AIR CONDITIONING INSTALLATION
LUMBERTON CORRECTIONAL INSTITUTION
75 LEGEND ROAD, LUMBERTON, NC 28358
CONSTRUCTION DOCUMENTS
MAY 30, 2023

SCO ID#: 22-25591-01A **CODE: 42107** **ISSUE: 4112**

SHEET LIST

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. ROOM 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

COVER SHEET

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

SCALE
HORIZONTAL: NTS
VERTICAL: NTS

CS001
DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**

NOTE: INFORMATION OBTAINED FROM PREVIOUS RENOVATIONS

2018 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: LUMBERTON CORRECTIONAL INSTITUTION
Address: 75 LEGEND ROAD, LUMBERTON, NC Zip Code: 28358
Proposed Use: INSTITUTIONAL
Owner / Authorized Agent: NORTH CAROLINA DEPT. OF ADULT CORRECTION E-Mail:
Owned By: State of North Carolina ☐ City/County ☐ Private ☒ State
Code Enforcement Jurisdiction: ☐ City ☐ County ☒ State

CONTACT:

McKim & Creed, Inc.

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural					
Civil					
Electrical	McKim & Creed	JESSE C. ALONZO, PE	053121	(919) 233-8091	jalonzo@mckimcreed.com
Fire Alarm					
Plumbing	McKim & Creed	MITCHELL A. BROWN, PE	019692	(919) 233-8091	mbrown@mckimcreed.com
Mechanical					
Sprinkler-Standpipe					
Structural					
Retaining Walls>5' High					
Other					

2018 NC BUIDLING CODE: ☐ NEW BUILDING ☐ ADDITION ☐ RENOVATION
☐ 1ST TIME INTERIOR COMPLETION
☐ SHELL/CORE - CONTACT THE LOCAL INSPECTION JURISDICTION FOR POSSIBLE ADDITIONAL PROCEDURES AND REQUIREMENTS
☐ PHASED CONSTRUCTION - SHELL/CORE- CONTACT THE LOCAL INSPECTION JURISDICTION FOR POSSIBLE ADDITIONAL PROCEDURES AND REQUIREMENTS

2018 NC EXISTING BUIDLING CODE: EXISTING: ☐ PRESCRIPTIVE ☐ REPAIR ☐ CHAPTER 14
Alteration: ☐ LEVEL 1 ☐ LEVEL II ☐ LEVEL III ☐ HISTORIC PROPERTY ☐ CHANGE OF USE

CONSTRUCTED: (Date) 1992 **CURRENT OCCUPANCY(S)(Ch.3):** Institutional Restrained (I-3)
RENOVATED: (Date) NA **PROPOSED OCCUPANCY(S)(Ch.3):** Institutional Restrained (I-3)
RISK CATEGORY (TABLE 1604.5) **CURRENT:** ☐ I ☐ II ☐ III ☐ IV
PROPOSED: ☐ I ☐ II ☐ III ☐ IV

BASIC BUILDING DATA

Construction Type: (check all that apply) ☒ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☐ V-B

Sprinklers: ☒ No ☐ Partial ☐ Yes ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☐ No ☒ Yes Class ☒ I ☐ II ☐ III ☒ Wet ☐ Dry
Fire District: ☐ No ☒ Yes (Primary) Flood Hazard Area: ☒ No ☐ Yes
Special Inspections Required: ☒ No ☐ Yes (Contact The Local Inspection Jurisdiction For Additional Procedures and Requirements.)

GROSS BUILDING AREA TABLE

BUILDING	EXISTING (SQ. FT.)	NEW (SQ. FT.)	SUB-TOTAL
DORMITORY "A":	16,380	0	16,380
DORMITORY "B":	16,380	0	16,380
DORMITORY "C":	16,380	0	16,380
DORMITORY "D":	16,380	0	16,380
DORMITORY "E":	16,380	0	16,380
DORMITORY "F":	16,380	0	16,380
TOTAL:	98,280	0	98,280
PROJECT AREA:	98,280		

ALLOWABLE AREA

Occupancy:
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☒ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Notes:
1. THE PROJECT SITE HAS NINE BUILDINGS. SIX OF THEM (DORMITORIES) ARE UPGRADED.

Accessory Occupancy Classifications: N/A
Incidental Uses (Table 509): NONE
Special Uses (Chapter 4 - List Code Section): 408
Special Provisions (Chapter 5 - List Code Section):
Mixed Occupancy: ☒ No ☐ Yes Separation: NA Hr. Exception: 508.3

☒ Non-Separated Use (508.3)
The required type construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Use (508.4) - See below for area calculations
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

$$\frac{\text{NA}}{\text{AREA IS UNLIMITED PER TABLE 504}} + \frac{\text{NA}}{} + \ldots = \text{NA} \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA [4]	(C) AREA FOR FRONTAGE INCREASE [1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED [2,3]
1-STORY	I-3	16,380		NA	

[1] Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = NA (F)
b. Total Building Perimeter = NA (P)
c. Ratio (F/P) = NA (F/P)
d. W = Minimum width of public way = NA (W)
e. Percent of frontage increase I = 100[F/P-0.25] x W/30 = NA (%)
[2] Unlimited area applicable under conditions of Section 507;
[3] Maximum building area = total number of stories in the building x D (maximum 3 stories) (506.2).
[4] The Maximum area of open parking garages must comply with Table 406.5.4.
[5] Frontage increase is based on the unsprinkled area value in table 506.2.

ALLOWABLE HEIGHT - EXISTING

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE [1]
Building Height in Feet (Table 504.3)[2]	UL	10'-8"	504.3
Building Height in Stories (Table 504.4)[3]	UL	1	504.4

[1] Provide code reference if the "Shown On Plans" quantity is not based on Table 504.3 or 504.4.
[2] The Maximum height of air traffic control towers must comply with Table 412.3.1.
[3] The Maximum height of air traffic control towers must comply with Table 406.5.4.

FIRE PROTECTION REQUIREMENTS - EXISTING

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/___* REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame, including columns, girders, trusses			3HR				
Bearing walls			3HR				
Exterior			3HR				
North			3HR				
East			3HR				
West			3HR				
South			3HR				
Interior			2HR				
Nonbearing walls and partitions							
Exterior walls							
North			NC				
East			NC				
West			NC				
South			NC				
Interior walls and partitions (Bolier)			NC				
Floor construction Including supporting beams and joists							
Roof construction Including supporting beams and joists			1HR				
Shafts Enclosures - Exit			1HR				
Shafts Enclosures - Other			1HR				
Corridor Separation			SMOKE				
Occupancy Separation			N/A				
Party/Fire Wall Separation							
Smoke Barrier Separation			1HR				
Tenant Separation			N/A				
Incidental Use Separation			1HR				

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENING PROTECTION (TABLE 705.8)	ALLOWABLE AREA %	ACTUAL SHOWN ON PLANS %
NA	NA	NA	NA

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☐ No ☒ Yes
Exit Signs: ☐ No ☒ Yes
Fire Alarm: ☐ No ☒ Yes
Smoke Detection Systems: ☐ No ☒ Yes ☐ Partial ____
Panic Hardware: ☐ No ☒ Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: N/A

☐ Fire and/or smoke rated wall locations (Chapter 7)
☐ Assumed and real property line locations (if not on the site plan)
☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☐ Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.2)
☐ Occupant loads for each area
☐ Exit access travel distances (1017)
☐ Common path of travel distances (1006.2.1 & 1006.3.2(1))
☐ Dead end lengths (1020.4)
☐ Clear exit widths for each exit door
☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
☐ Actual occupant load for each exit door
☐ A separate reduced scaled plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
☐ Location of doors with panic hardware (1010.1.10)
☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
☐ Location of doors equipped with hold-open devices
☐ Location of emergency escape windows (1030)
☐ The square footage of each fire area (202)
☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
NA	NA	NA	NA	NA	NA	NA	NA

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
TOTAL	NA	NA				

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE		WATERCLOSETS MALE	WATERCLOSETS FEMALE	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXISTING	13	-	4	21	-	4	-	-
	NEW	0	0	0	0	0	0	0	0
	REQUIRED	-	-	-	-	-	-	-	-

STRUCTURAL DESIGN

DESIGN LOADS:
Importance Factors: Snow (I_S) ____ Seismic (I_E) ____
Live Loads: Roof 90 psf; Mezzanine NA psf; Floor 125 psf
Ground Snow Load: NA psf
Wind Load: Basic Wind Speed 90 mph (ASCE-7); Exposure Category NA

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☒ C ☐ D
Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) ☐ I ☐ II ☐ III ☒ IV
Spectral Response Acceleration S_s ____ %g S_1 ____ %g
Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F
Data Source: ☐ Field Test ☐ Presumptive ☐ Historical Data
Basic structural system (check one)
☐ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
Analysis Procedure ☐ Simplified ☐ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☐ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☐

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) NA psf
Presumptive Bearing Capacity NA psf
Pile Size, Type and Capacity NA

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the **North Carolina Energy Conservation Code** shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: ☒ No ☐ Yes (The remainder of this section is not applicable)

Exempt Building: ☒ No ☐ Yes (Provide code or statutory reference) NA

Climate Zone: ☐ 3A ☒ 4A ☐ 5A

Method of Compliance:
☒ Prescriptive (Energy Code)
☐ Performance (Energy Code)
☐ Prescriptive (ASHRAE 90.1)
☐ Performance (ASHRAE 90.1)
(If "Other" Specify source here) NA

THERMAL ENVELOPE (Prescriptive method only)
Roof/ceiling Assembly (each assembly)
Descriptive of assembly NA
U-Value of total assembly 0.15 **(ESTIMATED BASED ON EXISTING DRAWINGS)**
R-Value of insulation NA
Skylights in each assembly NA
U-Value of skylight NA
total square footage of skylights in each assembly NA

Exterior Walls (each assembly)
Descriptive of assembly NA
U-Value of total assembly 0.12 (ESTIMATED BASED ON EXISTING DRAWINGS)
R-Value of insulation NA
Openings (windows or doors with glazing)
U-Value of assembly 0.71 **(ESTIMATED)**
Solar heat gain coefficient 0.59 **(ESTIMATED)**
projection factor NA
Door R-Values

Floors slab on grade (each assembly)
Descriptive of assembly NA
U-Value of total assembly NA
R-Value of insulation NA
Horizontal/vertical requirement NA
slab heated F-Value 0.73

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
Thermal Zone 4A
winter dry bulb 16.3°F
summer dry bulb 94.2°F
Interior design conditions
winter dry bulb 72°F
summer dry bulb 75°F
relative humidity 50% +/- 3°F
Building heating load 603 MBH
Building cooling load 42.5 TONS
Mechanical Spacing Conditioning System
Unitary
description of unit AIR HANDLING UNIT WITH HOT WATER COIL AND REFRIGERANT COIL AND CONDENSING UNIT
heating efficiency NA
cooling efficiency 11.2 EER
size category of unit 10 TON, 130 MBH
Boiler
Size category. If oversized, state reason NA
Chiller
Size category. If oversized, state reason NA
List equipment efficiencies 11.2 EER

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT
Method of Compliance:
Energy Code: ☐ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance
Lighting schedule (each fixture type)
lamp type required in fixture NA
number of lamps in fixture NA
ballast type used in fixture NA
number of ballast in fixture NA
total wattage per fixture NA
total interior wattage selected vs. allowed (whole building or space by space) NA
total exterior wattage specified vs. allowed NA

Additional Efficiecy Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
☐ C406.2 More Efficient HVAC Equipment Performance
☐ C406.3 Reduced Lighting Power Density
☐ C406.4 Enhanced Lighting Controls
☐ C406.5 On-Site Renewable Energy
☐ C406.6 Dedicated Outdoor Air System
☐ C406.7 Reduced Energy Use in Service Water Heating

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MCE PROJ. #: 08914-0003
DRAWN: EIK
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PROJ. MGR.: MAB

SCALE
HORIZONTAL: NTS
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G001
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STATUS: **BID DOCUMENTS**

2018 APPENDIX B

NC MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

CLIMATE ZONE	4A
THERMAL ZONE	
WINTER DRY BULB	16.3° F
SUMMER DRY/WET BULB	94.2° F/75.8° F
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	72° F
SUMMER DRY BULB	75° F
RELATIVE HUMIDITY	50%
BUILDING HEATING LOAD	603 MBH
BUILDING COOLING LOAD	42.5 TONS (NEW UNITS -40 TONS, EXISTING UNIT AH-5 -2.5 TON)
MECHANICAL SPACING CONDITIONING SYSTEM	
UNITARY	
DESCRIPTION OF UNIT	AIR HANDLING UNITS WITH HOT WATER AND REFRIGERANT COOLING COILS
HEATING EFFICIENCY	N/A
COOLING EFFICIENCY	11.2 EER
HEAT OUTPUT OF UNIT	130 MBH
COOLING OUTPUT OF UNIT	10 TON

CODES / STANDARDS

- IBC, IMC, IEC - 2018 EDITION (RALEIGH, NC)
- NFPA 90A - 2017 EDITION
- ASHRAE STANDARDS:
  - 15-2016, "SAFETY CODE FOR MECHANICAL REFRIGERATION"
  - 62-2016, "VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY"
  - 90.1-2016, "ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE"
  - 55-2017, "THERMAL ENVIRONMENTAL CONDITIONS FOR HUMAN OCCUPANCY"

MECHANICAL ABBREVIATIONS

AAV	AUTOMATIC AIR VENT	HX	HEAT EXCHANGER
ADJ	ADJUSTABLE OR ADJUSTMENT	IND	INDUCTION UNIT
AI	ANALOG IN	IWC	INCHES WATER COLUMN
AO	ANALOG OUT	JB	JUNCTION BOX
AFF	ABOVE FINISHED FLOOR	LAT	LEAVING AIR TEMPERATURE
AFG	ABOVE FINISHED GRADE	LPC	LOW PRESSURE CONDENSATE
AHU	AIR HANDLING UNIT	LPS	LOW PRESSURE STEAM
APD	AIRSIDE PRESSURE DROP	LWT	LEAVING WATER TEMPERATURE
BFF	BELOW FINISHED FLOOR	MAV	MANUAL AIR VENT
BLDG	BUILDING	MC	MECHANICAL CONTRACTOR
BMP	BOILER MANAGEMENT PANEL	MPC	MEDIUM PRESSURE CONDENSATE
CFM	CUBIC FEET PER MINUTE	MPS	MEDIUM PRESSURE STEAM
CMD	COMMAND	MTD	MONTH TO DATE
COND	CONDENSATE DRAINAGE	N/A	NOT AVAILABLE / NOT APPLICABLE
CV	CONSTANT VOLUME	NC	NORMALLY CLOSED
CWMU	COLD WATER MAKEUP UNIT	NIC	NOT IN CONTRACT
CHWR	CHILLED WATER RETURN	NO	NORMALLY OPEN
CHWS	CHILLED WATER SUPPLY	NTS	NOT TO SCALE
CWS	CONDENSER WATER SUPPLY	OCC	OCCUPANT OR OCCUPANCY
CWR	CONDENSER WATER RETURN	OA	OUTSIDE AIR
DI	DIGITAL IN	PC	PLUMBING CONTRACTOR
DO	DIGITAL OUT	PSI	POUNDS PER SQUARE INCH
DN	DOWN	RA	RETURN AIR
EA	EXHAUST AIR	RAG-X	RETURN AIR GRILLE - TYPE
EAG-X	EXHAUST AIR GRILLE - TYPE	RTU	ROOF TOP UNIT
EAT	ENTERING AIR TEMPERATURE	SA	SUPPLY AIR
EC	ELECTRICAL CONTRACTOR	SAD-X	SUPPLY AIR DIFFUSER - TYPE
ESP	EXTERNAL STATIC PRESSURE	SC	SAFETY CIRCUIT
ETR	EXISTING TO REMAIN	S/S	START/STOP
EWT	ENTERING WATER TEMPERATURE	STM COND	STEAM CONDENSATE RETURN
EX	EXISTING	TAB	TEST AND BALANCE
FACP	FIRE ALARM CONTROL PANEL	TEMP	TEMPERATURE
FCU	FAN COIL UNIT	TSP	TOTAL STATIC PRESSURE
FPM	FEET PER MINUTE	TYP	TYPICAL
GC	GENERAL CONTRACTOR	UH	UNIT HEATER
GPM	GALLONS PER MINUTE	VEL	VELOCITY
HWS	HEATING HOT WATER SUPPLY	VAV	VARIABLE AIR VOLUME
HWR	HEATING HOT WATER RETURN	VP	VIRTUAL POINT
HP	HORSEPOWER	WPD	WATERSIDE PRESSURE DROP
HPC	HIGH PRESSURE CONDENSATE	XFMR	TRANSFORMER
HPS	HIGH PRESSURE STEAM		

HAZARDOUS MATERIALS WARNING

HAZARDOUS MATERIALS, INCLUDING ASBESTOS CONTAINING MATERIALS, ARE EITHER NOT PRESENT OR WERE REMOVED PRIOR TO CONSTRUCTION, TO THE BEST OF THIS CONSULTANT'S KNOWLEDGE. THERE IS ALWAYS THE RISK OF REMAINING, UNDISCOVERED HAZARDOUS MATERIALS PRESENT IN THE CONSTRUCTION SITE HOWEVER. DURING THE COURSE OF THE PROJECT, SHOULD SUSPECT REGULATED MATERIALS BE LOCATED AND/OR IDENTIFIED, THE CONTRACTOR SHALL CEASE ALL WORK AND NOTIFY THE OWNER/DESIGNER/ENVIRONMENTAL CONSULTANT FOR CONFIRMATION AND TESTING IF NECESSARY.

CONTROLS LEGEND

- ANALOG POINT
- DIGITAL POINT
- CARBON DIOXIDE SENSOR
- POINT NAME — CONTROL POINT
- CONTROL RELAY
- CONTROL WIRING
- CS — CURRENT SWITCH
- CT — CURRENT TRANSMITTER
- DP — DIFFERENTIAL PRESSURE TRANSMITTER
- E_P — ELECTRO-PNEUMATIC TRANSDUCER
- S_{ESS} — EMERGENCY STOP SWITCH
- ES — END SWITCH
- ES — ENTHALPY SELECTOR
- FS — FLOW SWITCH
- FT — FLOW TRANSMITTER
- FZ_{SC} — FREEZESTAT
- HT — HIGH TEMPERATURE SWITCH
- HS — HUMIDITY SWITCH
- HT — HUMIDITY TRANSMITTER
- LS_{SC} — LEVEL SWITCH
- LM — LIGHT METER
- M — MOTOR OPERATED DAMPER
- MS — MOTOR STARTER
- OS — OCCUPANCY SENSOR
- S_{OS} — OVERRIDE SWITCH
- O2 — OXYGEN SENSOR
- PS — PRESSURE SWITCH
- PT — PRESSURE TRANSMITTER
- SD — SMOKE DETECTOR
- H — SPACE RELATIVE HUMIDITY TRANSMITTER
- T — SPACE TEMPERATURE TRANSMITTER
- TS — TIME SWITCH
- TT — DUCT TEMPERATURE TRANSMITTER
- VFD — VARIABLE FREQUENCY DRIVE
- VP — VELOCITY PRESSURE TRANSMITTER
- 100_{SC} — WATER DETECTION SWITCH

EQUIPMENT LEGEND

- VAV BOX
- FAN POWERED VAV BOX
- HYDRONIC COIL
- PRESSURE GAUGE
- THERMOMETER

DRAWING SYMBOLS

- FPV 1-1 — EQUIPMENT TAG
- # — DEMOLITION KEYED NOTE
- # — NEW WORK KEYED NOTE
- 2 / M1.1 — DETAIL NUMBER / DRAWING NUMBER
- A / M1.1 — SECTION LETTER / DRAWING NUMBER

MECHANICAL LEGEND

- LIMITS OF DEMOLITION
- POINT OF CONNECTION TO EXISTING
- T — ROOM TEMPERATURE SENSOR
- H — HUMIDITY TRANSMITTER
- OS — OCCUPANCY SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- SUPPLY DIFFUSER
- RETURN GRILLE
- BEACON STROBE LIGHT FOR HVAC ALARM SYSTEMS.
- EXHAUST GRILLE
- S_{ESS} — EMERGENCY STOP SWITCH
- VERTICAL FIRE DAMPER
- HORIZONTAL FIRE DAMPER
- COMBINATION FIRE/SMOKE DAMPER
- VOLUME DAMPER
- 3 BOX: - / -/- / - — DIFFUSER/GRILLE TAG; PURGE SMOKE CFM/NORMAL OPERATION CFM; SIZE
- 2 BOX: - / - — DIFFUSER/GRILLE TAG; SIZE
- AIRFLOW DIRECTION
- SUPPLY REGISTER OR GRILLE
- EXHAUST OR RETURN GRILLE
- 10x10 — RECTANGULAR DUCTWORK
- 8"Ø — ROUND DUCTWORK
- EXISTING DUCTWORK
- DUCTWORK TO BE DEMOLISHED
- FLEXIBLE DUCTWORK (INSULATED)
- DUCT ACCESS DOOR
- UP / DN — SUPPLY DUCT (UP & DOWN)
- UP / DN — EXHAUST DUCT (UP & DOWN)
- UP / DN — RETURN DUCT (UP & DOWN)
- COMBINATION FIRE SMOKE DAMPER (PNEUMATIC -▽- ELECTRIC -▼-)
- MOTORIZED SMOKE DAMPER
- SOUND ATTENUATOR TAG - MARK (X)
- AIRFLOW MEASURING STATION TAG - MARK (X)
- SD — SMOKE DETECTOR
- EXISTING PIPING TO REMAIN
- PIPING TO BE DEMOLISHED
- ISOLATION VALVE
- OR — GATE VALVE
- OR — GLOBE VALVE
- GATE VALVE WITH 3/4" HOSE ADAPTER
- OR — CHECK VALVE
- OR — BUTTERFLY VALVE
- OR — BALL VALVE
- OR — BALANCING VALVE
- RELIEF VALVE
- OR — WYE STRAINER
- BOILER DRAIN VALVE
- PRESSURE REGULATING VALVE
- CONTROL VALVE (2-WAY)
- CONTROL VALVE (3-WAY)
- TEST PLUG (PRESSURE/TEMPERATURE)
- PIPING DOWN
- PIPING UP
- TEE UP
- TEE DOWN
- CAPPED PIPING
- OR — IN LINE TRIPLE DUTY VALVE
- AUTOMATIC AIR VENT
- MANUAL AIR VENT

PROJECT DESCRIPTION

THE FOLLOWING IS A GENERAL DESCRIPTION OF THE PROJECT SCOPE. IT IS HIGH LEVEL AND NOT INTENDED TO BE ALL-INCLUSIVE. ALL WORK SHALL BE UNDERTAKEN AS DESCRIBED WITHIN THE CONTRACT DOCUMENTS:

1. THIS PROJECT REPLACES THE EXISTING HEATING AND VENTILATING SYSTEMS SERVING THE INMATE HOUSING AREAS IN THE (6) DORMITORIES (A, B, C, D, E, F) AT THE LUMBERTON CORRECTIONAL INSTITUTION. THE NEW REPLACEMENT SYSTEMS SHALL INCLUDE DX COOLING CAPABILITY IN ADDITION TO HEATING AND VENTILATING.
2. THE WORK SHALL BE PERFORMED SEQUENTIALLY, PER DORMITORY. ALL WORK SHOWN ON THE DEMOLITION AND NEW WORK PLANS SHALL BE PERFORMED ONE DORMITORY AT A TIME, ONCE ALL WORK FOR A SINGLE DORM HAS BEEN COMPLETED, INSPECTED AND APPROVED FOR USE BY THE OWNER, THE CONTRACTOR MAY ONLY THEN PROCEED TO THE NEXT SINGLE DORMITORY AND BEGIN WORK.
3. (4) HEATING AND VENTILATING SYSTEMS SYSTEMS ARE TO BE REPLACED PER DORM BUILDING - TOTAL OF 24 SYSTEMS AFFECTED.
4. (4) RELIEF EXHAUST FANS ARE TO BE REPLACED PER DORM BUILDING. TOTAL OF 24 SYSTEMS AFFECTED.
5. MOST SUPPLY AIR AND RETURN AIR DUCTWORK SERVING THE INMATE HOUSING AREAS IS TO BE REPLACED WITH NEW.
6. THE HVAC CONTROLS ARE TO BE UPGRADED.

GENERAL NOTES

1. THE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE SCALE, WHEN INDICATED IS INTENDED FOR GENERAL REFERENCE ONLY.
2. THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE PROJECT PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS WITH THE ENGINEER.
3. ALL WORK SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. ANY EQUIPMENT OR MATERIAL DEVIATIONS FROM THAT SPECIFIED OR DETAILED ON THIS DRAWING SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER. ALL PROPOSED EQUIPMENT DEVIATIONS SUBMITTED SHALL BE SIMILAR BOTH IN QUALITY AND CAPACITY TO THAT EQUIPMENT SPECIFIED.
4. DESIGN IS BASED ON THE MANUFACTURER AND MODEL SCHEDULED OR THE FIRST MANUFACTURER LISTED IN THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL BEAR ANY AND ALL COSTS FOR ALTERING ANY OTHER CONTRACT OR SUB-CONTRACT RESULTING FROM THE USE OF ANY MANUFACTURER OR MODEL OTHER THAN THE DESIGN BASIS INCLUDING LISTED EQUALS.
5. PRIOR TO CONSTRUCTION, FABRICATING DUCTWORK, ORDERING EQUIPMENT, ETC., THE CONTRACTOR SHALL FIELD VERIFY SPACE LIMITATIONS AT THE JOB SITE AND COORDINATE WITH OTHER TRADES.
6. ALL MATERIALS, EQUIPMENT AND PRODUCTS INCORPORATED IN THE WORK UNDER THE CONTRACT SHALL BE NEW, OF A SUITABLE GRADE FOR THE PURPOSES INTENDED, AND TO THE EXTENT POSSIBLE, STANDARD PRODUCTS OF THE VARIOUS MANUFACTURES EXCEPT WHERE SPECIAL CONSTRUCTION OR PERFORMANCE FEATURES ARE CALLED FOR. THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
7. ALL MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
8. THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED BY THEIR ACTIONS. SUCH DAMAGE SHALL BE RETURNED TO ORIGINAL NORMAL WORKING CONDITION, SUBJECT TO ACCEPTANCE OF THE OWNER AND ENGINEER, WITHOUT EXTRA COST TO THE OWNER.
9. THE MECHANICAL CONTRACTOR SHALL KEEP THEIR WORK SITE AND ALL ACCESS POINTS OF THE BUILDING FREE OF RUBBISH AND WASTE MATERIAL. ALL ROOF OPENINGS IN THE BUILDING REQUIRED FOR THE MECHANICAL CONTRACT SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. ALL FRAMING AROUND OPENINGS SHALL BE BY THE GENERAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL COORDINATE SIZE OF OPENINGS AND LOCATION OF OPENINGS WITH THE GENERAL CONTRACTOR. ALL ROOF CURBS AND ROOF SUPPORT RAILS FOR MECHANICAL EQUIPMENT INSTALLED ON THE ROOF SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
10. ALL OPENINGS IN WALLS AS REQUIRED BY THE MECHANICAL SYSTEM IN THE BUILDING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT IS THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH THE GENERAL CONTRACTOR AT THE JOB SITE IN A TIMELY MANNER.
11. ALL RATED WALL AND FLOOR ASSEMBLIES ARE SHOWN ON FLOOR PLANS. PROVIDE FIRE DAMPERS AND/OR U.L. LISTED ASSEMBLIES AND/OR SEALANTS PER DRAWINGS, SPECIFICATIONS, AND APPLICABLE CODES AT ALL PENETRATIONS.
12. THE MECHANICAL CONTRACTOR SHALL FURNISH ACCESS DOORS FOR DUCTWORK AT MOTOR OPERATED DAMPERS, FIRE DAMPERS, BALANCING DEVICES OR OTHER ITEMS REQUIRING BALANCING OR SERVICE. ACCESS DOORS SHALL BE INSTALLED BY THE GENERAL CONTRACTOR. SEE PLANS AND GENERAL CONSTRUCTION SPECIFICATIONS FOR ACCESS DOOR REQUIREMENTS.
13. MECHANICAL CONTRACTOR SHALL PROVIDE 6" HIGH HOUSEKEEPING PADS UNDER MAJOR MECHANICAL EQUIPMENT (I.E. CHILLERS) AND 4" HIGH HOUSEKEEPING PADS UNDER ALL OTHER FLOOR MOUNTED EQUIPMENT UNLESS NOTED OTHERWISE. PADS SHALL EXTEND BEYOND EQUIPMENT BY THE SAME DIMENSION AS THE HEIGHT OF THE PAD, UNLESS NOTED OTHERWISE.
14. ALL PIPING AND DUCTWORK (EXCEPT IN MECHANICAL ROOMS, BOILER ROOM, ETC.) SHALL BE CONCEALED UNLESS OTHERWISE SHOWN OR NOTED.
15. DO NOT INSTALL PIPING OR DUCTWORK OVER ANY ELECTRICAL EQUIPMENT; SEE MECHANICAL DETAIL SHEET(S).
16. MC SHALL BLANK OFF UNUSED PORTIONS OF LOUVERS WITH DOUBLE WALL INSULATED PANELS.
17. REFER TO SPECIFICATIONS FOR EQUIPMENT STARTUP PROCEDURES AND REQUIREMENTS.

DUCTWORK

18. DUCT SIZES SHOWN ON PLANS ARE FREE AREA DIMENSIONS. CONTRACTOR SHALL INCREASE SIZES AS NECESSARY TO ACCOMMODATE LINING, IF SPECIFIED.
19. BEFORE FABRICATING OR INSTALLING DUCTWORK, COORDINATE DUCT LOCATIONS WITH THE ELECTRICAL CONTRACTOR'S PANELS, CONDUIT AND RECESSED LIGHT FIXTURES, PLUMBING PIPING, AND ALL STRUCTURAL MEMBERS. THESE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT SHOP DRAWINGS. ALL OFFSETS AND TRANSITIONS REQUIRED FOR THIS PROJECT MAY NOT BE SHOWN ON THESE DRAWINGS; HOWEVER, THEY SHALL BE PROVIDED WITHOUT CHANGE TO THE BID CONTRACTS.
20. 20. BEFORE FABRICATING OR INSTALLING DUCTWORK, COORDINATE FINAL LOCATION OF CEILING GRILLES, REGISTERS AND DIFFUSERS WITH REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING PLANS.
21. ALL SURFACES SEEN THOUGH GRILLES AND DIFFUSERS SHALL BE PAINTED MATTE BLACK.
22. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO KEEP ACCESS TO THE VOLUME DAMPERS WITHIN THE LAY-IN CEILING OR EXPOSED AREAS.
23. PROVIDE FLEXIBLE CONNECTIONS TO ALL AIR MOVING EQUIPMENT.
24. INSTALL DIFFUSERS WITH 3-WAY OR 2-WAY THROW AS REQUIRED TO AVOID BLOWING DIRECTLY ON THERMOSTATS.
25. MC SHALL CONFIRM ALL CEILING TYPES, HARD OR LAY-IN, INCLUDING SECURITY REQUIREMENTS, NARROW TEE AND REGULAR, PRIOR TO SUBMITTAL OF SHOP DRAWINGS TO ENGINEER. ANY AIR DEVICES REQUIRING REPLACEMENT DUE TO LACK OF MC'S CONFIRMATION SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
26. ALL FIRE DAMPERS AND U.L. FIRE STOPS SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH MANUFACTURER'S U.L. LISTING AND INSTALLATION INSTRUCTIONS. REGARDLESS OF DUCT SIZE, FIRE DAMPERS SHALL BE MINIMUM 12"x12" OR 12"Ø IN SIZE. TRANSITION BEYOND ACCESS DOOR AS REQUIRED TO MATCH ACTUAL DUCT SIZE.

PIPING

27. FLEXIBLE PIPE CONNECTIONS SHALL BE PROVIDED AT ALL HYDRONIC PIPING CONNECTIONS AT ROTATING EQUIPMENT, INCLUDING AIR HANDLING UNITS, BASE-MOUNTED PUMPS, CHILLERS, ETC.

INSULATION

28. ANY INSULATION DAMAGED DURING THE PROJECT SHALL BE REPAIRED AND ALL VAPOR BARRIERS RESTORED.

BUILDING AUTOMATION SYSTEM (CONTROLS)

29. SOME VIRTUAL POINTS ARE SHOWN ON THE CONTROL POINTS LISTS. THESE POINTS ARE INTENDED TO SHOW MAJOR VIRTUAL POINTS BUT IS NOT AN ALL-ENCOMPASSING LIST. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINAL POINT COUNTS AND SHALL ENSURE THAT THE CONTROLLERS PROVIDED ARE CAPABLE OF HANDLING ANY ADDITIONAL VIRTUAL POINTS THAT MAY BE NEEDED TO PROVIDE A FULLY FUNCTIONAL SYSTEM.
30. MOTOR CONNECTIONS AT MOTOR TERMINALS SHALL NOT BE MADE UNTIL ROTATION, HORSEPOWER, PHASE RATINGS, AND RATINGS OF ANY REQUIRED THERMAL HEATERS HAVE BEEN VERIFIED AND APPROVED AS CORRECT FOR THE INSTALLATION BY THE MC.
31. INSTALL THERMOSTATS AT THE SAME HEIGHT AS THE LIGHT SWITCH WHERE INSTALLED ADJACENT AND NO HIGHER THAN PERMITTED BY ADA GUIDELINES. PROVIDE INSULATED PLATES BEHIND THERMOSTATS INSTALLED ON EXTERIOR WALLS. COORDINATE LOCATION OF WALL MOUNTED THERMOSTATS, TEMPERATURE SENSORS, WALL SWITCHES, ETC. WITH OTHER CONTRACTORS TO AVOID CONFLICTS WITH DRAWING BOARDS, ELECTRICAL DEVICES, TACK BOARDS, ETC. ALL WIRING TO WALL MOUNTED DEVICES SHALL BE CONCEALED IN WALL UNLESS NOTED OTHERWISE.

COORDINATION

32. ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS' REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK MINIMUM. THIS TIME/LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNER'S DISCRETION.
33. ALL ROOF MOUNTED UNITS SHALL BE CAREFULLY COORDINATED WITH THE STRUCTURE. MC AND GC SHALL COORDINATE ROOF STEEL PLACEMENT AND ROOF OPENINGS WHICH SHALL MATCH UP WITH THE ACTUAL UNIT OPENING LOCATION, SIZE, WEIGHTS AND DIMENSIONS. NO WORK SHALL OCCUR UNTIL CONTRACTOR HAS APPROVED SHOP DRAWINGS.

DEMOLITION

34. THESE DRAWINGS DEFINE THE BASIC AREA OF DEMOLITION AND ARE AS REASONABLY ACCURATE AS WAS POSSIBLE FROM SITE INVESTIGATIONS MADE DURING THE DESIGN PROCESS. NOT ALL EXISTING MATERIALS AND EQUIPMENT ARE SHOWN. ANY MECHANICAL MATERIALS AND EQUIPMENT THAT ARE NOT BEING USED AFTER THE RENOVATION SHALL BE REMOVED WHETHER SHOWN OR NOT. NO MATERIALS OR EQUIPMENT SHALL BE ABANDONED IN PLACE UNLESS OTHERWISE NOTED.
35. ALL EQUIPMENT TO BE REUSED IS TO BE CLEANED. ANY EQUIPMENT FOUND TO BE NON-FUNCTIONING SHALL BE DOCUMENTED AND BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO COMMENCEMENT OF DEMOLITION. IF PROPER NOTIFICATION IS NOT PROVIDED THEN REPAIR OR REPLACEMENT OF THE EQUIPMENT SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
36. THE MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED FOR HIS WORK. ALL MATERIALS REQUIRED FOR TESTING (E.G. - SMOKE GENERATORS) SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT. IF A PROJECT FAILS AN INSPECTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS ASSOCIATED WITH THE RE-INSPECTION.
37. ANY EQUIPMENT OR MATERIAL DEVIATIONS FROM THAT SPECIFIED OR DETAILED ON THIS DRAWING SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER. ALL PROPOSED EQUIPMENT DEVIATIONS SUBMITTED SHALL BE SIMILAR BOTH IN QUALITY AND CAPACITY TO THAT EQUIPMENT SPECIFIED.
38. ALL MECHANICAL EQUIPMENT SHALL BE LISTED AND LABELED BY APPROVED THIRD PARTY LISTING AGENT.
39. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL THEIR OWN SUPPORT EQUIPMENT. SUPPORT ALL EQUIPMENT FROM STRUCTURAL MEMBERS, UNLESS NOTED OTHERWISE. LOCATIONS SHALL BE COORDINATED WITH ALL CONTRACTORS PRIOR TO INSTALLATION.
40. DUCTWORK AND PIPING LAYOUTS AND LOCATIONS ARE SCHEMATIC. DO NOT SCALE THESE DRAWINGS. EXACT ROUTING OF DUCTWORK AND PIPING MUST BE DETERMINED IN THE FIELD. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR BY ACTUAL MEASUREMENT AND OBSERVATION BEFORE ORDERING OR FABRICATING ANY DUCTWORK, PIPING OR EQUIPMENT. ANY DISCREPANCIES BETWEEN THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE EXISTING CONDITIONS OR DIMENSIONS SHALL BE REPORTED TO THE ENGINEER BEFORE THE PERFORMANCE OF ANY WORK. FAILURE TO VERIFY AND REPORT SHALL CONSTITUTE THE CONTRACTOR'S ACCEPTANCE OF THE EXISTING CONDITIONS AS FIT FOR THE PROPER EXECUTION OF THEIR WORK.
41. DUCTWORK AND PIPING SHALL BE KEPT AS CLOSE AND HIGH AS POSSIBLE TO THE BUILDING WALLS, CEILING AND FLOOR AND ROOF STRUCTURE IN ORDER THAT THE MAXIMUM AMOUNT OF SPACE IS AVAILABLE. ADDITIONAL OFFSETS, FITTINGS, ETC. NOT SHOWN BUT REQUIRED TO MAINTAIN MAXIMUM CLEARANCE SHALL BE PROVIDED AT NO ADDITIONAL COST.
42. THE MECHANICAL CONTRACTOR SHALL COORDINATE RESPONSIBILITY FOR ALL PATCHING AND CLEANING ASSOCIATED WITH THIS PROJECT WITH THE GENERAL CONTRACTOR.
43. EXISTING FLOOR DRAINS SHALL BE COVERED DURING DEMOLITION AND NEW WORK CONSTRUCTION.

MECHANICAL DRAWING LIST

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019682 MITCHELL A. BROWN 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

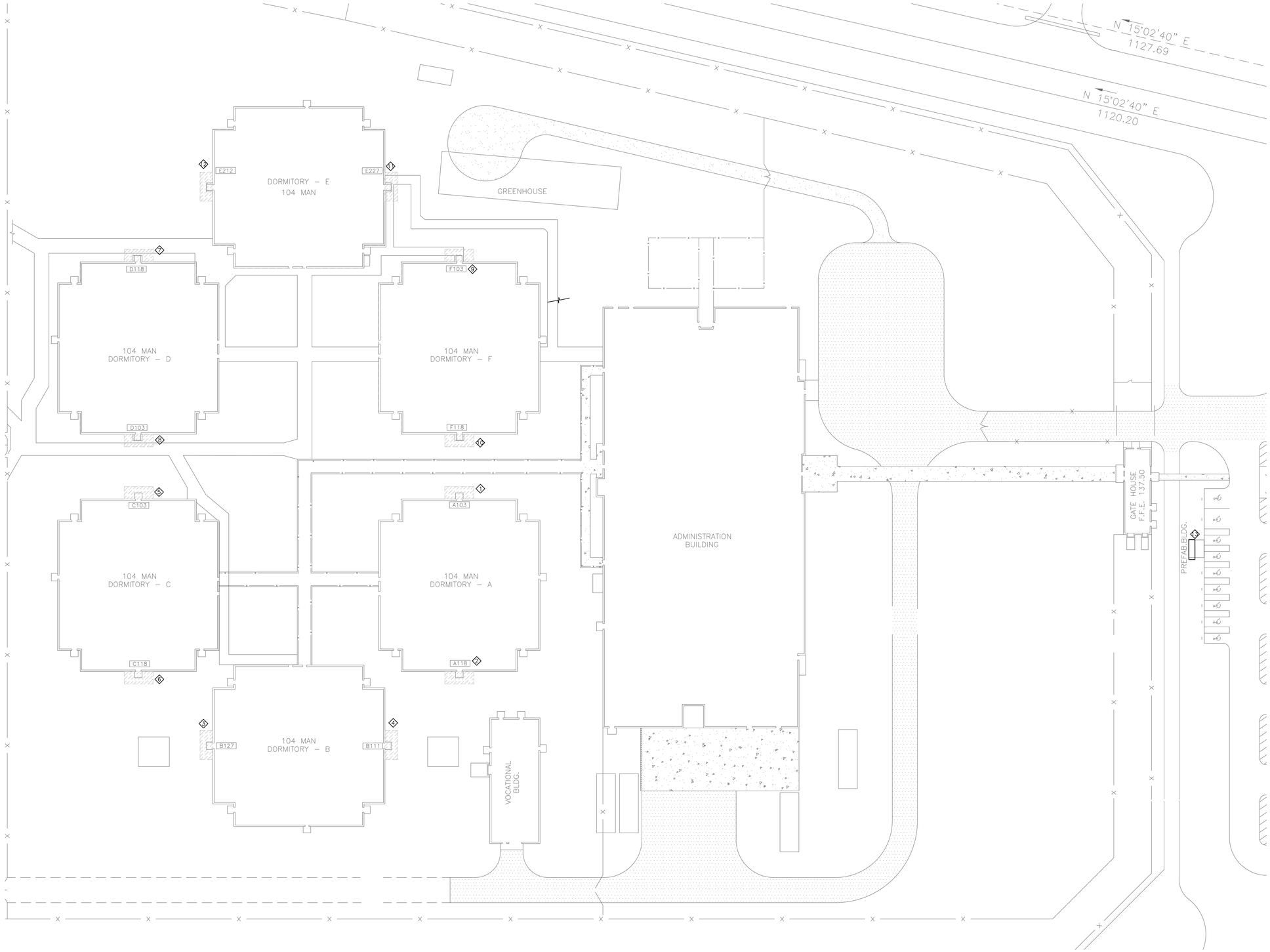
MECHANICAL - GENERAL NOTES AND ABBREVIATIONS

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MIB
PROJ. MGR.	MIB

SCALE — HORIZONTAL: NTS VERTICAL: NTS

M001 — DRAWING NUMBER — REVISION

STATUS: BID DOCUMENTS



SHEET NOTES

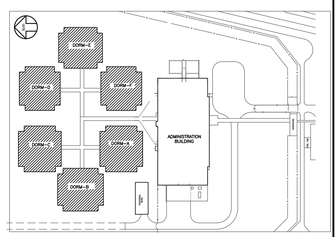
1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.
5. WORK SHALL BE PERFORMED IN DORMITORIES A, B, C, D, E, AND F. ALL WORK SHOWN ON THE DEMOLITION AND NEW WORK PLANS SHALL BE PERFORMED ONE DORMITORY AT A TIME. ONCE ALL WORK HAS BEEN COMPLETED, INSPECTED AND APPROVED FOR USE BY THE OWNER, THEN THE CONTRACTOR MAY PROCEED TO THE NEXT DORMITORY.

KEY NOTES

1. SEE DETAIL 1/M401 AND 2/M401
2. SEE DETAIL 3/M401 AND 4/M401
3. SEE DETAIL 1/M402 AND 2/M402
4. SEE DETAIL 3/M402 AND 4/M402
5. SEE DETAIL 5/M402 AND 6/M402
6. SEE DETAIL 7/M402 AND 8/M402
7. SEE DETAIL 1/M403 AND 2/M403
8. SEE DETAIL 3/M403 AND 4/M403
9. SEE DETAIL 5/M403 AND 6/M403
10. SEE DETAIL 1/M404 AND 2/M404
11. SEE DETAIL 3/M404 AND 4/M404
12. SEE DETAIL 5/M404 AND 6/M404
13. SEE DETAIL 9/M402

1 MECHANICAL SITE PLAN

1 / MS101 — Scale: 1/32" = 1'-0"



KEY PLAN

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019652 ENGINEER MITCHELL A. BROWN 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL SITE PLAN

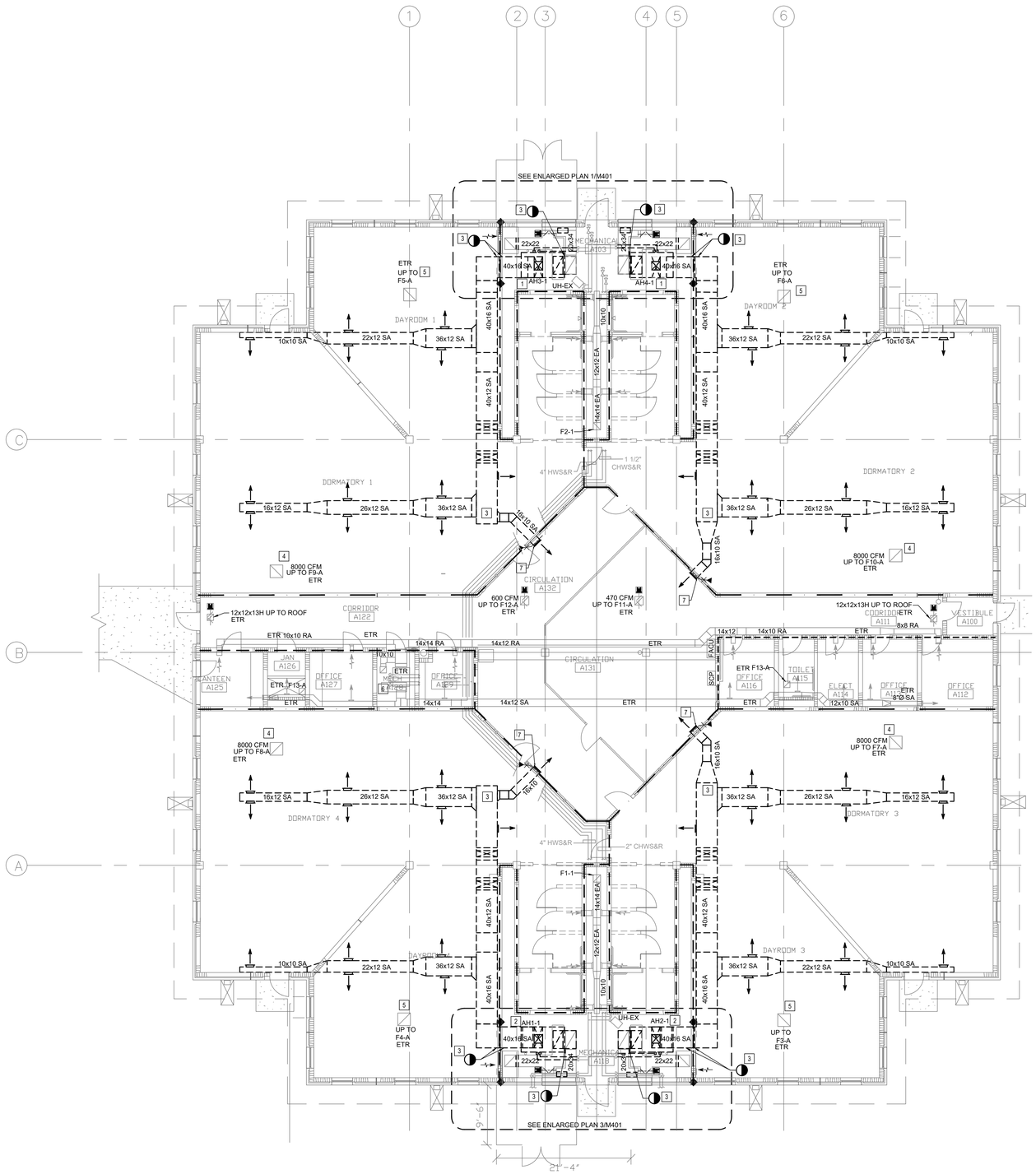
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: AS NOTED

MS101 — DRAWING NUMBER
— REVISION

STATUS: BID DOCUMENTS

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\MS101 MECHANICAL SITE PLAN.DWG 06/06/2023 12:47:15 EVGENIA KROZ



SHEET NOTES

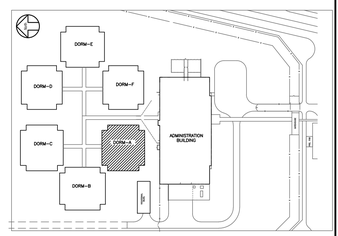
1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.

DEMOLITION KEY NOTES

1. SEE 1/M401 ENLARGED PLAN FOR DEMOLITION WORK
2. SEE 3/M401 ENLARGED PLAN FOR DEMOLITION WORK
3. DEMOLISH EXISTING DUCTWORK WITH ALL ASSOCIATED REGISTERS AND VOLUME DAMPERS. EXISTING FIRE DAMPERS TO REMAIN. CLEAN CONNECTION. REFER TO M111 FOR NEW WORK.
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. CLEAN DUCT WITH SECURITY GRILLES. EXISTING TO REMAIN.
6. DEMOLISH ALL EXISTING PNEUMATIC CONTROLS ASSOCIATED WITH EXISTING BLOWER COIL UNIT. EXISTING UNIT AND ASSOCIATED DUCTWORK SHALL REMAIN AND BE PROTECTED.
7. EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLED SHALL REMAIN AND BE RE-USED.

1 MD111 MECHANICAL DORMITORY "A" FLOOR PLAN - DEMOLITION

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



KEY PLAN

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOND 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "A" FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

MD111
DRAWING NUMBER
#
REVISION

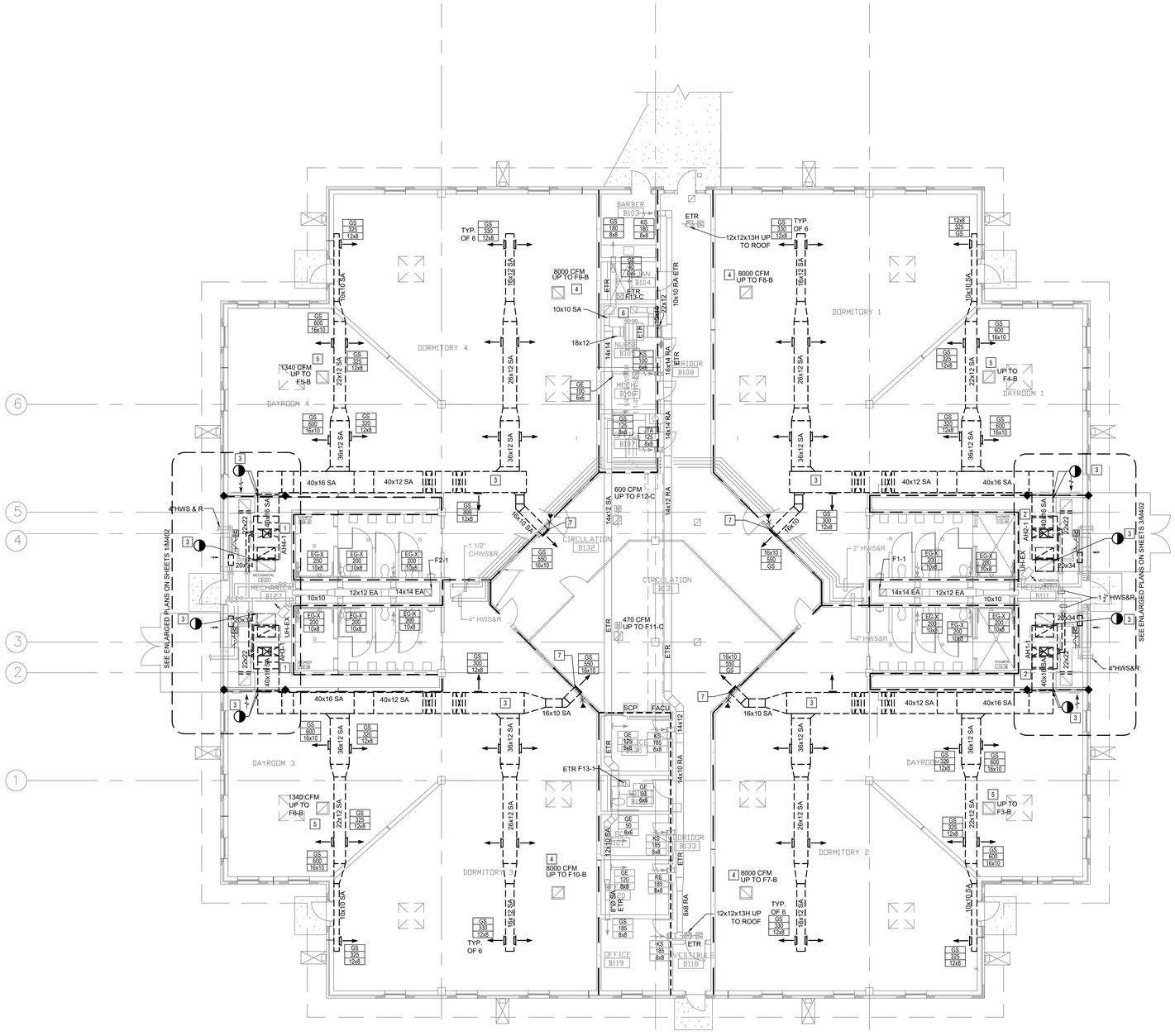
STATUS: **BID DOCUMENTS**

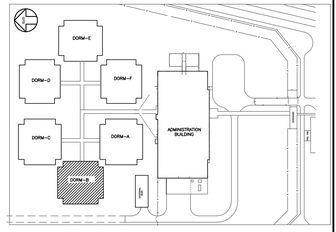
SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK.
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.

DEMOLITION KEY NOTES

1. SEE 1/M402 ENLARGED PLAN FOR DEMOLITION WORK
2. SEE 3/M402 ENLARGED PLAN FOR DEMOLITION WORK
3. DEMOLISH EXISTING DUCTWORK WITH ALL ASSOCIATED REGISTERS AND VOLUME DAMPERS. EXISTING FIRE DAMPERS TO REMAIN. CLEAN CONNECTION. REFER TO M112 FOR NEW WORK.
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. CLEAN DUCT WITH SECURITY GRILLES. EXISTING TO REMAIN.
6. DEMOLISH ALL EXISTING PNEUMATIC CONTROLS ASSOCIATED WITH EXISTING BLOWER COIL UNIT. EXISTING UNIT AND ASSOCIATED DUCTWORK SHALL REMAIN AND BE PROTECTED.
7. EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLED SHALL REMAIN AND BE RE-USED.





KEY PLAN

1 MD112 MECHANICAL DORM "B" FLOOR PLAN - DEMOLITION

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

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BORN 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

MECHANICAL DORM "B" FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

MD112 DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**

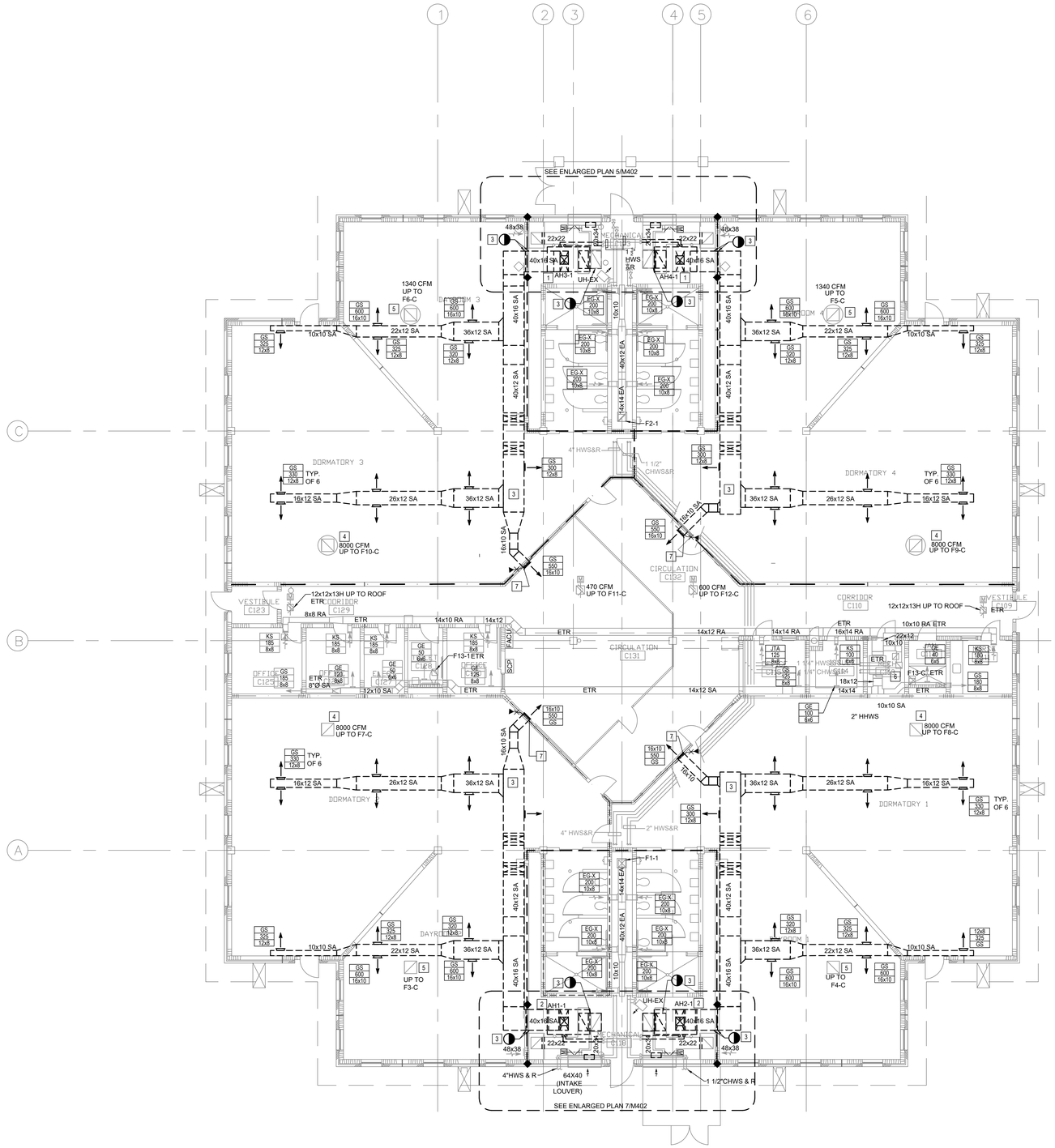
I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\MD112 MECHANICAL DORM B FLOOR PLAN - DEMOLITION.DWG 06/06/2023 12:38:11 EVGENIA KROZ

SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.

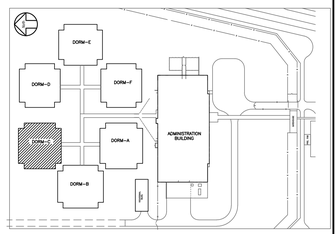
DEMOLITION KEY NOTES

1. SEE 5/M402 ENLARGED PLAN FOR DEMOLITION WORK
2. SEE 7/M402 ENLARGED PLAN FOR DEMOLITION WORK
3. DEMOLISH EXISTING DUCTWORK WITH ALL ASSOCIATED REGISTERS AND VOLUME DAMPERS. EXISTING FIRE DAMPERS TO REMAIN. CLEAN CONNECTION. REFER TO M113 FOR NEW WORK.
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. CLEAN DUCT WITH SECURITY GRILLES. EXISTING TO REMAIN.
6. DEMOLISH ALL EXISTING PNEUMATIC CONTROLS ASSOCIATED WITH EXISTING BLOWER COIL UNIT. EXISTING UNIT AND ASSOCIATED DUCTWORK SHALL REMAIN AND BE PROTECTED.
7. EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLED SHALL REMAIN AND BE RE-USED.



1 MD113 — **MECHANICAL DORM "C" FLOOR PLAN - DEMOLITION**

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



KEY PLAN

REV. NO.	DESCRIPTION	DATE

REVISIONS

McKIM&CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# P-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

MECHANICAL DORM "C" FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

SCALE — HORIZONTAL: 1/8"=1'-0" VERTICAL: 1/8"=1'-0"

MD113 — DRAWING NUMBER

— REVISION

STATUS: **BID DOCUMENTS**

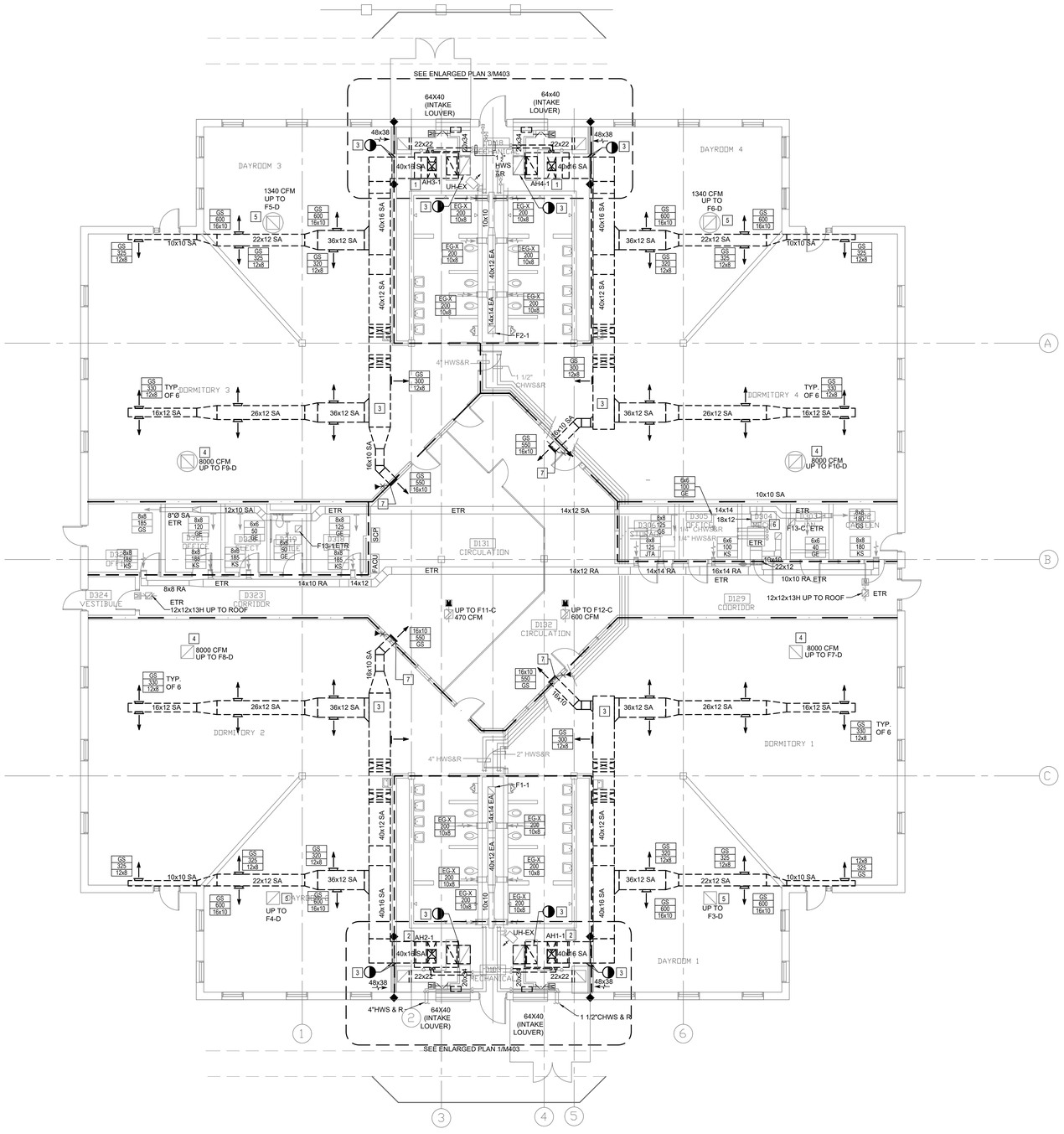
I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\MD113 MECHANICAL DORM C FLOOR PLAN - DEMOLITION.DWG 06/06/2023 12:40:17 EVGENIA KROZ

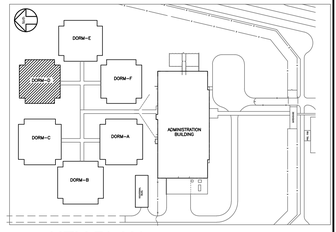
SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.

DEMOLITION KEY NOTES

1. SEE 3/M403 ENLARGED PLAN FOR DEMOLITION WORK
2. SEE 1/M403 ENLARGED PLAN FOR DEMOLITION WORK
3. 3. DEMOLISH EXISTING DUCTWORK WITH ALL ASSOCIATED REGISTERS AND VOLUME DAMPERS. EXISTING FIRE DAMPERS TO REMAIN. CLEAN CONNECTION. REFER TO M114 FOR NEW WORK.
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. CLEAN DUCT WITH SECURITY GRILLES. EXISTING TO REMAIN.
6. DEMOLISH ALL EXISTING PNEUMATIC CONTROLS ASSOCIATED WITH EXISTING BLOWER COIL UNIT. EXISTING UNIT AND ASSOCIATED DUCTWORK SHALL REMAIN AND BE PROTECTED.
7. EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLED SHALL REMAIN AND BE RE-USED.





