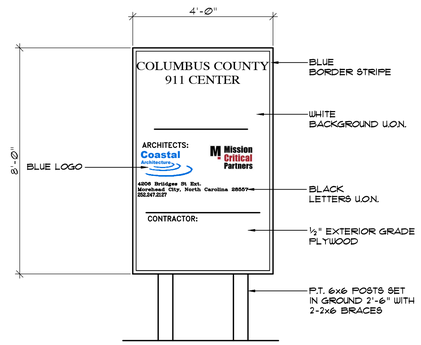
COLUMBUS COUNTY
911 CENTER

WHITEVILLE, NORTH CAROLINA

131 W. WEBSTER STREET



1 CS-1 PROJECT SIGN
NOT TO SCALE

NOTE: SUBMIT SHOP DRAWING FOR COORDINATION OF LETTER HEIGHTS SPECIFIC SIGN COLORS.

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Coastal Architecture

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Coastal Architecture

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COLUMBUS COUNTY
911 CENTER
WHITEVILLE, NORTH CAROLINA

COASTAL ARCHITECTURE, P.A. CERT. NO. C-1762

LEE D. DIXON, JR. 6419 REGISTERED ARCHITECT NORTH CAROLINA MOREHEAD CITY

COVER SHEET

22001

ISSUED:	04/12/24
DWG BY:	TRA/MSG
CKD BY:	LDD

REVISIONS

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APPENDIX B

2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

(EXCEPT ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: COLUMBUS COUNTY 911 CENTER
Address: 131 W WEBSTER STREET, WHITEVILLE, NORTH CAROLINA Zip Code 28472
Owner/Authorized Agent: NICK WEST Phone # (910) 640-6630 E-Mail RNWEST@COLUMBUSCO.ORG
Owned By: ☒City/County ☐Private ☐State EXT. 231
Code Enforcement Jurisdiction: ☒City WHITEVILLE ☐County _____ ☐State _____

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	Coastal Architecture	Lee Dixon	6419	(252) 247-2127	lee@coastalarchitecture.net
Civil				( )	
Electrical	Burke Design Group	Ben Burke	22038	(919) 771-1916	benburke@ncrr.com
Fire Alarm	Burke Design Group	Ben Burke	22038	(919) 771-1916	benburke@ncrr.com
Plumbing	Burke Design Group	Ben Burke	22038	(919) 771-1916	benburke@ncrr.com
Mechanical	Burke Design Group	Ben Burke	22038	(919) 771-1916	benburke@ncrr.com
Sprinkler-Standpipe				( )	
Structural	FDR Engineers	Heath Hendrick	035655	(919) 957-5100	hhendrick@fdr-eng.com
Retaining Walls > 5 feet High				( )	
Other				( )	

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: ☐New Building ☐Addition ☐Shell/Core ☐Phased Construction—Shell Core ☐1st Time Interior Completions

2018 NC EXISTING BUILDING CODE: (check all that apply) ☐Prescriptive ☐Repair ☐Chapter 14 ☐Alteration Level I ☐Alteration Level II ☐Alteration Level III ☐Historic Property ☒Alteration Level II ☐Change of Use

CONSTRUCTED: (date) 1971 CURRENT USE(S) (Ch. 3): OFFICE - BUSINESS
RENOVATED: (date) 1997 PROPOSED USE(S) (Ch. 3) OFFICE - BUSINESS
OCCUPANCY CATEGORY (Table 1604.5): Current: II Proposed: IV (SEE A-12 FOR ADDED SHEER WALLS)

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 ☐NFPA 13 ☐NFPA 13R ☐NFPA 13D
Standpipes: ☐No Class ☐I ☐II ☐III ☐Wet ☐Dry
Primary Fire District: ☒No ☐Yes **Flood Hazard Area:** ☐No ☐Yes
Special Inspections Required: ☒No ☐Yes

GROSS BUILDING AREA TABLE

Floor	Existing (sq ft)	New (sq ft)	Subtotal
1st Floor	21517	0	(6,103 RENOVATION)
TOTAL	21517		

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy 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 versus the annual energy cost for the proposed design.

Existing building envelope complies with code: ☐ (If checked, the remainder of this section is not applicable.)

Exempt Building: ☒Provide code or statutory reference: SECTION 811 EXISTING BUILDING CODE

Climate Zone: ☐3A ☐4A ☐5A

Method of Compliance:
Energy Code: ☐Performance ☒Prescriptive
ASHSAE 90.1: ☐Performance ☐Prescriptive
Other: ☐ Performance (specify source) _____

THERMAL ENVELOPE: (Prescriptive method only)
Roof/ceiling Assembly (each assembly)
Description of assembly:
U-Value of total assembly:
R-Value of insulation:
Skylights in each assembly:
U-Value of skylight:
total square footage of skylights in each assembly:
Exterior Walls (each assembly) EXISTING
Description of assembly
U-Value of total assembly:
R-Value of insulation:
Openings (windows or doors with glazing)
U-Value of assembly:
Solar heat gain coefficient:
projection factor:
Door R-Values:

Walls below grade (each assembly)
Description of assembly:
U-Value of total assembly: N/A
R-Value of insulation:

Floors over unconditioned space (each assembly)
Description of assembly:
U-Value of total assembly: N/A
R-Value of insulation:

Floors slab on grade
Description of assembly:
U-Value of total assembly:
R-Value of insulation: N/A
Horizontal/vertical requirement:
slab heated:

ALLOWABLE AREA

Primary Occupancy Classification(s):
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
I-2 Condition ☐1 ☐2
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 ☐

Accessory Occupancy Classification(s):
Incidental Uses (Table 509):
This separation is not exempt as a Nonseparated Use (see exceptions).
Special Uses (Chapter 4 – List Code Sections):
Special Provisions: (Chapter 5 – List Code Sections):
Mixed Occupancy: ☐No ☐Yes Separation: No separation required per T508.3.3 Hr. Exception:
Non-separated Use (508.3)

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.

Select one

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

_____ + _____ = _____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.24 AREA	(C) AREA FOR FRONTAGE INCREASE1, 5	(D) ALLOWABLE AREA PER STORY OR UNLIMITED2, 3
1	BUSINESS	21517	23,000	9,200	32,200

1. Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F) I= [F/P−0.25] W/30
b. Total Building Perimeter = _____ (P) I= [1−0.25] 30/30
c. Ratio (F/P) = _____ (F/P) I= .75
d. W = Minimum width of public way = _____ (W)
2. Unlimited area applicable under conditions of Section 507.
3. Maximum Building Area = total number of stories in the building × D (maximum 3 stories) (506.2). I= [415/636−0.25] 30/30
4. The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1. I= [0.40] 1
5. Frontage increase is based on the unsprinklered area value in Table 506.2. I= .40

STRUCTURAL DESIGN

DESIGN LOADS:
Importance Factors: Wind (IW) _____
Snow (IS) _____
Seismic (IE) _____
Live Loads: Roof _____ psf
Mezzanine _____ psf
Floor _____ psf
Ground Snow Load: _____ psf
Wind Load: Basic Wind Speed mph (ASCE-7)
Exposure Category EXISTING

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 SS_____ %g S1_____ %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 ☐Building Frame ☐Moment Frame ☐Dual w/Special Moment Frame ☐Dual w/Intermediate R/C or Special Steel ☐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) _____ psf
Presumptive Bearing capacity _____ psf
Pile size, type, and capacity _____

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	50	16'-5"	T504.3
Building Height in Stories (Table 504.4)	3	1	T504.4

1. Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (feet)	RATING REQ'D	RATING PROVIDED (W/ ___ REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame Including columns, girders, trusses		∅	∅				
Bearing Walls							
Exterior		-					
North		∅	∅				
East		∅	∅				
West		∅	∅				
South		∅	∅				
Nonbearing walls and partitions							
Exterior walls							
North		-	-				
East		-	-				
West		-	-				
South		-	-				
Interior walls and partitions							
Floor Construction Including supporting beams and joists		∅	∅				
Floor Ceiling Assembly		∅	∅				
Columns Supporting Floors		-	-				
Roof Construction, including supporting beams and joists		∅	∅				
Roof Ceiling Assembly		-					
Columns Supporting Roof		∅	∅				
Shaft Enclosures—Exit		-					
Shaft Enclosures—Other		-					
Corridor Separation		∅	∅				
Occupancy/Fire Barrier Separation		2	2	U419			
Party/Fire Wall Separation		-					
Smoke Barrier Separation		-					
Smoke Partition		-					
Tenant/Dwelling Unit/ Sleeping Unit Separation		-					
Incidental Use Separation		1	1	U419			

* Indicate section number permitting reduction

MECHANICAL DESIGN

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
Thermal Zone
winter dry bulb:
summer dry bulb:
Interior design conditions
winter dry bulb:
summer dry bulb:
summer humidity: SEE MECHANICAL
Building heating load:
Building cooling load:
Mechanical Spacing Conditioning System
Unitary
description of unit
heating efficiency:
cooling efficiency:
size category of unit:
Boiler
Size category. If oversized, state reason.:
Chiller
Size category. If oversized, state reason.:
List equipment efficiencies:

ELECTRICAL DESIGN

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
number of lamps in fixture SEE ELECTRICAL
ballast type used in fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified versus allowed (whole building or space by space)
total exterior wattage specified versus allowed

Additional Prescriptive Compliance
☐506.2.1 More Efficient Mechanical Equipment
☐506.2.2 Reduced Lighting Power Density
☐506.2.3 Energy Recovery Ventilation Systems
☐506.2.4 Higher Efficiency Service Water Heating
☐506.2.5 On-Site Supply of Renewable Energy
☐506.2.6 Automatic Daylighting Control Systems

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (feet) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
N,W,S.	I.P., N.S.	N , L	N , L
E	I.P., N.S.	25%	3%

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☒Yes ☐No
Exit Signs: ☒Yes ☐No
Fire Alarm: ☒Yes ☐No
Smoke Detection Systems: ☒Yes ☐No
Carbon Monoxide Detection: ☐Yes ☒No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: G-2

☒ 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 Use 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 [Tables 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 schematic 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
		NOT APPLICABLE					

ACCESSIBLE PARKING (SECTION 1106)

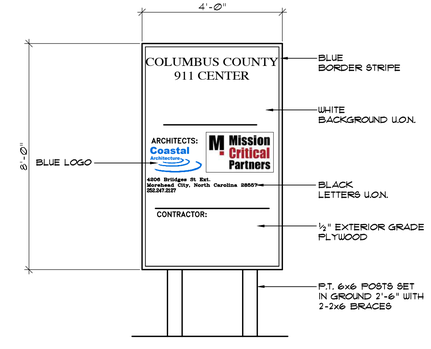
LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	
		EXSITING				
TOTAL						

PLUMBING FIXTURE REQUIREMENTS (FOR 911 CENTER ONLY) (TABLE 2902.1)

USE	WATERCLOSETS			URINALS	LAVATORIES			SHOWERS/ TUBS	DRINKING FOUNTAINS	
	Male	Female	Unisex		Male	Female	Unisex		Regular	Accessible
EXIST'G										
NEW	1	1		∅	1	1	∅	2		1
REQ'D	1	1		∅	1	1	∅	∅		1

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)



1 G-1 **PROJECT SIGN**
NOT TO SCALE

NOTE: SUBMIT SHOP DRAWING FOR COORDINATION OF LETTER HEIGHTS SPECIFIC SIGN COLORS.

NOTE: VERIFY SIGN SIZES AND REQUIREMENTS W/ TOWN

SIGN LOCATION TO BE FIELD VERIFIED W/ ARCHITECT

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- Architectural Design
- Planning
- Interiors

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COLUMBUS COUNTY
911 CENTER
WHITEVILLE, NORTH CAROLINA

GENERAL DATA

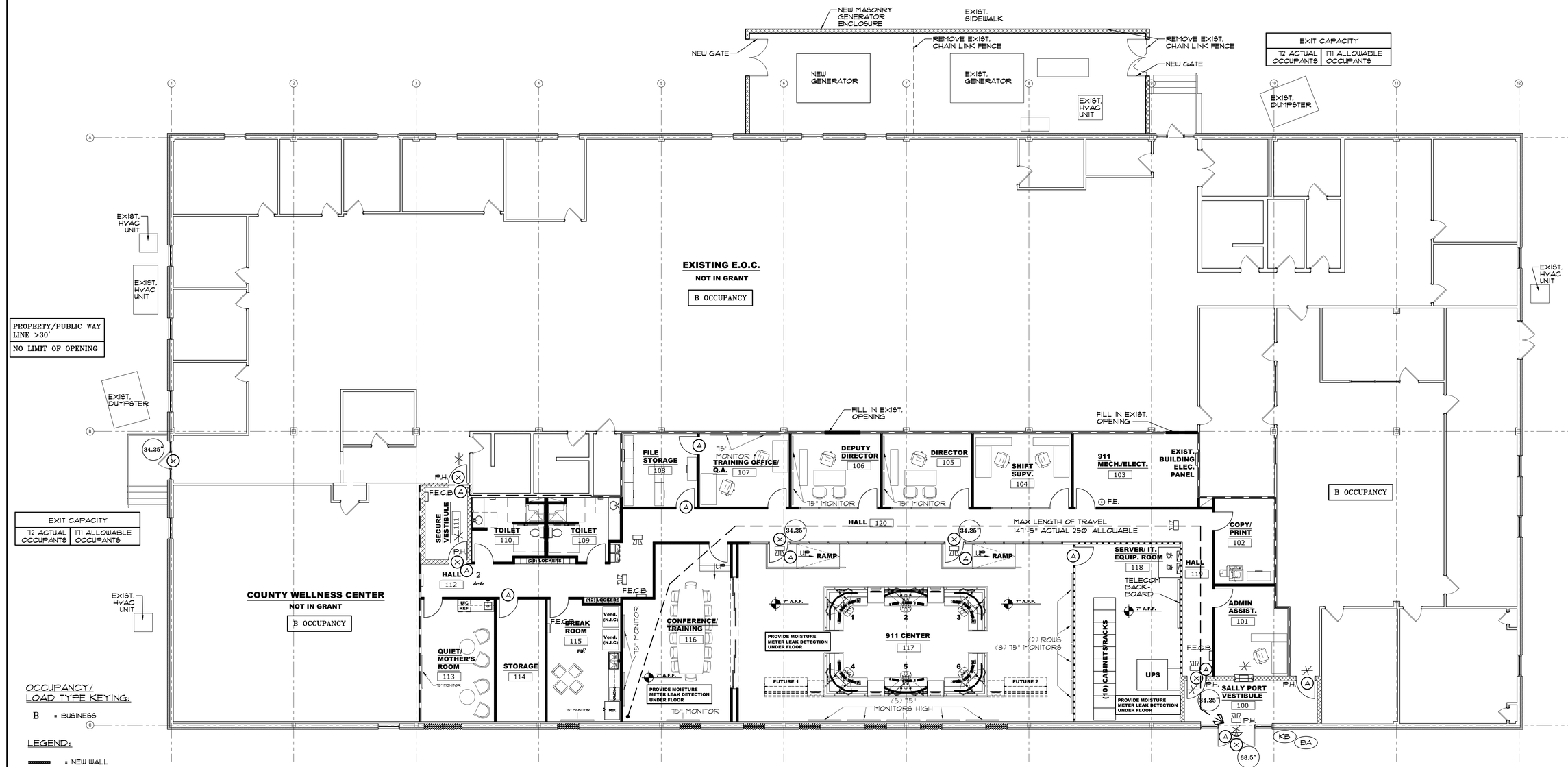
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1 LIFE SAFETY PLAN
G-2 SCALE: 1/8"=1'-0" TOTAL SF: 6,103 SF.

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CORPORATION REGISTERED ARCHITECTURE INC. CERT. NO. 5742 NORTH CAROLINA

LEE D. DIXON, JR. 6419 REGISTERED ARCHITECT MOREHEAD CITY, N.C.

LIFE SAFETY PLAN

22001

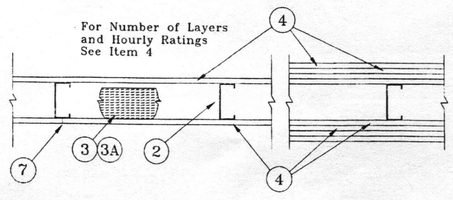
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Design No. U419

Non Bearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 3 & 4)



1. **Floor and Ceiling Runners —** (Not shown) — Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.
2. **Steel Studs —** Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
3. **Batts and Blankets* —** (Required as indicated under Item 4) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 4. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

3A. **Batts and Blankets* —** (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

4. **Wallboard, Gypsum* —** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	Min Stud Depth	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 3)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CANADIAN GYPSUM COMPANY —1/2 in. thick Type C, WRC or IP-X2; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC or IP-X2; 3/4 in. thick ULTRACODE or Type IP-X3
UNITED STATES GYPSUM CO —1/2 in. thick Type C, WRC or IP-X2; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G or IP-X2; 3/4 in. thick ULTRACODE or Type IP-X3
YESO PANAMERICANO S A DE C V —1/2 in. thick Type C, WRC or IP-X2; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC or IP-X2; 3/4 in. thick ULTRACODE or Type IP-X3.

4A. **Wallboard, Gypsum* —** (As an alternate to Item 4) — 5/8 in. thick gypsum panels, installed as described in Item 4 with Type S-12 steel screws. The length and spacing of the screws as specified under Item 5.
CANADIAN GYPSUM COMPANY —Type FRX
UNITED STATES GYPSUM CO —Type FRX

4B. **Wallboard, Gypsum* —** (As an alternate to Items 4 and 4A) — 5/8 in. thick, 2 ft. wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 5. Joint covering (Item 7) not required.
UNITED STATES GYPSUM CO —Type SCX.

5. **Fasteners —** (Not shown) — Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 12 in. OC when panels are applied vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. **Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

6. **Furring Channels —** (Optional, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 4A.
7. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer panels.
8. **Siding, Brick or Stucco —** (Optional, not shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.
9. **Caulking and Sealants* —** (Optional, not shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO —Type AS

*Bearing the UL Classification Marking

1 / G-3 U.L. DETAIL U419
NOT TO SCALE

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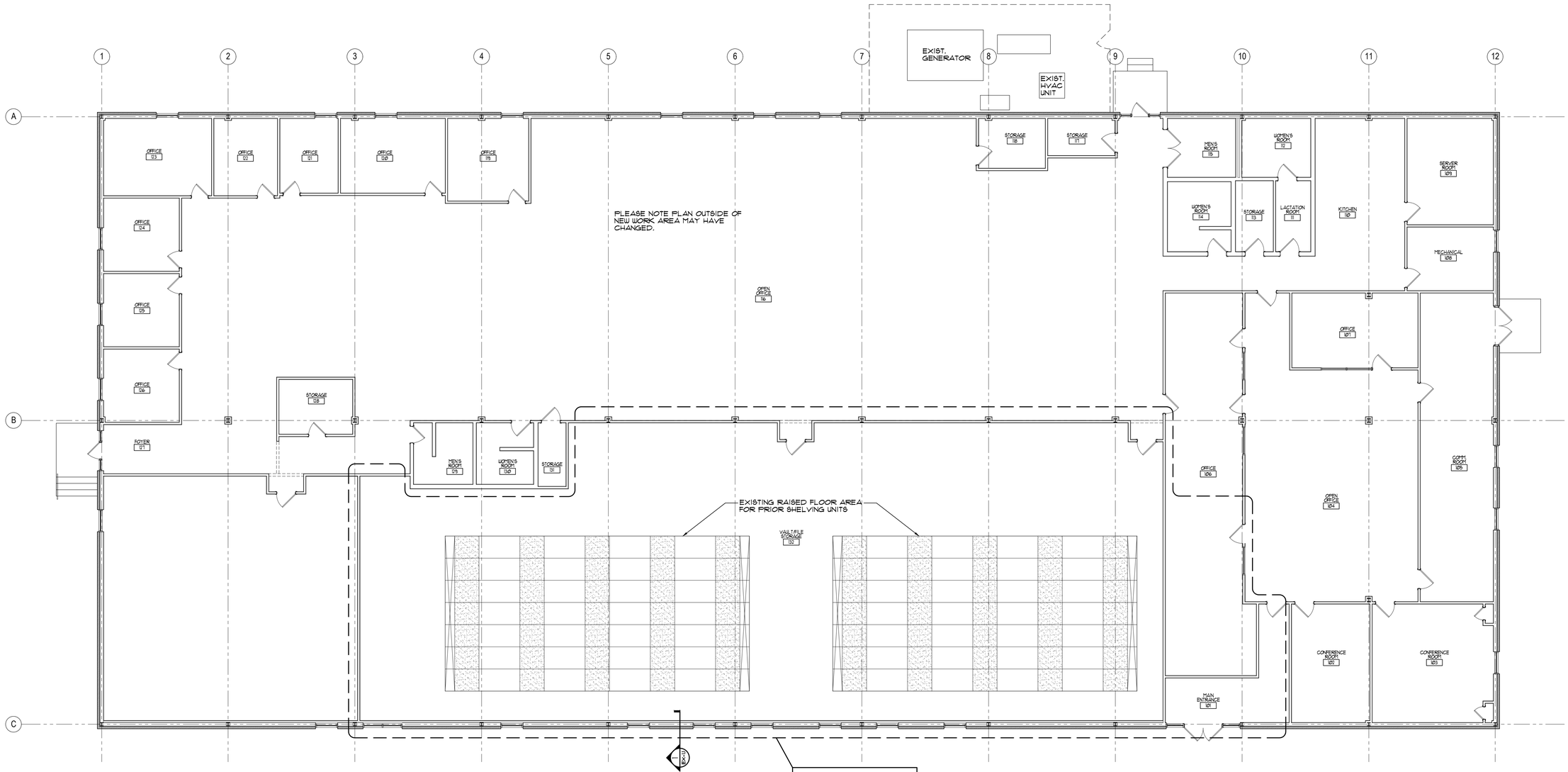
COLUMBUS COUNTY
911 CENTER
WHITEVILLE, NORTH CAROLINA

UL DETAILS

22001

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DWG BY: MSG
CKD BY: LDD
REVISIONS

SHEET NO.
G-3
OF



1 EX-1 **EXISTING FLOOR PLAN**
SCALE: 1/8"=1'-0"

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WHITEVILLE, NORTH CAROLINA

COASTAL ARCHITECTURE, P.L.L.C. CERT. NO. C-2762 REGISTERED CORPORATION NORTH CAROLINA MOREHEAD CITY

LEE D. DIXON, JR. NORTH CAROLINA REGISTERED ARCHITECT 6419 MOREHEAD CITY

EXISTING FLOOR PLAN

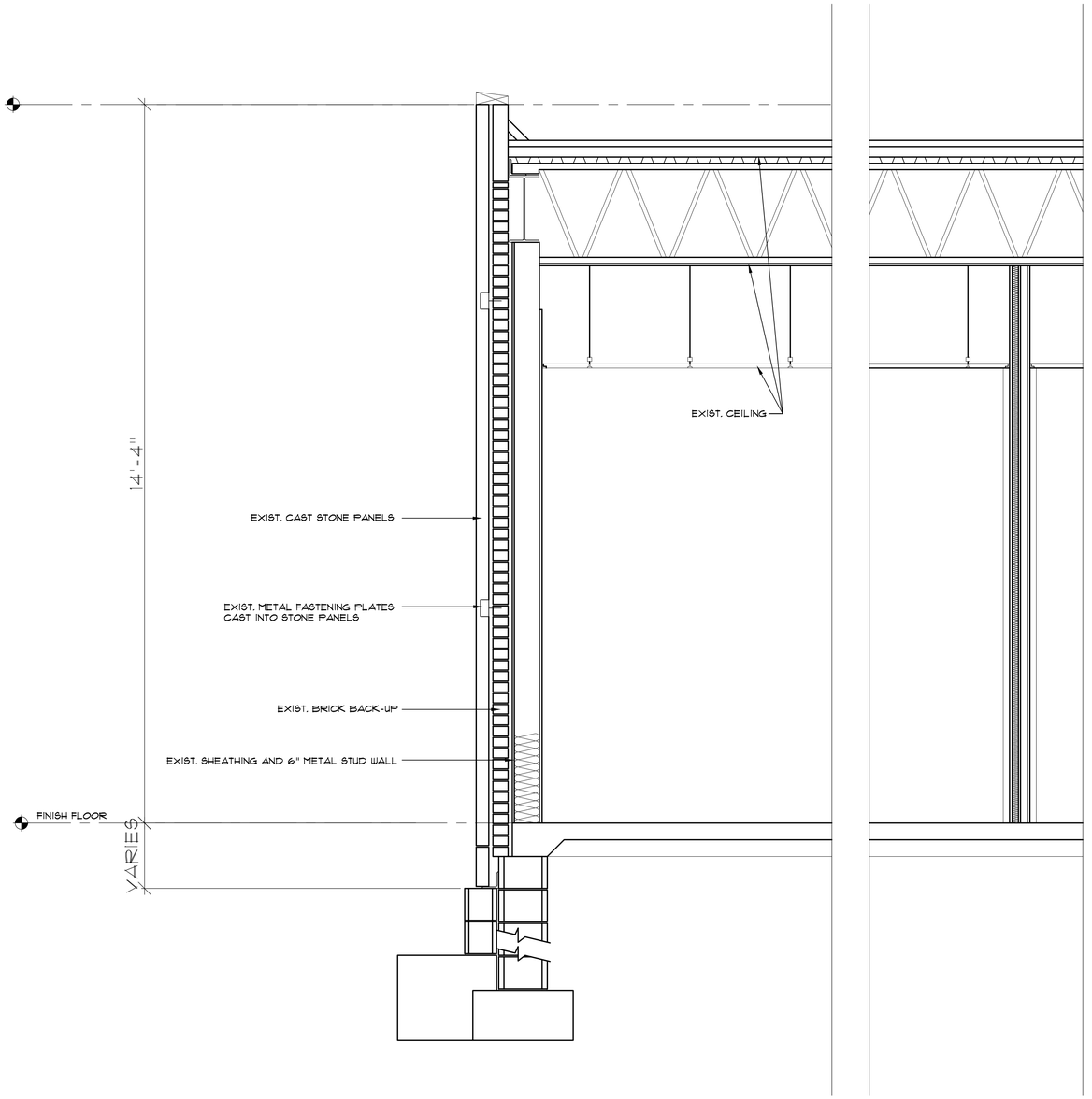
22001

ISSUED:	04/12/24
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CKD BY:	LDD

REVISIONS

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OF

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1 EX-1.1 **EXISTING WALL SECTION**
SCALE: 3/4"=1'-0"

CONTRACTOR TO CHECK AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID.

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WHITEVILLE, NORTH CAROLINA

CERTIFICATE OF AUTHORIZATION NO. C-1392 — CORPORATION — NORTH CAROLINA

LEE D. DIXON, JR. — 6419 — REGISTERED ARCHITECT — MOREHEAD CITY, NC

EXISTING WALL SECTION

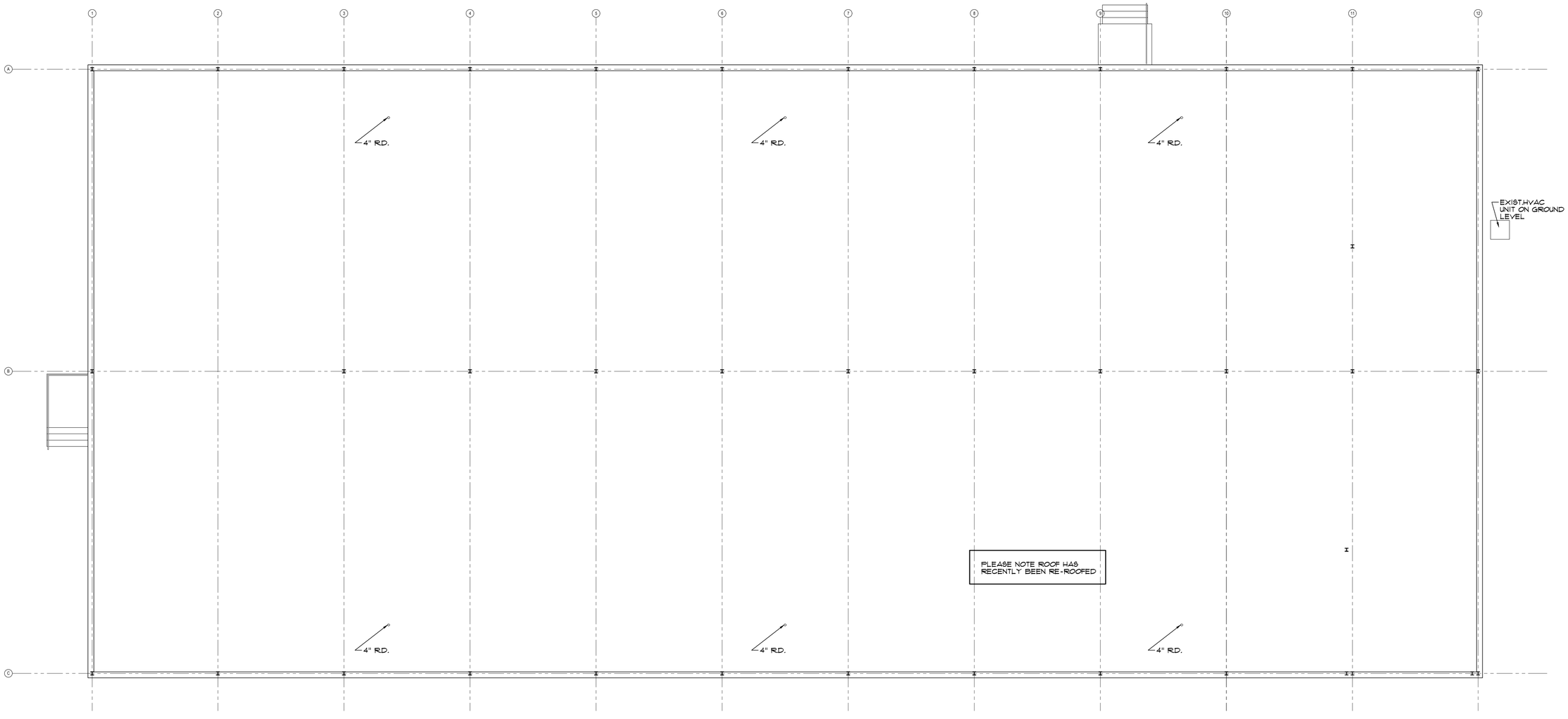
22001

ISSUED:	04/12/24
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CKD BY:	LDD

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1 EX-1.2 EXISTING ROOF PLAN

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

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LEE D. DIXON, JR. 6419 REGISTERED ARCHITECT NORTH CAROLINA MOREHEAD CITY, N.C.

EXISTING ROOF PLAN

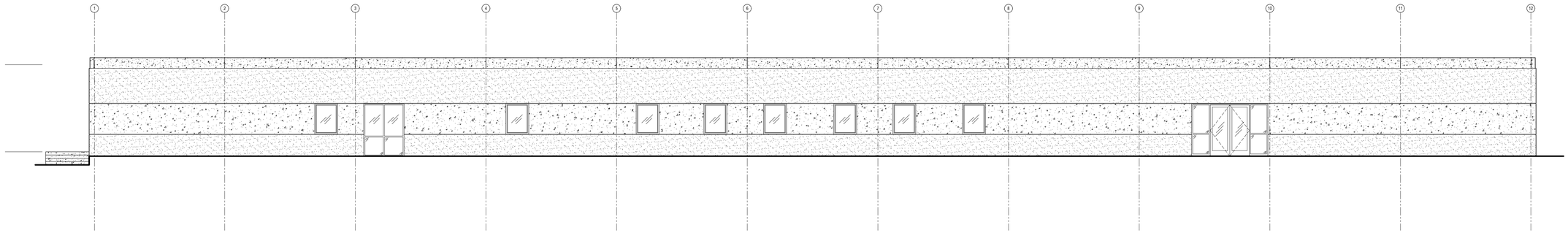
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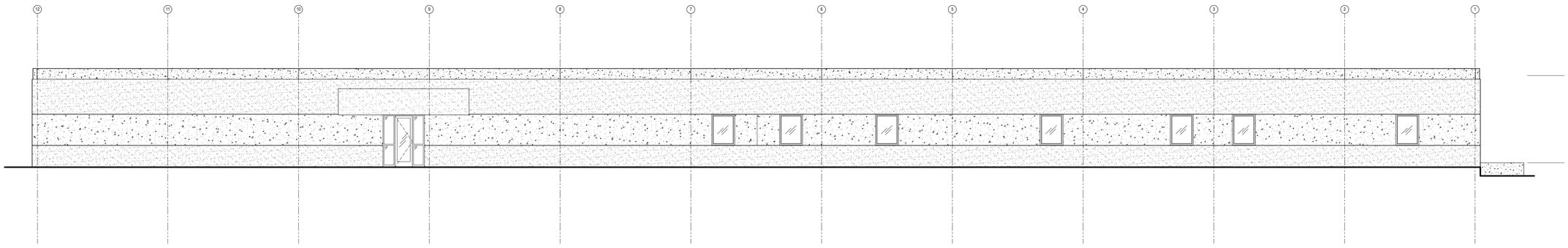
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EX-1.2
OF

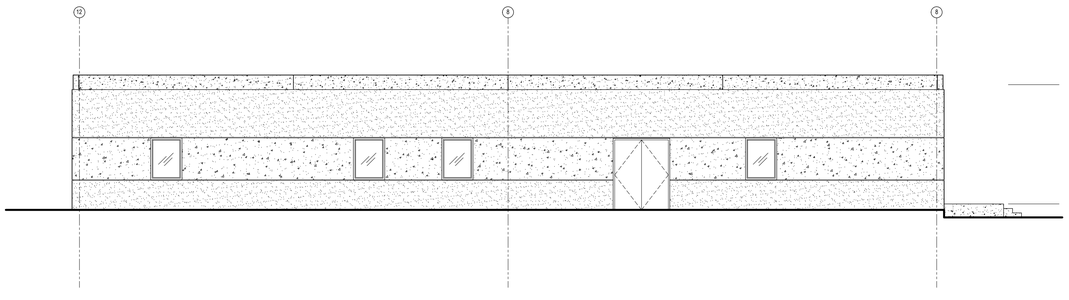
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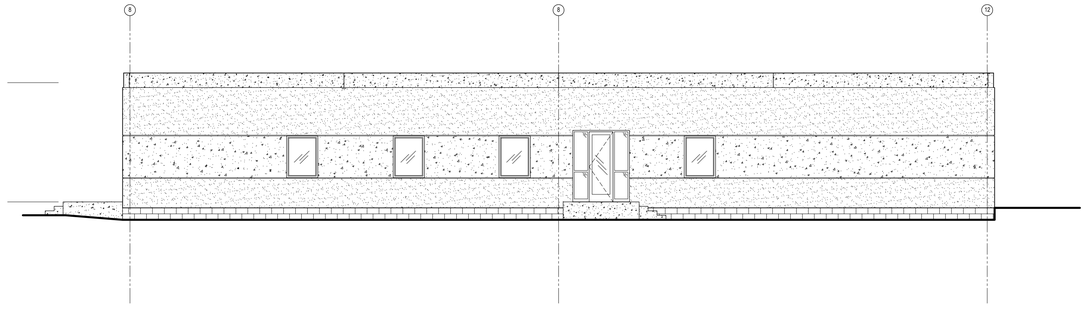
1 EX-2 EXISTING FRONT ELEVATION
SCALE: 1/8"=1'-0"



2 EX-2 EXISTING REAR ELEVATION
SCALE: 1/8"=1'-0"



3 EX-2 EXISTING RIGHT ELEVATION
SCALE: 1/8"=1'-0"



4 EX-2 EXISTING LEFT ELEVATION
SCALE: 1/8"=1'-0"

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EXISTING EXTERIOR ELEVATIONS

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EX-2
OF

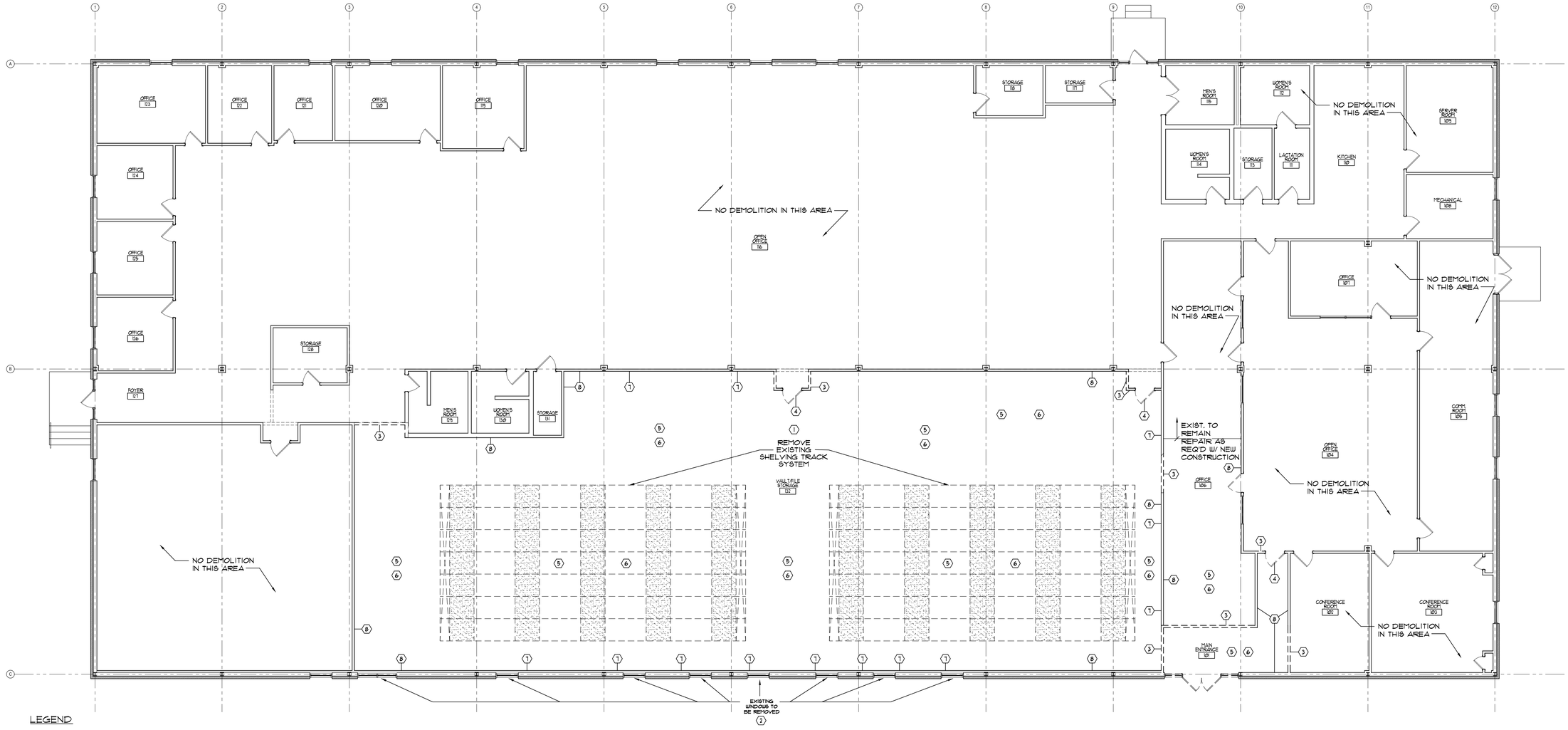
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KEY NOTES:

1. REMOVE EXISTING SHELVING TRACK SYSTEMS, PREP FOR NEW FLOORING.
2. EXISTING EXTERIOR WINDOW TO BE REMOVED, PREP FOR NEW MASONRY IN FULL - SEE DETAILS.
3. REMOVE PORTION OF EXISTING WALL REQUIRED FOR NEW CONSTRUCTION.
4. REMOVE EXISTING DOOR AND FRAME.
5. REMOVE EXISTING FLOOR FINISHES, PREP SLAB FOR NEW FLOORING.
6. REMOVE EXISTING CEILING SYSTEM INCLUDING LIGHTS, HVAC, CONDUITS, WIRING, ETC. NOT REQUIRED FOR REMAINDER OF BUILDING SYSTEMS.
7. REMOVE GWB REQUIRED FOR NEW BLOCKING OF TV/MONITORS (SEE A-1 FOR LOCATIONS) PATCH AND FILL TO MATCH EXISTING.
8. EXISTING BASE TO BE REMOVED, PREP FOR NEW CONSTRUCTION.
9. EXISTING FENCE TO BE REMOVED, PREP FOR NEW WALL.

