ONSLOW MEMORIAL HEALTH
INTERIOR UPFIT



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11/21/2025

Onslow MEMORIAL HOSPITAL
An Affiliate of UNC Health

DRAWING SUMMARY

11.21.2025 PERMIT SET

COVER SHEETS

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CS2.2	2ND FLOOR LIFE SAFETY PLAN
CS3.0	SPECIFICATIONS
CS4.0	TYPICAL ANSI DETAILS
CS5.0	WALL TYPES & DETAILS

STRUCTURAL

S0.01	GENERAL NOTES
S1.01	FOUNDATION PLAN
S1.02	2ND FLOOR FRAMING PLAN
S1.03	ROOF FRAMING PLAN

ARCHITECTURAL

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A1.1	DIMENSION PLANS
A1.2	1ST FLOOR KEY PLAN
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A3.1	1ST FLOOR DOOR SCHEDULE
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A3.4	AD DOOR DETAILS & ACCESSORIES
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A5.1	FLOOR FINISH PLAN
A5.2	WALL FINISH PLAN
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A8.1	SECTIONS & DETAILS
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P1.0	OVERALL PLUMBING NEW WORK PLAN -UNDERGROUND & ROOF
P1.1	OVERALL PLUMBING NEW WORK PLANS -SANITARY & VENT -LEVEL 1 & 2
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M0.3	MECHANICAL ZONE PLAN
M1.0	MECHANICAL NEW WORK PLAN -OVERALL PLANS
M1.1	MECHANICAL NEW WORK PLAN -LEVEL 1 AREA A
M1.2	MECHANICAL NEW WORK PLAN -LEVEL 1 AREA B
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M5.1	MECHANICAL DETAILS
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E1.0	ELECTRICAL POWER PLAN – LEVEL 1
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FP0.0	FIRE PROTECTION LEGEND, GENERAL NOTES, AND ABBREVIATIONS
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FP01.0	FIRE PROTECTION DEMOLITION
FP1.0	FIRE PROTECTION EXISTING
FP1.1	FIRE PROTECTION NEW WORK
FP6.0	FIRE PROTECTION DETAILS

PROJECT #: RDU 25-065

CS1.0

APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2 - FAMILY DWELLINGS AND TOWNHOUSES)

A. PROJECT INFORMATION
NAME OF PROJECT: ONSLOW MEMORIAL HEALTH ZIP CODE: 28540
ADDRESS: 172 NORTHWEST CORRIDOR BLVD
OWNER/AUTHORIZED AGENT: JENNIFER MERRITT PHONE: 919.878.1660 EMAIL: JMERRITT@REDLINEDG.COM
OWNED BY: ☐ CITY ☐ COUNTY ☐ STATE ■ PRIVATE
CODE ENFORCEMENT JURISDICTION: ☐ CITY ■ COUNTY ☐ STATE

B. DESIGN PROFESSIONAL INFORMATION
CONTACT: REDLINE DESIGN GROUP - EMAIL: JMERRITT@REDLINEDG.COM

DESIGNER	FIRM	NAME	LICENSE	PHONE	EMAIL
ARCHITECTURAL	REDLINE DESIGN GROUP	BRIAN BAILEY	12307	704.377.2990	BBAILEY@REDLINEDG.COM
CIVIL					
ELECTRICAL	EXP SERVICES	ANASTASIYA SMURYGINA	044840	628.213.1898	ANASTASIYA.SMURYGINA@EXP.COM
FIRE ALARM	EXP SERVICES	ANASTASIYA SMURYGINA	044840	628.213.1898	ANASTASIYA.SMURYGINA@EXP.COM
PLUMBING	EXP SERVICES	ANDREW BARKER	038551	628.213.1898	ANDREW.BAKER@EXP.COM
MECHANICAL	EXP SERVICES	ANDREW BARKER	038551	628.213.1898	ANDREW.BAKER@EXP.COM
SPRINKLER-STANDPIPE	EXP SERVICES	ANDREW BARKER	038551	628.213.1898	ANDREW.BAKER@EXP.COM
STRUCTURAL	KAYDOS-DANIELS	ANDREW WARNKE		919.828.4966	ANDREW@KAYDOS-DANIELS.COM
RETAIN. WALLS <5' HIGH					
OTHER					

C. CODE DATA
2018 NC BUILDING CODE: (SELECT ONE):
☐ NEW BUILDING ☐ ADDITION ☐ RENOVATION ■ FIRST TIME INTERIOR COMPLETION
☐ SHELL/CORE - CONTACT THE LOCAL INSPECTION JURISDICTION FOR POSSIBLE ADDITIONAL PROCEDURES AND REQUIREMENTS
☐ PHASED CONSTRUCTION - SHELL/CORE- CONTACT THE LOCAL INSPECTION JURISDICTION OR POSSIBLE ADDITIONAL PROCEDURES AND REQUIREMENTS

2018 NC EXISTING BUILDING CODE: EXISTING:
(SELECT ONE): ■ N/A ☐ PRESCRIPTIVE ☐ REPAIR ☐ CHAPTER 14 ☐ ALTERATION LEVEL I ☐ ALTERATION LEVEL II ☐ ALTERATION LEVEL III ☐ HISTORIC PROPERTY ☐ CHANGE OF USE
(SELECT ONE): ■ N/A ☐ REPAIR
(SELECT ONE): ■ N/A ☐ HISTORIC PROPERTY ☐ CHANGE OF USE

CONSTRUCTED (DATE): N/A
RENOVATED (DATE): N/A
CURRENT OCCUPANCY(S) (CH. 3): N/A
PROPOSED OCCUPANCY (S) (CH.3): N/A
RISK CATEGORY (TABLE 1604.5): CURRENT: ■ N/A ☐ I ☐ II ☐ III ☐ IV PROPOSED: ☐ N/A ☐ I ■ II ☐ III ☐ IV

D. BASIC BUILDING DATA
CONSTRUCTION TYPE (SELECT ONE): ☐ I-A ☐ I-B ☐ II-A ■ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☐ V-B

SPRINKLERS: (SELECT ONE) ☐ N/A ■ YES ☐ NO ☐ PARTIAL
(SELECT ONE) ☐ N/A ■ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

STANDPIPES (SELECT ONE): ☐ N/A ■ NO ■ CLASS I - WET ☐ CLASS I - DRY ☐ CLASS II - WET ☐ CLASS II - DRY ☐ CLASS III - WET ☐ CLASS III - DRY

PRIMARY FIRE DISTRICT (SELECT ONE): ■ YES ☐ NO

FLOOD HAZARD AREA (SELECT ONE): ☐ YES ■ NO

SPECIAL INSPECTIONS REQUIRED: ☐ YES (CONTACT THE LOCAL INSPECTION JURISDICTION FOR ADDITIONAL PROCEDURES AND REQUIREMENTS). ■ NO

GROSS BUILDING AREA TABLE			
FLOOR	**EXISTING (SF)**	**NEW (SF)**	**SUB-TOTAL**
FIRST FLOOR	17,969 SF		
SECOND FLOOR	18,352 SF		
TOTAL	N/A		

E. ALLOWABLE AREA
PRIMARY OCCUPANCY CLASSIFICATION(S):
☐ ASSEMBLY A-1 ☐ ASSEMBLY A-2 ☐ ASSEMBLY A-3
☐ ASSEMBLY A-4 ☐ ASSEMBLY A-5 ■ BUSINESS
☐ EDUCATIONAL ☐ FACTORY F-1 ☐ FACTORY F-2
☐ HAZARDOUS-1 DETONATE ☐ HAZARDOUS H-2 DEFLAGRATE ☐ HAZARDOUS-3 COMBUST
☐ HAZARDOUS H-4 HEALTH ☐ HAZARDOUS H-5 HPM ☐ INSTITUTIONAL I-1 CONDITION 1
☐ INSTITUTIONAL I-1 CONDITION 2 ☐ INSTITUTIONAL I-2-CONDITION 1 ☐ INSTITUTIONAL I-2 CONDITION 2
☐ INSTITUTIONAL I-3 CONDITION 1 ☐ INSTITUTIONAL I-3 CONDITION 2 ☐ INSTITUTIONAL I-3 CONDITION 3
☐ INSTITUTIONAL I-3 CONDITION 4 ☐ INSTITUTIONAL I-3 CONDITION 5 ☐ INSTITUTIONAL I-4
☐ MERCANTILE ☐ RESIDENTIAL R-1 ☐ RESIDENTIAL R-2
☐ RESIDENTIAL R-3 ☐ RESIDENTIAL R-4 ☐ STORAGE S-1
☐ STORAGE S-1 HIGH PILE ☐ STORAGE S-2 ☐ STORAGE S-2 HIGH-PILED
☐ STORAGE PKNG. GARAGE (OPEN) ☐ STORAGE PARKING GARAGE (ENCLOSED) ☐ STORAGE REPAIR GARAGE
☐ UTILITY AND MISC.

ACCESSORY OCCUPANCY CLASSIFICATIONS(S): N/A
INCIDENTAL USES (TABLE 509): N/A
SPECIAL USES (CHAPTER 4 - LIST CODE SECTIONS): N/A
SPECIAL PROVISIONS: (CHAPTER 5 - LIST CODE SECTIONS): N/A

MIXED OCCUPANCY: ■ NO ☐ YES
SEPARATION (SELECT ONE): ☐ 1 HOUR ☐ 2 HOUR ☐ 3 HOUR ☐ 4 HOUR
EXCEPTION:
☐ NON-SEPARATED USE (508.3)
☐ SEPARATED USE (508.4) - SEE BELOW FOR AREA CALCULATIONS FOR EACH STORY, THE AREA OF THE OCCUPANCY SHALL BE SUCH THAT THE SUM OF THE RATIOS OF THE ACTUAL FLOOR AREA OF EACH USE DIVIDED BY THE ALLOWABLE FLOOR AREA FOR EACH USE SHALL NOT EXCEED 1.

ACTUAL AREA OF OCC / ALLOWABLE AREA OF OCC. A + ACTUAL AREA OF OCC. B / ALLOWABLE AREA OF OCC. B ≤1
_____ + _____ + ... = ≤1.0

STORY NO.	DESCRIPTION AND USE	(A) BLDG. AREA PER STORY (ACTUAL)	(B) TABLE 506.2 (4) AREA	(C) AREA FOR FRONTAGE INCREASE (1,5)	(D) ALLOWABLE AREA PER STORY OR UNLIMITED (2,3)
FIRST FLOOR	XXX	###,### SF	###,### SF	-	###,### SF

1. FRONTAGE INCREASES FROM SECTION 506.3 ARE COMPUTED THUS:
   A. PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE HAVING 20 FT. MIN. WIDTH = ## (F)
   B. TOTAL PERIMETER = ## (P)
   C. RATIO (F/P) = ## (F/P)
   D. W = MINIMUM WIDTH OF PUBLIC WAY = ## (W)
   E. PERCENT OF FRONTAGE INCREASE I(F) = 100(F/P - 0.25) X W/30 = ## (%)
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

F. ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
BUILDING HEIGHT IN FEET (TABLE 504.3)	75'	33'-4"	
BUILDING HEIGHT IN STORIES (TABLE 504.4)	4	2	

G. FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D.	RATING PROVIDED (W/XXX * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
STRUCTURAL FRAME, INCLUDING COLUMNS, GIRDERS, & TRUSSES		-	-	-	-	-	-
BEARING WALLS							
EXTERIOR	-	-	-	-	-	-	-
NORTH	-	-	-	-	-	-	-
SOUTH	-	-	-	-	-	-	-
EAST	-	-	-	-	-	-	-
WEST	-	-	-	-	-	-	-
INTERIOR		-	-	-	-	-	-
NONBEARING WALLS & PARTITIONS EXTERIOR WALLS							
NORTH	-	-	-	-	-	-	-
SOUTH	-	-	-	-	-	-	-
EAST	-	-	-	-	-	-	-
WEST	-	-	-	-	-	-	-
INTERIOR WALLS & PARTITIONS		-	-	-	-	-	-
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS		-	-	-	-	-	-
FLOOR CEILING ASSEMBLY		-	-	-	-	-	-
COLUMNS SUPPORTING FLOORS		-	-	-	-	-	-
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS & JOISTS		-	-	-	-	-	-
ROOF CEILING ASSEMBLY		-	-	-	-	-	-
COLUMNS SUPPORTING ROOF		-	-	-	-	-	-
SHAFT ENCLOSURES - EXIT		1HR	1HR	CS2.0	UL-U419	-	-
SHAFT ENCLOSURES - OTHER		1HR	1HR	CS2.0	UL-U419	-	-
CORRIDOR SEPARATION		-	-	-	-	-	-
OCCUPANCY/FIRE BARRIER SEPARATION		-	-	-	-	-	-
PARTY/FIRE WALL SEPARATION		-	-	-	-	-	-
SMOKE BARRIER SEPARATION		-	-	-	-	-	-
SMOKE PARTITION		-	-	-	-	-	-
TENANT/DWELLING UNIT/ SLEEPING UNIT SEPARATION		-	-	-	-	-	-
INCIDENTAL USE SEPARATION		-	-	-	-	-	-

* INDICATE SECTION NUMBER PERMITTING REDUCTION

H. PERCENTAGE OF WALL OPENINGS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINE	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
-	-	-	-

I. LIFE SAFETY SYSTEM REQUIREMENTS
EMERGENCY LIGHTING: ■ YES ☐ NO
EXIT SIGNS: ■ YES ☐ NO
FIRE ALARM: ■ YES ☐ NO
SMOKE DETECTION SYSTEMS: ■ YES ☐ NO ☐ PARTIAL
CARBON MONOXIDE DETECTION: ☐ YES ■ NO

J. LIFE SAFETY PLAN REQUIREMENTS
LIFE SAFETY PLAN SHEET #: CS2.0

☐ YES ☐ N/A FIRE AND/OR SMOKE RATED WALL LOCATIONS (CHAPTER 7)
☐ YES ☐ N/A ASSUMED AND REAL PROPERTY LINE LOCATIONS (IF NOT ON THE SITE PLAN)
☐ YES ☐ N/A EXTERIOR WALL OPENING AREA WITH RESPECT TO DISTANCE TO ASSUMED PROPERTY LINES (705.8)
■ YES ☐ N/A OCCUPANCY USE FOR EACH AREA AS IT RELATES TO OCCUPANT LOAD CALCULATION (TABLE 1004.1.2)
■ YES ☐ N/A OCCUPANT LOADS FOR EACH AREA
■ YES ☐ N/A EXIT SIGN LOCATIONS (1013)
■ YES ☐ N/A EXIT ACCESS TRAVEL DISTANCES (1017)
■ YES ☐ N/A COMMON PATH OF TRAVEL DISTANCES (TABLES 1006.2.1 & 1006.3.2(1))
☐ YES ☐ N/A DEAD END LENGTHS (1020.4)
■ YES ☐ N/A CLEAR EXIT WIDTHS FOR EACH EXIT DOOR
■ YES ☐ N/A MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY FOR EACH EXIT DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH (1005.3)
■ YES ☐ N/A ACTUAL OCCUPANT LOAD FOR EACH EXIT DOOR
☐ YES ☐ N/A A SEPARATE SCHEMATIC PLAN INDICATING WHERE FIRE RATED FLOOR/CEILING AND/OR ROOF STRUCTURE IS PROVIDED FOR PURPOSES OF OCCUPANCY SEPARATION
☐ YES ☐ N/A LOCATION OF DOORS WITH PANIC HARDWARE (1010.1.10)
☐ YES ☐ N/A LOCATION OF DOORS WITH DELAYED EGRESS LOCKS AND THE AMOUNT OF DELAY (1010.1.9.7)
☐ YES ☐ N/A LOCATION OF DOORS WITH ELECTROMAGNETIC EGRESS LOCKS (1010.1.9.9)
☐ YES ☐ N/A LOCATION OF DOORS EQUIPPED WITH HOLD OPEN DEVICES
☐ YES ☐ N/A LOCATION OF EMERGENCY ESCAPE WINDOWS (1030)
☐ YES ☐ N/A THE SQUARE FOOTAGE OF EACH FIRE AREA (202)
☐ YES ☐ N/A THE SQUARE FOOTAGE OF EACH SMOKE COMPARTMENT FOR OCCUPANCY CLASSIFICATIONS I-2 (407.5)
☐ YES ☐ N/A NOTE ANY CODE EXCEPTIONS OR TABLE NOTES THAT MAY HAVE BEEN UTILIZED REGARDING THE ITEMS ABOVE

K. ACCESSIBLE DWELLING UNITS (NOT APPLICABLE)
(SECTION 1107)

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

L. ACCESSIBLE PARKING
(SECTION 1106)

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

M. PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS			URINALS	LAVATORIES			SHOWERS/ TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
SPACE	EXIST'G	-	-	-	-	-	-	-	-	-	-
	NEW	-	-	24	-	-	-	24	1	2	2
	REQ'D	-	-	9	1	-	-	6	N/A	2	2

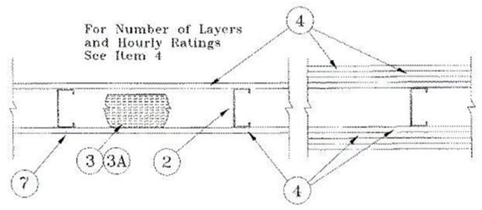
* REQUIRED TOILET COUNT FOR MALE / FEMALE PROVIDE WITH UNISEX TOILET ROOMS.

N. SPECIAL APPROVALS
SPECIAL APPROVAL: (LOCAL JURISDICTION, DEPARTMENT OF INSURANCE, OSC, DPI,DHHS, ETC., DESCRIBE BELOW)
N/A

Design No. U419

September 21, 2000

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



1. Floor and Ceiling Runners (Not shown) — Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

2. Steel Studs Channel shaped, fabricated from min 25 MSG (min 20 MSG when Item 4A is used) corrosion-protected steel, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

3. Batts and Blankets[a] (Required as indicated under Item 4) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 4. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

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

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

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

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

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

UNITED STATES GYPSUM CO — Type FRX

4B. Gypsum Board[a] (As an alternate to Items 4 and 4A) — 5/8 in. thick, 2 ft. wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 5. Joint covering (Item 7) not required.
CANADIAN GYPSUM COMPANY — Type SHX.

UNITED STATES GYPSUM CO — Type SHX.
YESO PANAMERICANO S A DE C V — Type SHX.

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

6. Furring Channels (Optional, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 4A.

7. Joint Tape and Compound Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer panels.

8. Siding, Brick or Stucco (Optional, not shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

9. Caulking and Sealants[a] (Optional, not shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO — Type AS

[a]Bearing the UL Classification Marking

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An Affiliate of UNC Health
317 Western Blvd, Jacksonville, NC 28546
(910) 577-2345

Med Spa
Lab and Imaging
Audiology and Otolaryngology
Pulmonology
Surgery
Dermatology

October 20, 2025

Re: UNC Onslow MOB

This new facility located at 172 Northwest Corridor Boulevard, Jacksonville, NC 28456 will be a general care clinic. This clinic will not provide critical care or employ the use of life support equipment. There are no anesthetizing services in this clinic. No one receives any type of medications or procedure in which they could not immediately get up and walk out of the clinic without assistance in the event of an emergency.

Penney Burlingame Deal

Penney Burlingame Deal, DHA, RN, FACHE
President and Chief Executive Offiier
Onslow Memorial Hospital

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CHARLOTTE, N.C.