KEY PLAN

1 MD114 MECHANICAL DORMITORY "D" FLOOR PLAN - DEMOLITION

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

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019652 MATTHEW A. BOWEN 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "D" FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

MD114 DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**

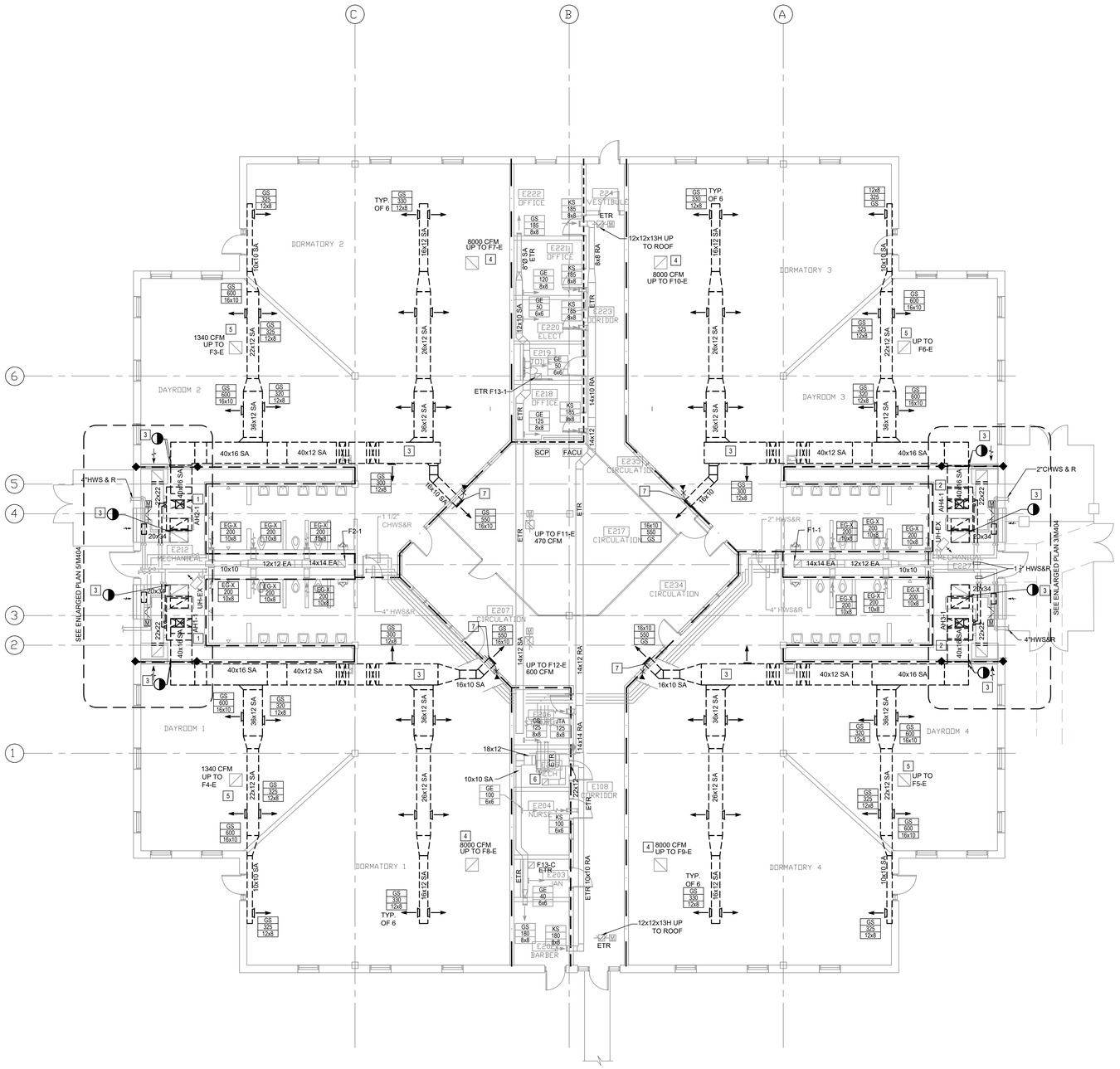
I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\MD114 MECHANICAL DORM D FLOOR PLAN - DEMOLITION.DWG 06/06/2023 12:42:10 EVGENIA KROZ

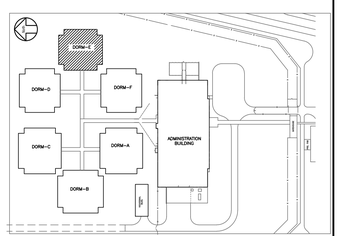
SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND ACTUAL FIELD "AS BUILT" CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.

DEMOLITION KEY NOTES

1. SEE 5/M404 ENLARGED PLAN FOR DEMOLITION WORK
2. SEE 3/M404 ENLARGED PLAN FOR DEMOLITION WORK
3. DEMOLISH EXISTING DUCTWORK WITH ALL ASSOCIATED REGISTERS AND VOLUME DAMPERS. EXISTING FIRE DAMPERS TO REMAIN. CLEAN CONNECTION. REFER TO M115 FOR NEW WORK.
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. CLEAN DUCT WITH SECURITY GRILLES. EXISTING TO REMAIN.
6. DEMOLISH ALL EXISTING PNEUMATIC CONTROLS ASSOCIATED WITH EXISTING BLOWER COIL UNIT. EXISTING UNIT AND ASSOCIATED DUCTWORK SHALL REMAIN AND BE PROTECTED.
7. EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLED SHALL REMAIN AND BE RE-USED.





KEY PLAN

1 MD115 MECHANICAL DORMITORY "E" FLOOR PLAN - DEMOLITION

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

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOOK 5/30/23

McKIM&CREED
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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "E"
FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

MD115
DRAWING NUMBER
#
REVISION

STATUS: **BID DOCUMENTS**

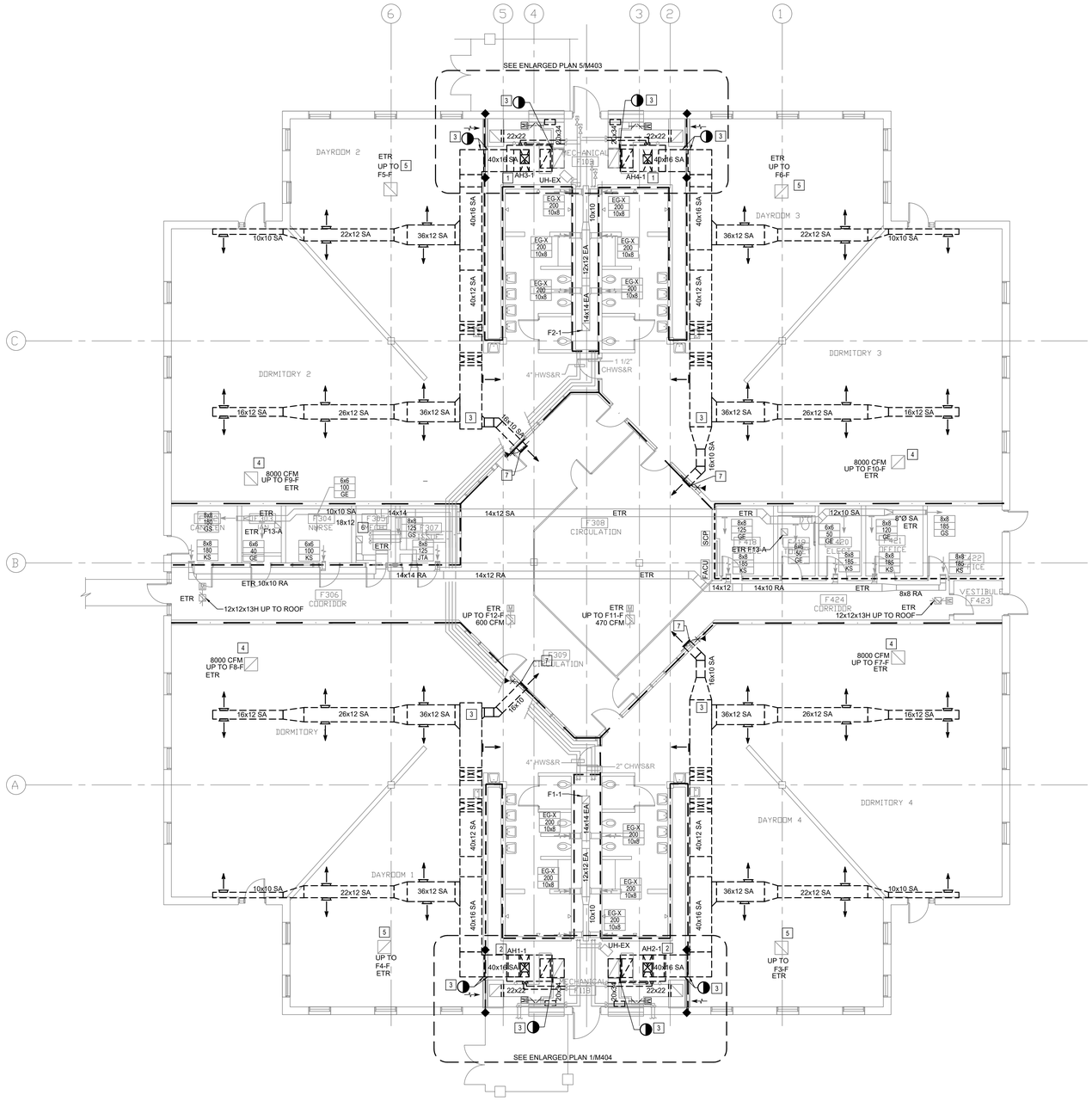
I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\MD115 MECHANICAL DORM E FLOOR PLAN - DEMOLITION.DWG 06/06/2023 12:44:02 EVGENIA KROZ

SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.

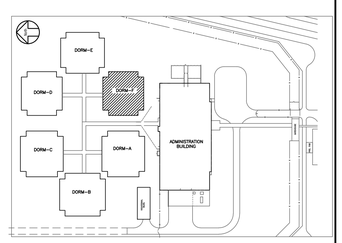
DEMOLITION KEY NOTES

1. SEE 5/M403 ENLARGED PLAN FOR DEMOLITION WORK
2. SEE 1/M404 ENLARGED PLAN FOR DEMOLITION WORK
3. DEMOLISH EXISTING DUCTWORK WITH ALL ASSOCIATED REGISTERS AND VOLUME DAMPERS. EXISTING FIRE DAMPERS TO REMAIN. CLEAN CONNECTION. REFER TO M116 FOR NEW WORK.
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. CLEAN DUCT WITH SECURITY GRILLES. EXISTING TO REMAIN.
6. DEMOLISH ALL EXISTING PNEUMATIC CONTROLS ASSOCIATED WITH EXISTING BLOWER COIL UNIT. EXISTING UNIT AND ASSOCIATED DUCTWORK SHALL REMAIN AND BE PROTECTED.
7. EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLED SHALL REMAIN AND BE RE-USED.



1 MD116 — **MECHANICAL DORMITORY "F" FLOOR PLAN - DEMOLITION**

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



KEY PLAN

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. GRAY 5/30/23

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www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

MECHANICAL DORMITORY "F" FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

MD116
DRAWING NUMBER
#
REVISION

STATUS: **BID DOCUMENTS**

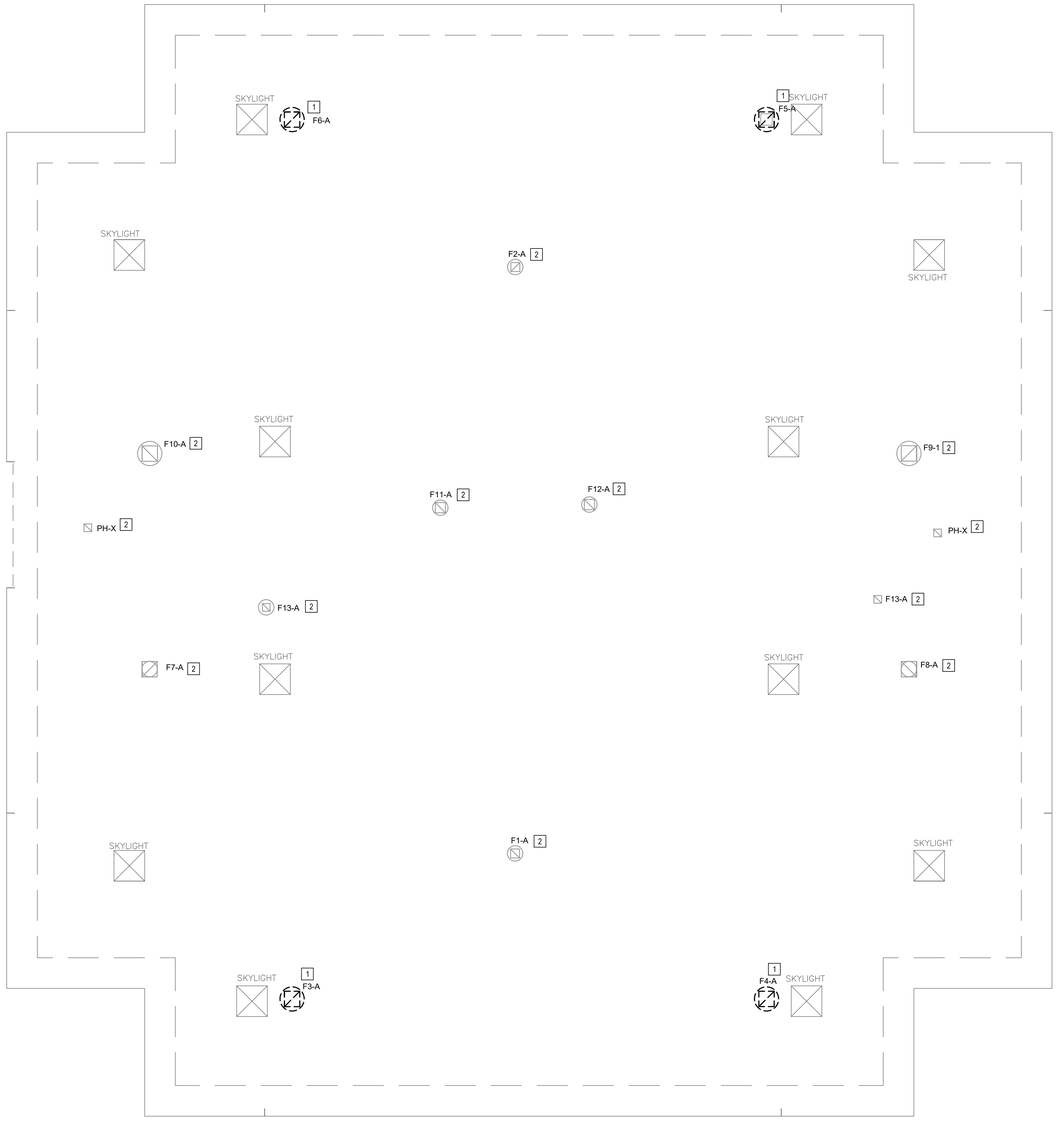
I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\MD116 MECHANICAL DORM F FLOOR PLAN - DEMOLITION.DWG 06/06/2023 12:45:09 EVGENIA KROZ

SHEET NOTES

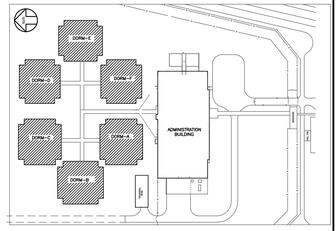
1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.
5. WORK DESCRIBED ON THIS SHEET IS SHOWN FOR DORMITORY A. IT IS TYPICAL ALSO FOR DORMITORIES B, C, D, E, F.

DEMOLITION KEY NOTES

1. DEMOLISH EXISTING RELIEF EXHAUST FAN AND ASSOCIATED CONTROLS. EXISTING ROOF CURB TO REMAIN TO BE REUSED. PROTECT CURB FROM DAMAGE.
2. EXISTING EQUIPMENT TO REMAIN. PROTECT FROM DAMAGE.



1 MD121 **MECHANICAL DORM "A" ROOF PLAN - DEMOLITION**
Scale: 1/8" = 1'-0"
(TYPICAL FOR ALL DORMITORIES)



KEY PLAN

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019652 ENGINEER MITCHELL A. BORN 3/30/23

McKIM&CREED
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www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

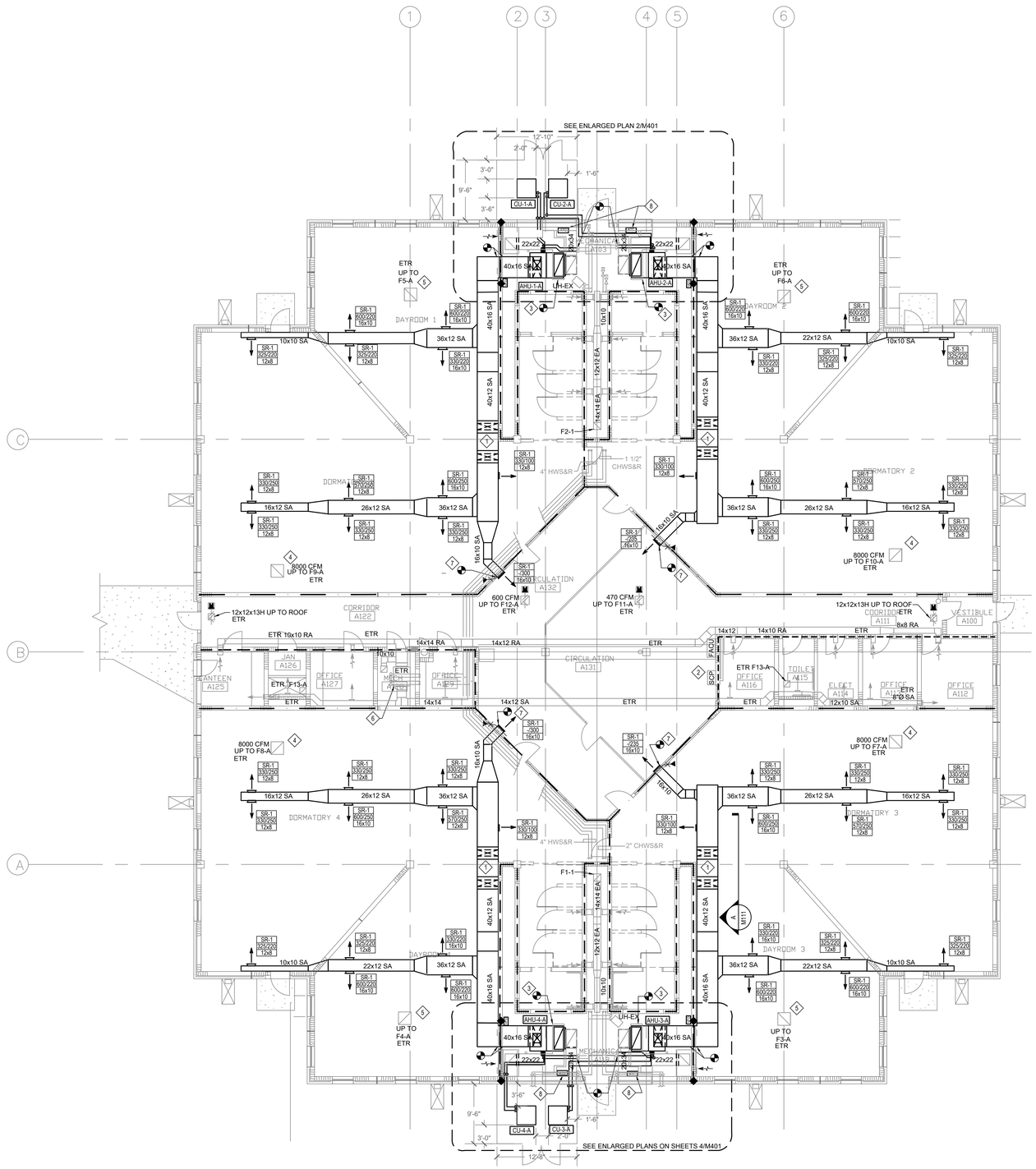
MECHANICAL DORM "A" ROOF PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

MD121
DRAWING NUMBER
#
REVISION

STATUS: **BID DOCUMENTS**



MECHANICAL DORMITORY "A" PLAN - NEW WORK

1 / M111 — Scale: 1/8" = 1'-0"

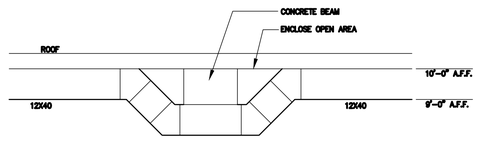
WALL CHART	
— — — — —	1 HR FIRE WALL
— · — · —	1 HR SMOKE BARRIER

SHEET NOTES

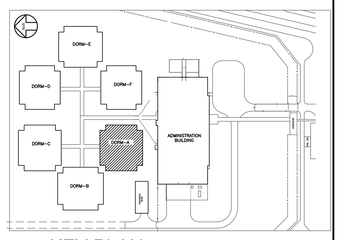
1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.
5. PROVIDE VOLUME DAMPERS FOR ALL SUPPLY REGISTERS.
6. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR DUCT DIMENSIONS AND DO NOT INCLUDE EXTERNAL DUCT INSULATION AND PROTECTIVE ENCLOSURE.
7. CLOSE AND SECURE WINDOWS.

KEY NOTES

1. NEW SUPPLY DUCTWORK AND ENCLOSURE SHALL DROP DOWN AND RISE UP IN THIS LOCATION TO AVOID EXISTING STRUCTURAL BEAM. RUN NEW DUCTWORK AS TIGHT TO EXISTING BEAM AS POSSIBLE.
2. CONTRACTOR IS RESPONSIBLE TO FULLY INTEGRATE ALL ASPECTS OF EXISTING SMOKE CONTROL SYSTEM INTO NEW FULLY CODE COMPLIANT AND FUNCTIONAL SMOKE CONTROL SYSTEM. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND PROGRAMMING NECESSARY.
3. PROVIDE NEW SUPPLY DUCTWORK AND REGISTERS. SEE PLAN FOR POINTS OF CONNECTION. PROVIDE DUCT REINFORCEMENT AS REQUIRED PER DETAIL 13/M701
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. EXISTING EXHAUST GRILLE AND DUCT UP TO NEW RELIEF EXHAUST FAN ON ROOF. PROVIDE NEW CONTROLS TO INTERFACE WITH NEW DDC CONTROL SYSTEM.
6. PROVIDE NEW ELECTRONIC ACTUATORS FOR EXISTING CHILLED WATER AND HOT WATER CONTROL VALVES. PROVIDE NEW DDC CONTROL PANEL IN MECHANICAL ROOM FOR THE EXISTING BLOWER COIL UNIT.
7. CONNECT NEW SUPPLY DUCT TO EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLE ASSEMBLY. NEW DUCT INSULATION AN SHEETMETAL ENCLOSURE SHALL BE PROVIDED ALL THE WAY TO THE EXISTING WALL INCLUDING THE EXISTING FIRE/SMOKE DAMPER. CONTRACTOR SHALL PROVIDE NEW ENCLOSURE AROUND THE EXISTING ELECTRIC ACTUATOR. PROVIDE ACCESS PANEL IN THE NEW ENCLOSURE LARGE ENOUGH TO REMOVE THE EXISTING ACTUATOR. NEW ACCESS PANEL SHALL BE SECURED WITH SECURITY SCREWS EVERY 2 INCHES.
8. PROVIDE NEW DDC CONTROL PANEL FOR EACH UNIT.



A / M111 — DUCT SECTION
SCALE: 1/2" - 1'-0"



KEY PLAN

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019692 MITCHELL A. BOK 5/30/23

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NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "A"
FLOOR PLAN -NEW WORK

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

M111 — DRAWING NUMBER
— REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M111 MECHANICAL DORM A FLOOR PLAN -NEW WORK.DWG 06/05/2023 11:05:12 EVGENIA KROZ

WALL CHART

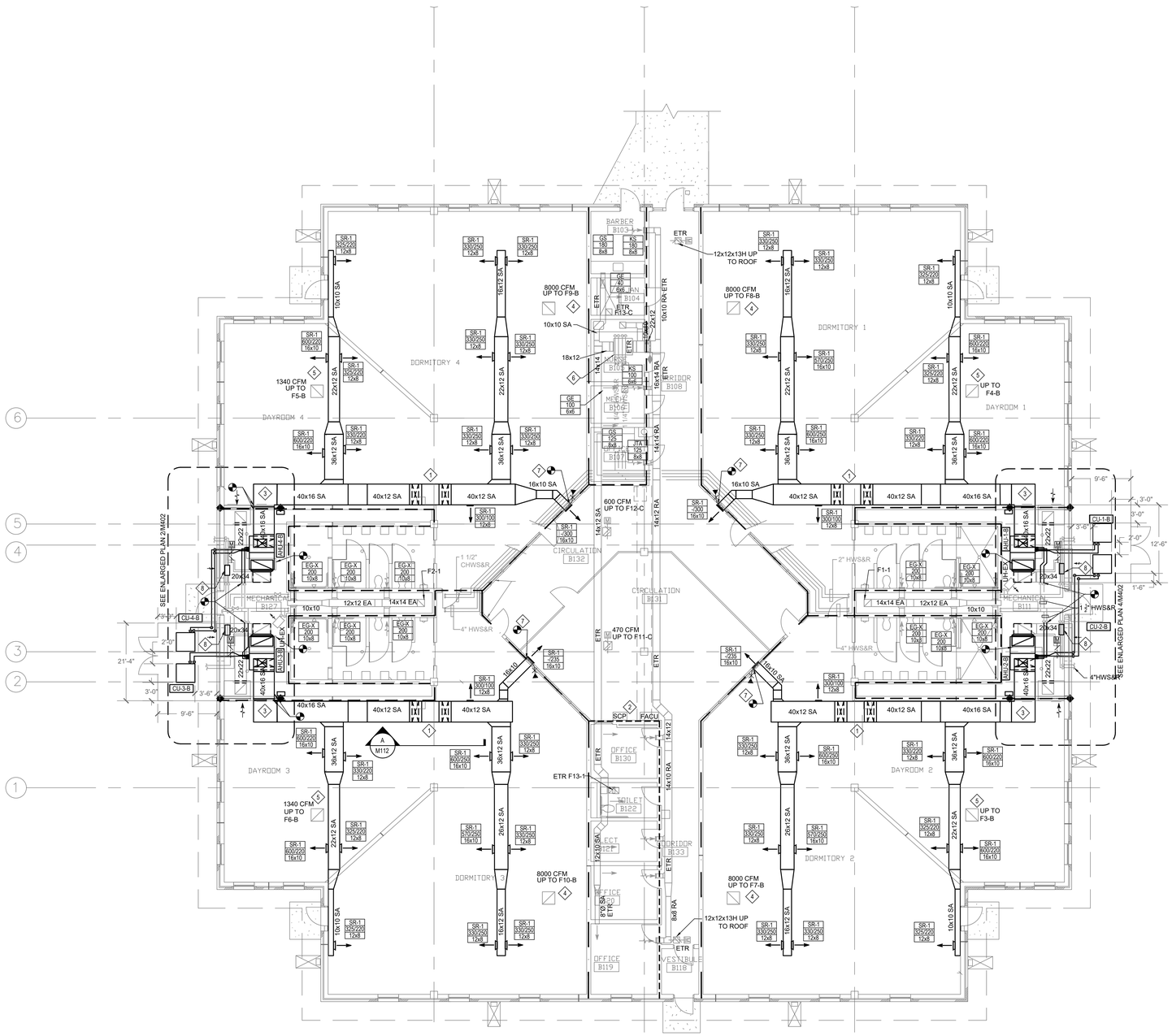
— — — — —	1 HR FIRE WALL
— — — —	1 HR SMOKE BARRIER

SHEET NOTES

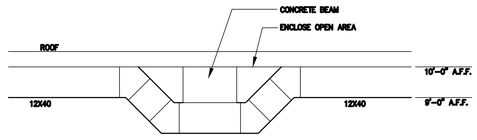
1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.
5. PROVIDE VOLUME DAMPERS FOR ALL SUPPLY REGISTERS.
6. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR DUCT DIMENSIONS AND DO NOT INCLUDE EXTERNAL DUCT INSULATION AND PROTECTIVE ENCLOSURE.
7. CLOSE AND SECURE WINDOWS.

KEY NOTES

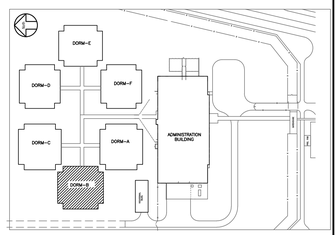
1. NEW SUPPLY DUCTWORK AND ENCLOSURE SHALL DROP DOWN AND RISE UP IN THIS LOCATION TO AVOID EXISTING STRUCTURAL BEAM. RUN NEW DUCTWORK AS TIGHT TO EXISTING BEAM AS POSSIBLE.
2. CONTRACTOR IS RESPONSIBLE TO FULLY INTEGRATE ALL ASPECTS OF EXISTING SMOKE CONTROL SYSTEM INTO NEW FULLY CODE COMPLIANT AND FUNCTIONAL SMOKE CONTROL SYSTEM. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND PROGRAMMING NECESSARY.
3. PROVIDE NEW SUPPLY DUCTWORK AND REGISTERS. SEE PLAN FOR POINTS OF CONNECTION. PROVIDE DUCT REINFORCEMENT AS REQUIRED PER DETAIL 13/M701
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. EXISTING EXHAUST GRILLE AND DUCT UP TO NEW RELIEF EXHAUST FAN ON ROOF. PROVIDE NEW CONTROLS TO INTERFACE WITH NEW DDC CONTROL SYSTEM.
6. PROVIDE NEW ELECTRONIC ACTUATORS FOR EXISTING CHILLED WATER AND HOT WATER CONTROL VALVES. PROVIDE NEW DDC CONTROL PANEL IN MECHANICAL ROOM FOR THE EXISTING BLOWER COIL UNIT.
7. CONNECT NEW SUPPLY DUCT TO EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLE ASSEMBLY. NEW DUCT INSULATION AN SHEETMETAL ENCLOSURE SHALL BE PROVIDED ALL THE WAY TO THE EXISTING WALL INCLUDING THE EXISTING FIRE/SMOKE DAMPER. CONTRACTOR SHALL PROVIDE NEW ENCLOSURE AROUND THE EXISTING ELECTRIC ACTUATOR. PROVIDE ACCESS PANEL IN THE NEW ENCLOSURE LARGE ENOUGH TO REMOVE THE EXISTING ACTUATOR. NEW ACCESS PANEL SHALL BE SECURED WITH SECURITY SCREWS EVERY 2 INCHES.
8. PROVIDE NEW DDC CONTROL PANEL FOR EACH UNIT.



1 M112 **MECHANICAL DORMITORY "B" FLOOR PLAN -NEW WORK**
Scale: 1/8" = 1'-0"



A M112 DUCT SECTION
SCALE: 1/2" = 1'-0"



KEY PLAN

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOWE 5/30/23

McKIM&CREED
Venture IV Building, Suite 500
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NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "B"
FLOOR PLAN -NEW WORK

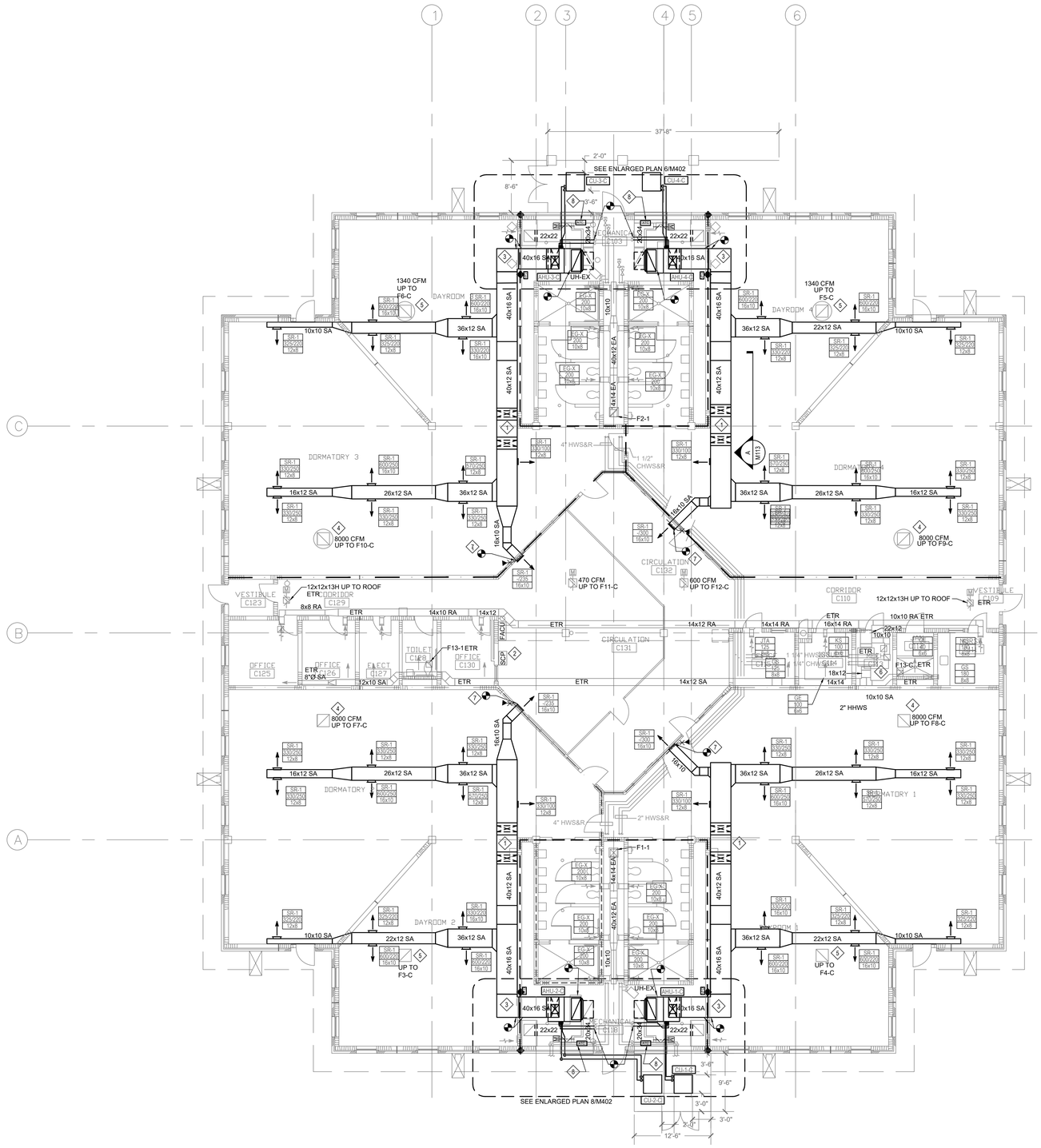
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	
DESIGNED	EIK
CHECKED	
PROJ. MGR.	MAB

SCALE
HORIZONTAL: ########
VERTICAL: ###

M112 DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M112 MECHANICAL DORM B FLOOR PLAN -NEW WORK.DWG 06/05/2023 11:06:10 EVGENIA KROZ



WALL CHART

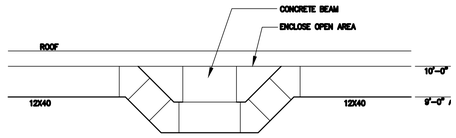
— — — —	1 HR FIRE WALL
— · — · —	1 HR SMOKE BARRIER

SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.
5. PROVIDE VOLUME DAMPERS FOR ALL SUPPLY REGISTERS.
6. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR DUCT DIMENSIONS AND DO NOT INCLUDE EXTERNAL DUCT INSULATION AND PROTECTIVE ENCLOSURE.
7. CLOSE AND SECURE WINDOWS.

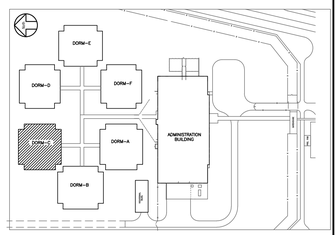
KEY NOTES

1. NEW SUPPLY DUCTWORK AND ENCLOSURE SHALL DROP DOWN AND RISE UP IN THIS LOCATION TO AVOID EXISTING STRUCTURAL BEAM. RUN NEW DUCTWORK AS TIGHT TO EXISTING BEAM AS POSSIBLE.
2. CONTRACTOR IS RESPONSIBLE TO FULLY INTEGRATE ALL ASPECTS OF EXISTING SMOKE CONTROL SYSTEM INTO NEW FULLY CODE COMPLIANT AND FUNCTIONAL SMOKE CONTROL SYSTEM. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND PROGRAMMING NECESSARY.
3. PROVIDE NEW SUPPLY DUCTWORK AND REGISTERS. SEE PLAN FOR POINTS OF CONNECTION. PROVIDE DUCT REINFORCEMENT AS REQUIRED PER DETAIL 13/M701
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. EXISTING EXHAUST GRILLE AND DUCT UP TO NEW RELIEF EXHAUST FAN ON ROOF. PROVIDE NEW CONTROLS TO INTERFACE WITH NEW DDC CONTROL SYSTEM.
6. PROVIDE NEW ELECTRONIC ACTUATORS FOR EXISTING CHILLED WATER AND HOT WATER CONTROL VALVES. PROVIDE NEW DDC CONTROL PANEL IN MECHANICAL ROOM FOR THE EXISTING BLOWER COIL UNIT.
7. CONNECT NEW SUPPLY DUCT TO EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLE ASSEMBLY. NEW DUCT INSULATION AN SHEETMETAL ENCLOSURE SHALL BE PROVIDED ALL THE WAY TO THE EXISTING WALL INCLUDING THE EXISTING FIRE/SMOKE DAMPER. CONTRACTOR SHALL PROVIDE NEW ENCLOSURE AROUND THE EXISTING ELECTRIC ACTUATOR. PROVIDE ACCESS PANEL IN THE NEW ENCLOSURE LARGE ENOUGH TO REMOVE THE EXISTING ACTUATOR. NEW ACCESS PANEL SHALL BE SECURED WITH SECURITY SCREWS EVERY 2 INCHES.
8. PROVIDE NEW DDC CONTROL PANEL FOR EACH UNIT.



A M113 DUCT SECTION
SCALE: 1/2" - 1'-0"

1 M113 MECHANICAL DORMITORY "C" FLOOR PLAN -NEW WORK
North
Scale: 1/8" = 1'-0"



KEY PLAN

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019652 MITCHELL A. BOWEN 3/31/23

McKIM&CREED
Venture IV Building, Suite 500
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NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "C"
FLOOR PLAN -NEW WORK

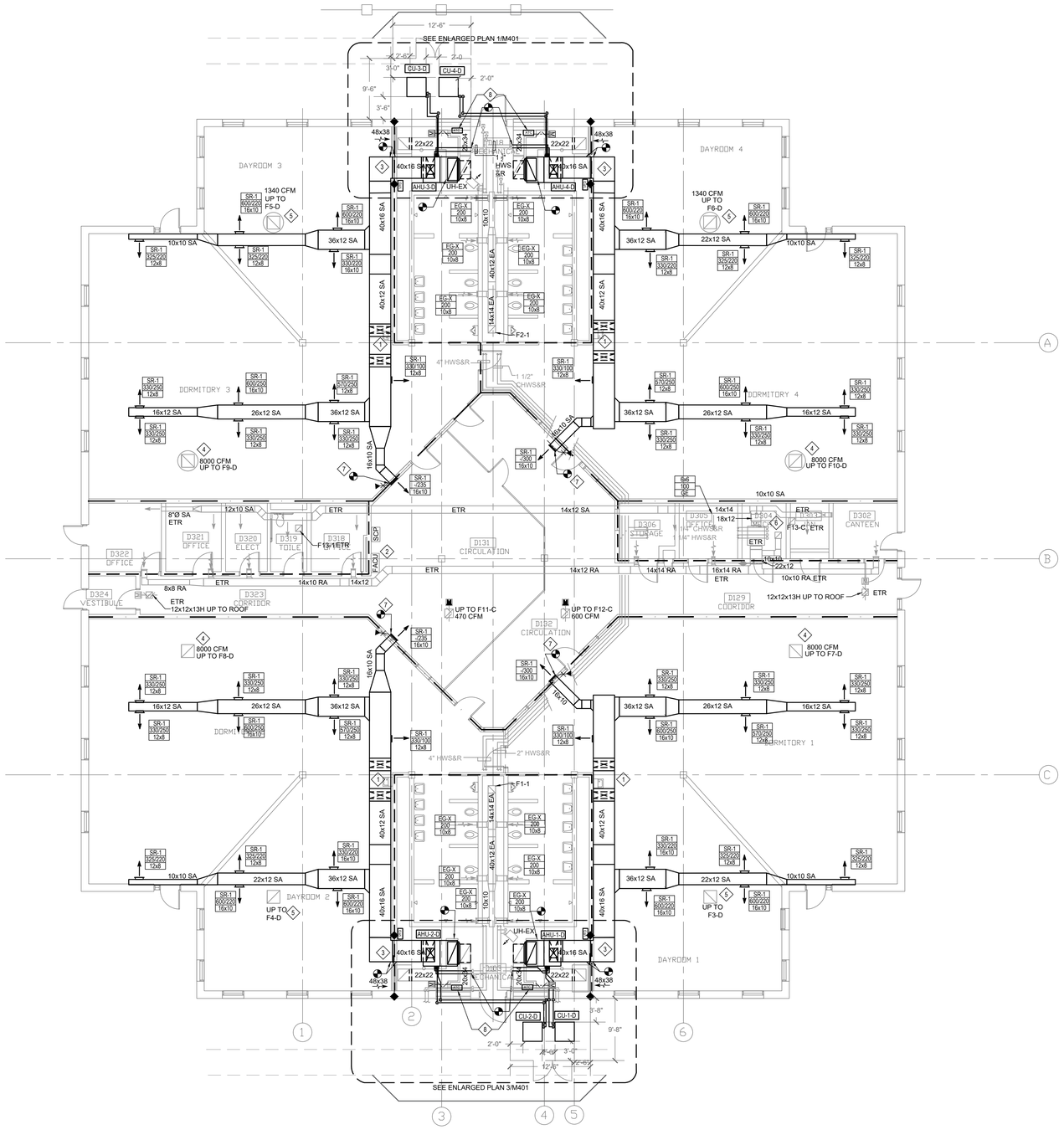
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	
DESIGNED	EIK
CHECKED	
PROJ. MGR.	MAB

SCALE
HORIZONTAL: ########
VERTICAL: ###

M113
DRAWING NUMBER
#
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M113 MECHANICAL DORM C FLOOR PLAN -NEW WORK.DWG 06/05/2023 11:06:54 EVGENIA KROZ



1 MECHANICAL DORMITORY "D" PLAN - NEW WORK
M114 — Scale: 1/8" = 1'-0"

WALL CHART

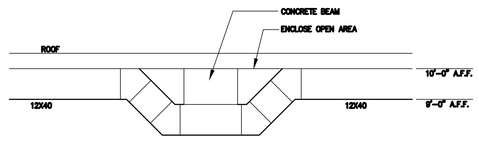
— — — — —	1 HR FIRE WALL
— — — — —	1 HR SMOKE BARRIER

SHEET NOTES

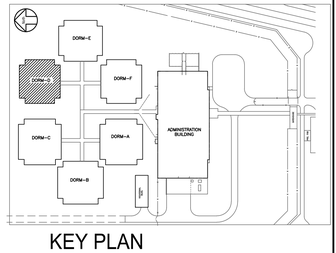
1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.
5. PROVIDE VOLUME DAMPERS FOR ALL SUPPLY REGISTERS.
6. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR DUCT DIMENSIONS AND DO NOT INCLUDE EXTERNAL DUCT INSULATION AND PROTECTIVE ENCLOSURE.
7. CLOSE AND SECURE WINDOWS.

KEY NOTES

1. NEW SUPPLY DUCTWORK AND ENCLOSURE SHALL DROP DOWN AND RISE UP IN THIS LOCATION TO AVOID EXISTING STRUCTURAL BEAM. RUN NEW DUCTWORK AS TIGHT TO EXISTING BEAM AS POSSIBLE.
2. CONTRACTOR IS RESPONSIBLE TO FULLY INTEGRATE ALL ASPECTS OF EXISTING SMOKE CONTROL SYSTEM INTO NEW FULLY CODE COMPLIANT AND FUNCTIONAL SMOKE CONTROL SYSTEM. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND PROGRAMMING NECESSARY.
3. PROVIDE NEW SUPPLY DUCTWORK AND REGISTERS. SEE PLAN FOR POINTS OF CONNECTION. PROVIDE DUCT REINFORCEMENT AS REQUIRED PER DETAIL 13/M701
4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. EXISTING EXHAUST GRILLE AND DUCT UP TO NEW RELIEF EXHAUST FAN ON ROOF. PROVIDE NEW CONTROLS TO INTERFACE WITH NEW DDC CONTROL SYSTEM.
6. PROVIDE NEW ELECTRONIC ACTUATORS FOR EXISTING CHILLED WATER AND HOT WATER CONTROL VALVES. PROVIDE NEW DDC CONTROL PANEL IN MECHANICAL ROOM FOR THE EXISTING BLOWER COIL UNIT.
7. CONNECT NEW SUPPLY DUCT TO EXISTING SECURITY BARS, FIRE DAMPER AND SIDEWALL SUPPLY GRILLE ASSEMBLY. NEW DUCT INSULATION AN SHEETMETAL ENCLOSURE SHALL BE PROVIDED ALL THE WAY TO THE EXISTING WALL INCLUDING THE EXISTING FIRE/SMOKE DAMPER. CONTRACTOR SHALL PROVIDE NEW ENCLOSURE AROUND THE EXISTING ELECTRIC ACTUATOR. PROVIDE ACCESS PANEL IN THE NEW ENCLOSURE LARGE ENOUGH TO REMOVE THE EXISTING ACTUATOR. NEW ACCESS PANEL SHALL BE SECURED WITH SECURITY SCREWS EVERY 2 INCHES.
8. PROVIDE NEW DDC CONTROL PANEL FOR EACH UNIT.



A / M114 DUCT SECTION
SCALE: 1/2" = 1'-0"



KEY PLAN

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. DOW 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "D" FLOOR PLAN -NEW WORK

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

SCALE — HORIZONTAL: ######## VERTICAL: ###

M114 — DRAWING NUMBER

— REVISION

STATUS: **BID DOCUMENTS**

WALL CHART	
— — — — —	1 HR FIRE WALL
— · — · —	1 HR SMOKE BARRIER

SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND EXISTING CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.
5. PROVIDE VOLUME DAMPERS FOR ALL SUPPLY REGISTERS.
6. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR DUCT DIMENSIONS AND DO NOT INCLUDE EXTERNAL DUCT INSULATION AND PROTECTIVE ENCLOSURE.
7. CLOSE AND SECURE WINDOWS.

KEY NOTES

1. NEW SUPPLY DUCTWORK AND ENCLOSURE SHALL DROP DOWN AND RISE UP IN THIS LOCATION TO AVOID EXISTING STRUCTURAL BEAM. RUN NEW DUCTWORK AS TIGHT TO EXISTING BEAM AS POSSIBLE.
2. CONTRACTOR IS RESPONSIBLE TO FULLY INTEGRATE ALL ASPECTS OF EXISTING SMOKE CONTROL SYSTEM INTO NEW FULLY CODE COMPLIANT AND FUNCTIONAL SMOKE CONTROL SYSTEM. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND PROGRAMMING NECESSARY.
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4. EXISTING SMOKE PURGE FAN TO REMAIN.
5. EXISTING EXHAUST GRILLE AND DUCT UP TO NEW RELIEF EXHAUST FAN ON ROOF. PROVIDE NEW CONTROLS TO INTERFACE WITH NEW DDC CONTROL SYSTEM.
6. PROVIDE NEW ELECTRONIC ACTUATORS FOR EXISTING CHILLED WATER AND HOT WATER CONTROL VALVES. PROVIDE NEW DDC CONTROL PANEL IN MECHANICAL ROOM FOR THE EXISTING BLOWER COIL UNIT.
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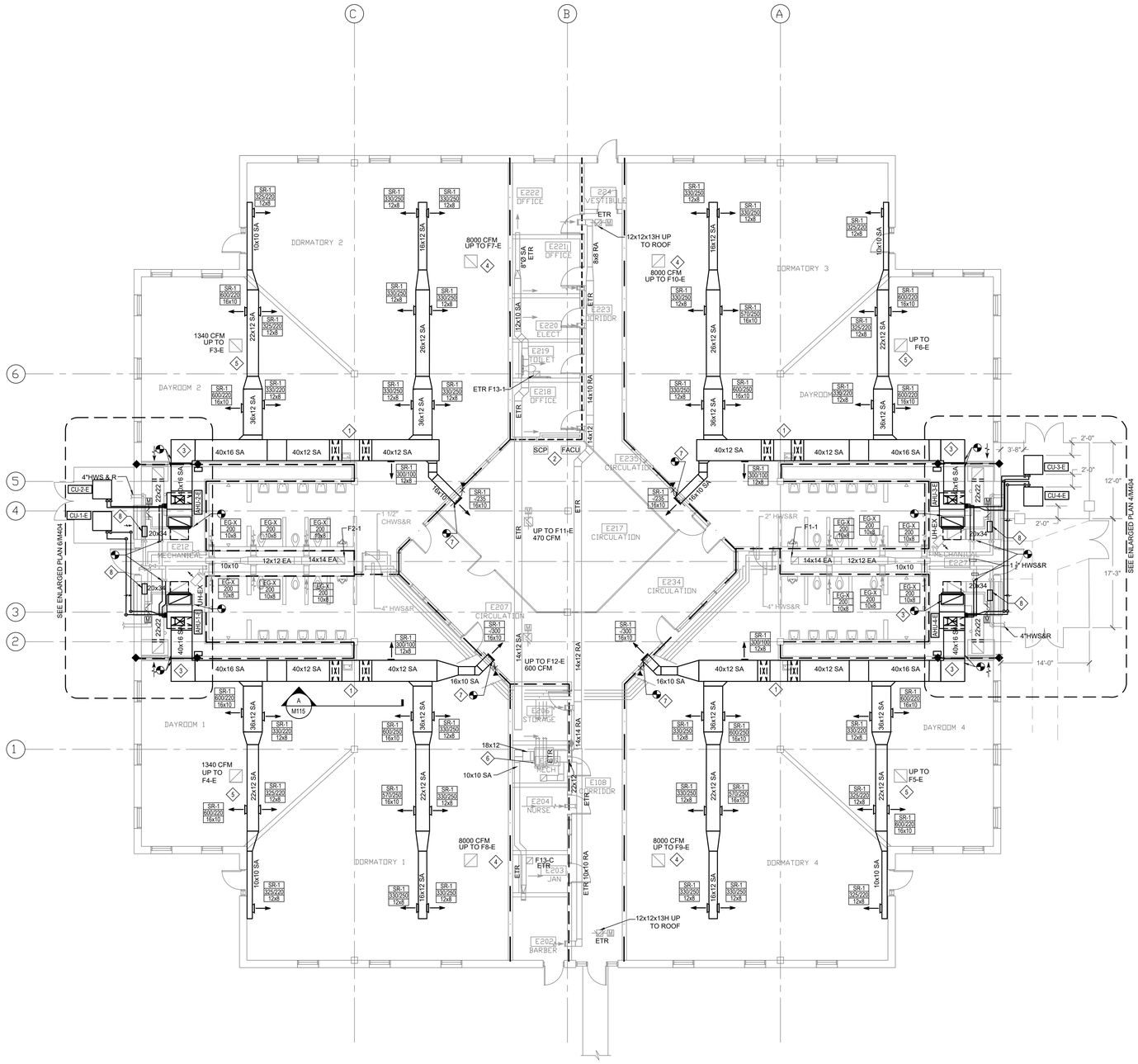
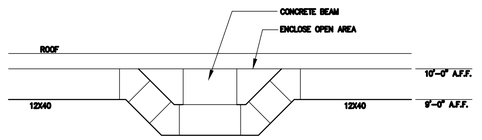
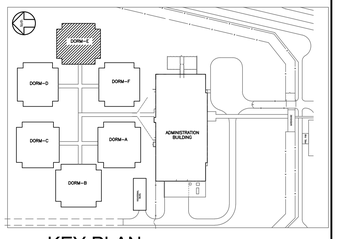
8. PROVIDE NEW DDC CONTROL PANEL FOR EACH UNIT.





A M115 DUCT SECTION
SCALE: 1/2" - 1'-0"



KEY PLAN

1 M115 **MECHANICAL DORMITORY "E" PLAN - NEW WORK**
Scale: 1/8" = 1'-0"

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOWE 5/30/23

McKIM&CREED
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NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "E"
FLOOR PLAN -NEW WORK

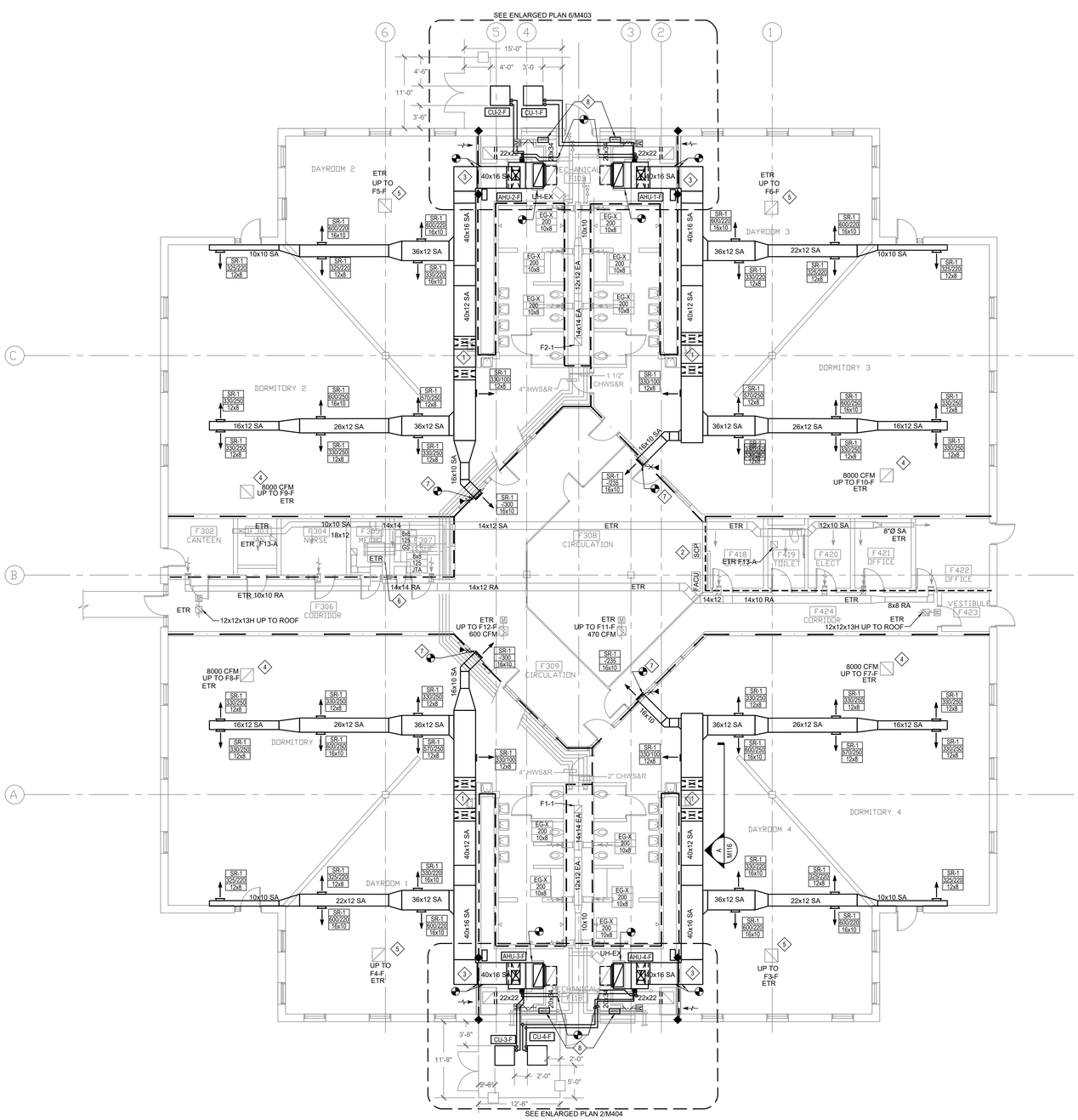
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

SCALE
HORIZONTAL: 1/8"=1'-0"
VERTICAL: ###

M115 DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M115 MECHANICAL DORM E FLOOR PLAN -NEW WORK.DWG 06/05/2023 11:38:24 EVGENIA KROZ



WALL CHART

— — — — —	1 HR FIRE WALL
— · — — —	1 HR SMOKE BARRIER

SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
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5. PROVIDE VOLUME DAMPERS FOR ALL SUPPLY REGISTERS.
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KEY NOTES

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6. PROVIDE NEW ELECTRONIC ACTUATORS FOR EXISTING CHILLED WATER AND HOT WATER CONTROL VALVES. PROVIDE NEW DDC CONTROL PANEL IN MECHANICAL ROOM FOR THE EXISTING BLOWER COIL UNIT.
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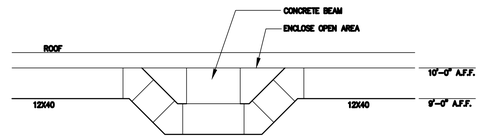
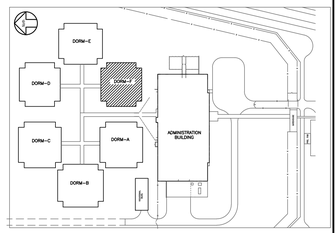
8. PROVIDE NEW DDC CONTROL PANEL FOR EACH UNIT.



A M116 DUCT SECTION
SCALE: 1/2" - 1'-0"



KEY PLAN

1 M116 **MECHANICAL DORMITORY "F" PLAN - NEW WORK**
Scale: 1/8" = 1'-0"

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOWE 5/30/23

McKIM&CREED
Venture IV Building, Suite 500
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NC Licensed# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "F"
FLOOR PLAN -NEW WORK

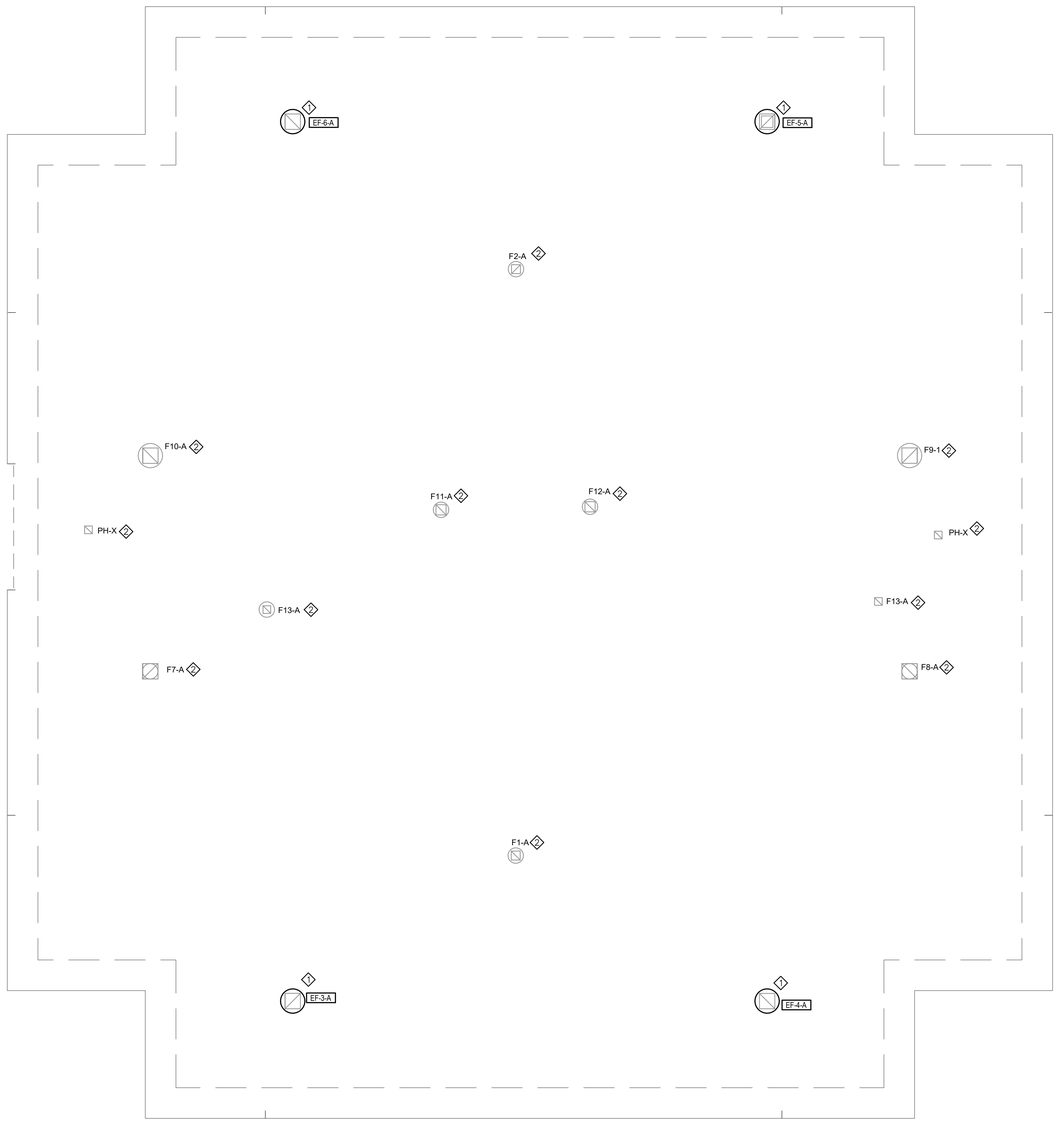
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

SCALE
HORIZONTAL: ########
VERTICAL: ###

M116
DRAWING NUMBER
#
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M116 MECHANICAL DORM F FLOOR PLAN -NEW WORK.DWG 06/05/2023 11:42:59 EVGENIA KROZ



SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
2. ALL NOTES SHALL BE REVIEWED TO ESTABLISH THE OVERALL SCOPE OF WORK
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND ACTUAL FIELD "AS BUILT" CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.
5. WORK DESCRIBED ON THIS SHEET IS SHOWN FOR DORMITORY A. IT IS TYPICAL ALSO FOR DORMITORIES B, C, D, E, F.
6. SEE SHEET M601 FOR SPECIFIC EQUIPMENT LABELS TO BE USED FOR EACH DORMITORY.

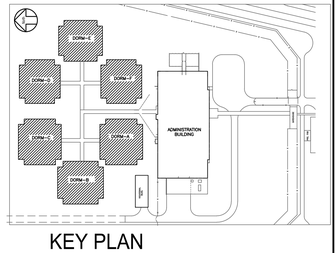
KEY NOTES

1. PROVIDE NEW EXHAUST FAN ON EXISTING ROOF CURB. CLEAN. REPLACE LUBRICANTS.
2. EXISTING EQUIPMENT TO REMAIN. PROTECT FROM DAMAGE.