GENERAL NOTES

- CONTRACTOR TO REVIEW ALL PLANS TO DETERMINE ALL MISC. ITEMS REQUIRED TO BE REMOVED FOR NEW CONSTRUCTION.
- ANY CONDUITS ON WIRING THAT CONTROLS EXISTING BUILDING FUNCTIONS NOT REQUIRED TO REMAIN FOR 911 PORTION OF THE RENOVATION SHALL BE IDENTIFIED AND PROTECTED FROM CONSTRUCTION ACTIVITIES.



LEGEND

- EXISTING DOOR TO BE REMOVED
- EXISTING DOOR TO REMAIN
- EXISTING WALL TO REMAIN
- = = = EXISTING WALL TO BE REMOVED

1 / D-1 DEMOLITION PLAN

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

PLAN NORTH

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WHITEVILLE 911 CALL CENTER

WHITEVILLE, NORTH CAROLINA

COASTAL ARCHITECTURE PLLC REGISTERED CORPORATION NORTH CAROLINA CERT. NO. C-1762

JOHN K. TRAYLOR 6419 REGISTERED ARCHITECT NORTH CAROLINA

DEMO PLAN

22001

ISSUED: 04/12/24
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SHEET NO.
D-1
OF

EXIST. SIDEWALK

65'-11" FIELD VERIFY

4" PVC SCUPPER

NEW MASONRY GENERATOR ENCLOSURE

4" PVC SCUPPER

EXIST. SIDEWALK

4" PVC SCUPPER

NEW 5'X8'X4" CONC. STOOP

ADD 6" THICK OF 1" DECORATIVE STONE

REMOVE EXIST. CHAIN LINK FENCE

REMOVE EXIST. CHAIN LINK FENCE

NEW 5'X8'X4" CONC. STOOP

17'-0" FIELD VERIFY

4" PVC SCUPPER

NEW GENERATOR

EXIST. GENERATOR

GENERATOR ENCLOSURE 121

EXIST. HVAC UNIT

POUR NEW CONC. PAD FOR GENERATOR AND UNITS

NEW A.T.S.

NEW HVAC UNIT

NEW HVAC UNIT

EXIST. DUMPSTER

EXIST. HVAC UNIT

EXIST. HVAC UNIT

EXIST. DUMPSTER

EXISTING E.O.C.

NOT IN GRANT

EXIST. HVAC UNIT

FILL IN EXIST. OPENING

FILL IN EXIST. OPENING

BUILD OUT NEW 6" METAL STUD WALL FOR EXIST. ELECT. PANEL RELOCATION. PROVIDE ⅝" GWB-PTD FINISH AND REPAIR CEILING, FLOOR FINISH AND BASE AS REQ'D

12'-3" FILE STORAGE 108

14'-8" 75" MONITOR TRAINING OFFICE/ Q.A. 107

14'-7" DEPUTY DIRECTOR 106

14'-7" DIRECTOR 105

16'-Ø" SHIFT SUPV. 104

20'-3 5/8" 911 MECH./ELECT. 103

F.E.

9'-1Ø 1/16"

COPY/ PRINT 102

F.E.C.B

SECURE VESTIBULE 111

TOILET 110

TOILET 109

(2Ø) LOCKERS

HALL 112

(12) LOCKERS

F.E.C.B

HALL 120

NOTE: SEE PLUMBING FOR AREA OF PLUMBING TRENCHING REQUIRED - SEE ALSO DETAIL 1/A-5.2

UP RAMP

UP RAMP

SERVER/ IT. EQUIP. ROOM 118

HALL 119

TELECOM BACK-BOARD

ADMIN ASSIST. 101

COUNTY WELLNESS CENTER

NOT IN GRANT

U/C REF

QUIET/ MOTHER'S ROOM 113

STORAGE 114

BREAK ROOM 115

Vend. (N.I.C.)

Vend. (N.I.C.)

CONFERENCE/ TRAINING 116

PROVIDE MOISTURE METER LEAK DETECTION UNDER FLOOR

911 CENTER 117

(2) ROWS (8) 75" MONITORS

(10) CABINETS/RACKS

UPS

PROVIDE MOISTURE METER LEAK DETECTION UNDER FLOOR

FUTURE 1

FUTURE 2

(5) 75" MONITORS HIGH

75" MONITOR

SALLY PORT VESTIBULE 100

W-1

AREA OF GRANT APPLICATION
6,103 SF

NEW BOLLARD AT 5'-Ø" O.C.

PROJECT SIGN

NEW BOLLARD AT 5'-Ø" O.C.

REMOVE PAVERS IN AREA OF NEW BOLLARDS AND FOUR 4" CONC. W/ 6X6X1⁄Ø WWM 3'-Ø"± WIDE (ADJUST FOR PAVER PATTERN

EXISTING PAVERS TO REMAIN

EDGE OF CURB

EDGE OF ASPHALT

REMOVE PAVERS IN AREA OF NEW BOLLARDS AND FOUR 4" CONC. W/ 6X6X1⁄Ø WWM 3'-Ø"± WIDE (ADJUST FOR PAVER PATTERN

EDGE OF ASPHALT

EDGE OF CURB

NEW BOLLARD AT 5'-Ø" O.C.

NEW BOLLARD AT 5'-Ø" O.C.

LEGEND:

- = EXISTING DOOR
- = NEW LEVEL 4 DOOR/SERVICE WINDOW
- = NEW WALL 3⅝" METAL STUD @ 16" O.C. W/ SOUND BATTS TYP. (U.O.N.) RUN TO UNDERSIDE OF ROOF DECK. ⅝" GWB BOTH SIDES - FULL HEIGHT
- = MASONRY INFILL EXISTING FALSE WINDOWS
- = LEVEL 4 CMU WALLS W/ ⅝" GWB ON ⅛" FURRING CHANNELS TO ABOVE CEILING
- = 1 HOUR FIRE RATED/ FLOOR TO ROOF DECK (SEAL TO ROOF DECK AND CONC. FLOOR SLAB. ALL PENETRATIONS TO BE SEALED FOR FIRE RATING)
- = 2 HOUR FIRE RATED/ FLOOR TO ROOF DECK (SEAL TO ROOF DECK AND CONC. FLOOR SLAB. ALL PENETRATIONS TO BE SEALED FOR FIRE RATING)

NOTE: ALL FURNITURE, TVs AND DISPATCH EQUIPMENT IN ROOM 117 911 CENTER IS NOT IN CONTRACT.

EXISTING BUILDING

DOOR
FOYER 102 — DOOR 102A

LEGEND
DOOR INDICATOR
ROOM #

1/A-1 NEW FLOOR PLAN

SCALE: 1/8"=1'-Ø" TOTAL SF: 6,103 SF.

PLAN NORTH TRUE NORTH

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CERT. NO. 6419

NEW FLOOR PLAN

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SHEET NO: A-1 OF

EXIST. SIDEWALK

EXIST. SIDEWALK

NEW GENERATOR W/ NEW CONC. PAD

EXIST. GENERATOR

NEW A.T.S.

NEW HVAC UNIT

NEW HVAC UNIT

EXIST. HVAC UNIT

EXIST. DUMPSTER

EXIST. HVAC UNIT

EXIST. HVAC UNIT

EXIST. DUMPSTER

EXISTING E.O.C.
NOT IN GRANT

COUNTY WELLNESS CENTER
NOT IN GRANT

EXIST. HVAC UNIT

FILE STORAGE 108

TRAINING OFFICE/ Q.A. 107

DEPUTY DIRECTOR 106

DIRECTOR 105

SHIFT SUPV. 104

911 MECH./ELECT. 103

SECURE VESTIBULE 111

TOILET 110

TOILET 109

HALL 112

QUIET/ MOTHER'S ROOM 113

STORAGE 114

BREAK ROOM 115

Vend. (N.I.C)

Vend. (N.I.C)

FD

CONFERENCE/ TRAINING 116

PROVIDE MOISTURE METER LEAK DETECTION UNDER FLOOR

WALL TO RUN FROM EXIST. CONC. SLAB TO UNDERSIDE OF ROOF DECK - SEALED

HALL 120

UP

UP RAMP

UP RAMP

7" A.F.F.

7" A.F.F.

7" A.F.F.

PROVIDE MOISTURE METER LEAK DETECTION UNDER FLOOR

911 CENTER 117

FUTURE 1

FUTURE 2

WALL TO RUN FROM EXIST. CONC. SLAB TO UNDERSIDE OF ROOF DECK - SEALED

SERVER/ IT. EQUIP. ROOM 118

7" A.F.F.

(10) CABINETS/RACKS

UPS

PROVIDE MOISTURE METER LEAK DETECTION UNDER FLOOR

HALL 119

COPY/ PRINT 102

ADMIN ASSIST. 101

SALLY PORT VESTIBULE 100

AREA OF GRANT APPLICATION
6,103 SF

LEGEND:

= EXISTING DOOR

= ACCESS FLOOR AND RAMP SYSTEM TO BE BY SUBMIT SHOP DRAWINGS AND LAYOUT FOR APPROVAL.

= NEW LEVEL 4 DOOR/SERVICE WINDOW

= NEW WALL

= MASONRY INFILL EXISTING FALSE WINDOWS

= LEVEL 4 CMU WALLS

= 1 HOUR FIRE RATED/ FLOOR TO ROOF DECK (SEAL TO ROOF DECK AND CONC. FLOOR SLAB. ALL PENETRATIONS TO BE SEALED FOR FIRE RATING)

= 2 HOUR FIRE RATED/ FLOOR TO ROOF DECK (SEAL TO ROOF DECK AND CONC. FLOOR SLAB. ALL PENETRATIONS TO BE SEALED FOR FIRE RATING)

NOTE: ALL FURNITURE, TVs AND DISPATCH EQUIPMENT IN ROOM 117 911 CENTER IS NOT IN CONTRACT.

EXISTING BUILDING

1 A-1.1 **RAISED ACCESS FLOORING PLAN**

SCALE: 1/8"=1'-0" TOTAL SF: 6,103 SF.

PLAN NORTH

TRUE NORTH

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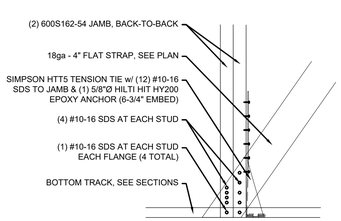
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RAISED ACCESS FLOORING PLAN

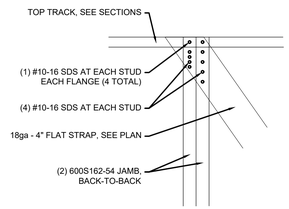
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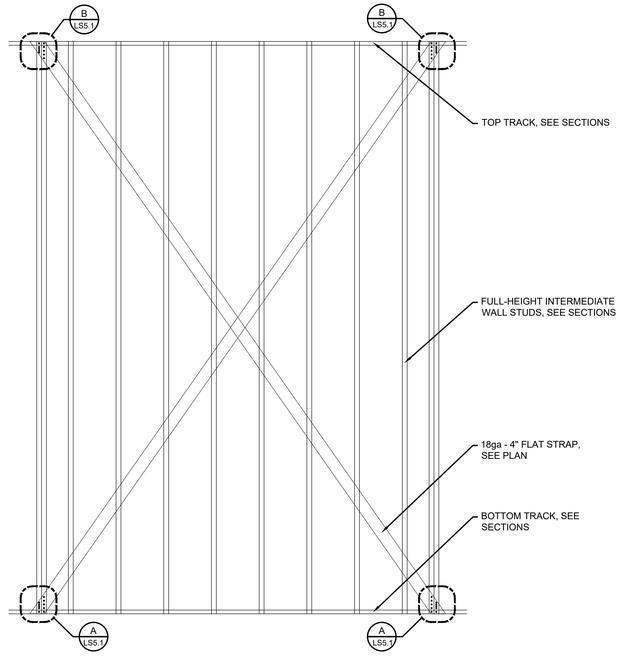
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A-1.1
OF



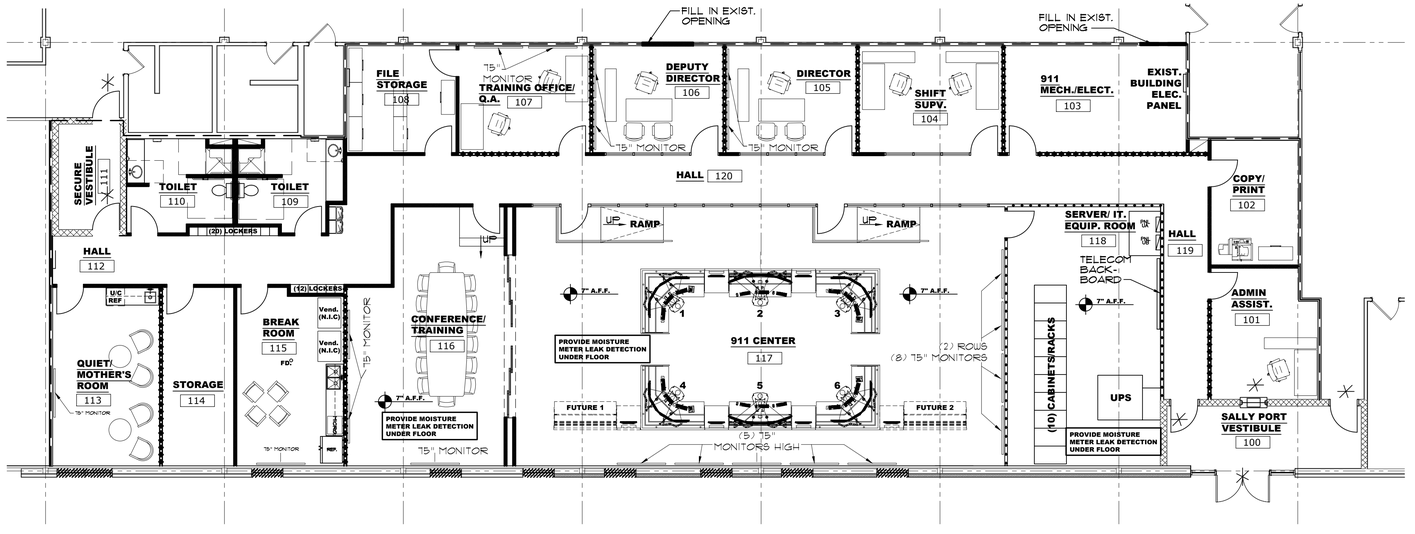
4 / A-1.2 CONNECTION DETAIL AT BOTTOM
SCALE: 1½"=1'-0"



3 / A-1.2 CONNECTION DETAIL AT TOP
SCALE: 1½"=1'-0"



2 / A-1.2 SHEAR WALL ELEVATION
SCALE: ½"=1'-0"



1 / A-1.2 NEW SHEAR WALL PLAN
SCALE: 1/8"=1'-0"

LEGEND:

◆◆◆◆ LOCATIONS FOR LGS SHEAR WALLS
= 1 HOUR FIRE RATED/ FLOOR TO ROOF DECK (SEAL TO ROOF DECK AND CONC. FLOOR SLAB. ALL PENETRATIONS TO BE SEALED FOR FIRE RATING)
= 2 HOUR FIRE RATED/ FLOOR TO ROOF DECK (SEAL TO ROOF DECK AND CONC. FLOOR SLAB. ALL PENETRATIONS TO BE SEALED FOR FIRE RATING)

PLAN NORTH / TRUE NORTH

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911 CENTER
WHITEVILLE, NORTH CAROLINA

CERT. NO. 5792

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NEW SHEAR WALL PLAN

22001

ISSUED: 04/12/24
DWG BY: MSG
CKD BY: LDD
REVISIONS

SHEET NO.
A-1.2
OF

EXIST. SIDEWALK

EXIST. SIDEWALK

NEW GENERATOR

EXIST. GENERATOR

NEW A.T.S.

NEW HVAC UNIT

NEW HVAC UNIT

EXIST. HVAC UNIT

EXIST. DUMPSTER

EXIST. HVAC UNIT

EXIST. HVAC UNIT

EXIST. DUMPSTER

EXISTING E.O.C.

NOT IN GRANT

COUNTY WELLNESS CENTER

NOT IN GRANT

EXIST. HVAC UNIT

SECURE VESTIBULE 111

TOILET 110

TOILET 109

HALL 112

QUIET/ MOTHER'S ROOM 113

STORAGE 114

BREAK ROOM 115

FILE STORAGE 108

TRAINING OFFICE/ Q.A. 107

DEPUTY DIRECTOR 106

DIRECTOR 105

SHIFT SUPV. 104

911 MECH./ELECT. 103

HALL 120

UP RAMP

UP RAMP

911 CENTER 117

CONFERENCE/ TRAINING 116

SERVER/ IT. EQUIP. ROOM 118

(10) CABINETS/RACKS

UPS

PROVIDE MOISTURE METER LEAK DETECTION UNDER FLOOR

HALL 119

COPY/ PRINT 102

ADMIN ASSIST. 101

SALLY PORT VESTIBULE 100

AREA OF GRANT APPLICATION
6,103 SF

LEGEND:

- = NEW WALL
- = MASONRY INFILL EXISTING FALSE WINDOWS
- = LEVEL 4 CMU WALLS
- = 1 HOUR FIRE RATED/ FLOOR TO ROOF DECK
- = 2 HOUR FIRE RATED/ FLOOR TO ROOF DECK

EXISTING BUILDING

1/A-2 NEW RCP PLAN

SCALE: 1/8"=1'-0" TOTAL SF: 6,103 SF.

PLAN NORTH

TRUE NORTH

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COASTAL ARCHITECTURE, INC. CERTIFICATE OF INCORPORATION NUMBER C-2792 CORPORATION REGISTERED

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NEW RCP PLAN

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SHEET NO.
A-2
OF

WINDOW SCHEDULE

MARK	SIZE (WxH)	TYPE	MAT.	GLASS	REMARKS
W-1	4'-0"W x 4'-0"H	FIXED	ALUM.	BULLET RESISTANT	BULLET RESISTANT GLAZING

REMARKS

DOOR SCHEDULE

DOOR NO.	SIZE	DOOR MAT.	DOOR TYPE	FRAME	RATING	REMARKS
100X	FIELD VERIFY	ALUM.	0	0	1HR	①③④⑦⑧
100A	3'-0" x 7'-0"	WD	2	A	1½HR	①③④⑤⑦⑧
100B	3'-0" x 7'-0"	WD	2	A	1½HR	①③④⑤⑦⑧
101A	3'-0" x 7'-0"	WD	2A	B		⑤
102A	3'-0" x 7'-0"	WD.	3	B		⑤
103A	3'-0" x 7'-0"	H.M.	1A	B		⑤
104A	3'-0" x 7'-0"	WD	3	C		⑤
105A	3'-0" x 7'-0"		3	C		⑤
106A	3'-0" x 7'-0"		3	C		⑤
107A	3'-0" x 7'-0"		3	B		⑤
108A	3'-0" x 7'-0"		2	B		⑤③
108B	3'-0" x 7'-0"		2	B		⑤③
109A	3'-0" x 7'-0"		3	B		②⑤
110A	3'-0" x 7'-0"		3	B		②⑤
111A	3'-0" x 7'-0"	H.M.	1	A	1HR	②③④⑤⑦⑧
111B	3'-0" x 7'-0"	H.M.	1	A	1½HR	②③④⑤⑦⑧
113A	3'-0" x 7'-0"	WOOD	3	B		⑤
114A	3'-0" x 7'-0"		3	B		⑤
115A	3'-0" x 7'-0"		3	B		⑤
116A	3'-0" x 7'-0"	ALUM.	4	B		③
116B	18'-0"X7'-0" OPENING	BY MFR	5	(2) RAYDOOR SLIDING POCKET WALL 3 PANEL		
117A	3'-0" x 7'-0"	ALUM.	4	D		③
117B	3'-0" x 7'-0"	ALUM.	4	D		③
118A	3'-0" x 7'-0"	WOOD	1	B	1 HR	③⑤⑥
121A+B	PAIR 3'-0" x 7'-0"	H.M.	6	E		④⑦⑨

REMARKS

① PROVIDE CLOSERS AND PANIC DEVICE.
② PROVIDE CLOSERS
③ CARD ACCESS
④ LEVEL 4 SECURITY DOOR (TSS BULLET PROOF (OR EQUAL))
⑤ DOOR FRAMES TO BE PAINTED SHERWIN WILLIAMS IRON ORE SW-7069 SEMI-GLOSS
⑥ PROVIDE SEALS TO SEAL OFF DOOR FROM ADJACENT ROOM
⑦ LEVEL 4 DOOR FRAMES SHALL BE BY DOOR MANUFACTURER
⑧ CONTROLLED ACCESS TO ALLOW RELEASE OF ONE DOOR AT THE TIME IN SECURE VESTIBULES
⑨ PROVIDE THRESHOLD AND RAIN DRIP

- ALL GLASS TO BE TEMPERED OR FIRE RATED AS REQUIRED
- ALL WOOD DOORS TO BE STAINED

ROOM FINISH SCHEDULE

ROOM NUMBERS	ROOM	FLOORS	BASE	WALLS	CEILINGS	HEIGHT (NOMINAL)	REMARKS
100	SALLY PORT VESTIBULE	LVP	VINYL/B-1	GWB/PTD-1	S.A.T.	9'-0"	
101	ADMIN ASSIST.						
102	COPY/PRINT						
103	911 MECH./ELECT.						
104	SHIFT SUPERVISOR						
105	DIRECTOR						
106	DEPUTY DIRECTOR						
107	TRAINING OFFICE/ Q.A.						
108	FILE STORAGE						
109	TOILET	TILE/T-1	TILE				
110	TOILET	TILE/T-1	TILE				
111	SECURE VESTIBULE	LVP	VINYL/B-1				
112	HALL						
113	QUIET/MOTHER'S ROOM						USE NATIONAL GYPSUM SOUND BREAK XP FOR EWB WALLS
114	STORAGE						
115	BREAK ROOM						
116	CONFERENCE/TRAINING	R.A.F./CPT				10'-0"	
117	911 CENTER	R.A.F./CPT				10'-0"	
118	SERVER/IT. EQUIPMENT	R.A.F./SDT			EXPOSED	EXPOSED	INSTALL TELECOM BACKBOARD ON CONNECTIONS WALL
119	HALL	LVP			S.A.T.	10'-0"	
120	HALL	LVP			S.A.T.	10'-0"	
121	GENERATOR ENCLOSURE	DECORATIVE STONE	—	SPLIT FACE CMU	—	—	SEE 2/A-5.2

LVP = LUXURY VINYL PLANK (INSTALL IN STAGGERED PATTERN)

R.A.F. = RAISED ACCESS FLOORING - PRO ACCESS FLOORS 24"x24" CONCRETE FILLED RAISED ACCESS FLOORING SYSTEM PANELS STAINLESS STEEL CORNER LOCK, CLASS A FRAME SPREAD W/ GALVANIZED STEEL SURFACE - TO RECEIVE FLOOR FINISH AS CALLED FOR ON ROOM FINISH SCHEDULE (SUBMIT EQUAL PRODUCTS FOR REVIEW)

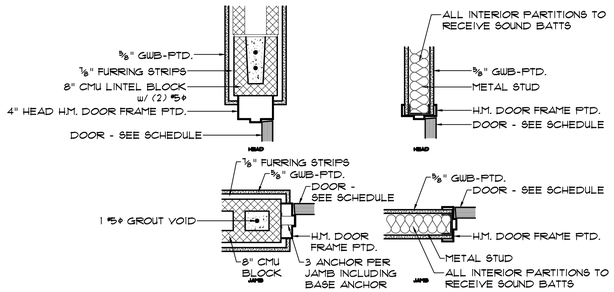
S.A.T. = SUSPENDED ACOUSTICAL TILE

ROOM FINISH SCHEDULE REMARKS

ALL GWB TO BE MOLD AND MILDEW RESISTANT
PROVIDE TRANSITION STRIPS AT ALL CHANGES IN FLOOR MATERIAL

MATERIAL AND FINISHES LEGEND

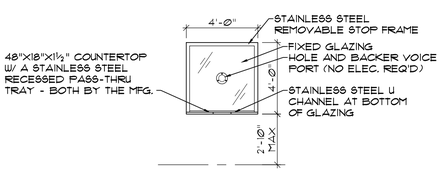
NO.	DESCRIPTION	COLOR & MATERIAL SPECIFICATIONS	MANUFACTURER /SUPPLIER	REMARKS
CPT	24"X24" CARPET TILE	STATICSMART PLUS/JULIE IND. COLONIAL, PENN STATIC DISSIPATIVE CARPET TILE	STATICSMART FLOORING BY JULIE INDUSTRIES	QUARTER TURNED, ALIGN CARPET W/ RAISED FLOOR PANEL OR EQUAL MUST BE RS6 COMPLIANT.
LVP	6"X48" LUXURY VINYL PLANK	SHAW CONTRACT SOLITUDE 26486V - 48599 FRENCH GRAY 5MM, 20MIL	STATICSMART FLOORING BY JULIE INDUSTRIES	
SDT	24"X24" VINYL TILE (ELECTRIC STATIC DISSIPATIVE)	STATICSMART PLUS/JULIE IND. SUMMIT SERIES C6061/2 GREY LOCK	STATICSMART FLOORING BY JULIE INDUSTRIES	ALIGN VINYL W/ RAISED FLOOR PANEL OR EQUAL MUST BE RS6 COMPLIANT.
PTD-1	WALL PAINT	SHERWIN WILLIAMS PASSIVE SW 7064 EGG SHELL	SHERWIN WILLIAMS	
B-1	VINYL BASE	TARKETT/JOHNSONITE BURNT UMBER TSB-63-4 THERMOSET RUBBER COVE BASE	TARKETT/JOHNSONITE	
S.S.	SOLID SURFACE COUNTERTOP	FORMICA 781 LUNA CONCRETE ½" THICK	FORMICA SOLID SURFACE	TOILETS, BREAKROOM AND QUIET/MOTHER'S ROOM
P.L.	PLASTIC LAMINATE CABINETS (PATTERN GRAIN TO RUN VERTICALLY UP AND DOWN)	FORMICA 8848-FG BLACKENED LENGO SOFT GRAIN FINISH	FORMICA PLASTIC LAMINATE	TOILETS, BREAKROOM AND QUIET/MOTHER'S ROOM
T-1	12"X24" PORCELAIN TILE	BEST TILE COLLECTION: LINK COLOR: TIE	BEST TILE	



4/A-3 DOOR HEAD AND JAMB DETAIL

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

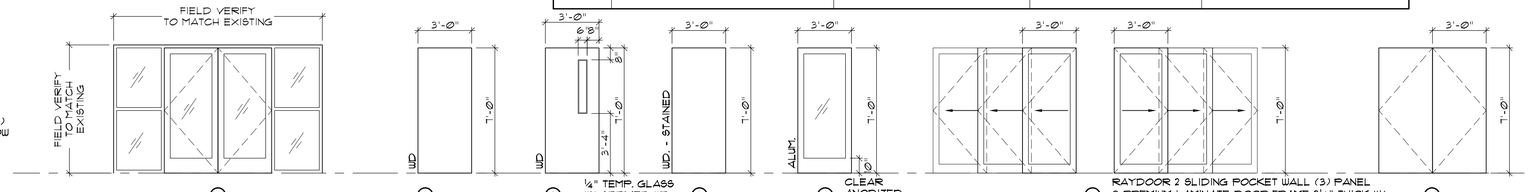
SEE DOOR SCHEDULE FOR RATED DOORS/FRAMES LOCATION



W-1 COVENANT SECURITY EQUIPMENT (CSE-ATX-TW-36336-L4-C)
ARMORTEX MAXIMUM SECURITY TRANSACTION TICKET WINDOW
CLEAR ANODIZED ALUMINUM
SIZE: 36" X 36"
BULLET RESISTANCE: LEVEL 4

3/A-3 WINDOW ELEVATION

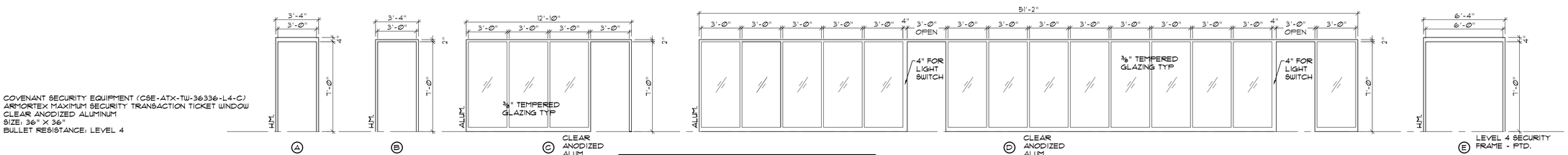
SCALE: 1/4"=1'-0"



C LEVEL 4
1 LEVEL 4
1A SIMILAR BUT NOT LEVEL 4
2 LEVEL 4
2A SIMILAR BUT NOT LEVEL 4
3
4
5
6

2/A-3 DOOR ELEVATIONS

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



COVENANT SECURITY EQUIPMENT (CSE-ATX-TW-36336-L4-C)
ARMORTEX MAXIMUM SECURITY TRANSACTION TICKET WINDOW
CLEAR ANODIZED ALUMINUM
SIZE: 36" X 36"
BULLET RESISTANCE: LEVEL 4

NOTE: LEVEL 4 FRAMES BY LEVEL 4 DOOR MANUFACTURER .

NOTE: ALL HOLLOW METAL FRAMES TO BE PTD.

1/A-3 DOOR FRAME ELEVATIONS

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

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WHITEVILLE, NORTH CAROLINA

CERT. NO. 5782

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DOOR AND ROOM FINISH SCHEDULE

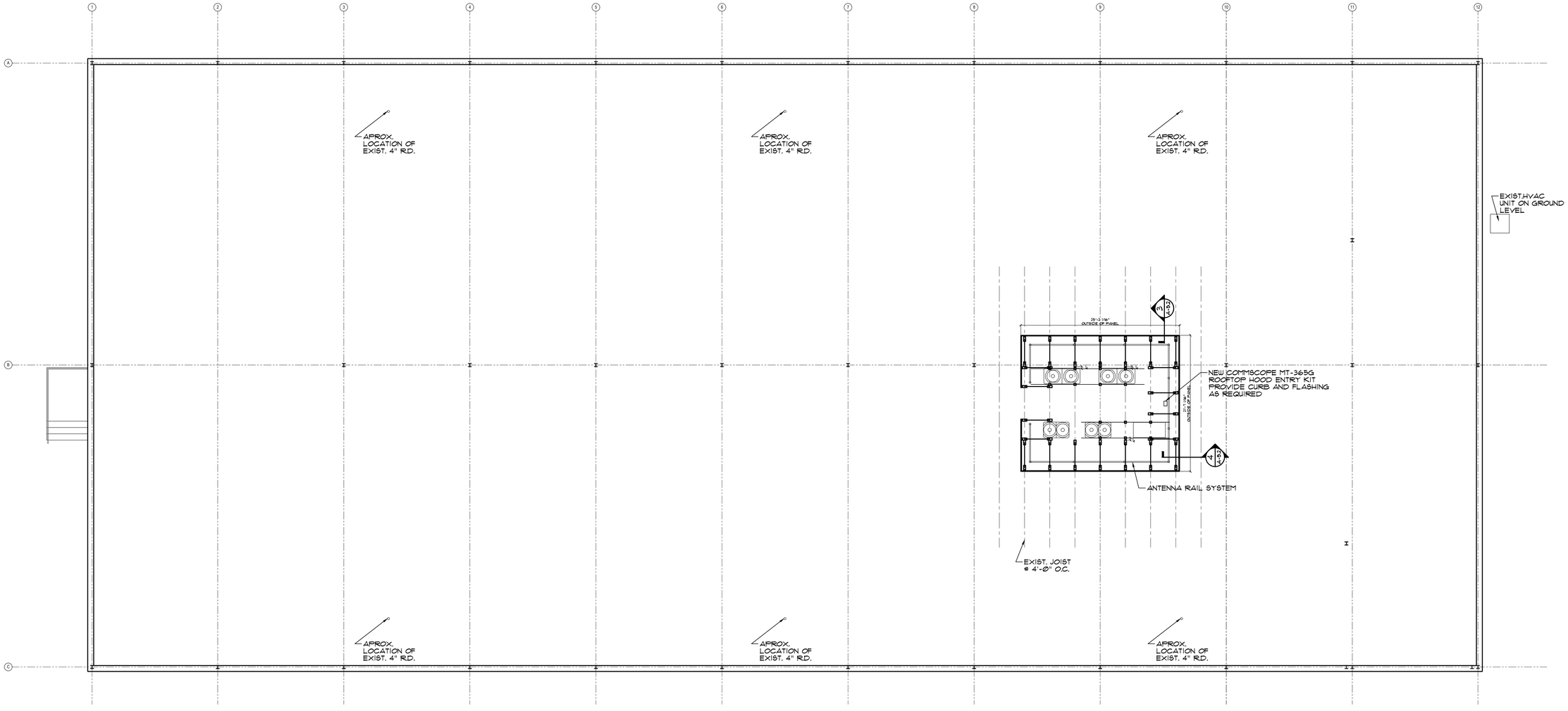
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1 A-4 NEW ROOF PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

TRUE NORTH

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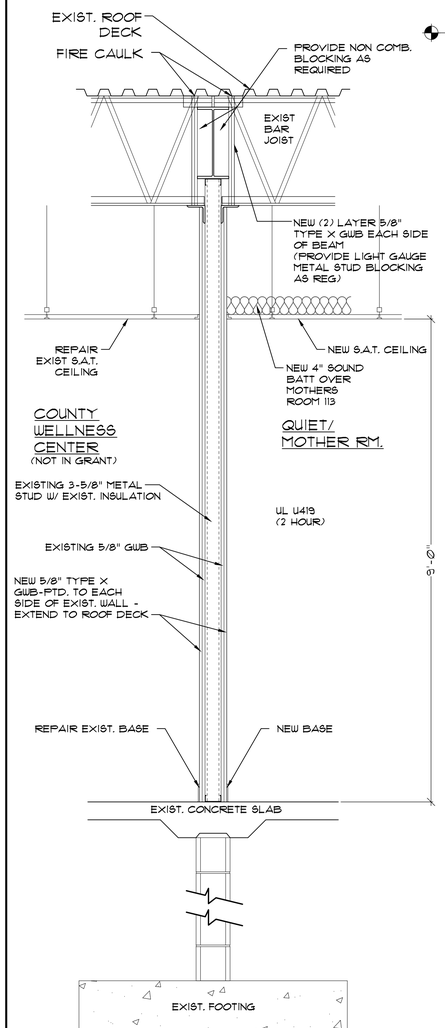
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NEW ROOF PLAN

22001

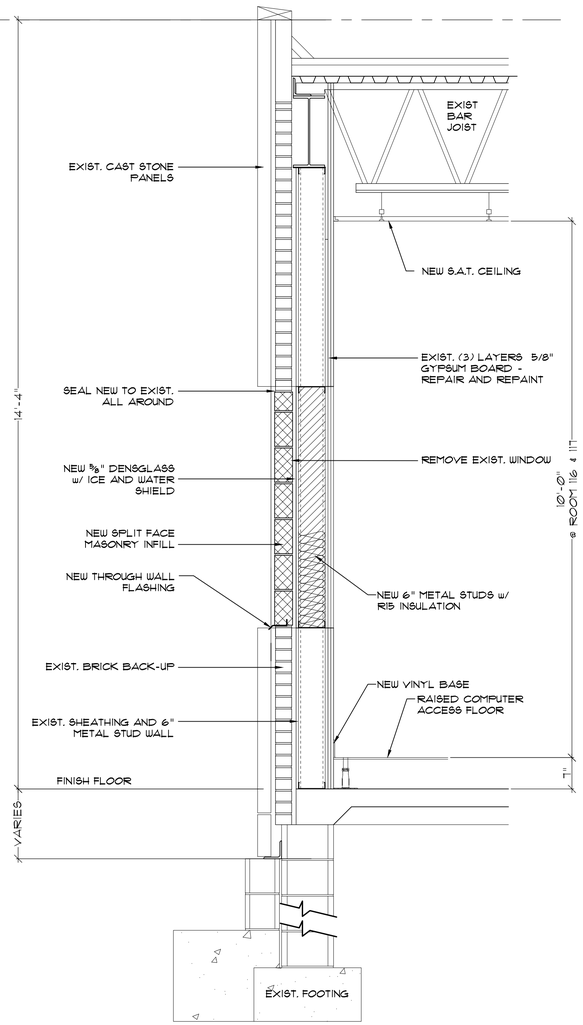
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A-4
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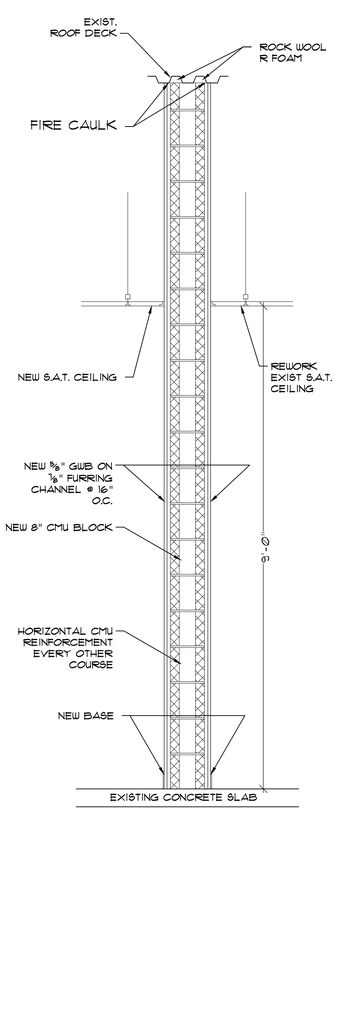
2 HOUR WALL SECTION EXISTING WALL

(5) A-5 SCALE: 3/4"=1'-0"



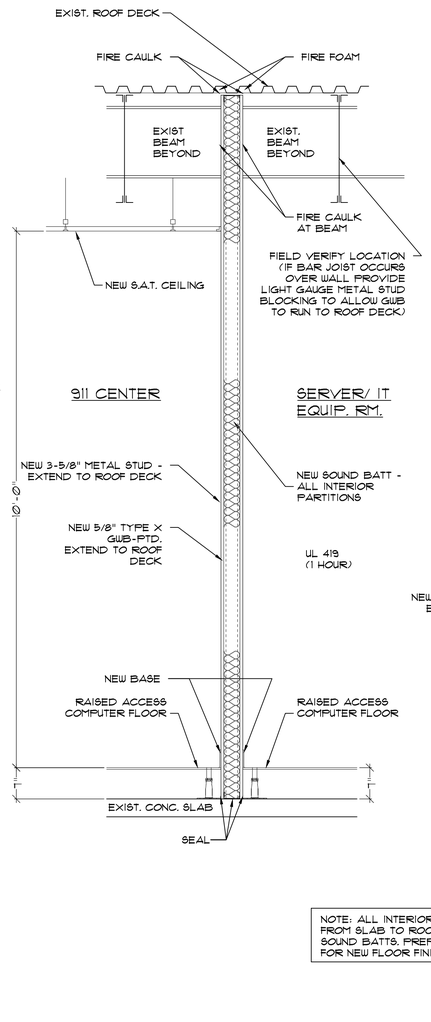
MASONRY INFILL WALL

(4) A-5 SCALE: 3/4"=1'-0"



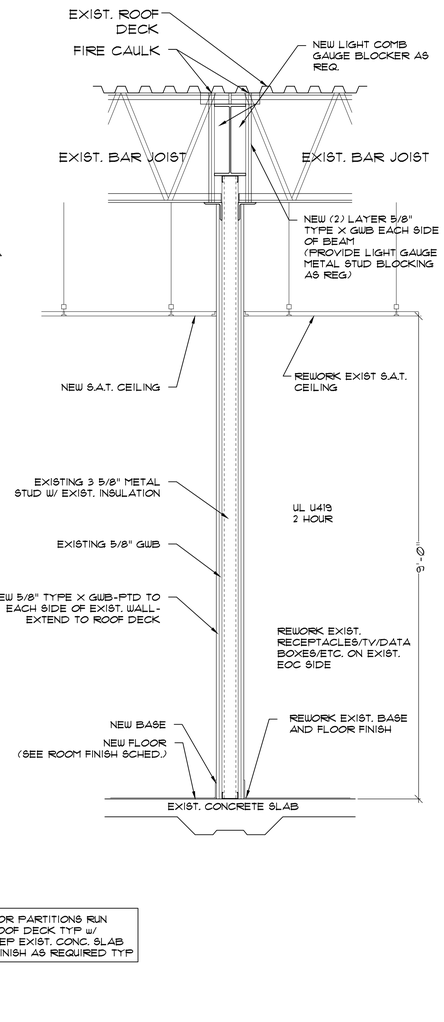
LEVEL 4 CMU WALL SECTION

(3) A-5 SCALE: 3/4"=1'-0"