NORTH CAROLINA REGISTERED SEAL 12307 ARCHITECT BRIAN R. BAILEY
11/21/2025

Onslow MEMORIAL HOSPITAL
An Affiliate of UNC Health

ONSLOW MEMORIAL HEALTH

172 NORTHWEST CORRIDOR BLVD
JACKSONVILLE, NC 28546

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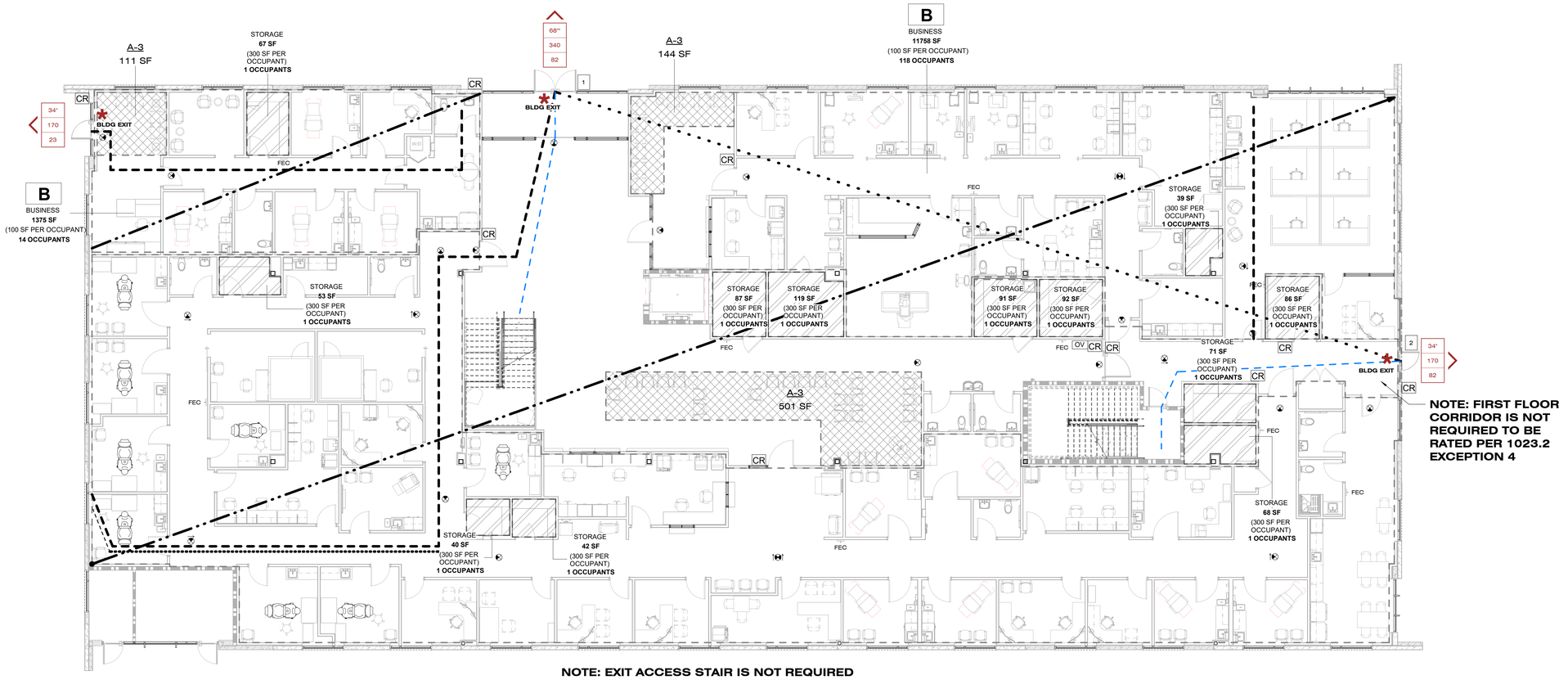
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ARCH. PROJECT # RDU 25-065

CODE SUMMARY

SCALE: NOT TO SCALE

SHEET # **CS2.0**



NOTE: FIRST FLOOR CORRIDOR IS NOT REQUIRED TO BE RATED PER 1023.2 EXCEPTION 4

NOTE: EXIT ACCESS STAIR IS NOT REQUIRED TO BE FIRE RATED PER 1019.3, ITEM 1

1 1ST FLOOR LIFE SAFETY PLAN
SCALE:1/8" = 1'-0"

MOB EXIT REQUIREMENTS - REQUIRED FOR ALL PROJECTS
NUMBER & ARRANGMENT OF EXITS (1022.1)

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM # OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS (1007.1.1)	
	REQUIRED (T1006.3.1) (T1006.2.1 - 1 EXIT)	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
UNC ONSLOW CLINIC	2	2	300'-0"	143'-0"	46'-6"	142'-0"
MED SPA	1	1	300'-0"	74'-6"	--	--

LIFE SAFETY LEGEND: SPRINKLERED

EXIT #	LIFE SAFETY DOOR TAG EXIT
	TRAVEL DISTANCE CONTINUING FROM 2ND FLOOR
A	LONGEST DIAGONAL: **220'- 7"**
B	ACTUAL SEPARATION REQUIRED (> 1/3" SPRINKLED THE LONGEST DIAGONAL: **73'-6"**
C	ACTUAL TRAVEL DISTRANCE: **146'-6"** (MAX. ALLOWABLE TRAVEL DISTANCE = 300')
D	ACTUAL COMMON PATH OF TRAVEL: **58'- 0"** (MAX ALLOWABLE COMMON PATH OF TRAVEL=100')
E	DEAD END: **N/A** (MAX ALLOWABLE 50'-0")
FEC	**FEC** NEW FIRE EXTINGUISHER IN SEMI-RECESSED CABINET WITH FULL PANEL GLASS AND VERTICAL RED LETTERING EVERY 75' PER FIRE MARSHALL. GC TO PROVIDE AND COORDINATE FINAL LOCATION WITH ARCHITECT. G.C. TO INSTALL FIRE EXTINGUISHER SIGNAGE 80"MIN TO B.O. OF SIGN AND 96" MAX T.O. OF SIGN
	EXISTING WALLS
	***REFER TO SHEET A1.0 FOR WALL TYPE LOCATIONS AND WALL TYPES.**
CR	WALL MOUNTED CARD READER DEVICE PROVIDED BY SECURITY VENDOR, DOOR PREP BY GC. SEE DOOR KEY PLAN. GC TO ONLY PROVIDE CONDUIT FOR WALL MOUNTED DEVICE, NO JUNCTION BOX.
OV	NEW OVERRIDE BUTTON W/ CLEAR ACRYLIC COVER IN CASE OF AN EMERGENCY, COVER TO SOUND ALARM WHEN LIFTED.

LIFE SAFETY PLAN LEGEND

SUITE EXIT / BLDG EXIT	THE PORTION OF THE MEANS OF EGRESS WHICH IS SEPARATED FROM OTHER INTERIOR SPACES OF A BUILDING OR STRUCTURE BY FIRE-RESISTANCE RATED CONSTRUCTION AND OPENING PROTECTIVES AS REQUIRED TO PROVIDE A PROTECTED PATH OF EGRESS TRAVEL BETWEEN THE EXIT ACCESS AND THE EXIT DISCHARGE. EXITS INCLUDE EXTERIOR EXIT DOORS AT THE LEVEL OF EXIT DISCHARGE, VERTICAL EXIT ENCLOSURES, EXIT PASSAGEWAYS, EXTERIOR EXIT STAIRWAYS, EXTERIOR EXIT RAMPS AND HORIZONTAL EXITS.
CPT	NODE WHICH DEFINES WHERE THE COMMON PATH OF EGRESS TRAVEL DISTANCE HAS BEEN DETERMINED. THIS POINT OCCURS ALONG THE EXIT ACCESS ROUTE AND ESTABLISHES WHERE 2 DISTINCT PATHS OF EGRESS TRAVEL BECOME AVAILABLE.
	STARTING POINT TO WHICH THE TRAVEL DISTANCE TO THE NEAREST EXIT IS DETERMINED. THIS POINT IS DEFINED AS THE MOST REMOTE POINT WITHIN THE SPACE OR STORY. THE TRAVEL DISTANCE IS TAKEN ALONG THE NATURAL AND UNOBSTRUCTED PATH OF EGRESS TRAVEL TO AN EXTERIOR EXIT DOOR AT THE LEVEL OF DISCHARGE, AN ENTRANCE TO A VERTICAL EXIT ENCLOSURE, AN EXIT PASSAGEWAY, A HORIZONTAL EXIT, AN EXTERIOR EXIT STAIRWAY OR AN EXTERIOR EXIT RAMP.
	SYMBOL INDICATING CLEAR EXIT WIDTH OF DOOR OPENING, MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY THE DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH, AND ACTUAL OCCUPANT LOAD.
FEC	FIRE EXTINGUISHER OR FIRE EXTINGUISHER CABINET, SEE SYMBOLS LIBRARY FOR MORE INFORMATION ON THE SPECIFICATION.
	EXIT SIGNAGE (WALL OR CEILING MOUNTED), REFER TO ELECTRICAL ENGINEERING DRAWINGS FOR MORE INFORMATION.
PH	DOOR NOTED IS EQUIPPED WITH PANIC HARDWARE. REFER TO DOOR SCHEDULE FOR MORE INFORMATION

LIFE SAFETY GENERAL NOTES

1	THIS LIFE SAFETY STUDY IS BASED ON THE 2018 NCBC.
2	GC SHALL MAINTAIN CLEAR PATHS OF EGRESS TO EXITS DURING ALL PHASES OF CONSTRUCTION.
3	ALL EXISTING LIFE SAFETY SYSTEMS (SPRINKLER, FIRE ALARM, EGRESS LIGHTING AND EXIT SIGNS) SHALL BE MAINTAINED DURING CONSTRUCTION.
4	GC SHALL PROVIDE SIGNAGE COMPLYING WITH NCBC 1110, E107 AND A117.1 2017.
5	GC SHALL PROVIDE (IF NOT ALREADY EXISTING) TACTILE EXIT SIGNS AT ALL EXIT DISCHARGES PER NCBC 1011.3.
6	GC SHALL BE RESPONSIBLE WITH SAFEGUARDS DURING CONSTRUCTION COMPLYING WITH NCBC CHAPTER 33.
7	ALL INTERIOR FINISHES SHALL COMPLY WITH NCBC T803.11.
8	GC TO MAINTAIN EXISTING ACCESSIBLE PARKING AS WELL AS ACCESSIBLE ROUTE FROM ADA PARKING TO THE BUILDING ENTRYWAY FREE AND CLEAR AT ALL TIMES DURING AND AFTER CONSTRUCTION. IN ADDITION, ADA ROUTE TO ACCESSIBLE RESTROOMS AND WATER FOUNTAINS SHALL ALSO BE MAINTAINED AT ALL TIMES.
9	'CR' SYMBOL INDICATES SECURE DOOR(S) EQUIPPED WITH CARD READER AND ELECTRIFIED HARDWARE OR MAGNETIC LOCK. SEE DOOR SCHEDULE FOR MORE INFORMATION.

OCCUPANCY LEGEND

HATCH PATTERN	OCCUPANCY CLASSIFICATION	FLOOR AREA ALLOWANCE PER OCCUPANT
(NO HATCH)	BUSINESS (B)	100 GROSS
	BUSINESS (B) COMMERCIAL KITCHEN AREA	200 GROSS
	ASSEMBLY (A-3)	15 NET (UNCONCENTRATED TABLES AND CHAIRS)
	ASSEMBLY (A-3) WHOLE LOBBY	7 NET CONCENTRATED (CHAIRS ONLY- NOT FIXED)
(SEE PLAN)	ASSEMBLY (A-3) (BAR OR BENCH SEATING)	1 PER 18" AT BAR OR BENCH LENGTH
(SEE PLAN)	ASSEMBLY (A-3) (BOOTH SEATING)	1 PER 24" OF SEATING LENGTH
	STORAGE (S-2)	300 GROSS
	DEDUCTED CIRCULATION @ ASSEMBLY SPACE	0 OCCUPANTS
	DEDUCTED AREA	0 OCCUPANTS

MOB OCCUPANT LOAD & EXIT WIDTH CALCULATIONS

USE GROUP OR SPACE DESIGNATION	(A) AREA S.F.	(B) AREA PER OCCUPANT	(1004) CALCULATED OCCUPANT LOAD (A/B)	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		EXIT WIDTH (INCHES) REQUIRED WIDTH (SECTION 1005.1) (A/B) X C		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
BUSINESS	11,894	100	119						
STORAGE	3,000	300	10						
ASSEMBLY [A-3]	645	15	43						
TOTALS	-	VARIES	172	0.3	0.2	-	35	-	102"
*NOTES:									

MED SPA OCCUPANT LOAD & EXIT WIDTH CALCULATIONS

USE GROUP OR SPACE DESIGNATION	(A) AREA S.F.	(B) AREA PER OCCUPANT	(1004) CALCULATED OCCUPANT LOAD (A/B)	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		EXIT WIDTH (INCHES) REQUIRED WIDTH (SECTION 1005.1) (A/B) X C		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
BUSINESS	1,302	100	14						
STORAGE	67	300	1						
ASSEMBLY [A-3]	111	15	8						
TOTALS	-	VARIES	23	0.3	0.2	-	4.6"	-	34"
*NOTES:									

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11/21/2025

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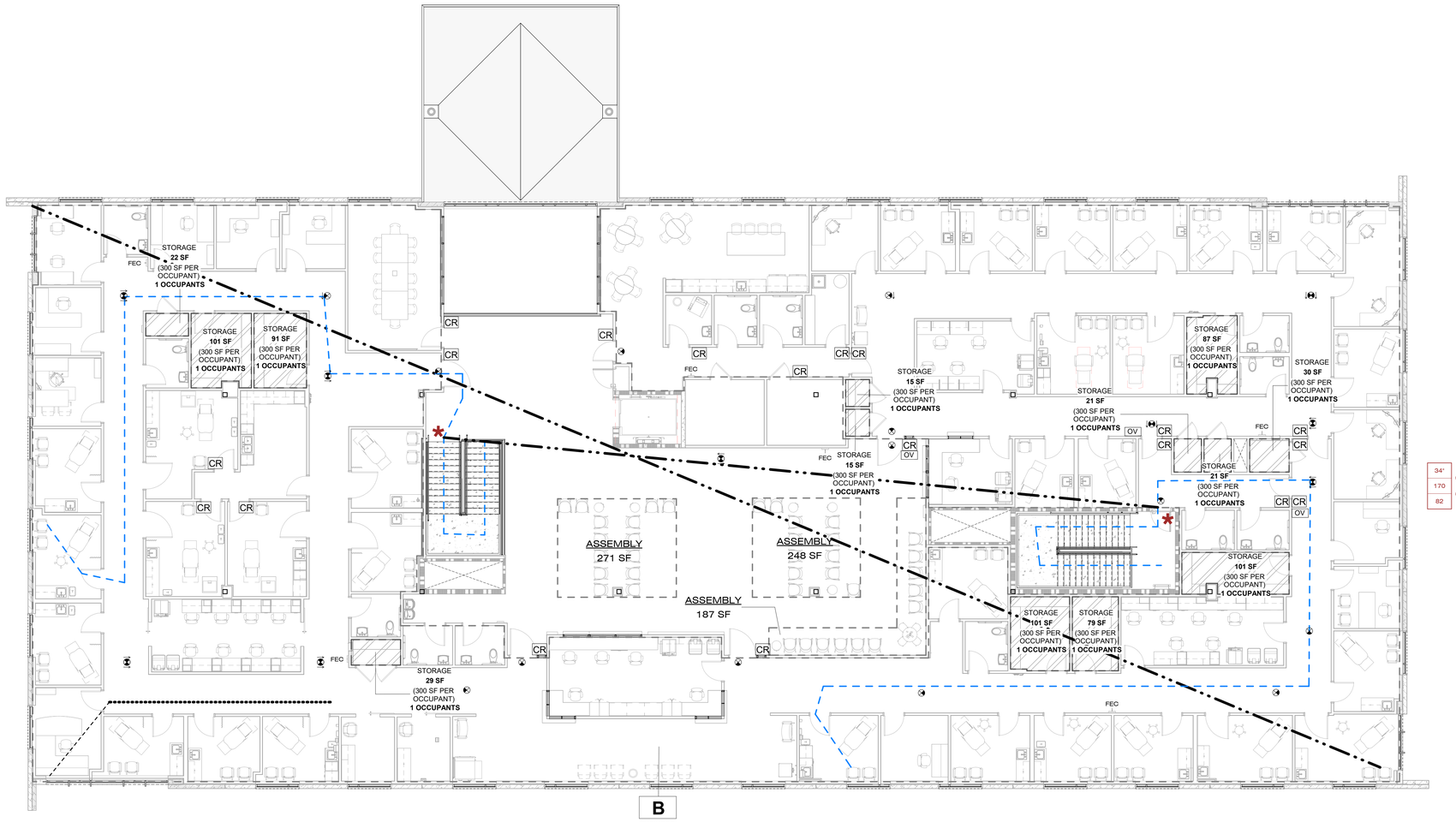
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ARCH. PROJECT # RDU 25-065

1ST FLOOR LIFE SAFETY PLAN

SCALE: As indicated

SHEET # CS2.1



1 2ND FLOOR LIFE SAFETY PLAN

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

34'
170
82

MOB EXIT REQUIREMENTS - REQUIRED FOR ALL PROJECTS

NUMBER & ARRANGMENT OF EXITS (1022.1)

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM # OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS (1007.1.1)	
	REQUIRED (T1006.3.1) (T1006.2.1 - 1 EXIT)	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1017.2)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
UNO ONSLOW CLINIC	2	2	300'-0"	222' - 3"	74'-0"	109'-3"

LIFE SAFETY LEGEND: SPRINKLERED

- EXIT # — LIFE SAFETY DOOR TAG EXIT
- TRAVEL DISTANCE CONTINUING TO 1ST FLOOR EXITS
- A — LONGEST DIAGONAL: **223'- 0"**
- B — ACTUAL SEPARATION REQUIRED (> 1/3* SPRINKLED THE LONGEST DIAGONAL): **74'- 0"**
- C — ACTUAL TRAVEL DISTRANCE: **222'-3"** (MAX. ALLOWABLE TRAVEL DISTANCE = 300)
- D — ACTUAL COMMON PATH OF TRAVEL: **48'- 0"** (MAX ALLOWABLE COMMON PATH OF TRAVEL=100)
- E — DEAD END: **N/A** (MAX ALLOWABLE 50'-0")
- **FEC** NEW FIRE EXTINGUISHER IN SEMI-RECESSED CABINET WITH FULL PANEL GLASS AND VERTICAL RED LETTERING EVERY 75' PER FIRE MARSHALL. GC TO PROVIDE AND COORDINATE FINAL LOCATION WITH ARCHITECT. G.C. TO INSTALL FIRE EXTINGUISHER SIGNAGE 80"MIN TO B.O. OF SIGN AND 96" MAX T.O. OF SIGN
- EXISTING WALLS
- ***REFER TO SHEET A1.0 FOR WALL TYPE LOCATIONS AND WALL TYPES.**
- CR — WALL MOUNTED CARD READER DEVICE PROVIDED BY SECURITY VENDOR, DOOR PREP BY GC. SEE DOOR KEY PLAN. GC TO ONLY PROVIDE CONDUIT FOR WALL MOUNTED DEVICE, NO JUNCTION BOX.
- OV — NEW OVERRIDE BUTTON W/ CLEAR ACRYLIC COVER IN CASE OF AN EMERGENCY, COVER TO SOUND ALARM WHEN LIFTED.

