING RECEPTACLE CIRCUIT PREVIOUSLY SERVING AREA. CONTRACTOR TO INDICATE ON AS-BUILTS PANEL AND CIRCUIT NUMBER.
5. UTILIZE SPARE CIRCUIT BREAKER CREATED BY DEMOLITION PHASE OF PROJECT.
6. UTILIZE EXISTING SPARE CIRCUIT BREAKER IN PANEL '1P.'
7. EXISTING PANEL '1P SEC. 1' (EATON TYPE 'PRL1A' PANELBOARD). UTILIZE EXISTING SPARE BREAKERS FOR RECEPTACLE CIRCUITS INDICATED ON PLAN.
8. EXISTING PANEL '1P SEC. 2' (EATON TYPE 'PRL1A' PANELBOARD). UTILIZE EXISTING SPARE BREAKERS FOR RECEPTACLE CIRCUITS INDICATED ON PLAN. PROVIDE (4) 20A/1P (10KAIC) GFCI CIRCUIT BREAKERS IN POSITIONS 49,51,71,73 FOR REFRIGERATORS AND VENDING MACHINE CIRCUITS.
9. EXISTING PANEL 'AC SEC. 2' (EATON TYPE 'PRL3A' PANELBOARD). PROVIDE (1) 20A/1P (35KAIC) CIRCUIT BREAKER IN POSITION 74 FOR VAV CIRCUIT.
10. EXTEND NEW CIRCUITRY TO EXISTING RECEPTACLE CIRCUIT PREVIOUSLY SERVING MECHANICAL ROOM. CONTRACTOR TO INDICATE ON AS-BUILTS PANEL AND CIRCUIT NUMBER.



KEY PLAN
NO SCALE

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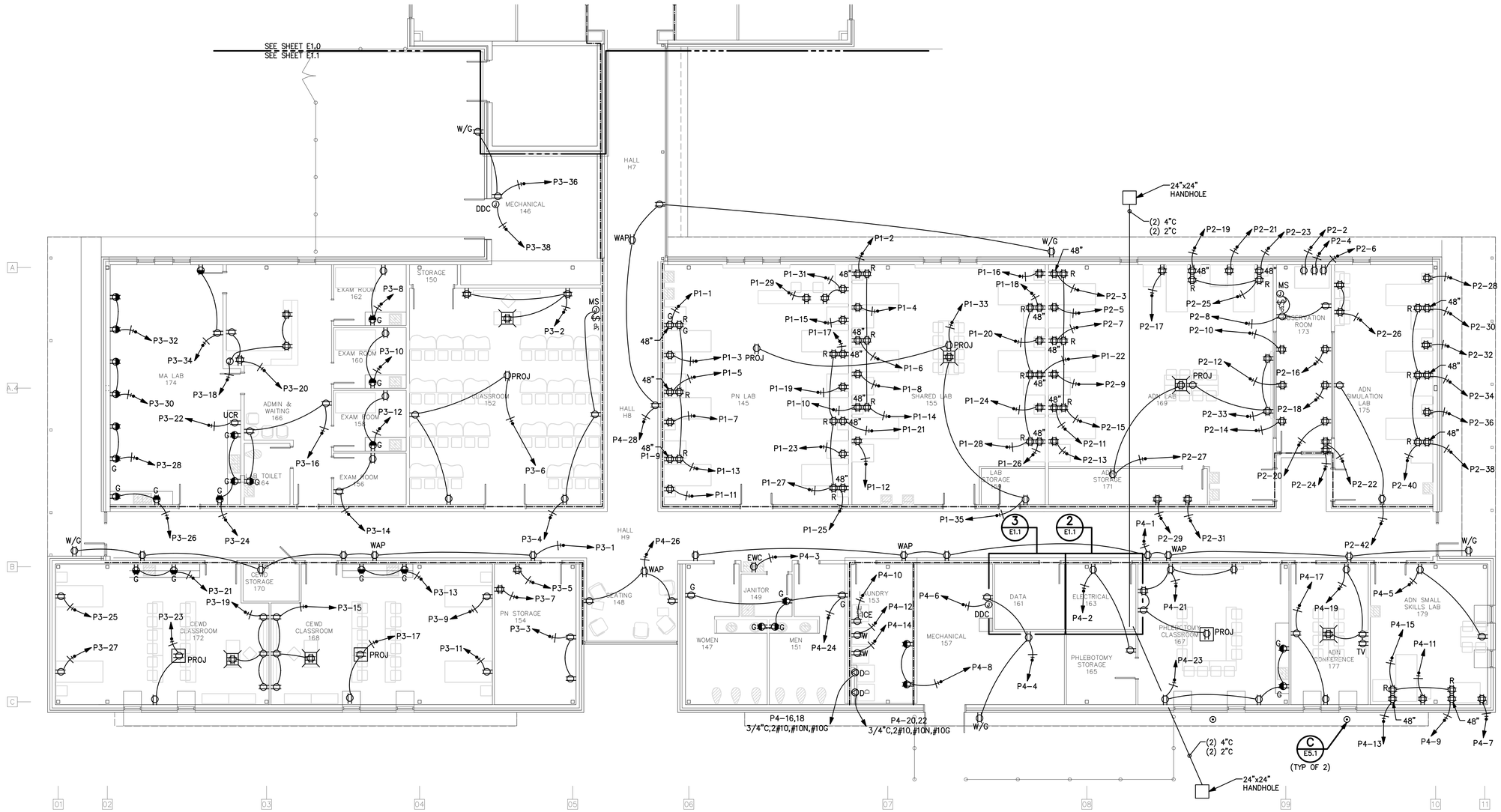
ELECTRICAL POWER PLAN RENOVATION

E1.0



1 E1.1 ELECTRICAL POWER PLAN

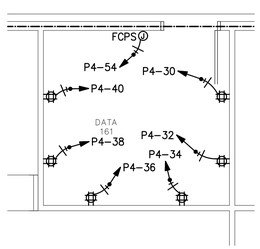
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1"=1'-0" (0 2 4 8 16)

PLAN NORTH / TRUE NORTH

KEYED NOTES:

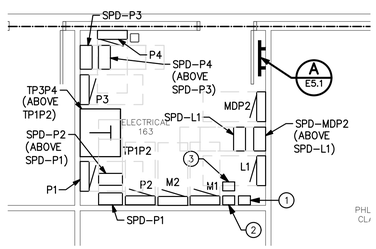
1. DIGITAL TIME CLOCK
2. INTERIOR LIGHTING CONTACTOR
3. EXTERIOR LIGHTING CONTACTOR



3 E1.1 ELECTRICAL ENLARGED PLAN – DATA 161

SCALE: 1/4" = 1'-0"

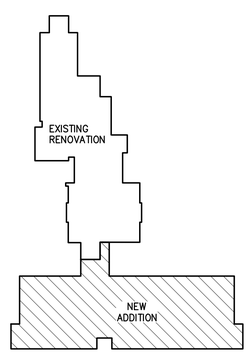
GRAPHIC SCALE: 1"=1'-0" (0 1 2 4 8)



2 E1.1 ELECTRICAL ENLARGED PLAN – ELECTRICAL 163

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE: 1"=1'-0" (0 1 2 4 8)



KEY PLAN

NO SCALE

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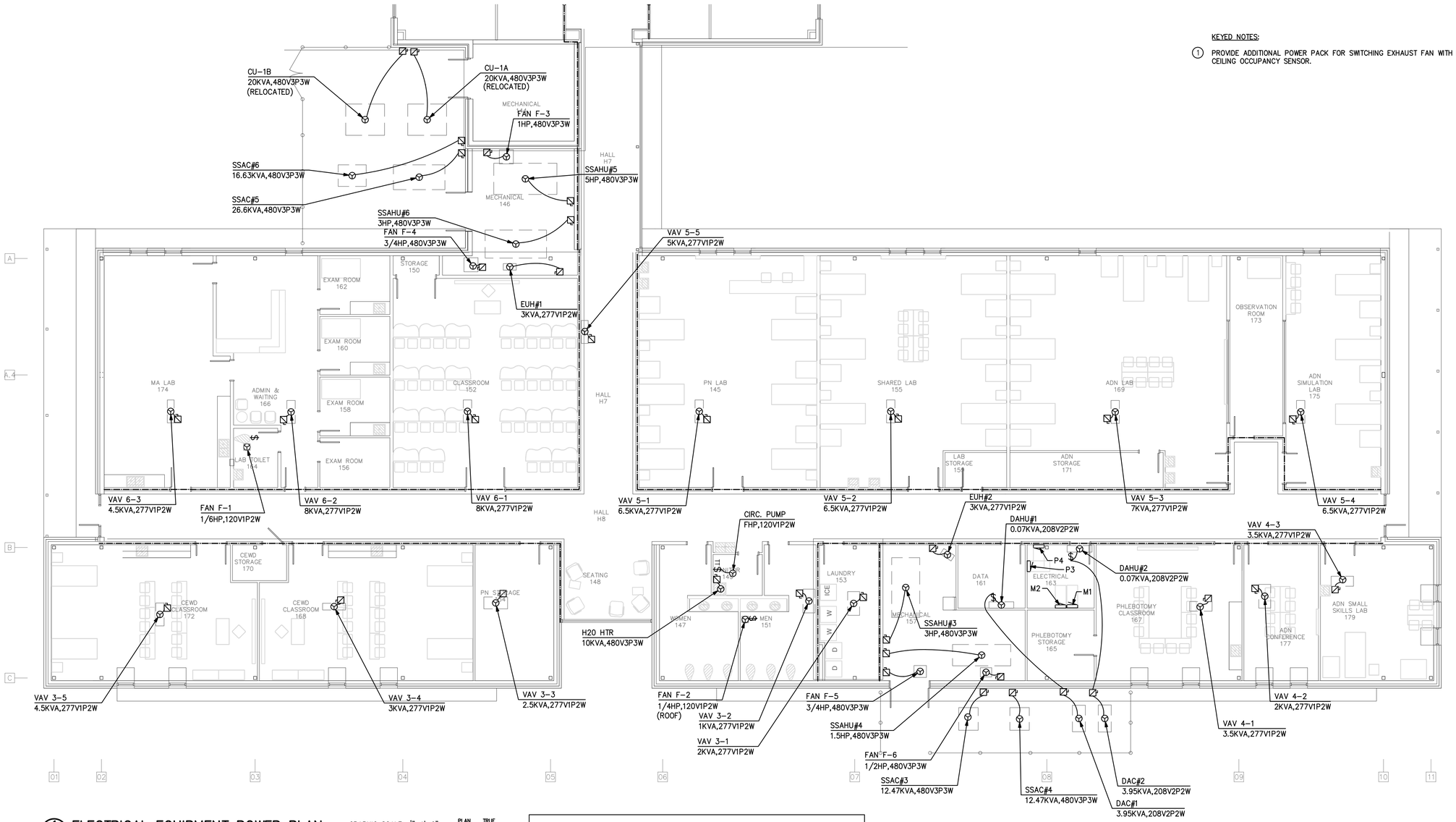
Construction Documents
15 October, 2018

ELECTRICAL POWER PLAN ADDITION

E1.1

KEYED NOTES:

(1) PROVIDE ADDITIONAL POWER PACK FOR SWITCHING EXHAUST FAN WITH LIGHTING CEILING OCCUPANCY SENSOR.



1 E1.2 ELECTRICAL EQUIPMENT POWER PLAN
SCALE: 1/8" = 1'-0"

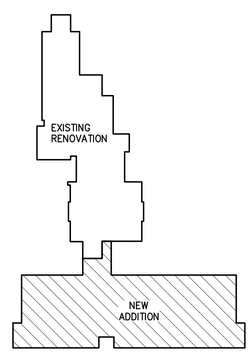
GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16
PLAN NORTH
TRUE NORTH

EQUIPMENT SCHEDULE

CALLOUT	VOLTS	KW HEATING	CIRCUIT	WIRE CALLOUT
CIRC. PUMP	120V 1P 2W		P4-35	3/4"C,1#12,#12N,#12G
CU-1A	480V 3P 3W		MDP-13,15,17	3/4"C,3#8,#10G
CU-1B	480V 3P 3W		MDP-19,21,23	3/4"C,3#8,#10G
DAC#1	208V 2P 2W		P4-25,27	3/4"C,2#10,#10G
DAC#2	208V 2P 2W		P4-29,31	3/4"C,2#10,#10G
DAHU#1	208V 2P 2W		P4-25,27	3/4"C,2#10,#10G
DAHU#2	208V 2P 2W		P4-29,31	3/4"C,2#10,#10G
EUH#1	277V 1P 2W	3	M2-17	3/4"C,1#10,#10N,#10G
EUH#2	277V 1P 2W	3	M2-19	3/4"C,1#10,#10N,#10G
FAN F-1	120V 1P 2W		P3-29	3/4"C,1#12,#12N,#12G
FAN F-2	120V 1P 2W		P4-33	3/4"C,1#12,#12N,#12G
FAN F-3	480V 3P 3W		M2-21,23,25	3/4"C,3#10,#10G
FAN F-4	480V 3P 3W		M2-27,29,31	3/4"C,3#10,#10G
FAN F-5	480V 3P 3W		M2-18,20,22	3/4"C,3#12,#12G
FAN F-6	480V 3P 3W		M2-24,26,28	3/4"C,3#12,#12G
H2O HTR	480V 3P 3W	10	M1-25,27,29	3/4"C,3#12,#12G
SSAC#3	480V 3P 3W		M1-14,16,18	3/4"C,3#12,#12G
SSAC#4	480V 3P 3W		M1-20,22,24	3/4"C,3#12,#12G
SSAC#5	480V 3P 3W		M1-2,4,6	3/4"C,3#8,#10G
SSAC#6	480V 3P 3W		M1-8,10,12	3/4"C,3#10,#10G
SSAHU#3	480V 3P 3W		M1-13,15,17	3/4"C,3#12,#12G
SSAHU#4	480V 3P 3W		M1-19,21,23	3/4"C,3#12,#12G

EQUIPMENT SCHEDULE

CALLOUT	VOLTS	KW HEATING	CIRCUIT	WIRE CALLOUT
SSAHU#5	480V 3P 3W		M1-1,3,5	3/4"C,3#12,#12G
SSAHU#6	480V 3P 3W		M1-7,9,11	3/4"C,3#12,#12G
VAV 3-1	277V 1P 2W	2	M2-2	3/4"C,1#12,#12N,#12G
VAV 3-2	277V 1P 2W	1	M2-4	3/4"C,1#12,#12N,#12G
VAV 3-3	277V 1P 2W	2.5	M2-6	3/4"C,1#12,#12N,#12G
VAV 3-4	277V 1P 2W	3	M2-8	3/4"C,1#12,#12N,#12G
VAV 3-5	277V 1P 2W	4.5	M2-10	3/4"C,1#10,#10N,#10G
VAV 4-1	277V 1P 2W	3.5	M2-12	3/4"C,1#12,#12N,#12G
VAV 4-2	277V 1P 2W	2	M2-14	3/4"C,1#12,#12N,#12G
VAV 4-3	277V 1P 2W	3.5	M2-16	3/4"C,1#12,#12N,#12G
VAV 5-1	277V 1P 2W	6.5	M2-1	3/4"C,1#10,#10N,#10G
VAV 5-2	277V 1P 2W	6.5	M2-3	3/4"C,1#10,#10N,#10G
VAV 5-3	277V 1P 2W	7	M2-5	3/4"C,1#8,#8N,#10G
VAV 5-4	277V 1P 2W	6.5	M2-7	3/4"C,1#10,#10N,#10G
VAV 5-5	277V 1P 2W	5	M2-9	3/4"C,1#10,#10N,#10G
VAV 6-1	277V 1P 2W	8	M2-11	3/4"C,1#8,#8N,#10G
VAV 6-2	277V 1P 2W	8	M2-13	3/4"C,1#8,#8N,#10G
VAV 6-3	277V 1P 2W	4.5	M2-15	3/4"C,1#10,#10N,#10G



KEY PLAN
NO SCALE

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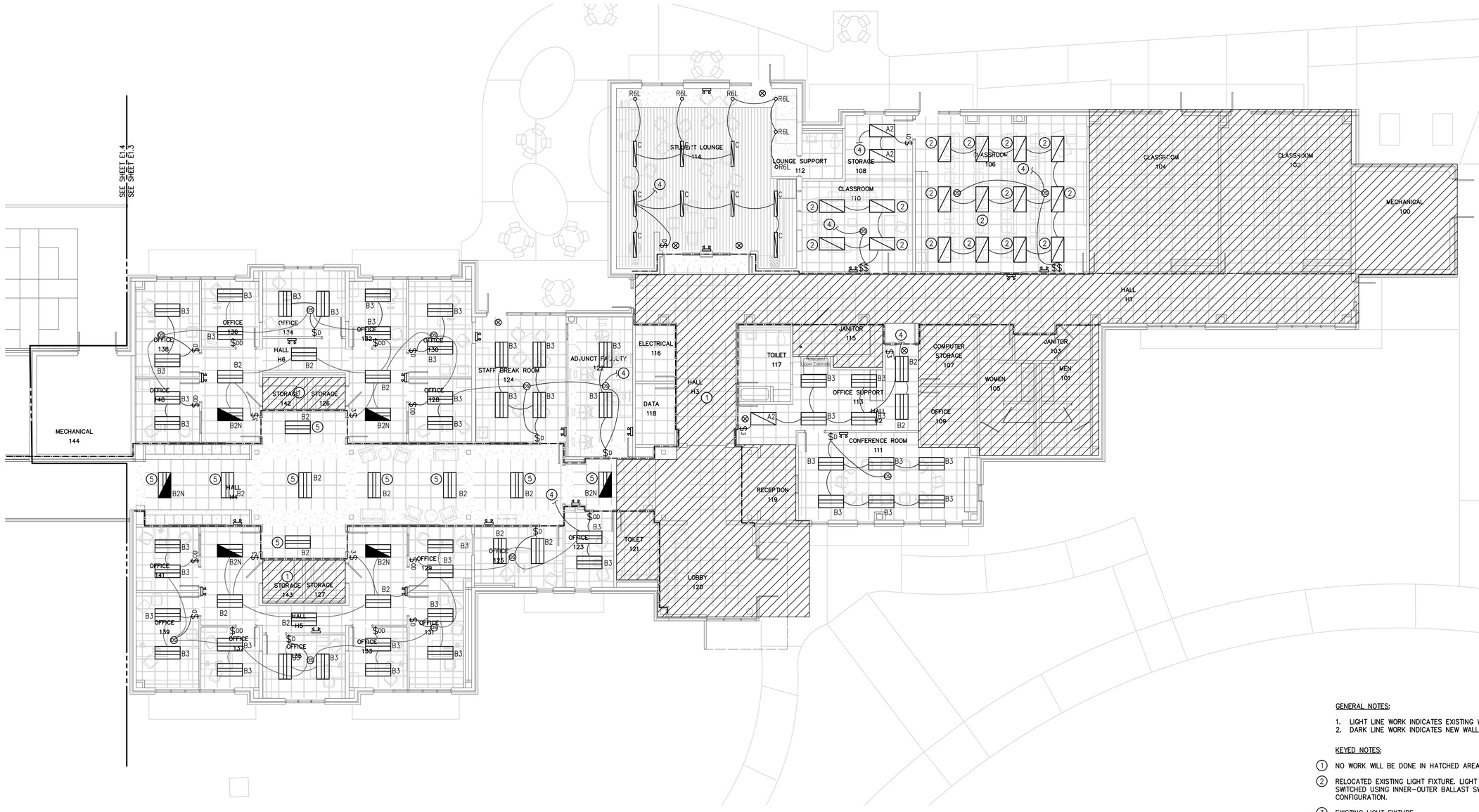
ELECTRICAL EQUIPMENT POWER PLAN ADDITION

E1.2



1 E1.3 ELECTRICAL LIGHTING PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

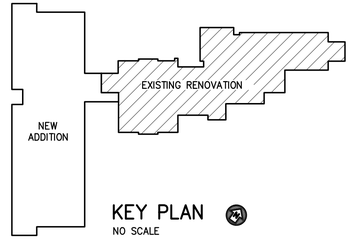
PLAN NORTH
TRUE NORTH

GENERAL NOTES:

1. LIGHT LINE WORK INDICATES EXISTING WALLS.
2. DARK LINE WORK INDICATES NEW WALLS,

KEYED NOTES:

1. NO WORK WILL BE DONE IN HATCHED AREA.
2. RELOCATED EXISTING LIGHT FIXTURE. LIGHT FIXTURES SHALL BE SWITCHED USING INNER-OUTER BALLAST SWITCHING CONFIGURATION.
3. EXISTING LIGHT FIXTURE
4. EXTEND NEW LIGHTING CIRCUITRY TO EXISTING LIGHTING CIRCUIT PREVIOUSLY SERVING AREA. CONTRACTOR TO INDICATE ON AS-BUILTS PANEL AND CIRCUIT NUMBER DEVICE IS FED FROM.
5. REUSE EXISTING LIGHTING CIRCUITRY.