1 HOUR WALL SECTION

(2) A-5 SCALE: 3/4"=1'-0"



2 HOUR WALL SECTION EXISTING WALL

(1) A-5 SCALE: 3/4"=1'-0"

NOTE: ALL INTERIOR PARTITIONS RUN FROM SLAB TO ROOF DECK TYP W/ SOUND BATTS. PREP EXIST. CONC. SLAB FOR NEW FLOOR FINISH AS REQUIRED TYP

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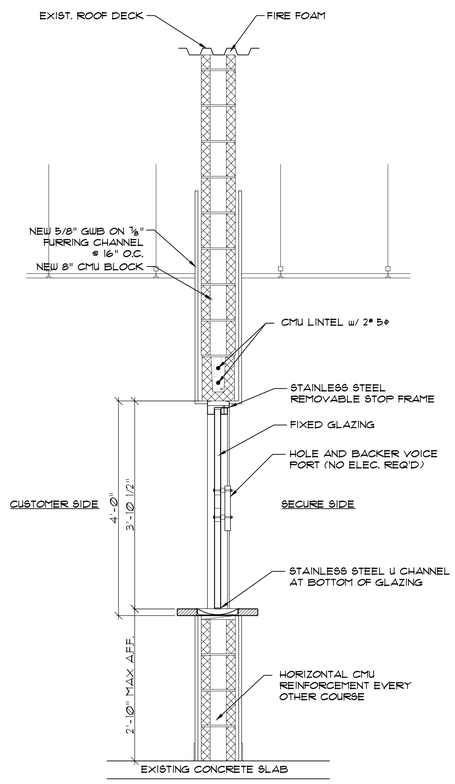
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WALL SECTIONS

22001

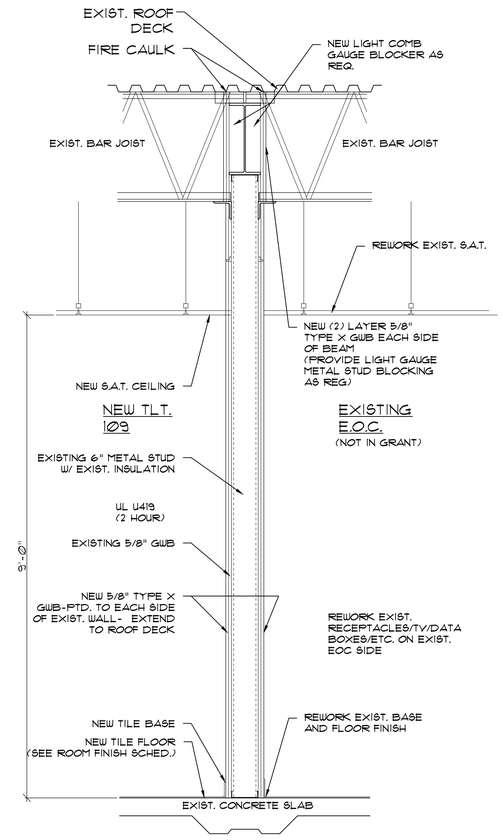
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A-5
OF



LEVEL 4 CMU WALL AT SECURITY WINDOW

2 / A-5.1 SCALE: 3/4"=1'-0"



2 HOUR WALL SECTION EXISTING WALL

1 / A-5.1 SCALE: 3/4"=1'-0"

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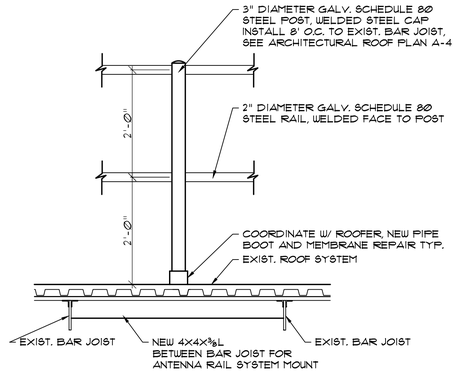
WALL SECTIONS

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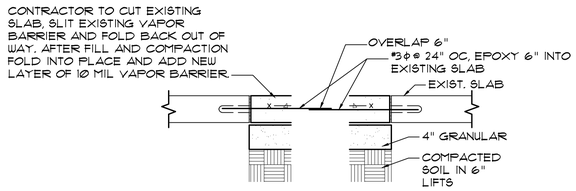


ROOF MOUNTED ANTENNA RAIL SYSTEM

8 / A-5.2 SCALE: 3/4"=1'-0"

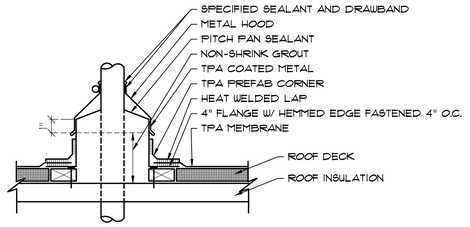
NOTES:

- VERIFY ALL TRENCHING WITH PLUMBING DRAWINGS.
- TRENCHING SHALL BE DONE NEATLY AND PROTECT ALL EXISTING ELEMENTS FROM DAMAGE.
- COMPACT TRENCH FILL IN 6" LAYERS.
- NEW CONCRETE TO BE 3,500 PSI (DEPTH TO MATCH EXISTING W/ 6X6 - W2.1 X W2.1



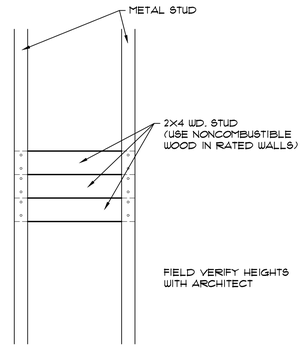
DETAIL AT SLAB TRENCHING

7 / A-5.2 SCALE: 3/4"=1'-0"



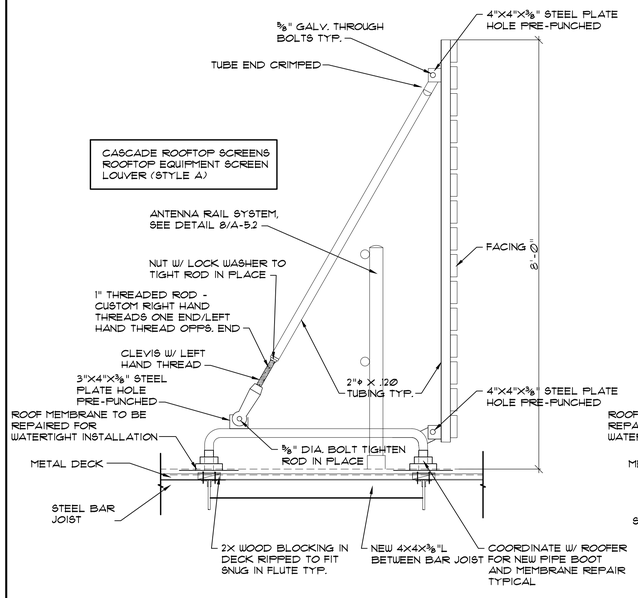
ROOF PENETRATION DETAIL

6 / A-5.2 SCALE: 2"=1'-0"



TV BLOCKING DETAIL

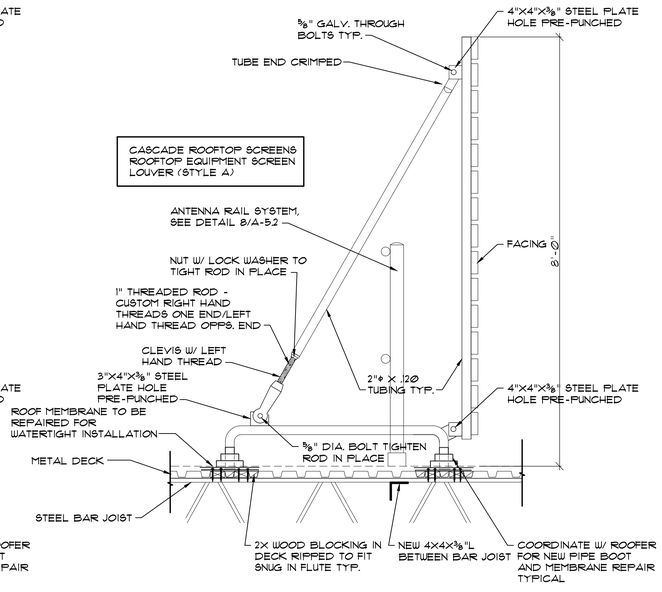
5 / A-5.2 SCALE: 1"=1'-0"



FRAME SCREEN DETAIL

4 / A-5.2 SCALE: 3/4"=1'-0"

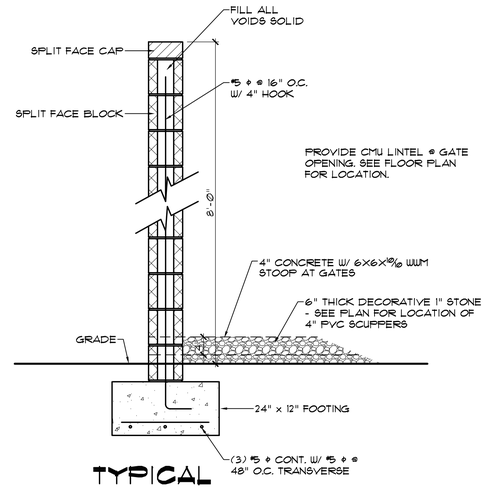
SUBMIT SHOP DRAWINGS FOR APPROVAL



FRAME SCREEN DETAIL

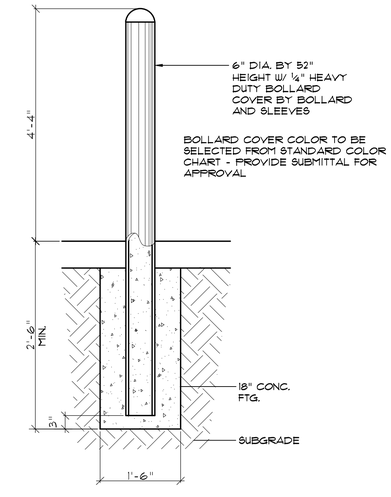
3 / A-5.2 SCALE: 3/4"=1'-0"

SUBMIT SHOP DRAWINGS FOR APPROVAL



TYPICAL GENERATOR WALL DETAIL

2 / A-5.2 SCALE: 3/4"=1'-0"



TYPICAL BOLLARD DETAIL

1 / A-5.2 SCALE: 3/4"=1'-0"

THESE DRAWING AND SPECIFICATIONS REPRESENT AN INSTRUMENT OF SERVICE AND AS SUCH SHALL REMAIN IN OWNERSHIP WITH THE ARCHITECT. USE OR REPRODUCTION BY ANY MEANS, IN WHOLE OR IN PART, WITHOUT THE ARCHITECT'S WRITTEN CONSENT, IS PROHIBITED.

Coastal Architecture PLLC

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- Planning
- Interiors

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COLUMBUS COUNTY
911 CENTER
WHITEVILLE, NORTH CAROLINA

CERT. NO. 5782 — REGISTERED ARCHITECTURE/LANDSCAPE ARCHITECTURE CORPORATION — NORTH CAROLINA — LEE D. DIXON, JR. — REGISTERED ARCHITECT — 6419 — NORTH CAROLINA

DETAILS

22001

ISSUED:	04/12/24
DWG BY:	SKC/MSG
CKD BY:	LDD

REVISIONS

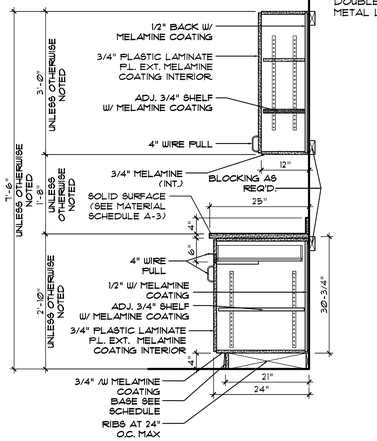
SHEET NO.
A-5.2
OF

TOILET ACCESSORY SCHEDULE

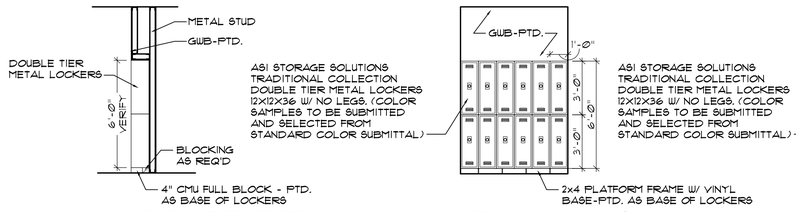
Mark	Item	MODEL #	Mtg. Ht.	Remarks
TA-1	FRAMELESS MIRROR 60"±W X 48"H			(FIELD VERIFY SIZE)
TA-2	TOILET PAPER HOLDER	B-4288		
TA-3	PAPER TWL DISP.	B-9262	4'-0" MAX.	HEIGHT TO DISP. OUTLET OR DISPENSER LEVER
TA-4	HANDICAP SOAP DISPENSER	B-2013	3'-6"	HEIGHT TO DISPENSER
TA-5	GRAB BAR 42" CONCEALED MOUNTING W/ SNAP FLANGE	B-6806X42	3'-0" MAX.	HEIGHT TO CENTER
TA-6	GRAB BAR 24" CONCEALED MOUNTING W/ SNAP FLANGE	B-6806X36	3'-0" MAX.	HEIGHT TO CENTER
TA-7	GRAB BAR 18" CONCEALED MOUNTING W/ SNAP FLANGE (VERTICAL)	B-6806X18	3'-3"	HEIGHT TO BOTTOM, CENTER OF BAR @ 40" FROM REAR WALL
TA-8	SHOWER GRAB BAR			SEE PLUMBING DRAWING
TA-9	ADA HANDICAP SEAT IN SHOWER			SEE PLUMBING DRAWING
TA-10	PREFAB FIBERGLASS SHOWER INSERT 36"			SEE PLUMBING DRAWING
TA-11	SINK FAUCET (KOHLER CORALAIS)			K-15243-4RA-CP (POLISHED CHROME)

NOTES:
- MODEL NUMBERS ARE BOBRICK, UON. BRADLEY, & FRANKLIN ARE APPROVED EQUALS. SUBMIT CUT SHEETS FOR APPROVAL.
- SUBMIT SHOP DRAWINGS FOR ALL TOILET PARTITION CONFIGURATIONS
- ALL HANDRAILS SHALL BE BLOCKED TO SUPPORT A 250 LB. LOAD MINIMUM
- PROVIDE BLOCKING AS REQUIRED FOR ALL ACCESSORIES

GENERAL NOTES:
1. PLASTIC LAMINATE P.L. EXTERIOR/WHITE MELAMINE COATING INTERIOR
2. CONCEALED HINGES THROUGHOUT
3. 4" SATIN CHROME PULL WIRES
4. ALL SHELVING ADJUSTABLE W/ COUNTERSUNK STANDARDS
5. SEE A-3 MATERIALS SCHEDULE FOR PLASTIC LAMINATE AND SOLID SURFACE



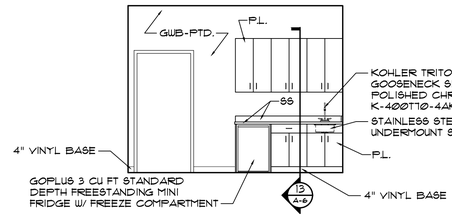
13 A-6 BREAK AREA CABINET SECTION
SCALE: 3/4"=1'-0"



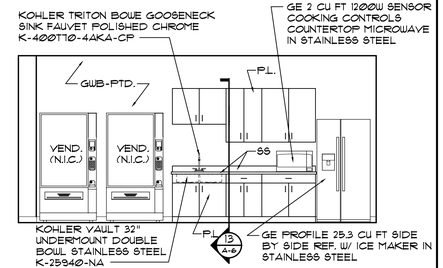
17 A-6 LOCKER DETAIL
SCALE: 1/4"=1'-0"

16 A-6 NEW HALL 112
SCALE: 1/4"=1'-0"

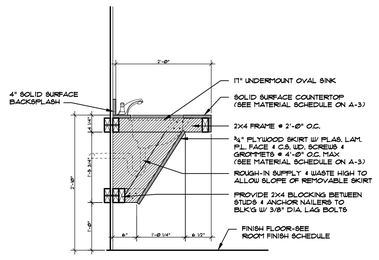
15 A-6 NEW HALL 112
SCALE: 1/4"=1'-0"



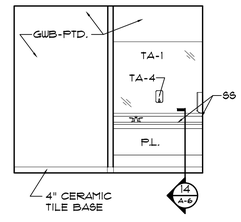
12 A-6 QUIET/MOTHER'S ROOM
SCALE: 1/4"=1'-0"



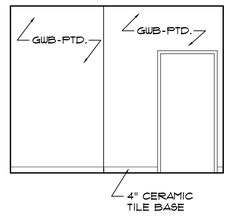
11 A-6 NEW BREAKROOM
SCALE: 1/4"=1'-0"



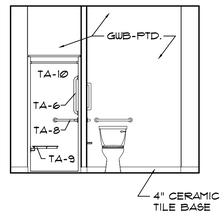
14 A-6 VANITY DETAIL
SCALE: 3/4"=1'-0"



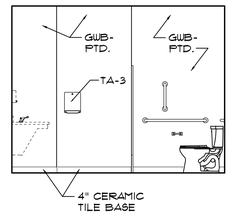
10 A-6 NEW TOILET 110
SCALE: 1/4"=1'-0"



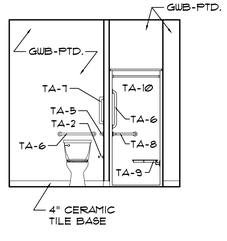
9 A-6 NEW TOILET 110
SCALE: 1/4"=1'-0"



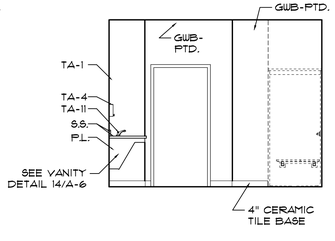
8 A-6 NEW TOILET 110
SCALE: 1/4"=1'-0"



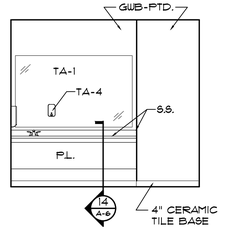
7 A-6 NEW TOILET 110
SCALE: 1/4"=1'-0"



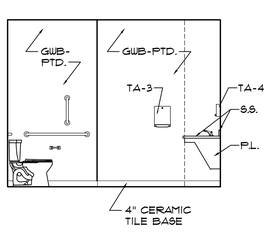
6 A-6 NEW TOILET 109
SCALE: 1/4"=1'-0"



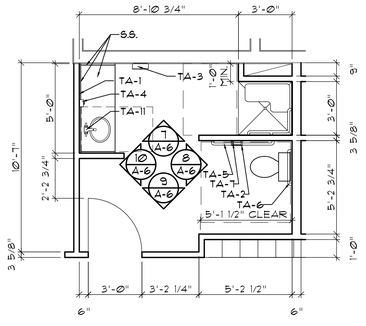
5 A-6 NEW TOILET 109
SCALE: 1/4"=1'-0"



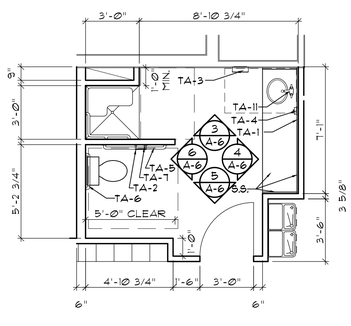
4 A-6 NEW TOILET 109
SCALE: 1/4"=1'-0"



3 A-6 NEW TOILET 109
SCALE: 1/4"=1'-0"



2 A-6 NEW TOILET 110
SCALE: 1/4"=1'-0"



1 A-6 NEW TOILET 109
SCALE: 1/4"=1'-0"

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COLUMBUS COUNTY
911 CENTER
WHITEVILLE, NORTH CAROLINA

LICENSED ARCHITECTURE/PE/PLS CORPORATION NORTH CAROLINA BOARD OF EXAMINERS CERT. NO. C-1762

LICENSED ARCHITECT LEE D. DIXON, JR. 6419 REGISTERED NORTH CAROLINA MOREHEAD CITY

NEW ENLARGED PLANS AND INTERIOR ELEVATIONS

22001

ISSUED:	04/12/24
DWG BY:	SKC/MSG
CKD BY:	LDD
REVISIONS	

SHEET NO.
A-6
OF

THESE DRAWING AND SPECIFICATIONS REPRESENT AN INSTRUMENT OF SERVICE AND AS SUCH SHALL REMAIN IN OWNERSHIP WITH THE ARCHITECT. USE OR REPRODUCTION BY ANY MEANS, IN WHOLE OR IN PART, WITHOUT THE ARCHITECT'S WRITTEN CONSENT, IS PROHIBITED.

GENERAL NOTES:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

2. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.

3. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING (AND ACCOMPANYING FOOTINGS), GUYS OR TIEDOWNS.

DESIGN CODES:

2018 NORTH CAROLINA STATE BUILDING CODE.

AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN.

SJI STANDARD SPECIFICATIONS, LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS.

DESIGN LOADS:

THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED WITH THE FOLLOWING SUPERIMPOSED LOADINGS:

ROOF:

GROUND SNOW LOAD,	Pg = 10 psf
FLAT-ROOF SNOW LOAD,	Pf = 7.56 psf
SNOW EXPOSURE FACTOR,	Ce = 0.9
SNOW LOAD IMPORTANCE FACTOR,	Is = 1.20
THERMAL FACTOR,	Ct = 1.0
ROOF LIVE LOAD	20 psf
ROOF DEAD LOAD	10 psf

WIND:

BASIC WIND SPEED (3 SEC GUST)	148 mph
EXPOSURE CATEGORY	B
RISK CATEGORY	IV

COMPONENT & CLADDING:
ALL BUILDING COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE NORTH CAROLINA STATE BUILDING CODE FOR THE BASIC DESIGN WIND VELOCITY, IMPORTANCE FACTOR AND EXPOSURE LISTED ABOVE.

SEISMIC:

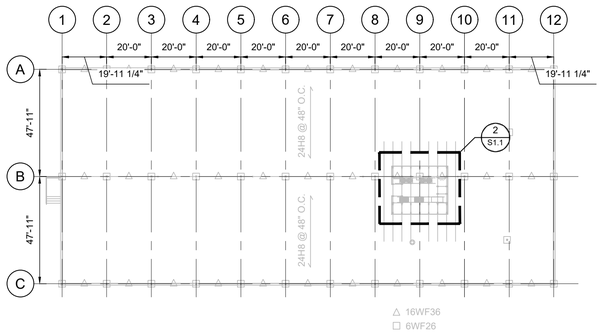
IMPORTANCE FACTOR,	Ie = 1.0
USE GROUP	I
MAPPED SPECTRAL RESPONSE ACCELERATIONS,	Ss = 0.21g
	S1 = 0.09g
SPECTRAL RESPONSE COEFF.,	Sds = 0.22g
	Sd1 = 0.14g

SEISMIC RESISTING SYSTEM:
STEEL ORDINARY MOMENT FRAMES

SEISMIC RESPONSE COEFFICIENT	Cs = .08
RESPONSE MODIFICATION FACTOR	R = 3.5
ANALYSIS PROCEDURE USED:	EQUIV. LAT. FORCE
DESIGN CATEGORY	C
SITE CLASSIFICATION	D

STEEL MATERIAL SPECIFICATIONS:

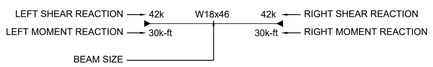
W-SHAPES: ASTM A992 (Fy=50 ksi)
MISCELLANEOUS SHAPES & PLATES: ASTM A36 (Fy=36 ksi)
STRUCTURAL TUBING: ASTM A500, GRADE B (Fy=46 ksi).
STRUCTURAL PIPE: ASTM A53, GRADE B, TYPE "E" OR "S" (Fy=42 ksi).
WELDING: E70XX ELECTRODES
BOLTS: A325 HIGH STRENGTH BOLTS
HEADED STUDS: TYPE "B"
COLD FORMED STUDS: ASTM A446, GRADE C, 50,000 psi



1 SITE PLAN

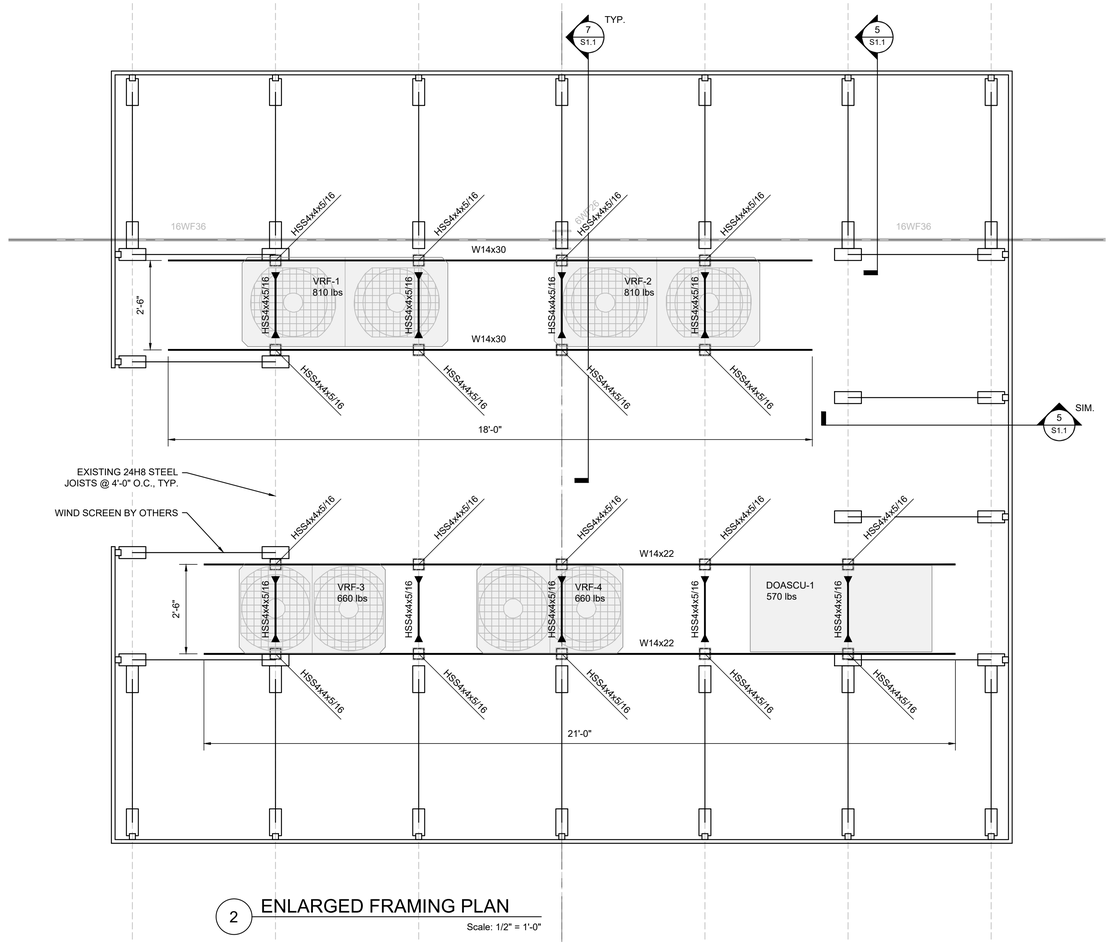
Scale: 1/32" = 1'-0"

NOTE:
GIRDERS/BEAMS DRAWN AS SHOWN ARE AN INTERPRETATION OF HISTORICAL ARCHITECTURAL AND STRUCTURAL PLANS. CONTRACTOR TO FIELD VERIFY ACTUAL LOCATIONS AND DIMENSIONS



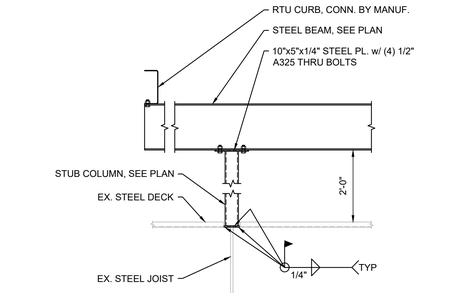
*IF NO REACTIONS ARE PROVIDED, CONNECTIONS ARE TO BE DESIGNED FOR MINIMUM SHEAR REACTION OF 4k AND MINIMUM MOMENT REACTION OF 4k-ft

► DENOTES MOMENT FRAME CONNECTION



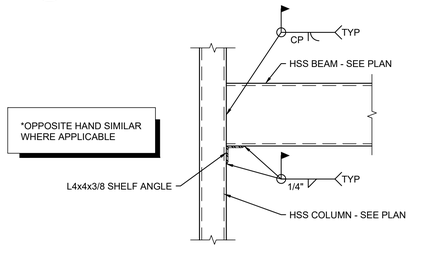
2 ENLARGED FRAMING PLAN

Scale: 1/2" = 1'-0"



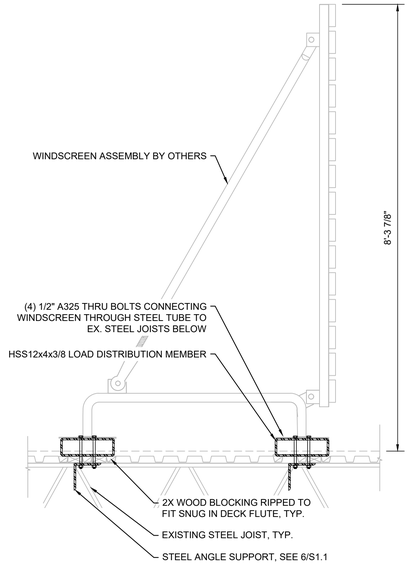
3 EQUIPMENT RACK DETAIL

ARCH REF: 3/A-5.2 Scale: 3/4" = 1'-0"



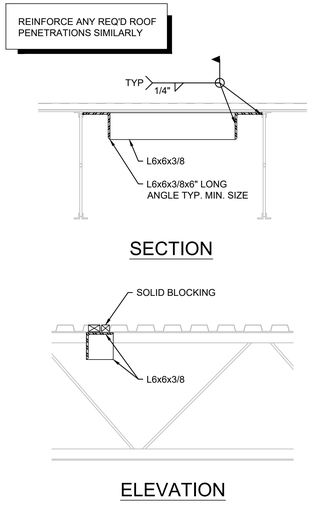
4 TYPICAL BEAM-COLUMN MOMENT CONNECTION-MC

SCALE: 3/4" = 1'-0"



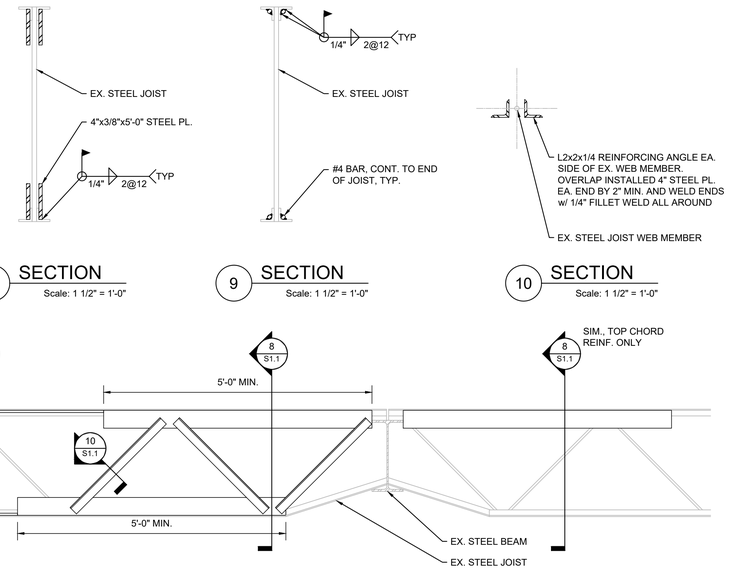
5 FRAME SCREEN SECTION

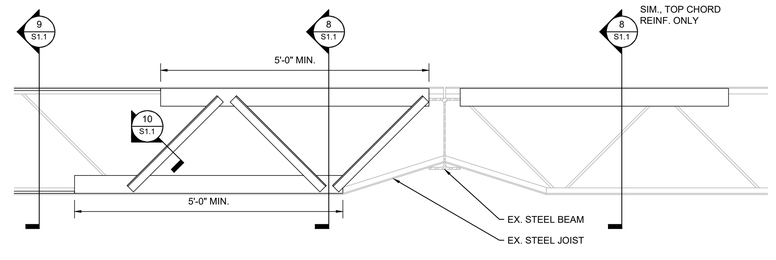
ARCH REF: 5/A-5.2 Scale: 3/4" = 1'-0"



6 JOIST TO JOIST REINFORCING

Scale: 3/4" = 1'-0"





7 EX. STEEL JOIST REINFORCING ELEVATION

SCALE: 3/4" = 1'-0"

FOR CONSTRUCTION

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13200 STRICKLAND ROAD
SUITE 114, BOX 332
RALEIGH, NC 27613
p. 919.957.5100 - f. 919.957.5101
www.fdr-eng.com
jfejfar@fdr-eng.com

NORTH CAROLINA PROFESSIONAL SEAL 035655 ENGINEER HEATH M. HENDRICK

Digitally signed by Heath M. Hendrick
Date: 2024.04.12 [illegible] -04'00"

NORTH CAROLINA P-1418 PROFESSIONAL ENGINEERS PLLC CORPORATION

Project Name
COLUMBUS 911 CALL CENTER
RTU UPFIT
WHITEVILLE, NORTH CAROLINA

Sheet Title
GENERAL NOTES
FRAMING PLAN
CONSTRUCTION DETAILS

DESIGNED BY:	JTF
DRAWN BY:	JTF
APPROVED BY:	HMH
PROJECT #:	23-263
DATE:	04/12/2024

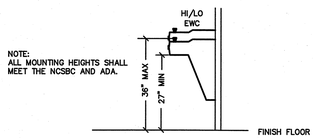
No.	Revision	Date

Sheet
S1.1

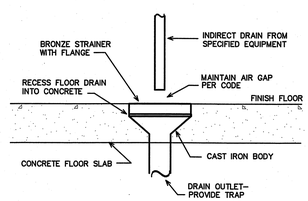
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GENERAL NOTES – PLUMBING

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES.
2. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE PLUMBING CONTRACTOR (PC) SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC).
3. THE PLUMBING PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION AND ALL DISCREPANCIES OR INTERFERENCES BROUGHT TO THE ENGINEERS ATTENTION.
4. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. THE PC SHALL PROVIDE ALL MISC. ITEMS NEEDED FOR A COMPLETE SYSTEM REGARDLESS IF NOTED ON THE DRAWINGS OR NOT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL FLOORPLAN LAYOUTS. DO NOT USE ENGINEERING DRAWINGS FOR ROUGH-INS.
5. THE GC SHALL PROVIDE ALL WALL, FLOOR AND ROOF OPENINGS OF THE SIZE AND LOCATION REQUIRED BY THE PC AND SHALL BE RESPONSIBLE FOR PAINTING AND FLOOR FINISHES. THE PC SHALL PROPERLY SEAL ALL PENETRATIONS AND PROVIDE ESCUTCHEON PLATES AT ALL FINISHED LOCATIONS.
6. ALL NEW WATER PIPING SHALL BE INSTALLED TIGHT TO STRUCTURE, ADEQUATELY SUPPORTED AND PROTECTED AND PROPERLY PITCHED TO ALLOW TOTAL DRAINAGE.
7. ALL WATER PIPING SHALL BE HYDROSTATICALLY TESTED FOR A MINIMUM OF 15 MINUTES AT A MINIMUM OF 100 PSIG BEFORE COVERING AND ALL LEAKS CORRECTED. THE ENTIRE WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE.
8. PROVIDE MIN. 18" SHOCK ABSORBERS WITH STOPS ON ALL HOT AND COLD WATER FIXTURE RUNS AS REQUIRED BY CODE.
9. VENT LINES SHALL SLOPE UP TO ALL STACKS AND TERMINATE A MIN. OF 12" ABOVE ROOF LINE.
10. PROVIDE CUT SHEETS ON ALL PLUMBING FIXTURES FOR ARCHITECT AND OWNER APPROVAL PRIOR TO ORDERING ANY FIXTURES.
11. PROVIDE HOT WATER TO FIXTURES AT 110 DEGREES F (120 DEG. MAX). VERIFY TEMPERATURE REQUIREMENT WITH TENANT. PROVIDE PROPER THERMOSTATIC MIXING VALVES IF/WHERE REQUIRED, AND PER CODE WHETHER OR NOT SHOWN ON PLANS.
13. PROPERLY SEAL ALL PIPING PENETRATIONS PER APPLICABLE PENETRATION SYSTEM DETAIL (THIS SHEET) THROUGH FIRE BARRIER WALLS/FLOORS/CEILINGS.– ALL MAY NOT BE SHOWN, VERIFY RATINGS/BARRIERS W/ARCH. PROVIDE CAST IRON FOR ALL DWV PIPING THROUGH FIRE BARRIERS.

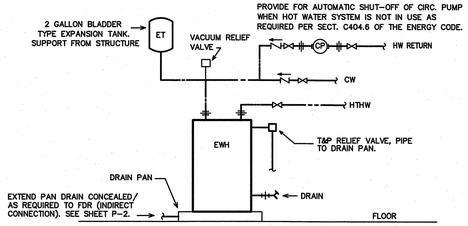


1 / P–1 EWC DETAIL
SCALE: NTS



2 / P–1 FDR DETAIL
SCALE: NTS

GENERAL MOUNTING SHOWN. VERIFY REQUIREMENTS WITH ARCH., COORDINATE WITH STRUCTURE/G.C.



NOTE:
WATER HEATERS, PIPING, AND PIPING APPURTENANCES PROVIDED BY P.C. WATER HEATER SUPPORTS BY P.C.

3 / P–1 EWH DETAIL
SCALE: NTS

System No. W-L-1001

March 28, 2003

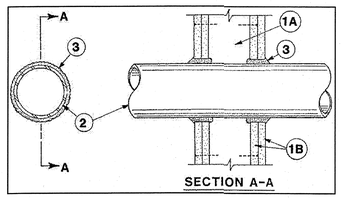
(Formerly System No. 147)

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/sq ft

L Rating At 400 F - less than 1 CFM/sq ft



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. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

B. Gypsum Board* -- Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance DIrectory. Max diam of opening is 26 in.

2. Through-Penetrant-- One metalic pipe, conduit or tubing installed either concentrically or eccentrically with the firestop system. The annular space between pipe, conduit, or tubing and periphery of opening shall be min of 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe -- Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe -- Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. Conduit -- Nom 6 in. diam (or smaller) steel conduit or nom 4 in diam (or smaller) steel electrical metallic tubing.

D. Copper Tubing -- Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

E. Copper Pipe -- Nom 6 in. diam (or smaller) Regular (or heavier) copper tubing.

F. through Penetrating Product* -- Flexible Metal Piping The following types of steel flexible metal gas piping may be used:

1. Nom 2 in 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 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.

TITLEFLEX CORP

A BUNDY CO

3. Nom 1 in 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 -- Min 5/9, 1-1/4,1-7/8 and 2-1/2 in. thickness for caulk for 1,2,3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. dia 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	F RATING Hr	T RATING Hr
1	1 or 2	0+, 1 or 2
1	3 or 4	3 or 4
4	1 or 2	0
6	3 or 4	0
12	1 or 2	0

+When copper pipe is used, T Rating is 0 h.

3M COMPANY-- CP 25WB+.

*Bearing the UL Classification Mark

4 / P–1 PENETRATION DETAIL
SCALE: NTS

SYMBOL LEGEND – PLUMBING

SYMBOL	DESCRIPTION (U.O.N.)
	WASTE PIPING (W)
	VENT PIPING (V)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
HWR	HW RETURN PIPING (HWR)
	CHECK VALVE
	BALANCING VALVE
	CIRCULATION PUMP
	SHUT–OFF VALVE
	DIELECTRIC UNION
COFF	CLEANOUT FINISH FLOOR
WCO/HCO	WALL/HORIZONTAL CLEANOUT
COFG	CLEANOUT FINISH GRADE
	VENT THRU ROOF (VTR)
A.F.F.	ABOVE FINISHED FLOOR
U.O.N.	UNLESS OTHERWISE NOTED
	1 HOUR FIRE BARRIER
	2 HOUR FIRE BARRIER

FIXTURE SCHEDULE – PLUMBING *

CP * CIRCULATING PUMP
TACO MODEL 110, 115 VOLT, 1/12 HP. SECURELY SUPPORT FROM STRUCTURE. PROVIDE AQUASTAT, TIMER, CHECK VALVES AS REQUIRED.