LIFE SAFETY PLAN LEGEND

* SUITE EXIT * BLDG EXIT	THE PORTION OF THE MEANS OF EGRESS WHICH IS SEPARATED FROM OTHER INTERIOR SPACES OF A BULDING OR STRUCTURE BY FIRE-RESISTANCE RATED CONSTRUCTION AND OPENING PROTECTIVES AS REQUIRED TO PROVIDE A PROTECTED PATH OF EGRESS TRAVEL BETWEEN THE EXIT ACCESS AND THE EXIT DISCHARGE. EXITS INCLUDE EXTERIOR EXIT DOORS AT THE LEVEL OF EXIT DISCHARGE, VERTICAL EXIT ENCLOSURES, EXIT PASSAGEWAYS, EXTERIOR EXIT STAIRWAYS, EXTERIOR EXIT RAMPS AND HORIZONTAL EXITS.
CPT	NODE WHICH DEFINES WHERE THE COMMON PATH OF EGRESS TRAVEL DISTANCE HAS BEEN DETERMINED. THIS POINT OCCURS ALONG THE EXIT ACCESS ROUTE AND ESTABLISHES WHERE 2 DISTINCT PATHS OF EGRESS TRAVEL BECOME AVAILABLE.
	STARTING POINT TO WHICH THE TRAVEL DISTANCE TO THE NEAREST EXIT IS DETERMINED. THIS POINT IS DEFINED AS THE MOST REMOTE POINT WITHIN THE SPACE OR STORY. THE TRAVEL DISTANCE IS TAKEN ALONG THE NATURAL AND UNOBSTRUCTED PATH OF EGRESS TRAVEL TO AN EXTERIOR EXIT DOOR AT THE LEVEL OF DISCHARGE, AN ENTRANCE TO A VERTICAL EXIT ENCLOSURE, AN EXIT PASSAGEWAY, A HORIZONTAL EXIT, AN EXTERIOR EXIT STAIRWAY OR AN EXTERIOR EXIT RAMP.
	SYMBOL INDICATING CLEAR EXIT WIDTH OF DOOR OPENING, MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY THE DOOR CAN ACCOMMODATE BASED ON EGRESS WIDTH, AND ACTUAL OCCUPANT LOAD.
FEC	FIRE EXTINGUISHER OR FIRE EXTINGUISHER CABINET. SEE SYMBOLS LIBRARY FOR MORE INFORMATION ON THE SPECIFICATION.
	EXIT SIGNAGE (WALL OR CEILING MOUNTED). REFER TO ELECTRICAL ENGINEERING DRAWINGS FOR MORE INFORMATION.
PH	DOOR NOTED IS EQUIPPED WITH PANIC HARDWARE. REFER TO DOOR SCHEDULE FOR MORE INFORMATION

LIFE SAFETY GENERAL NOTES

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2	GC SHALL MAINTAIN CLEAR PATHS OF EGRESS TO EXITS DURING ALL PHASES OF CONSTRUCTION.
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9	"CR" SYMBOL INDICATES SECURE DOOR(S) EQUIPPED WITH CARD READER AND ELECTRIFIED HARDWARE OR MAGNETIC LOCK. SEE DOOR SCHEDULE FOR MORE INFORMATION.

OCCUPANCY LEGEND

HATCH PATTERN	OCCUPANCY CLASSIFICATION	FLOOR AREA ALLOWANCE PER OCCUPANT
(NO HATCH)	BUSINESS (B)	100 GROSS
	BUSINESS (B) COMMERCIAL KITCHEN AREA	200 GROSS
	ASSEMBLY (A-3)	15 NET (UNCONCENTRATED TABLES AND CHAIRS)
	ASSEMBLY (A-3) WHOLE LOBBY	7 NET CONCENTRATED (CHAIRS ONLY- NOT FIXED)
(SEE PLAN)	ASSEMBLY (A-3) (BAR OR BENCH SEATING)	1 PER 18" AT BAR OR BENCH LENGTH
(SEE PLAN)	ASSEMBLY (A-3) (BOOTH SEATING)	1 PER 24" OF SEATING LENGTH
	STORAGE (S-2)	300 GROSS
	DEDUCTED CIRCULATION @ ASSEMBLY SPACE	0 OCCUPANTS
	DEDUCTED AREA	0 OCCUPANTS

MOB OCCUPANT LOAD & EXIT WIDTH CALCULATIONS

USE GROUP OR SPACE DESIGNATION	(A) AREA S.F.	(B) AREA PER OCCUPANT	(1004) CALCULATED OCCUPANT LOAD (A/B)	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		EXIT WIDTH (INCHES) REQUIRED WIDTH (SECTION 1005.1) (A/B) X C		EXIT WIDTH (INCHES) ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
BUSINESS	13,439	100	135						
STORAGE	713	300	3						
ASSEMBLY [A-3]	706	15	47						
TOTALS	-	VARIES	185	0.3	0.2	55.5"	37"	96"	68"

*NOTES: -

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ARCH. PROJECT # **RDU 25-065**

2ND FLOOR LIFE SAFETY PLAN

SCALE: As indicated

SHEET # **CS2.2**

DIVISION 0: GENERAL CONDITIONS

GENERAL CONDITIONS (00700)
CONFORM WORK TO THE CONTRACT DOCUMENTS WHICH INCLUDE THE OWNER/CONTRACTOR AGREEMENT. THE DRAWINGS, AND ALL ADDENDA AND MODIFICATIONS ISSUED BY THE ARCHITECT.

DIVISION 1: GENERAL REQUIREMENTS

SUBMITTALS (01340)

PROCEDURES:

1. PRIOR TO COMMENCING SUBSTANTIAL PORTIONS OF THE WORK, PREPARE MASTER SUBMITTAL LOG SHOWING EACH REQUIRED SUBMITTAL AND SPECIFICATION SECTION NUMBER, THE PROPOSED SCHEDULE AND SEQUENCING OF SUBMITTALS, AND EACH AFFECTED CONTRACTOR. MAINTAIN THE LOG CURRENT WITH THE PROGRESS OF THE WORK. PROVIDE A COPY OF THE INITIAL AND UPDATED LOG TO THE ARCHITECT.
2. REVIEW SUBMITTALS AND INDICATE RESULTS OF REVIEW PRIOR TO SUBMITTING TO ARCHITECT.
3. TRANSMIT EACH ITEM UNDER AIA FORM 810 OR SIMILAR FORM. NUMBER EACH SUBMITTAL CONSECUTIVELY BASED UPON SPECIFICATION SECTION NUMBERS (I.E. 06400-2, 06400-3, ETC.). ATTACH OR INCLUDE A COVER OUTING/STAMP SHEET WITH EACH SUBMITTAL IN APPROVED FORMAT.
   A. IDENTIFY PROJECT, CONTRACTOR, MAJOR SUPPLIER, AND GENERIC NAME OF COMPONENT SYSTEM. ALLOW SPACE ON THE COVER SHEET TO ACCOMMODATE REQUIRED STAMPS BY EACH REVIEWER. PROVIDE ADDITIONAL SHEETS IF NECESSARY.
   B. IDENTIFY DEVIATIONS FROM DRAWINGS AND SPECIFICATIONS AND INCLUDE A STATEMENT OF REASON(S) FOR DEVIATION. PROCESS IN ACCORDANCE WITH SECTION 01630.
4. AFTER REVIEW OF SUBMITTAL, REVISE AND RESUBMIT IF SO INDICATED; IDENTIFY CHANGES MADE SINCE PREVIOUS SUBMITTAL.
5. DISTRIBUTE COPIES OF REVIEWED SUBMITTALS TO CONCERNED CONTRACTORS INSTRUCT RECIPIENTS TO PROMPTLY REPORT ANY INABILITY TO COMPLY WITH PROVISIONS.
6. MAKE SUBMITTALS FAR ENOUGH IN ADVANCE OF SCHEDULED INSTALLATION DATES TO PROVIDE TIME REQUIRED FOR REVIEWS, FOR SECURING NECESSARY APPROVALS, FOR POSSIBLE REVISIONS AND RESUBMITTALS, AND FOR PLACING ORDERS AND SECURING DELIVERY.
7. SUBMITTALS PROVIDED FOR REVIEW AND FOR WHICH NO REQUIREMENT FOR SUBMITTAL IS STATED IN THE DRAWINGS OR SPECIFICATIONS MAY BE RETURNED WITHOUT REVIEW.

SHOP DRAWINGS

1. SUBMIT DIGITAL COPIES OF ALL SHOP DRAWINGS FOR REVIEW.
2. SHEET SIZE: 8-1/2 X 11 INCHES MINIMUM, 30X42 INCHES MAXIMUM.

PRODUCT DATA

1. MARK EACH COPY TO IDENTIFY APPLICABLE PRODUCTS, MODELS, OPTIONS, AND OTHER DATA; SUPPLEMENT MANUFACTURER'S STANDARD DATA TO PROVIDE INFORMATION UNIQUE TO THE WORK.
2. SUBMIT STATED NUMBER OF COPIES FOR PROCESSING, DISTRIBUTION AND RECORD DOCUMENTATION.
   A. FOR DATA INDICATING CHOICES OF COLOR, AND/OR FINISH, PROVIDE ORIGINALS.
   B. ALL OTHER PRODUCT DATA / SUBMITTALS REQUIRING REVIEW TO BE SUBMITTED DIGITALLY UNLESS OTHERWISE REQUESTED BY REDLINE DESIGN GROUP.

SUBMITTALS

1. SUBMIT A REASONABLE RANGE OF MANUFACTURER'S STANDARD COLORS, TEXTURES, SHEENS, AND PATTERNS FOR SELECTION WHERE SPECIFIC PRODUCT REQUIREMENTS HAVE NOT BEEN STATED OR WHERE SUBSTITUTIONS ARE PROPOSED.
2. SUBMIT SAMPLES TO ILLUSTRATE FUNCTIONAL AND SIGHT-EXPOSED CHARACTERISTICS OF PRODUCTS, WITH INTEGRAL PARTS AND ATTACHMENT DEVICES. COORDINATE WITH SUBMITTAL DATE OF OTHER SECTIONS FOR INTERFACING WORK.
3. INCLUDE IDENTIFICATION ON EACH SAMPLE, GIVING FULL INFORMATION.
4. SUBMIT THREE SETS OF EACH PRODUCT FOR THE ARCHITECTS, PLUS ADDITIONAL SETS) REQUIRED BY THE CONTRACTOR.
5. SIZES: UNLESS OTHERWISE SPECIFIED, PROVIDE THE FOLLOWING:
   A. PAINT AND LIQUID COATED PRODUCTS: MINIMUM 8-1/2 X 11 INCHES, MAXIMUM 24 INCHES SQUARE; TAPE EDGES OF SAMPLES WHEN GYPSUM BOARD IS USED AS BASE OR SUBSTRATE.
   B. LINEAR PRODUCTS: MINIMUM 6 INCHES LONG, MAXIMUM 24 INCHES LONG.
   C. BULK PRODUCTS: CONTAINER LABEL ONLY.
   D. PREFABRICATED PRODUCTS: ONE UNIT.
6. FULL SIZE OR ON-SITE SAMPLES OR MOCK-UPS MAY BE USED IN THE WORK UPON APPROVAL.

MANUFACTURER'S CERTIFICATES AND OTHER/SIMILAR DOCUMENTS

1. SUBMIT DIGITAL COPIES OF CERTIFICATES FOR THE ARCHITECT , PLUS ANY ADDITIONAL HARD COPIES REQUIRED BY THE CONTRACTOR.
2. INCLUDE SIGNATURE ON EACH COPY.

BACKGROUND DRAWINGS

1. REPRODUCIBLE PDF COPIES OF FLOOR PLAN "BACKGROUNDS" ARE AVAILABLE FROM THE ARCHITECT, UPON REQUEST FROM THE CONTRACTOR.
2. THESE DRAWINGS CAN BE PROVIDED BY THE ARCHITECT AS AN AID TO THE CONTRACTORES RESPONSIBILITY TO PROVIDE SUBMITTAL DATA ACCURATELY SHOWING FIELD CONDITIONS. THE ARCHITECT DOES NOT WARRANT ACCURACY OF "BACKGROUND" DRAWINGS.

SUBSTITUTIONS (01630) REQUESTS FOR SUBSTITUTIONS

1. SUBMIT SEPARATE REQUESTS FOR EACH PRODUCT AND SUPPORT EACH REQUEST WITH:
   A. PRODUCT IDENTIFICATION.
   B. MANUFACTURER'S LITERATURE.
   C. SAMPLES, AS APPLICABLE.
   D. NAME AND ADDRESS OF SIMILAR PROJECTS ON WHICH PRODUCT HAS BEEN USED AND DATE OF INSTALLATION.
2. REASON FOR SUBSTITUTION.
3. ITEMIZE A COMPARISON OF THE PROPOSED SUBSTITUTION WITH PRODUCT SPECIFIED AND LIST SIGNIFICANT VARIATIONS.
4. SUBMIT DATA RELATING TO CHANGES IN CONSTRUCTION SCHEDULE.
5. NOTE ANY EFFECT OF SUBSTITUTION ON OTHER WORK OR PRODUCTS OR ON SEPARATE CONTRACTS.
6. INCLUDE ACCURATE COST DATA COMPARING PROPOSED SUBSTITUTION WITH PRODUCT AND THE AMOUNT OF ANY NET CHANGE IN THE CONTRACT PRICE.
7. SUBSTITUTIONS WILL NOT BE CONSIDERED WHEN:
   A. THEY ARE INDICATED OR IMPLIED ON SUBMITTALS WITHOUT A FORMAL REQUEST.
   B. ACCEPTANCE WILL REQUIRE SUBSTANTIAL REVISION OF DRAWINGS AND SPECIFICATIONS.
8. DO NOT ORDER OR PROVIDE SUBSTITUTE PRODUCTS WITHOUT APPROVAL.
9. BURDEN OF PROOF OF MERIT OF PROPOSED SUBSTITUTION IS THE RESPONSIBILITY OF THE CONTRACTOR.

CONTRACTOR'S REPRESENTATION

1. REQUESTS CONSTITUTE A REPRESENTATION THAT THE PROPOSING PARTY:
   A. HAS INVESTIGATED PROPOSED PRODUCT AND DETERMINED THAT IT MEETS OR EXCEEDS, IN ALL RESPECTS, SPECIFIED PRODUCT, INCLUDING REQUIRED APPROVAL FROM AUTHORITIES HAVING JURISDICTION.
   B. WILL PROVIDE THE SAME WARRANTY FOR SUBSTITUTION AS FOR SPECIFIED PRODUCT.
   C. WILL COORDINATE INSTALLATION AND MAKE OTHER CHANGES WHICH MAY BE REQUIRED FOR WORK TO BE COMPLETE IN ALL RESPECTS.
   D. WAIVES CLAIMS FOR ADDITIONAL COSTS WHICH MAY SUBSEQUENTLY BECOME APPARENT.

DIVISION 6: WOOD & PLASTICS

ROUGH CARPENTRY (06100)
WORK INCLUDED:

1. FIRE-TREATED WOOD BLOCKING IN WALLS AND CEILINGS.
2. SURFACE MOUNTED PLYWOOD PANEL BOARDS.
3. FIRE-RETARDANT TREATMENT.

EXECUTION:

1. CORRELATE LOCATION OF FURRING, NAILERS, BLOCKING, GROUNDS AND SIMILAR SUPPORTS SO THAT ATTACHED WORK WILL COMPLY WITH DESIGN REQUIREMENTS AND BE PROPERLY LOCATED.
2. CONSTRUCT MEMBERS OF CONTINUOUS PIECES OF LONGEST POSSIBLE LENGTHS.
3. FIT CARPENTRY WORK TO OTHER WORK. SCRIBE AND COPE AS REQUIRED FOR ACCURATE FIT.
   A. SHIM WITH METAL OR SLATE FOR BEARING ON CONCRETE AND MASONRY SUBSTRATES.
4. SECURELY ATTACH CARPENTRY WORK TO SUBSTRATES BY ANCHORING AND] FASTENING AS REQUIRED BY RECOGNIZED STANDARDS.
   A. PROVIDE WASHER UNDER BOLT HEADS AND NUTS IN CONTACT WITH WOOD.
   B. NAIL PLYWOOD TO COMPLY WITH RECOMMENDATIONS OF AMERICAN PLYWOOD ASSOCIATION.
   C. FRAMING: COMPLY WITH APPLICABLE RECOMMENDATIONS OF NATIONAL FOREST PRODUCTS ASSOCIATION REFERENCED STANDARD, FOR FABRICATION AND INSTALLATION.
   D. PLYWOOD: COMPLY WITH RECOMMENDATIONS OF AMERICAN PLYWOOD ASSOCIATION (APA) FOR FABRICATION AND INSTALLATION OF PLYWOOD WORK.

CABINETWORK AND ARCHITECTURAL WOODWORK (06410)

1. PROVIDE SHOP FABRICATED CABINETWORK AND ARCHITECTURAL WOODWORK ITEMS COMPLETE WITH HARDWARE ACCESSORIES, AS INDICATED ON ARCHITECTURAL DRAWINGS.
2. ALL CABINETWORK AND ARCHITECTURAL WOODWORK INDICATED ON ARCHITECTURAL DRAWINGS SHALL BE FABRICATED IN ACCORDANCE WITH THE CURRENT STANDARDS OF "ARCHITECTURAL WOODWORK INSTITUTE' (AWI), INCLUDING WOOD SELECTION, JOINERY, GLUING FASTENING AND SHOP FINISHING AS FOLLOWS:
   A. "CUSTOM GRADE" FOR PLASTIC LAMINATE OR OPAQUE FINISHED MILLWORK FINISHES AS INDICATED ON THE DRAWINGS.
   B. "HIGH PRESSURE LAMINATE AS AN ARCHITECTURAL WOODWORK MATERIAL" REFERENCED STANDARD FOR PLASTIC LAMINATE MILLWORK.
   C. "PREMIUM GRADE" FOR EXPOSED WOOD VENEER MILLWORK.
3. PROVIDE FIRE RETARDANT TREATED WOOD WHERE REQUIRED BY THE 2018 NC STATE BUILDING CODE.
4. SUBMITTALS:
   A. SUBMIT THE FOLLOWING IN ACCORDANCE WITH DIVISION 1, SECTION 01340.
   B. SUBMIT SHOP DRAWINGS FOR ALL ARCHITECTURAL WOODWORK INCLUDING DIMENSIONED PLANS, ELEVATIONS, CROSS-SECTIONS, AND LARGE-SCALE DETAILS OF CONSTRUCTION TO ARCHITECT FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL INDICATE MATERIAL AND WOOD SPECIES, COMPONENT PROFILES, FASTENING, JOINTING, FINISHES, HARDWARE AND ACCESSORIES; AND ADJACENT WORK OF OTHER TRADES.
   C. SUBMIT (3 PRINTED SAMPLES OF ALL ARCHITECTURAL WOODWORK FINISHES TO ARCHITECT FOR REVIEW AND ACCEPTANCE PRIOR TO FABRICATION.
   D. SUBMIT CERTIFICATION OF FIRE-RETARDANT TREATMENT OF WOOD STATING NAME OF FIRE-RETARDANT MATERIALS USED AND COMPLIANCE WITH AWPA SPECIFICATIONS.
5. PROTECT ALL ARCHITECTURAL WOODWORK ITEMS DURING TRANSIT, DELIVERY, STORAGE AND HANDLING TO PREVENT DAMAGE, SOILING AND DETERIORATION. THE WOODWORK CONTRACTOR AND GENERAL CONTRACTOR SHALL BE JOINTLY RESPONSIBLE TO MAKE CERTAIN THAT WOOD WORKING IS DELIVERED UNTIL PAINTING, PLASTERING AND OTHER OPERATIONS WHICH COULD DAMAGE FINISH WORK HAVE BEEN COMPLETED.
6. CONTRACTOR SHALL HAVE EXAMINED THE JOB SITE IN CONJUNCTION WITH PROJECT DOCUMENTS SO AS TO BE SATISFIED AS TO THE CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED, INCLUDING SUCH MATTERS AS ENVIRONMENTAL FACTORS. ANY CONDITIONS NEEDING PRELIMINARY TO AND DURING THE WORK.
   WOODWORK CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BETWEEN DRAWINGS AND FIELD CONDITIONS AND SHALL NOT PROCEED WITH THE PORTION OF WORK IN QUESTION UNTIL THE DISCREPANCIES ARE RESOLVED.
   MATERIALS:
   A. PLASTIC LAMINATE COLOR, MANUFACTURER, AND FINISH AS DESIGNATED ON FINISH PLANS, SHALL BE OF THE FOLLOWING TYPES FOR SPECIFIC APPLICATION, CONFORMING TO NEMA LD-3 AND ARCHITECT APPROVED SAMPLES. ADHESIVE: CONTACT TYPE TO BE AS RECOMMENDED BY MANUFACTURER TO SUIT APPLICATION.
   B. EXPOSED WOOD FINISH SPECIFIED, STAIN COLOR, FINISH AND MATCHING SHALL BE DESIGNATED ON FINISH SCHEDULE. PROVIDE THE FOLLOWING MATCH AND ASSEMBLY OF CONTINUOUS SEQUENTIAL USE OF FLITCHES OR EACH SEPARATE EXPANSE OF MATCHED WORK AS INDICATED (i.e. PANELS, DOORS & CASEWORK).
      1. HORIZONTAL MATCH: REFER TO FINISH SCHEDULE.
      2. VERTICAL MATCH: END MATCH.
      3. ASSEMBLY: REFER TO FINISH SCHEDULE AND INTERIOR ELEVATIONS.
8. CABINET HARDWARE AND RELATED ACCESSORIES SHALL BE INDICATED ON INTERIOR ELEVATIONS AND MILLWORK DETAILS.
9. JUST PRIOR TO OWNER ACCEPTANCE, REMOVE PROTECTIVE COVERING, TOUCH UP AS REQUIRED, WIPE CLEAN, ADJUST AND LUBRICATE HARDWARE, AND CHECK FOR PROPER OPERATION OF ALL ITEMS. COORDINATE THIS WITH THE GENERAL CONTRACTOR.

