74 PATTON AVENUE ASHEVILLE, NORTH CAROLINA 28801

CONTRACT DOCUMENTS - AUGUST 03, 2023

INDEX OF DRAWINGS

BUILDING CODE APPENDIX B BUILDING LIFE SAFETY PLANS

PARTIAL FLOOR FRAMING PLAN PARTIAL ROOF FRAMING PLAN

A102

A103

E301

TENANT

TAMPA, FL 33614

FrontBurnerBrands.com

DAN STONE

FRONT BURNER | THE MELTING POT

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dstone@frontburnerbrands.com

M201 M301

E101 E201

ELECTRICAL SPECIFICATIONS

NOVUS

CHARLESTON

JACKSONVILLE

NOVUSARCHITECTS.CO



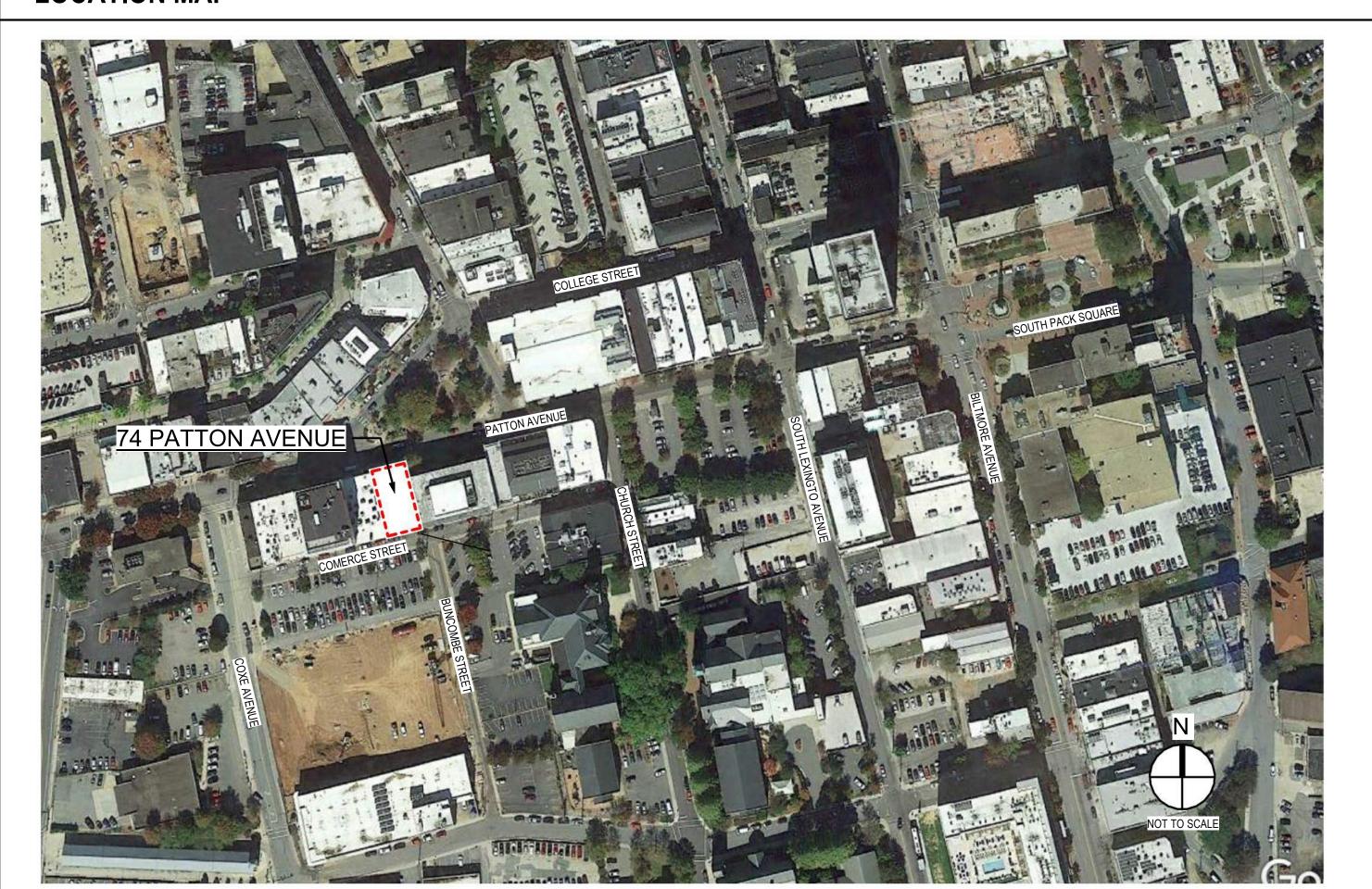
DNC

REVISIONS: /\

No. Description

AUGUST 03, 2023 NOVUS JOB NUMBER 2020-3104.00

LOCATION MAP



OWNER

PROJECT TEAM

72 PATTON PROPERTY, LLC 7 EAST CONGRESS STREET SUITE 900a SAVANNAH, GA 31401 PHONE: (912) 999-3000

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STRUCTURAL ENGINEER

4. THE MAXIMUM AREA OF OPEN PARKING GARAGES MUST COMPLY WITH TABLE 406.5.4. 5. FRONTAGE INCREASE IS BASED ON THE SPRINKLERED AREA VALUE IN TABLE 506.2.

BUSINESS						···	***************************************	'''	-	-	-	-
EDUCATIONA			·······						<u> </u>			<u></u>
ACTORY		ODERATE .	F-2 FLOW							•		
HAZARDOUS		ETONATE	H-2 DEFLAGRATE	H-3 COMBUST	H-4 HEALTH	H-5 HPM	***************************************		LIFE SAFETY SYSTEM REQUIREMENT			
NSTITUTION A		ONDITION	1 1-2 DETEACION I	2		11-0111 101	······································		EMERGENCY LIGHTING:	YES	NO	
110111011011	[ii]	ONDITION		2				┪	EXIT SIGNS:	YES	NO ···	
		ONDITION	1	2	3	1	5	1	FIRE ALARM:	YES	NO Files	
	I-4	<u> </u>	_i	Z			<u> </u>	1	SMOKE DETECTION SYSTEMS:	YES	NO PARTIAL	
MERCANTILE								1	CARBON MONOXIDE DETECTION:	YES	NO	
RESIDENTIAL	R-1		R-2	R-3	R-4		······	***				
STORAGE		ODERATE	S-2 LOW	HIGH PILED	. 177		***************************************		LIFE SAFETY PLAN REQUIREMENTS			
		ING GARAGE	OPEN	ENCLOSED	REPAIR GARAGE				LIFE SAFETY PLAN SHEET #: G002		······································	
JTILITY AND I	MISCELLANEOUS			1.11020025					FIRE AND / OR SMOKE RATED WAI	L LOCATIONS (CHAPTER 7)	***************************************	
	OCCUPANCY CLAS	SSIFICATION(S):	<u></u>		and the second				ASSUMED AND REAL PROPERTY I	INE LOCATIONS (IF NOT ON TH	IE SITE PLAN)	
	JSES (TABLE 509	• • • • • • • • • • • • • • • • • • • •	en en de					1	EXTERIOR WALL OPENING AREA \	VITH RESPECT TO DISTANCE T	O ASSUMED PROPERTY LINES (705	.8)
	S (CHAPTER 4 - LIS	<u> </u>	S): -			•		1	OCCUPANCY USE FOR EACH ARE	A AS IT RELATES TO OCCUPAN	T LOAD CALCULATION (1004.1.2)	
	VISIONS: (CHAPTE		<u> </u>					1	OCCUPANT LOADS FOR EACH ARI	EA .		
	PANCY: NO	YES	SEPARATION: - HR.	EXCEPTION: -	The second secon			1	EXIT ACCESS TRAVEL DISTANCES	(1017)		
		SEPARATED USE			RUCTION FOR THE BUILDING		DETERMINED	1	COMMON PATH OF TRAVEL DISTA	NCES (TABLES 1006.2.1 & 1006.	.3.2 (1))	
	I NOIV	OLI MICHIED COL			REA LIMITATIONS FOR EACH				DEAD END LENGTHS (1020.4)			
					UILDING. THE MOST RESTRI				CLEAR EXIT WIDTHS FOR EACH E	(IT DOOR	· · · · · · · · · · · · · · · · · · ·	
					D, SHALL APPLY TO THE ENT				MAXIMUM CALCULATED OCCUPAN	IT LOAD CAPACITY EACH EXIT	DOOR CAN ACCOMMODATE BASED	ON EGRESS WIDTH (1005.3)
	§ ∯ SEPA	RATED USE (508.4			TIONS OF EACH STORY, THE OF THE RATIO OF THE ACTU				ACTUAL OCCUPANT LOAD FOR EA	CH EXIT DOOR		
				DIVIDED BY THE ALLO	WABLE FLOOR AREA FOR EA				A SEPARATE SCHEMATIC PLAN IN PURPOSES OF OCCUPANCY SEPA		FLOOR / CEILING AND / OR ROOF S	TRUCTURE IS PROVIDED FOR
••••••	***************************************	***************************************	······································	***************************************			•••••		LOCATION OF DOORS WITH PANIC	HARDWARE (1010.1.10)		
ACTUA	L AREA OF OCCUP	ANCV A	. ACTUAL ADEA	OF OCCUPANCY B					LOCATION OF DOORS WITH DELA	PED EGRESS LOCKS AND THE	AMOUNT OF DELAY (1010.1.9.7)	
ACTUP	L AREA OF OCCUP	ANCY A +	ACTUAL AREA	JF UCCUPANCY B	<u> </u>				LOCATION OF DOORS WITH ELEC	FROMAGNETIC EGRESS LOCKS	S (1010.1.9.9)	
ACTUA	L AREA OF OCCUP	ANCY A	ACTUAL AREA	OF OCCUPANCY B					LOCATION OF DOORS EQUIPPED	WITH HOLD-OPEN DEVICES		
					. *				LOCATION OF EMERGENCY ESCA	PE WINDOWS (1030)		
		+			 + =		<u> </u>		THE SQUARE FOOTAGE OF EACH	FIRE AREA (202)		
									THE SQUARE FOOTAGE OF EACH	SMOKE COMPARTMENT FOR O	OCCUPANCY CLASSIFICATION 1-2 (40	J7.5)
STORY	DESCRIPTION		(A)	(B)	(C)		(D)		NOTE ANY CODE EXCEPTIONS OF	TABLE NOTES THAT MAY HAV	E BEEN UTILIZED REGARDING THE	ITEMS ABOVE.
NO.	AND USE		BLDG AREA PER STORY (ACTUAL)	TABLE 506.2 ⁴ AREA	AREA FOR FRONTAGE INCREASE ^{1,5}		ABLE AREA STORY OR		<u></u>			
		•	. OTOICI (NOTONE)	7111271	intertal to a		IMITED ^{2,3}					
В	-		-	-	-		-	1		· .		• .
1	RESTAURANT (A-2)	1,033 SF	9,500 SF	-	9,5	500 SF	1				
M	-		-	-	-		-	1	· · · · · · · · · · · · · · · · · · ·		***************************************	•
2	-		-	-	-		-					
3	-		-	-	-		-					
4	-		-	-	-		-					
	TOTAL BUILDING		1,033 SF	9,500 SF	-	9,5	500 SF	1				
A. PEF B. TO1 C. RA1 D. W = E. PEF 2. UNLIMIT	RIMETER WHICH FR FAL BUILDING PERI FIO (F/P) = MIN. WIDTH OF PU RCENT OF FRONTA FED AREA APPLICA	ONTS A PUBLIC W METER = (W) BLIC WAY = GE INCREASE: 10 BLE UNDER CONE	ON 506.3 ARE COMPUTED VAY OR OPEN SPACE HAV(P)(W) 0(F/P - 0.25) X W/30 = DITIONS OF SECTION 507. R OF STORIES IN THE BUI	VING 20 FEET MINIMUM(%)								

		# OF		IBLE SPACES PROV		TOTAL# ACCESS
PARKING AREAS	PARKING	OI AUEO	REGULAR WITH 5' ACCESS AISLE		CES WITH	LVOAIDED
	REQUIRED	PROVIDED	J ACCESS AISEE	1 132" ACCESS AI SL E	8' ACCESS AISLE	
_	_	-	 	<u> </u>	<u> </u>	_
-	-	-	I V /	—	-	-
_ ' '	-		<u> </u>		L.	-
-			-	-	-	
		-	-	-	-	7
TOTAL	-	-	-	-	-	-
_		•	•	1		•
DI TIMBING EIVI	URE REQUIREMI	ENTS /TABLE 20/				
USE	WAT			TODIES	SHOWERS -	DRINKING FOUNTAIN
USE	CLOS		URINALS	■ □ ⊢	7 TUBS	DRINKING FOUNTAIN
SPACE	MALE FEMA	ALE UNISEX		UNISEX	R	REGULAR ACCESS
EXISTING			 \\/			
NEW		-	-			
REQUIRED		-			······································	-
		<u> </u>	•	•		,
SPECIAL APPRO	OVAL: (LOCAL JU	RISDICTION, DEF	PARTMENT OF INSURANCE	CE, OSC, DPI, DHHS,	ICC, ETC., DESC	RIBED BELOW)
				. *		
· .		NOTE	ALL LIEE 0.5==	·····	N IO EDOS:	DDE//IOUS
			ALL LIFE SAFETY			I
ENERGY S	UMMARY	PROJEC	T. THERE ARE N	O CHANGES. I	EXISTING TO	U REMAIN.
ENERGY EQUIR	REMENTS:				·····	J
		E CONSIDERED	MINIMUM AND ANY SPEC	IAL ATTRIBUTE REC	UIRED TO MEET	THE ENERGY CODE
SHALL ALSO BE	E PROVIDED. EAG	CH DESIGNER SH	HALL FURNISH THE REQU	JIRED PORTIONS OF	THE PROJECT IN	NFORMATION FOR THE
	EET. IF PERFOR! GY COST FOR TH		, STATE THE ANNUAL EN ESIGN	ERGY COST FOR TH	E STANDARD RE	FERENCE DESIGN VS
· · · · · · · · · · · · · · · · · · ·					***************************************	***************************************
***************************************	DING ENVELOPE				EMAINDER OF THIS S	ECTION IS NOT APPLICABLE
EXEMPT BUILD	ING:	NO Y	'ES (PROVIDE CODE OR STA	TUTORY REFERENCE)	_	
CLIMATE Z	ONE:	3A 4	A 5A			
METHOD O	F COMPLIANCE:	ENERGY CODE	PERFORM		PRESCRIPTIVE	
		ASHRAE 90.1	PERFORM	ANCE	PRESCRIPTIVE	
(IF "OTHER	" SPECIFY SOUR!	SE HERE) -				
THERMAL ENVI	ELOPE: (PRESCR		ONLY)			
THERMAL ENVI	ELOPE: (PRESCE GASSEMBLY (EAC	CH ASSEMBLY)		7 WOOD DECK, RIGII	D INSULATION, TR	PO ROOF
THERMAL ENVI	S ASSEMBLY (EAC	CH ASSEMBLY) MBLY:		7/ WOOD DECK, RIGII	D INSULATION, TR	PO ROOF
THERMAL ENVI ROOF / CEILING DESCR U-VALU	ASSEMBLY (EAC	CH ASSEMBLY) MBLY: SEMBLY:			D INSULATION, TR	PO ROOF
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SEISMIC (I _F)			
LIVE LOADS:	1		
ROOF	- ps	sf	
NACZZANINIC			
FLOOR	FF STRU	JCTURAL SHEET	S1
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ULTIMATE WIND SPEED		PH (ASCE 7)	· · · · · · · · · · · · · · · · · · ·
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BASIC STRUCTURAL SYSTE		Lauren	
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	BUILDING FRAME	DUAL W/ INTERMEDIATE R/C OR SPEC	CIAL STEEL
	MOMENT FRAME	INVERTED PENDULUM	
ANALYSIS PROCEDURE:	SIMPLIFIED	EQUIVALENT LATERAL FORCE	DYNAMIC
ARCHITECTURAL, MECHAN	CAL COMPONENTS AND		_1
LATERAL DESIGN CONTROL	EARTHQUAKE	WIND	
SOIL BEARING CAPACITIES	LAKTIIQOAKE	WIND	
	(05 7507 05007)		
FIELD TEST (PROVIDE COP		- psf	
PRESUMPTIVE BEARING CA	PACITY	- psf	
PILE SIZE, TYPE AND CAPA	CITY -		
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THERMAL ZONE			
WINTER DRY BULB:	-		
SUMMER DRY BULB:	-		
INTERIOR DESIGN CONDITIONS	***************************************		
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RELATIVE HUMIDITT.			<u> </u>
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TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED 0.64 W/FT² SPECIFIED VS 1.26 W/ FT² ALLOWED