EWC * ELECTRIC WATER COOLER
ELKAY BARRIER FREE WATER COOLER MODEL #LZSTL8SC, FILTERED, ADA COMPLIANT. VERIFY MODEL– HI/LO SIDE WITH TENANT, ARCH. PIPE TO SINGLE DRAIN AND SUPPLY LINE.

ET * EXPANSION TANK
AMTROL MODEL ST–5, 2.0 GALLON, STEEL CONSTRUCTION, NON–ASME RATED.

EWH * ELECTRIC WATER HEATER
A.O. SMITH MODEL DEN–50, 50 GALLON, 4,500 WATT, 208 V, 1 PH. 26 GPH RECOVERY AT 70 DEGREE (F) TEMP. RISE. 3/4" INLET/OUTLET, PROVIDE DRAIN PAN, EXPANSION TANK AND PRESSURE RELIEF VALVE. VERIFY INSTALLATION CLEARANCES PRIOR TO ORDERING.

FD * FLOOR DRAIN
ZURN MODEL Z415 WITH HEEL–PROOF TYPE B STRAINER, CAST IRON W/NICKEL BRONZE TOP, 5" STRAINER WITH 3" CONNECTION. PROVIDE TRAP PRIMER CONNECTION IF REQUIRED.

FDR * FLOOR DRAIN W/FLANGE, RECESSED INTO FLOOR
ZURN MODEL Z415–I, 5" STRAINER, 3" CONNECTION. PROVIDE RAISED FLANGE W/NICKEL BRONZE GRATE, CAST IRON BODY. PROVIDE TRAP PRIMER CONNECTION IF REQUIRED. RECESS INTO FLOOR/SLAB, TOP OF FLANGE TO BE FLUSH W/FINISH FLOOR.

LAV * LAVATORY (COUNTERTOP)
KOHLER PENNINGTON SELF RIMMING COUNTERTOP LAVATORY, K–2196–4, 4" CENTERS, WHITE COLOR, ADA COMPLIANT. PROVIDE K–8998 P–TRAP WITH DELTA FAUCET MODEL 523LF–HGMHDF, SHUT–OFF VALVES.

SHR * ACCESSIBLE STALL, SHOWER HEAD/FAUCET/ADA ACCESSORIES
AQUATIC BATHWARE 1363BFSC PRE–FABRICATED FIBERGLASS SHOWER STALL. PROVIDE SYMMONS TEMPTROL 96–500–B30–L–V–X–ADAHS SHOWER AND HAND SHOWER SYSTEM. PROVIDE ALL OTHER COMPONENTS IF REQUIRED FOR ADA COMPLIANCE, GRAB BAR, SEAT, CURTAIN OR DOOR, ETC. COORDINATE HANDING W/OWNER, ROUTE PLUMBING AS REQUIRED.

S1 * COUNTER SINK
ELKAY LR1918 SINGLE BASIN STAINLESS STEEL SINK (MODEL LRAD1918 IF ADA COMPLIANCE REQUIRED), 18 GA., SELF–RIMMING, FURNISHED WITH THREE FAUCET HOLES AND CENTER DRAIN. PROVIDE ELKAY FAUCET MODEL LK810ATOBL2 WITH TWO LEVER HANDLES, CHROME PLATED BRASS P–TRAP AND SHUT–OFF VALVES. COORDINATE EXACT UNIT WITH OWNER AND GENERAL CONTRACTOR. COORDINATE SIZE WITH CABINETRY PRIOR TO ORDERING.

S2 * BREAK ROOM SINK
ELKAY LR3319 DOUBLE BASIN STAINLESS STEEL SINK (MODEL LRAD3319 IF ADA COMPLIANCE REQUIRED), 18 GA., SELF–RIMMING, FURNISHED WITH THREE FAUCET HOLES AND CENTER DRAIN. PROVIDE ELKAY COMMERCIAL FAUCET MODEL LK810ATOBL2 WITH TWO LEVER HANDLES, CHROME PLATED BRASS P–TRAP AND SHUT–OFF VALVES. COORDINATE EXACT UNIT WITH OWNER AND GENERAL CONTRACTOR. COORDINATE SIZE WITH CABINETRY PRIOR TO ORDERING.

VB * ICE MAKER VALVE BOX
OATEY VALVE BOX WITH 3/8" BRONZE SHUT–OFF VALVE. FLUSH TO WALL.

WC * WATER CLOSET (ADA FLUSH TANK)
KOHLER HIGHLINE WATER CLOSET, K–3979, ADA COMPLIANT 1.6 GPF. PROVIDE PROPER OPEN FRONT ADA SEAT, K–7637 SUPPLY AND STOP, WAX SEAL, CLOSET BOLT KIT. PROVIDE MODEL WITH FLUSH CONTROL ON SIDE OPPOSITE GRAB BAR.

* OR APPROVED EQUAL. SUBMIT ALL ITEMS FOR APPROVAL BY TENANT AND ARCHITECT PRIOR TO ORDERING.
ALL OTHER PLUMBING FIXTURES SHOWN ARE PROVIDED BY THE TENANT AND INSTALLED BY THE PLUMBING CONTRACTOR. SEE PLANS FOR NUMBER AND LOCATION. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT SERVED.

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COLUMBUS COUNTY
911 CENTER
WHITEVILLE, NORTH CAROLINA

4/12/24
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20038 BENJAMIN E. BURKE

PLUMBING SPECIFICATIONS

22001

ISSUED: 4/12/2024
DWG BY: DS
CKD BY: BEB
REVISIONS

SHEET NO.
P-1

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS–TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.

NOTE:
ANY EXISTING INFORMATION SHOWN ON THIS SHEET IS FROM FIELD INVESTIGATION. THE CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND FIELD VERIFYING ALL RELEVANT INFORMATION. THE SUBMISSION OF A BID INDICATES ACCEPTANCE OF EXISTING CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES NOTED.

REMOVE UNUSED VENT LINES TO ABOVE CEILING AND CAP AT MAIN. REMOVE UNUSED DRAIN STUB–OUTS, REMOVE UNUSED FLOOR SINKS, FLOOR DRAINS, ETC. IF/AS REQUIRED– COORDINATE W/TENANT, AND PROVIDE CLEANOUTS AT FINAL FINISHES TO PREVENT DEAD–ENDS AS REQUIRED BY CODE.

REMOVE AND REPLACE ALL CONCRETE, WALL BOARD AND CEILINGS AS REQUIRED TO LOCATE EXISTING LINES AND INSTALL NEW LINES. EXISTING DWV NOT SHOWN.

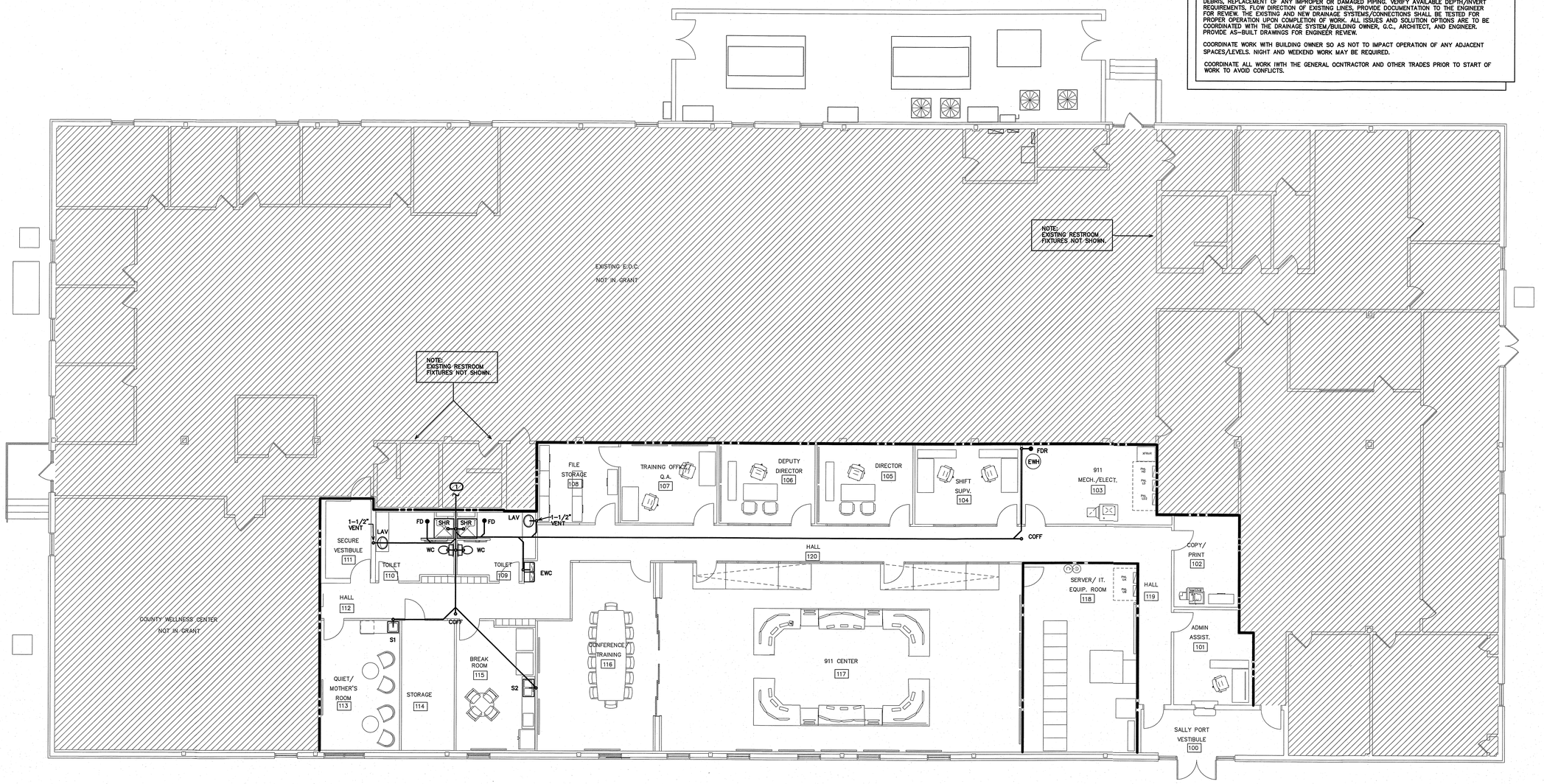
IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO LOCATE ANY AND ALL EXISTING BUILDING SYSTEMS IN CONCRETE, FLOORS, WALLS, CEILINGS, ETC., PRIOR TO START OF WORK, THAT MAY BE ENCOUNTERED DURING CONSTRUCTION TO DETERMINE METHODS REQUIRED TO AVOID AND/OR MAINTAIN EXISTING SYSTEMS OPERATION. COORDINATE WITH BLDG. OWNER, ARCH., G.C. THE PLUMBING CONTRACTOR SHALL LOCATE, TRACE, AND INSPECT FOR PROPER DRAINAGE AND CONDITION, ANY/ALL EXISTING BUILDING DRAINAGE LINES AND SYSTEMS (SANITARY, GREASE, ETC.) THAT ARE TO BE UTILIZED BY THE OCCUPANT/NEW CONNECTIONS PER DESIGN DRAWINGS THROUGH USE OF CAMERA, DYES, AND/OR ANY MEANS NECESSARY– PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL REMEDY ANY ISSUES IN ORDER TO ENSURE A PROPER FUNCTIONING, CODE COMPLIANT SYSTEM, WHICH INCLUDES BUT IS NOT LIMITED TO, JETTING OF LINES, REMOVAL OF DEBRIS, REPLACEMENT OF ANY IMPROPER OR DAMAGED PIPING. VERIFY AVAILABLE DEPTH/INVERT REQUIREMENTS, FLOW DIRECTION OF EXISTING LINES. PROVIDE DOCUMENTATION TO THE ENGINEER FOR REVIEW. THE EXISTING AND NEW DRAINAGE SYSTEMS/CONNECTIONS SHALL BE TESTED FOR PROPER OPERATION UPON COMPLETION OF WORK. ALL ISSUES AND SOLUTION OPTIONS ARE TO BE COORDINATED WITH THE DRAINAGE SYSTEM/BUILDING OWNER, G.C., ARCHITECT, AND ENGINEER. PROVIDE AS–BUILT DRAWINGS FOR ENGINEER REVIEW.

COORDINATE WORK WITH BUILDING OWNER SO AS NOT TO IMPACT OPERATION OF ANY ADJACENT SPACES/LEVELS. NIGHT AND WEEKEND WORK MAY BE REQUIRED.

COORDINATE ALL WORK IWTH THE GENERAL OCNTRACTOR AND OTHER TRADES PRIOR TO START OF WORK TO AVOID CONFLICTS.

KEY NOTES FOR SHEET P–2

(1) CONNECT TO EXISTING 4" (MIN.) SANITARY WASTE MAIN IN AREA. VERIFY LOCATION.



1/P–2 DWV PLAN

SCALE: 1/8"=1'–0"

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4/12/24
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

DWV PLAN

22001

ISSUED:	4/12/2024
DWG BY:	DS
CKD BY:	BEB

REVISIONS

SHEET NO.
P–2

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

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KEY NOTES FOR SHEET P-3

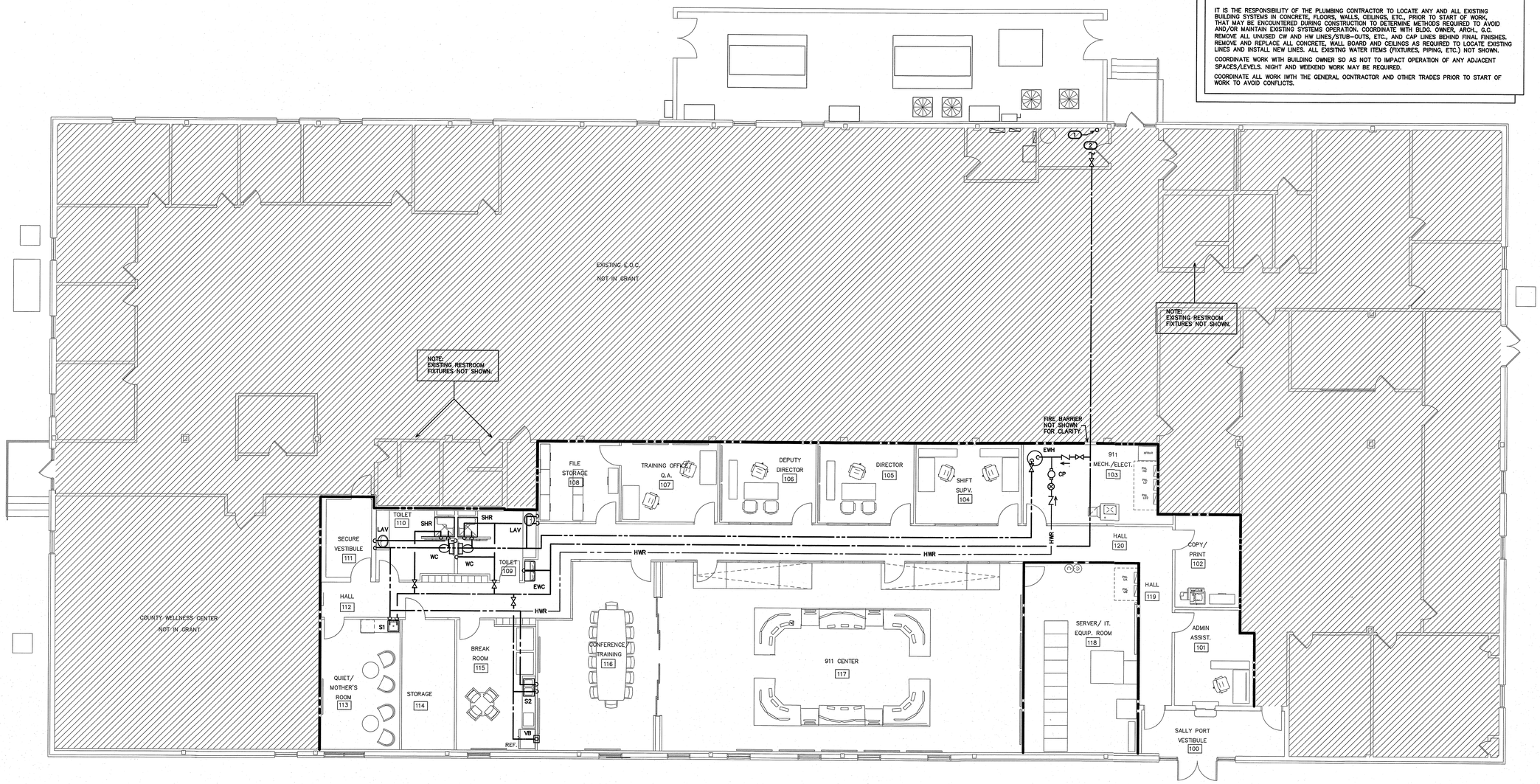
1. REPLACE EXISTING GATE VALVE (NOT SHOWN) FOR INCOMING BLDG. CW MAIN WITH PROPER BALL TYPE VALVE. VERIFY VALVE LOCATION.
2. CONNECT TO EXISTING 2" BLDG. CW MAIN ABOVE CEILING/BELOW ROOF STRUCTURE OR AS REQUIRED. VERIFY LOCATION.

NOTE:
ANY EXISTING INFORMATION SHOWN ON THIS SHEET IS FROM FIELD INVESTIGATION. THE CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND FIELD VERIFYING ALL RELEVANT INFORMATION. THE SUBMISSION OF A BID INDICATES ACCEPTANCE OF EXISTING CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES NOTED.

IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO LOCATE ANY AND ALL EXISTING BUILDING SYSTEMS IN CONCRETE, FLOORS, WALLS, CEILINGS, ETC., PRIOR TO START OF WORK, THAT MAY BE ENCOUNTERED DURING CONSTRUCTION TO DETERMINE METHODS REQUIRED TO AVOID AND/OR MAINTAIN EXISTING SYSTEMS OPERATION. COORDINATE WITH BLDG. OWNER, ARCH., G.C. REMOVE ALL UNUSED CW AND HW LINES/STUB-OUTS, ETC., AND CAP LINES BEHIND FINAL FINISHES. REMOVE AND REPLACE ALL CONCRETE, WALL BOARD AND CEILINGS AS REQUIRED TO LOCATE EXISTING LINES AND INSTALL NEW LINES. ALL EXISTING WATER ITEMS (FIXTURES, PIPING, ETC.) NOT SHOWN.

COORDINATE WORK WITH BUILDING OWNER SO AS NOT TO IMPACT OPERATION OF ANY ADJACENT SPACES/LEVELS. NIGHT AND WEEKEND WORK MAY BE REQUIRED.

COORDINATE ALL WORK IWTH THE GENERAL CONTRACTOR AND OTHER TRADES PRIOR TO START OF WORK TO AVOID CONFLICTS.



1/P-3 WATER PLAN
SCALE: 1/8"=1'-0"

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WATER PLAN

22001

ISSUED:	4/12/2024
DWG BY:	-
CKD BY:	BEB
REVISIONS	

SHEET NO.
P-3

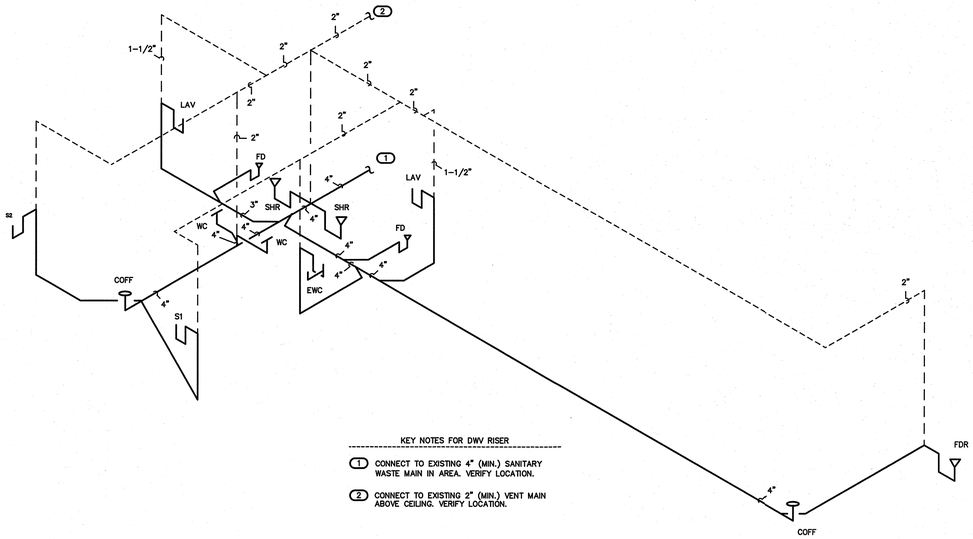
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(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

PIPE SIZING SCHEDULE				
FIXTURE TYPE	DRAIN	VENT	CW	HW
(EWC) ELECTRIC WATER COOLER	1 1/4"	1 1/4"	1/2"*	–
(FD/FDR) FLOOR DRAIN	3"	1 1/2"	–	–
(LAV) LAVATORY	1 1/2"	1 1/4"	1/2"	1/2"
(S) SINK	1 1/2"	1 1/4"	1/2"	1/2"
(SHR) SHOWER	2"	1 1/4"	1/2"	1/2"
(VB) VALVE BOX	–	–	1/2"*	–
(WC) FLUSH TANK WATER CLOSET	3"	1 1/2"	1/2"	–

* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3, EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL) ASSE 1022 (WATTS SERIES 9D-3 EQUAL) ETC., WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.

DWV/WATER RISER NOTES:
REPRESENTATIVE SIZES ARE GIVEN FOR EACH TYPE OF FIXTURE. SEE PIPE SIZING SCHEDULE.
MINIMUM 2" DRAIN LINE SIZE UNDER SLAB.
MAINTAIN PIPE SIZES SHOWN UNTIL LARGER SIZE IS REACHED.
PIPE SIZES ARE MINIMUMS FOR INDIVIDUAL FIXTURES U.O.N.

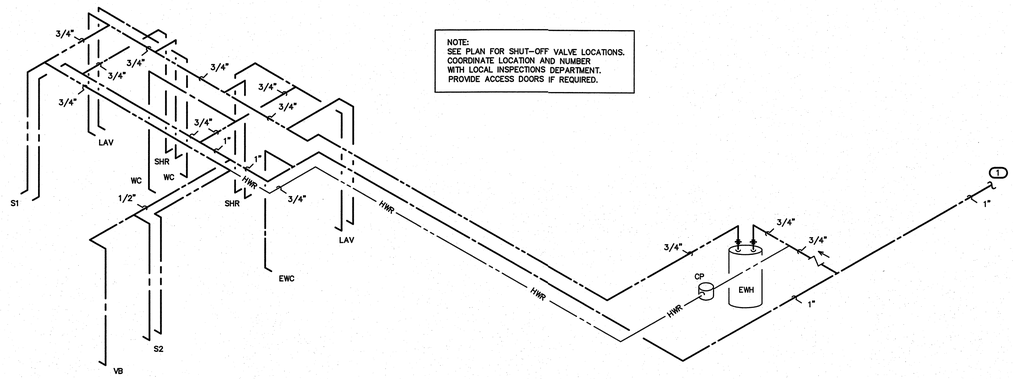


KEY NOTES FOR DWV RISER

1. CONNECT TO EXISTING 4" (MIN.) SANITARY WASTE MAIN IN AREA. VERIFY LOCATION.
2. CONNECT TO EXISTING 2" (MIN.) VENT MAIN ABOVE CEILING. VERIFY LOCATION.

1/P-4 DWV RISER
SCALE: NTS

NOTE:
SEE PLAN FOR SHUT-OFF VALVE LOCATIONS. COORDINATE LOCATION AND NUMBER WITH LOCAL INSPECTIONS DEPARTMENT. PROVIDE ACCESS DOORS IF REQUIRED.



KEY NOTES FOR WATER RISER

1. CONNECT TO EXISTING 2" BLDG. CW MAIN ABOVE CEILING/BELOW ROOF STRUCTURE OR AS REQUIRED. VERIFY LOCATION.

2/P-4 WATER RISER
SCALE: NTS

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4/12/24
NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E BURKE

RISERS

22001

ISSUED:	4/12/2024
DWG BY:	DS
CKD BY:	BEB

REVISIONS

SHEET NO.
P-4

911 Center – Columbus County M1

VRF SPLIT SYSTEM EQUIPMENT SCHEDULE (SYSTEM 1 & 2)

VRF-1 & VRF-2 OUTDOOR HEAT RECOVERY UNIT	* MITSUBISHI MODEL #TURYE16B4AN40A(NB), 14 TON VRF OUTDOOR HEAT RECOVERY UNIT, 11.9 EER. 460 VOLT, 3 PHASE, OUTDOOR UNIT 26A MCA, 40A MOCP.
FC-A.1 & FC-A.2 DIRECT EXPANSION FAN COIL UNIT	* MITSUBISHI MODEL #PKFY-P04NBMU-E2R1 WALL MOUNT FAN COIL UNIT. NET COOLING CAPACITY = 4,000 BTUH, 117 CFM LO TO 148 CFM HI. 0.33 TON NOMINAL. NET HEATING CAPACITY 4,500 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, AND CONDENSATE PUMP. 208 VOLT. SINGLE PHASE, MCA 0.19A, MOCP 15A.
FC-B.1 & FC-B.2 DIRECT EXPANSION FAN COIL UNIT	* MITSUBISHI MODEL #PLFY-P08NFMU-E CEILING CASSETTE FAN COIL UNIT. NET COOLING CAPACITY = 8,000 BTUH, 230 CFM LO TO 315 CFM HI. 0.75 TON NOMINAL. NET HEATING CAPACITY 9,000 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, BUILT-IN CONDENSATE LIFT MECHANISM. 208 VOLT. SINGLE PHASE, MCA 0.39A, MOCP 15A.
FC-C.1 & FC-C.2 DIRECT EXPANSION FAN COIL UNIT	* MITSUBISHI MODEL #TPLFYP030EM140B CEILING CASSETTE FAN COIL UNIT. NET COOLING CAPACITY = 30,000 BTUH, 636 CFM LO TO 812 CFM HI. 2.5 TON NOMINAL. NET HEATING CAPACITY 34,000 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, BUILT-IN CONDENSATE LIFT MECHANISM. 208 VOLT. SINGLE PHASE, MCA 0.57A, MOCP 15A.
FC-D.1 & FC-D.2 DIRECT EXPANSION FAN COIL UNIT	* MITSUBISHI MODEL #TPLFYP015FM140A CEILING CASSETTE FAN COIL UNIT. NET COOLING CAPACITY = 15,000 BTUH, 245 CFM LO TO 345 CFM HI. 1.25 TON NOMINAL. NET HEATING CAPACITY 17.0000 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, BUILT-IN CONDENSATE LIFT MECHANISM. 208 VOLT. SINGLE PHASE, MCA 0.29A, MOCP 15A.

* OR APPROVED EQUAL

NOTES FOR ALL VRF SYSTEMS:

1. ENTIRE VRF SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. THE REFRIGERANT PIPING SYSTEM DESIGN SHALL BE DONE BY THE SYSTEM'S MANUFACTURER. THE REFRIGERANT PIPING SYSTEM SHALL INCLUDE ALL REQUIRED VRF BRANCH BOXES, AND REFRIGERANT ACCESSORIES. PROVIDE WALL MOUNTED THERMOSTATS FOR EACH INDOOR FAN-COIL UNIT AND CENTRAL CONTROLLER FOR SYSTEM. PROVIDE ALL CONTROLS WIRING INTERCONNECTIONS FOR ALL COMPONENTS OF THE SYSTEM. THE ENTIRE SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. SUBMIT SHOP DRAWINGS OF REFRIGERANT SYSTEM FOR REVIEW. PROVIDE MANUFACTURER'S START-UP OF SYSTEM AND OWNER TRAINING ON SYSTEM OPERATION AND MAINTENANCE.
2. REFRIGERANT PIPING SHALL BE RAN CONCEALED IN WALLS AND ABOVE CEILINGS FROM OUTDOOR UNITS TO ALL INDOOR FAN-COIL UNITS. VRF BRANCH BOXES SHALL BE LOCATED BY CONTRACTOR AND VRF SYSTEM MANUFACTURER. COORDINATE LOCATIONS WITH ENGINEER.
3. RUN CONDENSATE PIPING FOR ALL INDOOR FAN-COIL UNITS CONCEALED IN WALLS AND ABOVE CEILINGS. ALL CONDENSATE PIPING SHALL BE INSULATED FOR ENTIRE LENGTH WITH CLOSED CELL INSULATION. CONDENSATE PIPING SHALL TERMINATE AT GRADE IN PLANTED AREA.
4. VRF SYSTEMS 1 AND 2 ARE DUPLICATE SYSTEMS, ONE SYSTEM SERVING AS 100% REDUNDANT BACKUP SYSTEM. THE 2 SYSTEMS WILL NOT OPERATE AT THE SAME TIME. SYSTEM OPERATING TIME SHALL BE ROTATED BY THE BAS SYSTEM TO PROVIDE EVEN WEAR ON EACH SYSTEM.
5. VRF SYSTEMS 3 AND 4 ARE DUPLICATE SYSTEMS, ONE SYSTEM SERVING AS 100% REDUNDANT BACKUP SYSTEM. THE 2 SYSTEMS WILL NOT OPERATE AT THE SAME TIME. SYSTEM OPERATING TIME SHALL BE ROTATED BY THE BAS SYSTEM TO PROVIDE EVEN WEAR ON EACH SYSTEM.

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EXHAUST FAN SCHEDULE

EXHAUST FAN #1 (EF-1)	* CARNES MODEL# VCDD010C EXHAUST FAN, 93 CFM @ 1/4" SP, 640 RPM, 1.1 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 6" RIGID DUCT TO ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #2 (EF-2)	* CARNES MODEL# VCDD010C EXHAUST FAN, 93 CFM @ 1/4" SP, 640 RPM, 1.1 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 6" RIGID DUCT TO ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #3 (EF-3)	* CARNES MODEL# VEDK-06J2 ROOF MOUNTED EXHAUST FAN, 200 CFM @ 0.375" SP, 1200 RPM, 1/8 HP, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, GRAVITY BACKDRAFT DAMPER, AND FACTORY PREFAB ROOF CURB. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES. PROVIDE FACTORY SPEED CONTROLLER FOR BALANCING FAN.

* OR APPROVED EQUAL.

AIR DISTRIBUTION SCHEDULE

MARK	* MANUFACTURER	MODEL NO.	NECK SIZE	FACE SIZE	MATERIAL	SERVICE	NOTES
OA	CARNES	SPAB224	SEE FLEXIBLE DUCT SCHEDULE	24" X 24"	STEEL	OUTSIDE AIR SUPPLY	LAY-IN CEILING, WHITE 4-WAY BLOW

* OR APPROVED EQUAL

COORDINATE BORDER TYPE WITH THE CEILING TYPE. SEE ARCH SHEETS
PROVIDE CUT SHEETS TO OWNER/ARCH. PRIOR TO ORDERING.

DEDICATED 100% OUTDOOR AIR SYSTEM (DOAS) SPLIT SYSTEM SCHEDULE

EQUIP. NUMBER	INDOOR UNIT AIR HANDLING UNIT											OUTDOOR CONDENSING UNIT					
	MODEL NO. ***	SUPPLY FAN			COOLING CAPACITY		ELECTRICAL HEATING		VOLTAGE	MCA	MOCP	MODEL NO.	POWER	COMP. #1 RLA	MCA	MOCP	EER
		CFM	HP	POWER	TOTAL	SENSIBLE	CAPACITY	FLA									
DOAS-1/DOASCU-1	AAON – SEE BELOW FOR * MODEL#	800@ 0.75" ESP	1.1	460-3	66.0 MBH	36.8 MBH	71.61 MBH (21 KW)	25.3	460-3	33	35	AAON – SEE BELOW FOR ** MODEL#	460-3	9.7	14	20	12

* V3-BRB-3-0-161C-7A1: EF1E-CEA-000-0D0-B0A00F0-00-D0000000

** CFA-007-A-A-3-DJ00H: A-00-00-00-000-D-JE0A-0000C00-0A000DB

NOTES: SYSTEM SHALL HAVE MODULATING HOT GAS RE-HEAT, 3 STAGE ELECTRIC HEAT, FILTER SECTION, AND UNIT CONTROLLER. UNIT SHALL PROVIDE 100% OUTSIDE AIR, AND PROVIDE NEUTRAL AIR TO SPACE (72 TO 74 DEGREES F. ADJUSTABLE). PROVIDE ALL SENSORS AND CONTROLS REQUIRED TO PROVIDE A COMPLETE AND OPERATING SYSTEM. ENTIRE INSTALLATION SHALL SHALL BE PER MANUFACTURER'S INSTRUCTIONS. PROVIDE MANUFACTURER'S START-UP OF SYSTEM AND OWNER TRAINING FOR SYSTEM OPERATION. OUTDOOR AIR UNIT SHALL RUN CONTINUOUSLY WHEN BUILDING IS OCCUPIED.

*** OR APPROVED EQUAL

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VRF SPLIT SYSTEM EQUIPMENT SCHEDULE (SYSTEM 3 & 4)

VRF-3 & VRF-4 OUTDOOR HEAT RECOVERY UNIT	* MITSUBISHI MODEL #TUHYE0964AN40A(NB), 8 TON VRF OUTDOOR HEAT PUMP UNIT, 15.3 EER. 460 VOLT, 3 PHASE, OUTDOOR UNIT 14A MCA, 20A MOCP.
FC-A.3 & FC-A.4 DIRECT EXPANSION FAN COIL UNIT	* MITSUBISHI MODEL #PLFY-P30NBMU-E2 CEILING CASSETTE FAN COIL UNIT. NET COOLING CAPACITY = 30,000 BTUH, 636 CFM LO TO 812 CFM HI. 2.5 TON NOMINAL. NET HEATING CAPACITY 34,000 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, BUILT-IN CONDENSATE LIFT MECHANISM. 208 VOLT. SINGLE PHASE, MCA 0.35A, MOCP 15A.
FC-B.3 & FC-B.4 DIRECT EXPANSION FAN COIL UNIT	* MITSUBISHI MODEL #TPKFYP018LM140A WALL MOUNT FAN COIL UNIT. NET COOLING CAPACITY = 18,000 BTUH, 240 CFM LO TO 438 CFM HI. 1.5 TON NOMINAL. NET HEATING CAPACITY 20,000 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, AND CONDENSATE PUMP. 208 VOLT. SINGLE PHASE, MCA 0.24A, MOCP 15A.
FC-C.3 & FC-C.4 DIRECT EXPANSION FAN COIL UNIT	* MITSUBISHI MODEL #TPKFYP12LM140A WALL MOUNT FAN COIL UNIT. NET COOLING CAPACITY = 12,000 BTUH, 152 CFM LO TO 297 CFM HI. 1.0 TON NOMINAL. NET HEATING CAPACITY 13,500 BTUH. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, AND CONDENSATE PUMP. 208 VOLT. SINGLE PHASE, MCA 0.19A, MOCP 15A.

* OR APPROVED EQUAL

BAS (BUILDING AUTOMATION SYSTEM) SCOPE OF WORK

Contractors shall provide a Trane Tracer SC+ or equal BAS Systems.

Provide a separate 120/1 power connection for powering this controller.

BAS System to be capable of web-based controls platform with building graphics for ease of operation.

Building owner to provide Ethernet connection and service for the BAS operation.

Trane to provide (2) days of owner training for the building operators and 1 year warranty.

Connected Components to the Trane SC + defined as the following:

1.) Qty. 2 Primary VRF Systems serving the office space

2.) Qty. 2 Server VRF System serving the server rooms and electrical Closet

Sequence of Operation:

Primary VRF System

1.) Primary system serving the office space will operate based upon an N+1 design. Systems are equally sized to support the load in the space to providing cooling or heating in the event one system was to fail.

2.) The Trane SC+ will provide the ability to maintain only one system operating at a time in the space.

3.) Additional, the Tracer SC+ system will provide the ability to rotate the operation of the redundant system in order to equalize run time hours on the systems.

4.) The sequence capable of equalizing run time of the systems. BAS shall alternate the independent system every 2 weeks of operation to maintain the systems.

5.) The Primary VRF system will control independent zones based upon the individual space sensors.

6.) Building operator will have the ability to change operating system at any moment via interface with the BAS via website address. Additionally set points and scheduling can be remotely.

7.) Provide a wall mounted indicator light at each wall mounted thermostat for all fan-coil units for VRF system 1 and 2. The indicator light shall be on for the VRF system currently in use, and off for the VRF system that is not currently is use. The purpose is to indicate to the user which thermostat the user should use for the VRF system that is currently is use. Label all thermostats with permanent phenolic plastic label (white background, black numeral) to indicate if the thermostat is for VRF system 1 or 2.

Server VRF System

7.) Server system serving the server room will operate based upon an N+1 design. Systems are equally sized to support the load in the space to providing cooling or heating in the event one system was to fail.

8.) The Trane SC+ will provide the ability to maintain only one system operating at a time in the space.

9.) Additional, the Tracer SC+ system will provide the ability to rotate the operation of the redundant system in order to equalize run time hours on the systems.

10.) The sequence capable of equalizing run time of the systems. BAS shall alternate the independent system every 2 weeks of operation to maintain the systems.

11.) The server room units to be controlled based upon return air temperature sensors in the respective unit. No wall mount thermostats provided. All setpoint adjustment to be made via the BAS interface.

LEGEND – MECHANICAL

- 12 X 8 — RECTANGULAR DUCTWORK
- FLEXIBLE DUCTWORK
- 12" DIA. — ROUND GALVANIZED STEEL DUCT
- SUPPLY DIFFUSER
- RETURN GRILLE
- T — WALL MOUNTED THERMOSTAT. MOUNT AT 48" AFF
- L — LEAK DETECTION SYSTEM SENSOR
- X / XXX — GRILLE TYPE / MIN. CFM
- WALL MOUNTED VRF FAN-COIL UNIT
- CEILING CASSETTE VRF FAN-COIL UNIT
- BC — VRF BRANCH CONTROLLER (REFRIGERANT PIPING DISTRIBUTION BOX)
- D—D — CONDENSATE PIPING
- R—R — REFRIGERANT PIPING
- LEAK DETECTION CABLE (VERIFY SPACING WITH SYSTEM SELECTED) LOCATE UNDER ALL RAISED FLOORS.
- 2 HOUR RATED FIRE BARRIER

OA SCHEDULE — OUTDOOR VENTILATION AIR PROVIDED PER TABLE 403.3 NCSBC MECHANICAL CODE.