1 M121 MECHANICAL DORMITORY "A" ROOF PLAN - NEW WORK

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

(TYPICAL FOR ALL DORMITORIES)



KEY PLAN

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A BROWN 5/30/23

McKIM&CREED
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NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL DORMITORY "A" ROOF PLAN - NEW WORK

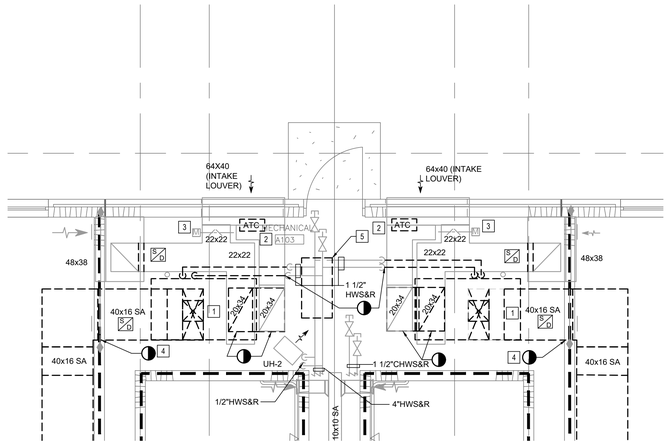
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

SCALE
HORIZONTAL: ########
VERTICAL: ###

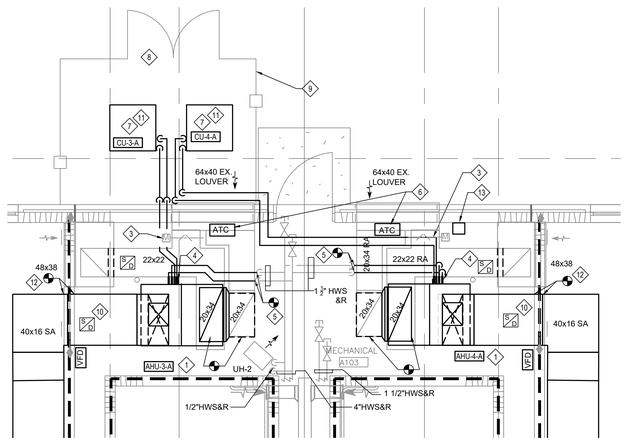
M121 DRAWING NUMBER

REVISION

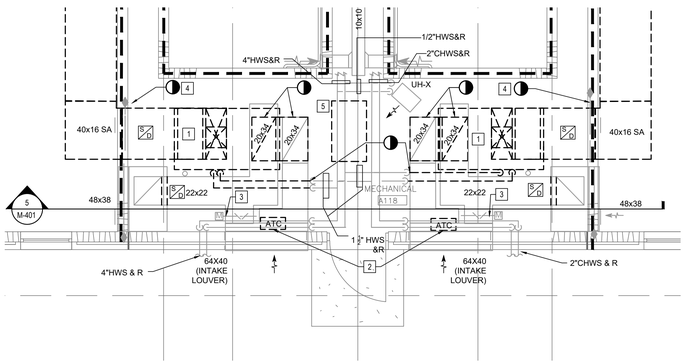
STATUS: **BID DOCUMENTS**



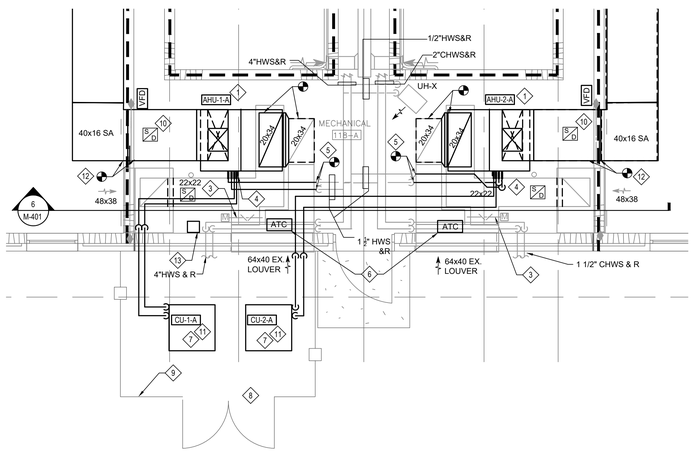
1 DORMITORY A MECHANICAL ROOM A103 DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



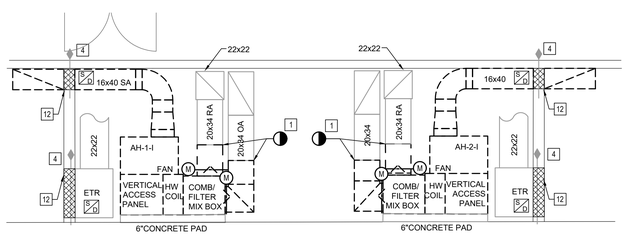
2 DORMITORY A MECHANICAL ROOM A103 NEW WORK PLAN
SCALE: 1/4" = 1'-0"



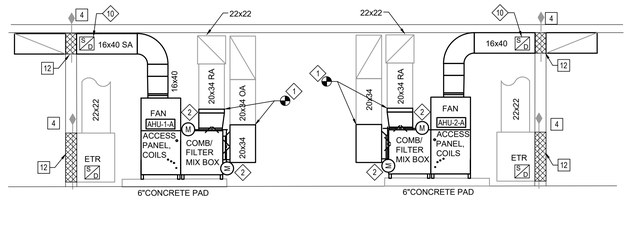
3 DORMITORY A MECHANICAL ROOM A118 DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



4 DORMITORY A MECHANICAL ROOM A118 NEW WORK PLAN
SCALE: 1/4" = 1'-0"



5 DORMITORY A SECTION AT MECHANICAL ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0" TYPICAL FOR ALL MECHANICAL ROOMS



6 DORMITORY A SECTION AT MECHANICAL ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0" TYPICAL FOR ALL MECHANICAL ROOMS

SHEET NOTES

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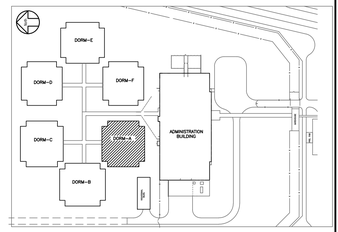
3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND ACTUAL FIELD "AS BUILT" CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.

DEMOLITION KEY NOTES

1. DEMOLISH EXISTING AHU. DEMOLISH ASSOCIATED HOT WATER PIPING BACK TO EXISTING ISOLATION VALVES, AND ASSOCIATED DAMPERS AND ALL ASSOCIATED CONTROL DEVICES.
2. DEMOLISH EXISTING AHU CONTROL PANELS (2) AND ALL ASSOCIATED WIRING AND PNEUMATIC TUBING. CAP EXISTING PNEUMATIC AIR LINE AT PRESSURE REGULATOR.
3. DEMOLISH EXISTING PNEUMATIC ACTUATOR ON OA DAMPER. DAMPER TO REMAIN AND BE REUSED.
4. EXISTING SECURITY BARS AND FIRE DAMPER SHALL REMAIN AND BE RE-USED.
5. DEMOLISH EXISTING PNEUMATIC CONTROLS AIR COMPRESSOR AND ALL ASSOCIATED PIPING, CONTROLS AND POWER WIRING. AIR COMPRESSOR SHALL NOT BE TAKEN OUT OF SERVICE UNTILL THE CONTROLS HAVE BEEN UPDATED IN ALL DORMITORIES.

◇ KEY NOTES

1. PROVIDE NEW UNITS ON EXISTING CONCRETE PAD. PROVIDE NEOPRENE PADS BETWEEN AHU AND EXISTING CONCRETE PAD.CONNECT TO EXISTING DUCTS. ROUTE NEW REFRIGERANT LINES FROM INDOOR UNIT TO ASSOCIATED OUTDOOR UNIT.
2. PROVIDE NEW MOTOR-OPERATED DAMPERS AS PART OF AHU MIXING BOX. .
3. PROVIDE NEW ELECTRIC MOTORIZED DAMPER ACTUATOR COMPATIBLE WITH DDC CONTROLS.
4. ROUTE NEW 1 1/4" CONDENSATE PIPING FROM NEW UNIT TO EXISTING FLOOR DRAIN NEAR THE UNIT IN THE MECHANICAL ROOM.
5. CONNECT NEW HOT WATER COIL TO EXISTING HW PIPING. SEE DETAIL 1/M701.
6. PROVIDE DDC NEW CONTROL PANEL FOR EACH NEW UNIT. SEE SHEET M501 FOR NEW CONTROL DEVICES AND SEQUENCES OF OPERATION. NEW RELAY BOXES FOR EMERGENCY SMOKE PURGE AND SHUTDOWN CONTROL SHALL BE INSTALLED FOR EACH UNIT.
7. PROVIDE NEW AIR-COOLED CONDENSING UNITS ON 6" HIGH CONCRETE HOUSEKEEPING PADS. ROUTE NEW REFRIGERANT LINES FROM THE CONDENSING UNITS TO THE NEW AIR HANDLING UNIT. ALL REFRIGERANT LINES SHALL BE INSULATED WITH ELASTOMERIC INSULATION COVERED WITH FITTED ALUMINUM JACKET.
8. PROVIDE TWO 3'-0" LOCKABLE GATES FOR ACCESS.
9. PROVIDE 10' TALL (TOTAL HEIGHT) CHAIN-LINK FENCING AROUND NEW OUTDOOR EQUIPMENT. PROVIDE THREE STRAND BARBED WIRE AROUND THE TOP OF THE ENTIRE FENCE PERIMETER. TIE NEW FENCING BACK TO THE EXTERIOR BUILDING WALL ON BOTH ENDS UNLESS INDICATED OTHERWISE.
10. INSTALL NEW SMOKE DETECTOR IN SUPPLY DUCT FURNISHED BY EC.
11. SIZE REFRIGERANT PIPING AND PROVIDE ALL NECESSARY REFRIGERANT SYSTEM ACCESSORIES IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
12. EXISTING SECURITY BARS AND FIRE DAMPER SHALL REMAIN AND BE RE-USED.
13. NEW SHUTDOWN AND RELAY BOX



KEY PLAN

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A BOW 5/30/23

McKIM&CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ENLARGED MECHANICAL ROOM PLANS

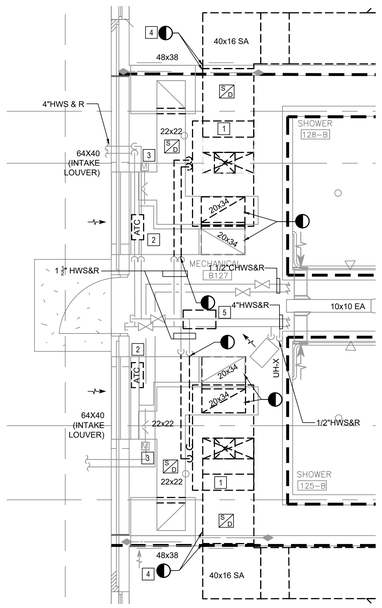
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

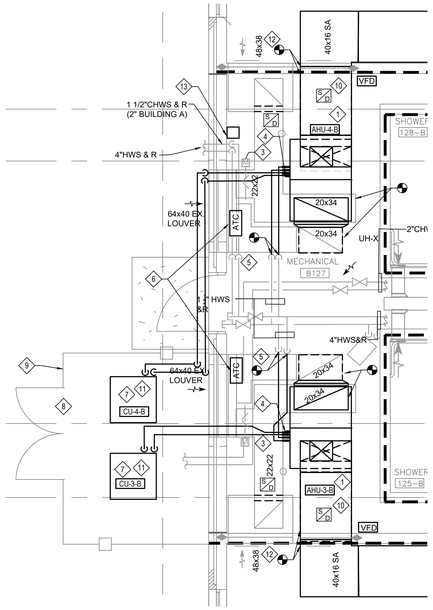
M401 DRAWING NUMBER
REVISION

STATUS: BID DOCUMENTS

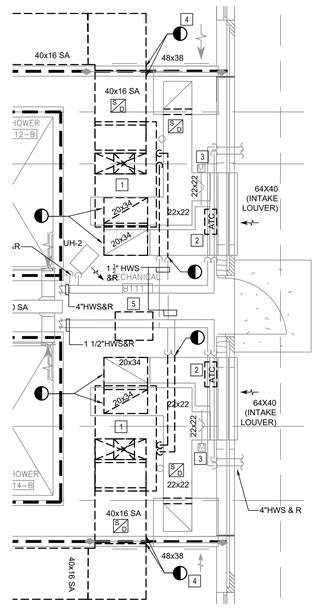
I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M401 MECHANICAL ROOM - ENLARGED PLANS.DWG 06/06/2023 12:57:37 EVGENIA KROZ



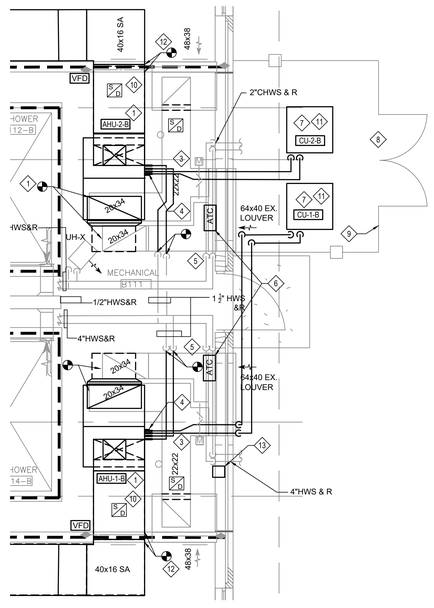
1 DORMITORY B MECHANICAL ROOM B127 DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



2 DORMITORY B MECHANICAL ROOM B127 NEW WORK PLAN
SCALE: 1/4" = 1'-0"



3 DORMITORY B MECHANICAL ROOM B111 DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



4 DORMITORY B MECHANICAL ROOM B111 NEW WORK PLAN
SCALE: 1/4" = 1'-0"

SHEET NOTES

1. REFER TO M001 FOR ALL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
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3. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE VERIFIED AT THE BUILDING AND SITE.
4. ANY CONFLICT BETWEEN INFORMATION ON DRAWINGS AND ACTUAL FIELD "AS BUILT" CONDITIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION PRIOR TO COMMENCING WORK.

DEMOLITION KEY NOTES

1. DEMOLISH EXISTING AHU. DEMOLISH ASSOCIATED HOT WATER PIPING BACK TO EXISTING ISOLATION VALVES, AND ASSOCIATED DAMPERS AND ALL ASSOCIATED CONTROL DEVICES.
2. DEMOLISH EXISTING AHU CONTROL PANELS (2) AND ALL ASSOCIATED WIRING AND PNEUMATIC TUBING. CAP EXISTING PNEUMATIC AIR LINE AT PRESSURE REGULATOR.
3. DEMOLISH EXISTING PNEUMATIC ACTUATOR ON OA DAMPER. DAMPER TO REMAIN AND BE REUSED.
4. EXISTING SECURITY BARS AND FIRE DAMPER SHALL REMAIN AND BE RE-USED.
5. DEMOLISH EXISTING PNEUMATIC CONTROLS AIR COMPRESSOR AND ALL ASSOCIATED PIPING, CONTROLS AND POWER WIRING. AIR COMPRESSOR SHALL NOT BE TAKEN OUT OF SERVICE UNTILL THE CONTROLS HAVE BEEN UPDATED IN ALL DORMITORIES.

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4. ROUTE NEW 1 1/4" CONDENSATE PIPING FROM NEW UNIT TO EXISTING FLOOR DRAIN NEAR THE UNIT IN THE MECHANICAL ROOM.
5. CONNECT NEW HOT WATER COIL TO EXISTING HW PIPING. SEE DETAIL 1/M701.
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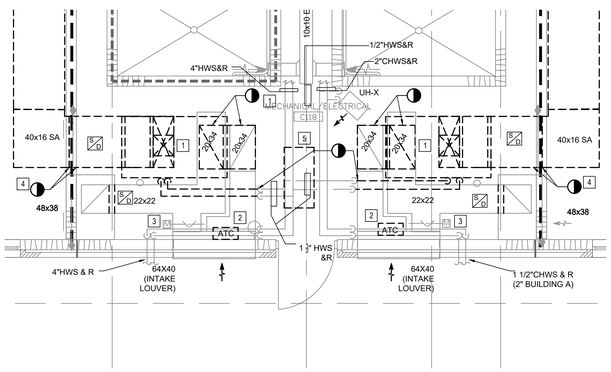
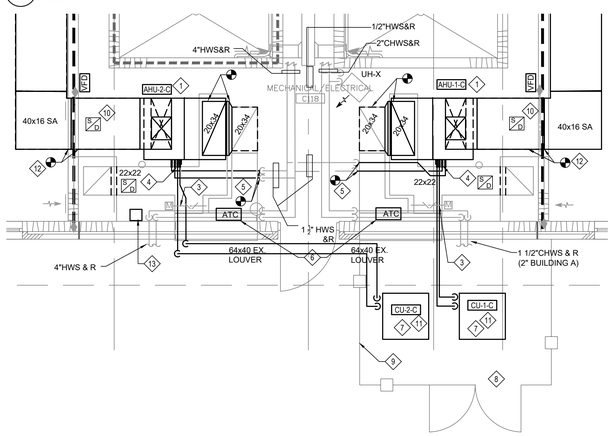
10. INSTALL NEW SMOKE DETECTOR IN SUPPLY DUCT FURNISHED BY EC.
11. SIZE REFRIGERANT PIPING AND PROVIDE ALL NECESSARY REFRIGERANT SYSTEM ACCESSORIES IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
12. EXISTING SECURITY BARS AND FIRE DAMPER SHALL REMAIN AND BE RE-USED.
13. NEW SHUTDOWN AND RELAY BOX
14. INSTALL NEW JACE PANEL. USE RACKMOUNT RECESSED ADJUSTABLE SOLID PANEL TO MOUNT JACE PANEL ON THE EXISTING RACK.

5 DORMITORY C MECHANICAL ROOM C103 DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

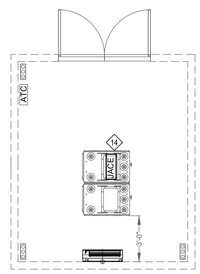
6 DORMITORY C MECHANICAL ROOM C103 NEW WORK PLAN
SCALE: 1/4" = 1'-0"



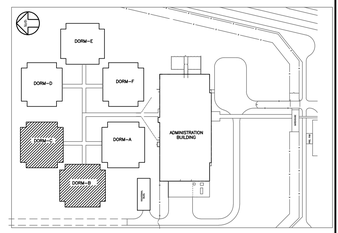
7 DORMITORY C MECHANICAL ROOM C118 DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



8 DORMITORY C MECHANICAL ROOM C118 NEW WORK PLAN
SCALE: 1/4" = 1'-0"



9 PREFAB BUILDING NEW WORK PLAN
SCALE: 1/4" = 1'-0"



KEY PLAN

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019682 ENGINEER MITCHELL A. BROWN 5/30/23

McKIM&CREED
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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

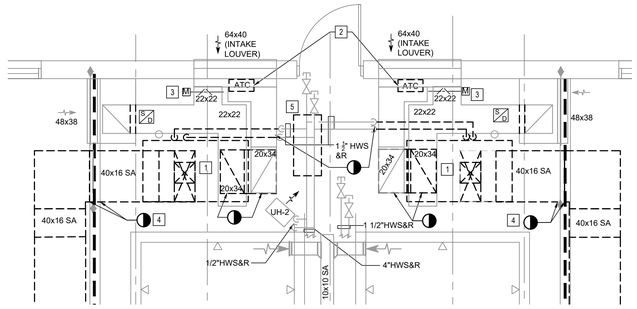
ENLARGED MECHANICAL ROOM PLANS

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

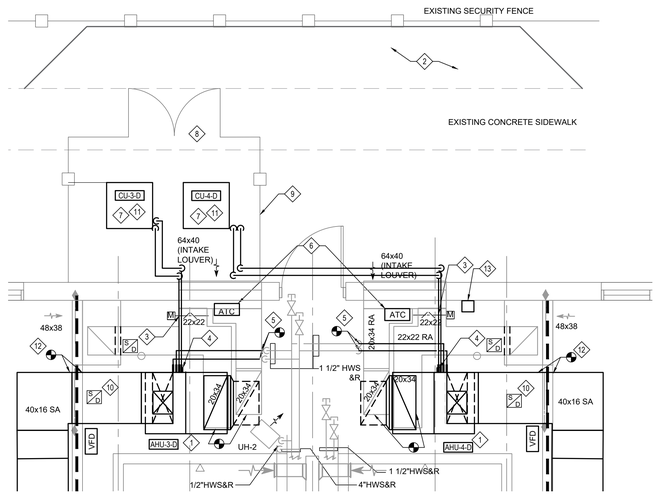
SCALE
HORIZONTAL: 1/4"=1'0"
VERTICAL: 1/4"=1'0"

M402
DRAWING NUMBER
#
REVISION

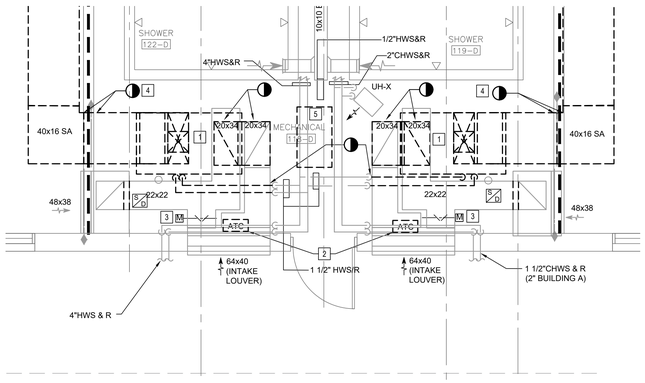
STATUS: BID DOCUMENTS



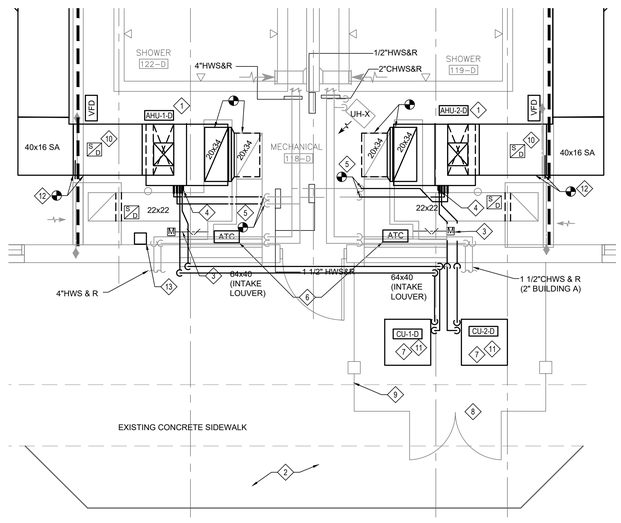
1 DORMITORY D MECHANICAL 118-D DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



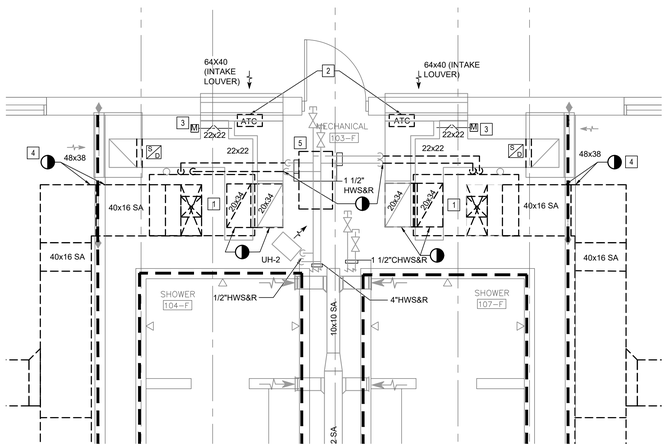
2 DORMITORY D MECHANICAL ROOM 118-D NEW WORK PLAN
SCALE: 1/4" = 1'-0"



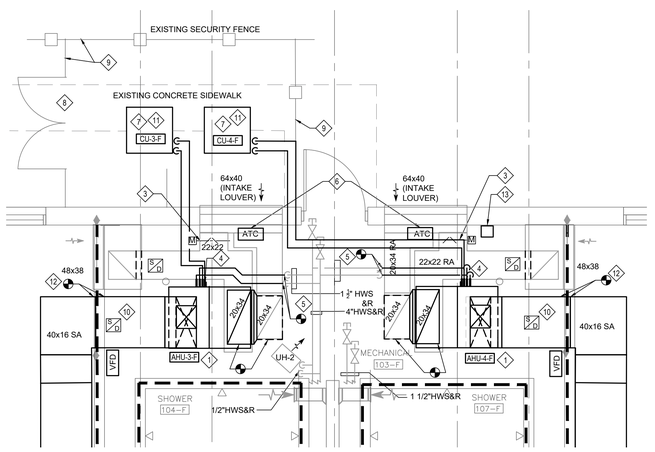
3 DORMITORY D MECHANICAL ROOM 103-D DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



4 DORMITORY D MECHANICAL ROOM 103-D NEW WORK PLAN
SCALE: 1/4" = 1'-0"



5 DORMITORY F MECHANICAL ROOM 103-F DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



6 DORMITORY F MECHANICAL ROOM 103-F NEW WORK PLAN
SCALE: 1/4" = 1'-0"

SHEET NOTES

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DEMOLITION KEY NOTES

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3. DEMOLISH EXISTING PNEUMATIC ACTUATOR ON OA DAMPER. DAMPER TO REMAIN AND BE REUSED.
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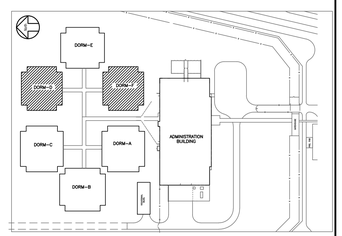
12. EXISTING SECURITY BARS AND FIRE DAMPER SHALL REMAIN AND BE RE-USED.
13. NEW SHUTDOWN AND RELAY BOX



KEY PLAN

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOWEN 5/30/23

McKIM&CREED
Venture IV Building, Suite 500
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Phone: (919) 233-8091, Fax: (919) 233-8031
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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ENLARGED MECHANICAL ROOM PLANS

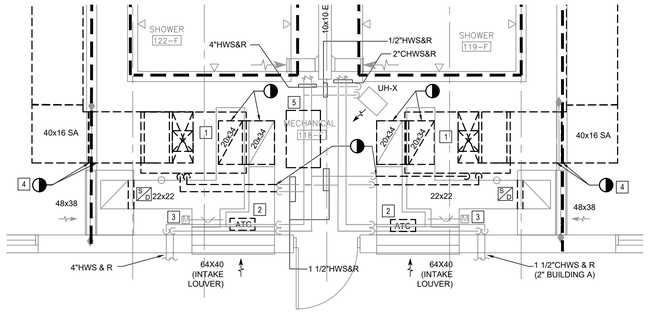
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

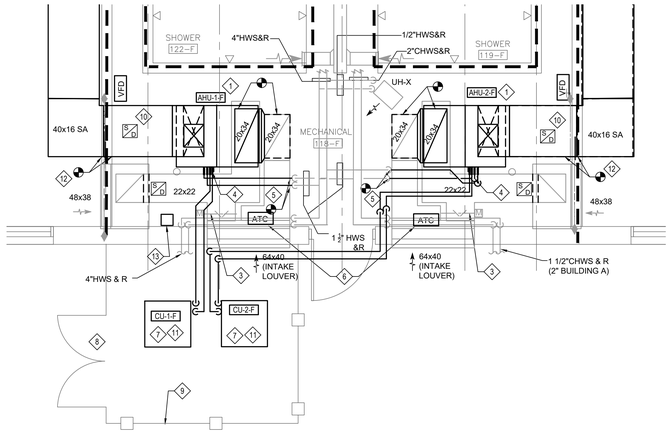
M403
DRAWING NUMBER
#
REVISION

STATUS: BID DOCUMENTS

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M403 MECHANICAL ROOM - ENLARGED PLANS.DWG 06/06/2023 13:00:49 EVGENIA KROZ



1 DORMITORY F MECHANICAL ROOM 118-F DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



2 DORMITORY F MECHANICAL ROOM 118-F NEW WORK PLAN
SCALE: 1/4" = 1'-0"

SHEET NOTES

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13. NEW SHUTDOWN AND RELAY BOX

3 DORMITORY E MECHANICAL ROOM 115-E DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

4 DORMITORY E MECHANICAL ROOM 115-E NEW WORK PLAN
SCALE: 1/4" = 1'-0"

5 DORMITORY E MECHANICAL ROOM 127-E DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

6 DORMITORTY E MECHANICAL ROOM 127-E NEW WORK PLAN
SCALE: 1/4" = 1'-0"

KEY PLAN

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOWN 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ENLARGED MECHANICAL ROOM PLANS

\\MCKIMCREED.COM\NASUNI\DATA\PROJ\089140003\ENG\80--DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M403 MECHANICAL ROOM - ENLARGED PLANS.DWG 06/02/2023 15:08:06 EVGENIA KROZ

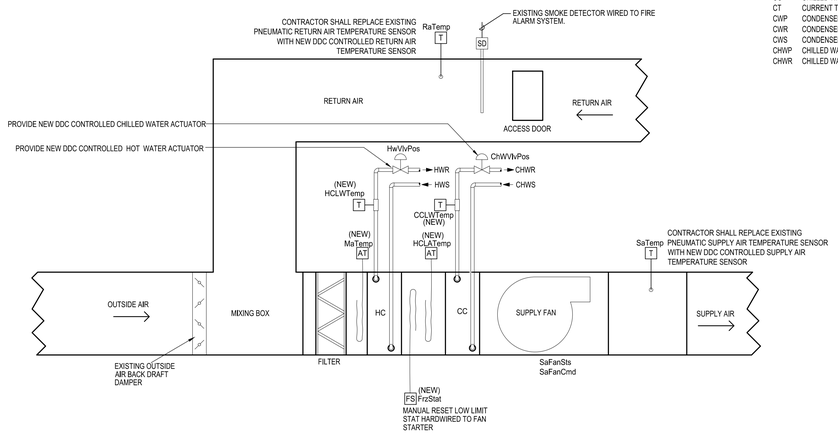
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

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

M404
DRAWING NUMBER
#
REVISION

STATUS: **BID DOCUMENTS**

\\MCKIMCREED.COM\NASUNI\DATA\PROJ\089140003\ENG\80--DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M403 MECHANICAL ROOM – ENLARGED PLANS.DWG 06/02/2023 15:08:06 EVGENIA KROZ



ABBREVIATIONS

AF/M	AIRFLOW MONITORING STATION	DP	DIFFERENTIAL PRESSURE	MH	MAGNEHELIC GAUGE
AT	AVERAGE TEMPERATURE	DX	DIRECT EXPANSION	N.C.	NORMALLY CLOSED
CC	CHILLED WATER COIL	FS	FREEZE STAT	N.O.	NORMALLY OPEN
CT	CURRENT TRANSDUCER	H	HUMIDITY	HC	HEATING COIL
CWP	CONDENSER WATER PUMP	HC	HEATING COIL	PR	PRIMARY
CWR	CONDENSER WATER RETURN	HWR	HOT WATER RETURN	RHC	REHEAT COIL
CWS	CONDENSER WATER SUPPLY	HWS	HOT WATER SUPPLY	SE	SECONDARY
CHWP	CHILLED WATER PUMP	M	MOTOR / MOTORIZED ACTUATOR	SD	DUCT SMOKE DETECTOR
CHWR	CHILLED WATER RETURN			SP	STATIC PRESSURE
				T	TEMPERATURE
				VFD	VARIABLE FREQUENCY DRIVE
				VLV	VALVE
				BD	BACKDRAFT DAMPER

SEQUENCE OF OPERATION

COOLING/HEATING MODE : IF THE SPACE IS ABOVE COOLING SET POINT THE COOLING COIL LEAVING AIR TEMPERATURE SET POINT IS TO BE MODULATED TO MEET SPACE REQUIREMENTS DOWN TO (55)^{0}F. IF THE SPACE IS BELOW HEATING SET POINT THE HEATING COIL LEAVING AIR TEMPERATURE SET POINT IS TO BE MODULATED TO SPACE REQUIREMENTS UP TO (110)^{0}F. IF THE SPACE IS AT OR BETWEEN COOLING AND HEATING TEMPERATURE SET POINTS THE HEATING AND COOLING COIL LEAVING AIR TEMPERATURE SET POINTS ARE TO BE DETERMINED BASED ON A PID LOOP WITH A MINIMUM OF (55)^{0}F AND A MAXIMUM OF (110)^{0}F. THE PID LOOP SHOULD BE WRITTEN SUCH THAT WHEN THE SPACE TEMPERATURE IS 0.5^{0}F OR MORE BELOW THE COOLING SET POINT THE CHILLED WATER VALVE SHOULD BE CLOSED. SIMILARLY, WHEN THE SPACE TEMPERATURE IS 0.5^{0}F OR MORE ABOVE THE HEATING SET POINT THE REHEAT VALVE SHOULD BE CLOSED.

FREEZE PROTECTION: A MANUAL RESET LOW LIMIT CONTROLLER WITH SENSOR LOCATED DOWNSTREAM OF THE HEATING COIL SHALL DE-ENERGIZE THE SUPPLY FAN . IF THE TEMPERATURE FALLS BELOW 40^{0}F. IN ADDITION, THE HOT WATER VALVE ACTUATOR, AND CHILLED WATER ACTUATOR SHALL BE DE-ENERGIZED AND THE VALVES WILL SPRING RETURN TO THE OPEN POSITION. DE-ENERGIZING SHALL BE ACCOMPLISHED VIA A HARD-WIRED SAFETY, NOT THROUGH THE DDC SYSTEM. NOTIFY THE OPERATOR.

SMOKE SHUTDOWN: RETURN SMOKE DETECTOR SHALL SEND A DIRECT SIGNAL TO THE FIRE ALARM SYSTEM AND DE-ENERGIZE THE SUPPLY FAN. AN AUXILIARY CONTACT ON THE SMOKE DETECTORS SHALL ALARM THE DDC SYSTEM FOR INFORMATIONAL PURPOSES.

POINT LIST

Equipment						Equipment Name	EquipmentTags		
Single Zone CV Fan Coil Unit (Chilled Water coil, HW reheat coil, supply fan)							dis, id, siteRef, equip, hvac, fan Coil hotWaterHeat, Chilled Water Cool directZone, singleDuct, constantVolume		
Points	**AI**	**AO**	**DI**	**DO**	**VP**	**Point Name**	**Point Tags**	**Trending**	
Supply Fan Status			x			SaFanSts	discharge, air, fan, run, sensor	COV, 24	
Supply Fan Command				x		SaFanCmd	discharge, air, fan, run, cmd	COV, 24	
Hot Water Valve Position		x				HWVlvPos	hot, water, valve, cmd	Int, 10min	NEW ACTUATOR
Heating Coil Leaving Water Temperature	x					HCLWTemp	hot, water, temp, sensor	Int, 10min	NEW
Freezestat	x					FrzStat	freezeStat	COV, 24	NEW
Chilled Water Valve Position		x				ChWVlvPos	chilled, water, valve, cmd	Int, 10min	NEW ACTUATOR
Cooling Coil Leaving Water Temperature	x					CCLWTemp	chilled, water, temp, sensor	Int, 10min	NEW
Supply Air Temperature	x					SaTemp	discharge, air, temp, sensor	Int, 10min	NEW
Heating Coil Leaving Air Temperature	x					HCLATemp	air, temp, sensor	Int, 10min	NEW
Return Air Temperature	x					RaTemp	return, air, temp, sensor	Int, 10min	NEW
Mixed Air Temperature	x					MaTemp	mixed, air, temp, sensor	Int, 10min	NEW

2 OFFICE FAN COIL UNIT SCHEMATIC (TYPICAL FOR 6)

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BROWN 5/30/23

McKIM&CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

MECHANICAL - CONTROLS

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M501 MECHANICAL CONTROLS.DWG 06/06/2023 11:50:00 EVGENIA KROZ

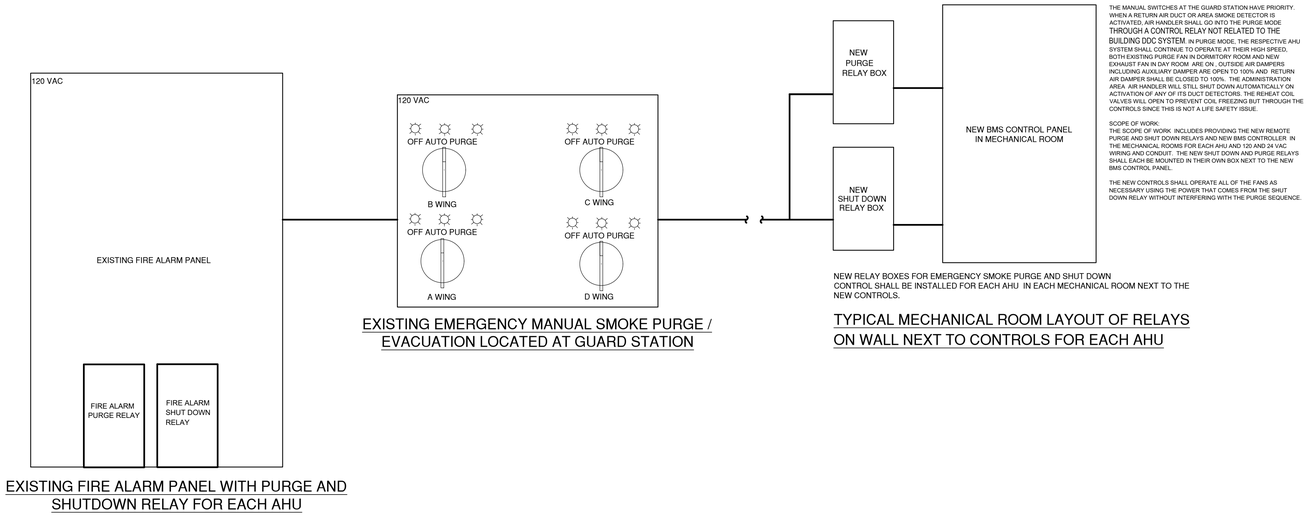
PROJ. START DATE: **2023-05-30**
MCE PROJ. # **08914-0003**
DRAWN
DESIGNED **EIK**
CHECKED
PROJ. MGR.

SCALE
HORIZONTAL:
VERTICAL:

M504
DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86H-HVAC DESIGN\CONSTRUCTION DOCUMENTS\M501 MECHANICAL CONTROLS.DWG 06/06/2023 11:50:00 EVGENIA KROZ



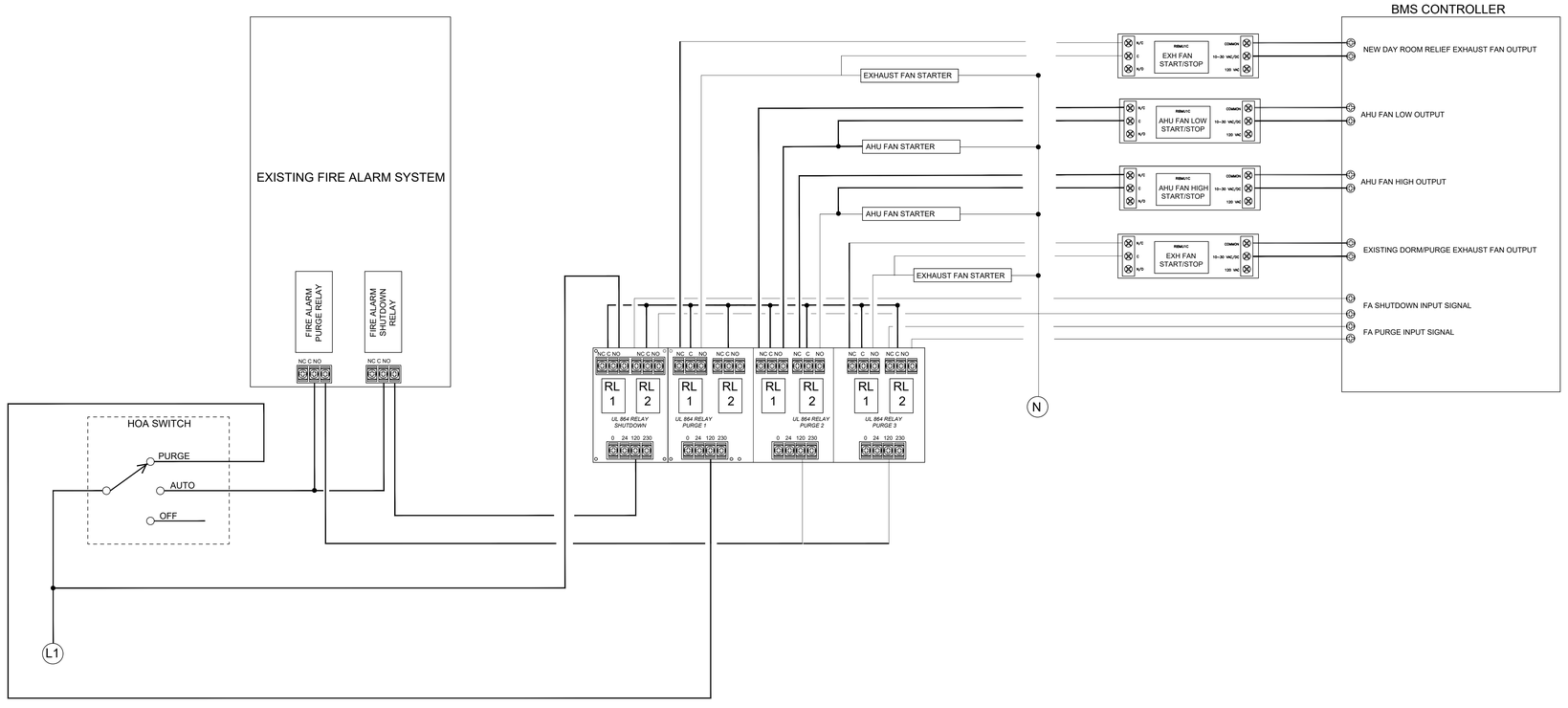
EXISTING FIRE ALARM PANEL WITH PURGE AND SHUTDOWN RELAY FOR EACH AHU

EXISTING EMERGENCY MANUAL SMOKE PURGE / EVACUATION LOCATED AT GUARD STATION

NEW RELAY BOXES FOR EMERGENCY SMOKE PURGE AND SHUT DOWN CONTROL SHALL BE INSTALLED FOR EACH AHU IN EACH MECHANICAL ROOM NEXT TO THE NEW CONTROLS.

TYPICAL MECHANICAL ROOM LAYOUT OF RELAYS ON WALL NEXT TO CONTROLS FOR EACH AHU

1 TYPICAL SMOKE PURGE SCHEMATIC



3 SIMPLIFIED FIRE ALARM SMOKE CONTROL INTERFACE MODEL
NOT TO SCALE

REV NO.	DESCRIPTION	DATE

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NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOK 5/30/23

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CHECKED	MAB
PROJ. MGR.	MAB

SCALE
HORIZONTAL:
VERTICAL:

M502
DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**

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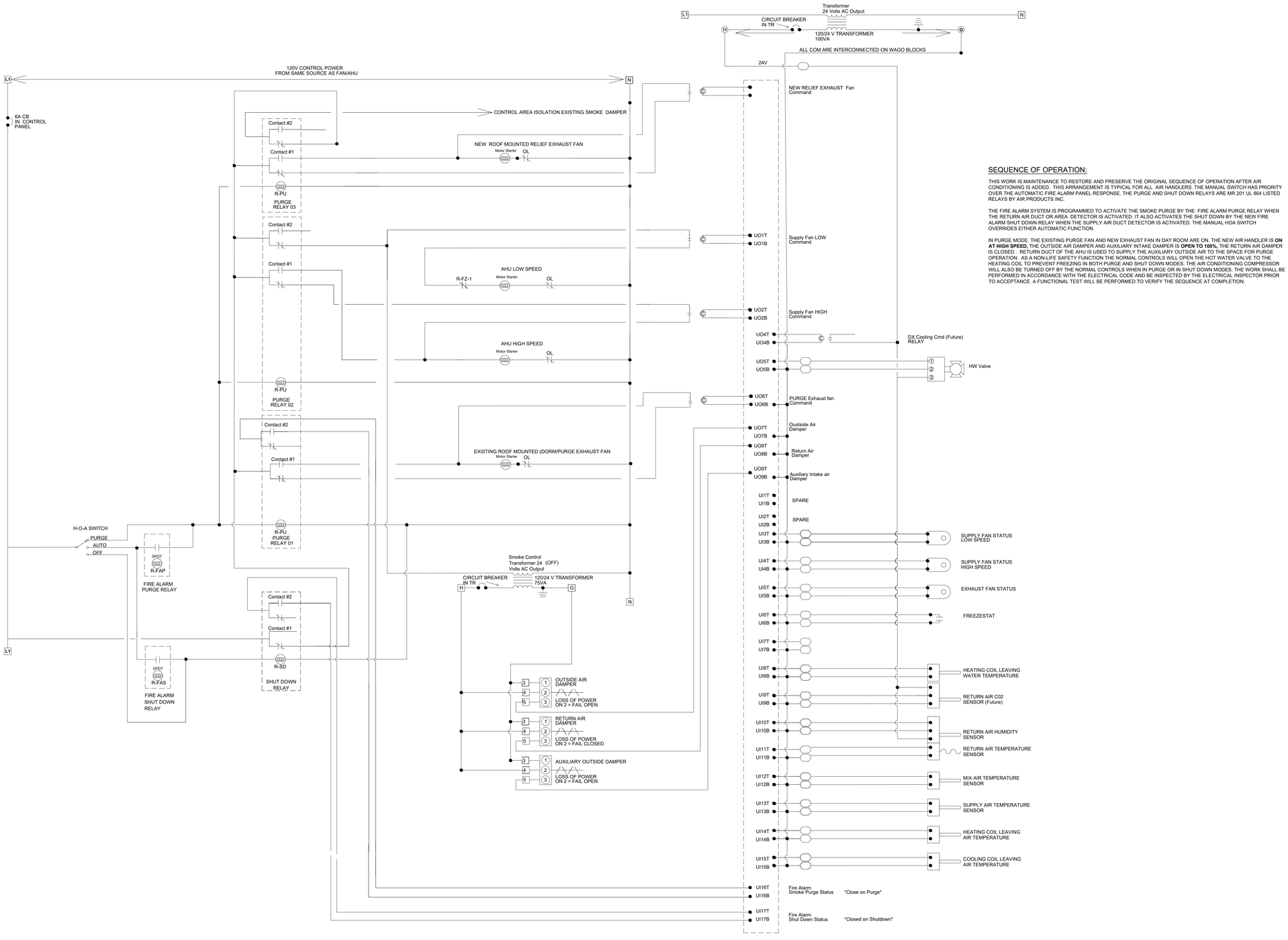

SEQUENCE OF OPERATION:

THIS WORK IS MAINTENANCE TO RESTORE AND PRESERVE THE ORIGINAL SEQUENCE OF OPERATION AFTER AIR CONDITIONING IS ADDED. THIS ARRANGEMENT IS TYPICAL FOR ALL AIR HANDLERS. THE MANUAL SWITCH HAS PRIORITY OVER THE AUTOMATIC FIRE ALARM PANEL RESPONSE. THE PURGE AND SHUT DOWN RELAYS ARE MR 201 UL 864 LISTED RELAYS BY AIR PRODUCTS INC.

THE FIRE ALARM SYSTEM IS PROGRAMMED TO ACTIVATE THE SMOKE PURGE BY THE FIRE ALARM PURGE RELAY WHEN THE RETURN AIR DUCT OR AREA DETECTOR IS ACTIVATED. IT ALSO ACTIVATES THE SHUT DOWN BY THE NEW FIRE ALARM SHUT DOWN RELAY WHEN THE SUPPLY AIR DUCT DETECTOR IS ACTIVATED. THE MANUAL HOA SWITCH OVERRIDES EITHER AUTOMATIC FUNCTION.

IN PURGE MODE, THE EXISTING PURGE FAN AND NEW EXHAUST FAN IN DAY ROOM ARE ON. THE NEW AIR HANDLER IS **ON AT HIGH SPEED,** THE OUTSIDE AIR DAMPER AND AUXILIARY INTAKE DAMPER IS **OPEN TO 100%.** THE RETURN AIR DAMPER IS CLOSED . RETURN DUCT OF THE AHU IS USED TO SUPPLY THE AUXILIARY OUTSIDE AIR TO THE SPACE FOR PURGE OPERATION. AS A NON-LIFE SAFETY FUNCTION THE NORMAL CONTROLS WILL OPEN THE HOT WATER VALVE TO THE HEATING COIL TO PREVENT FREEZING IN BOTH PURGE AND SHUT DOWN MODES. THE AIR CONDITIONING COMPRESSOR WILL ALSO BE TURNED OFF BY THE NORMAL CONTROLS WHEN IN PURGE OR IN SHUT DOWN MODES. THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE ELECTRICAL CODE AND BE INSPECTED BY THE ELECTRICAL INSPECTOR PRIOR TO ACCEPTANCE. A FUNCTIONAL TEST WILL BE PERFORMED TO VERIFY THE SEQUENCE AT COMPLETION.

1 FIRE ALARM SMOKE CONTROL INTERFACE CONTROL DETAIL

NOT TO SCALE

REV NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOND 5/30/23

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SCO ID: 22-25591-01A Code: 42107 Item: 4112

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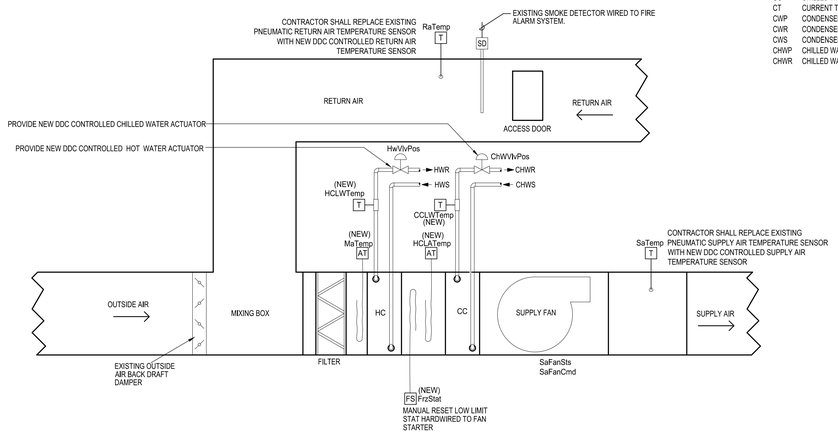
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MAB
PROJ. MGR.	MAB

SCALE
HORIZONTAL:
VERTICAL:

M503
DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**



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CWR	CONDENSER WATER RETURN	HWR	HOT WATER RETURN	RHC	REHEAT COIL
CWS	CONDENSER WATER SUPPLY	HWS	HOT WATER SUPPLY	SE	SECONDARY
CHWP	CHILLED WATER PUMP	M	MOTOR / MOTORIZED ACTUATOR	SD	DUCT SMOKE DETECTOR
CHWR	CHILLED WATER RETURN			SP	STATIC PRESSURE
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				BD	BACKDRAFT DAMPER

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POINT LIST

Equipment						Equipment Name	EquipmentTags		
Single Zone CV Fan Coil Unit (Chilled Water coil, HW reheat coil, supply fan)							dis, id, siteRef, equip, hvac, fan Coil hotWaterHeat, Chilled Water Cool directZone, singleDuct, constantVolume		
Points	**AI**	**AO**	**DI**	**DO**	**VP**	**Point Name**	**Point Tags**	**Trending**	
Supply Fan Status			x			SaFanSts	discharge, air, fan, run, sensor	COV, 24	
Supply Fan Command				x		SaFanCmd	discharge, air, fan, run, cmd	COV, 24	
Hot Water Valve Position		x				HWVlvPos	hot, water, valve, cmd	Int, 10min	NEW ACTUATOR
Heating Coil Leaving Water Temperature	x					HCLWTemp	hot, water, temp, sensor	Int, 10min	NEW
Freezestat	x					FrzStat	freezeStat	COV, 24	NEW
Chilled Water Valve Position		x				ChWVlvPos	chilled, water, valve, cmd	Int, 10min	NEW ACTUATOR
Cooling Coil Leaving Water Temperature	x					CCLWTemp	chilled, water, temp, sensor	Int, 10min	NEW
Supply Air Temperature	x					SaTemp	discharge, air, temp, sensor	Int, 10min	NEW
Heating Coil Leaving Air Temperature	x					HCLATemp	air, temp, sensor	Int, 10min	NEW
Return Air Temperature	x					RaTemp	return, air, temp, sensor	Int, 10min	NEW
Mixed Air Temperature	x					MaTemp	mixed, air, temp, sensor	Int, 10min	NEW

2 OFFICE FAN COIL UNIT SCHEMATIC (TYPICAL FOR 6)

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A BROWN 5/30/23

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PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
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PROJ. MGR.	MAB

SCALE
HORIZONTAL:
VERTICAL:

M504
DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**

AIR HANDLING UNIT SCHEDULE

TAG	UNIT TYPE	AREA SERVED	HIGH SPEED (PURGE) SUPPLY AIR (CFM)	LOW SPEED (NORMAL) SUPPLY AIR (CFM)	MIN OA (CFM)	SUPPLY FAN							COOLING COIL SECTION (LOW SPEED FAN)						HEATING COIL SECTION (LOW SPEED FAN)						FILTER DATA	ELECTRICAL			BASIS OF DESIGN		NOTES
						HIGH SPEED SUPPLY AIR (CFM)	LOW SPEED SUPPLY AIR (CFM)	FAN HIGH SPEED (RPM)	FAN LOW SPEED (RPM)	TOTAL / EXT SP (IN WG) @ LOW SPEED	MOTOR HP	FLA	CAP TOT/ SENS (BTUH)	EAT DB / WB (ºF)	LAT DB /WB (ºF)	APD (IN WG)	REFRIG.	EER	CAP (MBH)	EAT/ LAT (ºF DB)	APD (IN WG)	WATER TEMP ENT/LVG (ºF)	FLOW (GPM)	WPD (FT H20)	PRE-FILTER EFF	VOLTAGE / PH	MCA	MOP	MANUF	MODEL	
AHU-1-A	INDOOR	BUILDING A	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-2-A	INDOOR	BUILDING A	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-3-A	INDOOR	BUILDING A	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-4-A	INDOOR	BUILDING A	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-1-B	INDOOR	BUILDING B	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-2-B	INDOOR	BUILDING B	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-3-B	INDOOR	BUILDING B	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-4-B	INDOOR	BUILDING B	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-1-C	INDOOR	BUILDING C	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
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AHU-1-D	INDOOR	BUILDING D	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-2-D	INDOOR	BUILDING D	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-3-D	INDOOR	BUILDING D	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-4-D	INDOOR	BUILDING D	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-1-E	INDOOR	BUILDING E	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-2-E	INDOOR	BUILDING E	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-3-E	INDOOR	BUILDING E	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-4-E	INDOOR	BUILDING E	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-1-F	INDOOR	BUILDING F	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-2-F	INDOOR	BUILDING F	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-3-F	INDOOR	BUILDING F	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10
AHU-4-F	INDOOR	BUILDING F	5,000	3,000	600	5,000	3,000	1,422	1,159	2.07 / 1.5	7.5	9.3	108,719/ 78,361	79/65.8	55.1/53.8	0.25	R-410A	11.2	119.8	60.5/97	0.07	180/140.2	6.1	0.42	MERV8	460/3/60	11.6	20	DAIKIN	BCVD0501	1-10

NOTES:
1. SEE SPECIFICATIONS FOR UNIT CONSTRUCTION. SEE PLANS FOR UNIT ARRANGEMENT.
2. PROVIDE INTERNAL VIBRATION ISOLATION FOR SUPPLY FANS.
3. COIL CAPACITIES DO NOT INCLUDE HEAT FROM FAN MOTOR.
4. PROVIDE VFD FAN. THESE AHUs ARE INTENDED TO OPERATE AT TWO (2) DISTINCT AIRFLOW RATES. "HIGH" SHALL CORRESPOND TO THE FAN SPEED REQUIRED TO DELIVER 5,000 CFM. "LOW" SHALL CORRESPOND TO THE FAN SPEED REQUIRED TO DELIVER 3,000 CFM.
5. PROVIDE NEMA PREMIUM EFFICIENCY MOTORS.
6. COILS ARE RATED AT LOW SPEED.
7. COMBINATION FILTER/MIXING BOX.
8. BASIS OF DESIGN DAIKIN. SEE SPECIFICATIONS FOR APPORVED MANUFACTURERS
9. HEATING COIL WATER VELOCITY SHALL BE SELECTED FOR 4-6.4 FPS AT DESIGN CONDITIONS.
10. FACTORY MOUNTED OVERFLOW SWITCH AND FREEZESTAT.

CONDENSING UNIT SCHEDULE

TAG	SERVES	AREA SERVED	NOMINAL CAPACITY (TONS)	EER/IEER	COMPRESSOR CIRCUITS				**ELECTRICAL**				BASIS OF DESIGN		APPROXIMATE PHYSICAL SIZE (IN.) WxHxL	OPERATING WEIGHT (LBS)	NOTES
					NO. OF COMPR.	TYPE OF COMPR.	TYPE OF REFRIGERANT	REFRIG. CHARGE (OZ)	RLA	MCA	MOP	VOLTS/ PHASE/ HERTZ	MANUF.	MODEL			
CU-1-A	AHU-1-A	BUILDING A	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-2-A	AHU-2-A	BUILDING A	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-3-A	AHU-3-A	BUILDING A	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-4-A	AHU-4-A	BUILDING A	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-1-B	AHU-1-B	BUILDING B	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-2-B	AHU-2-B	BUILDING B	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-3-B	AHU-3-B	BUILDING B	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-4-B	AHU-4-B	BUILDING B	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-1-C	AHU-1-C	BUILDING C	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-2-C	AHU-2-C	BUILDING C	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-3-C	AHU-3-C	BUILDING C	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-4-C	AHU-4-C	BUILDING C	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-1-D	AHU-1-D	BUILDING D	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-2-D	AHU-2-D	BUILDING D	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-3-D	AHU-3-D	BUILDING D	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-4-D	AHU-4-D	BUILDING D	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-1-E	AHU-1-E	BUILDING E	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-2-E	AHU-2-E	BUILDING E	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-3-E	AHU-3-E	BUILDING E	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-4-E	AHU-4-E	BUILDING E	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-1-F	AHU-1-F	BUILDING F	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-2-F	AHU-2-F	BUILDING F	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-3-F	AHU-3-F	BUILDING F	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3
CU-4-F	AHU-4-F	BUILDING F	10	11.2/13.5	1	TWO-STAGE	R-410A	55	12	22	35	460/3/60	DAIKIN	DX11TA1204	41-1/2" X 35-1/2" X 35-1/2	340	1-3

NOTES : 1. COMPLIES WITH IECC 2018
2. HIGH AND LOW PRESSURE SWITCHES
3. AHRI CERTIFIED.

AIR OUTLET / INLETS

TAG	SYSTEM	BASIS OF DESIGN		DESCRIPTION	MAX. NC
		MANUF.	MODEL		
SR-1	SUPPLY	CARNES	RTDB	DOUBLE DEFLECTION STEEL REGISTER	<25

NOTES: 1. REFER TO PLAN FOR LOCATION, CFM AND SIZE
2. COLOR IS STANDARD WHITE

VENTILATION SCHEDULE BASED ON IMC 2018 (TYPICAL FOR ALL BUILDINGS)

SPACE VENTILATION REQUIREMENTS

ROOM	TYPE	SQFT	CFM / PERSON	VENTILATION/ SQFT	OCCUPANCY/ 1000 SF	OCCUPANCY	VENTILATION (AREA) CFM	VENTILATION (OCCUPANCY) CFM	Ez DISTRIBUTION EFFECTIVENESS	TOTAL VENTILATION REQUIRED CFM	TOTAL DESIGNED VENTILATION CFM	EXHAUST REQUIRED CFM / SF (CFM/ FIXTURE)	EXHAUST CFM REQUIRED
DAYROOM 1	CORRECTIONAL FACILITY-DAYROOM	849	5.00	0.06	20	12	51	60	0.8	125	145	0	0
DORMATORY 2	CORRECTIONAL FACILITY-CELL	1774	5.00	0.12	20	26	213	130	0.8	429	429	0	0
104-A SHOWER/TOILET	SHOWER/TOILET	229	0.00	0.00	-	-	0	0	0.8	0	0	(50)	250
107-A SHOWER/TOILET	SHOWER/TOILET	229	0.00	0.00	-	-	0	0	0.8	0	0	(50)	250
DORMATORY 2	CORRECTIONAL FACILITY-CELL	1744	5.00	0.12	20	26	213	130	0.8	429	429	0	0
DAYROOM 2	CORRECTIONAL FACILITY-DAYROOM	851	5.00	0.06	20	12	51	60	0.8	125	145	0	0
110-A CORRIDOR	CORRIDOR	503	0.00	0.06	-	-	27	0	0.8	34	34	0	0
DAYROOM 3	CORRECTIONAL FACILITY-DAYROOM	850	5.00	0.06	20	12	51	60	0.8	125	145	0	0
DORMATORY 3	CORRECTIONAL FACILITY-CELL	1744	5.00	0.12	20	26	213	130	0.8	395	395	0	0
DORMATORY 4	CORRECTIONAL FACILITY-CELL	1757	5.00	0.12	20	26	211	130	0.8	429	429	0	0
DAYROOM 4	CORRECTIONAL FACILITY-DAYROOM	850	5.00	0.06	20	12	51	60	0.8	125	145	0	0
129-A CORRIDOR	CORRIDOR	457	0.00	0.06	-	-	27	0	0.8	34	34	0	0
120-A SHOWER/TOILET	SHOWER/TOILET	229	0.00	0.00	-	-	0	0	0.8	0	0	(50)	250
121-A SHOWER/TOILET	SHOWER/TOILET	229	0.00	0.00	-	-	0	0	0.8	0	0	(50)	250
131-A CIRCULATION	CORRIDOR	457	0.00	0.06	-	-	27	0	0.8	34	34	0	0
132-A CIRCULATION	CORRIDOR	500	0.00	0.06	-	-	30	0	0.8	37	37	0	0
TOTAL:		13252					1165	760		2321	2401		1000

FAN SCHEDULE

TAG	SERVICE	SERVES	AREA SERVED	FAN TYPE	WHEEL TYPE	DRIVE TYPE	NEW AIRFLOW (CFM)	S.P. (IN. W.G.)	FAN RPM	NC dBA	MOTOR DATA			MANUF.	MODEL	STANDARD CURB SIZE	NOTES
											HP OR (W)	RPM	VOLTS/ PHASE/ HERTZ				
EF-3-A	RELIEF AIR IN ECONOMIZER MODE	AHU-3-A	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-4-A	RELIEF AIR IN ECONOMIZER MODE	AHU-4-A	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-5-A	RELIEF AIR IN ECONOMIZER MODE	AHU-1-A	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-6-A	RELIEF AIR IN ECONOMIZER MODE	AHU-2-A	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-3-B	RELIEF AIR IN ECONOMIZER MODE	AHU-2-B	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-4-B	RELIEF AIR IN ECONOMIZER MODE	AHU-1-B	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-5-B	RELIEF AIR IN ECONOMIZER MODE	AHU-4-B	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-6-B	RELIEF AIR IN ECONOMIZER MODE	AHU-3-B	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-3-C	RELIEF AIR IN ECONOMIZER MODE	AHU-2-C	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-4-C	RELIEF AIR IN ECONOMIZER MODE	AHU-1-C	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-5-C	RELIEF AIR IN ECONOMIZER MODE	AHU-4-C	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-6-C	RELIEF AIR IN ECONOMIZER MODE	AHU-3-C	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-3-D	RELIEF AIR IN ECONOMIZER MODE	AHU-1-D	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-4-D	RELIEF AIR IN ECONOMIZER MODE	AHU-2-D	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-5-D	RELIEF AIR IN ECONOMIZER MODE	AHU-3-D	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-6-D	RELIEF AIR IN ECONOMIZER MODE	AHU-4-D	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-3-E	RELIEF AIR IN ECONOMIZER MODE	AHU-2-E	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-4-E	RELIEF AIR IN ECONOMIZER MODE	AHU-1-E	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-5-E	RELIEF AIR IN ECONOMIZER MODE	AHU-4-E	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-6-E	RELIEF AIR IN ECONOMIZER MODE	AHU-3-E	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-3-F	RELIEF AIR IN ECONOMIZER MODE	AHU-4-F	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-4-F	RELIEF AIR IN ECONOMIZER MODE	AHU-1-F	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2100	0.25	1240	62	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-5-F	RELIEF AIR IN ECONOMIZER MODE	AHU-2-F	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4
EF-6-F	RELIEF AIR IN ECONOMIZER MODE	AHU-3-F	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	BACKWARD INCLINED	BELT	2165	0.25	1273	63	1/2	1725	120/1/60	GREENHECK	GB-140-5	22X22	1-4

NOTES: 1. NEW DISCONNECT SWITCH
2. NEW MOTOR STARTER
3. GALVANIZED BIRDSCREEN
4. CONTRACTOR SHALL CONFIRM FIT OF NEW FANS TO EXISTING CURBS, AND PROVIDE CURB ADAPTERS AS REQUIRED.