ADDITIONAL EFFICIENCY PACKAGE OPTIONS (WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)

NOTES:

1. BUILDING CODE DATA BASED ON FIELD OBSERVATION OF EXISTING CONDITIONS.

TOTAL WATTAGE PER FIXTURE _____

C406.5 ON-SITE RENEWABLE ENERGY C406.6 DEDICATED OUTDOOR AIR SYSTEM

TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED N/A

C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

C406.2 MORE EFFICIENT MECHANICAL EQUIPMENT PERFORMANCE

- 2. FIRE AREA = 15,636 SF (ENTIRE BUILDING)
- 3. ALL LIFE SAFETY INFORMATION IS FROM PREVIOUS PROJECT. THERE ARE NO MODIFICATIONS TO EXISTING OR LIFE SAFETY. PROJECT SCOPE IS LIMITED TO EQUIPMENT HOOD AND DUCT CHASE.

MELTING POT - HOOD AND DUCT CHASE	74 PATTON AVENUE ASHEVILLE, NORTH CAROLINA 28801	
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ASHEVILLE

ATLANTA

CHARLESTON CHARLOTTE

JACKSONVILLE

NOVUSARCHITECTS.COM

No. Description DRAWN BY: NOVUS JOB NUMBER

SHOWN ON PLANS

SHEET# RATED

1. PROVIDE CODE REFERENCE IF THE "SHOWN ON PLANS" QUANTITY IS NOT BASED ON TABLE 504.3 OR 504.4.

THE MAXIMUM HEIGHT OF AIR TRAFFIC CONTROL TOWERS MUST COMPLY WITH TABLE 412.3.1.

DISTANCE REQ'D PROVIDED

0 -

0

NA

1-HR

NA

PROTECTION (TABLE 705.8)

UNPROTECTED, NONSPRINKLERED

FIRE SEPARATION DISTANCE (FEET) DEGREE OF OPENINGS ALLOWABLE AREA (%) ACTUALLY SHOWN ON

REDUCTION)

3. THE MAXIMUM HEIGHT OF OPEN PARKING GARAGES MUST COMPLY WITH TABLE 406.5.4.

SEPARATION

13'-3" > 30'-0"

BUILDING HEIGHT IN FEET (TABLE 504.3) 2

FIRE PROTECTION REQUIREMENTS

STRUCTURAL FRAME,

INCLUDING COLUMNS, GIRDERS AND TRUSSES

> NORTH EAST

> SOUTH

NON-BEARING WALLS AND

NORTH

SOUTH

INTERIOR WALLS AND

PARTITIONS

FLOOR CONSTRUCTION

INCLUDING SUPPORTING BEAMS AND JOISTS

ROOF CONSTRUCTION

INCLUDING SUPPORTING

ROOF CEILING ASSEMBLIES

SHAFT ENCLOSURES - EXIT SHAFT ENCLOSURES - OTHER

COLUMNS SUPPORTING ROOFS

PARTY / FIRE WALL SEPARATION SMOKE BARRIER SEPARATION

TENANT / DWELLING UNIT /

FROM PROPERTY LINES

ALL WALLS > 30'

SLEEPING UNIT SEPARATION

INCIDENTAL USE SEPARATION

OCCUPANCY / FIRE BARRIER SEPARATION

* INDICATE SECTION NUMBER PERMITTING REDUCTION

PERCENTAGE OF WALL OPENING CALCULATIONS

BEAMS AND JOISTS

FLOOR CEILING ASSEMBLIES

COLUMNS SUPPORTING FLOORS

EAST WEST

BEARING WALLS

EXTERIOR

INTERIOR

PARTITIONS

EXTERIOR

BUILDING HEIGHT IN STORIES (TABLE 504.4) 3

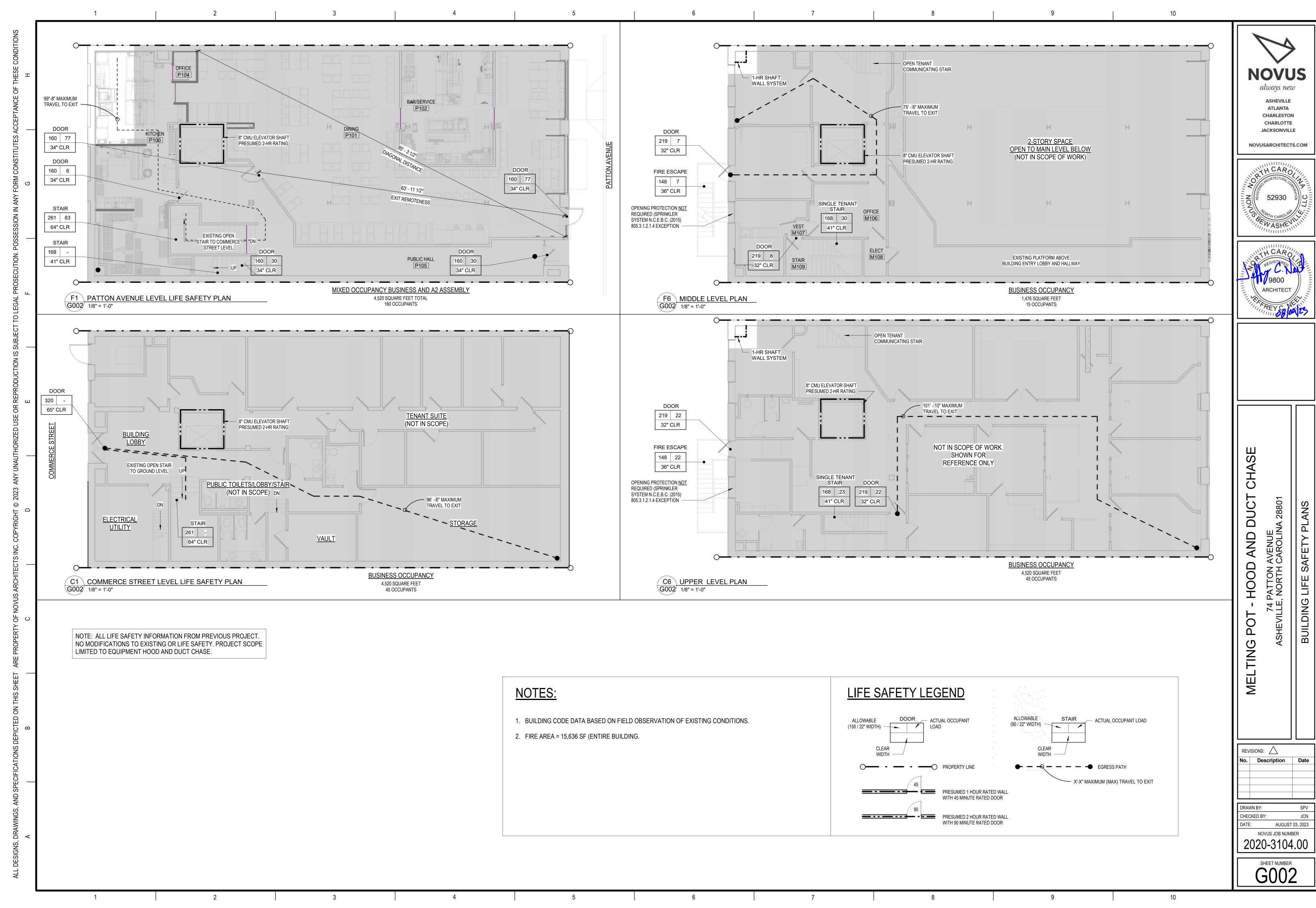
CODE REFERENCE 1

PENETRATION

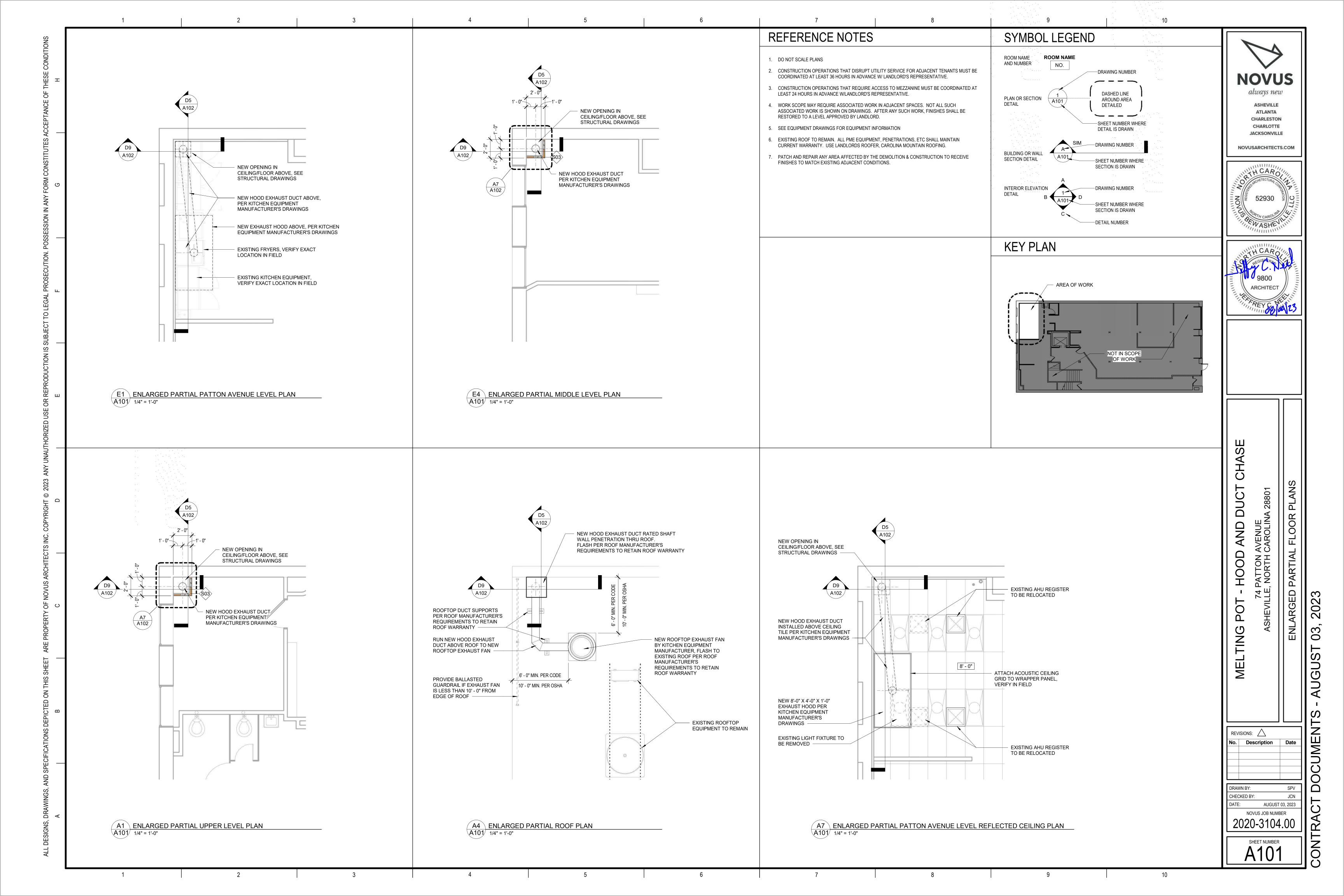
NO LIMIT

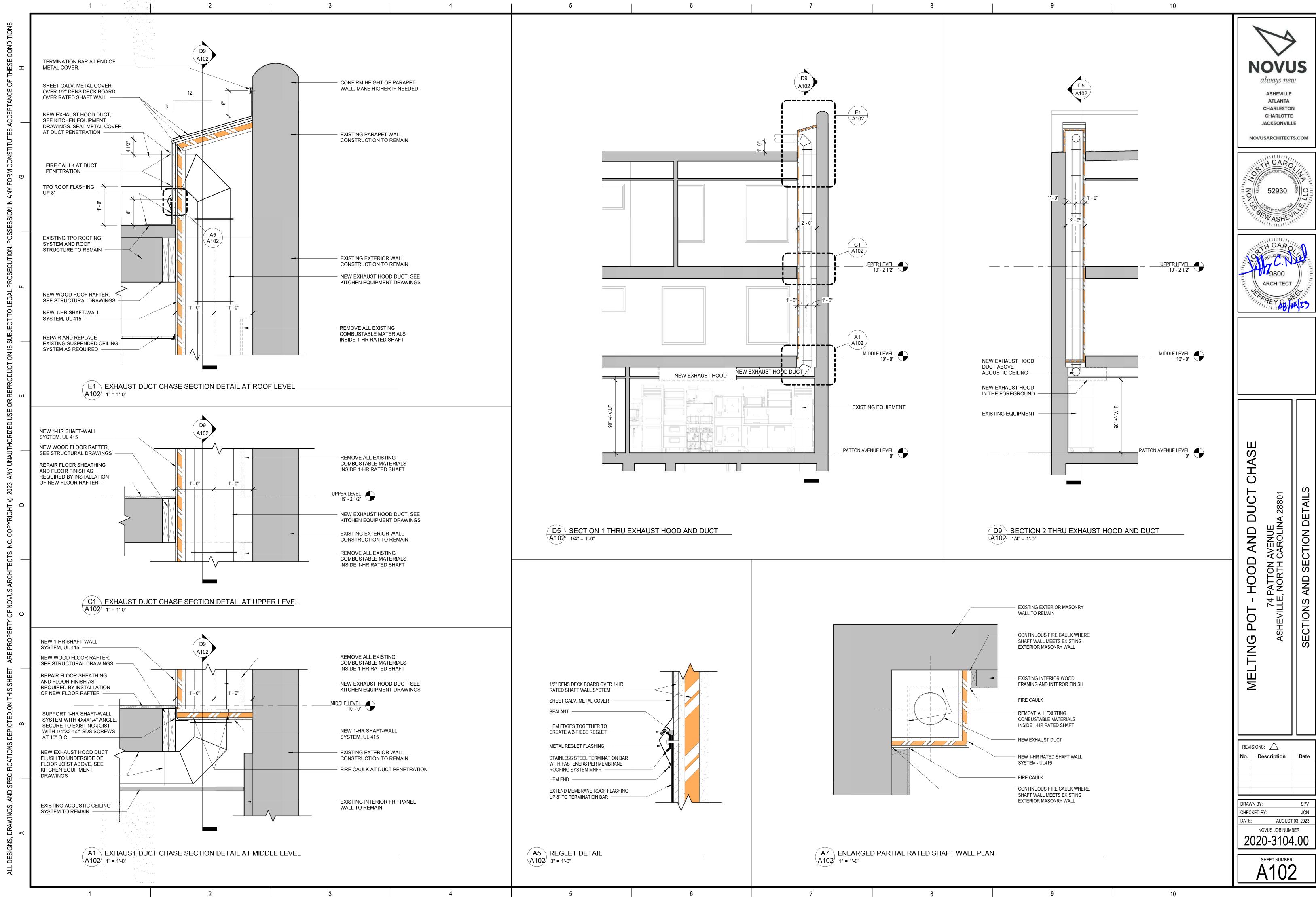
RATED

JOINTS



CONTRACT DOCUMENTS - AUGUST 03, 2023





CONTRACT DOCUMENTS - AUGUST 03, 2023

Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.

