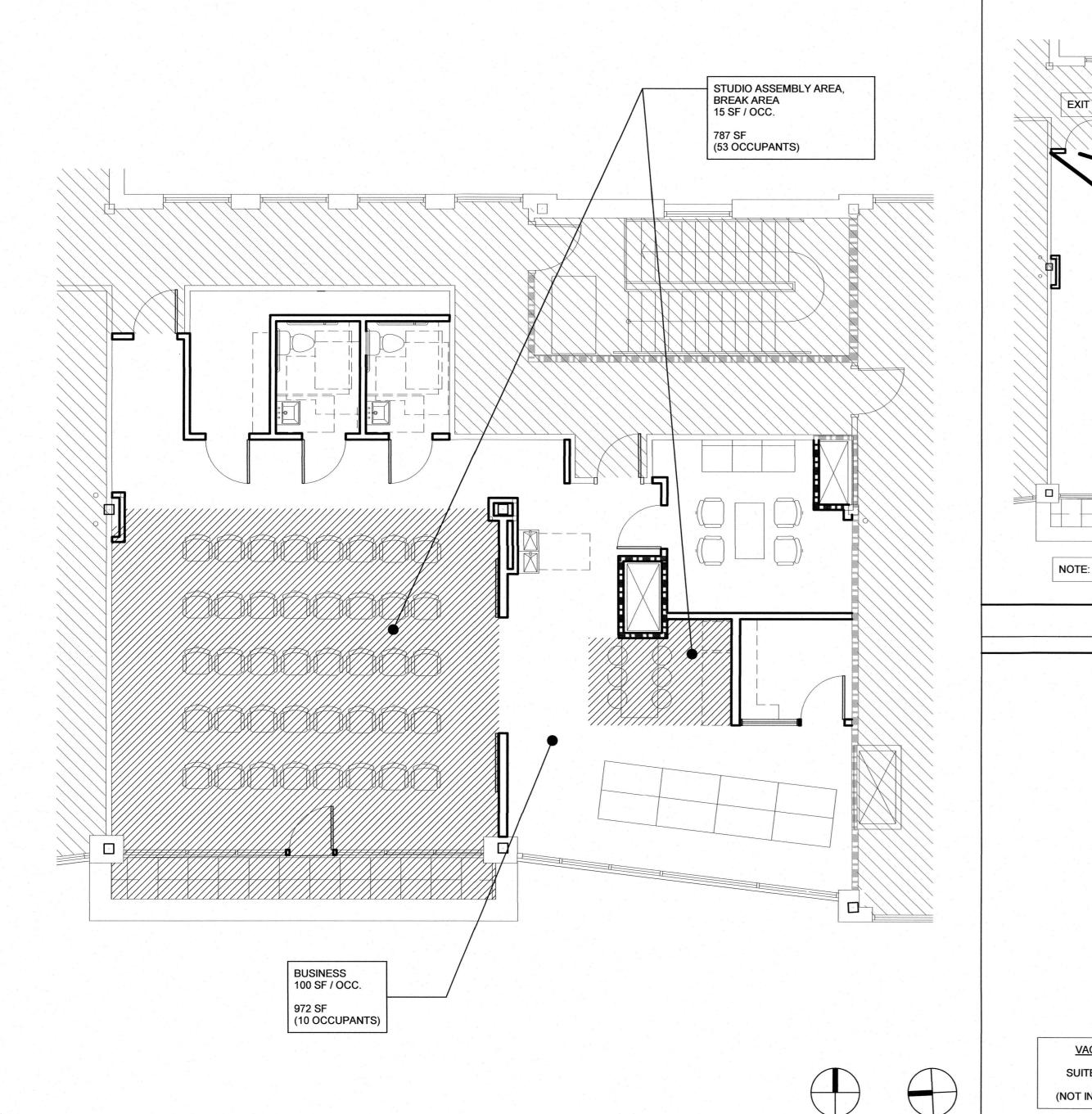
INTERIOR FIT UP FOR

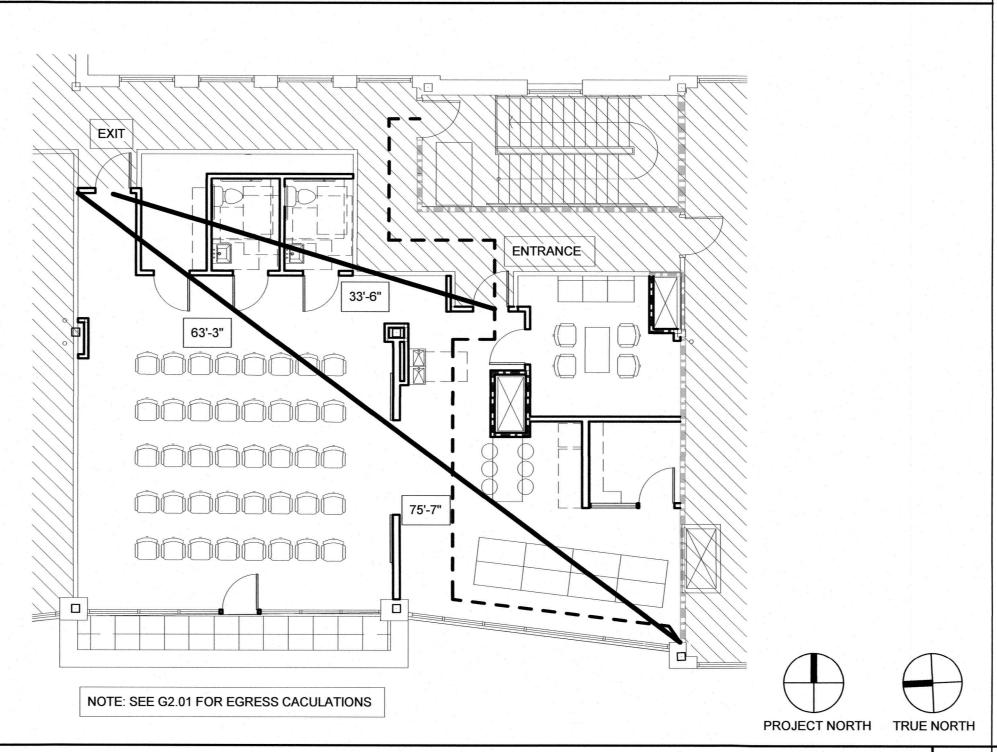
STUDIO 557

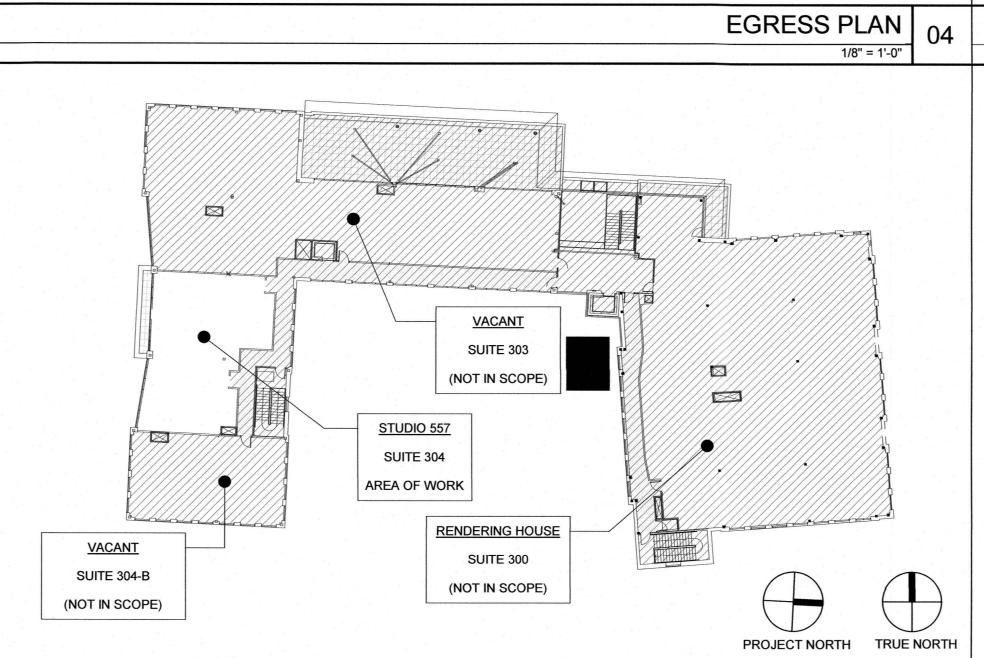
THE BLOCK

300 SOUTH MAIN STREET, SUITE 304 HOLLY SPRINGS, NC 27540



OCCUPANCY PLAN
3/16" = 1'-0"
05





KEY PLAN 03

W BALLENTINE ST E. OAK AVE

INDEX OF DRAWINGS

INDEX OF DRAWINGS

U.L. DETAILS

BUILDING CODE SUMMARY & EGRESS CALC.

NEW WORK FLR. PLN. & ENLGD. TOILET PLAN

PARTITION LEGEND & ADA DIAGRAMS

ELECTRICAL NOTES & SCHEDULES

ELECTRICAL POWER PLAN

ELECTRICAL LIGHTING PLAN

NEW WORK CEILING PLAN

PLUMBING DETAILS

DOOR SCHEDULE + DETAILS

G1.01 COVER SHEET

310 Architecture + Interiors, PA

P.O. BOX 97935 RALEIGH, NC 27624-7935

302 JEFFERSON STREET SUITE 250 RALEIGH, NC 27605

PHONE (919) 838-9310

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PROJECT# 09. 01. 2020

COVER SHEET

G1.01

2018 APPENDIX B **BUILDING CODE SUMMARY** FOR ALL COMMERCIAL PROJECTS

(EXCEPT 1 AND 2 FAMILY DWELLINGS AND TOWNHOUSES)

Owned By	O	. Main St. Suite 304 Holly Spi		DI 9	Zip Code	
Designer						photography.com
Designer						
Architectural 310 Architecture Interiors Walter Sawyer 4804 919-338-9310 wattes@310ai.com Civil Civi	Code Enforcem	nent Jurisdiction: 🛛 🤇	City: Holly Springs		County:	State
Description	Designer	Firm	Name	Lic.#	Phone #	Email
Bectrical Killian Engineering	Architectural	310 Architecture + Interiors	Walter Sawyer	4904	919-838-9310	walters@310ai.com
		- Killian Engineering	- Jacob Bender	046202	252-438-8778	- ihender@kilianengineering.com
Pumbing Killian Engineering Jacob Bender 046202 252.438.8778 bender@kilianengineering Jacob Bender Jacob			Control of the Contro			
Methanical Killian Engineering						
Sprinkler-Standpipe Design Build						
Relating Walls > 5			-	-	202 400 0110	-
Retaining Walls > 5		-				
Other	***************************************					
New Construction						
New Construction					-	•
2018 NC EXISTING BLDG. CODE: (check all that apply)	2018 NC COD		ion 🔲 Sh	ell/Core	□ 1 st Tim	ne Interior Completion
Check all that apply		= = = = = = = = = = = = = = = = = = = =				
Check all that apply	2018 NC EXIS	TING BLDG. CODE:				
Repair			☐ Alt	eration Lev	vel I	☐ Historic Property
Chapter 14			☐ Alt	eration Lev	/el II	
Constructed: (date						
Renovated: (date	Construct					
DCCUPANCY CATEGORY: CURRENT: PROPOSED:						
Sprinklers: □ No □ Partial ⋈ NFPA 13 □ NFPA 13R □ NFPA 13D Standpipes: ⋈ No □ Class II □ Class III □ Wet □ Dry Primary Fire District: ⋈ No □ Yes Flood Hazard Area: ⋈ No □ Yes Yes Special Inspections: No □ Yes Yes Special Inspections: No □ Yes No □ Ye						
Standpipes: No □ Class II □ Class III □ Wet □ Dry Primary Fire District: No □ Yes Flood Hazard Area: □ No □ Yes Special Inspections: □ No □ Yes □ Yes □ Stand Hazard Area: □ No □ Yes Gross Building Area: Floor □ Stand Hazard Area: □ New Unhttp. (SF) SUBTOTA Floor 5 □ - □ - □ - □ - Floor 4 □ - □ - □ - □ - Floor 3 18,820 □ - □ 18,820 □ - □ 18,820 □ - □ 18,820 □ -		Type: 🗌 I-A 🔲 II-A				
Primary Fire District: No	Construction '	Type: ☐ I-A ☐ II-A ☐ I-B 🔯 II-E	B □ III-B		V-B	12B
Special Inspections:	Construction Sprinklers:	Type:	3 □ III-B rtial ⊠	NFPA 13	V-B ☐ NFPA	
FLOOR EXISTING (SF) NEW HTD. (SF) NEW UNHTD. (SF) SUBTOTA Floor 5	Construction Sprinklers: Standpipes:	Type:	B ☐ III-B rtial	NFPA 13	V-B NFPA Class III	☐ Wet ☐ Dry
Floor 4	Construction Sprinklers: Standpipes: Primary Fire I	Type:	B	NFPA 13	V-B NFPA Class III	☐ Wet ☐ Dry
Floor 3	Construction Sprinklers: Standpipes: Primary Fire I Special Inspec	Type: I-A II-A II	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	☐ Wet ☐ Dry Area: ☑ No ☐ Yes
Floor 2	Sprinklers: Standpipes: Primary Fire I Special Inspec Gross Building FLOOR Floor 5	Type: I-A II-A II	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	☐ Wet ☐ Dry Area: ☑ No ☐ Yes
Mezzanine	Sprinklers: Standpipes: Primary Fire I Special Inspec Gross Building FLOOR Floor 5	Type: I-A II-A II-A II-A II-A II-B II	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	Wet ☐ Dry Area: ☑ No ☐ Yes (SF) SUBTOTAL -
Floor 1 20,028 -	Sprinklers: Standpipes: Primary Fire E Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3	Type: -A	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	Wet ☐ Dry Area: ☑ No ☐ Yes (SF) SUBTOTAL 18,820
Basement	Sprinklers: Standpipes: Primary Fire I Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2	Type: -A	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	Wet Dry No Yes (SF) SUBTOTAL -
TOTAL 58,993 58,993 Fit-Up Area: 1681 ALLOWABLE AREA: Primary Occupancy Classification(s): Assembly: A1	Sprinklers: Standpipes: Primary Fire E Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2 Mezzanine	Type: -A	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	Wet Dry No Yes (SF) SUBTOTAL -
Fit-Up Area: 1681	Sprinklers: Standpipes: Primary Fire I Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2 Mezzanine Floor 1	Type: -A	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	Wet Dry No Yes (SF) SUBTOTAL -
Primary Occupancy Classification(s): Assembly: A1 A2 A3 A4 A5 Business: Assembly: A3 A4 A5 Business: Business: Assembly: A3 A4 A5 Educational: Beducational: F-2 Low Beducational: Beducational: <t< td=""><td>Sprinklers: Standpipes: Primary Fire I Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2 Mezzanine Floor 1 Basement</td><td>Type: -A</td><td>B</td><td> NFPA 13 Class II</td><td>V-B NFPA Class III Cod Hazard A</td><td>Wet □ Dry Area: No □ Yes (SF) SUBTOTAL 18,820 - 20,145 20,028 -</td></t<>	Sprinklers: Standpipes: Primary Fire I Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2 Mezzanine Floor 1 Basement	Type: -A	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	Wet □ Dry Area: No □ Yes (SF) SUBTOTAL 18,820 - 20,145 20,028 -
Assembly:	Sprinklers: Standpipes: Primary Fire I Special Inspecial Inspectation I	Type: -A	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	Wet □ Dry Area: No □ Yes (SF) SUBTOTAL 18,820 - 20,145 20,028 -
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-1 Condition I I I I I I I I I I I I I I I I I I I	Sprinklers: Standpipes: Primary Fire I Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2 Mezzanine Floor 1 Basement TOTAL Fit-Up Area: 1	Type: -A	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	Wet □ Dry Area: No □ Yes (SF) SUBTOTAL
Educational:	Sprinklers: Standpipes: Primary Fire D Special Inspecial Inspectation Insp	Type: -A	B	NFPA 13 Class II	V-B NFPA Class III Cod Hazard A	Wet □ Dry Area: No □ Yes (SF) SUBTOTAL
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-1 Condition I I I I I I I I I I I I I I I I I I I	Sprinklers: Standpipes: Primary Fire I Special Inspect Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2 Mezzanine Floor 1 Basement TOTAL Fit-Up Area: 1 ALLOWABLE Primary Occur	Type: -A		NFPA 13 Class II Fid F	V-B NFPA Class III Dod Hazard A	Wet □ Dry Area: No □ Yes (SF) SUBTOTAL
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-1 Condition I I I I I I I I I I I I I I I I I I I	Sprinklers: Standpipes: Primary Fire D Special Inspecial Inspectation Inspecial Inspectation Inspectati	Type: -A		NFPA 13 Class II Fid F	V-B NFPA Class III Dod Hazard A	Wet □ Dry Area: No □ Yes (SF) SUBTOTAL
Institutional:	Sprinklers: Standpipes: Primary Fire I Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2 Mezzanine Floor 1 Basement TOTAL Fit-Up Area: 1 ALLOWABLE Primary Occu Asse	Type: -A		NFPA 13 Class II Fid F	V-B NFPA Class III Dod Hazard A	Wet □ Dry Area: No □ Yes (SF) SUBTOTAL
Institutional:	Sprinklers: Standpipes: Primary Fire D Special Inspecial Inspectation Ins	Type: -A	III-B	NFPA 13 Class II Fid F	V-B NFPA Class III Dod Hazard A	Wet □ Dry Area: No □ Yes (SF) SUBTOTAL
-1 Condition	Sprinklers: Standpipes: Primary Fire I Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2 Mezzanine Floor 1 Basement TOTAL Fit-Up Area: 1 ALLOWABLE Primary Occu Asse Bus Educar Fa	Type: -A	III-B	NFPA 13 Class II Fid F	V-B NFPA Class III Dod Hazard A	Wet Dry Area:
I-2 Condition	Sprinklers: Standpipes: Primary Fire D Special Inspecial Inspectation	Type: -A	III-B	NFPA 13 Class II Fid F	V-B NFPA Class III Dod Hazard A	Wet Dry Area:
	Sprinklers: Standpipes: Primary Fire D Special Inspecial Inspectation	Type: -A	III-B	NFPA 13 Class II Fid F	V-B NFPA Class III Dod Hazard A	Wet Dry Area:
	Sprinklers: Standpipes: Primary Fire E Special Inspecial Inspectation In	Type:	III-B III-	NFPA 13 Class II Fid F	V-B NFPA Class III Dod Hazard A	Wet Dry Area:
Mercantile: ⊠ Residential: □ R-1 □ R-2 □ R-3 □ R-4	Sprinklers: Standpipes: Primary Fire D Special Inspec Gross Building FLOOR Floor 5 Floor 4 Floor 3 Floor 2 Mezzanine Floor 1 Basement TOTAL Fit-Up Area: 1 ALLOWABLE Primary Occu Asse Bus Educa Fa Hazar Institut	Type: -A	III-B III-	NFPA 13 Class II Fid F	V-B NFPA Class III Dod Hazard A	Wet Dry Area:

		+	-		≤ 1.00
STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) ⁴ TABLE 506.2 AREA	(C) ^{1,5} AREA FOR FRONTAGE INCREASE	(E) ^{2,3} ALLOWABLE AREA PER STORY OR UNLIMITED
1	B/M/A-2	20,028	9,500	65%	34,675
2	B/M/A-2	20,145	9,500	65%	34,675
3	B/M/A-2	18,820	9,500	65%	34,675
	=	-		• ***	•() / / / / / / / / / / / / / / / / / / /
4	-		=		

Actual Area of Occupancy B

Allowable Area of Occupancy B

Exception: (select one)

≤ 1

Mercantile: ☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage

(This separation is not exempt as a Non-Separated Use (see exceptions)

Utility and Miscellaneous:

Incidental Uses (Table 509):

Mixed Occupancy: Non-Separated

Accessory Occupancy Classification(s): ____

Special Uses (Ch. 4 - list code sections): 406

Actual Area of Occupancy A

Allowable Area of Occupancy A

¹ Frontage area increases from Section 506.2 are computed thus:			
	=	824	(F)
b. Total Building Perimeter	=	916	(P)
c. Ratio (F/P)	=	.65	_ ` ´ (I
d W = Minimum width of public way	=	30	(W)

² Unlimited area applicable under conditions of Section 507. ³ Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).

⁴ The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1. ⁵ Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT:

	ALLOWABLE (TABLE 503)	SHOWN ON PLANS	CODE REFERENCE	•
Building Height in Feet (Table 504.3)	55	48	504.3	
Building Height in Stories (Table 504.4)	2	3	504.9	
				•

FIRE PROTECTION REQUIREMENTS:

	FIRE SEPARATION		RATING	DETAIL#	DESIGN#	DESIGN # FOR	5
BUILDING ELEMENT	DISTANCE (FEET)	REQ'D	PROVIDED (W/ REDUCTION)*	AND SHEET#	RATED ASSEMBLY	RATED PENETRATION	
Structural Frame							
Including Columns,							
Girders, Trusses							
Bearing Walls	-	-	-	-	-		
Exterior	-	-	-	-	-	-	
North	≥30'	-				-	
East	≥30'	-	-		-		
West	≥30'	-		-	-	-	Ι.
South	≥30'	-		- :	-	-	
Interior	≥30'	-		- Fa	-	- 1,	
Nonbearing Walls and Partitions							
Exterior Walls	-		-		-		
North	≥30'	-	-		-	-	
East	≥30'			-	-	-	Ι.
West	≥30'		-	-	-	-	
South	8'		-			-	
Interior walls and parts	-	-	•	-	-	1.	
Floor Construction including supporting beams and joists		1 HR	1 HR	G3.01	N764	- 1	
Floor-Ceiling Assembly		- 77			-	-1,12	
Columns Supporting Flo	ors	-	-	-	-		-
Roof Construction including supporting beams and joists				_			
Roof-Ceiling Assembly		-	-	-	-	-	-
Columns supporting root	fs	-	-		_		-
Shaft Enclosures - Exit		1 HR	1 HR	G3.01	U419/D503	WL1001	-
Shaft Enclosures - Other	r (Elevator)	1 HR	1 HR	7	U906/U469	CAJ1040/ WL1001	
Shaft Enclosures - Chas	ie	1 HR	1 HR	G3.01	U419	WL1001	-
Corridor Separation		0 HR	0	-	-		-
Occupancy/ Separation	(Parking)	2 HR	1 HR	G3.01	U906/N764	CAJ1040	
Party/Fire Wall Separation		-			-	-	Ι.
Smoke Barrier Separation	on	-	-	, -	-	-	
Smoke Partition		-	- 1		- , , ,		
Tenant / Dwelling Unit / Sleeping Unit Separation	1	-	- -	-			
Incidental Use Separation	on.	1	-		-	-	-
Columns Supporting Rati Construction Over Parki	ted	2 HR	2 HR	G3.01	X798	- 1	

PERCENTAGE OF WALL OPENING CALCULATIONS: (SEE SHELL BUILDING DRAWINGS)

FIRE SEPARATION DISTANCE FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
-			-
	-		
-		-	
•	-7.	-	• 100
-	•		- 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7

LIFE SAFETY SYSTEM REQUIREMENTS:

	• • • • • • • • • • • • • • • • • • • •	1 To 1	
Primary Occupancy Classif	ication(s):		
Emergency Lighting:	☐ No	Yes	
Exit Signs:	☐ No	Yes	
Fire Alarm:	☐ No	Yes	
Smoke Detection Systems:	☐ No		

Carbon Monoxide Detection: No Yes

LIFE SAFETY PLAN REQUIREMENTS:

Life Safety Plan Sheet #: G1.01

- 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

ACCE	SSIBLE D	WELL	ING UN	NITS:	(SECTION	1107)

TOTAL UNITS	ACCESS . UNITS REQ'D	ACCESS. UNITS PROVIDED	TYPE A UNITS REQ'D	TYPE A UNITS PROVIDED	TYPE B UNITS REQ'D	TYPE B UNITS PROVIDED	TOTAL ACCESS. UNITS PROVIDED
	-			-	-	-	-

	TOTAL # OF PA	RKING SPACES	# OF ACCESS	IBLE SPACES PR	OVIDED		
LOT OR			REGULAR WITH	VAN SPACES WITH		TOTAL # ACCESSIBLE	
PARKING AREA	REQUIRED	PROVIDED	5' ACCESS AISLE	132" AISLE	8' AISLE	PROVIDED	
-			1 v 1 - m				
	-	-		-1.	-		
TOTAL				-	· , · •		

PLUMBING FIXTURE REQUIREMENTS: (TABLE 2902.1)

1	JSE	WA	TER CLOS	ETS	URINALS	L	AVATORIE	S	SHOWERS	DRINKING	FOUNTAINS
	JOL	MALE	FEMALE	UNISEX	ORTHALO	MALE	FEMALE	UNISEX	/TUBS	REGULAR	ACCESSIBLE
	EXISTING		-	Η.	-		-	-	-	-	
SPACE	NEW	1	1	-		1	1	-	-	-	2
#	REQUIRED	1	1	-	- 7	. 1	1	×", •		-	2

SPECIAL APPROVALS:

ENERGY REQUIREMENTS

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 vs annual energy cost for the proposed design.

R	oof/Ceiling Assembly (each assembly)		
	Description of assembly		
	U-Value of total assembly		1
	R-Value of insulation	a ⁸	
	Skylights in each assembly		

Exterior Walls

U-Value of total assembly
R-Value of insulation
Openings (windows or doors with glazing)
U-Value of assembly
SHGC
Projection factor
Door D Values

Total square footage of skylights in each assembly ____

Walls below grade (each assembly)

Description of assembly	
U-Value of total assembly	
R-Value of insulation	

Floors over unconditioned space (each assembly) Description of assembly ---

U-Value of total assembly

Floors slabs on grade

is slabs on grade				
Description of assembly				
U-Value of total assembly	P v			
R-Value of insulation				
Horizontal / vertical requirement				
	Description of assembly U-Value of total assembly R-Value of insulation	Description of assembly U-Value of total assembly R-Value of insulation	Description of assembly U-Value of total assembly R-Value of insulation	Description of assembly U-Value of total assembly R-Value of insulation

113	I ILLE	TROVIDED	NEQ D	FROVIDED	- REQU	- FROVIDED	PROVIDED
TAL ITS	ACCESS . UNITS REQ'D	ACCESS. UNITS PROVIDED	TYPE A UNITS REQ'D	TYPE A UNITS PROVIDED	TYPE B UNITS REQ'D	TYPE B UNITS PROVIDED	TOTAL ACCESS. UNITS PROVIDED

STRUCTURAL DESIGN:

Live Loads:

Wind Load:

SEISMIC DESIGN CATEGORY:

SOIL BEARING CAPACITIES:

Thermal Zone

winter dry bulb

summer dry bulb

Interior design conditions

winter dry bulb summer dry bulb relative humidity

Building heating load

Building cooling load

Mechanical Spacing Conditioning System

Description of unit Heating efficiency

Cooling efficiency Size category of unit

Size category

Size category

Method of Compliance:

Lighting Schedule

List equipment efficiencies

If oversized, state reason.

If oversized, state reason.