EXISTING FAN SCHEDULE (FOR AIRFLOW BALANCING)

TAG	SERVICE	SERVES	AREA SERVED	FAN TYPE	AIRFLOW (CFM)	FAN RPM	MOTOR DATA		MANUF.	MODEL
							HP	V/PH		
EF-7-A	SMOKE PURGE	AHU-3-A	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-8-A	SMOKE PURGE	AHU-4-A	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-9-A	SMOKE PURGE	AHU-1-A	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-10-A	SMOKE PURGE	AHU-2-A	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-7-B	SMOKE PURGE	AHU-2-B	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-8-B	SMOKE PURGE	AHU-1-B	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-9-B	SMOKE PURGE	AHU-4-B	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-10-B	SMOKE PURGE	AHU-3-B	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-7-C	SMOKE PURGE	AHU-2-C	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-8-C	SMOKE PURGE	AHU-1-C	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-9-C	SMOKE PURGE	AHU-4-C	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-10-C	SMOKE PURGE	AHU-3-C	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-7-D	SMOKE PURGE	AHU-1-D	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-8-D	SMOKE PURGE	AHU-2-D	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-9-D	SMOKE PURGE	AHU-3-D	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-10-D	SMOKE PURGE	AHU-4-D	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-7-E	SMOKE PURGE	AHU-2-E	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-8-E	SMOKE PURGE	AHU-1-E	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-9-E	SMOKE PURGE	AHU-4-E	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-10-E	SMOKE PURGE	AHU-3-E	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-7-F	SMOKE PURGE	AHU-4-F	DORMITORY/DAYROOM 4	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-8-F	SMOKE PURGE	AHU-1-F	DORMITORY/DAYROOM 1	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-9-F	SMOKE PURGE	AHU-2-F	DORMITORY/DAYROOM 2	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15
EF-10-F	SMOKE PURGE	AHU-3-F	DORMITORY/DAYROOM 3	CENTRIFUGAL ROOF	8000	600	1.5	460/3	GREENHECK	GB-300-15

REV.NO.	DESCRIPTION	DATE

REVISIONS

SEAL 019692
MITCHELL A. BROWN
5/30/23

MCKIM&CREED
Venture IV Building, Suite 500
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Phone: (919) 233-8091, Fax: (919) 233-8031
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www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

MECHANICAL - SCHEDULES

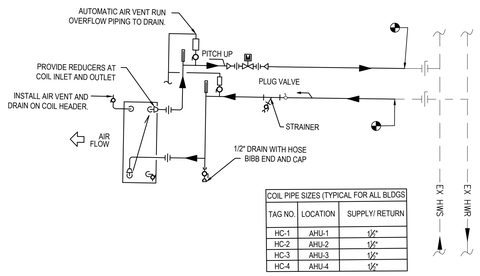
PROJ. START DATE: 2023-05-30
MCE PROJ. # 08914-0003
DRAWN EIK
DESIGNED EIK
CHECKED MAB
PROJ. MGR. MAB

SCALE
HORIZONTAL: NTS
VERTICAL: NTS

M601
DRAWING NUMBER

#
REVISION

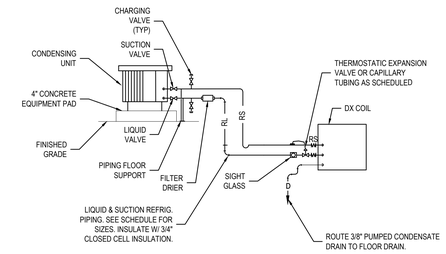
STATUS: **BID DOCUMENTS**



COIL PIPE SIZES (TYPICAL FOR ALL BLDGS)		
TAG NO.	LOCATION	SUPPLY/ RETURN
HC-1	AHU-1	1½"
HC-2	AHU-2	1½"
HC-3	AHU-3	1½"
HC-4	AHU-4	1½"

NOT TO SCALE

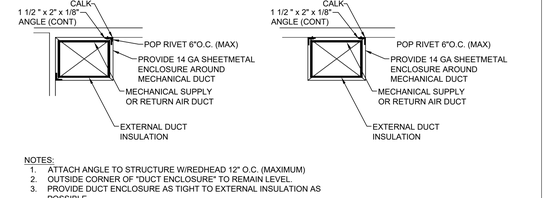
1 HOT WATER COIL PIPING CONNECTION



NOTE: FURNISH AND INSTALL LIQUID LINE SOLENOID VALVES AT THE COIL AND CONDENSER ALL REFRIG. PIPING SHALL BE VERIFIED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AT NO ADDITIONAL COST.

NOT TO SCALE

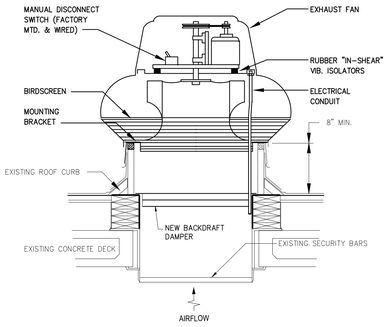
2 DX PIPING DIAGRAM



NOTES:
1. ATTACH ANGLE TO STRUCTURE W/REDHEAD 12" O.C. (MAXIMUM)
2. OUTSIDE CORNER OF "DUCT ENCLOSURE" TO REMAIN LEVEL.
3. PROVIDE DUCT ENCLOSURE AS TIGHT TO EXTERNAL INSULATION AS POSSIBLE.

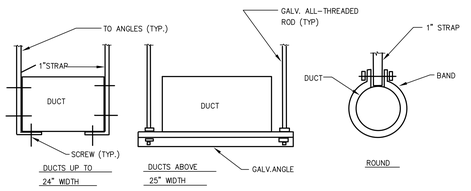
NOT TO SCALE

3 DUCT MOUNTED DETAIL - CELL AREA



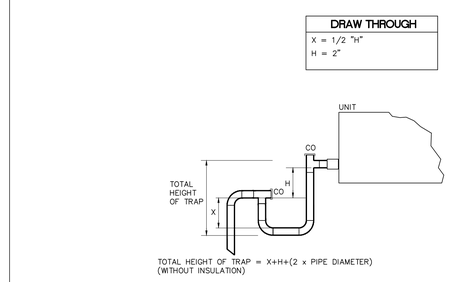
NOT TO SCALE

4 ROOF MOUNTED DAYROOM EXHAUST FAN



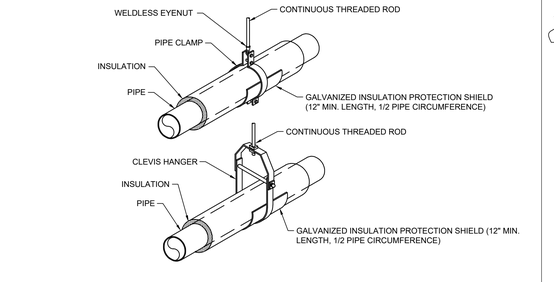
NOT TO SCALE

5 TYPICAL DUCT HANGERS



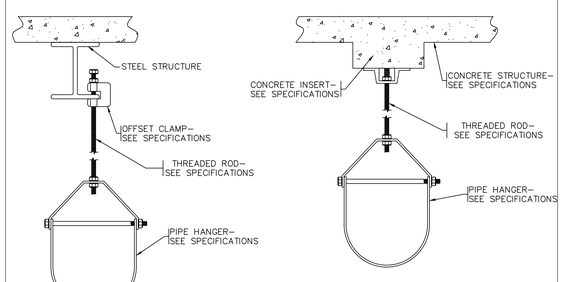
NOT TO SCALE

6 CONDENSATE TRAP



NOT TO SCALE

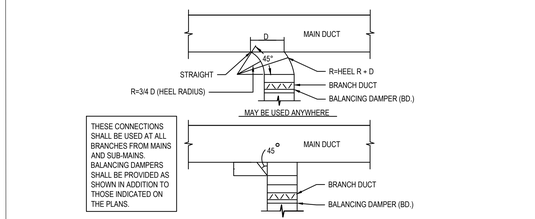
7 TYPICAL PIPE SUPPORTS



SEE SPECIFICATIONS FOR SEISMIC REQUIREMENTS.

NOT TO SCALE

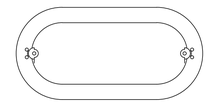
8 HANGER DETAILS



NOT TO SCALE

9 DUCT BRANCH TAKE-OFF

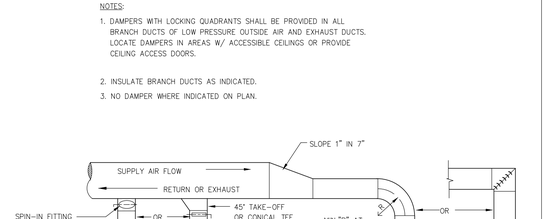
DUCT SIZE	MINIMUM DOOR SIZE	MAXIMUM LEAKAGE
< 18"	12" x 6"	0.064 CFM
18" TO 28"	18" x 10"	0.133 CFM
> 28"	21" x 14"	0.206 CFM
BODY ACCESS	25" x 17"	0.286 CFM



NOTES:
1. FIELD INSPECT EACH ACCESS DOOR LOCATION AND PROVIDE THE MAXIMUM SIZE AND SHAPE PRACTICAL.
2. ACCESS PANELS/DOORS SHALL BE FLAT OVAL INSULATED (1" THICK) AND SHALL BE SMACNA TYPE MANUFACTURED BY NAILOR MODEL NO. 0800 TYPE M1 DOUBLE FLANGE FRAME OR EQUAL.
3. KNOCK-OVER TAB FRAMES ARE NOT PERMITTED.
4. ACCESS DOORS SHALL ONLY BE PROVIDED IN THE MECHANICAL EQUIPMENT ROOMS.

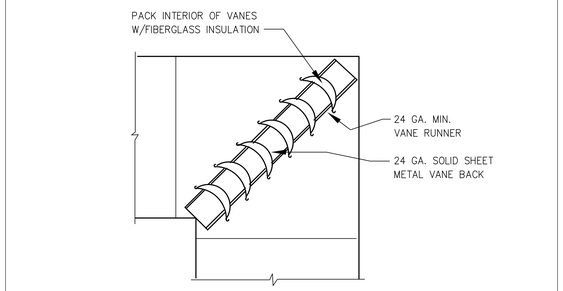
NOT TO SCALE

10 ACCESS DOOR



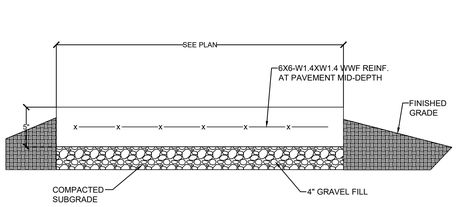
NOT TO SCALE

11 LOW PRESSURE OUTSIDE AIR OR EXHAUST DUCTWORK



NOT TO SCALE

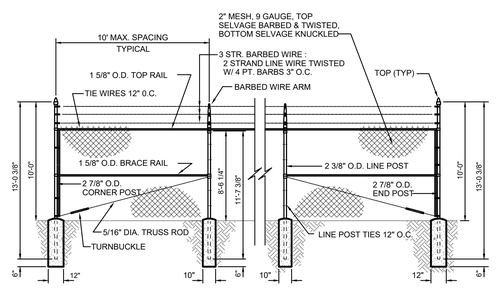
12 ACOUSTICAL TURNING VANE DETAIL



NOTES:
1. PROVIDE HAND TOOLED TRANSVERSE & LONGITUDINAL CONTRACTION JOINTS @ 5'-0" O.C. MAX., 3/8" EXPANSION JOINTS @ 25'-0" O.C. MAX.
2. ALL CONCRETE SHALL BE 3,000 PSI (MIN)

NOT TO SCALE

13 CONCRETE WALK



NOTE: ALL FENCE POSTS BELOW GRADE SHALL BE ENCASED IN 3,000 PSI (MIN) CONCRETE.

NOT TO SCALE

14 CHAIN LINK FENCE

15

16

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 019692 ENGINEER MITCHELL A. BOHN 5/30/23

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Venture IV Building, Suite 500
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www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

MECHANICAL - DETAILS

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	EIK
DESIGNED	EIK
CHECKED	MIB
PROJ. MGR.	MIB

SCALE
HORIZONTAL:
VERTICAL:

M701
DRAWING NUMBER
REVISION

STATUS: **BID DOCUMENTS**

WIRING AND RACEWAY

⌒ – – –	SOLID LINES INDICATE CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILINGS, EXPOSED IN UNFINISHED AREAS. DASHED LINES INDICATE CONDUIT RUN BELOW GRADE OR BELOW FINISHED FLOOR. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.
◄—	HOMERUN TO PANELBOARD. QUANTITY OF ARROWS INDICATES NUMBER OF CIRCUITS.
⊙	GROUND ROD. SIZE AS SPECIFIED.
—]	CONDUIT WITH BUSHING AND CAP.
—+⊬	HAZARDOUS LOCATION CONDUIT SEAL-OFF.
—○	CONDUIT TURNED UP.
—●	CONDUIT TURNED DOWN.
▮▯▮▯▮	SURFACE METAL RACEWAY, MOUNTING AND CONFIGURATION AS SPECIFIED.

LIGHTING

⊡ ○ ▭ ▭ ⊢○ ▭	SURFACE, RECESSED, OR WALL MOUNTED LIGHTING LUMINAIRE CONNECTED TO NORMAL BRANCH CIRCUIT. SEE LIGHTING LUMINAIRE SCHEDULE FOR EXACT REQUIREMENTS.
▨ ◍ ▨ ▨ ⊢◍ ▨	SURFACE, RECESSED, OR WALL MOUNTED LIGHTING FIXTURE CONNECTED TO LIFE SAFETY BRANCH CIRCUIT. LETTER INDICATES TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS.
▼ ▼	TRACK LIGHTING FIXTURE, NUMBER OF HEADS AS SPECIFIED. LETTER INDICATES TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS.
⊗ ↑⊗↑	CEILING MOUNTED EXIT SIGN, SHADED AREA INDICATES FACE WITH DIRECTIONAL ARROWS AS SHOWN. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS. CONNECT UNSWITCHED TO INDICATED BRANCH CIRCUIT.
⊢⊗ ⊢⊗	WALL MOUNTED EXIT SIGN, SHADED AREA INDICATES FACE WITH DIRECTIONAL ARROWS AS SHOWN. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS. CONNECT UNSWITCHED TO INDICATED BRANCH CIRCUIT.
▽	BATTERY POWERED REMOTE EMERGENCY LIGHTING HEAD. MOUNTING AS INDICATED.
▽▽	EMERGENCY BATTERY PACK UNIT WITH NUMBER OF LAMPS AS INDICATED. LETTER (WHERE SHOWN) INDICATES TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS. CONNECT UNSWITCHED TO INDICATED BRANCH CIRCUIT.
●—□	EXTERIOR POLE-MOUNTED LIGHTING FIXTURE. LETTER INDICATES TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS.
□—●—□	EXTERIOR POLE-MOUNTED LIGHTING FIXTURE WITH NUMBER OF LUMINAIRES AS INDICATED. LETTER INDICATES TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS.
●—◀	GRADE MOUNTED FLOODLIGHT. LETTER INDICATES TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR EXACT REQUIREMENTS.
OS	nLIGHT DUAL TECHNOLOGY OCCUPANCY SENSOR. nCM-PDT-9 (PROVIDED BUILT INTO FIXTURE WHERE SPECIFIED, SEE SCHEDULE)
DC	nLIGHT AUTOMATIC DIMMING CONTROL PHOTOCELL. nCM-ADCX (PROVIDED BUILT INTO FIXTURE WHERE SPECIFIED, SEE SCHEDULE)
S	LINE VOLTAGE TOGGLE SWITCH.
S_3	LINE VOLTAGE THREE-WAY TOGGLE SWITCH.
S_{OS}	LINE VOLTAGE DUAL TECHNOLOGY WALL MOUNTED OCCUPANCY SENSOR. SENSOR SWITCH WSD PDT SA WH, OR EQUAL BY HUBBELL, CRESTRON, OR WATTSOPPER.
S_{OSLV}	LOW VOLTAGE ON/OFF RAISE LOWER DUAL TECHNOLOGY WALLPOD OCCUPANCY SENSOR;nLIGHT nWSX PDT LV DX, OR APPROVED EQUAL BY HUBBELL, CRESTRON, OR WATTSTOPPER.
S_{LV}	LOW VOLTAGE ON/OFF WALLPOD; nLIGHT nPODM , OR APPROVED EQUAL BY HUBBELL, CRESTRON, OR WATTSTOPPER.
S_{LV1}	LOW VOLTAGE ON/OFF RAISE LOWER WALLPOD; nLIGHT nPODM DX, OR APPROVED EQUAL BY HUBBELL, CRESTRON, OR WATTSTOPPER.
S_{LV2}	LOW VOLTAGE ON/OFF MASTER RAISE LOWER 2-CHANNEL WALLPOD;nLIGHT nPODM 2P DX, OR APPROVED EQUAL BY HUBBELL, CRESTRON, OR WATTSTOPPER.
S_{LV4}	LOW VOLTAGE ON/OFF MASTER RAISE LOWER 4-CHANNEL WALLPOD;nLIGHT nPODM 4P DX, OR APPROVED EQUAL BY HUBBELL, CRESTRON, OR WATTSTOPPER.
S_{LVS}	LOW VOLTAGE ON/OFF MASTER RAISE LOWER 4-SCENE WALLPOD;nLIGHT nPODM 4S DX, OR APPROVED EQUAL BY HUBBELL, CRESTRON, OR WATTSTOPPER.
PP	POWER PACK (RELAY WITH 0-10V DIMMING);nLIGHT nPP16D, OR APPROVED EQUAL BY HUBBELL, CRESTRON, OR WATTSTOPPER.

POWER

1H1	480/277 VOLT PANELBOARD, FLUSH AND SURFACE MOUNTED RESPECTIVELY. DESIGNATION AS INDICATED. SEE PANELBOARD SCHEDULE FOR EXACT REQUIREMENTS.
1L1	208Y/120 OR 120/240 VOLT PANELBOARD, FLUSH AND SURFACE MOUNTED RESPECTIVELY. SEE PANEL SCHEDULE FOR DESIGN INFORMATION. DESIGNATION AS INDICATED.
⊠	MAGNETIC MOTOR STARTER, FVNR UNLESS OTHERWISE INDICATED. SUBSCRIPT INDICATES NEMA SIZE. SUBSCRIPT WP INDICATES IN NEMA 3R ENCLOSURE.
⍁	MANUAL MOTOR STARTER MOUNTED 46-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS. SUBSCRIPT WP INDICATES IN NEMA 3R ENCLOSURE.
⊠┐	COMBINATION MAGNETIC MOTOR STARTER, FVNR UNLESS OTHERWISE INDICATED. SUBSCRIPT INDICATES NEMA SIZE. SUBSCRIPT WP INDICATES IN NEMA 3R ENCLOSURE.
F┐	FUSED SAFETY SWITCH, SIZE AND NUMBER OF POLES AS INDICATED BY SUBSCRIPTS PROVIDE FUSES PER NAMEPLATE OF EQUIPMENT SERVED UNLESS OTHERWISE INDICATED. SUBSCRIPT WP INDICATES IN NEMA 3R ENCLOSURE.
□┐	NON-FUSED SAFETY SWITCH, SIZE AND NUMBER OF POLES AS INDICATED BY SUBSCRIPTS. SUBSCRIPT WP INDICATES IN NEMA 3R ENCLOSURE.
⌀	MOTOR CONNECTION.
⊡	ELECTRIC PUSH BUTTON IN FLUSH OUTLET BOX WHEN SHOWN IN FINISHED WALLS. MOUNT 46-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS. PROVIDED BY DOOR OPERATED VENDOR.
PC	PHOTOCELL, MOUNTING REQUIREMENTS AS INDICATED.
=⊖	125 VOLT, 3 WIRE DUPLEX RECEPTACLE IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 18-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
=●	125 VOLT, 3 WIRE DUPLEX RECEPTACLE IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 46" ABOVE FINISHED FLOOR, 4" ABOVE DESK/COUNTERTOP, OR 2" ABOVE BACKSPLASH UNLESS OTHERWISE INDICATED.
=◒	125 VOLT, 3 WIRE DUPLEX RECEPTACLE WITH ONE SIDE SWITCHED. INSTALL IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 18-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
=⊖⊖	TWO 125 VOLT, 3 WIRE DUPLEX RECEPTACLE IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 18-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
=●●	TWO 125 VOLT, 3 WIRE DUPLEX RECEPTACLE IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 46" ABOVE FINISHED FLOOR, 4" ABOVE DESK/COUNTERTOP, OR 2" ABOVE BACKSPLASH UNLESS OTHERWISE INDICATED.
=●●$_E$ =●$_E$ =⊖⊖$_E$ =⊖$_E$	RECEPTACLE CONNECTED TO EMERGENCY BRANCH CIRCUIT. PROVIDE WITH RED FACE UNLESS OTHERWISE INDICATED. MOUNTING AS INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
=●●$_{SP}$ =●$_{SP}$ =⊖⊖$_{SP}$ =⊖$_{SP}$	125 VOLT, 3 WIRE DUPLEX SURGE PROTECTOR TYPE RECEPTACLE. MOUNTING AS INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
=●●$_{GF}$ =●$_{GF}$ =⊖⊖$_{GF}$ =⊖$_{GF}$	125 VOLT, 3 WIRE GROUND FAULT TYPE DUPLEX RECEPTACLE. MOUNTING AS INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
=●●$_{IG}$ =●$_{IG}$ =⊖⊖$_{IG}$ =⊖$_{IG}$	125 VOLT, 3 WIRE DUPLEX ISOLATED GROUND TYPE RECEPTACLE. MOUNTING AS INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
=●●$_{WP}$ =●$_{WP}$ =⊖⊖$_{WP}$ =⊖$_{WP}$	125 VOLT, 3 WIRE GROUND FAULT TYPE RECEPTACLE WITH WHILE-IN-USE DIE-CAST WEATHERPROOF COVER. MOUNTING AS INDICATED. HUBBELL METALLIC EXTRA DUTY OR EQUIVALENT.
=●●$_S$ =●$_S$ =⊖⊖$_S$ =⊖$_S$	125 VOLT, 3 WIRE SAFETY TYPE RECEPTACLE. MOUNTING AS INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
=●●$_{EP}$ =●$_{EP}$ =⊖⊖$_{EP}$ =⊖$_{EP}$	125 VOLT, 3 WIRE HAZARDOUS LOCATION TYPE RECEPTACLE. MOUNTING AS INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
=●●$_U$ =●$_U$ =⊖⊖$_U$ =⊖$_U$	125 VOLT, 3 WIRE DUPLEX RECEPTACLE CONNECTED TO UPS CIRCUIT. MOUNTING AS INDICATED. HUBBELL 8200 SERIES OR EQUIVALENT.
–⊖	125 VOLT, 3 WIRE SINGLE RECEPTACLE IN FLUSH (FINISHED SPACES) OR SURFACE (UNFINISHED SPACES) OUTLET BOX. MOUNT 18-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. SUBSCRIPT "C" INDICATES CLOCK HANGER MOUNTED 12" BELOW CLG.
⦶	125 VOLT, 3 WIRE DUPLEX RECEPTACLE IN FLUSH, FLOOR-MOUNTED OUTLET BOX.
⦶	125 VOLT, 3 WIRE DUPLEX RECEPTACLE N FLUSH, CEILING-MOUNTED OUTLET BOX.
▲	SPECIAL EQUIPMENT CONNECTION. SUBSCRIPT INDICATES DESIGNATION. SEE EQUIPMENT CONNECTION SCHEDULE FOR EXACT REQUIREMENTS.
Ⓙ	JUNCTION BOX MOUNTED ABOVE CEILING OR FLUSH IN FINISHED CEILING UNLESS INDICATED OTHERWISE. SIZE PER NEC.
J	FLUSH WITH COVER JUNCTION BOX IN FINISHED FLOOR. SIZE PER NEC.
Ⓙ⊣	WALL MOUNTED JUNCTION BOX, SIZE PER NEC OR AS INDICATED. MOUNTING HEIGHT AS INDICATED. MOUNT FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES UNLESS OTHERWISE INDICATED.

ABBREVIATIONS

A	AMPS	EX	EXISTING
AFF	ABOVE FINISHED FLOOR	GF	GROUND FAULT INTERRUPTER
AFG	ABOVE FINISHED GRADE	HID	HIGH INTENSITY DISCHARGE
AFC	ABOVE FINISHED CEILING	LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS, AND GROUND
AIC	AMPS INTERRUPTING CAPACITY	MIN	MINIMUM
C	CONDUIT	MLO	MAIN LUGS ONLY
CL	CEILING	MCB	MAIN CIRCUIT BREAKER
EC	EMPTY CONDUIT	NIC	NOT IN CONTRACT
ECB	ENCLOSED CIRCUIT BREAKER	NTS	NOT TO SCALE
EWC	ELECTRIC WATER COOLER	RM	EXISTING TO REMAIN

SPECIAL SYSTEMS

TC-1	COMMUNICATIONS SIGNAL CABINET, FLUSH AND SURFACE MOUNTED RESPECTIVELY. DESIGNATION AS INDICATED.
▨▨▨▨	3000 SERIES ALUMINUM RACEWAY WITH DUPLEX RECEPTACLES ON 24" CENTERS.
⧏	TELEPHONE OUTLET 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS. MOUNT FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES.
⧏●	TELEPHONE OUTLET MOUNTED 46-INCHES ABOVE FINISHED FLOOR, 6-INCHES ABOVE DESK/COUNTERTOP UNLESS OTHERWISE INDICATED. MOUNT FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES.
◀	FLUSH MOUNTED TELEPHONE OUTLET BOX WITH COVERPLATE IN FINISHED FLOOR.
|◁	DATA OUTLET 18-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS. MOUNT FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES.
|◁●	DATA OUTLET MOUNTED 46-INCHES ABOVE FINISHED FLOOR OR 6-INCHES ABOVE DESK/COUNTERTOP UNLESS OTHERWISE INDICATED. MOUNT FLUSH IN FINISHED SPACES AND SURFACE IN UNFINISHED SPACES.
◁	FLUSH MOUNTED DATA OUTLET IN FINISHED FLOOR.
|◭	COMBINATION TELEPHONE/DATA OUTLET 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED OR REQUIRED BY SITE CONDITIONS. MOUNT FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES. SUBSCRIPT, WHEN SHOWN, INDICATES NUMBER OF JACKS.
|◭●	COMBINATION TELEPHONE/DATA OUTLE MOUNTED 46"ABOVE FINISHED FLOOR OR 6" ABOVE DESK/COUNTERTOP UNLESS OTHERWISE INDICATED. MOUNT FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES. SUBSCRIPT, WHEN SHOWN, INDICATES NUMBER OF JACKS.
◁	WIRELESS ACCESS POINT.
◷⊣	SINGLE FACE SYSTEM TYPE WALL CLOCK MOUNTED 12-INCHES BELOW FINISHED CEILING UNLESS OTHERWISE INDICATED. SUBSCRIPT "A", WHEN SHOWN, INDICATES ANALOG TYPE. SUBSCRIPT "T", WHEN SHOWN INDICATES COUNTDOWN TIMER WITH CONTROL.
⊕⊣	SINGLE FACE SYSTEM TYPE WALL CLOCK MOUNTED 12-INCHES BELOW FINISHED CEILING UNLESS OTHERWISE INDICATED. SUBSCRIPT "A", WHEN SHOWN, INDICATES ANALOG TYPE. SUBSCRIPT "T", WHEN SHOWN, INDICATES COUNTDOWN TIMER WITH CONTROL.
IC	REMOTE INTERCOM STATION MOUNTED 46-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. SUBSCRIPT, WHEN SHOWN, INDICATES ZONE.
IM	MASTER INTERCOM STATION MOUNTED 46" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. SUBSCRIPT, WHEN SHOWN, INDICATES ZONE.
TV	FLUSH TELEVISION OUTLET MOUNTED 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED.
CR	FLUSH MOUNTED SECURITY SYSTEM CARD READER MOUNTED 46-INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED.
KP	FLUSH MOUNTED SECURITY SYSTEM DOOR ACCESS KEYPAD MOUNTED 46"ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. SUBSCRIPT, WHEN SHOWN, INDICATES SYSTEM.
DC	SECURITY SYSTEM DOOR CONTACTS. SUBSCRIPT, WHEN SHOWN, INDICATES ZONE.
MD	SECURITY SYSTEM MOTION SENSOR, SUBSCRIPT, WHEN SHOWN, INDICATES ZONE.
1	DEMOLITION PLAN NOTE. NOTE NUMBER AS INDICATED.
◇1	NEW WORK PLAN NOTE. NOTE NUMBER AS INDICATED.
123	ROOM NAME DESIGNATION
FACP	FIRE ALARM CONTROL PANEL
▭	PANELBOARD OR TERMINAL CABINET, FLUSH AND SURFACE MOUNTED RESPECTIVELY. DESIGNATION AS INDICATED.

GENERAL NOTES

A. ALL WORK SHALL BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL CODES AND THE NATIONAL ELECTRICAL CODE, LATEST EDITION, AND AMENDMENTS, IF ANY. AS A MINIMUM, ELECTRICAL CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED LICENSES, FEES, PERMITS, AND UTILITY CHARGES. BOTH ELECTRICAL CONTRACTOR AND INSTALLING MECHANIC ARE REMINDED THAT SINCE THE NATIONAL ELECTRICAL CODE IS BY STATUTORY INCLUSION A PART OF THE LAWS OF THE STATE THEY BEAR A PRIME RESPONSIBILITY TO COMPLY WITH IT EVEN WHEN THE DRAWINGS OR SPECIFICATIONS DENOTE AN APPARENT VIOLATION. THIS SHOULD BE OBSERVED CAREFULLY AND CONTINUOUSLY, PARTICULARLY DURING ESTIMATING FOR PROPOSAL, AND ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.

B. ELECTRICAL CONTRACTOR SHALL MAINTAIN ON THE SITE AN ADEQUATE ADMINISTRATIVE SPACE WHERE ONE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS SHALL BE KEPT FOR THE WORK OF ALL TRADES ON THE PROJECT. THESE SHALL BE IN ADDITION TO THE SETS USED BY THE MECHANICS IN CARRYING OUT THEIR WORK ON THE PROJECT. THE PROJECTED LOCATION OF EVERY OUTLET, RACEWAY, OR ITEM OF EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT SHALL BE CHECKED AGAINST THE DRAWINGS AND SPECIFICATIONS OF ALL THE OTHER TRADES AS WELL AS BY DAY-TO-DAY CONFERENCE WITH WORKMEN AND SUPERVISORS OF ALL OTHER TRADES TO THE END THAT ANY CONFLICTS OR UNCERTAINTIES ABOUT LOCATIONS ARE RESOLVED BEFORE WORK IS INSTALLED, PARTICULARLY WITH REGARD TO THE INTERACTION OF LIGHTING FIXTURES, AIR HANDLING OPENINGS, ACCESS DOORS, SPRINKLER HEADS, ETC. CEILING CONSTRUCTION INSTALLATION SHALL BE MADE IN ACCORD WITH REFLECTED CEILING PLANS AND/OR INSTRUCTIONS BY THE ARCHITECT'S REPRESENTATIVES ON THE SITE. MOVING OF ITEMS FROM LOCATIONS SHOWN, REROUTING, OR CHANGES TO ACCOMPLISH ANY WORK AS SHOWN ON PLANS OR SPECIFICATIONS IN ORDER TO ACCOMPLISH THIS COORDINATION SHALL NOT BE CAUSE FOR CLAIM FOR ADDITIONAL COMPENSATION FOR THE WORK. PARTICULAR CARE SHALL BE TAKEN TO LOCATE BOXES SO THEY ARE NOT BACK-TO-BACK IN WALLS AND TO LOCATE OUTLETS OFF COLUMNS (UNLESS VITAL THEY BE THERE) OR OTHER PLACES WHERE THEY CONFLICT WITH STRUCTURAL STEEL OR REINFORCING BARS. ALL WORK PUT IN PLACE OTHER THAN SHOWN ON THE DESIGN AND CONSTRUCTION DOCUMENTS, SHALL BE MARKED LEGIBLY ON A CLEAN SET OF "AS-BUILT" DRAWINGS AS THE WORK IS PRODUCED.

C. CONTRACTOR SHALL ALSO MAINTAIN AT THE SITE A COMPLETE SET OF ALL SHOP DRAWINGS, FIXTURE AND EQUIPMENT CUTS, MANUFACTURER'S WIRING DIAGRAMS AND INSTALLATION DATA. PERSONNEL SHALL STUDY THIS DATA BEFORE AND DURING INSTALLATION AND ROUGHING SO AS TO PREPARE FOR THE PROPER FIT AND FUNCTION UPON COMPLETION. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR AND BEAR CONTRACTORS STAMP OF APPROVAL BEFORE BEING FORWARDED TO THE ENGINEER. APPROVED SHOP DRAWINGS BY THE ENGINEER/DESIGNER SHALL NOT BE CONSTRUED AS TO RELIEVING THE CONTRACTOR FROM RESPONSIBILITY WITH THE DESIGN OR TERMS OF THE CONTRACT DOCUMENTS NOR FROM RESPONSIBILITY FOR ERRORS OF ANY SORT IN THE SHOP DRAWING.

D. COMPLETELY ADEQUATE HOUSING SHALL BE PROVIDED ON THE SITE FOR ORDERLY AND CAREFUL STORAGE OF ALL MATERIALS AND EQUIPMENT. NOTHING SHALL BE STORED OUTSIDE EXCEPT CONDUIT, WHICH MAY BE STORED IN RACKS SO IT IS AT LEAST 12 INCHES ABOVE GROUND AND NOT SUBJECT TO MUD BEING SPATTERED ON IT.

E. ATTENTION IS DIRECTED SPECIFICALLY TO CONTINUOUS QUALITY CONTROL TESTING.

F. ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABEL LISTED BY A NORTH CAROLINA APPROVED THIRD PARTY TESTING AGENCY.

G. ALL RACEWAYS SHALL BE METAL UNLESS SPECIFICALLY NOTED OR APPROVED OTHERWISE. ALL CIRCUITS SHALL BE IN RACEWAYS. CONCEAL ALL CABLE AND RACEWAYS IN FINISHED AREAS OF BUILDING. SET SCREW OR INDENTOR TYPE CONNECTOR OR COUPLING FITTINGS SHALL NOT BE PERMITTED. PROVIDE COMPRESSION GLAND TYPE FITTINGS MADE OF MALLEABLE, GALVANIZED, OR SHERARDIZED STEEL. POT-METAL OR CAST-TYPE FITTINGS SHALL NOT BE PERMITTED ON THIS PROJECT.

H. PENETRATIONS OF REQUIRED SMOKE TIGHT PARTITIONS SHALL BE SEALED USING METHODS APPROVED UNDER THE STATE BUILDING CODE. COORDINATION WITH THE OWNER AND ENGINEER SHALL BE MAINTAINED TO ENSURE THAT THIS SMOKE STOPPING IS ACCOMPLISHED.

I. WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE WALL, FLOOR, OR PARTITION FOR THE PURPOSE OF RUNNING RACEWAY CARRYING ELECTRICAL, TELEPHONE, TELEVISION, OR LOCAL COMMUNICATION AND/OR SIGNALING CIRCUITS, THE OPENING AROUND THE RACEWAY SHALL BE FIRE STOPPED PER THE STATE BUILDING CODE CHAPTER 7. COORDINATION WITH THE OWNER AND ENGINEER SHALL BE MAINTAINED TO ENSURE THAT THIS FIRE STOPPING IS ACCOMPLISHED. FIRE STOPPING OF PENETRATIONS IN RATED WALLS AND FLOORS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH NORTH CAROLINA STATE BUILDING CODE CHAPTER 7 USING APPROVED ASSEMBLIES SUCH AS THE FOLLOWING:

CONDUIT PENETRATIONS OF 1 OR 2 HOUR GYPBOARD WALLS - U.L.#WL1001
CONDUIT PENETRATIONS OF 1 OR 2 HOUR CONCRETE OR BLOCK WALLS - U.L.#CAJ5001
CONDUIT PENETRATIONS OF 1 OR 2 HOUR CONCRETE FLOORS - U.L.#CAJ5001

J. IN REQUIRED FIRE RATED WALLS AND PARTITIONS, OPENINGS FOR INSTALLATION OF BOXES THAT ARE GREATER THAN 16 SQUARE INCHES SHALL BE PROTECTED AS REQUIRED BY U.L. COORDINATE CLOSELY WITH THE OWNER AND ENGINEER TO ENSURE THE INTEGRITY OF THE U.L. RATING IS MAINTAINED. BOXES OF 16 SQUARE INCHES OR LESS SHALL BE INSTALLED IN ACCORDANCE WITH U.L. "FIRE RESISTANCE RATINGS - ANSI/UL263 (BXUV) FOR WALL AND PARTITION ASSEMBLIES."

K. CONDUCTORS SHALL BE COPPER WITH 75°C (THHN/THWN) MINIMUM INSULATION RUN IN CONDUIT, UNLESS OTHERWISE NOTED. ALL CONDUIT SHALL HAVE A GREEN GROUNDING CONDUCTOR.

L. BRANCH CIRCUIT WIRE SIZING SHALL BE IN ACCORD WITH THE FOLLOWING TABLE:

VOLTS	DISTANCE	HOME RUN	REMAINDER OF CIRCUIT
120/208	0' - 50'	#12	#12
	50' - 100'	#10	#12
	100' - 150'	#8	#10
277/480	0' - 125'	#12	#12
	125' - 220'	#10	#12
	220' - 330'	#8	#10

M. ALL CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:

277/480V, 3-PHASE, 4-WIRE		208/120V, 3-PHASE, 4-WIRE	
PHASE A	BROWN	PHASE A	BLACK
PHASE B	ORANGE	PHASE B	RED
PHASE C	YELLOW	PHASE C	BLUE
NEUTRAL	GRAY	NEUTRAL	WHITE

N. ALL CIRCUITS BEING MODIFIED SHALL BE PROVIDED WITH INDIVIDUAL NEUTRALS. NO MULTI-WIRE BRANCH CIRCUITS ARE ALLOWED.

O. ELECTRICAL CONTRACTOR SHALL VERIFY ALL VOLTAGES OF MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

P. CONNECTION LOCATIONS SHOWN ON ELECTRICAL PLANS ARE APPROXIMATE ONLY. REFER TO APPROVED EQUIPMENT/SHOP DRAWINGS FOR SPECIFIC LOCATIONS.

Q. MAKE ALL FINAL CONNECTIONS TO EACH PIECE OF EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

R. IN GENERAL, MOUNTING HEIGHTS OF OUTLETS, SWITCHES, ETC. ARE NOT NOTED ON THE PLAN DRAWINGS. SCHEDULES AND NOTES SPECIFY "STANDARD" MOUNTING HEIGHTS FOR THESE ITEMS. STUDY CAREFULLY ELEVATIONS OF ALL WALLS AND CABINET WORK AS SHOWN ON ARCHITECTURAL DRAWINGS AND FIT OUTLETS TO SPACE AND TO AVOID CONFLICTS. OUTLETS SHALL ALWAYS BE LOCATED ABOVE, AND NOT IN, BACKSPLASHES WHEREVER POSSIBLE.

COORDINATE OUTLET LOCATIONS WITH OTHER TRADES TO AVOID CONFLICTS. ANY CONFLICT THAT CANNOT BE RESOLVED ON THE JOB SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER PRIOR TO ROUGHING.

S. THE OWNER HAS THE RIGHT TO MOVE ANY AND ALL OUTLETS WITHIN 12 FEET OF THE LOCATIONS SHOWN ON THE DRAWINGS PRIOR TO THE CONTRACTOR STARTING THE ROUGH-IN FOR THE ROOM.

T. COLOR - COORDINATE WITH OWNER/ARCHITECT.

U. ALL WIRING LUGS THROUGHOUT THE PROJECT, INCLUDING BUT NOT LIMITED TO BREAKERS, PANELBOARD/SWITCHBOARD LUGS, SAFETY SWITCH LUGS, AND TRANSFORMER LUGS, SHALL BE RATED FOR USE WITH 75°C CONDUCTORS SIZED IN ACCORDANCE WITH NEC TABLE 310.15(B)(16).

V. PANELBOARDS SHALL BE DEAD FRONT SAFETY TYPE WITH SWITCHING AND PROTECTIVE DEVICES IN NUMBER, RATING, TYPE AND ARRANGEMENT SHOWN. PROVIDE WITH BOLT-IN MOLDED CASE CIRCUIT BREAKERS. PROVIDE "SWITCHING DUTY" RATED BREAKERS THAT CONTROL LIGHTING. PROVIDE NEMA TYPE 1 ENCLOSURE INDOOR AND NEMA 3R TYPE ENCLOSURES OUTDOOR, UNLESS SPECIFICALLY NOTED OTHERWISE. PANELBOARDS SHALL BE SQUARE-D, GENERAL ELECTRIC, WESTINGHOUSE, CUTLER-HAMMER, OR APPROVED EQUAL WITH NEUTRAL AND GROUND BAR.

W. ALL LIGHTING FIXTURES SHALL BE U.L. LISTED AND LABELED. LAMPS SHALL BE G.E., PHILLIPS/WESTINGHOUSE OR OSRAM/SYLVANIA. ALL FIXTURES SHALL BE EQUIPPED WITH LAMPS. ALL FIXTURES SHALL BE GROUNDED PER N.E.C.

X. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EMPTY CONDUITS WITH PULL STRING.

Y. ELECTRICAL CONTRACTOR SHALL PROVIDE PHENOLIC LABELS ON ALL NEW EQUIPMENT DISCONNECTING MEANS, OR ON THE EQUIPMENT ITSELF WHERE APPLICABLE. LABEL SHALL CLEARLY INDICATE PANEL AND CIRCUIT NUMBER EQUIPMENT IS FED FROM. PANEL SCHEDULES AND MCC SHALL ALSO BE LABELED TO INDICATE EQUIPMENT SERVED. ANY OWNER STANDARDS FOR LABELING SUPERCEDE THESE REQUIREMENTS.

Z. ALL SAFETY SWITCHES SHALL BE HEAVY-DUTY TYPE, NEMA 1 FOR INDOOR AND NEMA 3R FOR OUTDOOR UNLESS OTHERWISE NOTED. SAFETY SWITCHES SHALL BE FUSED OR NON-FUSED TYPE AS INDICATED. ALL FUSED DISCONNECT SWITCHES SHALL BE EQUIPPED WITH REJECTION CLIPS AS SPECIFIED BY THE MANUFACTURER. FUSED TYPE SHALL BE EQUIPPED WITH EITHER CLASS "RK1", "RK5" OR "J" FUSES AS INDICATED

DEMOLITION NOTES

1. CONTRACTOR SHALL REMOVE ALL LIGHTING FIXTURES, FIRE ALARM DEVICES, AND ASSOCIATED WIRING AND CONDUIT WITHIN THE AREA TO BE DEMOLISHED OR AS REQUIRED TO FACILITATE NEW CONSTRUCTION. WIRING AND CONDUIT SHALL BE REMOVED BACK TO SOURCE. AT ELECTRIC PANELS, REMOVE CONDUCTORS COMPLETELY AND REMOVE CONDUIT BACK TO CEILING SPACE DIRECTLY ABOVE PANEL AND CAP. ABANDONED CIRCUIT BREAKERS SHALL BE TURNED OFF AND LABELED AS SPARE. CONDUIT /RACEWAYS THAT ARE TO BE REUSED FOR THIS MODIFICATION MAY REMAIN IF FOUND TO BE EQUAL TO NEW INSTALLATION. AFFECTED WIRING TO REMOVED/DEMO'ED DEVICES, FIXTURES, ETC. SHALL BE REMOVED BACK TO ELECT. PANEL AND REPLACED WITH NEW WIRE TO FEED NEW DEVICES, FIXTURES, ETC.
2. EXISTING DEVICES TO REMAIN SHALL BE RE-FED AS REQUIRED TO MAINTAIN OPERATION.
3. COORDINATE REMOVAL AND FINAL DISPOSITION OF EQUIPMENT WITH OWNER.
4. ALL ABANDONED FLUSH JUNCTION BOXES SHALL HAVE BLANK STAINLESS STEEL COVERS INSTALLED.
5. ITEMS REMOVED WITHIN DEMOLITION AREA THAT ARE PART OF BUT NOT LIMITED TO FIRE ALARM, LIGHTING, POWER DISTRIBUTION, GENERATOR, SECURITY OR COMMUNICATIONS SHALL BE TURNED OVER TO OWNER OR DISPOSED OF, AS DIRECTED BY OWNER.
6. REMOVE ALL CONDUIT, WIRING, DEVICES, LIGHTING FIXTURES, EQUIPMENT AND ANY OTHER ELECTRICAL APPURTENANCES RENDERED USELESS OR ABANDONED DUE TO CONSTRUCTION. REMOVAL OF ABANDONED AND USELESS WIRING SHALL BE BACK TO THE SOURCE, EVEN IF OUTSIDE LIMITS OF CONSTRUCTION.
7. CONTRACTOR SHALL MAINTAIN THE CIRCUITS THAT ARE RUNNING THROUGH THE AREA BEING DEMOLISHED AND THE AREA OF NEW CONSTRUCTION.
8. AN ATTEMPT HAS BEEN MADE TO SHOW WITH HATCHING THE LIGHT FIXTURES, FIRE ALARM DEVICES AND OTHER MISC. DEVICES SHOWN IN THE DEMOLITION LEGEND LOCATED IN THE AFFECTED AREAS THAT ARE TO BE REMOVED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL ITEMS SHOWN. OTHER SYSTEMS AND SYSTEM DEVICES (FOR EXAMPLE SPEAKERS) ARE NOT TO BE REMOVED AND ARE TO BE REINSTALLED AS REQUIRED UNLESS NOTED OTHERWISE.

REV.NO.	DESCRIPTION	DATE
-	----	----

REVISIONS

SEAL
053121
5/30/23
JESSE C. ALONZO JR.

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL GENERAL NOTES AND SYMBOL LEGEND

PROJ. START DATE: 2023-05-30
MCE PROJ. #: 08914-0003
DRAWN: OWN
DESIGNED: OWN
CHECKED: JCA
PROJ. MGR.: MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E001
DRAWING NUMBER
0
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E001.DWG 06/02/2023 11:41:45 OMAR NAHHAS

GENERAL NOTE:

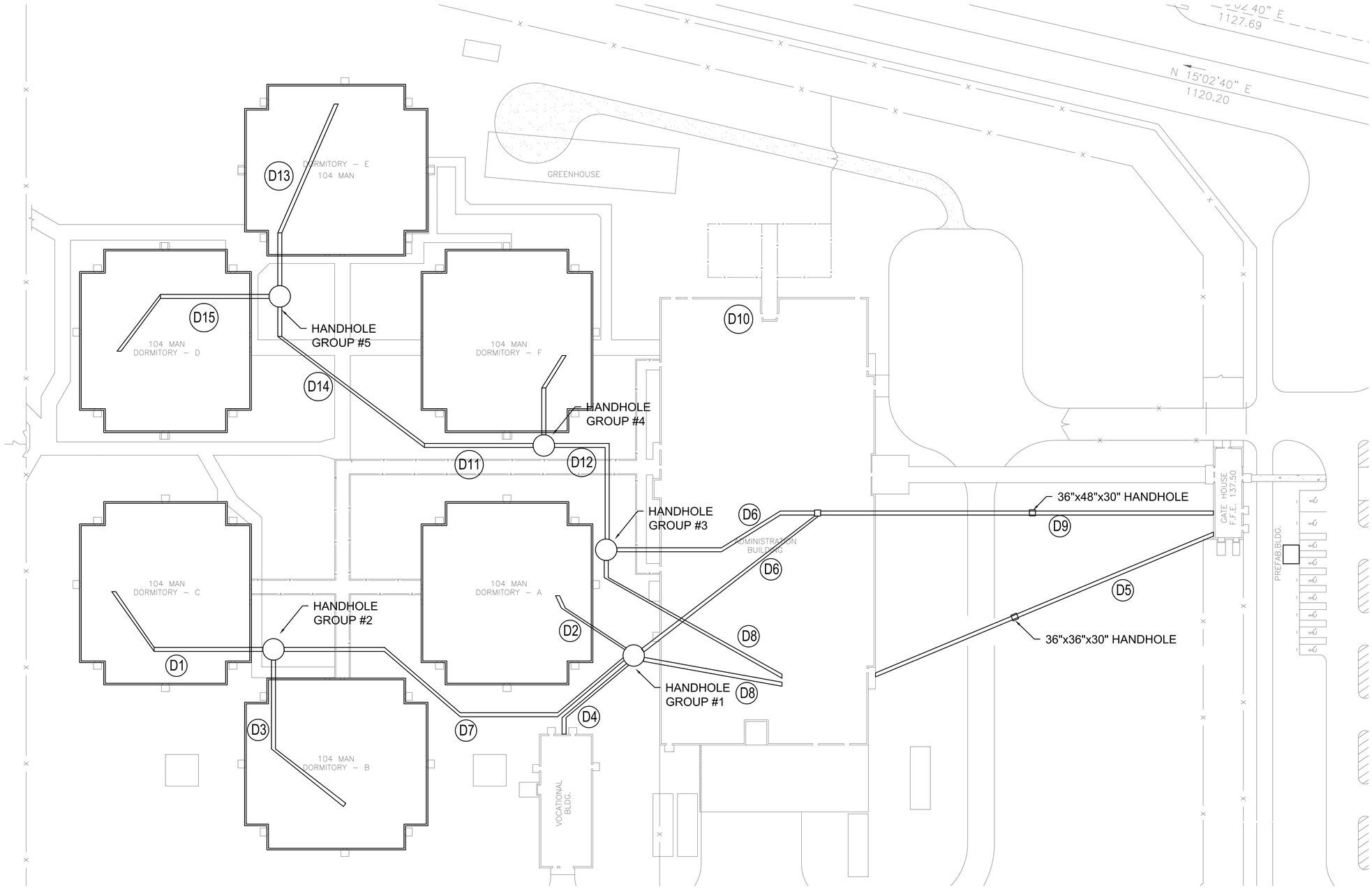
1. REFER TO ES102 FOR DUCT-BANK SCHEDULES.
2. LOCATIONS OF EXISTING UNDERGROUND ELECTRICAL RACEWAYS AND MANHOLES ARE APPROXIMATE BASED ON RECORD DRAWINGS. ELECTRICAL CONTRACTOR SHALL TRACE AND LOCATE ALL EXISTING UNDERGROUND ELECTRICAL RACEWAYS AND MANHOLES PRIOR TO WORK.
3. CONTRACTOR SHALL TRACE AND LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO UNDERGROUND WORK.

GENERAL DEMOLITION NOTES:

1. CONTRACTOR SHALL DEMOLISH CONDUCTORS ORIGINATING FROM PANEL HDP IN THE ADMIN BUILDING MECHANICAL ROOM TO THE PANEL "H" OF EACH DORM ELECTRICAL ROOM. CONTRACTOR SHALL PREPARE EACH EXISTING 3" CONDUIT AND DUCTBANK FOR REUSE. SEE DUCTBANK SCHEDULE ABOVE AND RISER DIAGRAM ON E501.

GENERAL NEW WORK NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL NEW CONDUCTORS ORIGINATING FROM NEW PANEL HDP IN THE ADMIN BUILDING MECHANICAL ROOM TO THE NEW PANEL "H" OF EACH DORM ELECTRICAL ROOM. CONTRACTOR SHALL UTILIZE EXISTING 3" CONDUITS AND DUCTBANK PATH. SEE DUCTBANK SCHEDULES ON ES102 AND RISER DIAGRAM ON E501.



North 1 E101 **ELECTRICAL SITE PLAN**
Scale: 1" = 50'-0"

REV. NO.	DESCRIPTION	DATE
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REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 05121 ENGINEER JOSE C. ALONSO JR.

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112
ELECTRICAL
ELECTRICAL SITE PLAN

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

ES101
DRAWING NUMBER
0
REVISION

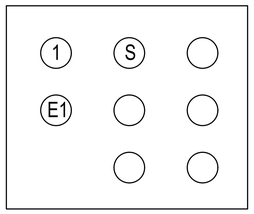
STATUS: BID DOCUMENTS

MODIFIED DUCT-BANK SCHEDULE NORMAL POWER

CONDUIT	FROM	TO	CONDUIT SIZE CONDUCTOR SIZE	REMARKS
1	HDP	HC	3"C (4-#300)	DORM C NORMAL POWER
2	HDP	HA	3"C (4-#300)	DORM A NORMAL POWER
3	HDP	HB	3"C (4-#300)	DORM B NORMAL POWER
4	HDP	HV	3"C EX. (4-#1/0)	VOCA. BLDG NORMAL POWER
5	HDP	HD	3"C (4-#300)	DORM D NORMAL POWER
6	HDP	HF	3"C (4-#300)	DORM F NORMAL POWER
7	HDP	HE	3"C (4-#300)	DORM E NORMAL POWER
S	-	-	3"C	SPARE

EXISTING DUCT-BANK SCHEDULE EMERGENCY POWER

CONDUIT	FROM	TO	CONDUIT SIZE CONDUCTOR SIZE	REMARKS
E1	HDPE	HCE	3"C (4-#4/0)	DORM C EMERGENCY POWER
E2	HDPE	HAE	3"C (4-#4/0)	DORM A EMERGENCY POWER
E3	HDPE	HBE	3"C (4-#4/0)	DORM B EMERGENCY POWER
E4	HDPE	HGE	3"C (4-#1/0)	GATEHOUSE EMERGENCY POWER
E5	HDPE	HDE	3"C (4-#4/0)	DORM D EMERGENCY POWER
E6	HDPE	HFE	3"C (4-#4/0)	DORM F EMERGENCY POWER
E7	HDPE	HEE	3"C (4-#4/0)	DORM E EMERGENCY POWER
ES	-	-	3"C	SPARE



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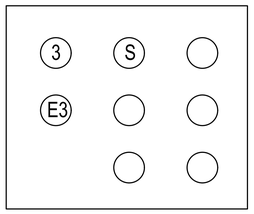

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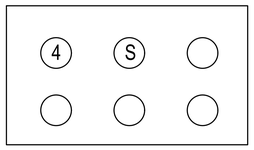

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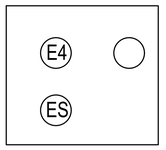

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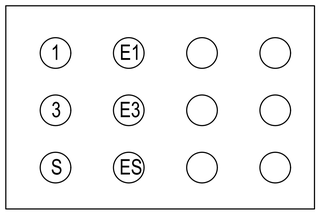

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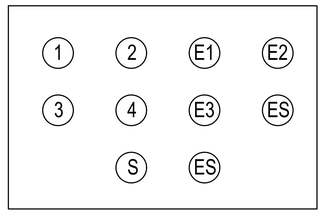

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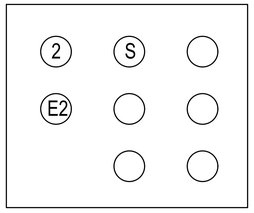

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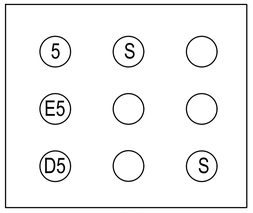

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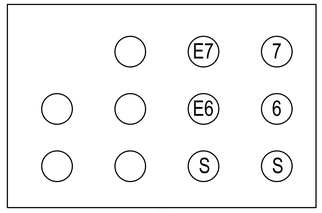

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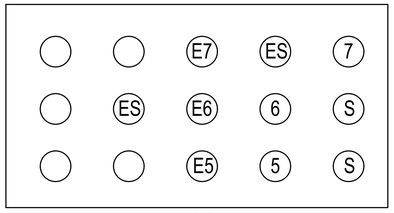

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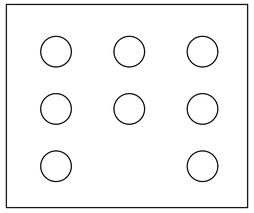
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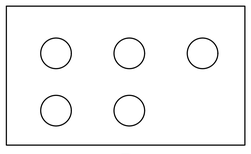
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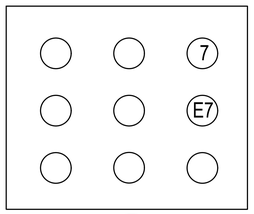
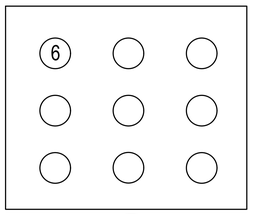
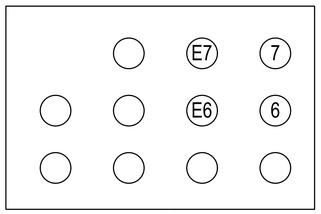


D15



D13



D14

GENERAL NOTE:

1. EXISTING DUCTBANK RUNS AND CONDUIT SIZES DUCTBANKS ARE APPROXIMATE BASED ON RECORD DRAWINGS. CONTRACTOR SHALL CONFIRM LOCATIONS OF DUCTBANKS AND SIZES OF CONDUITS INSIDE DUCTBANKS PRIOR TO WORK. CONTRACTOR SHALL INFORM ENGINEER OF ANY DEVIATIONS IN DUCTBANKS RUNS OR CONDUIT SIZES.

GENERAL DEMOLITION NOTES:

1. CONTRACTOR SHALL DEMOLISH CONDUCTORS ORIGINATING FROM EXISTING PANEL HDP IN THE ADMIN BUILDING MECHANICAL ROOM TO THE PANEL 'H' OF EACH DORM ELECTRICAL ROOM. CONTRACTOR SHALL PREPARE EACH EXISTING 3" CONDUIT AND DUCTBANK FOR REUSE. SEE DUCTBANK SCHEDULE ABOVE AND RISER DIAGRAM ON E501.

GENERAL NEW WORK NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL NEW CONDUCTORS ORIGINATING FROM NEW PANEL HDP IN THE ADMIN BUILDING MECHANICAL ROOM TO THE NEW PANEL 'H' OF EACH DORM ELECTRICAL ROOM. CONTRACTOR SHALL UTILIZE EXISTING 3" CONDUITS AND DUCTBANK PATH. SEE DUCTBANK SCHEDULES ON ES102 AND RISER DIAGRAM ON E501.

REV NO.	DESCRIPTION	DATE
1	---	---

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 053121 5/30/23 ENGINEER JESSE C. ALONZO

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www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL SITE DUCT-BANK SCHEDULES

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

ES102
DRAWING NUMBER
REVISION

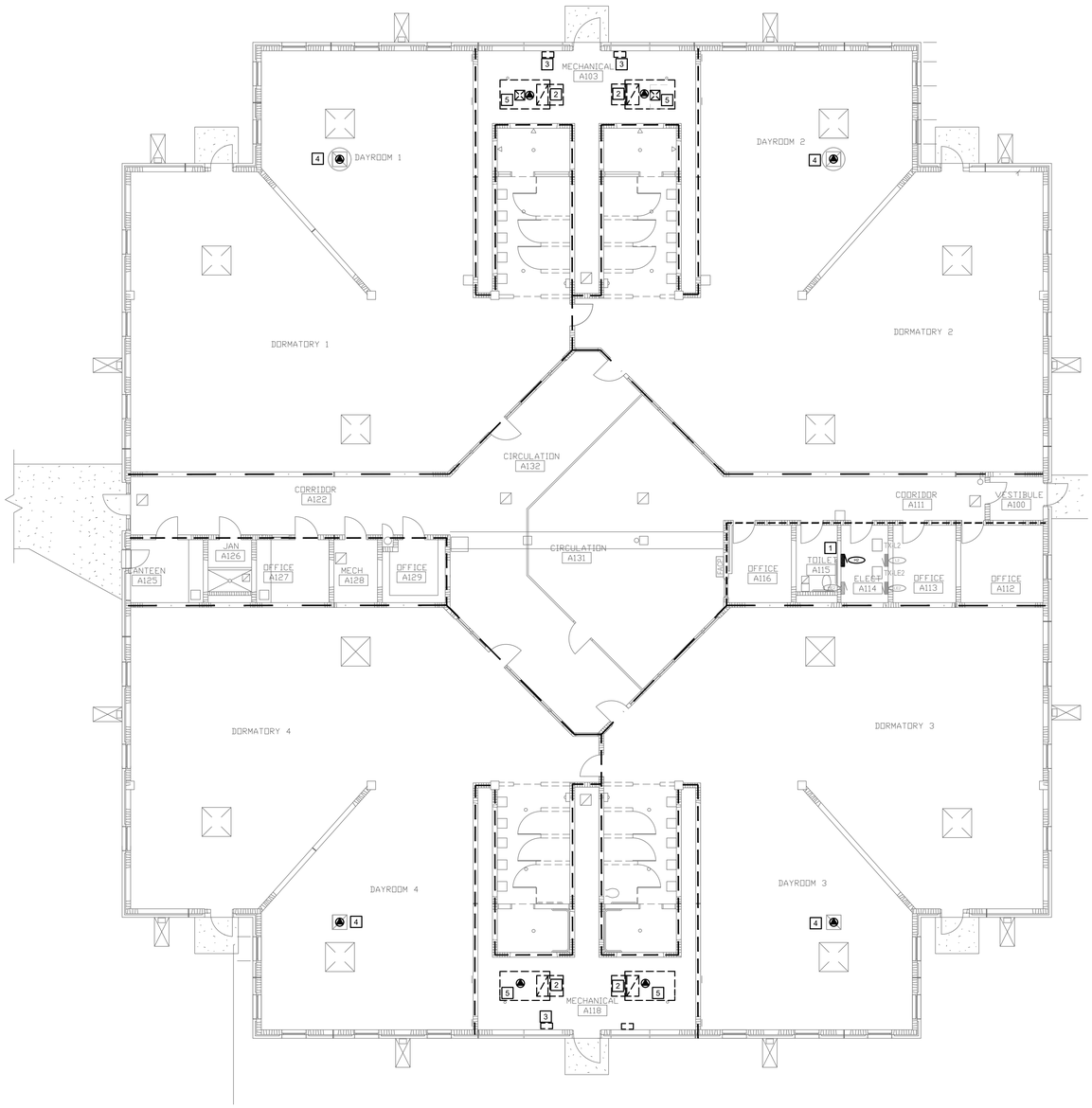
STATUS: BID DOCUMENTS

GENERAL DEMOLITION NOTES:

1. DEMO WORK TO BE COMPLETED IN FULL. ALL CONDUIT AND WIRING SHALL BE DEMOLISHED BACK TO SOURCE, AND BREAKERS LABELED AS SPARE. PANELS SCHEDULES SHALL BE UPDATED WHERE APPLICABLE. NO RACEWAY SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED ON DRAWINGS.
2. CONTRACTOR SHALL MAINTAIN THE CIRCUITS THAT ARE RUNNING THROUGH THE AREA BEING DEMOLISHED AND THE AREA OF NEW CONSTRUCTION.

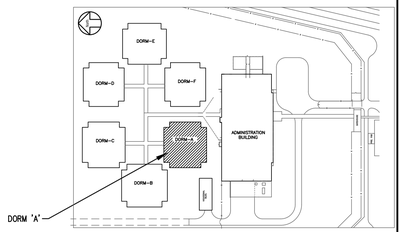
KEYED DEMOLITION NOTES:

1. EXISTING PANEL TO BE DEMOLISHED. EXISTING CONDUCTORS TO BE REMOVED BACK TO PANEL HDP IN THE MECHANICAL ROOM OF THE ADMIN BUILDING. CONTRACTOR SHALL PROTECT EXISTING CIRCUITS DURING DEMOLITION, AND PREPARE FOR RECONNECTION.
2. EXISTING AIR HANDLERS SHALL BE DEMOLISHED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO DEMOLISH THE EXISTING DISCONNECT, LOAD SIDE CONDUIT AND EQUIPMENT CONNECTION IN ADDITION TO THE OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL DISCONNECT LINE SIDE WIRING AND DEMOLISH THE LINE SIDE CONDUIT AND WIRING COMPLETELY BACK TO SOURCE.
3. EXISTING CONTROL PANEL SHALL BE DEMOLISHED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO DEMOLISH THE LOAD SIDE CONDUIT AND EQUIPMENT CONNECTION IN ADDITION TO THE OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PREPARE THE LINE SIDE CONDUIT AND CONDUCTORS FOR REUSE.
4. EXISTING EXHAUST FANS ARE LOCATED ON ROOF AND SHALL BE DEMOLISHED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO DEMOLISH THE EXISTING DISCONNECT, LOAD SIDE CONDUIT AND EQUIPMENT CONNECTION IN ADDITION TO THE OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL DISCONNECT LINE SIDE WIRING AND DEMOLISH THE LINE SIDE CONDUIT AND WIRING COMPLETELY BACK TO SOURCE. REFER TO MECHANICAL ROOF PLANS FOR MORE INFORMATION.
5. EXISTING DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT SHALL BE DEMOLISHED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL DEMOLISH EXISTING WIRING BACK TO THE SOURCE AND PREPARE EXISTING CONDUIT FOR REUSE. ELECTRICAL CONTRACTOR SHALL DELETE EXISTING ADDRESS IN FIRE ALARM CONTROL PANEL AND PREPARE BUILDING FIRE ALARM CONTROL PANEL FOR THE ADDRESSING OF NEW DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT.



1 ED111 — **ELECTRICAL DORMITORY 'A' FLOOR PLAN - DEMOLITION**

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



KEY PLAN

1/8" = 1'-0"

REV.NO.	DESCRIPTION	DATE
1	---	---

REVISIONS

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www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

ELECTRICAL

ELECTRICAL DORMITORY 'A' FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE — HORIZONTAL: AS NOTED — VERTICAL: N/A

ED111 — DRAWING NUMBER — 0 — REVISION

STATUS: BID DOCUMENTS

GENERAL DEMOLITION NOTES:

1. DEMO WORK TO BE COMPLETED IN FULL. ALL CONDUIT AND WIRING SHALL BE DEMOLISHED BACK TO SOURCE, AND BREAKERS LABELED AS SPARE. PANELS SCHEDULES SHALL BE UPDATED WHERE APPLICABLE. NO RACEWAY SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED ON DRAWINGS.
2. CONTRACTOR SHALL MAINTAIN THE CIRCUITS THAT ARE RUNNING THROUGH THE AREA BEING DEMOLISHED AND THE AREA OF NEW CONSTRUCTION.