Authorities Having Jurisdiction should be consulted before construction. Fire resistance assemblies and products are developed by the design submitter and have been investigated

Design/System/Construction/Assembly Usage Disclaimer

construction nuance encountered in the field. When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised

by UL for compliance with applicable requirements. The published information cannot always address every

to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.

Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

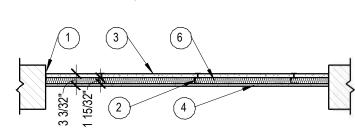
See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances

Design No. U415

February 14, 2022

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



l. Floor, Side and Ceiling Runners — "J" - shaped runner, min 2-1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A, 4B, 4C, 4D or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" - shaped studs (Item 2A) may be used as side runners in place of "J" shaped runners.

2. Steel Studs — "C-H" - shaped studs, min 2-1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Items 2D, 4A, 4B, 4C, 4D or 7 is used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor-to-ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4A, 4B, 4C, or 4D are used).

2B. Furring Channels — (Optional, Not Shown) — For use with single or double layer systems. Resilient furring channels fabricated from min 25MSG corrosion protected steel, installed horizontally, and spaced vertically a max 24 in. OC. Flange portion of channel attached to each intersecting "C-H" or "E" stud on side of stud opposite the 1 in. liner panels with 1/2 in. long Type S or S-12 pan-head steel screws. When furring channels are used, wallboard to be installed vertically only. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).

2C. Furring Channels — For use with System I - "Hat" - shaped, 25 MSG galv steel furring channels attached directly over the inner layers of wallboard to each stud with 2 in. long Type S pan head steel screws. Screws alternate from top flange to bottom flange at each stud intersection. Furring channels spaced vertically max 24 in. OC.

2D. Steel Framing Members* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7). a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 4. b. Steel Framing Members* — Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels. PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

2E. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. . Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items

4A-4D), or cementitious backer units (Item 7). a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to study as described in Item b. Ends of adjoining channels overlapped 6 in, and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 4.

b. Steel Framing Members* — Used to attach furring channels (Item 2Ea) to studs. Clips spaced 24 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips. STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

2F. Steel Framing Members* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7). a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed

vertically only and attached to furring channels as described in Item 3. b. Steel Framing Members* — Used to attach furring channels (Item 2Da) to studs (Item 2 or 2A). Clips spaced max. 24 in. OC. GENIECLIPS secured to study with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. PLITEQ INC — Type GENIECLIP

2G. Steel Framing Members* — (Optional, Not Shown) — Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items

4A-4D), or cementitious backer units (Item 7). a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to study as described in Item 2Gb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 4.

b. Steel Framing Members* — Used to attach furring channels (Item 2Ga) to studs. Clips spaced 24 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. REGUPOL AMERICA — Type SonusClip

2H. Steel Framing Members* — (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7).

a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to stude as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 4.

b. Steel Framing Members* — Used to attach resilient channels (Item 2Ha) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw. KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

2I. Steel Framing Members* — (Optional, Not Shown) — For use with single or double layer systems. Furring channels and Steel Framing Members as described below. Not to be used with Type FRX-G gypsum board, lead backed gypsum boards (Items 4A-4D), or cementitious backer units (Item 7). a. Furring Channels — Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board installed vertically only and attached to furring channels as described in Item 4. b. Steel Framing Members* — Used to attach furring channels (Item 2la) to studs (Item 2 or 2A). Clips

spaced max. 24 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

3. Gypsum Board* — Gypsum liner panels, nom 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" portion of "C-H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "J" - runners with 1-5/8 in, long Type S steel screws spaced not greater than 12 in, OC. When wall height exceeds liner panel length, liner panel may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1-1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.

UNITED STATES GYPSUM CO — Type SLX

USG BORAL DRYWALL SFZ LLC — Type SLX

USG MEXICO S A DE C V — Type SLX

4. Gypsum Board* —

System A — 1 Hr

Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in OC when installed horizontally. Horizontal joints need not be backed by steel framing.

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, USGX, WRC, WRX

THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Types C and SCX

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, ULX, WRC, WRX, USGX.

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX, USGX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC,

5. Joint Tape and Compound — (Not Shown)

Systems A, B, C, E, F, G, H, I Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.

glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance.

6. Batts and Blankets* —

Systems A, B, E, F, G, H, I (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or

ROCKWOOL — Type AFB, min. density 1.8 pcf / 28.8 kg/m3

THERMAFIBER INC — Type SAFB, SAFB FF

7. Cementitious Backer Units* — (System D) — Nom 1/2 or 5/8 in. thick panels, square edge, attached to studs over gypsum wallboard with 1-5/8 in. long, Type S-12, corrosion resistant steel screws spaced 8 in. OC and staggered 8 in. from gypsum wall board screws. Joints covered with glass fiber mesh tape. Vertical joints staggered one stud cavity from gypsum wallboard joints. Horizontal joints staggered a min of 12 in. from the gypsum wallboard joints. UNITED STATES GYPSUM CO — Type DCB

8. Laminating Adhesive* — (Optional, Not Shown) — Used to bond outer layer of Cementitious Backer Units (Item 7) to inner layers of Gypsum Board (Item 4) in System D. ANSI A136.1 Type 1 organic adhesive applied with 1/4 in. square notched trowel. See Adhesives (BYWR) in the Fire Resistance Directory or Adhesives (BJLZ) in the Building Materials Directory for names of Classified companies.

9. Lead Batten Strips — (Not Shown, For Use With Item 4A) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Required behind vertical joints

9A. Lead Batten Strips — (Not Shown, for use with Item 4C) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".. Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 6) and optional at remaining stud locations.

10. Lead Discs or Tabs — (Not Shown, For Use With Item 4A) — Used in lieu of or in addition to the lead batten strips (Item 9) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4A) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade

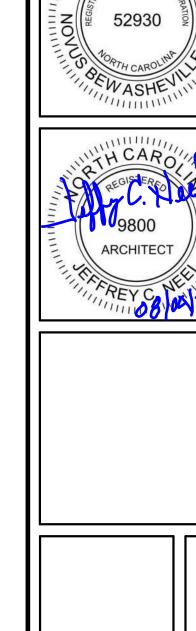
10A. Lead Discs — (Not Shown, for use with Item 4C) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

11. Lead Batten Strips — (Not Shown, For Use With Item 4B) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4B) and optional at remaining stud locations.

12. Lead Tabs — (Not Shown, For Use With Item 4B) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 4B) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2022-02-14



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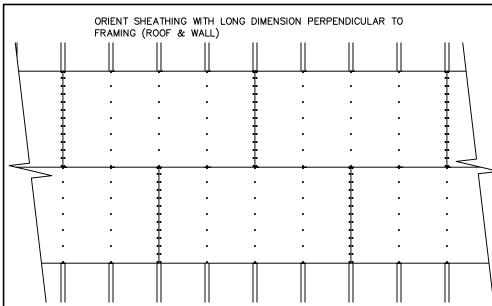
CHARLOTTE

JACKSONVILLE

NOVUSARCHITECTS.COM

DNC

REVISIONS: /\ No. Description Date DRAWN BY: NOVUS JOB NUMBER 2020-3104.00



<u>ROOF AND WALL NAILING REQUIREMENTS</u>

ROOF SHEATHING SHALL BE MIN. 5/8" (U.N.O.) W/ 8d RING-SHANK NAILS (2-1/2"x0.131") AT 6" O.C. AT ALL BUTT JOINTS AND 12" O.C. WITHIN THE FIELD. SHEATHING WITHIN 4'-O" OF RIDGES, HIPS, EAVES, GABLE ENDS OR GABLE END TRUSSES SHALL BE NAILED W/ 8d RING-SHANK NAILS (2-1/2"x0.131") AT 4" O.C. AT THE EDGES AND 8" O.C. WITHIN THE FIELD. WALL SHEATHING SHALL BE 15/32" (U.N.O.) APA SPAN RATED PLYWOOD W/ 8d NAILS AT 4" O.C. AT PANEL EDGES AND 12" O.C. AT PANEL INTERIOR.

LOOR SHEATHING NAILING REQUIREMENTS

FLOOR SHEATHING SHALL BE 3/4" (U.N.O.) T&G APA SPAN RATED PLYWOOD SCREWED @ 6" O.C. ALONG PANEL ENDS AND EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS USING No. 8 X 2-1/2" LONG WOOD SCREWS.

NAILING REQUIREMENTS

NO SCALE

DESIGN LOAD CRITERIA

- BASIC WIND SPEED, Vasd = 90 MPH (116 MPH Vult) IMPORTANCE FACTOR = 1.0 (RISK CATEGORY II)
- ENCLOSURE CATEGORY = PARTIALLY ENCLOSED BLDG. EXPOSURE CATEGORY = B
- INTERNAL PRESSURE COEFF. = +/- 0.55 ROOF PRESSURE (MWFRS) = +10.0 & -10 PSF
- LATERAL WALL PRESSURE (MWFRS) = +12 & -12 PSFMAX. COMP. & CLADDING (ROOF) = +13.0 & -38.9 PSF (ZONE 3)
- MAX. COMP. & CLADDING (DOORS/WINDOWS) = +19.1 & -24.1 PSF USE NON-IMPACT RESISTANT WINDOWS & DOORS
- LIVE LOADS: ROOF DL: WALL DL: CEILING DL: FLOOR DL FLOOR=40 PSF 18.25 PSF conc.—58 PSF 6.75 PSF 20 PSF ROOF = 20 PSFstud-12 PSF

GENERAL NOTES:

- 1. CONTRACTOR IS RESPONSIBLE FOR AND SHALL COORDINATE AND VERIFY ALL DIMENSIONS, JOB CONDITIONS AND DETAILS BEFORE PROCEEDING WITH WORK. ANY DISCREPANCIES SHALL BE BROUGHT THE IMMEDIATE ATTENTION OF THE ENGINEER.
- DETAILS SHOWN IN ANY SECTION APPLY TO ALL SIMILAR SECTIONS AND CONDITIONS UNLESS NOTED OTHERWISE (U.N.O). CONTRACTOR SHALL FULLY BRACE AND OTHERWISE PROTECT ALL WORK
- IN PROGRESS UNTIL THE BUILDING IS COMPLETED. ALL STRUCTURAL ITEMS FOR THIS PROJECT HAVE BEEN DESIGNED & ANALYZED IN ACCORDANCE WITH APPROPRIATE PROVISIONS OF EACH

OF THE FOLLOWING: A. THE NORTH CAROLINA BUILDING CODE (NCC)

- ASCE 7-16 LOAD REQUIREMENTS ACI STANDARD 318-19 BUILDING CODE REQUIREMENTS FOR
- REINFORCED CONCRETE. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
- (ACI 530/ASCE 5 & ACI 530.1/ASCE 6). AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND
- ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" NINTH EDITION. ALL ALTERED STRUCTURES HAVE BEEN EVALUATED AND ANALYZED FOR STRUCTURAL ADEQUACY & INTEGRITY PER THE 2018 EXISTING BUILDING CODE, AND MEET DESIGN/LOAD REQUIREMENTS.
- G. NFPA70 NEC 2020 ED. 5. ALL SLIDING GLASS DOORS AND WINDOWS SHALL CONFORM TO THE NCC,
- 6. ALL LINTELS BY CAST-CRETE OR APPROVED EQUAL. INSTALL REINFORCING AND CONSTRUCT PER MANUFACTURER'S RECOMMENDATIONS.
- ALL NAILING PATTERNS. CONNECTIONS AND OTHER APPLICABLE CONSTRUCTION SHALL CONFORM TO THE NCC. 2018 EDITION. SHOULD CONFLICTS ARISE. THE MORE STRINGENT SHALL PREVAIL.
- NO PROVISION HAS BEEN MADE IN THE STRUCTURAL DESIGN FOR TEMPORARY CONDITIONS OCCURRING DURING CONSTRUCTION, UNLESS SPECIFICALLY NOTED ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND BRACING REQUIRED TO RESIST STRESSES OR INSTABILITY OCCURRING DURING CONSTRUCTION.
- 9. ALL CONDENSATE/ROOF DRAIN SPOUTS SHALL BE DISCHARGED A MINIMUM OF 1'-0" AWAY FROM BUILDING. 10. WHEN THIRD PARTY DRAFTING SERVICES ARE PROVIDED, AXIS IS RELYING UPON ACCURACY OF EXISTING CONDITIONS. AXIS TAKES NO RESPONSIBLITY FOR INACCURATE OR INCORRECT EXISTING CONDITIONS
- UNLESS SPECIFICALLY VERIFIED PER CONTRACT BY AXIS. CONCRETE AND REINFORCING . ALL CONCRETE WORK SHALL CONFORM TO THE LATEST ACI "BUILDING

CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI - 318". ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTHS AS INDICATED BELOW:

> CONCRETE STRENGTH TYPE AGGREGATE LOCATION 3.000 PSI ELEVATED SLAB/BEAMS 3,000 PSI U.N.O. STONE SLAB ON GRADE/OTHER

- 3. ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE, NEW BILLET STEEL, DEFORMED BARS, CONFORMING TO ASTM A-615, GRADE LL BARS SHALL BE SECURELY SUPPORTED AND WIRED IN PLACE PRIOR TO POURING CONCRETE.
- ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A-1064. UNLESS NOTED, ALL BARS MARKED CONT. SHALL BE SPLICED AT ALL LAP POINTS AND CORNERS AND DEVELOPED AT NON-CONTINUOUS ENDS AS PER TYPICAL DETAILS
- 6. CONCRETE COVER FOR REINFORCING BARS SHOWN IN TYPICAL
- 7. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED JUST BEFORE PLACING NEW CONCRETE. 8. CONTRACTOR SHALL COORDINATE PLACEMENT OF, OR BOX OUT FOR,
- ALL PIPE SLEEVES, OPENINGS, ETC, REQUIRED FOR VARIOUS 9. CONTRACTOR SHALL COORDINATE AND NOTIFY OTHER TRADES IN SUFFICIENT TIME TO ALLOW THEM TO SET ANCHORS, INSERTS.
- BOLTS, HANGERS, ETC., AS REQUIRED FOR THEIR USE. 10. UNDER NO CIRCUMSTANCES SHALL CONCRETE BE PUMPED THROUGH ALUMINUM PIPES. CONCRETE SHALL NOT BE PLACED IN CONTACT WITH ALUMINUM, ALUMINUM MIXING DRUMS, TRUCK MIXERS, BUGGIES, CHUTES, CONVEYORS, TREMIE PIPES, AND OTHER EQUIPMENT MADE ALUMINUM SHALL NOT BE USED ON THIS PROJECT.
- 11. SLUMPS OF OVER 4 INCHES WILL NOT BE PERMITTED UNLESS THE HRWR ADMIXTURE (SUPER PLASTICIZER) IS USED. MAXIMUM SLUMF IS THEN 8 INCHES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IN ANY CASE, THE MAXIMUM WATER-CEMENT RATIO SHALL BE 0.50
- FOR 3,000 PSI CONCRETE. 12. NO ADMIXTURE SHALL BE USED IN CONCRETE EXCEPT WITH THE PERMISSION OF THE ENGINEER AND AFTER LABORATORY DESIGN MIX APPROVAL. ALL ADMIXTURES SHALL CONTAIN NO MORE CHLORIDE
- IONS THAN ARE PRESENT IN MUNICIPAL DRINKING WATER. 13. WATER REDUCING ADMIXTURE SHALL CONFORM TO THE ASTM C-494. TYPE A. AND SHALL BE USED IN ALL CONCRETE
- 14. AIR ENTRAINING ADMIXTURE SHALL CONFORM TO ASTM C260. AIR CONTENT OF CONCRETE SHALL BE USED AS FOLLOWS: A. FOR CONCRETE EXPOSED TO SOIL AND/OR WEATHER, 5%. FOR INTERIOR WALLS, COLUMNS, AND SLABS, 3%. 15. ALL EXPOSED CONCRETE SLABS SHALL RECEIVE A CURING COMPOUND.
- HAVE 30% SOLIDS MINIMUM. 16. CJ - CONTROL JOINTS IN CONCRETE SLABS ARE REQUIRED UNLESS THE CONCRETE SLABS ARE CONTAINING SYNTHETIC FIBER REINFORCEMENT THAT HAVE FIBER LENGTHS FROM 1/2" TO 2" IN LENGTH. DOSAGE AMOUNTS SHALL BE 1.0 TO 1.5 POUNDS PER CUBIC YARD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION, SYNTHETIC FIBERS SHALL COMPLY WITH ASTM C 1116. THE MANUFACTURER OR

THE CURING COMPOUND SHALL CONFORM TO ASTM C309 AND SHALL

- SUPPLIER SHALL PROVIDE CERTIFICATION OF COMPLIANCE WITH ASTM C 1116 TO ENGINEER AND UPON REQUEST TO BUILDING OFFICIAL. 17. F&P CONTINUOUS CONCRETE BEAMS SHALL HAVE BOTTOM STEEL LAP SPLICES OVER SUPPORTS AND TOP STEEL LAP SPLICES AT MIDSPAN OF BEAM. PROVIDE TOP STEEL STANDARD 90° END HOOKS AT DISCONTINUOUS ENDS OF BEAM.
- 18. EPOXY SHALL BE HILTI HIT-RE 500, SIMPSON SET OR SIKA ANCHORFIX-2 19. ALL DOWELS UNDER TENSION SHALL BE SUPPLIED WITH HOOKED BARS (HOOK TO BE 8*BAR DIAMETER) OR SPLICED WITH A DEVELOPMENT LENGTH EQUAL TO 40*BAR DIAMETER.
- 20. CONCRETE AGGREGATE SHALL MEET ASTM C33 REQUIREMENTS. DEMOLITION NOTES:
- 1. CONTRACTOR SHALL INPSEC AND VERIFY THE SCOPE OF WORK. ANY ADDITIONAL WORK NOT SPECIFICALLY NOTED ON THE DRAWINGS, BUT BECOMES APPARENT UPON CAREFUL FIELD INSPECTION, SHALL BE CONSIDERED AS PART OF THIS CONTRACT. PROVIDE SMOOTH, UNDETECTABLE TRANSITIONS BETWEEN EXISTING
- TO NEW CONSTRUCTION. 3. OWNER HAS FIRST SALVAGE RIGHTS TO ANY ELEMENTS OF EXISTING CONSTRUCTION TO BE REMOVED DURING DEMOLITION
- OPERATIONS. 4. PATCH AND REPAIR ALL CONSTRUCTION TO REMAIN WHERE
- AFFECTED BY DEMOLITION OPERATIONS.
- 5. FIELD VERIFY ALL DIMENSIONS ASSOCIATED WITH EXISTING CONSTRUCTION. 6. WHERE DEMOLITION OPERATIONS AFFECT EXISTING STRUCTURAL SYSTEM COMPONENTS TO REMAIN, SHORE THESE COMPONENTS AS REQUIRED UNTIL NEW CONSTRUCTION IS IN PLACE.

DEMOLITION NOTES (cont.):

- 7. REMOVE OR CAP AND ABANDON ALL ELECTRICAL WIRING IN WALLS TO BE REMOVED.
- 8. REMOVE OR CAP FOR FUTURE USE ALL PLUMBING LINES AND OUTLETS IN WORK TO BE DEMOLISHED. 9. PATCH ANY EXISTING CONSTRUCTION AS REQUIRED WHICH IS DAMAGED DUE TO THE INSTALLATION OF NEW FIXTURES.

ELECTRICAL DEVICES, EQUIPMENT, OR ANY OTHER NEW

- COMPONENT. 10. ALL EXISTING STRUCTURAL SUPPORT COMPONENTS SHALL REMAIN
- INTACT EXCEPT AS OTHERWISE INDICATED. 11. PROTECT ALL EXISTING FINISHES TO REMAIN FROM DAMAGE DURING THE DURATION OF NEW CONSTRUCTION. PROVIDE MINOR ALTERATIONS TO EXISTING H.V.A.C. SYSTEM AS

REQUIRED TO ACCOMMODATE NEW WORK, SUCH AS RELOCATION

OF DIFFUSERS AND RELATED ALTERATIONS OF ASSOCIATED DUCTWORK. 13. PATCH AND REPAIR EXISTING CEILINGS WHERE ELECTRICAL AND MECHANICAL DEVICES HAVE BEEN REMOVED OR RELOCATED. MATCH EXISTING.

FOUNDATION NOTES:

- FOUNDATIONS FOR THIS PROJECT HAVE BEEN DESIGNED USING AN ASSUMED SOIL BEARING CAPACITY OF 2000 PSF. COMPACT CLEAN FILL TO 95% MODIFIED PROCTOR MAXIMUM DENSITY IN 12" MAX. LOOSE LAYERS.
- IF MUCK MATERIAL IS ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK AND CONSULT WITH THE ENGINEER OF RECORD AND A LICENSED GEOTECHNICAL ENGINEER TO DETERMINE REMOVAL LIMITS AND/OR REMEDIATION REQUIREMENTS
- ALL WALL FOOTINGS SHALL BE CENTERED UNDER 8" CMU BEARING WALLS UNLESS OTHERWISE NOTED. BACKFILLING AGAINST FOUNDATION WALLS SHALL BE DONE CAREFULLY
- WITH SMALL COMPACTION EQUIPMENT, AFTER SLABS ON GROUND ARE IN PLACE AND CONCRETE HAS SET. NO TRUCKS, BULLDOZERS, ETC. SHALL BE ALLOWED CLOSER THAN 6'-0" TO ANY FOUNDATION WALL CONCRETE SLABS ON GRADE TO BE 4" THICK STONE CONCRETE
- REINFORCED WITH FIBERMESH AND PLACED ON PVC VAPOR BARRIER AND PROPERLY COMPACTED SUBBASE. CONTRACTOR SHALL TREAT SOIL BENEATH BUILDING FOR TERMITES. KEEP FOOTING EXCAVATIONS CONTINUALLY DRY BEFORE POURING CONCRETE. EXCAVATE MATERIAL SOFTENED BY WATER AND THICKEN
- BUILDING FOR TERMITES. TOP OF SLAB-ON-GRADE IS AT FINISHED FLOOR DATUM ELEVATION [+0'-0"]. U.N.O. TOP OF FOOTINGS ARE AT ELEVATION (-2'-0") BELOW FINISHED FLOOR DATUM ELEVATION EXCEPT AS NOTED ON THE PLANS.

THE FOOTING TO SUITE. CONTRACTOR SHALL TREAT SOIL BENEATH

ROOF PLAN NOTES

- 1. THE ROOF PLAN IS NOT INTENDED TO TO SERVE AS A TRUSS DESIGN. IT IS TO INDICATE ROOF, CEILING SLOPES AND HEIGHTS ONLY. . ALL TRUSSES AND GIRDER TRUSSES SHALL BE DESIGNED AND CERTIFIED BY TRUSS MANUFACTURER'S REGISTERED ENGINEER. ALL HANGERS AND ANCHORS PART OF TRUSS SYSTEM SHALL BE SPECIFIED BY THE SAME.
- SHOP DRAWING TO BE PREPARED, SIGNED AND SEALED BY MANUFACTURER'S ENGINEER AND BE PROVIDED TO ENGINEER FOR ACCEPTANCE PRIOR TO FABRICATION AND ERECTION.
- ALL ROOF PITCHES ARE TO BE SET AS INDICATED ON PLANS AND ELEVATIONS.
- 5. TOP PLATE HEIGHTS VARY. SEE BUILDING SECTIONS, WALL SECTIONS, AND ELEVATIONS FOR BEARING HEIGHTS. 6. TRUSS SPACING SHALL BE 24" O.C. UNLESS OTHERWISE NOTED.
- CONVENTIONAL FRAMING SHALL BE 24" O.C. OR AS OTHERWISE NOTED. INSTALL TRUSSES AND BRACING IN STRICT CONFORMANCE WITH TRUSS MANUFACTURER'S RECOMMENDATIONS.
- TRUSSES SHALL BE DESIGNED TO BEAR ON EXISTING AND PROPOSED WALLS AS NOTED ON THE PLANS. COMPONENTS AND CLADDING TO BE FASTENED TO STRUCTURE PER
- MANUFACTURER'S RECOMMENDATIONS AND THE NCC. 2018 FD. THE ROOF FRAMING HAS BEEN DESIGNED BASED ON THE TRUSS LAYOUT AND CONFIGURATION SHOWN ON THE PLANS. ANY DEVIATIONS MUST BE
- BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD AND SHALL BE CLEARLY MARKED ON THE SHOP DRAWINGS. MAXIMUM ROOF DEFLECTION SHALL BE LIMITED TO L/240 FOR THE TOTAL
- DEAD PLUS LIVE LOADS & L/360 FOR THE LIVE LOAD PROVIDE MINIMUM TOP CORD LL=30PSF, TOP CORD DL=18.25PSF & BOTT. CORD DL=6.75PSF. USE MAX. 15 PSF DL TO RESIST UPLIFT FOR CONC. TILE ROOFS. ALL OTHER ROOF TYPES USE 10 PSF MAX. LOAD.

WOOD CONSTRUCTION

CONNECTED MEMBERS.

- 1. WOOD FRAMING AND FASTENING SCHEDULES SHALL CONFORM TO THE NCC, 2018 ED. AND NDS-2018, U.N.O. SHOULD CONFLICTS ARISE, THE MORE STRINGENT SHALL PREVAIL
- 2. SPECIFIED FASTENERS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AND W/ THE SCREWS/NAILS TO DEVELOP THE MAXIMUM CAPACITIES SHOWN.

 ALL STRUCTURAL LUMBER SHALL BE NO LESS THAN NO. 2 SOUTHERN PINE
- OR AS OTHERWISE NOTED. NON-STRUCTURAL LUMBER SHALL BE STUD 4. ALL EXPOSED LUMBER OR LUMBER IN CONTACT W/ MASONRY OR CONCRETE SHALL BE PRESSURE TREATED. NON-PRESSURE TREATED
- LUMBER SHALL BE SEPARATED FROM MASONRY/CONCRETE W/ ASPHALT IMPREGNATED FELT OR GALVANIZED METAL 5. WHERE CONNECTIONS HAVE NOT BEEN DETAILED ON PLANS, PROVIDE ALL FRAMING ANCHORS IN ORDER TO TRANSFER THE DESIGN LOADS AS INDICATED ON THE DRAWINGS. IN ABSENCE OF EXACT JOINT LOADS, ALL CONNECTIONS SHALL BE DETAILED TO DEVELOP THE FULL CAPACITY OF THE
- 6. TOP OF STRUCTURAL FRAMING IS AT ELEVATION AS NOTED ON THE PLANS. 7. FLOOR SHEATHING SHALL BE 3/4" TONGUE AND GROOVE APA STURDI-FLOOR PLYWOOD SHEATHING PANELS, U.N.O. GLUE AND FASTEN WITH 10d RING-SHANK NAILS AT 12" O.C. IN FIELD (PANEL INTERIOR) AND 6" O.C. AT PANEL EDGES, U.N.O.
- 8. WALL SHEATHING SHALL BE 15/32" (U.N.O.) CDX PLYWOOD, WITH 10d NAILS AT 4" O.C. AT ALL EDGES AND 12" O.C. IN THE FIELD, U.N.O. 9. ROOF SHEATHING SHALL BE 5/8" (U.N.O.) THICK APA SPAN-RATED PLYWOOD SHEATHING W/ "H" CLIPS, U.N.O. FASTEN SHEATHING TO SUPPORTING FRAMING USING 10d NAILS SPACED AS FOLLOWS:
- 6" O.C. AT SUPPORTED PANEL EDGES. 12" O.C. IN THE FIELD. 4" O.C. WITHIN 4'-0" OF RIDGES, HIPS AND EAVES. 10. PARALLAM COLUMNS SHALL PROVIDE A MINIMUM MODULUS OF ELASTICITY (E) OF 1.8x10^6 PSI, COMPRESSION PARALLEL TO GRAIN (FcII) OF 2.500 PSI AND FLEXURAL STRESS (Fb) OF 2,400 PSI FOR COLUMN SIZES UP TO

7". FOR COLUMN SIZES GREATER THAN 7", E SHALL BE 2.0x10^6, FcII

WOOD FLOOR JOIST/BEAM/HEADER NOTES

SHALL BE 2,900 PSI AND Fb 2,800 PSI.

- 1. ALL JOIST ACCESSORIES ARE BY SIMPSON AND SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS TO DEVELOP ITS MAXIMUM CAPACITY, U.N.O. HOWEVER, CONTRACTOR SHALL BE CAREFUL NOT TO UTILIZE NAILS/SCREWS INTO THE JOIST LARGER THAN SPECIFIED BY JOIST MANUFACTURER.
- 2. SUBFLOORING SHALL BE GLUED AND NAILED TO JOISTS PER MANUFACTURER'S RECOMMENDATIONS, U.N.O.
- 3. PENETRATION OF JOIST WEBBING SHALL ONLY BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. NO HOLES SHALL BE ALLOWED OVER SUPPORTS. SUBMIT HOLE PENETRATION DETAILS/SKETCHES FOR REVIEW. 4. MICROLAM BEAMS (MLB) & LVL BEAMS SHALL HAVE A MINIMUM BENDING STRESS (Fb) OF 2.900 PSI AND MODULUS OF ELASTICITY (E) OF 2.0x10^6 PSI & GLULAM BEAMS SHALL HAVE Fb=2,400 PSI & E OF 1.8x10^6 PSI. 5. ALL HEADERS SHALL BE A MIN. OF (2) 2x12 W/ FLITCH PLATES, U.N.O.
- UNLESS NOTED OTHERWISE. 6. PROVIDE (2) 2x10 LEDGER W/ (4) SIMPSON SDWS22600DB INTO WOOD FRAMED WALLS @ 16" O.C. OR 5/8" DIA. ANCHOR BOLT OR EXPANSION ANCHOR @ 16" O.C. MAX. W/ 4" MIN. EMBEDMENT W/ NUTS AND WASHERS THROUGH (2) 2" x 10" P.T. LEDGER INTO CONC., U.N.O. 7. MAXIMUM DEFLECTION OF FLOORS SHALL BE LIMITED TO L/240 UNDER TOTAL DEAD PLUS LIVE LOADS AND L/360 FOR LIVE LOADS.