KEY PLAN
NO SCALE

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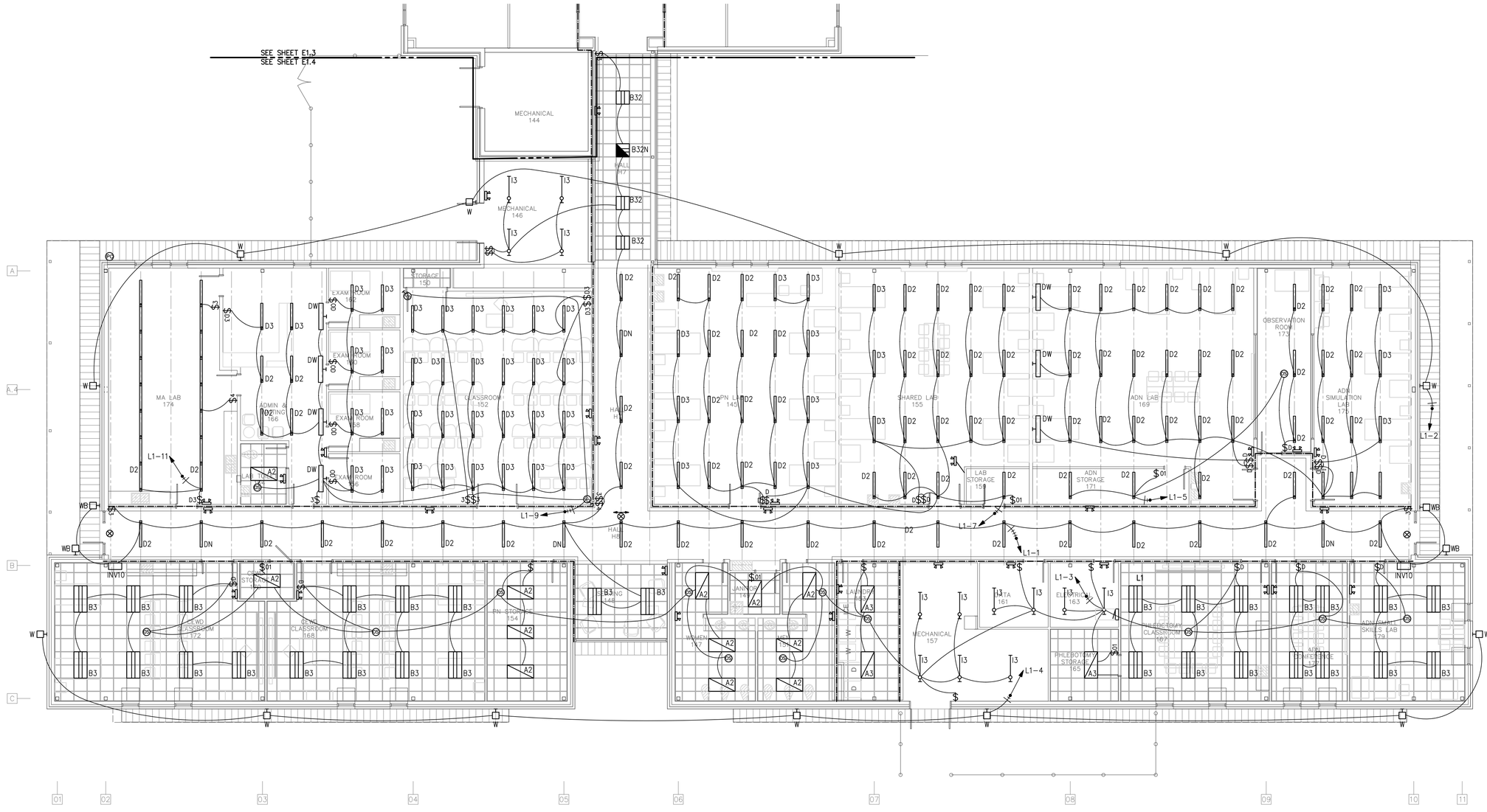
Project No: 16-15828-01

Construction Documents
15 October, 2018

ELECTRICAL LIGHTING PLAN RENOVATION

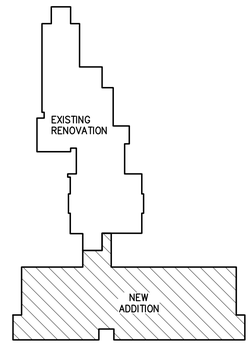
E1.3



1 E1.4 ELECTRICAL LIGHTING PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"
0 2 4 8 16

PLAN NORTH / TRUE NORTH



KEY PLAN
NO SCALE

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124 Market St, Wilmington, NC 28401
910 762-0892 s2a3.com

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17501 MARK A. CIARROCCA 17 OCT 2018

Brunswick Community College Allied Health
Additions & Renovations

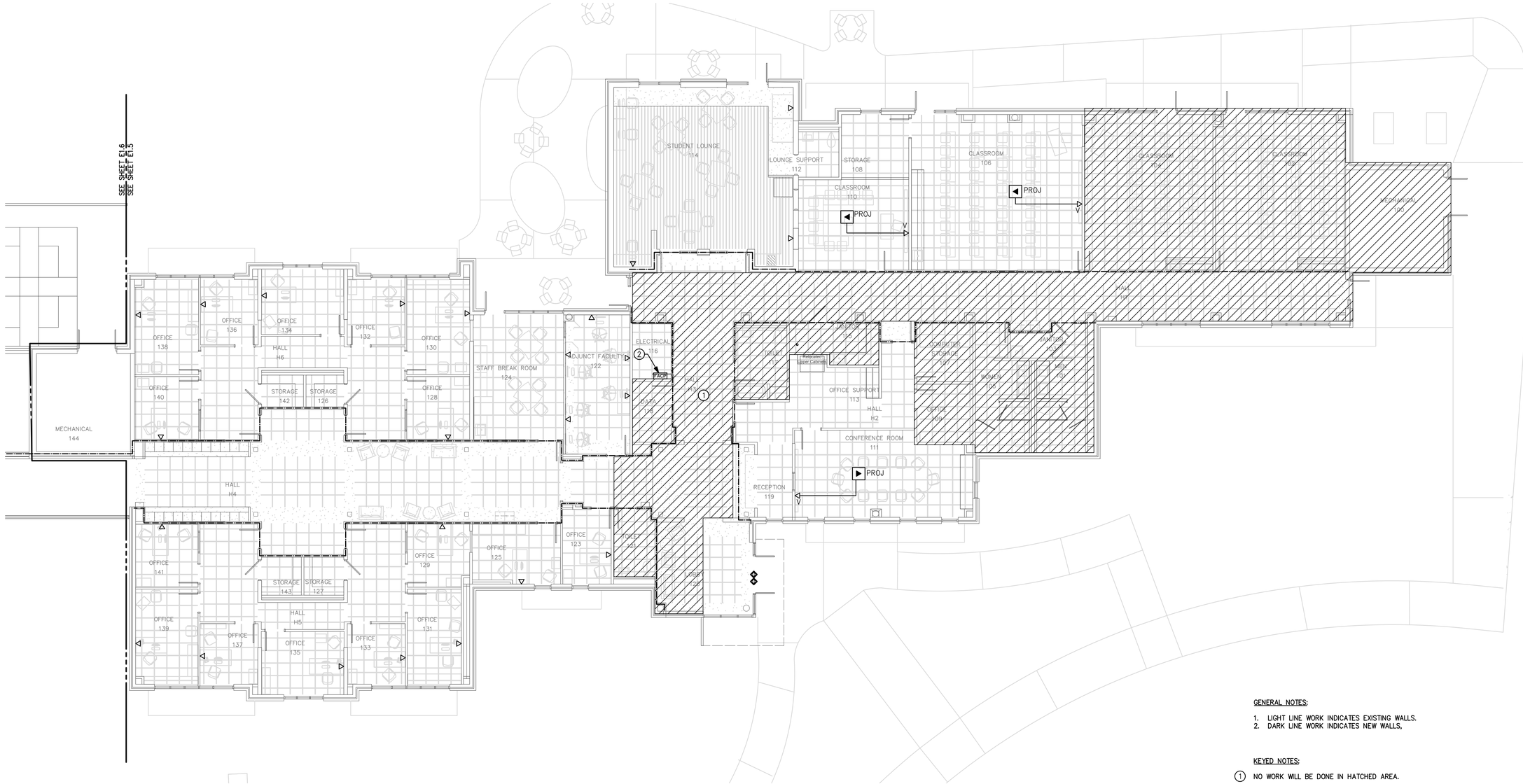
185 College Rd NE
Bolivia, NC 28422

Project No: 16-15828-01

Construction Documents
15 October, 2018

ELECTRICAL LIGHTING PLAN ADDITION

E1.4



1 E1.5 ELECTRICAL AUXILIARY SYSTEMS PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1"=1'-0"
0 2 4 8 16

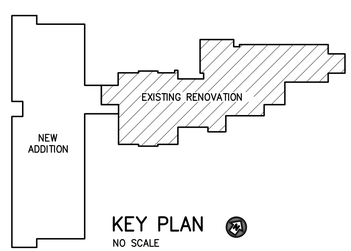
PLAN NORTH
TRUE NORTH

GENERAL NOTES:

1. LIGHT LINE WORK INDICATES EXISTING WALLS.
2. DARK LINE WORK INDICATES NEW WALLS,

KEYED NOTES:

1. NO WORK WILL BE DONE IN HATCHED AREA.
2. REMOVE EXISTING EST FIRE ALARM PANEL. REPLACE WITH NEW. CONTRACTOR SHALL ENSURE THAT NEW FIRE ALARM PANEL IS COMPATIBLE WITH EXISTING DEVICES.



KEY PLAN
NO SCALE

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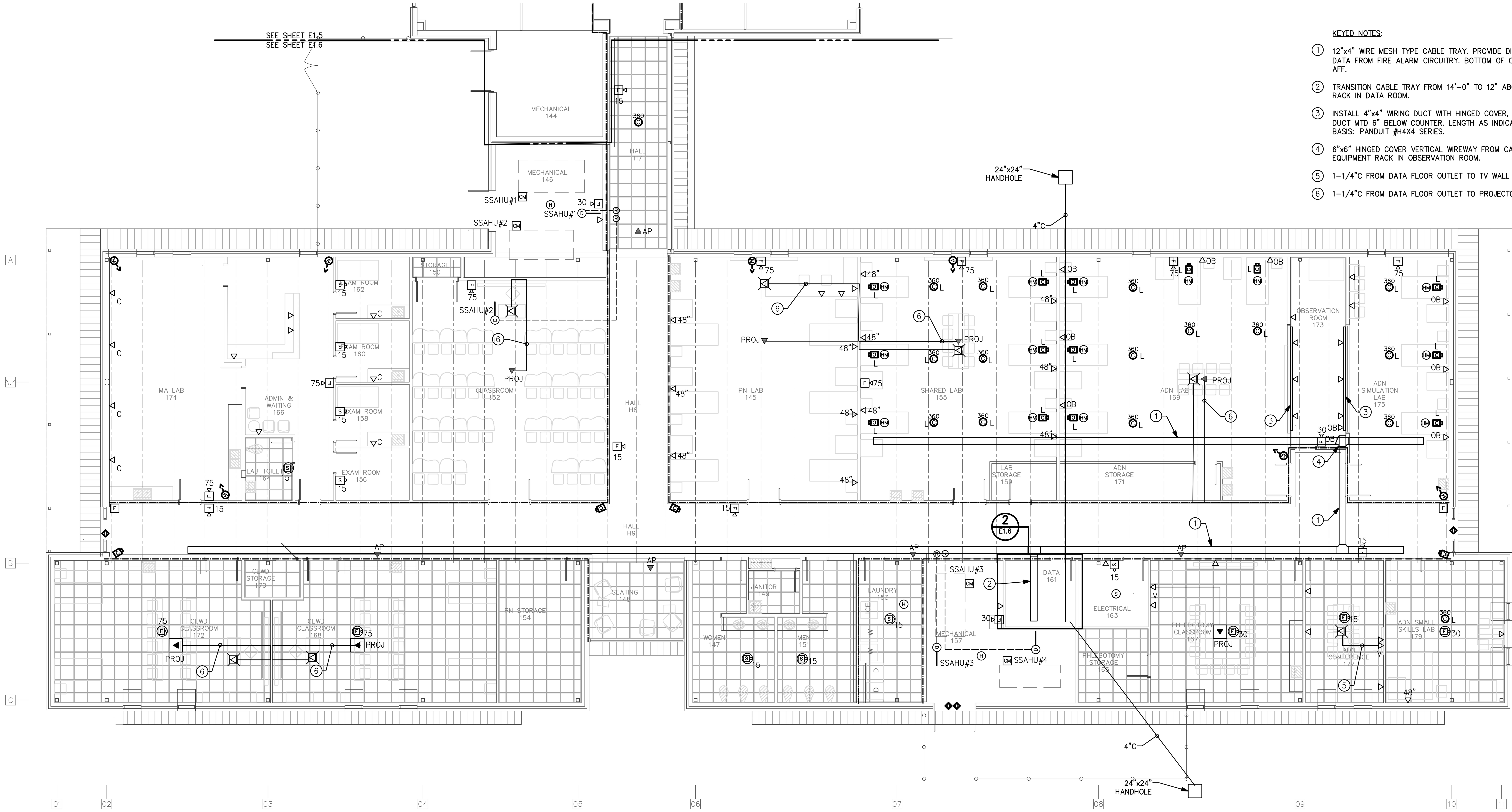
ELECTRICAL AUXILIARY SYSTEMS PLAN RENOVATION

E1.5



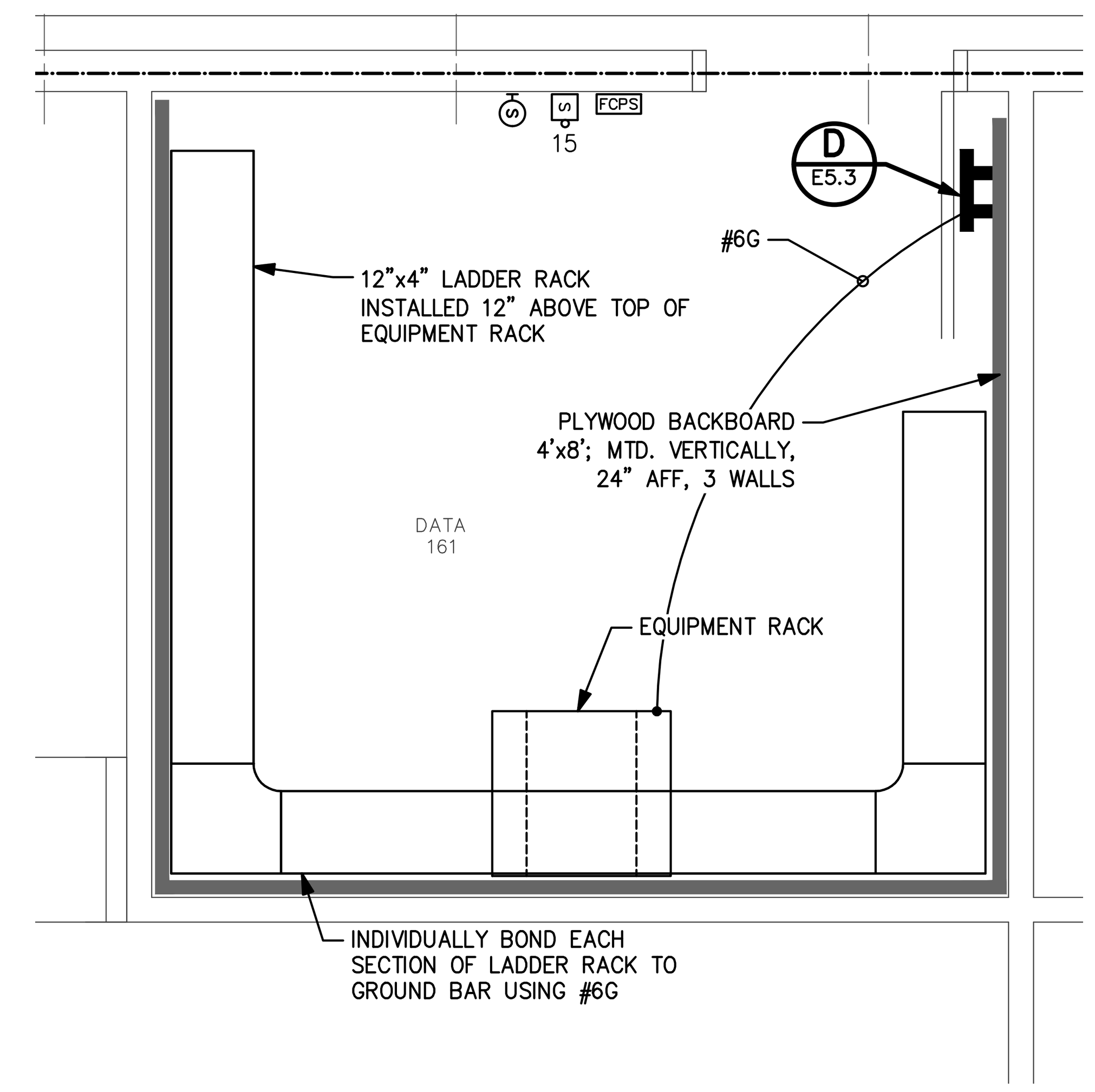
① ELECTRICAL AUXILIARY SYSTEMS PLAN E1.6
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8"=1'-0"

PLAN NORTH TRUE NORTH

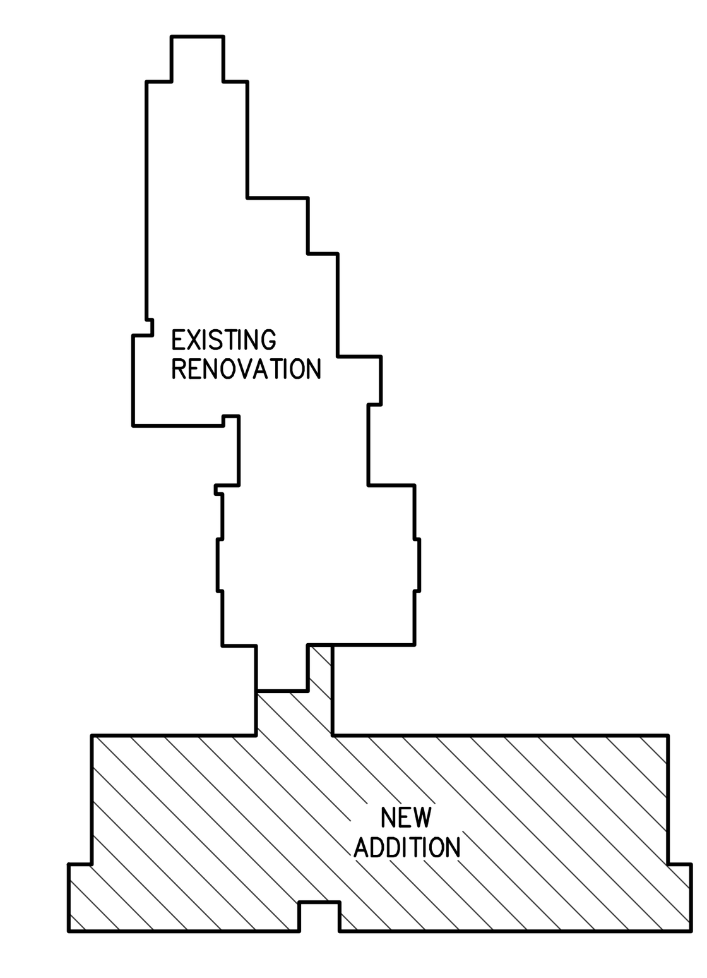
KEYED NOTES:

1. 12"x4" WIRE MESH TYPE CABLE TRAY. PROVIDE DIVIDER TO SEPARATE DATA FROM FIRE ALARM CIRCUITRY. BOTTOM OF CABLE TRAY IS 14'-0" AFF.
2. TRANSITION CABLE TRAY FROM 14'-0" TO 12" ABOVE DATA EQUIPMENT RACK IN DATA ROOM.
3. INSTALL 4"x4" WIRING DUCT WITH HINGED COVER, WIDE SLOTS, WIRING DUCT MTD 6" BELOW COUNTER. LENGTH AS INDICATED ON PLAN. DESIGN BASIS: PANDUIT #H4X4 SERIES.
4. 6"x6" HINGED COVER VERTICAL WIREWAY FROM CABLE TRAY DOWN TO EQUIPMENT RACK IN OBSERVATION ROOM.
5. 1-1/4"C FROM DATA FLOOR OUTLET TO TV WALL BOX.
6. 1-1/4"C FROM DATA FLOOR OUTLET TO PROJECTOR.