ELECTRICAL SUMMARY: (SEE ELECTRICAL DRAWINGS)

Lamp type required in fixture

Provide the following Seismic Design Parameters:

Spectral Response Acceleration

Site Classification (ASCE 7)

Data Source: Basic Structural System (check one)

Ground Snow Load:

Important Factors: Wind (I_W)

Snow (Is)

Seismic (I_E)

Mezzanine

Basic Wind Speed

Exposure Category

Occupancy Category (Table 1604.5):

☐ Moment Frame ☐ Inverted Pendulum

Architectural, Mechanical, Components anchored? Yes No

LATERAL DESIGN CONTROL: Earthquake Wind

SPECIAL INSPECTIONS REQUIRED? Yes No

MECHANICAL SUMMARY: (SEE MECHANICAL DRAWINGS)

MECHANICAL SYSTEMS, SERVICE SYSTEMS, AND EQUIPMENT

Field Test (provide copy of test report)

Presumptive Bearing capacity Pile size, type, and capacity

Analysis Procedure Simplified Equivalent Lateral Force Dynamic

☐ Bearing Wall ☐ Dual with Special Moment Frame

☐ Building Frame ☐ Dual with Intermediate R/C or Special Steel

(N/A FOR FIT-UP - SEE SHELL BUILDING DRAWINGS)

□A □B □C □D

 S_s --- %q S_1 --- %q

□A □B □C □D □E □F ☐ Field Test ☐ Presumptive ☐ Historical Data

--- mph (ASCE-7)

ACCESSIBLE PARKING: (SECTION 1106) (SEE SHELL BUILDING DRAWINGS)

	TOTAL # OF PA	RKING SPACES	# OF ACCESS			
LOT OR	10		REGULAR WITH	VAN SPACES WITH		TOTAL # ACCESSIBLE
PARKING AREA	ING AREA REQUIRED PROVIDED 5' ACCESS AISLE 1:	132" AISLE	8' AISLE	PROVIDED		
-	-		1 V - 71	-	100	
	-	-		-1. :	-	-
TOTAL						-

,	JSE	WA	TER CLOS	ETS	URINALS LAVATORIES		SHOWERS	DRINKING FOUNTAINS			
	JOL	MALE	FEMALE	UNISEX	ORTHALO	MALE	FEMALE	UNISEX	/TUBS	REGULAR	ACCESSIBLE
	EXISTING		-	-	-			-		-	1 - 1
SPACE	NEW	1	1	-		1	1		-	-	2
	REQUIRED	1	1	-		1	1	× 2 -			2

Special Approval: (Local Jurisdiction, Dept. of Insurance, OSC, DPI, DHHS, etc.)	
Describe Below:	

Describe Below:	

ENERGY SUMMARY: (SEE SHELL BUILDING DRAWINGS)

The following data shall be considered minimum and any special attribute required to meet the

Existing building envelope complies with code: ____

Exe	empt buildings:	(Provide code or statutory reference)
	Climate Zone:	
	Method of Compliance	·

THERMAL ENVELOPE (Prescriptive method only)

R	f/Ceiling Assembly (each assembly)	
	Description of assembly	
	U-Value of total assembly	
	R-Value of insulation	
	Skylights in each assembly	

Description of assembly	
U-Value of total assembly	
R-Value of insulation	
Openings (windows or doors with glazing)	
U-Value of assembly	
SHGC	
Designation factor	

Door R-Values

Description of assembly	
U-Value of total assembly	-
P Value of inculation	

R-Value of insulation

Number of Lamps in fixture	
Ballast type used in fixture	
Number of ballasts in fixture	
Total wattage in fixture	
Total interior wattage spec'd vs. allowed	
Total exterior wattage spec'd vs. allowed	

Additional Prescriptive Compliance

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

NUMBER AND ARRANGEMENT OF EXITS:

	MINIMUM OF E	NUMBER XITS	TRAVEL I	DISTANCE	ARRANGEMENT OF MEANS OF EGRESS				
FLOOR, ROOM, OR SPACE DESIGNATION	REQUIRED	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS			
Fit-Up Area	2	2	250'	75'-7"	21'	33'-6"			
		× 1							
					1				
						-			

EXIT WIDTH:

USE GROUP OR		AREA PER	CALULATED OCCUPANT	WIDT	RESS H PER JPANT		JIRED DTH	SHOV	WIDTH VN ON ANS
SPACE DESIGNATION	AREA	OCCUPANT	LOAD	STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
Studio, Break	787	15	53		104				
Office, Balcony	972	100	10	- L		-	1		
						1	1000		
	× 2								
					0 2				.7
	16			-					
					-				
	7.5					F , 9			v .
TOTAL	1760		63	.3	.2	18.9"	12.6"	96"	64"

BUILDING CODE SUMMARY

SCALE: -

02

EGRESS CALCULATIONS

310 Architecture + Interiors, PA

P.O. BOX 97935 RALEIGH, NC 27624-7935

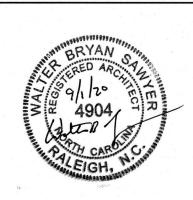
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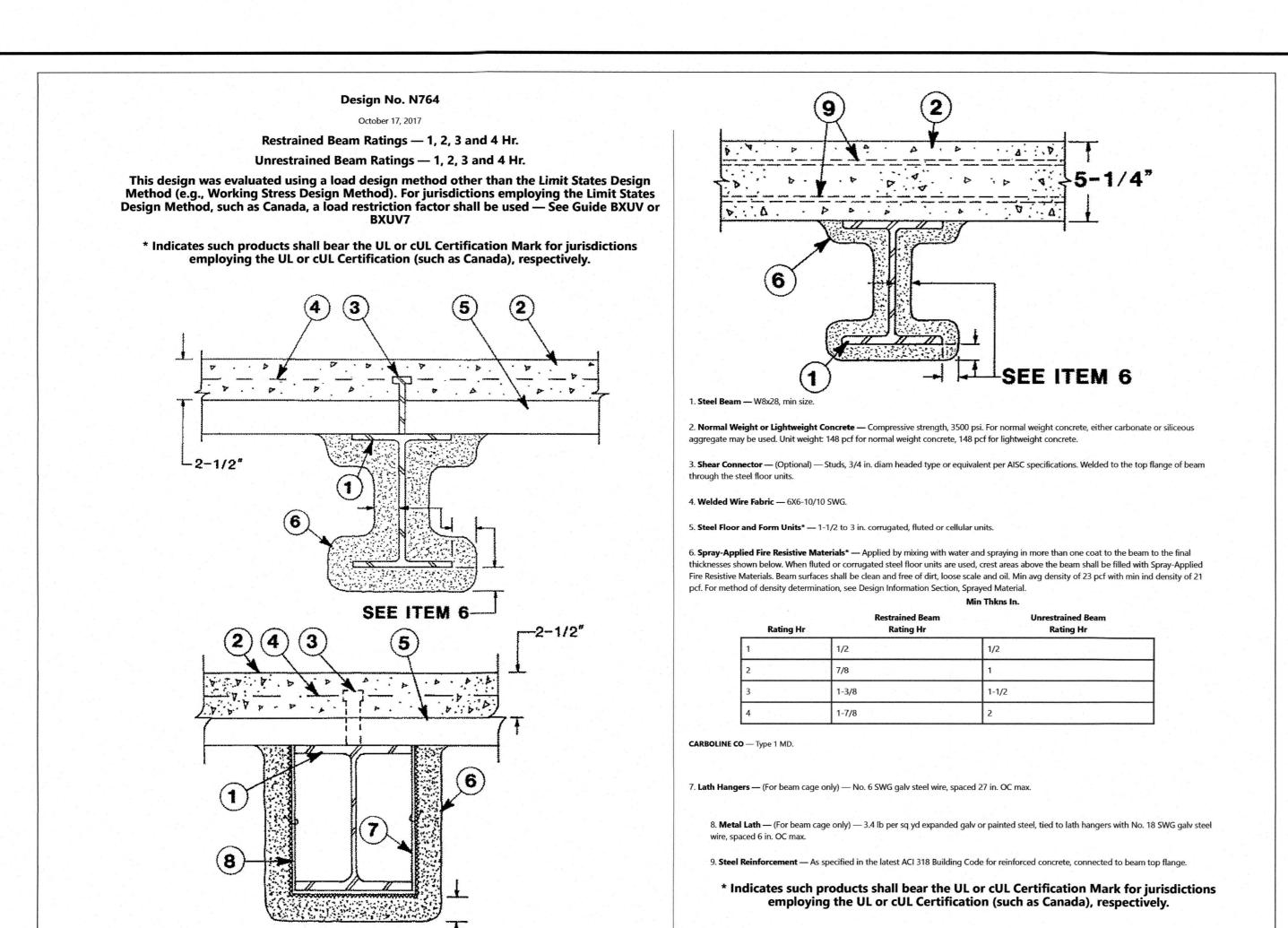


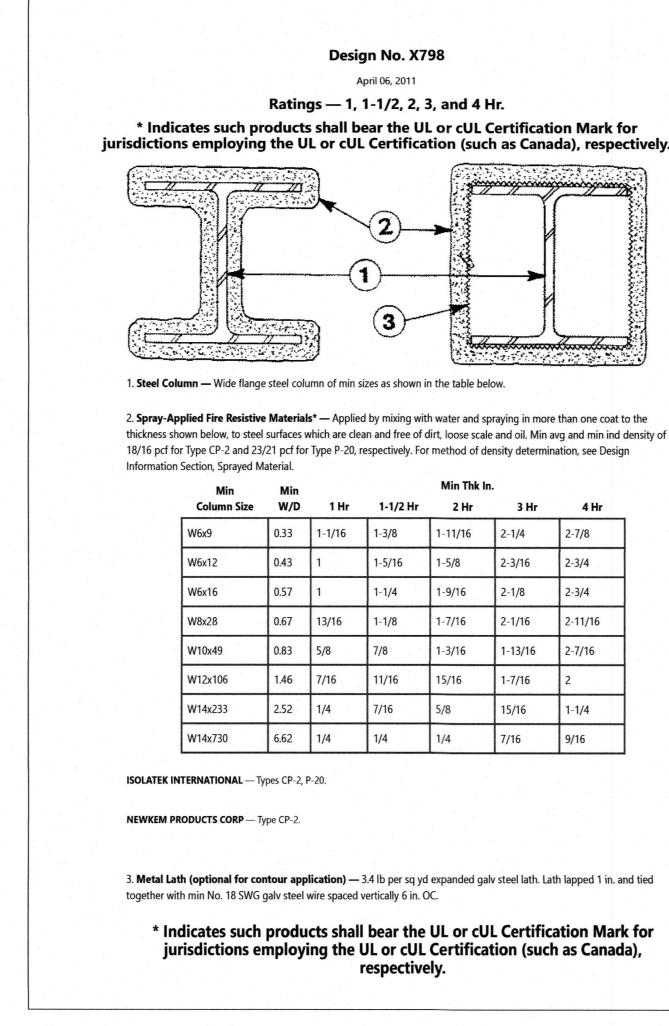
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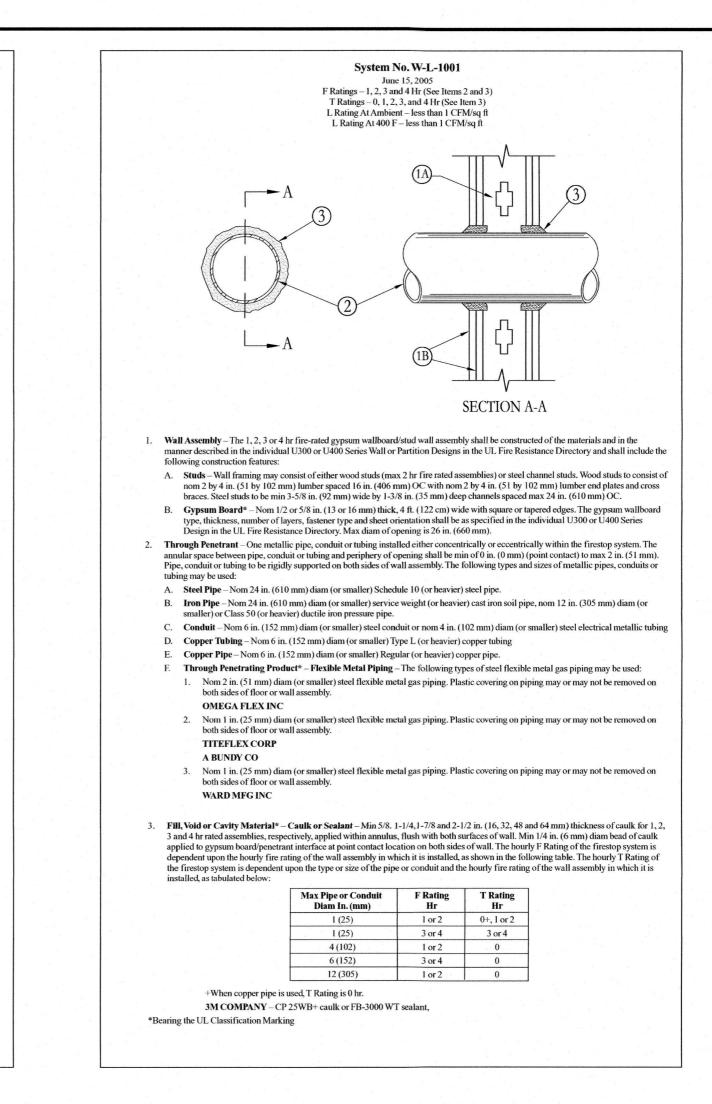
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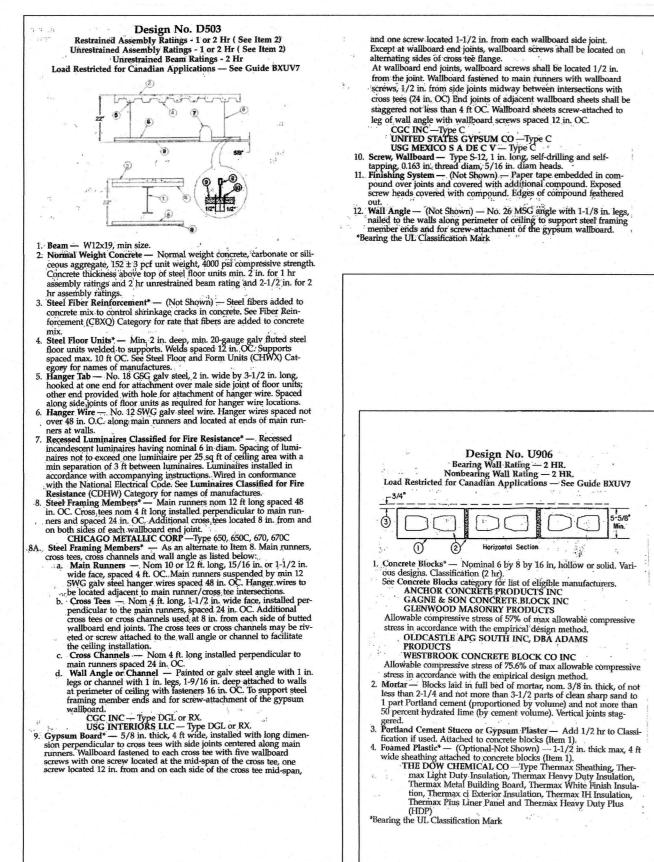
PROJECT# 20061 DATE: 09. 01. 2020 DRAWN BY: MAS CHECKED BY: ALH / WBS REVISION **BUILDING CODE** SUMMARY &

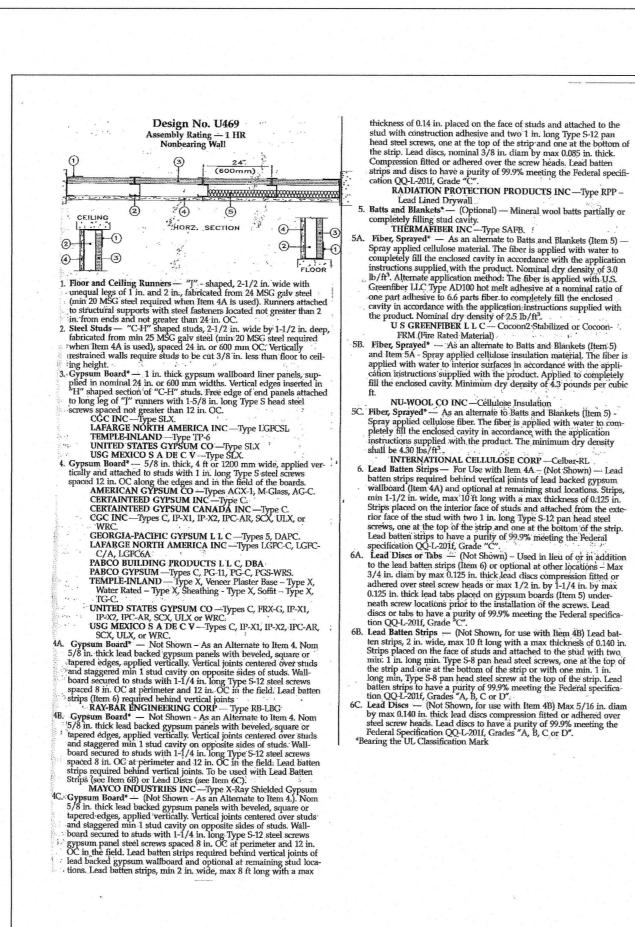
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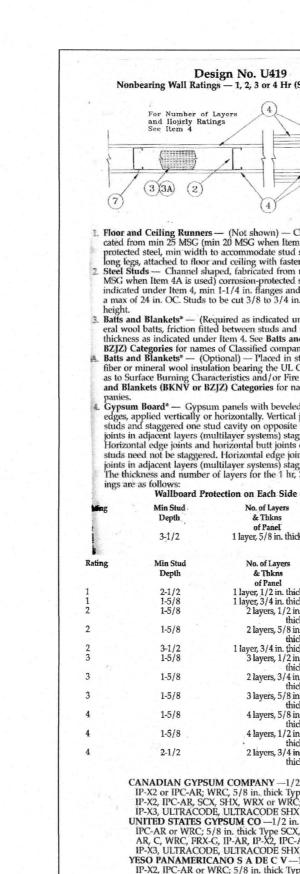


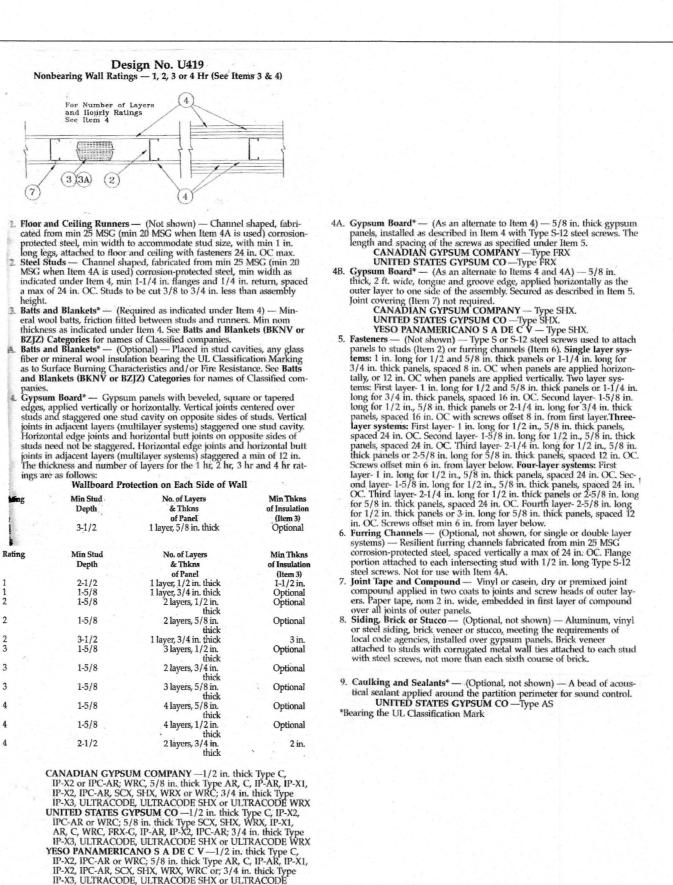


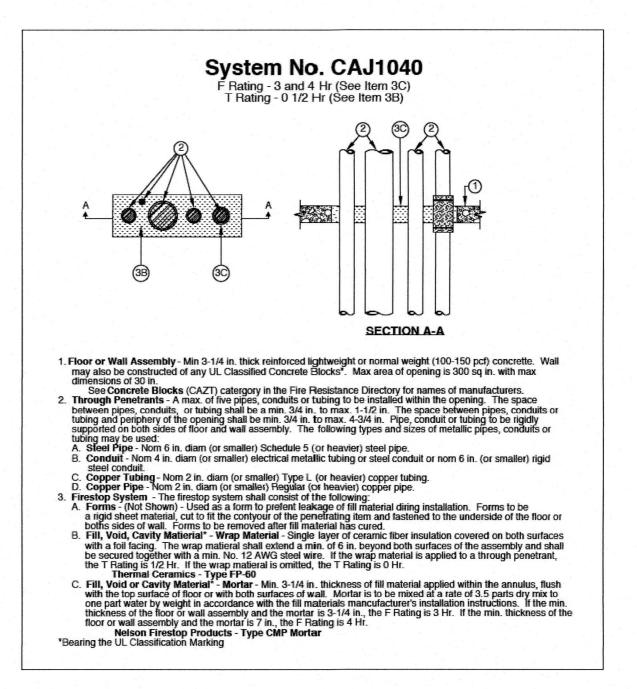














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U.L. DETAILS

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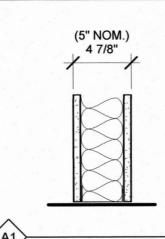
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PROJECT# 20061 DATE: 09. 01. 2020 DRAWN BY: MAS CHECKED BY: ALH / WBS REVISION DATE

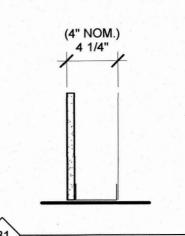
PARTITION LEGEND & ADA DIAGRAMS

GENERAL PARTITION NOTES:

- AT RATED FIRE WALLS, FIRE BARRIERS, AND FIRE PARTITIONS, PROVIDE STENCILED SIGNAGE "X-HR FIRE AND SMOKE BARRIER -PROTECT ALL OPENINGS" IN 2-IN. HIGH LETTERING 15-FT O.C. ABOVE CEILINGS EACH SIDE OF PARTITION. AT EXIT PASSAGEWAYS (IF ANY), SIGNAGE SHALL READ "2-HR **EXIT PASSAGEWAY - DO NOT** PENETRATE".
- AT NEW FIRE-RATED WALLS (IF ANY) PROVIDE HEAD-OF-WALL DETAIL PER AN ACCEPTABLE U.L. ASSEMBLY. PROVIDE THRU-WALL PENETRATION DETAILS PER P.M.E. DRAWINGS.
- WHERE PARTITIONS ABUT STRUCTURE ABOVE, PROVIDE VERTICAL SLIP TRACK (OR OTHER APPROVED METHOD) TO AVOID IMPARTING LOADS INTO PARTITIONS.
- WHERE PARTITIONS DO NOT EXTEND TO STRUCTURE ABOVE, BRACE TOPS OF PARTITIONS 8-FT O.C. HORIZONTALLY TO ADJACENT WALLS OR WITH METAL STUD KICKERS TO STRUCTURE
- WHERE CERAMIC TILE IS INDICATED AS THE FINISH MATERIAL, PROVIDE 1/2" CEMENTITIOUS BACKER BOARD IN LIEU OF GWB.
- PROVIDE MOISTURE-RESISTANT GWB WITHIN ALL **TOILET ROOMS AND WITHIN 4-**FT OF ALL PLUMBING FIXTURES.
- ALL PARTITIONS ARE TO BE TYPE "A1" UNLESS NOTED OTHERWISE ON PLANS.



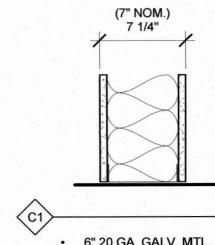
- 3-5/8" 20 GA. GALV. MTL. STUDS 16" O.C. FROM FLR. TO 6" ABOVE CEILING • 5/8" F.C. GWB EA. SIDE
- FULL HT. OF STUDS 3-1/2" UNFACED ACOUSTIC INSULATION FULL HT. OF STUDS



3-5/8" 20 GA. GALV. MTL. STUDS 16" O.C. FROM FLR. TO UNDERSIDE OF ROOF DECK ABOVE
 5/8" F.C. GWB AT ROOM

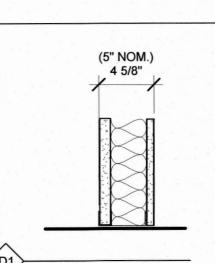
SIDE FULL HT. OF STUDS

- 3-5/8" 20 GA. GALV. MTL. STUDS 16" O.C. FROM FLR. TO UNDERSIDE OF ROOF DECK ABOVE
 5/8" F.C. GWB EA. SIDE FULL HT. OF STUDS
 3-1/2" UNFACED ACOUSTIC INSULATION FULL HT. OF STUDS



- 6" 20 GA. GALV. MTL. STUDS 16" O.C. FROM FLR. TO UNDERSIDE OF ROOF DECK ABOVE
 5/8" F.C. GWB EA. SIDE
- FULL HT. OF STUDS

 6" UNFACED ACOUSTIC INSULATION FULL HT. OF STUDS



- 4" 20 GA. GALV. MTL.
 SHAFTWALL STUDS 24"
 O.C. FROM FLR. TO
 UNDERSIDE OF ROOF
- DECK ABOVE

 5/8" F.C. GWB TENANT SIDE FULL HT. OF STUDS

 1" F.C. GYP. LINER PANEL SHAFT SIDE FULL HT. OF
- 3" UNFACED ACOUSTIC INSULATION FULL HT. OF
- STUDS
 1-HR FIRE RATING PER U.L. U415

ADA DIAGRAMS 3/8" = 1'-0"

ACCESSIBLE LAVATORY -

FRONT

2' - 6" CLR

(MIRROR)

3' - 0" CLR. WDTH.

PROVIDE AT FRONT APPROACH SINKS

ACCESSIBLE LAVATORY -

4' - 0" CLR

SIDE

ACCESSIBLE EWC'S - FRONT

ACCESSIBLE TOILET - SIDE

5' - 0" CLR

3' - 4"

ACCESSIBLE TOILET - FRONT

33" MIN. 36" MAX.

5' - 0" CLR

02

PARTITION LEGEND

1 1/2" = 1'-0"

Section 01 10 00 - SUMMARY

- A. General: The Project shall consist of the first-generation up-fit of an existing shell building. The Work shall include, but not be limited to, interior partitions, interior glazing, aluminum frames, wood doors, acoustic insulation, and electrical, fire alarm, and sprinkler construction.
- B. The General Conditions for the Contract for Construction, AIA Document A201, current edition, is hereby included by reference in these project documents. The form of agreement shall be AIA Document A101 Standard Form of Agreement between Owner & Contractor - Stipulated Sum.
- C. Coordinate operations of all subcontractors to maintain agreed-upon schedule.
- D. Owner-furnished products:
- 1. Contractor is responsible for receiving, unloading, and handling
- Owner-furnished items at project site. 2. Contractor is responsible for protecting Owner-furnished items from
- damage during storage and handling, including damage from exposure to elements. 3. Contractor shall install and incorporate Owner-furnished items into the
- Schedule of Owner-furnished products: Light fixtures, plumbing fixtures,

millwork, barn door and track, appliances, doors and door hardware.

the work. Such occupancy does not constitute acceptance of the work.

- E. Owner Occupancy: Owner reserves the right to occupancy and to place and install equipment in completed areas of building, before substantial completion, provided such occupancy does not interfere with the completion of
- 1. Contractor shall secure and pay for all required permits, fees, licenses, and inspections necessary for the completion of the work.
- 2. All work shall be performed in accordance with the NC Building Code, ADA, and all other applicable regulations (current editions).
- G. Contractor shall conduct walk-thru of project with Owner to confirm locations of all power and data receptacles upon placement of junction boxes and prior to wiring.

Section 01 26 00 - CONTRACT MODIFICATION PROCEDURES

- A. Owner-initiated proposal requests: Architect will issue a detailed description of proposed changes in the work that may require adjustment to the contract sum or time. If necessary, the description will include supplemental or revised drawings and specifications.
- 1. Proposal requests issued by the architect are for information only, not to stop work in progress or to execute the proposed change.
- 2. Within 5 days of proposal request, submit a quotation estimating adjustments to contract sum and time necessary to execute change.
- a. Include listing of quantities of products required or deleted from project scope. b. Include applicable taxes, delivery charges, equipment rental, and trade discounts c. Include costs of labor and supervision directly attributable to the change. d. Include updated construction schedule.
- B. Contractor-Initiated Proposals: If latent of unforeseen conditions require modifications to the contract, contractor may propose changes by submitting request
- 1. Include a statement describing reasons for change, and its effect on the cost
- and schedule required to complete the Work. 2. Include lists of quantities of products required or eliminated from the work to
- effect the proposed change. 3. Indicate labor and supervision related to the change, plus all applicable taxes,
- delivery charges, equipment rental, and trade discounts. 4. Include updated construction schedule.

Section 01 29 00 - PAYMENT PROCEDURES

- A. Transmittal: Submit Three (3) Signed and notarized copies of each Application for Payment to the Architect. One copy shall include Waivers of Lien and similar attachments if required.
- B. Coordinate submission date of Application for Payment with Owner prior to start of job.
- C. Applications for Payment shall be made monthly on AIA Form G702/G703, in accordance with the approved Schedule of Values provided to Owner and Architect prior to start of project.

Section 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

- A. Preconstruction Conference: Schedule Preconstruction conference at a time and location convenient to Owner and Architect, and in conformance with Contractor's approved project schedule. Review personnel assigned to project, schedule, major subcontractors, job-site safety, work restrictions, working hours, status of permits, testing and inspection procedures, parking, and progress cleaning.
- B. Preinstallation Conferences: Conduct preinstallation conference prior to activities that require significant coordination with other construction. Attendees shall include all those persons involved with installation, coordination, and supervision of these activities. Notify Architect and Owner of scheduled meeting dates.
- C. Progress Meetings: Conduct regular progress meetings, at intervals appropriate to stage of construction. Notify Architect and Owner of meeting

Section 01 32 00 - CONSTRUCTION PROGRESS

- A. Contractor's Construction Schedule: Submit 2 copies and digital copy of initial schedule, including activities of all subcontractors. Break out schedule by phases if applicable.
- B. Contractor shall provide adequate personnel on site to supervise construction and maintain progress in accordance with the approved construction schedule.

Section 01 33 00 - SUBMITTALS

- A. Provide submittals for all products proposed for incorporation into project. Should submittals not be made and approved by Architect, then Owner and GC shall be fully responsible for products installed.
- B. Processing Time: Allow sufficient time for submittal review and resubmittals. Extensions of time will not be granted for failure to transmit submittals in sufficient time in advance of the work to permit adequate review.
- 1. Allow 5 days for initial review of each submittal. Allow additional time if
- coordination with other submittals is required. 2. Allow 5 days for each resubmittal review and re-review.
- B. Deviations: Note deviations from contract documents on submittals.
- C. Contractor Review: Contractor is to review and stamp all submittals prior to submission to Architect.
- D. Product Data: Submit product data, installation instructions, testing data, fire-performance data, etc., as necessary to indicate compliance with contract
- E. Samples: Submit 2 copies of each product sample where colors or finishes must be selected. Label all samples, and indicate proposed selection if indicated on drawings or schedules. Provide color samples from
- manufacturer's full range of colors available. 5. Shop Drawings: Include complete product and installation information, including products shown to scale, dimensions, layout, rough-in drawings,
- G. Submit 1 electronic pdf copy of each submittal. Architect will return 1 pdf copy with action stamp marked as appropriate.