ELECTRICAL NOTES

- ALL WIRING AND GROUNDING SHALL BE COPPER. ALL ELECTRICAL, MECHANICAL AND H.V.A.C. SYSTEMS SHALL BE INSTALLED
- COMPLETE WITH ALL COMPONENTS ALL SERVICE EQUIPMENT SHALL BE APPROVED BY POWER COMPANY. CONTRACTOR SHALL OBTAIN ALL INSPECTIONS REQUIRED PROVIDE APPROVED BOXES, PLATES, PULL WIRES AND ESCUTCHEONS FOR
- TELEPHONE OUTLETS. FIELD VERIFY LOCATIONS WITH OWNER. 6. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH LATEST EDITION OF NATIONAL ELECTRIC CODE AS AMENDED BY LOCAL ORDINANCES AND
- AUTHORITIES HAVING JURISDICTION. 7. ELECTRICAL, PLUMBING AND H.V.A.C. CONTRACTORS SHALL PROVIDE
- CATALOGUE CUTS AND SPECS FOR APPROVAL. 8. ALL EQUIPMENT SHALL BE SIZED FOR PROPER AMPERAGE AND INTERRUPTION RATING
- 9. SMOKE DETECTORS SHALL BE PHOTO-ELECTRIC TYPE. 120 VOLT. COMPLYING WITH NFPA 72, WIRED, SUPPLIED AND INSTALLED BY CONTRACTOR. DETECTOR SHALL BE WIRED TO AC ELECTRICAL POWER
- SOURCE AND EQUIPPED WITH A MONITORED BATTERY BACKUP. 10. ALL UTILITY SERVICES SHALL BE EXTENDED BY CONTRACTOR. ALL UTILITY HOOK-UP AND IMPACT FEES SHALL BE PROVIDED IN CONTRACTOR'S BASE
- 11. ALL WATER HEATERS SHALL HAVE PVC DRAIN BASIN UNDERNEATH WITH DRAIN TO EXTERIOR AND BLOW OFF VALVES ROUTED TO EXTERIOR.
- ALL WATER HEATERS SHALL BE ON A TIME CLOCK ALL FINAL ELECTRICAL CONNECTIONS SHALL BE MADE BY A STATE OF NORTH CAROLINA LICENSED ELECTRICIAN. ALL EXISTING CIRCUITS TO PANELS TO BE RELOCATED OR REPLACED SHALL BE RECONNECTED BY ELECTRICAL CONTRACTOR AT NEW PANEL LOCATION CAPABLE OF SUPPORTING ANY NEW/ADDITIONAL LOADS.
- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL A BONDED ELECTRODE IN ALL NEW CONCRETE FOUNDATIONS. ELECTRODE SHALL BE BONDED WITH ALL OTHER BUILDING ELECTRODES TO FORM A COMPLETE
- ALL BEDROOM RECEPTACLES TO BE PROTECTED BY ARC FAULT INTERCEPTORS. ADDITIONALLY, PROVIDE WP/GFI OUTLETS ADJACENT TO

OPENING PROTECTION NOTES

- 1. UNLESS NOTED OTHERWISE (U.N.O.), PROVIDE 1/2" THICK 5/5, EXP-1, STRUC.-1, SINGLE SHEET OF PLYWOOD OVER THE EXTERIOR SIDE OF ALL WINDOW OPENINGS. INSTALL PLYWOOD PANEL WITH #8x2-1/2" WOOD SCREWS AT 8" O.C. FOR WOOD FRAMING ATTACHMENT OR PROVIDE VIBRATION RESISTANT ANCHORS W/ A MINIMUM WITHDRAWAL CAPACITY OF 490# (W/ 3" MIN. EDGE DISTANCE) FOR MASONRY ATTACHMENT. U.N.O., ALL SECOND STORY WINDOWS, OR HIGHER, SHALL BE MADE OF
- IMPACT RESISTANT GLASS. U.N.O., GARAGE DOORS AND EXTERIOR DOORS SHALL BE DESIGNED TO WITHSTAND 155 MPH (Vult) WIND LOADS PER CODE. 4. U.N.O., WINDOWS/DOORS SHALL BE DESIGNED TO WITHSTAND THE
- PRESSURES LISTED ON THE PLANS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- DESIGN AND CONSTRUCTION SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5) MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (f'm) SHALL BE 1,500 PSI, ASTM C-90. PROVIDE SHOP DRAWINGS FOR VERIFICATION.
- MORTAR FOR MASONRY SHALL BE TYPE S OR M. FOR LOAD BEARING WALLS, ALL BED JOINTS ARE TO COVER 100% OF THE MASONRY SURFACES AND ALL HEAD JOINTS ARE TO COVER 100% OF THE PROJECTED AREA OF THE FACE SHELLS.
- MINIMUM HORIZONTAL REINFORCING SHALL BE 9 GAGE TRUSS TYPE JOINT REINFORCING @ 16". USE HOT DIP GALVANIZED FOR ALL
- MINIMUM VERTICAL REINFORCING SHALL BE 1-#5 @ 48" OC. U.N.O. FILL ALL CELLS AS REQUIRED WITH 3000 PSI GROUT. SLUMP SHALL BE 8 TO 11 INCHES. SUBMIT DESIGN MIX FOR APPROVAL. PROVIDE ADDITIONAL VERTICAL REINFORCING BAR AT EVERY CORNER,

INTERSECTION AND OPENING EDGES. (U.N.O.) STRUCTURAL STEEL

- ALL STRUCTURAL STEEL WORK SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST A.I.S.C. SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE NEW, CLEAN, AND STRAIGHT, AND SHALL CONFORM TO ASTM SPECIFICATIONS A36. FY=36 KSI. EXCEPT AS NOTED. ALL STEEL TUBES SHALL CONFORM TO ASTM A53. GRADE "B". FY=46 KSL PLATES AND OTHER SHAPES SHALL CONFORM TO ASTM A36. FY=36 KSI. REBAR SHALL CONFORM TO ASTM A615 FY=60 KSL
- 3. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM SPECIFICATION A325 AND SHALL BE PROVIDED WITH HARDENED WASHERS UNDER THE TURNED ELEMENT (NUT OR BOLT HEAD). INSTALLATION AND TIGHTENING OF ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE "SPECIFICATION FOR STRUCTURAL JOINTS USING
- ASTM A325 BOLTS", TURN OF THE NUT METHOD. SHOP CONNECTIONS MAY BE WELDED OR HIGH STRENGTH BOLTED. ALL BOLTS SHALL BE 1/2" DIAMETER MIN.. ALL CONNECTIONS SHALL CONFORM TO THE TYPICAL CONNECTION DETAILS SHOWN ON THE PLANS UNLESS
- SPECIFICALLY APPROVED BY THE ENGINEER. ALL FIELD CONNECTIONS SHALL BE BOLTED WITH HIGH STRENGTH BOLTS, SLIP-CRITICAL (FRICTION) TYPE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY
- CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION. 8. BURNING OF HOLES, CUTS, ETC. IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED, EXCEPT WITH THE SPECIFIC
- APPROVAL OF THE ENGINEER. ALL STEEL MEMBERS EXPOSED TO WEATHER (SUCH AS LINTELS, DOOR JAMBS, ETC.) SHALL BE GALVANIZED. 10. ANY STEEL MEMBERS REQUIRED BY THE ELECTRICAL OR MECHANICAL TRADES FOR THE SUPPORT OF THEIR FOLIPMENT, WHICH ARE NOT
- SHOWN ON ARCHITECTURAL OR STRUCTURAL DRAWINGS, SHALL BE PROVIDED BY THE TRADE REQUIRING SUCH SUPPORT 11. ALL LIGHT GAGE METAL FRAMING SHALL CONFORM TO ASTM A-446 GRADE C (MIN. YIELD OF 33 KSI) WITH HOT DIPPED GALVANIZED COATING CONFORMING TO ASTM A525 (CLASS G90). ALL GALVANIZED STEEL RUNNERS SHALL BE FORMED FROM MATERIAL MEETING ASTM A-446 GRADE A (MIN. YIELD OF 33 KSI). UNLESS NOTED OTHERWISE, PROVIDE #10 TEKS SCREWS FOR

CONNECTION OF METAL FRAMING. LIGHT GAGE FRAMING SHALL BE BY

DIETRICH METAL FRAMING, OR UNIMAST INCORPORATED OR APPROVED EQUAL.

- 1. SHOP DRAWINGS OF PRE-ENGINEERED ITEMS SHALL BE SUBMITTED O ENGINEER OF RECORD FOR APPROVA
- CONTRACTOR AND/OR HIS DETAILER. DETAILER SHALL CHECK ALL ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ALL ATTACHMENTS, CLIPS, OPENINGS, OR DUCT WORK AFFECTING STRUCTURAL MEMBERS. ALL ITEMS SHALL BE SHOWN ON SHOP DRAWINGS.
- 4. SHOP DRAWINGS SHALL BE SUBMITTED TO ALLOW SUFFICIENT TIME FOR PROCESSING 5. ALL SHOP DRAWINGS SHALL BE SUBMITTED ON TRANSPARENCIES FOR DIRECT REPRODUCTION WITH TWO PRINTS ONLY. DISTRIBUTION AS

2. ALL DIMENSIONAL COORDINATION SHALL BE DONE BY THE

- PER CONTRACTING OFFICER INSTRUCTIONS. COMPLETED ERECTION PLANS SHALL BE SUBMITTED PRIOR TO OR IN CONJUNCTION WITH DETAIL DRAWINGS. BUT IN NO CASE SHALL
- DETAIL DRAWINGS BE SUBMITTED PRIOR TO ERECTION PLANS. CONTRACTOR SHALL HAVE SHOP DRAWINGS WHICH HAVE BEEN SATISFACTORILY REVIEWED BY THE CONTRACTING OFFICER AND/OR ENGINEER AND CONFIRMED BY THE CONTRACTOR BEFORE PROCEEDING WITH ANY WORK.
- SUBMIT SHOP DRAWINGS FOR ALL REINFORCEMENT FOR REVIEW BY THE ENGINEER PRIOR TO FABRICATION AND PLACEMENT. SUBMIT SHOP DRAWINGS FOR WOOD FLOOR JOIST WEB PENETRATIONS OR SLAB PENETRATIONS FOR REVIEW PRIOR TO CUTTING
- 10. SUBMIT SHOP DRAWINGS FOR APPROVAL OF CONCRETE MASONRY UNIT COMPRESSIVE STRENGTH (f'm) 11. PROVIDE SHOP DRAWINGS FOR ALL PRE-FABRICATED OR PRE-MANUFAC. ITEMS (I.E. HOLLOW CORE SLABS, BALCONIES, SPIRAL STAIRS, HANDRAILS,
- 12. ALL SHOP DRAWINGS FROM DELEGATED ENGINEERS SHALL CONFORM TO NCC REGULATIONS AND SHALL INCLUDE, BUT NOT BE LIMITED TO, CALCULATIONS, DETAILS, ACCESSORIES, FABRICATION AND ERECTION DRAWINGS OR INSTRUCTIONS AND REACTIONS GENERATED BY SUCH COMPENENTS OR SYSTEMS WHICH MUST BE CARRIED BY THE OTHER PARTS OF THE STRUCTURE.

ETC.) FOR REVIEW AND APPROVAL OF ATTACHMENT TO THE STRUCTURE.