APPLICATION	SQUARE FOOTAGE (SF)	AREA OUTDOOR AIR FLOW RATE (CFM/SF)	PEOPLE OUTDOOR AIR FLOW RATE (CFM/PERSON)	OCCUPANCY DENISITY RATE (# PEOPLE/ 1000SF)	OCCUPNCY (# PEOPLE)	AREA OUTDOOR AIR FLOW (CFM)	PEOPLE OUTDOOR AIR FLOW (CFM)	TOTAL (CFM)
OFFICE	3212	0.06	5	5	16	193	80	273
CORRIDOR	1062	0.06	–	–	–	66	–	66
CONFERENCE	462	0.06	5	50	23	28	115	143
STORAGE	402	0.12	–	–	–	48	–	48
TOTAL REQUIRED								530

OUTDOOR AIR PROVIDED FROM EACH HVAC UNIT	
HVAC UNIT	OUTDOOR AIR (CFM)
DOAS-1	800
TOTAL PROVIDED	800

APPLICATION	CFM
TOILETS	70 CFM/FLUSHING FIXTURE

2 FLUSHING FIXTURE X 70 CFM = 140 CFM

EXHAUST PROVIDED BY 2 EXHAUST FANS, MAKE UP AIR BY TRANSFER AIR

GENERAL NOTES – MECHANICAL

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AND ALL LOCAL AND OTHER APPLICABLE CODES.
2. ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR (MC).
3. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE MC SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC) AND OTHER TRADES.
4. THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE ANTICIPATED OR ENCOUNTERED INTERFERENCES.
5. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS REFER TO THE ARCHITECTURAL PLANS.
6. THE MC SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS' INTERLOCKS, CONTROL WIRING CONDUIT AND POWER WIRING FROM DISCONNECTS TO HIS EQUIPMENT, USING A LICENSED ELECTRICIAN.
7. THE MC SHALL USE FIRE DAMPERS FOR PROTECTION OF THE OPENING IN ACCORDANCE WITH STATE AND LOCAL CODES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND FLOORS OCCUR. SEE ARCHITECTURAL PLANS FOR RATED WALL AND FLOOR LOCATIONS. PROVIDE ACCESS DOORS AT ALL DAMPER LOCATIONS. LOCATE DOORS FOR EASY ACCESS.
8. INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCTWORK AHU. ALL MECHANICAL EQUIPMENT SHALL OPERATE FREE OF OBJECTIONAL NOISE AND VIBRATION.
9. INSTALL TURNING VANES IN SUPPLY DUCTS AT ALL ELBOWS AND SPLITTER DAMPERS. PROVIDE BALANCING DAMPERS IN ALL DUCTS WHERE SHOWN OR REQUIRED FOR SYSTEM BALANCING. ADJUST DIFFUSERS TO PROVIDE FOR PROPER OPERATION OF HOOD.
10. DUCT DIMENSIONS ARE SHOWN INSIDE CLEAR.
11. THE MC SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM HIS WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT THE COMPLETION OF HIS WORK. HE SHALL ALSO LEAVE CLEAN ALL EXPOSED EQUIPMENT IN HIS CONTRACT.
12. FANS AND CURBS. CURBS AND FLASHING ARE BY THE GENERAL CONTRACTOR. ALL ROOFING WORK SHALL BE DONE BY THE ORIGINAL ROOFING CONTRACTOR SO AS TO MAINTAIN ORIGINAL WARRANTY.
13. THE M.C. SHALL COORDINATE WITH AND PROVIDE EQUIPMENT SPEC. SHEETS TO THE GENERAL PROVIDE ALL REQUIRED ROOF AND FLOOR PENETRATIONS FOR THE INSTALLATION OF THE NEW EQUIPMENT, HOOD AND ELECTRICAL CONTRACTORS FOR REVIEW PRIOR TO ORDERING EQUIPMENT.
14. PROPERLY SUPPORT ALL DUCT WORK, HOOD AND FANS FROM STRUCTURE. PROVIDE ALL STRUCTURAL SUPPORTS FOR THE LOADS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
15. RELOCATE ANY EXISTING OBSTRUCTIONS IN THE PATH OF THE NEW HOOD, DUCTWORK AND FAN INSTALLATION. FIELD VERIFY PRIOR TO SUBMITTING BID.

APPENDIX B

2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)
MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEM AND EQUIPMENT

Thermal Zone 3

winter dry bulb 23F
summer dry bulb 93F

Interior Design Conditions

winter dry bulb 72F
summer dry bulb 75F
relative humidity 50%

Building Heating Load 87,00 BTU/hr

Building Cooling Load 200,400 BTU/hr

Mechanical Spacing Conditioning System

Unitary – The building is served the following systems:

(1) One new 8 ton VRF outdoor heat heat pump unit with (3) indoor fan-coil units.
(1) One new 14 ton VRF outdoor heat recovery unit with (17) indoor fan-coil units.
(1) One new 5 ton split system DOAS outdoor air unit.

Boiler – Not applicable to this project.

Chiller – Not applicable to this project.

Equipment efficiencies

Efficiencies and outputs are listed on equipment schedules – See drawings.

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COLUMBUS COUNTY
911 CENTER
WHITEVILLE, NORTH CAROLINA

4/12/24
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

HVAC SCHEDULES

22001

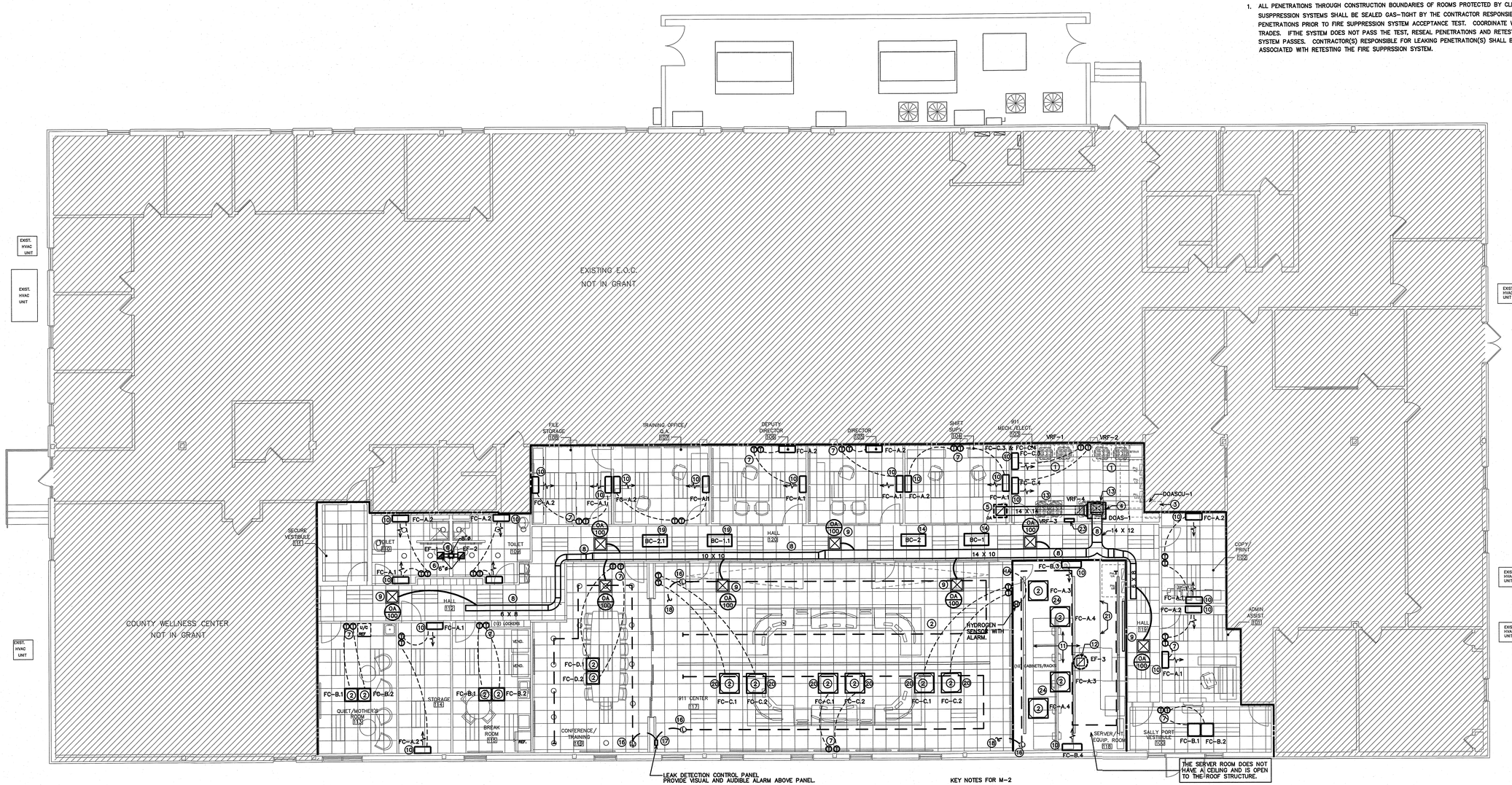
ISSUED:	4/12/2024
DWG BY:	WBE
CKD BY:	BEB
REVISIONS	

SHEET NO.
M-1

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.



1 / M-2 HVAC PLAN

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

FLEXIBLE DUCTWORK NOTES

1) INSTALL FLEXIBLE DUCTWORK RUNS AS STRAIGHT AS POSSIBLE.
2) DO NOT ALLOW FLEXIBLE DUCT TO SAG BETWEEN SUPPORTS.
3) DO NOT STRETCH A SHORT SECTION TO FIT A SLIGHTLY LONGER SECTION. THIS DISTORTS THE DUCT SHAPE AND IMPEDES AIR FLOW.
4) DO NOT CRUSH DUCTWORK TO FIT IN A SPACE SMALLER THAN ITS ORIGINAL OUTSIDE DIAMETER. MAXIMUM ALLOWABLE DEFORMATION IS 15% OF ORIGINAL VOLUME.
5) USE RIGID 90 DEGREE ELBOWS AT ANY LOCATION WHERE THE DUCTWORK BECOMES DISTORTED.
6) EXTREME CARE SHALL BE TAKEN TO ELIMINATE ANY REDUCTION IN FLOW WITHIN THE FLEXIBLE DUCTS. THE MECH. CONTRACTOR WILL BE REQUIRED TO REPLACE THE FLEXIBLE DUCT WITH RIGID IF PROPER FLOW IS NOT OBTAINED.
7) SIZE ALL FLEXIBLE DUCT SO AS NOT TO EXCEED MAXIMUM CFM'S GIVEN IN TABLE.

FLEXIBLE DUCTWORK SIZES

MAXIMUM CFM'S

SIZES	SUPPLY	RETURN
6"	100	100
8"	115	115
10"	250	250
12"	400	350
14"	550	500
16"	NA	900

(CHANGE OUT EXISTING FLEX DUCTS AND COLLARS AS REQUIRED TO GET NEW CFM'S SHOWN)

KEY NOTES FOR M-2

1. VRF OUTDOOR HEAT RECOVERY UNIT. PROVIDE ALL MANUFACTURER'S REQUIRED CLEARANCES AROUND UNIT. MOUNT ON ROOF CURB. SEE HVAC ROOF PLAN ON SHEET M3.
2. CASSETTE STYLE INDOOR FAN-COIL UNIT FOR VRF SYSTEM. SUSPEND FROM ROOF STRUCTURE. (TYP)
3. DOAS OUTDOOR CONDENSING UNIT MOUNTED ON ROOF. PROVIDE ALL MANUFACTURER'S REQUIRED CLEARANCES AROUND UNIT. SEE HVAC ROOF PLAN ON SHEET M3
4. DOAS (DEDICATED OUTDOOR AIR SYSTEM) AIR HANDLING UNIT WITH VERTICAL CONFIGURATION MOUNTED ON FLOOR. SEE DETAIL 1/M4.
5. NEW 16" X 16" OUTSIDE AIR INTAKE HOOD. HOOD SHALL BE RATED FOR RISK CAT4 WIND SPEEDS (TYP). INTAKE SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE.
6. RUN 6" DIA. RIGID STEEL DUCT TO 8" DIA. RIGID STEEL EXHAUST DUCT UP TO NEW ROOF MOUNTED EXHAUST CAP. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE.ROOF CAP SHALL BE RATED FOR RISK CAT4 WIND SPEEDS (TYP).
7. THERMOSTAT, MOUNT AT 48" AFF. (TYP)
8. RECTANGULAR RIGID DUCT, MOUNTED TO STRUCTURE ABOVE SAC.
9. LAY-IN SUPPLY AIR DIFFUSER. (TYP)
10. WALL MOUNTED INDOOR FAN-COIL UNIT FOR VRF SYSTEM. MOUNT WITH BOTTOM AT 7'-0" AFF.
11. PROVIDE CLEAN AGENT FIRE SUPPRESSION SYSTEM IN SERVER/IT ROOM.
12. 200 CFM ROOF MOUNTED EXHAUST FAN TO EXHAUST CLEAN AGENT FIRE SUPPRESSION AGENT FROM ROOM. STUB DOWN 10" X 10" DUCT WITH OPEN END DOWN INTO SPACE.
13. VRF OUTDOOR HEAT PUMP UNIT MOUNTED ON ROOF. PROVIDE ALL MANUFACTURER'S REQUIRED CLEARANCES AROUND UNIT. SEE HVAC ROOF PLAN ON SHEET M3.
14. MAIN BC CONTROLLER FOR VRF SYSTEM, MOUNTED ABOVE CEILING. PROVIDE GALVANIZED STEEL DRAIN PAN UNDER UNIT. VERIFY FINAL LOCATION AS REQUIRED BY PROVIDED VRF SYSTEM MANUFACTURER.
15. LEAK DETECTION SYSTEM- EQUAL TO A LIEBERT LP6000, OR EQUAL. PROVIDE MULTIPLE ZONE DETECTION, BACNET OUTPUT, MINIMUM 4 ZONES.
16. LEAK DETECTION SENSOR UNDER RAISED FLOOR
17. LEAK DETECTION CONTROL PANEL. PROVIDE VISUAL AND AUDIBLE ALARM ABOVE PANEL.
18. EXTEND LEAK DETECTION CONTROL WIRING TO CONTROL PANEL.
19. SUB BC CONTROLLER FOR VRF SYSTM, MOUNTED ABOVE CEILING. PROVIDE GALVANIZED STEEL DRAIN PAN UNDER UNIT. VERIFY FINAL LOCATION AS REQUIRED BY PROVIDED VRF SYSEM MANUFACTURER.
20. CASSETTE STYLE UNIT SHALL BE INSTALLED SO THAT IT FITS BETWEEN THE ROOF BAR JOIST ABOVE THE CEILING. ADJUST THE POSITION OF THE UNITS AS REQUIRED.
21. CABLE TRAY ABOVE.
22. FAN-COIL UNITS IN THE SERVER ROOM SHALL NOT HAVE WALL MOUNTED THERMOSTATS. TEMPERATURE SETTINGS FOR FAN-COILS SHALL BE SET IN VRF CONTROLS SYSTEM. TEMPERATURE SENSING FOR THESE FAN-COILS SHALL BE BY RETURN AIR SENSOR IN EACH FAN-COIL UNIT.
23. TRANE TRACER SC+ BAS CONTROLLER MOUNTED ON WALL. COORDINATE FINAL LOCATION WITH EQUIPMENT IN THIS ROOM.
24. COORDINATE FINAL LOCATION OF CEILING CASSETTES WITH THE 911 CONSULTANT TO MAINTAIN THE WARM SIDE AND COOL SIDE PER ROOM REQUIREMENTS.

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COLUMBUS COUNTY 911 CENTER

WHITEVILLE, NORTH CAROLINA

4/12/24

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE

HVAC PLAN

22001

ISSUED:	4/12/2024
DWG BY:	WBE
CKD BY:	BEB
REVISIONS	

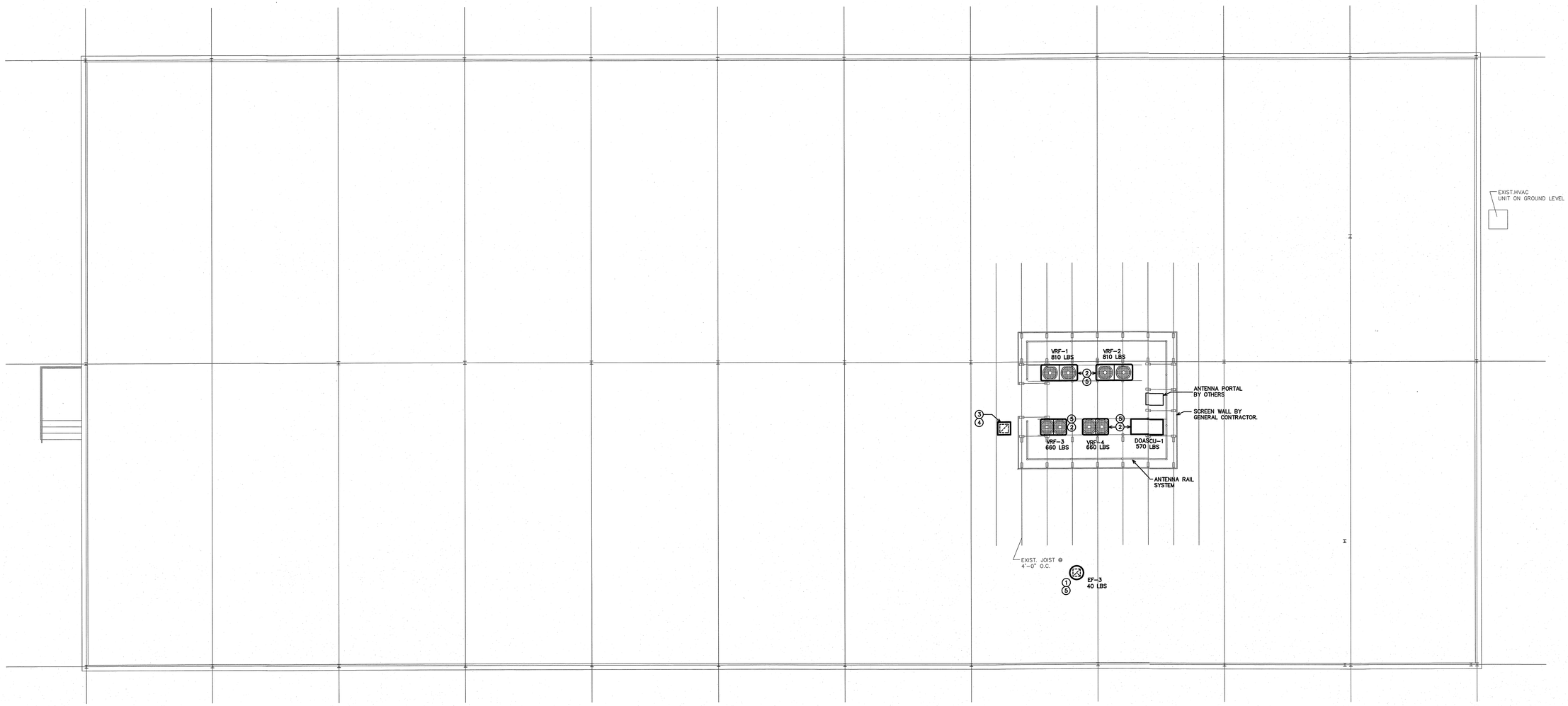
SHEET NO.

M-2

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.



1 / M-3 ROOF HVAC PLAN

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

KEY NOTES FOR SHEET M3

1. EXHAUST FAN DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE.
2. MOUNT OUTDOOR UNITS ON STEEL RAIL SYSTEM PROVIDED BY THE GENERAL CONTRACTOR. PROVIDE ALL MANUFACTURER REQUIRED CLEARANCES AROUND UNITS.
3. OUTSIDE AIR INTAKE HOOD, INTAKE SHALL BE 10'-0" MIN FROM ANY EXHAUST DISCHARGE OR PLUMBING VENT.
4. ALL EXHAUST/INTAKE HOODS/CAPS SHALL BE RATED FOR RISK CAT4 WIND SPEEDS (TYP).
5. SECURE ALL EQUIPMENT TO ROOF WITH TIE-DOWNS RATED FOR RISK CAT4 WIND SPEEDS (TYP).

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COLUMBUS COUNTY 911 CENTER

WHITEVILLE, NORTH CAROLINA

4/12/24

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE

HVAC ROOF PLAN

22001

ISSUED:	4/12/2024
DWG BY:	WBE
CKD BY:	BEB

REVISIONS

SHEET NO.

M-3

DIVISION 15 B – HEATING, VENTILATING AND AIR CONDITIONING

1.1 DESCRIPTION OF THE WORK

A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:

1. Heating, ventilation, and air conditioning equipment.
2. Ductwork.
3. Grilles and diffusers.
4. Controls and control wiring.
5. Condensate piping.

B. All work under this contract shall be installed in compliance with the latest edition of the following codes and standards insofar as they apply:

1. ASHRAE Guide
2. National Electric Code.
3. 2018 NC State Building Code: Mech Code.
4. The Electrical Specifications for this project.
5. SMACNA HVAC Duct Construction Standards.
6. All local codes and ordinances.
7. ARI rating.
8. 2018 NC State Building Code: Energy Conservation Code.

C. These codes are minimum standards. If codes require a more stringent method of construction than the specifications require, the codes shall govern.

D. The HVAC Contractor shall be licensed in North Carolina and have all local licenses required for the work.

1.2 INTENT

A. The intent of these specification and the accompanying drawing is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The HVAC Contractor shall take this into consideration and include in his bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Owner of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Owner for a decision before resuming operations.

B. Locations shown are approximate. The HVAC Contractor shall verify with owner, the placement of equipment, fixtures, outlets, etc. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required.

C. Changes in duct or piping design caused by obstructions shall be submitted to Engineer in sketch form for study and comment prior to execution. Additional cost will not be allowed for this type of work.

1.4 SHOP DRAWINGS

A. Shop drawings shall be submitted for all major items of equipment. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified. Shop drawings shall include but are not limited to the following:

1. All equipment and accessories.
2. Grilles and diffusers.
3. Unit sizes and requirements.

PART 2 –PRODUCTS

2.1 EQUIPMENT

A. All air handling devices must have the manufacturer's recommended filter rack, for 1" thick filters.

2.2 PIPING

A. Condensate drain piping shall be PVC pipe. Provide tee and plug at changes in direction. Route pipe to proper termination point. All condensate piping shall be insulated with flexible elastomeric insulation. Provide copper piping in plenum areas.

2.3 DUCTWORK

A. Ductwork shall be built in accordance with SMACNA HVAC Duct construction standards. Furnish and install all supply, return, and ventilation ductwork shown, together with splitters, deflectors, dampers, etc. This work shall be constructed of new galvanized prime grade steel sheets. The gauges of metal to be used and the construction and bracing of joints shall be in accordance with the SMACNA recommendations.

B. Seal all sheet metal joints with fiber impregnated mastic.

C. Support from building structure on strap hangers not over 8 feet apart.

D. Use manufactured turning vanes in each elbow where required or where indicated on drawings.

E. Flexible connectors shall be 3 inches wide, of fireproof material and used to isolate noise between equipment and ductwork on supply and return side of all units.

F. Round runouts, where used, shall be built in accordance with the above standards, and each runout shall also have manufactured side take off, adjustable quadrant damper at all accessible locations and shall be of Owens Corning INL–25 flexible duct with UL label. Flex duct lengths allowed up to 14 feet. Duct must be supported with sufficient hangers in order to prevent sags. Serpentine routing will not be permitted. Quadrant damper to be 22 gauge easily adjustable manually with exterior handle (similar to H&C Kwik–set) and is not to be mounted in side take–off.

2.4 DUCT INSULATION (LOW PRESSURE)

A. All insulation, linings, coverings and adhesives shall have a flame spread classification of 25 or less and a smoke developed rating of not more than 50, exposed exterior piping.

B. All duct insulation shall comply with Section 604, of the N. C. Building Code: Mechanical Code

C. All supply and return ductwork shall be completely insulated, either internally or externally.

D. Rectangular ductwork shall be lined with two–inch thick, 1.5 lb. per cubic foot density, duct liner, Armstrong, CSG Ultraliner, Johns Manville or approved equal.

E. As an alternative to duct liner rectangular duct may be wrapped with Class 1 – 2", 3/4 lb. density (R–6.5) thick reinforced foil back fiberglass insulation, Owens–corning Series ED or equal. Tape shall be Kraft reinforced foil tape or equal.

F. Exhaust air duct shall be insulated on exterior of duct with insulation as in "E" above.

G. Insulation shall be held inplace with adhesive and welding pins 16" on center.

H. Duct dimensions shown on the drawings are Net Inside Dimensions

2.5 THERMOSTATS

A. Provide programmable electronic thermostats.
B. Submit proposed thermostats for approval.

2.6 ROOF PENETRATIONS

A. Provide pre–manufactured roof flashings compatible with equipment served.
B. Coordinate roof work with roof system used. Provide proper flashing as required.
C. Provide 1 year warranty on all roof work performed.

2.7 DUCT SMOKE DETECTORS

A. Duct detectors are not required since units air flows are 2000 cfm or less per NCSBC: Mechanical Code, Section 606.2.

PART 3 – EXECUTION

3.1 PIPING

A. The HVAC Contractor shall coordinate such routing with others, to line his work true to adjacent spaces and in a workmanlike manner and to use only short radius 90 degree elbows. Where required, piping to be sturdily supported and separated in a manner satisfactory to the Engineer.

B. The HVAC Contractor shall paint all exterior refrigerant piping. with UV resistant paint as recommended by the closed cell insulation manufacturer.

C. Insulate all condensate lines for their entire length with 1/2" closed cell insulation. Install insulation per the manufacturers recommendations.

3.2 ELECTRICAL WORK

A. The electrical contractor shall provide all switches, starters, wire conduit for the air conditioning, heating and ventilation equipment. Control wiring shall be by the heating and air conditioning contractor.

B. HVAC Contractor is responsible for verifying that power terminals have been properly grounded prior to operating equipment and must find connections to all equipment including control wiring.

C. All materials and workmanship shall be in accordance with the electrical specifications for the project. All wiring shall be color coded, and as–built wiring diagram prepared showing all connections and colors of wiring and delivered to the Owner.

D. Furnish certification for acceptance of control wiring from local electrical inspector prior to acceptance.

3.3 CLEAN UP

A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

B. Furnish one box of clean filters, for each size required, at the time of final inspection to the owner.

3.4 OPERATOR'S MANUAL AND DIAGRAM

A. The HVAC Contractor shall prepare in one copy a manual describing the proper maintenance and operation of the systems. This manual shall not consist of standard factory instructions (although these may be included) but shall be prepared to describe this particular job.

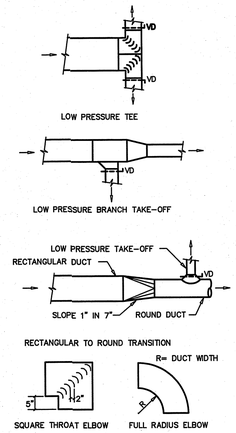
B. The manual shall be bound, indexed, dated and signed by the HVAC Contractor.

C. Qualified representative of the HVAC contractor shall meet with the designated representatives of the Owner and the Owner's representative shall be instructed in the proper operation and maintenance of the control system and other systems.

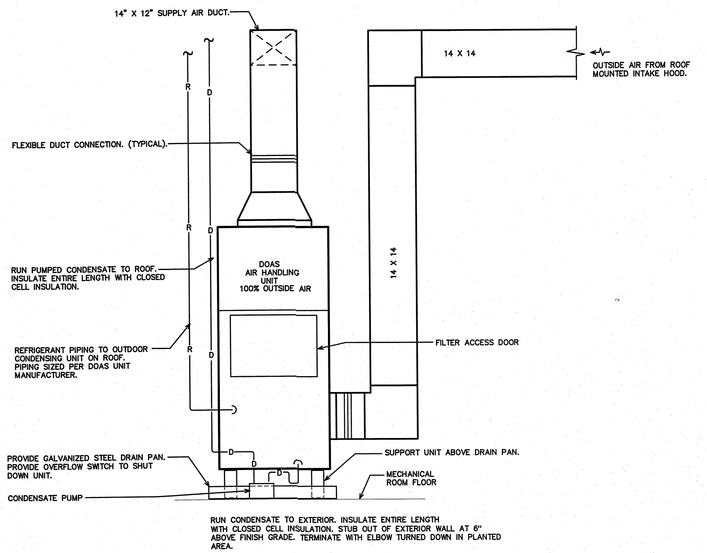
3.5 GUARANTEE

A. Guarantee all materials and labor included in the HVAC work for a period of one year from date of final acceptance by the owner. In addition, motor compressors shall be a nonprorated five year warranty. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the owner or tenant.

B. All air flows must be measured and balanced to within 10% of design airflows. All equipment used must have a current certification. Provide two copies of the balance report to the owner at closeout. The HVAC contractor shall return and re–balance to occupant comfort after 90 days from closer–out. Provide all balance dampers needed for satisfactory operation regardless if shown on the drawings or not, and shift location of thermostats thermostats if required for occupancy comfort.



1 M-4 DUCT CONSTRUCTION DETAILS
SCALE: NOT TO SCALE



1 M-4 DOAS UNIT DETAIL
SCALE: NOT TO SCALE

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HVAC SPECIFICATIONS & DETAILS

22001

ISSUED:	4/12/2024
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CKD BY:	BEB

REVISIONS

SHEET NO.
M-4

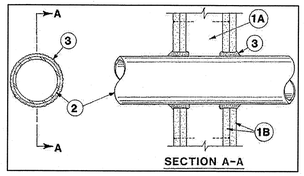
System No. W-L-1001

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/sq ft

L Rating At 400 F – less than 1 CFM/sq ft



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. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

   B. **Gypsum Board* ---** Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in.

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 of 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

   A. **Steel Pipe ---** Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

   B. **Iron Pipe ---** Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

   C. **Conduit ---** Nom 6 in. diam (or smaller) steel conduit or nom 4 in. diam (or smaller) steel electrical metallic tubing.

   D. **Copper Tubing ---** Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

   E. **Copper Pipe ---** Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

   F. **Through Penetrating Product* --- Flexible Metal Piping ---** The following types of steel flexible metal gas piping may be used:

   1. Nom 2 in. 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. 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.

   GASTITE, DIV OF TITEFLEX

   3. Nom 1 in. 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 LLC

Fill, Void or Cavity Material* --- Caulk or Sealant --- Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. 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. 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	F RATING Hr	T RATING Hr
1	1 or 2	0+, 1 or 2
1	3 or 4	3 or 4
4	1 or 2	0
6	3 or 4	0
12	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.

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

*Bearing the UL Classification Mark

GENERAL NOTES

1 ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES HAVING JURISDICTION.

2 ALL BRANCH CIRCUIT CONDUCTORS TO BE COPPER (SERVICE CONDUCTORS MAY BE ALUMINUM WITH SAME AMPACITY AS COPPER CONDUCTORS. RE-SIZE CONDUCTERS AND CONDUIT PER NEC.)

3 ALL CIRCUITS TO BE 2 #12, 1 #12 GND IN 1/2" EMT CONDUIT AS A MINIMUM. PROVIDE WIRING FOR LARGER CIRCUITS AS REQUIRED BY NEC. RIGID CONDUIT IS REQUIRED WHERE EXPOSED BELOW 8'-0" A.F.F. COMPRESSION FITTINGS SHALL BE USED FOR ALL EMT CONDUIT RUNS.

4 ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FEET SHALL BE PROVIDED WITH A PULL WIRE OR FISH TAPE/CORD.

5 CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.

6 ALL BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL BE INCREASED TO THE NEXT LARGER SIZE WHERE THE LENGTH OF THE HOME RUN EXCEEDS 120 FEET ON 120V AND 208V CIRCUITS.

7 THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON DRAWINGS OR NOT.

8 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANELBOARDS.

9 THE ELECTRICAL CONTRACTOR SHALL VERIFY THE TYPE OF CEILING SYSTEM WITH THE GENERAL CONTRACTOR TO INSURE THAT ALL LIGHTING FIXTURES ARE COMPATIBLE WITH THE CEILING SYSTEM BEING INSTALLED. LIGHTING FIXTURES SHOULD NOT BE ORDERED UNTIL TYPE OF CEILING HAS BEEN VERIFIED.

10 ELECTRICAL REQUIREMENTS INDICATED ON DRAWINGS MAY DIFFER FROM ACTUAL EQUIPMENT FURNISHED. IF FURNISHED EQUIPMENT DIFFERS FROM RATINGS ON DRAWINGS CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER FOR APPROPRIATE ACTION TO BE TAKEN.

11 IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT BREAKER REQUIREMENTS FOR ALL EQUIPMENT PRIOR TO ORDERING PANEL. ADJUST BREAKER AND WIRE SIZES AS REQUIRED.

12 PROVIDE BOXES, JACKS, WIRING AND CONDUIT FROM LOCATIONS SHOWN TO MTP LOCATION. VERIFY EXACT REQUIREMENTS WITH OWNER.

13 ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS FOR MECHANICAL & PLUMBING EQUIPMENT. DISCONNECTS SHALL BE PER MANUFACTURES RECOMMENDATIONS AND FUSED PER NAME PLATE. PROVIDE NEMA 3R ENCLOSURES ON EXTERIOR. COORDINATE FUSE SIZES.

14 THE EC SHALL MEET WITH THE ARCHITECT AND TENANT PRIOR TO INSTALLING OUTLET BOXES TO VERIFY LOCATIONS AND MOUNTING HEIGHTS OF RECEPTACLES AND TELEPHONE OUTLETS.

15 COMPRESSION FITTINGS SHALL BE USED FOR ALL EMT CONDUIT RUNS.

ELECTRICAL LEGEND

X / O_X / X	LIGHT FIXTURE: LETTER DENOTES FIXTURE TYPE (REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE). NL = NIGHT LIGHT (NOT SWITCHED/ALWAYS ON)
U / WP/GFI	DUPLEX RECEPTACLE – 120V; MOUNT 18" TO CENTER AFF UNLESS NOTED OTHERWISE; "WP" INDICATES WEATHER PROOF, "GFI" INDICATES GROUND FAULT CURRENT INTERRUPT PROTECTED. "U" INDICATES RECEPTACLE WITH (2) USB PORTS.
	QUADRAPLEX RECEPTACLE – 120V
	FLOOR OR CEILING OUTLET (AS NOTED) – 120V
	SPECIAL PURPOSE RECEPTACLE – REFER TO POWER PLAN AND PANEL SCHEDULE
S	LIGHT SWITCH
S_M	SWITCH WITH INTEGRAL PIR/US MOTION SENSOR FOR AUTOMATIC SHUT-OFF WITH UP TO 2 HOUR ADJUSTABLE DELAY.
S_D	DIMMABLE LIGHT SWITCH
(S)	MOTOR RATED SWITCH
(J)	JUNCTION BOX
	TELE/DATA OUTLET – REFER TO TELECOMMUNICATIONS SYMBOL LEGEND ON DRAWING LV-1
	SINGLE-POLE HOMERUN TO PANELBOARD
	TWO-POLE OR 3-POLE HOMERUN TO PANELBOARD
EXIT	EXIT LIGHT, SEE PLAN FOR DIRECTION ARROWS. (DS) INDICATES DOUBLE SIDED.
	EMERGENCY EGRESS FIXTURE
PC	PHOTOCELL (LED COMPLIANT)
	BRANCH CIRCUIT WIRING
	SWITCH LEG
	GROUND CONNECTION
PANEL A	DISTRIBUTION PANELBOARD
	DISCONNECTING MEANS AS REQUIRED BY CODE

APPENDIX B

2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)
ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance

Energy Code:	Prescriptive	[X]	Energy Cost Budget	[ ]
ASHRAE 90.1:	Prescriptive	[ ]	Energy Cost Budget	[ ]

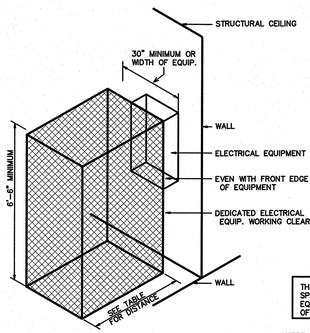
Lighting Schedule

lamp type required in fixture
number of lamps in fixture
ballast type used in fixture
number of ballasts in fixture
total wattage in fixture
→ See Light Fixture Schedule

total interior wattage specified vs. allowed	2862VA / 5740VA
total exterior wattage specified vs. allowed	202VA / 750VA

Additional Prescriptive Compliance

- [ ] 506.2.1 More Efficient Mechanical Equipment
- [X] 506.2.2 Reduced Lighting Power Density
- [ ] 506.2.3 Energy Recovery Ventilation Systems
- [ ] 506.2.4 Higher Efficiency Service Water Heater
- [ ] 506.2.5 On-Site Supply of Renewable Energy
- [ ] 506.2.6 Automatic Daylighting Control System



ELECTRICAL EQUIPMENT WORKING CLEARANCE PER ARTICLE 110-26 OF N.E.C.

WORKING CLEARANCES				
VOLTAGE TO GROUND NOMINAL	MIN. CLEAR DISTANCE IN FEET			
	CONDITION:	1	2	3
0-150		3	3	3
151-600		3	3-1/2	4

THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110-16 OF THE N.E.C.

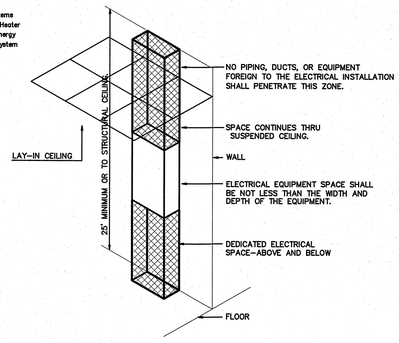
WHERE THE CONDITIONS ARE AS FOLLOWS:

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 INSULATED BUSBARS OPERATING AT NOT 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.

1 ELECTRICAL CLEARANCES
SCALE: NTS



ELECTRICAL EQUIPMENT DEDICATED SPACE PER ARTICLE 110.26.E OF N.E.C.

2 DEDICATED SPACE
SCALE: NTS

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COLUMBUS COUNTY 911 CENTER
WHITEVILLE, NORTH CAROLINA

4/12/24
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

ELECTRICAL SPECS & DETAILS

22001

ISSUED:	4/12/2024
DWG BY:	LS
CKD BY:	BEB
REVISIONS	

SHEET NO.
E-1

911 Center – Columbus County E2

LIGHTING SCHEDULE *

MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS NO.	LAMPS TYPE	LAMPS W	BALLAST TYPE	W/ FIXTURE	REMARKS	
A	COLUMBIA	LCAT24-35LWG-ED1U (FOR EM ADD ELL14ST)	277	–	LED	–	–	50	2X4 LED LAY-IN FIXTURE, 1% DIMMABLE (EM= EMERGENCY BATTERY BACKUP)	*
B	COLUMBIA	MPS8-35-MW-CW-EU (FOR EM ADD ELL14)	277	–	LED	–	–	53	8' STRIP FIXTURE (EM= EMERGENCY BATTERY BACKUP)	*
C	PRESCOLITE	LTR-6RD-H-ML20L-DM1IC-LTR-6RD-T-ML35K8MD	277	–	LED	–	–	23	6" DIMMABLE LED CAN LIGHT, IC RATED, 1% DIMMABLE (EM= EMERGENCY BATTERY BACKUP)	*
D1	FINELITE	HP4-P-ID-12-B-B-835-277-FC-1%	277	–	LED	–	–	110	12' PENDANT MOUNT LED LINEAR FIXTURE, 1% DIMMABLE	*
D2	FINELITE	HP4-P-D-12-B-835-277-FC-1% (FOR EM ADD LGD18W)	277	–	LED	–	–	55	12' PENDANT MOUNT LED LINEAR FIXTURE (EM= EMEGENCY BATTERY BACKUP)	*
W	LITHONIA	TWR2 LED ALO SWW2 UVOLT PE DDBTXD E7WC	277	–	LED	–	–	112	LED WALL PACK W/ EMERGENCY BATTERY BACKUP	*
X	COMPASS	CUSO	277	–	LED	–	–	17	EXTERIOR NORMAL/EMERGENCY LIGHT FIXTURE– COLOR BY ARCH	*
EXIT	COMPASS	CER	277	–	LED	–	–	2	LED EXIT SIGN, COLOR BY ARCH	*

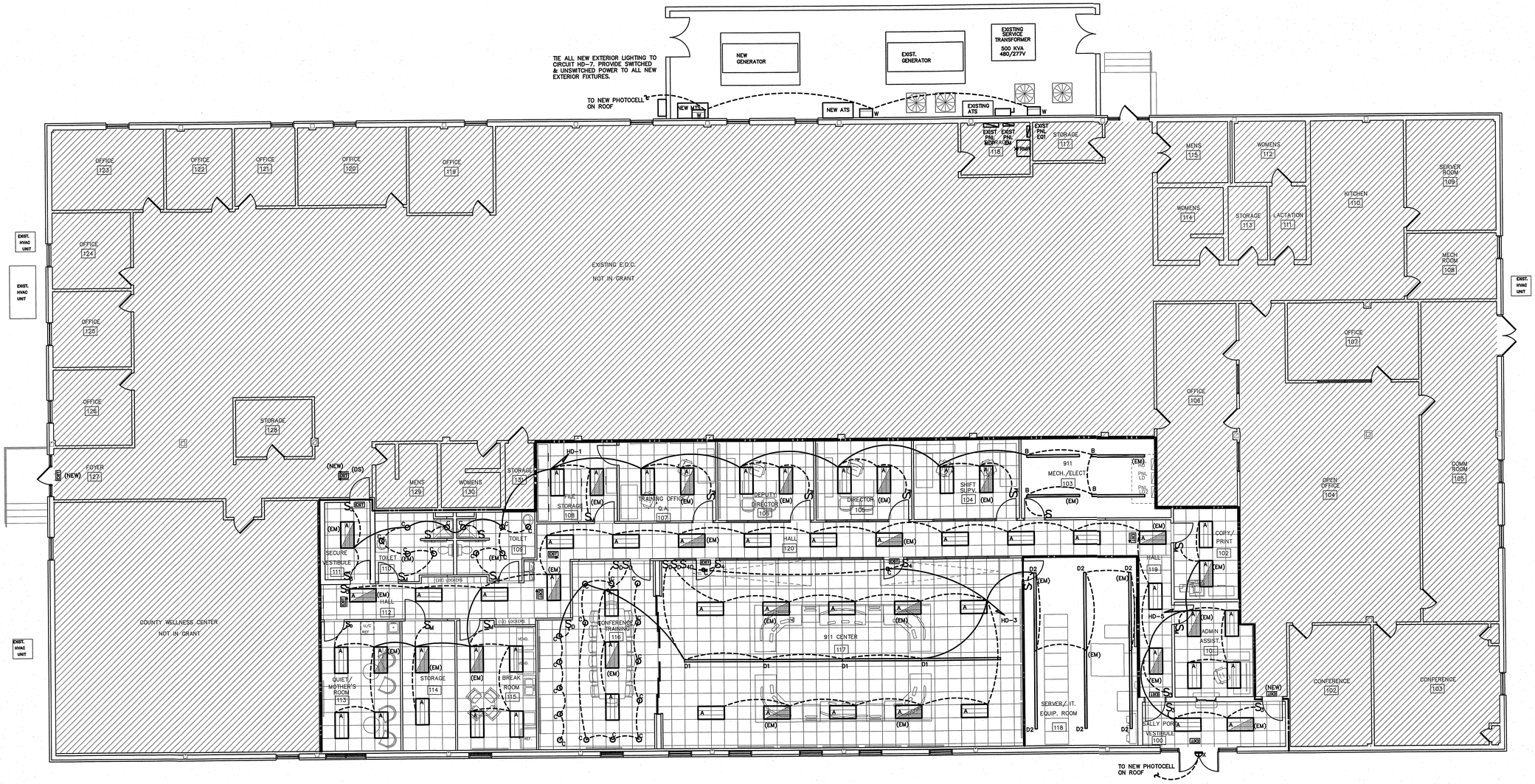
* OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES. CATALOG NUMBERS ARE FOR REFERENCE ONLY, ACTUAL NUMBERS MAY VARY.