DIVISION 8: DOORS, WINDOWS & GLASS

HOLLOW METAL DOORS AND FRAMES (08110)
WORK INCLUDED:

1. HOLLOW METAL DOORS AND FRAMES.
2. DRILLING AND REINFORCEMENT TO RECEIVE HARDWARE.
3. SHOP PRIMING.

STANDARDS:

1. ANSI A250.7 - STANDARD NOMENCLATURE FOR STANDARD STEEL DOOR AND STEEL FRAMES.
2. CS242-62 U.S. DEPARTMENT OF COMMERCE COMMERCIAL STANDARD.
3. NFPA 80 - STANDARD FOR FIRE DOORS AND WINDOWS.
4. UL BUILDING MATERIALS LIST
5. STEEL DOORS, FRAMES, AND TIER INSTALLATION SHALL CONFORM WITH SD-100 AND NAAMM.
6. FIRE-RATED DOOR AND DOOR FRAME ASSEMBLIES (INCLUDING HARDWARE) SHALL CONFORM TO UL STANDARDS AND LOCAL BUILDING CODES. PLACE UL LABELS WHERE VISIBLE WHEN DOORS AND FRAMES INSTALLED, OPEN POSITION.

LABELS:

1. COMPLY WITH STANDARDS AND PROVIDE UL LABELS WHERE REQUIRED ON DOORS AND FRAMES.

QUALIFICATIONS:

1. PROVIDE DOORS AND FRAMES MANUFACTURED BY A FIRM SPECIALIZING IN THE PRODUCTION OF HOLLOW METAL WORK.

QUALIFICATION OF INSTALLERS:

1. FOR ACTUAL INSTALLATION OF HALLOW METAL WORK, USE ONLY PERSONNEL WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN SKILLS REQUIRED AND WHO ARE COMPLETELY FAMILIAR WITH MANUFACTURERS CURRENT RECOMMENDATION METHODS OF INSTALLATION AS WELL AS REQUIREMENTS OF THIS WORK.

SUBMITTALS:

1. SUBMIT THE FOLLOWING IN ACCORDANCE WITH DIVISION 1.
2. SHOP DRAWING SHOWING ELEVATIONS OF EACH DOOR TYPE; DETAILS OF EACH FRAME TYPE; AND LOCATION OF EACH PROJECT FOR EACH ITEM; CONDITIONS AT OPENINGS WITH VARIOUS WALL THICKNESS AND MATERIAL; TYPICAL AND SPECIAL DETAILS OF CONSTRUCTION; METHODS OF ASSEMBLING SECTIONS; LOCATION AND TYPE OF REINFORCEMENT FOR ANY OUTLETS, SIZE, SHAPE AND THICKNESS OF MATERIALS; JOINTS AND CONNECTIONS.

COORDINATION AND MEASUREMENT:

1. TAKE ALL NECESSARY MEASUREMENTS AT THE PROJECT SITE TO ASSURE PROPER FITTING AND FABRICATIONS OF ALL WORK. VARIATIONS OF ADJACENT CONSTRUCTION SHALL BE TAKEN INTO ACCOUNT AND PROPERLY PROVIDED FOR WORK UNDER THIS SECTION SHALL BE CLOSELY COORDINATED WITH THAT OF OTHER TRADES WHOSE WORK AFFECTS, OR IS AFFECTED BY WORK INCLUDED HEREIN. PROVIDE SHOP DRAWINGS OF THE FRAMES 2" EXTRA LENGTH, NO ANGLE CLIPS ATTACHED FRAMES TO E UTILIZED IN AREAS WHERE FLOOR YSES.
2. SECURE TEMPLATES FOR FINISH HARDWARE SUPPLIER AND ACCURATELY INSTALL, OR MAKE PROVISIONS FOR, ALL FINISHED HARDWARE AT FACTORY.

REQUIREMENTS OF REGULATORY AGENCIES:

1. A. PROVIDE REQUIRED LABELS PERMANENTLY FASTENED ON EACH DOOR AND FRAME ASSEMBLY, SUPPLY WITHIN THE SIZE LIMITATIONS ESTABLISHED BY THE LABELING AUTHORITY HAVING JURISDICTION.
   B. PROVIDE ANCHORS FOR LABELED FRAMES AS REQUIRED BY AUTHORITY HAVING JURISDICTION.

HOLLOW METAL FRAMES:

1. MATERIALS
   A. SHEET STEEL FOR FRAMES: ASTM A366, COLD ROLLED, PICKLED AND OILED, PRIME QUALITY FULLY ANNEALED, STRETCHER LEVELED 16 GAUGE STEEL WITH CLEAN, SMOOTH SURFACE, FREE FROM SCALE, PITTING, RUST, AND SURFACE AND INTERNAL DEFECTS.
   B. FRAME REINFORCING: ASTM A36, GAUGES SPECIFIED UNDER FABRICATION.
   C. PAINT: ZINC-CHROMATE, RUST-INHIBITIVE PRIMER FOR INTERIOR DOORS.
   D. SOUND DEADENING INSULATION: NON-SETTLING, VERMIN-PROOF, FIREPROOF.
2. FABRICATION
   A. FRAMES: SET UP AND WELDED COMBINATION TYPE WITH INTEGRAL STOPS AND TRIM, 16 GAGE, UNLESS OTHERWISE INDICATED. MITERED FRAMES WILL NOT BE ACCEPTED, FOR FIRE-RATED DOORS OR DENSING PARTITION DOORS.
   B. EXPOSED FACE JOINTS: FORM CORNER JOINTS BY MITERING OR COPING AND BUTTING OR A COMBINATION OF BOTH. IN BOTH CASES, TRIM AND BACKBEND SHALL BE CONTINUOUS AROUND CORNERS. CONTINUOUSLY WELD JOINTS FOR FULL DEPTH AND FINISH SMOOTH.
   C. REINFORCING: REINFORCE FRAME HEADS FOR OPENINGS OVER 36' WIDE WITH TWO CHANNELS OF EQUAL LESS 10 GAUGE STEEL, ANGLES THE WILL DEPTH OF THE FRAME FACE EQUIVALENT CHANNEL, WELDED TO THE BACK OF THE FRAME HEAD. PROVIDE TEMPORARY SPREADERS ACROSS BOTTOMS OF 2-SIDED FRAMES TO HOLD FRAME PARALLEL DURING SHIPPING AND HANDLING. REINFORCE JAMBS WITH CONTINUOUS FORMED CHANNELS, 10 GAUGE MINIMUM WHERE SHOWN.
   D. JAMB ANCHORS: PROVIDE ANCHORS OF SHAPES AND SIZES REQUIRED FOR THE ADJOINING TYPE OF WALL CONSTRUCTION. IN DRYWALL, FACTOR WELDED HIGH-HAT ANCHORS. FABRICATE JAMB ANCHORS OF STEEL NOT LIGHTER THAN THE GAUGE USED FOR FRAME. LOCATE ANCHORS ON JABS NEAR THE TOP AND BOTTOM OF EACH FRAME AND AT INTERMEDIATE POINTS NOT OVER 24" APART, BUT NOT LESS THAN 3 PER JAMB.
   E. FLOOR ANCHORS: PROVIDE FLOOR CLIPS OF NOT LESS THAT 14 GAUGE STEEL AND WELDED TO BOTTOM OF EACH JAMB AT LOCATIONS SHOWN. CLIPS SHALL BE ADJUSTABLE AND DRILLED FOR 3/8' DIAMETER ANCHOR BOLTS.
3. SHOP PRIMING
   A. CLEAN AND CHEMICALLY TREAT METAL SURFACES TO ASSURE MAXIMUM PAINT ADHERENCE; FOLLOW WITH A DIP OR SPRAY COAT OF RUST-INHIBITIVE PRIMER TO SURFACES SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF.
   B. EACH PRIME COAT SHALL BE SEPARATELY BAKED, OR OVEN DRIED. TIME AND TEMPERATURE FOR BAKING OR DRYING SHALL COMPLY WITH THE PAINT MANUFACTURERS RECOMMENDATIONS FOR DEVELOPING MAXIMUM HARDNESS AND ABRASION RESISTANCE.
4. WORKMANSHIP
   A. FINISHED WORK SHALL BE STRONG AND RIGID, SMOOTH AND NEAT IN APPEARANCE, FREE FROM TWIST, WARP, BOWING OR BUCKLE. CORNER BENDS SHALL HAVE MINIMUM RADII FOR THE GAUGES OF METAL USED.
5. INSTALLATION
   A. SET ALLOW METAL FRAMES AT LOCATIONS SHOWN, IN PERFECT ALIGNMENT AND ELEVATION, PLUMB, LEVEL, STRAIGHT, TRUE AND FREE FORM RACK. BRACE FRAMES TO PREVENT DISPLACEMENT.
   B. ANCHOR FRAMES TO FLOORS WITH ANCHOR BOLTS OR WITH DRIVEN FASTENERS. COORDINATE THE INSTALLATION OF BUILT-IN ANCHORS FOR WALL AND PARTITION CONSTRUCTION AS REQUIRED WITH OTHER WORK.
   C. AFTER WALL CONSTRUCTION HAS BEEN COMPLETED, REMOVE TEMPORARY BRACES. LEAVE SURFACES SMOOTH AND DAMAGED.
   D. INSTALL LABELED FIRE DOORS AND FRAMES TO MEET REQUIREMENTS OF THE INSURANCE INSPECTION AND RATING BUREAUS HAVING JURISDICTION AT THE PROJECT SITE SO AS TO AVOID ANY RATE PENALTY. CORRECT ANY INSTALLATION WHICH WOULD SUBJECT THE OWNER AND TENANT TO A RATE PENALTY.
   E. AFTER INSTALLATION, TOUCH-UP SCRATCHED SURFACES. USE TYPE OF PRIMER RECOMMENDED FOR GALVANIZED SURFACES OR IDENTICAL TO THAT USED FOR SHOP COAT.

WOOD DOORS (08200)

1. PROVIDE EXPOSED WOOD VENEER DOORS OR PAINT-GRADE DOORS AS INDICATED ON ARCHITECTURAL DRAWINGS.
2. SUBMITTALS: SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH DIVISION 1.
3. SOLID CORE DOORS: FLUSH TYPE, 1-3/4' THICK (MINIMUM, UNLESS OTHERWISE NOTED) SOLID BLOCK OR STILE AND RAIL CORE. TYPE AS (SPLY) CONSTRUCTION DOORS SHALL BE PREMIUM GRADE PER AWI STANDARDS. FACE VENEERS OR PAINT SPECIFICATION SHALL BE AS INDICATED ON DOOR SCHEDULE.
   A. PROVIDE SOLID WOOD BLOCKING FOR ALL DOOR HARDWARE SUCH THAT NO THROUGH BOLT WILL BE REQUIRED TO PERMANENTLY MOUNT HARDWARE ON DOOR. IF BLOCKING IS NOT PRACTICAL, PROVIDE STAVE-CORE WOOD DOORS.
   B. EXECUTION: DOORS SHALL HAVE ALL HANDLING MARKS OR EFFECTS OF EXPOSURE TO MOISTURE REMOVED WITH THOROUGH, FINAL SANDING OVER ALL EXPOSED SURFACES USING 150 GRIT OR FINER SANDPAPER AND SHALL THEN BE BRUSHED CLEAN.
   C. PRIME OR SEAL ALL WOOD DOORS ON ALL SIDES AND EDGES (IMMEDIATELY UPON DELIVERY TO PROJECT SITE). WHERE ITEMS ARE FURNISHED PREPRIMED, TOUGH UP ALL ABRASIONS.
4. INSTALLATION
   A. HANGING DOORS: ALL DOORS SHALL BE EXPERTLY HUNG AND SHALL FIT SNUG AGAINST ALL STOPS, FIT ACCURATELY AND HANG FREE FROM HINGE BIND.
   B. CLEARANCE: FOR NON FIRE-RATED DOORS PROVIDE CLEARANCES OF 1/8' AT JAMBS AND HEADS, 1/8' AT MEETING STILES FOR PAIRS OF DOORS, AND 1/4' FROM BOTTOM OF DOOR TO TOP OF DECORATIVE FLOOR FINISH OR, COVERING UNLESS OTHERWISE NOTED. WHEN THRESHOLD IS SHOWN OR SCHEDULED, PROVIDE 1/8' CLEARANCE FROM BOTTOM OF DOOR TO TOP OF THRESHOLD.
   C. HARDWARE SHALL BE FITTED PRIOR TO FINISHING AND THEN REMOVED AND FINISHING COMPLETED BEFORE FINAL INSTALLATION OF HARDWARE. FINISH HARDWARE MUST BE NEATLY AND PROPERLY INSTALLED IN ACCORDANCE WITH BEST PRACTICES AS PRESCRIBED BY MANUFACTURERS AND AS APPROVED BY ARCHITECT.
   D. NO EXTRA COST WILL BE ALLOWED BECAUSE OF CHANGES OR CORRECTIONS NECESSARY TO FACILITATE INSTALLATION OF ANY HARDWARE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER FABRICATION OF ALL WORK OR MATERIAL TO RECEIVE HARDWARE.

DIVISION 8: DOORS, WINDOWS & GLASS (cont)

FINISH HARDWARE (08700)

1. PROVIDE FINISH HARDWARE AS INDICATED ON THE DOOR/HARDWARE SCHEDULE ON ARCHITECTURAL DRAWING.
2. SUBMITTALS:
   A. SUBMIT THE FOLLOWING IN ACCORDANCE WITH DIVISION 1.
   B. SCHEDULES: SUBMIT HARDWARE SCHEDULE INDICATING EACH TYPE OF HARDWARE FOR EACH DOOR; INCLUDING ROOM NUMBERS AND ANY OTHER INFORMATION.
   C. SAMPLES: UNLESS REQUIRED STYLE AND FINISH.
   D. PRODUCT DATA: SUBMIT MANUFACTURERS CATALOG CUTS FOR EACH HARDWARE ITEM.
3. HARDWARE ITEMS
   A. SEE DOOR SCHEDULE FOR HARDWARE GROUP LOCATIONS AND DOOR TYPES.
   B. BUTTS: ALL EXTERIOR OUTSWINGING DOORS SHALL HAVE NONFERROUS BUTTS WITH NON-REMOVABLE PINS. LABELED DOORS SHALL HAVE STEEL BUTTS. WHERE LABELED DOORS ARE EXTERIOR OUTSWINGING, PROVIDE STAINLESS STEEL BUTTS. UNLESS OTHERWISE SPECIFIED, SIZE OF BUTTS WILL BE DETERMINED BY THE FOLLOWING TABLE:
   B. JOINTS GREATER THAN 1/8' AT CEILINGS SHALL BE REJECTED. PROVIDE CAULKING AT CEILING FOR PARTITIONS THAT TERMINATE AT THE CEILING. ALL CASING BEADING SHALL BE U.S.G. #200 CONTROL JOINT EQUIVALENT. FOR ALL OTHER APPLICATIONS OF DRYWALL CONSTRUCTION, JOINTS GREATER THAN 1/4' SHALL BE REJECTED. STUD DESIGNED TO ENGINEER STUD BRACING AS REQUIRED FOR TALL STUD WALL ASSEMBLIES OVER 10'-0' AFF.
   C. SOUND INSULATION: SOUND-ATTENUATING INSULATION SHALL BE CAULKED AT PERIMETER WITH ACOUSTICAL OR FIRE-RATED SEALANT AS APPLICABLE. PLACE SEALANT BETWEEN GYPSUM BOARD AND ADJACENT SUBSTRATE. PROVIDE WITH BUILDING STANDARD SOUND-ATTENUATING INSULATION BATTS, CUT AND FITTED TO STUD FRAMING. AT THESE PARTITIONS, BACK-TO-BACK ELECTRICAL JUNCTION BOXES ARE NOT PERMITTED.
   D. ALL DRYWALL PARTITIONING SHALL BE PLUMB, LEVEL, TRUE AND STRAIGHT, PROPERLY BRACED AND RIGID. SURFACES SHALL BE SMOOTH, UNTURNED, AND FREE FROM FLAWS AND DEFECTS IN A READY TO PAINT CONDITION. ALL TAPING AND FINISH SPACKLING SHALL BE PREPARED SO THAT LOCATION OF JOINTS AND BLEMISHES CAN NOT BE FELT OR SEEN WHEN PAINT HAS BEEN PAINTED.
   E. FILL IN VOIDS BETWEEN FLUTES AND ACOUSTICAL PARTITIONS, AT BOTTOM OF METAL DECKING WHERE APPLICABLE.
   B. AT FIRE-RATED PARTITIONS SEAL PENETRATIONS AND VOIDS BETWEEN METAL DECKING WITH FIREPROOFING MATERIALS TO MATCH EXISTING.
   F. NEW SOFFITS AND FASCIAS SHALL BE CONSTRUCTED OF METAL STUD FRAMING AND GYPSUM WALLBOARD CONSTRUCTION, PROPERLY ATTACHED AND BRACED. ALL SOFFITS AND FASCIALS SHALL EXTEND THROUGH HUNG CEILING AND FRAMING SHALL BE BRACED AND SECURELY ANCHORED TO THE STRUCTURE ABOVE; GYPSUM WALLBOARD SHALL EXTEND 3' MIN. ABOVE FINISHED CEILING. SOFFIT AND FASCIA CONSTRUCTION SHALL BE EXECUTED TO PROVIDE LEVEL PLANES AND SMOOTH TRANSITIONS WITH PARTITIONS. MAXIMUM PERMITTED DEFLECTIONS ON BOW SHALL BE 1/8' PER 10'-0' LENGTH. CEILING ASSEMBLY SHALL BE CONSTRUCTED TO PROVIDE THE REQUIRED FIRE-RATING TO CONFORM TO LOCAL BUILDING CODE.
   G. BUTTER EXTERIOR WALLS OF ALL WALL BOXES WITH USG ACOUSTICAL SEALANT OR EQUAL.