② ELECTRICAL ENLARGED PLAN – DATA 100 E1.6
SCALE: 1/2" = 1'-0"

GRAPHIC SCALE: 1/2"=1'-0"



KEY PLAN
NO SCALE

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Brunswick Community College Allied Health

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Project No: 16-15828-01

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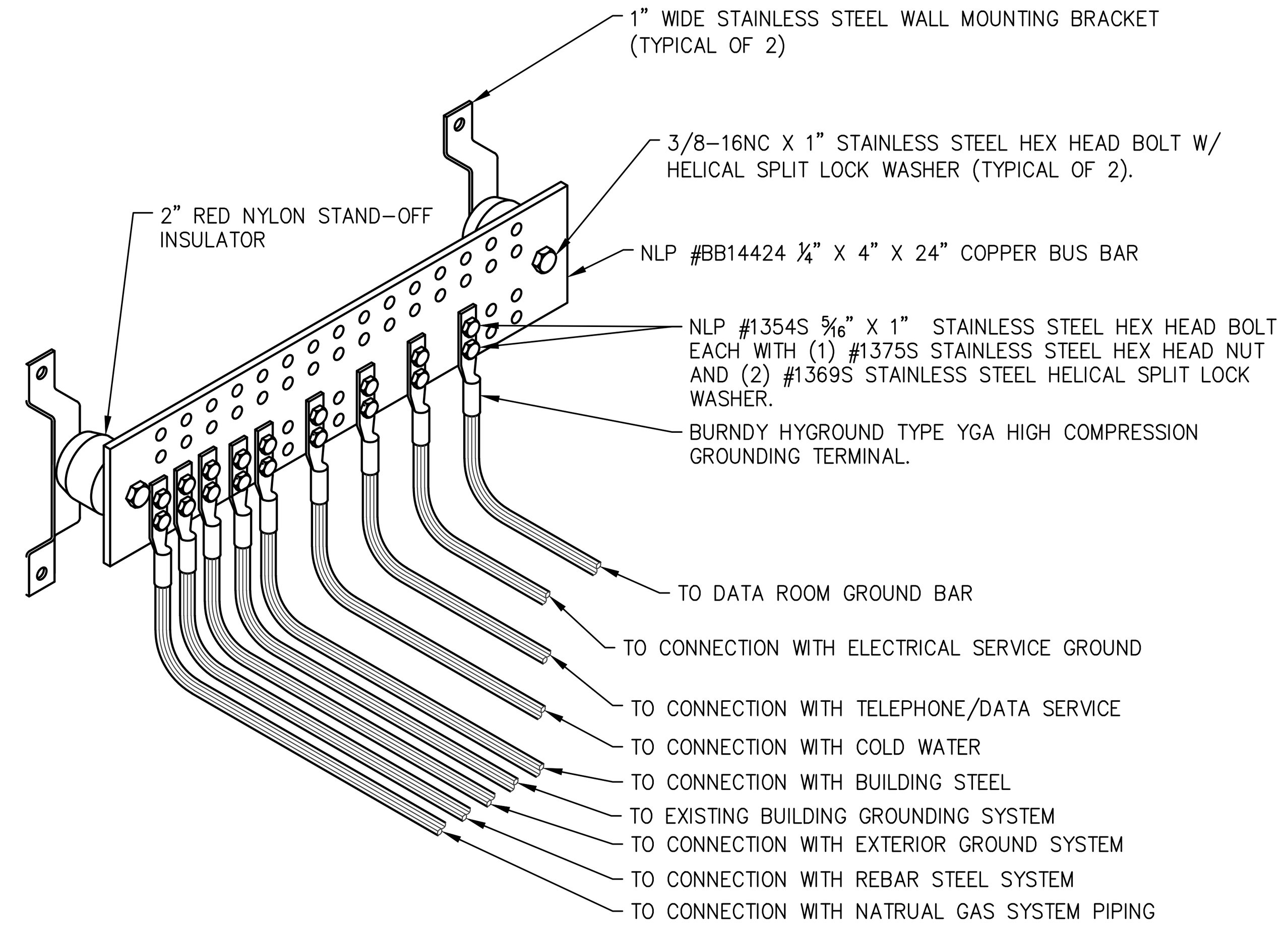
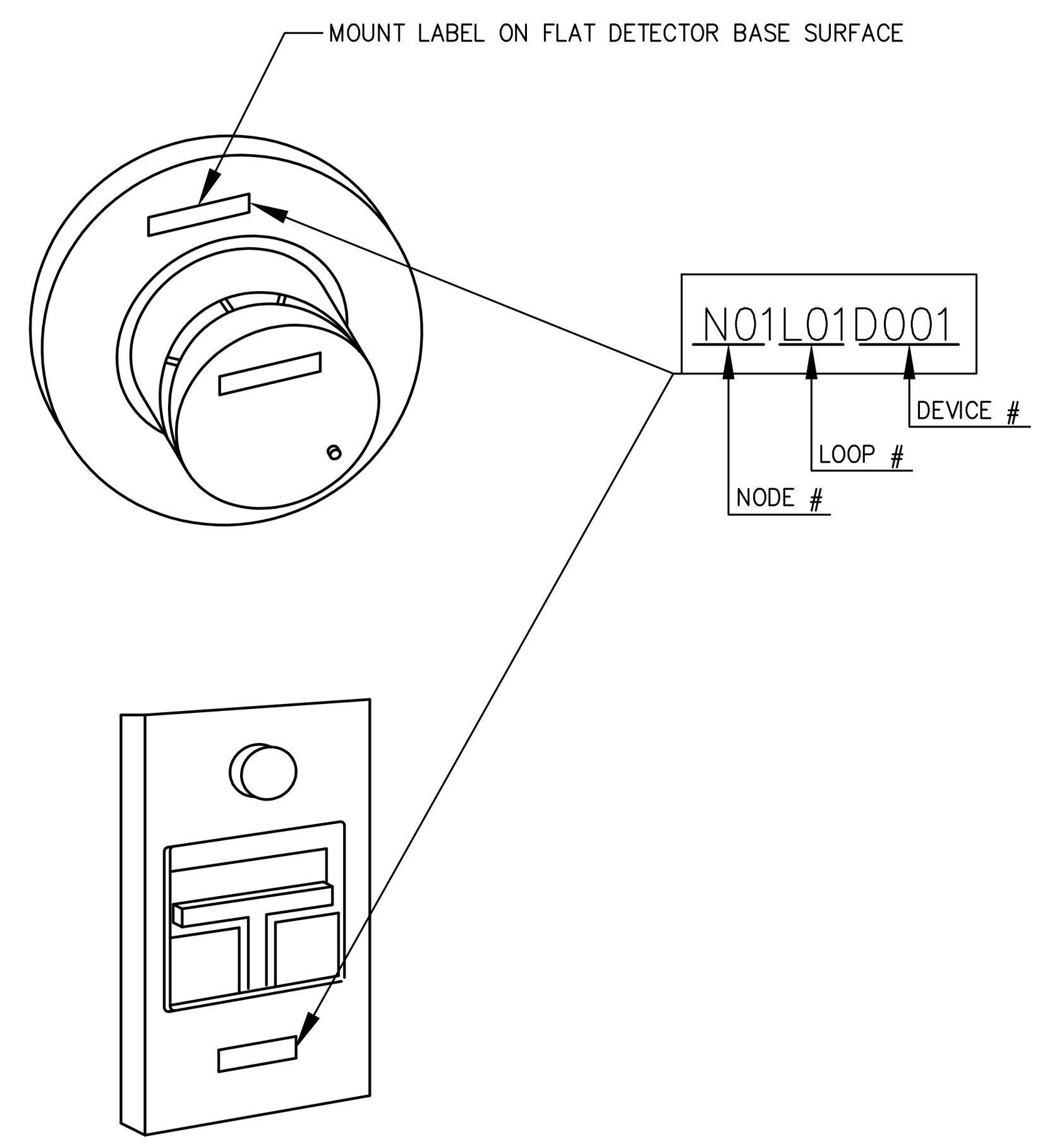
ELECTRICAL AUXILIARY SYSTEMS PLAN ADDITION

E1.6

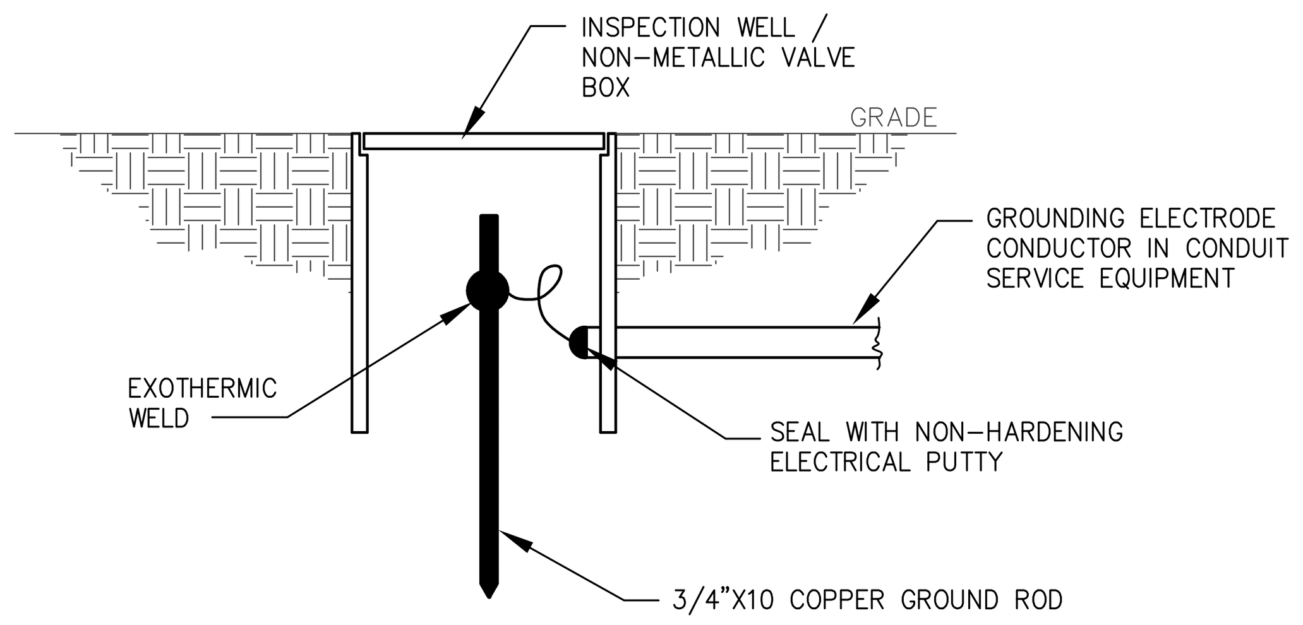


A / E5.1 MAIN GROUND BAR
NO SCALE

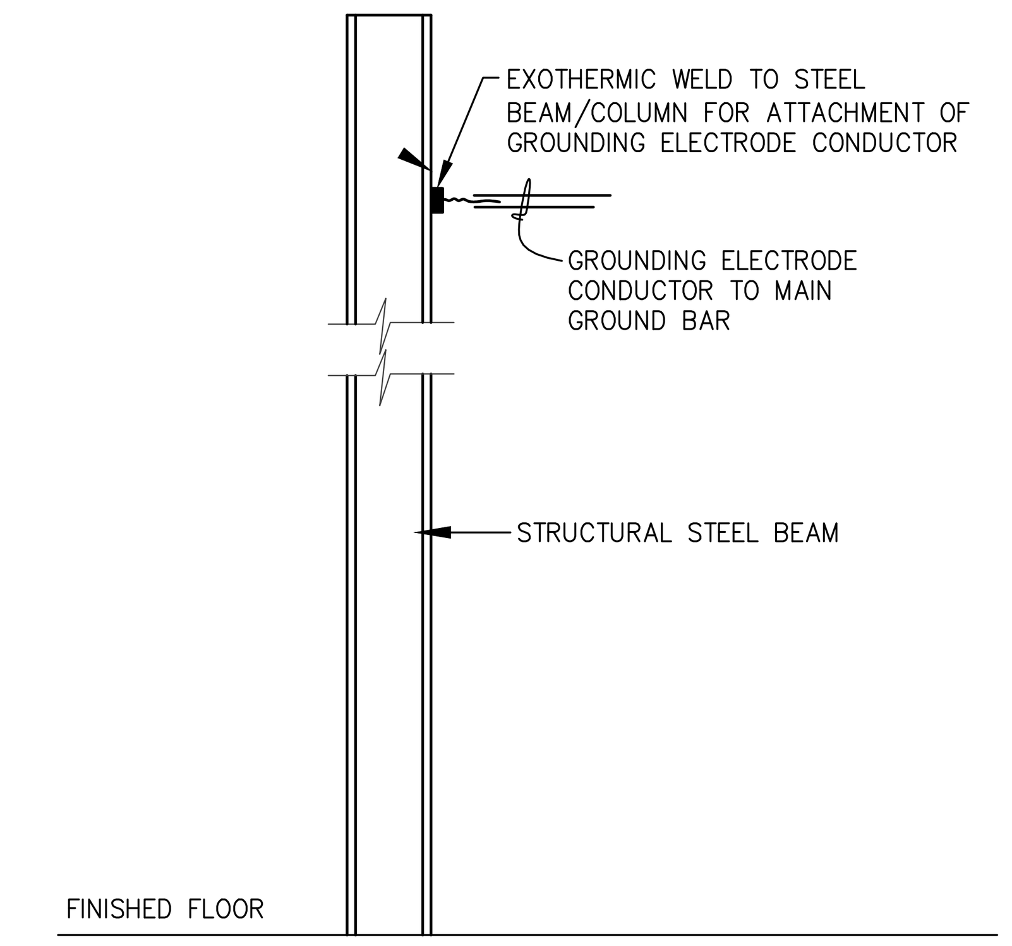
NOTE: PROVIDE LABELS FOR EACH INDIVIDUAL GROUND SYSTEM CONDUCTOR



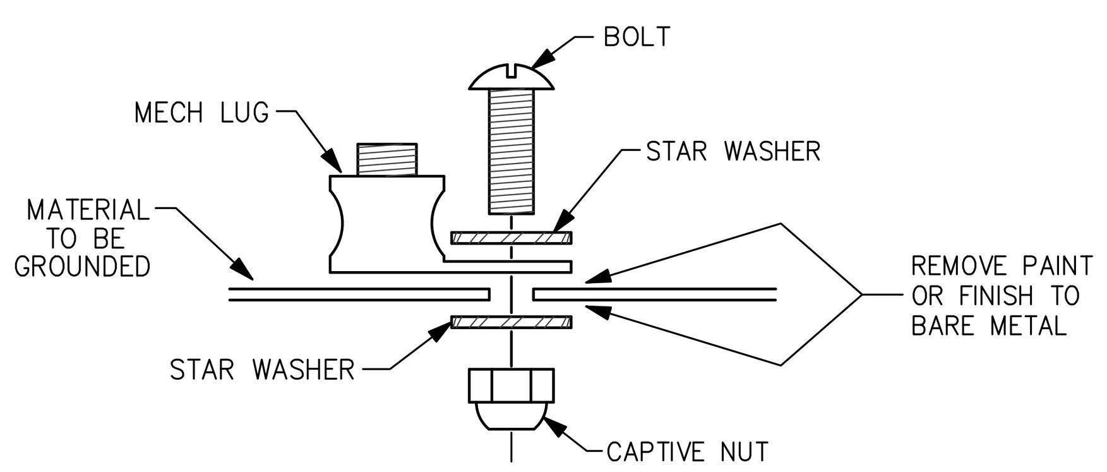
B / E5.1 TYPICAL FIRE ALARM DEVICE IDENTIFICATION
NO SCALE



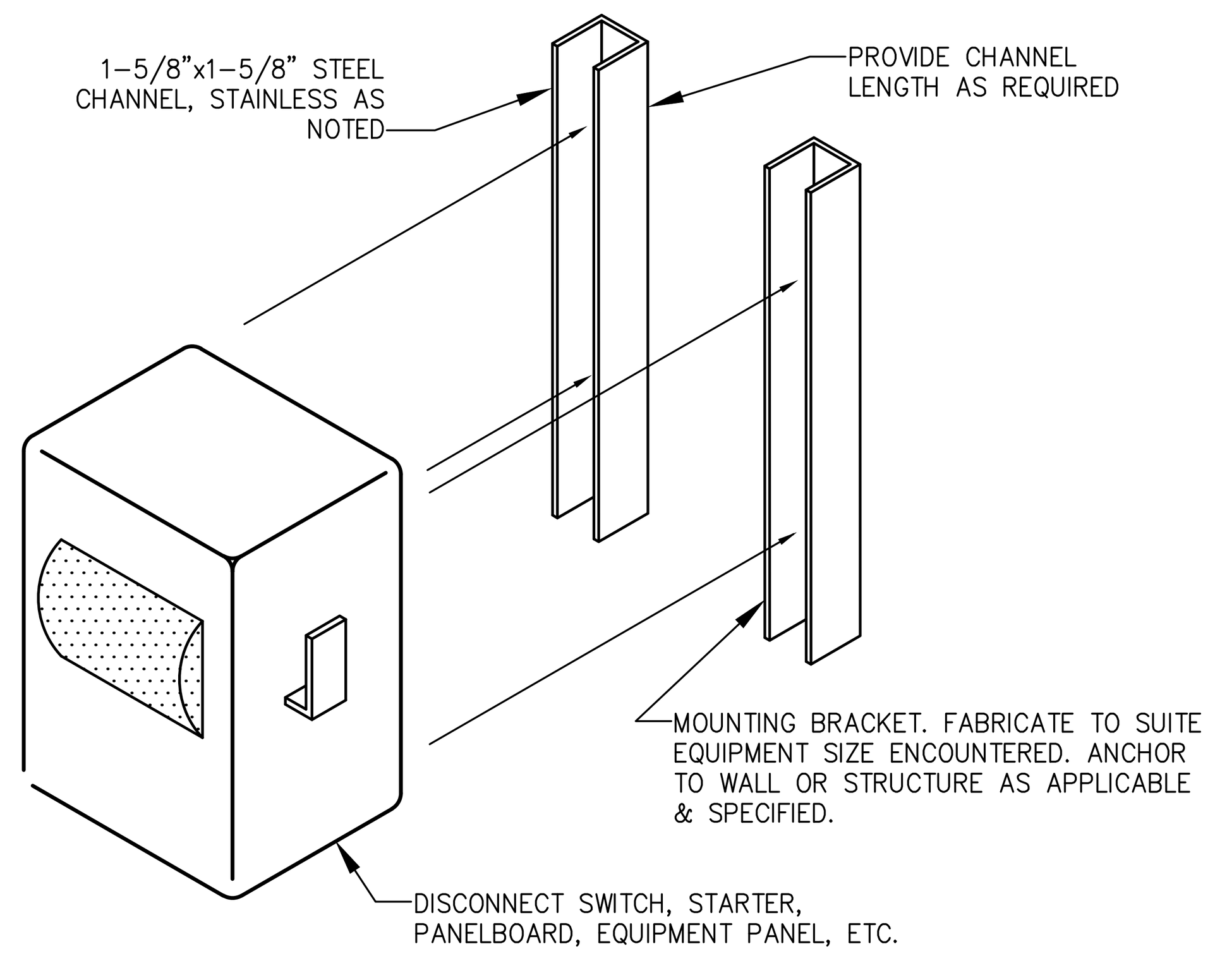
C / E5.1 GROUND ROD & INSPECTION WELL
NO SCALE