THE EMERGENCY LIGHTS AND EXIT SIGNS MUST HAVE INTEGRAL BATTERIES, CHARGERS AND TEST SWTCHES.

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS–TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.



1 E-2 LIGHTING PLAN
SCALE: 1/8"=1'-0"

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COLUMBUS COUNTY
911 CENTER
WHITEVILLE, NORTH CAROLINA

4/12/24
NORTH CAROLINA REGISTERED PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E BURKE

LIGHTING PLAN

22001

ISSUED:	4/12/2024
DWG BY:	LS
CKD BY:	BEB

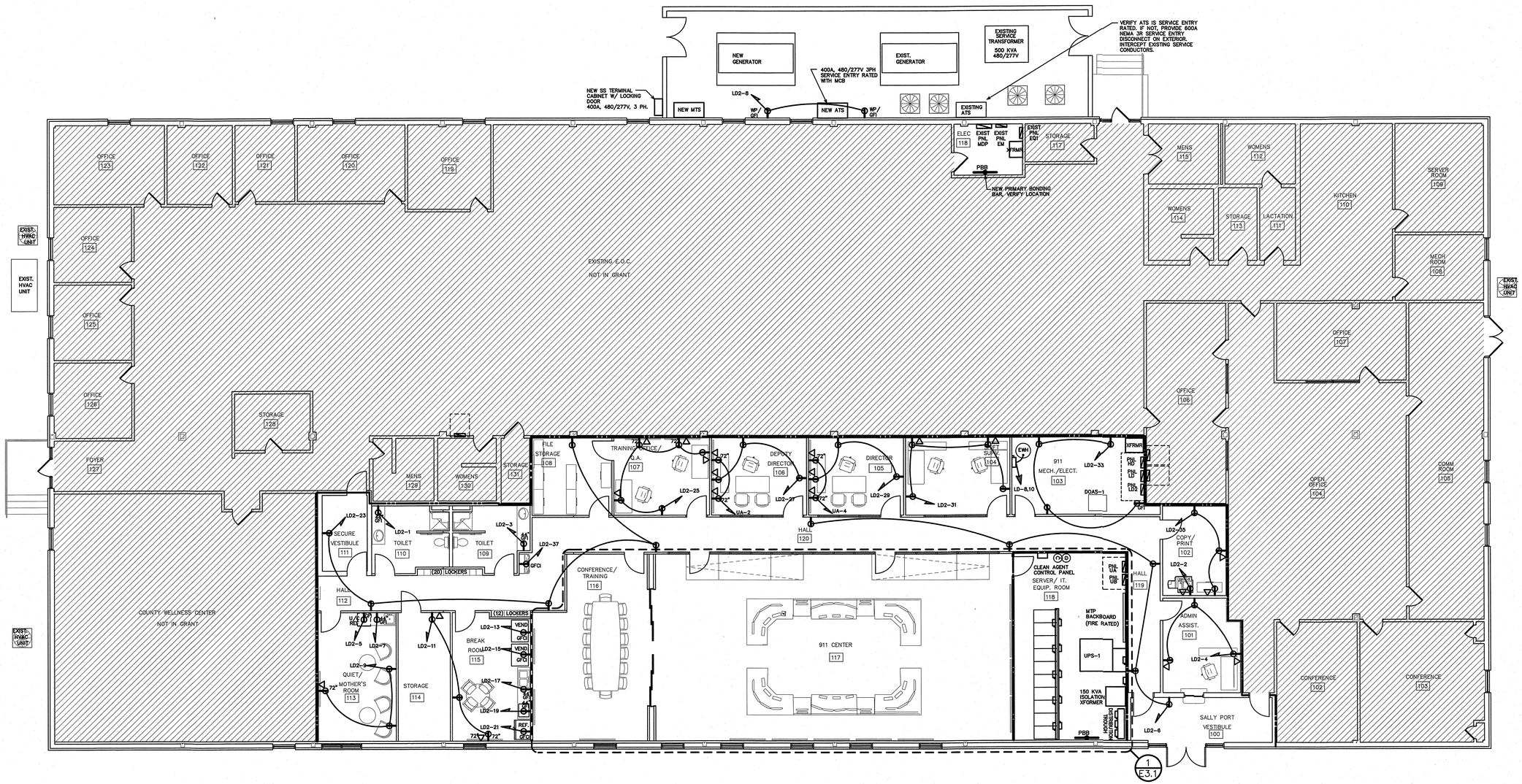
REVISIONS

SHEET NO.
E-2

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.



1 E3.1

1/E-3 POWER PLAN
SCALE: 1/8"=1'-0"

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WHITEVILLE, NORTH CAROLINA

4/12/24
NORTH CAROLINA REGISTERED PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E BURKE

POWER PLAN

22001

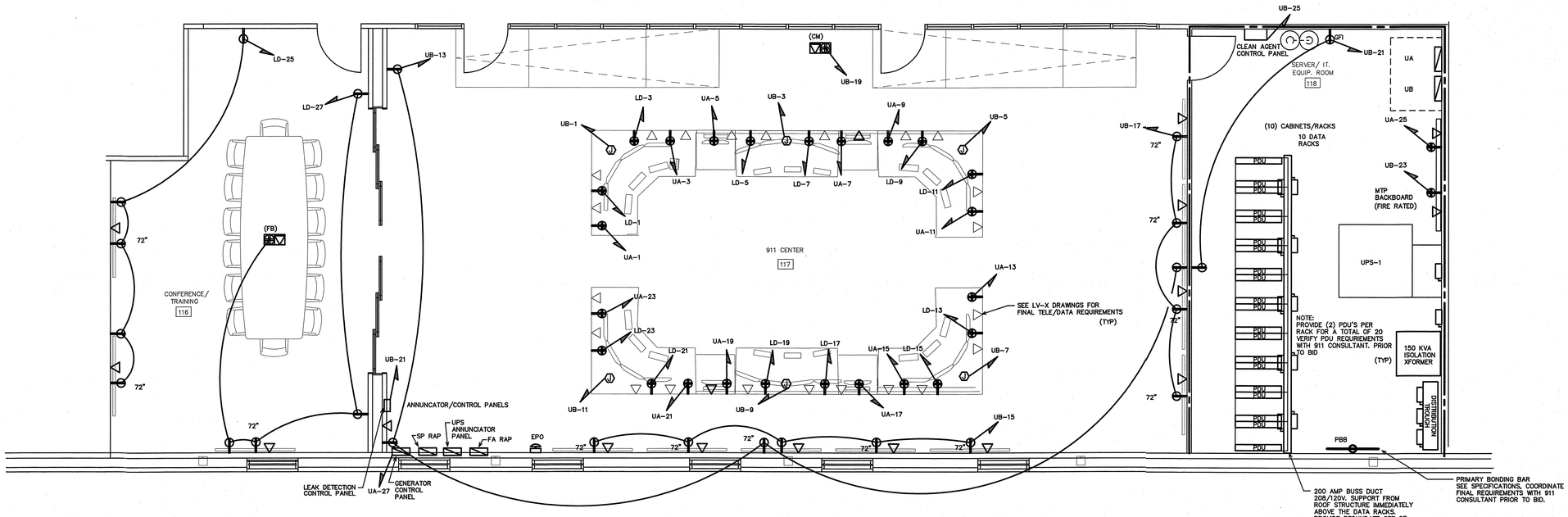
ISSUED:	4/12/2024
DWG BY:	–
CKD BY:	BEB
REVISIONS	

SHEET NO.
E-3.0

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.



1 POWER PLAN
E-3.1 SCALE: 1/4"=1'-0"

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WHITEVILLE, NORTH CAROLINA

4/12/24
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

POWER PLAN

22001

ISSUED:	4/12/2024
DWG BY:	--
CKD BY:	BEB

REVISIONS

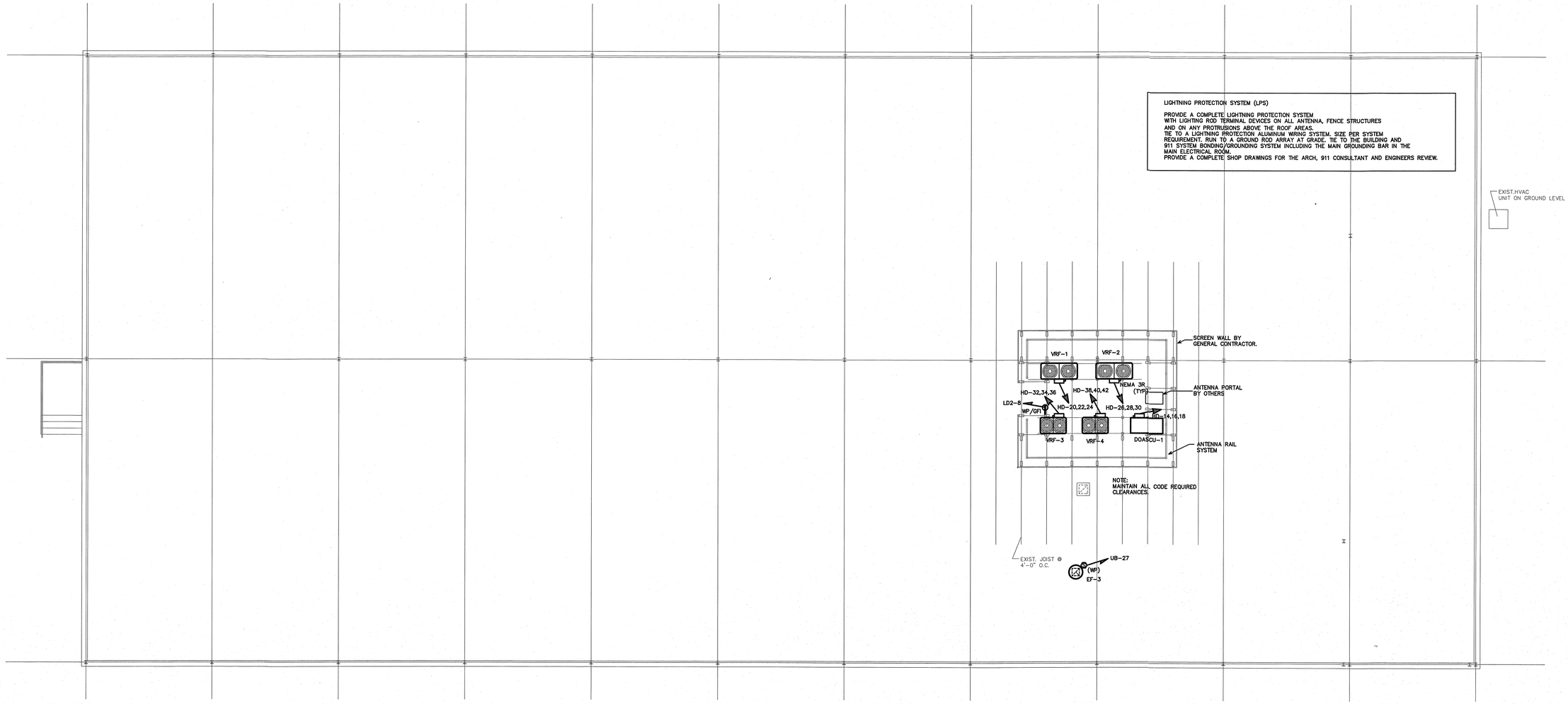
SHEET NO.
E-3.1

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GENERAL NOTES

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1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.



1 ROOF POWER PLAN
E-3.2 SCALE: 1/8"=1'-0"

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COLUMBUS COUNTY 911 CENTER
WHITEVILLE, NORTH CAROLINA

4/12/24
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

ROOF POWER PLAN

22001

ISSUED:	4/12/2024
DWG BY:	SWB
CKD BY:	BEB

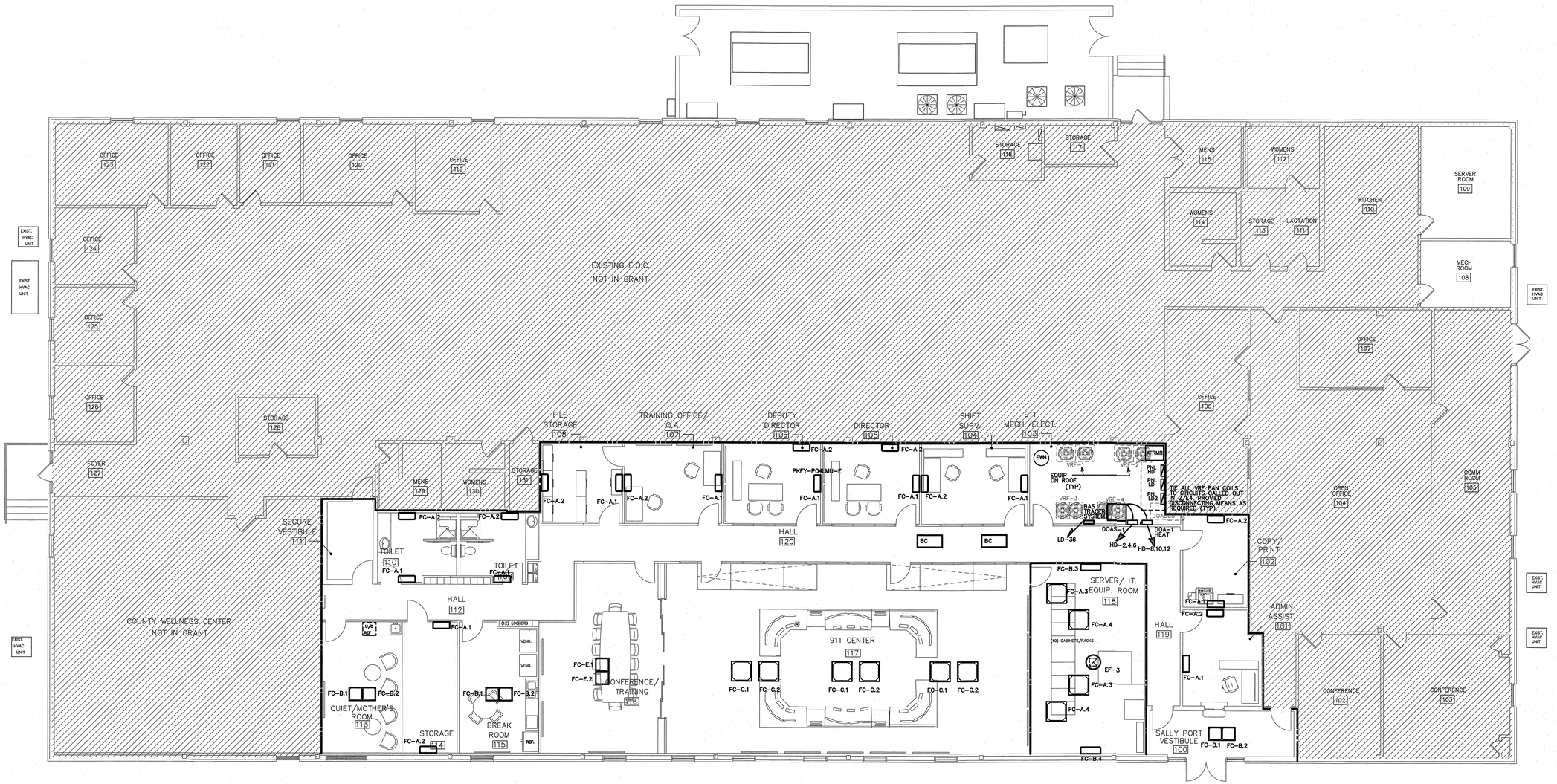
REVISIONS

SHEET NO.
E-3.2

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS--TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.



E-4 HVAC POWER PLAN
SCALE: 1/8"=1'-0"

FAN COIL CIRCUIT CHART	
CIRCUIT	FAN COILS
LD-12,14	FC-A.1, FC-B.1
LD-16,18	FC-A.2, FC-B.2
LD-20,22	FC-C.1, FC-E.1
LD-24,26	FC-C.2, FC-E.2
LD-28,30	FC-A.3, FC-B.3
LD-32,34	FC-A.4, FC-B.4

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COLUMBUS COUNTY 911 CENTER
WHITEVILLE, NORTH CAROLINA

4/12/2024
NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE

HVAC PLAN

22001

ISSUED:	4/12/2024
DWG BY:	CLS
CKD BY:	BEB
REVISIONS	

SHEET NO.
E-4

911 Center – Columbus County ES'd

NEW PANEL– 'HD'

MAKE: EATON | TYPE: PRL3A | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
LTS – OFFICES & RRS	20A	1244			1		2	831				DOAS–1
LTS – 911 CENTER	20A		1811		3		4		831		20A	.
LTS – HALL & OFFICES	20A			1700	5		6			831		.
LTS – EXTERIOR	20A	353			7		8	5633				DOAS–1 HEATER
SPACE	20A		---		9		10		5633		30A	.
SPACE	20A			---	11		12			5633		.
SPACE	20A	---			13		14	7202				DOASHP–1
SPACE	20A		---		15		16		7202		40A	.
SPACE	20A			---	17		18			7202		.
SPACE	20A	---			19		20	7202				VRF–1
SPACE	20A		---		21		22		7202		40A	.
SPACE	20A			---	23		24			7202		.
UPS–1		18880			25		26	7202				VRF–2
.	200A		19340		27		28		7202		40A	.
.				18520	29		30			7202		.
PANEL 'LD'		12983			31		32	3878				VRF–3
(VIA XFMR)	100A		11973		33		34		3878		20A	.
.				7344	35		36			3878		.
SURGE PROTECTION DEVICE		---			37		38	3878				VRF–4
.	60A		---		39		40		3878		20A	.
.				---	41		42			3878		.
NOTES	SUB–TOTALS 'B'	33460	33124	27564		400A BUS	31671	31671	31671		SUB–TOTALS 'A'	
						400A LUGS	33460	33124	27564		SUB–TOTALS 'B'	TOTAL CONNECTED LOAD
						400A FEED	65131	64795	59235		GRAND TOTAL	
						VERIFY SIZE	236A	234A	214A		AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR①	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	②	125%	1997	2264	2125	6386
TRACK LIGHTING		125%	---	---	---	---
GENERAL USE		≤10KVA/BOOK	3333	3333	3333	9999
RECEPTACLES		>10KVA/BOOK	2204	2204	2784	7202
MOTORS AND EQUIPMENT	LARGEST	125%	9003	9003	9003	27009
	ALL OTHERS	100%	22909	21359	19780	64048
WATER HEATERS		125%	2813	2813	---	5626
KITCHEN EQUIPMENT	③	100%	1800	1800	---	3600
FIX. ELEC. SPACE HEAT.	④	100%	5633	5633	5633	16899
SHOW WINDOW LIGHTS	⑤	125%	---	---	---	---
SIGN		125%	---	---	---	---
MISC		100%	16000	17000	16000	49000
PHASE (TOTAL VA)			85692	85409	58668	189769
TOTAL AMPS			238A	237A	212A	VOLT AMPS / VOLTS X 1.732 = 229A TOTAL AMPS

911 Center – Columbus County ES'd

NEW PANEL– 'LD'

MAKE: EATON | TYPE: PRL1A | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | 200A MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☒YES ☐NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
REC – 911 OPERATOR	20A	360			1		2	7560				PANEL 'LD2'
REC – 911 OPERATOR	20A		360		3		4		6480		200A	.
REC – 911 OPERATOR	20A			360	5		6			4960		.
REC – 911 OPERATOR	20A	360			7		8	2250				EWH
REC – 911 OPERATOR	20A		360		9		10		2250		30A	.
REC – 911 OPERATOR	20A			360	11		12			319		.
REC – 911 OPERATOR	20A	360			13		14	319				FC–A.1, FC–B.1
REC – 911 OPERATOR	20A		360		15		16		319		15A	.
REC – 911 OPERATOR	20A			360	17		18			319		.
REC – 911 OPERATOR	20A	360			19		20	208				FC–A.2, FC–B.2
REC – 911 OPERATOR	20A		360		21		22		208		15A	.
REC – 911 OPERATOR	20A			360	23		24			208		.
REC – CONFERENCE/TRAINING	20A	900			25		26	208				FC–C.1, FC–E.1
REC – CONFERENCE/TRAINING	20A		1080		27		28		98		15A	.
SPARE	20A			---	29		30			98		.
SPARE	20A	---			31		32	98				FC–C.2, FC–E.2
SPARE	20A		---		33		34		98		15A	.
SPARE	20A			---	35		36			500	20A	BAS TRACER SYSTEM
SURGE PROTECTION DEVICE		---			37		38	---			20A	SPARE
.	60A		---		39		40		---		20A	SPARE
.				---	41		42			---	20A	SPARE
NOTES	SUB–TOTALS 'B'	2340	2520	1440		200A BUS	10643	9453	5904		SUB–TOTALS 'A'	
						200A LUGS	2340	2520	1440		SUB–TOTALS 'B'	TOTAL CONNECTED LOAD
						200A FEED	12983	11973	7344		GRAND TOTAL	
						VERIFY SIZE	109A	100A	62A		AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR①	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	②	125%	---	---	---	---
TRACK LIGHTING		125%	---	---	---	---
GENERAL USE		≤10KVA/BOOK	3333	3333	3333	9999
RECEPTACLES		>10KVA/BOOK	784	1034	1534	3332
MOTORS AND EQUIPMENT	LARGEST	125%	2250	2250	399	4899
	ALL OTHERS	100%	2273	723	625	3621
WATER HEATERS		125%	2813	2813	---	5626
KITCHEN EQUIPMENT	③	100%	1800	1800	---	3600
FIX. ELEC. SPACE HEAT.	④	100%	---	---	---	---
SHOW WINDOW LIGHTS	⑤	125%	---	---	---	---
SIGN		125%	---	---	---	---
MISC		100%	---	---	---	---
PHASE (TOTAL VA)			13233	11953	5891	31077
TOTAL AMPS			111A	100A	50A	VOLT AMPS / VOLTS X 1.732 = 87A TOTAL AMPS

911 Center – Columbus County ES'd

NEW PANEL– 'LD2'

MAKE: EATON | TYPE: PRL1A | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☐YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
REC – RR	20A	180			1		2	1440			20A	REC – COPIER
REC – RR	20A		180		3		4		540		20A	REC – ADMIN ASSIST.
REC – U/C FRIDGE	20A			1000	5		6			900	20A	REC – HALL
REC – MOTHER RM COUNTER	20A	180			7		8	540			20A	REC – EXTERIOR
REC – MOTHERS RM	20A		540		9		10		---		20A	SPARE
REC – STORAGE, BREAK RM	20A			540	11		12			---	20A	SPARE
(G) REC – VENDING	20A	1800			13		14	---			20A	SPARE
(G) REC – VENDING	20A		1800		15		16		---		20A	SPARE
REC – BREAK COUNTER	20A			180	17		18			---	20A	SPARE
REC – MICROWAVE	20A	1800			19		20	---			20A	SPARE
(G) REC – REFRIGERATOR	20A		1800		21		22		---		20A	SPARE
REC – HALL	20A			900	23		24			---	20A	SPARE
REC – TRAINING OFFICE	20A	900			25		26	---			20A	SPARE
REC – DEPUTY DIRECTOR	20A		900		27		28		---		20A	SPARE
REC – DIRECTOR	20A			900	29		30			---	20A	SPARE
REC – SHIFT SUPV.	20A	720			31		32	---			20A	SPARE
REC – MECH/ELEC	20A		720		33		34		---		20A	SPARE
REC – COPY PRINT	20A			540	35		36			---	20A	SPARE
(G) EWC	20A	888			37		38	---			20A	SPARE
SPARE	20A		---		39		40		---		20A	SPARE
SPARE	20A			---	41		42			---	20A	SPARE
NOTES	SUB–TOTALS 'B'	5580	5940	4060		100A BUS	1980	540	900		SUB–TOTALS 'A'	
						100A LUGS	5580	5940	4060		SUB–TOTALS 'B'	TOTAL CONNECTED LOAD
(G) GFCI BREAKER						100A FEED	7560	6480	4960		GRAND TOTAL	
						VERIFY SIZE	63A	54A	42A		AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR①	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	②	125%	---	---	---	---
TRACK LIGHTING		125%	---	---	---	---
GENERAL USE		≤10KVA/BOOK	2520	2880	4960	10360
RECEPTACLES		>10KVA/BOOK	---	---	---	---
MOTORS AND EQUIPMENT	LARGEST	125%	2250	2250	---	4500
	ALL OTHERS	100%	1440	---	---	1440
WATER HEATERS		125%	---	---	---	---
KITCHEN EQUIPMENT	③	100%	1800	1800	---	3600
FIX. ELEC. SPACE HEAT.	④	100%	---	---	---	---
SHOW WINDOW LIGHTS	⑤	125%	---	---	---	---
SIGN		125%	---	---	---	---
MISC		100%	---	---	---	---
PHASE (TOTAL VA)			8010	6930	4960	19900
TOTAL AMPS			67A	58A	42A	VOLT AMPS / VOLTS X 1.732 = 56A TOTAL AMPS

911 Center – Columbus County ES'd

NEW PANEL– 'UA'

MAKE: EATON | TYPE: PRL1A | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
REC – 911 OPERATOR	20A	360			1		2	360				REC– 106
REC – 911 OPERATOR	20A		360		3		4		360		20A	REC– 105
REC – 911 OPERATOR	20A			360	5		6			---		SPARE
REC – 911 OPERATOR	20A	360			7		8	---				SPARE
REC – 911 OPERATOR	20A		360		9		10		---			SPARE
REC – 911 OPERATOR	20A			360	11		12			---		SPARE
REC – 911 OPERATOR	20A	360			13		14	---				SPARE
REC – 911 OPERATOR	20A		360		15		16		---			SPARE
REC – 911 OPERATOR	20A			360	17		18			---		SPARE
REC – 911 OPERATOR	20A	360			19		20	---				SPARE
REC – 911 OPERATOR	20A		360		21		22		---			SPARE
REC – 911 OPERATOR	20A			360	23		24			---		SPARE
REC – MTP	20A	360			25		26	---				SPARE
GENERATOR CONTROL PANEL	20A		500		27		28		---			SPARE
SPARE	20A			---	29		30			---		SPARE
SPARE	20A	---			31		32	---				SPARE
SPARE	20A		---		33		34		---			SPARE
SPARE	20A			---	35		36			---		SPARE
SURGE PROTECTION DEVICE		---			37		38	---				SPARE
.	60A		---		39		40		---			SPARE
.				---	41		42			---		SPARE
NOTES	SUB–TOTALS 'B'	1800	1940	1440		200A BUS	360	360	---		SUB–TOTALS 'A'	
						200A LUGS	1800	1940	1440		SUB–TOTALS 'B'	TOTAL CONNECTED LOAD
						200A FEED	1800	1940	1440		GRAND TOTAL	
						VERIFY SIZE	15A	17A	12A		AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR①	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	②	125%	---	---	---	---
TRACK LIGHTING		125%	---	---	---	---
GENERAL USE		≤10KVA/BOOK	1800	1440	1440	4680
RECEPTACLES		>10KVA/BOOK	---	---	---	---
MOTORS AND EQUIPMENT	LARGEST	125%	---	---	---	---
	ALL OTHERS	100%	---	---	---	---
WATER HEATERS		125%	---	---	---	---
KITCHEN EQUIPMENT	③	100%	---	---	---	---
FIX. ELEC. SPACE HEAT.	④	100%	---	---	---	---
SHOW WINDOW LIGHTS	⑤	125%	---	---	---	---
SIGN		125%	---	---	---	---
MISC		100%	---	500	---	500
PHASE (TOTAL VA)			1800	1940	1440	5180
TOTAL AMPS			15A	17A	12A	VOLT AMPS / VOLTS X 1.732 = 15A TOTAL AMPS

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NEW PANEL– 'UB'

MAKE: EATON | TYPE: PRL1A | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☐YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
JBOX – 911 OPERATOR	20A	1000			1		2	---				SPARE
JBOX – 911 OPERATOR	20A		1000		3		4		---			SPARE
JBOX – 911 OPERATOR	20A			1000	5		6			---		SPARE
JBOX – 911 OPERATOR	20A	1000			7		8	---				SPARE
JBOX – 911 OPERATOR	20A		1000		9		10		---			SPARE
JBOX – 911 OPERATOR	20A			1000	11		12			---		SPARE
REC – 911 CENTER	20A	720			13		14	---				SPARE
REC – 911 CENTER	20A		900		15		16		---			SPARE
REC – 911 CENTER	20A			720	17		18			---		SPARE
REC – 911 CENTER	20A	360			19		20	---				SPARE
LEAK DETECTION	20A		500		21		22		---			SPARE
REC – MTP	20A			360	23		24			---		SPARE
CLEAN AGENT CONTROL PANEL	20A	500			25		26	---				SPARE
EF–3	20A		500		27		28		---			SPARE
SPARE	20A			---	29		30			---		SPARE
SPARE	20A	---			31		32	---				SPARE
SPARE	20A		---		33		34		---			SPARE
SPARE	20A			---	35		36			---		SPARE
SURGE PROTECTION DEVICE		---			37		38	---				SPARE
.	60A		---		39		40		---			SPARE
.				---	41		42			---		SPARE
NOTES	SUB–TOTALS 'B'	3080	3400	3080		200A BUS	---	---	---		SUB–TOTALS 'A'	
						200A LUGS	3080	3400	3080		SUB–TOTALS 'B'	TOTAL CONNECTED LOAD
						200A FEED	3080	3400	3080		GRAND TOTAL	
						VERIFY SIZE	26A	29A	26A		AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR①	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	②	125%	---	---	---	---
TRACK LIGHTING		125%	---	---	---	---
GENERAL USE		≤10KVA/BOOK	1080	900	1080	3060
RECEPTACLES		>10KVA/BOOK	---	---	---	---
MOTORS AND EQUIPMENT	LARGEST	125%	---	---	---	---
	ALL OTHERS	100%	---	---	---	---
WATER HEATERS		125%	---	---	---	---
KITCHEN EQUIPMENT	③	100%	---	---	---	---
FIX. ELEC. SPACE HEAT.	④	100%	---	---	---	---
SHOW WINDOW LIGHTS	⑤	125%	---	---	---	---
SIGN		125%	---	---	---	---
MISC		100%	2000	2500	2000	6500
PHASE (TOTAL VA)			3080	3400	3080	9560
TOTAL AMPS			26A	29A	26A	VOLT AMPS / VOLTS X 1.732 = 27A TOTAL AMPS

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COLUMBUS COUNTY 911 CENTER

WHITEVILLE, NORTH CAROLINA

4/12/2024

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BRIAN E. BURKE

ELECTRICAL PANELS & RISER

22001

ISSUED: 4/12/2024
DWG BY: LS
CKD BY: BEB
REVISIONS

SHEET NO.
E-5.0

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(ATS) AUTOMATIC TRANSFER SWITCH SCHEDULE

ATS-1 "STAND-BY"	*	ASCO MODEL# J07AUSB30400N50F, AUTOMATIC TRANSFER SWITCH, WITH DISCONNECTING MEANS. SERVICE ENTRY RATED. 400 AMP, 480/277 VOLT, 3 PHASE WITH NEMA 3R ENCLOSURE. PROVIDE GFI PROTECTION.

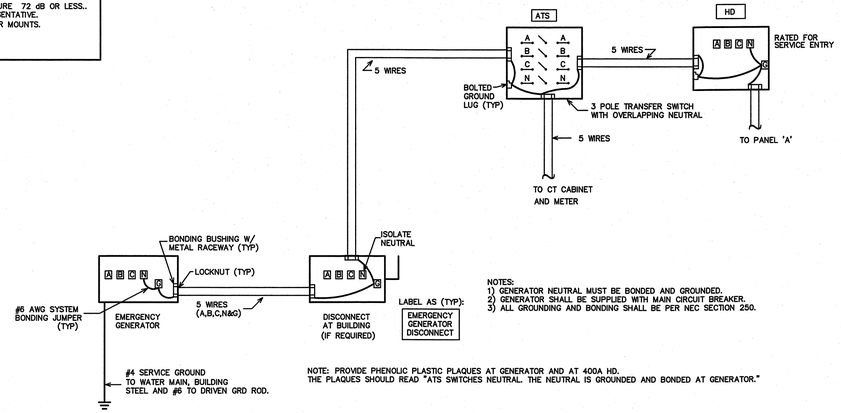
* OR APPROVED EQUAL

EMERGENCY GENERATOR SCHEDULE

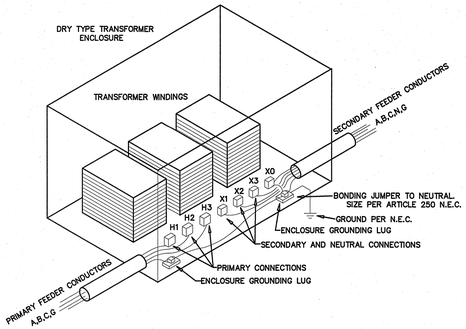
300 KW DIESEL FUELED EMERGENCY GENERATOR *

PROVIDE A "CAT" MODEL D300-GC EMERGENCY GENERATOR WITH (1) SERVICE ENTRY RATED AUTOMATIC TRANSFER SWITCH. THE GENERATOR SHALL BE CAPABLE OF RUNNING ON DIESEL FUEL WITH A 72 HOUR MIN RUN CAPACITY. PROVIDE ALL ACCESSORIES AS REQUIRED FOR A COMPLETE OPERATING SYSTEM. THE ENGINE SHALL BE A 8.8L I6, 4 CYCLE AND TURBOCHARGED WITH AN ENCLOSED MUFFLER. THE DELIVERY VOLTAGE SHALL BE 480/277 VOLT, 3 PHASE. PROVIDE 10A DUAL RATE BATTERY CHARGER, AUTOMATIC VOLTAGE REGULATOR, AUTOMATIC LOW OIL PRESSURE AND HIGH TEMPERATURE SHUTDOWN. THE AUTOMATIC TRANSFER SWITCH SHALL TRANSFER FROM THE UTILITY AUTOMATICALLY WITH-IN 10 SECONDS. PROVIDE A SERVICE RATED DISCONNECTING MEANS WITH OVERCURRENT PROTECTION AT THE GENERATOR LOCATION OR WOTH-IN SIGHT. PROPERLY GROUND THE GENERATOR AND SERVICE EQUIPMENT PER THE NEC. PROVIDE INITIAL START UP AND OWNER TRAINING. PROVIDE AN ADJUSTABLE 7-DAY/24-HOUR EXERCISE TIMER. PROVIDE A DIGITAL CONTROL PANEL, UNIT VIBRATION ISOLATION, AND A LEVEL 3 ACOUSTIC WEATHER PROTECTIVE ENCLOSURE 72 dB OR LESS.. PROVIDE A LOAD TEST, START-UP AND OWNER TRAINING BY THE GENERATOR MANUFACTURER'S FACTORY TRAINED REPRESENTATIVE. PROVIDE CONCRETE PAD PER GENERATOR MANUFACTURERS REQUIREMENTS. PROVIDE VIBRATION ISOLATORS FOR GENERATOR MOUNTS. PER NFPA 1225 THE GENERATOR SHALL BE A LEVEL1 CLASS 72. TYPE 10 GENSET AS A MINIMUM.

* OR APPROVED EQUAL



3 E-5.1 **3 PHASE GENERATOR GROUNDING**
SCALE: NTS



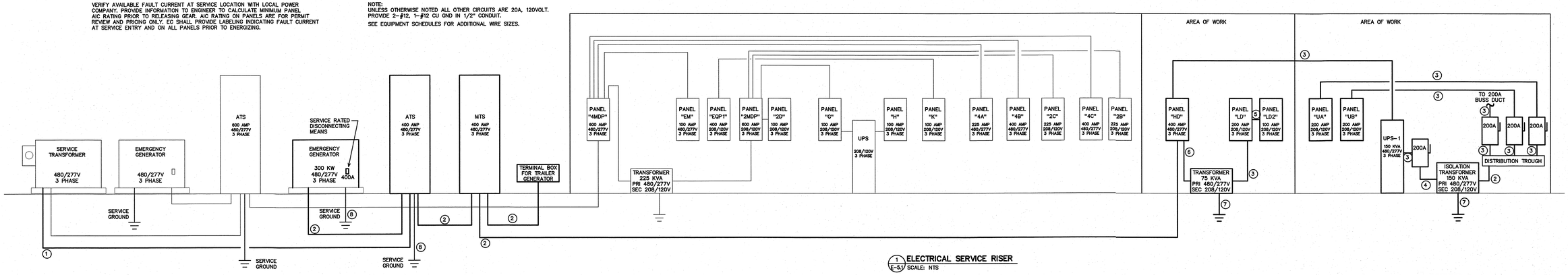
2 E-5.1 **TRANSFORMER WIRING DIAGRAM**
SCALE: NTS

RISER WIRING SCHEDULE

1. 400A: 4-#600MCM IN 3 1/2" CONDUIT
2. 400A: 4-#600MCM, 1-#3 CU GND, IN 4" CONDUIT
3. 200A: 4-#3/0, 1-#6 CU GND, IN 2 1/2" CONDUIT
4. 200A: 3-#3/0, 1-#6 CU GND, IN 2" CONDUIT
5. 100A: 4-#3, 1-#8 CU GND, IN 1 1/4" CONDUIT
6. 100A: 3-#3, 1-#8 CU GND, IN 1 1/4" CONDUIT
7. FOR XFRMR: SIZE PER DERIVED PHASE CONDUCTORS USING TABLE 250.66; CONNECT TO NEAREST GROUNDING ELECTRODE PER NEC 250.30 (A)(7) 2020
8. #3/0 CU GND TO BUILDING STEEL, FOUNDATION STEEL AND METALLIC WATER MAIN AND #6 CU GND TO 10' X 5/8" DRIVEN GROUND ROD

VERIFY AVAILABLE FAULT CURRENT AT SERVICE LOCATION WITH LOCAL POWER COMPANY. PROVIDE INFORMATION TO ENGINEER TO CALCULATE MINIMUM PANEL AIC RATING PRIOR TO RELEASING GEAR. AIC RATING ON PANELS ARE FOR PERMIT REVIEW AND PRICING ONLY. EC SHALL PROVIDE LABELING INDICATING FAULT CURRENT AT SERVICE ENTRY AND ON ALL PANELS PRIOR TO ENERGIZING.

NOTE:
UNLESS OTHERWISE NOTED ALL OTHER CIRCUITS ARE 20A, 120VOLT.
PROVIDE 2-#12, 1-#12 CU GND IN 1/2" CONDUIT.
SEE EQUIPMENT SCHEDULES FOR ADDITIONAL WIRE SIZES.