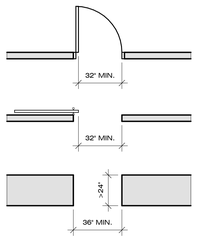
GLAZING (08800)

1. PROVIDE TEMPERED GLASS AS INDICATED ON ARCHITECTURAL DRAWINGS.
2. SUBMITTALS:
   A. SUBMIT THE FOLLOWING IN ACCORDANCE WITH DIVISION 1:
   B. SHOP DRAWING: INDICATE COMPONENT DETAILS, MATERIALS, FINISHES, DIMENSIONS, HARDWARE AND FITTINGS, AND METHOD OF ANCHORAGE.
   C. PRODUCT DATA: MANUFACTURER'S LITERATURE AND INSTALLATION INSTRUCTIONS

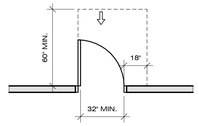
DIVISION 9: FINISHES

GYPSUM WALLBOARD SYSTEMS (09250)

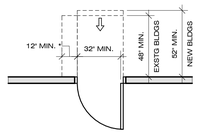
1. GYPSUM WALLBOARD MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OS ASTM C1396, C754, AND C840; AND GYPSUM ASSOCIATION GA-216.
   A. FIRE-RATED CONSTRUCTION SHALL BE LISTED AND LABELED BY UL, AND CONFORM TO REQUIREMENTS OF GOVERNING CODES AND REGULATIONS.
   B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR USING COMPATIBLE PRODUCTS FOR COMPLETE CONSTRUCTION ASSEMBLY.
2. MATERIALS SHALL BE BY UNITED STATE GYPSUM, OR APPROVED EQUAL.
   COORDINATE WITH BUILDING STANDARD MATERIALS.
3. METAL STUDS SHALL BE AS NOTED ON PLANS AND ON WALL TYPES SHEET ACCORDING TO THE WALL TYPE SPECS.
4. GYPSUM WALLBOARD SHALL BE 5/8' THICK, FIRE-RATED WHERE REQUIRED, AND APPLIED VERTICALLY WITH SCREW FASTENERS, IN GENERAL. PROVIDE TAPING AND FINISH SPACKLING WITH COMPATIBLE MATERIAL. PARTITIONS SHALL BE BRACED OR SECURELY ANCHORED TO STRUCTURE FROM ABOVE FOR 10'-0' LENGTH IN ANY DIRECTION. PROVIDE TEMPORARY BRACING OF PARTITIONING WORK WHERE REQUIRED TO DEVELOP FULL STRENGTH OF ASSEMBLIES.
5. JOINTS GREATER THAN 1/8' AT CEILINGS SHALL BE REJECTED. PROVIDE CAULKING AT CEILING FOR PARTITIONS THAT TERMINATE AT THE CEILING. ALL CASING BEADING SHALL BE U.S.G. #200 CONTROL JOINT EQUIVALENT. FOR ALL OTHER APPLICATIONS OF DRYWALL CONSTRUCTION, JOINTS GREATER THAN 1/4' SHALL BE REJECTED. STUD DESIGNED TO ENGINEER STUD BRACING AS REQUIRED FOR TALL STUD WALL ASSEMBLIES OVER 10'-0' AFF.
6. SOUND INSULATION: SOUND-ATTENUATING INSULATION SHALL BE CAULKED AT PERIMETER WITH ACOUSTICAL OR FIRE-RATED SEALANT AS APPLICABLE. PLACE SEALANT BETWEEN GYPSUM BOARD AND ADJACENT SUBSTRATE. PROVIDE WITH BUILDING STANDARD SOUND-ATTENUATING INSULATION BATT



1 OPENING CLEARANCE
MISC OPENING CONDITIONS

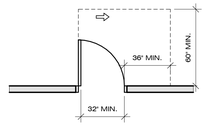


2 DOOR CLEARANCE
FRONT APPROACH - PULL SIDE

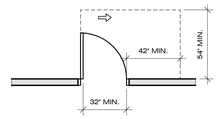


NOTE:
* IF BOTH CLOSER & LATCH ARE USED

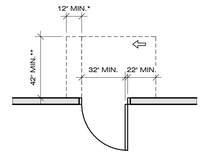
3 DOOR CLEARANCE
FRONT APPROACH - PUSH SIDE



4 DOOR CLEARANCE
HINGE APPROACH - PULL SIDE

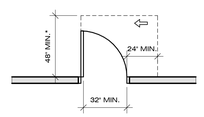


5 DOOR CLEARANCE
HINGE APPROACH - PULL SIDE



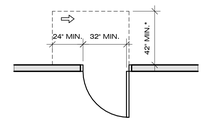
NOTE:
* IF BOTH CLOSER & LATCH ARE PROVIDED
** 48" MIN. IF BOTH CLOSER & LATCH ARE PROVIDED

6 DOOR CLEARANCE
HINGE APPROACH - PUSH SIDE



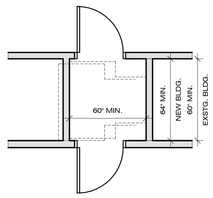
NOTE:
*54" MIN. IF CLOSER IS PROVIDED

7 DOOR CLEARANCE
LATCH APPROACH - PULL SIDE

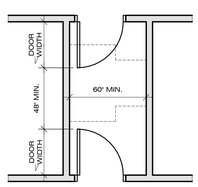


NOTE:
*48" MIN. IF CLOSER IS PROVIDED

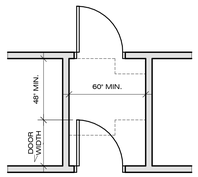
8 DOOR CLEARANCE
LATCH APPROACH - PULL SIDE



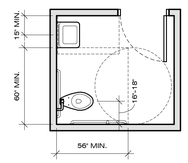
9 DOORS IN SERIES



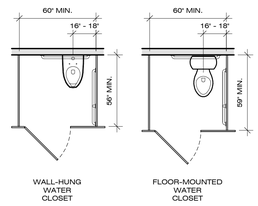
10 DOORS IN SERIES



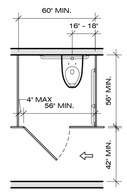
11 DOORS IN SERIES



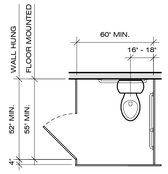
12 PLUMBING ELEMENTS
CLEARENCES FOR SINGLE HOLE RESTROOM



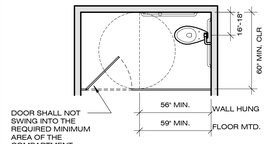
13 ACCESSIBLE STALLS
ACCESSIBLE TOILET PARTITION STALLS



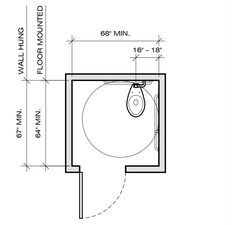
14 ACCESSIBLE STALLS
ACCESSIBLE TOILET PARTITION STALLS



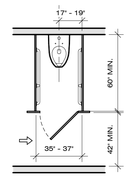
15 ACCESSIBLE STALLS
ACCESSIBLE TOILET PARTITION STALLS



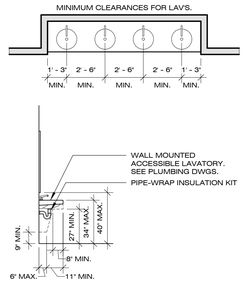
16 ALTERNATE STALL
DOOR OPENING CLEARANCE



17 ALTERNATE STALL
ACCESSIBLE STALL WITH BUILT WALLS



18 AMBULATORY STALL
MINIMUM CLEARANCES



19 MOUNTING HEIGHTS
WALL HUNG SINK

20 MOUNTING HEIGHTS
WALL-HUNG SINK, MIRROR, SOAP DISPENSER

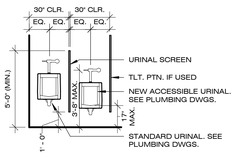
NOTE: U.N.O. GRAB BAR LOCATION DIMENSIONS ARE SHOWN TO CENTERLINE OF BAR TYPICAL

21 MOUNTING HEIGHTS
ACCESSIBLE TOILET WITH GRAB BARS

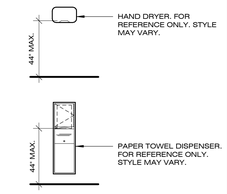
22 MOUNTING HEIGHTS
ACCESSIBLE TOILET WITH GRAB BARS

23 MOUNTING HEIGHTS
SURFACE MOUNTED DISPENSER LOCATIONS

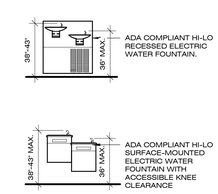
24 MOUNTING HEIGHTS
RECESSED DISPENSER LOCATIONS



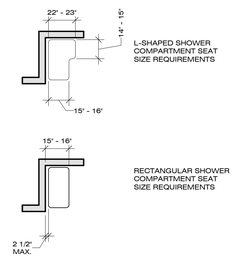
25 MOUNTING HEIGHTS
STANDARD AND ACCESSIBLE URINALS



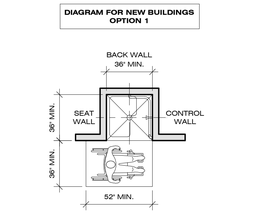
26 MOUNTING HEIGHTS
HAND DRYING DEVICES



27 MOUNTING HEIGHTS
DRINKING FOUNTAINS

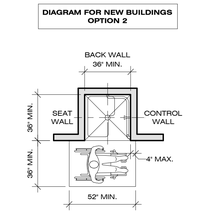


28 SHOWER SEAT DIMS



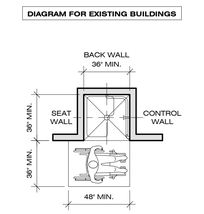
NOTE: INSIDE FINISHED DIMENSIONS MEASURED AT THE CENTER OF OPPOSING SIDES

29 SHOWER SEAT DIMS



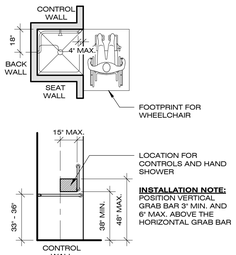
NOTE: INSIDE FINISHED DIMENSIONS MEASURED AT THE CENTER OF OPPOSING SIDES

30 SHOWER SEAT DIMS

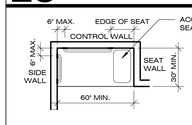


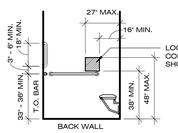
NOTE: INSIDE FINISHED DIMENSIONS MEASURED AT THE CENTER OF OPPOSING SIDES

31 ACCESSIBLE SHOWER
TRANSFER-TYPE SHOWER CLEARANCES



32 ACCESSIBLE SHOWER
TRANSFER-TYPE SHOWER

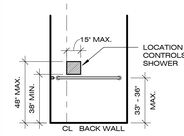




STANDARD ROLL-IN SHOWER
NOTE: INSIDE FINISHED DIMENSIONS MEASURES AT THE CENTER POINTS OF OPPOSING SIDES

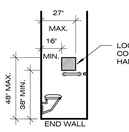
33 ACCESSIBLE SHOWER
STANDARD ROLL-IN-TYPE SHOWER





ALTERNATE ROLL-IN SHOWER
NOTE: INSIDE FINISHED DIMENSIONS MEASURES AT THE CENTER POINTS OF OPPOSING SIDES

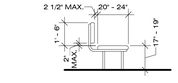
34 ACCESSIBLE SHOWER
ALTERNATE ROLL-IN-TYPE SHOWER



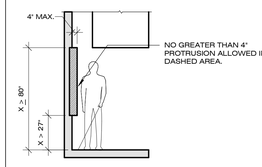
35 ACCESIBLE SHOWER
ALTERNATE ROLL-IN-TYPE SHOWER

NOTES:
ALLOWABLE STRESSES SHALL NOT BE EXCEEDED FOR MATERIALS USED WHERE A VERTICAL OR HORIZONTAL FORCE OF 250 POUNDS IS APPLIED AT ANY POINT ON THE SEAT, FASTENER MOUNTING DEVICE, OR SUPPORTING STRUCTURE

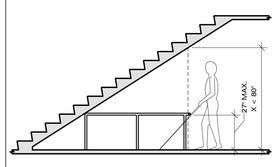
WHERE PROVIDED IN WET LOCATIONS THE SURFACE OF THE SEAT SHALL BE SLIP RESISTANT AND SHALL NOT ACCUMULATE WATER



36 ACCESS. SH. BENCH
ALTERNATE ROLL-IN-TYPE SHOWER

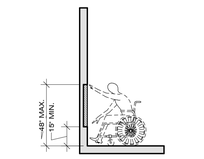


37 ACCESSIBLE REACHES
LIMITS OF PROTRUDING OBJECTS



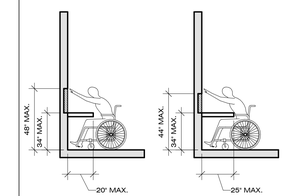
38 VERT. CLEARANCE
REDUCED VERTICAL CLEARANCE

NOTE:
THIS DIAGRAM IS FOR SURFACE MOUNTED DISPENSERS ONLY



39 ACCESSIBLE REACHES
UNOBSTRUCTED FORWARD REACH

NOTE:
THIS DIAGRAM IS FOR RECESSED DISPENSERS ONLY



40 ACCESSIBLE REACHES
OBSTRUCTED HIGH FORWARD REACH

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11.21.25

#	△	DESCRIPTION	DATE
1		PERMIT SET	11.21.2025
2			
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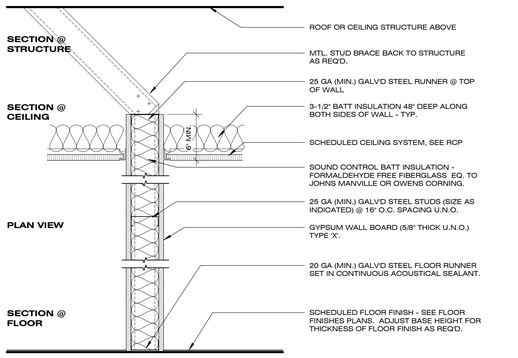
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ARCH. PROJECT # RDU 25-065

TYPICAL ANSI DETAILS

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

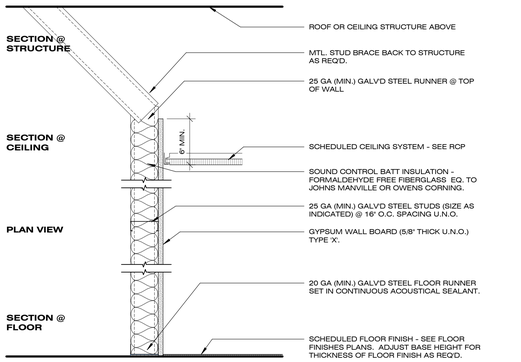
SHEET # CS4.0



#	WALL TYPE	STUD SIZE	WALL SHEATHING & THICKNESS	WALL THICKNESS	INSULATION TYPE & THICKNESS
	1.1	3-5/8"	5/8" GWB	4-7/8"	3-1/2" SOUND BATTS
	1.2	6"	5/8" GWB	6-5/8"	5-1/2" SOUND BATTS

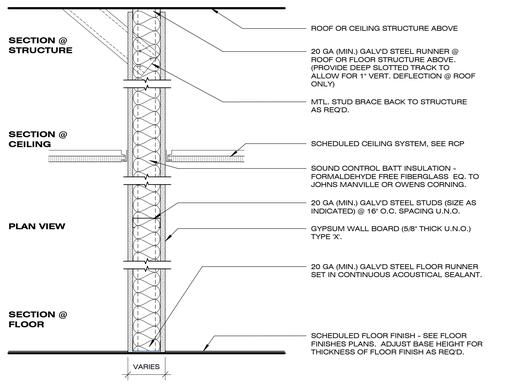
NOTE: AT VESTIBULE, CONSTRUCT WALL TO TOP OF VESTIBULE, 12'-6" AFF

WALL TYPE - 1
SCALE: 1-1/2" = 1'-0" (PART. HT. STUDS / PART. HT. GWB BOTH SIDES)



#	WALL TYPE	STUD SIZE	WALL SHEATHING & THICKNESS	WALL THICKNESS	INSULATION TYPE & THICKNESS
	2.1	2-1/2"	5/8" GWB	3-1/8"	3-1/2" SOUND BATTS
	2.2	3-5/8"	5/8" GWB	3-1/8"	3-1/2" SOUND BATTS

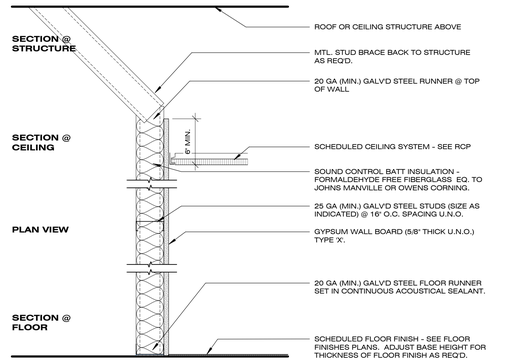
WALL TYPE - 2
SCALE: 1-1/2" = 1'-0" (FURRING WALL - FULL HT. STUDS W/ PART-HT. GWB ONE SIDE ONLY)



#	WALL TYPE	STUD SIZE	WALL SHEATHING & THICKNESS	WALL THICKNESS	INSULATION TYPE & THICKNESS
	3	3-5/8"	5/8" GWB	4-7/8"	3-1/2" SOUND BATTS

NOTE: FOR SHAFT WALL SEE DETAIL 3/ A1.1

WALL TYPE - 3
SCALE: 1-1/2" = 1'-0" (FULL HT. STUDS / FULL HT. GWB)



#	WALL TYPE	STUD SIZE	WALL SHEATHING & THICKNESS	WALL THICKNESS	INSULATION TYPE & THICKNESS
	4	3-5/8"	5/8" GWB	4-7/8"	3-1/2" SOUND BATTS

EXTERIOR SHELL WALLS:
TENANT GC TO INSTALL NEW 3-5/8" METAL STUDS AT 16" OC WITH 5/8" GWB (ONE SIDE) AND BATT INSULATION FROM THE FLOOR TO 6" ABOVE THE CEILING. WRAP GWB AT THE WINDOW SILLS AND JAMBS. ALIGN NEW STUDS WITH EXISTING EXTERIOR METAL PLATES AT THE FLOOR, APPROX. 6" INTO THE SPACE.

WALL TYPE - 4
SCALE: 1-1/2" = 1'-0" (FURRING WALL - FULL HT. STUDS W/ PART-HT. GWB ONE SIDE ONLY)

#	WALL TYPE	STUD SIZE	WALL SHEATHING & THICKNESS	WALL THICKNESS	INSULATION TYPE & THICKNESS
	5	3-5/8"	5/8" GWB	4-7/8"	3-1/2" SOUND BATTS

NOTE: INSTALL PLYWOOD WITHIN STUD CAVITY ON EACH SIDE AND HEADER OF DOOR OPENING TO SUPPORT THE AD DOOR SYSTEM TRACK. REFER TO THE MANUFACTURERS INSTALLATION RECOMMENATIONS FOR ADDITIONAL INFORMATION

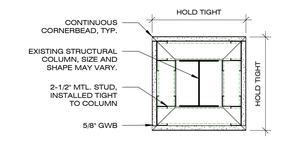
WALL TYPE - 5
SCALE: 1-1/2" = 1'-0" (FULL HT. STUDS / FULL HT. GWB)

#	WALL TYPE	STUD SIZE	WALL SHEATHING & THICKNESS	WALL THICKNESS	INSULATION TYPE & THICKNESS
	8	3-5/8"	5/8" GWB	4-7/8"	3-1/2" SOUND BATTS

WALL TYPE - 6
SCALE: 1-1/2" = 1'-0" (FULL HT. STUDS / FULL HT. GWB)

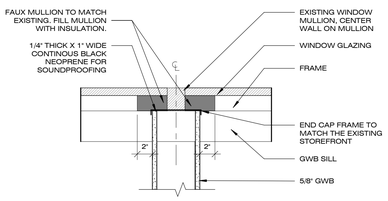
#	WALL TYPE	STUD SIZE	WALL SHEATHING & THICKNESS	WALL THICKNESS	INSULATION TYPE & THICKNESS
	9	3-5/8"	5/8" GWB	4-7/8"	3-1/2" SOUND BATTS

WALL TYPE - 7
SCALE: 1-1/2" = 1'-0" (FULL HT. STUDS / FULL HT. GWB)

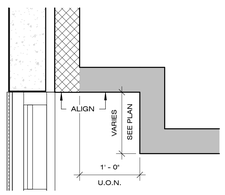


VERIFY FINAL DIMENSIONS IN FIELD TYP.

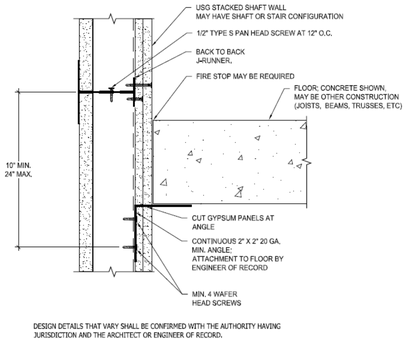
1 WALL DETAIL @COLUMN
SCALE:1 1/2" = 1'-0"



2 WALL CENTERED AT WINDOW MULLION
SCALE:1 1/2" = 1'-0"



3 WALL JOG DETAIL (TYP.)
SCALE:1" = 1'-0"



DESIGN DETAILS THAT VARY SHALL BE CONFIRMED WITH THE AUTHORITY HAVING JURISDICTION AND THE ARCHITECT OR ENGINEER OF RECORD.