[#] KEYED DEMOLITION NOTES:

1. EXISTING PANEL TO BE DEMOLISHED. EXISTING CONDUCTORS TO BE REMOVED BACK TO PANEL HDP IN THE MECHANICAL ROOM OF THE ADMIN BUILDING. CONTRACTOR SHALL PROTECT EXISTING CIRCUITS DURING DEMOLITION, AND PREPARE FOR RECONNECTION.
2. EXISTING AIR HANDLERS SHALL BE DEMOLISHED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO DEMOLISH THE EXISTING DISCONNECT, LOAD SIDE CONDUIT AND EQUIPMENT CONNECTION IN ADDITION TO THE OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL DISCONNECT LINE SIDE WIRING AND DEMOLISH THE LINE SIDE CONDUIT AND WIRING COMPLETELY BACK TO SOURCE.
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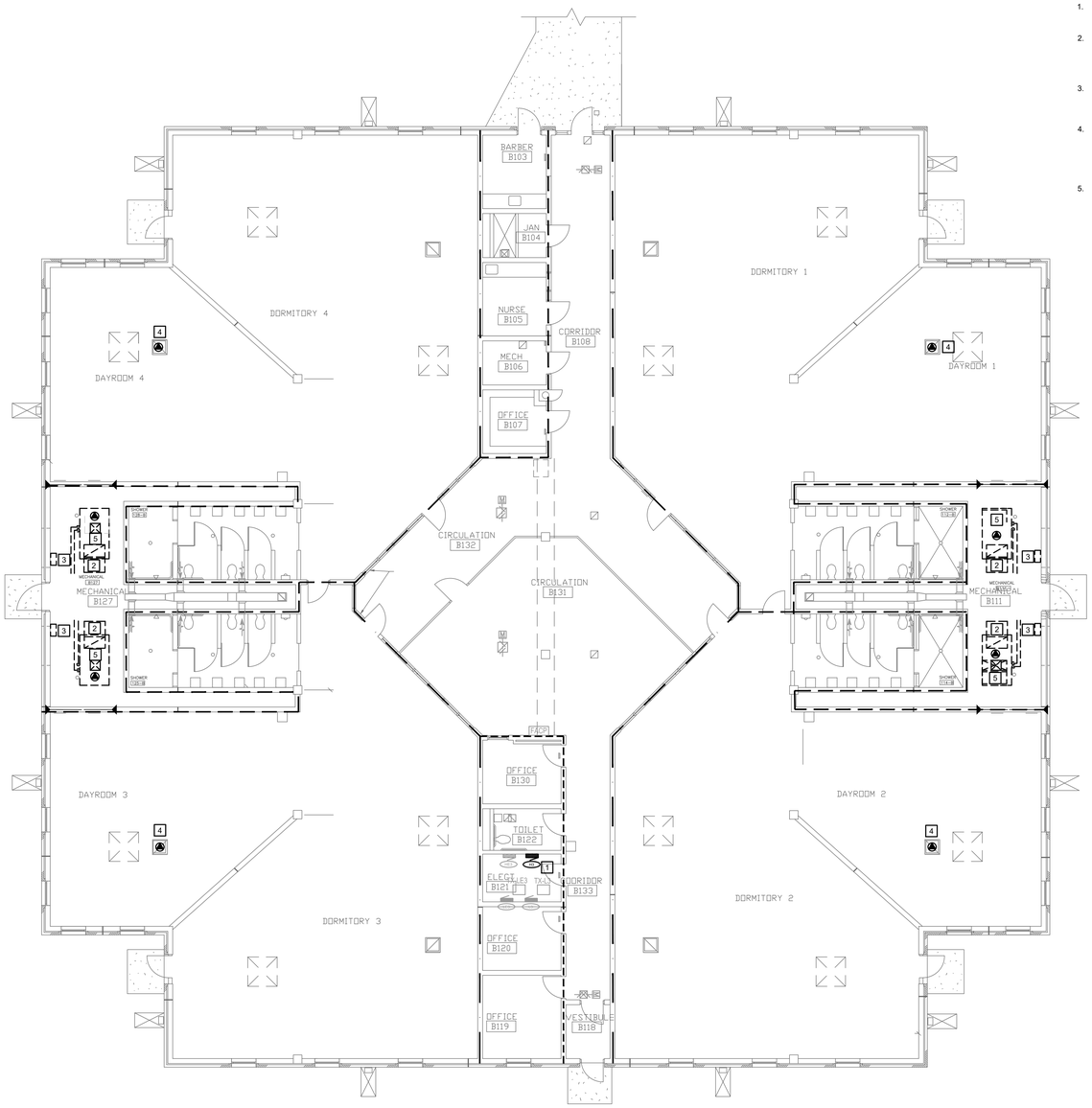
5. EXISTING DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT SHALL BE DEMOLISHED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL DEMOLISH EXISTING WIRING BACK TO THE SOURCE AND PREPARE EXISTING CONDUIT FOR REUSE. ELECTRICAL CONTRACTOR SHALL DELETE EXISTING ADDRESS IN FIRE ALARM CONTROL PANEL AND PREPARE BUILDING FIRE ALARM CONTROL PANEL FOR THE ADDRESSING OF NEW DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT.

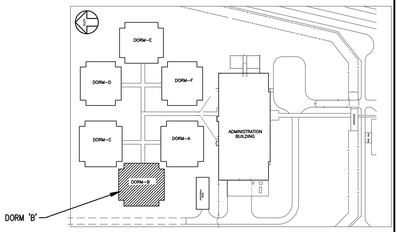


North

1
ED112

ELECTRICAL DORMITORY 'B' FLOOR PLAN - DEMOLITION

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



KEY PLAN

1/8" = 1'-0"

REV.NO.	DESCRIPTION	DATE
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REVISIONS

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL DORMITORY 'B' FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

ED112
DRAWING NUMBER
0
REVISION

STATUS: **BID DOCUMENTS**

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GENERAL DEMOLITION NOTES:

1. DEMO WORK TO BE COMPLETED IN FULL. ALL CONDUIT AND WIRING SHALL BE DEMOLISHED BACK TO SOURCE, AND BREAKERS LABELED AS SPARE. PANELS SCHEDULES SHALL BE UPDATED WHERE APPLICABLE. NO RACEWAY SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED ON DRAWINGS.
2. CONTRACTOR SHALL MAINTAIN THE CIRCUITS THAT ARE RUNNING THROUGH THE AREA BEING DEMOLISHED AND THE AREA OF NEW CONSTRUCTION.

KEYED DEMOLITION NOTES:

1. EXISTING PANEL TO BE DEMOLISHED. EXISTING CONDUCTORS TO BE REMOVED BACK TO PANEL HDP IN THE MECHANICAL ROOM OF THE ADMIN BUILDING. CONTRACTOR SHALL PROTECT EXISTING CIRCUITS DURING DEMOLITION, AND PREPARE FOR RECONNECTION.
2. EXISTING AIR HANDLERS SHALL BE DEMOLISHED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO DEMOLISH THE EXISTING DISCONNECT, LOAD SIDE CONDUIT AND EQUIPMENT CONNECTION IN ADDITION TO THE OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL DISCONNECT LINE SIDE WIRING AND DEMOLISH THE LINE SIDE CONDUIT AND WIRING COMPLETELY BACK TO SOURCE.
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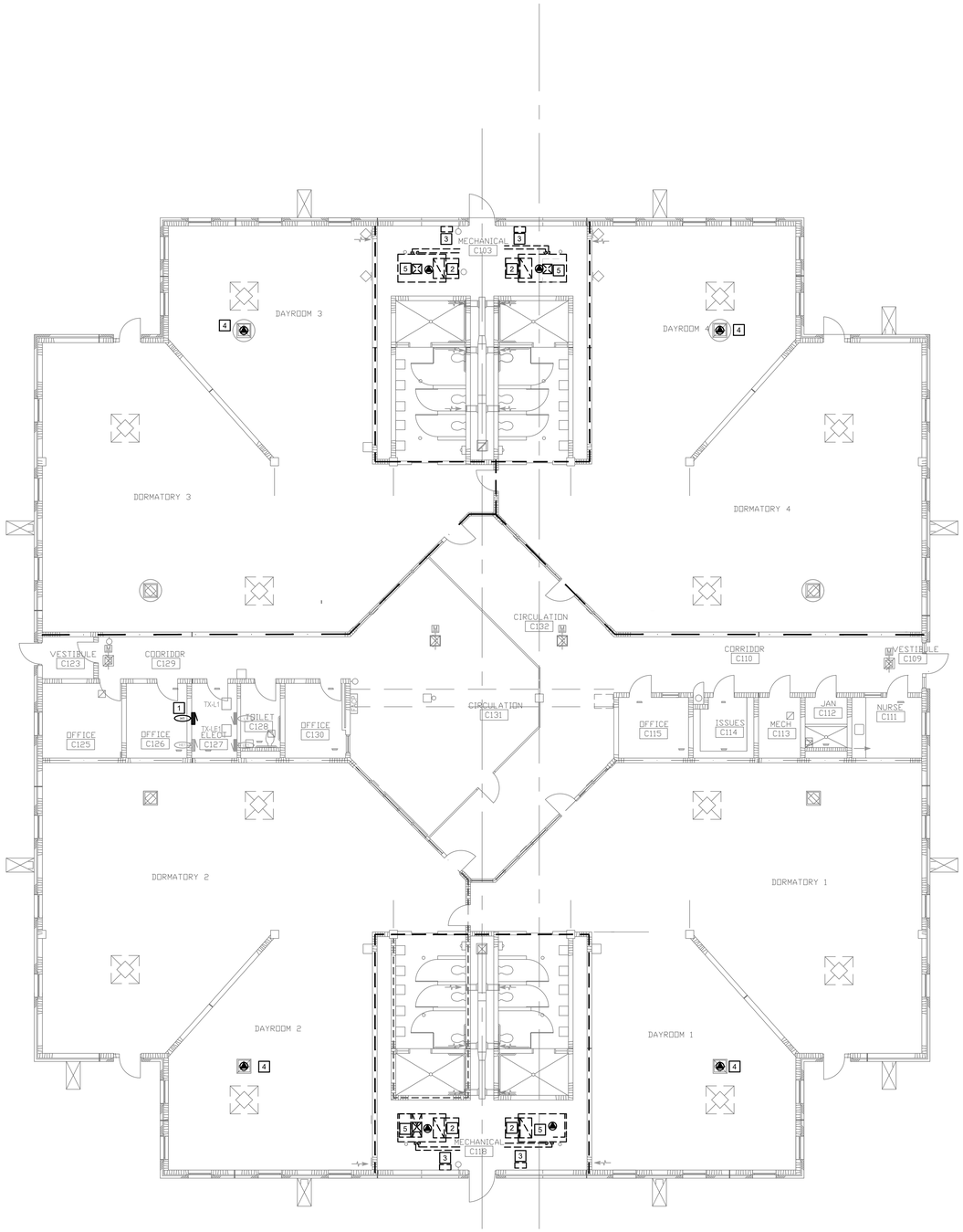
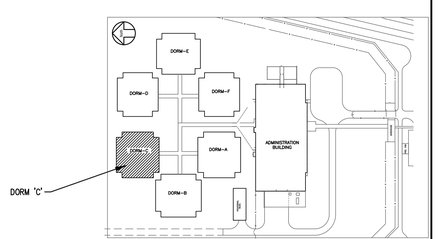


1 ED113 — **ELECTRICAL DORMITORY 'C' FLOOR PLAN - DEMOLITION**

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



KEY PLAN

1/8" = 1'-0"

REV.NO.	DESCRIPTION	DATE
1	---	---

REVISIONS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053121 5/30/23 JOHN C. ALDRED JR.

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL DORMITORY 'C' FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE — HORIZONTAL: AS NOTED — VERTICAL: N/A

ED113 — DRAWING NUMBER

0 — REVISION

STATUS: BID DOCUMENTS

GENERAL DEMOLITION NOTES:

1. DEMO WORK TO BE COMPLETED IN FULL. ALL CONDUIT AND WIRING SHALL BE DEMOLISHED BACK TO SOURCE, AND BREAKERS LABELED AS SPARE. PANELS SCHEDULES SHALL BE UPDATED WHERE APPLICABLE. NO RACEWAY SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED ON DRAWINGS.
2. CONTRACTOR SHALL MAINTAIN THE CIRCUITS THAT ARE RUNNING THROUGH THE AREA BEING DEMOLISHED AND THE AREA OF NEW CONSTRUCTION.

KEYED DEMOLITION NOTES:

1. EXISTING PANEL TO BE DEMOLISHED. EXISTING CONDUCTORS TO BE REMOVED BACK TO PANEL HDP IN THE MECHANICAL ROOM OF THE ADMIN BUILDING. CONTRACTOR SHALL PROTECT EXISTING CIRCUITS DURING DEMOLITION, AND PREPARE FOR RECONNECTION.
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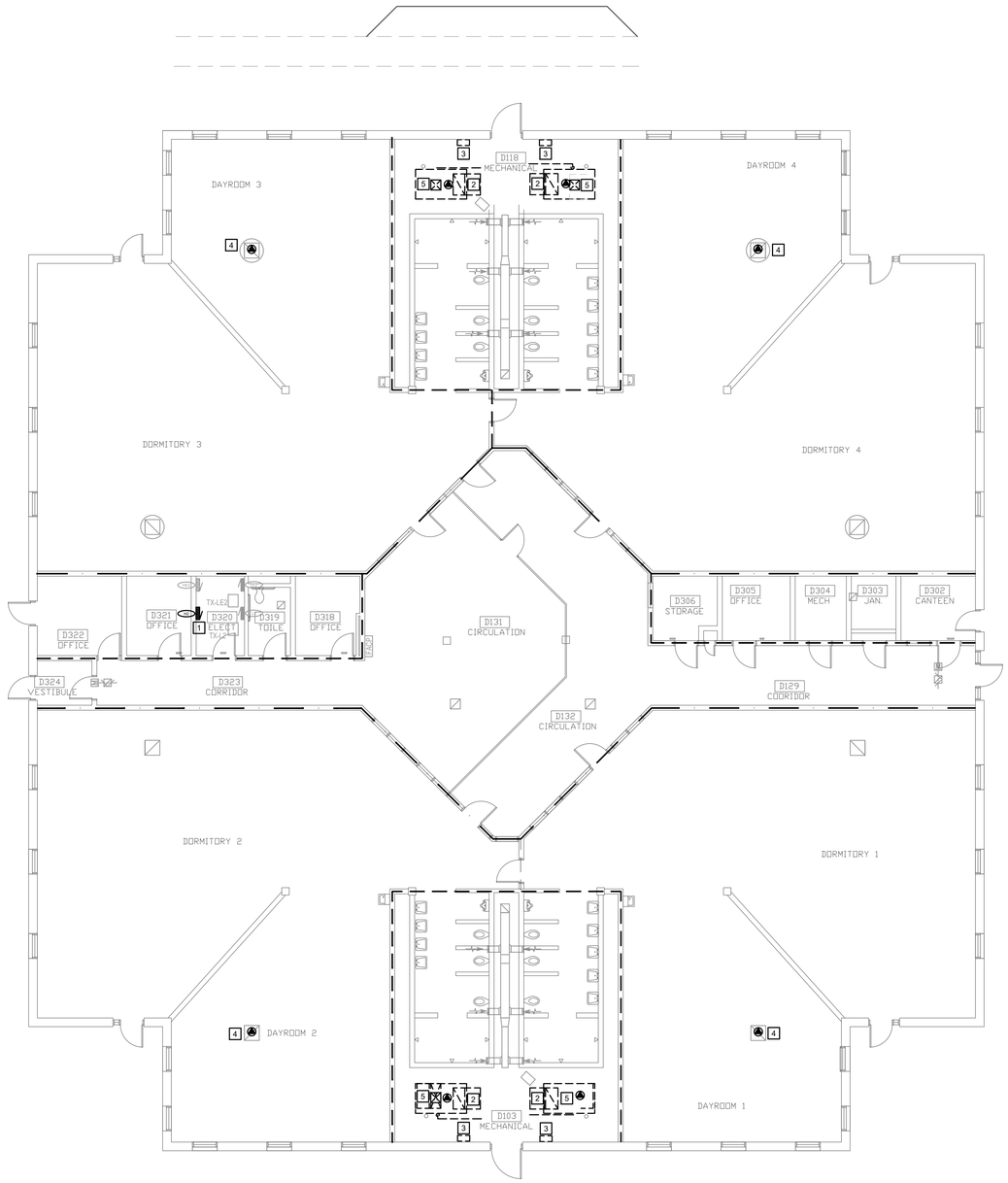
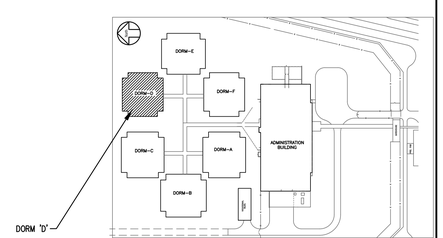


1 ED114 **ELECTRICAL DORMITORY 'D' FLOOR PLAN - DEMOLITION**

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



KEY PLAN

1/8" = 1'-0"

REV.NO.	DESCRIPTION	DATE
1	---	---

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 053121 ENGINEER STEVEN C. ALDRED 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL DORMITORY 'D' FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE: HORIZONTAL: AS NOTED; VERTICAL: N/A

ED114 — DRAWING NUMBER

0 — REVISION

STATUS: **BID DOCUMENTS**

GENERAL DEMOLITION NOTES:

1. DEMO WORK TO BE COMPLETED IN FULL. ALL CONDUIT AND WIRING SHALL BE DEMOLISHED BACK TO SOURCE, AND BREAKERS LABELED AS SPARE. PANELS SCHEDULES SHALL BE UPDATED WHERE APPLICABLE. NO RACEWAY SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED ON DRAWINGS.
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KEYED DEMOLITION NOTES:

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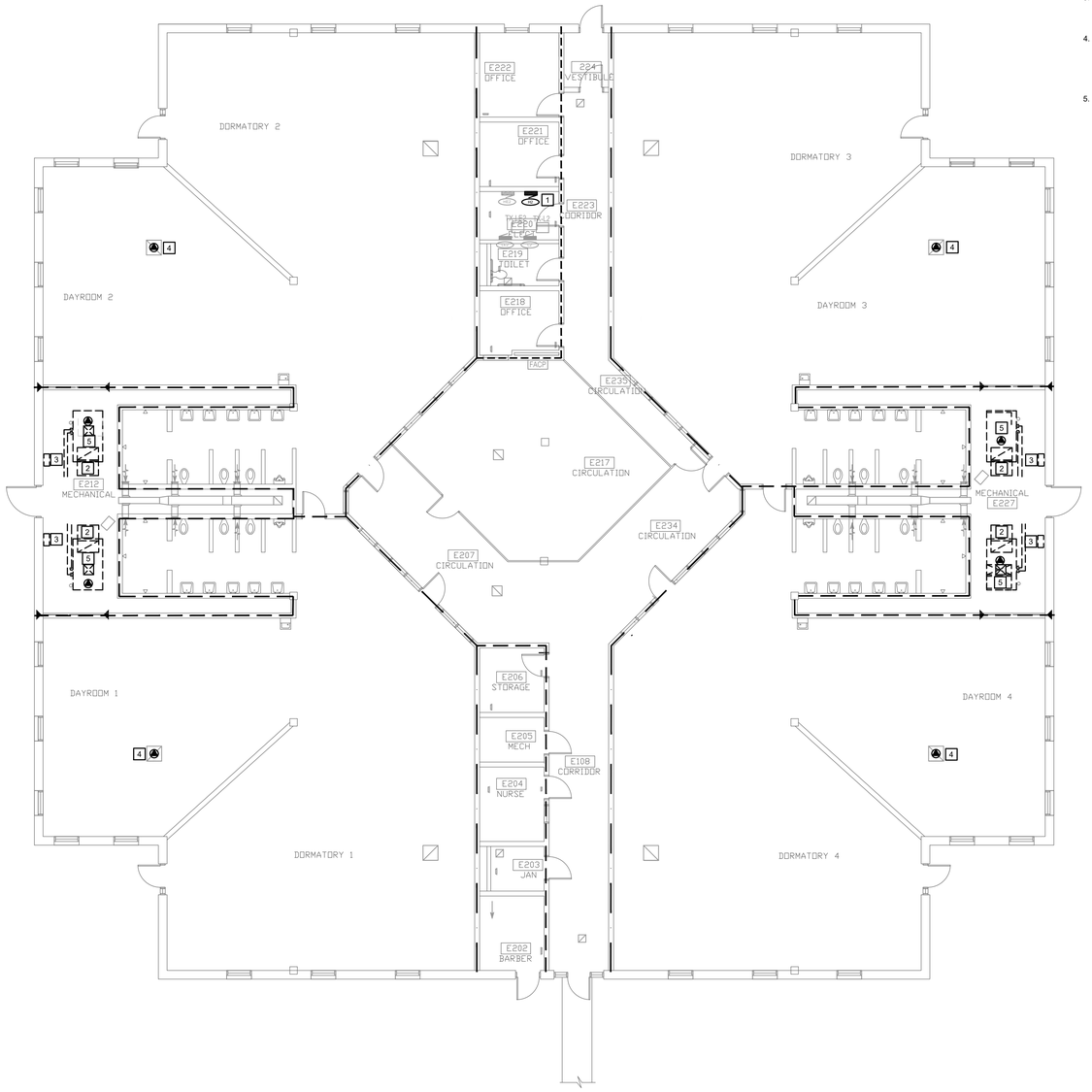
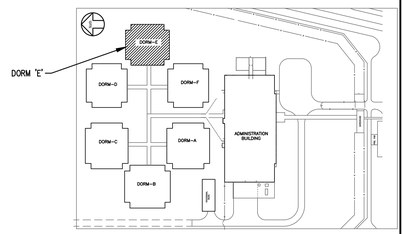


NORTH 1 ED115

ELECTRICAL DORMITORY 'E' FLOOR PLAN - DEMOLITION

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



KEY PLAN

1/8" = 1'-0" 12" 0 5' 10' 15' 20'

REV.NO.	DESCRIPTION	DATE
1	—	—

REVISIONS

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Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL
ELECTRICAL DORMITORY 'E' FLOOR PLAN - DEMOLITION

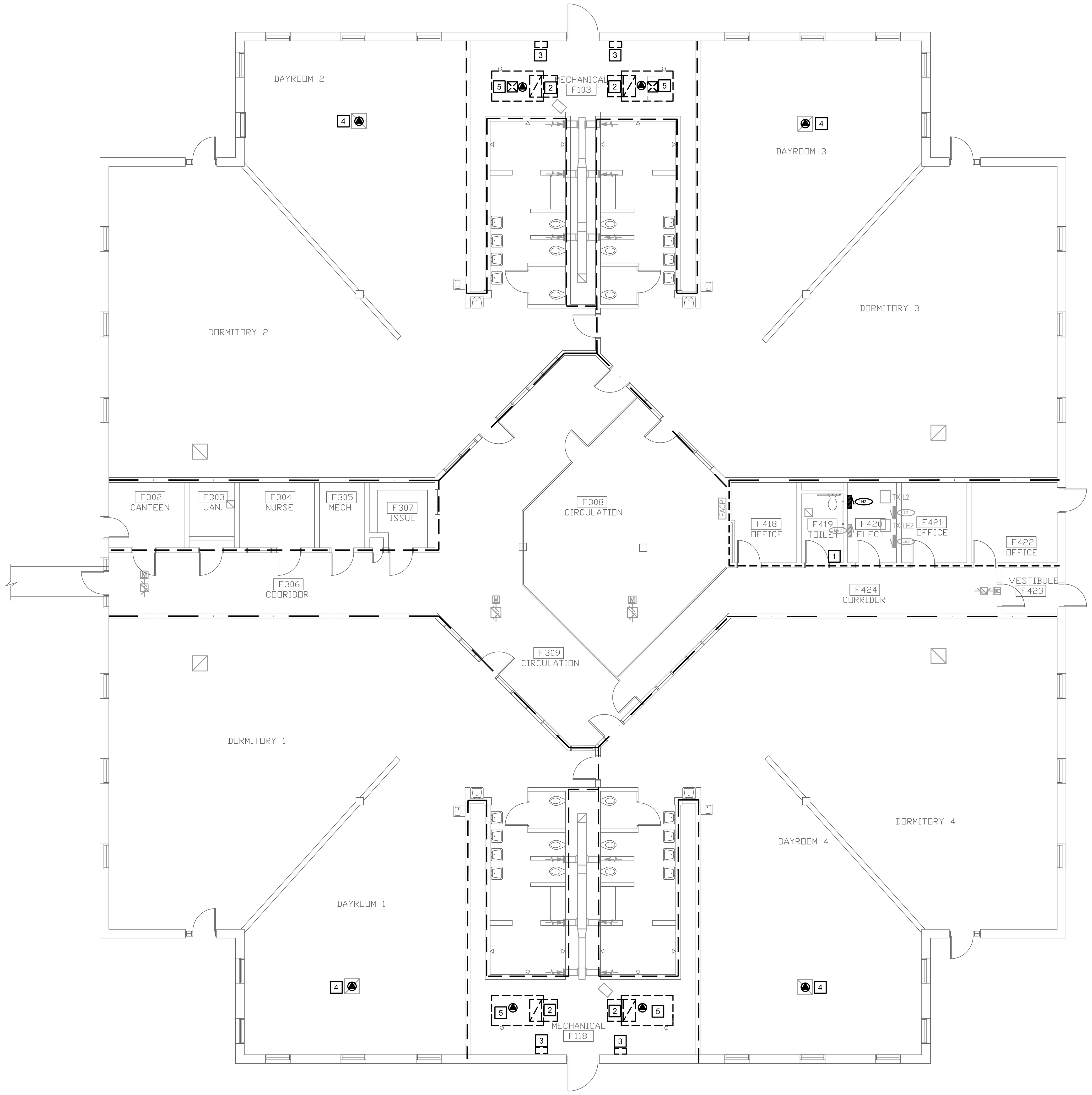
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE: HORIZONTAL: AS NOTED; VERTICAL: N/A

ED115 — DRAWING NUMBER: 0 — REVISION

STATUS: BID DOCUMENTS

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\ED115.DWG 06/02/2023 11:42:19 OMAR NAHHAS



ELECTRICAL DORMITORY 'F' FLOOR PLAN - DEMOLITION

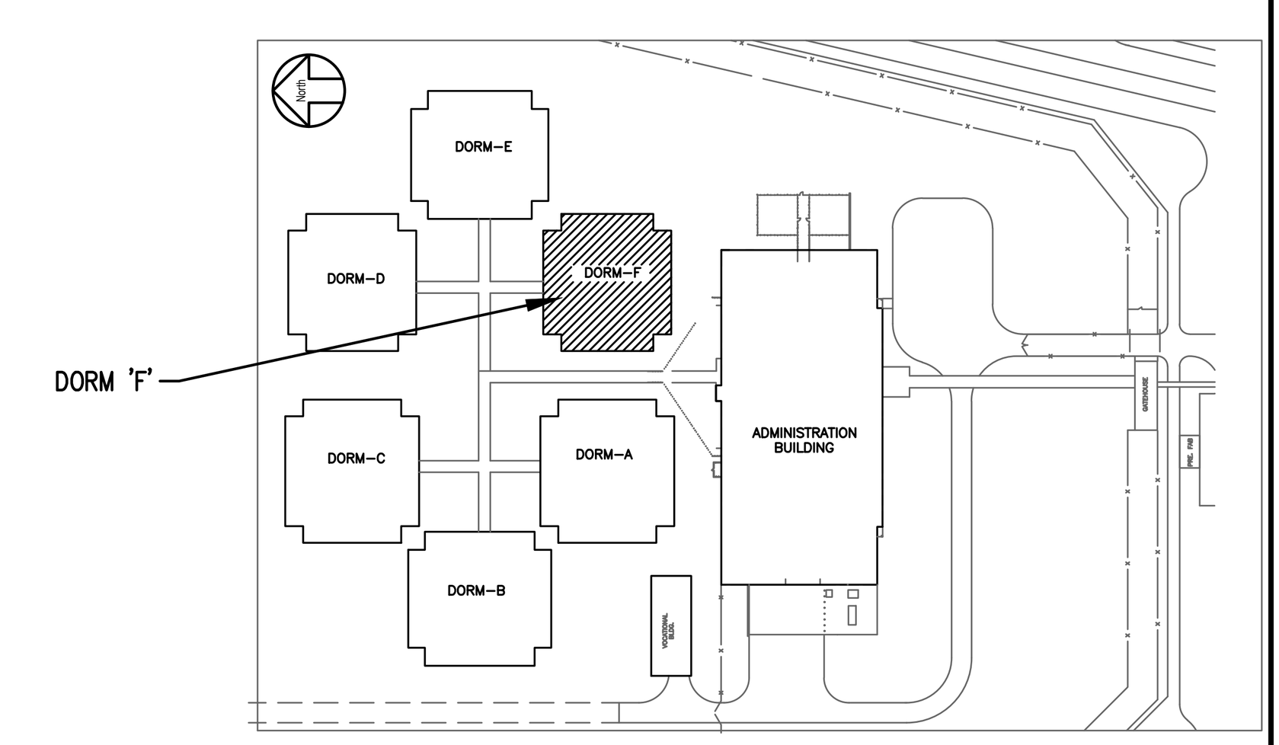
1 ED116 — Scale: 1/8" = 1'-0"

GENERAL DEMOLITION NOTES:

1. DEMO WORK TO BE COMPLETED IN FULL. ALL CONDUIT AND WIRING SHALL BE DEMOLISHED BACK TO SOURCE, AND BREAKERS LABELED AS SPARE. PANELS SCHEDULES SHALL BE UPDATED WHERE APPLICABLE. NO RACEWAY SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED ON DRAWINGS.
2. CONTRACTOR SHALL MAINTAIN THE CIRCUITS THAT ARE RUNNING THROUGH THE AREA BEING DEMOLISHED AND THE AREA OF NEW CONSTRUCTION.

KEYED DEMOLITION NOTES:

1. EXISTING PANEL TO BE DEMOLISHED. EXISTING CONDUCTORS TO BE REMOVED BACK TO PANEL HDP IN THE MECHANICAL ROOM OF THE ADMIN BUILDING. CONTRACTOR SHALL PROTECT EXISTING CIRCUITS DURING DEMOLITION, AND PREPARE FOR RECONNECTION.
2. EXISTING AIR HANDLERS SHALL BE DEMOLISHED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO DEMOLISH THE EXISTING DISCONNECT, LOAD SIDE CONDUIT AND EQUIPMENT CONNECTION IN ADDITION TO THE OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL DISCONNECT LINE SIDE WIRING AND DEMOLISH THE LINE SIDE CONDUIT AND WIRING COMPLETELY BACK TO SOURCE.
3. EXISTING CONTROL PANEL SHALL BE DEMOLISHED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO DEMOLISH THE LOAD SIDE CONDUIT AND EQUIPMENT CONNECTION IN ADDITION TO THE OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PREPARE THE LINE SIDE CONDUIT AND CONDUCTORS FOR REUSE.
4. EXISTING EXHAUST FANS ARE LOCATED ON ROOF AND SHALL BE DEMOLISHED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO DEMOLISH THE EXISTING DISCONNECT, LOAD SIDE CONDUIT AND EQUIPMENT CONNECTION IN ADDITION TO THE OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL DISCONNECT LINE SIDE WIRING AND DEMOLISH THE LINE SIDE CONDUIT AND WIRING COMPLETELY BACK TO SOURCE. REFER TO MECHANICAL ROOF PLANS FOR MORE INFORMATION.
5. EXISTING DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT SHALL BE DEMOLISHED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL DEMOLISH EXISTING WIRING BACK TO THE SOURCE AND PREPARE EXISTING CONDUIT FOR REUSE. ELECTRICAL CONTRACTOR SHALL DELETE EXISTING ADDRESS IN FIRE ALARM CONTROL PANEL AND PREPARE BUILDING FIRE ALARM CONTROL PANEL FOR THE ADDRESSING OF NEW DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT,



KEY PLAN

1/8" = 1'-0" 12" 0 5' 10' 15' 20'

REV.NO.	DESCRIPTION	DATE

REVISIONS

SEAL 053121 — NORTH CAROLINA — ENGINEER — JESSE C. ALONSO JR. — 6/2/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL DORMITORY 'F' FLOOR PLAN - DEMOLITION

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE — HORIZONTAL: AS NOTED — VERTICAL: N/A

ED116 — DRAWING NUMBER — 0 — REVISION

STATUS: BID DOCUMENTS

GENERAL DEMOLITION NOTES:

1. DEMO WORK TO BE COMPLETED IN FULL. ALL CONDUIT AND WIRING SHALL BE DEMOLISHED BACK TO SOURCE, AND BREAKERS LABELED AS SPARE. PANELS SCHEDULES SHALL BE UPDATED WHERE APPLICABLE. NO RACEWAY SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED ON DRAWINGS.
2. CONTRACTOR SHALL MAINTAIN THE CIRCUITS THAT ARE RUNNING THROUGH THE AREA BEING DEMOLISHED AND THE AREA OF NEW CONSTRUCTION.

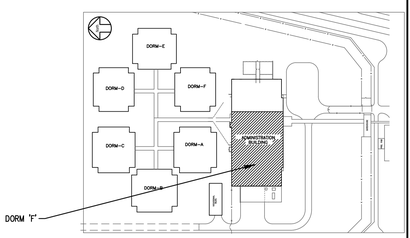
[#] KEYED DEMOLITION NOTES:

1. EXISTING PANELBOARD HDP AND FLOOR PULLBOX TO BE DEMOLISHED. EXISTING CONDUCTORS TO BE REMOVED BACK TO MAIN SWITCHBOARD MSB AND TO EACH DORM AS SHOWN ON THE SITE PLAN AND DUCTBANK SCHEDULE. CONTRACTOR SHALL PROTECT EXISTING CIRCUITS DURING DEMOLITION AND PREPARE FOR RECONNECTION. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL SHUTDOWNS DURING DEMOLITION OF PANELBOARD HDP WITH OWNER.

North 1 ED211

ELECTRICAL ADMIN BUILDING FLOOR PLAN - DEMOLITION

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



KEY PLAN

1/8" = 1'-0"

REV NO.	DESCRIPTION	DATE
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REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 053121 ENGINEER JESSE C. ALONZO 6/5/2023

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SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

ELECTRICAL

ELECTRICAL ADMIN BUILDING FLOOR PLAN - DEMOLITION

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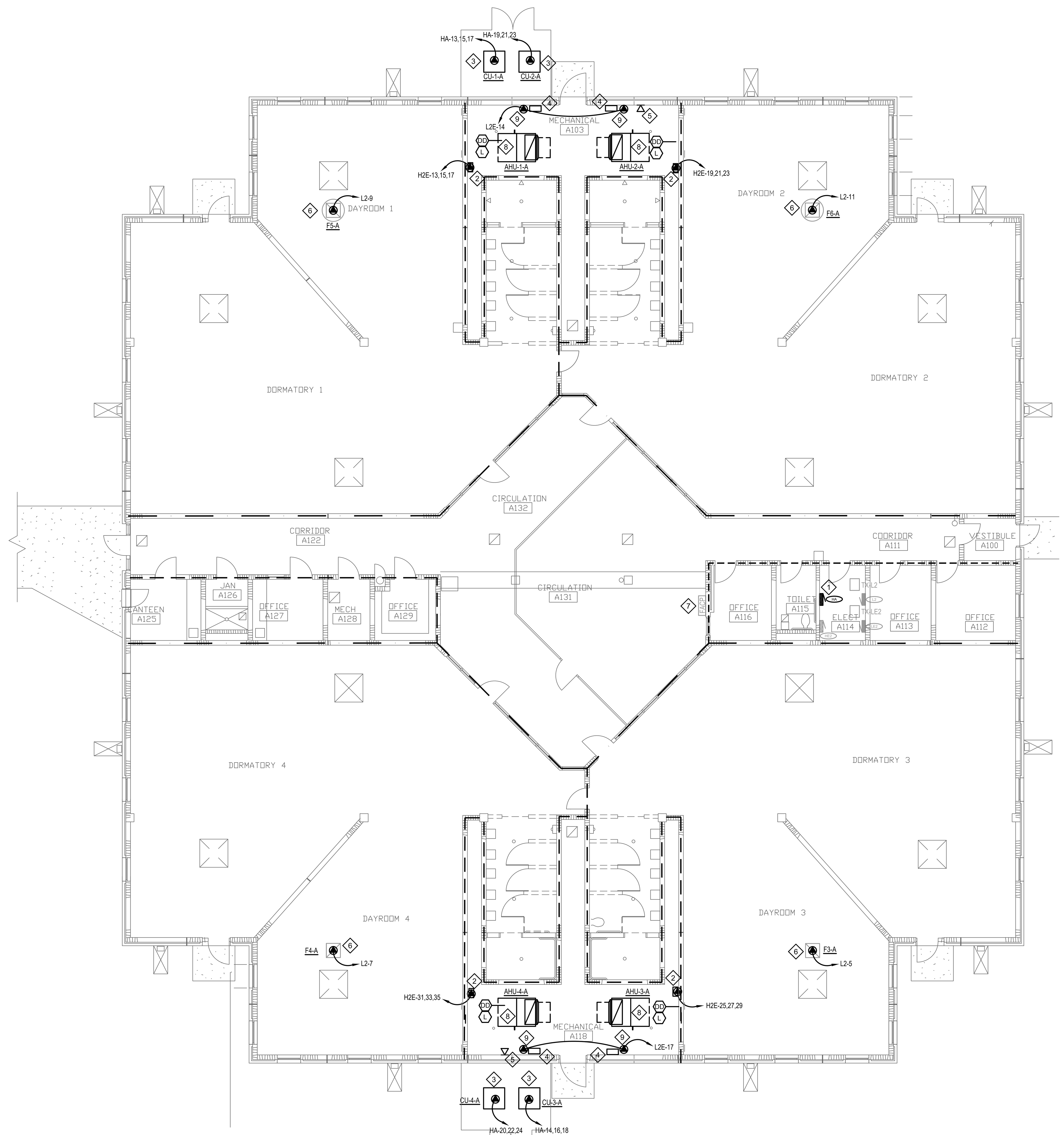
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

ED211 DRAWING NUMBER
0 REVISION

STATUS: **BID DOCUMENTS**



1 E111 **ELECTRICAL DORMITORY 'A' FLOOR PLAN - NEW YORK**

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

(TYPICAL FOR ALL)

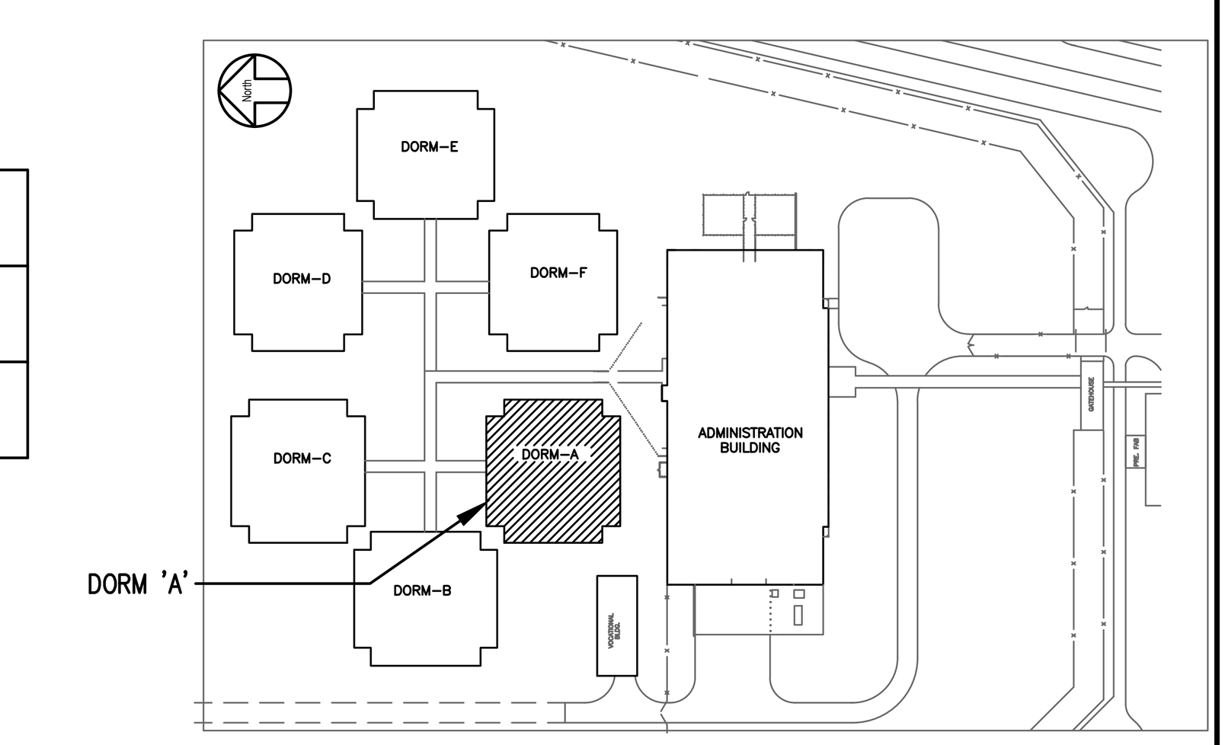
GENERAL NEW WORK NOTES:

1. REFER TO DRAWING E001 FOR GENERAL PROJECT NOTES, SYMBOLS & ABBREVIATIONS.
2. REFER TO DRAWING E501 FOR ELECTRICAL RISERS, E601, E602 FOR PANEL SCHEDULES, AND E701 FOR ELECTRICAL DETAILS.

KEYED NEW WORK NOTES:

1. CONTRACTOR SHALL PROVIDE NEW 225A, 480/277V, 3 PHASE, 18kAIC NEMA 1 PANEL. CONTRACTOR SHALL RECONNECT EXISTING CIRCUITS AS SHOWN IN PANEL SCHEDULES.
2. NEW AIR HANDLING UNIT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE THE NEW DISCONNECT/VFD, LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICE AS NOTED IN THE PANEL SCHEDULES, LINE SIDE CONDUIT, AND WIRING TO NEW DISCONNECT/VFD, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION.
3. NEW CONDENSING UNIT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE THE NEW DISCONNECT, LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICE AS NOTED IN THE PANEL SCHEDULES, LINE SIDE CONDUIT, AND WIRING TO NEW DISCONNECT, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION.
4. NEW CONTROL PANEL SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL REUSE EXISTING PROTECTIVE DEVICE, EXTEND EXISTING LINE SIDE CONDUIT AND WIRING TO NEW CONTROL PANEL AS NEEDED, AND ASSURE CIRCUIT IS SAFE PRIOR TO RE-ENERGIZATION. CONTRACTOR SHALL CONFIRM PANEL AND CIRCUIT TO REUSED PRIOR TO WORK AND INFORM ENGINEER.
5. CONTRACTOR SHALL PROVIDE 1" CONDUIT AND BACKBOX STUBBED OUT FROM ALL NEW DATA OUTLETS TO THE EXISTING COMMUNICATIONS PATHWAY.
6. NEW EXHAUST FAN ARE LOCATED ON THE ROOF SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE THE NEW DISCONNECT, LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICE AS NOTED IN THE PANEL SCHEDULES, LINE SIDE CONDUIT, AND WIRING TO NEW DISCONNECT, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION. SEE MECHANICAL ROOF PLANS FOR ADDITIONAL INFORMATION.
7. EXISTING FIRE ALARM CONTROL PANEL TO REMAIN. CONTRACTOR SHALL READDRESS SMOKE PURGE FUNCTIONS OF NEW MECHANICAL EQUIPMENT PER DEPARTMENT OF ADULT CORRECTION STANDARDS AND MECHANICAL DOCUMENTS.
8. CONTRACTOR SHALL PROVIDE NEW DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT AS SHOWN IN PLAN AND MECHANICAL DOCUMENTS. CONTRACTOR SHALL REUSE EXISTING FIRE ALARM CIRCUIT FROM PREVIOUS DUCT DETECTOR AND READDRESS TO THE BUILDING'S FIRE ALARM CONTROL PANEL. CONTRACTOR SHALL ALSO TEST DUCT DETECTORS PER SCO GUIDELINES AND NFPA 72 ONCE THEY ARE INSTALLED TO AHU SYSTEM. CONTRACTOR SHALL ALSO CONFIRM THE BUILDING FIRE ALARM PANEL RECEIVES A DUCT DETECTOR SIGNAL .
9. NEW RELAY PANEL SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW PROTECTIVE DEVICE, NEW LINE SIDE CONDUIT AND WIRING TO NEW RELAY PANEL AS NEEDED, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION. CONTRACTOR SHALL ALSO ADDRESS FUNCTIONS OF RELAY PANELS TO EXISTING FIRE ALARM PANEL PER DEPARTMENT OF ADULT CORRECTIONS STANDARDS AND MECHANICAL DOCUMENTS.

WALL CHART	
— — — —	1 HR FIRE WALL
— — — — —	1 HR FIRE WALL/SMOKE BARRIER



KEY PLAN

1/8" = 1'-0" 12" 0 5' 10' 15' 20'

REV.NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA SEAL 053121 ENGINEER JESSE C. ALONSO JR. 6/5/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL DORMITORY 'A' FLOOR PLAN - NEW YORK

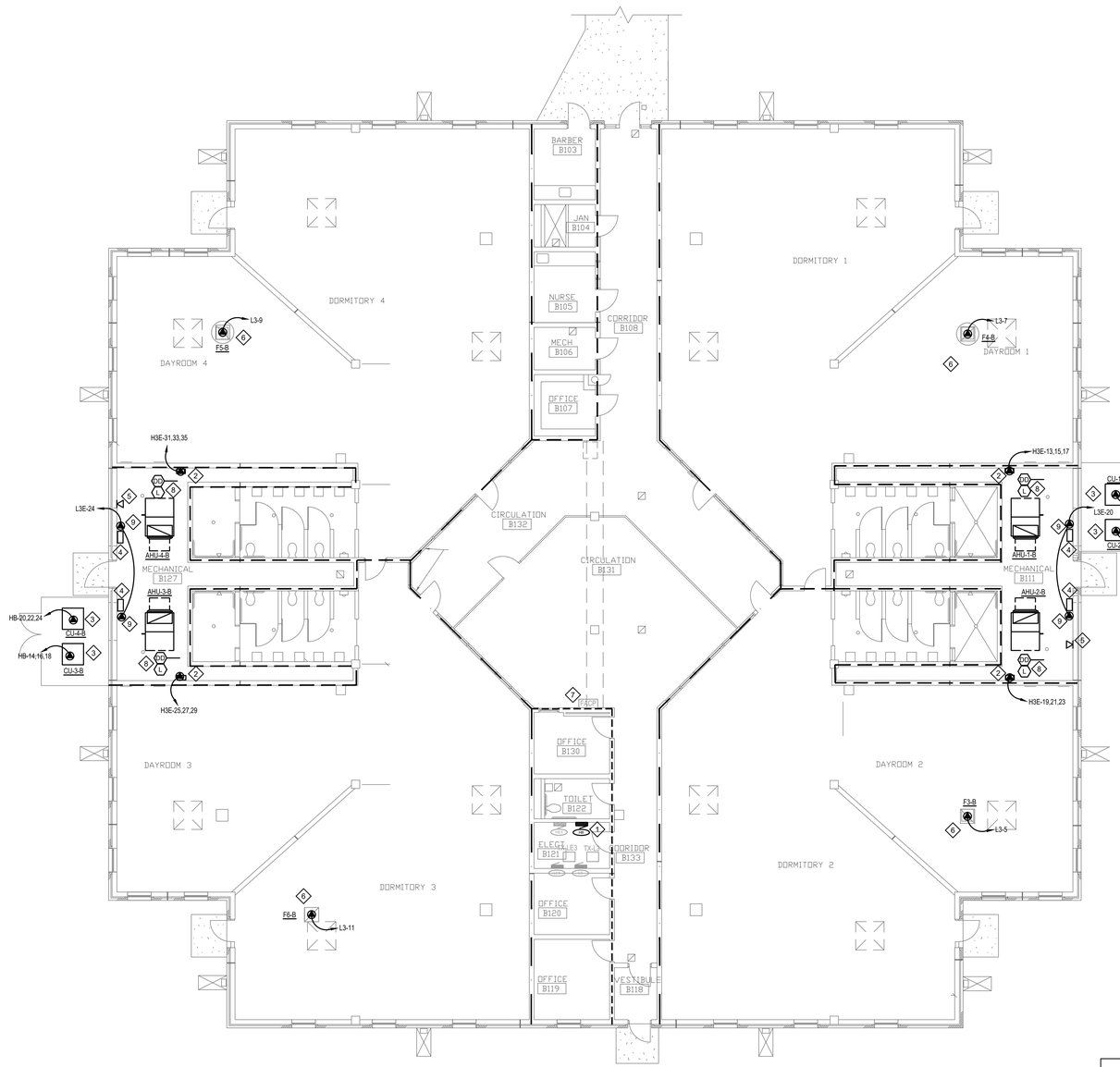
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E111
DRAWING NUMBER
0
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E111.DWG 06/02/2023 11:42:33 OMAR NAHHAS



GENERAL NEW WORK NOTES:

1. REFER TO DRAWING E001 FOR GENERAL PROJECT NOTES, SYMBOLS & ABBREVIATIONS.
2. REFER TO DRAWING E501 FOR ELECTRICAL RISERS, E601, E602 FOR PANEL SCHEDULES, AND E701 FOR ELECTRICAL DETAILS.

⟨6⟩ KEYED NEW WORK NOTES:

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5. CONTRACTOR SHALL PROVIDE 1" CONDUIT AND BACKBOX STUBBED OUT FROM ALL NEW DATA OUTLETS TO THE EXISTING COMMUNICATIONS PATHWAY.
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7. EXISTING FIRE ALARM CONTROL PANEL TO REMAIN. CONTRACTOR SHALL READDRESS SMOKE PURGE FUNCTIONS OF NEW MECHANICAL EQUIPMENT PER DEPARTMENT OF ADULT CORRECTION STANDARDS AND MECHANICAL DOCUMENTS.
8. CONTRACTOR SHALL PROVIDE NEW DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT AS SHOWN IN PLAN AND MECHANICAL DOCUMENTS. CONTRACTOR SHALL REUSE EXISTING FIRE ALARM CIRCUIT FROM PREVIOUS DUCT DETECTOR AND READDRESS TO THE BUILDING'S FIRE ALARM CONTROL PANEL. CONTRACTOR SHALL ALSO TEST DUCT DETECTORS PER SCO GUIDELINES AND NFPA 72 ONCE THEY ARE INSTALLED TO AHU SYSTEM. CONTRACTOR SHALL ALSO CONFIRM THE BUILDING FIRE ALARM PANEL RECEIVES A DUCT DETECTOR SIGNAL .
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WALL CHART	
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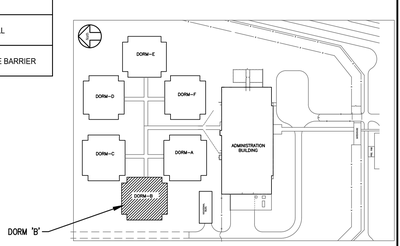

KEY PLAN

1/8" = 1'-0"

1 / E112 ELECTRICAL DORMITORY 'B' FLOOR PLAN - NEW WORK

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

REV.NO.	DESCRIPTION	DATE
—	—	—

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 053121 ENGINEER JESSE C. ALONSO JR.

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Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112
ELECTRICAL
ELECTRICAL DORMITORY 'B' FLOOR PLAN - NEW WORK

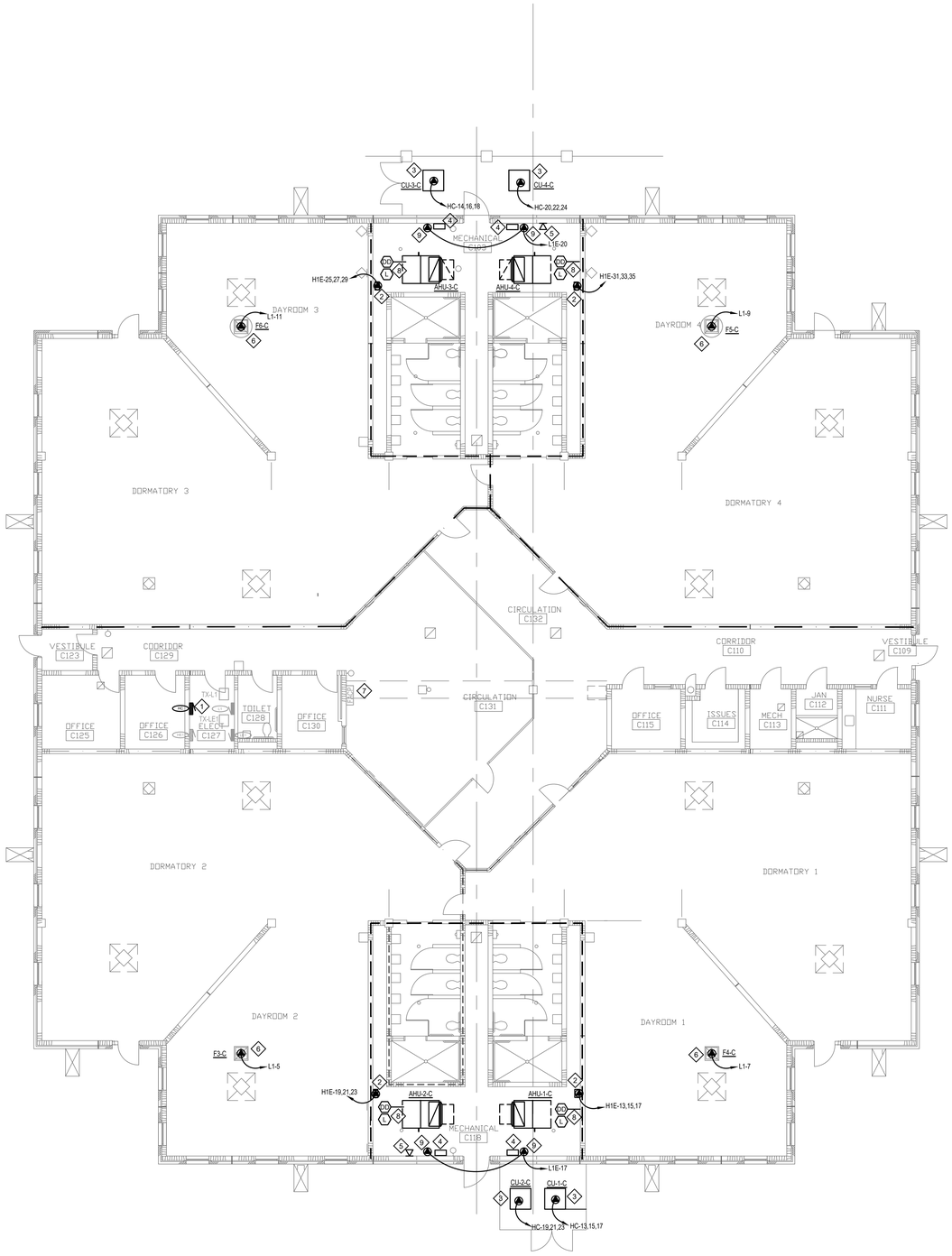
PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E112 DRAWING NUMBER
0 REVISION

STATUS: BID DOCUMENTS

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E112.DWG 06/02/2023 11:42:39 OMAR NAHHAS



1 E113 ELECTRICAL DORMITORY 'C' FLOOR PLAN - NEW WORK

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

GENERAL NEW WORK NOTES:

1. REFER TO DRAWING E001 FOR GENERAL PROJECT NOTES, SYMBOLS & ABBREVIATIONS.
2. REFER TO DRAWING E501 FOR ELECTRICAL RISERS, E601, E602 FOR PANEL SCHEDULES, AND E701 FOR ELECTRICAL DETAILS.

KEYED NEW WORK NOTES:

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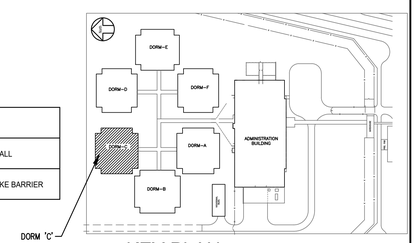

KEY PLAN

1/8" = 1'-0"

REV'S NO.	DESCRIPTION	DATE

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 05121 ENGINEER JOSE C. ALONSO

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

ELECTRICAL

ELECTRICAL DORMITORY 'C' FLOOR PLAN - NEW WORK

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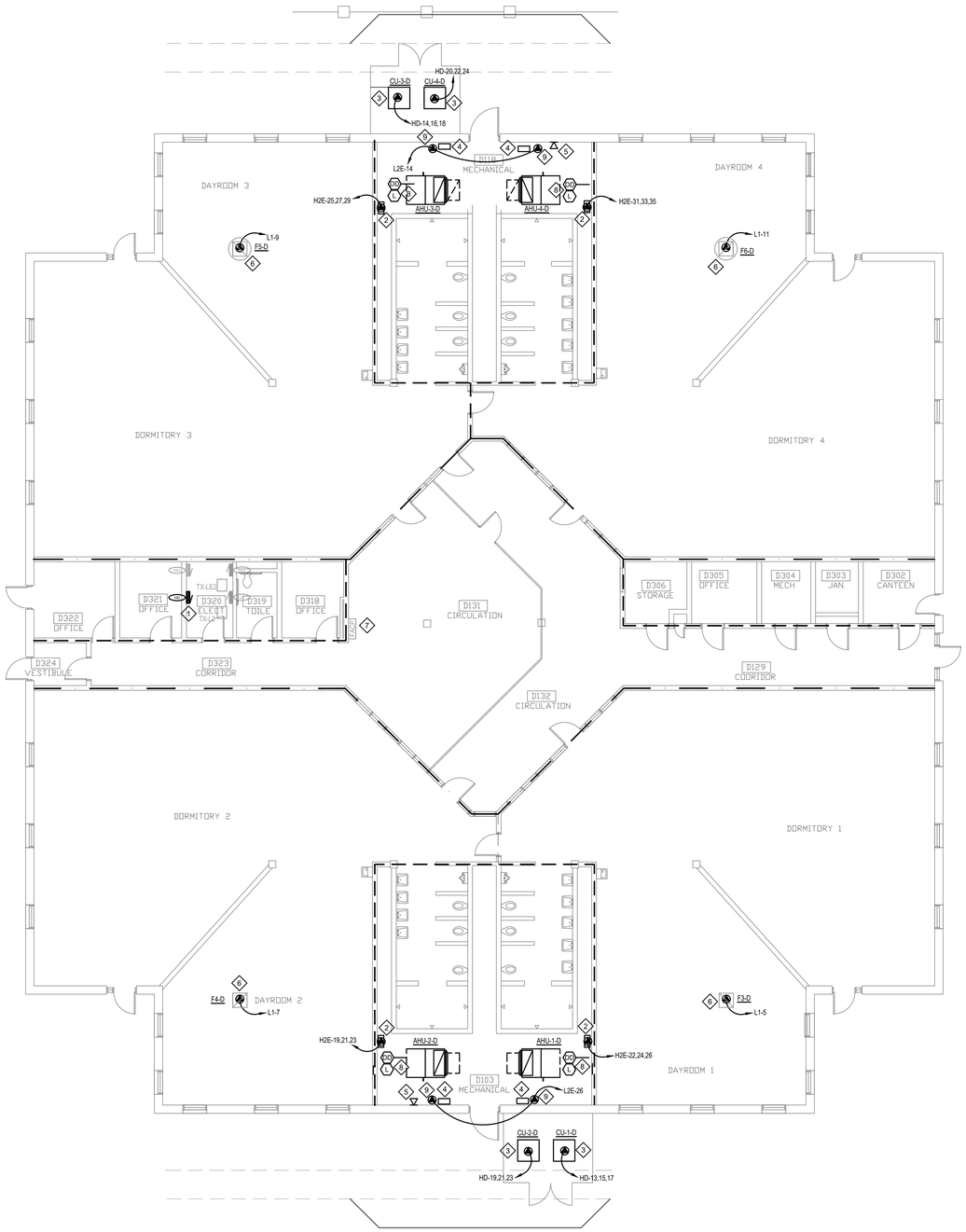
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E113 DRAWING NUMBER
0 REVISION

STATUS: **BID DOCUMENTS**



ELECTRICAL DORMITORY 'D' FLOOR PLAN - NEW YORK

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

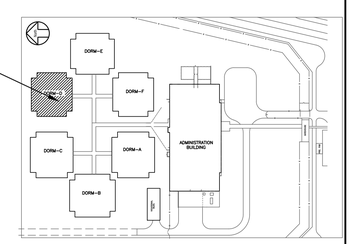
GENERAL NEW WORK NOTES:

1. REFER TO DRAWING E001 FOR GENERAL PROJECT NOTES, SYMBOLS & ABBREVIATIONS.
2. REFER TO DRAWING E501 FOR ELECTRICAL RISERS, E601, E602 FOR PANEL SCHEDULES, AND E701 FOR ELECTRICAL DETAILS.

KEYED NEW WORK NOTES:

1. CONTRACTOR SHALL PROVIDE NEW 225A, 480/277V, 3 PHASE, 18kAIC NEMA 1 PANEL. CONTRACTOR SHALL RECONNECT EXISTING CIRCUITS AS SHOWN IN PANEL SCHEDULES.
2. NEW AIR HANDLING UNIT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE THE NEW DISCONNECT/VFD, LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICE AS NOTED IN THE PANEL SCHEDULES, LINE SIDE CONDUIT, AND WIRING TO NEW DISCONNECT/VFD, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION.
3. NEW CONDENSING UNIT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE THE NEW DISCONNECT, LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICE AS NOTED IN THE PANEL SCHEDULES, LINE SIDE CONDUIT, AND WIRING TO NEW DISCONNECT, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION.
4. NEW CONTROL PANEL SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL REUSE EXISTING PROTECTIVE DEVICE, EXTEND EXISTING LINE SIDE CONDUIT AND WIRING TO NEW CONTROL PANEL AS NEEDED, AND ASSURE CIRCUIT IS SAFE PRIOR TO RE-ENERGIZATION. CONTRACTOR SHALL CONFIRM PANEL AND CIRCUIT TO REUSED PRIOR TO WORK AND INFORM ENGINEER.
5. CONTRACTOR SHALL PROVIDE 1" CONDUIT AND BACKBOX STUBBED OUT FROM ALL NEW DATA OUTLETS TO THE EXISTING COMMUNICATIONS PATHWAY.
6. NEW EXHAUST FAN ARE LOCATED ON THE ROOF SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE THE NEW DISCONNECT, LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICE AS NOTED IN THE PANEL SCHEDULES, LINE SIDE CONDUIT, AND WIRING TO NEW DISCONNECT, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION. SEE MECHANICAL ROOF PLANS FOR ADDITIONAL INFORMATION.
7. EXISTING FIRE ALARM CONTROL PANEL TO REMAIN. CONTRACTOR SHALL READDRESS SMOKE PURGE FUNCTIONS OF NEW MECHANICAL EQUIPMENT PER DEPARTMENT OF ADULT CORRECTION STANDARDS AND MECHANICAL DOCUMENTS.
8. CONTRACTOR SHALL PROVIDE NEW DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT AS SHOWN IN PLAN AND MECHANICAL DOCUMENTS. CONTRACTOR SHALL REUSE EXISTING FIRE ALARM CIRCUIT FROM PREVIOUS DUCT DETECTOR AND READDRESS TO THE BUILDING'S FIRE ALARM CONTROL PANEL. CONTRACTOR SHALL ALSO TEST DUCT DETECTORS PER SCO GUIDELINES AND NFPA 72 ONCE THEY ARE INSTALLED TO AHU SYSTEM. CONTRACTOR SHALL ALSO CONFIRM THE BUILDING FIRE ALARM PANEL RECEIVES A DUCT DETECTOR SIGNAL .
9. NEW RELAY PANEL SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW PROTECTIVE DEVICE, NEW LINE SIDE CONDUIT AND WIRING TO NEW RELAY PANEL AS NEEDED, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION. CONTRACTOR SHALL ALSO ADDRESS FUNCTIONS OF RELAY PANELS TO EXISTING FIRE ALARM PANEL PER DEPARTMENT OF ADULT CORRECTIONS STANDARDS AND MECHANICAL DOCUMENTS.

WALL CHART	
— — — —	1 HR FIRE WALL
— — — —	1 HR FIRE WALL/SMOKE BARRIER



KEY PLAN

1/8" = 1'-0"

REV.NO.	DESCRIPTION	DATE
—		—

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 053121 ENGINEER JESSE C. ALONSO JR.