Section 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

coordination with adjacent work, etc.

- A. General: Arrange for temporary water and electricity at job site. Verify from Owner if existing services are available.
- Provide temporary portable toilet facilities and drinking water if not otherwise available on site.
- C. Provide security fencing and overhead protection to separate buildings users from construction activities.

Section 01 60 00 - PRODUCT REQUIREMENTS

- A. General: Provide only new products unless documents specifically allow use of salvaged materials.
- B. Substitutions: Submit 3 copies of proposed substitutions information to Architect for consideration, including all relevant product information and impact on schedule.
- C. Delivery and Handling: Schedule delivery to minimize on-site storage. Delivery shall be in undamaged condition. Inspect products upon delivery to ensure products are undamaged and protected.
- Storage: Store products on site in accordance with manufacturer's literature, and with sufficient security to minimize theft.

Section 01 73 00 - EXECUTION REQUIREMENTS

- A. Existing Conditions: The existence and location of site improvements, utiltiies, and other construction indicated is not guaranteed. Prior to start of construction, verify underground and concealed utilities and other construction affecting the work.
- B. Field Measurements: Take field measurements as required to fit the work properly. Verify the dimensions of other construction by field measurements before fabrication of new components.
- C. Verification: Before proceeding to lay out the Work, verify layout dimensions with information indicated on drawings. Notify Architect of any discrepancies immediately.
- D. Comply with manufacturer's written storage, installation, and protection instructions and recommendations.
- Protect installed construction, and maintain conditions that ensure installed work will not be subject to damage or deterioration at time of Substantial Completion.
- F. Repair or replace defective construction. Restore damaged substrates and finishes prior to Substantial Completion.
- G. Where demolition is indicated, obtain all necessary permits and condition assessments prior to commencement. If hazardous materials are suspected or present (including asbestos and lead), notify architect and owner immediately and do not proceed until abatement measures can be designed by licensed consultant.

Section 01 77 00 - CLOSEOUT PROCEDURES

- A. Warranty Documents: Organize warranty documents into 3-ring, loose-leaf binders, with tabs.
- B. Contractor is to redmark and maintain one permit set of drawings and specifications with as-built conditions marked. Deliver to Owner upon completion of Work.
- C. Preliminary Procedures: Prior to requesting inspection for determining date of substantial Completion, complete the following:
- 1. Prepare a list of items to be completed (punch list). Punch list items are
- to be completed within 30 days.
- 2. Prepare project Record Documents and O&M manuals.
- 3. Provide attic stock: 3% of ACP-1 4. Terminate and remove temporary facilities from site.
- Perform cleaning and touchup painting. 6. Provide copy of Certificate of Occupancy, and approvals required by other agencies as necessary to occupy the space.
- D. Substantial Completion: Upon Substantial Completion of the Work, submit request to Architect for inspection. After inspection, Architect will prepare the Certificate of Substantial Completion, or notify Contractor of remedial work that must first be performed.
- E. Final Completion: Prior to requesting payment for Final Completion. complete all punchlist items, and provide all outstanding closeout documents.

Section 03 30 00 - CONCRETE

- A. Concrete and Demolition: If concrete is required to be demolished, coredrill areas to minimal extent necessary. Fireseal openings provided in conformance with U.L. details.
- B. Maintain structural integrity of all building components and construction at all times

Section 06 10 00 - ROUGH CARPENTRY

- A. Lumber: Comply with DOC PS 20 and applicable rules of grading agencies. Factory mark each piece of lumber with grade stamp of grading
- B. Where nominal sizes are indicated, provide actual sizes required by DOC PS20 for moisture content specified. Provide dressed lumber S4S unless otherwise indicated.
- Provide fire-retardant treated lumber in accordance with AWPA C20 (lumber) and AWPA C27 (Plywood).
- D. Wood in contact with concrete or masonry, or for exterior locations, is to be preservative treated in accordance with AWAP Use Category 4A Copper Azole (CA-B), 0.21 PCF.

Section 07 21 00 - INSULATION

- A. Sound Attenuation Insulation: Unfaced Glass-Fiber Blanket Insulation complying with ASTM C665, Type I, passing ASTM E136. Thickness to fill stud
- B. Provide fasteners, sealants, adhesives, joint tapes, and other accessories as required for complete installation.
- C. Install wall insulation fully and continuously within stud cavities, Cut and fit around penetrations and obstructions.

Section 07 84 20 - FIRE-RESISTIVE JOINT SYSTEMS

- A. Where fire-rated walls, partitions, floors, shafts, etc., are indicated, provide fire-resistive joint systems in compliance with an acceptable UL detail (or other testing agency approved by the AHJ).
- B. Provide complete system components, including blocking, safing, clips, insulation, and fire sealants, to meet referenced fire-resistive detail. Install all components in conformance with system requirements.
- C. Provide through-penetration firestop systems similarly in accordance with an approved UL penetration detail for the substrate and penetrant involved (or other testing agency approved by the AHJ).

Section 07 92 00 - JOINT SEALANTS

- A. Compatibility: Provide sealants, backing, and related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. Products:
- 1. Interior General Use Sealant: Latex sealant, Paintable, ASTM C834.
- Provide Pecora AC-20+ or approved equal. 2. Interior joints between plumbing fixtures and adjoining walls, floor and counters: Single-component mildew-resistant neutral-curing silicone sealant. Provide Pecora #898 or approved equal.
- Pourable Urethane Sealant: Pecora Dynatrol II-SG or approved equal.

Section 08 11 13 - HOLLOW METAL FRAMES

- A. General: Fabricate frames of construction indicated. Close contact edges of corner joints tight with faces mitered and stops butted or mitered. Continuously weld faces and soffits and finish faces smooth. Comply with ASI/NAAMM-HMMA 861.
- 1. Door and view lite frames less than 48" in width shall be fabricated from .053" thick steel sheet.
- B. General Steel Doors and Frames: Comply with ANSI A250.8
- C. Interior Frames, General: Fabric from cold-rolled steel sheet, with knock-down or welded construction, 16 gauge minimum. Provide factory primed for field painting. Provide fire-rated frames where indicated.
- D. Pocket Door Frames: Provide HM pocket door frames where indicated, with split jamb, equal to products by Curries
- E. Hardware Reinforcement: Fabric according to ANSI/NAAMM-HMMA 861 with reinforcing plates made from same material as frame.
- F. Provide removable stops with screw fasteners for view lite frames.
- G. Install doors and frames plumb and square with appropriate anchors. Coordinate installation with adjacent trades.

Section 08 31 13 - ACCESS DOORS

- A. General: Provide flush access doors and frames with concealed trim, .060" thick sheet metal, with cam latch operated by screwdriver, with spring-loaded concealed pin or continuous piano hinges.
- B. Provide products suitable for GWB walls and ceilings, and as otherwise required by other construction.
- C. Provide products by J.L. Industries, Milcor, or Babcock-Davis.

Section 08 71 00 - DOOR HARDWARE

- A. Door hardware to be furnished by owner and installed by GC. Specs below represent basis of design. Coordinate hardware rough-in requirements with doors and frames. All hardware must be A.D.A. and NC Building Code compliant.
- B. Door Hardware: Provide all components necessary for fully functioning doors, including locksets, latchsets, closers, stops, and misc. trim.
- C. Hinges: BHMA A156.1
- 1. Provide 3 hinges for door heights up to 90".
- 2. Provide 4 hinges for door heights between 90" and 120". 3. Provide 4-1/2" x 4-1/2" hinges on doors up to 36" in width.
- 4. Provide 5" x 4-1/2" hinges on doors over 36" in width.
- D. Refer to Hardware Schedule on A6.01 for more information.

Section 08 81 00 - GLAZING

- A. Provide 1/4" clear tempered glazing, where indicated for interior doors and view lites.
- B. Tempered Glass: Kind FT Fully Tempered, ASTN C 1048, Type I (Transparent flat glass), Quality Q3, clear.
- C. Tempered glazing products are to be permanently labeled as required by code.

Section 09 22 16 - NON-STRUCTURAL STEEL PARTITION FRAMING

- A. Section includes non-load-bearing steel framing systems for interior gypsum assemblies, and suspension systems for gypsum ceilings and soffits.
- B. Fire Test Response Characteristics: Provide materials tested to comply with ASTM E119.
- C. Steel Studs and Runners: ASTM C645. Space studs 16" o.c. unless noted otherwise.
- D. Sheet steel protective coating: ASTM A653/A 653M, G40(Z120), hot-dip galvanized, unless otherwise noted.
- 1. Minimum base metal thickness: 20 ga. 2. Depth: 3-5/8" (typical), and 6" where indicated.
- E. Cold-rolled channel bridging: 0.0538 bare-steel thickness, with minimum .7047" wide flanges.

2. Clip Angle: not less than 1-1/2" x 1-1/2" .068" thick galvanized steel.

Depth: 1-1.2 inches.

fire-rated liner panels. Space studs 24" o.c. maximum.

F. Shaftwall studs and runners: Provide manufacturer's standard "H" shaped framing components, 20-gauge minimum, to accommodate 1"

G. Installation

- 1. Installation Standard: ASTM C754, except comply with framing sizes and spacing indicated on plans and as recommended by manufacturer.
- 2. Gypsum Board Assemblies: Also comply with requirements in ASTM C840 that apply to framing installation.
- 3. Provide slip-type deflection tracks at tops of all partitions that abut structure above
- 4. Brace partitions that do not extend to structure with kickers 8' o.c., or to adjacent perpendicular walls 8' o.c. 5. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames. Install runner track section (for cripple studs) at head and
- 6. Where framing is indicated to comply with a fire rated assembly, install in conformance with UL assembly indicated.

secure to jamb studs. Install two studs at each jamb, unless otherwise

Section 09 29 00 - GYPSUM BOARD

- A. For Fire-Resistance Rated Assemblies, provide materials tested in
- assemblies according to ASTM E119. B. Gypsum Board: ASTM C1396. Provide products by one of the following:
- American Gypsum Company
- 2. G-P Gypsum 3. National Gypsum
- US Gypsum
- C. Gypsum Board Type X typical (Type "C" where required for soffits to achieve fire ratings)
- Thickness: .625" 3. Long Edges Tapered. 4. Provide Moisture-Resistant (MR) boards within all toilets, labs, and within 4' of all sinks and drinking fountains.
- D. Gypsum Liner Panels: 1" Thick, complying with fire rating requirements
- E. Joint Tape: Paper F. Joint Compound:

with ASTM C1002

J. Gypsum Board Finish Levels:

- 1. Prefilling: At open joints, rounded or beveled edges, and damaged
- surface areas, use setting-type taping compound.
- Embedding, fill and finish coats: Drying-type all-purpose compound. G. Accessories: ASTM C1047. Provide galvanized or aluminum coated steel sheet or plastic trim components. Provide steel drill screws complying
- H. Examination: Examine areas and substrate for compliance with

requirements and other conditions affecting performance.

- Installation: Install gypsum panels with screws to conform to industry standards and UL fire resistive assemblies. Install trim accessories at corners and other locations as required. Finish gypsum boards per below:
- 1. Level 4 Finish: All exposed gypsum board wall surfaces. 2. Level 5 Finish: Surfaces to receive high gloss paint, specialty wall

Section 09 51 13 - ACOUSTICAL PANEL CEILINGS

- A. Acoustical Panels, General: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types. patterns, acoustical ratings, and light reflectance, unless otherwise indicated
- B. Metal Suspension System Standard: Provide manufacturer's standard 15/16" Prelude direct-hung metal suspension system of types, structural classifications, and finishes indicated that comply with applicable requirements
- C. ACP-1 Acoustical Panels: 24" x 24" x 5/8" tegular edge panels (Armstrong Dune angled tegular #1774 or approved equal). Color: White
- D. Installation: Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less than half width panels at borders, and comply with layout on reflected ceiling plan.

Section 09 91 00 - PAINTING

- A. Manufacturer's: Subject to compliance with requirements, provide the following:
 - 1. PPG Paints
- B. Material Compatibility: Systems could fail if paints used for individual coats are incompatible. MPI's paint systems match primers and topcoats and take compatibility into consideration.
- 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing
- and field experience. 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- Colors: Provide colors indicated by Owner and as noted elsewhere.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and applications workmanship. Provide mock-up area for each color specified. Do not proceed with remaining work until workmanship, color and sheen are approved by Owner. Refinish mock-up are as required to
- produce acceptable work. E. Interior Paint Systems

VOC Latex Primer 6-4900XI

Interior Dry-Fog Flat Latex

surfaces.

Industrial Enamel

1. Gypsum Board Surfaces: Provide the following finish systems over interior gypsum board surfaces: a. Acrylic Finish: Two finish coats over a primer. b. Primer-Zero VOC: PPG; Speedhide zero Interior Zero

c. Interior low-luster acrylic enamel finish-Zero VOC: PPG;

- 6-4310XI Speedhide zero Interior Zero VOC Eggshell Latex. 2. Ferrous Metal: Provide the following finish systems over ferrous metal: a. Acrylic Enamel Finish: Two finish coats over a primer. b. Primer: PPG: 90-712 Pitt-Tech Plus Interior/Exterior Primer/Finish DTM
- c. Interior Semi-gloss acrylic enamel finish: PPG; 90-1210 Series Pitt-Tech Plus Interior/Exterior Semi-gloss DTM Industrial Enamel. 3. Exposed Steel Deck and Utilities: Provide the following finish systems
- over exposed roof deck, joists and beams, HVAC units, ductwork, plumbing, a. Primer: PPG: 90-712 Pitt-Tech Plus Interior/Exterior b. Primer/Finish DTM Industrial Enamel
- A. Examine substrates and conditions for compliance with requirements for maximum moisture content and other conditions affecting performance of work. Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted

c. Interior Flat Acrylic finish: PPG; 6-723XI (white) Speedhide Super Tech WB

B. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

C. Paint all surfaces in exposed locations, except for items that are

otherwise pre-finished, unless noted otherwise.

- Section 10 52 00 FIRE-PROTECTION SPECIALTIES A. Where FE is indicated on plans, provide bracket-mounted 4A:60-B:C
- Fire Extinguisher. B. Where FEC is indicated on plans, provide FE Cabinet equal to Larsen aluminum vertical-duo architectural series cabinet with clear anodized finish. fully-recessed or wall mounted as indicated on drawings, suitable to contain
- C. Installation: Install products in accordance with manufacturer's literature, NC Accessibility Code, ADA, and fire department requirements.

Section 10 80 00 - TOILET AND BATH ACCESSORIES

FE specified, along with FE described in paragraph A.

- A. Provide products specified in Toilet Accessory Schedule.
- B. Installation: Install products in accordance with manufacturer's literature, and with NC Accessibility Code and ADA requirements.

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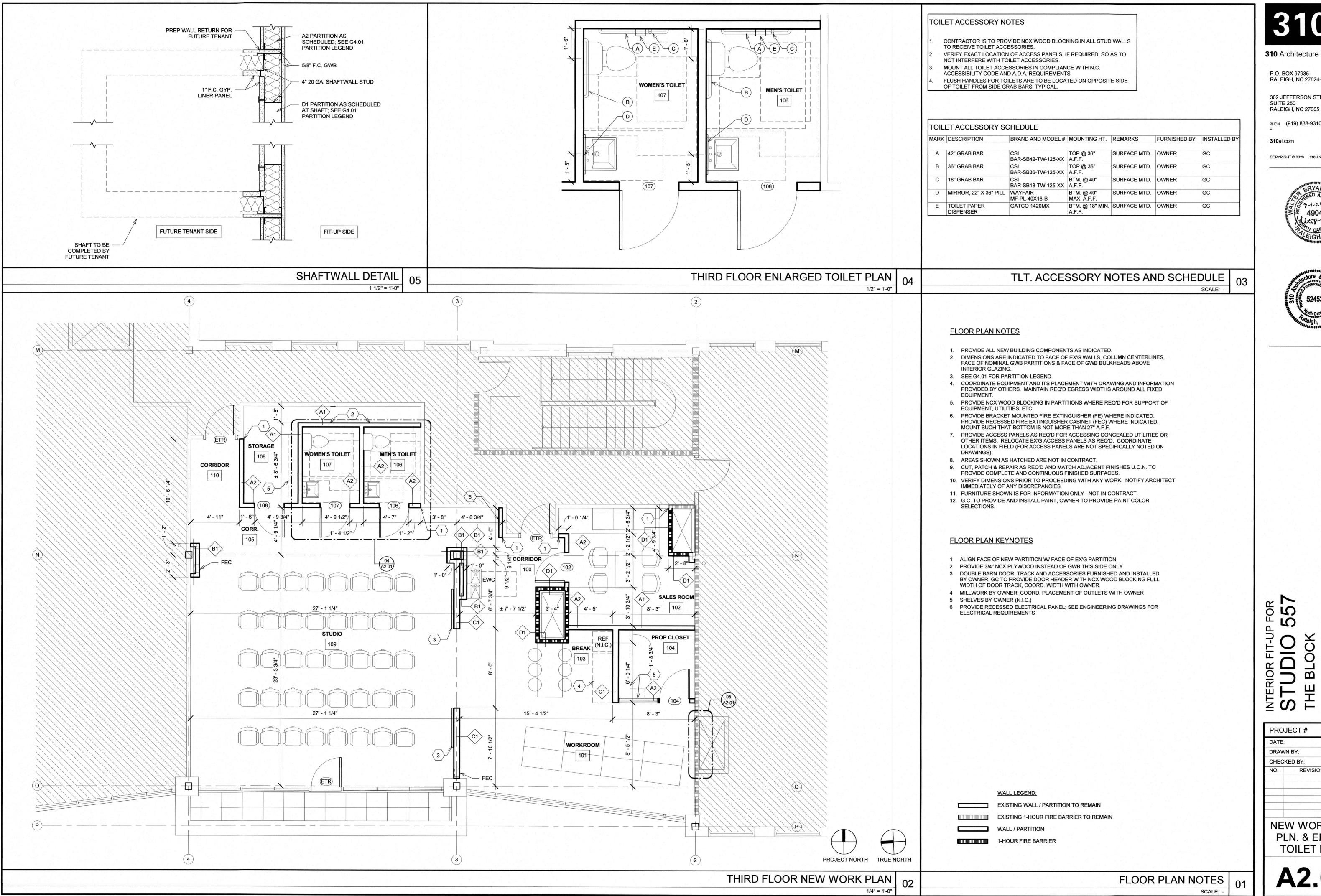
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PROJECT# 20061 DATE: 09.01.2020 DRAWN BY: MAS ALH / WBS CHECKED BY: DATE REVISION

SPECIFICATIONS

SPECIFICATIONS



P.O. BOX 97935 RALEIGH, NC 27624-7935

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NEW WORK FLR. PLN. & ENLGD. **TOILET PLAN**



REFLECTED CEILING PLAN NOTES

- 1. REFER TO GENERAL FLOOR PLAN NOTES ON SHEET A2.01 FOR ADDITIONAL
- 2. REFER TO PME DRAWINGS FOR MORE DETAILED INFORMATION.
- 3. ALL CEILING GRID IS TO BE LAID OUT AS SHOWN ON DRAWINGS. CENTER ALL GRIDS IN THE ROOM / SPACE SO AS NOT TO HAVE LESS THAN HALF-WIDTH TILES AT OPPOSITE SIDES OF THE ROOM / SPACE U.O.N.
- 4. ALL CEILING DEVICES AND FIXTURES ARE TO BE CENTERED IN TILES, ROOMS,
- 5. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL DISCIPLINES TO INSURE PROPER CLEARANCES FOR SCHEDULE CEILING HEIGHTS. ANY DEVIATION FROM THE CEILING HEIGHTS INDICATED MUST BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION.
- 6. ALL GRILLS, REGISTERS AND DIFFUSERS LOCATED IN GWB CEILINGS / SOFFITS AND WALLS ARE TO BE FIELD PAINTED TO MATCH WALL COLOR.
- 7. ALL PENDANTS AND TRACK LIGHTS ARE TO BE MOUNTED WITH BOTTOM OF
- 8. HATCHED AREA NOT IN SCOPE
- 1 GWB BULKHEAD AT HEIGHT INDICATED ON PLAN. 2 SPRAY ALL EXPOSED STUCTURE, UTILITIES, ROOF DECK, ETC. WITH DRYFALL PAINT, EXACT COLOR TO BE SELECTED BY OWNER. CLEAN AND PREPARE ALL
- SURFACES PER MANUFACTURER REQUIREMENTS. 3 CENTER VANITY LIGHT OVER SINK.
- 4 COORD. EXACT LOCATION WITH OWNER.

REFL. CLG. PLAN NOTES

SCALE: -

LEGEND:



9.5" DECORATIVE PENDANT

6" LED RECESSED ROUND CAN FIXTURE WALL SCONCE

TRACK LIGHTING

4'-0" LED LINEAR LOW BAY LIGHT

SUPPLY DIFFUSER

RETURN GRILLE

EXIT SIGN

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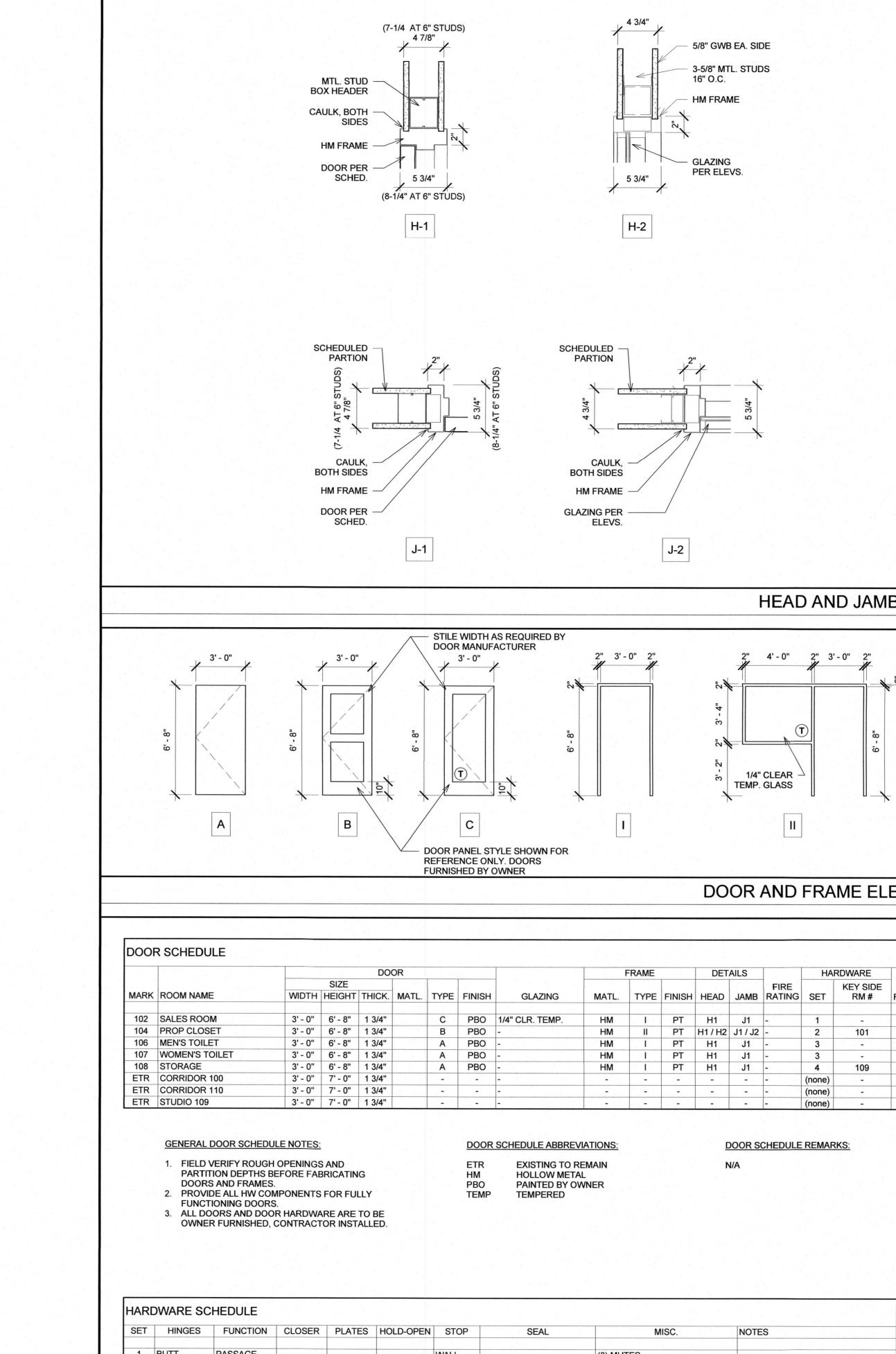
NEW WORK CEILING PLAN

THIRD FLOOR NEW WORK REFLECTED CEILING PLAN

1/4" = 1'-0"

03

RCP LEGEND
1/4" = 1'-0"



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307

300 SOUTH MAIN STREET, SUITE HOLLY SPRINGS, NC 27540

HEAD AND JAMB DETAILS

1 1/2" = 1'-0"

DOOR AND FRAME ELEVATIONS 1/4" = 1'-0"

				DO	OR					FRAME	7 7	DETA	AILS		HAI	RDWARE	
			SIZE	. 3										FIRE		KEY SIDE	
MARK	ROOM NAME	WIDTH	HEIGHT	THICK.	MATL.	TYPE	FINISH	GLAZING	MATL.	TYPE	FINISH	HEAD	JAMB	RATING	SET	RM#	REMARKS
102	SALES ROOM	3' - 0"	6' - 8"	1 3/4"		С	PBO	1/4" CLR. TEMP.	НМ	1	PT	H1	J1	_	1	1.176 x 21.2 1611 - 21.1	
104	PROP CLOSET	3' - 0"	6' - 8"	1 3/4"		В	PBO	-	НМ	П	PT	H1 / H2	J1 / J2	_	2	101	
106	MEN'S TOILET	3' - 0"	6' - 8"	1 3/4"		Α	PBO	- 7.2%	НМ	1	PT	H1	J1	- 1	3	-	
107	WOMEN'S TOILET	3' - 0"	6' - 8"	1 3/4"		Α	PBO	- 7, 2,7	НМ	1	PT	H1	J1	-	3	-	
108	STORAGE	3' - 0"	6' - 8"	1 3/4"		Α	PBO	- 32 (1)	НМ	1	PT	H1	J1	-	4	109	
ETR	CORRIDOR 100	3' - 0"	7' - 0"	1 3/4"			-		-	-	-	-	-	- 1	(none)	-	
ETR	CORRIDOR 110	3' - 0"	7' - 0"	1 3/4"				-	-	-	-	-	-	-	(none)	-	
ETR	STUDIO 109	3' - 0"	7' - 0"	1 3/4"		- "	-	-	-	_	-		-	_	(none)		2 2

DULE								
FUNCTION	CLOSER	PLATES	HOLD-OPEN	STOP	SEAL	MISC.	NOTES	
ASSAGE	-	- / / / /	-	WALL	-	(3) MUTES	-	
TOREROOM				WALL		(3) MUTES	-	
RIVACY	-	-	-18 8 3 7 7 7	O.H.		(3) MUTES		V 7
TOREROOM	-	-	-	O.H.		(3) MUTES	5 () - () () () () () () ()	

NOT USED SCALE: -

2 BUTT 3 BUTT 4 BUTT

DOOR & HARDWARE SCHEDULES

STUDIO 5 PROJECT# 20061 09. 01. 2020 DATE: DRAWN BY: CHECKED BY: ALH / WBS REVISION DOOR SCHEDULE + **DETAILS**

P FOR **557**

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,

FASC - FIRE ALARM SYSTEM CONTRACTOR. 2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE ELECTRICAL CONTRACTOR SHALL ALSO INSTALL MATERIALS AND EQUIPMENT FURNISHED BY OTHERS

AND THE GENERAL CONTRACTOR AS REQUIRED. 3. EC SHALL PROVIDE LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY AND REASONABLY INCIDENTAL TO INSURE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. MINOR ITEMS, ACCESSORIES, AND DEVICES REASONABLY INFERABLE AS NECESSARY FOR THE COMPLETION AND PROPER OPERATION OF ANY ELECTRICAL SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

4. WORKMANSHIP SHALL BE IN ACCORDANCE WITH NECA 1 "STANDARD PRACTICE FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING."

5. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE ELECTRICAL CONTRACTOR AT AN APPROVED LOCATION. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE ELECTRICAL CONTRACTOR UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.

6. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.