4 DETAIL @ SHAFTWALL
SCALE:1" = 1'-0"

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NORTH CAROLINA REGISTERED
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JOSHUA R. BALL

11/21/2025

Onslow MEMORIAL HOSPITAL
An Affiliate of UNC Health

ONSLOW MEMORIAL HEALTH

172 NORTHWEST CORRIDOR BLVD
JACKSONVILLE, NC 28546

11.21.25

#	△	DESCRIPTION	DATE
1		PERMIT SET	11.21.2025
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ARCH. PROJECT # RDU 25-065

WALL TYPES & DETAILS

SCALE: As indicated

SHEET # CS5.0

GENERAL NOTES:

1. THE PROJECT SPECIFICATIONS (A BOOK OF SPECIFICATIONS WHEN PROVIDED) ARE A PART OF THE CONTRACT DOCUMENTS. IF THERE IS A DISCREPANCY FOUND BETWEEN THE SPECIFICATIONS AND THE DRAWINGS, SPECIFICATIONS TAKE PRECEDENCE, HOWEVER THE MATTER SHALL BE PROMPTLY SUBMITTED TO THE SEOR FOR CLARIFICATION. ANY WORK PERFORMED BY THE CONTRACTOR WITHOUT SUCH A CLARIFICATION SHALL BE AT CONTRACTOR'S OWN RISK AND EXPENSE.
2. EXAMINE THE STRUCTURAL DRAWINGS AND THE SPECIFICATIONS AND NOTIFY THE ENGINEER & ARCHITECT OF ANY DISCREPANCIES IN ELEVATIONS, DIMENSIONS, AND SITE CONDITIONS INCLUDING ERRORS BEFORE PROCEEDING WITH ANY WORK. OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS (AND SPECIFICATIONS) SHALL BE RESOLVED IN WRITING WITH THE ENGINEER/ARCHITECT PRIOR TO START OF WORK.
3. THE DRAWINGS (AND SPECIFICATIONS) REPRESENT THE COMPLETED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. PROVIDE ALL MEASURES AND MEANS NECESSARY TO PROTECT PERSONS AND THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING, ETC. OBSERVATION VISITS BY THE ARCHITECT OR ENGINEER DOES NOT INCLUDE REVIEW OF THESE MEASURES.
4. TYPICAL DETAILS SHALL BE USED WHENEVER APPLICABLE WHETHER SPECIFICALLY REFERENCED OR NOT.
5. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
6. NO PIPES OR DUCTS SHALL BE PLACED IN STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE ENGINEER & ARCHITECT.
7. REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:
   A. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS, UNLESS OTHERWISE NOTED.
   B. SIZE AND LOCATION OF INTERIOR AND EXTERIOR NON-BEARING PARTITIONS.
   C. SIZE AND LOCATION OF CURBS, FLOOR DRAINS, SLOPES, DEPRESSED AREAS, CHANGES IN LEVEL, RAMPS, CHAMFERS, GROOVES, INSERTS, ETC., EXCEPT AS SHOWN.
   D. SIZE AND LOCATION OF FLOOR AND ROOF OPENINGS, EXCEPT AS SHOWN.
   E. FLOOR AND ROOF FINISHES.
   F. STAIR FRAMING AND DETAILS, EXCEPT AS SHOWN.
   G. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
8. REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:
   A. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, SLAB OPENINGS, ETC., EXCEPT AS SHOWN OR NOTED.
   B. ELECTRICAL CONDUITS, BOXES, OUTLETS.
   C. CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL, AND PLUMBING FIXTURES.
   D. SIZE AND LOCATION OF MACHINE AND EQUIPMENT BASES, ANCHOR BOLTS, ETC.
9. ASTM REFERENCES ARE FROM THE LATEST ISSUE AND LATEST REVISION, UNLESS NOTED OTHERWISE.
10. INVESTIGATE THE SITE DURING CLEARING AND EXCAVATION FOR UNSUITABLE CONDITIONS, UNCONSOLIDATED AND UNDOCUMENTED FILLS, BURIED STRUCTURES, UTILITIES, ETC., AND IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY SITE CONDITIONS NOT REFLECTED ON THE DRAWINGS OR DIFFERENT FROM MAXIMUM OR MINIMUM DIMENSIONS INDICATED, INCLUDING CONFLICT IN GRADES, ADVERSE SOIL CONDITIONS, GROUNDWATER PRESENT, DEEPENED FOOTINGS, UNCOVERED AND UNEXPECTED UTILITY LINES, ETC.
11. CONSTRUCTION MATERIALS , IF PLACED ON STRUCTURAL MEMBERS, SHALL BE SPREAD OUT SUCH THAT THE LOADING DOES NOT EXCEED THE DESIGN LIVE LOADS. PROVIDE SHORING AND BRACING WHERE CONSTRUCTION LOADING EXCEEDS THE DESIGN STRENGTH OF THE STRUCTURAL MEMBERS OR THE STRUCTURAL STRENGTH HAS NOT BEEN ATTAINED OR THE STRUCTURE IS NOT COMPLETE.
12. DETERMINE THE LOCATION OF UTILITY SERVICES IN AREAS TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING. DAMAGE CAUSED AS A RESULT OF FAILING TO EXACTLY LOCATE AND PRESERVE ALL EXISTING UNDERGROUND UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
13. THE CAD DRAWING FILES ARE THE PROPERTY OF THE EOR AND WILL NOT BE RELEASED TO THE CONTRACTOR OR SUBCONTRACTOR FOR THEIR USE.
14. STRUCTURAL DRAWINGS TO BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.

DESIGN CRITERIA:

1. BUILDING CODE..... 2018 NORTH CAROLINA STATE BUILDING CODE
2. BUILDING CLASSIFICATION CATEGORY (TABLE 1604.5)..... II
3. DESIGN LIVE LOADS:
   A. OFFICE..... 50 PSF + 15 PSF PARTITIONS
4. SNOW:
   A. GROUND SNOW LOAD..... 15 PSF
   B. FLAT ROOF SNOW LOAD..... 20 PSF
   C. SNOW EXPOSURE FACTOR, Ce..... 1.0
   D. IMPORTANCE FACTOR, Is..... 1.0
   E. THERMAL FACTOR, Ct..... 1.0
5. WIND:
   A. ULTIMATE WIND SPEED..... 137 MPH
   B. NOMINAL WIND SPEED..... 106 MPH
   C. IMPORTANCE FACTOR (UNO), Iw..... 1.0
   D. WIND EXPOSURE CATEGORY..... B
   E. INTERNAL PRESSURE COEFFICIENT..... +/- 0.18
   F. ROOF COMPONENTS AND CLADDING..... +/- 35 PSF
   G. WALL COMPONENTS AND CLADDING..... +/- 25 PSF
   H. ROOF OVERHANG..... +/- 40 PSF
   I. WIND BASE SHEAR..... EXISTING BUILDING
6. SEISMIC:
   A. IMPORTANCE FACTOR, Ie..... 1.0
   B. MAPPED SPECTRAL RESPONSE COEFFICIENT, Ss..... 0.115 g
   C. MAPPED ONE SECOND SPECTRAL RESPONSE COEFFICIENT, S1..... 0.055 g
   D. SITE CLASS..... D
   E. DESIGN SPECTRAL RESPONSE COEFFICIENT, Sds..... 0.123 g
   F. DESIGN ONE SECOND SPECTRAL RESPONSE COEFFICIENT, Sd1..... 0.088 g
   G. SEISMIC DESIGN CATEGORY..... B
   H. BASIC SEISMIC FORCE RESISTING SYSTEM..... STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
   I. SEISMIC BASE SHEAR..... EXISTING BUILDING
   J. SEISMIC RESPONSE COEFFICIENT, Cs..... 0..0409
   K. RESPONSE MODIFICATION FACTOR, R..... 3.0
   L. ANALYSIS PROCEDURE..... EQUIVALENT LATERAL FORCE

FOUNDATION:

1. FOUNDATION DESIGN IS BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF TO BE CONFIRMED DURING CONSTRUCTION BY GEOTECHNICAL ENGINEER. GEOTECHNICAL REPORT AND ALL SUPPLEMENTAL REPORTS OR ADDENDA SHALL BE KEPT ON THE JOB SITE AT ALL TIMES.
2. FOOTING DEPTHS SHOWN ARE A MINIMUM AND MAY REQUIRE DEEPENING PER DIRECTION OF THE GEOTECHNICAL ENGINEER.
3. FOOTINGS SHALL BEAR ON FIRM UNDISTURBED OR COMPACTED SOIL PER RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
4. GEOTECHNICAL ENGINEER SHALL VERIFY IN WRITING TO THE ARCHITECT/ENGINEER THAT SITE GRADING WORK COMPLIES WITH ALL OF THE RECOMMENDATIONS AND CONCLUSIONS OF THE GEOTECHNICAL REPORT. SUBMIT COMPACTION TEST REPORTS FOR ALL FILL BY A QUALIFIED TESTING LAB TO ARCHITECT/ENGINEER BEFORE FOUNDATION PLACEMENT. ALL LOOSE SOIL AND FILL DIRT SHALL BE COMPACTED PER GEOTECHNICAL REPORT AND TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER TO A MINIMUM OF 95% MAXIMUM DENSITY.
5. THE FOOTING EXCAVATIONS SHALL BE KEPT FREE FROM LOOSE MATERIAL AND STANDING WATER AND SHALL BE NEAT AND TRUE TO LINE BEFORE ANY CONCRETE IS PLACED. EXCAVATION SHALL BE CHECKED AND APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER TO ENSURE COMPLIANCE WITH THE REQUIREMENTS OF THE GEOTECHNICAL REPORT.
6. ALL SITE GRADING WORK SHALL BE PERFORMED UNDER THE DIRECT OBSERVATION OF THE GEOTECHNICAL ENGINEER. ANY DEVIATIONS IN SOIL CONDITIONS FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT ARE TO BE REPORTED TO THE ARCHITECT/ENGINEER & GEOTECHNICAL ENGINEER IMMEDIATELY.
7. UTILITY TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED IN LAYERS TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER.
8. ALL ABANDONED FOOTINGS, UTILITIES, ETC. THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
9. WALL FOOTINGS ARE CONTINUOUS POURED CONCRETE WITH CONTINUOUS REINFORCING PLACED 3" CLEAR OF BOTTOM AND SIDES.
10. UNLESS OTHERWISE NOTED, WALL FOOTINGS ARE CENTERED UNDER WALLS AND COLUMN FOOTINGS UNDER COLUMNS.
11. PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN ALL GRADES.
12. PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM SURFACE, GROUND, AND OR SEEPAGE WATER.

STRUCTURAL STEEL:

1. THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH "AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND STEEL CONSTRUCTION MANUAL AISC 360, LATEST ADOPTED EDITION. EXCEPT AS AMENDED IN IBC CHAPTER 22.
2. THE SEISMIC DESIGN OF STEEL STRUCTURES SHALL BE IN ACCORDANCE WITH "AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS", INCLUDING ALL SUPPLEMENTS AISC 341 EXCEPT AS AMENDED IN IBC CHAPTER 22.
3. ALL CONNECTIONS SHALL BE DETAILED IN ACCORDANCE WITH LATEST EDITION OF AISC "DETAILING FOR STEEL CONSTRUCTION". DESIGN CONNECTIONS FOR HALF OF THE TOTAL UNIFORM LOAD PER AISC TABLES (UNO).
4. STEEL FURNISHED FOR STRUCTURAL LOADS CARRYING PURPOSES SHALL BE PROPERLY IDENTIFIED FOR CONFORMITY TO THE SPECIFIED GRADES SHOWN BELOW AND IN ACCORDANCE WITH ASTM STANDARDS AND PROVISIONS OF IBC CHAPTER 22. STEEL THAT IS NOT READILY IDENTIFIABLE AS TO GRADE FROM MARKING AND TEST RECORDS SHALL BE TESTED TO DETERMINE CONFORMITY TO:
   A. WIDE FLANGE — ASTM F992 (Fy = 50 ksi)
   B. ANGLES AND CHANNELS — ASTM A36 (Fy = 36 ksi)
   C. PLATES — ASTM A36 (Fy = 36 ksi)
   D. HSS (RECTANGULAR) — ASTM A500 GRADE B (Fy = 46 ksi)
   E. ANCHOR BOLTS — ASTM F1554 GRADE 55
5. ALL COLUMN ENDS TO BE MILLED.
6. ALL EXTERIOR STRUCTURAL STEEL PERMANENTLY EXPOSED TO THE WEATHER SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION. ZINC COATING SHALL CONFORM TO ASTM A123 (G-60, UNO).
7. ALL WELDING DONE AFTER GALVANIZING SHALL BE PROTECTED WITH TWO COATS OF "GALVALOY", OR EQUAL. CONTRACTOR TO USE VENTILATION WHILE PERFORMING THIS WORK AS REQUIRED BY OSHA.
8. ALL STEEL FABRICATION SHALL BE PERFORMED IN AN APPROVED FABRICATION SHOP.
9. STEEL FABRICATOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
10. ALL METAL ITEMS, INCLUDING CONNECTORS, EXPOSED TO THE WEATHER SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
11. STRUCTURAL STEEL SHALL BE DELIVERED TO THE JOB SITE FREE OF EXCESSIVE RUST, MILL SCALE, GREASE, ETC.
12. SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATIONS FOR ALL STRUCTURAL STEEL MEMBERS AND ACCESSORIES. SHOP DRAWINGS SHALL INCLUDE CONNECTION DESIGN AND SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA.
13. ALL EXPOSED STRUCTURAL STEEL SHALL HAVE FINISHES PER AISC ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SPECIFICATIONS.

STEEL BAR JOISTS:

1. STEEL JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STEEL JOIST INSTITUTE SPECIFICATIONS.
2. DESIGN JOISTS FOR A NET UPLIFT OF 20 PSF (ASD). PROVIDE JOISTS CAPABLE OF WITHSTANDING THE UNIFORM DESIGN LOADS INDICATED, FOR JOISTS WITH NONUNIFORM LOADS PROVIDE KCS JOISTS AS NOTED ON THE FRAMING PLANS OR SPECIAL JOISTS (SP) WITH THE LOADING DIAGRAMS, IF APPLICABLE. JOISTS SHALL HAVE VERTICAL DEFLECTION LIMITS AS FOLLOWS UNLESS NOTED OTHERWISE:
   A. FLOOR MEMBERS:
      a. L/360 OF THE SPAN FOR LIVE LOAD
      b. L/240 OF THE SPAN FOR LIVE LOAD PLUS DEAD LOAD
   B. ROOF MEMBERS:
      a. L/240 OF THE SPAN FOR LIVE LOAD
      b. L/180 OF THE SPAN FOR LIVE LOAD PLUS DEAD LOAD
3. ALL JOISTS SHALL BE SHOP PRIMED WITH SSPC-15 PAINT OR THE MANUFACTURER'S STANDARD SHOP PRIMER COMPLYING WITH THE PERFORMANCE REQUIREMENTS IN SSPC- PAINT 15. CONFIRM COLORS WITH THE ARCHITECTURAL DRAWINGS. DO NOT PAINT OR PRIME WHEN JOISTS ARE TO RECEIVE SPRAYED-ON FIRE-PROOFING.
4. PROVIDE K-SERIES AND KCS-TYPE K-SERIES STEEL JOISTS AS INDICATED ON THE FRAMING PLANS. JOISTS SHALL BE MANUFACTURED PER SJI's "SPECIFICATIONS". JOISTS SHALL HAVE UNDERSLUNG ENDS AND A PARALLEL TOP CHORD, UNLESS OTHERWISE NOTED.
5. EXTEND TOP CHORDS OF JOISTS AS NOTED ON THE FRAMING PLANS. PROVIDE TYPE R EXTENSIONS, COMPLYING WITH SJI's "SPECIFICATIONS" UNLESS NOTED OTHERWISE.
6. CAMBER JOISTS ACCORDING SJI's "SPECIFICATIONS" UNLESS NOTED OTHERWISE.
7. EQUIP BEARING ENDS OF JOISTS WITH MANUFACTURER'S STANDARD BEVELED ENDS OR SLOPED SHOES IF SLOPE EXCEEDS 1/4 INCH PER 12 INCHES.
8. DO NOT INSTALL JOISTS UNTIL SUPPORTING CONSTRUCTION IS IN PLACE AND SECURED. INSTALL JOISTS AND ACCESSORIES PLUMB, SQUARE, AND TRUE TO LINE; SECURELY FASTEN TO SUPPORTING CONSTRUCTION ACCORDING TO SJI's "SPECIFICATIONS". JOIST MANUFACTURER'S WRITTEN RECOMMENDATIONS AND THE REQUIREMENTS BELOW:
9. FIELD WELD JOISTS TO SUPPORTING STEEL BEARING PLATES AND FRAMEWORK. COORDINATE WELDING SEQUENCE AND PROCEDURE WITH PLACEMENT OF JOISTS. COMPLY WITH AWS REQUIREMENTS AND PROCEDURES FOR WELDING, APPEARANCE AND QUALITY OF WELDS, AND METHODS USED IN CORRECTING WELDING WORK. JOISTS SHALL BE WELDED TO THEIR SUPPORTS WITH 1-1/2" FILLET WELD FOR EACH SIDE OF JOIST UNLESS OTHERWISE NOTED.
10. INSTALL AND CONNECT BRIDGING ACCORDING TO SJI's "SPECIFICATIONS". BRIDGING SHALL BE INSTALLED CONCURRENTLY WITH JOIST ERECTION, BEFORE CONSTRUCTION LOADS ARE APPLIED. ANCHOR ENDS OF BRIDGING LINE AT TOP AND BOTTOM CHORDS IF TERMINATING AT WALLS OR BEAMS. FURNISH ADDITIONAL ERECTION BRIDGING IF REQUIRED FOR STABILITY.
11. JOIST MANUFACTURER MUST CHECK THE JOIST SYSTEM FOR AN UPLIFT PRESSURE AS NOTED ON THE UPLIFT DIAGRAM AND PROVIDE BRIDGING AS REQUIRED TO ADEQUATELY BRACE THE BOTTOM CHORD AGAINST LATERAL MOVEMENT.
12. FOLLOW THE TESTING AND INSPECTION REQUIREMENTS IN THE "STRUCTURAL STEEL" SECTION OF THESE SPECIFICATIONS.

STEEL DECK:

1. METAL DECKING SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STEEL DECK INSTITUTE SPECIFICATIONS.
2. WELDING OF METAL DECKING SHALL CONFORM TO AWS D1.3, "STRUCTURAL WELDING CODE-SHEET STEEL"
3. METAL DECK SHALL BE AS NOTED ON PLAN AND MANUFACTURED BY NUCOR CORPORATION VULCRAFT DIVISION UNLESS NOTED OTHERWISE. ALTERNATE MANUFACTURERS MAY BE USED AT THE CONTRACTOR'S OPTION PROVIDED THE PROPERTIES OF THE ALTERNATE MEETS OR EXCEEDS THE METAL DECK SPECIFIED BELOW:

DECK TYPE	DECK THICKNESS	I (in4/ft)	S_p (in3/ft)	S_n (in3/ft)	F_y (ksi)
1.5B22	0.0295	0.155	0.186	0.192	33
1.5B22	0.0358	0.201	0.234	0.247	33
3.0VL20	0.0358	0.409	0.341	0.346	50

4. METAL DECK SHALL BE GALVANIZED AND SHOP-PRIMED STEEL SHEET: ASTM 653, STRUCTURAL STEEL (55) GRADE 33, G60 ZINC COATING; CLEAN, PRETREATED, AND PRIMED WITH MANUFACTURER'S STANDARD BAKED-ON, RUST-INHIBITIVE PRIMER. COLOR SHALL BE THE MANUFACTURER'S STANDARD UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL PLANS.
5. METAL DECK SHALL HAVE A S-SPAN CONDITION UNLESS NOTED OTHERWISE AND HAVE INTERLOCKING SEAM SIDELAPS.
6. FASTEN ROOF DECK PANELS TO STEEL SUPPORTING MEMBERS BY ARC SPOT (PUDDLE) WELDS WITH A 5/8" DIAMETER, NOMINAL WELD INTERIOR RIBS OF DECK UNITS AS INDICATED ON THE ROOF DECK DETAIL ON THESE DRAWINGS. FASTEN SIDELAPS OF PANELS BETWEEN SUPPORTS WITH No. 10 SELF-DRILLING CARBON STEEL SCREWS AS INDICATED ON THE ROOF DECK DETAIL ON THESE DRAWINGS. INSTALL ENDS OVER SUPPORTING FRAMING WITH A 1-1/2" MINIMUM END BEARING AND LAP JOINTS 2". FASTEN ROOF DECK PANELS TO DIAPHRAGM PERIMETER, i.e. EDGE ANGLES, BY ARC SPOT (PUDDLE) WELDS WITH A 5/8" DIAMETER WELDS AT 12" O.C. TYPICAL UNLESS NOTED OTHERWISE.
7. FASTEN FLOOR DECK PANEL TO SUPPORT WITH 5/8" Ø PUDDLE WELDS AT 12" O.C. EXCEPT FOR END SPANS OR LAPS, WHICH SHOULD HAVE PUDDLE WELDS AT 6" O.C. PROVIDE MINIMUM (4) #10 SELF TAPPING HEX HEAD SCREWS EQUALLY SPACED BETWEEN SUPPORTS (OR A MAXIMUM OF 18" O.C.).
8. PROVIDE MISCELLANEOUS DECK ACCESSORIES NOT SPECIFICALLY NOTED ON THESE DRAWINGS AS REQUIRED TO SUBSTRATE A COMPLETE DECK INSTALLATION. THESE ACCESSORIES MAY INCLUDE RIDGE AND VALLEY PLATES, FINISH STRIPS, END CLOSURES, REINFORCING CHANNELS, AND WELD COVER PLATES AT CHANGES IN DIRECTION OF DECK PANELS ACCORDING TO DECK MANUFACTURER'S WRITTEN INSTRUCTIONS.
9. ACCESSORIES ACCORDING TO APPLICABLE SPECIFICATIONS AND COMMENTARY IN SDI PUBLICATION No. 30, MANUFACTURER'S WRITTEN INSTRUCTIONS AND REQUIREMENTS IN THESE DOCUMENTS.
10. INSTALL TEMPORARY SHORING BEFORE PLACING DECK PANELS, IF REQUIRED TO MEET DEFLECTION LIMITATIONS.
11. PLACE DECK PANELS ON SUPPORTING FRAME AND ADJUST TO FINAL POSITION WITH ENDS ACCURATELY ALIGNED AND BEARING ON SUPPORTING FRAME BEFORE BEING PERMANENTLY FASTENED. DO NOT STRETCH OR CONTRACT SIDELAP INTERLOCKS.