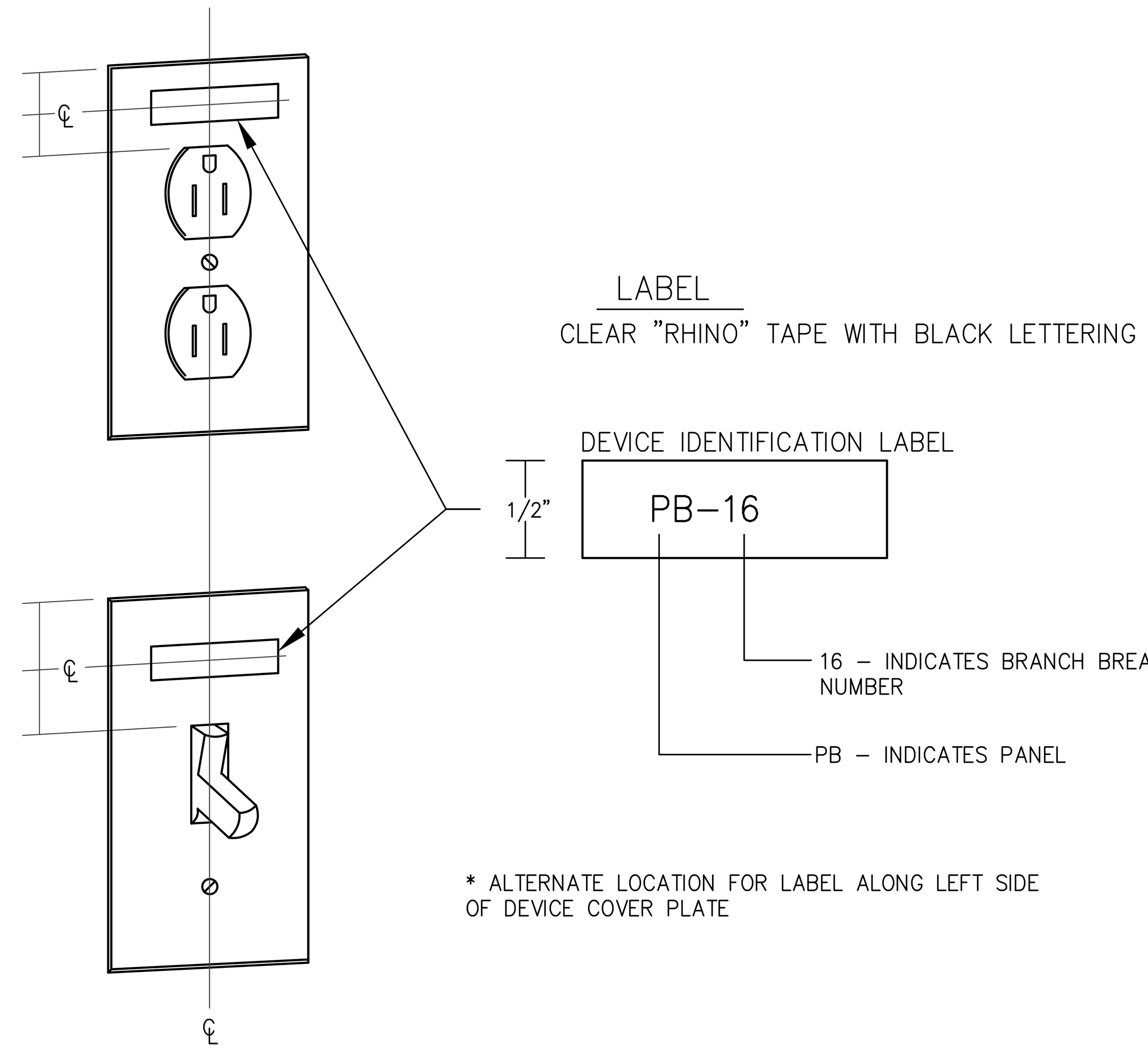
D / E5.1 STEEL COLUMN GROUNDING DETAIL
NO SCALE



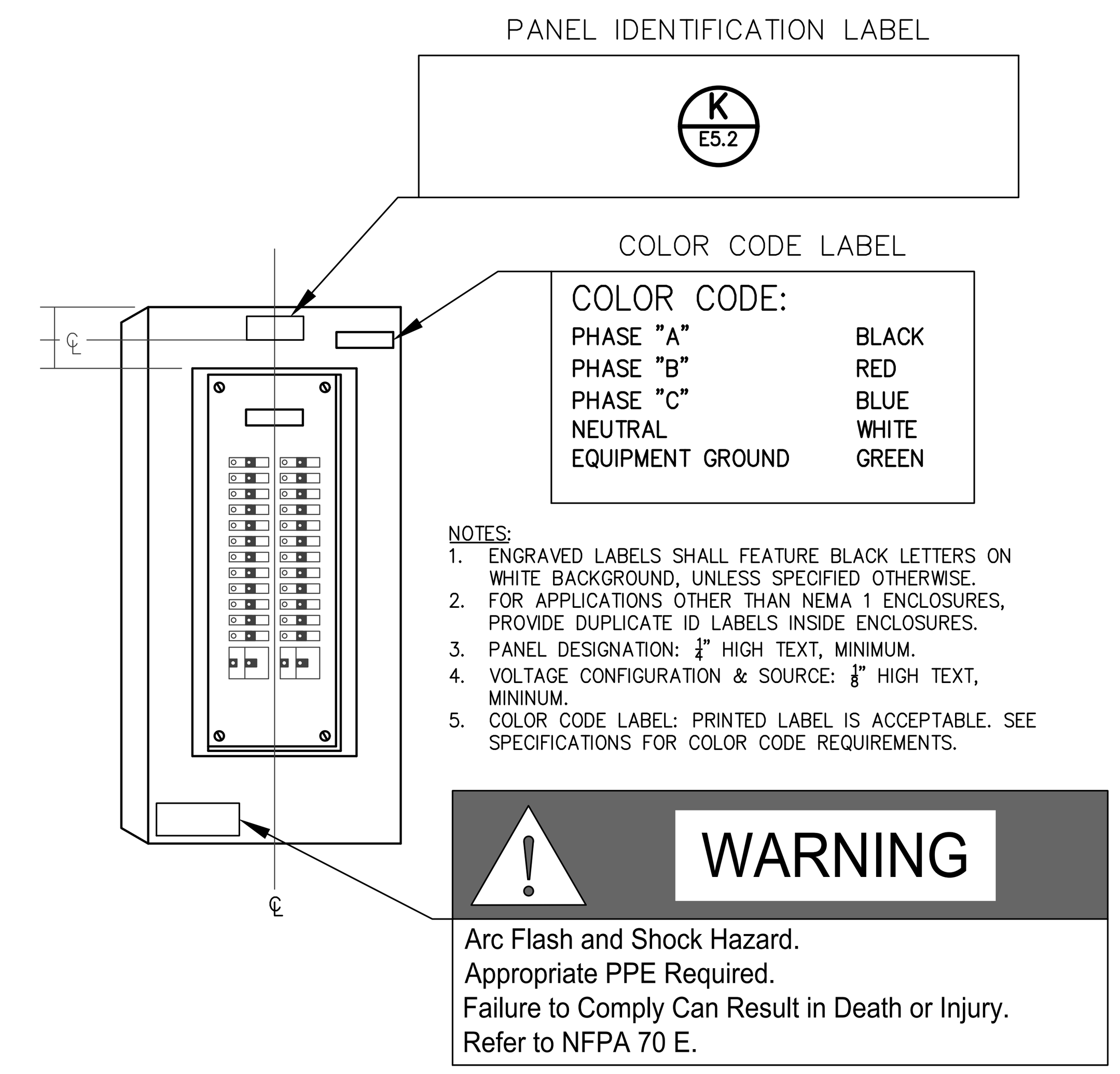
E / E5.1 GROUNDING LUG DETAIL
NO SCALE



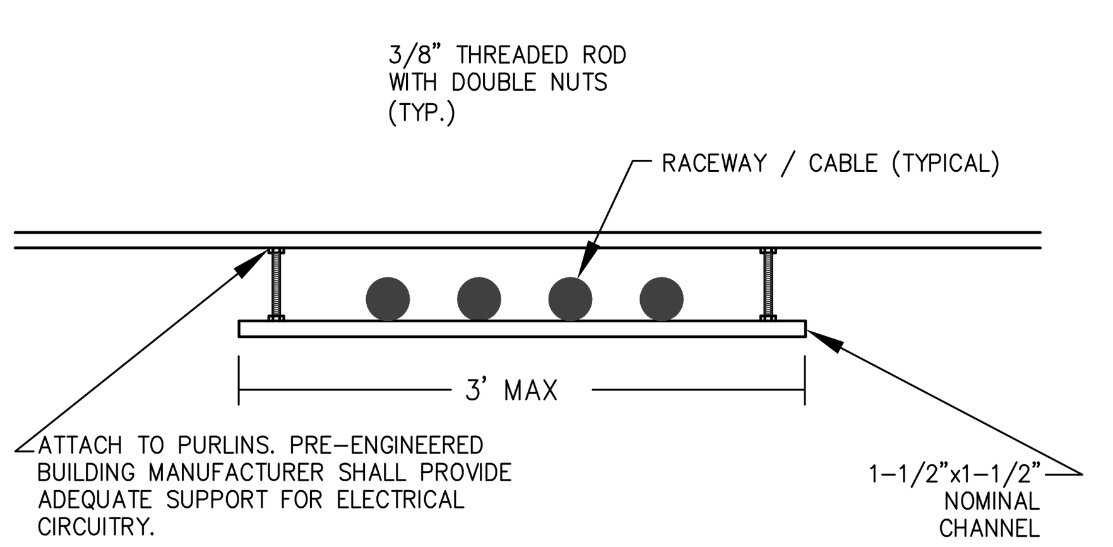
F / E5.1 EQUIPMENT MOUNTING DETAIL
NO SCALE



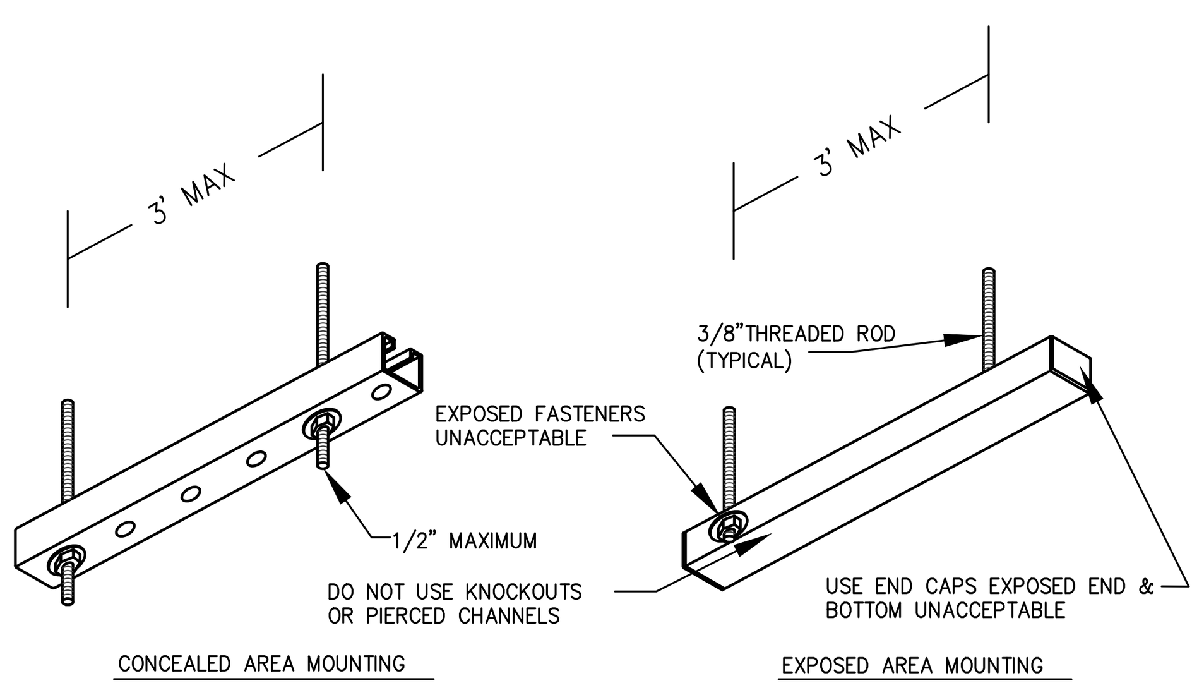
G / E5.1 WIRING DEVICE IDENTIFICATION LABEL



H / E5.1 TYPICAL PANELBOARD IDENTIFICATION
NO SCALE



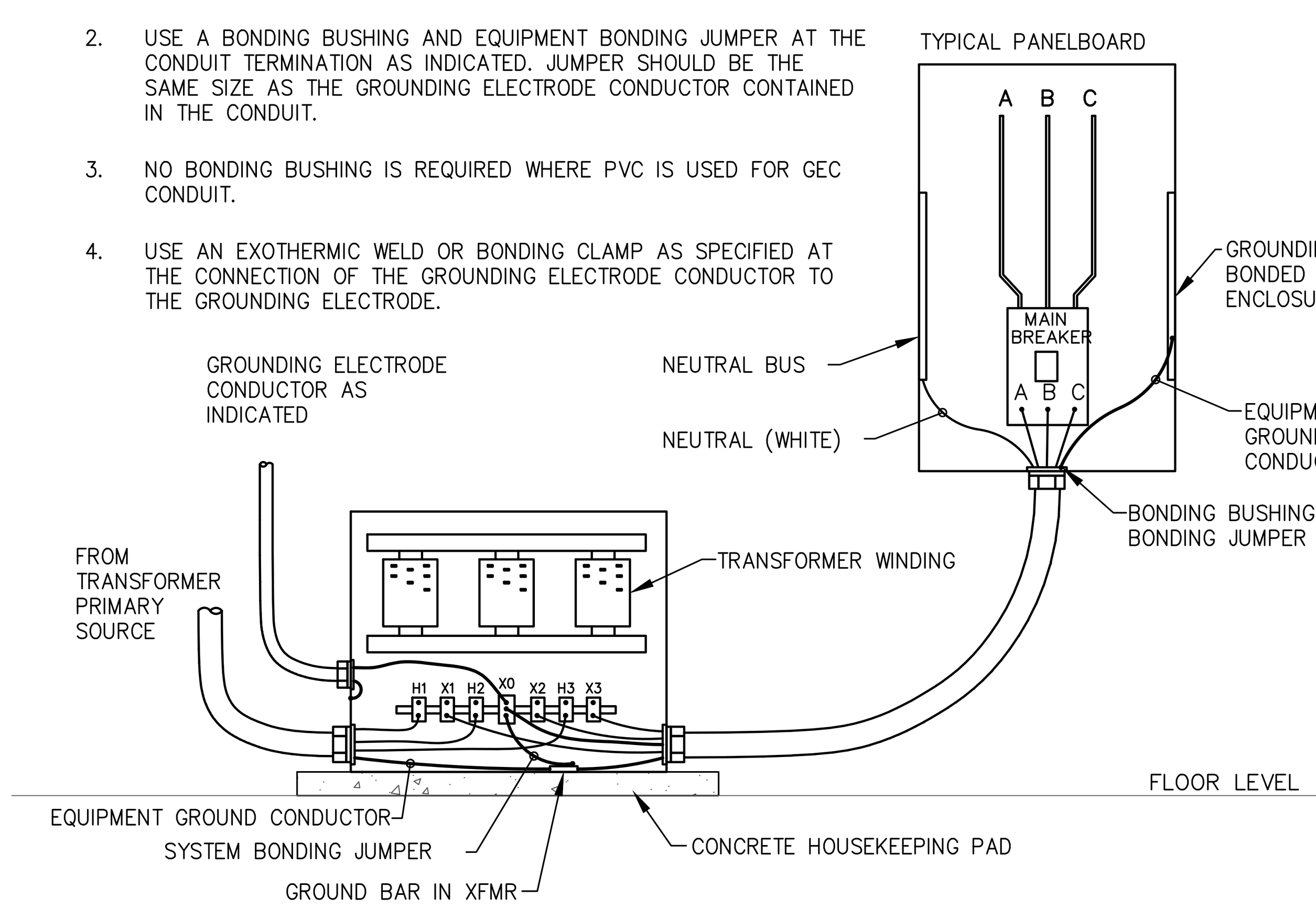
J / E5.1 CHANNEL SUPPORT DETAIL
NO SCALE



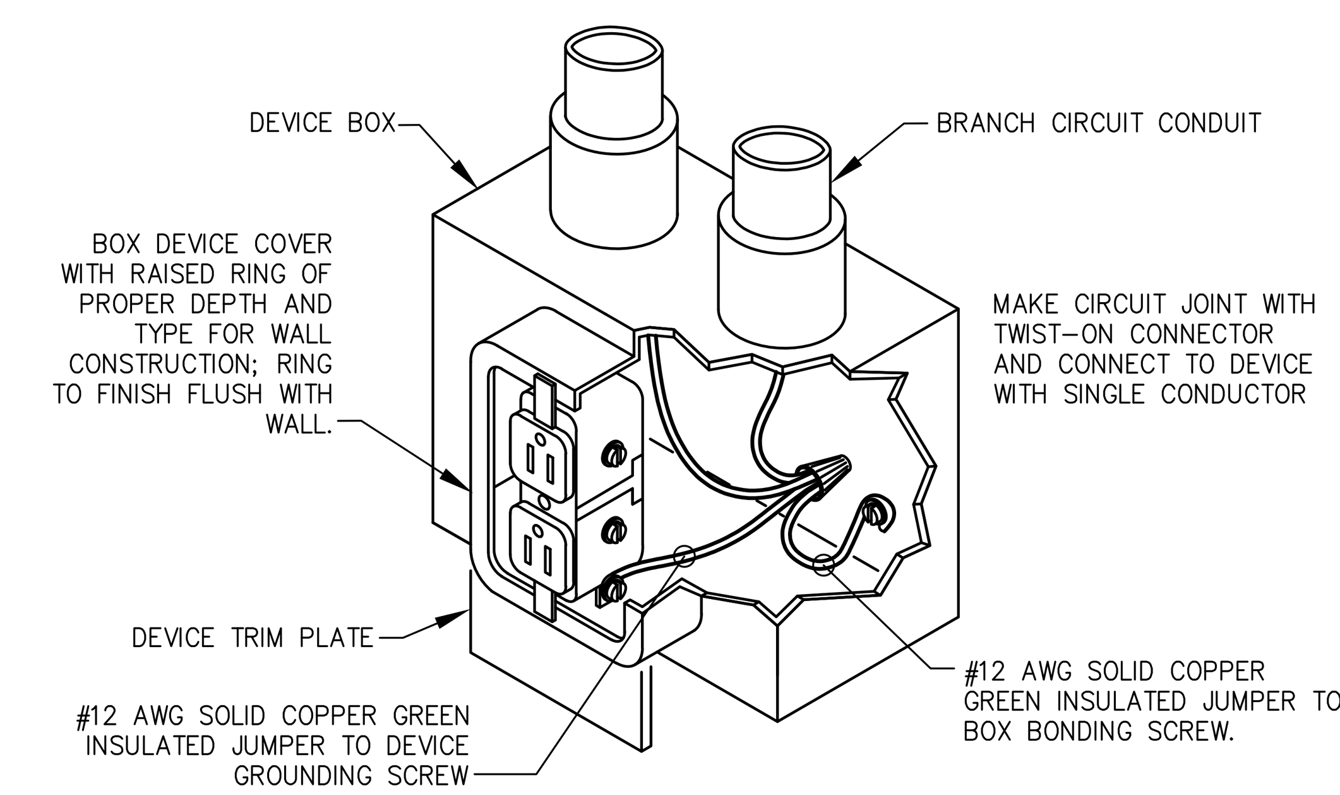
K / E5.1 CHANNEL MOUNTING DETAILS
NO SCALE

NOTES

1. IF A TRANSFORMER BONDING STRAP IS NOT PROVIDED BY THE TRANSFORMER MANUFACTURER, IT SHALL BE THE SAME SIZE AS THE SYSTEM BONDING JUMPER. SEE NEC 250.30.
2. USE A BONDING BUSHING AND EQUIPMENT BONDING JUMPER AT THE CONDUIT TERMINATION AS INDICATED. JUMPER SHOULD BE THE SAME SIZE AS THE GROUNDING ELECTRODE CONDUCTOR CONTAINED IN THE CONDUIT.
3. NO BONDING BUSHING IS REQUIRED WHERE PVC IS USED FOR GEC CONDUIT.
4. USE AN EXOTHERMIC WELD OR BONDING CLAMP AS SPECIFIED AT THE CONNECTION OF THE GROUNDING ELECTRODE CONDUCTOR TO THE GROUNDING ELECTRODE.



L / E5.1 DRY-TYPE TRANSFORMER GROUNDING DETAIL
NO SCALE



M / E5.1 OUTLET GROUNDING DETAIL
SCALE: N/A

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NORTH CAROLINA SEAL 17322 MARC A. CIARROCCA 17 OCT 2018

Brunswick Community College Allied Health
Additions & Renovations

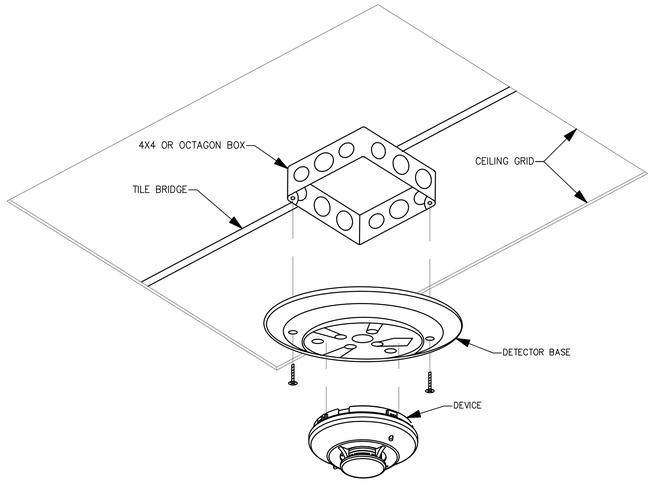
185 College Rd NE
Bolivia, NC 28422

Project No: 16-15828-01

Construction Documents
15 October, 2018

ELECTRICAL DETAILS

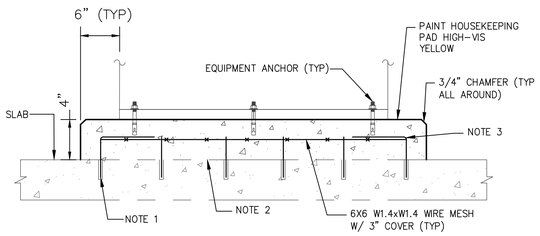
E5.1



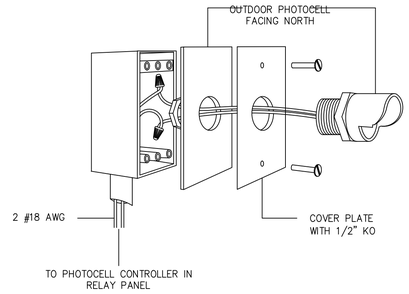
A E5.2 DEVICE MOUNTING DETAIL
NO SCALE

NOTES:

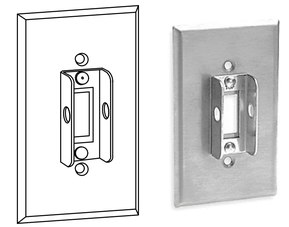
1. PLACE CORNER ANCHORS WITH SPECIFIED 4" COVER, THEN EQUALLY SPACE ANCHORS ALONG SIDES APPROXIMATELY 8" O.C. VERIFY SPACING WITH SEISMIC SUBMITTAL.
2. ROUGHEN AND CLEAN BEFORE COATING WITH BONDING AGENT PRIOR TO POURING PAD.
3. #4 REBAR ADHESIVE ANCHOR W/ 4" COVER FROM EACH EDGE AND MIN. 2.75" EMBEDMENT IN SLAB. BEND AND TIE TO WIRE MESH WITH 6" HOOK. (TYP.).