7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR 8. TRADE NAMES AND MANUFACTURERS ARE SPECIFIED TO ESTABLISH A QUALITY STANDARD. SUBSTITUTIONS SHALL BE PERMITTED IF APPROVED BY

THE ENGINEER PRIOR TO INSTALLATION. ALL LISTED MODEL NUMBERS SHALL 12. METAL CONDUIT SHALL BE BY ALLIED TUBING & CONDUIT, BECK BE VERIFIED WITH THE MANUFACTURER FOR PROPER APPLICATION OF 9. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE ELECTRICAL CONTRACTOR

SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE ELECTRICAL CONTRACTOR METHODS: SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. 10. GROUNDING AND BONDING SHALL BE PER NEC ARTICLE 250. THE RACEWAY SYSTEM SHALL NOT BE RELIED UPON FOR GROUNDING CONTINUITY. A 2. ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR GREEN EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC TABLE 250-122. SHALL BE RUN IN ALL POWER RACEWAYS. FOR NON-ISOLATED GROUND CIRCUITS PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. FOR ISOLATED GROUND CIRCUITS, PROVIDE ONE NEUTRAL

AND ONE ISOLATED GROUND WIRE FOR EACH CIRCUIT; IN ADDITION, PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. MAIN BONDING JUMPERS AND SYSTEM BONDING JUMPERS SHALL BE INSTALLED IN ACCORDANCE WITH 250.28 OF THE NEC. FOR BUILDINGS OR STRUCTURES SUPPLIED BY FEEDERS OR BRANCH CIRCUITS, GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH 250.32. SEPARATELY DERIVED AC SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH 250.30. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS; ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED PER 250.56 AS NECESSARY.

RE-EXAMINATION LISTING WHERE SUCH APPROVAL HAS BEEN ESTABLISHED FOR THE TYPE OF DEVICE IN QUESTION. 12. CONDUCTORS, FUSES, CIRCUIT BREAKERS, AND DISCONNECT SWITCHES SHOWN ON THESE PLANS HAVE BEEN SIZED FOR THE SPECIFIED EQUIPMENT, BEFORE ORDERING ELECTRICAL EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ON THE SITE

11. ALL MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE UNDERWRITERS'

LABORATORIES, INC. STANDARDS OR HAVE UL APPROVAL, OR BEAR UL

AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES SHOULD CONDUCTOR.

CIRCUIT BREAKER, OR FUSE SIZES REQUIRE CHANGE. 13. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE THE FOLLOWING MATERIALS ARE RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT: LIGHT FIXTURES. INCLUDING PROPER DISPOSAL OF BALLASTS, FLUORESCENT LIGHT BULBS. 5. AND TRANSFORMERS. WIRING AND ELECTRICAL EQUIPMENT. AND INSULATION. WASTE MATERIALS CONTAINING LEAD, ASBESTOS, PCBs (FLUORESCENT LAMP BALLASTS). OR OTHER HARMFUL SUBSTANCES SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE LAWS AND

REQUIREMENTS CONCERNING HAZARDOUS WASTE. 14. ALL WORK SHALL CONFORM TO 2017 NATIONAL ELECTRIC CODE, 2018 STATE BUILDING CODE, AND ALL APPLICABLE LOCAL CODES.

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, RECEPTACLES, TERMINALS, ETC, UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS AND CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES.

2. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SERVICE ENTRANCE EQUIPMENT, SUB PANELS, AND OTHER ELECTRICAL DISTRIBUTION EQUIPMENT AS NECESSARY FOR A COMPLETE INSTALLATION. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH UTILITY REGARDING SERVICE AND METERING DETAILS. PRIOR TO ORDERING EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL OBTAIN THE AVAILABLE FAULT CURRENT OR TRANSFORMER SIZE AND IMPEDANCE FROM THE UTILITY AND CONTACT THE ENGINEER IF THE VALUE EXCEEDS THE EQUIPMENT SPECIFIED. PANEL BOARDS AND SWITCH BOARDS SHALL BE SQUARE D, CUTLER-HAMMER, SIEMENS, OR GE. BUSES SHALL BE COPPER UNLESS OTHERWISE APPROVED BY THE ENGINEER. RECESSED 8. PANEL BOARDS SHALL BE INSTALLED FLUSH WITH THE WALL FINISH. METER BASES SHALL COMPLY WITH THE UTILITY'S SPECIFICATIONS AND SHALL BE 9. CONCEAL ALL CONDUIT EXCEPT IN MECHANICAL ROOMS OR UNFINISHED MOUNTED AT A HEIGHT APPROVED BY THE UTILITY. ALL EQUIPMENT IDENTIFIED FOR SERVICE ENTRANCE USE SHALL BE SO LABELED AND UL LISTED FOR SUCH USE. ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT WITH CLEARANCES PER NEC 110.26. ELECTRICIAN

SHALL PERMANENTLY LABEL EQUIPMENT PER NEC 110.24. ENCLOSED SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE BY SQUARE D, EATON, OR GE. ENCLOSED SWITCHES SHALL HAVE A HANDLE LOCKABLE IN THE OFF POSITION AND SHALL HAVE A HANDLE INTERLOCKED TO PREVENT OPENING THE FRONT COVER WHILE IN THE ON POSITION. ENCLOSED SWITCHES OF THE FUSIBLE TYPE SHALL BE FUSED IN ACCORDANCE WITH NAMEPLATE DATA WITH DUAL ELEMENT TYPE FUSES BY BUSSMAN,

LITTELFUSE, OR MERSEN. 4. OCCUPANCY SENSORS SHALL BE BY WATTSTOPPER, LUTRON, LEVITON,

SENSOR SWITCH, HUBBELL, OR APPROVED EQUAL. 5. CIRCUIT BREAKERS SHALL BE MOLDED-CASE, THERMAL MAGNETIC TYPE WITH QUICK-MAKE, QUICK-BREAK MECHANISM, COMMON TRIP ON MULTI-POLE BREAKERS, AND UL LISTED FOR BOTH COPPER AND ALUMINUM CONDUCTORS. CIRCUIT BREAKERS IN PANELS SHALL BE SERIES RATED WITH THE MAIN BREAKER, FULLY RATED FOR THE SYSTEM, OR SERIES RATED WITH THE BREAKER FEEDING THE PANEL FROM THE FACTORY.

6. ALL WIRE, CONNECTORS, TERMINALS, AND LUGS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. WHERE CONDUCTORS ARE RUN IN PARALLEL, LUGS SHALL BE LISTED FOR PARALLEL CONDUCTORS. PUSH WIRE CONNECTORS ARE NOT ALLOWED FOR BUILDING WIRE. PUSH CONNECTORS ARE ONLY ALLOWED, WHEN APPROVED, AS PART OF MANUFACTURED LISTED PRODUCTS. ALL WIRE SHALL BE INSTALLED IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.

7. THE INSULATION TYPE FOR INTERIOR WIRING SHALL BE DUAL RATED OR WET LOCATIONS SHALL HAVE TYPE THWN OR XHHW INSULATION. INSULATION VOLTAGE RATING SHALL BE 600 VOLTS AND A MINIMUM TEMPERATURE RATING OF 75°C. CONDUCTORS SHALL BE SOLID OR STRANDED COPPER FOR #10 AWG AND #12 AWG, AND STRANDED COPPER FOR #8 AWG AND LARGER SIZES. ALL WIRING AND CABLE SHALL BE UL LISTED. ALL TERMINATIONS AND DEVICES SHALL BE RATED FOR USE WITH 75°C CONDUCTORS. FINAL CONNECTIONS TO ALL MOTORS AND EQUIPMENT SUBJECT TO VIBRATION OR MOVEMENT SHALL BE MADE WITH STRANDED COPPER CONDUCTORS. CONDUCTORS SHALL BE BY CERRO WIRE, INC.

INDUSTRIAL WIRE & CABLE, INC, OR SOUTHWIRE COMPANY. 8. JOINTS IN SOLID CONDUCTORS SHALL BE SPLICED USING IDEAL "WIRE NUTS", 3M "SCOTCH LOCK", OR T&B "PIGGY" CONNECTORS IN JUNCTION BOXES, OUTLET BOXES, AND LIGHTING FIXTURES. JOINTS IN STRANDED

CONDUCTORS SHALL BE SPLICED BY APPROVED MECHANICAL CONNECTORS AND GUM RUBBER TAPE OR FRICTION TAPE. SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS, PROVIDED WITH UL APPROVED INSULATING COVERS, MAY BE USED INSTEAD OF MECHANICAL CONNECTORS PLUS TAPE. IN ALL CASES, CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICING SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, TROUGHS, OR GUTTERS. WHERE CONCENTRIC, ECCENTRIC, OR OVERSIZED KNOCKOUTS ARE ENCOUNTERED, A GROUNDING TYPE INSULATED BUSHING SHALL BE PROVIDED. 9. ALL LUMINAIRES SHALL BE LISTED. LUMINAIRES IN WET OR DAMP LOCATIONS SHALL BE MARKED AS SUITABLE FOR THE RESPECTIVE USE. EMERGENCY LIGHTING SHALL BE INSTALLED AS SHOWN. FINAL LOCATIONS OF ALL EXIT AND EMERGENCY LIGHTS SHALL BE VERIFIED WITH THE BUILDING INSPECTOR PRIOR TO INSTALLATION. ALL FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS MEETING ANSI C82.11 FOR ELECTRONIC BALLAST PERFORMANCE. ALL BALLASTS SHALL BE UL LISTED AND MEET FEDERAL AND STATE EFFICIENCY REQUIREMENTS.

10. ALL CONDUIT, FITTINGS, COUPLINGS, AND SUPPORTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CONDUIT FITTINGS AND COUPLINGS SHALL BE BY APPLETON, RACO, OR O-Z/GEDNEY. COUPLINGS SHALL BE THREADED, SET-SCREW, OR COMPRESSION TYPE. INDENTER OR CRIMP TYPE ARE NOT PERMITTED. CONDUIT FITTINGS AT ALL ELECTRICAL BOXES INCLUDING PULL, JUNCTION, AND OUTLET BOXES, SHALL HAVE INSULATED THROATS TO PREVENT INSULATION SCORING. DIE CAST FITTINGS ARE NOT

11. EMT SHALL BE MANUFACTURED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE-AMERICAN NATIONAL STANDARD FOR STEEL ELECTRICAL METALLIC TUBING (EMT), ANSI C80.3 AND UL 797. RIGID METAL BUILDING CODE. NATIONAL STANDARD FOR ELECTRICAL RIGID STEEL CONDUIT (ERSC). ANSI IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR INTERMEDIATE METAL CONDUIT ANSI C80.6 AND UL 1242. MANUFACTURING, INC., OR WHEATLAND TUBE COMPANY. FLEXIBLE METAL CONDUIT SHALL BE BY AFC CABLE SYSTEMS, INC, ELECTRI-FLEX COMPANY, OR INTERNATIONAL METAL HOSE.

1. EC SHALL REVIEW THE MECHANICAL PLANS TO ESTABLISH POINTS OF CONNECTION AND THE EXTENT OF THE ELECTRICAL WORK TO BE PROVIDED IN THE CONTRACT.

BREAKERS. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4 in CONDUIT. EACH MULTI-WIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE SOURCE PER NEC 210.4(B). GROUP ALL CONDUCTORS OF EACH MULTI-WIRE BRANCH CIRCUIT PER 210.4(D) WITH WIRE TIES OR SIMILAR MEANS. DO NOT EXCEED THREE HOMERUNS PER CONDUIT. DO NOT INSTALL ISOLATED GROUND AND NON-ISOLATED GROUND CIRCUITS IN THE SAME CONDUIT. INSTALL CONDUCTORS OF DIFFERENT VOLTAGES IN SEPARATE CONDUITS.

COLOR CODE CONDUCTORS PER NEC. FEEDERS SHALL BE IDENTIFIED IN A, B, AND C RESPECTIVELY ON 208Y/120 VOLT THREE-PHASE Y SYSTEMS AND WHITE FOR THE NEUTRAL. ISOLATED GROUND WIRES SHALL BE GREEN WITH YELLOW BANDS OR STRIPES. COLORS SHALL BE FACTORY APPLIED FOR CONDUCTORS #6 AWG AND SMALLER. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN IN COLOR AND MINIMUM #12 AWG. THE EC SHALL PROVIDE PLENUM RATED CABLE FOR ANY ELECTRICAL, TELEPHONE, COMMUNICATION, OR OTHER CABLE THAT ENTERS CEILING RETURN

ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING. COORDINATE LIGHTING LAYOUT WITH CEILING GRID. MECHANICAL EQUIPMENT, DUCTWORK AND SPRINKLER HEADS AS NECESSARY SEE REFLECTED CEILING PLAN FOR DETAILS. FLUORESCENT FIXTURES UTILIZING DOUBLE-ENDED LAMPS MUST HAVE A DISCONNECTING MEANS COMPLYING WITH NEC 410.130(G).

MOUNT LIGHT SWITCHES AT 48 in AFF. MULTIPLE SWITCHES AT SAME LOCATION SHALL BE UNDER ONE WALL PLATE. VERIFY WALL PLATE COLOR AND MATERIAL WITH THE ARCHITECT/OWNER. INSTALL SWITCHES WITH off POSITION DOWN. ALL SWITCHES SHALL BE HEAVY DUTY, IVORY PLASTIC WITH TOGGLE HANDLE, RATED 120-277V AC, AND COMPLYING WITH NEMA WD 6 AND WD 1. SWITCHES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. PROVIDE BOX DEVICE PARTITION/DIVIDERS FOR MULTI-GANG BOXES FOR COMPLIANCE WITH NEC

6. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE—STOPPING AT ALL ELECTRICAL PENETRATIONS OF RATED FLOORS AND WALLS TO PRESERVE OR RESTORE THE FIRE-RESISTANCE RATING. SEAL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THIS PROJECT. ELECTRICAL CONTRACTOR SHALL PROVIDE GFCI RECEPTACLES IN KITCHENS,

RESTROOMS, OUTDOORS, AND IN SHOP AREAS AS REQUIRED BY NEC. REFRIGERATORS AND WATER COOLERS MUST HAVE A DEDICATED GFCI BREAKER. EACH OUTDOOR HVAC UNIT MUST HAVE A GFCI RECEPTACLE WITHIN 25 FEET FOR SERVICING, GFCI RECEPTACLES SHALL CONFORM TO UL 943 CLASS A AND UL 498 STANDARDS. RECEPTACLES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. ALL RECEPTACLES SHALL BE 125V RATED, HEAVY DUTY, AND COMPLY WITH NEMA WD 6 AND WD 1. LOCATIONS AND HEIGHTS OF ALL WALL-MOUNTED DEVICES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION. AREAS AS NOTED. USE EMT CONDUIT FOR ALL BRANCH CIRCUITS AND FEEDERS INSIDE THE BUILDING. TYPE MC CABLE AND TYPE AC CABLE MAY BE INSTALLED WITHIN WALLS IF ALL NEUTRAL WIRES, ISOLATED GROUND WIRES, AND EQUIPMENT GROUND WIRES AS LISTED ABOVE ARE CONTAINED IN THE CABLE. FLEXIBLE CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SHALL BE MADE USING WEATHERPROOF FLEXIBLE CONDUIT. FOR

LAY-IN LIGHT FIXTURES, USE MAXIMUM OF SIX (6) FEET OF FLEXIBLE MC CABLE (OR THE FLEXIBLE CONDUIT PROVIDED BY THE FIXTURE MANUFACTURER). SCHEDULE 40 PVC CONDUIT MAY BE USED FOR THE SECONDARY UNDERGROUND SERVICE, UNDERGROUND TELEPHONE SERVICE AND BRANCH AND FEEDER CIRCUITS UNDER SLAB OR EXTERIOR TO THE BUILDING. EXPOSED EXTERIOR CONDUIT SHALL BE SCHEDULE 80 PVC. ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED WITH UNDERGROUND LINE MARKING TAPE 6-8 in BELOW GRADE DIRECTLY ABOVE THE RACEWAY. PROVIDE PULL WIRE IN EMPTY CONDUITS. UPSIZE CONDUIT FROM MINIMUM SIZE AS NECESSARY FOR LONGER PULLS. UNDERGROUND RACEWAYS THAT STUB INTO THE BOTTOM OF SWITCHBOARDS, OUTDOOR TRANSFORMERS, GENERATORS, ETC., SHALL RISE AT LEAST 2 in ABOVE THE FINISHED SLAB TO PREVENT WATER FROM DRAINING INTO THE RACEWAYS. RACEWAYS THAT PENETRATE EXTERIOR WALLS OR INTERIOR PARTITIONS SEPARATING SPACES THAT WILL BE AT SIGNIFICANTLY DIFFERENT TEMPERATURES SHALL BE SEALED IN ACCORDANCE WITH 300.5(G), 300.7(A), AND 300.50(E) OF THE NEC. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT-TO-POINT. ROUTE EXPOSED CONDUIT AND CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS. COMPLETELY AND THOROUGHLY SWAB ALL RACEWAYS BEFORE INSTALLING WIRE. PULL ALL CONDUCTORS

INTO EACH RACEWAY AT ONE TIME. USE A SUITABLE WIRE PULLING LUBRICANT FOR BUILDING WIRE #4 AWG AND LARGER. THHN/THWN OR XHHW; ALL WIRING INSTALLED BELOW GRADE OR IN MOIST 10. CABLES, RACEWAYS, OR BOXES, INSTALLED IN EXPOSED OR CONCEALED LOCATIONS UNDER METAL-CORRUGATED SHEET ROOF DECKING, SHALL BE INSTALLED AND SUPPORTED SO THERE IS NOT LESS THAN 1-1/2 in MEASURED FROM THE LOWEST SURFACE OF THE ROOF DECKING TO THE TOP OF THE CABLE, RACEWAY, OR BOX. A CABLE, RACEWAY, OR BOX SHALL NOT BE INSTALLED IN CONCEALED LOCATIONS IN METAL-CORRUGATED. SHEET DECKING-TYPE ROOF. SEE NEC 300.4(E). 11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OUTLET, JUNCTION, PULL BOXES, FITTINGS, AND SUPPORTS. ALL OUTLET AND JUNCTION BOXES SHALL BE GALVANIZED STEEL TYPE BY APPLETON, STEEL CITY, OR RACO. EXTERIOR BOXES SHALL BE TYPE FS. VAPORTITE BOXES SHALL BE TYPE

GS. WHERE SURFACE MOUNTED BOXES ARE USED, THOSE BOXES AND

THEIR FACEPLATES SHALL HAVE ROUNDED CORNERS. BOXES INSTALLED IN

FLOORS SHALL BE RATED FOR THE APPLICATION. MOUNT JUNCTION AND OUTLET BOXES FLUSH WITH FINISH SURFACES UNLESS OTHERWISE NOTED. WHERE MOUNTING HEIGHTS ARE GIVEN, THEY SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE CENTER OF THE BOX. ALL BOXES SHALL BE SIZED PER NEC ARTICLE 314. ALL OUTLET AND JUNCTION BOXES SHALL HAVE A COVER PLATE, PROVIDED BY THE ELECTRICAL CONTRACTOR. OUTLET BOXES IN RATED WALLS SHALL BE INSTALLED IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE 712.3.2 (MAXIMUM BOX SIZE IS 16 SQUARE in AND MAXIMUM OF SIX (6) BOXES PER 100 SQUARE FEET). INSTALL OUTLET BOXES IN RATED WALLS SUCH THAT OPENINGS OCCUR IN ONE SIDE ONLY WITHIN ANY GIVEN STUD SPACE. ALL CLEARANCES BETWEEN THE OUTLET BOX AND THE GYPSUM BOARD SHALL BE FILLED WITH JOINT COMPOUND OR OTHER APPROVED FIRE STOP MATERIAL. FLUSH MOUNTED JUNCTION BOXES IN ADJACENT ROOMS SHALL NOT BE MOUNTED BACK-TO-BACK. SURFACE MOUNTED FIXTURES SHALL BE FED THROUGH FLUSH MOUNTED

4X4 OCTAGONAL OR SQUARE BOXES. 12. ALL CONDUIT, BOXES, AND ELECTRICAL EQUIPMENT SHALL BE FIRMLY AND SECURELY FASTENED TO OR SUPPORTED FROM THE BUILDING STRUCTURAL MEMBERS OR EMBEDDED IN CONCRETE OR MASONRY. ELECTRICAL SUPPORTS SHALL NOT BE ATTACHED TO DUCTWORK, PIPING, OR THEIR SUPPORTS. HANGERS SHALL BE CATALOG ITEMS COMPATIBLE WITH AND SUITABLE FOR THE INTENDED USE. FOR METAL ROOF DECK INSTALLATIONS, 1 in EMT CONDUIT MAXIMUM AND 4 in JUNCTION BOXES MAXIMUM MAY BE SUPPORTED BY DECKING. THE SUSPENDED CEILING SYSTEM SHALL NOT BE USED FOR THE SUPPORT OF ELECTRICAL RACEWAY SYSTEMS OR SUPPORT OF COMMUNICATIONS OR DATA SYSTEMS WIRING. CONTRACTOR SHALL COMPLY WITH 1613 OF THE NORTH CAROLINA GENERAL CONSTRUCTION

CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN 13. WHERE CONDUCTORS ARE RUN IN PARALLEL, THE EC SHALL COMPLY WITH

C80.1 AND UL 6. INTERMEDIATE METAL CONDUIT SHALL BE MANUFACTURED 14. INSTALL ONE (1) 3/4 in FIRE RETARDANT TREATED PLYWOOD BACKBOARD WHERE INDICATED ON THE DRAWINGS FOR THE USE BY THE TELEPHONE SYSTEM. PROVIDE A 120 VOLT RECEPTACLE ADJACENT TO THE TELEPHONE BOARD, GROUND ALL TELEPHONE AND COMMUNICATIONS CIRCUITS PER NEC

CONDUIT, LIQUID-TIGHT FLEXIBLE METAL CONDUIT, AND NONMETALLIC 15. ALL TELEPHONE AND COMMUNICATIONS OUTLETS AND RACEWAYS ARE ROUGH-INS ONLY. EACH TELEPHONE AND COMMUNICATIONS OUTLET SHALL BE A 4 in SQUARE BY 2-1/8 in DEEP BOX WITH 3/4 in KNOCK-OUTS AND A 3/4 in CONDUIT STUBBED FROM THE OUTLET BOX TO ABOVE THE CEILING. PROVIDE A NON-METALLIC INSULATING BUSHING ON ALL CONDUITS STUBBED ABOVE THE CEILING. PROVIDE A BLANK COVER PLATE ON ALL OUTLET BOXES.

16. ELECTRICAL CONTRACTOR SHALL INSTALL DISCONNECT SWITCHES IN SIGHT OF ALL HARDWIRED EQUIPMENT AND APPLIANCES OR PROVIDE BREAKERS CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 422.31. FOR MOTOR DRIVEN APPLIANCES, PROVIDE A DISCONNECTING MEANS PER NEC 422.31 AND 430 PART IX. WHERE AN INDIVIDUAL DISCONNECT SWITCH, CIRCUIT BREAKER, STARTER, ETC, IS SHOWN ON THE PLANS ADJACENT TO ITS LOAD AND NOT LOCATED ON A WALL, PROVIDE NECESSARY MATERIALS AND LABOR TO SUPPORT THE DEVICE.

17. ELECTRICAL CONTRACTOR SHALL FIELD IDENTIFY ALL SWITCH BOARD, PANEL BOARDS, CONTROL PANELS, METER SOCKETS, ETC., TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS PER 110.16 OF

ACCORDANCE WITH NEC 215.12. USE BLACK, RED, AND BLUE FOR PHASES 18. ELECTRICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT, SWITCHES, PANELS, ETC. THE NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT, AND BACK WITH WHITE CORE, WHITE ENGRAVED LETTERS (1/4 in MINIMUM) ETCHED INTO THE WHITE CORE. ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPE WRITTEN DIRECTORY CARD THAT ACCURATELY IDENTIFIES CIRCUITS INSIDE EACH PANEL. HANDWRITTEN LABELS ARE NOT ACCEPTABLE.

				L	ED LIGHT FI	IXTURE SCHEDULE				
MARK	DESCRIPTION	LOUVER/LENS	LAMPS		- VOLTAGE	INPUT WATTAGE	MOUNTING	REMARKS	MFG	MODEL
MININ	DESCRIFITUR	EDOAEKA EEN2	TYPE	CCT	VULTHUL	TINFOL WHITHOL	שוו ואטנויו	KEMHKKS	Mrd	PIUDEL
A	4' LED INDUSTRIAL LINEAR LOW BAY	-	LED	5000K	120	85	SUSPENDED	3	COMMERCIAL ELECTRIC	50239161
С	VANITY LIGHT	-	A19 LED	3500K	120	28	SURFACE	3	SELECTION BY OWNER	SELECTION BY OWNER
D	6' RECESSED CAN LIGHT		LED	3500K	120	34	RECESSED	3	JUND	L6-33LM-35-MVDLT-G4
P1	TEARDROP PENDANT	-	INCANDESCENT	3500K	120	150	PENDANT	3	DRREN ELLIS	W000392876
P2	DOME PENDANT	-	INCANDESCENT	3500K	120	60	PENDANT	3	MERCURY ROW	MCRW5251
						2	VARIES	1	LITHONIA	LHQM-LWS-W-R -HI NDM ELA Q L0309 SD
EXH	LED EXIT/COMBO W/ BATTERY BACKUP	ACRYLIC	LED	N/A	120	2	VARIES	1	EELP	XC-LED-2R-W-SS
						2	VARIES	1	ASTRALITE	EEU-3-LED-CH-R-W-SD
						2	VARIES	1	LITHONIA	ELM4 L W UVOLT LTP SDRT
EM	DUAL HEAD EMERGENCY FIXTURE	ACRYLIC	LED	N/A	120	2	VARIES	1	EELP	XC-LED-2R-W-SS
						2	VARIES	1	ASTRALITE	EU-4-LED-W-SD

· DEDICATED ELECTRICAL SPACE CONTINUES THROUGH

SUSPENDED CEILING PER 110.26(E) OF THE NEC

· STRUCTURAL CEILING

SUSPENDED CEILING

- EXCLUSIVELY DEDICATED SPACE

EXCLUSIVELY DEDICATED SPACE

LIGHT FIXTURE

FIXTURE SHALL HAVE BATTERY BACKUP FOR 90 MINUTE ILLUMINATION. OR EQUAL BY COOPER, PHILIPS OR DAY-BRITE LIGHTING

STRUCTURAL CEILING

- SUSPENDED CEILING

LIGHT FIXTURE

PLANE OF FRONT

EXCLUSIVELY DEDICATED SPACE

EDGE OF PANEL

NOTE: WHERE THE CONDITIONS ARE AS FOLLOWS:

THAT ARE EFFECTIVELY GUARDED BY INSULATING MATERIALS.

CONDITION 1 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE

CONDITION 2 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE

AND GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE.

CONCRETE, BRICK, OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.

CONDITION 3 - EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING

AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE

3. CONFIRM ALL SELECTIONS WITH OWNER

NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO

THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL

APPURTENANCES SHALL BE PERMITTED TO BE

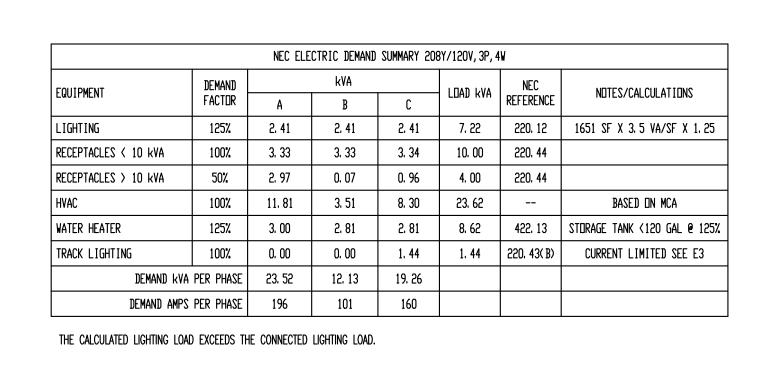
SPACES SHOWN ABOVE WITHOUT THE WRITTEN

AUTHORITY HAVING JURISDICTION.

INSTALLED IN OR PASS THROUGH THE DEDICATED

PERMISSION OF THE DESIGN ENGINEER AND THE

ELECTRICAL DESIGNER'S STATEMENT | 2



NEC ELECTRICAL DEMAND SUMMARY 208Y/120V | 4

	ELECTRICAL DES	IGNER'S STATEMENT	
	TRICAL SYSTEM AND EQU TIVE _X_ PERFORMAN		
LIGHTING SCHEDULE			
LAMP TYPE REQUIRE	D IN FIXTURE:		SEE LIGHTING LEGEND
NUMBER OF LAMPS P	ER FIXTURE:		SEE LIGHTING LEGEND
BALLAST TYPE USED	IN FIXTURE:		SEE LIGHTING LEGEND
NUMBER OF BALLAST	S IN FIXTURE:		SEE LIGHTING LEGEND
TOTAL WATTAGE PER	FIXTURE:		SEE LIGHTING LEGEND
TOTAL INTERIOR WA	TTAGE SPECIFIED VS	WATTS SPECIFIED	WATTS ALLOWED
ALLOWED:		1963. 0	2294. 89
DCCUPANCY	AREA (sf)	ALLOWANCE (W/sf)	WATTAGE ALLOWED
PERFORMING ARTS THEATRE	1651	1. 39	2294. 89
TOTAL	1651		2294. 89
MOTOR HORSEPOVER: NUMBER OF PHASES: MINIMUM EFFICIENC MOTOR TYPE: N/A NUMBER OF POLES: DESIGNER STATEMEN	N/A Y: N/A	KNOWLEDGE AND BELIEF,	THE DESIGN OF THIS

FOR THE ADDITIONAL PRESCRIPTIVE REQUIREMENT REQUIRED BY C406 OF 2018 NORTH CAROLINA ENERGY CONSERVATION CODE, WE ARE CHOOSING C406.3 - REDUCED LIGHTING POWER DENSITY. 1963 W SPECIFIED <= 2065.40 W (2294.89 W ALLOWED X 90%)

NOTE: TRACK LIGHTING USED IS FOR FILM / PHOTOGRAPHY STUDIO AND EXEMPT FROM ENERGY CONSERVATION CODE CALCULATION PER NCEC 2018 SECTION C305.4 EXCEPTION 3.