CONCRETE:

1. CEMENT SHALL CONFORM TO ASTM C150, TYPE I / II.
2. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C44, 1 1/2" MAXIMUM SIZE.
3. ADMIXTURES MAY NOT BE USED WITHOUT PRIOR APPROVAL OF THE ENGINEER. ADMIXTURES USED TO INCREASE THE WORKABILITY OF THE CONCRETE SHALL NOT REDUCE THE STRENGTH OF CONCRETE. FLY ASH (POZZOLAN) IF PERMITTED BY SPECIFICATIONS SHALL NOT EXCEED 25% FOR SLAB ON GRADE AND 25% FOR ALL OTHER CONCRETE.
4. THE MIX DESIGN, INCLUDING PROPORTIONS OF MATERIALS FOR A ONE YARD BATCH, SHALL BE SUBMITTED TO THE ENGINEER OF RECORD & ARCHITECT FOR REVIEW PRIOR TO ORDERING CONCRETE.
5. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.
6. ALL REINFORCING BARS AND INSERTS SHALL BE SECURED IN PLACE PRIOR TO PLACING CONCRETE.
7. CONDUITS EMBEDDED HORIZONTALLY IN THE SLAB SHALL HAVE AN OUTSIDE DIAMETER NO GREATER THAN 1/4 THE THICKNESS OF THE SLAB. CONDUIT SHALL NOT BE EMBEDDED IN A SLAB THAT IS LESS THAN 4 1/2" THICK, EXCEPT FOR LOCAL OFFSETS, MINIMUM CLEAR DISTANCE BETWEEN CONDUITS SHALL BE 6".
8. NON-STRUCTURAL STEEL MEMBERS EMBEDDED IN CONCRETE SHALL BE GALVANIZED OR PAINTED. ALL DAMAGED GALVANIZED AREAS SHALL BE REPAIRED PRIOR TO EMBEDMENT.
9. ALL NORMAL WEIGHT CONCRETE SHALL HAVE A MAXIMUM DRY DENSITY OF 150 pcf. ALL LOW WEIGHT CONCRETE TO HAVE MAXIMUM DENSITY OF 115 pcf.
10. MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:
    A. INTERIOR SLAB ON GRADE: f'c (MIN.) = 3,000 psi
    B. FOOTINGS & ALL OTHER CONCRETE: f'c (MIN.) = 3,000 psi
11. PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLAB ON GRADE AS SHOWN ON PLANS UNLESS SPECIFIED OTHERWISE. LOCATION OF JOINTS NOT SPECIFICALLY INDICATED SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER & ARCHITECT PRIOR TO PLACING REINFORCING STEEL.
12. DRY PACK SHALL BE ONE PART CEMENT AND 2 3/4 PARTS SAND WITH JUST ENOUGH WATER TO HYDRATE CEMENT AND FORM A BALL SHOWING MOISTURE ON THE SURFACE WHEN SQUEEZED. IT SHALL BE RAMMED IN TIGHT TO MAXIMUM DENSITY ATTAINABLE, AND SHALL BE FROM A PRODUCT THAT SPECIFIES A MINIMUM STRENGTH AT 28 DAYS OF 5000 psi.
13. NON-SHRINK GROUT SHALL BE FROM A PRODUCT THAT SPECIFIES A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 7,000 psi PER ASTM C109. GROUTING OF BASE PLATES PRIOR TO PLUMBING OF COLUMN IS NOT PERMITTED.
14. PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4" CHAMFER OR TOOLED EDGE, UNLESS OTHERWISE NOTED.
15. ALL CONCRETE WHICH DURING THE LIFE OF THE STRUCTURE WILL BE SUBJECT TO FREEZING TEMPERATURES WHILE WET, SHALL HAVE A WATER CEMENT RATIO NOT EXCEEDING 0.45 BY WEIGHT AND SHALL CONTAIN ENTRAINED AIR PER ACI 614. SUCH CONCRETE SHALL INCLUDE EXTERIOR SLABS, PERIMETER FOUNDATIONS, EXTERIOR CURBS, ETC.

REINFORCING STEEL:

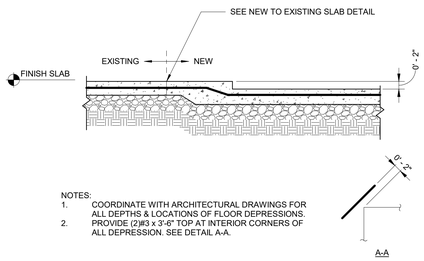
1. DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 415-LATEST ADOPTED EDITION.
2. ALL REINFORCING SHALL BE ADEQUATELY SUPPORTED TO PREVENT DISPLACEMENT BY CONCRETE PLACEMENT OR WORKERS.
3. ALL REINFORCING BARS EXCEPT BARS TO BE WELDED SHALL CONFORM TO THE "STANDARD SPECIFICATION FOR DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT", ASTM A615 GRADE 60. BARS TO BE WELDED SHALL CONFORM TO ASTM A706.
4. WELDING OF REINFORCING BARS TO BE IN ACCORDANCE WITH "STRUCTURAL WELDING CODE-REINFORCING STEEL", AWS D1.4. REINFORCING STEEL TO BE WELDED SHALL HAVE A MAXIMUM CARBON EQUIVALENT (CE) OF 0.75. SPECIAL INSPECTION IS REQUIRED. TESTING IS REQUIRED FOR ALL WELDS THICKER THAN 5/16". USE ASTM A706 WELDABLE REBAR.
5. WHERE CONTINUOUS BARS ARE CALLED OUT IN FOOTINGS, SPLICES MAY BE USED. WHERE BARS ARE SHOWN SPLICED, THEY MAY RUN CONTINUOUS AT CONTRACTOR'S OPTION.
6. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
7. UNLESS OTHERWISE SHOWN, WALL VERTICAL REINFORCING SHALL BE POSITIONED AT THE CENTER OF THE WALL.
8. DOWELS BETWEEN FOOTINGS AND WALLS SHALL BE THE SAME GRADE, SIZE, AND SPACING AS VERTICAL REINFORCING UNLESS NOTED OTHERWISE.
9. ALL REINFORCING BARS SHALL BE PROVIDED WITH THE FOLLOWING CONCRETE COVER:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH..... 3"
   B. CONCRETE EXPOSED TO EARTH OR WEATHER:
      a. NO.6 THROUGH NO.18 BAR..... 2"
      b. NO.5 BAR, W31 OR D31 WIRE AND SMALLER..... 1 1/2"
   C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND (SLABS, WALLS, JOISTS):
      a. NO.14 AND NO.18 BAR..... 1 1/2"
      b. NO.11 BAR AND SMALLER..... 3/4"
10. SLAB ON GRADE REINFORCEMENT SHALL BE POSITIONED AT MID-DEPTH.
11. SHOP DRAWINGS FOR SIZE AND LAYOUT OF REINFORCING REBAR ARE REQUIRED.

UNIT MASONRY ASSEMBLIES:

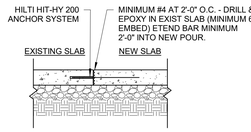
1. CONCRETE MASONRY UNITS (CMU) SHALL BE ERECTED AS LOAD BEARING CONCRETE MASONRY. COMPLY WITH ACI 530.1 "SPECIFICATION FOR MASONRY STRUCTURES" FOR MATERIALS, METHODS, AND WORKMANSHIP AND ERECTION TOLERANCES.
2. PROVIDE CONCRETE MASONRY UNIT (MIN 1900 PSI) SO THAT CMU ASSEMBLIES DEVELOPS A MINIMUM NET-AREA COMPRESSIVE STRENGTH (F'M) OF 1500 PSI AT 28 DAYS AND AS FOLLOWS:
   A. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 WITH A MINIMUM AVERAGE NET-AREA COMPRESSIVE STRENGTH OF 1900 PSI
   B. WEIGHT CLASSIFICATION: NORMAL WEIGHT, UNLESS OTHERWISE NOTED
   C. SIZE: MANUFACTURED TO DIMENSIONS 3/8" LESS THAN NOMINAL DIMENSIONS
3. BRICK MASONRY ON THIS PROJECT THAT IS A NON-STRUCTURAL VENEER, REFER TO ARCHITECTURAL PLANS AND SPECS FOR ALL MASONRY VENEER REQUIREMENTS, INCLUDING BUT NOT LIMITED TO, FLASHING REQUIREMENTS, COURSING, CORBELING REQUIREMENTS, EXPANSION/CONTROL JOINT REQUIREMENTS AND SPACING AND WEEP LOCATION AND SPACING.
4. PROVIDE MORTAR AND GROUT MATERIALS AS INDICATED ON THE DRAWINGS AND CONFORMING TO THE REQUIREMENTS LISTED BELOW. ALL CELLS CONTAINING REINFORCEMENT, CELLS BELOW GRADE, AND ANY LOCATIONS NOTED ON THE DRAWINGS SHALL BE GROUTED SOLID. DO NOT USE ADMIXTURES, INCLUDING AIR-ENTRAINING AGENTS, ACCELERATORS, RETARDERS, WATER-REPELLENT AGENT, ANTIFREEZE COMPOUNDS, OR OTHER ADMIXTURES UNLESS OTHERWISE NOTED. DO NOT USE CALCIUM CHLORIDE IN MORTAR OR GROUT.
   A. MORTAR FOR MASONRY ASSEMBLIES SHALL BE TYPE S, CONFORMING TO ASTM C270
   B. GROUT FOR UNIT MASONRY SHALL BE FINE GROUT CONFORMING TO ASTM C476 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'M) OF 2000 PSI. GROUT SHALL HAVE A SLUMP OF 8 TO 11 INCHES AS MEASURED ACCORDING TO ASTM C143. COMPLY WITH TABLE 1.15.1 IN ACI 530.1 FOR DIMENSIONS OF GROUT SPACES AND POUR HEIGHT

ADHESIVE, ANCHOR RODS AND REBAR IN HARDENED CONCRETE (EPOXY ANCHORS):

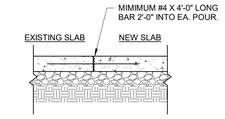
1. ALL ADHESIVE ANCHOR INSTALLATIONS SHALL COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND SPECIFICATIONS, INCLUDING ANY ICC-ES REPORTS.
2. DUST SHALL BE BLOWN FROM THE HOLE WITH COMPRESSED AIR TO ENSURE PROPER ANCHOR SEATING DEPTH AND TO PROVIDE A CLEAN BONDING SURFACE. ADDITIONALLY, THE HOLE SHALL BE BRUSHED WITH A NYLON BRUSH THEN BLOWN AGAIN WITH COMPRESSED AIR.
3. ADHESIVE SHALL ONLY BE APPLIED TO DRY SURFACES.
4. BASE MATERIAL TEMPERATURE MUST BE 40°F OR ABOVE AT TIME OF INSTALLATION. FOR BEST RESULTS, MATERIAL SHOULD BE 70°F-80°F.
5. WHEN INSTALLING EPOXY ANCHORS INTO MASONRY, ANCHORS SHALL BE INSTALLED IN SOLID GROUTED CELLS ONLY.
6. CHEMICAL ANCHOR SYSTEMS:
   A. CONCRETE: USE ONLY ADHESIVE ANCHOR SYSTEMS THAT HAVE BEEN ISSUED AN ICC-ES REPORT IN ACCORDANCE WITH PROVISIONS OF ICC-ES AC308. ANCHOR SYSTEM SHOULD BE APPROVED FOR USE IN CRACKED CONCRETE AND SEISMIC DESIGN CATEGORIES A-F PER SECTION 2.0 OF THE ICC-ES EVALUATION SERVICES REPORT. ANCHOR SYSTEM SHALL BE INSTALLED PER REQUIREMENTS OF THE ICC-ES EVALUATION SERVICES REPORT FOR SPECIFIC ANCHOR, AND AS REQUIRED BY THE MANUFACTURER.
7. ALL ANCHOR RODS SHALL BE ASTM 136 THREADED RODS WITH ASTM A563 GRADE A NUTS AND ANSI B18.22.1 Y PACKER A WASHERS, UNLESS OTHERWISE NOTED. ANCHORS DESIGNATED AS ASTM A193 GRADE B7 THREADED RODS SHALL USE ASTM A563 GRADE DH HEAVY HEX NUTS AND ASTM F436 WASHERS.
8. REINFORCEMENT BARS: ASTM A615 GRADE 60 STEEL.
9. REMOVED GREASE, OIL, RUST AND ANY OTH



NOTES:
1. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL DEPTHS & LOCATIONS OF FLOOR DEPRESSIONS.
2. PROVIDE (2)#3 x 3'-6" TOP AT INTERIOR CORNERS OF ALL DEPRESSION. SEE DETAIL A-A.



NEW TO EXISTING SLAB

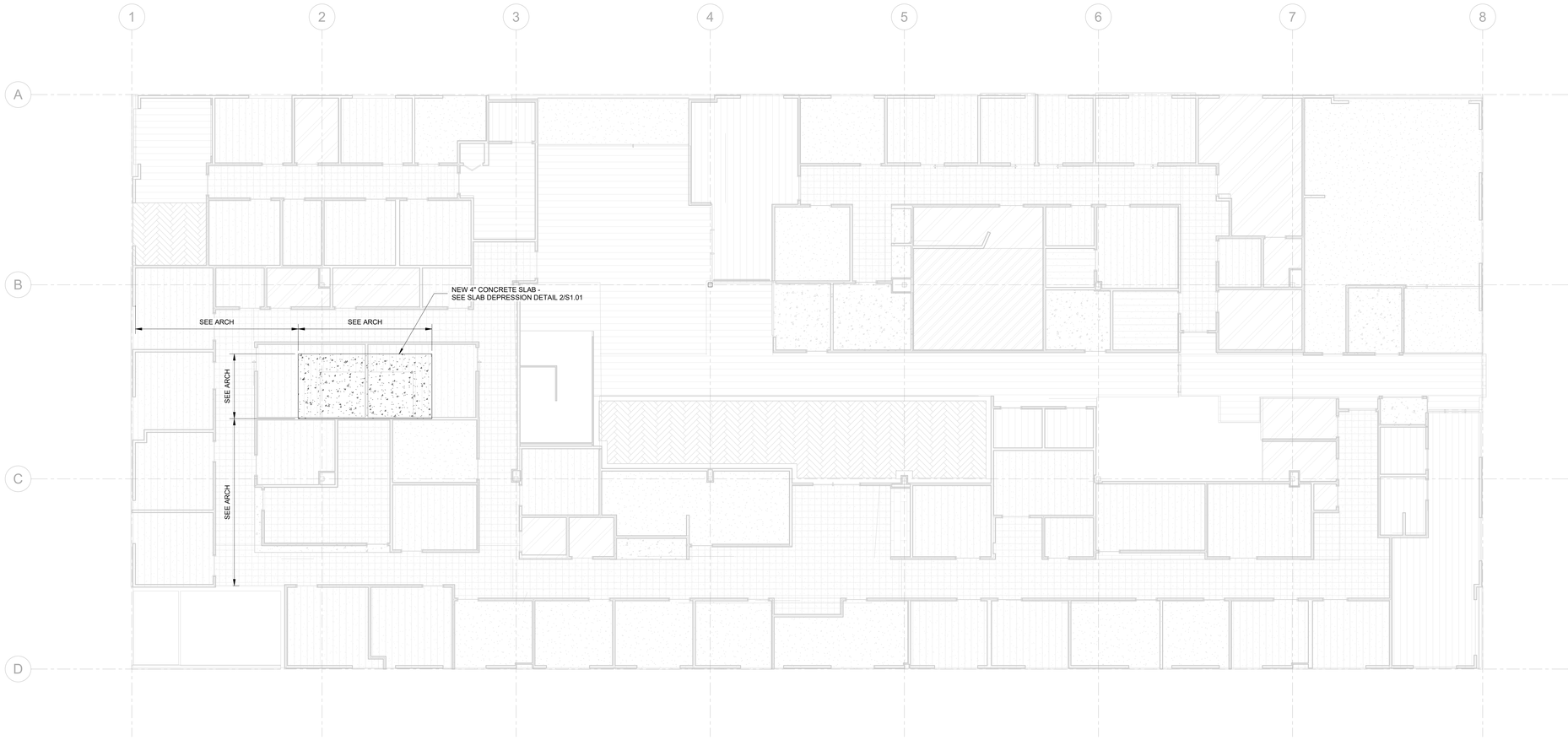


NEW TO EXISTING SLAB

NOTES:
1. SEE PLANS FOR REQUIRED SLAB THICKNESS.
2. SLAB ON GRADE CONSTRUCTION AND CONTROL JOINTS SHALL BE DETERMINED BY THE CONTRACTOR. JOINT LOCATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
3. SAW CUT CONTROL JOINTS WITHIN 8 HOURS OF SLAB POUR.