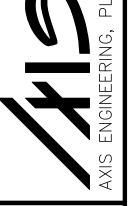
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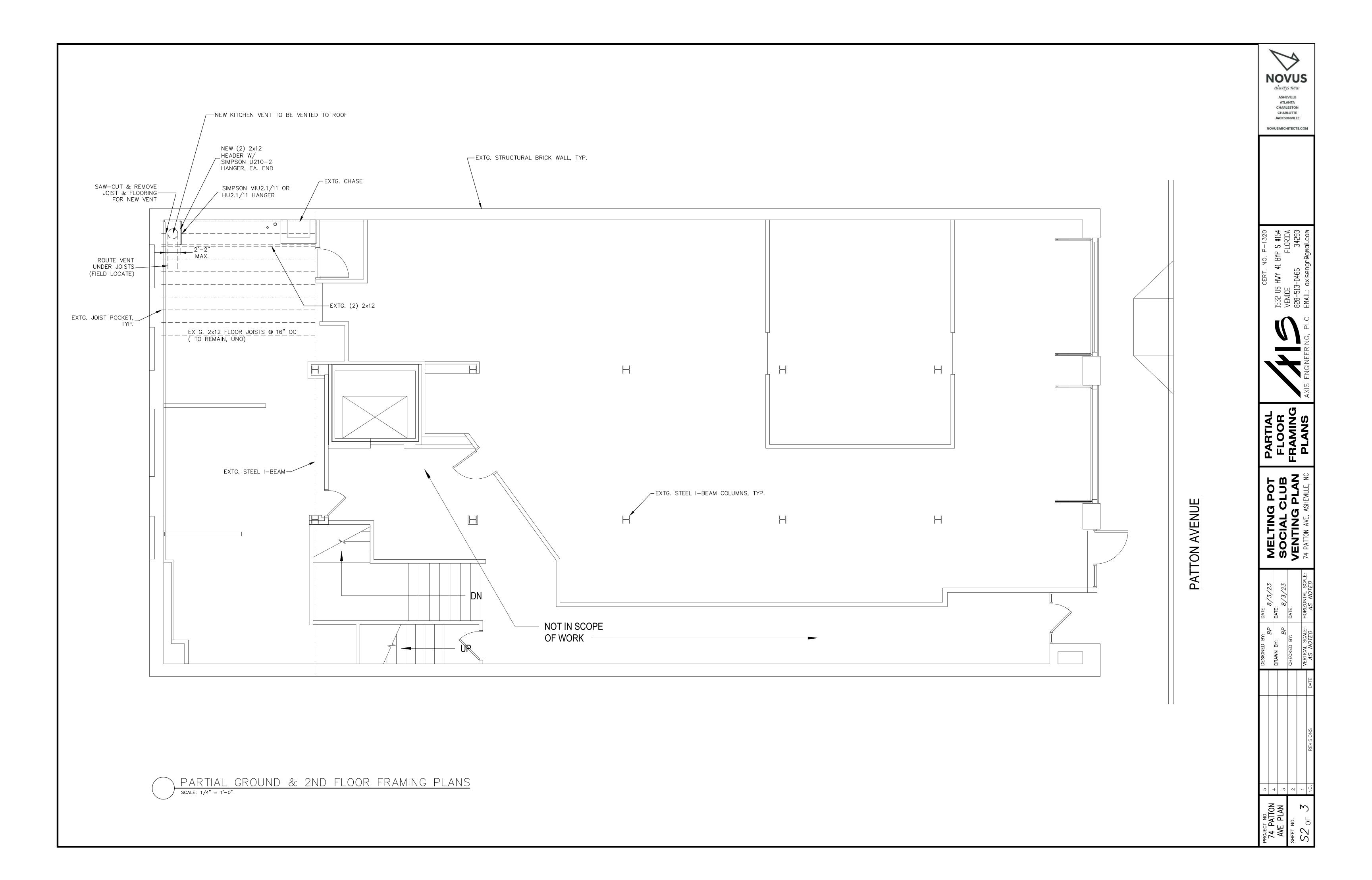
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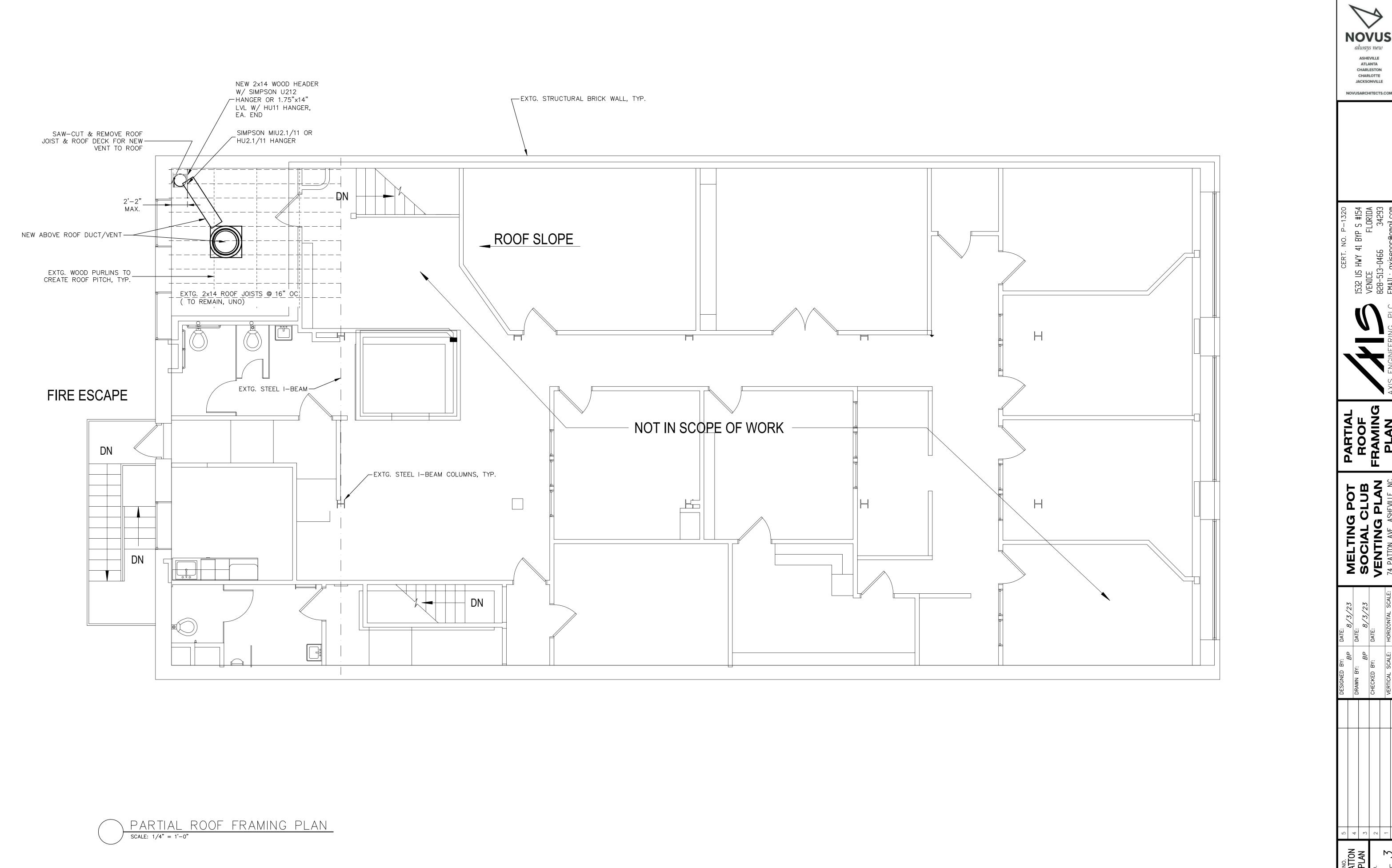
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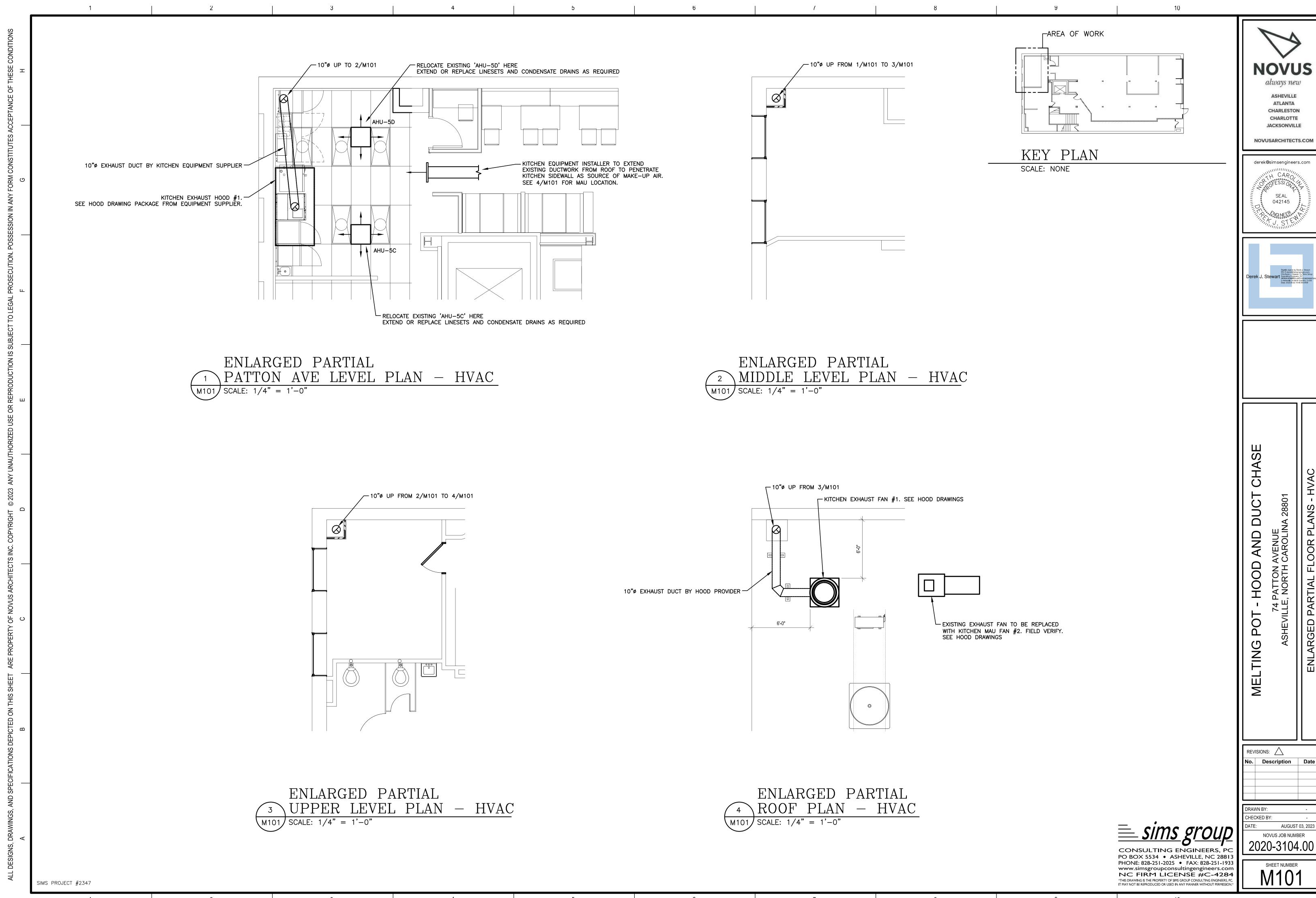
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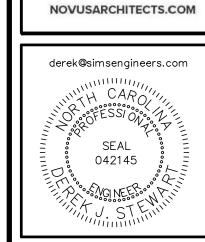
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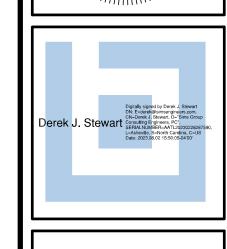
HVAC LEGEND DESCRIPTION RECTANGULAR DUCTWORK, GALVANIZED; "12" DENOTES WIDTH, "6" DENOTES DEPTH. DIMENSIONS SHOWN ARE FREE AND CLEAR. DUCTWORK, ROUND, SUPPLIED BY KITCHEN HOOD INSTALLER DUCT TEE, BEND, ELBOW, RADIUS NOT LESS 1.5 C/L WIDTH OR PROVIDE RECTANGULAR ELBOWS WITH AIR FOIL TURNING VANES. SPLITTER DAMPER EXHAUST FAN, PROVIDED BY KITCHEN EQUIPMENT PROVIDER SEE KITCHEN HOOD DRAWING PACKAGE SIDE TAKE OFF WITH VOLUME CONTROL DAMPER TYPICAL ALL TAKE OFFS. CONSULTING ENGINEERS, PC PO BOX 5534 • ASHEVILLE, NC 28813 PHONE: 828-251-2025 • FAX: 828-251-1933 www.simsgroupconsultingengineers.com NC FIRM LICENSE #C-4284 *THIS DRAWING IS THE PROPERTY OF SIMS GROUP CONSULTING ENGINEERS, PC. IT MAY NOT BE REPRODUCED OR USED IN ANY MANNER WITHOUT PERMISSION.* SIMS PROJECT #2347



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A. Basic HVAC Requirements specifically applicable to Division 15 Sections, in addition to Division 1 — General Requirements.

1.2 SCOPE OF WORK

A. Provide central HVAC equipment including, but not limited to, gas fired furnaces and A/C units, controls, thermostats, ventilators, piping, ducting, air distribution equipment, etc., and other required materials to produce complete and operating HVAC system as shown on drawing.

B. Obtain all permits, pay all fees and request inspection from authority having jurisdiction. C. Provide demolition of all Mechanical materials made obsolete by this project and remove from site. Owner retains salvage rights.

D. All work and materials shall be guaranteed for one year from date of substantial

1.3 WORK SEQUENCE

A. Coordinate construction and utility outages (if any) with Owner, Engineer, all other trades

B. Visit site before submitting bid to confirm existing conditions. Notify Engineer in writing of discrepancies in Contract Documents and existing conditions.

C. Please E-Mail questions and or comments to derek@simsengineers.com or fax (828-251-1933) in lieu of telephone calls.

1.4 SUBMITTALS

A. Submit under provisions of Contract Documents.

B. Submit shop drawings and product data grouped to include complete submittals of related systems, products, and accessories in a single submittal. Identify items with marks to match those shown on drawings.

Mark dimensions and values in units to match those specified.

Architect shall approve all colors. All submittals shall have the General Contractor's stamp, with approval signature.

Highlight deviations from specified materials.

Shop Drawings: 6 sets, including 3 for maintenance manuals. H. Product Data: 6 sets, including 3 sets for maintenance manuals. Data shall include the following, but not limited to:

shall be provided. One set shall have all sheets individually encased in clear, plastic

Gas fired furnaces and A/C units Insulation

Air Distribution Equipment

Exhaust Fans Valves 6. Controls

Certifications: 3 copies

Test Reports: 3 copies K. Warranties (Guarantees): 6 copies, including 3 for maintenance manuals. Maintenance Manuals: 3 complete sets with individual sets each of this data bound in 10 1/2 x 11 1/2 loose-leaf 3-ring binders, 1 1/2", 2", or 3" ring size, with rigid permanent vinyl covered back and front. Separators with index tabs and loose-leaf sheet protectors

document protectors.

1.5 REGULATORY REQUIREMENTS

A. Conform to applicable State and Local Building Codes. B. Fire Protection: Conform to NFPA.

Electrical: National Electric Code. Life Safety Code, NFPA 101.

All Codes shall be the most recent edition.

The Contractor shall install all materials per the State and Local Building Code. Any work that does not comply shall be made to comply at the Contractor's expense.

G. All equipment shall be UL approved for purpose specified. H. Install all materials and equipment per manufacturer's instructions

1.6 PROJECT/SITE CONDITIONS

A. Install Work in locations shown on Drawings, unless prevented by Project conditions. B. Prepare record drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of Architect/Engineer before proceeding. Submit all changes on Record Documents as a

requirement of project close out. C. Refer to Architectural drawings for dimensions, locations, cabinets, etc. Do not scale

D. Conceal all duct, piping, etc. except where the Architect/Engineer grants specific

Arrange HVAC work in a neat, well organized manner with piping and similar services running parallel with primary lines of the building construction.

F. Locate operating and control equipment properly to provide easy access, and arrange entire mechanical work with adequate access for operation and maintenance.

G. Give right-of-way to piping which must slope for drainage. H. Advise other trades of openings required in their work for the subsequent move-in of large

units of mechanical work (equipment). I. Coordination Drawings: For locations where several elements of mechanical (or combined mechanical and electrical) work must be sequenced and positioned with precision in order to fit into the available space, prepare coordination drawings (shop drawings) showing the actual dimensions (at accurate scale) required for the installation. Prepare and submit coordination drawings prior to purchase—fabrication—installation of any of the elements involved in the coordination

1.7 SUBSTITUTIONS

All products listed are to establish design and quality standards, not to limit submittals Substitutions may be accepted if approved as equivalent. Contact Engineer prior to bid with any questions. All substitutions must be submitted within 10 days after bid or supply as specified. Highlight substitution deviations from materials specified. Cost incurred to modify project to install substituted materials shall be the responsibility of the Contractor requesting the substitution.

1.8 Provide Valve Directory indicating number, size, manufacturer, location, function, and normal position. Valve tag numbers shall be as specified.

1.9 Mechanical Equipment: Show the following information for all mechanical equipment: Nameplate designation

Manufacturer's nameplate data Location of equipment Area served

Complete parts drawing and list Manufacturer's operating instructions Manufacturer's maintenance instructions

Manufacturer's installation instructions Nearest supplier for parts and replacements with telephone number Nearest service organization for equipment with telephone number

Control diagrams and wiring diagrams where applicable. Description of control systems. Catalog data, maintenance and calibration instruction for all components.