REQUIRED CLEARANCES-NO SCALE | 3 ELECTRICAL DESIGNER'S STATEMENT | 5 ELECTRICAL NOTES AND SCHEDULES | 1

MINIMUM CLEAR DISTANCE (FEET)

3

3 3-1/2 4

3

3

| CONDITON 1 | 2 |

NOTE: THIS FIGURE ILLUSTRATES THE ADDITIONAL EXCLUSIVELY

110.26(E) OF THE NATIONAL ELECTRIC CODE.

TABLE 110.26(A)(1) WORKING SPACE

NOTE: THIS FIGURE ILLUSTRATES THE WORKING SPACE

| VOLTAGE TO GROUND, NOMINA

0-150

151-600

OF THE NATIONAL ELECTRIC CODE.

IN FRONT OF THE PANELBOARD REQUIRED BY 110.26

DEDICATED SPACE REQUIRED OVER AND UNDER THE PANELBOARD BY

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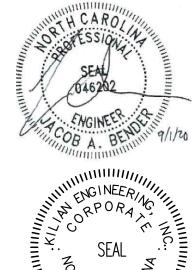
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ELECTRICAL NOTES & SCHEDULES

POWER DEVICE LEGEND SYMBOL DESCRIPTION REMARKS PHONE/DATA OUTLET. EC TO INSTALL 3/4°C WITH PULL-STRING FROM OUTLET BOX TO ABOVE CEILING DATA AND TELEPHONE JACK FOR FUTURE USE. JACKS AND COMMUNICATION CABLING BY OTHERS. NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1. GFCI DUPLEX RECEPTACLE OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596. QUAD RECEPTACLE QUAD RECEPTACLE OF SAME CHARACTERISTICS AS DUPLEX TYPE ABOVE. NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1 UNLESS OTHERWISE NOTED ON PLANS, VERIFY PLUG TYPE PRIOR TO PURCHASE & INSTALLATION, GFCI OR DEDICATED RECEPTACLE AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596. MAY BE EITHER SIMPLEX, DUPLEX, OR DUPLEX CEILING RECEPTACLE DUPLEX RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE. MOUNT TO J-BOX OR CEILING AS REQUIRED. HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR FUSIBLE DISCONNECT SWITCH APPLICATIONS, FUSE ACCORDING TO NAMEPLATE DATA. HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR DISCONNECT SWITCH APPLICATIONS. JUNCTION BOX GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314, 40 OF THE NEC.

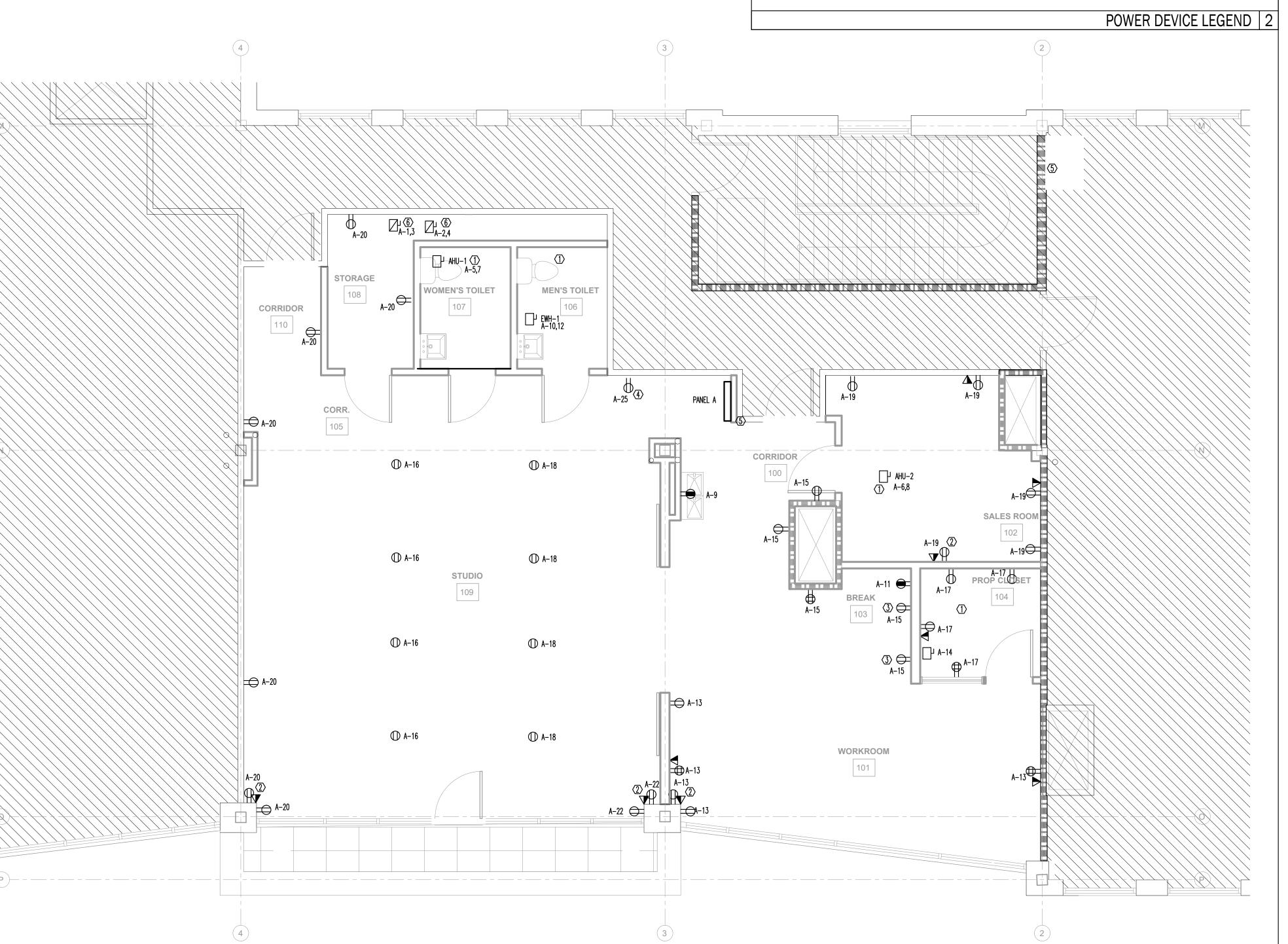
- 1. RETURN AIR PLENUM ABOVE CEILING IN THIS LOCATION. <u>ALL MATERIALS TO BE PLENUM RATED. COORDINATE WITH PLUMBING, MECHANICAL, ELECTRICAL, AND FIRE ALARM CONTRACTORS.</u>
- 2. POWER + DATA FOR WALL-MOUNTED TV. CONFIRM HEIGHT WITH OWNER.

POWER PLAN HEX NOTES

- 7 DECEDENCE ADOME COMMITTED MOUNTED MODIFICATION
- 3. RECEPTACLE ABOVE COUNTERTOP MOUNTED HORIZONTALLY.
- 4. EC TO PROVIDE POWER AS REQUIRED BY TRACK LIGHTING CONTROL SYSTEM. CONFIRM PLUG TYPE WITH DISTRIBUTOR.
- 5. CONDUITS FROM GROUND LEVEL MDP STUB UP HERE. PROVIDE PULL BOX AND CONDUIT TO NEW PANEL A LOCATION IN TENANT SUITE.
- 6. HEAT PUMP LOCATION ON ROOF. PROVIDE NEMA 3R FUSIBLE DISCONNECT. EC TO COORDINATE LOCATION AND PROVISIONS ON SITE.
 PLAN GENERAL NOTES:
- 1. SEE DETAIL ON P2|1 FOR FIRE WALL PENETRATION PROTECTION REQUIREMENTS.

				PANEL A	4				
CKT	LOAD	BKR	LOAD	PH	LOAD	BKR	LOAD	CK	
CKI	בטחט	אאע	kVA	111	kVA	DIKK	СОПУ	Li	
1	HP-1 [SUITE304]	20/2	1. 47	A	2. 04	35/2	HP-2 [SUITE304]	Ĺ	
3			1. 47	В	2. 04			Ŀ	
5	AHU-1 [SUITE304]	40/2	4. 05	C	4. 25	45/2	AHU-2 [SUITE304]		
7	WATER FRUITATAL FOUNTEROA OFFICEROA	00.44	4. 05	A	4. 25				
<u> </u>	WATER FOUNTAIN [SUITE304-CORRIDOR]	20/1	1. 20	B	2. 81	30/2	EWH-1 [SUITE304]	_!	
(1)	FRIDGE [SUITE304-BREAK]	20/1	1. 50	C	2. 81			1	
13	RECEPTACLES [SUITE304-WORKROOM]	20/1	1. 26	A	3, 00	30/1	TANKLESS WATER HEATER [SUITE304]	1	
15	RECEPTACLES [SUITE304-BREAK]	20/1	1. 08	В	0. 72	20/1	RECEPTACLE [SUITE304-STUDIO]	1	
17	RECEPTACLES [SUITE304-CLOSET]	20/1	0, 90	C	0. 72	20/1	RECEPTACLE [SUITE304-STUDIO]	1	
19	RECEPTACLES [SUITE304-SALES]	20/1	0, 90	A	1. 26	20/1	RECEPTACLE [SUITE304-STUDIO]	í	
21	LIGHTING [SUITE304-WORKROOM/BREAK]	20/1	1. 62	В	0. 36	20/1	RECEPTACLE [SUITE304-STUDIO]	í	
23	LIGHTING [SUITE304-DTHERS]	20/1	0. 81	C	1. 20	20/1	TRACK LIGHTING	i	
25	TRACK LIGHTING CONTROLLER POWER	30/1	2, 88	A	0, 00	20/1	SPARE	1	
27	SPACE		0, 00	В	0, 00		SPACE	í	
29	SPACE		0, 00	C	0, 00		SPACE	-3	
31	SPACE		0, 00	A	0, 00		SPACE	-3	
33	SPACE		0, 00	В	0, 00		SPACE	-3	
35	SPACE		0, 00	С	0, 00		SPACE	(
37	SPACE		0, 00	A	0, 00		SPACE	Ľ	
39	SPACE		0, 00	В	0, 00		SPACE	Ľ	
41	SPACE		0. 00	С	0, 00		SPACE	_ 4	
			kVA	PH	AMPS				
			21. 1	A	176				
			11. 3	В	94				
			16. 3	С	135				
		VOI TACI	E/PHASE		2007/1	20V, 3P, 4	NV	_	
			RATING		200A	LU1, JI, 1	T #		
	MAIN CIRCUIT 1				200A				
	MAIN CIRCUIT		RATING		22K				
	SERVICE (ND				
	OLIVIOL I		CLOSURE		NEMA 1				
			DUNTING						

NOTE: CONFIRM PLUG TYPES, BREAKERS, AND LOADS FOR ALL EQUIPMENT WITH EQUIPMENT SUPPLIERS PRIOR TO PURCHASE / INSTALL. GFCI BREAKER



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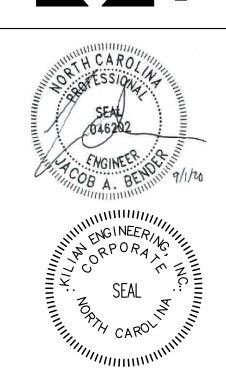
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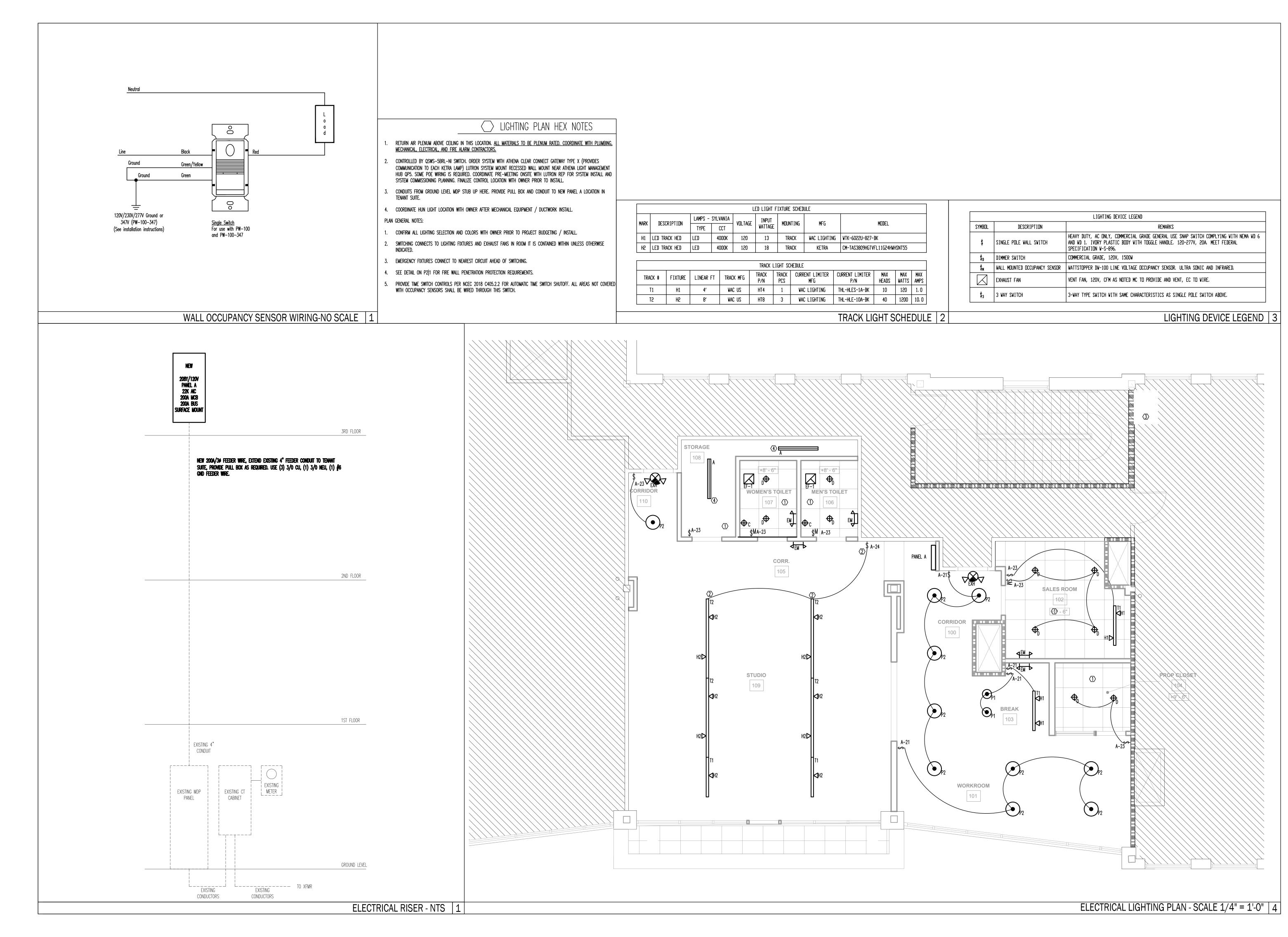
DIO 557 CK" TOWN HALL COMMONS/MALB

NO. REVISION DATE

ELECTRICAL POWER PLAN

E2

ELECTRICAL POWER PLAN - SCALE 1/4" = 1'-0" 2



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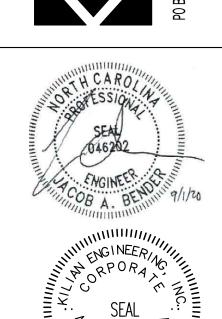
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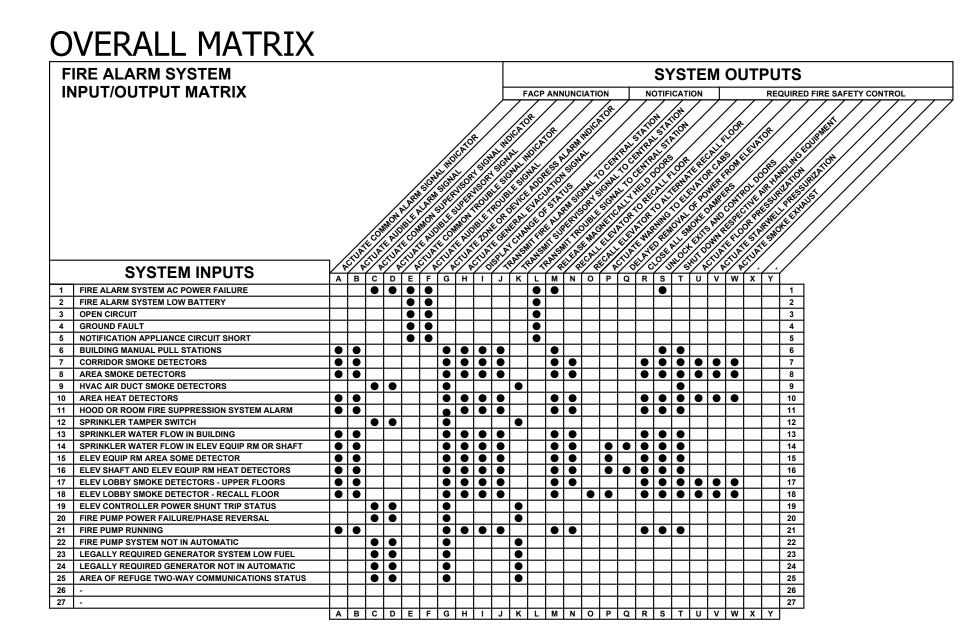
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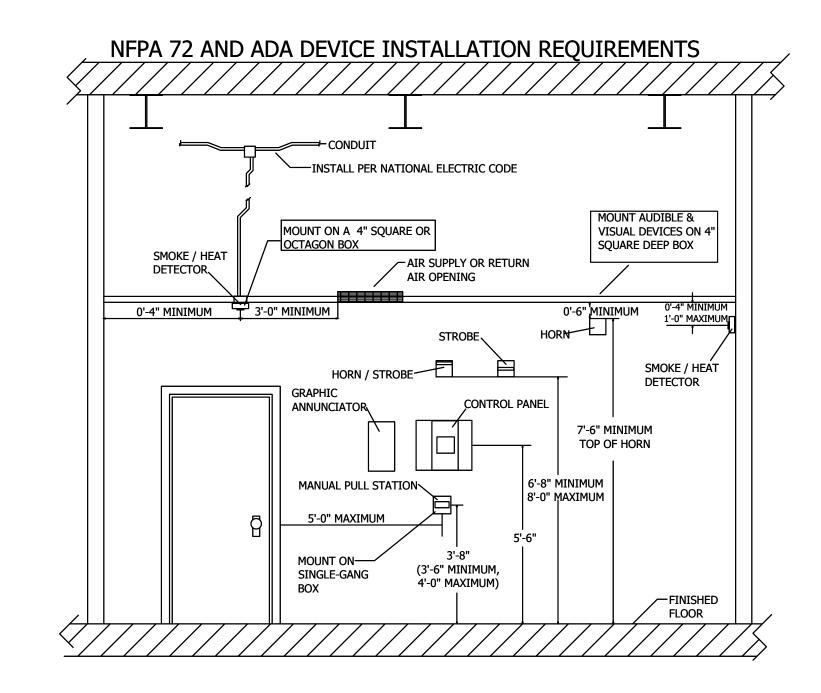
PLAN

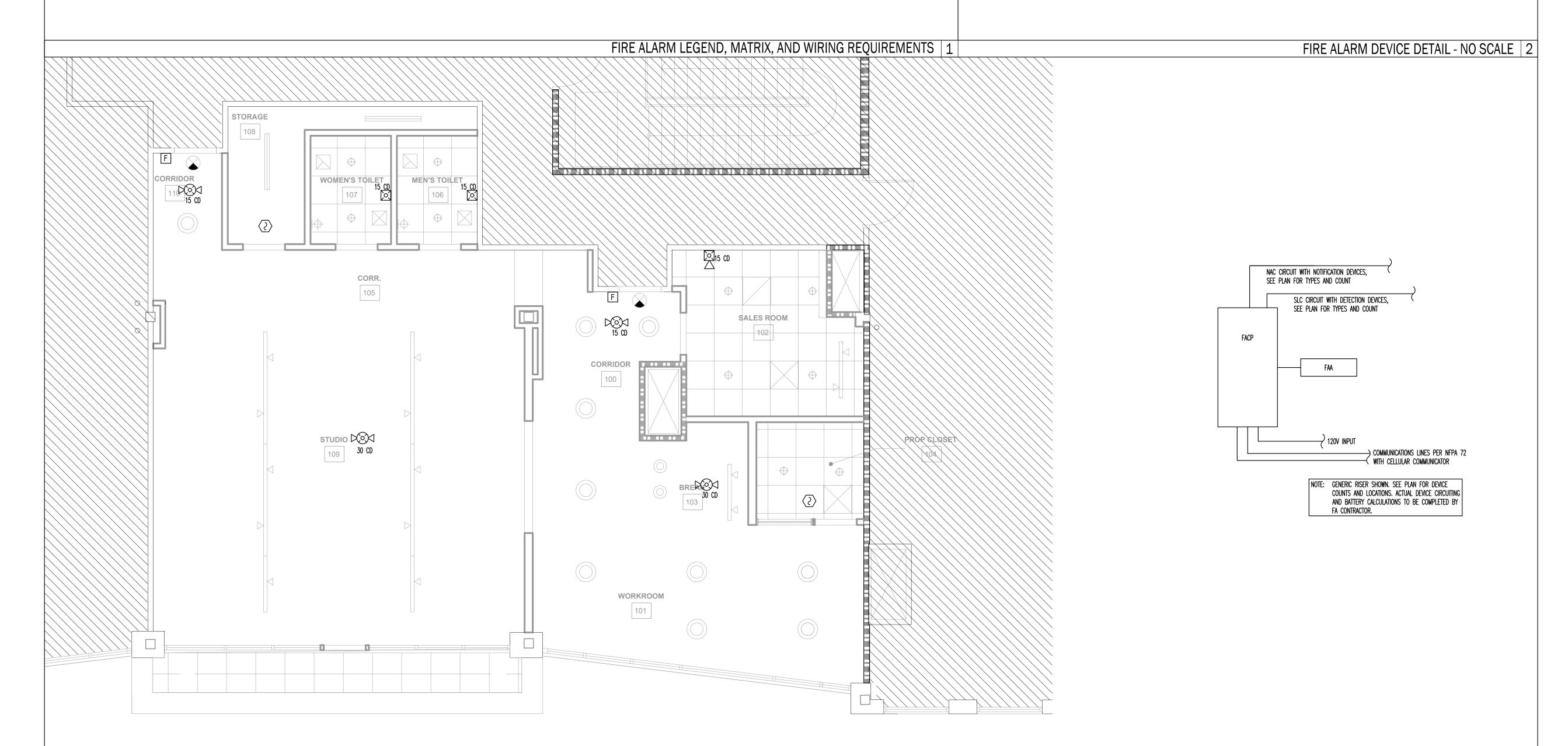
E3

NFPA 170 SYMBOL GUIDE DESCRIPTION SYMBOL FACP FIRE ALARM CONTROL PANEL FIRE ALARM ANNUNCIATOR WF WATER FLOW SWITCH VALVE SUPERVISORY SWITCH (TAMPER SWITCH) HEAT DETECTOR/SENSOR (RATE OF RISE) ||PULL STATION / FIRE ALARM SMOKE DETECTOR/SENSOR (DEFAULT PHOTOELECTRIC TYPE) SMOKE ALARM (SINGLE STATION)(RESIDENCE) DUCT SMOKE DETECTOR (NFPA 72, SECTION 17.7.5.5) AUDIBLE ONLY APPLIANCE (WALL MOUNTED)(BEL LOUTSIDE SPRINK RM. ☑FC ||VISUAL DNLY APPLIANCE (WALL MDUNTED) ☑ FC | AUDIBLE/VISUAL APPIANCE (WALL MOUNTED) ⊗FC | VISUAL DNLY APPLIANCE (CEILING MDUNTED) AUDIBLE ONLY APPLIANCE (CEILING MOUNTED) D⊗ FC | AUDIBLE/VISUAL APPIANCE (CEILING MOUNTED)



WIRE REQUIREMENTS NAC CIRCUITS - 16/2, SOLID, FPLP WIRE DATA CIRCUITS - 18/2, SOLID, FPLP WIRE





FIRE ALARM GENERAL NOTES

- 1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR, FASC - FIRE ALARM SYSTEM CONTRACTOR.
- "PROVIDE" MEANS TO FURNISH AND INSTALL. 3. THE FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, ETC, AS NECESSARY FOR A COMPLETE AND
- OPERATIONAL FIRE ALARM SYSTEM. 4. THESE DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL MINOR DETAILS AND EXACT LOCATIONS. THE FASC SHALL ALLOW FOR ADJUSTMENTS TO ACCOMMODATE INTERFERENCES BOTH PLANNED AND ENCOUNTERED AND SHALL INCLUDE SUCH CONTINGENCIES IN THEIR
- 5. THE SUCCESSFUL FIRE ALARM BIDDER SHALL PROVIDE CONSTRUCTION DOCUMENTS TO THE AUTHORITY HAVING JURISDICTION FOR APPROVAL INCLUDING ALARM CONTROLS AND TROUBLE SIGNALING EQUIPMENT, ANNUNCIATION, POWER CONNECTIONS, BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, CONDUCTOR TYPES AND SIZES, LOCATIONS OF INITIATING AND NOTIFICATION APPLIANCES, AND MANUFACTURERS, MODEL NUMBERS, AND LISTING INFORMATION FOR ALL EQUIPMENT, DEVICES AND MATERIALS.
- 6. ALL WORK SHALL BE IN ACCORDANCE WITH NFPA 72 AND
- APPLICABLE SECTIONS OF NFPA 70 AND 13.
- 7. CONDUIT, CONDUCTORS, BOXES, AND HANGERS SHALL BE THE SAME AS THOSE SPECIFIED IN THE ELECTRICAL SYSTEM. 8. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR UL
- LABEL OR EQUIVALENT WHERE APPLICABLE. 9. THE FIRE ALARM SYSTEM SHALL BE OF THE ADDRESSABLE TYPE WITH EACH INITIATING DEVICE REPORTING INDIVIDUALLY TO THE FIRE ALARM CONTROL PANEL. ONLY THE MANUFACTURER OR AN AUTHORIZED DISTRIBUTOR WHO STOCKS SPARE COMPONENTS FOR
- THE ENTIRE SYSTEM SHALL CONNECT, PROGRAM, OR TEST THE ADDRESSABLE FIRE ALARM SYSTEM. ALL TECHNICIANS PERFORMING MANUFACTURER FOR THE MODEL OF SYSTEM BEING INSTALLED. COPIES OF THEIR CERTIFICATION SHALL BE AVAILABLE UPON REQUEST. THE MANUFACTURER OR AUTHORIZED DISTRIBUTOR SHALL STORE THE COMPLETE PROGRAMMING FOR THE ADDRESSABLE SYSTEM ON A COMPUTER DISK OR DISKETTE OR OTHER MEDIA AND ARCHIVE APPROPRIATELY. A COPY OF THE PROGRAM SHALL BE MADE AVAILABLE TO THE OWNER WHEN THE SYSTEM IS COMMISSIONED. THE MANUFACTURER OR AUTHORIZED DISTRIBUTOR SHALL MAINTAIN SOFTWARE VERSION RECORDS ON THE SYSTEM INSTALLED AND PROVIDE FREE UPGRADES IF THE MANUFACTURER RELEASES A NEW VERSION OF THE SOFTWARE DURING THE WARRANTY PERIOD. PROVIDE A SYSTEM FUNCTION MATRIX THAT GIVES THE FIRE ALARM CONTROL PANEL RESPONSE FOR EACH INITIATING DEVICE.
- 10. THE SYSTEM SHALL BE NOMINAL 24VDC, NON-CODED, AND SUPERVISED (INCLUDING CONTROL CIRCUITS). ALL EQUIPMENT SUPPLIED MUST BE LISTED FOR ITS PARTICULAR USE AND INSTALLED IN ACCORDANCE WITH ANY INSTRUCTIONS APPLICABLE TO ITS LISTING. 11. THE SYSTEM SHALL BE ELECTRICALLY SUPERVISED FOR OPEN OR GROUND FAULT CONDITIONS IN DETECTION, ALARM, AND CONTROL CIRCUITS. THE REMOVAL OF ANY DETECTION DEVICE, ALARM APPLIANCE, PLUG-IN RELAY, SYSTEM MODULE, OR STANDBY BATTERY CONNECTION SHALL ALSO ACTIVATE A TROUBLE SIGNAL. THE FIRE ALARM SIGNAL SHALL OVERRIDE TROUBLE SIGNALS, BUT THE PRE-ALARM TROUBLE SIGNAL SHALL REAPPEAR WHEN THE PANEL IS
- 12. PROVIDE EACH SIGNALING LINE CIRCUIT WITH A MINIMUM OF 20 PERCENT SPARE ADDRESSES FOR FUTURE USE.
- 13. THE CONNECTIONS BETWEEN INDIVIDUAL ADDRESSABLE MODULES AND THEIR CONTACT TYPE INITIATING DEVICES MUST BE SUPERVISED.
- 14. THE FIRE ALARM CONTROL PANEL (FACP) POWER SUPPLY MUST HAVE A CONTINUOUS RATING ADEQUATE TO POWER ALL DEVICES AND FUNCTIONS IN FULL ALARM CONTINUOUSLY. BATTERIES MUST MEET THE APPROPRIATE NFPA CAPACITY REQUIREMENTS. THE FACP SHALL INCLUDE AN ALARM SILENCE SWITCH AND SHALL BE EQUIPPED WITH THE SUBSEQUENT ALARM RESOUND FEATURE. THE ALARM SILENCING AND RESET FEATURE SHALL NOT REVERSE AIR HANDLING UNITS SHUTDOWN. A SUPERVISED "HVAC SYSTEM SHUTDOWN" SWITCH MUST BE PROVIDED IN THE FACP WITH ITS "NORMAL" POSITION INDICATED.
- 15. ALL CONNECTIONS MADE AT THE FACP MUST BE BY THE MANUFACTURER'S AUTHORIZED FACTORY TRAINED PERSONNEL (NOT THE ELECTRICAL CONTRACTOR).
- 16. PERMANENT WIRE MARKERS SHALL BE USED TO IDENTIFY ALL CONNECTIONS AND TERMINATIONS FOR EACH CIRCUIT. ALL FIRE ALARM JUNCTION BOXES SHALL BE SPRAYED RED AND LABELED "FIRE ALARM." TERMINAL BLOCKS SHALL BE PROVIDED IN ALL JUNCTION BOXES WHERE CONNECTIONS ARE MADE. IDENTIFICATION AT SPLICES SHALL INDICATE WHICH CONDUCTOR LEADS TO THE FACP.
- 17. THE FOLLOWING COLOR SCHEME SHALL BE USED FOR SYSTEM CONDUCTORS:
- 17.1. INITIATING CIRCUITS (OTHER THAN SMOKE) RED & WHITE 17.2. INITIATING CIRCUITS (SMOKE DETECTION) VIOLET & GRAY