1 E-5.1 **ELECTRICAL SERVICE RISER**
SCALE: NTS

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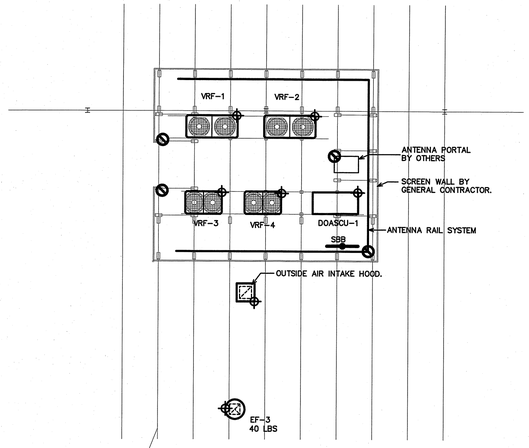
ELECTRICAL PANELS & RISER

22001

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2 E-6 GROUNDING/BONDING ROOF PLAN
SCALE: 1/8"=1'-0"

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GROUNDING LEGEND

- MISC GROUND CONNECTIONS
- MECH/ELEC EQUIP GROUNDING
- WINDOW/DOOR GROUND LOCATIONS
- CONNECTION TO CEILING GRID
- (PBB) PRIMARY GROUND BAR
  (SBB) SECONDARY GROUND BAR

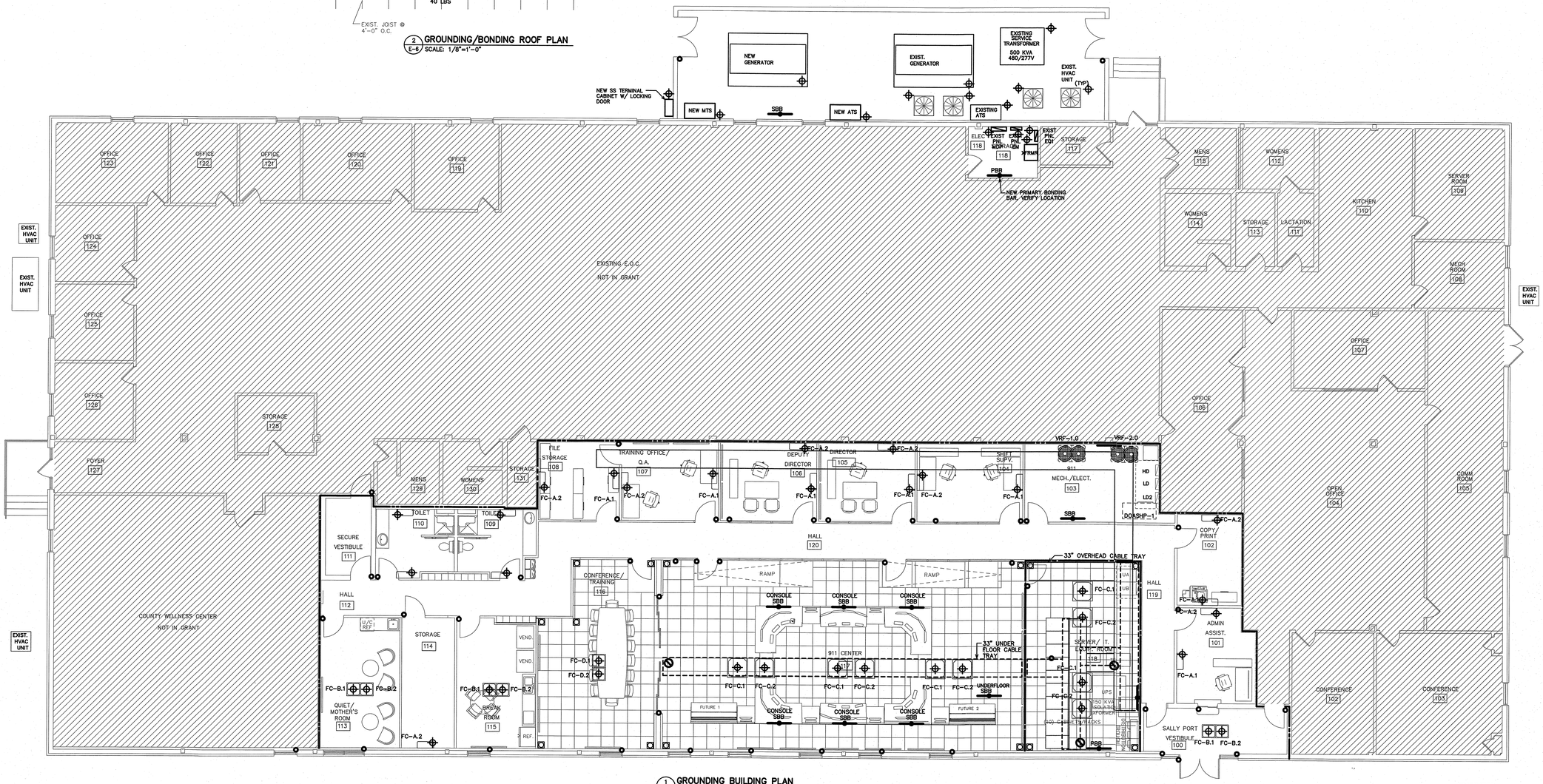
GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.

GENERAL GROUNDIING/BONDING NOTES

1. ALL INTERIOR SUPPLEMENTAL GROUND CONDUCTING ARE TO BE STRANDED AND INSULATED "GREEN" COPPER.
2. ALL GROUND BUS CONDUCTOR RUNS UNDER 33' IN OVERALL LENGTH ARE TO BE #2.
3. ALL GROUND BUS CONDUCTOR RUNS BETWEEN 34' AND 41" IN OVERALL LENGTH ARE TO BE #1
4. ALL SHOWN GROUNDING POINTS ARE TO BE CONNECTED TO THE GROUNDING GRID UNDER THE RAISED FLOOR. VIA GROUND BUS CONDUCTOR. ON THE DRAWNGS OR NOT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL FLOORPLAN LAYOUTS. DO NOT USE ENGINEERING DRAWINGS FOR ROUGH-INS.
5. THE E.C. CAN CONNECT MULTIPLE GROUNDING POINTS TO GROUND BUS CONDUCTOR/RAISED FLOOR GROUND GRID. THE LENGTH OF THE GROUND BUS DETERMINES THE SIZE OF THE GROUNDING BUS CONDUCTOR, SEE NOTES 2 AND 3. ALSO SEE ACCEPTABLE CONNECTION METHODS FOR CONNECTING EQUIPMENT GROUNDING CONDUCTORS TO THE GROUND BUS CONDUCTOR.
6. SEE SHEET E-7 FOR CABLE TRAY RUNS.
7. ALL WINDOW FRAME, DOOR FRAME AND ANCILLARY EQUIPMENT GROUND CONDUCTORS UNDER 13' ARE TO BE #6 COPPER.
8. ALL INTERIOR GROUND CONNECTIONS SHOULD BE TWO-HOLE, TIN PLATED, IRREVERSIBLE CRIMP LUG ATTACHED WITH 300 SERIES SS.



1 E-6 GROUNDING BUILDING PLAN
SCALE: 1/8"=1'-0"

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GROUNDING/BONDING PLAN

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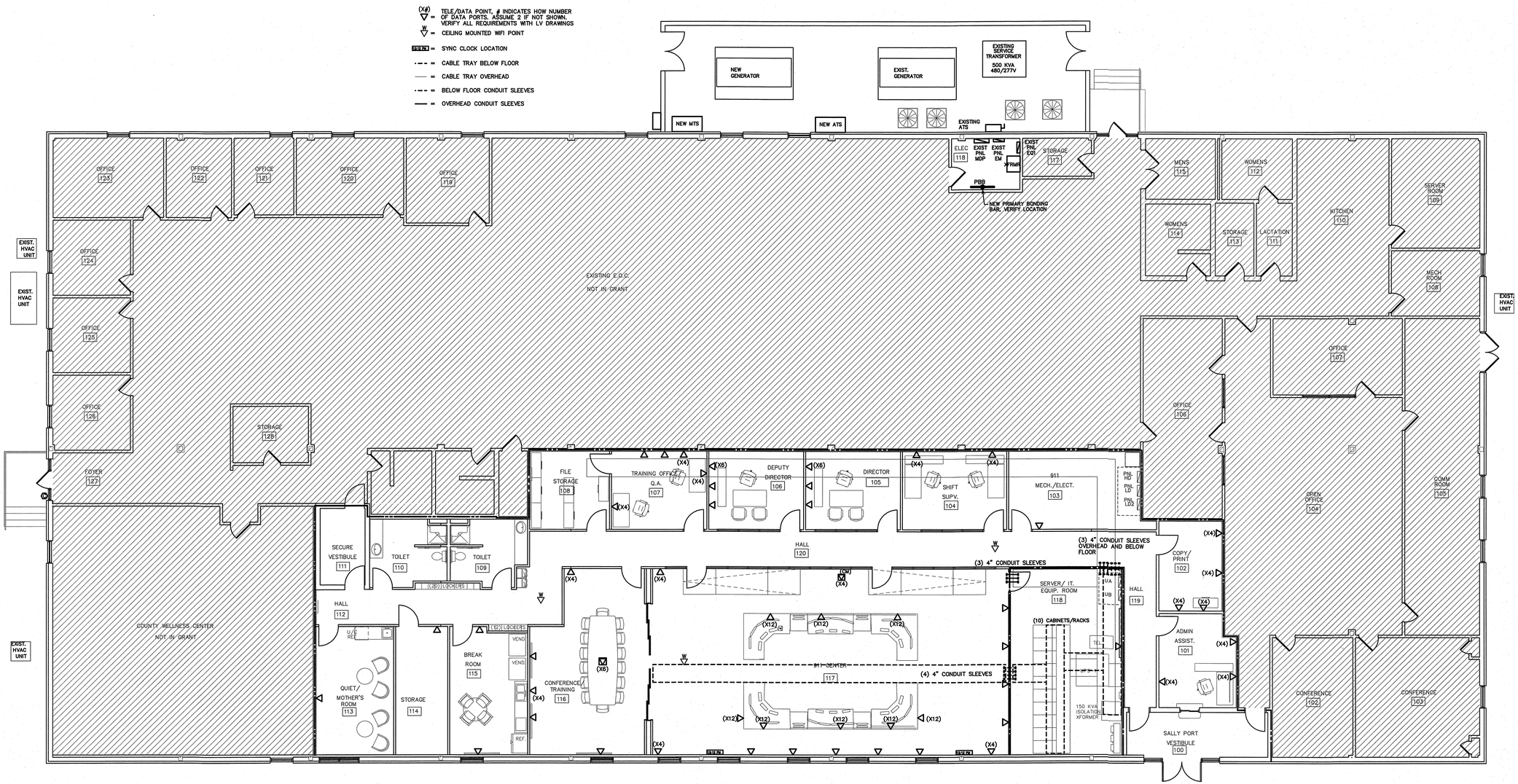
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CKD BY:	BEB
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SHEET NO.
E-6

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.



1/S7 LOW VOLTAGE CONDUIT PLAN
SCALE: 1/8"=1'-0"

SEE LV DRAWINGS FOR ALL LOW VOLTAGE BOXES/CONDUIT AND STRUCTURED CABLING SYSTEM (SCS), A/V SYSTEM, AND SECURITY SYSTEMS. CONSOLE FURNITURE CABLING WILL BE EXTENDED THROUGH THE RAISED FLOOR AND TERMINATED IN THE TECHNOLOGY CABINET FOR POWER, GROUNDING (SBB) A/V, AND SCS. THE EC SHALL COORDINATE ALL 911 CONDUIT RUNS W/ LV CONTRACTOR PRIOR TO START OF WORK.

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CABLE TRAY PLAN

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E-7

GENERAL NOTES

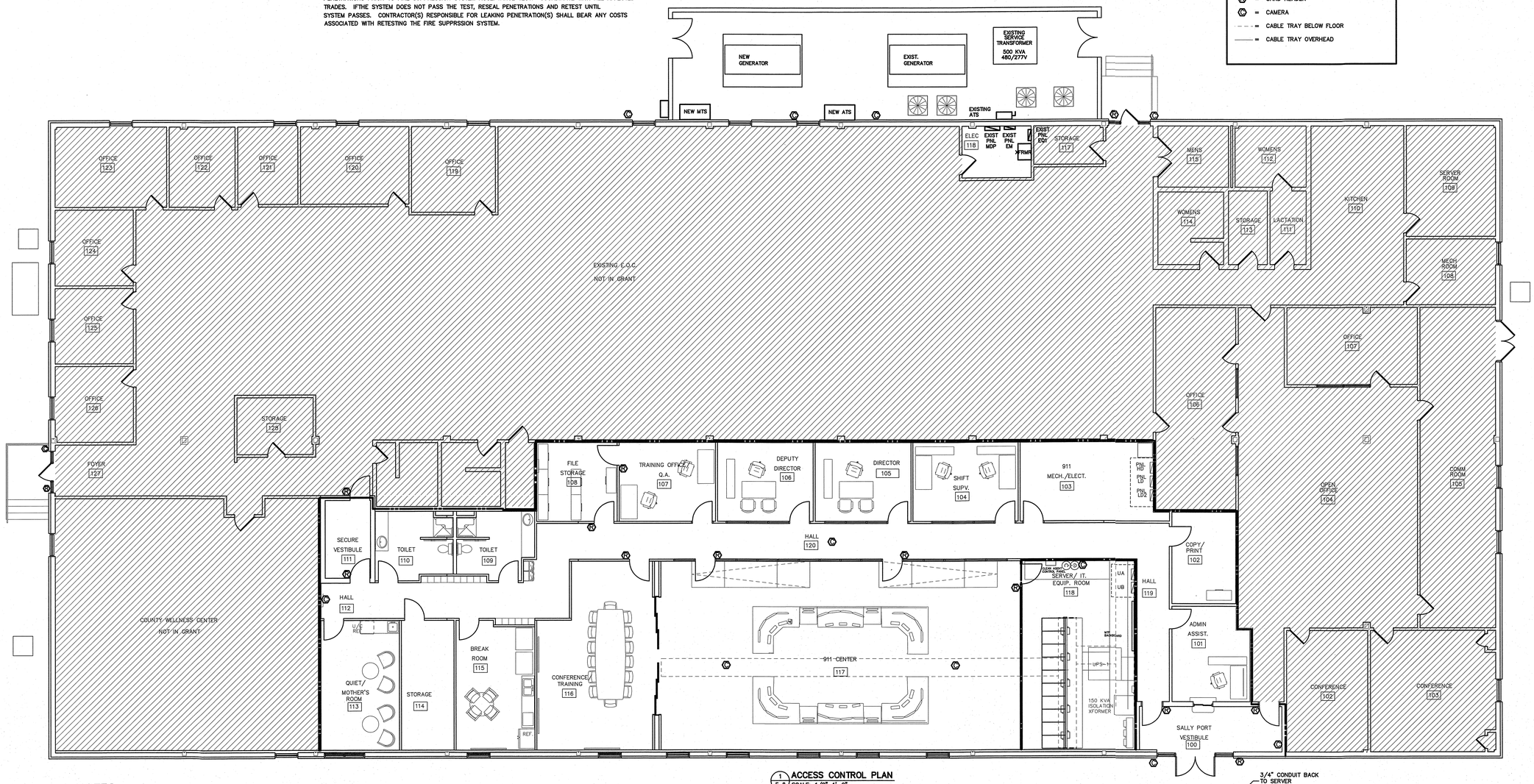
(APPLY TO THIS SHEET ONLY)

1. ALL WALL MOUNTED DEVICES (POWER, DATA, SYSTEMS, ETC.), WITHIN CMU WALLS ARE TO BE FLUSH MOUNTED AND FED WITH CONCEALED CONDUIT.
2. VERIFY ALL ACCESS CONTROL/SECURITY DEVICE LOCATIONS WITH SECURITY CONSULTANT PRIOR TO ROUGH-IN. PROVIDE ADDITIONAL CONDUIT STUBS AND PATHWAYS AS NEEDED.
3. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.

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SYSTEMS LEGEND

- CR = CARD READER
- C = CAMERA
- = CABLE TRAY BELOW FLOOR
- = CABLE TRAY OVERHEAD

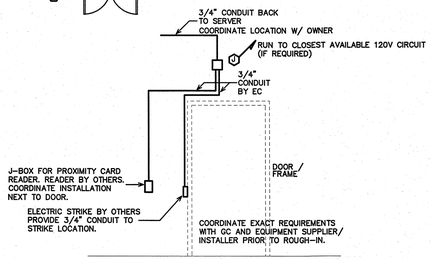


1 E-8 **ACCESS CONTROL PLAN**
SCALE: 1/8"=1'-0"

NOTES

(APPLY TO THIS SHEET ONLY)

1. PROVIDE EMPTY J-BOX & CONDUIT SYSTEM FOR SECURITY CONTROLS. COORDINATE ACTUAL LOCATION, CONDUIT SIZE, AND NUMBER OF BOXES WITH SECURITY CONTRACTOR.



2 E-8 **CARD READER DETAIL**
SCALE: NTS

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ACCESS/CAMERA PLAN

22001

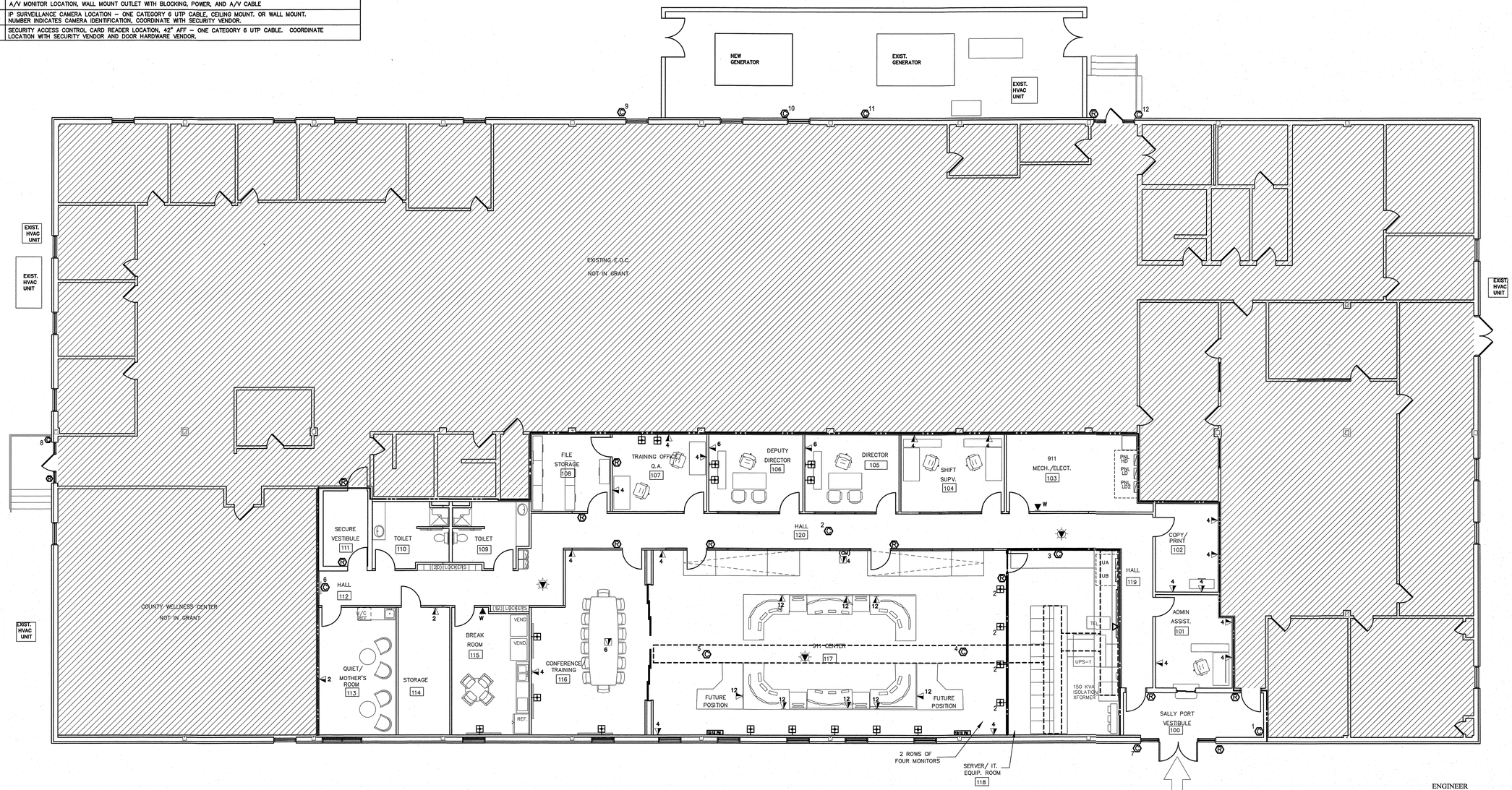
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E-8

COMMUNICATIONS SYMBOLS	
SYM	DESCRIPTION
∇_X	TELECOM OUTLET, WALL MOUNT, X = QUANTITY OF CAT 6A CABLES
∇_C	TELECOM OUTLET, WALL MOUNT, ABOVE COUNTER, MOUNT 6" ABOVE BACK SPLASH
∇_W	TELECOM OUTLET, WALL PHONE JACK, ONE (1) CAT 6A CABLE
∇_{INT}	INTERCOM CALL STATION OUTLET, M= MASTER STATION
	TELECOM OUTLET, WIRELESS ACCESS, CEILING MOUNT, TWO (2) CAT 6A CABLES
	TELECOM OUTLET, WIRELESS ACCESS, WALL MOUNT, TWO (2) CAT 6A CABLES
	TELECOM OUTLET, FLOOR BOX, X = QUANTITY OF CAT 6A CABLES
FF	TELECOM FURNITURE FEED THROUGH WALL MOUNT FACEPLATE. PROVIDE DOUBLE GANG BOX, DOUBLE GANG FACEPLATE, LIQUID TIGHT FLEXIBLE CONDUIT AND LIQUID TIGHT CONNECTORS, CONNECT BETWEEN FEED THROUGH AND MODULAR FURNITURE. QUANTITY OF CABLES INDICATES NUMBER OF CALES/OUTLETS INSTALLED THROUGH THE FURNITURE FEED.
	AUDIO/ VIDEO (A/V) OUTLET, WALL MOUNT, TWO CAT. 6A STP (F/UTP) CABLE
	TELECOM CABLE TRAY, ABOVE CEILING, SIZE 24" X 4" (MIN.)
	TELECOM CABLE LADDER, IN TELECOM ROOMS, EXPOSED AT 6" ABOVE TOP OF RACK(S)
	TELECOM RACEWAY, CONDUIT SLEEVE, WITH BUSHINGS, 4"C (MIN.) SIZE AS NOTED
	TELECOM CABLE TRAY, BELOW RAISED ACCESS FLOOR, SIZE 22" X 4" (MIN.)
SYNC	SYNC CLOCK LOCATION, WALL MOUNT, ONE (1) CAT 6 CABLE, 96" A.F.F (COORDINATE HEIGHT IN FIELD)
	A/V MONITOR LOCATION, WALL MOUNT OUTLET WITH BLOCKING, POWER, AND A/V CABLE
##	IP SURVEILLANCE CAMERA LOCATION – ONE CATEGORY 6 UTP CABLE, CEILING MOUNT. OR WALL MOUNT. NUMBER INDICATES CAMERA IDENTIFICATION, COORDINATE WITH SECURITY VENDOR.
	SECURITY ACCESS CONTROL CARD READER LOCATION, 42" AFF – ONE CATEGORY 6 UTP CABLE. COORDINATE LOCATION WITH SECURITY VENDOR AND DOOR HARDWARE VENDOR.

CAMERA MATRIX		
CAMERA ID	DESCRIPTION	MOUNTING NOTES
1	MAIN ENTRY	WALL MNT.
2	MAIN HALLWAY	CEILING MNT.
3	MDF ROOM	WALL MNT.
4	PSAP–1	CEILING MNT.
5	PSAP–2	CEILING MNT.
6	BACK HALLWAY	WALL MNT.
7	EXTERIOR, MAIN ENTRY	WALL MNT.
8	EXTERIOR, SOUTH ENTRY	CEILING MNT.
9	EXTERIOR, WEST	WALL MNT.
10	EXTERIOR, MECHANICAL AREA	CEILING MNT.
11	EXTERIOR, MECHANICAL AREA	CEILING MNT.
12	EXTERIOR, WEST ENTRY	WALL MNT.



1 / LV-1 LOW VOLTAGE PLAN
SCALE: 1/8"=1'–0"

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COLUMBUS COUNTY 911 CENTER
WHITEVILLE, NORTH CAROLINA

4/12/24
NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E BURKE

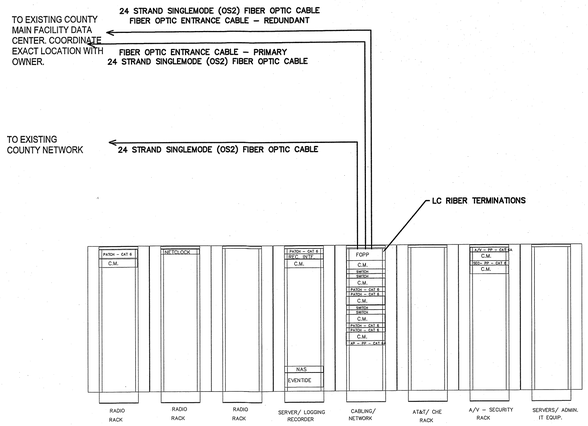
LOW VOLTAGE FLOOR PLAN

22001

ISSUED:	4/12/2024
DWG BY:	LS
CKD BY:	BEB
REVISIONS	

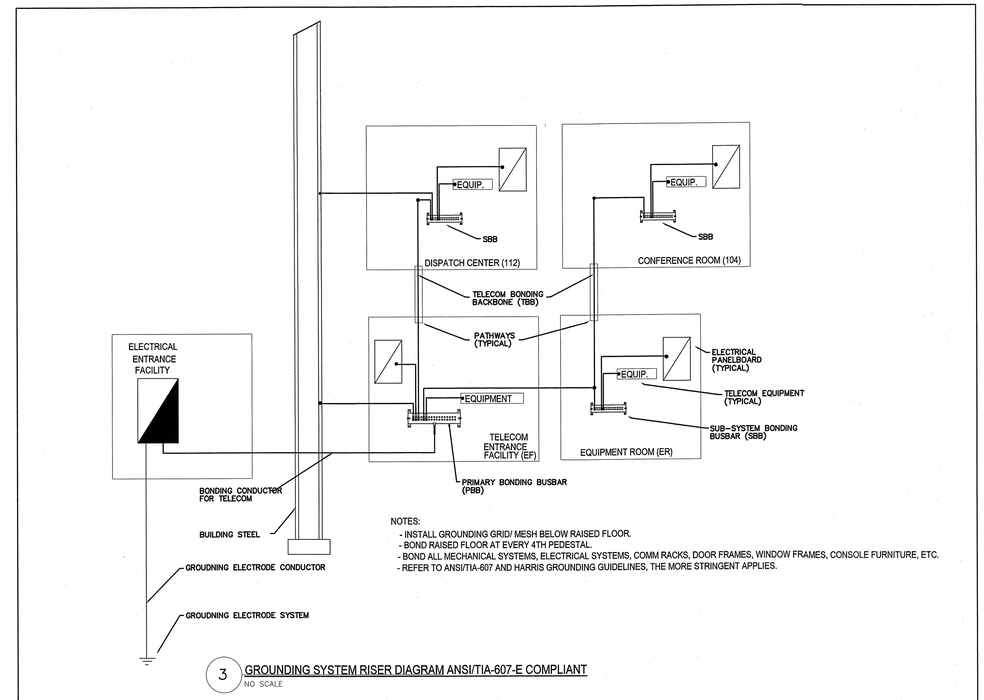
SHEET NO.
LV-1

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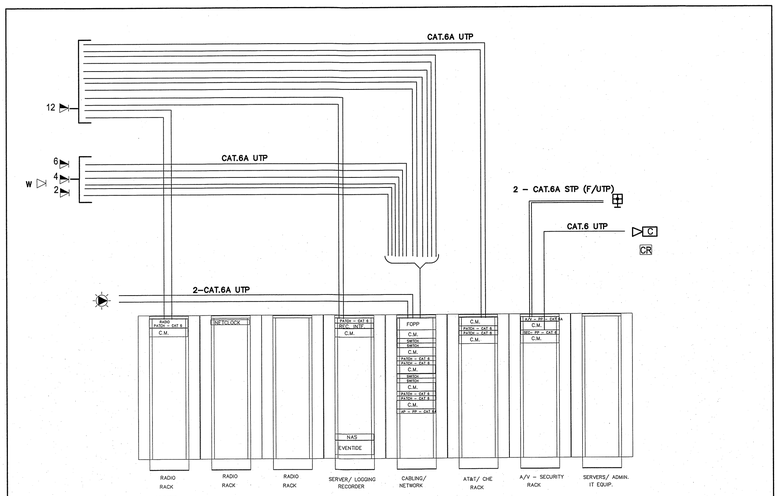
NOTE:
- THIS DRAWING IS A SCHEMATIC DIAGRAM, AND NOT INTENDED TO DEPICT EVERY DEVICE, OR ACTUAL QUANTITIES.
- USE INDOOR/OUTDOOR RATED CABLE, OR TERMINATE WITHIN 50' OR ENTRANCE, OR TRANSITION TO PLENUM RATED CABLE.

1 FIBER BACKBONE SUB–SYSTEM RISER
NO SCALE



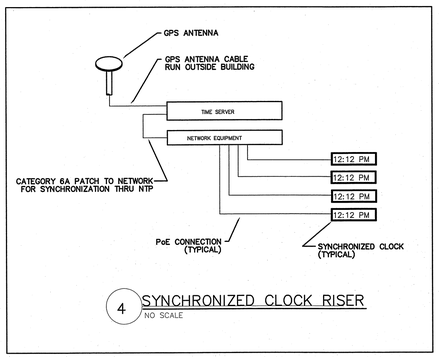
NOTES:
- INSTALL GROUNDING GRID/ MESH BELOW RAISED FLOOR.
- BOND RAISED FLOOR AT EVERY 4TH PEDESTAL.
- BOND ALL MECHANICAL SYSTEMS, ELECTRICAL SYSTEMS, COMM RACKS, DOOR FRAMES, WINDOW FRAMES, CONSOLE FURNITURE, ETC.
- REFER TO ANSI/TIA-607 AND HARRIS GROUNDING GUIDELINES, THE MORE STRINGENT APPLIES.

3 GROUNDING SYSTEM RISER DIAGRAM ANSI/TIA-607-E COMPLIANT
NO SCALE

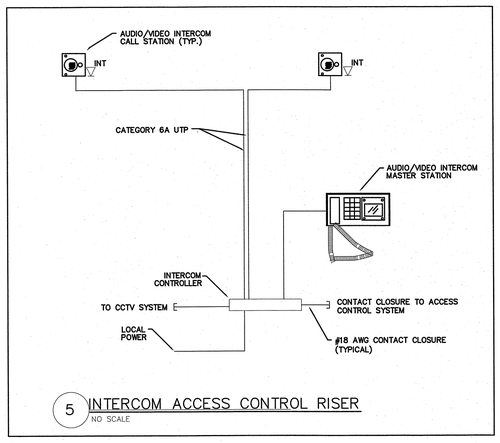


NOTE:
- THIS DRAWING IS A SCHEMATIC DIAGRAM, AND NOT INTENDED TO DEPICT EVERY DEVICE, OR ACTUAL QUANTITIES.
- USE PLENUM RATED (CMP) CABLE.
- ALL CHANNEL COMPONENTS (CABLE, JACKS, PATCH PANELS, PATCH CORDS, EQUIPMENT CORDS) SHALL MATCH CABLE CONSTRUCTON AND PERFORMANCE.

2 HORIZONTAL SUB–SYSTEM RISER
NO SCALE



4 SYNCHRONIZED CLOCK RISER
NO SCALE



5 INTERCOM ACCESS CONTROL RISER
NO SCALE

1 LV–2 LOW VOLTAGE RISER DIAGRAMS
NOT TO SCALE

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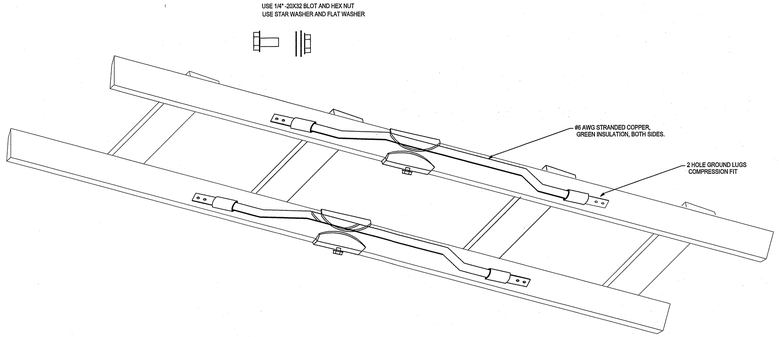
LOW VOLTAGE RISER DIAGRAMS

22001

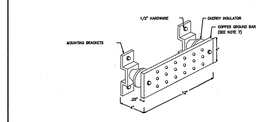
ISSUED: 4/12/2024
DWG BY: LS
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REVISIONS

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SHEET NO.
LV-2



1 LV-3 CABLE RUNWAY BONDING DETAIL
NOT TO SCALE

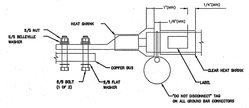


DETAIL: TYPICAL GROUND BUS

NOT TO SCALE

DETAIL NOTES:
1. ALL HOLES ARE CENTERDRILLED 1/16".
2. BAR STOCK IS 1/4" THICK.

GENERAL BAR NOTES:
1.FURNISH AND INSTALL BUS BAR AND CONDUCTORS AS SHOWN UNLESS OTHERWISE NOTED.
2.LABEL ALL BUS BARS WITH PERMANENT ENGRAVED NAMEPLATE.
3.GROUNDING CONDUCTORS, OTHER THAN #2 POWER FEEDERS SHALL BE INSTALLED IN NONMETALLIC ROD CONDUITS EXCEPT AS NOTED.
4.GROUND BAR CONDUCTORS SHALL NOT SHARE CONDUITS OR PULL BOXES WITH CONDUCTORS OR CABLES OF OTHER SYSTEMS.
5.PULL BOX USED FOR GROUND CONDUCTORS SHALL BE NONMETALLIC.
6.SEE SPECIFICATIONS FOR REQUIRED MAXIMUM RESISTANCE TO GROUND.
7.GROUND BAR KIT SHALL BE STRANDED #4AWG OR LARGER INSULATED CABLE TO GOOD GROUND OF NEMA 3R ENCLOSURE (SEE EQUIPMENT ELEVATIONS FOR APPROXIMATE LOCATION). ENCLOSURE SHALL BE SIZE SUCH THAT ADEQUATE WIRE BENDING SPACE IS PROVIDED BY ALL SIDES.



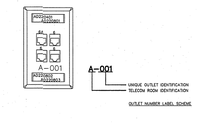
DETAIL: GROUNDING LUG

NOT TO SCALE

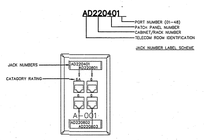
GENERAL BAR NOTES:
1. FURNISH AND INSTALL BUS BAR AND CONDUCTORS AS SHOWN UNLESS OTHERWISE NOTED.
2. LABEL ALL BUS BARS WITH PERMANENT ENGRAVED NAMEPLATE.
3. GROUNDING CONDUCTORS, OTHER THAN #2 POWER FEEDERS SHALL BE INSTALLED IN NONMETALLIC ROD CONDUITS EXCEPT AS NOTED.
4. GROUND BAR CONDUCTORS SHALL NOT SHARE CONDUITS OR PULL BOXES WITH CONDUCTORS OR CABLES OF OTHER SYSTEMS.
5. PULL BOX USED FOR GROUND CONDUCTORS SHALL BE NONMETALLIC.
6. SEE SPECIFICATIONS FOR REQUIRED MAXIMUM RESISTANCE TO GROUND.
7. PROVIDE AND INSTALL IDENTIFICATION ON BOTH ENDS OF EACH GROUNDING CONDUCTOR INDICATING DESTINATION.

GENERAL GROUNDING LUG NOTES:
1. ALL HARDWARE SHALL BE STAINLESS STEEL, INCLUDING BELLEVILLES. EXCEPT ALL SURFACES WITH HOPE-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. CONT ALL SURFACES WITH HOPE-SHIELD.

5 LV-3 BONDING BUSBAR DETAILS
NOT TO SCALE



TELECOM OUTLET – IDENTIFICATION



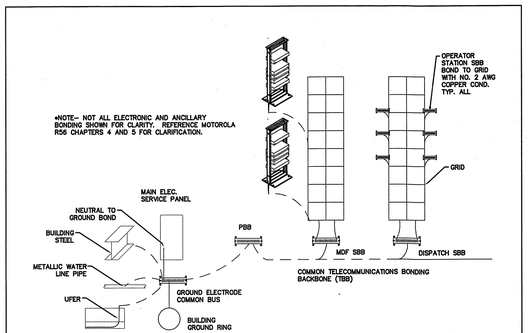
TELECOM JACK – IDENTIFICATION

8 LV-3 TELECOM JACK – DETAILS
NOT TO SCALE

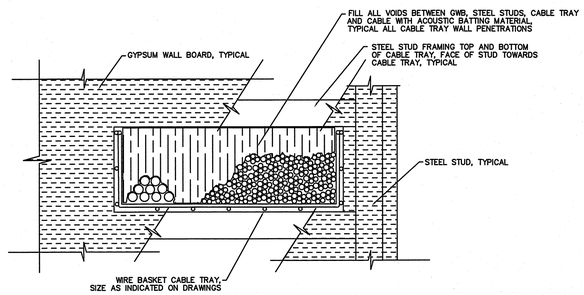
GENERAL NOTES:NOTES:

1. ALL GROUND SYSTEM INSTALLATIONS AND CONNECTIONS ARE TYPICAL.
2. CONTRACTOR SHALL DESIGN AND PROVIDE A MOTOROLA R-56 COMPLIANT GROUNDING SYSTEM.
3. THE EXTERIOR GROUND RING CONDUCTORS SHALL BE 3/0 AWG COPPER, MINIMUM.
4. GROUND CONDUCTORS SHALL BE 6 AWG COPPER, MINIMUM, UNLESS OTHERWISE DIRECTED BY THE EQUIPMENT MANUFACTURER.
5. ALL COMPRESSION CONNECTORS SHALL BE TIN PLATED COPPER, IRREVERSIBLE CRIMP TYPE.
6. CONTRACTOR SHALL PREPARE ALL METAL TO E BARE, FREE OF ALL PAINT, GREASE, DIRT, ETC.
7. CONTRACTOR SHALL APPLY AN OXIDE INHIBITOR APPLIED TO ALL BONDING SURFACES PRIOR TO FINAL COMPLETION OF COMPRESSION CONNECTORS.
8. ALL MECHANICAL CONNECTIONS SHALL BE MADE WITH STAINLESS STEEL HARDARE.
9. LOCATIONS AND QUANTITY OF MADE EARTH CONNECTIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY GROUND SYSTEM REQUIREMENTS BASED ON GEOTECHNICAL REPORTS AND SOIL RESISTIVITY TEST DATA PROVIDED AS PART OF THE WORK.
10. ALL GROUND CONNECTIONS BEOW GRADE SHALL BE BY EXOTHERMIC WELD.
11. EXTERIOR GROUND CONNECTIONS SHALL BE EXOTHERMIC WELD UNLESS OTHERWISE DIRECTED BY THE EQUIPMENT MANUFACTURER.
12. ALL GROUND CONNECTIONS TO EQUIPMENT AND HARDWARE IN THE EQUIPMENT SHELTER SHALL BE WITH IRREVERSIBLE CRIMP CONNECTORS.
13. ALL GROUND SYSTEM CONNECTIONS ARE NOT SHOWN. CONTRACTOR SHALL PROVIDE ALL GROUNDS, GROUND CONDUCTORS, BONDING CONDUCTORS AND CONNECTIONS NECESSARY FOR A COMPLETE MOTOROLA R-56 COMPLIANT GROUND SYSTEM.
14. CABLE COLORCODE SHALL BE AS FOLLOWS. ALL JACKS, CABLE JACKETS, PATCH CORDS, EQUIPMENT CORDS SHALL BE THE SAME BASED ON APPLICATION SHOWN IN THE COLOR CODE TABLE.