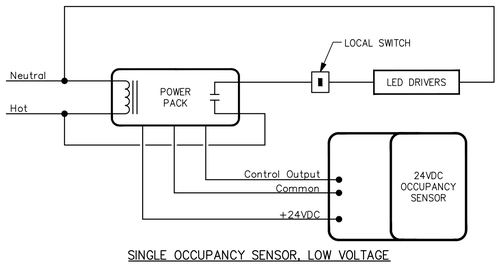
B E5.2 TYPICAL HOUSEKEEPING PAD DETAIL
NO SCALE



C E5.2 LIGHTING CONTROL SYSTEM-OUTDOOR PHOTOCELL
NO SCALE
NOTE: MOUNT ON NORTHWEST SIDE OF BUILDING.

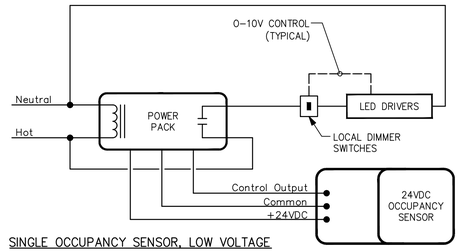


D E5.2 LOCKABLE TOGGLE SWITCH COVER
NO SCALE



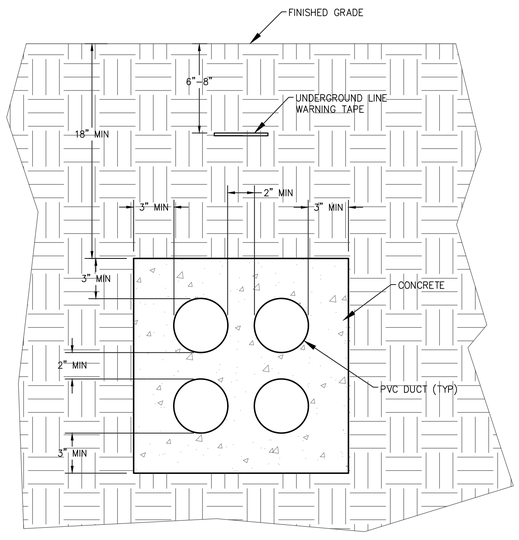
SINGLE OCCUPANCY SENSOR, LOW VOLTAGE

F E5.2 OCCUPANCY SENSOR WIRING LIGHTING CONTROL
NO SCALE



SINGLE OCCUPANCY SENSOR, LOW VOLTAGE

G E5.2 OCCUPANCY SENSOR WIRING FOR DIMMING LEVEL LIGHTING CONTROL
NO SCALE



J E5.2 MDP2 DUCTBANK, CONCRETE ENCASED
NO SCALE

PANELBOARD

PANEL DESIGNATION → PANEL: P2
SOURCE DESIGNATION → SOURCE: PANEL "P1"/CKT #
RATING DESIGNATION → RATING: 225 AMPS
VOLTAGE & PHASE DESIGNATION → VOLTAGE: 120/208V,3PH,4W
HEIGHT AS REQUIRED (TYPICAL)
LENGTH AS REQUIRED (TYPICAL)

EQUIPMENT SAFETY SWITCH/ENCLOSED CIRCUIT BREAKER/MOTOR STARTER/VFD

EQUIPMENT DESIGNATION → ENCL C/B: #1
SOURCE DESIGNATION → SOURCE: PANEL"P"/CKT #
RATING DESIGNATION → RATING: 200 AMPS
VOLTAGE & PHASE DESIGNATION → VOLTAGE: 480/277V,3PH,4W

LIGHTING CONTROL PANEL

PANEL: LCC – 1 → PANEL DESIGNATION
SOURCE: PANEL"4M"/CKT # → SOURCE DESIGNATION

DISCONNECT

DISCONNECT DESIGNATION → DISCONNECT: DOAS #1
SOURCE DESIGNATION → SOURCE: PANEL"4M"/CKT #
RATING DESIGNATION → RATING: 200 AMPS
VOLTAGE & PHASE DESIGNATION → VOLTAGE: 480V,3PH,3W

TRANSFORMER

TRANSFORMER: T1 → TRANSFORMER DESIGNATION
SOURCE: PANEL "4M"/CKT# → SOURCE DESIGNATION
RATING: 75 KVA → RATING DESIGNATION
VOLTAGE: 480:208/120V,3PH,4W → VOLTAGE & PHASE DESIGNATION
SUPPLIES: PANEL "2P" → EQUIPMENT SUPPLIED

NOTES:
1. ENGRAVED PLASTIC FOR NAMEPLATE.
2. HIGH PERFORMANCE, DOUBLE COATED TAPE WITH ADHESIVE TO ATTACH LABELS. DESIGN BASIS: 3M #06383 OR APPROVED EQUIVALENT.
3. 3/8" ENGRAVED LETTERS EQUIPMENT NAME DESIGNATION AND 1/4" ENGRAVED LETTERS ON ALL OTHER DESIGNATIONS.

K E5.2 TYPICAL NAMEPLATE DETAILS
NO SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17505 MARK A. CIARROCCA 12/05/2018

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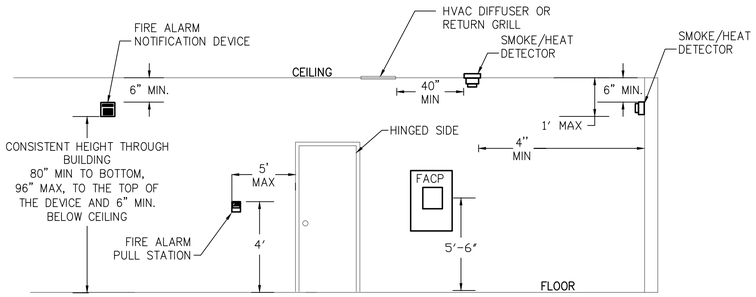
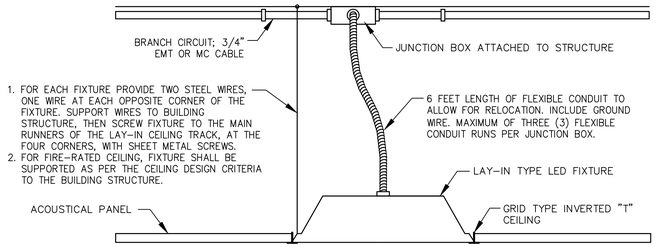
15 October, 2018

ELECTRICAL DETAILS

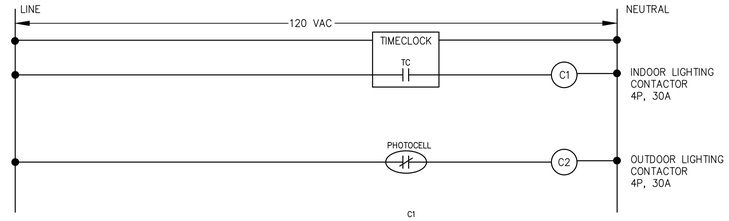
E5.2



A E5.3 MOUNTING HEIGHTS OF DEVICES DETAIL
NO SCALE

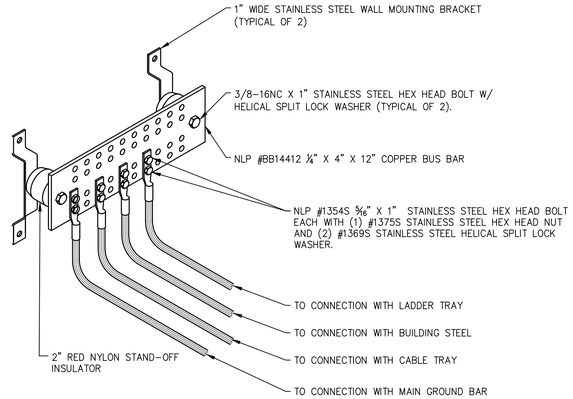


B E5.3 LIGHT FIXTURE MOUNTING DETAIL
SCALE: N/A



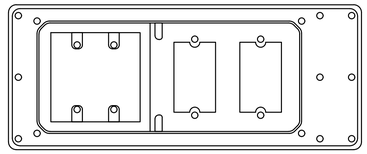
AUTO MODE CONTROL SCHEME
1. INTERIOR LIGHTS THAT ARE NOT UNDER OCCUPANCY SENSOR CONTROL OR NOT INTENDED TO BE SWEPT OFF (MECH., ELEC., IT ROOMS) SHALL TURN ON/OFF VIA TIMECLOCK.
2. EXTERIOR LIGHTS TURN ON/OFF VIA PHOTOCELL.
3. EXTERIOR EGRESS LIGHTS SHALL REMAIN ENERGIZED DURING POWER OUTAGES THROUGH THE INVERTERS AFTER DARK. THE SWITCHED INPUT TO THE INVERTER FROM THE CONTACTORS PREVENTS OPERATION OF THE INVERTER DURING DAYLIGHT.
4. INVERTER DESIGN BASIS: EMERGI-LITE #EMIU SERIES

C 10.5.3 TIMECLOCK & PHOTOCELL CONTROL SCHEMATIC
NO SCALE



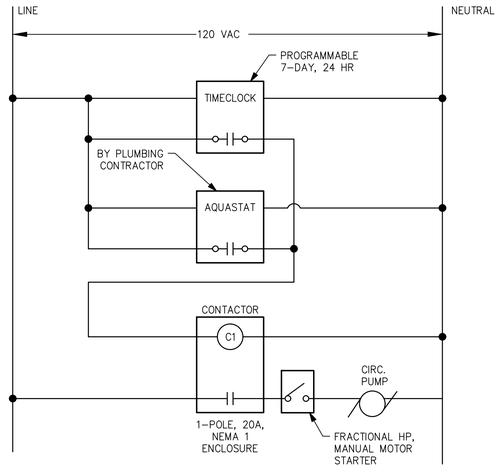
D E5.3 DATA ROOM GROUND BAR
NO SCALE
NOTE: PROVIDE LABELS FOR EACH
INDIVIDUAL GROUND SYSTEM CONDUCTOR

NOTE:
PAINT EXPOSED METAL OF THE BOX TO MATCH WALL FINISH. PAINT PRIOR TO INSTALLATION OF CABLES, OUTLETS, AND FACEPLATES.



DESIGN BASIS: ARLINGTON TVBS613
APPROVED EQUIVALENTS BY ALTERNATE MANUFACTURERS ARE ACCEPTABLE.

E E5.3 TV MONITOR OUTLET BOX DETAIL
NO SCALE



F E5.3 CIRCULATION PUMP CONTROL SCHEMATIC
NO SCALE

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
17599
MARK A. CIARROCCA
12 OCT 2018

Brunswick Community College Allied Health
Additions & Renovations

185 College Rd NE
Bolivia, NC 28422

Project No: 16-15828-01

Construction Documents
15 October, 2018

ELECTRICAL DETAILS

E5.3

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	DESCRIPTION	LAMP	BALLAST	VOLTS	MOUNTING	MANUFACTURER / MODEL	NOTES	CALLOUT
A2		2x4, PRISMATIC LENS	(1) 33W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LJT SERIES DAYBRITE #2T LED SERIES METALUX #2GR LED SERIES	3500 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. 0.156" NOMINAL LENS.	A2
A3		2x4, PRISMATIC LENS	(1) 47W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LJT SERIES DAYBRITE #2T LED SERIES METALUX #2GR LED SERIES	5300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. 0.156" NOMINAL LENS.	A3
B2		2x4, ARCHITECTURAL LENSED, INDIRECT	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	4300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE.	B2
B2N		2x4, ARCHITECTURAL LENSED, INDIRECT, NIGHT LIGHT	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	4300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. CONNECT TO UNSWITCHED CIRCUIT.	B2N
B3		2x4, ARCHITECTURAL LENSED, INDIRECT	(1) 47W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #24CZ SERIES	5300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE.	B3
B32		2x2 LED, ARCHITECTURAL LENSED	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #22CZ SERIES	4400 NOMINAL LUMENS. 4000K COLOR TEMPERATURE.	B32
B32N		2x2 LED, ARCHITECTURAL LENSED, NIGHT LIGHT	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	COLUMBIA #LCAT SERIES DAYBRITE #2EV SERIES METALUX #22CZ SERIES	4400 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. CONNECT TO UNSWITCHED CIRCUIT.	B32N
C		4' LINEAR RECESSED	(1) 32W LED	ELECTRONIC	277V 1P 2W	RECESSED	FINELITE #HP-6 SERIES NEO-RAY #DEFINE 5 SERIES PRE-APPROVED EQUIVALENT	3700 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. COORDINATE CEILING TYPE WITH ARCHITECT.	C
D2		4' DIRECT/INDIRECT PENDANT	(1) 52W LED	LED DIMMABLE DRIVER	277V 1P 2W	PENDANT; MTD 12' AFF	FINELITE #HP-4ID SERIES LEDALITE #TRUGROOVE SERIES NEO-RAY #DEFINE 4 SERIES	5200 NOMINAL LUMENS. 70/30 DIRECT/INDIRECT RATIO PER 4 FOOT. 4000K COLOR TEMPERATURE.	D2
D3		4' DIRECT/INDIRECT PENDANT	(1) 56W LED	LED DIMMABLE DRIVER	277V 1P 2W	PENDANT; MTD 12' AFF	FINELITE #HP-4ID SERIES LEDALITE #TRUGROOVE SERIES NEO-RAY #DEFINE 4 SERIES	5800 NOMINAL LUMENS. 60/40 DIRECT/INDIRECT RATIO. 4000K COLOR TEMPERATURE.	D3
DN		4' DIRECT PENDANT, NIGHT LIGHT	(1) 34W LED	LED DIMMABLE DRIVER	277V 1P 2W	PENDANT; MTD 12' AFF	FINELITE #HP-4D SERIES LEDALITE #TRUGROOVE SERIES NEO-RAY #DEFINE 4 SERIES	5200 NOMINAL LUMENS. 70/30 DIRECT/INDIRECT RATIO PER 4 FOOT. 4000K COLOR TEMPERATURE. CONNECT TO UNSWITCHED CIRCUIT.	DN
DW		4' DIRECT/INDIRECT	(1) 52W LED	LED DIMMABLE DRIVER	277V 1P 2W	WALL; MTD 12' AFF	FINELITE #HP-WM 4ID SERIES LEDALITE #TRUGROOVE SERIES NEO-RAY #DEFINE 4 SERIES	5200 NOMINAL LUMENS. 70/30 DIRECT/INDIRECT RATIO PER 4 FOOT. 4000K COLOR TEMPERATURE.	DW
EG		EMERGENCY EGRESS, BATTERY	(2) 7W MR 16 LED	BATTERY	277V 1P 2W	WALL; MTD 8'-0" AFF	EMERGILITE #PREMIER SERIES CHLORIDE #TPU SERIES LIGHTALARMS #2GRA1 SERIES	CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE. THESE FIXTURES ARE NOT TAGGED WITH "EG" ON THE DRAWINGS; ONLY THE SYMBOL IS USED. DESIGN CRITERIA: 50FT SPACING, 6FT WIDE PATH, 80/50/20 REFLECTANCES, MAINTAINING 1FC AVG AND 01.FC MININUM.	EG
I3		4' LENSED INDUSTRIAL, LENSED	(1) 40W LED	LED DIMMABLE DRIVER	277V 1P 2W	PENDANT/SURFACE	COLUMBIA #LCL SERIES DAYBRITE #LF SERIES METALUX #SNLED SERIES	5300 NOMINAL LUMENS. 4000K COLOR TEMPERATURE.	I3
INV10		INVERTER, EGRESS LIGHTING	N/A	BATTERY	277V 1P 2W	SURFACE	EMERGI-LITE #EMIU SERIES HIGH-LITES #PCF SERIES IOTA #IIS SERIES	INVERTER FOR BATTERY BACKUP OF EGRESS LIGHTING; 100W FOR 90 MINUTES (MINIMUM). INCLUDE SELF-DIAGNOSTIC OPTION. LOCATE ABOVE CEILING – PROVIDE LABEL ON CEILING GRID BELOW INSTALLED LOCATION "LIGHTING INVERTER".	INV10
R6		6" RECESSED CAN	(1) 20W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	PRESCOLITE #LF6LED SERIES LIGHTOLIER #L6R SERIES PORTFOLIO #LD6A SERIES	2000 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. SELF-FLANGED LENSED REFLECTOR TRIM; LOW IRIDESCENT CLEAR FINISH.	R6
R6L		6" RECESSED CAN	(1) 14W LED	LED DIMMABLE DRIVER	277V 1P 2W	RECESSED	PRESCOLITE #LF6LED SERIES LIGHTOLIER #L6R SERIES PORTFOLIO #LD6A SERIES	1100 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. SELF-FLANGED LENSED REFLECTOR TRIM; LOW IRIDESCENT CLEAR FINISH.	R6L
W		WALL PACK	(1) 30W LED	LED DRIVER	277V 1P 2W	WALL	DECO LIGHTING #D444-LED SERIES GARDCO #101L SERIES LUMARK #ST SERIES	3100 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. TYPE IV DISTRIBUTION. COORDINATE MOUNTING HEIGHT WITH ARCHITECT. FINISH SELECTION BY ARCHITECT.	W
WB		WALL PACK, BACKED UP BY BATTERY INVERTER	(1) 25W LED (1) 25W LED	LED DRIVER LED DRIVER	277V 1P 2W	WALL	DECO LIGHTING #D444-LED SERIES GARDCO #101L SERIES LUMARK #ST SERIES	3100 NOMINAL LUMENS. 4000K COLOR TEMPERATURE. TYPE IV DISTRIBUTION. DUAL LED ARRAYS. COORDINATE MOUNTING HEIGHT WITH ARCHITECT. FINISH SELECTION BY ARCHITECT.	WB
X		EXIT SIGN, BATTERY BACKUP	(2) 1W LED	BATTERY	277V 1P 2W	UNIVERSAL	DUAL-LITE #LX SERIES LIGHTALARMS #QLXN500R PATHWAY #XR	NICAD BATTERY; CONNECT TO NEAREST UNSWITCHED LIGHT CIRCUIT IN SAME SPACE. THESE FIXTURES ARE NOT TAGGED WITH "X" ON THE DRAWINGS; ONLY THE SYMBOL IS USED.	X

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17511 12.07.2018 MARK A. CIARROCCA

Brunswick Community College Allied Health

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ELECTRICAL LUMINAIRE SCHEDULE

E6.1

MDP2 — NEW PANEL

ROOM: ELECTRICAL 163 | VOLTS: 480Y/277V 3P 4W | AIC: 18,000
MOUNTING: SURFACE | BUS AMPS: 1000 | MAIN BKR: 1000
FED FROM: UTILITY | NEUTRAL: 100% | LUGS: STANDARD
NOTE: ULSE LISTED & LABELED; INCLUDE MULTIFUNCTION DIGITAL METER

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	600/3	PANEL MDP	101			2	−/3	SPACE ONLY	0		
3	|			100		4	|			0	
5	|				96.7	6	|				0
7	200/3	PANEL M1	31.7			8	200/3	PANEL M2	32.8		
9	|			31.7		10	|			26.8	
11	|				31.7	12	|				25.8
13	175/3	XFMR TP1P2	14.9			14	60/3	SPD−MDP	0		
15	|			17.1		16	|			0	
17	|				16	18	|				0
19	−/3	SPACE ONLY	0			20	100/3	PANEL L1	4.56		
21	|			0		22	|			5.26	
23	|				0	24	|				3.08
25	−/3	SPACE ONLY	0			26	175/3	XFMR TP3P4	16.6		
27	|			0		28	|			18.1	
29	|				0	30	|				16.2
31	−/3	SPACE ONLY	0			32	−/3	SPACE ONLY	0		
33	|			0		34	|			0	
35	|				0	36	|				0
37	−/3	SPACE ONLY	0			38	−/3	SPACE ONLY	0		
39	|			0		40	|			0	
41	|				0	42	|				0
								TOTAL CONNECTED KVA BY PHASE	201	199	189
								TOTAL CONNECTED AMPS BY PHASE	726	720	684