17.6. ELEVATOR CIRCUITS

- 17.3. NOTIFICATION APPLIANCE CIRCUITS BLUE & BLACK 17.4. AIR HANDLING SHUT DOWN CIRCUITS YELLOW 17.5. DOOR CONTROL CIRCUITS
- 18. LOW VOLTAGE WIRING SHALL NOT BE INSTALLED IN ANY RACEWAY CONTAINING POWER OR LINE VOLTAGE CONTROL WIRING. WITHIN THE FACP, ANY AC CONTROL WIRING SHALL BE PROPERLY SEPARATED FROM OTHER CIRCUITS AND THE ENCLOSURE SHALL BE LABELED TO ALERT SERVICE PERSONNEL TO THE HAZARD.
- 19. DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS AND AS DETAILED. WHENEVER POSSIBLE, DEVICES SHOULD BE CENTERED ON SPACES OR LOCATED ABOVE OTHER OUTLETS. SMOKE DETECTORS SHALL NOT BE LOCATED WITHIN THREE (3) FEET OF AN HVAC SUPPLY OR RETURN. INSTALL WALL MOUNTED SMOKE DETECTORS A MAXIMUM OF TWELVE (12) INCHES FROM CEILING.
- 20. PROVIDE A PERMANENT MARKER ON EACH DEVICE INSTALLED INDICATING THE DEVICE NUMBER AND ADDRESSABLE LOOP NUMBER. PROVIDE THE SAME INFORMATION INSIDE THE BOX FOR EACH DEVICE. 21. ALL HVAC EQUIPMENT SHALL SHUTDOWN UPON ACTIVATION OF ANY FIRE ALARM DEVICE.
- 22. WATER FLOW SWITCHES, VALVE TAMPER SWITCHES, AND PRESSURE SWITCHES SHALL BE PROVIDED AND INSTALLED BY THE SPRINKLER CONTRACTOR, CONNECTED BY THE ELECTRICAL CONTRACTOR, AND
- SUPERVISED BY THE FACP. 23. TESTING SHALL INCLUDE ALL TESTS REQUIRED FOR THE ELECTRICAL SYSTEMS IN ADDITION TO TESTING AND CERTIFICATION BY THE FIRE ALARM SYSTEM SUPPLIER. PROVIDE INSTRUCTION MANUALS TO OWNER PFRSONNFL.
- 24. FASC SHALL VERIFY THAT ALL VISIBLE NOTIFICATION DEVICES ARE SYNCHRONIZED PER NFPA 72.
- 25. VERIFY DECIBEL LEVELS ARE MINIMUM 60 DBA AND MAXIMUM 120 DBA THROUGHOUT THE ZONE; ADJUST DEVICES AS NECESSARY. MAINTAIN MINIMUM 100 DBA IN EQUIPMENT AND MECHANICAL ROOMS. 26. DEVICES MUST MEET SURVIVABILITY REQUIREMENTS OF THE NFPA AS
- 27. THE AUDIBLE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER. IN EVERY OCCUPIABLE SPACE WITHIN THE

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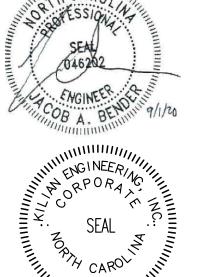
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20061 CLIENT P/N 09/01/2020 DATE: JAM DRAWN BY: CHECKED BY: MWK/JAB NO. REVISION DATE

FIRE ALARM PLAN

GENERAL MECHANICAL NOTES:

- 1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
- FASC FIRE ALARM SYSTEM CONTRACTOR. 2. "PROVIDE" MEANS TO FURNISH AND INSTALL. MC SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND GENERAL CONTRACTOR AS SHOWN ON THE PLANS OR NECESSARY FOR A COMPLETE INSTALLATION.
- 3. THE MC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
- 4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE CONTRACTOR AT AN APPROVED LOCATION. THE MC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE 6. MC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE
- THE MC SHALL INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL AND BUILDING CODES AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE MC SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE requirements.
- 6. THE MC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT. 7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR
- 8. THE MC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE MC SHALL CONTACT THE ENGINEER TO RESOLVE ANY 8. DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE MC SHALL
- COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. 9. ALL MECHANICAL MATERIALS SHALL BE NEW AND FREE OF DEFECT AND LISTED COST TO THE OWNER. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, THE CITED EXAMPLE IS INTENDED TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. SUCH EXAMPLES ARE USED TO CONVEY A GENERAL STYLE, TYPE, CHARACTER, AND QUALITY OF THE PRODUCT DESIRED; PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER WILL
- 10. THESE PLANS ARE DIAGRAMMATIC. THE MC SHALL ADJUST THE LOCATIONS OF 11. THE MC SHALL PROVIDE ALL DIFFUSERS GRILLES, LOUVERS, AND OTHER AIR EQUIPMENT, DUCTS, REGISTERS, GRILLES, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE MC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO
- 11. THE MC SHALL VERIFY THE FUNCTIONALITY AND OPERATION OF ALL EXISTING MECHANICAL EQUIPMENT IN THE AREA OF WORK, REPLACE FILTERS, LEAK TEST 13. THE MC SHALL PROVIDE ALL REFRIGERATION PIPING, ALL PIPE AND FITTINGS AND RECHARGE REFRIGERANT LINES, REPLACE OR LUBRICATE BEARINGS, CHECK LINKAGES AND ACTUATORS, AND PERFORM OTHER MAINTENANCE SERVICE AS NECESSARY TO GET THE EQUIPMENT IN PROPER ORDER. 12. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS
- RESPONSIBLE FOR ALL CONTROL WIRING. 13. IT IS THE MC'S RESPONSIBILITY TO VERIFY THAT ITEMS FURNISHED FOR THIS CONTRACT WILL FIT IN THE SPACE AVAILABLE. THE MC SHALL MAKE FIELD MEASUREMENTS AS NECESSARY TO DETERMINE SPACE REQUIREMENTS. IF THE MC MUST ALTER EQUIPMENT DUE TO SPACE CONSIDERATIONS, THE MC SHALL PROVIDE

TO THE MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL BE

- SIZES AND SHAPES THAT FIT THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS. 14. MC SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR REGARDING THE ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING PROVIDED.
- 15. MAINTAIN CLEARANCES FOR ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS FOR SERVICEABILITY. ALL ROOFTOP EQUIPMENT MUST BE A MINIMUM OF 10 FEET FROM ROOF EDGE.
- 16. MC SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF THE PROJECT. MC SHALL PROVIDE ALL DOCUMENTATION TO THE OWNER AS NECESSARY TO SUBMIT FOR FACTORY WARRANTIES.
- 17. CONTRACTOR SHALL PROTECT ALL HVAC EQUIPMENT FROM CONSTRUCTION AND SHEET ROCK DUST DURING CONSTRUCTION. ALL FILTERS SHALL BE REPLACED WITH NEW AT THE COMPLETION OF THE PROJECT.
- 18. ALL EQUIPMENT INSTALLED ON ROOF MUST BE WITHIN THE ROOF SCREEN. 19. IF A ROOF PENETRATION IS REQUIRED AND THE ROOF IS UNDER WARRANTY, USE THE AUTHORIZED ROOFER. PROVIDE DOCUMENTATION.
- WITH OTHER TRADES ON LOCATIONS OF ALL PLENUMS. 21. MC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION Phase of the project.

SUITABLE FOR INSTALLATION IN A RETURN PLENUM AS NECESSARY. COORDINATE

- THE MC SHALL PROVIDE ALL DX UNITARY HEATING AND COOLING EQUIPMENT AS SCHEDULED ON THE DRAWINGS. AIR-COOLED SPLIT SYSTEM HEAT PUMPS AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK, AIR-COOLED ROOFTOP PACKAGE HEAT PUMPS, GAS-ELECTRIC UNITS, AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. GAS FURNACES SHALL BE BY TRANE, CARRIER, OR YORK. THE MC SHALL PROVIDE FACTORY AND FIELD INSTALLED ACCESSORIES AS SCHEDULED OR AS NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM.
- 2. THE MC SHALL PROVIDE ALL EXHAUST AND SUPPLY FANS AS SCHEDULED. FANS SHALL BE BY GREENHECK, LOREN COOK, TWIN CITY, OR PENNBARRY. DUCTWORK IS SHOWN WITH FREE AREA DIMENSIONS, ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT 3.
- STANDARD, 2 INCH S.P. 4. EXTERNAL DUCT INSULATION AND FACTORY-INSULATED FLEXIBLE DUCT SHALL BE LEGIBLY PRINTED OR IDENTIFIED AT INTERVALS NOT GREATER THAN 36 INCHES WITH THE NAME OF THE MANUFACTURER, THE THERMAL RESISTANCE R-VALUE AT 4. DUCTS CONNECTING TO A FURNACE SHALL HAVE A CLEARANCE TO COMBUSTIBLES THE SPECIFIED INSTALLED THICKNESS AND THE FLAME SPREAD AND PRODUCT R-VALUES SHALL BE BASED ON INSULATION ONLY, EXCLUDING AIR FILMS, VAPOR RETARDERS OR OTHER DUCT COMPONENTS, AND SHALL BE BASED ON TESTED C-VALUES AT 75°F MEAN TEMPERATURE AT THE INSTALLED THICKNESS, IN ACCORDANCE WITH RECOGNIZED INDUSTRY PROCEDURES. THE INSTALLED THICKNESS OF DUCT INSULATION USED TO DETERMINE ITS R-VALUES
- SHALL BE DETERMINED AS FOLLOWS: 4.1. FOR DUCT BOARD, DUCT LINER AND FACTORY—MADE RIGID DUCTS NOT NORMALLY SUBJECTED TO COMPRESSION, THE NOMINAL INSULATION THICKNESS SHALL BE USED.
- 4.2. FOR DUCT WRAP, THE INSTALLED THICKNESS SHALL BE ASSUMED TO BE 75 PERCENT (25-PERCENT COMPRESSION) OF NOMINAL THICKNESS.
- SHALL BE DETERMINED BY DIVIDING THE DIFFERENCE BETWEEN THE ACTUAL OUTSIDE DIAMETER AND NOMINAL INSIDE DIAMETER BY TWO. 5. DUCT LINER MAY BE SUBSTITUTED FOR EXTERIOR DUCT WRAP. DUCT LINER INSULATION MATERIALS SHALL MEET THE REQUIREMENTS OF ASTM C 1071, AND ASTM G 21. EXTERIOR DUCT R-VALUE SHALL BE R-8 AND INTERIOR R-VALUE SHALL BE R-6 IN ACCORDANCE WITH THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE. NOMINAL DUCT SIZES SHALL BE ADJUSTED AS NECESSARY SO THAT FREE AREA DIMENSIONS ARE PRESERVED AS SHOWN ON THE PLANS. FABRICATION AND INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND TO THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION FIBROUS GLASS DUCT LINER STANDARDS AND/OR SMACNA HVAC DUCT CONSTRUCTION STANDARDS. DUCT LINER SHALL HAVE A BLACK PIGMENTED MAT ON THE AIRSTREAM SIDE TO RESIST DAMAGE DURING INSTALLATION AND SERVICE. EDGES SHALL BE FACTORY COATED WITH BLACK PIGMENTED COATING TO COMPLY 11. WITH SMACNA DCS REQUIREMENTS. ALL PORTIONS OF DUCT DESIGNATED TO RECEIVE DUCT LINER SHALL BE COMPLETELY COVERED WITH DUCT LINER. TRANSVERSE JOINTS SHALL BE NEATLY BUTTED AND THERE SHALL BE NO INTERRUPTIONS OR GAPS. THE BLACK PIGMENTED OR MAT FACED SURFACES SHALL FACE THE AIRSTREAM. DUCT LINER SHALL BE ADHERED TO THE SHEET METAL WITH 90 PERCENT COVERAGE OF ADHESIVE COMPLYING WITH REQUIREMENTS

OF ASTM C 916. ALL EXPOSED LEADING EDGES AND TRANSVERSE JOINTS SHALL

- BE FACTORY COATED OR COATED WITH ADHESIVE DURING FABRICATION. DUCT LINER SHALL BE ADDITIONALLY SECURED WITH MECHANICAL FASTENERS, EITHER WELD-SECURED OR IMPACT DRIVEN, WHICH SHALL COMPRESS THE DUCT LINER SUFFICIENTLY TO HOLD IT FIRMLY IN PLACE. ADHESIVE BONDED PINS ARE NOT 13. PERMITTED DUE TO LONG-TERM ADHESIVE AGING CHARACTERISTICS. LININGS SHALL BE INTERRUPTED AT THE AREA OF OPERATION OF A FIRE DAMPER AND AT A MINIMUM OF 6 INCHES UPSTREAM AND 6 INCHES DOWNSTREAM OF ELECTRIC RESISTANCE AND FUEL-BURNING HEATERS IN A DUCT SYSTEM, METAL NOSINGS OR SLEEVES SHALL BE INSTALLED OVER EXPOSED DUCT LINER THAT FACE OPPOSITE THE DIRECTION OF AIRFLOW. UPON COMPLETION OF INSTALLATION OF DUCT LINER AND BEFORE OPERATION IS TO COMMENCE, VISUALLY INSPECT SYSTEM AND VERIFY THAT THE DUCT LINER IS PROPERLY INSTALLED. OPEN ALL SYSTEM DAMPERS AND TURN ON FANS TO BLOW ALL SCRAPS AND OTHER LOOSE PIECES OF MATERIAL OUT OF THE DUCT SYSTEM. ALLOW FOR A MEANS OF REMOVAL OF SUCH MATERIAL.
- ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578. ALL INSULATION SHALL HAVE FORMALDEHYDE EMISSIONS NOT GREATER THAN 0.05 PPM. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED. MASTIC USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A-95 OR UL 181B-98. MAINTAIN AMBIENT TEMPERATURES AND CONDITIONS REQUIRED BY MANUFACTURER OF ADHESIVES, MASTICS, AND INSULATION CEMENTS. DO NOT INSTALL DUCT SEALANT WHEN TEMPERATURES ARE LESS THAT THOSE RECOMMENDED BY THE SEALANT
- MANUFACTURER. ALL ADHESIVES AND SEALANTS SHALL HAVE VOC CONTENT BELOW 20 GRAMS PER LITER AND WHICH MEET THE REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS BEING ADHERED OR INVOLVED. ADHESIVES AND SEALANTS SHALL CONTAIN NO HEAVY METALS OR FORMALDEHYDE.
- AND LABELED BY UL OR AN APPROVED THIRD PARTY AGENCY. ANY MATERIALS 9. FACTORY-MADE AIR DUCTS AND CONNECTORS SHALL COMPLY WITH UL 181-96. FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE MC WITHOUT ADDITIONAL 10. FLEXIBLE DUCT SHALL BE UL LISTED CLASS 0 OR CLASS 1, INSULATED, AND COMPLY WITH UL 181, FLEXIBLE DUCT SHALL BE FACTORY FORMED, COMPOSED OF SPIRAL WOUND CORROSION RESISTANT WIRE BONDED TO AN INNER FABRIC 17. LINER. DUCT SHALL BE FACTORY INSULATED WITH A FOIL VAPOR BARRIER JACKET. AND AIR CONNECTORS SHALL NOT PASS THROUGH ANY FIRE RESISTANCE RATED
 - DISTRIBUTION OUTLETS AND INLETS. LOUVERS, GRILLES, AND DIFFUSERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. FOR LAY-IN CEILINGS, INSTALL SUPPORT FROM THE STRUCTURE FOR EACH DIFFUSER OR DAMPER. AIR DISTRIBUTION OUTLETS AND INLETS SHALL 20 BE BY HART & COOLEY, PRICE, METAL—AIRE, NAILOR, OR CARNES. 12. AIR FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 605 OF THE
 - 2018 NC MECHANICAL CODE. SHALL BE TYPE ACR HARD COPPER TUBING WITH SWEAT FITTINGS. REFRIGERATION LINES SHALL BE RUN NEATLY. WHERE A GROUP OF LINES ARE RUN, TRAPEZE HANGERS MAY BE USED. DO NOT USE CHAIN OR WIRE HANGERS. WRAP TUBING WITH RUBBER TAPE AT EACH CLAMP OR HANGER. FOR COVERED PIPES, HANGERS SHALL FIT AROUND THE OUTSIDE OF THE COVERING WITH 12 GAUGE GALVANIZED STEEL SHIELDS OF A LENGTH EQUAL TO THE OUTSIDE DIAMETER OF THE INSULATION AND COVERING 3/4 OF THE CIRCUMFERENCE OF THE INSULATION. SAGS SHALL NOT BE PERMISSIBLE. HORIZONTAL LINES SHALL PITCH DOWN NOT LESS THAN 1 INCH IN 40 FEET. INSULATE WITH 1 INCH CLOSED CELL ARMAFLEX TYPE INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50. ALL JOINTS AND SPLICES IN INSULATION SHALL BE TAPED AND AIR TIGHT. SOLDER REFRIGERATION LINES USING 15 PERCENT SILVER SOLDER AND EVACUATE LINES TO 300 MICRONS. PROVIDE MOISTURE INDICATING SIGHT GLASS AND FILTER DRYER IN LIQUID LINE, PROVIDE OIL TRAPS AND DOUBLE RISERS IN REFRIGERANT SUCTION AND HOT GAS LINES WHERE REQUIRED TO PREVENT OIL SLUGGING AT THE COMPRESSOR AND INSURE PROPER LUBRICATION. MC SHALL BE RESPONSIBLE FOR SEALING LINE SET PENETRATIONS OF ANY RATED ASSEMBLIES IN ACCORDANCE WITH A SYSTEM LISTED IN THE UL DIRECTORY FOR THE SPECIFIC ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR A LIST OF ALL UL FIRE RATED ASSEMBLIES.
- INSULATE DUCTWORK WITH FIBERGLASS DUCT WRAP; INSTALLED R-VALUE SHALL BE A MINIMUM R-6. COVERINGS AND LININGS, INCLUDING ADHESIVES WHEN USED, SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A 20. ALL PIPING, WIRING, CONDUIT, INSULATION, EQUIPMENT, SUPPORTS, ETC. SHALL BE SMOKE-DEVELOPED INDEX NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL NEW DUCTWORK SHALL RECEIVE INSULATION ON THE OUTSIDE. INSTALL DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPE FLAP OVERLAPS INSULATION AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE TIGHTLY BUTTED. FOR RECTANGULAR DUCTS, INSTALL SO INSULATION IS NOT EXCESSIVELY COMPRESSED AT DUCT CORNERS. STAPLE SEAMS APPROXIMATELY 6 INCHES ON CENTER WITH OUTWARD CLINCHING STAPLES. SEAL SEAMS WITH PRESSURE SENSITIVE TAPE MATCHING THE FACING. FOR RECTANGULAR DUCTS 24 INCHES IN WIDTH OR GREATER, SECURE DUCT WRAP TO THE BOTTOM OF THE DUCT WITH MECHANICAL FASTENERS SPACED 18 INCHES ON CENTER TO PREVENT SAGGING OF INSULATION. ADJACENT SECTIONS OF DUCT WRAP SHALL BE TIGHTLY BUTTED WITH THE 2 INCH TAPE FLAP OVERLAPPING. ALL TEARS. PUNCTURES, ETC. OF THE DUCT WRAP INSULATION SHALL BE SEALED WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM. INSULATION SHALL BE BY KNAUF INSULATION. OWENS CORNING CORP. OR CERTAINTEED CORPORATION. VERIFY THAT DUCTS HAVE BEEN TESTED BEFORE APPLYING INSULATION MATERIALS. VERIFY THAT DUCT SURFACES ARE CLEAN, DRY AND FREE OF FOREIGN MATERIAL PRIOR TO INSULATING. DUCT COVERINGS SHALL NOT PENETRATE A WALL OR FLOOR REQUIRED TO HAVE A FIRE-RESISTANCE RATING OR REQUIRED TO BE FIRE
 - WHERE DUCTS ARE CONNECTED TO EXTERIOR WALL LOUVERS AND DUCT OUTLET IS SMALLER THAN LOUVER FRAME, PROVIDE BLANK-OUT PANELS SEALING LOUVER AREA AROUND DUCT. USE SAME MATERIAL AS DUCT, PAINTED BLACK ON EXTERIOR SIDE; SEAL TO LOUVER FRAME AND DUCT.
- IN ACCORDANCE WITH THE FURNACE MANUFACTURER'S INSTALLATION INSTRUCTIONS. SMOKE-DEVELOPED INDEXES OF THE COMPOSITE MATERIALS. ALL DUCT INSULATION 5. FOR STRUCTURES IN FLOOD HAZARD AREAS, DUCTS SHALL BE LOCATED ABOVE THE DESIGN FLOOD ELEVATION. DUCT SHALL NOT BE INSTALLED IN OR WITHIN 4 INCHES OF THE EARTH.
 - 6. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS. 7. CONSTRUCT T's, BENDS, AND ELBOWS WITH RADII OF NOT LESS THAN 1-1/2
- TIMES THE WIDTH OF THE DUCT ON CENTERLINE. WHERE NOT POSSIBLE AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE TURNING VANES. 8. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE; MAXIMUM OF 30 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM. FOR FACTORY-MADE FLEXIBLE AIR DUCTS, THE INSTALLED THICKNESS 9. IT SHALL BE THE RESPONSIBILITY OF THE MC TO SUSPEND AND SUPPORT ALL EQUIPMENT, DUCTWORK, DIFFUSERS, AND OTHER MATERIALS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY
 - ACCEPTED HANGERS AND SUSPENSION EQUIPMENT. ALL HVAC EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS. GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT OR PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING.
 - 10. DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA AT INTERVALS NOT EXCEEDING 10 FEET. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZE TYPE HANGERS SUSPENDED WITH THREADED ROD. SUPPORT DUCTS FROM BAR JOISTS, GIRDERS, OR BEAMS. CHECK LOCATIONS OF AIR OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES.
 - SYMMETRY, AND LIGHTING ARRANGEMENT. COORDINATE WITH SPRINKLER CONTRACTOR IF APPLICABLE. 12. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF, PROVIDE BALANCING DAMPERS ON DUCT

TAKE-OFFS TO DIFFUSERS, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS

- ARE SPECIFIED AS PART OF THE DIFFUSER OR REGISTER ASSEMBLY. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE DESIGN SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES AT SITE ALTITUDE.
- MC SHALL INSTALL FIRE DAMPERS AT EACH PENETRATION OF A RATED WALL AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. FIRE DAMPERS SHALL BE UL LABELED (UL 555), CURTAIN TYPE, WITH INTEGRAL FACTORY SLEEVE AND BLADES LOCATED OUTSIDE THE AIR STREAM. INSTALLATION OF ALL FIRE DAMPERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SECTION 607 OF THE 2018 NC MECHANICAL CODE. PROVIDE ACCESS PANELS FOR TESTING AND SERVICE AS NECESSARY. MC SHALL PROVIDE RADIATION DAMPERS AND THERMAL BLANKETS FOR ALL PENETRATIONS OF RATED CEILING ASSEMBLIES. RADIATION DAMPERS SHALL BE UL LABELED (UL 555C) AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC INSTALLATION INSTRUCTIONS. FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, AND CEILING RADIATION DAMPERS SHALL BE BY RUSKIN, NAILOR, OR LLOYD INDUSTRIES.
- MC SHALL INSTALL A SMOKE DETECTOR—UL LISTED FOR DUCT INSTALLATION (UL 268A) IN EACH UNIT'S RETURN UPSTREAM OF ANY FILTERS, OUTSIDE AIR CONNECTIONS. OR DECONTAMINATION EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72. DUCT SMOKE DETECTOR SUPERVISION SHALL COMPLY WITH 606.4.1 OF THE 2018 NC MECHANICAL CODE. IF THE BUILDING IS (TO BE) EQUIPPED WITH A FIRE ALARM SYSTEM, THE FIRE ALARM SYSTEM CONTRACTOR SHALL FURNISH AND WIRE ALL DUCT SMOKE DETECTORS. IF THE BUILDING IS NOT PROVIDED WITH A FIRE ALARM SYSTEM, TH MC SHALL FURNISH AND WIRE THE DUCT SMOKE DETECTORS AND A/V DEVICE. IT SHALL BE THE RESPONSIBILITY OF THE MC TO INSTALL ALL SMOKE DUCT DETECTORS PER NFPA AND MFG'S INSTALLATION INSTRUCTIONS REGARDLESS OF WHO FURNISHES THE DEVICES.
- MC SHALL INSTALL PROGRAMMABLE THERMOSTATS AS SHOWN ON THE PLANS. THERMOSTAT SHALL BE MOUNTED AT 48 INCHES AFF. THERMOSTATS SHALL MEET THE REQUIREMENTS OF SECTION C403.2.4 OF THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

FRESH AIR INTAKES SHALL BE INSTALLED ON ALL UNITS AS SHOWN ON

ALL EXHAUST TERMINATIONS AND PLUMBING VENT THRU ROOFS.

DRAWINGS. MAINTAIN 10 FEET OF DISTANCE BETWEEN FRESH AIR INTAKES AND

INSTALL BACKDRAFT DAMPERS ON FRESH AIR AND EXHAUST DUCTS WHERE THEY

PENETRATE THE THERMAL ENVELOPE PER NORTH CAROLINA ENERGY CONSERVATION

UNITS PROVIDED WITH ECONOMIZERS SHALL ALSO BE PROVIDED WITH POWERED EXHAUST AND COMPARATIVE ENTHALPY CONTROLS. CONNECT TO RIGID DUCT WITH SPIN-IN FITTING AND DAMPER. FLEXIBLE DUCTS 18. MC SHALL INSTALL ALL EXHAUST FANS AND VENT TO THE BUILDING'S EXTERIOR. EC SHALL SWITCH FANS WITH LIGHTS OR ON SEPARATE SWITCH AS SHOWN. P-TRAPS MUST BE INSTALLED ON ALL UNITS. MC SHALL INSTALL AUXILIARY DRAIN PANS UNDER OVERHEAD AIR HANDLERS AND AN AUTOMATIC CUT-OFF FLOAT SWITCH FOR EACH. P-TRAPS AND CONDENSATE LINES SHALL BE 1 INCH. P-TRAPS AND CONDENSATE LINES MAY BE PVC WHERE NOT LOCATED IN

PLENUMS; OTHERWISE, THEY SHALL BE TYPE M COPPER.