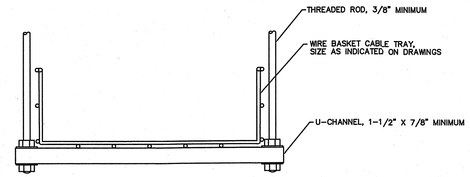
CABLE COLOR GUIDE		
APPLICATION	CABLE COLOR	NOTES
A/V APPLICATION	BLACK	
SECURITY	WHITE	
WiFi – APS	ORANGE	
911 CHE	GRAY	
CAD	BLUE	
NETWORK	BLUE	CLOCK
RECORDER	GRAY	
RADIO	YELLOW	



2 LV-3 BONDING DETAIL
NOT TO SCALE

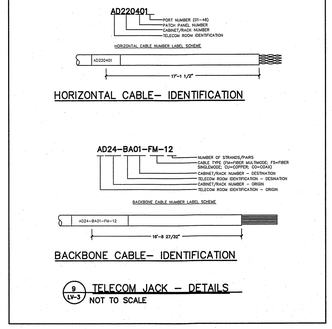


CABLE TRAY AT NON–FIRE RATED WALL PENETRATION, TYPICAL



CABLE TRAY SUPPORT, TYPICAL

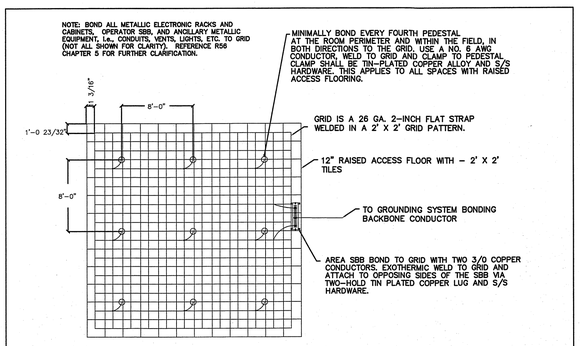
6 LV-3 CABLE TRAY DETAILS
NOT TO SCALE



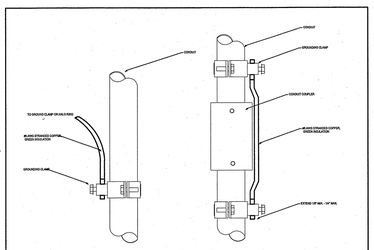
HORIZONTAL CABLE– IDENTIFICATION

BACKBONE CABLE– IDENTIFICATION

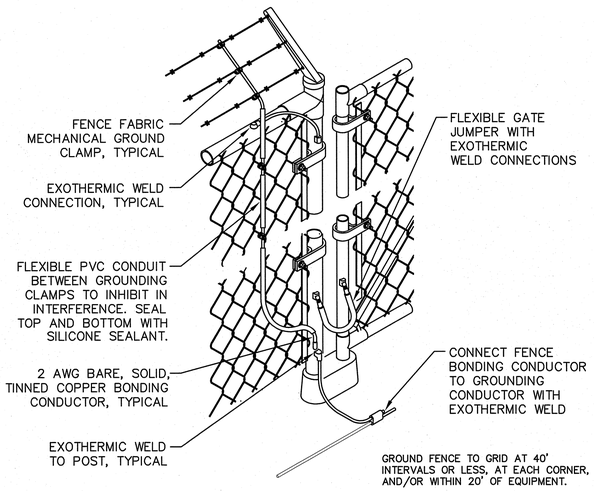
9 LV-3 TELECOM JACK – DETAILS
NOT TO SCALE



TYPICAL RAISED FLOOR BONDING GRID
NOT TO SCALE



CONDUIT BONDING DETAIL
NOT TO SCALE



7 LV-3 TYPICAL GATE & FENCE GROUNDING DETAIL
NOT TO SCALE

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4/12/24

NORTH CAROLINA REGISTERED PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E BURKE

LOW VOLTAGE DETAILS

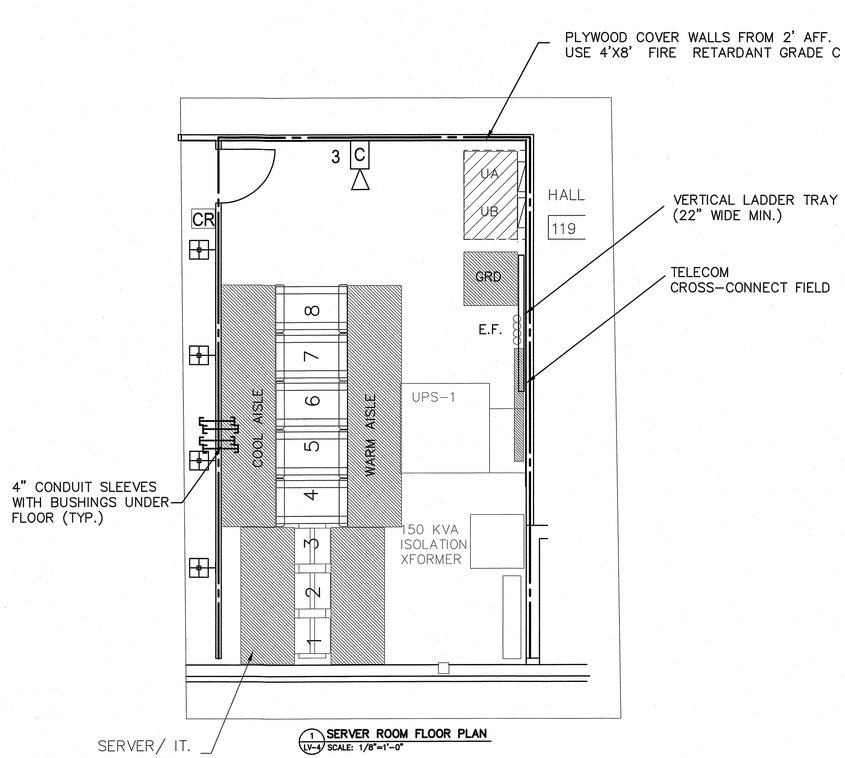
22001

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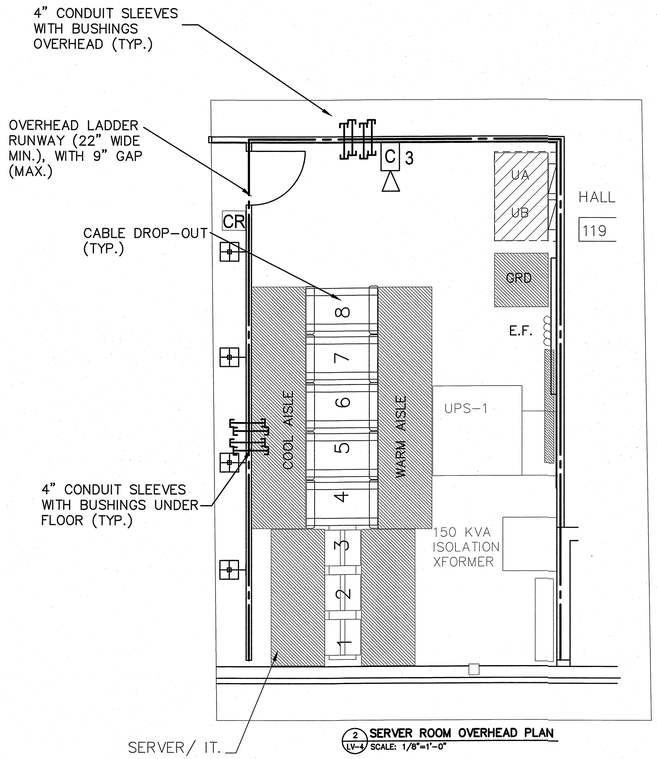
REVISIONS

SHEET NO.
LV-3

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1 LV-4 SERVER ROOM FLOOR PLAN
SCALE: 1/8"=1'-0"



2 LV-4 SERVER ROOM OVERHEAD PLAN
SCALE: 1/8"=1'-0"

RACK ID	CABINET/RACK	APPLICATION
1	2-POST RACK	RADIO RACK
2	2-POST RACK	RADIO RACK
3	2-POST RACK	RADIO RACK
4	CABINET	SERVERS/LOGGING
5	CABINET	CABLING/NETWORK
6	CABINET	CHE SYSTEMS
7	CABINET	A/V-SECURITY
8	CABINET	ADMIN SERVERS

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NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E BURKE

SERVER ROOM PLANS

22001

ISSUED:	4/12/2024
DWG BY:	LS
CKD BY:	BEB

REVISIONS

SHEET NO.
LV-4

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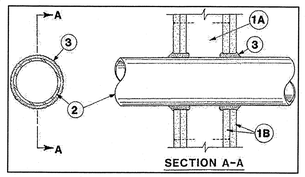
System No. W-L-1001

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/sq ft

L Rating At 400 F — less than 1 CFM/sq ft



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. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

   B. **Gypsum Board** — Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in.

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 of 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

   A. **Steel Pipe** — Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

   B. **Iron Pipe** — Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

   C. **Conduit** — Nom 6 in. diam (or smaller) steel conduit or nom 4 in. diam (or smaller) steel electrical metallic tubing.

   D. **Copper Tubing** — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

   E. **Copper Pipe** — Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

   F. **Through Penetrating Products** — **Flexible Metal Piping** — The following types of steel flexible metal gas piping may be used:

   1. Nom 2 in. 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. 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.

   GASTITE, DIV OF TITEFLEX

   3. Nom 1 in. 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 LLC

Fill, Void or Cavity Materials — **Caulk or Sealant** — Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. 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. 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	F RATING Hr	T RATING Hr
1	1 or 2	0+, 1 or 2
1	3 or 4	3 or 4
4	1 or 2	0
6	3 or 4	0
12	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.

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

•Bearing the UL Classification Mark

DIVISION 16 — FIRE ALARM

PART 1 — GENERAL

1.1 DESCRIPTION OF THE WORK

A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
   1. Fire alarm panel, wiring and devices

B. All work shall be complete and items, equipment, etc., shall be electrically connected for proper and correct operation.

C. All work under this contract shall be installed in accordance with the latest edition of the following codes and standards insofar as they apply:
   1. The 2017 National Electrical Code.
   2. NFPA 72
   3. Underwriter's Laboratories, Inc., Standards and approved listings.
   4. Electrical Testing Labatories standards.
   5. North Carolina Building Code, Latest Edition and Revisions.
   6. All local codes and ordinances.

D. The Fire Alarm Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work

E. Obtain all permits, licenses, inspections, etc., required for the work and pay for the same. Furnish final certificate of inspection and approval from the electrical inspector having jurisdiction prior to acceptance of the work.

F. All work shall be done by skilled mechanics and shall present a neat, trim, workmanlike condition when complete.

1.2 INTENT

A. The intent of these specifications and the accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Fire Alarm Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.

B. Locations shown are approximate. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required. Coordinate all locations with architect before any rough-in.

1.4 SHOP DRAWINGS

A. Provide complete shop drawings per NCSFC section 907.1.2 to the local fire marshal prior to start of construction including:
   1. Floorplan with room names
   2. Location of all FA devices
   3. Location of panels
   4. Power connections
   5. Battery calculations
   6. Conductors types and sizes
   7. Voltages drop calculations
   8. Equipment cut-sheets, model numbers, etc.

PART 2 — PRODUCTS AND MATERIALS

2.1 GENERAL

A. All material shall be new and shall bear the manufacturer's name, trade name, and UL label where such standard has been established for the particular material. Materials shall be the standard products of manufacturer's regularly engaged in the manufacturer of the required type of equipment and the manufacturer's latest approved design.
   1. Boxes installed in concealed locations shall be set flush with the finished surfaces.
   2. Provide rated boxes in all fire barriers & walls installed per code.

PART 3 — EXECUTION

3.1 FIRE ALARM SYSTEM EQUIPMENT

A. Provide a complete operable fire alarm system as shown on the drawings and as required by State, and Local codes.

B. The main control panel is existing. The unit is an addressable type. Verify spare capacity is available prior to bid. Expand as required.

C. Provide a remote key test switch for the duct detectors. Locate as directed by the local AHJ.

D. All fire alarm system cables shall be installed in conduit. Size as required by the equipment supplier. Provide a submittal of all devices and a riser diagram for approval before installation of any equipment.

E. The return air smoke detectors will be furnished by the E.C. to the HVAC contractor for installation. The HVAC contr shall be responsible for the shut down of all AHU'S. The E.C. shall be responsible for all connections to the fire alarm controller.

3.2 CLEAN UP

A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

3.3 GUARANTEE

A. Guarantee all materials and labor included in the fire alarm work for a period of one year from date of final acceptance by the Owner. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the Owner.

FIRE ALARM LEGEND

- SPEAKER/STROBE SIGNALING DEVICE (XX) CANDELLA RATING; (S) INDICATES STROBE-ONLY
- PULL STATION
- SD — SMOKE DETECTOR
- HD — HEAT DETECTOR
- DUCT SMOKE DETECTOR
- FACP — FIRE ALARM CONTROL PANEL
- FARAP — FIRE ALARM REMOTE ANNUNCIATOR PANEL
- CACP — CLEAN AGENT CONTROL PANEL
- CAAP — CLEAN AGENT ANNUNCIATOR PANEL

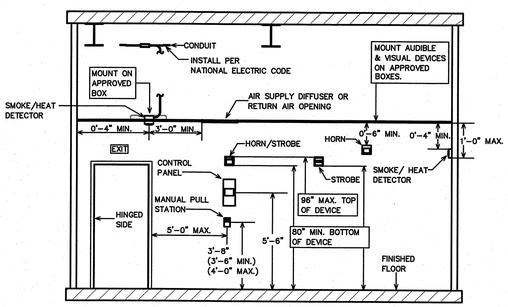
SHELL BLDG FA SYSTEM

SYSTEM OUTPUTS

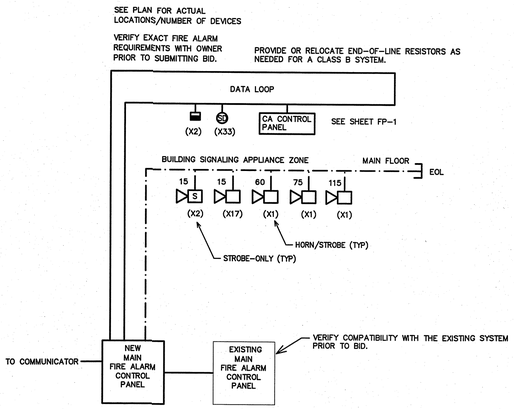
CONTROL UNIT ANNUNCIATION | NOTIFICATION | REQUIRED FIRE SAFETY CONTROL | SUPPLEMENTAL

SYSTEM INPUTS

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	
1	SMOKE DETECTORS	●	●				●			●	●	●						●						●				●	●	●					1
2	IN-DUCT SMOKE DETECTORS			●	●								●									●		●						●					2
3	LINEAR BEAM SMOKE DETECTORS			●																															3
4																																			4
5	ELEVATOR (PRI) SMOKE/THERMAL DETECTORS	●	●				●			●	●								●					●					●						5
6	ELEVATOR (ALT) SMOKE/THERMAL DETECTORS	●	●				●			●	●							●						●					●						6
7	ELEVATOR MECH ROOM SMOKE/THERMAL DETECTORS	●	●				●			●	●										●			●					●						7
8	ELEVATOR PITS SMOKE/THERMAL DETECTORS	●	●				●			●	●										●			●					●						8
9	THERMAL DETECTORS																																		9
10																																			10
11																																			11
12	PULL STATIONS	●	●				●			●	●	●						●						●				●	●	●					12
13																																			13
14	LOOP OPEN/SHORT CIRCUIT					●	●				●			●														●							14
15	LOOP GROUND FAULT					●	●				●			●														●							15
16	LOOP FAILURE					●	●				●			●														●							16
17																																			17
18	NAC OPEN/SHORT CIRCUIT					●	●				●			●														●							18
19	NAC GROUND FAULT					●	●				●			●														●							19
20	NAC FAILURE					●	●				●			●														●							20
21	LOSS OF AC POWER					●	●				●			●														●							21
22	LOSS OF AC POWER (>6 HR)					●	●				●			●														●							22
23	BATTERY/CHARGER FAILURE					●	●				●			●														●							23
24	LOW BATTERY					●	●				●			●														●							24
25																																			25
26																																			26
27																																			27
28	KITCHEN HOOD FIRE SUPPRESSION SYSTEM	●	●				●			●	●	●						●						●				●	●	●					28
29																																			29
30																																			30
31	SPRINKLER WATER FLOW	●	●				●			●	●	●						●										●	●						31
32	SPRINKLER TAMPER SWITCHES			●	●								●																						32
33																																			33



1 DEVICE MOUNTING DETAIL
SCALE: NTS



2 PARTIAL FIRE ALARM RISER
SCALE: NTS

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WHITEVILLE, NORTH CAROLINA

4/12/24

NORTH CAROLINA REGISTERED PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E BURKE

FIRE ALARM SPECIFICATIONS

22001

ISSUED:	4/12/2024
DWG BY:	CE
CKD BY:	BEB
REVISIONS	

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FIRE ALARM NOTES FOR CLEAN AGENT SYSTEM

1. (PROVIDED BY OTHERS) A COMPLETE CLEAN AGENT FIRE SUPPRESSION SYSTEM IN THE ROOMS INDICATED ON THE FIRE PROTECTION DRAWINGS. THE CLEAN AGENT FIRE SUPPRESSION SYSTEM SHALL BE DESIGNED AND AND INSTALLED IN FULL COMPLIANCE WITH THE REQUIREMENTS OF NFPA 2001.
2. THE CLEAN AGENT FIRE SUPPRESSION SYSTEM SHALL EMPLOY PHOTOELECTRIC AND IONIZATION SMOKE DETECTION, TO BE FURNISHED AND INSTALLED BY THE FIRE ALARM CONTRACTOR. COORDINATE ALL FIRE ALARM REQUIREMENTS WITH THE CLEAN AGENT CONTRACOTR PRIOR TO BID.
3. CLEAN AGENT CYLINDERS AND PANELS ARE LOCATED AS INDICATED ON DRAWING. A SINGLE DETECTOR ACTIVATED SHALL CAUSE AN ALARM SIGNAL TO BE GENERATED. A SECOND DETECTOR ACTIVATED SHALL GENERATE A PRE-DISCHARGE SIGNAL AND START THE PRE-DISCHARGE CONDITION.
8. THE CONTROL PANELS USED FOR THE AUTOMATIC FIRE DETECTION AND CLEAN AGENT FIRE SUPPRESSION SYSTEM SHALL BE UL/FM APPROVED AND LISTED. THE ELECTRICAL SMOKE DETECTORS UNITS AND WIRING SHALL BE PROVIDED BY THE FIRE ALARM CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR. THE CONTROL PANEL SHALL BE WIRED TO SHUT DOWN MECHANICAL UNITS AND CLOSE DAMPERS WHEN THE CLEAN AGENT SYSTEM IS ACTIVATED.
9. THE CROSS-ZONE DETECTION (IONIZATION AND PHOTOELECTRIC DETECTORS) SHALL BE INSTALLED ON SEPARATE ZONES OF THE CROSS-ZONE SYSTEM. THE MANUAL RELEASE STATION SHALL NOT BE CONNECTED TO THE DETECTOR CIRCUIT. CLASS B PARALLEL WIRING IS REQUIRED. INCLUDE A BATTERY STANDBY POWER OF SUFFICIENT CAPACITY FOR 24 HOURS OF STANDBY OPERATION PLUS 5 MINUTES OF ALARM.
14. CLEAN AGENT SYSTEM CONTROL PANEL AND ALL DEVICES SHALL BE COMPATIBLE WITH THE BUILDING FIRE ALARM SYSTEM.

GENERAL FIRE ALARM NOTES:

1 HORN/STROBES MUST BE WITHIN 15'-0" OF THE END OF EACH CORRIDOR. PROVIDE STROBES IN ALL CORRIDORS, BATHROOMS, BREAK ROOMS AND STORAGE AREAS. INSTALL PER ADA.

2 CANDELA RATINGS SHOULD BE LABELED ON ALL STROBES.

3 ALL STROBES WITHIN SIGHT OF EACH OTHER MUST BE SYNCHRONIZED PER NFPA 72 UNLESS MAXIMUM REQUIRED SEPARATION IS OBTAINED.

4 THE MAIN FIRE ALARM PANEL IS LOCATED IN THE RISER ROOM. VERIFY.

5 VERIFY THAT A SD IS ADJACENT TO THE FACP.

6 ALL EXPOSED WIRE SHALL BE IN CONDUIT. ALL WIRING IN ASSEMBLY AREAS MUST BE IN CONDUIT.

7 ALL DEVICES, PANELS, ETC MUST BE BY SAME MANUFACTURER AND COMPATIBLE PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE SYSTEM MEETING ALL CODES.

8 ALL WORK MUST MEET NFPA 72 AND APPLICABLE LOCAL CODES AND ORDINANCES. COORDINATE THE INSTALLATION WITH THE LOCAL FIRE MARSHALL.

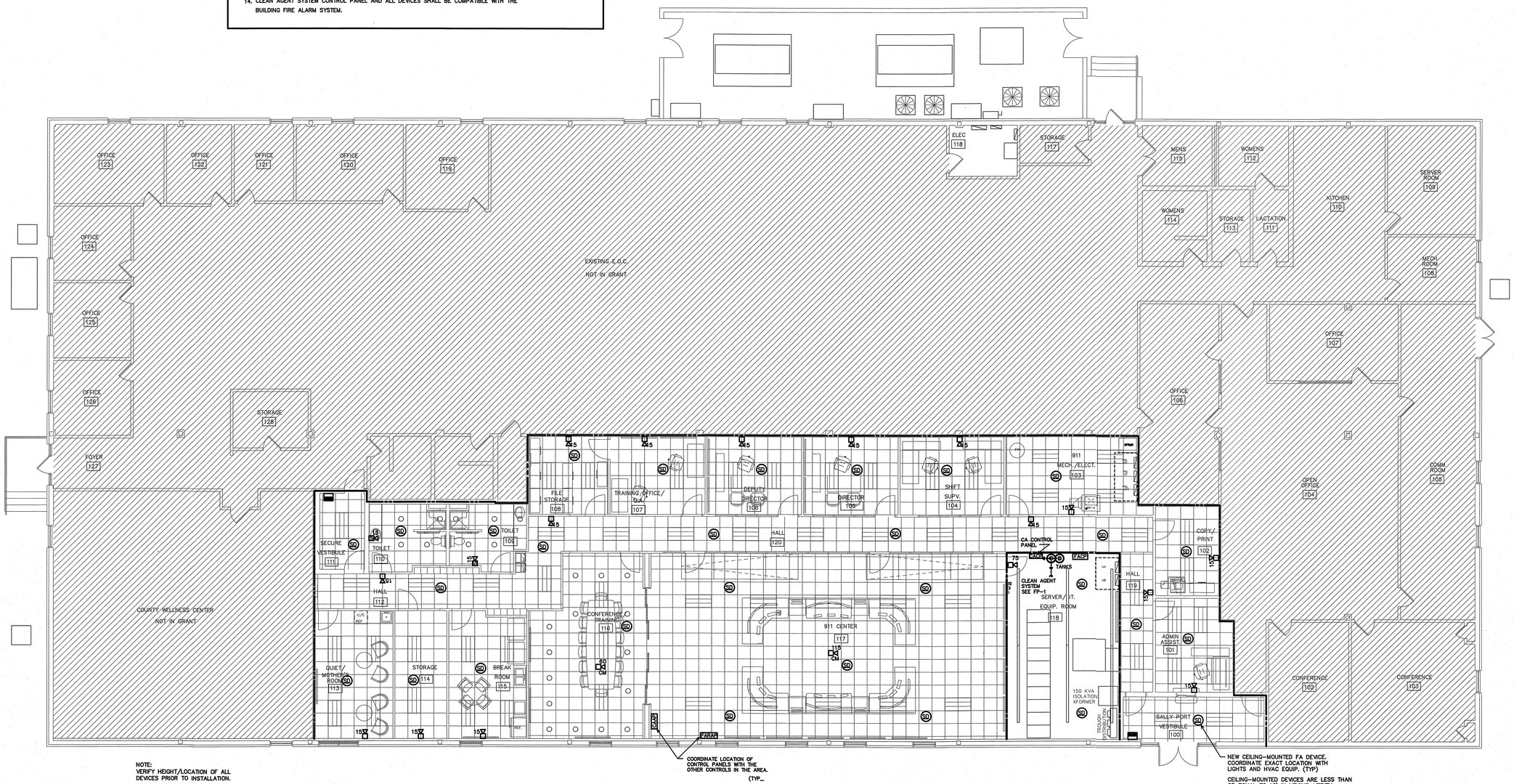
9 MOUNT WALL-MOUNT HORN STROBES SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" ABOVE THE FINISHED FLOOR.

10 MOUNT MANUAL PULL STATIONS SUCH THAT THE OPERABLE PART OF THE DEVICE IS NOT LESS THAN 42" AFF AND NOT MORE THAN 54" AFF.

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.



NOTE:
VERIFY HEIGHT/LOCATION OF ALL DEVICES PRIOR TO INSTALLATION.

PROVIDE DUCT SMOKE DETECTORS WITH ALL HVAC EQUIP OVER 5 TONS IN SIZE.

SMOKE DETECTOR IS TO BE WITHIN 5'-0" OF 'FACP'. VERIFY.

COORDINATE LOCATION OF CONTROL PANELS WITH THE OTHER CONTROLS IN THE AREA. (TYP.

NEW CEILING-MOUNTED FA DEVICE. COORDINATE EXACT LOCATION WITH LIGHTS AND HVAC EQUIP. (TYP.)

CEILING-MOUNTED DEVICES ARE LESS THAN OR EQUAL TO 10' IN HEIGHT. VERIFY.

VERIFY THAT ALL SMOKE DETECTORS ARE A MINIMUM OF 3 FEET FROM ANY HVAC SUPPLY DISCHARGE.

1/FA-2 **FIRE ALARM PLAN**
SCALE: 1/8"=1'-0"

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WHITEVILLE, NORTH CAROLINA

4/12/24
NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER LEE D. DIXON, JR.

FIRE ALARM PLAN

22001

ISSUED:	4/12/2024
DWG BY:	LS
CKD BY:	BEB

REVISIONS

SHEET NO.
FA-2

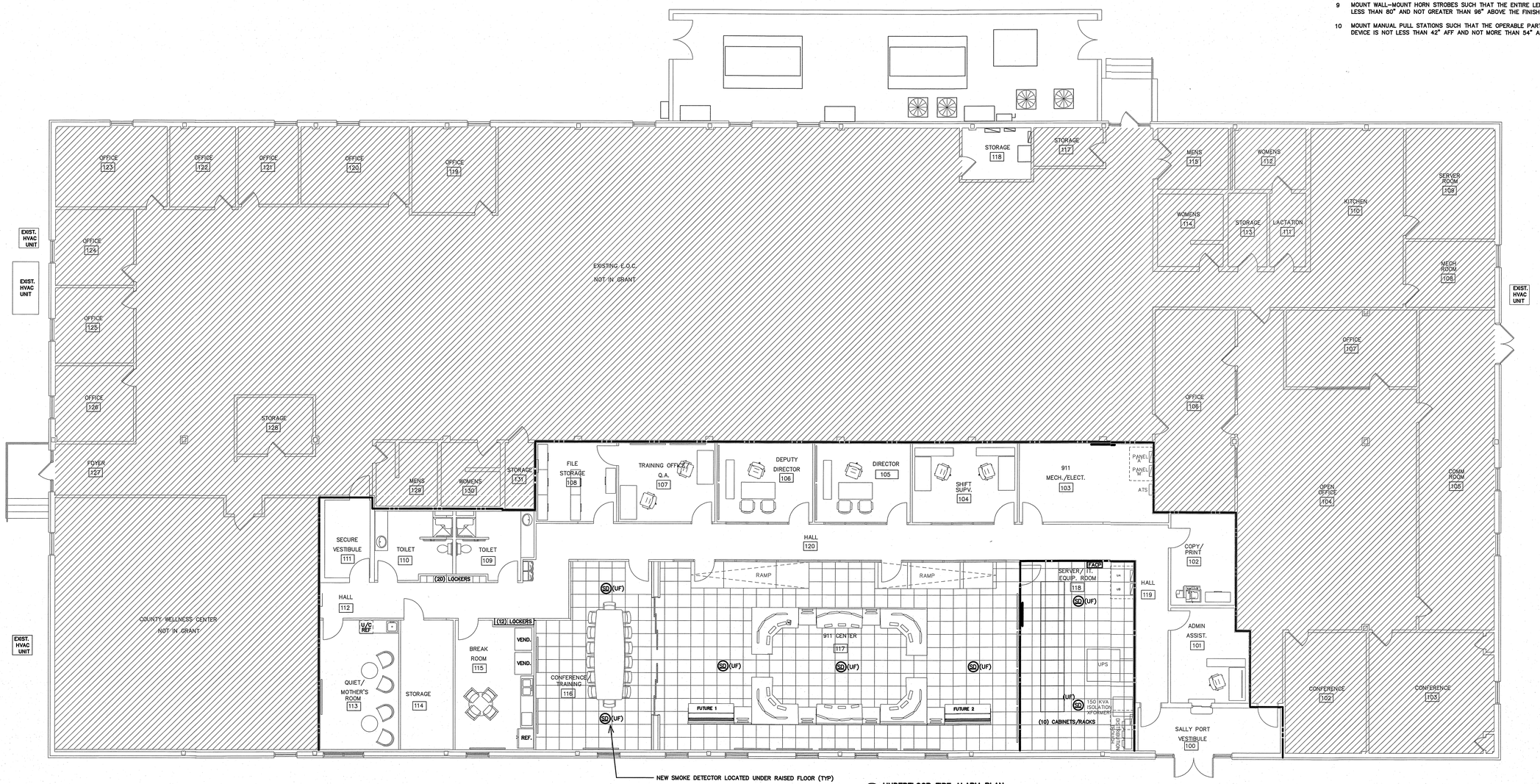
GENERAL CLEAN AGENT NOTES

(APPLY TO THIS SHEET ONLY)

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4. THE MAIN FIRE ALARM PANEL IS LOCATED IN THE RISER ROOM. VERIFY.
5. VERIFY THAT A SD IS ADJACENT TO THE FACP.
6. ALL EXPOSED WIRE SHALL BE IN CONDUIT. ALL WIRING IN ASSEMBLY AREAS MUST BE IN CONDUIT.
7. ALL DEVICES, PANELS, ETC MUST BE BY SAME MANUFACTURER AND COMPATIBLE PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE SYSTEM MEETING ALL CODES.
8. ALL WORK MUST MEET NFPA 72 AND APPLICABLE LOCAL CODES AND ORDINANCES. COORDINATE THE INSTALLATION WITH THE LOCAL FIRE MARSHALL.
9. MOUNT WALL-MOUNT HORN STROBES SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" ABOVE THE FINISHED FLOOR.
10. MOUNT MANUAL PULL STATIONS SUCH THAT THE OPERABLE PART OF THE DEVICE IS NOT LESS THAN 42" AFF AND NOT MORE THAN 54" AFF.



NOTE:
VERIFY HEIGHT/LOCATION OF ALL DEVICES PRIOR TO INSTALLATION.

PROVIDE DUCT SMOKE DETECTORS WITH ALL HVAC EQUIP OVER 5 TONS IN SIZE.

SMOKE DETECTOR IS TO BE WITHIN 5'-0" OF 'FACP'. VERIFY.

1 / FA-3 **UNDERFLOOR FIRE ALARM PLAN**
SCALE: 1/8"=1'-0"

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WHITEVILLE, NORTH CAROLINA

4/12/24

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE

UNDERFLOOR FIRE ALARM PLAN

22001

ISSUED:	4/12/2024
DWG BY:	CE
CKD BY:	BEB

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CLEAN AGENT SYSTEM

1. PROVIDE A COMPLETE CLEAN AGENT FIRE SUPPRESSION SYSTEM IN THE ROOMS INDICATED ON THE FIRE PROTECTION DRAWINGS. THE CLEAN AGENT FIRE SUPPRESSION SYSTEM SHALL BE DESIGNED AND AND INSTALLED IN FULL COMPLIANCE WITH THE REQUIREMENTS OF NFPA 2001.
2. THE CLEAN AGENT FIRE SUPPRESSION SYSTEM SHALL EMPLOY PHOTOELECTRIC AND IONIZATION SMOKE DETECTION, TO BE FURNISHED AND INSTALLED BY THE FIRE ALARM CONTRACTOR.
3. LOCATE CLEAN AGENT CYLINDERS AND PANELS AS INDICATED ON DRAWING. A SINGLE DETECTOR ACTIVATED SHALL CAUSE AN ALARM SIGNAL TO BE GENERATED. A SECOND DETECTOR ACTIVATED SHALL GENERATE A PRE-DISCHARGE SIGNAL AND START THE PRE-DISCHARGE CONDITION.
4. THE SUPPRESSANT SUBSYSTEM SHALL PROVIDE HIGH SPEED RELEASE OF CLEAN AGENT PROVIDING TOTAL FLOODING FIRE PROTECTION FOR ENCLOSED AREAS. A UNIFORM EXTINGUISHING CONCENTRATION SHALL BE PROVIDED. CONCENTRATION SHALL BE AS SPECIFIED IN NFPA 2001 FOR THE CHOSEN CLEAN AGENT.
5. CLEAN AGENT SHALL BE STORED IN MODULAR OR CENTRAL STORAGE STEEL ALLOY STORAGE CONTAINERS COMPLYING W/ DOT SPECIFICATION 4BA OR 4BW AND SHALL BE EQUIPPED W/ DIFFERENTIAL PRESSURE VALVES. NO REPLACEMENT PARTS SHALL BE NECESSARY TO RECHARGE THE CONTAINERS.
6. CLEAN AGENT SHALL BE DISCHARGED THROUGH THE OPERATION OF A SOLENOID OPERATED DEVICE WHICH RELEASES THE AGENT THROUGH A DIFFERENTIAL PRESSURE VALVE. SYSTEMS WHICH EMPLOY EXPLOSIVE OR PYROTECHNIC DEVICE SHALL NOT BE PERMITTED. THE SYSTEM DISCHARGE TIME SHALL BE IN ACCORDANCE WITH THE NFPA 2001 STANDARD OF 10 SECONDS.
7. ALL SYSTEM COMPONENTS SHALL BE NEW AND BY CURRENT MANUFACTURERS AND INSTALLED IN ACCORDANCE WITH LOCAL CODES.
8. THE CONTROL PANELS USED FOR THE AUTOMATIC FIRE DETECTION AND CLEAN AGENT FIRE SUPPRESSION SYSTEM SHALL BE UL/FM APPROVED AND LISTED. THE ELECTRICAL SMOKE DETECTORS UNITS AND WIRING SHALL BE PROVIDED BY THE FIRE ALARM CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR. THE CONTROL PANEL SHALL BE WIRED TO SHUT DOWN MECHANICAL UNITS AND CLOSE DAMPERS WHEN THE CLEAN AGENT SYSTEM IS ACTIVATED.
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10. PROVIDE AN ELECTRICAL STROBE LIGHT TO INDICATE THE CLEAN AGENT SYSTEM IS OPERATING OR DISCHARGING. WIRE TO CONTROL PANEL AND MOUNT 80" AFF, OUTSIDE OF ROOM, AT DOOR TO ROOM.
11. FINAL TESTING AND ACCEPTANCE SHALL BE CONDUCTED IN THE PRESENCE OF THE OWNER REPRESENTATIVE (COMMISSIONING AGENT WHEN APPLICABLE), AND LOCAL AUTHORITY. THE TEST SHALL BE CONDUCTED BY THE CONTRACTOR AND THE CLEAN AGENT SYSTEM MANUFACTURER'S REPRESENTATIVE.
12. CONSULT LOCAL AUTHORITY AS TO HVAC SHUTDOWN REQUIREMENTS AND OTHER CODE REQUIREMENTS.
13. ALL MATERIALS AND WORKMANSHIP SHALL BE UL/FM APPROVED.
14. CLEAN AGENT SYSTEM CONTROL PANEL AND ALL DEVICES SHALL BE COMPATIBLE WITH THE BUILDING FIRE ALARM SYSTEM.

GENERAL NOTES

(APPLY TO THIS SHEET ONLY)

1. ALL PENETRATIONS THROUGH CONSTRUCTION BOUNDARIES OF ROOMS PROTECTED BY CLEAN AGENT FIRE SUSPPRESSION SYSTEMS SHALL BE SEALED GAS-TIGHT BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATIONS PRIOR TO FIRE SUPPRESSION SYSTEM ACCEPTANCE TEST. COORDINATE WITH ALL AFFECTED TRADES. IFTHE SYSTEM DOES NOT PASS THE TEST, RESEAL PENETRATIONS AND RETEST UNTIL SYSTEM PASSES. CONTRACTOR(S) RESPONSIBLE FOR LEAKING PENETRATION(S) SHALL BEAR ANY COSTS ASSOCIATED WITH RETESTING THE FIRE SUPPRSSION SYSTEM.

CLEAN AGENT SYSTEM NOTES

ROOM INFORMATION--

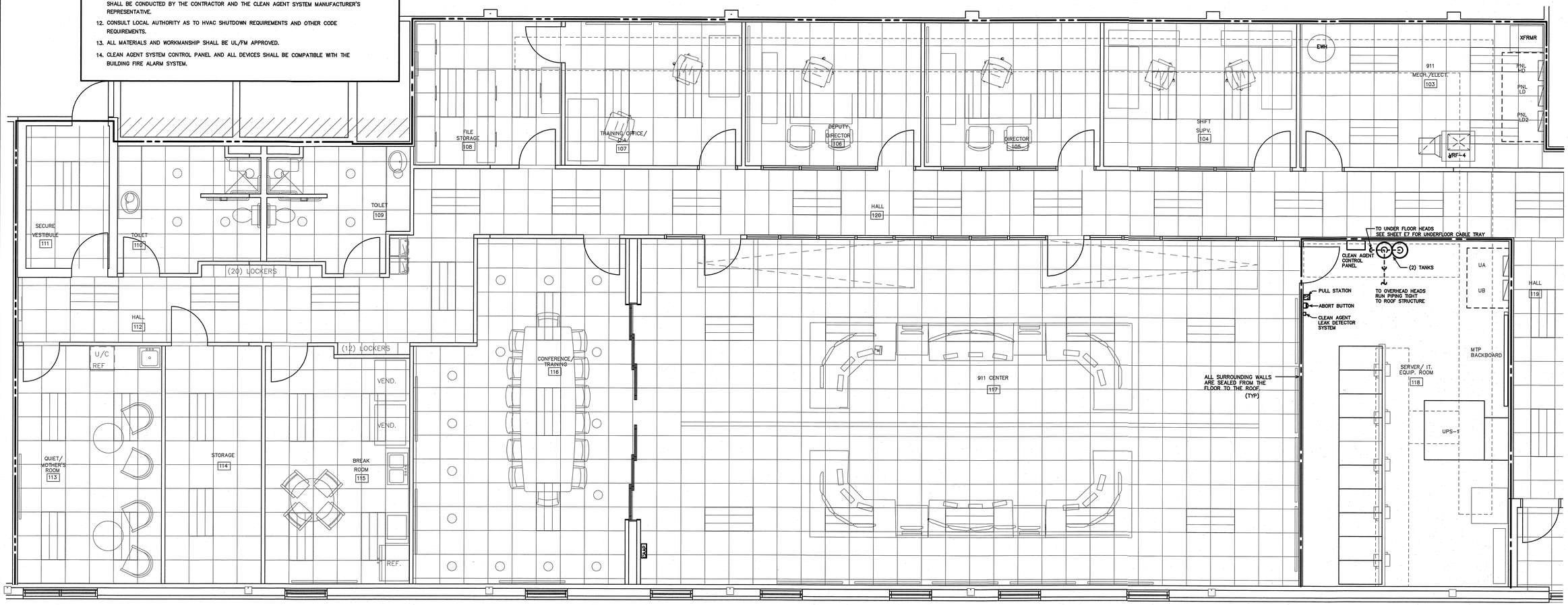
AREA 493 SQ.FT.
SUBFLOOR= 8"
CEILING = 12'-5"

TOTAL VOLUME = 6446.5 ft3
FK 5-1-12 @ 4.5% DESIGN CONCENTRATION
REQUIRE 265 lbs
(2) 322 lb CYLINDERS: (1) MAIN/ (1) RESERVE

PROVIDE POTTER 1PA 60 RELEASE CONTROL PANEL OR EQUAL
(4) PHOTOELECTRIC SMOKE DETECTORS:
2 IN THE ROOM AND 2 IN THE SUBFLOOR

(1) BELL IN ROOM FOR 1ST ALARM
(1) H/S IN ROOM FOR THE PRE-DISCHARGE ALARM
(1) STROBE OUTSIDE DOOR FOR RELEASE ALARM
LABEL ALL DEVICES AS TO FUNCTION

PROVIDE DETECTION AND NOZZLES IN BOTH THE ROOM AND SUBFLOOR



1 / FP-1 FIRE PROTECTION PLAN
SCALE: 1/4"=1'-0"

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SEAL

FIRE PROTECTION PLAN PLAN

22001

ISSUED:	4/12/2024
DWG BY:	LS
CKD BY:	BEB

REVISIONS

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