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	29.2	36.4	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	30.7	38.4	(125%)	HEATING	226	226	(100%)
OTHER MOTORS	181	181	(100%)	COOLING	76.2	0	(0%)
RECEPTACLES	95.6	52.8	(50%>10)	NONCONTINUOUS	28	28	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	590	562	
				BALANCED 3−PHASE AMPS		676	

M1 — NEW PANEL

ROOM: ELECTRICAL 163 | VOLTS: 480Y/277V 3P 4W | AIC: 14,000
MOUNTING: SURFACE | BUS AMPS: 200 | MAIN BKR: MLO
FED FROM: MDP2 | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/3	SSAHU#5	2.11			2	40/3	SSAC#5	8.87		
3	|			2.11		4	|			8.87	
5	|				2.11	6	|				8.87
7	20/3	SSAHU#6	1.33			8	25/3	SSAC#6	5.54		
9	|			1.33		10	|			5.54	
11	|				1.33	12	|				5.54
13	20/3	SSAHU#3	1.33			14	20/3	SSAC#3	4.16		
15	|			1.33		16	|			4.16	
17	|				1.33	18	|				4.16
19	20/3	SSAHU#4	0.831			20	20/3	SSAC#4	4.16		
21	|			0.831		22	|			4.16	
23	|				0.831	24	|				4.16
25	20/3	H20 HTR	3.33			26	20/3	SPARE	0		
27	|			3.33		28	|			0	
29	|				3.33	30	|				0
31	20/3	SPARE	0			32	20/3	SPARE	0		
33	|			0		34	|			0	
35	|				0	36	|				0
37	20/3	SPARE	0			38	20/3	SPARE	0		
39	|			0		40	|			0	
41	|				0	42	|				0
								TOTAL CONNECTED KVA BY PHASE	31.7	31.7	31.7
								TOTAL CONNECTED AMPS BY PHASE	114	114	114

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	26.6	6.65	(25%)	HEATING	68.2	68.2	(100%)
OTHER MOTORS	16.8	16.8	(100%)	COOLING	68.2	0	(0%)
RECEPTACLES	0	0	(50%>10)	NONCONTINUOUS	10	10	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	95	102	
				BALANCED 3−PHASE AMPS		122	

M2 — NEW PANEL

ROOM: ELECTRICAL 163 | VOLTS: 480Y/277V 3P 4W | AIC: 14,000
MOUNTING: SURFACE | BUS AMPS: 200 | MAIN BKR: MLO
FED FROM: MDP2 | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	30/1	VAV 5−1	6.5			2	20/1	VAV 3−1	2		
3	30/1	VAV 5−2		6.5		4	20/1	VAV 3−2		1	
5	40/1	VAV 5−3			7	6	20/1	VAV 3−3			2.5
7	30/1	VAV 5−4	6.5			8	20/1	VAV 3−4	3		
9	30/1	VAV 5−5		5		10	30/1	VAV 3−5		4.5	
11	40/1	VAV 6−1			8	12	20/1	VAV 4−1			3.5
13	40/1	VAV 6−2	8			14	20/1	VAV 4−2	2		
15	30/1	VAV 6−3		4.5		16	20/1	VAV 4−3		3.5	
17	25/1	EUH#1			3	18	20/3	FAN F−5			0.443
19	25/1	EUH#2	3			20	|		0.443		
21	25/3	FAN F−3		0.582		22	|			0.443	
23	|				0.582	24	20/3	FAN F−6			0.305
25	|		0.582			26	|		0.305		
27	25/3	FAN F−4		0.443		28	|			0.305	
29	|				0.443	30	20/1	SPARE			0
31	|		0.443			32	20/1	SPARE	0		
33	20/1	SPARE		0		34	20/1	SPARE		0	
35	20/1	SPARE			0	36	20/1	SPARE			0
37	20/1	SPARE	0			38	20/1	SPARE	0		
39	20/1	SPARE		0		40	20/1	SPARE		0	
41	20/1	SPARE			0	42	20/1	SPARE			0
								TOTAL CONNECTED KVA BY PHASE	32.8	26.8	25.8
								TOTAL CONNECTED AMPS BY PHASE	118	96.7	93

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	1.75	2.18	(125%)	HEATING	80	80	(100%)
OTHER MOTORS	3.57	3.57	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	0	0	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	85.3	85.8	
				BALANCED 3−PHASE AMPS		103	

L1 — NEW PANEL

ROOM: ELECTRICAL 163 | VOLTS: 480Y/277V 3P 4W | AIC: 14,000
MOUNTING: SURFACE | BUS AMPS: 100 | MAIN BKR: MLO
FED FROM: MDP2 | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	EGRESS, EXIT, INVERTER, LTG, LTG−WALLPACK	2.15			2	20/1	LTG−WALLPACK	0.192		
3	20/1	EGRESS, LTG		2.49		4	20/1	LTG−WALLPACK		0.224	
5	20/1	EGRESS, LTG			2.19	6	20/1	SPARE			0
7	20/1	EGRESS, LTG	2.22			8	20/1	SPARE	0		
9	20/1	EGRESS, LTG		2.55		10	20/1	SPARE		0	
11	20/1	EGRESS, LTG			0.89	12	20/1	SPARE			0
13	20/1	SPARE	0			14	20/1	SPARE	0		
15	20/1	SPARE		0		16	20/1	SPARE		0	
17	20/1	SPARE			0	18	20/1	SPARE			0
19	20/1	SPARE	0			20	20/1	SPARE	0		
21	20/1	SPARE		0		22	20/1	SPARE		0	
23	20/1	SPARE			0	24	20/1	SPARE			0
25	30/3	SPD−L1	0			26	20/1	SPARE	0		
27	|			0		28	20/1	SPARE		0	
29	|				0	30	20/1	SPARE			0
								TOTAL CONNECTED KVA BY PHASE	4.56	5.26	3.08
								TOTAL CONNECTED AMPS BY PHASE	16.5	19	11.1

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	12.9	16.1	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(N/A)	HEATING	0	0	(N/A)
OTHER MOTORS	0	0	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	0	0	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	12.9	16.1	
				BALANCED 3−PHASE AMPS		19.4	

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NORTH CAROLINA PROFESSIONAL SEAL 17 ENGINEER MARK A. CIARROCCA 16 OCT 2018

Brunswick Community College Allied Health
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Bolivia, NC 28422

Project No: 16-15828-01

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15 October, 2018

ELECTRICAL PANEL SCHEDULES

E6.2

P1 — NEW PANEL

ROOM: ELECTRICAL 163 | VOLTS: 208Y/120V 3P 4W | AIC: 10,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: 225
FED FROM: TP1P2 | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	REC-GFCI	0.36			2	20/1	REC	0.36		
3	20/1	REC		1.2		4	20/1	REC		1.2	
5	20/1	REC			0.36	6	20/1	REC			0.36
7	20/1	REC	1.2			8	20/1	REC	1.2		
9	20/1	REC		0.36		10	20/1	REC		0.36	
11	20/1	REC			1.2	12	20/1	REC			1.2
13	20/1	REC	1.08			14	20/1	REC	1.08		
15	20/1	REC		1.2		16	20/1	REC		1.2	
17	20/1	REC			0.36	18	20/1	REC			0.36
19	20/1	REC	1.2			20	20/1	REC	1.2		
21	20/1	REC		0.36		22	20/1	REC		0.36	
23	20/1	REC			1.2	24	20/1	REC			1.2
25	20/1	REC	0.36			26	20/1	REC	0.36		
27	20/1	REC		1.08		28	20/1	REC		1.08	
29	20/1	REC			0.36	30	20/1	SPARE			0
31	20/1	REC	0.72			32	20/1	SPARE	0		
33	20/1	REC-PROJECTOR		0.5		34	20/1	SPARE		0	
35	20/1	REC, REC-FLOOR			0.54	36	20/1	SPARE			0
37	20/1	SPARE	0			38	20/1	SPARE	0		
39	20/1	SPARE		0		40	20/1	SPARE		0	
41	20/1	SPARE			0	42	20/1	SPARE			0
43	20/1	SPARE	0			44	20/1	SPARE	0		
45	20/1	SPARE		0		46	20/1	SPARE		0	
47	20/1	SPARE			0	48	20/1	SPARE			0
49	30/3	SPD-P1	0			50	20/1	SPARE	0		
51	|			0		52	20/1	SPARE		0	
53	|				0	54	20/1	SPARE			0
								TOTAL CONNECTED KVA BY PHASE	9.12	8.9	7.14
								TOTAL CONNECTED AMPS BY PHASE	76	74.2	59.5

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(N/A)	HEATING	0	0	(N/A)
OTHER MOTORS	0	0	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	25.2	17.6	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	25.2	17.6	
				BALANCED 3-PHASE AMPS		48.8	

P2 — NEW PANEL

ROOM: ELECTRICAL 163 | VOLTS: 208Y/120V 3P 4W | AIC: 10,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: 225
FED FROM: TP1P2 | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	TIME CLOCK	0.1			2	20/1	REC	0.18		
3	20/1	REC		0.36		4	20/1	REC		0.18	
5	20/1	REC			1.2	6	20/1	REC			0.18
7	20/1	REC	0.36			8	20/1	MOTORIZED SHADE, REC	0.56		
9	20/1	REC		1.2		10	20/1	REC		0.36	
11	20/1	REC			0.36	12	20/1	REC			0.36
13	20/1	REC	1.2			14	20/1	REC	0.36		
15	20/1	REC		1.08		16	20/1	REC		0.36	
17	20/1	REC			1.2	18	20/1	REC			0.36
19	20/1	REC	0.36			20	20/1	REC	0.36		
21	20/1	REC		1.2		22	20/1	REC		0.36	
23	20/1	REC			0.36	24	20/1	REC			0.36
25	20/1	REC	0.72			26	20/1	REC	0.72		
27	20/1	REC, REC-FLOOR		0.54		28	20/1	REC		1.2	
29	20/1	REC			0.36	30	20/1	REC			0.36
31	20/1	REC	0.36			32	20/1	REC		1.2	
33	20/1	REC, REC-PROJECTOR		0.97		34	20/1	REC			0.36
35	20/1	SPARE			0	36	20/1	REC			1.2
37	20/1	SPARE	0			38	20/1	REC	0.36		
39	20/1	SPARE		0		40	20/1	REC		1.08	
41	20/1	SPARE			0	42	20/1	REC			0.36
43	20/1	SPARE	0			44	20/1	SPARE	0		
45	20/1	SPARE		0		46	20/1	SPARE		0	
47	20/1	SPARE			0	48	20/1	SPARE			0
49	20/1	SPARE	0			50	30/3	SPD-P2	0		
51	20/1	SPARE		0		52	|			0	
53	20/1	SPARE			0	54	|				0
								TOTAL CONNECTED KVA BY PHASE	6.84	9.25	6.66
								TOTAL CONNECTED AMPS BY PHASE	57	77.1	55.5

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.1	0.125	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0.2	0.25	(125%)	HEATING	0	0	(N/A)
OTHER MOTORS	0	0	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	22.5	16.2	(50%>10)	NONCONTINUOUS	0	0	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	22.8	16.6	
				BALANCED 3-PHASE AMPS		46.1	

P3 — NEW PANEL

ROOM: ELECTRICAL 163 | VOLTS: 208Y/120V 3P 4W | AIC: 10,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: 225
FED FROM: TP3P4 | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	REC, REC-EXT GFCI, REC-WAP	1.08			2	20/1	REC, REC-FLOOR	1.08		
3	20/1	REC		0.36		4	20/1	MOTORIZED SHADE, REC		0.56	
5	20/1	REC			0.36	6	20/1	REC, REC-PROJECTOR			0.61
7	20/1	REC	0.36			8	20/1	REC	0.36		
9	20/1	REC		0.18		10	20/1	REC		0.36	
11	20/1	REC			0.18	12	20/1	REC			0.36
13	20/1	REC	0.36			14	20/1	REC	0.36		
15	20/1	REC, REC-FLOOR		0.9		16	20/1	REC		0.54	
17	20/1	REC, REC-PROJECTOR			0.43	18	20/1	REC			0.72
19	20/1	REC, REC-FLOOR	0.9			20	20/1	REC	0.54		
21	20/1	REC		0.36		22	20/1	(*) REC-REFRIGERATOR		0.5	
23	20/1	REC, REC-PROJECTOR			0.43	24	20/1	REC			0.54
25	20/1	REC	0.18			26	20/1	REC	0.36		
27	20/1	REC		0.18		28	20/1	REC		0.36	
29	20/1	FAN F-1			0.528	30	20/1	REC			0.36
31	20/1	SPARE	0			32	20/1	REC	0.36		
33	20/1	SPARE		0		34	20/1	REC		0.36	
35	20/1	SPARE			0	36	20/1	REC, REC-EXT GFCI			0.36
37	20/1	SPARE	0			38	20/1	DDC J-BOX	0.15		
39	20/1	SPARE		0		40	20/1	SPARE		0	
41	20/1	SPARE			0	42	20/1	SPARE			0
43	20/1	SPARE	0			44	20/1	SPARE	0		
45	20/1	SPARE		0		46	20/1	SPARE		0	
47	20/1	SPARE			0	48	20/1	SPARE			0
49	20/1	SPARE	0			50	30/3	SPD-P3	0		
51	20/1	SPARE		0		52	|			0	
53	20/1	SPARE			0	54	|				0
								TOTAL CONNECTED KVA BY PHASE	6.09	4.66	4.88
								TOTAL CONNECTED AMPS BY PHASE	50.8	38.8	40.7

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0.528	0.66	(125%)	HEATING	0	0	(N/A)
OTHER MOTORS	0.2	0.2	(100%)	COOLING	0	0	(N/A)
RECEPTACLES	14.8	12.4	(50%>10)	NONCONTINUOUS	0.15	0.15	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	15.6	13.4	
				BALANCED 3-PHASE AMPS		37.2	

P4 — NEW PANEL

ROOM: ELECTRICAL 163 | VOLTS: 208Y/120V 3P 4W | AIC: 10,000
MOUNTING: SURFACE | BUS AMPS: 225 | MAIN BKR: 225
FED FROM: TP3P4 | NEUTRAL: 100% | LUGS: STANDARD
NOTE:

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	REC, REC-EXT GFCI, REC-WAP	1.26			2	20/1	REC	0.36		
3	20/1	(*) REC-EWC		0.6		4	20/1	REC, REC-EXT GFCI		0.54	
5	20/1	REC			0.36	6	20/1	DDC J-BOX			0.15
7	20/1	REC	0.36			8	20/1	REC	0.36		
9	20/1	REC		0.36		10	20/1	ICE MACHINE		1	
11	20/1	REC			0.36	12	20/1	REC-WASHER			1
13	20/1	REC	0.36			14	20/1	REC-WASHER	1		
15	20/1	REC		0.72		16	30/2	REC-DRYER		2.3	
17	20/1	REC			0.36	18	|				2.3
19	20/1	REC, REC-FLOOR, REC-TV	1.12			20	30/2	REC-DRYER	2.3		
21	20/1	REC, REC-PROJECTOR		1.15		22	|			2.3	
23	20/1	REC			0.72	24	20/1	REC, REC-GFCI			0.9
25	25/2	DAC#1, DAHU#1	2.01			26	20/1	REC, REC-WAP	0.54		
27	|			2.01		28	20/1	REC, REC-EXT GFCI, REC-WAP		0.72	
29	25/2	DAC#2, DAHU#2			2.01	30	20/1	REC			0.36
31	|		2.01			32	20/1	REC	0.36		
33	20/1	FAN F-2		0.696		34	20/1	REC		0.36	
35	20/1	CIRC. PUMP			0.1	36	20/1	REC			0.36
37	20/1	SPARE	0			38	20/1	REC	0.36		
39	20/1	SPARE		0		40	20/1	REC		0.36	
41	20/1	SPARE			0	42	20/1	SPARE			0
43	20/1	SPARE	0			44	20/1	SPARE	0		
45	20/1	SPARE		0		46	20/1	SPARE		0	
47	20/1	SPARE			0	48	20/1	SPARE			0
49	30/3	SPD-P4	0			50	20/1	SPARE	0		
51	|			0		52	20/1	SPARE		0	
53	|				0	54	20/1	(#) FA-FCPS			0.8
								TOTAL CONNECTED KVA BY PHASE	12.4	13.1	9.78
								TOTAL CONNECTED AMPS BY PHASE	104	110	81.5

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	3.95	0.988	(25%)	HEATING	8.05	8.05	(100%)
OTHER MOTORS	0.696	0.696	(100%)	COOLING	8.05	0	(0%)
RECEPTACLES	12.7	11.4	(50%>10)	NONCONTINUOUS	13.9	13.9	(100%)
KITCHEN EQUIP	0	0	(N/A)	DIVERSE	0	0	(N/A)
				METERED DEMAND	0	0	(125%)
				TOTAL KVA	35.3	34.9	
				BALANCED 3-PHASE AMPS		97	

(*) INDICATES GFCI C/B, (#) INDICATES BREAKER LOCK REQUIRED

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Brunswick Community College Allied Health
Additions & Renovations