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL DORMITORY 'D' FLOOR PLAN - NEW YORK

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E114 DRAWING NUMBER

0 REVISION

STATUS: BID DOCUMENTS

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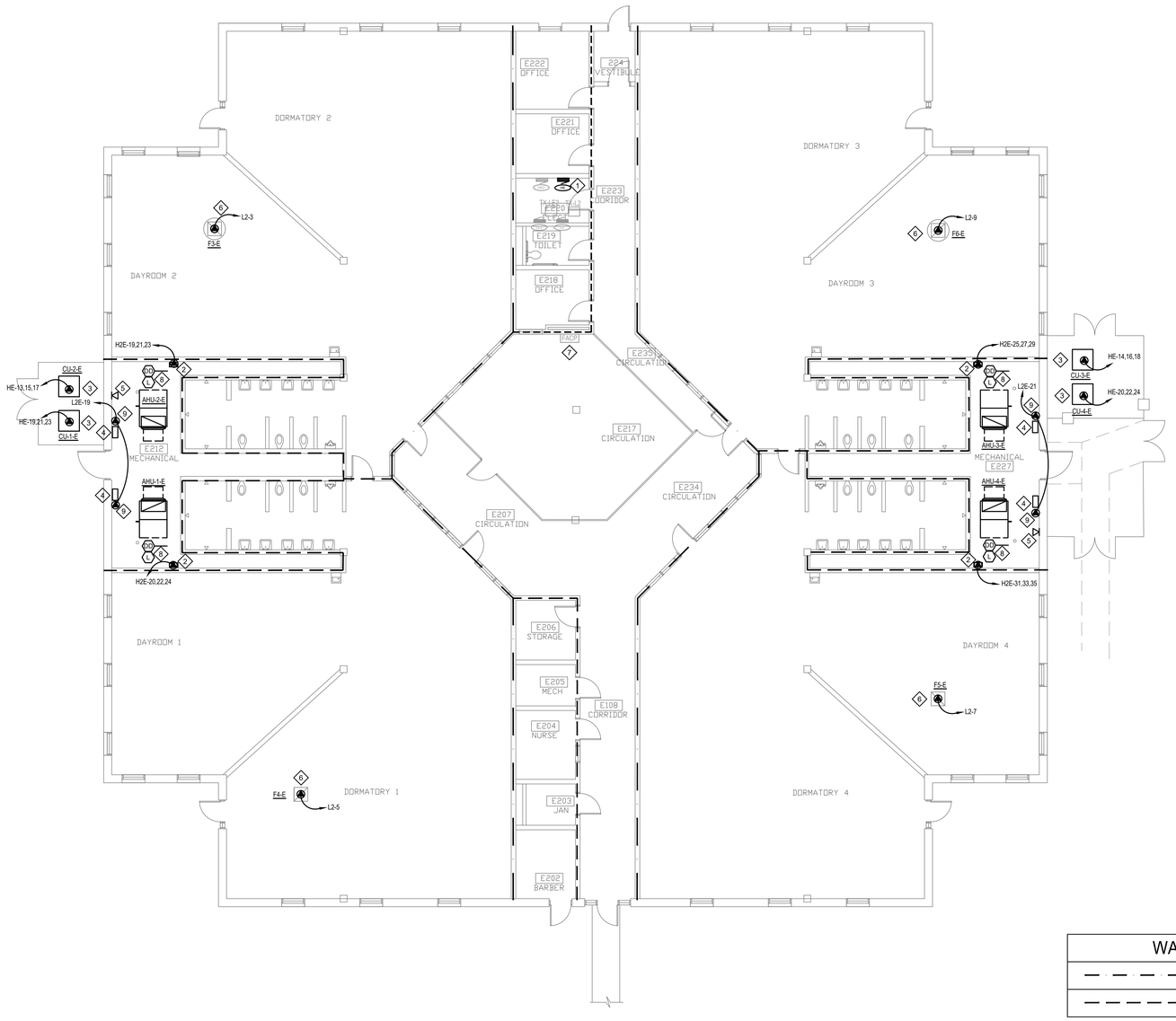

GENERAL NEW WORK NOTES:

1. REFER TO DRAWING E001 FOR GENERAL PROJECT NOTES, SYMBOLS & ABBREVIATIONS.
2. REFER TO DRAWING E501 FOR ELECTRICAL RISERS, E601, E602 FOR PANEL SCHEDULES, AND E701 FOR ELECTRICAL DETAILS.

KEYED NEW WORK NOTES:

1. CONTRACTOR SHALL PROVIDE NEW 225A, 480/277V, 3 PHASE, 18kAIC NEMA 1 PANEL. CONTRACTOR SHALL RECONNECT EXISTING CIRCUITS AS SHOWN IN PANEL SCHEDULES.
2. NEW AIR HANDLING UNIT SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE THE NEW DISCONNECT/VFD, LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICE AS NOTED IN THE PANEL SCHEDULES, LINE SIDE CONDUIT, AND WIRING TO NEW DISCONNECT/VFD, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION.
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5. CONTRACTOR SHALL PROVIDE 1" CONDUIT AND BACKBOX STUBBED OUT FROM ALL NEW DATA OUTLETS TO THE EXISTING COMMUNICATIONS PATHWAY.
6. NEW EXHAUST FAN ARE LOCATED ON THE ROOF SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE THE NEW DISCONNECT, LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICE AS NOTED IN THE PANEL SCHEDULES, LINE SIDE CONDUIT, AND WIRING TO NEW DISCONNECT, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION. SEE MECHANICAL ROOF PLANS FOR ADDITIONAL INFORMATION.
7. EXISTING FIRE ALARM CONTROL PANEL TO REMAIN. CONTRACTOR SHALL READDRESS SMOKE PURGE FUNCTIONS OF NEW MECHANICAL EQUIPMENT PER DEPARTMENT OF ADULT CORRECTION STANDARDS AND MECHANICAL DOCUMENTS.
8. CONTRACTOR SHALL PROVIDE NEW DUCT DETECTOR AND RAIL INDICATING ALARM LIGHT AS SHOWN IN PLAN AND MECHANICAL DOCUMENTS. CONTRACTOR SHALL REUSE EXISTING FIRE ALARM CIRCUIT FROM PREVIOUS DUCT DETECTOR AND READDRESS TO THE BUILDING'S FIRE ALARM CONTROL PANEL. CONTRACTOR SHALL ALSO TEST DUCT DETECTORS PER SCO GUIDELINES AND NFPA 72 ONCE THEY ARE INSTALLED TO AHU SYSTEM. CONTRACTOR SHALL ALSO CONFIRM THE BUILDING FIRE ALARM PANEL RECEIVES A DUCT DETECTOR SIGNAL.
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WALL CHART	
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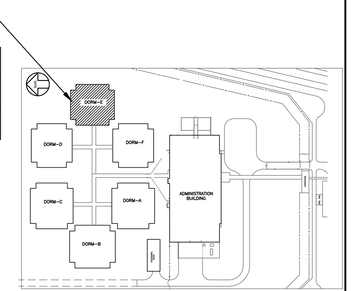

KEY PLAN

1/8" = 1'-0"

1 E115

ELECTRICAL DORMITORY 'E' FLOOR PLAN - NEW YORK

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

REV.NO.	DESCRIPTION	DATE
1	—	—

REVISIONS

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NC License# F-1222
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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

ELECTRICAL

ELECTRICAL DORMITORY 'E' FLOOR PLAN - NEW YORK

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

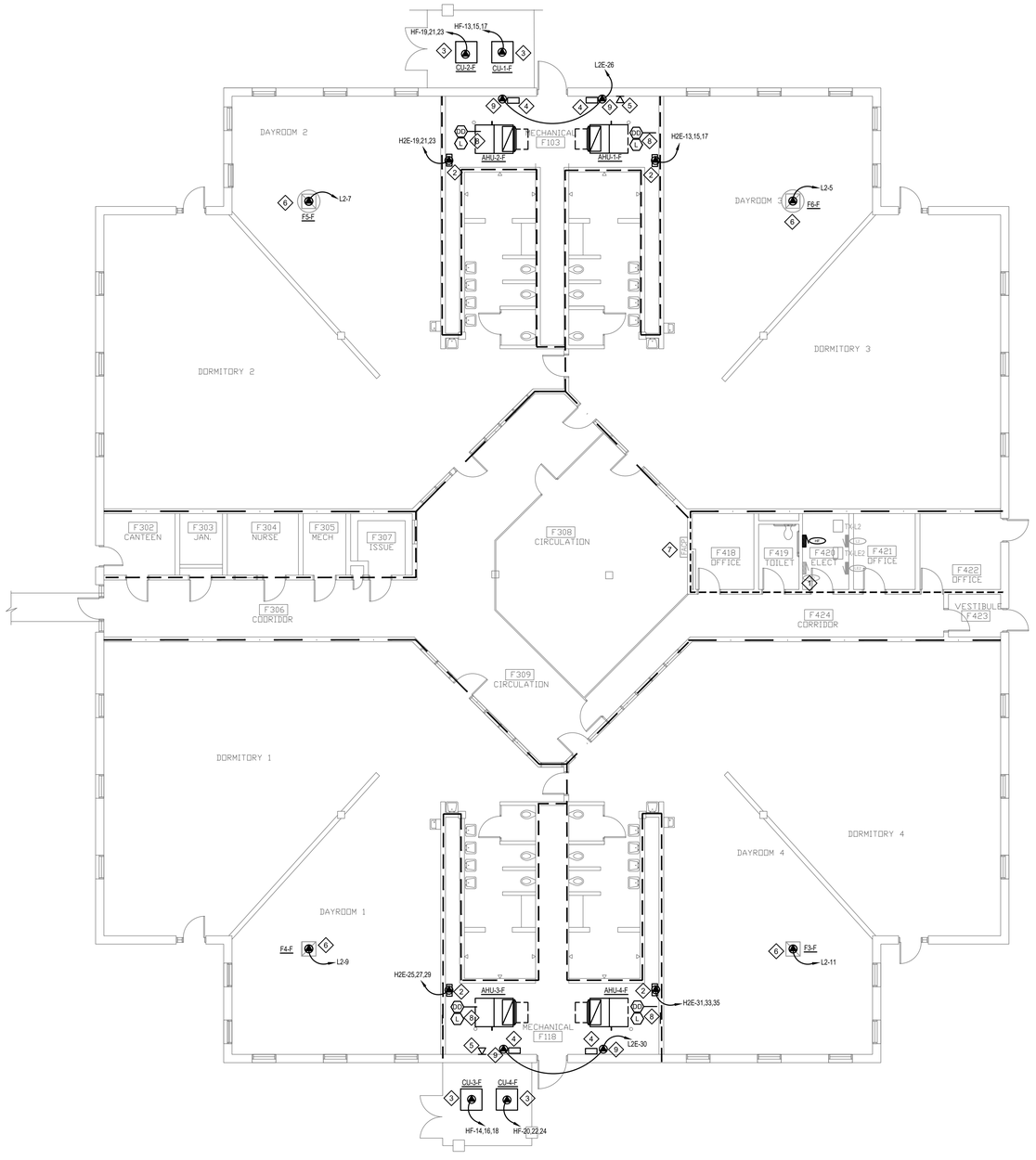
SCALE — HORIZONTAL: AS NOTED — VERTICAL: N/A

E115 — DRAWING NUMBER

0 — REVISION

STATUS: BID DOCUMENTS

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E115.DWG 06/02/2023 11:42:54 OMAR NAHHAS



1 / E116 — **ELECTRICAL DORMITORY 'F' FLOOR PLAN - NEW WORK**

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

GENERAL NEW WORK NOTES:

1. REFER TO DRAWING E001 FOR GENERAL PROJECT NOTES, SYMBOLS & ABBREVIATIONS.
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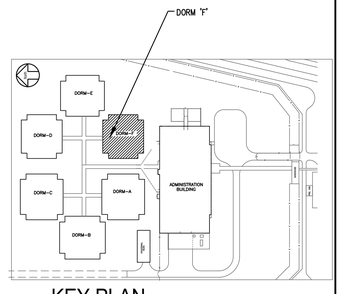

KEY PLAN

1/8" = 1'-0"

REV NO.	DESCRIPTION	DATE
—		—

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 053121 ENGINEER JESSE C. ALONZO

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

ELECTRICAL

ELECTRICAL DORMITORY 'F' FLOOR PLAN - NEW WORK

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE — HORIZONTAL: AS NOTED — VERTICAL: N/A

E116 — DRAWING NUMBER

0 — REVISION

STATUS: **BID DOCUMENTS**

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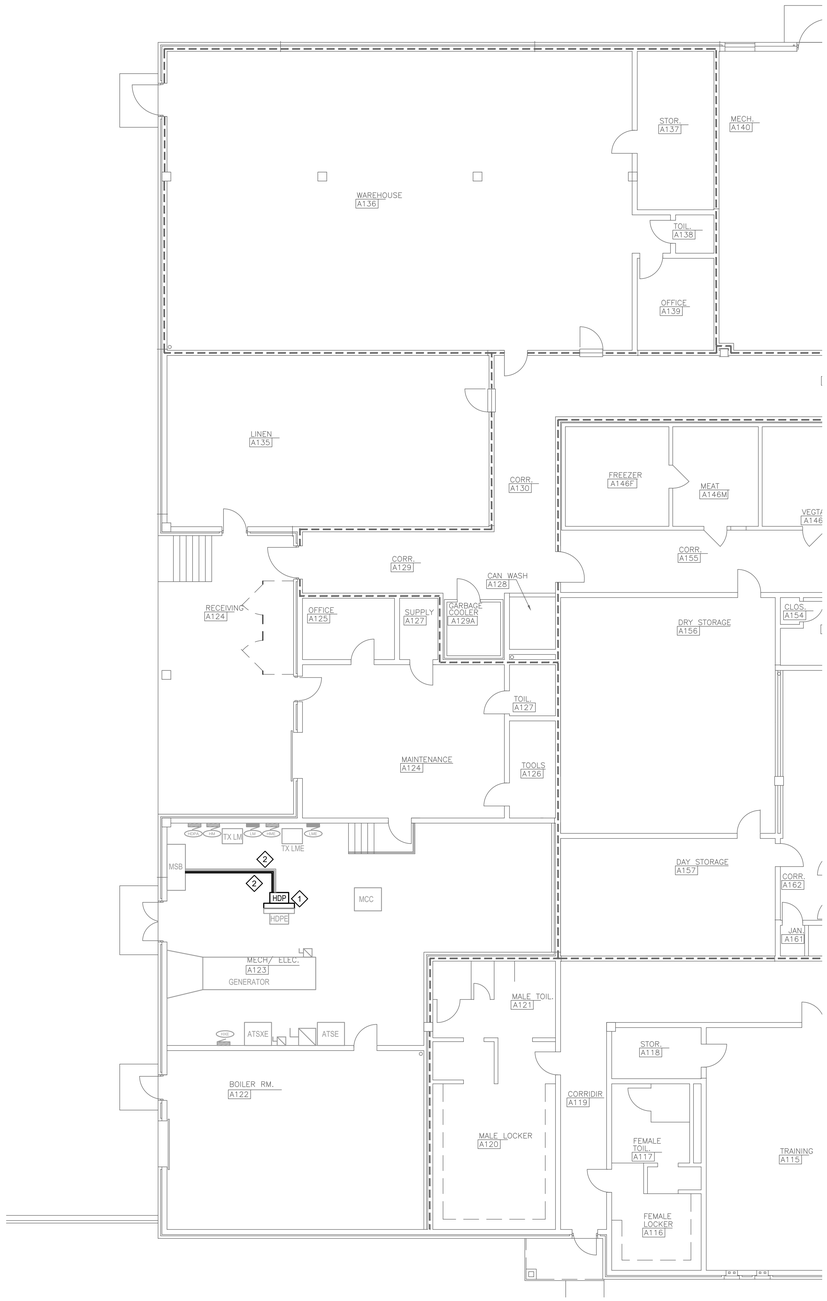
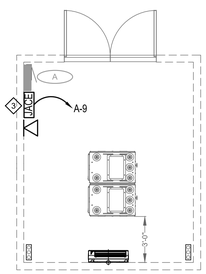




North 1 E211

ELECTRICAL ADMIN BUILDING FLOOR PLAN - NEW WORK

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

North 2 E211

ELECTRICAL PRE. FAB BUILDING FLOOR PLAN - NEW WORK

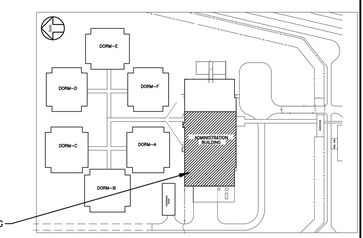
Scale: 1/4" = 1'-0"

GENERAL NEW WORK NOTES:

1. REFER TO DRAWING E001 FOR GENERAL PROJECT NOTES, SYMBOLS & ABBREVIATIONS.
2. REFER TO DRAWING E501 FOR ELECTRICAL RISERS, E601, E602 FOR PANEL SCHEDULES, AND E701 FOR ELECTRICAL DETAILS.

6 KEYED NEW WORK NOTES:

1. CONTRACTOR SHALL PROVIDE NEW 1200A, 480/277V, 3 PHASE, 50kAIC NEMA 1 PANELBOARD AND A NEW 12"H X 8"D X 48"L FLOOR MOUNTED PULLBOX ATTACHED UNDERNEATH TO DISTRIBUTE CONDUCTORS FROM INCOMING UNDERGROUND DUCTBANK TO NEW PANELBOARD. CONTRACTOR SHALL RECONNECT EXISTING CIRCUITS AS SHOWN IN PANEL SCHEDULES. BASIS OF DESIGN: EATON POW-R-LINE 4 PANELBOARD. CONTRACTOR SHALL HAVE DORMS RUN ON EMERGENCY PANELBOARD HDPE DURING PANELBOARD HDP REPLACEMENT. CONTRACTOR SHALL COORDINATE ANY AND ALL ELECTRICAL SHUTDOWNS WITH OWNER PRIOR TO ANY WORK.
2. CONTRACTOR SHALL PROVIDE TWO (2) 3" CONDUITS FROM MAIN SWITCHBOARD MSB TO NEW PANELBOARD HDP. RUN TWO (2) 3" NEW CONDUITS PARALLEL TO EXISTING TWO (2) 3" CONDUITS, AND REUSE EXISTING TWO (2) 3" CONDUITS TO NEW PANELBOARD HDP.
3. NEW JACE PANEL SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL ALSO PROVIDE LOAD SIDE CONDUIT, WIRING, AND EQUIPMENT CONNECTION IN ADDITION TO OTHER ITEMS NOTED IN MECHANICAL DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICE AS NOTED IN THE PANEL SCHEDULES, LINE SIDE CONDUIT, AND WIRING, AND ASSURE CIRCUIT IS SAFE PRIOR TO ENERGIZATION. SEE MECHANICAL ROOF PLANS FOR ADDITIONAL INFORMATION.



KEY PLAN

1/8" = 1'-0"

REV NO.	DESCRIPTION	DATE
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REVISIONS

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A **Code: 42107** **Item: 4112**

ELECTRICAL

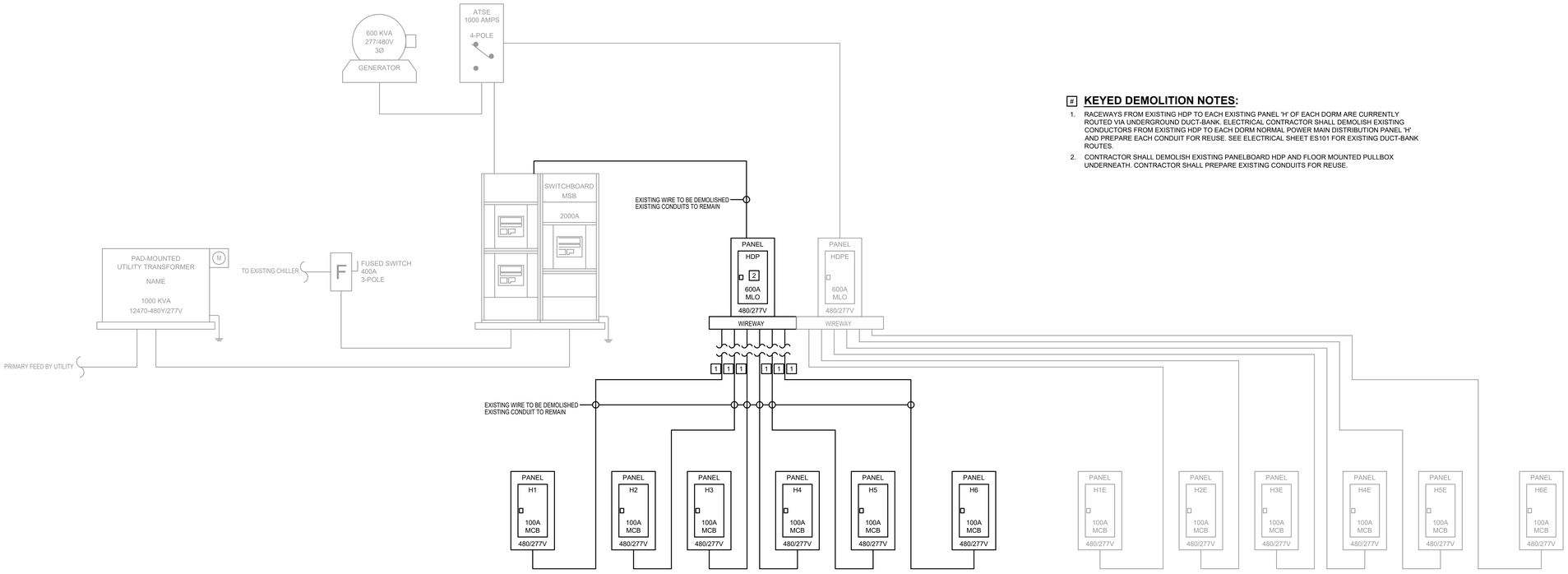
ELECTRICAL ADMIN BUILDING FLOOR PLAN - NEW WORK

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E211
DRAWING NUMBER
0
REVISION

STATUS: BID DOCUMENTS

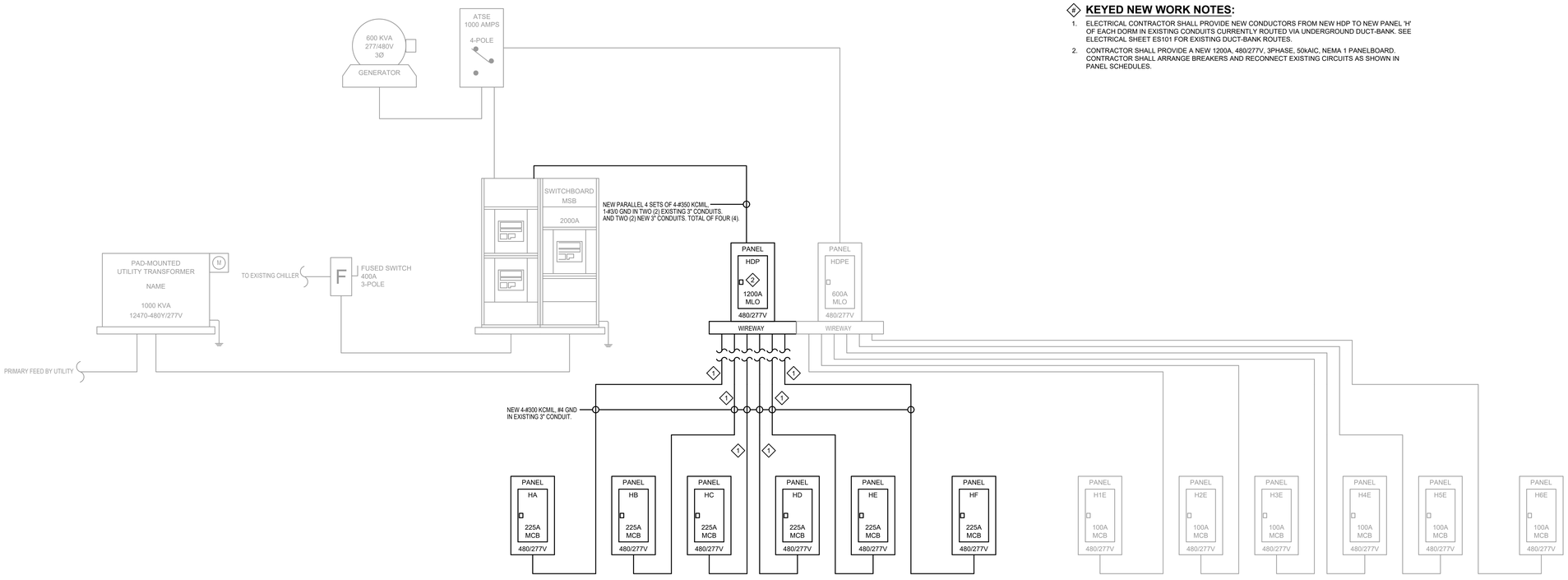


KEYED DEMOLITION NOTES:

1. RACEWAYS FROM EXISTING HDP TO EACH EXISTING PANEL 'H' OF EACH DORM ARE CURRENTLY ROUTED VIA UNDERGROUND DUCT-BANK. ELECTRICAL CONTRACTOR SHALL DEMOLISH EXISTING CONDUCTORS FROM EXISTING HDP TO EACH DORM NORMAL POWER MAIN DISTRIBUTION PANEL 'H' AND PREPARE EACH CONDUIT FOR REUSE. SEE ELECTRICAL SHEET ES101 FOR EXISTING DUCT-BANK ROUTES.
2. CONTRACTOR SHALL DEMOLISH EXISTING PANELBOARD HDP AND FLOOR MOUNTED PULLBOX UNDERNEATH. CONTRACTOR SHALL PREPARE EXISTING CONDUITS FOR REUSE.

1 E501 PARTIAL EXISTING ELECTRICAL RISER DIAGRAM - DEMOLITION

Scale: NTS



◇ KEYED NEW WORK NOTES:

1. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW CONDUCTORS FROM NEW HDP TO NEW PANEL 'H' OF EACH DORM IN EXISTING CONDUITS CURRENTLY ROUTED VIA UNDERGROUND DUCT-BANK. SEE ELECTRICAL SHEET ES101 FOR EXISTING DUCT-BANK ROUTES.
2. CONTRACTOR SHALL PROVIDE A NEW 1200A, 480/277V, 3PHASE, 50kAIC, NEMA 1 PANELBOARD. CONTRACTOR SHALL ARRANGE BREAKERS AND RECONNECT EXISTING CIRCUITS AS SHOWN IN PANEL SCHEDULES.

2 E501 PARTIAL EXISTING ELECTRICAL RISER DIAGRAM - NEW WORK

Scale: NTS

REV.NO.	DESCRIPTION	DATE
1	---	---

REVISIONS

NORTH CAROLINA
SEAL
053121
5/30/23
LICENSED
PROFESSIONAL
ENGINEER

McKIM&CREED
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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation

SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL RISER DIAGRAM

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E501
DRAWING NUMBER
0
REVISION

STATUS: BID DOCUMENTS

EXISTING PANELBOARD: HDP

LOCATION: MECHANICAL ROOM — 600 A MAIN BUS RATING
MOUNTING: PAD MOUNTED — NA MAIN CIRCUIT BREAKER
ENCLOSURE: NEMA 1 — 50 KAIC, MIN. RMS SYM. RATING

VOLTAGE: 480 Y / 277V 3PH 4W

CKT #	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	WIRE SIZE	GND SIZE	CND IN.	BREAKER FRAME & TRIP/POLE	PHASE
1	DORM I						4.00	EXISTING			100	A
							4.00					B
							4.00					C
2	DORM II						4.00	EXISTING			100	A
							4.00					B
							4.00					C
3	DORM III						4.00	EXISTING			100	A
							4.00					B
							4.00					C
4	DORM IV						4.00	EXISTING			100	A
							4.00					B
							4.00					C
5	SPACE ONLY											A
												B
												C
6	SPACE ONLY											A
												B
												C
7	VOCATIONAL BUILD. (NOTE 3)						4.00	EXISTING			100	A
							4.00					B
							4.00					C
8	DORM V						5.00	EXISTING			125	A
							5.00					B
							5.00					C
9	DORM IV						4.00	EXISTING			100	A
							4.00					B
							4.00					C
10	SPACE ONLY											A
												B
												C

SWITCHBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C PRL4 PANELBOARD.
2. EXISTING LOADS ARE BASED ON METERING DATA.
3. EXISTING CIRCUIT AND CONDUCTORS TO BE RELOCATED TO NEW PANEL HDP.

CONNECTED LOAD	KVA	AMPS
PHASE A	29.0	105
PHASE B	29.0	105
PHASE C	29.0	105
MAX UNBAL.	0.0	0

LARGEST MOTOR (KVA) ______

CONNECTED (KVA)	DEMAND (KVA)	LOAD TYPES
0.0	0.0	LIGHTING
0.0	0.0	HEATING/COOLING
0.0	0.0	MOTORS
0.0	0.0	KITCHEN
0.0	0.0	RECEPTACLES
87.0	87.0	MISCELLANEOUS

TOTAL DEMAND LOAD 87.0 KVA
DEMAND AMPS 105 AMPS

NEW PANELBOARD: HDP

LOCATION: MECHANICAL ROOM — 1200 A MAIN BUS RATING
MOUNTING: PAD MOUNTED — NA MAIN CIRCUIT BREAKER
ENCLOSURE: NEMA 1 — 50 KAIC, MIN. RMS SYM. RATING

VOLTAGE: 480 Y / 277V 3PH 4W

CKT #	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	WIRE SIZE	GND SIZE	CND IN.	BREAKER FRAME & TRIP/POLE	PHASE
1	DORM A(PANEL HA)	6.60	27.74	0.00	0.00	0.00	2.00	SEE RISER DIAGRAM			225	A
		2.60	27.56	0.00	0.00	2.16	0.00					B
		2.60	25.56	0.00	0.00	2.16	0.00					C
2	DORM B(PANEL HB)	6.60	26.74	0.00	0.00	0.00	2.00	SEE RISER DIAGRAM			225	A
		2.60	25.56	0.00	0.00	2.16	2.00					B
		2.60	25.56	0.00	0.00	2.16	1.50					C
3	DORM C(PANEL HC)	6.60	27.74	0.00	0.00	0.00	1.50	SEE RISER DIAGRAM			225	A
		2.60	27.56	0.00	0.00	1.44	1.00					B
		2.60	25.56	0.00	0.00	2.16	0.50					C
4	DORM D(PANEL HD)	6.60	26.74	0.00	0.00	0.00	2.00	SEE RISER DIAGRAM			225	A
		2.60	25.56	0.00	0.00	2.16	2.00					B
		2.60	25.56	0.00	0.00	2.16	0.00					C
5	DORM E(PANEL HE)	5.20	25.56	0.00	0.00	0.72	5.60	SEE RISER DIAGRAM			225	A
		2.60	26.74	0.00	0.00	1.08	9.00					B
		2.60	25.56	0.00	0.00	0.36	5.10					C
6	DORM F(PANEL HF)	6.60	26.74	0.00	0.00	1.08	1.00	SEE RISER DIAGRAM			225	A
		2.60	25.56	0.00	0.00	0.36	2.80					B
		2.60	25.56	0.00	0.00	1.80	0.00					C
7	VOCATIONAL BUILD. (NOTE 3)						5.00	EXISTING (NOTE 3)			100	A
							5.00					B
							5.00					C
8	SPACE ONLY											A
												B
												C
9	SPACE ONLY											A
												B
												C
10	SPACE ONLY											A
												B
												C

SWITCHBOARD NOTES:
1. BASIS OF DESIGN IS EATON POW-R-LINE C PLR4 PANELBOARD.
2. PROVIDE COPPER BUSSES.
3. EXISTING CIRCUIT AND CONDUCTORS RELOCATED FROM DEMOLISHED PANEL HDP.

CONNECTED LOAD	KVA	AMPS
PHASE A	220.3	795
PHASE B	205.3	741
PHASE C	191.9	692
MAX UNBAL.	28.5	103

LARGEST MOTOR (KVA) ______

CONNECTED (KVA)	DEMAND (KVA)	LOAD TYPES
69.4	69.4	LIGHTING
473.1	473.1	HEATING/COOLING
0.0	0.0	MOTORS
0.0	0.0	KITCHEN
22.0	16.0	RECEPTACLES
53.0	53.0	MISCELLANEOUS

TOTAL DEMAND LOAD 611.5 KVA
DEMAND AMPS 736 AMPS

EXISTING SWITCHBOARD: HDPE

LOCATION: RAW MATERIAL AREA — 1200 A MAIN BUS RATING
MOUNTING: PAD MOUNTED — 1200 A MAIN CIRCUIT BREAKER
ENCLOSURE: NEMA 1 — 50 KAIC, MIN. RMS SYM. RATING

VOLTAGE: 480 Y / 277V 3PH 4W

CKT #	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	WIRE SIZE	GND SIZE	CND IN.	BREAKER FRAME & TRIP/POLE	PHASE
1	DORM I "C"	3.00	5.50	0.00	0.00	2.16	1.50				100	A
		2.00	4.50	0.00	0.00	2.16	1.50					B
		2.00	6.50	0.00	0.00	0.00	3.50					C
2	DORM II "A"	3.00	5.50	0.00	0.00	2.16	1.50				100	A
		2.00	4.50	0.00	0.00	2.16	1.50					B
		2.00	6.50	0.00	0.00	0.00	3.50					C
3	DORM III "B"	2.00	1.60	0.00	0.00	1.44	3.20				100	A
		2.00	1.60	0.00	0.00	2.16	3.20					B
		1.50	1.60	0.00	0.00	1.44	2.50					C
4	MCCE						4.00				100	A
							4.00					B
							4.00					C
5	DORM VI "E"	3.00	5.50	0.00	0.00	2.16	1.50				100	A
		2.00	4.50	0.00	0.00	2.16	1.50					B
		2.00	6.50	0.00	0.00	0.00	3.50					C
6	SPACE ONLY											A
												B
												C
7	GATEHOUSE						3.00				60	A
							3.00					B
							3.00					C
8	DORM V "F"	3.00	5.50	0.00	0.00	2.16	1.50				100	A
		2.00	4.50	0.00	0.00	2.16	1.50					B
		2.00	6.50	0.00	0.00	0.00	3.50					C
9	PANEL HME						8.00				200	A
							8.00					B
							8.00					C
10	SPACE ONLY											A
												B
												C
11	PANEL HAE						5.00				125	A
							5.00					B
							5.00					C
12	DORM IV "D"	3.00	5.50	0.00	0.00	2.16	1.50				100	A
		2.00	4.50	0.00	0.00	2.16	1.50					B
		2.00	6.50	0.00	0.00	0.00	3.50					C
13	PANEL HKE						6.00				150	A
							6.00					B
							6.00					C
14	TRANSFORMER LDPBE						10.00				250	A
							10.00					B
							10.00					C

SWITCHBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C PRL4 PANELBOARD.
2. EXISTING LOADS ARE BASED ON METERING DATA.

CONNECTED LOAD	KVA	AMPS
PHASE A	105.0	379
PHASE B	95.8	346
PHASE C	103.0	372
MAX UNBAL.	9.3	33

LARGEST MOTOR (KVA) ______

CONNECTED (KVA)	DEMAND (KVA)	LOAD TYPES
40.5	40.5	LIGHTING
87.3	87.3	HEATING/COOLING
0.0	0.0	MOTORS
0.0	0.0	KITCHEN
26.6	18.3	RECEPTACLES
149.4	149.4	MISCELLANEOUS

TOTAL DEMAND LOAD 295.5 KVA
DEMAND AMPS 355 AMPS

MODIFIED SWITCHBOARD: HDPE

LOCATION: RAW MATERIAL AREA — 1200 A MAIN BUS RATING
MOUNTING: PAD MOUNTED — 1200 A MAIN CIRCUIT BREAKER
ENCLOSURE: NEMA 1 — 50 KAIC, MIN. RMS SYM. RATING

VOLTAGE: 480 Y / 277V 3PH 4W

CKT #	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	WIRE SIZE	GND SIZE	CND IN.	BREAKER FRAME & TRIP/POLE	PHASE
1	DORM I "C"	**4.00**	**10.53**	**0.00**	**0.00**	**2.16**	**1.70**	EXISTING			100	A
		4.00	**10.53**	**0.00**	**0.00**	**1.44**	**2.20**					B
		3.00	**10.53**	**0.00**	**0.00**	**1.44**	**1.50**					C
2	DORM II "A"	**4.00**	**10.53**	**0.00**	**0.00**	**1.44**	**2.20**	EXISTING			100	A
		4.00	**10.53**	**0.00**	**0.00**	**1.44**	**2.20**					B
		3.00	**10.53**	**0.00**	**0.00**	**1.98**	**1.50**					C
3	DORM III "B"	**1.50**	**10.31**	**0.00**	**0.00**	**2.16**	**2.00**	EXISTING			100	A
		1.00	**10.31**	**0.00**	**0.00**	**2.16**	**1.50**					B
		1.00	**11.48**	**0.00**	**0.00**	**0.00**	**2.00**					C
4	MCCE						4.00	EXISTING			100	A
							4.00					B
							4.00					C
5	DORM VI "E"	**2.50**	**9.13**	**0.00**	**0.00**	**1.80**	**5.50**	EXISTING			100	A
		2.50	**9.13**	**0.00**	**0.00**	**1.98**	**4.50**					B
		2.50	**9.13**	**0.00**	**0.00**	**1.80**	**5.50**					C
6	SPACE ONLY											A
												B
												C
7	GATEHOUSE						3.00	EXISTING			60	A
							3.00					B
							3.00					C
8	DORM V "F"	**3.50**	**9.13**	**0.00**	**0.00**	**1.80**	**2.00**	EXISTING			100	A
		3.00	**9.13**	**0.00**	**0.00**	**1.44**	**2.50**					B
		2.50	**9.13**	**0.00**	**0.00**	**0.72**	**3.50**					C
9	PANEL HME						8.00	EXISTING			200	A
							8.00					B
							8.00					C
10	SPACE ONLY											A
												B
												C
11	PANEL HAE						5.00	EXISTING			125	A
							5.00					B
							5.00					C
12	DORM IV "D"	**2.50**	**9.13**	**0.00**	**0.00**	**2.16**	**1.50**	EXISTING			100	A
		2.60	**9.13**	**0.00**	**0.00**	**2.16**	**2.50**					B
		2.30	**9.13**	**0.00**	**0.00**	**1.08**	**3.00**					C
13	PANEL HKE						6.00	EXISTING			150	A
							6.00					B
							6.00					C
14	TRANSFORMER LDPBE						10.00	EXISTING			250	A
							10.00					B
							10.00					C

SWITCHBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C PRL4 PANELBOARD.
2. EXISTING LOADS ARE BASED ON METERING DATA.

CONNECTED LOAD	KVA	AMPS
PHASE A	139.2	502
PHASE B	137.9	498
PHASE C	134.3	484
MAX UNBAL.	4.9	18

LARGEST MOTOR (KVA) ______

CONNECTED (KVA)	DEMAND (KVA)	LOAD TYPES
49.4	49.4	LIGHTING
177.5	177.5	HEATING/COOLING
0.0	0.0	MOTORS
0.0	0.0	KITCHEN
29.2	19.6	RECEPTACLES
155.3	155.3	MISCELLANEOUS

TOTAL DEMAND LOAD 401.8 KVA
DEMAND AMPS 483 AMPS

EXISTING PANELBOARD A

SERVED FROM: — AMPERE RATING: 100 A — VOLTAGE (L-L): 240 — PHASE: 1 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 100/2 — VOLTAGE (L-N): 120 — WIRE: 3 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: PREFAB BUILDING

CIR. NO.	LOAD DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	WIRE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	WIRE SIZE	G SIZE	CND IN.	LTG	H/C	MOT	KIT	REC	MISC	LOAD DESCRIPTION	CIR. NO.
1	RECS					1.08		EXISTING			20/1	A	20/1	EXISTING			0.50						LIGHTS	2
3	MINI SPLIT						2.50	EXISTING			30/2	B	30/2	EXISTING								2.50	UPS	4
5							2.50					A										2.50		6
7	FIRE ALARM						0.50	EXISTING			20/1	B	20/1	EXISTING								1.00	CAMERA/FENCE	8
9	SPACE ONLY										-/1	A	20/1	EXISTING								1.00	MICROWAVE FRIDGE	10
11	SPACE ONLY										-/1	B	-/1										SPACE ONLY	12
13	SPACE ONLY										-/1	A	-/1										SPACE ONLY	14
15	SPACE ONLY										-/1	B	-/1										SPACE ONLY	16
17	SPACE ONLY										-/1	A	-/1										SPACE ONLY	18
19	SPACE ONLY										-/1	B	-/1										SPACE ONLY	20

PANELBOARD NOTES:
1. EXISTING LOADS ARE BASED ON ESTIMATES.
2. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): 0.00

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.50	0.63
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	1.08	1.08
MISCELLANEOUS	12.50	12.50
TOTAL	14.08	14.21

LOAD BALANCE
PHASE A 107.67%
PHASE B 92.33%

TOTAL DEMAND AMPS x 59
LARGEST UNBALANCE PHASE %: 1.0767
LARGEST UNBALANCE PHASE AMPS: 63.73

MODIFIED PANELBOARD A

SERVED FROM: — AMPERE RATING: 100 A — VOLTAGE (L-L): 240 — PHASE: 1 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 100/2 — VOLTAGE (L-N): 120 — WIRE: 3 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: PREFAB BUILDING

CIR. NO.	LOAD DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	WIRE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	WIRE SIZE	G SIZE	CND IN.	LTG	H/C	MOT	KIT	REC	MISC	LOAD DESCRIPTION	CIR. NO.
1	RECS					1.08		EXISTING			20/1	A	20/1	EXISTING			0.50						LIGHTS	2
3	MINI SPLIT						2.50	EXISTING			30/2	B	30/2	EXISTING								2.50	UPS	4
5							2.50					A										2.50		6
7	FIRE ALARM						0.50	EXISTING			20/1	B	20/1	EXISTING								1.00	CAMERA/FENCE	8
9	**JACE PANEL**						**1.00**	**12**	**12**	**3/4**	**20/1**	A	20/1	EXISTING								1.00	MICROWAVE FRIDGE	10
11	SPACE ONLY										-/1	B	-/1										SPACE ONLY	12
13	SPACE ONLY										-/1	A	-/1										SPACE ONLY	14
15	SPACE ONLY										-/1	B	-/1										SPACE ONLY	16
17	SPACE ONLY										-/1	A	-/1										SPACE ONLY	18
19	SPACE ONLY										-/1	B	-/1										SPACE ONLY	20

PANELBOARD NOTES:
1. EXISTING LOADS ARE BASED ON ESTIMATES.
2. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): 0.00

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.50	0.63
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	1.08	1.08
MISCELLANEOUS	13.50	13.50
TOTAL	15.08	15.21

LOAD BALANCE
PHASE A 113.79%
PHASE B 86.21%

TOTAL DEMAND AMPS x 63
LARGEST UNBALANCE PHASE %: 1.1379
LARGEST UNBALANCE PHASE AMPS: 72.09

REV.NO. | DESCRIPTION | DATE
REVISIONS

NORTH CAROLINA SEAL 053121

MCKIM & CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL
ELECTRICAL PANEL SCHEDULES

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE — HORIZONTAL: AS NOTED — VERTICAL: N/A

E600 DRAWING NUMBER
0 REVISION

STATUS: BID DOCUMENTS

EXISTING PANELBOARD H2

SERVED FROM: HDP　AMPERE RATING: 100 A　VOLTAGE (L-L): 480　PHASE: 3　14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1　MAIN BREAKER: 100/3　VOLTAGE (L-N): 277　WIRE: 4　SYMMETRICAL AIC RATING
MOUNTING: SURFACE　LUG OPTIONS: MCB　LOCATION: ELECT A114

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING			2.60						LIGHTS DORM B (NOTE 4)	2
3	LTS (NOTE 4)	1.40						EXISTING			20	B	20	EXISTING			2.60						LIGHTS DORM A (NOTE 4)	4
5	SPARE							EXISTING			20	C	20	EXISTING			2.60						LIGHTS DORM D (NOTE 4)	6
7	SPACE										-/1	A	20	EXISTING			2.60						LIGHTS DORM C (NOTE 4)	8
9	SPACE										-/1	B	20	EXISTING									SPARE	10
11	SPACE										-/1	C	20	EXISTING									SPARE	12
13	SPACE										-/1	A	-/1										SPACE ONLY	14
15	SPACE										-/1	B	-/1										SPACE ONLY	16
17	SPACE										-/1	C	-/1										SPACE ONLY	18
19	SPACE										-/1	A	30	EXISTING			0.00	3.00	0.00	0.00	2.16	0.00	TX TL2 (NOTE 4)	20
21	SPACE										-/1	B					0.00	1.00	0.00	0.00	2.16	0.00		22
23	SPACE										-/1	C					0.00	3.00	0.00	0.00	0.00	2.00		24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.
4. EXISTING CIRCUIT TO BE RELOCATED TO NEW PANEL HA.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	11.80	14.75
HEATING/COOLING	7.00	7.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	2.00	2.00
TOTAL	25.12	28.07

LOAD BALANCE
PHASE A 123.73%
PHASE B 85.51%
PHASE C 90.76%

TOTAL DEMAND AMPS x 34
LARGEST UNBALANCE PHASE %: 1.2373
LARGEST UNBALANCE PHASE AMPS: 41.77

NEW PANELBOARD HA

SERVED FROM: HDP　AMPERE RATING: 225 A　VOLTAGE (L-L): 480　PHASE: 3　14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1　MAIN BREAKER: 225/3　VOLTAGE (L-N): 277　WIRE: 4　SYMMETRICAL AIC RATING
MOUNTING: SURFACE　LUG OPTIONS: MCB　LOCATION: ELECT A114

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPACE										-/1		-/1										SPACE	2
3	SPACE										-/1		-/1										SPACE	4
5	SPACE										-/1		-/1										SPACE	6
7	SPACE										-/1		-/1										SPACE	8
9	SPACE										-/1		-/1										SPACE	10
11	SPACE										-/1		-/1										SPACE	12
13	CU-1-A		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-3-A	14
15			6.10									B						6.10						16
17			6.10									C						6.10						18
19	CU-2-A		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-4-A	20
21			6.10									B						6.10						22
23			6.10									C						6.10						24
25	LTS (NOTE 3)	1.40						#12	#12	3/4"	20	A	20	#12	#12	3/4"	2.60						LIGHTS DORM B (NOTE 3)	26
27	TX TL2 (NOTE 3)	0.00	3.18	0.00	0.00	2.16	0.00	#10	#10	3/4"	30	B	20	#12	#12	3/4"	2.60						LIGHTS DORM A (NOTE 3)	28
29		0.00	1.18	0.00	0.00	2.16	0.00					C	20	#12	#12	3/4"	2.60						LIGHTS DORM D (NOTE 3)	30
31		0.00	3.35	0.00	0.00	0.00	2.00					A	20	#12	#12	3/4"	2.60						LIGHTS DORM C (NOTE 3)	32
33	SPACE										-/1	B	-/1										SPACE	34
35	SPACE										-/1	C	-/1										SPACE	36
37	SPACE										-/1	A	-/1										SPACE	38
39	SPACE										-/1	B	-/1										SPACE	40
41	SPACE										-/1	C	-/1										SPACE	42

PANELBOARD NOTES:
1. PROVIDE WITH COPPER BUSSES.
2. BASIS OF DESIGN IS EATON POW-R-LINE-C
3. EXISTING CIRCUIT RELOCATED FROM DEMOLISHED PANEL H2.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	11.80	14.75
HEATING/COOLING	80.86	80.86
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	2.00	2.00
TOTAL	98.98	101.93

LOAD BALANCE
PHASE A 110.14%
PHASE B 97.96%
PHASE C 91.90%

TOTAL DEMAND AMPS x 123
LARGEST UNBALANCE PHASE %: 1.1014
LARGEST UNBALANCE PHASE AMPS: 135.02

EXISTING PANELBOARD H2E

SERVED FROM: HDPE　AMPERE RATING: 100 A　VOLTAGE (L-L): 480　PHASE: 3　14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1　MAIN BREAKER: 100/3　VOLTAGE (L-N): 277　WIRE: 4　SYMMETRICAL AIC RATING
MOUNTING: SURFACE　LUG OPTIONS: MCB　LOCATION: ELECT A114

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING			1.00						LTS 106-11, 107-11, 108-11	2
3	LTS 110-11, 129-11, 131-11, 132-11 EXIT	1.00						EXISTING			20	B	20	EXISTING			1.00						LTS 102-11, 104-11, 105-11	4
5	LTS 125-11-128-11, 118, 112-115, 133, 103	1.00						EXISTING			20	C	20	EXISTING			1.00						LTS 121-11, 122-11, 123-11	6
7	EXTERIOR LIGHTS	1.00						EXISTING			20	A	20	EXISTING			1.00						LTS 117-11, 119-11, 120-11	8
9	SPARE							EXISTING			20	B	-/1										SPACE ONLY	10
11	SPARE							EXISTING			20	C	-/1										SPACE ONLY	12
13	SPACE										-/1	A	30	EXISTING			0.50	0.00	0.00	0.00	1.08	2.20	TX TL2E	14
15	SPACE										-/1	B					1.00	0.00	0.00	0.00	1.08	2.20		16
17	SPACE										-/1	C					0.50	0.00	0.00	0.00	0.54	2.50		18
19	AHU AH3-2, AH4-2 ROOM 103-11						1.50	EXISTING			50	A	50	EXISTING				1.50					AHU AH1-2 AH2-2 ROOM 118-11	20
21							1.50					B						1.50						22
23							1.50					C						1.50						24
25	SPACE										-/1	A	15	EXISTING				2.00					AHU AH5-2 ROOM 113-2	26
27	SPACE										-/1	B						2.00						28
29	SPACE										-/1	C						2.00						30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	9.00	11.25
HEATING/COOLING	10.50	10.50
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	2.70	2.70
MISCELLANEOUS	11.40	11.40
TOTAL	33.60	35.85

LOAD BALANCE
PHASE A 105.18%
PHASE B 100.71%
PHASE C 94.11%

TOTAL DEMAND AMPS x 43
LARGEST UNBALANCE PHASE %: 1.0518
LARGEST UNBALANCE PHASE AMPS: 45.35

MODIFIED PANELBOARD H2E

SERVED FROM: HDPE　AMPERE RATING: 100 A　VOLTAGE (L-L): 480　PHASE: 3　14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1　MAIN BREAKER: 100/3　VOLTAGE (L-N): 277　WIRE: 4　SYMMETRICAL AIC RATING
MOUNTING: SURFACE　LUG OPTIONS: MCB　LOCATION: ELECT A114

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING			1.00						LTS 106-11, 107-11, 108-11	2
3	LTS	1.00						EXISTING			20	B	20	EXISTING			1.00						LTS 102-11, 104-11, 105-11	4
5	LTS	1.00						EXISTING			20	C	20	EXISTING			1.00						LTS 121-11, 122-11, 123-11	6
7	EXTERIOR LIGHTS	1.00						EXISTING			20	A	20	EXISTING			1.00						LTS 117-11, 119-11, 120-11	8
9	SPARE							EXISTING			20	B	-/1										SPACE ONLY	10
11	SPARE							EXISTING			20	C	-/1										SPACE ONLY	12
13	**AHU-1-A**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	30	EXISTING			0.50	0.00	0.00	0.00	1.08	2.20	TX TL2E	14
15			**2.13**									B					1.00	0.00	0.00	0.00	1.08	2.20		16
17			**2.13**									C					0.50	0.00	0.00	0.00	0.54	2.50		18
19	**AHU-2-A**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	50										**SPARE (OFF)**	20
21			**2.13**									B												22
23			**2.13**									C												24
25	**AHU-3-A**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	15	EXISTING				2.00					AHU AH5-2 ROOM 113-2	26
27			**2.13**									B						2.00						28
29			**2.13**									C						2.00						30
31	**AHU-4-A**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	-/1										SPACE ONLY	32
33			**2.13**									B	-/1										SPACE ONLY	34
35			**2.13**									C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	9.00	11.25
HEATING/COOLING	31.60	31.60
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	2.70	2.70
MISCELLANEOUS	6.90	6.90
TOTAL	50.20	52.45

LOAD BALANCE
PHASE A 103.47%
PHASE B 100.48%
PHASE C 96.06%

TOTAL DEMAND AMPS x 63
LARGEST UNBALANCE PHASE %: 1.0347
LARGEST UNBALANCE PHASE AMPS: 65.27

EXISTING PANELBOARD L2

SERVED FROM: TX TL2　AMPERE RATING: 60 A　VOLTAGE (L-L): 208　PHASE: 3　10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1　MAIN BREAKER: 60/3　VOLTAGE (L-N): 120　WIRE: 4　SYMMETRICAL AIC RATING
MOUNTING: SURFACE　LUG OPTIONS: MCB　LOCATION: ELECT A114

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			30	A	20	EXISTING							0.72		RECPT - DORM A	2
3	SPARE							EXISTING			30	B	20	EXISTING							0.72		RECPT - DORM B	4
5	FAN F3-2		1.00					EXISTING			20	C	20	EXISTING								1.00	WATER COOLERS	6
7	FAN F4-2		1.00					EXISTING			20	A	20	EXISTING							0.72		RECPT - DORM C	8
9	FAN F5-2		1.00					EXISTING			20	B	20	EXISTING							0.72		RECPT - DORM D	10
11	FAN F6-2		1.00					EXISTING			20	C	20	EXISTING								1.00	WATER COOLERS	12
13	EF-F1		1.00					EXISTING			20	A	20	EXISTING							0.72		RECPT - MECH ROOMS	14
15	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - MECH ROOMS	16
17	EF F11, F12		1.00					EXISTING			20	C	20	EXISTING									SPARE	18
19	EXISTING		1.00					EXISTING			20	A	40/2	EXISTING									SPARE (OFF)	20
21	SPACE										-/1	B												22
23	SPACE										-/1	C	-/1										SPACE	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	7.00	7.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	2.00	2.00
TOTAL	13.32	13.32

LOAD BALANCE
PHASE A 116.22%
PHASE B 71.17%
PHASE C 112.61%

TOTAL DEMAND AMPS x 37
LARGEST UNBALANCE PHASE %: 1.1622
LARGEST UNBALANCE PHASE AMPS: 42.97

MODIFIED PANELBOARD L2

SERVED FROM: TX TL2　AMPERE RATING: 60 A　VOLTAGE (L-L): 208　PHASE: 3　10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1　MAIN BREAKER: 60/3　VOLTAGE (L-N): 120　WIRE: 4　SYMMETRICAL AIC RATING
MOUNTING: SURFACE　LUG OPTIONS: MCB　LOCATION: ELECT A114

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING							0.72		RECPT - DORM A	2
3	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - DORM B	4
5	**FAN F3-A**		**1.18**					**#12**	**#12**	**3/4"**	20	C	20	EXISTING								1.00	WATER COOLERS	6
7	**FAN F4-A**		**1.18**					**#12**	**#12**	**3/4"**	20	A	20	EXISTING							0.72		RECPT - DORM C	8
9	**FAN F5-A**		**1.18**					**#12**	**#12**	**3/4"**	20	B	20	EXISTING							0.72		RECPT - DORM D	10
11	**FAN F6-A**		**1.18**					**#12**	**#12**	**3/4"**	20	C	20	EXISTING								1.00	WATER COOLERS	12
13	EF-F1		1.00					EXISTING			20	A	20	EXISTING							0.72		RECPT - MECH ROOMS	14
15	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - MECH ROOMS	16
17	EF F11, F12		1.00					EXISTING			20	C	20	EXISTING									SPARE	18
19	EXISTING		1.00					EXISTING			20	A	40/2	EXISTING									SPARE (OFF)	20
21	SPACE										-/1	B												22
23	SPACE										-/1	C	-/1										SPACE	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	7.70	7.70
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	2.00	2.00
TOTAL	14.02	14.02

LOAD BALANCE
PHASE A 114.15%
PHASE B 71.36%
PHASE C 114.49%

TOTAL DEMAND AMPS x 39
LARGEST UNBALANCE PHASE %: 1.1449
LARGEST UNBALANCE PHASE AMPS: 44.57

EXISTING PANELBOARD L2E

SERVED FROM: TX TL2E　AMPERE RATING: 60 A　VOLTAGE (L-L): 208　PHASE: 3　10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1　MAIN BREAKER: 60/3　VOLTAGE (L-N): 120　WIRE: 4　SYMMETRICAL AIC RATING
MOUNTING: SURFACE　LUG OPTIONS: MCB　LOCATION: ELECT A114

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	FIRE ALARM						0.50	EXISTING			20	A	20	EXISTING							0.54		RECS 112 113	2
3	INERCOM & DORMS						0.70	EXISTING			20	B	20	EXISTING							0.54		RECS 115 133	4
5	C-PAP REC							EXISTING			20	C	20	EXISTING							0.54		RECS 132	6
7	TELEPHONE EQPT						0.70	EXISTING			20	A	20	EXISTING							0.54		RECS 128 130	8
9	SIGNAL LIGHT	0.50						EXISTING			20	B	20	EXISTING							0.54		RECS 126 126	10
11	BATTERY LIGHTS	0.50						EXISTING			20	C	20	EXISTING								1.00	RECS MICRO CANTEEN	12
13	LTG - PLUMBING CHASE	0.50						EXISTING			20	A	-/1										SPACE ONLY	14
15	LTG PLUMBING CHASE	0.50						EXISTING			20	B	20	EXISTING								1.00	ATC MECH RM 103	16
17	SPACE										-/1	C	20	EXISTING								1.00	ATC MECH RM 118	18
19	WING 3 FANS						0.50	EXISTING			20	A	20	EXISTING									SPARE	20
21	SPACE										-/1	B	20	EXISTING									SPARE	22
23	SPACE										-/1	C	20	EXISTING									SPARE	24
25	SPACE										-/1	A	20	EXISTING								0.50	WING 2 FANS	26
27	SPACE										-/1	B	20	EXISTING								0.50	WING 4 FANS	28
29	SPACE										-/1	C	20	EXISTING								0.50	WING 1 FANS	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	2.70	2.70
MISCELLANEOUS	6.90	6.90
TOTAL	11.60	12.10

LOAD BALANCE
PHASE A 97.76%
PHASE B 110.69%
PHASE C 91.55%

TOTAL DEMAND AMPS x 34
LARGEST UNBALANCE PHASE %: 1.1069
LARGEST UNBALANCE PHASE AMPS: 37.18

MODIFIED PANELBOARD L2E

SERVED FROM: TX TL2E　AMPERE RATING: 60 A　VOLTAGE (L-L): 208　PHASE: 3　10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1　MAIN BREAKER: 60/3　VOLTAGE (L-N): 120　WIRE: 4　SYMMETRICAL AIC RATING
MOUNTING: SURFACE　LUG OPTIONS: MCB　LOCATION: ELECT A114

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	FIRE ALARM						0.50	EXISTING			20	A	20	EXISTING							0.54		RECS 112 113	2
3	INERCOM & DORMS						0.70	EXISTING			20	B	20	EXISTING							0.54		RECS 115 133	4
5	C-PAP REC							EXISTING			20	C	20	EXISTING							0.54		RECS 132	6
7	TELEPHONE EQPT						0.70	EXISTING			20	A	20	EXISTING							0.54		RECS 128 130	8
9	SIGNAL LIGHT	0.50						EXISTING			20	B	20	EXISTING							0.54		RECS 126 126	10
11	BATTERY LIGHTS	0.50						EXISTING			20	C	20	EXISTING								1.00	RECS MICRO CANTEEN	12
13	LTG - PLUMBING CHASE	0.50						EXISTING			20	A	**20**	**12**	**12**	**3/4**						**1.00**	**AHU RELAYS**	14
15	LTG PLUMBING CHASE	0.50						EXISTING			20	B	20	EXISTING								1.00	ATC MECH RM 103	16
17	**AHU RELAYS**						**1.00**	**12**	**12**	**3/4**	**20**	C	20	EXISTING								1.00	ATC MECH RM 118	18
19	WING 3 FANS						0.50	EXISTING			20	A	20	EXISTING									SPARE	20
21	SPACE										-/1	B	20	EXISTING									SPARE	22
23	SPACE										-/1	C	20	EXISTING									SPARE	24
25	SPACE										-/1	A	20	EXISTING								0.50	WING 2 FANS	26
27	SPACE										-/1	B	20	EXISTING								0.50	WING 4 FANS	28
29	SPACE										-/1	C	20	EXISTING								0.50	WING 1 FANS	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	2.70	2.70
MISCELLANEOUS	8.90	8.90
TOTAL	13.60	14.10

LOAD BALANCE
PHASE A 105.44%
PHASE B 94.41%
PHASE C 100.15%

TOTAL DEMAND AMPS x 39
LARGEST UNBALANCE PHASE %: 1.0544
LARGEST UNBALANCE PHASE AMPS: 41.27

REV.NO.	DESCRIPTION	DATE
-	----	----

REVISIONS

053121
5/30/23
JESSE C. ALONZO JR.