Control supplier and address Control installer and address

Manufacturer's repair manuals

1.11 Maintenance Instruction: A typewritten form of instructions for maintenance of the systems in itemized form and with time schedule for maintenance work, shall be furnished. The instructions shall list each item of mechanical equipment requiring inspection, lubrication or service and describe the performance of such maintenance. The list shall include the type of bearings for each piece of equipment, the type of and frequency of lubrication required. The operating personnel shall be instructed in the care of the system in accordance with the typewritten

2. PART 2 DESCRIPTION OF WORK

SIMS PROJECT #2347

2.1 GENERAL DESCRIPTION OF WORK

A. Coordinate work with other trades.

B. Fire stop all penetrations through rated assemblies. See Architectural sheets for locations

of rated assemblies C. All major pieces of material shall be produced by the same manufacturer. Provide

D. HVAC Contractor shall provide all penetrations, etc. and patching required to install HVAC

E. Coordinate all required line voltage starters, disconnects, switches with Electrical Contractor for installation. Coordinate electrical requirements for equipment supplied with Electrical

Contractor prior to ordering equipment. F. Provide low voltage controls and control transformers

2.2 DUCTWORK:

A. GALVANIZED STEEL LOW PRESSURE DUCT CONSTRUCTION

STL U.S. STD GAGE	DUCT DEMENSIONS IN INCHES	CONSTRUCTION TRANSVERSE JOINTS
	UP THRU 12	S SLIP, DRIVE SLIP
24	13 THRU 18 19 THRU 30	S SLIP, DRIVE SLIP BAR SLIP, DRIVE SLIP
22	31 THRU 42 43 THRU 54	POCKET LOCK ON 4' CENTERS, MECHANICAL BOLTED GASKETED, 20 GAGE MECHANICAL, GASKETED, 20 GAGE BOLTED
20	55 THRU 60	MECHANICAL BOLTED, GASKETED 18 GAGE JOINT ON 4' CENTERS 1 1/2 x 1 1/2 x 1/8 ANGELS 2 FEET FROM JOINT

Longitudinal joints may be either Pittsburged or snap locked. 2. Where round duct is indicated it shall be minimum 26 gage and otherwise conform to schedule for low pressure duct.

3. Branch take offs shall be throated with the area of the throat being 1.5 times the area of the branch. Takeoff shall incorporate single blade damper constructed of hemmed 24 gage steel with at least 2 galvanized strap hinges, connected to 1/4" control rod operating through a nylon bearing.

4. Suspension of duct shall consist of 24 gage galvanized strap for duct through 18". For duct 19" through 30" use 14" rod and 1 14" x 1 14" x 14" galvanized angle on 4' centers, for duct through 60" use 3/8" rod and 2" x 2" x 1/8" galvanized

angle on 3' centers. 5. Contractor shall confirm duct routing with engineer prior to fabrication and field

B. GALVANIZED STEEL MEDIUM PRESSURE DUCT CONSTRUCTION

1. Medium pressure duct, 2" - 5" WG, or that duct in a VAV system between fan and terminal box shall be constructed of steel at least 2 U.S. gages heavier than specified for low pressure duct.

2. Test duct for leakage by applying a static pressure of at least 7" WG once the duct has been assembled but before terminals or fans are connected.

C. INSULATION

Wrap all ductwork with 'R' value 5.0 (minimum) duct wrap. 2. For ductwork routed in attics or non-conditioned space, provide duct wrap with total 'R' value of 8.0 (minimum) duct wrap.

2.3 CONDENSATE PIPING: Schedule 40 PVC

2.4 REFRIGERANT PIPING:

Copper, approved for use by unit manufacturers. Insulate suction line with Armoflex. Seal and paint insulation exposed to weather. Secure 5 feet on center.

All control wiring (120V and less) to be complete to all motorized equipment, and control devices listed in this specification and shown on the mechanical drawings, shall be done under Division 15. The Contractor shall refer to Electrical plans and specifications to determine the source of electrical energy for the various control circuits. All wiring shall be in conduit, shall conform with Division 16 of these specifications, all local codes, the National Electrical Code, and shall be installed by an approved licensed electrician. Wiring diagrams indicating wire sizes and conduit runs for all electrical work that is required to be installed under this contract shall be submitted to the Engineer for prior approval before work is begun. Upon completion of the work, the wiring diagrams shall be revised to incorporate any additions or corrections and two copies of the "as installed" diagrams shall be furnished to the Owner and one to the Engineer on reproducible sepia paper.

Wiring shown on electrical plans is for mechanical equipment scheduled. Any equipment provided by the Contractor that differs from that scheduled in electrical characteristics that requires additional voltage, electrical design and/or electrical cost changes shall be the responsibility of this Contractor. Any cost incurred for additional electrical design and/or electrical changes due to any equipment other than equipment scheduled, shall be the responsibility of this Contractor.

n general interlock wiring between pieces of mechanical equipment shall be done under Division 15M (Example: Exhaust fan interlock with air handling unit).

2.6 FOUNDATIONS: All concrete foundations anchor forms, or pads indicated on the drawings that may be necessary and required for the installation of equipment specified under this contract, shall be furnished and installed. Provide anchor bolts for the equipment foundations/pads. Equipment to receive pads are pumps, boiler and air cooled chiller.

2.7 MISCELLANEOUS STEEL SUPPORTS: All supporting steel grillage, steel angles, channels, pipe or structural steel stands, and anchoring devices that may be required to adequately and rigidly support either piping, insulation, or equipment installed under this contract, shall be provided and installed.

2.8 CHASES AND OPENINGS: Lay out all chases and openings, required for the execution of this work well in advance of the structural work. Provide thimbles in walls and partitions. Thimbles shall be standard weight galvanized steel pipe.

2.9 HVAC SYSTEM IDENTIFICATION:

A. Piping System: All piping installed under this division of the specifications shall be

B. Painting: Piping in mechanical rooms to be painted. Refer to "Painting Mechanical Work." C. Method of Marking: Colored stencil letter that designate the material being handled, shall be applied at not more than 15 foot intervals on straight pipe runs, adjacent to valves and where pipe passes through walls and floors. Piping shall be marked at all the equipment connections. All piping shall be identified.

D. Identification: Lettering shall be stenciled in block letters, size as scheduled below. Letters on covered (insulated) pipe shall be stenciled on covering. On uncovered pipe, painted bands shall be wide enough (See Table 1) to accommodate required letters. Letters shall be positioned so that it can be easily read by a man standing on the floor. Lettering on parallel groups of lines shall be neatly lined up. Surfaces of piping or insulation finished in dark colored shall be lettered in white; and that finished in light colors shall be lettered

Size of

Letter (Inches)

1/2

3/4

1-1/4

All lines also shall be marked with arrows indicating the direction of flow. TABLE 1

Outside Diameter of Pipe or Converting (Inches) Letter Size 1/2 to 1-1/4

schedule in glazed frames, and mount where directed.

1-1/2 to 2 2-1/2 to 8

All dimensions are given in inches.

2.10 VALVE IDENTIFICATION

A. Tags: Polished brass with 1/4" high stamp—engraved lettering, different shapes for each

generic piping service. B. Application: Tag every valve and control device in each mechanical-work piping system; exclude check valves, valves within equipment units, and valves in fan coil units. C. Valve Schedule: Prepare and submit valve tag schedules (in duplicate), listing each tagged

2.11 EQUIPMENT

A. Signs: Provide engraved plastic-laminate signs at locations of major equipment units and primary control devices. Provide text of sufficient clarity and lettering of sufficient size o convey adequate information at each location, and mount permanently in an appropriate

valve by location, service, and tag description. Install each page of one copy of the valve

and effective location. Comply with recognized industry standards for color and design. B. Selection: Refer to instances where either a plastic-laminate sign or plasticized tag might be appropriate to the Engineer for resolution.

2.12 ACCESSIBILITY:

A. No valves, controls, unions, etc., shall be placed in any pipe line at a location that will be inaccessible after the system is completed.

B. Any dampers, controls, valves and piping controls, expansion joints, or other apparatus which must be located in an inaccessible location shall be provided with suitable access doors (fitted in a framed hole) which will permit proper operation and servicing of the apparatus. Access doors aforementioned includes access doors in walls, ceilings, ductwork and, where required, a combination of above. Access doors to be piano hinged.

2.13 EXCAVATING FOR MECHANICAL WORK

A. General: The work of this article is defined to include whatever excavating and backfilling (but excluding insulating backfill) is necessary to install the mechanical work. Coordinate the work with other excavating and backfilling in the same area, including dewatering, floor protection provisions, and other temporary facilities. Coordinate the work with other work in the same area, including other underground services, landscape development, paving, and floor slabs on grade. Coordinate with weather conditions and provide temporary facilities needed for protection and proper performance of excavating and backfilling.

B. General Standards: Except as otherwise indicated, comply with the applicable provisions of the Division 2 sections, for mechanical work excavating and backfilling. Refer instances of uncertain applicability to the Engineer for resolution before proceeding.

C. Rock Excavation shall be defined as the removal of a formation that cannot be excavated without systematic drilling and blasting or without the use of pneumatic tools. All rock excavation/removal shall be performed by the General Contractor. The Plumbing. Mechanical, and Electrical subcontractors shall lay out their work and perform all normal or earth excavation. Should these subcontractors encounter rock (bulk or trench), it shall be removed by the General Contractor using allowable funds. The General Contractor shall be responsible for providing fill material for backfill of rock excavations. Rock may be used for structural fill provided it is broken down by the excavation and compaction equipment into particles with a maximum dimension of 6". Otherwise, it must be removed from the site and legally disposed of. Placement of rock in the fill or removal from the site shall be done by the General Contractor at no additional cost to the Owner.

D. Piping Support: Support pipe 4" and smaller directly on undisturbed soil. Support pipe " and larger, on compacted and shaped sub—base material of depth shown but not less than 6" deep. Compact previously disturbed and unsatisfactory subsoil to provide adequate, uniform support for mechanical work; or excavate and replace with stable sub-base material

E. Sequencing: Delay backfill and encasement of piping until testing of piping system has been

2.14 PAINTING HVAC WORK

A. General: All piping in the mechanical rooms (3) to be painted in the colors as scheduled hereinafter. Refer to Contract Documents for type of paint to be used. All other piping in building requires no painting other than the sizing of the insulation jackets. Contractor to provided color stenciling of piping for identification; touching up paint that is chipped or scratched from mechanical equipment supplied; and 2 coats of black rust preventative on all exposed support metal and hangers mounted outdoors and in mechanical rooms.

B. Cleaning: Exterior surfaces of piping, materials, or equipment that is to be painted or insulated shall be cleaned to remove lint, grease and oil. Ductwork, coils, fans and casing shall be cleaned on the inside before fans and filters are operated. After the equipment has been used for any purpose such as adjusting, testing, or

temporary ventilation, filters shall be cleaned or replaced, as necessary, and supply, exhaust and return ducts shall be cleaned. All coils are to be combed to remove lint All components of the mechanical systems shall be cleaned on outside of dust, trash, paint and masonry dropping, and left in first class condition. Belt drives shall be adjusted for proper tension and sheaves aligned. All motor and equipment bearings shall be lubricated as recommended by the individual manufacturer and oil reservoir shall be left full.

2.15 TESTS

A. Provide written test results to the Engineer. Provide one week notice prior to all tests. B. Adjustments shall be coordinated with cleaning and testing to assure equipment performance

The entire temperature control system shall be adjusted and placed in operation by the manufacturer. Readjustments necessary to accomplish the specified results during the first year of operation shall be made without cost to the Owner

Air duct systems shall be adjusted and balanced so that air quantities are regulated to deliver or remove the required cfm at each supply, return and exhaust terminal as specified or shown on the drawings. Distribution from air terminals shall be free from drafts, and uniform over the face of each air terminal.

Adjustments shall be made so that splitters and volume adjusters close to air terminals will have the least pressure drop consistent with volume requirements. Additional pressure drop required for balancing of shorter runs shall be obtained by adjustment of the dampers at branch duct take—offs. Adjusting fan drives shall be used for making final adjustments of total air auantities. Provide all labor and/or replacement and furnishing of extra sheaves of different sizes to accomplish the scheduled specified quantities.

Direct reading velocity meters may be used for comparative adjustment of individual air terminals, but air quantities in trunk ducts shall be measured by means of pitot tube traverses. Factory fabricated plugged or capped openings for pitot tubes shall be provided

Settings of dampers, splitters, and other volume adjusting devices shall be permanently marked so that they can be restored if disturbed at any time.

Record all fan static pressures, equipment rpm's and ammeter readings at each motor. C. General: Capacities of air handling unit, fans, and other related equipment shall be determined by operating tests of not less than eight hours duration, after stable conditions have been established

Tabulate the final readinas and analysis, and deliver four typewritten copies of the completed reports to the Engineers. The Contractor shall advise the Engineers in writing not less than 10 days in advance of when final testing and balancing will begin.

All labor and technical personnel, instruments and appliances for balancing and tests shall be furnished. If gauges, thermometers, etc., which are to be left permanently installed are used for tests, they shall not be installed until just prior to the tests to avoid possible changes in calibration.

Water and electricity will be furnished by the Owner for the final operating tests.

All unfired pressure vessels furnished under this division shall be constructed, inspected and stamped in accordance with applicable sections of the ASME Codes. Data shall include inspector's National Board registration number.

3. PART 3 HVAC WORK CLOSEOUT

3.1 General: Refer to the Division 1 sections for general closeout requirements. Maintain a daily log of operational data on mechanical equipment and systems through the closeout period; record hours of operation, assigned personnel, fuel consumption and similar information; submit copy

3.2 Record Drawings: For HVAC work, give special attention to the complete and accurate recording of underground piping, ductwork, other concealed and non-accessible work, branching arrangement and valve location for piping systems, locations of dampers and coils in duct systems. locations of control system sensors and other control devices, and work of change orders where not shown accurately by contract documents. Submit to Engineer at end of project one set of reproducible sepias that show all recorded changes in the mechanical work.

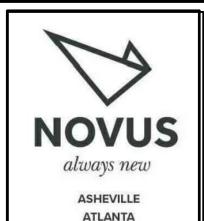
3.3 Closeout Equipment/Systems Operations: Sequence operations properly so that work of project will not be damaged or endangered. Coordinate with seasonal requirements. Operation each item of equipment and each system in a test run of appropriate duration (with the Engineer present, and with the Owner's operating personnel present), to demonstrate sustained, satisfactory performance. Adjust and correct operations as required for proper performance. Clean and lubricate each system, and replace dirty filters, excessively worn parts and similar expendable

3.4 Operating Instructions: Conduct a day walk-through instruction seminar for the Owner's personnel to be involved in the continued operation and maintenance of mechanical equipment and systems. Explain the identification system, operation diagrams, emergency and alarm provisions, sequencing requirements, seasonal provisions, security, safety, efficiency, and similar features of the systems.

3.5 Training: Contractor to provide training on all major equipment, controls, etc., as part of the

3.6 Turn-Over of Operations: At the time of substantial completion, turn over the prime responsibility for operation of the mechanical equipment and systems to the Owner's operating personnel. However, until the time of final acceptance, provide one full-time employee, who is completely familiar with the work, to consult with and continue training with the Owner's personnel.