CODE C402.5.5

		EXHAUST	FAN SCHEDULE					
MARK	MFG / MODEL #	TYPE	ESP (in WG)	CFM	VOLT/PH	FLA	SONES	NOTES
EF-1, EF-2	GREENHECK SP-B110	CEILING	0. 40	96	120/1	1. 14	2. 0	1-3

- PROVIDE WITH PITCHED ROOF CURB & CAP FOR FLAT OR SLOPED ROOF, OR HODDED WALL WITH
- BACKDRAFT DAMPER CAP AS APPLICABLE. PROVIDE WITH SQUARE TO ROUND DUCT ADAPTER AS NECESSARY
- 3. OR EQUAL BY LOREN COOK OR PENNBARRY OR TWIN CITY

				SPLIT	SYSTEM HEAT I	PUMP SCHEDUL	E							
		NDMINAL	REF	LINES	MOTI	ORS .	EFFIC	IENCIES	S	EL	ECTRICAL	-	VETCUT	
MARK	MFG / MODEL #	CAPACITY	GAS	1.10	COMPRESSOR	COND. FAN	SEER	COP	HSPF	V/PH	MCV	MOCP	WEIGHT	REMARKS
		TONS	uas	LIQ	ND.	ND.	EER	17°	погг	V/PH	MCA	MUCP	LBS	
HP-1	YDRK / YEE36B21S	3. 0	3/4	3/8	1	1	14. 0/12. 0	-	9	208/1	19. 6	45	191	1, 4, 7, 8, 10, 11
HP-2	YORK / YEE30B21S	2. 0	3/4	3/8	1	1	14. 0/12. 0	-	9	208/1	14. 1	20	131	1, 4, 7, 8, 10, 11

	SPLIT SYSTEM AIR HANDLER SCHEDULE																
		NDMINAL	AIR	FLOW	FAN MO	TORS	H	EATING CAPACITY	,	COOLI	NG CAPA	CITY		ELECTRICAL	-	VETCUT	
MARK	MFG / MDDEL #	CAPACITY	SUPPLY	MIN. DA	SUPPLY	ESP	DUTPUT	AUX ELEC H	IEAT	EAT WB/DB	TOTAL	SENSIBLE	V/PH	MCV	мпср	- WEIGHT	REMARKS
		TONS	CFM	CFM	ND.	in wg	MBH	kW	STAGES	° F	MBH	MBH	V/PH	MCA	MDCP	LBS	
AHU-1	YORK / AE36BBA21	3. 0	1210	197	1	0. 50	20. 0	5. 8	1	67/80	32. 5	24. 5	208/1	40. 85	45	118	2, 3, 5, 6, 9, 10, 12
AHU-2	YORK / AE30BBA21	2. 0	1000	152	1	0. 53	20. 0	5. 8	1	68. 9/82. 3	25. 0	20. 5	208/1	38. 98	40	103	2, 3, 5, 6, 9, 10, 12, 13

- PROVIDE CONCRETE PAD FOR UNIT TO SIT ON
- PROVIDE HEAT STRIP DUTDOOR TEMPERATURE LOCKOUT TO PREVENT SUPPLEMENTAL HEAT OPERATION IN RESPONSE TO THE
- THERMOSTAT BEING CHANGED TO A WARMER SETTING. SET NO LOWER THAN 35°F AND NO HIGHER THAN 40°F PROVIDE HINGED ACCESS DOORS
- PROVIDE HAIL GUARDS FOR COIL
- REPLACE ALL FILTERS AT PROJECT'S COMPLETION
- PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT WITH NIGHT-TIME SET BACK CONSULT MANUFACTURER ON LINE SET LENGTHS EXCEEDING 60FT
- PROVIDE HARD START KIT
- HEATER RATED AT 208VOR EQUAL BY CARRIER, LENNOX, OR YORK
- 10. ANY EQUIPMENT SUBSTITUTIONS MUST EQUAL OR EXCEED EFFICIENCIES LISTED (RATINGS PER ARI) 11. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES

12.	PROVIDE WITH FILTER RACK FOR RETURN AIR PLENUM APPLICATION
13.	SUPPLY FAN SIDE DISCHARGE REQUIRED
14.	ANY EQUIPMENT SUBSTITIONS NOT TO EXCEED LISTED MCA.

MECHANICAL SCHEDULES | 2

		Ve	entilation Calculation (Fo							
Room Name(s)		Default Zone Type Area (sq.ft.) Rp Ra Occupancy						Ez	Airflow to Zone (cfm)	
STUDIO		Photo Studio	618	5	0.12	10	6.18	0.8	1050	
CORRIDOR		Corridors	160	0	0.06	0	0.00	0.8	0	
BATHROOM		N/A	90	0	0	0	0.00	0.8	100	
STORAGE		Storage	73	0	0.12	0	0.00	0.8	50	
		N/A	0	0	0	0	0.00	0.8	О	
K-12 School? No			Maximum Zp: Ev:	0.219 0.9						
			Actual System Population:	17						
Uncorrected Intake	178 cfm									
Outdoor Air Intake	197 cfm									
Percent of Unit Air	16%									

		Ventil	ation Calculation (Fo	or AHU-2)						
Room Name(s)		Zone Type	Area (sq.ft.)	Rp	Ra	Default Occupancy	Pz	Ez	Airflow to Zone (cfm)	
BREAK / WORK ROOI	М	Reception	442	5	0.06	30	13.26	0.8	800	
PROP CLOSET		Storage	53	0	0.12	0	0.00	0.8	50	
SALES ROOM	Mee	ting/Conference Room	140	5	0.06	50	7.00	0.8	150	
		N/A	0	0	0	0	0.00	0.8	0	
		N/A	0	0	0	0	0.00	0.8	0	
			Maximum Zp:	0.361667						
K-12 School? No			Ev:	0.7						
			Actual System Population:	13						
Uncorrected Intake	106 cfm									
Outdoor Air Intake	152 cfm									
Percent of Unit Air	15%									

MECHANICAL SYSTEM, SERVICE SYSTEMS, AND EQUIPMENT	
METHOD OF COMPLIANCE THERMAL ZONE	PRESCRIPTIVE ZONE 4A
EXTERIOR DESIGN CONDITIONS HEATING DESIGN DRY BULB COOLING DESIGN DRY BULB COOLING DESIGN WET BULB	20. 4° F 95. 0° F 75. 6° F
INTERIOR DESIGN CONDITIONS HEATING DESIGN DRY BULB COOLING DESIGN DRY BULB COOLING RELATIVE HUMIDITY	70° F 75° F 50%
HEATING LOAD:	35. 2 MBTU/H
SENSIBLE COOLING LOAD: LATENT COOLING LOAD:	44. 1 MBTU/H 13. 3 MBTU/H
MECHANICAL SPACING CONDITIONING SYSTEM: UNITARY DESCRIPTION OF UNIT(S) BOILER TOTAL BOILER OUTPUT CHILLER TOTAL CHILLER CAPACITY	SPLIT SYSTEM HP N/A N/A N/A
EQUIPMENT EFFICIENCIES:	SEE SCHEDULES
EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS):	SEE SCHEDULES
<u>DESIGNER STATEMENT:</u> TO THE BEST OF MY KNOWLEDGE, THE MECHANICAL DESIGN FOR TH COMPLIES WITH MECHANICAL AND EQUIPMENT REQUIREMENTS OF TH	
CARDLINA STATE BUILDING CODE AND 2018 NORTH CAROLINA ENER CODE.	

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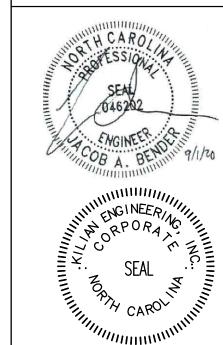
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MECHANICAL NOTES & **SCHEDULES**

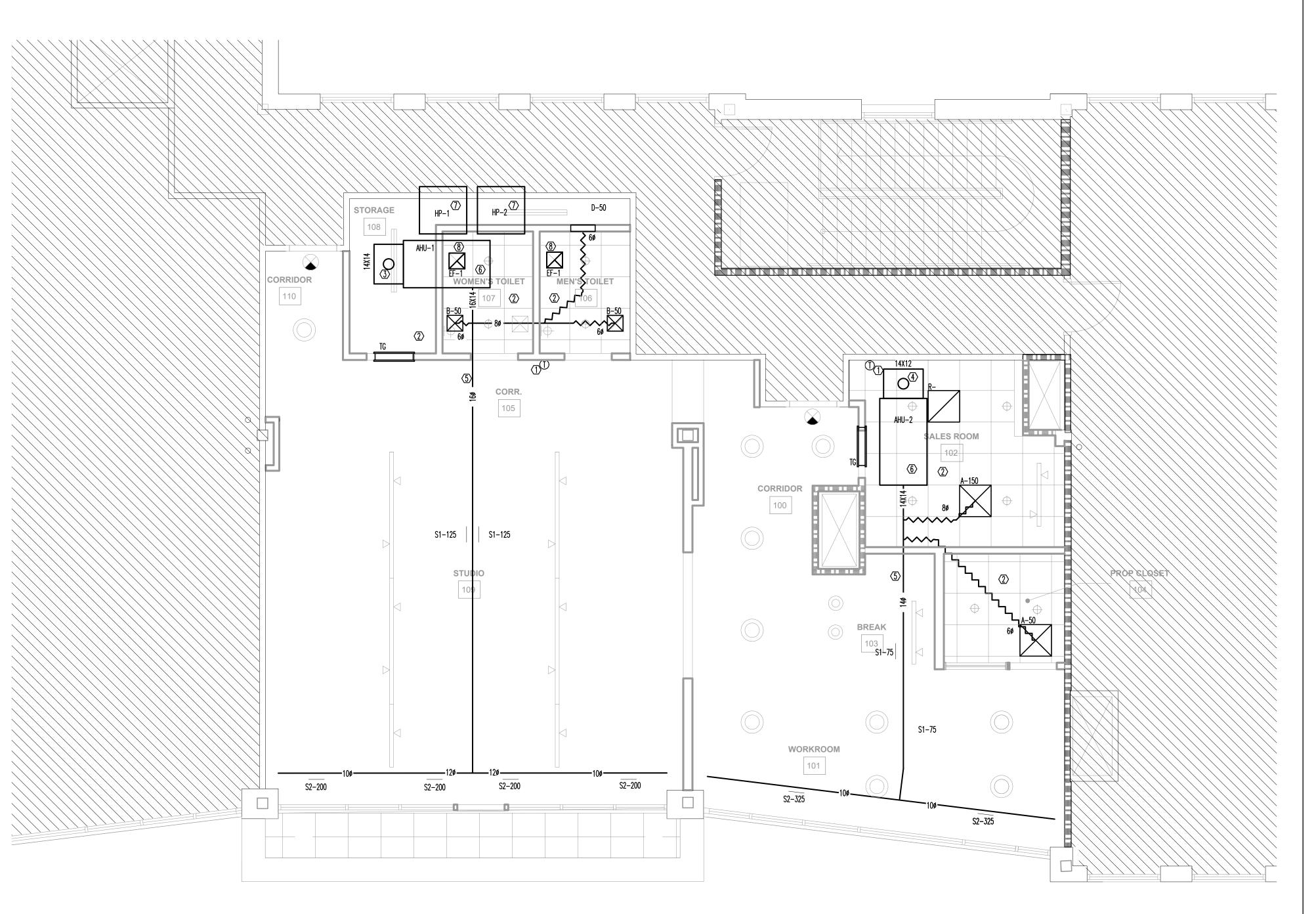
REGISTER & GRILLE SCHEDULE											
MARK	MFG	MODEL #	SIZE	MOUNTING	DESCRIPTION	NOTES					
Α	PRICE	SCD	24X24	LAY-IN	4-WAY DIFFUSER, 8'Ø NECK	1,3					
В	PRICE	SCD	12X12	LAY-IN	4-WAY DIFFUSER, 6'Ø NECK	1,3					
С	PRICE	SCD	24X24	LAY-IN	4-WAY DIFFUSER, 6'Ø NECK	1,3					
D	HART & COOLEY	92VHV	12X6	WALL	BRIGHT WHITE	1					
TG	PRICE	ATG1C	20X12	WALL	ALUMINUM CONSTRUCTION. CONCEALED BORDER.	1					
S1	PRICE	SDG	14X4	SPIRAL	MDUNT AT O-DEGREES	2, 5, 7					
25	PRICE	SDG	16X6	SPIRAL	MDUNT AT 45-DEGREES TO WASH WINDOW	2, 5, 7					
R	PRICE	530L	24X24	LAY-IN	STEEL, FULLY LOUVERED 45 DEG, 3/4" SPACING	1, 4, 8					

- EQUAL BY PRICE, METAL-AIRE, CARNES, TITUS OR NAILOR. COORDINTE COLOR PRIOR TO ORDERING.
- PROVIDE WITH FOIL LINED, MOLDED INSULATION BLANKET.
- PROVIDE WITH INSULATED SHEET METAL PLENUM.
- PROVIDE WITH AIR SCOOP.
- PROVIDE WITH MODEL SDBI INSULATED PLENUM.
- PROVIDE WITH MODEL VCR8EC CABLE OPERATOR. 8. PROVIDE WITH RETURN AIR CANDPY.

HEX PLAN NOTES

- CONFIRM T-STAT LOCATION WITH OWNER. INSTALL NEAR RETURN AIR GRILLE AND AWAY FROM SUPPLY DIFFUSER.
- RETURN AIR PLENUM ABOVE CEILING IN THIS LOCATION. <u>ALL MATERIALS TO BE PLENUM RATED. COORDINATE WITH PLUMBING, MECHANICAL, ELECTRICAL, AND FIRE ALARM</u> CONTRACTORS.
- PROVIDE 8" OUTDOOR AIR DUCT AND BALANCING DAMPER SET TO 197 CFM. PROVIDE HOODED ROOF CAP AT EXTERIOR PENETRATION. AIR INTAKE LOCATION MUST BE 10' FROM ALL EXHAUST LOCATIONS.
- PROVIDE 8" OUTDOOR AIR DUCT AND BALANCING DAMPER SET TO 152 CFM. PROVIDE HOODED ROOF CAP AT EXTERIOR PENETRATION. AIR INTAKE LOCATION MUST BE 10' FROM ALL EXHAUST LOCATIONS.
- TRANSITION FROM SQUARE TO SPIRAL DUCT WHERE OPEN TO STRUCTURE. CONFIRM SINGLE WALL SPIRAL DUCT COLOR WITH OWNER IN OPEN TO STRUCTURE AREAS. 6. ROUTE CONDENSATE TO HUB DRAIN. SEE PLUMBING PLANS.
- HEAT PUMP LOCATED ON ROOF ABOVE BUILDING CORRIDOR.
 MC TO COORDINATE EXACT LOCATION AND EXISTING MOUNTING CONDITIONS ON SITE.
- 8. 6"Ø EXHAUST DUCT THROUGH ROOF. PROVIDE BIRD SCREEN AND BACKFLOW DAMPER.

THERMOSTAT LOCATION MOUNT AT 48" A.F.F.



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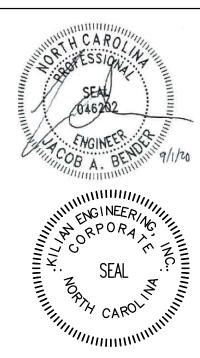
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MECHANICAL PLAN

GENERAL PLUMBING NOTES:

- 1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
- FASC FIRE ALARM SYSTEM CONTRACTOR. 2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE PLUMBING CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR.
- 3. THE PC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATIONAL SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS. 4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE
- AND UNLOADED AT AN APPROVED LOCATION. PC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE PC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
- 5. ALL MATERIALS USED SHALL BE NEW AND FREE OF DEFECTS. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED AT NO EXPENSE TO THE OWNER. ALL MATERIALS AND EQUIPMENT SHALL BEAR APPROVAL FROM UL OR AN APPROVED THIRD PARTY AGENCY. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, IT IS TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A THE ENGINEER WILL BE ACCEPTED.
- 6. THE PLUMBING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA PLUMBING CODE AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
- 7. THE PC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER
- 8. DO NOT SCALE THESE DRAWINGS—REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
- 9. THESE PLANS ARE DIAGRAMMATIC. THE PC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, FIXTURES, PIPING, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE PC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER. THE PC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. TO AVOID POTENTIAL CONFLICTS, COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. ALL
- UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO ANY DIGGING. 10. TRENCHING, COMPACTION, AND BACKFILL SHALL BE BY PC AND SHALL BE IN ACCORDANCE WITH SECTION 306 OF THE NC PLUMBING CODE. UNDERGROUND LINES SHALL BE LOCATED SUCH THAT THEY DO NOT ENDANGER FOOTINGS OR FOUNDATION WALLS.
- 11. THE PC SHALL PROVIDE FIRESTOPPING AT ALL PENETRATIONS OF RATED FLOOR/CEILING ASSEMBLIES AND RATED WALL ASSEMBLIES TO PRESERVE OR RESTORE THE FIRE RESISTANCE RATING. SEAL ALL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THE PROJECT.
- 12. SYSTEM TESTING SHALL BE PERFORMED BY PLUMBING CONTRACTOR IN ACCORDANCE WITH NORTH CAROLINA PLUMBING CODE, SECTIONS 312.2. 312.3. AND 312.5.
- 13. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS. 14. AT THE COMPLETION OF WORK AND PRIOR TO ACCEPTANCE BY

ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE

OWNER, THE PC SHALL CLEAN ALL EXPOSED FIXTURES, MATERIALS, AND EQUIPMENT UNDER THIS CONTRACT. 15. PC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE

CONSTRUCTION PHASE OF THE PROJECT.

- 1. ALL OVERHEAD DOMESTIC WATER PIPING SHALL BE TYPE L COPPER WITH 95/5 LEAD FREE SOLDER, AND ALL BELOW GRADE WATER PIPING SHALL BE TYPE K COPPER WITH NO JOINTS. ALL PIPING SHALL HAVE MANUFACTURER'S NAME AND THE APPLICABLE STANDARD TO WHICH IT WAS MANUFACTURED CLEARLY MARKED ON EACH LENGTH. PIPING SHALL COMPLY WITH ASTM B-88. USE BRAZED JOINTS ON ALL COPPER PIPING 1-1/2 INCH AND LARGER. *** PC MAY USE PEX (ASTM F 877) WITH APPROVED FITTINGS (ASTM F 1807) WITH OWNER'S APPROVAL. *** CPVC PIPING (ASTM D 2846 OR ASTM F 441) WITH APPROVED FITTINGS (ASTM D 2846, ASTM F 438, OR ASTM F 439) MAY ALSO BE USED WHERE NOT LOCATED IN PLENUMS. ALL 3. IT SHALL BE THE RESPONSIBILITY OF THE PC TO SUSPEND AND PLASTIC PIPE, FITTINGS, AND COMPONENTS SHALL BE THIRD PARTY CERTIFIED AS CONFORMING TO NSF 14. ALL PIPE AND PIPE FITTINGS. INCLUDING VALVES AND FAUCETS, USED IN THE WATER DISTRIBUTION SYSTEM SHALL HAVE A MAXIMUM LEAD CONTENT OF .25-PERCENT AND SHALL CONFORM TO NSF 61. HOT WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 180°F. COLD WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 160 PSI AT 73.4°F. DO NOT INSTALL
- PEX OR CPVC PIPING IN RETURN AIR PLENUMS. 2. BALL VALVES SHALL HAVE BRASS BODY, FULL PORT, CHROME PLATED BALL, WITH TEFLON SEATS, 150 PSI WSP, AND COMPLY WITH MSS SP-110. GATE VALVES SHALL HAVE BRONZE BODY, CLASS 150, AND COMPLY WITH MSS SP-80, TYPE 2 STANDARD. VALVE BODY SHALL BE ASTM B 62, BRONZE WITH INTEGRAL SEAT AND UNION RING BONNET. ENDS SHALL BE THREADED OR SOLDER WITH COPPER-SILICON BRONZE STEM AND SOLID-WEDGE BRONZE DISC. INSTALL VALVES IN LOCATIONS THAT PERMIT EASY ACCESS WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS; PROVIDE ACCESS DOORS IF REQUIRED.
- VALVES SHALL BE BY NIBCO, WATTS, OR STOCKHAM. 3. COLD WATER LINES SHALL BE INSULATED WITH 1/2 INCH THICK FIBROUS GLASS INSULATION WITH A FLAME DENSITY RATING LESS THAN 4. SLEEVE ALL PIPES PASSING THROUGH PARTITIONS, WALLS, AND 25 AND A SMOKE DENSITY RATING LESS THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. HOT WATER LINES UP TO 2 INCHES DIAMETER SHALL HAVE 1 INCH THICK INSULATION CONFORMING TO THE SAME STANDARD. PIPING LARGER THAN 2 INCHES SHALL RECEIVE 1-1/2 INCH THICK INSULATION. CLOSED CELL RUBBER INSULATION MEETING THE SMOKE AND FLAME RATINGS ABOVE MAY BE SUBSTITUTED FOR FIBROUS GLASS TYPE IF SO DESIRED. INSULATION INSTALLED ON PIPING OPERATING BELOW AMBIENT TEMPERATURES MUST HAVE A CONTINUOUS VAPOR RETARDER. ALL JOINTS, SEAMS AND FITTINGS MUST BE SEALED. ON SYSTEMS OPERATING ABOVE AMBIENT, THE BUTT JOINTS SHOULD NOT BE SEALED. ON COLD SURFACES WHERE A VAPOR SEAL MUST BE MAINTAINED, INSULATION SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN MOISTURE AND VAPOR RETARDER. ALL HANGERS, SUPPORTS, ANCHORS, OR OTHER PROJECTIONS SECURED TO COLD SURFACES SHALL BE INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION. ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR 5. THE TOP OF WATER PIPES INSTALLED BELOW GRADE OUTSIDE THE SLEEVES EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE

- REQUIRED. INSULATION SHALL HAVE A FACTORY APPLIED ALL-SERVICE JACKET WITH SELF-SEALING LAP. WHITE-KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS; CONFORMING TO ASTM C 1136 TYPE 1; VAPOR RETARDER; WITH A SELF-SEALING ADHESIVE. VERIFY THAT PIPING HAS BEEN TESTED, SURFACES ARE CLEAN AND DRY, AND ALL FOREIGN MATERIALS ARE REMOVED BEFORE APPLYING INSULATION MATERIALS. INSULATION SHALL BE BY KNAUF, 6. HOT WATER PROVIDED TO PUBLIC HAND-WASHING
- 4. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578 91. ALL INSULATION SHALL BE LOW-EMITTING WITH NOT FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES

ARMACELL, JOHNS-MANVILLE, OR OWENS-CORNING.

- ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED. 5. FAUCETS AND FIXTURE FITTINGS SHALL CONFORM TO ASME A112.18.1. FAUCETS AND FIXTURE FITTINGS THAT SUPPLY DRINKING WATER FOR HUMAN CONSUMPTION SHALL CONFORM TO THE REQUIREMENTS OF NSF 61, SECTION 9. FIXTURE FITTINGS, FAUCETS, AND DIVERTERS SHALL BE INSTALLED AND ADJUSTED SO THAT THE FLOW OF HOT WATER FROM THE FITTINGS CORRESPONDS TO THE LEFT HAND SIDE
- OF THE FIXTURE FITTING. PARTICULAR MANUFACTURER. PRODUCTS DETERMINED TO BE EQUAL BY 6. BACKFLOW PREVENTION SHALL BE IN ACCORDANCE WITH SECTION 608.13 OF THE NC PLUMBING CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS SHALL CONFORM TO ASSE 1013 OR AWWA C511. THE RELIEF OPENING SHALL DISCHARGE BY AIR GAP. AIR GAPS SHALL COMPLY WITH ASME A112.1.1 AND AIR GAP FITTINGS WITH ASME A112.1.3. DOUBLE CHECK VALVE ASSEMBLIES SHALL CONFORM TO ASSE 1015 OR AWWA C510. ACCESS TO BACKFLOW PREVENTERS
 - SHALL BE PROVIDED AS SPECIFIED BY THE INSTALLATION INSTRUCTIONS OF THE APPROVED MANUFACTURER. 7. FOR BELOW GRADE SANITARY WASTE PIPING, PC SHALL USE SERVICE WEIGHT CAST IRON PIPE WITH COMPRESSION JOINTS (ASTM A 74). USE MINIMUM 2 INCH SIZE UNDERGROUND. SOLID WALL SCHEDULE 40 13. ALL SANITARY SEWER PIPING IS BELOW GRADE OR WITHIN WALLS PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE PIPE FITTINGS (ASTM D 3311) MAY ALSO BE USED. DO NOT USE PVC PIPE FOR
 - APPLICATIONS WHERE THE WASTE WATER TEMPERATURE EQUALS OR EXCEEDS 140°F OR IF THE BUILDING HEIGHT EXCEEDS 75 FEET. 8. FOR ABOVE GRADE SANITARY WASTE AND VENT PIPING, USE SERVICE WEIGHT CAST IRON NO-HUB TYPE WITH COUPLINGS (CISPI 301). SOLID 14. SOIL AND WASTE LINES 2-1/2 INCHES AND SMALLER SHALL BE WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE FITTINGS (ASTM D 3311) MAY BE USED IF PERMITTED BY LOCAL CODE, EXCEPT IN BUILDINGS EXCEEDING 75 FEET IN HEIGHT. DO NOT PIPES SHALL BE SO GRADED AND CONNECTED AS TO DRAIN BACK TO THE DRAINAGE PIPE BY GRAVITY. BRANCH VENTS EXCEEDING 40 FEET

IN DEVELOPED LENGTH SHALL BE INCREASED BY ONE NOMINAL SIZE

- FOR THE ENTIRE DEVELOPED LENGTH OF THE PIPE. 9. PC SHALL PROVIDE ALL WATER HEATERS (WATTAGE/INPUT AND CAPACITY AS NOTED IN SCHEDULE). ALL WATER HEATERS SHALL BE THIRD PARTY CERTIFIED; PROVIDE PANS FOR WATER HEATERS IN ACCORDANCE WITH 504.7 OF THE NC PLUMBING CODE. ELECTRICAL CONNECTIONS SHALL BE BY ELECTRICAL CONTRACTOR, PC SHALL COORDINATE WITH EC ON ELECTRICAL CHARACTERISTICS OF THE FQUIPMENT PROVIDED
- 10. ALL PUMPS SHALL BE RATED FOR TRANSPORT OF POTABLE WATER. PUMPS IN AN INDIVIDUAL WATER SUPPLY SYSTEM SHALL BE CONSTRUCTED AND INSTALLED SO AS TO PREVENT CONTAMINATION FROM ENTERING THE WATER SUPPLY SYSTEM.
- 1. WATER SERVICE PIPE AND THE BUILDING SEWER SHALL BE SEPARATED BY 5 FEET OF UNDISTURBED OR COMPACTED EARTH IN ACCORDANCE WITH 603.2. PROVIDE ALL FITTINGS, VALVES, AND OTHER ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. ALL DOMESTIC WATER PIPING SHALL BE CONCEALED IN FINISHED AREAS. ANY OPEN ENDS SHALL BE PROTECTED UNTIL FINAL CONNECTIONS ARE MADE 2. ABOVE GRADE DOMESTIC WATER PIPING SHALL BE SLOPED AT A MINIMUM OF 1/32 INCH PER FOOT AND ARRANGED TO DRAIN AT LOW POINTS. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. ROUTE PIPING IN AN ORDERLY MANNER-PARALLEL OR PERPENDICULAR TO WALLS WHEN POSSIBLE-AND MAINTAIN GRADIENT. EACH SUPPLY Branch line serving more than one fixture shall have a SHUTOFF VALVE INSTALLED TO ISOLATE ALL FIXTURES AND PIECES OF EQUIPMENT SUPPLIED BY THE BRANCH LINE. THE SHUTOFF VALVE SHALL BE LABELED AND LOCATED AS CLOSE TO THE CONNECTION TO THE SUPPLY MAIN AND RISER AS POSSIBLE. PROVIDE A FULL-OPEN VALVE ON THE BASE OF EVERY WATER RISER PIPE AND ON THE TOP OF EVERY WATER DOWN-FEED PIPE. PROVIDE VALVE HANDLE

EXTENSIONS AS NECESSARY FOR INSULATION.

- SUPPORT ALL PIPING SYSTEMS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED PIPE HANGERS AND SUSPENSION EQUIPMENT. ALL FIXTURES. DEVICES. AND EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE FIXTURE OR EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS. GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT AND PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING. USE STEEL HANGERS FOR STEEL AND PLASTIC PIPE AND COPPER OR COPPER-PLATED HANGERS FOR COPPER PIPE. PROVIDE PROTECTION FOR COPPER PIPING IN CONTACT WITH DISSIMILAR METALS. WHERE COPPER PIPING IS SUPPORTED ON HANGERS WITH OTHER PIPING, PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT CONTACT WITH OTHER METALS. IN GENERAL, HANGERS SHALL BE CLEVIS TYPE, STANDARD WEIGHT. FOR PIPING, HANGER SPACING SHALL BE IN ACCORDANCE WITH TABLE 308.5 OF THE NC PLUMBING CODE. HANGERS AND ACCESSORIES SHALL BE GRINNEL, MASON, OR B-LINE. FLOORS. SLEEVES IN FLOORS AND INTERIOR WALLS OF POURED IN PLACE CONCRETE, BRICK, TILE, OR MASONRY SHALL BE SCHEDULE 40
- STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD WALLS SHALL BE 22 GAUGE, ROLLED GALVANIZED SHEET METAL. TACK WELD ON THE LONGITUDINAL SEAM. PROVIDE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE AND BELOW CEILINGS. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER. SLEEVES IN WALLS SHALL BE INSTALLED FLUSH WITH THE WALL. SLEEVES IN FLOORS SHALL EXTEND 3/4 INCH ABOVE THE FLOOR-EXCEPT THEY SHALL BE FLUSH FOR 2 HOUR RATED FLOORS-AND SHALL BE FLUSH WITH THE STRUCTURE BELOW. EACH SLEEVE SHALL HAVE AN INSIDE DIAMETER 1 INCH LARGER THAN THE OUTSIDE DIAMETER OF THE COVERING OF EACH COVERED PIPE TO ALLOW CONTINUOUS INSULATION—BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN EACH UNCOVERED. ANNULAR SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR CAULKED IN AN APPROVED MANNER.