McKIM & CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A　Code: 42107　Item: 4112

ELECTRICAL

ELECTRICAL PANEL SCHEDULES

PROJ. START DATE: 2023-05-30
MCE PROJ. # 08914-0003
DRAWN OWN
DESIGNED OWN
CHECKED JCA
PROJ. MGR. MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E601
DRAWING NUMBER
0
REVISION

STATUS: BID DOCUMENTS

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E601.DWG 06/02/2023 11:43:32 OMAR NAHHAS

EXISTING PANELBOARD **H3**

SERVED FROM: HDP   AMPERE RATING: 100 A   VOLTAGE (L-L): 480   PHASE: 3   14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1   MAIN BREAKER: 100/3   VOLTAGE (L-N): 277   WIRE: 4   SYMMETRICAL AIC RATING
MOUNTING: SURFACE   LUG OPTIONS: MCB   LOCATION: ELECT B121

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING			2.60						LIGHTS DORM B (NOTE 4)	2
3	LTS (NOTE 4)	1.40						EXISTING			20	B	20	EXISTING			2.60						LIGHTS DORM A (NOTE 4)	4
5	SPARE							EXISTING			20	C	20	EXISTING			2.60						LIGHTS DORM D (NOTE 4)	6
7	SPACE										-/1	A	20	EXISTING			2.60						LIGHTS DORM C (NOTE 4)	8
9	SPACE										-/1	B	20	EXISTING									SPARE	10
11	SPACE										-/1	C	20	EXISTING									SPARE	12
13	SPACE										-/1	A	-/1										SPACE ONLY	14
15	SPACE										-/1	B	-/1										SPACE ONLY	16
17	SPACE										-/1	C	-/1										SPACE ONLY	18
19	SPACE										-/1	A	30	EXISTING			0.00	1.00	0.00	0.00	2.16	2.00	TX TL3 (NOTE 4)	20
21	SPACE										-/1	B					0.00	1.00	0.00	0.00	2.16	1.50		22
23	SPACE										-/1	C					0.00	2.00	0.00	0.00	0.00	2.00		24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.
4. EXISTING CIRCUIT TO BE RELOCATED TO NEW PANEL HB.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	11.80	14.75
HEATING/COOLING	4.00	4.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	5.50	5.50
TOTAL	25.62	28.57

LOAD BALANCE
PHASE A 121.31%
PHASE B 101.41%
PHASE C 77.28%

TOTAL DEMAND AMPS x 34
LARGEST UNBALANCE PHASE %: 1.2131
LARGEST UNBALANCE PHASE AMPS: **41.69**

NEW PANELBOARD **HB**

SERVED FROM: HDP   AMPERE RATING: 225 A   VOLTAGE (L-L): 480   PHASE: 3   14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1   MAIN BREAKER: 225/3   VOLTAGE (L-N): 277   WIRE: 4   SYMMETRICAL AIC RATING
MOUNTING: SURFACE   LUG OPTIONS: MCB   LOCATION: ELEC ROOM

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPACE										-/1	A	-/1										SPACE	2
3	SPACE										-/1	B	-/1										SPACE	4
5	SPACE										-/1	C	-/1										SPACE	6
7	SPACE										-/1	A	-/1										SPACE	8
9	SPACE										-/1	B	-/1										SPACE	10
11	SPACE										-/1	C	-/1										SPACE	12
13	CU-1-B		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-3-B	14
15			6.10									B						6.10						16
17			6.10									C						6.10						18
19	CU-2-B		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-4-B	20
21			6.10									B						6.10						22
23			6.10									C						6.10						24
25	LTS (NOTE 3)	1.40						#12	#12	3/4"	20	A	20	#12	#12	3/4"	2.60						LIGHTS DORM B (NOTE 3)	26
27	TX TL3 (NOTE 3)	0.00	1.18	0.00	0.00	2.16	2.00	#10	#10	3/4"	30	B	20	#12	#12	3/4"	2.60						LIGHTS DORM A (NOTE 3)	28
29		0.00	1.18	0.00	0.00	2.16	1.50					C	20	#12	#12	3/4"	2.60						LIGHTS DORM D (NOTE 3)	30
31		0.00	2.35	0.00	0.00	0.00	2.00					A	20	#12	#12	3/4"	2.60						LIGHTS DORM C (NOTE 3)	32
33	SPACE										-/1	B	-/1										SPACE	34
35	SPACE										-/1	C	-/1										SPACE	36
37	SPACE										-/1	A	-/1										SPACE	38
39	SPACE										-/1	B	-/1										SPACE	40
41	SPACE										-/1	C	-/1										SPACE	42

PANELBOARD NOTES:
1. PROVIDE WITH COPPER BUSSES.
2. BASIS OF DESIGN IS EATON POW-R-LINE-C
3. EXISTING CIRCUIT RELOCATED FROM DEMOLISHED PANEL H2.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	11.80	14.75
HEATING/COOLING	77.86	77.86
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	5.50	5.50
TOTAL	99.48	102.43

LOAD BALANCE
PHASE A 106.57%
PHASE B 97.47%
PHASE C 95.96%

TOTAL DEMAND AMPS x 123
LARGEST UNBALANCE PHASE %: 1.0657
LARGEST UNBALANCE PHASE AMPS: **131.29**

EXISTING PANELBOARD **H3E**

SERVED FROM: HDPE   AMPERE RATING: 100 A   VOLTAGE (L-L): 480   PHASE: 3   14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1   MAIN BREAKER: 100/3   VOLTAGE (L-N): 277   WIRE: 4   SYMMETRICAL AIC RATING
MOUNTING: SURFACE   LUG OPTIONS: MCB   LOCATION: ELECT B121

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING			0.50						LTS 106-11, 107-11, 108-11	2
3	LTS 110-11, 129-11, 131-11, 132-11 EXIT	0.50						EXISTING			20	B	20	EXISTING			0.50						LTS 102-11, 104-11, 105-11	4
5	LTS 125-11-128-11, 118, 112-115, 133, 103	0.50						EXISTING			20	C	20	EXISTING			0.50						LTS 121-11, 122-11, 123-11	6
7	EXTERIOR LIGHTS	0.50						EXISTING			20	A	20	EXISTING			0.50						LTS 117-11, 119-11, 120-11	8
9	SPARE							EXISTING			20	B	-/1										SPACE ONLY	10
11	SPARE							EXISTING			20	C	-/1										SPACE ONLY	12
13	SPACE										-/1	A	30	EXISTING			0.50	0.00	0.00	0.00	1.44	1.50	TX TL3E	14
15	SPACE										-/1	B					1.00	0.00	0.00	0.00	1.62	2.00		16
17	SPACE										-/1	C					0.50	0.00	0.00	0.00	1.08	1.80		18
19	AHU AH3-2, AH4-2 ROOM 103-11						1.00	EXISTING			50	A	50	EXISTING				1.00					AHU AH1-2 AH2-2 ROOM 118-11	20
21							1.00					B						1.00						22
23							1.00					C						1.00						24
25	SPACE										-/1	A	15	EXISTING				0.60					AHU AH5-2 ROOM 113-2	26
27	SPACE										-/1	B						0.60						28
29	SPACE										-/1	C						0.60						30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	5.50	6.88
HEATING/COOLING	4.80	4.80
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.14	4.14
MISCELLANEOUS	8.30	8.30
TOTAL	22.74	24.12

LOAD BALANCE
PHASE A 99.47%
PHASE B 108.44%
PHASE C 92.08%

TOTAL DEMAND AMPS x 29
LARGEST UNBALANCE PHASE %: 1.0844
LARGEST UNBALANCE PHASE AMPS: **31.45**

MODIFIED PANELBOARD **H3E**

SERVED FROM: HDPE   AMPERE RATING: 100 A   VOLTAGE (L-L): 480   PHASE: 3   14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1   MAIN BREAKER: 100/3   VOLTAGE (L-N): 277   WIRE: 4   SYMMETRICAL AIC RATING
MOUNTING: SURFACE   LUG OPTIONS: MCB   LOCATION: ELECT B121

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING			0.50						LTS 106-11, 107-11, 108-11	2
3	LTS	0.50						EXISTING			20	B	20	EXISTING			0.50						LTS 102-11, 104-11, 105-11	4
5	LTS	0.50						EXISTING			20	C	20	EXISTING			0.50						LTS 121-11, 122-11, 123-11	6
7	EXTERIOR LIGHTS	0.50						EXISTING			20	A	20	EXISTING			0.50						LTS 117-11, 119-11, 120-11	8
9	SPARE							EXISTING			20	B	-/1										SPACE ONLY	10
11	SPARE							EXISTING			20	C	-/1										SPACE ONLY	12
13	**AHU-1-B**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	30	EXISTING			**0.00**	**1.18**	**0.00**	**0.00**	**2.16**	**2.00**	TX TL3E	14
15			**2.13**									B					**0.00**	**1.18**	**0.00**	**0.00**	**2.16**	**1.50**		16
17			**2.13**									C					**0.00**	**2.35**	**0.00**	**0.00**	**0.00**	**2.00**		18
19	**AHU-2-B**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	50										**SPARE (OFF)**	20
21			**2.13**									B												22
23			**2.13**									C												24
25	**AHU-3-B**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	15	EXISTING				0.60					AHU AH5-2 ROOM 113-2	26
27			**2.13**									B						0.60						28
29			**2.13**									C						0.60						30
31	**AHU-4-B**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	-/1										SPACE ONLY	32
33			**2.13**									B	-/1										SPACE ONLY	34
35			**2.13**									C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	3.50	4.38
HEATING/COOLING	32.10	32.10
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	5.50	5.50
TOTAL	45.42	46.30

LOAD BALANCE
PHASE A 105.47%
PHASE B 98.86%
PHASE C 95.67%

TOTAL DEMAND AMPS x 56
LARGEST UNBALANCE PHASE %: 1.0547
LARGEST UNBALANCE PHASE AMPS: **58.73**

EXISTING PANELBOARD **L3**

SERVED FROM: TX TL3   AMPERE RATING: 60 A   VOLTAGE (L-L): 208   PHASE: 3   10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1   MAIN BREAKER: 60/3   VOLTAGE (L-N): 120   WIRE: 4   SYMMETRICAL AIC RATING
MOUNTING: SURFACE   LUG OPTIONS: MCB   LOCATION: ELECT B121

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	FANS 3+4 AND MW						1.50	EXISTING			30	A	20	EXISTING							0.72		RECPT - DORM A	2
3	FANS 1+2 AND MW						1.50	EXISTING			30	B	20	EXISTING							0.72		RECPT - DORM D	4
5	FAN F3-2		1.00					EXISTING			20	C	20	EXISTING								0.50	WATER COOLERS	6
7	FAN F4-2		1.00					EXISTING			20	A	20	EXISTING							0.72		RECPT - DORM C	8
9	FAN F5-2		1.00					EXISTING			20	B	20	EXISTING							0.72		RECPT - DORM D	10
11	FAN F6-2		1.00					EXISTING			20	C	20	EXISTING								0.50	WATER COOLERS	12
13	EF-F1						0.50	EXISTING			20	A	20	EXISTING							0.72		RECPT - MECH ROOMS	14
15	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - MECH ROOMS	16
17	EF F11, F12						0.50	EXISTING			20	C	20	EXISTING								0.50	EWC	18
19	SPACE										-/1	A	-/1										SPACE	20
21	SPACE										-/1	B	-/1										SPACE	22
23	SPACE										-/1	C	-/1										SPACE	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	4.00	4.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	5.50	5.50
TOTAL	13.82	13.82

LOAD BALANCE
PHASE A 112.01%
PHASE B 101.16%
PHASE C 86.83%

TOTAL DEMAND AMPS x 38
LARGEST UNBALANCE PHASE %: 1.1201
LARGEST UNBALANCE PHASE AMPS: **42.97**

MODIFIED PANELBOARD **L3**

SERVED FROM: TX TL3   AMPERE RATING: 60 A   VOLTAGE (L-L): 208   PHASE: 3   10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1   MAIN BREAKER: 60/3   VOLTAGE (L-N): 120   WIRE: 4   SYMMETRICAL AIC RATING
MOUNTING: SURFACE   LUG OPTIONS: MCB   LOCATION: ELECT B121

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	FANS 3+4 AND MW						1.50	EXISTING			30	A	20	EXISTING							0.72		RECPT - DORM A	2
3	FANS 1+2 AND MW						1.50	EXISTING			30	B	20	EXISTING							0.72		RECPT - DORM D	4
5	**FAN F3-B**		**1.18**					**#12**	**#12**	**3/4"**	20	C	20	EXISTING								0.50	WATER COOLERS	6
7	**FAN F4-B**		**1.18**					**#12**	**#12**	**3/4"**	20	A	20	EXISTING							0.72		RECPT - DORM C	8
9	**FAN F5-B**		**1.18**					**#12**	**#12**	**3/4"**	20	B	20	EXISTING							0.72		RECPT - DORM D	10
11	**FAN F6-B**		**1.18**					**#12**	**#12**	**3/4"**	20	C	20	EXISTING								0.50	WATER COOLERS	12
13	EF-F1						0.50	EXISTING			20	A	20	EXISTING							0.72		RECPT - MECH ROOMS	14
15	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - MECH ROOMS	16
17	EF F11, F12						0.50	EXISTING			20	C	20	EXISTING								0.50	EWC	18
19	SPACE										-/1	A	-/1										SPACE	20
21	SPACE										-/1	B	-/1										SPACE	22
23	SPACE										-/1	C	-/1										SPACE	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	4.70	4.70
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	5.50	5.50
TOTAL	14.52	14.52

LOAD BALANCE
PHASE A 110.22%
PHASE B 99.89%
PHASE C 89.89%

TOTAL DEMAND AMPS x 40
LARGEST UNBALANCE PHASE %: 1.1022
LARGEST UNBALANCE PHASE AMPS: **44.43**

EXISTING PANELBOARD **L3E**

SERVED FROM: TX TL3E   AMPERE RATING: 60 A   VOLTAGE (L-L): 208   PHASE: 3   10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1   MAIN BREAKER: 60/3   VOLTAGE (L-N): 120   WIRE: 4   SYMMETRICAL AIC RATING
MOUNTING: SURFACE   LUG OPTIONS: MCB   LOCATION: ELECT B121

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	FIRE ALARM						0.50	EXISTING			20	A	20	EXISTING							0.54		RECPT - OFFICES	2
3	INTERCOM & DORMS						0.50	EXISTING			20	B	20	EXISTING							0.54		RECPT - OFFICES	4
5	DOOR CONTROLS						0.30	EXISTING			20	C	20	EXISTING							0.54		RECPT - CTRL	6
7	TELEPHONE EQPT					0.36		EXISTING			20	A	20	EXISTING							0.54		RECPT - OFFICES	8
9	SIGNAL LIGHT	0.50						EXISTING			20	B	20	EXISTING							0.54		RECPT - OFFICES	10
11	BATTERY LIGHTS	0.50						EXISTING			20	C	20	EXISTING							0.54		RECPT - OFFICES	12
13	LTG - PLUMBING CHASE	0.50						EXISTING			20	A	20	EXISTING								0.50	WING 3 TVS	14
15	LTG PLUMBING CHASE	0.50						EXISTING			20	B	20	EXISTING								1.00	HVAC CTRLS	16
17	SPARE							EXISTING			20	C	20	EXISTING								1.00	HVAC CTRLS	18
19	WING 2 FANS						0.50	EXISTING			20	A	20	EXISTING									SPARE	20
21	WING 4 FANS						0.50	EXISTING			20	B	20	EXISTING							0.54		REC 130-11	22
23	WING 1 FANS						0.50	EXISTING			20	C	20	EXISTING									SPARE	24
25	SPACE										-/1	A	-/1										SPACE ONLY	26
27	SPACE										-/1	B	-/1										SPACE ONLY	28
29	SPACE										-/1	C	-/1										SPACE ONLY	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.14	4.14
MISCELLANEOUS	5.30	5.30
TOTAL	11.44	11.94

LOAD BALANCE
PHASE A 90.21%
PHASE B 121.15%
PHASE C 88.64%

TOTAL DEMAND AMPS x 33
LARGEST UNBALANCE PHASE %: 1.2115
LARGEST UNBALANCE PHASE AMPS: **40.15**

MODIFIED PANELBOARD **L3E**

SERVED FROM: TX TL3E   AMPERE RATING: 60 A   VOLTAGE (L-L): 208   PHASE: 3   10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1   MAIN BREAKER: 60/3   VOLTAGE (L-N): 120   WIRE: 4   SYMMETRICAL AIC RATING
MOUNTING: SURFACE   LUG OPTIONS: MCB   LOCATION: ELECT B121

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	FIRE ALARM						0.50	EXISTING			20	A	20	EXISTING							0.54		RECPT - OFFICES	2
3	INTERCOM & DORMS						0.50	EXISTING			20	B	20	EXISTING							0.54		RECPT - OFFICES	4
5	DOOR CONTROLS						0.30	EXISTING			20	C	20	EXISTING							0.54		RECPT - CTRL	6
7	TELEPHONE EQPT					0.36		EXISTING			20	A	20	EXISTING							0.54		RECPT - OFFICES	8
9	SIGNAL LIGHT	0.50						EXISTING			20	B	20	EXISTING							0.54		RECPT - OFFICES	10
11	BATTERY LIGHTS	0.50						EXISTING			20	C	20	EXISTING							0.54		RECPT - OFFICES	12
13	LTG - PLUMBING CHASE	0.50						EXISTING			20	A	20	EXISTING								0.50	WING 3 TVS	14
15	LTG PLUMBING CHASE	0.50						EXISTING			20	B	20	EXISTING								1.00	HVAC CTRLS	16
17	SPARE							EXISTING			20	C	20	EXISTING								1.00	HVAC CTRLS	18
19	WING 2 FANS						0.50	EXISTING			20	A	20	**12**	**12**	**3/4**						**1.00**	**AHU RELAYS**	20
21	WING 4 FANS						0.50	EXISTING			20	B	20	EXISTING							0.54		REC 130-11	22
23	WING 1 FANS						0.50	EXISTING			20	C	20	**12**	**12**	**3/4**						**1.00**	**AHU RELAYS**	24
25	SPACE										-/1	A	-/1										SPACE ONLY	26
27	SPACE										-/1	B	-/1										SPACE ONLY	28
29	SPACE										-/1	C	-/1										SPACE ONLY	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.14	4.14
MISCELLANEOUS	7.30	7.30
TOTAL	13.44	13.94

LOAD BALANCE
PHASE A 99.11%
PHASE B 103.13%
PHASE C 97.77%

TOTAL DEMAND AMPS x 39
LARGEST UNBALANCE PHASE %: 1.0313
LARGEST UNBALANCE PHASE AMPS: **39.90**

REV.NO.	DESCRIPTION	DATE
-	—	----

REVISIONS

SEAL 053121
5/30/23
JESSE C. ALONZO JR.

MCKIM & CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A   Code: 42107   Item: 4112

ELECTRICAL
ELECTRICAL PANEL SCHEDULES

PROJ. START DATE: 2023-05-30
MCE PROJ. #: 08914-0003
DRAWN: OWN
DESIGNED: OWN
CHECKED: JCA
PROJ. MGR.: MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E602
DRAWING NUMBER
0
REVISION

STATUS: **BID DOCUMENTS**

EXISTING PANELBOARD **H1**

SERVED FROM: HDP AMPERE RATING: 100 A VOLTAGE (L-L): 480 PHASE: 3 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 MAIN BREAKER: 100/3 VOLTAGE (L-N): 277 WIRE: 4 SYMMETRICAL AIC RATING
MOUNTING: SURFACE LUG OPTIONS: MCB LOCATION: ELECT C127

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	SPARE							EXISTING			20	A	20	EXISTING			2.60						LIGHTS DORM B (NOTE 4)	2
3	LTS (NOTE 4)	1.40						EXISTING			20	B	20	EXISTING			2.60						LIGHTS DORM A (NOTE 4)	4
5	SPARE							EXISTING			20	C	20	EXISTING			2.60						LIGHTS DORM D (NOTE 4)	6
7	SPACE										-/1	A	20	EXISTING			2.60						LIGHTS DORM C (NOTE 4)	8
9	SPACE										-/1	B	20	EXISTING									SPARE	10
11	SPACE										-/1	C	20	EXISTING									SPARE	12
13	SPACE										-/1	A	-/1										SPACE ONLY	14
15	SPACE										-/1	B	-/1										SPACE ONLY	16
17	SPACE										-/1	C	-/1										SPACE ONLY	18
19	SPACE										-/1	A	30	EXISTING			0.00	3.00	0.00	0.00	1.44	1.00	TX TL1 (NOTE 4)	20
21	SPACE										-/1	B					0.00	1.00	0.00	0.00	2.16	0.50		22
23	SPACE										-/1	C					0.00	3.00	0.00	0.00	0.00	1.50		24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.
4. EXISTING CIRCUIT TO BE RELOCATED TO NEW PANEL HC.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	11.80	14.75
HEATING/COOLING	7.00	7.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.60	3.60
MISCELLANEOUS	3.00	3.00
TOTAL	25.40	28.35

LOAD BALANCE
PHASE A 125.67%
PHASE B 90.47%
PHASE C 83.86%

TOTAL DEMAND AMPS x 34
LARGEST UNBALANCE PHASE %: 1.2567
LARGEST UNBALANCE PHASE AMPS: **42.85**

EXISTING PANELBOARD **H1E**

SERVED FROM: HDPE AMPERE RATING: 100 A VOLTAGE (L-L): 480 PHASE: 3 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 MAIN BREAKER: 100/3 VOLTAGE (L-N): 277 WIRE: 4 SYMMETRICAL AIC RATING
MOUNTING: SURFACE LUG OPTIONS: MCB LOCATION: ELECT C127

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	SPARE							EXISTING			20	A	20	EXISTING			1.00						LTS 106-11, 107-11, 108-11	2
3	LTS 110-11, 129-11, 131-11, 132-11 EXIT	1.00						EXISTING			20	B	20	EXISTING			1.00						LTS 102-11, 104-11, 105-11	4
5	LTS 125-11-128-11, 118, 112-115, 133, 103	1.00						EXISTING			20	C	20	EXISTING			1.00						LTS 121-11, 122-11, 123-11	6
7	EXTERIOR LIGHTS	1.00						EXISTING			20	A	20	EXISTING			1.00						LTS 117-11, 119-11, 120-11	8
9	SPARE							EXISTING			20	B	-/1										SPACE ONLY	10
11	SPARE							EXISTING			20	C	-/1										SPACE ONLY	12
13	SPACE										-/1	A	30	EXISTING			0.50	0.00	0.00	0.00	1.44	1.50	TX TL1E	14
15	SPACE										-/1	B					1.00	0.00	0.00	0.00	1.08	2.20		16
17	SPACE										-/1	C					0.50	0.00	0.00	0.00	0.54	3.50		18
19	AHU AH3-2, AH4-2 ROOM 103-11						1.50	EXISTING			50	A	50	EXISTING				1.50					AHU AH1-2 AH2-2 ROOM 118-11	20
21							1.50					B						1.50						22
23							1.50					C						1.50						24
25	SPACE										-/1	A	15	EXISTING				2.00					AHU AH5-2 ROOM 113-2	26
27	SPACE										-/1	B						2.00						28
29	SPACE										-/1	C						2.00						30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	9.00	11.25
HEATING/COOLING	10.50	10.50
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.06	3.06
MISCELLANEOUS	11.70	11.70
TOTAL	34.26	36.51

LOAD BALANCE
PHASE A 100.18%
PHASE B 98.77%
PHASE C 101.05%

TOTAL DEMAND AMPS x 44
LARGEST UNBALANCE PHASE %: 1.0105
LARGEST UNBALANCE PHASE AMPS: **44.38**

EXISTING PANELBOARD **L1**

SERVED FROM: TX TL1 AMPERE RATING: 60 A VOLTAGE (L-L): 208 PHASE: 3 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 MAIN BREAKER: 60/3 VOLTAGE (L-N): 120 WIRE: 4 SYMMETRICAL AIC RATING
MOUNTING: SURFACE LUG OPTIONS: MCB LOCATION: ELECT C127

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	A/C UNIT YARD						0.50	EXISTING			20	A	-/1										SPACE ONLY	2
3	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - DORM B	4
5	FAN F3-2		1.00					EXISTING			20	C	20	EXISTING								0.50	WATER COOLERS	6
7	FAN F4-2		1.00					EXISTING			20	A	20	EXISTING							0.72		RECPT - DORM C	8
9	FAN F5-2		1.00					EXISTING			20	B	30	EXISTING							0.72		RECPT - DORM D	10
11	FAN F6-2		1.00					EXISTING			20	C	20	EXISTING								0.50	WATER COOLERS	12
13	EF-F1		1.00					EXISTING			20	A	20	EXISTING							0.72		RECPT - MECH ROOMS	14
15	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - MECH ROOMS	16
17	EF F11, F12		1.00					EXISTING			20	C	20	EXISTING									SPARE	18
19	EF F11, F12		1.00					EXISTING			20	A	30	EXISTING								0.50	WALL FANS 3 AND 4	20
21	SPACE										-/1	B	30	EXISTING								0.50	WING 2 FAN	22
23	SPACE										-/1	C	20	EXISTING								0.50	WING 3 COOLER	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	7.00	7.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.60	3.60
MISCELLANEOUS	3.00	3.00
TOTAL	13.60	13.60

LOAD BALANCE
PHASE A 120.00%
PHASE B 80.74%
PHASE C 99.26%

TOTAL DEMAND AMPS x 38
LARGEST UNBALANCE PHASE %: 1.2000
LARGEST UNBALANCE PHASE AMPS: **45.30**

EXISTING PANELBOARD **L1E**

SERVED FROM: TX TL1E AMPERE RATING: 60 A VOLTAGE (L-L): 208 PHASE: 3 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 MAIN BREAKER: 60/3 VOLTAGE (L-N): 120 WIRE: 4 SYMMETRICAL AIC RATING
MOUNTING: SURFACE LUG OPTIONS: MCB LOCATION: ELECT C127

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	FIRE ALARM						0.50	EXISTING			20	A	20	EXISTING							0.54		RECS 112 113	2
3	INERCOM & DORMS						0.70	EXISTING			20	B	20	EXISTING							0.54		RECS 115 133	4
5	CANTEEN DRINK						1.00	EXISTING			20	C	20	EXISTING							0.54		RECS 132	6
7	TELEPHONE EQPT					0.36		EXISTING			20	A	20	EXISTING							0.54		RECS 128 130	8
9	SIGNAL LIGHT	0.50						EXISTING			20	B	20	EXISTING							0.54		RECS 126 126	10
11	BATTERY LIGHTS	0.50						EXISTING			20	C	20	EXISTING								1.00	RECS MICRO CANTEEN	12
13	LTG - PLUMBING CHASE	0.50						EXISTING			20	A	20	EXISTING								0.50	WING 2 FANS	14
15	LTG PLUMBING CHASE	0.50						EXISTING			20	B	20	EXISTING								1.00	ATC MECH RM 103	16
17	SPACE										-/1	C	20	EXISTING								1.00	ATC MECH RM 118	18
19	WING 3 FANS						0.50	EXISTING			20	A	-/1										SPACE ONLY	20
21	WING 4 FANS						0.50	EXISTING			20	B	20	EXISTING									SPARE	22
23	WING 1 FANS						0.50	EXISTING			20	C	-/1										SPACE ONLY	24
25	SPACE										-/1	A	-/1										SPACE ONLY	26
27	SPACE										-/1	B	-/1										SPACE ONLY	28
29	SPACE										-/1	C	-/1										SPACE ONLY	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.06	3.06
MISCELLANEOUS	7.20	7.20
TOTAL	12.26	12.76

LOAD BALANCE
PHASE A 84.18%
PHASE B 104.73%
PHASE C 111.09%

TOTAL DEMAND AMPS x 35
LARGEST UNBALANCE PHASE %: 1.1109
LARGEST UNBALANCE PHASE AMPS: **39.35**

NEW PANELBOARD **HC**

SERVED FROM: HDP AMPERE RATING: 225 A VOLTAGE (L-L): 480 PHASE: 3 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 MAIN BREAKER: 225/3 VOLTAGE (L-N): 277 WIRE: 4 SYMMETRICAL AIC RATING
MOUNTING: SURFACE LUG OPTIONS: MCB LOCATION: ELECT C127

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	SPACE										-/1	A	-/1										SPACE	2
3	SPACE										-/1	B	-/1										SPACE	4
5	SPACE										-/1	C	-/1										SPACE	6
7	SPACE										-/1	A	-/1										SPACE	8
9	SPACE										-/1	B	-/1										SPACE	10
11	SPACE										-/1	C	-/1										SPACE	12
13	CU-1-C		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-3-C	14
15			6.10									B						6.10						16
17			6.10									C						6.10						18
19	CU-2-C		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-4-C	20
21			6.10									B						6.10						22
23			6.10									C						6.10						24
25	LTS (NOTE 3)	1.40						#12	#12	3/4"	20	A	20	#12	#12	3/4"	2.60						LIGHTS DORM B (NOTE 3)	26
27	TX TL1 (NOTE 3)	0.00	3.18	0.00	0.00	1.44	1.00	#10	#10	3/4"	30	B	20	#12	#12	3/4"	2.60						LIGHTS DORM A (NOTE 3)	28
29		0.00	1.18	0.00	0.00	2.16	0.50					C	20	#12	#12	3/4"	2.60						LIGHTS DORM D (NOTE 3)	30
31		0.00	3.35	0.00	0.00	0.00	1.50					A	20	#12	#12	3/4"	2.60						LIGHTS DORM C (NOTE 3)	32
33	SPACE										-/1	B	-/1										SPACE	34
35	SPACE										-/1	C	-/1										SPACE	36
37	SPACE										-/1	A	-/1										SPACE	38
39	SPACE										-/1	B	-/1										SPACE	40
41	SPACE										-/1	C	-/1										SPACE	42

PANELBOARD NOTES:
1. PROVIDE WITH COPPER BUSSES.
2. BASIS OF DESIGN IS EATON POW-R-LINE-C
3. EXISTING CIRCUIT RELOCATED FROM DEMOLISHED PANEL H1.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	11.80	14.75
HEATING/COOLING	80.86	80.86
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.60	3.60
MISCELLANEOUS	3.00	3.00
TOTAL	99.26	102.21

LOAD BALANCE
PHASE A 108.31%
PHASE B 98.53%
PHASE C 93.15%

TOTAL DEMAND AMPS x 123
LARGEST UNBALANCE PHASE %: 1.0831
LARGEST UNBALANCE PHASE AMPS: **133.16**

MODIFIED PANELBOARD **H1E**

SERVED FROM: HDPE AMPERE RATING: 100 A VOLTAGE (L-L): 480 PHASE: 3 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 MAIN BREAKER: 100/3 VOLTAGE (L-N): 277 WIRE: 4 SYMMETRICAL AIC RATING
MOUNTING: SURFACE LUG OPTIONS: MCB LOCATION: ELECT C127

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	SPARE							EXISTING			20	A	20	EXISTING			1.00						LTS 106-11, 107-11, 108-11	2
3	LTS	1.00						EXISTING			20	B	20	EXISTING			1.00						LTS 102-11, 104-11, 105-11	4
5	LTS	1.00						EXISTING			20	C	20	EXISTING			1.00						LTS 121-11, 122-11, 123-11	6
7	EXTERIOR LIGHTS	1.00						EXISTING			20	A	20	EXISTING			1.00						LTS 117-11, 119-11, 120-11	8
9	SPARE							EXISTING			20	B	-/1										SPACE ONLY	10
11	SPARE							EXISTING			20	C	-/1										SPACE ONLY	12
13	**AHU-1-C**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	30	EXISTING			**0.50**	**0.00**	**0.00**	**0.00**	**1.44**	**1.50**	TX TL1E	14
15			**2.13**									B					**1.00**	**0.00**	**0.00**	**0.00**	**1.08**	**2.20**		16
17			**2.13**									C					**0.50**	**0.00**	**0.00**	**0.00**	**0.54**	**3.50**		18
19	**AHU-2-C**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	50										**SPARE (OFF)**	20
21			**2.13**									B												22
23			**2.13**									C												24
25	**AHU-3-C**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	15	EXISTING				2.00					AHU AH5-2 ROOM 113-2	26
27			**2.13**									B						2.00						28
29			**2.13**									C						2.00						30
31	**AHU-4-C**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	-/1										SPACE ONLY	32
33			**2.13**									B	-/1										SPACE ONLY	34
35			**2.13**									C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	9.00	11.25
HEATING/COOLING	31.60	31.60
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.06	3.06
MISCELLANEOUS	7.20	7.20
TOTAL	50.86	53.11

LOAD BALANCE
PHASE A 100.12%
PHASE B 99.17%
PHASE C 100.71%

TOTAL DEMAND AMPS x 64
LARGEST UNBALANCE PHASE %: 1.0071
LARGEST UNBALANCE PHASE AMPS: **64.33**

MODIFIED PANELBOARD **L1**

SERVED FROM: TX TL1 AMPERE RATING: 60 A VOLTAGE (L-L): 208 PHASE: 3 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 MAIN BREAKER: 60/3 VOLTAGE (L-N): 120 WIRE: 4 SYMMETRICAL AIC RATING
MOUNTING: SURFACE LUG OPTIONS: MCB LOCATION: ELECT C127

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	A/C UNIT YARD						0.50	EXISTING			20	A	-/1										SPACE ONLY	2
3	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - DORM B	4
5	**FAN F3-C**		**1.18**					**#12**	**#12**	**3/4"**	20	C	20	EXISTING								0.50	WATER COOLERS	6
7	**FAN F4-C**		**1.18**					**#12**	**#12**	**3/4"**	20	A	20	EXISTING							0.72		RECPT - DORM C	8
9	**FAN F5-C**		**1.18**					**#12**	**#12**	**3/4"**	20	B	30	EXISTING							0.72		RECPT - DORM D	10
11	**FAN F6-C**		**1.18**					**#12**	**#12**	**3/4"**	20	C	20	EXISTING								0.50	WATER COOLERS	12
13	EF-F1		1.00					EXISTING			20	A	20	EXISTING							0.72		RECPT - MECH ROOMS	14
15	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - MECH ROOMS	16
17	EF F11, F12		1.00					EXISTING			20	C	20	EXISTING									SPARE	18
19	EF F11, F12		1.00					EXISTING			20	A	30	EXISTING								0.50	WALL FANS 3 AND 4	20
21	SPACE										-/1	B	30	EXISTING								0.50	WING 2 FAN	22
23	SPACE										-/1	C	20	EXISTING								0.50	WING 3 COOLER	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	7.70	7.70
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.60	3.60
MISCELLANEOUS	3.00	3.00
TOTAL	14.30	14.30

LOAD BALANCE
PHASE A 117.79%
PHASE B 80.45%
PHASE C 101.76%

TOTAL DEMAND AMPS x 40
LARGEST UNBALANCE PHASE %: 1.1779
LARGEST UNBALANCE PHASE AMPS: **46.77**

MODIFIED PANELBOARD **L1E**

SERVED FROM: TX TL1E AMPERE RATING: 60 A VOLTAGE (L-L): 208 PHASE: 3 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 MAIN BREAKER: 60/3 VOLTAGE (L-N): 120 WIRE: 4 SYMMETRICAL AIC RATING
MOUNTING: SURFACE LUG OPTIONS: MCB LOCATION: ELECT C127

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	FIRE ALARM						0.50	EXISTING			20	A	20	EXISTING							0.54		RECS 112 113	2
3	INERCOM & DORMS						0.70	EXISTING			20	B	20	EXISTING							0.54		RECS 115 133	4
5	CANTEEN DRINK						1.00	EXISTING			20	C	20	EXISTING							0.54		RECS 132	6
7	TELEPHONE EQPT					0.36		EXISTING			20	A	20	EXISTING							0.54		RECS 128 130	8
9	SIGNAL LIGHT	0.50						EXISTING			20	B	20	EXISTING							0.54		RECS 126 126	10
11	BATTERY LIGHTS	0.50						EXISTING			20	C	20	EXISTING								1.00	RECS MICRO CANTEEN	12
13	LTG - PLUMBING CHASE	0.50						EXISTING			20	A	20	EXISTING								0.50	WING 2 FANS	14
15	LTG PLUMBING CHASE	0.50						EXISTING			20	B	20	EXISTING								1.00	ATC MECH RM 103	16
17	**AHU RELAYS**						**1.00**	**12**	**12**	**3/4**	**20**	C	20	EXISTING								1.00	ATC MECH RM 118	18
19	WING 3 FANS						0.50	EXISTING			20	A	**20**	**12**	**12**	**3/4**						**1.00**	**AHU RELAYS**	20
21	WING 4 FANS						0.50	EXISTING			20	B	20	EXISTING									SPARE	22
23	WING 1 FANS						0.50	EXISTING			20	C	-/1										SPACE ONLY	24
25	SPACE										-/1	A	-/1										SPACE ONLY	26
27	SPACE										-/1	B	-/1										SPACE ONLY	28
29	SPACE										-/1	C	-/1										SPACE ONLY	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.06	3.06
MISCELLANEOUS	9.20	9.20
TOTAL	14.26	14.76

LOAD BALANCE
PHASE A 93.41%
PHASE B 90.04%
PHASE C 116.55%

TOTAL DEMAND AMPS x 41
LARGEST UNBALANCE PHASE %: 1.1655
LARGEST UNBALANCE PHASE AMPS: **47.75**

REV.NO.	DESCRIPTION	DATE
-	----	----

REVISIONS

SEAL
053121
5/30/23
JESSE C. ALONZO JR.

McKIM & CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL PANEL SCHEDULES

PROJ. START DATE: 2023-05-30
MCE PROJ. # 08914-0003
DRAWN OWN
DESIGNED OWN
CHECKED JCA
PROJ. MGR. MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E603
DRAWING NUMBER
0
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E603.DWG 06/02/2023 11:43:56 OMAR NAHHAS

EXISTING PANELBOARD **H2**

SERVED FROM: HDP — AMPERE RATING: 100 A — VOLTAGE (L-L): 480 — PHASE: 3 — 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 100/3 — VOLTAGE (L-N): 277 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT D320

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	SPARE							EXISTING			20	A	20	EXISTING			2.60						LIGHTS DORM B (NOTE 4)	2
3	SPARE							EXISTING			20	B	20	EXISTING			2.60						LIGHTS DORM A (NOTE 4)	4
5	SPACE										-/1	C	20	EXISTING			2.60						LIGHTS DORM D (NOTE 4)	6
7	SPACE										-/1	A	20	EXISTING			2.60						LIGHTS DORM C (NOTE 4)	8
9	SPACE										-/1	B	20	EXISTING									SPARE	10
11	SPACE										-/1	C	20	EXISTING									SPARE	12
13	SPACE										-/1	A	-/1										SPACE ONLY	14
15	SPACE										-/1	B	-/1										SPACE ONLY	16
17	SPACE										-/1	C	-/1										SPACE ONLY	18
19	SPACE										-/1	A	30	EXISTING			0.00	1.00	0.00	0.00	2.16	2.00	TX TL2 (NOTE 4)	20
21	SPACE										-/1	B					0.00	1.00	0.00	0.00	2.16	0.00		22
23	SPACE										-/1	C					0.00	2.00	0.00	0.00	0.00	2.00		24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.
4. EXISTING CIRCUIT TO BE RELOCATED TO NEW PANEL HD.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	10.40	13.00
HEATING/COOLING	4.00	4.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	4.00	4.00
TOTAL	22.72	25.32

LOAD BALANCE
PHASE A 136.80%
PHASE B 76.06%
PHASE C 87.15%

TOTAL DEMAND AMPS x 30
LARGEST UNBALANCE PHASE %: 1.3680
LARGEST UNBALANCE PHASE AMPS: **41.66**

NEW PANELBOARD **HD**

SERVED FROM: HDP — AMPERE RATING: 225 A — VOLTAGE (L-L): 480 — PHASE: 3 — 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 225/3 — VOLTAGE (L-N): 277 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT D320

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	SPACE										-/1	A	-/1										SPACE	2
3	SPACE										-/1	B	-/1										SPACE	4
5	SPACE										-/1	C	-/1										SPACE	6
7	SPACE										-/1	A	-/1										SPACE	8
9	SPACE										-/1	B	-/1										SPACE	10
11	SPACE										-/1	C	-/1										SPACE	12
13	CU-1-D		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-3-D	14
15			6.10									B						6.10						16
17			6.10									C						6.10						18
19	CU-2-D		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-4-D	20
21			6.10									B						6.10						22
23			6.10									C						6.10						24
25	LTS (NOTE 3)	1.40						#12	#12	3/4"	20	A	20	#12	#12	3/4"	2.60						LIGHTS DORM B (NOTE 3)	26
27	TX TL2 (NOTE 3)	0.00	1.18	0.00	0.00	2.16	2.00	#10	#10	3/4"	30	B	20	#12	#12	3/4"	2.60						LIGHTS DORM A (NOTE 3)	28
29		0.00	1.18	0.00	0.00	2.16	0.00					C	20	#12	#12	3/4"	2.60						LIGHTS DORM D (NOTE 3)	30
31		0.00	2.35	0.00	0.00	0.00	2.00					A	20	#12	#12	3/4"	2.60						LIGHTS DORM C (NOTE 3)	32
33	SPACE										-/1	B	-/1										SPACE	34
35	SPACE										-/1	C	-/1										SPACE	36
37	SPACE										-/1	A	-/1										SPACE	38
39	SPACE										-/1	B	-/1										SPACE	40
41	SPACE										-/1	C	-/1										SPACE	42

PANELBOARD NOTES:
1. PROVIDE WITH COPPER BUSSES.
2. BASIS OF DESIGN IS EATON POW-R-LINE-C
3. EXISTING CIRCUIT RELOCATED FROM DEMOLISHED PANEL H2.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	11.80	14.75
HEATING/COOLING	77.86	77.86
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	4.00	4.00
TOTAL	97.98	100.93

LOAD BALANCE
PHASE A 108.20%
PHASE B 98.96%
PHASE C 92.84%

TOTAL DEMAND AMPS x 121
LARGEST UNBALANCE PHASE %: 1.0820
LARGEST UNBALANCE PHASE AMPS: **131.35**

EXISTING PANELBOARD **H2E**

SERVED FROM: HDPE — AMPERE RATING: 100 A — VOLTAGE (L-L): 480 — PHASE: 3 — 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 100/3 — VOLTAGE (L-N): 277 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT D320

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	DORM B	0.50						EXISTING			20	A	20	EXISTING			0.50						DORM B	2
3	DORM A	0.50						EXISTING			20	B	20	EXISTING			0.50						DORM A	4
5	DORM D	0.50						EXISTING			20	C	20	EXISTING			0.50						DORM D	6
7	DORM C	0.50						EXISTING			20	A	20	EXISTING			0.50						DORM C	8
9	CORRDIOR LTS	0.50						EXISTING			20	B	20	EXISTING			0.50						CORRIDOR LTS	10
11	MECH RM LTS	0.50						EXISTING			20	C	20	EXISTING			0.50						OFFICE LTS	12
13	OUTSIDE LTS	0.50						EXISTING			20	A	30	EXISTING			0.00	0.00	0.00	0.00	1.80	1.50	TX TL2E	14
15	SPACE										-/1	B					0.60	0.00	0.00	0.00	1.62	2.20		16
17	SPACE										-/1	C					0.30	0.00	0.00	0.00	0.90	3.00		18
19	AHU AH3-2, AH4-2 ROOM 103-11						1.00	EXISTING			50	A	50	EXISTING				1.00					AHU AH1-2 AH2-2 ROOM 118-11	20
21							1.00					B						1.00						22
23							1.00					C						1.00						24
25	SPACE										-/1	A	15	EXISTING				0.60					AHU AH5-2 ROOM 113-2	26
27	SPACE										-/1	B						0.60						28
29	SPACE										-/1	C						0.60						30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	7.40	9.25
HEATING/COOLING	4.80	4.80
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	9.70	9.70
TOTAL	26.22	28.07

LOAD BALANCE
PHASE A 96.11%
PHASE B 103.20%
PHASE C 100.69%

TOTAL DEMAND AMPS x 34
LARGEST UNBALANCE PHASE %: 1.0320
LARGEST UNBALANCE PHASE AMPS: **34.84**

MODIFIED PANELBOARD **H2E**

SERVED FROM: HDPE — AMPERE RATING: 100 A — VOLTAGE (L-L): 480 — PHASE: 3 — 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 100/3 — VOLTAGE (L-N): 277 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT D320

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	DORM B	0.50						EXISTING			20	A	20	EXISTING			0.50						DORM B	2
3	DORM A	0.50						EXISTING			20	B	20	EXISTING			0.50						DORM A	4
5	DORM D	0.50						EXISTING			20	C	20	EXISTING			0.50						DORM D	6
7	DORM C	0.50						EXISTING			20	A	20	EXISTING			0.50						DORM C	8
9	CORRDIOR LTS	0.50						EXISTING			20	B	20	EXISTING			0.50						CORRIDOR LTS	10
11	MECH RM LTS	0.50						EXISTING			20	C	20	EXISTING			0.50						OFFICE LTS	12
13	OUTSIDE LTS	0.50						EXISTING			20	A	30	EXISTING			0.00	0.00	0.00	0.00	1.80	1.50	TX TL2E	14
15	SPACE										-/1	B					0.60	0.00	0.00	0.00	1.62	2.20		16
17	SPACE										-/1	C					0.30	0.00	0.00	0.00	0.90	3.00		18
19	**AHU-2-D**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	**15**	**#10**	**#12**	**3/4"**		**2.13**					**AHU-1-D**	20
21			**2.13**									B						**2.13**						22
23			**2.13**									C						**2.13**						24
25	**AHU-3-D**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	15	EXISTING				0.60					AHU AH5-2 ROOM 113-2	26
27			**2.13**									B						0.60						28
29			**2.13**									C						0.60						30
31	**AHU-4-D**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	-/1										SPACE ONLY	32
33			**2.13**									B	-/1										SPACE ONLY	34
35			**2.13**									C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	7.40	9.25
HEATING/COOLING	27.40	27.40
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	6.70	6.70
TOTAL	45.82	47.67

LOAD BALANCE
PHASE A 97.77%
PHASE B 101.83%
PHASE C 100.39%

TOTAL DEMAND AMPS x 57
LARGEST UNBALANCE PHASE %: 1.0183
LARGEST UNBALANCE PHASE AMPS: **58.38**

EXISTING PANELBOARD **L2**

SERVED FROM: TX TL4 — AMPERE RATING: 60 A — VOLTAGE (L-L): 208 — PHASE: 3 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 60/3 — VOLTAGE (L-N): 120 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT D320

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	SPARE							EXISTING			20	A	20	EXISTING							0.72		RECPT - DORM A	2
3	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - DORM B	4
5	FAN F3-2		1.00					EXISTING			20	C	20	EXISTING								0.50	WATER COOLERS	6
7	FAN F4-2		1.00					EXISTING			20	A	20	EXISTING							0.72		RECPT - DORM C	8
9	FAN F5-2		1.00					EXISTING			20	B	20	EXISTING							0.72		RECPT - DORM D	10
11	FAN F6-2		1.00					EXISTING			20	C	20	EXISTING								0.50	WATER COOLERS	12
13	EF-F1						1.00	EXISTING			20	A	20	EXISTING							0.72		RECPT - MECH ROOMS	14
15	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - MECH ROOMS	16
17	EF F11, F12						1.00	EXISTING			20	C	30	EXISTING									SPARE	18
19	EF F11, F12						1.00	EXISTING			20	A	-/1										SPACE	20
21	SPARE							EXISTING			40	B	-/1										SPACE	22
23												C	-/1										SPACE	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	4.00	4.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	4.00	4.00
TOTAL	12.32	12.32

LOAD BALANCE
PHASE A 125.65%
PHASE B 76.95%
PHASE C 97.40%

TOTAL DEMAND AMPS x 34
LARGEST UNBALANCE PHASE %: 1.2565
LARGEST UNBALANCE PHASE AMPS: **42.97**

MODIFIED PANELBOARD **L2**

SERVED FROM: TX TL4 — AMPERE RATING: 60 A — VOLTAGE (L-L): 208 — PHASE: 3 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 60/3 — VOLTAGE (L-N): 120 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT D320

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	SPARE							EXISTING			20	A	20	EXISTING							0.72		RECPT - DORM A	2
3	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - DORM B	4
5	**FAN F3-D**		**1.18**					**#12**	**#12**	**3/4"**	20	C	20	EXISTING								0.50	WATER COOLERS	6
7	**FAN F4-D**		**1.18**					**#12**	**#12**	**3/4"**	20	A	20	EXISTING							0.72		RECPT - DORM C	8
9	**FAN F5-D**		**1.18**					**#12**	**#12**	**3/4"**	20	B	20	EXISTING							0.72		RECPT - DORM D	10
11	**FAN F6-D**		**1.18**					**#12**	**#12**	**3/4"**	20	C	20	EXISTING								0.50	WATER COOLERS	12
13	EF-F1						1.00	EXISTING			20	A	20	EXISTING							0.72		RECPT - MECH ROOMS	14
15	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - MECH ROOMS	16
17	EF F11, F12						1.00	EXISTING			20	C	30	EXISTING									SPARE	18
19	EF F11, F12						1.00	EXISTING			20	A	-/1										SPACE	20
21	SPARE							EXISTING			40	B	-/1										SPACE	22
23												C	-/1										SPACE	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	4.70	4.70
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	4.00	4.00
TOTAL	13.02	13.02

LOAD BALANCE
PHASE A 122.91%
PHASE B 76.84%
PHASE C 100.25%

TOTAL DEMAND AMPS x 36
LARGEST UNBALANCE PHASE %: 1.2291
LARGEST UNBALANCE PHASE AMPS: **44.43**

EXISTING PANELBOARD **L2E**

SERVED FROM: TX TL4E — AMPERE RATING: 60 A — VOLTAGE (L-L): 208 — PHASE: 3 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 60/3 — VOLTAGE (L-N): 120 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT D320

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	EXHAUST FAN DORM D						0.50	EXISTING			20	A	20	EXISTING									SPARE	2
3	EXHAUST FAN DORM A						0.50	EXISTING			20	B	20	EXISTING			0.30						LTS PLUMBING CHASE	4
5	EXHAUST FAN DORM C						0.50	EXISTING			20	C	20	EXISTING			0.30						EM WING LTS	6
7	REC PLUMBING CHASE					0.36		EXISTING			20	A	20	EXISTING							0.72		REC PLUMBING CHASE	8
9	RECS HALLWAY					0.36		EXISTING			20	B	20	EXISTING							0.72		RECS RM 318 319	10
11	EXHAUST FAN DORM B						0.50	EXISTING			20	C	20	EXISTING									SPARE	12
13	RECS RM 305 306					0.72		EXISTING			20	A	-/1										SPACE	14
15	UNIT HEATER						0.70	EXISTING			20	B	20	EXISTING			0.30						SIGNAL LTS	16
17	RECS RM 302 303					0.54		EXISTING			20	C	20	EXISTING							0.36		PHONE BOARD	18
19	FIRE ALARM PANEL						0.50	EXISTING			20	A	20	EXISTING								0.50	WING 2 FANS	20
21	CANTEEN REC					0.54		EXISTING			20	B	20	EXISTING								0.50	WING 4 FANS	22
23	CANTEEN DRINK MACHINE						1.00	EXISTING			20	C	20	EXISTING								0.50	WING 1 FANS	24
25	SPACE										-/1	A	-/1										SPACE ONLY	26
27	SPACE										-/1	B	20	EXISTING								0.50	WING 3 FANS	28
29	SPACE										-/1	C	20	EXISTING								0.50	CIRCULATION EXHAUST FAN	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.90	1.13
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	6.70	6.70
TOTAL	11.92	12.15

LOAD BALANCE
PHASE A 83.05%
PHASE B 111.24%
PHASE C 105.70%

TOTAL DEMAND AMPS x 34
LARGEST UNBALANCE PHASE %: 1.1124
LARGEST UNBALANCE PHASE AMPS: **37.50**

MODIFIED PANELBOARD **L2E**

SERVED FROM: TX TL4E — AMPERE RATING: 60 A — VOLTAGE (L-L): 208 — PHASE: 3 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 60/3 — VOLTAGE (L-N): 120 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT D320

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA)						PHASE SIZE	G SIZE	CND IN.	BRKR RTG		BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA)						LOAD DESCRIPTION	CIR. NO.
		LTG	H/C	MOT	KIT	REC	MISC										LTG	H/C	MOT	KIT	REC	MISC		
1	EXHAUST FAN DORM D						0.50	EXISTING			20	A	20	EXISTING									SPARE	2
3	EXHAUST FAN DORM A						0.50	EXISTING			20	B	20	EXISTING			0.30						LTS PLUMBING CHASE	4
5	EXHAUST FAN DORM C						0.50	EXISTING			20	C	20	EXISTING			0.30						EM WING LTS	6
7	REC PLUMBING CHASE					0.36		EXISTING			20	A	20	EXISTING							0.72		REC PLUMBING CHASE	8
9	RECS HALLWAY					0.36		EXISTING			20	B	20	EXISTING							0.72		RECS RM 318 319	10
11	EXHAUST FAN DORM B						0.50	EXISTING			20	C	20	EXISTING									SPARE	12
13	RECS RM 305 306					0.72		EXISTING			20	A	**20**	**12**	**12**	**3/4**						**1.00**	**AHU RELAYS**	14
15	UNIT HEATER						0.70	EXISTING			20	B	20	EXISTING			0.30						SIGNAL LTS	16
17	RECS RM 302 303					0.54		EXISTING			20	C	20	EXISTING							0.36		PHONE BOARD	18
19	FIRE ALARM PANEL						0.50	EXISTING			20	A	20	EXISTING								0.50	WING 2 FANS	20
21	CANTEEN REC					0.54		EXISTING			20	B	20	EXISTING								0.50	WING 4 FANS	22
23	CANTEEN DRINK MACHINE						1.00	EXISTING			20	C	20	EXISTING								0.50	WING 1 FANS	24
25	SPACE										-/1	A	**20**	**12**	**12**	**3/4**						**1.00**	**AHU RELAYS**	26
27	SPACE										-/1	B	20	EXISTING								0.50	WING 3 FANS	28
29	SPACE										-/1	C	20	EXISTING								0.50	CIRCULATION EXHAUST FAN	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.90	1.13
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	4.32	4.32
MISCELLANEOUS	8.70	8.70
TOTAL	13.92	14.15

LOAD BALANCE
PHASE A 114.22%
PHASE B 95.26%
PHASE C 90.52%

TOTAL DEMAND AMPS x 39
LARGEST UNBALANCE PHASE %: 1.1422
LARGEST UNBALANCE PHASE AMPS: **44.85**

REV.NO.	DESCRIPTION	DATE
-	----	----

REVISIONS

SEAL
053121
5/30/23
JESSE C. ALONZO JR.

McKIM & CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL PANEL SCHEDULES

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E604
DRAWING NUMBER
0
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E604.DWG 06/02/2023 11:44:07 OMAR NAHHAS

EXISTING PANELBOARD **H2**

SERVED FROM: HDP — AMPERE RATING: 100 A — VOLTAGE (L-L): 480 — PHASE: 3 — 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 100/3 — VOLTAGE (L-N): 277 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT E220

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	EXISTING (NOTE 4)						2.00	EXISTING			20	A	20	EXISTING			2.60						LIGHTS DORM B (NOTE 4)	2
3	EXISTING (NOTE 4)						2.00	EXISTING			20	B	20	EXISTING			2.60						LIGHTS DORM A (NOTE 4)	4
5	EXISTING (NOTE 4)						2.00	EXISTING			20	C	20	EXISTING			2.60						LIGHTS DORM D (NOTE 4)	6
7	EXISTING (NOTE 4)						2.00	EXISTING			20	A	20	EXISTING			2.60						LIGHTS DORM C (NOTE 4)	8
9	EXISTING (NOTE 4)						2.00	EXISTING			20	B	20	EXISTING								2.00	EXISTING (NOTE 4)	10
11	SPACE										-/1	C	20	EXISTING									SPARE	12
13	SPACE										-/1	A	-/1										SPACE ONLY	14
15	SPACE										-/1	B	-/1										SPACE ONLY	16
17	SPACE										-/1	C	-/1										SPACE ONLY	18
19	SPACE										-/1	A	30	EXISTING			0.00	1.00	0.00	0.00	0.72	1.60	TX TL2 (NOTE 4)	20
21	SPACE										-/1	B					0.00	2.00	0.00	0.00	1.08	3.00		22
23	SPACE										-/1	C					0.00	1.00	0.00	0.00	0.36	3.10		24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.
4. EXISTING CIRCUIT TO BE RELOCATED TO NEW PANEL HE.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	10.40	13.00
HEATING/COOLING	4.00	4.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	2.16	2.16
MISCELLANEOUS	19.70	19.70
TOTAL	36.26	38.86

LOAD BALANCE	
PHASE A	103.59%
PHASE B	121.46%
PHASE C	74.96%
TOTAL DEMAND AMPS x	47
LARGEST UNBALANCE PHASE %:	1.2146
LARGEST UNBALANCE PHASE AMPS:	**56.77**

NEW PANELBOARD **HE**

SERVED FROM: HDP — AMPERE RATING: 225 A — VOLTAGE (L-L): 480 — PHASE: 3 — 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 225 A — VOLTAGE (L-N): 277 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT E220

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPACE										-/1	A	-/1										SPACE	2
3	SPACE										-/1	B	-/1										SPACE	4
5	SPACE										-/1	C	-/1										SPACE	6
7	SPACE										-/1	A	-/1										SPACE	8
9	SPACE										-/1	B	-/1										SPACE	10
11	SPACE										-/1	C	-/1										SPACE	12
13	CU-1-E		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-3-E	14
15			6.10									B						6.10						16
17			6.10									C						6.10						18
19	CU-2-E		6.10					#8	#10	3/4"	35	A	35	#8	#10	3/4"		6.10					CU-4-E	20
21			6.10									B						6.10						22
23			6.10									C						6.10						24
25	TX TL6 (NOTE 3)	0.00	1.18	0.00	0.00	0.72	1.60	#10	#10	3/4"	30	A	20	#12	#12	3/4"	2.60						LIGHTS DORM B (NOTE 3)	26
27		0.00	2.35	0.00	0.00	1.08	3.00					B	20	#12	#12	3/4"	2.60						LIGHTS DORM A (NOTE 3)	28
29		0.00	1.18	0.00	0.00	0.36	3.10					C	20	#12	#12	3/4"	2.60						LIGHTS DORM D (NOTE 3)	30
31	EXISTING (NOTE 3)						2.00	#12	#12	3/4"	20	A	20	#12	#12	3/4"	2.60						LIGHTS DORM C (NOTE 3)	32
33	EXISTING (NOTE 3)						2.00	#12	#12	3/4"	20	B	20	#12	#12	3/4"						2.00	EXISTING (NOTE 3)	34
35	EXISTING (NOTE 3)						2.00	#12	#12	3/4"	20	C	-/1										SPACE	36
37	EXISTING (NOTE 3)						2.00	#12	#12	3/4"	20	A	-/1										SPACE	38
39	EXISTING (NOTE 3)						2.00	#12	#12	3/4"	20	B	-/1										SPACE	40
41	SPACE										-/1	C	-/1										SPACE	42

PANELBOARD NOTES:
1. PROVIDE WITH COPPER BUSSES.
2. BASIS OF DESIGN IS EATON POW-R-LINE-C
3. EXISTING CIRCUIT RELOCATED FROM DEMOLISHED PANEL H2.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	10.40	13.00
HEATING/COOLING	77.86	77.86
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	2.16	2.16
MISCELLANEOUS	19.70	19.70
TOTAL	110.12	112.72

LOAD BALANCE	
PHASE A	101.02%
PHASE B	107.38%
PHASE C	91.59%
TOTAL DEMAND AMPS x	136
LARGEST UNBALANCE PHASE %:	1.0738
LARGEST UNBALANCE PHASE AMPS:	**145.59**

EXISTING PANELBOARD **H2E**

SERVED FROM: HDPE — AMPERE RATING: 100 A — VOLTAGE (L-L): 480 — PHASE: 3 — 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 100/3 — VOLTAGE (L-N): 277 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT E220

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	OUTSIDE LTS	0.50						EXISTING			20	A	20	EXISTING			0.50						DORM C AND D TOILET	2
3	DORM A AND B TOILET	0.50						EXISTING			20	B	20	EXISTING			0.50						CORRIDOR LTS	4
5	OFFICE LTS	0.50						EXISTING			20	C	20	EXISTING			0.50						MECH RM LTS	6
7	DORM B LTS	0.50						EXISTING			20	A	20	EXISTING			0.50						DORM C AND D TOILET	8
9	DORM A LTS	0.50						EXISTING			20	B	-/1										SPACE ONLY	10
11	DORM D LTS	0.50						EXISTING			20	C	20	EXISTING			0.50						MECH RM LTS	12
13	GREEN HOUSE SUPPLY						4.00	EXISTING			50	A	30	EXISTING			0.50	0.00	0.00	0.00	1.80	1.50	TX TL2E	14
15							4.00					B					1.00	0.00	0.00	0.00	1.98	0.50		16
17							4.00					C					0.50	0.00	0.00	0.00	1.80	1.50		18
19	AHU AH3-2, AH4-2 ROOM 103-11						1.00	EXISTING			50	A	50	EXISTING				1.00					AHU AH1-2 AH2-2 ROOM 118-11	20
21							1.00					B						1.00						22
23							1.00					C						1.00						24
25	SPACE										-/1	A	15	EXISTING				0.60					AHU AH5-2 ROOM 113-2	26
27	SPACE										-/1	B						0.60						28
29	SPACE										-/1	C						0.60						30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	7.50	9.38
HEATING/COOLING	4.80	4.80
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	5.58	5.58
MISCELLANEOUS	18.50	18.50
TOTAL	36.38	38.26

LOAD BALANCE	
PHASE A	102.25%
PHASE B	95.49%
PHASE C	102.25%
TOTAL DEMAND AMPS x	46
LARGEST UNBALANCE PHASE %:	1.0225
LARGEST UNBALANCE PHASE AMPS:	**47.05**

MODIFIED PANELBOARD **H2E**

SERVED FROM: HDPE — AMPERE RATING: 100 A — VOLTAGE (L-L): 480 — PHASE: 3 — 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 100/3 — VOLTAGE (L-N): 277 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT E220

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	OUTSIDE LTS	0.50						EXISTING			20	A	20	EXISTING			0.50						DORM C AND D TOILET	2
3	DORM A AND B TOILET	0.50						EXISTING			20	B	20	EXISTING			0.50						CORRIDOR LTS	4
5	OFFICE LTS	0.50						EXISTING			20	C	20	EXISTING			0.50						MECH RM LTS	6
7	DORM B LTS	0.50						EXISTING			20	A	20	EXISTING			0.50						DORM C AND D TOILET	8
9	DORM A LTS	0.50						EXISTING			20	B	-/1										SPACE ONLY	10
11	DORM D LTS	0.50						EXISTING			20	C	20	EXISTING			0.50						MECH RM LTS	12
13	GREEN HOUSE SUPPLY						4.00	EXISTING			50	A	30	EXISTING			0.50	0.00	0.00	0.00	1.80	1.50	TX TL2E	14
15							4.00					B					1.00	0.00	0.00	0.00	1.98	0.50		16
17							4.00					C					0.50	0.00	0.00	0.00	1.80	1.50		18
19	**AHU-2-E**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	**15**	**#10**	**#12**	**3/4"**		**2.13**					**AHU-1-E**	20
21			**2.13**									B						**2.13**						22
23			**2.13**									C						**2.13**						24
25	**AHU-3-E**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	15	EXISTING				0.60					AHU AH5-2 ROOM 113-2	26
27			**2.13**									B						0.60						28
29			**2.13**									C						0.60						30
31	**AHU-4-E**		**2.13**					**#10**	**#12**	**3/4"**	**15**	A	-/1										SPACE ONLY	32
33			**2.13**									B	-/1										SPACE ONLY	34
35			**2.13**									C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	7.50	9.38
HEATING/COOLING	27.40	27.40
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	5.58	5.58
MISCELLANEOUS	15.50	15.50
TOTAL	55.98	57.85

LOAD BALANCE	
PHASE A	101.46%
PHASE B	97.07%
PHASE C	101.46%
TOTAL DEMAND AMPS x	70
LARGEST UNBALANCE PHASE %:	1.0146
LARGEST UNBALANCE PHASE AMPS:	**70.60**

EXISTING PANELBOARD **L2**

SERVED FROM: TX TL6 — AMPERE RATING: 60 A — VOLTAGE (L-L): 208 — PHASE: 3 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 60/3 — VOLTAGE (L-N): 120 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT E220

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING							0.36		TV REC	2
3	FAN F3-2		1.00					EXISTING			20	B	20	EXISTING							0.36		PHONE REC	4
5	FAN F4-2		1.00					EXISTING			20	C	20	EXISTING								0.50	WATER COOLERS	6
7	FAN F5-2		1.00					EXISTING			20	A	20	EXISTING							0.36		TV REC	8
9	FAN F6-2		1.00					EXISTING			20	B	20	EXISTING							0.36		PHONE REC	10
11	TOILET EXHAUST FAN						0.10	EXISTING			20	C	20	EXISTING								0.50	WATER COOLERS	12
13	SPARE							EXISTING			20	A	20	EXISTING								0.10	TOILET EXHAUST FAN	14
15	WALL FAN 3 + 4						1.50	EXISTING			30	B	20	EXISTING							0.36		MECH RM REC	16
17	WING 3 TV						0.50	EXISTING			20	C	20	EXISTING							0.36		DORM REC	18
19	SPACE										-/1	A	30	EXISTING								1.50	WALL FAN 1+2	20
21	PUMPS						1.50	EXISTING			30/2	B	-/1										SPACE	22
23							1.50					C	-/1										SPACE	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	4.00	4.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	2.16	2.16
MISCELLANEOUS	7.70	7.70
TOTAL	13.86	13.86

LOAD BALANCE	
PHASE A	71.86%
PHASE B	131.60%
PHASE C	96.54%
TOTAL DEMAND AMPS x	38
LARGEST UNBALANCE PHASE %:	1.3160
LARGEST UNBALANCE PHASE AMPS:	**50.63**

MODIFIED PANELBOARD **L2**

SERVED FROM: TX TL6 — AMPERE RATING: 60 A — VOLTAGE (L-L): 208 — PHASE: 3 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 60/3 — VOLTAGE (L-N): 120 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT E220

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING							0.36		TV REC	2
3	**FAN F3-E**		**1.18**					**#12**	**#12**	**3/4"**	20	B	20	EXISTING							0.36		PHONE REC	4
5	**FAN F4-E**		**1.18**					**#12**	**#12**	**3/4"**	20	C	20	EXISTING								0.50	WATER COOLERS	6
7	**FAN F5-E**		**1.18**					**#12**	**#12**	**3/4"**	20	A	20	EXISTING							0.36		TV REC	8
9	**FAN F6-E**		**1.18**					**#12**	**#12**	**3/4"**	20	B	20	EXISTING							0.36		PHONE REC	10
11	TOILET EXHAUST FAN						0.10	EXISTING			20	C	20	EXISTING								0.50	WATER COOLERS	12
13	SPARE							EXISTING			20	A	20	EXISTING								0.10	TOILET EXHAUST FAN	14
15	WALL FAN 3 + 4						1.50	EXISTING			30	B	20	EXISTING							0.36		MECH RM REC	16
17	WING 3 TV						0.50	EXISTING			20	C	20	EXISTING							0.36		DORM REC	18
19	SPACE										-/1	A	30	EXISTING								1.50	WALL FAN 1+2	20
21	PUMPS						1.50	EXISTING			30/2	B	-/1										SPACE	22
23							1.50					C	-/1										SPACE	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	4.70	4.70
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	2.16	2.16
MISCELLANEOUS	7.70	7.70
TOTAL	14.56	14.56

LOAD BALANCE	
PHASE A	72.01%
PHASE B	132.49%
PHASE C	95.50%
TOTAL DEMAND AMPS x	40
LARGEST UNBALANCE PHASE %:	1.3249
LARGEST UNBALANCE PHASE AMPS:	**53.56**

EXISTING PANELBOARD **L2E**

SERVED FROM: TX TL6E — AMPERE RATING: 60 A — VOLTAGE (L-L): 208 — PHASE: 3 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 60/3 — VOLTAGE (L-N): 120 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT E220

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING							0.72		RECPT - OFFICES	2
3	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - OFFICES	4
5	MECH RM REC					0.72		EXISTING			20	C	20	EXISTING							0.36		RECPT - CTRL	6
7	SPARE							EXISTING			20	A	20	EXISTING							0.72		RECPT - OFFICES	8
9	SIGNAL LIGHT	0.50						EXISTING			20	B	20	EXISTING							0.72		RECPT - OFFICES	10
11	BATTERY LIGHTS	0.50						EXISTING			20	C	20	EXISTING							0.36		RECPT - OFFICES	12
13	LTS MECH RM	0.50						EXISTING			20	A	20	EXISTING							0.36		REC ROOF	14
15	LTS MECH RM	0.50						EXISTING			20	B	20	EXISTING							0.54		DORM B RECS	16
17	TELEPHONE BOARD REC					0.36		EXISTING			20	C	20	EXISTING								0.50	CIRCULATION EXHAUST FAN	18
19	SPACE										-/1	A	20	EXISTING								0.50	FIRE ALARM	20
21	SPACE										-/1	B	-/1										SPACE ONLY	22
23	WING 3 FANS						0.50	EXISTING			20	C	-/1										SPACE ONLY	24
25	EXISTING						0.50	EXISTING			20	A	20	EXISTING								0.50	WING 2 FANS	26
27	SPACE										-/1	B	20	EXISTING								0.50	WING 4 FANS	28
29	SPACE										-/1	C	20	EXISTING								0.50	WING 1 FANS	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	5.58	5.58
MISCELLANEOUS	3.50	3.50
TOTAL	11.08	11.58

LOAD BALANCE	
PHASE A	102.89%
PHASE B	94.22%
PHASE C	102.89%
TOTAL DEMAND AMPS x	32
LARGEST UNBALANCE PHASE %:	1.0289
LARGEST UNBALANCE PHASE AMPS:	**33.07**

EXISTING PANELBOARD **L2E**

SERVED FROM: TX TL6E — AMPERE RATING: 60 A — VOLTAGE (L-L): 208 — PHASE: 3 — 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 — MAIN BREAKER: 60/3 — VOLTAGE (L-N): 120 — WIRE: 4 — SYMMETRICAL AIC RATING
MOUNTING: SURFACE — LUG OPTIONS: MCB — LOCATION: ELECT E220

CIR.	LOAD	LOAD (KVA)						PHASE	G	CND	BRKR		BRKR	PHASE	G	CND	LOAD (KVA)						LOAD	CIR.
NO.	DESCRIPTION	LTG	H/C	MOT	KIT	REC	MISC	SIZE	SIZE	IN.	RTG		RTG	SIZE	SIZE	IN.	LTG	H/C	MOT	KIT	REC	MISC	DESCRIPTION	NO.
1	SPARE							EXISTING			20	A	20	EXISTING							0.72		RECPT - OFFICES	2
3	SPARE							EXISTING			20	B	20	EXISTING							0.72		RECPT - OFFICES	4
5	MECH RM REC					0.72		EXISTING			20	C	20	EXISTING							0.36		RECPT - CTRL	6
7	SPARE							EXISTING			20	A	20	EXISTING							0.72		RECPT - OFFICES	8
9	SIGNAL LIGHT	0.50						EXISTING			20	B	20	EXISTING							0.72		RECPT - OFFICES	10
11	BATTERY LIGHTS	0.50						EXISTING			20	C	20	EXISTING							0.36		RECPT - OFFICES	12
13	LTS MECH RM	0.50						EXISTING			20	A	20	EXISTING							0.36		REC ROOF	14
15	LTS MECH RM	0.50						EXISTING			20	B	20	EXISTING							0.54		DORM B RECS	16
17	TELEPHONE BOARD REC					0.36		EXISTING			20	C	20	EXISTING								0.50	CIRCULATION EXHAUST FAN	18
19	**AHU RELAYS**						**1.00**	**12**	**12**	**3/4**	**20**	A	20	EXISTING								0.50	FIRE ALARM	20
21	**AHU RELAYS**						**1.00**	**12**	**12**	**3/4**	**20**	B	-/1										SPACE ONLY	22
23	WING 3 FANS						0.50	EXISTING			20	C	-/1										SPACE ONLY	24
25	EXISTING						0.50	EXISTING			20	A	20	EXISTING								0.50	WING 2 FANS	26
27	SPACE										-/1	B	20	EXISTING								0.50	WING 4 FANS	28
29	SPACE										-/1	C	20	EXISTING								0.50	WING 1 FANS	30
31	SPACE										-/1	A	-/1										SPACE ONLY	32
33	SPACE										-/1	B	-/1										SPACE ONLY	34
35	SPACE										-/1	C	-/1										SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _______

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	5.58	5.58
MISCELLANEOUS	5.50	5.50
TOTAL	13.08	13.58

LOAD BALANCE	
PHASE A	110.09%
PHASE B	102.75%
PHASE C	87.16%
TOTAL DEMAND AMPS x	38
LARGEST UNBALANCE PHASE %:	1.1009
LARGEST UNBALANCE PHASE AMPS:	**41.50**

REV.NO.	DESCRIPTION	DATE
-	----	----

REVISIONS

SEAL 053121 5/30/23 JESSE C. ALONZO JR.