END OF SECTION

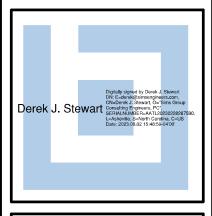


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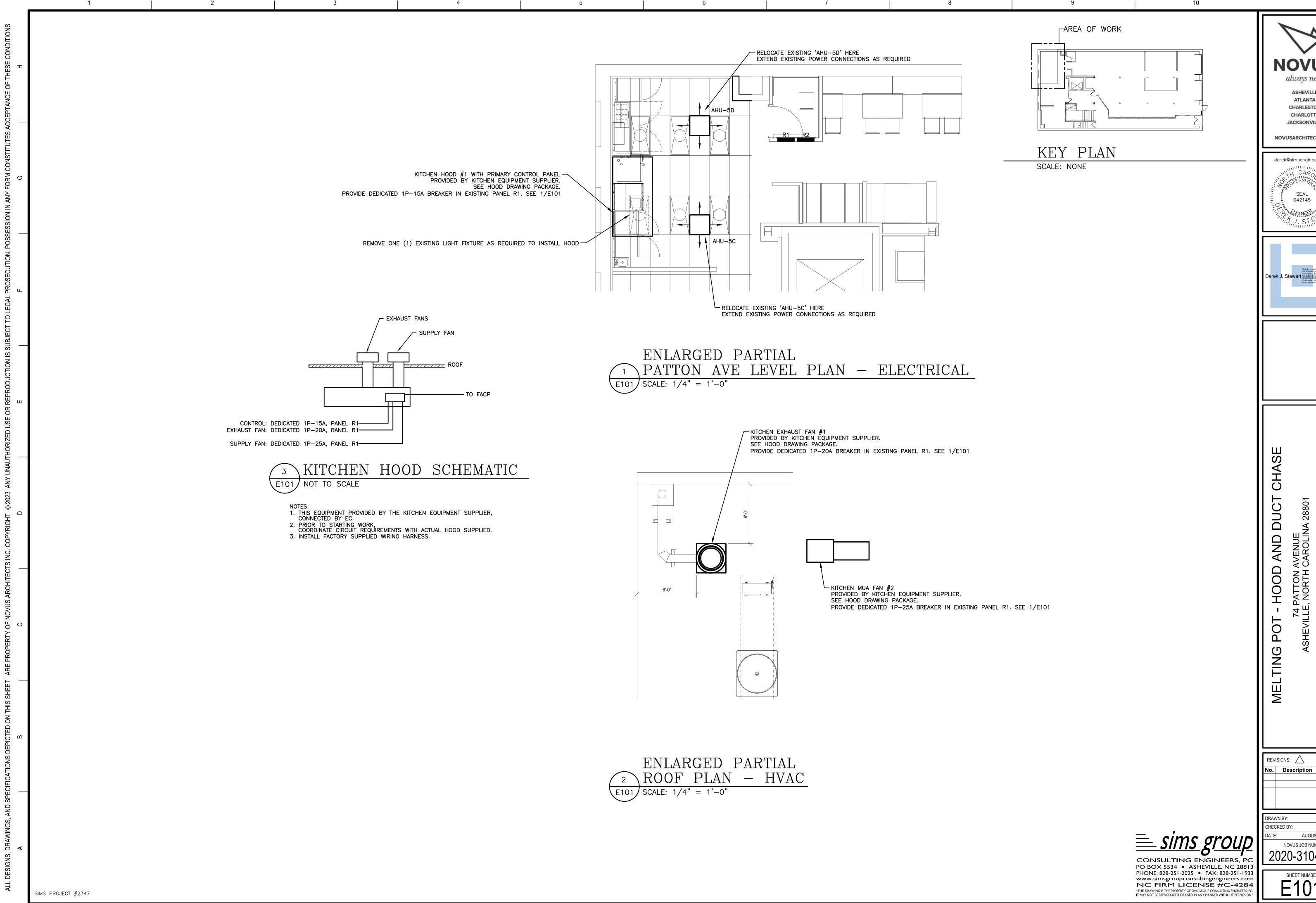
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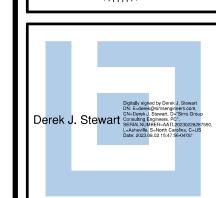
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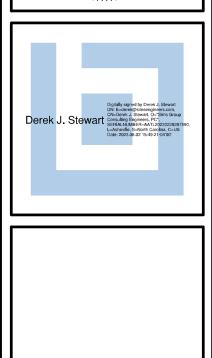
PANEL SCHEDULE LOCATION: KITCHEN OFFICE PANEL DESIGNATION: VOLTAGE RATING: 208Y/120 BUS RATING: 100A AMPS MCB (100A) PHASE: 3 NO. OF WIRES: 4 NEMA 1 ENCLOSURE FLUSH MOUNT OTHER REQTS:

1. COPPER BUS.

2. BOLT-ON C/B. INTERRUPTING RATING: SPECIAL FEATURES: PRL1a FULLY RATED LOAD LOAD LIGHTING, KITCHEN P.O.S. TERMINAL (76) LIGHTING EXTERIOR P.O.S. TERMINAL (82) LIGHTING P.O.S. TERMINAL (82) LIGHTING P.O.S. TERMINAL (82) 9 LIGHTING ORDER TOUCHSCREEN (77) 1 LIGHTING ORDER TOUCHSCREEN (77) 3 RECEPTACLE, TTB RECEPTACLES, DINING AREA RECEPTACLE, TTB RECEPTACLES, DINING AREA HARDWIRED POWER STRIP IN OFFICE RECEPTACLES, DINING AREA TV'S IN BAR RECEPTACLES, DINING AREA V ABOVE POS RECEPTACLE FOR DJ EQUIPMENT GARAGE DOOR EXTERIOR SIGNAGE GARAGE DOOR SPARE SPARE 7 | SPARE 29 PREPARED SPACE 5 PREPARED SPACE 37 | HOOD #1 CONTROLS PREPARED SPACE 39 HOOD EF #1 PREPARED SPACE 41 HOOD MUA #2 PREPARED SPACE 2800 2400 2400 TOTAL CONNECTED LOAD 7,600 VA 22 AMP CONSULTING ENGINEERS, PC
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SECTION 16010 BASIC ELECTRICAL REQUIREMENTS 1. PART 1 GENERAL 2. PART 2 GENERAL DESCRIPTION OF WORK 2.1 Coordinate work with other Trades. 1.1 SECTION INCLUDES 2.2 General: A. Basic Electrical Requirements specifically applicable to Division 16 in addition to A. Provide all luminaires, wiring devices, conductors, switches, disconnects, fuses, fire alarm Division 1 - General Requirements. system, and other required materials. Coordinate electrical requirements for equipment supplied by other trades prior to ordering electrical materials. B. Provide U.L. listed Fire—Stop penetrations through rated assemblies. See Architectural 1.2 SCOPE OF WORK life safety plans to locate rated assemblies. C. Identify major equipment with engraved Lamacoid labels. A. Provide electric meter, electric service, power distribution equipment, conductors, luminaires, wiring D. Provide typed panelboard directories. devices, fire alarm system, and other required materials and labor to produce a complete and operating electrical system. Coordinate service with utility and advise owner of service application procedure. E. Gang mount switches. Provide continuous switchplate. Provide conductors and conduit for all equipment in project. F. Electrical Contractor shall provide all penetrations and patching required to install Provide conduit with pull cords for HVAC control circuits. electrical work. G. Support all luminaires, materials, and equipment from building structure. B. Obtain all permits, pay all fees, and request inspection from authority having jurisdiction. H. Install all materials and equipment in accordance with manufacturer's instructions. C. All work and materials shall be guaranteed for one year from date of substantial completion. I. Telephone service shall meet the requirements of and be coordinated with Utility. J. Electrical service shall meet the requirements of and be coordinated with Utility. D. Provide temporary power during construction. K. Panelboards shall have copper bus unless otherwise noted. L. Electrical circuits shall not share neutrals unless otherwise noted. 1.3 WORK SEQUENCE 2.3 Design Requirements vs. Code Minimum Requirements. A. Coordinate construction and utility outages (if any) with Owner, all other trades, A. Some of the design requirements stated for this project exceed the minimum requirements and utility companies. After—hours work may be required to interrupt service. of the NEC. These decisions are usually made in order to: B. Notify Engineer of discrepancies in the Contract Documents. 1. Increase reliability of the system. C. E-Mail questions or comments to derek@simsengineers.com or fax (828-251-1933) 2. Increase service life of system components. in lieu of telephone calls. 3. Enhance system safety beyond the minimum requirements of the NEC. B. Design requirements that may exceed NEC minimum are most often associated with the 1.4 REGULATORY REQUIREMENTS 1. Insulation type A. Conform to applicable State and Local Building Codes. 2. Conductor size. B. Fire Alarm: NFPA 72. C. Electrical: NFPA 70. 3. Conduit type. D. Life Safety Code, NFPA 101. 4. Conduit couplings. E. The Contractor shall install all materials in accordance with State and Local Building Code. 5. Size of equipment grounding conductor. See NEC section 250.4A5. Any work that does not comply shall be made to comply at the contractor's expense. 3. PART 3 CONDUCTORS & CONDUIT F. All equipment shall be UL or ETL listed for purpose specified. 3.1 Conductors: 1.5 PROJECT/SITE CONDITIONS A. Unless otherwise noted on plans: 1. Conductors above grade shall be THWN-2 copper. A. Install Work in locations shown on Drawings, unless prevented by Project conditions. 2. Conductors underground or under slab shall be XHHW copper. B. Prepare record drawings showing proposed rearrangement of Work to meet Project B. All conductors shall be in conduit or other approved raceway. conditions, including changes to Work specified in other Sections. Obtain permission of Architect/Engineer before proceeding. Submit all changes on Record Documents as a C. Provide EGC (equipment grounding conductor) with all circuits. Some EGCs requirement of Project Closeout. are sized larger than the NEC minimum. This is done in order to reduce the probability of EGCs being damaged during ground faults. C. Refer to Architectural Drawings for dimensions, locations, cabinets, etc. Do not scale D. Conductors smaller than #8 AWG shall be solid. E. Approved manufacturers. (No other manufacturer's products are permitted.) D. Conceal all materials except where the Architect grants specific permission to do ENCORE WIRE SOUTHWIRE E. Arrange electrical work in a neat, well organized manner. Conduit shall run parallel with GENERAL CABLE primary lines of the building construction. OKONITE CERROWIRE F. Locate operating and control equipment with adequate access for operation and maintenance. F. Line—voltage conductors shall not be smaller than #12 AWG. G. Give right-of-way to piping which must slope for drainage. G. Branch circuits longer than 75 feet shall be wired with conductors #10 AWG H. Advise other trades of openings required in their work for the subsequent move—in of large or larger. 3.2 Conduit and Raceway: I. Coordination Drawings: For locations where several elements of electrical (or combined A. Above grade: EMT with compression-type steel couplings and connectors. mechanical and electrical) work must be sequenced and positioned with precision in order to fit into the available space, prepare coordination drawings showing the actual dimensions B. Below grade: Schedule 40 PVC with Schedule 80 PVC risers. C. Raceway Seal: Where a raceway enters a building or structure from an underground distribution required for the installation. system, it shall be sealed in accordance with NEC 300.5(G). Spare or unused raceways shall Sealant shall be American Polywater FST or equivalent 1.6 SUBSTITUTIONS: D. Conduit shall be trade size 3/4" minimum unless otherwise noted. Exceptions: control wiring, 120V receptacles, and switches may use trade size 1/2" if sized per NEC. E. Type MC Cable with copper conductors and green ground may be used for concealed branch circuits. The purpose of specifying equipment by catalog number is to establish quality standards, not Redhead bushings shall be provided at each termination. necessarily to limit submittals. Substitutions may be accepted if approved as equivalent. Contact F. Support conduit from building structure with threaded rods and hangers, trapeze hangers, channel engineer prior to bid with any questions. If substitutes are not submitted within 14 days after the and clamps, or other approved method. bid is accepted, then the equipment shall be provided as specified. Contractor submitting substitutions shall be responsible for any additional cost resulting from the substitution. 4. PART 4 DOCUMENTS AND SUBMITTALS 4.1 SUBMITTALS 1.7 EXCAVATING FOR ELECTRICAL WORK A. Submit under provisions of Contract Documents. B. Identify items with marks to match those shown on drawings. A. General: The work of this article is defined to include whatever excavating and backfilling is necessary to install the electrical work. The contractor shall coordinate the C. Architect shall approve all colors. work with other excavating and backfilling in the same area, including dewatering, floor protection provisions, and other temporary facilities. Coordinate the work with other work D. All submittals shall have the Contractor's stamp with approval signature. in the same area, including other underground services, landscape development, paving, and E. Highlight deviations from specified materials. floor slabs on grade. Coordinate with weather conditions and provide temporary facilities needed for protection and proper performance of excavating and backfilling. F. Product Data: 6 sets, including 3 sets for maintenance manuals. Data shall include the following: B. General Standards: Except as otherwise indicated, comply with the applicable provisions Luminaires of the Division 2 sections, for plumbing work excavating and backfilling. Refer instances of uncertain applicability to the Engineer for resolution before proceeding. Wiring Devices Panelboards C. Rock Excavation shall be defined as the removal of a formation that cannot be excavated Safety Switches without systematic drilling and blasting or without the use of pneumatic tools. All rock Surge Protective Devices (SPDs) excavation/removal shall be performed by the General Contractor. Fire Alarm System The Electrical subcontractor shall lay out his work and perform all normal excavation. If rock is encountered, it shall be removed by the General Contractor. G. Test Reports (if required): 3 copies The General Contractor shall be responsible for providing backfill material. H. Warranties: 6 copies, including 3 for maintenance manuals. D. Sequencing: Delay backfill and encasement of conduit until testing of conductors has been I. Maintenance Manuals: 3 complete sets in loose—leaf 3—ring binders, completed. with rigid permanent vinyl covered back and front. Separators with index tabs shall be provided. One set shall have all sheets individually encased in clear, plastic document

4.2 CONTROL DATA: Provide control diagrams and wiring diagrams where applicable; include description of control systems, catalog data, and calibration instructions for all Provide name and address of Controls manufacturer and installer.

4.3 MAINTENANCE INSTRUCTION: Typewritten instructions for maintenance of the systems in itemized form and with time schedule shall be furnished. The instructions shall list each item of equipment requiring inspection, lubrication, or other service. The operating personnel shall be instructed regarding each maintenance procedure.

5. PART 5 ELECTRICAL WORK CLOSEOUT

5.1 General: Refer to the Division 1 sections for general closeout requirements. Maintain a daily log of operational data on electrical equipment and systems through the closeout period; record hours of operation, assigned personnel, fuel consumption, etc. Submit copy to Owner.

5.2 Record Drawings: Give special attention to the complete and accurate recording of underground circuits, and other concealed or non-accessible work. Record change orders where not shown accurately by contract documents. Submit to Architect/Engineer at end of project one set of reproducible sepias that show all changes in the electrical work.

5.3 Closeout Equipment/Systems Operations: Contractor shall demonstrate sustained, satisfactory performance of all equipment and systems in a test run of appropriate duration. The Owner's operating personnel shall be present. Adjust or correct equipment as required for proper performance. Clean equipment and luminaires.

5.4 Operating Instructions: Conduct a walk—through instruction seminar for the Owner's personnel. Explain the identification system, operation diagrams, emergency and alarm provisions, and sequencing requirements. Also explain requirements related to: seasonal provisions, security, safety, and efficiency.

5.5 Training: Contractor shall provide training on all major equipment, controls, etc, as part of the

5.6 Turn-Over of Operations: At the time of substantial completion, turn over the prime responsibility for operation of the electrical equipment and systems to the Owner's operating personnel. However, until the time of final acceptance, provide one electrician, who is completely familiar with the work, to consult with and continue training the Owner's personnel

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DRAWN BY: CHECKED BY: AUGUST 03, 2023 **NOVUS JOB NUMBER**

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