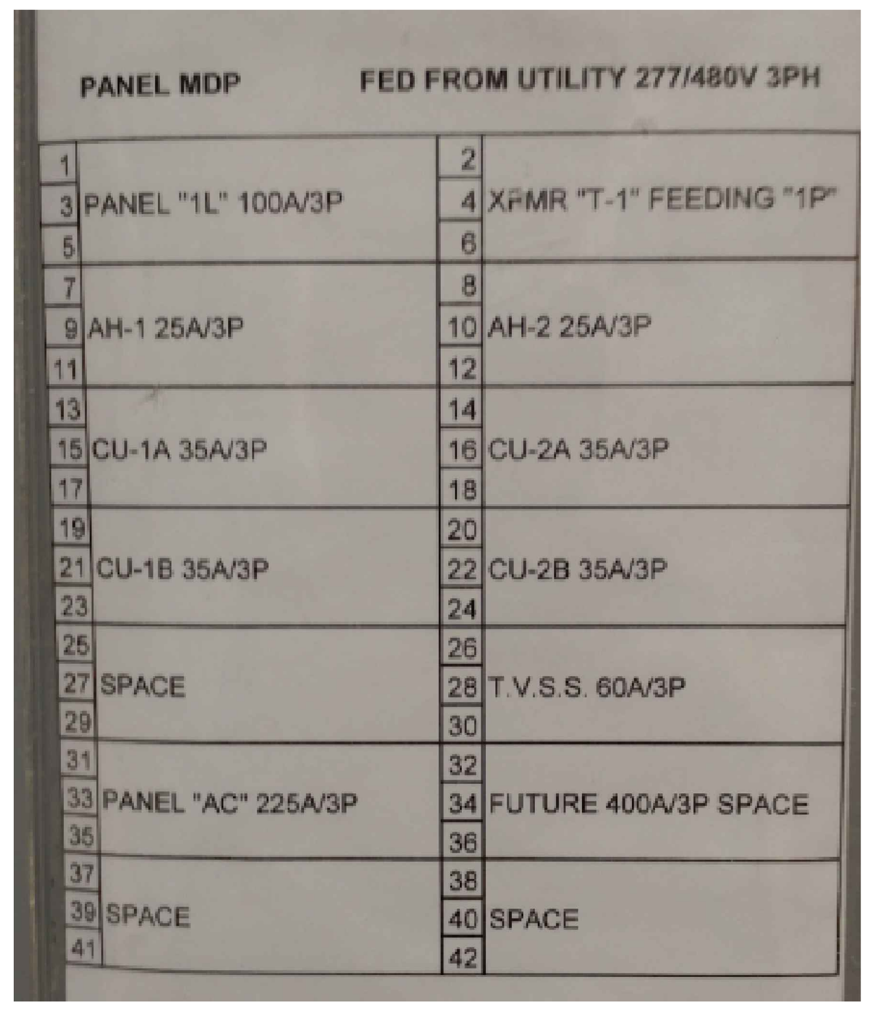
185 College Rd NE
Bolivia, NC 28422

Project No: 16-15828-01

Construction Documents
15 October, 2018

ELECTRICAL PANEL SCHEDULES

E6.3



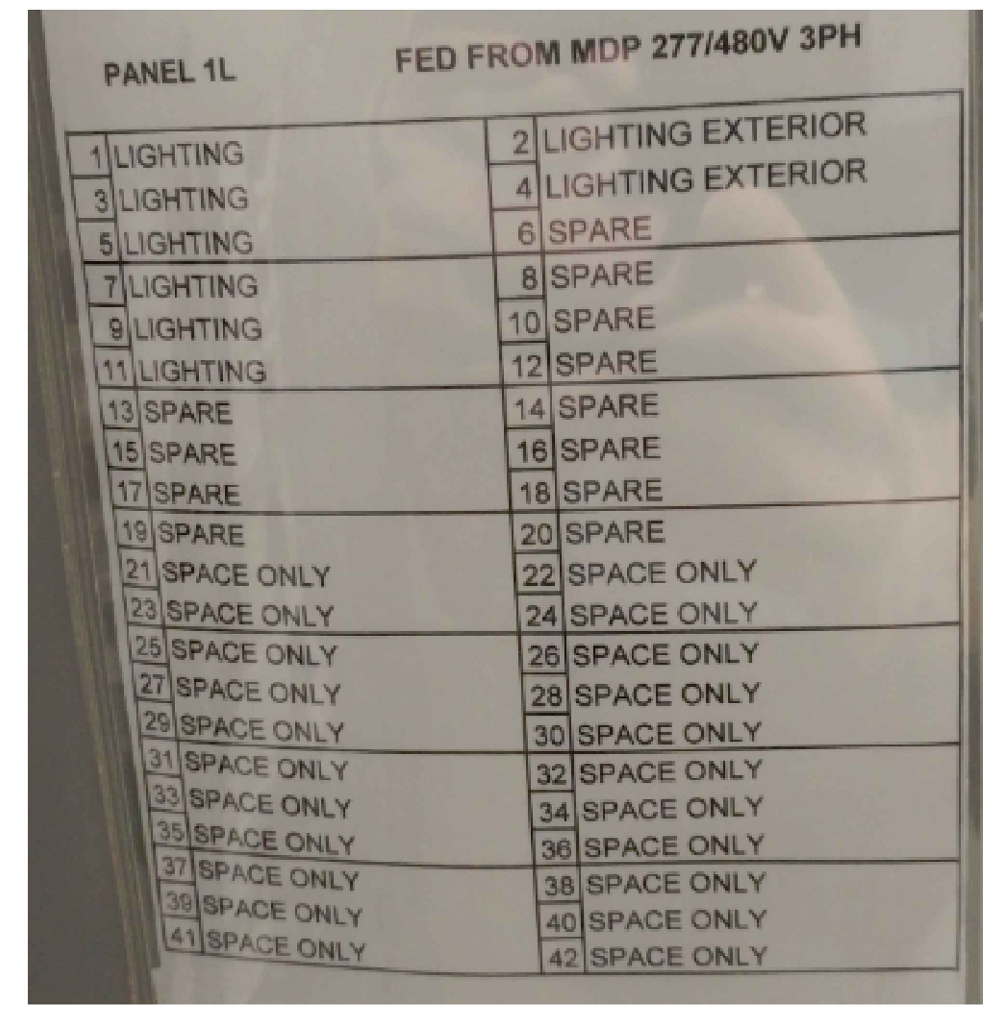
MDP

NO.	AMPS	P	LOAD DESCRIPTION	T	COM	WIRE SIZE	LOAD KVA	A	B	C	LOAD KVA	WIRE SIZE	COM.	T	LOAD DESCRIPTION	P	AMPS	NO
1						SEE	7.2	35.8			28.6	SEE						2
3	100	3	PANEL "1L"			PWR	7.2		33.9		26.7	PWR			XFRMR "T-1" FEEDING "1P"	3	125	4
5						RISER	3.8			23.2	19.4	RISER						6
7				A			3.9	5.9			2.0			A				8
9	25	3	AH-1	A		10	3.9		5.9		2.0	10		A	AH-2	3	25	10
11				A			3.9			5.9	2.0			A				12
13				H			6.6	13.2			6.6			H				14
15	35	3	CU-1A	H		8	6.6		13.2		6.6	8		H	CU-2A	3	35	16
17				H			6.6			13.2	6.6			H				18
19				H			6.6	13.2			6.6			H				20
21	35	3	CU-1B	H		8	6.6		13.2		6.6	8		H	CU-2B	3	35	22
23				H			6.6			13.2	6.6			H				24
25						SEE	51.4	51.9			0.5			C				26
27	250	3	PANEL AC			PWR	53.4		53.9		0.5	4		C	T.V.S.S.	3	60	28
29						RISER	53.4			53.9	0.5			C				30
31								0.0										32
33		3	FUTURE 400A/3P SPACE		C				0.0				C		FUTURE 400A/3P SPACE	3		34
35										0.0								36
37								0.0										38
39		3	FUTURE 225A3P SPACE		C				0.0				C		FUTURE 225A/3P SPACE			40
41										0.0								42
								120.0	120.1	109.4								

277 VOLTAGE L.-G
480 VOLTAGE L-L
3 PHASE
4 WIRE
600 BUS RATING (AMPS)
MCB MAIN DEVICE
600 DEVICE RATING (AMPS)
35 FAULT DUTY (K.A.I.C.)
SURF. MOUNTING (SURFACE OR FLUSH)
0 NO. OF UNITS OF KITCHEN EQUIPMENT

COMMENTS:
A - PANEL SHALL BE "SERVICE-ENTRANCE" RATED
B - PANEL SHALL BE GFI PROTECTED PER N.E.C ARTICLE 230.95.
C - PROVIDE THE FOLLOWING SPACES TO ACCOMMODATE FUTURE C.B.'S
D -
E -
F -
G -

EXISTING PANEL MDP INFORMATION



PANEL 1L

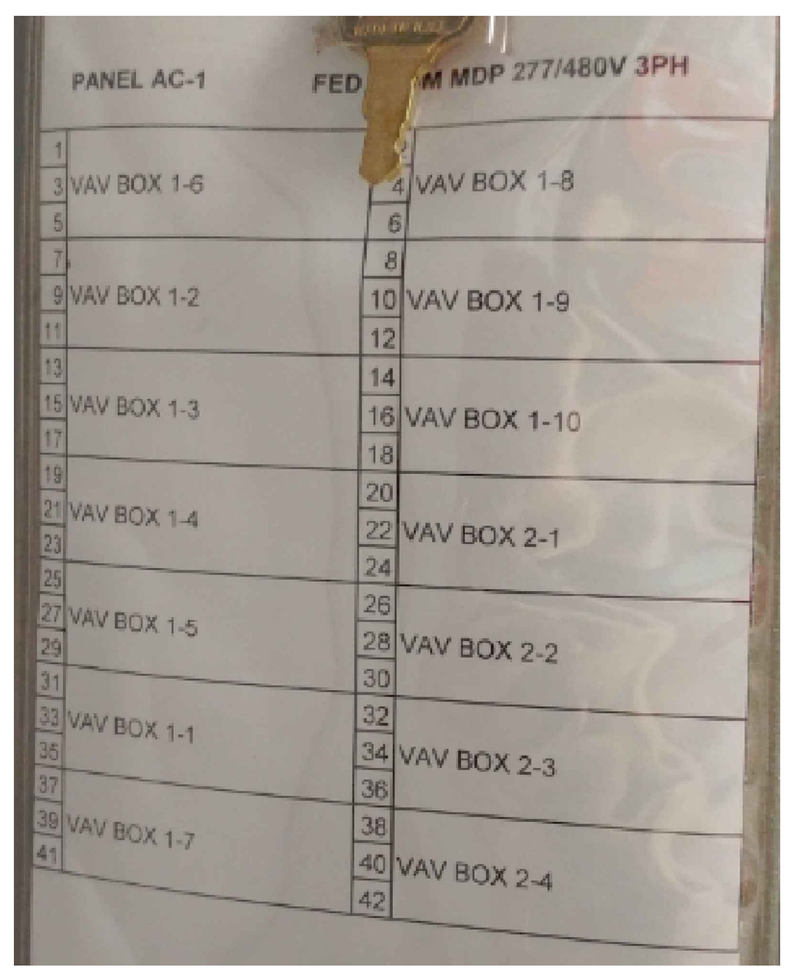
18.2 CONNECTED KVA
22 CONNECTED AMPS

NO.	AMPS	P	LOAD DESCRIPTION	T	COM.	WIRE SIZE	LOAD KVA	A	B	C	LOAD KVA	WIRE SIZE	COM	T	LOAD DESCRIPTION	P	AMPS	NO
1	20	1	LIGHTING - CLASSROOMS	I		12	2.3	4.4			2.1	12		E	LIGHTING - EXTERIOR	1	20	2
3	20	1	LIGHTING - CLASSRM./CORR.	I		12	2.6		4.1		1.5	12		E	LIGHTING - EXTERIOR	1	20	4
5	20	1	LIGHTING - ENTRY/CORR.	I		12	1.0			1.8	0.8	12		E	LIGHTING - EXTERIOR	1	20	6
7	20	1	LIGHTING - CLASSROOMS	I		12	2.8	2.8							SPARE	1	20	8
9	20	1	LIGHTING - OFFICE/CORR.	I		12	3.1		3.1						SPARE	1	20	10
11	20	1	LIGHTING - MULTIPURPOSE	I		12	2.0			2.0					SPARE	1	20	12
13	20	1	SPARE					0.0							SPARE	1	20	14
15	20	1	SPARE						0.0						SPARE	1	20	16
17	20	1	SPARE							0.0					SPARE	1	20	18
19	20	1	SPARE					0.0							SPARE	1	20	20
21	20	1	SPARE						0.0						SPARE	1	20	22
23			SPACE ONLY							0.0					SPACE ONLY			24
25			SPACE ONLY					0.0							SPACE ONLY			26
27			SPACE ONLY						0.0						SPACE ONLY			28
29			SPACE ONLY							0.0					SPACE ONLY			30
31			SPACE ONLY					0.0							SPACE ONLY			32
33			SPACE ONLY						0.0						SPACE ONLY			34
35			SPACE ONLY							0.0					SPACE ONLY			36
37			SPACE ONLY					0.0							SPACE ONLY			38
39			SPACE ONLY						0.0						SPACE ONLY			40
41			SPACE ONLY							0.0					SPACE ONLY			42
								7.2	7.2	3.8								

277 VOLTAGE L.-G
480 VOLTAGE L-L
3 PHASE
4 WIRE
100 BUS RATING (AMPS)
MCB MAIN DEVICE
100 DEVICE RATING (AMPS)
35 FAULT DUTY (K.A.I.C.)
SURF. MOUNTING (SURFACE OR FLUSH)
0 NO. OF UNITS OF KITCHEN EQUIPMENT

COMMENTS:
A -
B -
C -
D -
E -
F -
G -
H -

EXISTING PANEL 1L INFORMATION



PANEL AC

158.2 CONNECTED KVA
190 CONNECTED AMPS

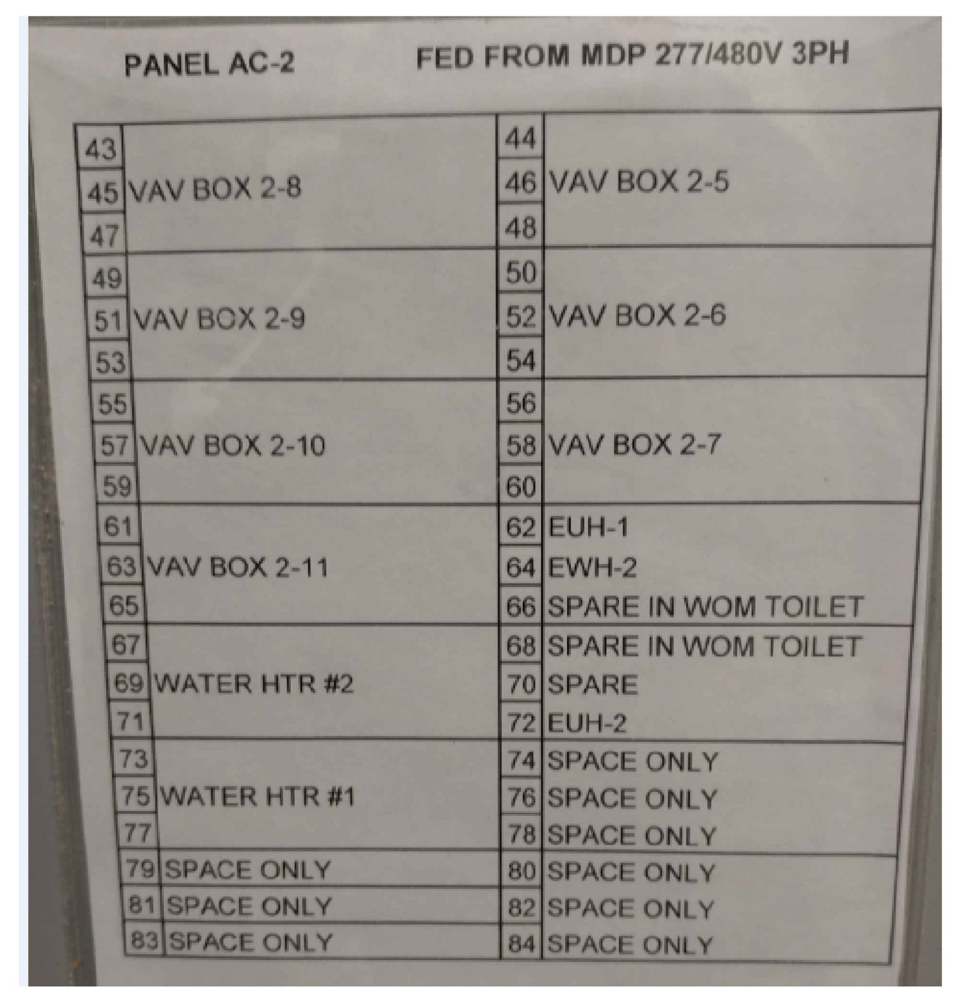
SECTION: 1

NO.	AMPS	P	LOAD DESCRIPTION	T	COM.	WIRE SIZE	LOAD KVA	A	B	C	LOAD KVA	WIRE SIZE	COM.	T	LOAD DESCRIPTION	P	AMPS	NO
1				V			1.2	2.1			0.9			V				2
3	20	3	VAV BOX 1-1	V		12	1.2		2.1		0.9	12		V	VAV BOX 1-8	3	20	4
5				V			1.2			2.1	0.9			V				6
7				V			1.7	4.6			2.9			V				8
9	20	3	VAV BOX 1-2	V		12	1.7		4.6		2.9	12		V	VAV BOX 1-9	3	20	10
11				V			1.7			4.6	2.9			V				12
13				V			1.6	4.5			2.9			V				14
15	20	3	VAV BOX 1-3	V		12	1.6		4.5		2.9	12		V	VAV BOX 1-10	3	20	16
17				V			1.6			4.5	2.9			V				18
19				V			1.2	2.3			1.1			V				20
21	20	3	VAV BOX 1-4	V		12	1.2		2.3		1.1	12		V	VAV BOX 2-1	3	20	22
23				V			1.2			2.3	1.1			V				24
25				V			1.6	3.5			1.9			V				26
27	20	3	VAV BOX 1-5	V		12	1.6		3.5		1.9	12		V	VAV BOX 2-2	3	20	28
29				V			1.6			3.5	1.9			V				30
31				V			1.6	3.5			1.9			V				32
33	20	3	VAV BOX 1-6	V		12	1.6		3.5		1.9	12		V	VAV BOX 2-3	3	20	34
35				V			1.6			3.5	1.9			V				36
37				V			1.6	2.2			0.6			V				38
39	20	3	VAV BOX 1-7	V		12	1.6		2.2		0.6	12		V	VAV BOX 2-4	3	20	40
41				V			1.6			2.2	0.6			V				42
								22.7	22.7	22.7								

277 VOLTAGE L.-G
480 VOLTAGE L-L
3 PHASE
4 WIRE
400 BUS RATING (AMPS)
MLO MAIN DEVICE
- DEVICE RATING (AMPS)
35 FAULT DUTY (K.A.I.C.)
SURF. MOUNTING (SURFACE OR FLUSH)
0 NO. OF UNITS OF KITCHEN EQUIPMENT

COMMENTS:
A - PROVIDE DOUBLE LUGS TO SERVE ADDITIONAL SECTION
B -
C -
D -
E -
F -
G -

EXISTING PANEL AC SECTION 1 INFORMATION



PANEL AC

* CONNECTED KVA
* CONNECTED AMPS

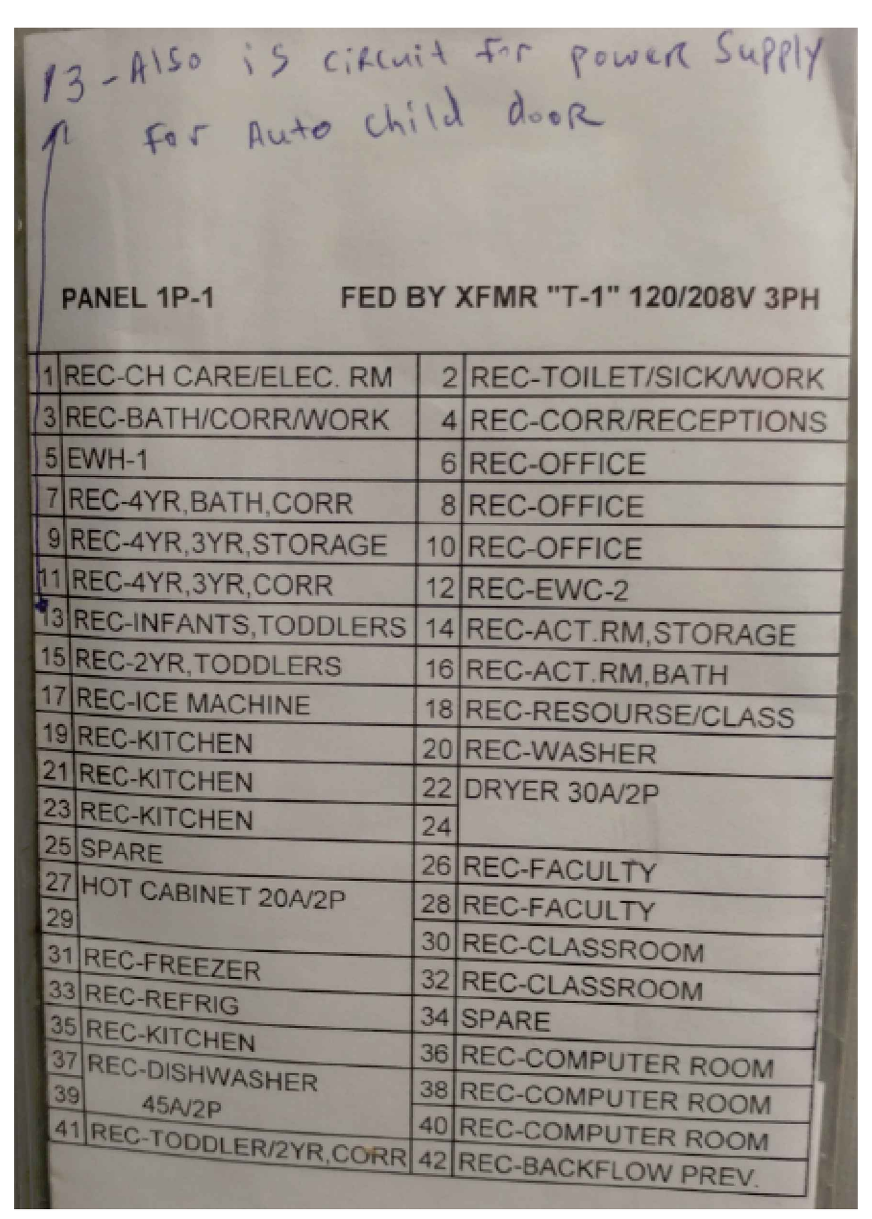
SECTION: 2

NO	AMPS	P	LOAD DESCRIPTION	T	COM	WIRE SIZE	LOAD KVA	A	B	C	LOAD KVA	WIRE SIZE	COM	T	LOAD DESCRIPTION	P	AMPS	NO
43				V			2.7	3.9			1.2			V				44
45	20	3	VAV BOX 2-8	V		12	2.7		3.9		1.2	12		V	VAV BOX 2-5	3	20	46
47				V			2.7			3.9	1.2			V				48
49				V			1.4	3.0			1.6			V				50
51	20	3	VAV BOX 2-9	V		12	1.4		3.0		1.6	12		V	VAV BOX 2-6	3	20	52
53				V			1.4			3.0	1.6			V				54
55				V			1.2	3.1			1.9			V				56
57	20	3	VAV BOX 2-10	V		12	1.2		3.1		1.9	12		V	VAV BOX 2-7	3	20	58
59				V			1.2			3.1	1.9			V				60
61				V			0.7	3.7			3.0	12		T	EWH-1	1	20	62
63	20	3	VAV BOX 2-11	V		12	0.7		3.7		3.0	12		T	EWH-2	1	20	64
65				V			0.7			3.7	3.0	12		T	EWH-3	1	20	66
67				W			9.0	12.0			3.0	12		T	EWH-4	1	20	68
69	45	3	WATER HTR #2	W		6	9.0		14.0		5.0	10		T	EUH-1	1	25	70
71				W			9.0			14.0	5.0	10		T	EUH-2	1	25	72
73				W			3.0	3.0							SPACE ONLY			74
75	20	3	WATER HTR #1	W		12	3.0		3.0						SPACE ONLY			76
77				W			3.0			3.0					SPACE ONLY			78
79			SPACE ONLY					0.0							SPACE ONLY			80
81			SPACE ONLY						0.0						SPACE ONLY			82
83			SPACE ONLY							0.0					SPACE ONLY			84
								28.7	30.7	30.7								