BUILDING SHALL BE BELOW THE FROST LINE OR A MINIMUM OF 12

- INCHES BELOW FINISHED GRADE WHICHEVER IS GREATER. WATER PIPING INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. WATER PIPING INSTALLED IN AN UNCONDITIONED UTILITY ROOM OR UNCONDITIONED ATTIC SHALL BE INSULATED TO A MINIMUM OF R6.5 DETERMINED IN ACCORDANCE WITH ASTM C 177.
- FACILITIES/LAVATORIES SHALL BE TEMPERED WATER DELIVERED THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3. 7. INSULATE ALL EXPOSED WASTE AND SUPPLY PIPING UNDER LAVATORIES, SINKS, AND ELECTRIC WATER COOLERS WITH THE
- HANDI-LAV GUARD INSULATION KIT BY TRUEBRO OR EQUAL. GREATER THAN 0.05 PPM FORMALDEHYDE EMISSIONS. THE MAXIMUM 8. POTABLE WATER OUTLETS SHALL BE PROTECTED FROM BACKFLOW IN ACCORDANCE WITH 608.15. PRESSURE TYPE VACUUM BREAKERS SHALL CONFORM TO ASSE 1020 AND SPILPROOF VACUUM BREAKERS SHALL COMPLY WITH ASSE 1056, HOSE-CONNECTION VACUUM BREAKERS SHALL CONFORM TO ASSE 1011. ASSE 1019, ASSE 1035, OR ASSE 1052. CONNECTIONS TO BEVERAGE DISPENSERS, COFFEE MACHINES, AND NON-CARBONATED BEVERAGE DISPENSERS SHALL BE PROTECTED
 - BY A BACKFLOW PREVENTER IN ACCORDANCE WITH ASSE 1022. 9. THE PC SHALL INSTALL WATER HAMMER ARRESTORS ON BRANCH LINES WITH QUICK CLOSING VALVES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. WATER HAMMER ARRESTORS SHALL CONFORM TO ASSE
 - 10. THE PC SHALL PROVIDE CHECK VALVES AT ALL FIXTURES WITH THREADED OUTLETS AS REQUIRED BY CODE. TRAP PRIMERS SHALL BE

PROVIDED AS SHOWN ON THE PLANS OR AS REQUIRED.

- 11. ADJUST STOPS AND VALVES FOR INTENDED FLOW RATE TO FIXTURES WITHOUT SPLASHING, NOISE, OR OVERFLOW. 12. BEFORE COMMENCING WORK, CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS, AND VERIFY THESE CAN BE PROPERLY CONNECTED TO WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING. ONCE INVERTS AND FALL HAVE BEEN ESTABLISHED, AND INSTALL ALL DRAINS, STACKS, VENTS, FLOOR DRAINS, AND CLEANOUTS NECESSARY FOR A COMPLETE INSTALLATION. UNLESS OTHERWISE NOTED. ALL SANITARY VENT PIPING IS ABOVE THE CEILING OR WITHIN WALLS UNLESS OTHERWISE NOTED, SOIL AND WASTE PIPING SHALL BE INSTALLED TO PROVIDE PROTECTION AGAINST FREEZING PER 305.6.1. WASTE AND SOIL LINES LEAVING THE BUILDING MUST HAVE A MINIMUM COVER OF 3 INCHES. SLOPED AT 1/4 INCH PER FOOT MINIMUM. SOIL AND WASTE LINES 3 INCHES TO 6 INCHES IN DIAMETER SHALL BE SLOPED AT 1/8 INCH PFR FOOT MINIMUM.
- INSTALL PVC IN RETURN AIR PLENUMS. ALL VENT AND BRANCH VENT 15. FOR WATER CLOSET WASTE CONNECTIONS, A 4 INCH BY 3 INCH CLOSET BEND SHALL BE ACCEPTABLE. WHERE A 3 INCH BEND IS UTILIZED ON WATER CLOSETS, A 4 INCH BY 3 INCH FLANGE SHALL BE INSTALLED TO RECEIVE THE FIXTURE HORN.
 - 16. FOR PLASTIC PIPE SIZES GREATER THAN 6 INCHES, AND OTHER PIPE SIZES GREATER THAN 4 INCHES, RESTRAINTS SHALL BE PROVIDED FOR DRAIN PIPES AT ALL CHANGES IN DIRECTION AND AT ALL CHANGES IN DIAMETER GREATER THAN TWO PIPE SIZES, BRACES, BLOCKS, RODDING, BACKFILL AND OTHER SUITABLE METHODS AS SPECIFIED BY THE COUPLING MANUFACTURER SHALL BE UTILIZED. 17. BASES OF STACKS SHALL BE SUPPORTED BY THE BUILDING
 - STRUCTURE, VIRGIN OR COMPACTED EARTH, OR OTHER SUITABLE MATERIAL TO SUPPORT THE WEIGHT OF THE PIPING. 18. HORIZONTAL DRAIN PIPES SHALL HAVE CLEANOUTS IN ACCORDANCE WITH 708.10. EXTEND CLEANOUTS TO FINISHED FLOOR OR WALL SURFACE. LUBRICATE THREADED CLEANOUT PLUGS WITH A MIXTURE OF GRAPHITE AND LINSEED OIL. ENSURE CLEARANCE AT ALL CLEANOUTS FOR RODDING OF DRAINAGE SYSTEM. INSTALL FLOOR CLEANOUTS AT AN ELEVATION TO ACCOMMODATE FINISHED FLOOR, EVERY CLEANOUT SHALL BE INSTALLED TO ALLOW CLEANING IN THE DIRECTION OF FLOW OF THE DRAINAGE PIPE OR AT RIGHT ANGLES THERETO. CLEANOUTS ON 6 INCH AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 INCHES FOR RODDING.
 - APPROVED CAP OR PLUG. 20. AIR ADMITTANCE VALVES SHALL BE INSTALLED AFTER THE DWV TESTING REQUIRED BY SECTIONS 312.2 AND 312.3. PROVIDE ACCESS TO ALL AIR ADMITTANCE VALVES PER CODE. INSTALLATION OF ALL AIR ADMITTANCE VALVES SHALL CONFORM TO SECTION 917 OF THE NC PLUMBING CODE. AIR ADMITTANCE VALVES SHALL CONFORM TO ASSE

19. DRAINAGE PIPING FOR FUTURE FIXTURES SHALL TERMINATE WITH AN

- 21. INDIRECT WASTE PIPING THAT EXCEEDS 2 FEET IN DEVELOPED LENGTH MEASURED HORIZONTALLY, OR 4 FEET IN TOTAL DEVELOPED LENGTH, SHALL BE TRAPPED. THE AIR GAP BETWEEN THE INDIRECT WASTE PIPE AND THE FLOOD LEVEL RIM OF THE WASTE RECEPTOR SHALL BE A MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE
- 22. THE PC SHALL PROVIDE UNIONS FOR DISASSEMBLY AND SERVICE OF ALL FIXTURES AND OTHER RELEVANT PLUMBING EQUIPMENT. UNIONS SHALL BE GROUND-JOINT WITH BRASS SEAT. PROVIDE INSULATING UNIONS AT EACH JUNCTION OF DISSIMILAR MATERIALS. 23. THE PC SHALL ACCURATELY ROUGH—IN ALL FIXTURES ACCORDING TO MANUFACTURER'S INSTALLATION DIMENSIONS AND INSTRUCTIONS. OFFSET ADAPTERS AND FLEXIBLE CONNECTORS ARE NOT ACCEPTABLE FLUSH HANDLES SHALL BE MOUNTED ON THE WIDE SIDE OF TOILET AREAS FOR ADA COMPLIANCE. INSTALL EACH FIXTURE WITH TRAP EASILY REMOVABLE FOR SERVICING AND CLEANING. SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT. SOLIDLY ATTACH WATER CLOSETS TO FLOOR WITH LAG SCREWS. SEAL ALL SELF-RIMMING LAVATORIES AND SINKS (VITREOUS CHINA AND STAINLESS STEEL) WITH A COMMERCIAL GRADE PLUMBER'S PUTTY OR ACRYLIC LATEX CAULK APPLIED TO THE UNDERSIDE OF THE FIXTURE RIM IN A GENEROUS AMOUNT SO THAT WHEN FIXTURE IS SET, SEALANT SHALL OOZE OUT.
- COORDINATED WITH THE GENERAL CONTRACTOR, PC SHALL PROVIDE FLASHING MATERIAL REQUIRED FOR VTRS. JOINTS AT THE ROOF AND AROUND VENT PIPES, SHALL BE MADE WATER TIGHT BY THE USE OF LEAD, COPPER, GALVANIZED STEEL, ALUMINUM, OR OTHER APPROVED FLASHINGS OR FLASHING MATERIAL. MAINTAIN MINIMUM 10 FEET FROM ALL OUTSIDE AIR INTAKES.

	PLUMBING FIXTURE SCHEDULE											
SYMBOL	FIXTURE	MANUFACTURER	FITTING	HW	CW	WASTE						
P1	WATER CLOSET	DEER VALLEY / DV-1F52816	FIXTURE TO BE SELECTED AND PROVIDED BY OWNER. INSTALLED BY PC. MUST MEET ALL NCPC 2018 BUILDING CODES.	1/2 ′	1/2"	3'						
P2	BATHROOM SINK	WHITSHED / 941452	FIXTURE TO BE SELECTED AND PROVIDED BY OWNER. INSTALLED BY PC. MUST MEET ALL NCPC 2018 BUILDING CODES. CONFIRM FAUCET - ELITE F371023	1/2'	1/2"	2'						
P3	BREAK SINK	OPELLA / 13202. 046	FIXTURE TO BE SELECTED AND PROVIDED BY OWNER. INSTALLED BY PC. MUST MEET ALL NCPC 2018 BUILDING CODES. CONFIRM FAUCET - KIBI KKF2001	1/2 ′	1/2"	2'						
P4	WATER FOUNTAIN	ELKAY / EDFP217C	FIXTURE TO BE SELECTED AND PROVIDED BY OWNER. INSTALLED BY PC. MUST MEET ALL NCPC 2018 BUILDING CODES.	1/2 "	1/2 ′	2'						
P5	EXPANSION TANK	AMTROL ST-5 OR EQUAL BY WATTS OR BELL & GOSSETT	INSTALL ON COLD WATER LINE BETWEEN WATER HEATER AND RPZ	-	3/4"	-						
P6	THERMOSTATIC MIXING VALVE	WATTS LFMMV OR EQUAL BY LAWLER OR LEONARD VALVE	ASSE STANDARD 1069 OR 1070 APPROVED WITH 1/2 INCH FEMALE NPT INLET AND OUTLET CONNECTIONS, BRASS BODY, AND INTEGRAL MOUNTING HOLES. TAMPER RESISTANT THERMOPLASTIC ENCLOSURE. SINGLE REPLACEABLE CARTRIDGE DESIGN.	1/2'	1/2"	-						
P7	SINGLE LAV TANKLESS ELEC WATER HEATER	EEMAX SP2412 DR APPROVED EQUAL	SINGLE POINT TANKLESS ELECTRIC WATER HEATER. 2.4 kW AT 120V. 33°F TEMPERATURE RISE AT 0.5 GPM. DESIGNED TO MEET 105-110°F DUTLET TEMPERATURE AT 0.5 GPM. INSTALL LOW FLOW AERATORS SUPPLIED WITH UNIT. UL LISTED.	3/8"	3/8"	-						
P8	HUB DRAIN	JAY R. SMITH	PROVIDE A P-TRAP BELOW FINISHED FLOOR AND STUB THE BELL END OF PIPE 4' ABOVE FINISHED FLOOR. SIZE AS SHOWN ON FLOOR PLAN(S). PROVIDE TRAP PRIMER PORT ON P-TRAP IF TRAP PRIMER IS PROVIDED ON THE DRAWINGS, TRIM: PROVIDE WITH JAY R. SMITH # 3811C-DBS CAST IRON FUNNEL WITH ACID RESISTANT COLATED INTERIOR AND EXTERIOR AND ALUMINUM DOME BOTTOM STRAINER. PROVIDE CAST IRON PIPE CONNECTION IF IN RETURN AIR PLENUM.	-	-	3 *						
AAV	AIR ADMITTANCE VALVE	STUDOR REDIVENT OR APPROVED EQUAL	ANSI/ASSE 1051 LISTED. NSF STANDARD 14. PROVIDE PVC OR ABS CONNECTOR AS NECESSARY. CONNECT VALVE TO PIPING PER MANUFACTURER. INSTALL IN THE VERTICAL, UPRIGHT POSITION AFTER ROUGH-IN AND PRESSURE TESTING OF THE SYSTEM. PROVIDE WALL BOX IF NOT ABOVE CEILING OR OTHERWISE CONCEALED.	-	-	2.						

													_	LINETYPE LEGEND
				ELEC.	TRIC WATER HEATE	ER SCHEDULE								
Dν	MFG	MODEL -	TANK VOL	INPUT	RECOVERY	SET POINT	POW	ER	CONNEC	CTIONS	LBS	OPTIONS		
NN	Mr u	MUNCC	GALS	kW	GPH @ 60° ∆T	• F	VOLTAGE	PHASE	HOT	COLD	LDS	חרוזחווי		COLD WATER SUPPLY ———————————————————————————————————
 -1	HTIM2 DA	XE30S06ST45U1	30	4. 5	21	110	208	1	3/4	3/4	95	1-5		HOT WATER SUPPLY · ·
PROVIDE GALVANIZED STEEL SAFETY PAN UL 174 LISTED PROVIDE ASME LISTED TEMPERATURE AND PRESSURE RELIEF VALVE MEET OR EXCEED ENERGY FACTOR REQUIREMENTS OF ASHRAE 90.1–2007 OR EQUAL BY RHEEM, BRADFORD WHITE, OR STATE											DO NOT TAP WATER LINE AHEAD OF RPZ.	SANITARY SEWER LINE — — — — — — — — — — — — — — — — — — —		

PLUMBING LINES SIZING TABLE FIXTURE TYPE | DCCUPANCY | QTY | DRAINAGE FIXTURE UNITS WATER SUPPLY FIXTURE UNITS TOTAL CW | HW | CW & HW | HW TDTAL | TDTAL 5. 00 | 0. 00 | 5. 00 | 0. 00 | 10. 00 WATER CLOSET (FLUSH TANK) | PUBLIC 8. 00 4. 00 PUBLIC 3. 00 1. 50 | 1. 50 | 2. 00 | 4. 50 | 6. 00 1. 00 0. 50 | 0. 50 | 0. 25 | 0. 00 | DRINKING FOUNTAIN PUBLIC 0. 25 | 0. 00 | 0. 25 DEMAND FIXTURE GPM QTY | TOTAL GPM TOTAL DFU | 11. 5 TOTAL WFSUs | 4.5 | 16.3 GPM | 8, 70 | 18, 30 DTHER FIXTURES' GPM 0.00 0.00 TDTAL GPM | 8, 70 | 18, 30 MINIMUM BUILDING DRAIN SIZE 4" CONNECT TO EXISTING IN SPACE. SEE SHELL DRAWINGS FOR EXISTING UTILITIES. MINIMUM WATER LINE SIZE 3/4"

> PROVIDE 1/2" CWS LINE TO REFRIGERATOR VALVE BOX SELECTED BY OWNER. ORDFRING. <u>ALARM CONTRACTORS.</u>

TANKLESS ELECTRIC WATER HEATER ABOVE CEILING IN PROP CLOSET.

CONNECT TO 3/4" CWS STUB SEE EXISTING SHELL DRAWINGS FOR CONTINUATION

> PLAN HEX NOTES

- CONFIRM LOCATION WITH OWNER PRIOR TO INSTALL. CONFIRM OWNER SELECTED FIXTURE FITS IN OWNER SUPPLIED CABINETS PRIOR TO
- 3. PC TO CONNECT TO SEWER CONNECTION POINTS NEAR COLUMN.
- RETURN AIR PLENUM ABOVE CEILING IN THIS LOCATION. <u>ALL MATERIALS TO BE</u> PLENUM RATED. COORDINATE WITH PLUMBING, MECHANICAL, ELECTRICAL, AND FIRE
- 6. PC TO CONNECT TO 3" VENT TO ROOF LOCATION NEAR COLUMN. NOTIFY ENGINEER OF ANY CONFLICTS.
- 8. ROUTE 1" DRAIN PAN AND CONDENSATE RUNOFF TO HUB DRAIN ABOVE CEILING



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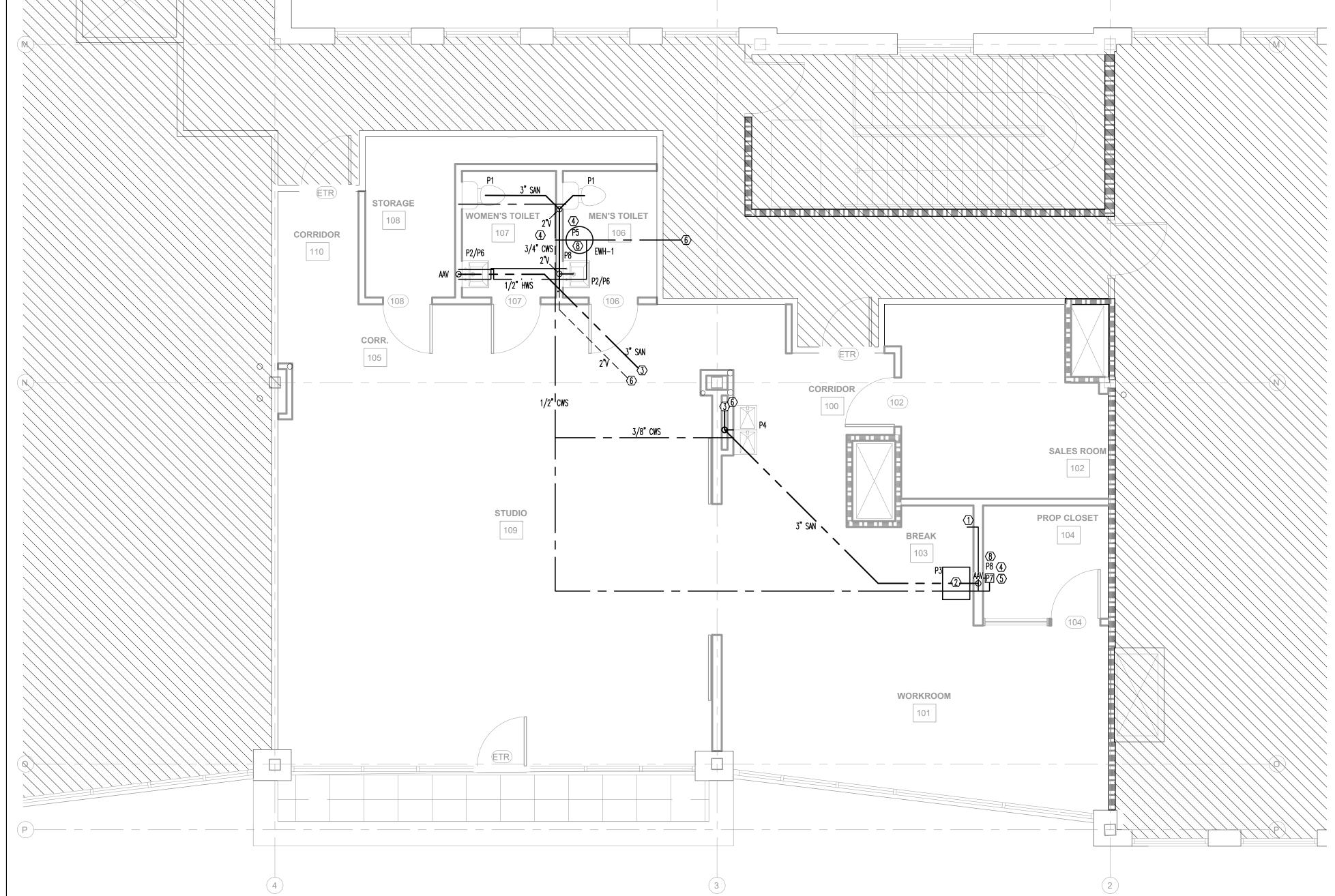
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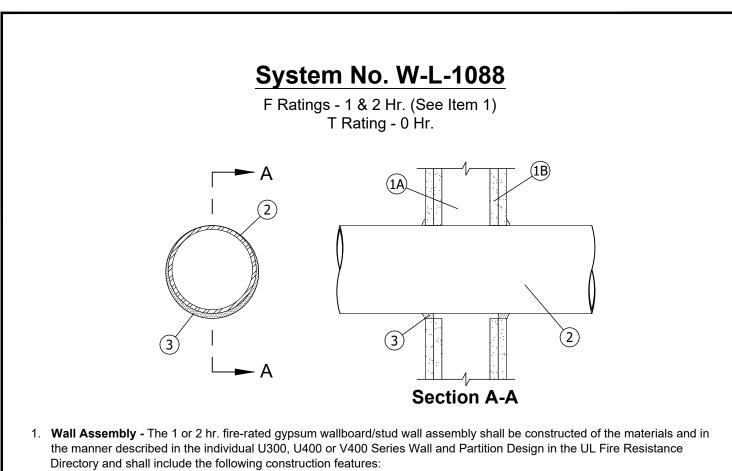
FAX (919) 838-9311

SPRING 300 HOL

CLIENT P/N 20061 09/01/2020 DATE: JAM DRAWN BY: CHECKED BY: MWK/JAB NO. REVISION DATE

PLUMBING PLAN





- by 102 mm) lumber spaced 16 in. (406 mm) O.C. with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min. 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) O.C. B. **Gypsum Board* -** 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series

A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51

Design in the UL Fire Resistance Directory. Max diam of opening is 6-3/4 in. (171 mm). The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is

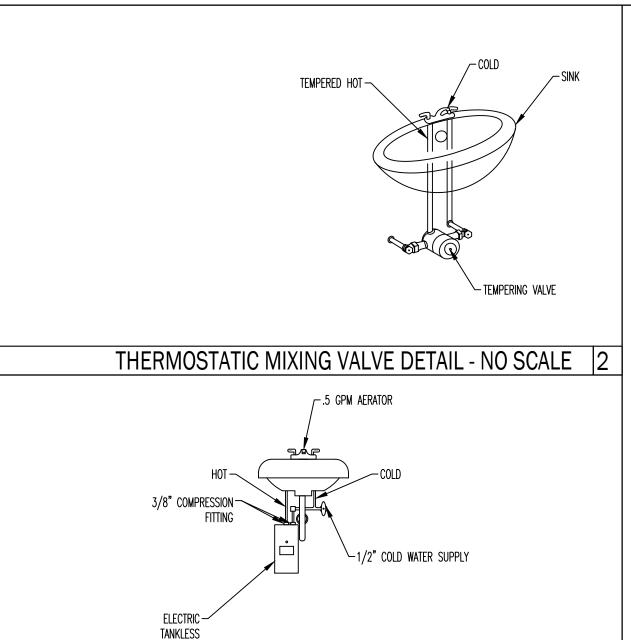
- 2. **Through Penetrant -** One metallic pipe, tubing or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipes, tubing or conduits and periphery of opening shall be min 0 in. (point contact) to max 5/8 in. (16 mm). Pipe, tubing or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, tubing or conduits may be used:
- A. Steel Pipe Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
- B. Iron Pipe Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
- C. Copper Tubing Nom 6 in. (152 mm) diam (or smaller) Type M (or heavier) copper tubing.
- D. Copper Pipe Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
- E. Conduit Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing, nom 4 in. (102 mm) diam (or smaller) galv steel conduit or nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.
- 3. Fill, Void or Cavity Material* Sealant Min 5/8 in. (16 mm) thickness of fill material within annulus, flush with both surfaces of wall. Additional fill material installed such that a min 1/4 in. (6 mm) thick crown is formed around the penetrating item lapping 1/2 in. (13 mm) beyond the periphery of the opening.

SPECIFIED TECHNOLOGIES INC - SpecSeal LC 150 Sealant, SpecSeal LE600 Sealant

*Bearing the UL Classification Mark

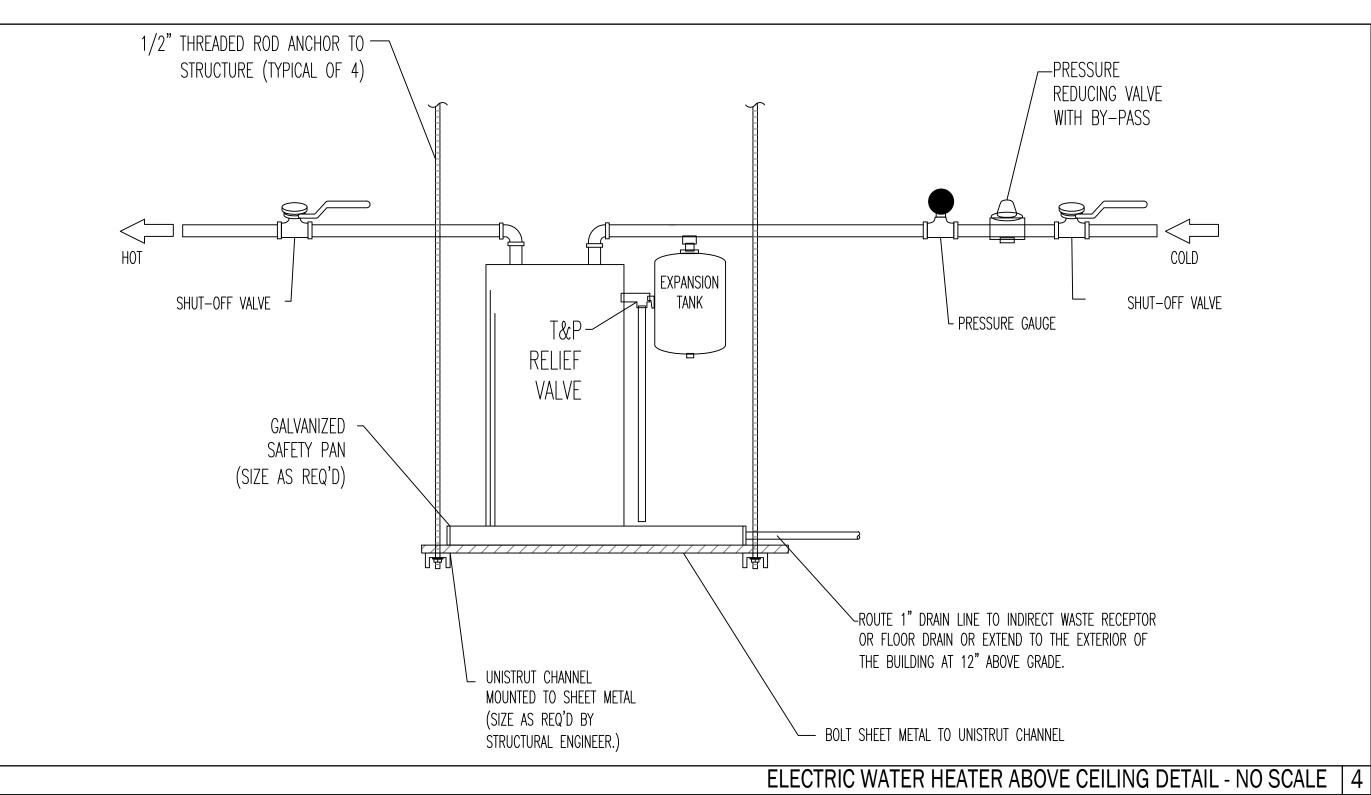
Specified Technologies Inc. 200 Evans Way Somerville, NJ 08876



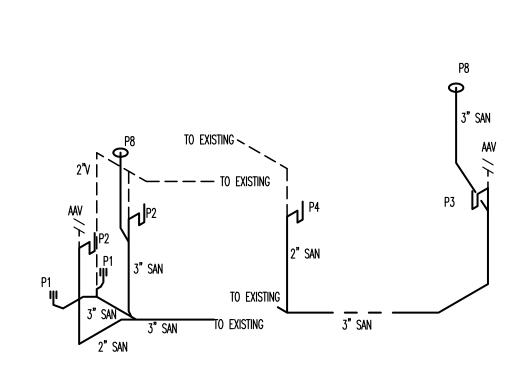


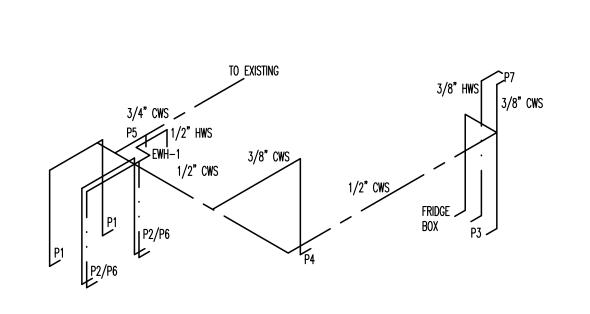
WATER HEATER

TANKLESS WATER HEATER DETAIL 3



PENETRATION DETAIL NO SCALE 1





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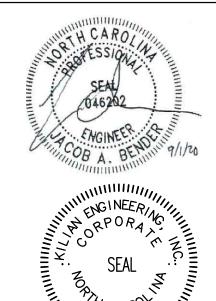
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20061 09/01/2020 NO. REVISION

PLUMBING DETAILS