McKIM & CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

ELECTRICAL PANEL SCHEDULES

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E605
DRAWING NUMBER
0
REVISION

STATUS: **BID DOCUMENTS**

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E605.DWG 06/02/2023 11:44:22 OMAR NAHHAS

EXISTING PANELBOARD H2

SERVED FROM: HDP | AMPERE RATING: 100 A | VOLTAGE (L-L): 480 | PHASE: 3 | 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 | MAIN BREAKER: 100/3 | VOLTAGE (L-N): 277 | WIRE: 4 | SYMMETRICAL AIC RATING
MOUNTING: SURFACE | LUG OPTIONS: MCB | LOCATION: ELEC F420

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	PHASE SIZE	G SIZE	CND IN.	BRKR RTG	BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	LOAD DESCRIPTION	CIR. NO.
1	SPARE							EXISTING		20	A	20	EXISTING		2.60							LGHTS DORM B (NOTE 4)	2
3	LTS (NOTE 4)	1.40						EXISTING		20	B	20	EXISTING		2.60							LGHTS DORM A (NOTE 4)	4
5	SPARE							EXISTING		20	C	20	EXISTING		2.60							LGHTS DORM D (NOTE 4)	6
7	SPACE									-/1	A	20	EXISTING		2.60							LGHTS DORM C (NOTE 4)	8
9	SPACE									-/1	B	20	EXISTING									SPARE	10
11	SPACE									-/1	C	-/1										SPACE ONLY	12
13	SPACE									-/1	A	-/1										SPACE ONLY	14
15	SPACE									-/1	B	-/1										SPACE ONLY	16
17	SPACE									-/1	C	-/1										SPACE ONLY	18
19	SPACE									-/1	A					0.00	1.00	0.00	0.00	0.36	2.80		20
21	SPACE									-/1	B	30	EXISTING			0.00	1.00	0.00	0.00	1.80	0.00	TX TL2 (NOTE 4)	22
23	SPACE									-/1	C					0.00	2.00	0.00	0.00	1.08	1.00		24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.
4. EXISTING CIRCUIT TO BE RELOCATED TO NEW PANEL HF.

LARGEST MOTOR (KVA): _____

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	11.80	14.75
HEATING/COOLING	4.00	4.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.24	3.24
MISCELLANEOUS	3.80	3.80
TOTAL	22.84	25.79

LOAD BALANCE
PHASE A 122.94%
PHASE B 89.32%
PHASE C 87.74%

TOTAL DEMAND AMPS x 31
LARGEST UNBALANCE PHASE %: 1.2294

LARGEST UNBALANCE PHASE AMPS: **38.14**

NEW PANELBOARD HF

SERVED FROM: HDP | AMPERE RATING: 225 A | VOLTAGE (L-L): 480 | PHASE: 3 | 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 | MAIN BREAKER: 225/3 | VOLTAGE (L-N): 277 | WIRE: 4 | SYMMETRICAL AIC RATING
MOUNTING: SURFACE | LUG OPTIONS: MCB | LOCATION: ELEC F420

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	PHASE SIZE	G SIZE	CND IN.	BRKR RTG	BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	LOAD DESCRIPTION	CIR. NO.
1	SPACE										-/1	A	-/1									SPACE	2
3	SPACE										-/1	B	-/1									SPACE	4
5	SPACE										-/1	C	-/1									SPACE	6
7	SPACE										-/1	A	-/1									SPACE	8
9	SPACE										-/1	B	-/1									SPACE	10
11	SPACE										-/1	C	-/1									SPACE	12
13			6.10									A					6.10						14
15	CU-1-F		6.10					#8	#10	3/4"	35	B	35	#8	#10	3/4"	6.10					CU-3-F	16
17			6.10									C					6.10						18
19			6.10									A					6.10						20
21	CU-2-F		6.10					#8	#10	3/4"	35	B	35	#8	#10	3/4"	6.10					CU-4-F	22
23			6.10									C					6.10						24
25	LTS (NOTE 3)	1.40						#12	#12	3/4"	20	A	20	#12	#12	3/4"	2.60					LIGHTS DORM B (NOTE 3)	26
27		0.00	1.18	0.00	0.00	0.36	2.80					B	20	#12	#12	3/4"	2.60					LIGHTS DORM A (NOTE 3)	28
29	TX TL2 (NOTE 3)	0.00	1.18	0.00	0.00	1.80	0.00	#10	#10	3/4"	30	C	20	#12	#12	3/4"	2.60					LIGHTS DORM D (NOTE 3)	30
31		0.00	2.35	0.00	0.00	1.08	1.00					A	20	#12	#12	3/4"	2.60					LIGHTS DORM C (NOTE 3)	32
33	SPACE										-/1	B	-/1									SPACE	34
35	SPACE										-/1	C	-/1									SPACE	36
37	SPACE										-/1	A	-/1									SPACE	38
39	SPACE										-/1	B	-/1									SPACE	40
41	SPACE										-/1	C	-/1									SPACE	42

PANELBOARD NOTES:
1. PROVIDE WITH COPPER BUSSES.
2. BASIS OF DESIGN IS EATON POW-R-LINE-C
3. EXISTING CIRCUIT RELOCATED FROM DEMOUSHED PANEL H2.

LARGEST MOTOR (KVA): _____

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	11.80	14.75
HEATING/COOLING	77.86	77.86
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.24	3.24
MISCELLANEOUS	3.80	3.80
TOTAL	96.70	99.65

LOAD BALANCE
PHASE A 109.88%
PHASE B 97.17%
PHASE C 92.95%

TOTAL DEMAND AMPS x 120
LARGEST UNBALANCE PHASE %: 1.0988

LARGEST UNBALANCE PHASE AMPS: **131.70**

EXISTING PANELBOARD H2E

SERVED FROM: HDPE | AMPERE RATING: 100 A | VOLTAGE (L-L): 480 | PHASE: 3 | 14 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 | MAIN BREAKER: 100/3 | VOLTAGE (L-N): 277 | WIRE: 4 | SYMMETRICAL AIC RATING
MOUNTING: SURFACE | LUG OPTIONS: MCB | LOCATION: ELEC F420

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	PHASE SIZE	G SIZE	CND IN.	BRKR RTG	BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	LOAD DESCRIPTION	CIR. NO.
1	LIGHTING CORRIDOR	1.00						EXISTING		20	A	20	EXISTING		1.00							LTS DORM A	2
3	LIGHTING OFFICES & MECH	1.00						EXISTING		20	B	20	EXISTING		1.00							LTS DORM B	4
5	LIGHTING EXTERIOR	1.00						EXISTING		20	C	20	EXISTING		1.00							LTS DORM C	6
7	SPARE							EXISTING		20	A	20	EXISTING		1.00							LTS DORM D	8
9	SPARE							EXISTING		20	B	-/1										SPACE ONLY	10
11	SPARE							EXISTING		20	C	-/1										SPACE ONLY	12
13											A					0.50	0.00	0.00	0.00	1.80	2.00		14
15	ANU-1-F		2.13					#10	#12	3/4"	15	B	30	EXISTING		1.00	0.00	0.00	0.00	0.72	2.50	TX TL2E	16
17			2.13									C				0.50	0.00	0.00	0.00	0.72	2.50		18
19			2.13									A											20
21	AHU-2-F		2.13					#10	#12	3/4"	15	B	50									SPARE (OFF)	22
23			2.13									C											24
25			2.13									A					0.60						26
27	AHU-3-F		2.13					#10	#12	3/4"	15	B	15	EXISTING			0.60					AHU AHS-2 ROOM 113-2	28
29			2.13									C					0.60						30
31			2.13									A	-/1									SPACE ONLY	32
33	AHU-4-F		2.13					#10	#12	3/4"	15	B	-/1									SPACE ONLY	34
35			2.13									C	-/1									SPACE ONLY	36

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _____

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	9.00	11.25
HEATING/COOLING	27.40	27.40
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.24	3.24
MISCELLANEOUS	7.00	7.00
TOTAL	46.64	48.89

LOAD BALANCE
PHASE A 105.70%
PHASE B 98.76%
PHASE C 95.54%

TOTAL DEMAND AMPS x 59
LARGEST UNBALANCE PHASE %: 1.0570

LARGEST UNBALANCE PHASE AMPS: **62.15**

EXISTING PANELBOARD L2

SERVED FROM: TX TL2 | AMPERE RATING: 60 A | VOLTAGE (L-L): 208 | PHASE: 3 | 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 | MAIN BREAKER: 60/3 | VOLTAGE (L-N): 120 | WIRE: 4 | SYMMETRICAL AIC RATING
MOUNTING: SURFACE | LUG OPTIONS: MCB | LOCATION: ELEC F420

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	PHASE SIZE	G SIZE	CND IN.	BRKR RTG	BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	LOAD DESCRIPTION	CIR. NO.
1	SPACE										-/1	A	30	EXISTING						2.00	WATER COOLERS	2
3	SPARE							EXISTING		20	B	20	EXISTING							0.36		TV RECS	4
5	SPACE	1.00						EXISTING		20	C	20	EXISTING							0.50	WATER COOLERS	6
7	FAN F5-2	1.00						EXISTING		20	A	20	EXISTING							0.50	WATER COOLERS	8
9	FAN F4-2	1.00						EXISTING		20	B	20	EXISTING							0.36		TV RECS	10
11	FAN F3-2	1.00						EXISTING		20	C	20	EXISTING							0.50	WATER COOLERS	12
13	TOILET EXHAUST FAN						0.30	EXISTING		20	A	20	EXISTING							0.36		REC MECH RM	14
15	SPACE									-/1	B	20	EXISTING							0.36		REC MECH RM	16
17	SPACE									-/1	C	20	EXISTING							0.36		REC ROOFTOP	18
19	SPACE									-/1	A	-/1										SPACE	20
21	TV WING 3					0.36		EXISTING		20	B	20	EXISTING					0.36				TV WING 2	22
23	TV WING 4					0.36		EXISTING		20	C	20	EXISTING					0.36				TV WING 1	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _____

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	4.00	4.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.24	3.24
MISCELLANEOUS	3.80	3.80
TOTAL	11.04	11.04

LOAD BALANCE
PHASE A 113.04%
PHASE B 76.09%
PHASE C 110.87%

TOTAL DEMAND AMPS x 31
LARGEST UNBALANCE PHASE %: 1.1304

LARGEST UNBALANCE PHASE AMPS: **34.64**

MODIFIED PANELBOARD L2

SERVED FROM: TX TL2 | AMPERE RATING: 60 A | VOLTAGE (L-L): 208 | PHASE: 3 | 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 | MAIN BREAKER: 60/3 | VOLTAGE (L-N): 120 | WIRE: 4 | SYMMETRICAL AIC RATING
MOUNTING: SURFACE | LUG OPTIONS: MCB | LOCATION: ELEC F420

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	PHASE SIZE	G SIZE	CND IN.	BRKR RTG	BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	LOAD DESCRIPTION	CIR. NO.
1	SPACE										-/1	A	30	EXISTING						2.00	WATER COOLERS	2
3	SPARE							EXISTING		20	B	20	EXISTING							0.36		TV RECS	4
5	FAN F6-F		1.18					#12	#12	3/4"	20	C	20	EXISTING						0.50	WATER COOLERS	6
7	FAN F5-F		1.18					#12	#12	3/4"	20	A	20	EXISTING						0.50	WATER COOLERS	8
9	FAN F4-F		1.18					#12	#12	3/4"	20	B	20	EXISTING						0.36		TV RECS	10
11	FAN F3-F		1.18					#12	#12	3/4"	20	C	20	EXISTING						0.50	WATER COOLERS	12
13	TOILET EXHAUST FAN						0.30	EXISTING			20	A	20	EXISTING						0.36		REC MECH RM	14
15	SPACE										-/1	B	20	EXISTING						0.36		REC MECH RM	16
17	SPACE										-/1	C	20	EXISTING						0.36		REC ROOFTOP	18
19	SPACE										-/1	A	-/1									SPACE	20
21	TV WING 3					0.36		EXISTING		20	B	20	EXISTING					0.36				TV WING 2	22
23	TV WING 4					0.36		EXISTING		20	C	20	EXISTING					0.36				TV WING 1	24

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _____

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	0.00	0.00
HEATING/COOLING	4.70	4.70
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.24	3.24
MISCELLANEOUS	3.80	3.80
TOTAL	11.74	11.74

LOAD BALANCE
PHASE A 110.76%
PHASE B 76.02%
PHASE C 113.22%

TOTAL DEMAND AMPS x 33
LARGEST UNBALANCE PHASE %: 1.1322

LARGEST UNBALANCE PHASE AMPS: **36.91**

EXISTING PANELBOARD L2E

SERVED FROM: TX TL2E | AMPERE RATING: 60 A | VOLTAGE (L-L): 208 | PHASE: 3 | 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 | MAIN BREAKER: 60/3 | VOLTAGE (L-N): 120 | WIRE: 4 | SYMMETRICAL AIC RATING
MOUNTING: SURFACE | LUG OPTIONS: MCB | LOCATION: ELEC F420

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	PHASE SIZE	G SIZE	CND IN.	BRKR RTG	BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	LOAD DESCRIPTION	CIR. NO.
1	FIRE ALARM						0.50	EXISTING		20	A	20	EXISTING							0.72		RECS 121 122	2
3	INTERCOM AND DOORS						0.50	EXISTING		20	B	20	EXISTING							0.36		RECS RM 118 119	4
5	SPARE							EXISTING		20	C	20	EXISTING							0.36		REC CIRCULATION	6
7	TELEPHONE BOARD REC					0.36		EXISTING		20	A	20	EXISTING							0.72		RECS 102-104	8
9	SIGNAL LIGHT	0.50						EXISTING		20	B	20	EXISTING							0.36		RECS 105-107	10
11	BATTERY LIGHTS	0.50						EXISTING		20	C	20	EXISTING							0.36		RECS NURSE RM	12
13	LTS MECH RM	0.50						EXISTING		20	A	20	EXISTING								0.50	WING 3 FANS	14
15	LTS MECH RM	0.50						EXISTING		20	B	20	EXISTING								0.50	HVAC CONTROL RM 112	16
17	EXISTING						0.50	EXISTING		20	C	20	EXISTING								0.50	HVAC CONTROL RM 112	18
19	WING 2 FANS						0.50	EXISTING		20	A	-/1										SPACE ONLY	20
21	WING 4 FANS						0.50	EXISTING		20	B	20	EXISTING									SPARE JUNCTION BOX	22
23	WING 1 FANS						0.50	EXISTING		20	C	30	EXISTING								0.50	WING 2 FANS	24
25							0.50				A	-/1									1.00	AHU RELAYS	26
27	AIR COMP MECH 128						0.50	EXISTING		20	B	20	EXISTING								0.50	WING 3 AND 4 FANS	28
29							0.50				C	-/1									1.00	AHU RELAYS	30

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN HATCH DENOTE DEMOLITION.

LARGEST MOTOR (KVA): _____

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.24	3.24
MISCELLANEOUS	7.00	7.00
TOTAL	12.24	12.74

LOAD BALANCE
PHASE A 105.39%
PHASE B 103.43%
PHASE C 91.18%

TOTAL DEMAND AMPS x 35
LARGEST UNBALANCE PHASE %: 1.0539

LARGEST UNBALANCE PHASE AMPS: **37.27**

MODIFIED PANELBOARD L2E

SERVED FROM: TX TL2E | AMPERE RATING: 60 A | VOLTAGE (L-L): 208 | PHASE: 3 | 10 ,000 MINIMUM RMS
ENCLOSURE RATING: NEMA 1 | MAIN BREAKER: 60/3 | VOLTAGE (L-N): 120 | WIRE: 4 | SYMMETRICAL AIC RATING
MOUNTING: SURFACE | LUG OPTIONS: MCB | LOCATION: ELEC F420

CIR. NO.	LOAD DESCRIPTION	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	PHASE SIZE	G SIZE	CND IN.	BRKR RTG	BRKR RTG	PHASE SIZE	G SIZE	CND IN.	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	LOAD DESCRIPTION	CIR. NO.
1	FIRE ALARM						0.50	EXISTING		20	A	20	EXISTING							0.72		RECS 121 122	2
3	INTERCOM AND DOORS						0.50	EXISTING		20	B	20	EXISTING							0.36		RECS RM 118 119	4
5	SPARE							EXISTING		20	C	20	EXISTING							0.36		REC CIRCULATION	6
7	TELEPHONE BOARD REC					0.36		EXISTING		20	A	20	EXISTING							0.72		RECS 102-104	8
9	SIGNAL LIGHT	0.50						EXISTING		20	B	20	EXISTING							0.36		RECS 105-107	10
11	BATTERY LIGHTS	0.50						EXISTING		20	C	20	EXISTING							0.36		RECS NURSE RM	12
13	LTS MECH RM	0.50						EXISTING		20	A	20	EXISTING								0.50	WING 3 FANS	14
15	LTS MECH RM	0.50						EXISTING		20	B	20	EXISTING								0.50	HVAC CONTROL RM 112	16
17	EXISTING							EXISTING		20	C	20	EXISTING		0.50						0.50	HVAC CONTROL RM 112	18
19	WING 2 FANS							EXISTING		20	A	-/1			0.50							SPACE ONLY	20
21	WING 4 FANS							EXISTING		20	B	20	EXISTING		0.50							SPARE JUNCTION BOX	22
23	WING 1 FANS							EXISTING		20	C	30	EXISTING		0.50						0.50	WING 2 FANS	24
25											A	20	12	12	3/4						1.00	AHU RELAYS	26
27	AIR COMP MECH 128							EXISTING		20	B	20	EXISTING		0.50						0.50	WING 3 AND 4 FANS	28
29											C	20	12	12	3/4						1.00	AHU RELAYS	30

PANELBOARD NOTES:
1. EXISTING PANEL IS EATON POW-R-LINE C.
2. EXISTING LOADS ARE BASED ON ESTIMATES.
3. ITEMS IN BOLD DENOTE MODIFICATION.

LARGEST MOTOR (KVA): _____

LOAD TOTALS (KVA):	CONNECTED	DEMAND
LIGHTING/CONTINUOUS	2.00	2.50
HEATING/COOLING	0.00	0.00
MOTORS	0.00	0.00
KITCHEN	0.00	0.00
RECEPTACLES	3.24	3.24
MISCELLANEOUS	9.00	9.00
TOTAL	14.24	14.74

LOAD BALANCE
PHASE A 111.66%
PHASE B 88.90%
PHASE C 99.44%

TOTAL DEMAND AMPS x 41
LARGEST UNBALANCE PHASE %: 1.1166

LARGEST UNBALANCE PHASE AMPS: **45.68**

REV NO.	DESCRIPTION	DATE
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REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 053121 ENGINEER C. ALLNOD

McKIM&CREED
Venture IV Building, Suite 500
1730 Varsity Drive
Raleigh, North Carolina 27606
Phone: (919) 233-8091, Fax: (919) 233-8031
NC License# F-1222
www.mckimcreed.com

NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A | Code: 42107 | Item: 4112

ELECTRICAL
ELECTRICAL PANEL SCHEDULES

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E606
DRAWING NUMBER
0
REVISION

STATUS: BID DOCUMENTS

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E606.DWG 06/02/2023 11:44:37 OMAR NAHHAS

EXISTING SWITCHBOARD: MSB

LOCATION: MECHANICAL ROOM — **2000 A MAIN BUS RATING**
MOUNTING: PAD MOUNTED — **2000 A MAIN CIRCUIT BREAKER**
ENCLOSURE: NEMA 1 — **50 KAIC, MIN. RMS SYM. RATING**

VOLTAGE: 480 Y / 277V 3PH 4W

CKT #	DESCRIPTION	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	WIRE SIZE	GND SIZE	CND IN.	BREAKER FRAME & TRIP/POLE	PHASE
1	CHILLER						50.0	EXISTING			400	A
							50.0					B
							50.0					C
2	ATSXE						20.0	EXISTING			225	A
							20.0					B
							20.0					C
3	ATSE	17.0	29.1	0.0	0.0	12.2	46.7	EXISTING			1000	A
		12.0	24.1	0.0	0.0	13.0	46.7					B
		11.5	34.1	0.0	0.0	1.4	56.0					C
4	PANEL HDP						36.1	EXISTING			600	A
							36.1					B
							36.1					C
5	PANEL HDPA						50.0	EXISTING			400	A
							50.0					B
							50.0					C
6	FUTURE											A
												B
												C

SWITCHBOARD NOTES:
1. LOADS ARE BASED ON METERING DATA AND RECORD DRAWINGS.
2. HATCH DENOTES DEMOLITION.

	CONNECTED LOAD	KVA	AMPS
	PHASE A	261.1	942
	PHASE B	251.9	909
	PHASE C	259.1	935
	MAX UNBAL.	9.3	33

LARGEST _____ MOTOR (KVA)

CONNECTED (KVA)	DEMAND (KVA)	LOAD TYPES
40.5	40.5	LIGHTING
87.3	87.3	HEATING/COOLING
0.0	0.0	MOTORS
0.0	0.0	KITCHEN
26.6	18.3	RECEPTACLES
617.7	617.7	MISCELLANEOUS

TOTAL DEMAND LOAD 763.8 KVA
DEMAND AMPS 919 AMPS

MODIFIED SWITCHBOARD: MSB

LOCATION: MECHANICAL ROOM — **2000 A MAIN BUS RATING**
MOUNTING: PAD MOUNTED — **2000 A MAIN CIRCUIT BREAKER**
ENCLOSURE: NEMA 1 — **50 KAIC, MIN. RMS SYM. RATING**

VOLTAGE: 480 Y / 277V 3PH 4W

CKT #	DESCRIPTION	LOAD (KVA) LTG	H/C	MOT	KIT	REC	MISC	WIRE SIZE	GND SIZE	CND IN.	BREAKER FRAME & TRIP/POLE	PHASE
1	CHILLER						50.0	EXISTING			400	A
							50.0					B
							50.0					C
2	ATSXE						20.0	EXISTING			225	A
							20.0					B
							20.0					C
3	ATSE	**18.0**	**58.8**	**0.0**	**0.0**	**11.5**	**50.9**	EXISTING			1000	A
		17.1	**58.8**	**0.0**	**0.0**	**10.6**	**51.4**					B
		14.3	**59.9**	**0.0**	**0.0**	**7.0**	**53.0**					C
4	**PANEL HDP**	**38.2**	**161.2**	**0.0**	**0.0**	**1.8**	**19.1**	**SEE RISER DIAGRAM**			**1200**	**A**
		15.6	**158.5**	**0.0**	**0.0**	**9.4**	**21.8**					**B**
		15.6	**153.4**	**0.0**	**0.0**	**10.8**	**12.1**					**C**
5	PANEL HDPA						50.0	EXISTING			400	A
							50.0					B
							50.0					C
6	FUTURE											A
												B
												C

SWITCHBOARD NOTES:
1. LOADS ARE BASED ON METERING DATA AND RECORD DRAWINGS.
2. BOLD DENOTES MODIFICATION.

	CONNECTED LOAD	KVA	AMPS
	PHASE A	479.5	1730
	PHASE B	463.2	1671
	PHASE C	446.1	1610
	MAX UNBAL.	33.4	121

LARGEST _____ MOTOR (KVA)

CONNECTED (KVA)	DEMAND (KVA)	LOAD TYPES
118.8	118.8	LIGHTING
650.6	650.6	HEATING/COOLING
0.0	0.0	MOTORS
0.0	0.0	KITCHEN
51.1	30.6	RECEPTACLES
568.3	568.3	MISCELLANEOUS

TOTAL DEMAND LOAD 1368.3 KVA
DEMAND AMPS 1646 AMPS

LOAD SUMMARY

LOAD DESCRIPTION	CALCULATED LOAD (kVA)	DEMAND FACTOR	DEMAND LOAD (kVA)	
BUILDING A - EXISTING AHU DORM A AND B	18	1.00	18.0	
BUILDING A - EXISTING AHU DORM C AND D	18	1.00	18.0	
BUILDING A - EXISTING F3, F4, F5, AND F6	4.4	1.00	4.4	
BUILDING B - EXISTING AHU DORM A AND B	18	1.00	18.0	
BUILDING B - EXISTING AHU DORM C AND D	18	1.00	18.0	
BUILDING B - EXISTING F3, F4, F5, AND F6	4.4	1.00	4.4	
BUILDING C - EXISTING AHU DORM A AND B	18	1.00	18.0	
BUILDING C - EXISTING AHU DORM C AND D	18	1.00	18.0	
BUILDING C - EXISTING F3, F4, F5, AND F6	4.4	1.00	4.4	
BUILDING D - EXISTING AHU DORM A AND B	18	1.00	18.0	
BUILDING D - EXISTING AHU DORM C AND D	18	1.00	18.0	
BUILDING D - EXISTING F3, F4, F5, AND F6	4.4	1.00	4.4	
BUILDING E - EXISTING AHU DORM A AND B	18	1.00	18.0	
BUILDING E - EXISTING AHU DORM C AND D	18	1.00	18.0	
BUILDING E - EXISTING F3, F4, F5, AND F6	4.4	1.00	4.4	
BUILDING F - EXISTING AHU DORM A AND B	18	1.00	18.0	
BUILDING F - EXISTING AHU DORM C AND D	18	1.00	18.0	
BUILDING F - EXISTING F3, F4, F5, AND F6	4.4	1.00	4.4	
NEW AHU-1-A	6.4	1.00	6.4	
NEW AHU-2-A	6.4	1.00	6.4	
NEW AHU-3-A	6.4	1.00	6.4	
NEW AHU-4-A	6.4	1.00	6.4	
NEW CU-1A-A	18.3	1.00	18.3	
NEW CU-1C-A	18.3	1.00	18.3	
NEW CU-2A-A	18.3	1.00	18.3	
NEW CU-2C-A	18.3	1.00	18.3	
BUILDING A - NEW F3, F4, F5, AND F6	4.4	1.00	4.4	
NEW AHU-1-B	6.4	1.00	6.4	
NEW AHU-2-B	6.4	1.00	6.4	
NEW AHU-3-B	6.4	1.00	6.4	
NEW AHU-4-B	6.4	1.00	6.4	
NEW CU-1A-B	18.3	1.00	18.3	
NEW CU-1C-B	18.3	1.00	18.3	
NEW CU-2A-B	18.3	1.00	18.3	
NEW CU-2C-B	18.3	1.00	18.3	
BUILDING B - NEW F3, F4, F5, AND F6	4.4	1.00	4.4	
NEW AHU-1-C	6.4	1.00	6.4	
NEW AHU-2-C	6.4	1.00	6.4	
NEW AHU-3-C	6.4	1.00	6.4	
NEW AHU-4-C	6.4	1.00	6.4	
NEW CU-1A-C	18.3	1.00	18.3	
NEW CU-1C-C	18.3	1.00	18.3	
NEW CU-2A-C	18.3	1.00	18.3	
NEW CU-2C-C	18.3	1.00	18.3	
BUILDING C - NEW F3, F4, F5, AND F6	4.4	1.00	4.4	
NEW AHU-1-D	6.4	1.00	6.4	
NEW AHU-2-D	6.4	1.00	6.4	
NEW AHU-3-D	6.4	1.00	6.4	
NEW AHU-4-D	6.4	1.00	6.4	
NEW CU-1A-D	18.3	1.00	18.3	
NEW CU-1C-D	18.3	1.00	18.3	
NEW CU-2A-D	18.3	1.00	18.3	
NEW CU-2C-D	18.3	1.00	18.3	
BUILDING D - NEW F3, F4, F5, AND F6	4.4	1.00	4.4	
NEW AHU-1-E	6.4	1.00	6.4	
NEW AHU-2-E	6.4	1.00	6.4	
NEW AHU-3-E	6.4	1.00	6.4	
NEW AHU-4-E	6.4	1.00	6.4	
NEW CU-1A-E	18.3	1.00	18.3	
NEW CU-1C-E	18.3	1.00	18.3	
NEW CU-2A-E	18.3	1.00	18.3	
NEW CU-2C-E	18.3	1.00	18.3	
BUILDING E - NEW F3, F4, F5, AND F6	4.4	1.00	4.4	
NEW AHU-1-F	6.4	1.00	6.4	
NEW AHU-2-F	6.4	1.00	6.4	
NEW AHU-3-F	6.4	1.00	6.4	
NEW AHU-4-F	6.4	1.00	6.4	
NEW CU-1A-F	18.3	1.00	18.3	
NEW CU-1C-F	18.3	1.00	18.3	
NEW CU-2A-F	18.3	1.00	18.3	
NEW CU-2C-F	18.3	1.00	18.3	
BUILDING F - NEW F3, F4, F5, AND F6	4.4	1.00	4.4	
EXISTING PEAK DEMAND	185.4	1.25	231.8	278.8 A
EXISTING LOAD TO BE REMOVED	242.4			291.6 A
NEW LOAD TO BE ADDED	619.2			744.8 A
NET LOAD CHANGE	376.8			453.2 A
NEW TOTAL LOAD (NET LOAD CHANGE + PEAK DEMAND)			608.6	732.0 A

NOTE: EXISTING SERVICE PEAK KW DEMAND TOTAL ON 'MSB' IS 185.4 kVA BASED ON METERING DATA PERFORMED FROM 11/17/2022 TO 12/17/2022
NEW EQUIPMENT INCREASES THE LOAD ON THE MAIN DISTRIBUTION SWITCHBOARD 'MSB'. HOWEVER, THE EXISTING 2000A WILL BE ABLE TO HANDLE THE INCREASE IN LOAD.

REV NO.	DESCRIPTION	DATE
1	---	---

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 053121 ENGINEER JOSEPH C. ALOISI 5/30/23

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NC Department of Adult Correction

Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112

ELECTRICAL

E607 - E600 ELECTRICAL PANEL SCHEDULES

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

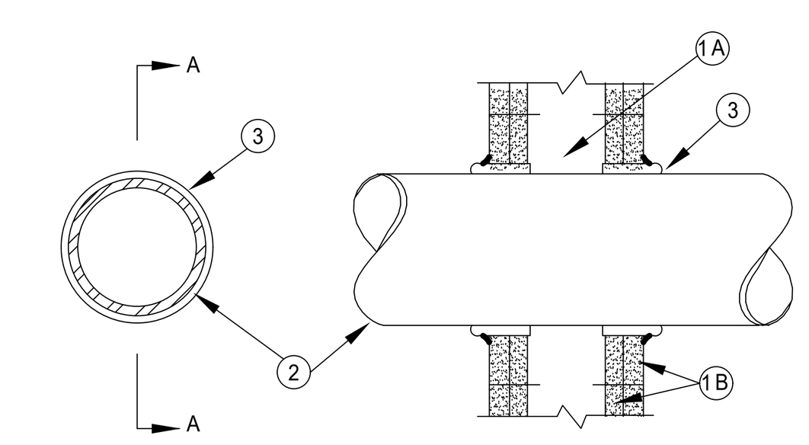
SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

DRAWING NUMBER: -----
REVISION: 0

STATUS: **BID DOCUMENTS**

SYSTEM NO. W-L-1001
JUNE 15, 2005

F RATINGS - 1, 2, 3 AND 4 HR (SEE ITEMS 2 AND 3)
T RATINGS - 0, 1, 2, 3 AND 4 HR (SEE ITEM 3)
L RATING AT AMBIENT - LESS THAN 1 CFM PER SQ. FT.
L RATING AT 400°F - LESS THAN 1 CFM PER SQ. FT.



SECTION A-A

1. WALL ASSEMBLY - THE 1, 2, 3 OR 4 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2 H FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM OC WITH NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. (92 MM) WIDE BY 1-3/8 IN. (35 MM) DEEP CHANNELS SPACED MAX 24 IN. (610 MM) OC.

B. GYPSUM BOARD* - NOM 1/2 OR 5/8 IN. (13 OR 16 MM) THICK, 4 FT. (122 CM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 26 IN. (660 MM).

2. THROUGH-PENETRANT - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN 0 IN. / (0 MM). (POINT CONTACT) TO MAX 2 IN. (51 MM) PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

A. STEEL PIPE -- NOM 24 IN. (610 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

B. IRON PIPE - NOM 24 IN. (610 MM) DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. (305 MM) DIAM (OR SMALLER) OR CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE.

C. CONDUIT - NOM 6 IN. (152 MM) DIAM (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. (102 MM) DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.

D. COPPER TUBING - NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

E. COPPER PIPE - NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

F. THROUGH PENETRATING PRODUCT* - FLEXIBLE METAL PIPING THE FOLLOWING TYPES OF STEEL FLEXIBLE METAL GAS PIPING MAY BE USED:

1. NOM 2 IN. (51 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

OMEGA FLEX INC

2. NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

TITEFLEX CORP A BUNDY CO

3. NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

WARD MFG INC

3. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT- MIN 5/8, 1-1/4, 1-7/8 AND 2-1/2 IN. (16, 32, 48 AND 64 MM) THICKNESS OF CAULK FOR 1, 2, 3 AND 4 HR RATED ASSEMBLIES, RESPECTIVELY, APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MIN 1/4 IN. (6 MM) DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIDES OF WALL. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

MAX PIPE OR CONDUIT DIAM IN (MM)	F RATING HR.	T RATING HR
1 (25)	1 OR 2	0+, 1 OR 2
1 (25)	3 OR 4	3 OR 4
4 (102)	1 OR 2	0
6 (152)	3 OR 4	0
12 (305)	1 OR 2	0

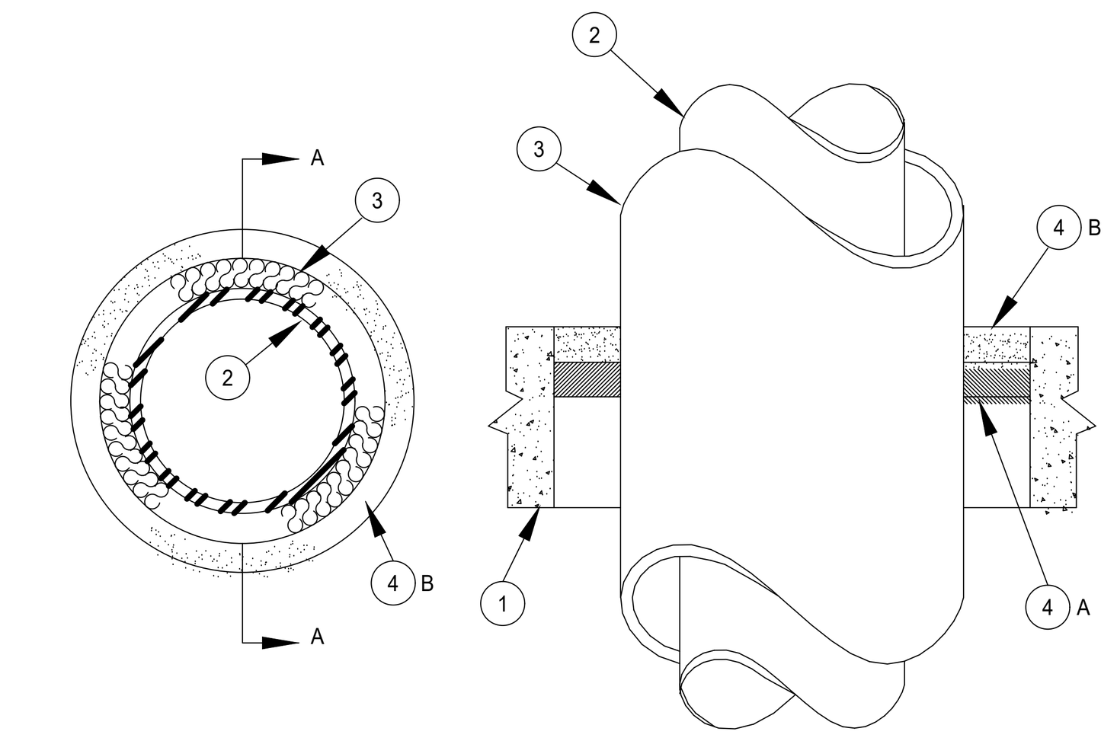
+ WHEN COPPER PIPE IS USED, T RATING IS 0 H.

3M COMPANY - CP 25WB+ OR FB-3000 WT.

* BEARING THE UL CLASSIFICATION MARK.

SYSTEM NO. C-AJ-5001
MARCH 05, 2007

F RATINGS – 1-1/2, 2 AND 3 HR (SEE ITEM 4)
T RATINGS – 0, 1/2, 3/4 AND 1 HR (SEE ITEMS 1A AND 4)
L RATING AT AMBIENT – 2 CFM PER SQ. FT.
L RATING AT 400°F – LESS THAN 1 CFM PER SQ. FT.



SECTION A-A

1. FLOOR OR WALL ASSEMBLY - MIN 2-1/2 IN. (64 MM) THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M3) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF OPENING IS 18 IN. (457 MM).

SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

1A. STEEL SLEEVE - (OPTIONAL, NOT SHOWN) - NOM 10 IN. (254 MM) (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX OF 2 IN. (51 MM) ABOVE TOP OF FLOOR OR BEYOND EITHER SURFACE OF WALL. AS AN ALTERNATE, NOM 10 IN. (254 MM) DIAM (OR SMALLER) SLEEVE FABRICATED FROM NOM 0.019 IN. (0.48 MM) THICK GALV STEEL CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY FLUSH WITH FLOOR OR WALL SURFACES. T RATING IS 0 HR WHEN SLEEVE IS USED.

2. THROUGH PENETRANT - NOM 4 IN. (102 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE, NOM 12 IN. (305 MM) DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. (305 MM) DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE OR NOM 12 IN. (305 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE CENTERED IN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

3. PIPE COVERING* - NOM 1/2 TO 2 IN. (13 TO 51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN 3.5 PCF OR 56 KG/M3) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT.

SEE PIPE AND EQUIPMENT COVERING - MATERIALS* (BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FIRESTOP SYSTEM - THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:

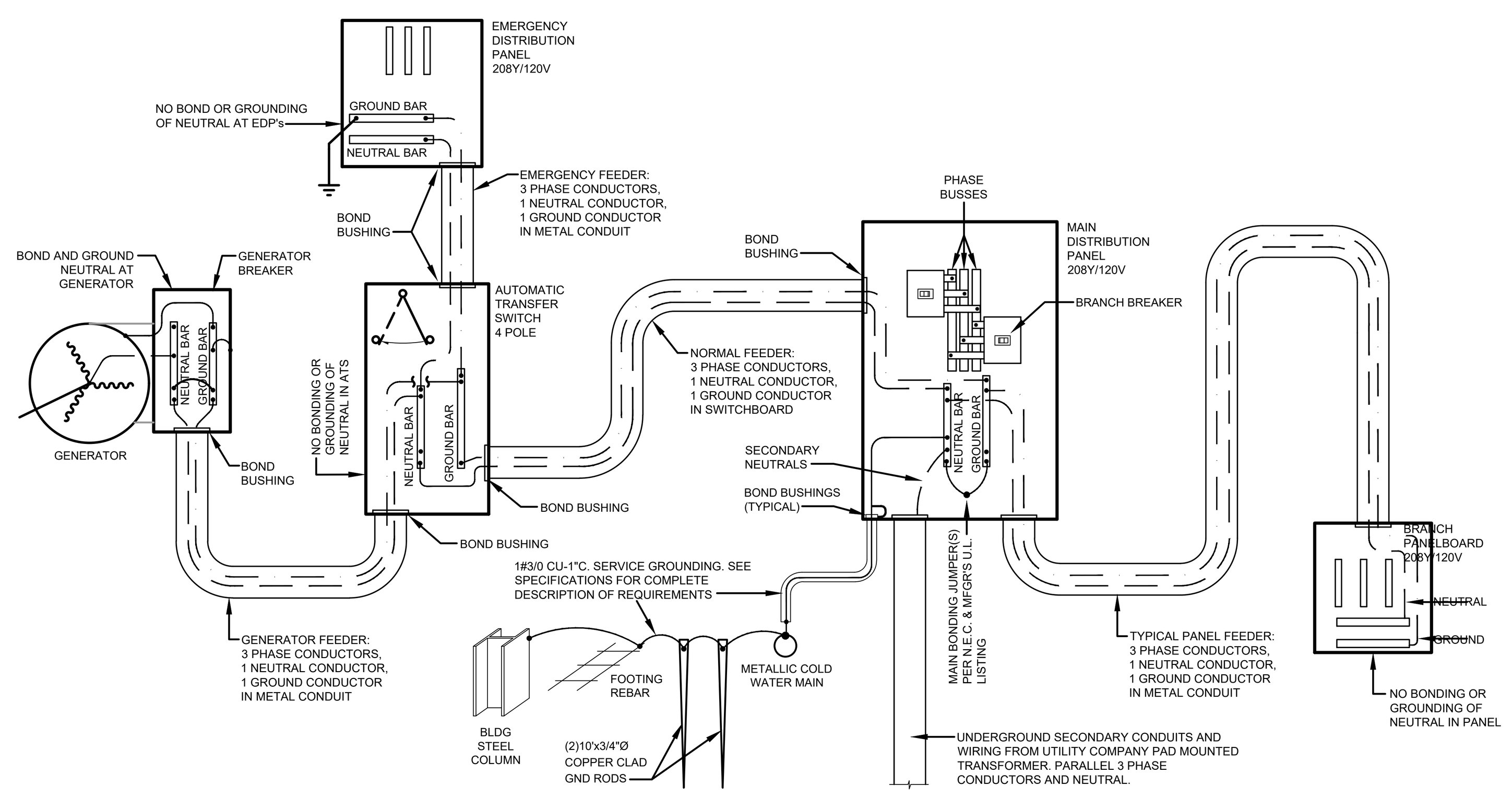
A. PACKING MATERIAL - MIN 1 IN. (25 MM) THICKNESS OF FIRMLY PACKED MINERAL WOOL BATT INSULATION USED AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR SLEEVE OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM B).

B. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - APPLIED TO FILL THE ANNULAR SPACE FLUSH WITH THE TOP SURFACE OF THE FLOOR OR SLEEVE OR FLUSH WITH BOTH SURFACES OF WALL. WHEN NOM PIPE COVERING THICKNESS IS 2 IN. (51 MM), MIN THICKNESS OF CAULK FILL MATERIAL IS 2 IN. (51 MM). WHEN NOM PIPE COVERING THICKNESS IS 1-1/2 IN. (38 MM) OR LESS, MIN THICKNESS OF CAULK FILL MATERIAL IS 1 IN. (25 MM). THE HOURLY F AND T RATINGS OF THE FIRESTOP SYSTEM ARE DEPENDENT UPON THE THICKNESS OF THE FLOOR OR WALL, THE SIZE OF PIPE, THE THICKNESS OF PIPE COVERING MATERIAL AND THE SIZE OF THE ANNULAR SPACE (BETWEEN THE PIPE COVERING MATERIAL AND THE EDGE OF THE CIRCULAR THROUGH OPENING) AS SHOWN IN THE FOLLOWING TABLE:

MIN FLOOR OR WALL THKNS, IN. (MM)	MAX PIPE DIAM, IN. (MM)	NOM PIPE COVERING THKNS, IN. (MM)	ANNULAR SPACE IN. (MM)	F RATING HR.	T RATING HR.
2-1/2 (64)	4 (102)	1 or 1-1/2 (25 or 38)	1/2 to 2-3/8 (13 to 60)	2	1
4-1/2 (114)	4 (102)	2 (51)	1/4 to 3-5/8 (6 to 92)	2	1-1/2
2-1/2 (64)	12 (305)	1 (25)	1/2 to 1-1/2 (13 to 38)	2	1/2
4-1/2 (114)	12 (305)	1 (25)	1/2 to 2-3/8 (13 to 60)	3	1
2-1/2 (64)	12 (305)	1/2 (13)	1/2 to 2-3/8 (13 to 60)	2	0

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

* BEARING THE UL CLASSIFICATION MARK.



5 / E701 TYPICAL SYSTEM GROUNDING & BONDING DIAGRAM

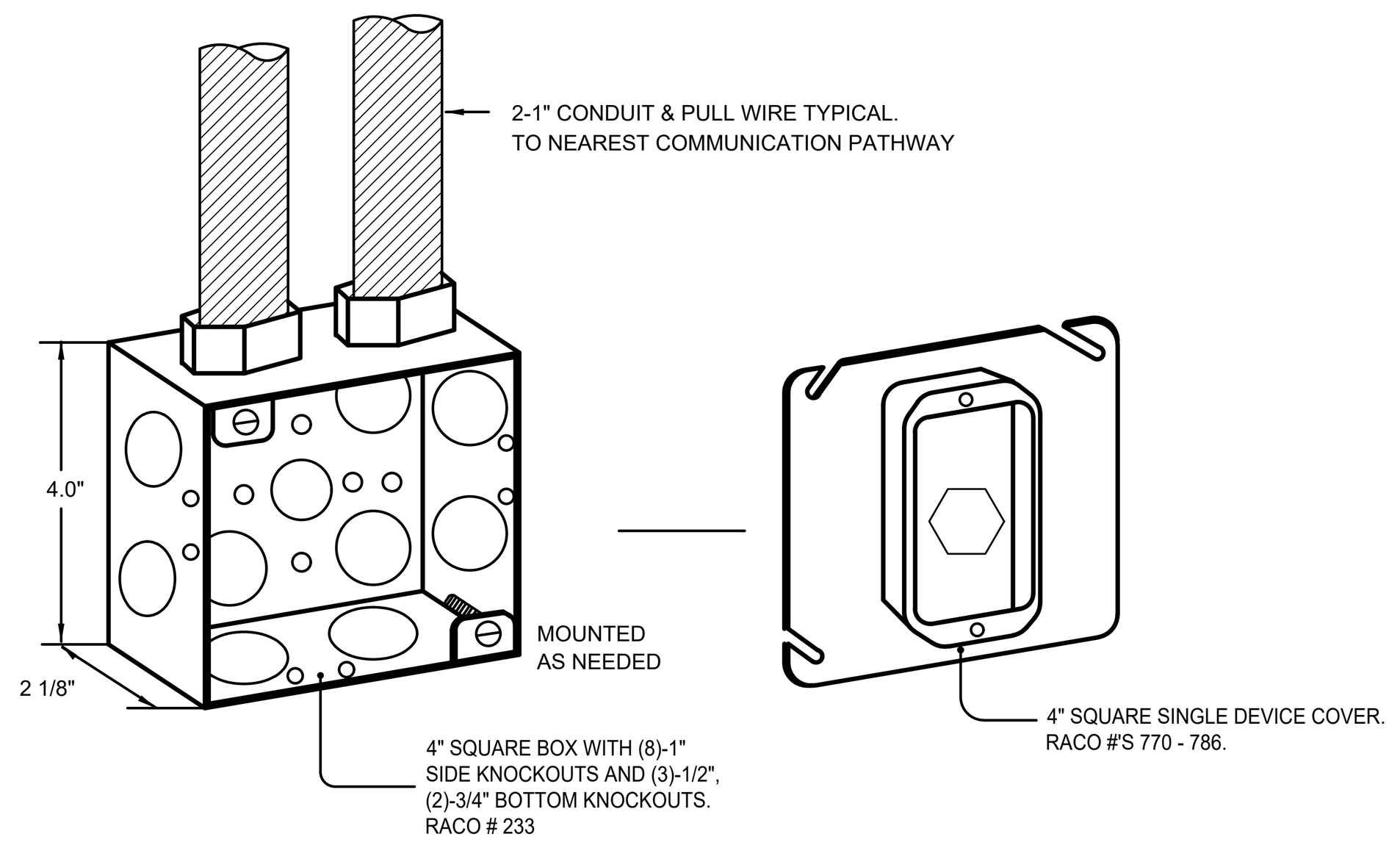
Scale: NTS

NOTES:

1. CONTRACTOR PROVIDE WALL BOXES AND CONDUIT ONLY. CONDUIT TO EXTEND AND TURN OUT ABOVE CEILING OR AN ACCESSIBLE SPACE ABOVE ADJACENT CEILING. 3/4"C. MIN..
PHONE/DATA CABLING BY OWNER.

2. BOX AND RING NUMBERS SHOWN FOR STUD WALL CONSTRUCTION,

3. SUBSTITUTE MASONRY BOX EQUIVALENT WHERE LOCATED IN CMU OR CONCRETE WALLS.



OTHER ACCEPTABLE MANUFACTURERS ARE APPLETON, T&B, AND MIDLAND ROSS/STEEL CITY

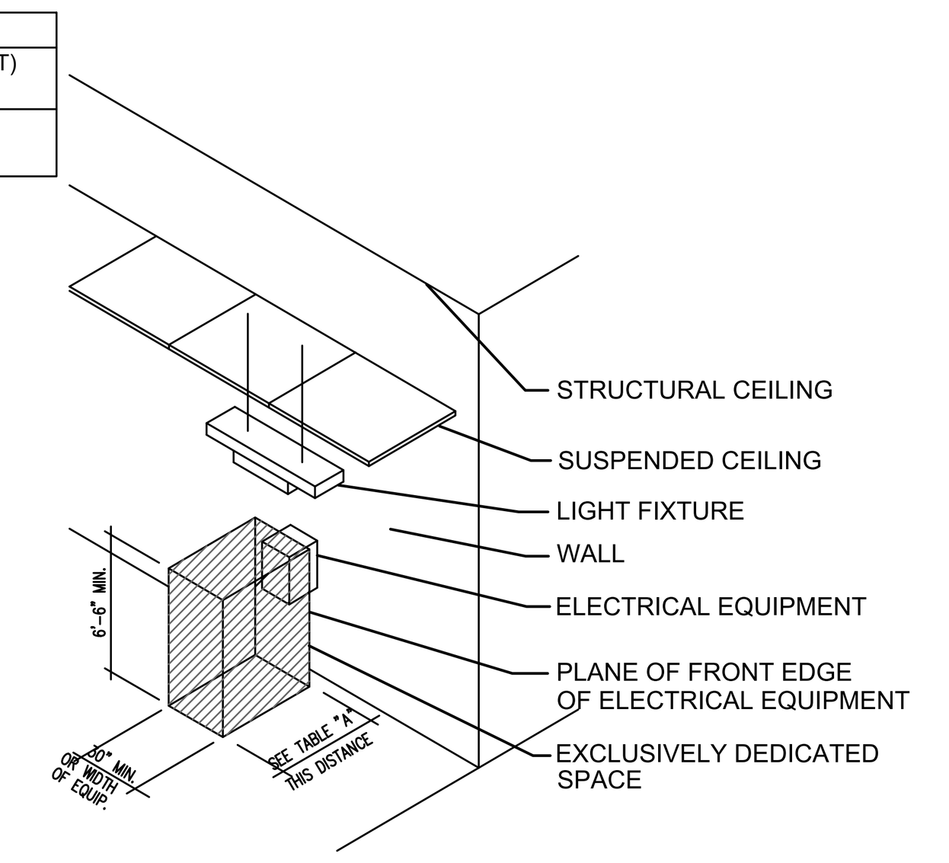
4 / E701 TELE/DATA OUTLET BOX DETAIL

SCALE : NOT TO SCALE

TABLE A - WORKING CLEARANCES			
VOLTAGE TO GROUND NOMINAL	MINIMUM CLEAR DISTANCE (FEET) CONDITION: 1	2	3
0 - 150	3	3	3
151 - 600	3	3 1/2	4

WHERE THE "CONDITIONS" ARE AS FOLLOWS:

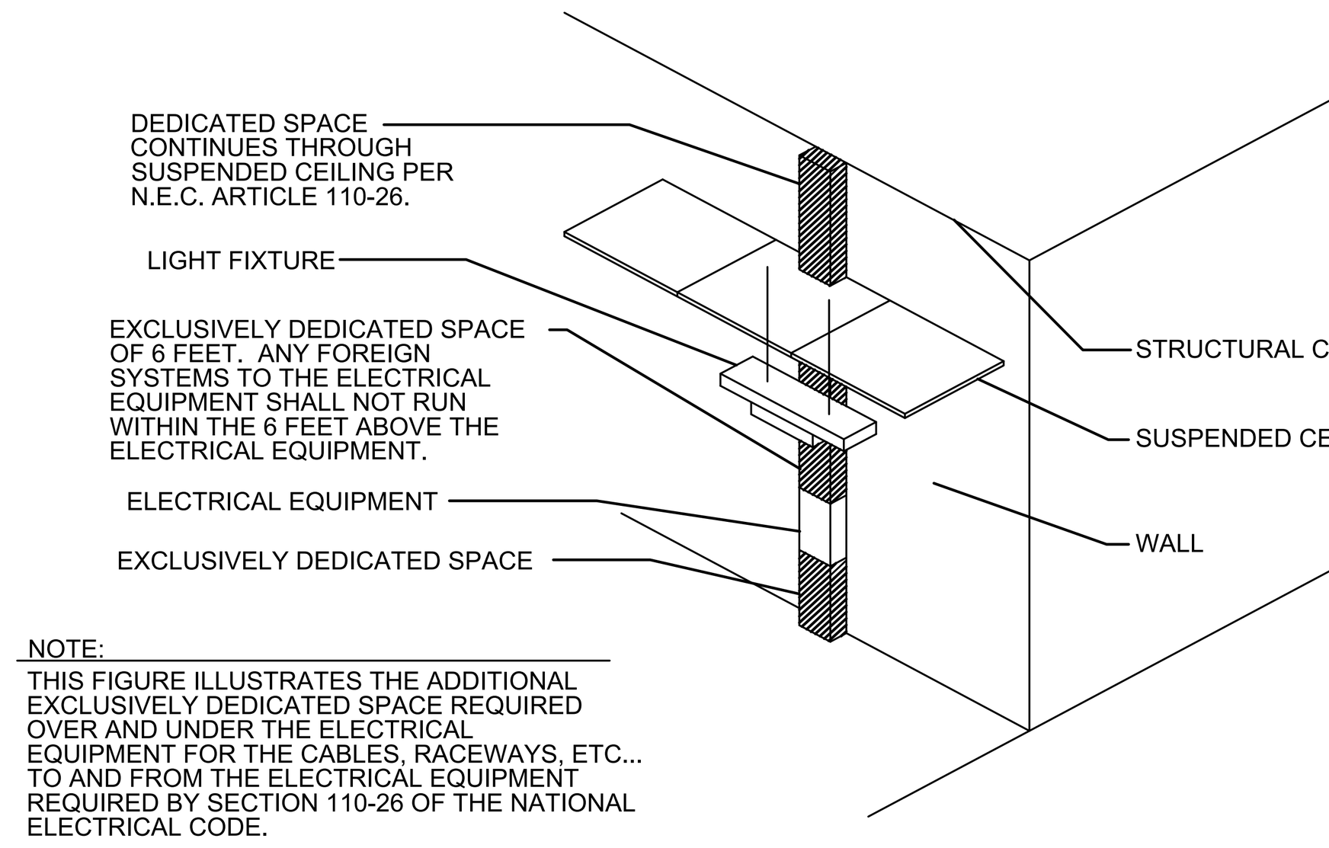
1. EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS. INSULATED WIRE OR INSULATED BUSBARS OPERATING NOT AT OVER 300V SHALL NOT BE CONSIDERED LIVE PARTS.
2. EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE.
3. EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.



DETAIL NOTE:
THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110-26 OF THE NATIONAL ELECTRICAL CODE.

1 / E701 ELECTRICAL EQUIPMENT WORKING CLEARANCE

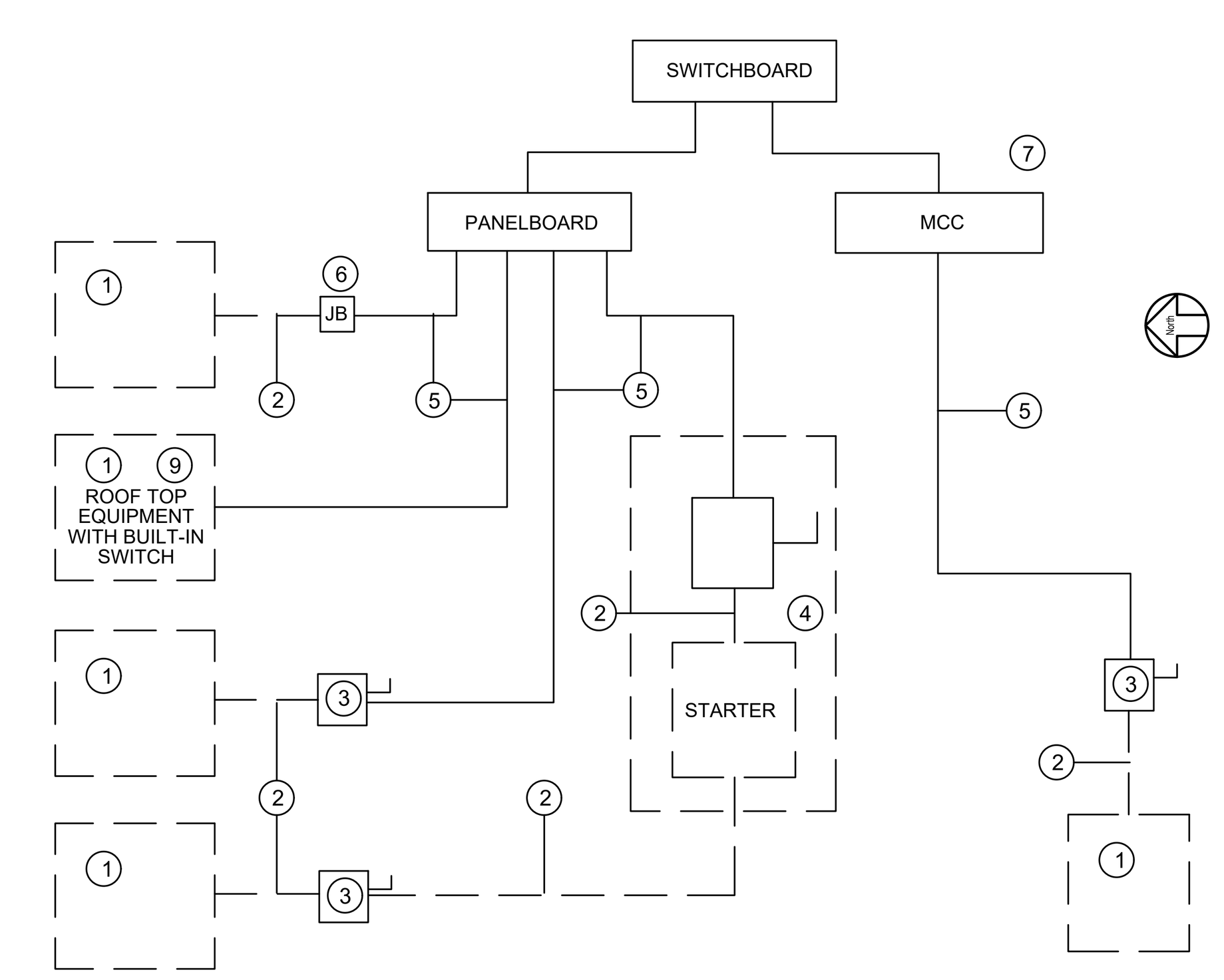
NOT TO SCALE



NOTE:
THIS FIGURE ILLUSTRATES THE ADDITIONAL EXCLUSIVELY DEDICATED SPACE REQUIRED OVER AND UNDER THE ELECTRICAL EQUIPMENT FOR THE CABLES, RACEWAYS, ETC... TO AND FROM THE ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110-26 OF THE NATIONAL ELECTRICAL CODE.

2 / E701 ELECTRICAL EQUIPMENT DEDICATED SPACE

NOT TO SCALE



ELECTRICAL NOTES

UNLESS OTHERWISE NOTED ON THE PLANS:

1. EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
2. CONDUIT AND WIRING BY HVAC, PLUMBING, OR OTHER TRADES.
3. IF AN ADDITIONAL DISCONNECT IS REQUIRED BY 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 FOR WIRE AND BREAKER 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 WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
7. PROJECTS UTILIZING AN MCC, THE STARTER, CB, OR VFD IN THE MCC ARE PROVIDED BY THE ELECTRICAL CONTRACTOR.
8. IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.
9. IF THE ROOF TOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.

3 / E701 ELECTRICAL EQUIPMENT CONNECTIONS

NOT TO SCALE

REV.NO.	DESCRIPTION	DATE

REVISIONS

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Lumberton Correctional Institution - Air Conditioning Installation
SCO ID: 22-25591-01A Code: 42107 Item: 4112
ELECTRICAL
ELECTRICAL DETAILS

PROJ. START DATE:	2023-05-30
MCE PROJ. #	08914-0003
DRAWN	OWN
DESIGNED	OWN
CHECKED	JCA
PROJ. MGR.	MAB

SCALE
HORIZONTAL: AS NOTED
VERTICAL: N/A

E701
DRAWING NUMBER
0
REVISION

STATUS: BID DOCUMENTS

I:\08914\0003\ENG\80-DRAWINGS\86-DESIGN\86E-ELECTRICAL DESIGN\CONSTRUCTION DOCUMENTS\E701.DWG 06/02/2023 11:44:53 OMAR NAHHAS