277 VOLTAGE L.-G
480 VOLTAGE L-L
3 PHASE
4 WIRE
225 BUS RATING (AMPS)
MLO MAIN DEVICE
- DEVICE RATING (AMPS)
35 FAULT DUTY (K.A.I.C.)
SURF. MOUNTING (SURFACE OR FLUSH)
0 NO. OF UNITS OF KITCHEN EQUIPMENT

COMMENTS:
A - * - SEE SECTION 1 FOR PANELBOARD TOTALS
B -
C -
D -
E -
F -
G -
H -

EXISTING PANEL AC SECTION 2 INFORMATION



PANEL 1P

74.7 CONNECTED KVA
208 CONNECTED AMPS
166 DEMAND AMPS

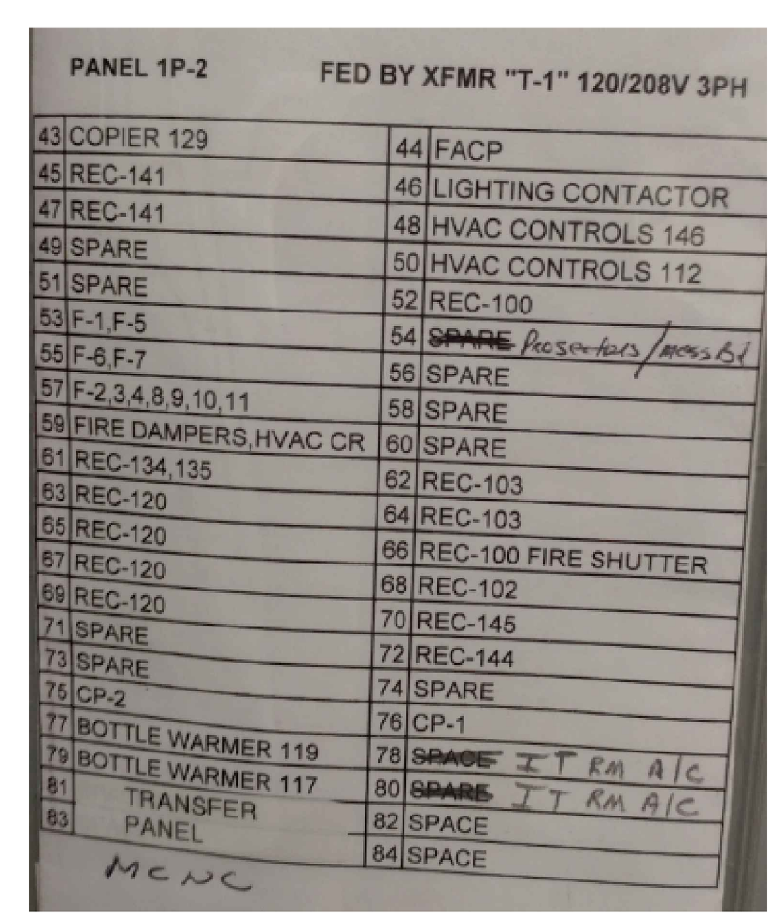
SECTION: 1

NO.	AMPS	P	LOAD DESCRIPTION	T	COM.	WIRE SIZE	LOAD KVA	A	B	C	LOAD KVA	WIRE SIZE	COM.	T	LOAD DESCRIPTION	P	AMPS	NO
1	20	1	CHILDCARE/ELECT. RM. REC.	R		12	1.3	2.7			1.4	12		R	TOILET/SICK/WORK REC.		20	2
3	20	1	CORR./WORK REC.	R		12	1.4		2.8		1.4	12		R	RECEPTION/CORR. REC.		20	4
5	20	1	EWC-1	R		12	0.5			1.6	1.1	12		R	OFFICE REC.		20	6
7	20	1	CHILDCARE REC.	R	B	12	0.9	2.2			1.3	12		R	OFFICE REC.		20	8
9	20	1	4 YR. OLD REC.	R		12	1.3		2.4		1.1	12		R	OFFICE REC.		20	10
11	20	1	3 YR. OLD REC.	R		12	1.3			1.8	0.5	12		R	EWC-2		20	12
13	20	1	TODDLER REC.	R		12	1.4	2.5			1.1	12		R	MULTIPURPOSE REC.		20	14
15	20	1	2 YR. OLD REC.	R		12	1.4		2.5		1.1	12		R	MULTI/RESOURCE REC.		20	16
17	20	1	TODDLER & 2 YR. OLD REC.	R		12	1.4			2.7	1.3	12		R	RESOURCE/CLASSROOM REC.		20	18
19	20	1	ITEM #18 ICE MACHINE	K		12	1.6	2.8			1.2	12		C	WASHER		20	20
21	20	1	DEDICATED KITCHEN RECEPT.	K		12	1.0		3.5		2.5	10		C	DRYER	2	30	22
23	20	1	DEDICATED KITCHEN RECEPT.	K		12	1.0			3.5	2.5			C				24
25	20	1	DEDICATED KITCHEN RECEPT.	K		12	1.0	2.2			1.2	12		R	FACULTY RECEPTACLES		20	26
27	20	2	ITEM #4 HOT CABINET	K		12	0.7		1.9		1.2	12		R	FACULTY RECEPTACLES		20	28
29				K			0.7			2.1	1.4	12		R	CLASSROOM REC.		20	30
31	20	1	ITEM #3 FREEZER	K		12	1.0	2.4			1.4	12		R	CLASSROOM REC.		20	32
33	20	1	ITEM #2 REFRIG.	K		12	0.7		0.7						SPARE		20	34
35	20	1	DEDICATED KITCHEN RECEPT.	K		12	1.0			2.2	1.2	12		O	COMPUTER ROOM		20	36
37	45	2	ITEM #9 DISHWASHER	K		6	3.7	4.9			1.2	12		O	COMPUTER ROOM		20	38
39				K			3.7		4.9		1.2	12		O	COMPUTER ROOM		20	40
41	20	1	KITCHEN FAN KEF-1	M		12				0.2	0.2	12		C	LIGHTING CONT. - 1		20	42
								19.7	18.6	14.1								

120 VOLTAGE L.-G
208 VOLTAGE L-L
3 PHASE
4 WIRE
225 BUS RATING (AMPS)
MLO MAIN DEVICE
- DEVICE RATING (AMPS)
10 FAULT DUTY (K.A.I.C.)
SURF. MOUNTING (SURFACE OR FLUSH)
9 NO. OF UNITS OF KITCHEN EQUIPMENT

COMMENTS:
A - PROVIDE DOUBLE LUGS TO SERVE ADDITIONAL SECTION
B - GFCI CIRCUIT BREAKER
C -
D -
E -
F -
G -

EXISTING PANEL 1P SECTION 1 INFORMATION



PANEL 1P

* CONNECTED KVA
* CONNECTED AMPS

SECTION: 2

NO.	AMPS	P	LOAD DESCRIPTION	T	COM.	WIRE SIZE	LOAD KVA	A	B	C	LOAD KVA	WIRE SIZE	COM	T	LOAD DESCRIPTION	P	AMPS	NO
43	20	1	COPIER	C		12	1.2	2.2			1.0	12	C	C	FACP	1	20	44
45	20	1	RESOURCE CENTER REC.	R		12	0.4		1.9		1.5	10		T	BACKFLOW HEATER	1	20	46
47	20	1	RESOURCE CENTER REC.	R		12	0.4			0.6	0.2	12		C	HVAC CONTROLS	1	20	48
49	20	1	SPARE					0.2			0.2	12		C	HVAC CONTROLS	1	20	50
51	20	1	FIRE/SMOKE DAMPERS CKT	C		12	1.5		1.7		0.2	12		R	DEDICATED RECEPTACLE	1	20	52
53	20	1	F-1 &5	M		12	0.5			1.0	0.5	12		C	ELECTRIC DOOR	1	20	54
55	20	1	F-6 & 7	M		12	0.5	0.6			0.1	12		R	KEYPAD RECEPTACLE	1	20	56
57	20	1	F-2,3,4,8,9,10,11	M		12	0.5		0.5						SPARE	1	20	58
59	20	1	SPARE							0.0					SPARE	1	20	60
61	20	1	MENS/WOM. TOILET REC	R		12	1.6	2.2			0.6	12		R	A/V RECEPTACLES	1	20	62
63	20	1	SECURITY PANEL	C		12	0.5		1.1		0.6	12		R	A/V RECEPTACLES	1	20	64
65	20	1	DATA RECEPTACLE	O		12	1.2			1.9	0.7	12		C	FIRE SHUTTER	1	20	66
67	20	1	DATA RECEPTACLE	O		12	1.0	1.9			0.9	12		R	RECEPTACLES	1	20	68
69	20	1	DATA RECEPTACLE	O		12	1.0		1.9		0.9	12		R	RECEPTACLES	1	20	70
71	20	1	CP-1	M		12	0.8			0.8					SPARE	1	20	72
73	20	1	CP-2	M		12	0.8	0.8							SPARE	1	20	74
75	20	1	MOTORIZED DOOR	M		12	1.0		1.0						SPARE	1	20	76
77	20	1	UC REFRIG & BOTTLE WARMER	C		12	1.0			1.0					SPARE	1	20	78
79	20	1	UC REFRIG & BOTTLE WARMER	C		12	1.0	1.0							SPARE	1	20	80
81			SPACE ONLY						0.0						SPACE ONLY			82
83			SPACE ONLY							0.0					SPACE ONLY			84
								8.9	8.1	5.3								

120 VOLTAGE L.-G
208 VOLTAGE L-L
3 PHASE
4 WIRE
225 BUS RATING (AMPS)
MLO MAIN DEVICE
- DEVICE RATING (AMPS)
10 FAULT DUTY (K.A.I.C.)
SURF. MOUNTING (SURFACE OR FLUSH)
0 NO. OF UNITS OF KITCHEN EQUIPMENT

COMMENTS:
A - * - SEE SECTION 1 FOR PANELBOARD TOTALS
B - NOT USED
C - PROVIDE LOCKABLE BREAKER
D -
E -
F -
G -
H -

EXISTING PANEL 1P SECTION 1 INFORMATION

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Brunswick Community College Allied Health

Additions & Renovations

185 College Rd NE
Bolivia, NC 28422

Project No: 16-15828-01

Construction Documents
15 October, 2018

ELECTRICAL PANEL SCHEDULES

E6.4

GENERAL NOTES:
1. DARK HATCHED LINE WORK INDICATES EQUIPMENT OR CIRCUITRY TO BE REMOVED.

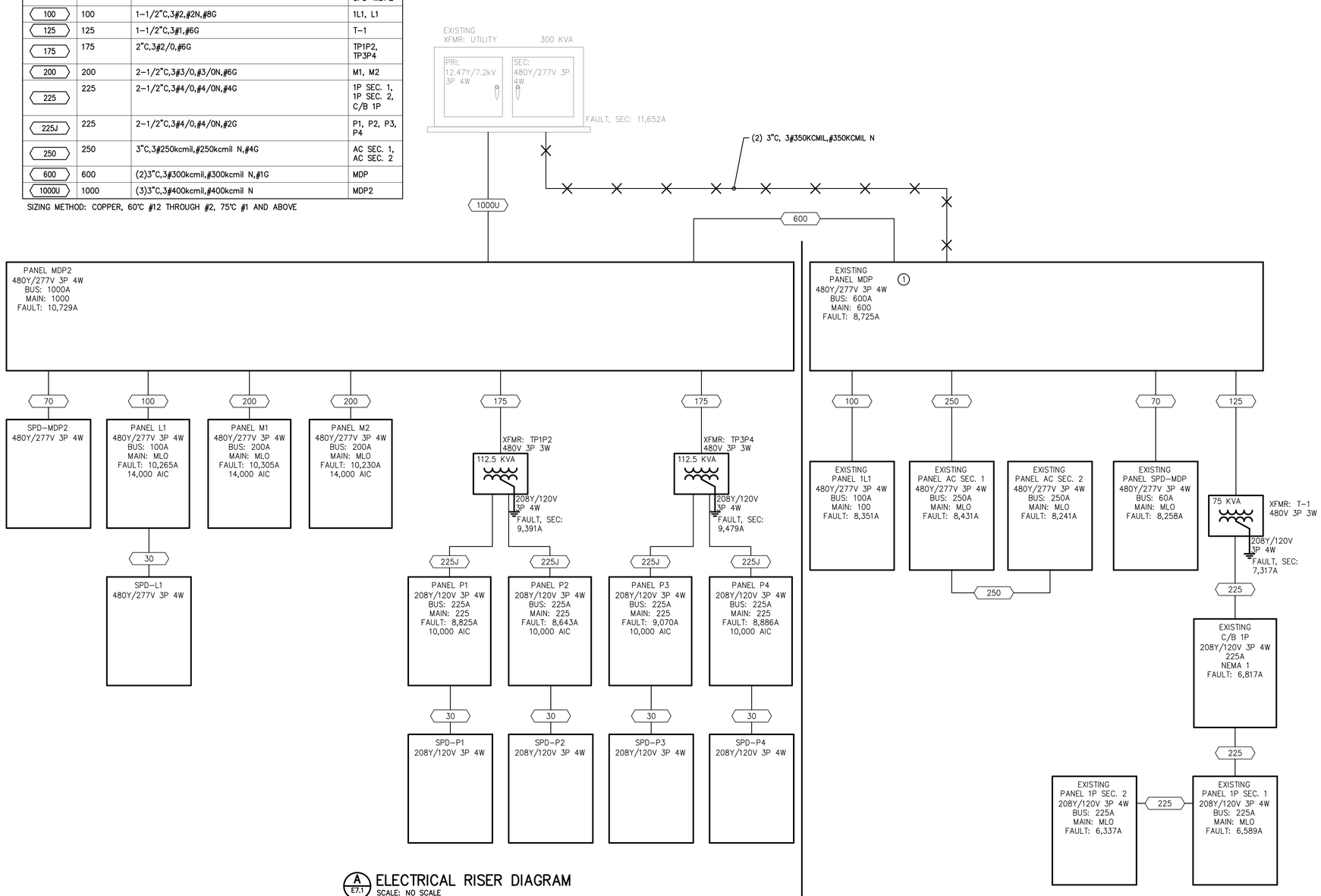
KEYED NOTES:

(1) REMOVE NEUTRAL TO GROUND BONDING. ISOLATE NEUTRAL AND GROUND CONDUCTORS, ADDING NEUTRAL AND/OR GROUND BAR AS NEEDED.

FEEDER SCHEDULE

ID	FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
30	30	3/4"C,3#10,#10N,#10G	SPD-L1, SPD-P1, SPD-P2, SPD-P3, SPD-P4
70	70	1-1/4"C,3#4,#4N,#4G	SPD-MDP, SPD-MDP2
100	100	1-1/2"C,3#2,#2N,#8G	1L1, L1
125	125	1-1/2"C,3#1,#6G	T-1
175	175	2"C,3#2/0,#6G	TP1P2, TP3P4
200	200	2-1/2"C,3#3/0,#3/0N,#6G	M1, M2
225	225	2-1/2"C,3#4/0,#4/0N,#4G	1P SEC. 1, 1P SEC. 2, C/B 1P
225J	225	2-1/2"C,3#4/0,#4/0N,#2G	P1, P2, P3, P4
250	250	3"C,3#250kcmil,#250kcmil N,#4G	AC SEC. 1, AC SEC. 2
600	600	(2)3"C,3#300kcmil,#300kcmil N,#1G	MDP
1000U	1000	(3)3"C,3#400kcmil,#400kcmil N	MDP2

SIZING METHOD: COPPER, 60°C #12 THROUGH #2, 75°C #1 AND ABOVE



A E7.1 ELECTRICAL RISER DIAGRAM
SCALE: NO SCALE

NEW EQUIPMENT **EXISTING EQUIPMENT**

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Brunswick Community College
Allied Health
Additions & Renovations

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Bolivia, NC 28422

Project No: 16-15828-01

Construction Documents
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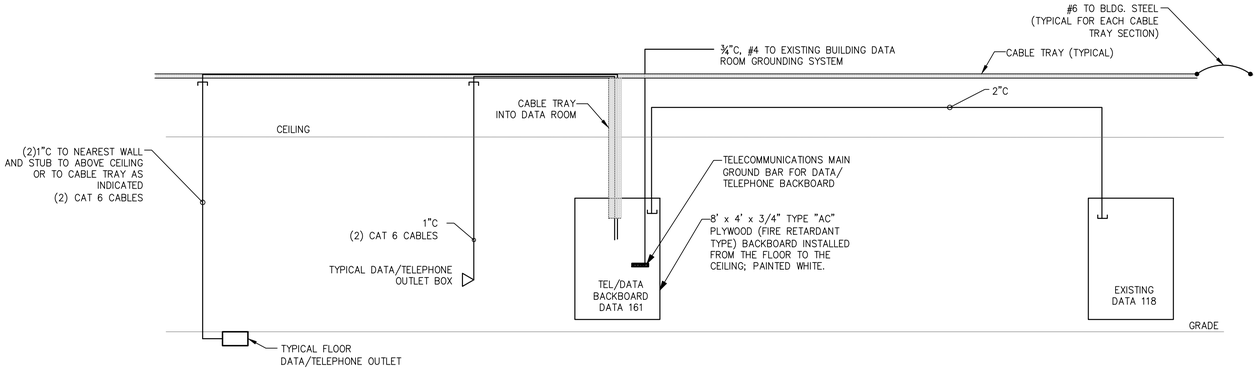
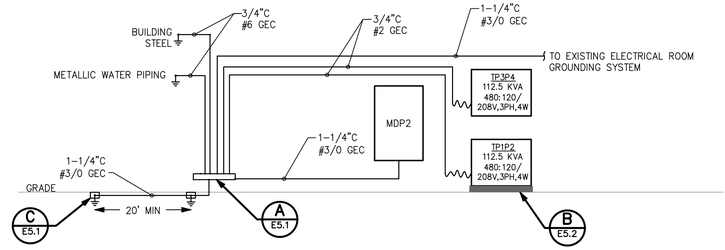
ELECTRICAL RISERS

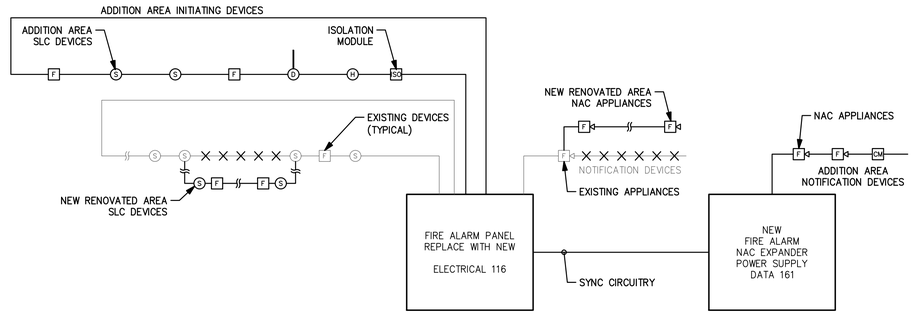
E7.1



C E7.2 AUXILIARY SYSTEMS RISER DIAGRAM
NO SCALE



A E7.2 ELECTRICAL GROUNDING SYSTEM RISER DIAGRAM
SCALE: N/A



B E7.2 FIRE ALARM SYSTEM RISER DIAGRAM
NO SCALE

FIRE ALARM OPERATION MATRIX		FACP ANNUNCIATION						NOTIFICATION				CONTROL	
		ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE AUDIBLE ALARM SIGNAL	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	ACTIVATE AUDIBLE TROUBLE SIGNAL	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE BUILDING EVACUATION SIGNALS	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STA.	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STA.	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STA.	SHUT DOWN AIR HANDLERS	BYPASS AIR HANDLER SHUT DOWN
SYSTEM INPUTS		A	B	C	D	E	F	G	H	I	J	N	P
1	MANUAL PULL STATIONS	X	X					X	X			X	
2	SMOKE/HEAT DETECTORS	X	X					X	X			X	
3	HVAC DUCT SMOKE DETECTORS	X	X			X	X				X		
4	FIRE ALARM SYSTEM GENERAL ALARM	X	X					X	X			X	
5	FIRE ALARM SYSTEM POWER FAILURE (8 HRS)			X	X					X			
6	FIRE ALARM SYSTEM LOW BATTERY			X	X					X			
7	FIRE ALARM SYSTEM GENERAL TROUBLE			X	X					X			
8	FIRE ALARM SYSTEM GENERAL SUPERVISORY					X	X				X		
9	OPEN CIRCUIT			X	X					X			
10	GROUND FAULT			X	X					X			
11	NOTIFICATION APPLIANCE CIRCUIT FAULT			X	X					X			
12	AHU SHUTDOWN DEFEAT SWITCH					X	X				X		X

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ELECTRICAL RISERS

E7.2