NEW TO EXISTING SLAB DETAIL

2 / S1.01 SLAB DEPRESSION DETAIL
3/4" = 1'-0"



FOUNDATION PLAN NOTES:

1. USE DETAIL 2/S1.01 FOR ANY SLAB REPAIRS OR REPLACEMENTS

1 / S1.01 FOUNDATION PLAN
1/8" = 1'-0"

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11.21.2025

#	△	DESCRIPTION	DATE
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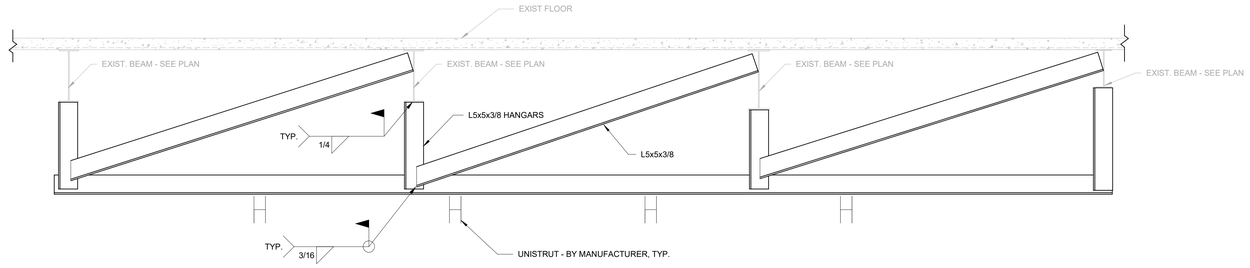
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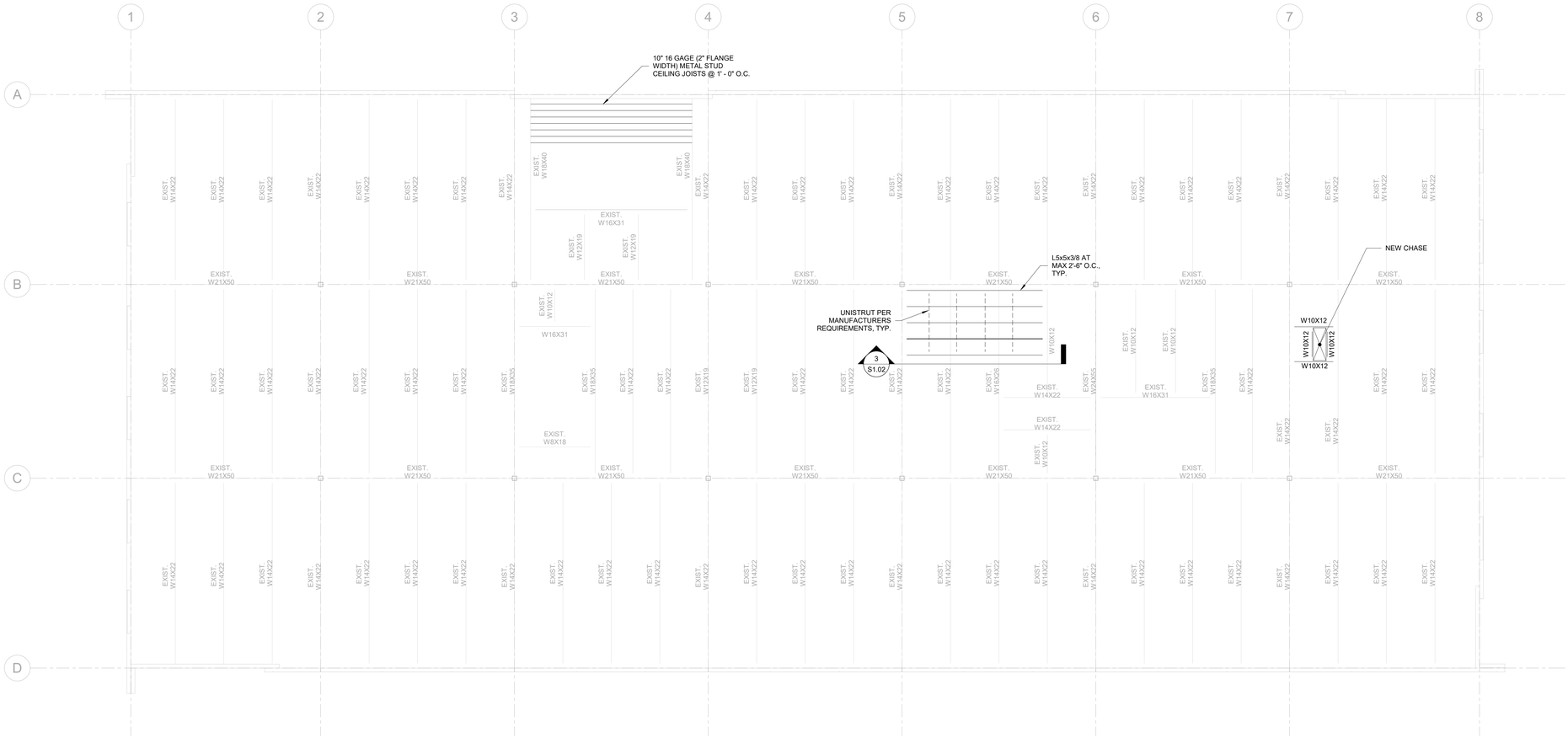
FOUNDATION PLAN

SCALE: As indicated

SHEET # S1.01



3 S1.02 SECTION
3/4" = 1'-0"



1 S1.02 SECOND FLOOR FRAMING PLAN
1/8" = 1'-0"

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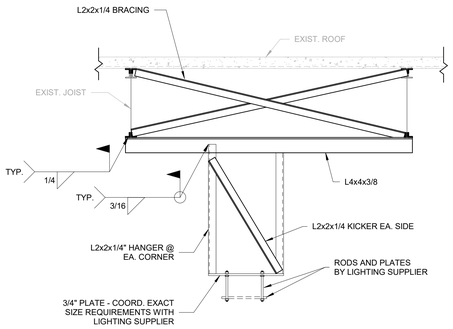
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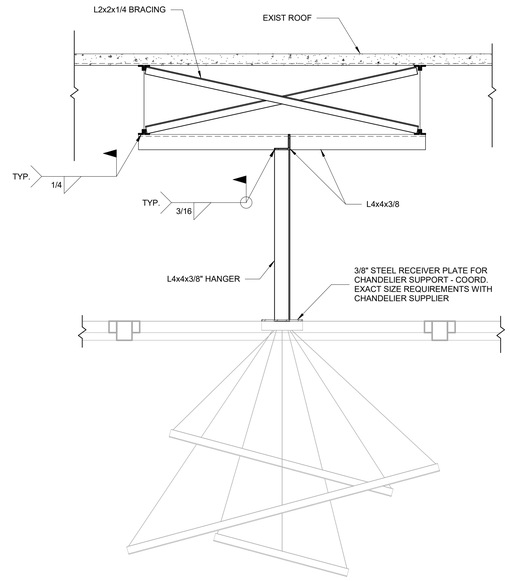
2ND FLOOR FRAMING PLAN

SCALE: As indicated

SHEET # S1.02

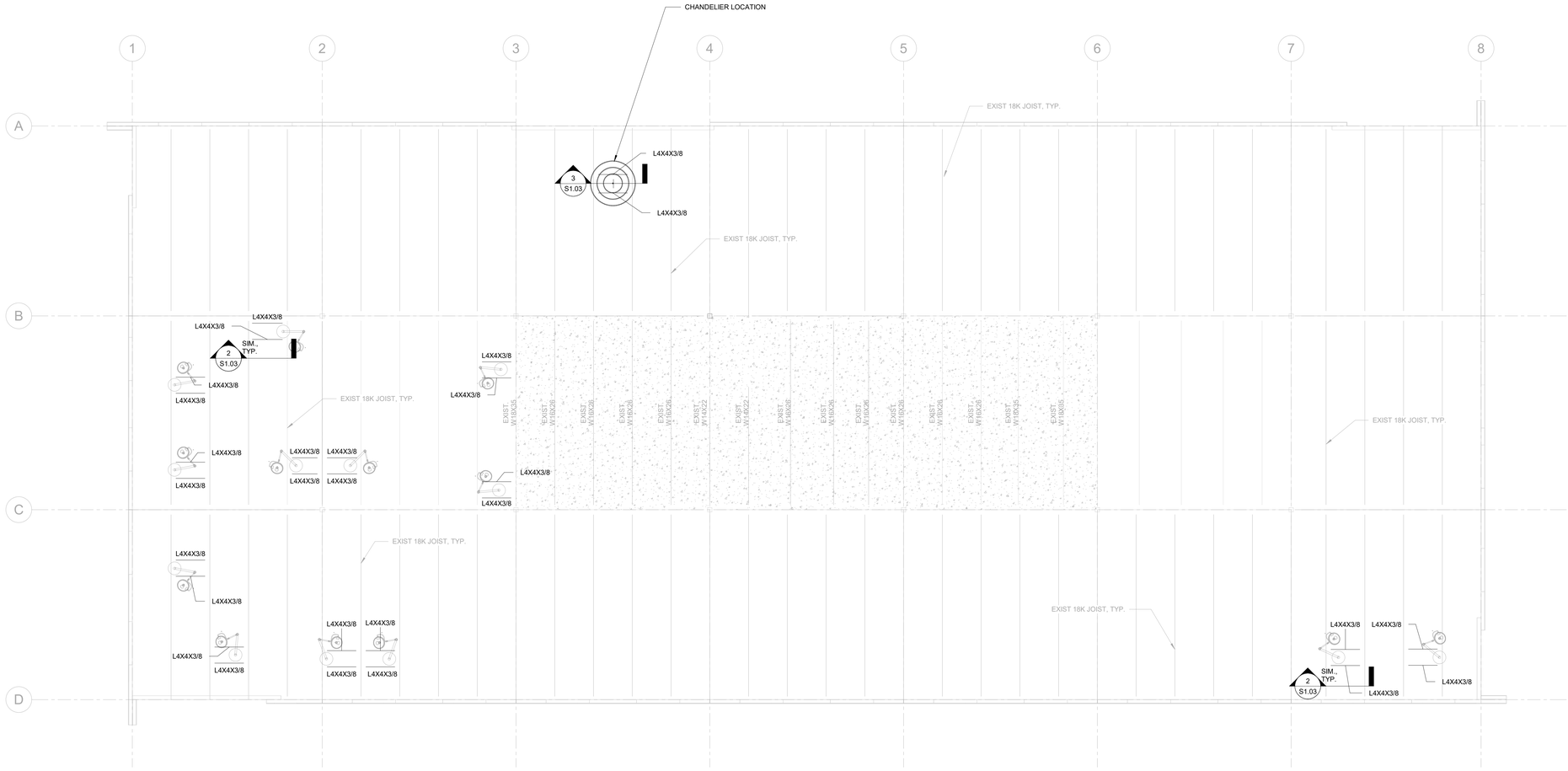


2 S1.03 SECTION
3/4" = 1'-0"



CONTRACTOR MAY ELECT TO USE UNISTRUT FOR CHANDELIER SUPPORT - PROVIDE KDE WITH SHOP DRAWING IF UNISTRUT WILL BE USED

3 S1.03 SECTION
3/4" = 1'-0"



1 S1.03 ROOF FRAMING PLAN
1/8" = 1'-0"

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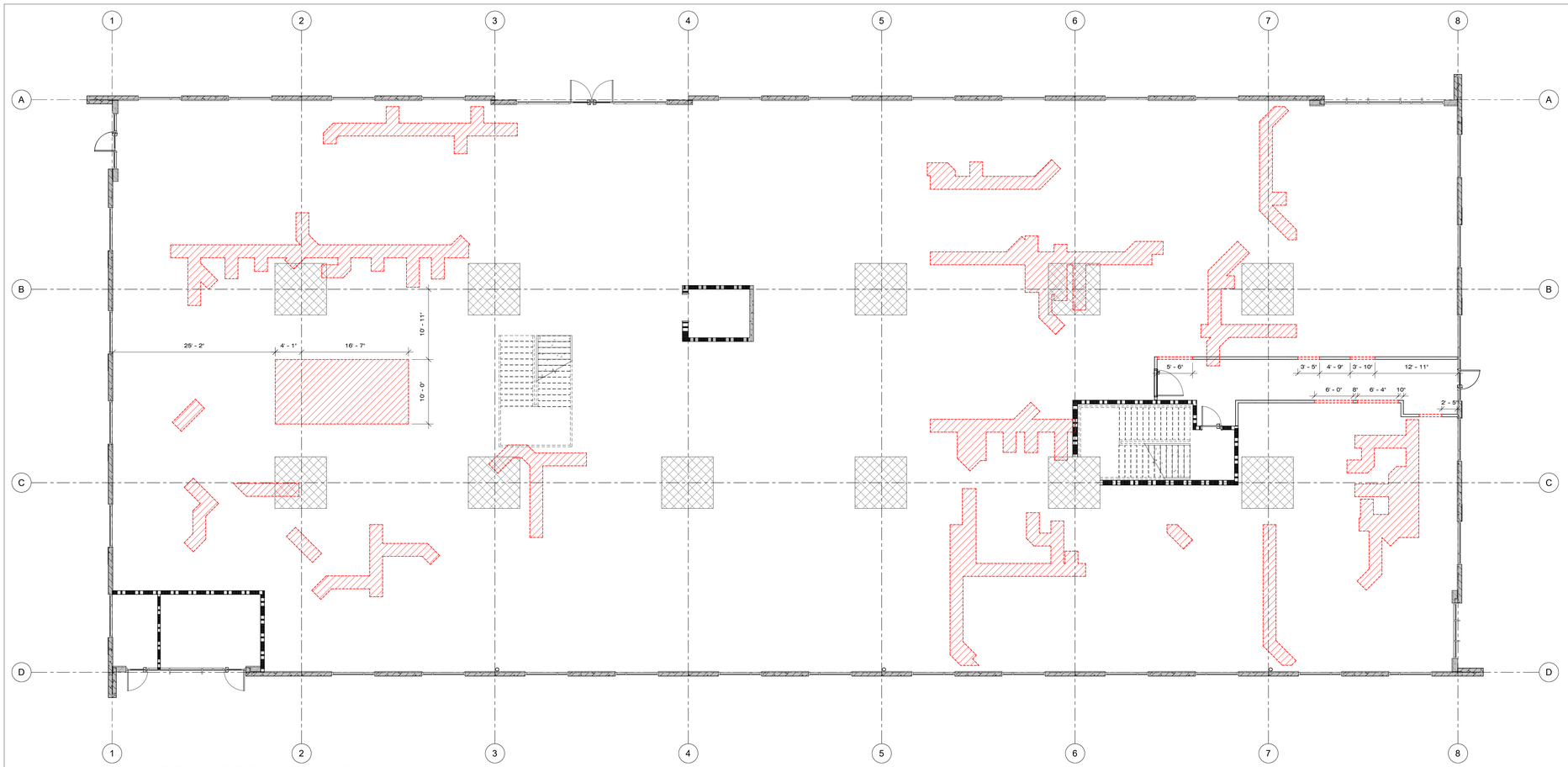
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ROOF FRAMING PLAN

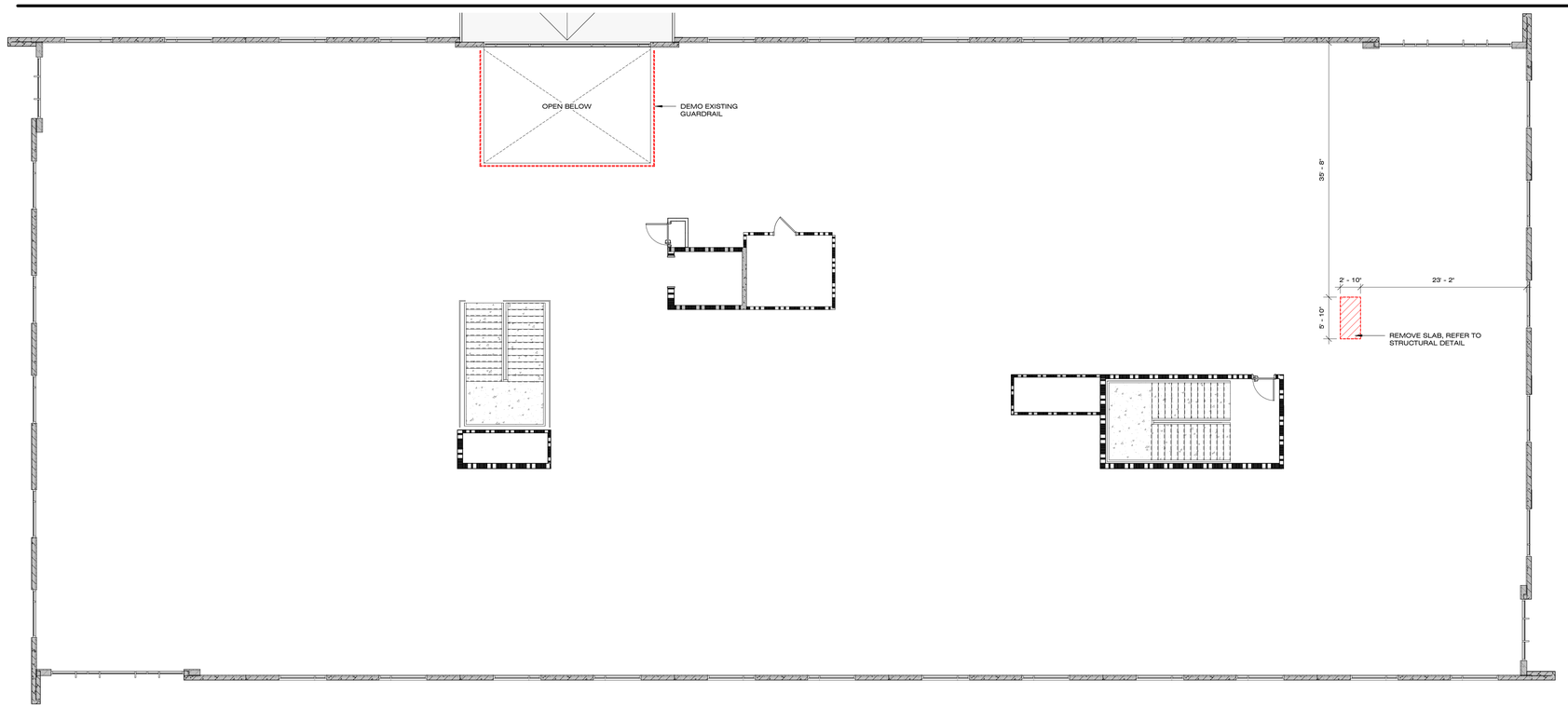
SCALE: As indicated

SHEET # S1.03



1 1ST FLOOR DEMOLITION PLAN

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



2 2ND FLOOR DEMOLITION PLAN

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

GENERAL DEMOLITION NOTES

1	GC SHALL GET FAMILIARIZED WITH THE PREMISES AS WELL AS THE CONTRACT DRAWINGS AND SHALL REPORT ANY UNKNOWN CONDITIONS IN THE FIELD TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.
2	COORDINATE ALL DEMOLITION WITH BUILDING OWNER AND TENANT PRIOR TO START OF WORK.
3	G.C. SHALL ATTEMPT TO REUSE ALL EXISTING DOORS, FRAMES AND HARDWARE IN NEW LOCATIONS WHERE POSSIBLE. PATCH/REPAIR DOORS AS NECESSARY FOR REUSE.
4	G.C. SHALL PERFORM ALL DEMOLITION CAUSING EXTREME LEVELS OF NOISE AND VIBRATIONS BEFORE OR AFTER NORMAL BUSINESS HOURS OR AS ADVISED BY OWNER.
5	COORDINATE ALL UTILITY OUTAGES WITH BUILDING OWNER AND TENANT ONE WEEK IN ADVANCE.
6	ALL EXISTING CONSTRUCTION MATERIALS, FIXTURES, EQUIPMENT, ETC. ARE PROPERTY OF BUILDING OWNER - COORDINATE REMOVAL OR DISPOSAL OF ALL SUCH MATERIALS WITH OWNER PRIOR TO START OF DEMOLITION.
7	REMOVE ALL MATERIALS TO BE SALVAGED BY OWNER IN A MANNER SO AS TO NOT DAMAGE OR RENDER USELESS.
8	G.C. SHALL MAINTAIN ALL REQUIRED EXIT EGRESS PATHWAYS AND EXITS FOR TENANT SPACE AND ADJACENT TENANTS.
9	THE G.C. SHALL MAINTAIN INTEGRITY OF ALL EXISTING RATED WALLS AND FLOORS.
10	G.C. SHALL LOCATE DUMPSTERS PER OWNER DIRECTION SO AS TO NOT DISRUPT TRAFFIC OR ADJACENT PROPERTIES.
11	G.C. SHALL PROTECT EXISTING HVAC SYSTEM FROM DUST INFILTRATION.
12	COORDINATE DEMOLITION OR REUSE OF ALL HVAC, PLUMBING AND ELECTRICAL WITH MEP DRAWINGS AND DEMOLITION NOTES.
13	U.N.O., DASHED LINES ON DEMO PLAN INDICATE BUILDING ELEMENTS TO BE REMOVED AND/OR RELOCATED. SEE NEW FLOOR PLAN FOR COORDINATION.

DEMOLITION LEGEND

CONTRACTOR TO CUT THE EXISTING CONCRETE SLAB/DECK AS NEEDED TO ACCOMMODATE NEW PLUMBING AND ELECTRICAL. COORDINATE WITH THE ENGINEERING SHEETS. GC TO INFILL CONCRETE AT ALL PLUMBING AND ELECTRICAL TRENCHES. CONCRETE TO BE TESTED FOR MOISTURE PRIOR TO FLOORING INSTALLATION.

EXISTING CONCRETE FOOTING, REFER TO STRUCTURAL PLANS FOR ADDITIONAL INFORMATION

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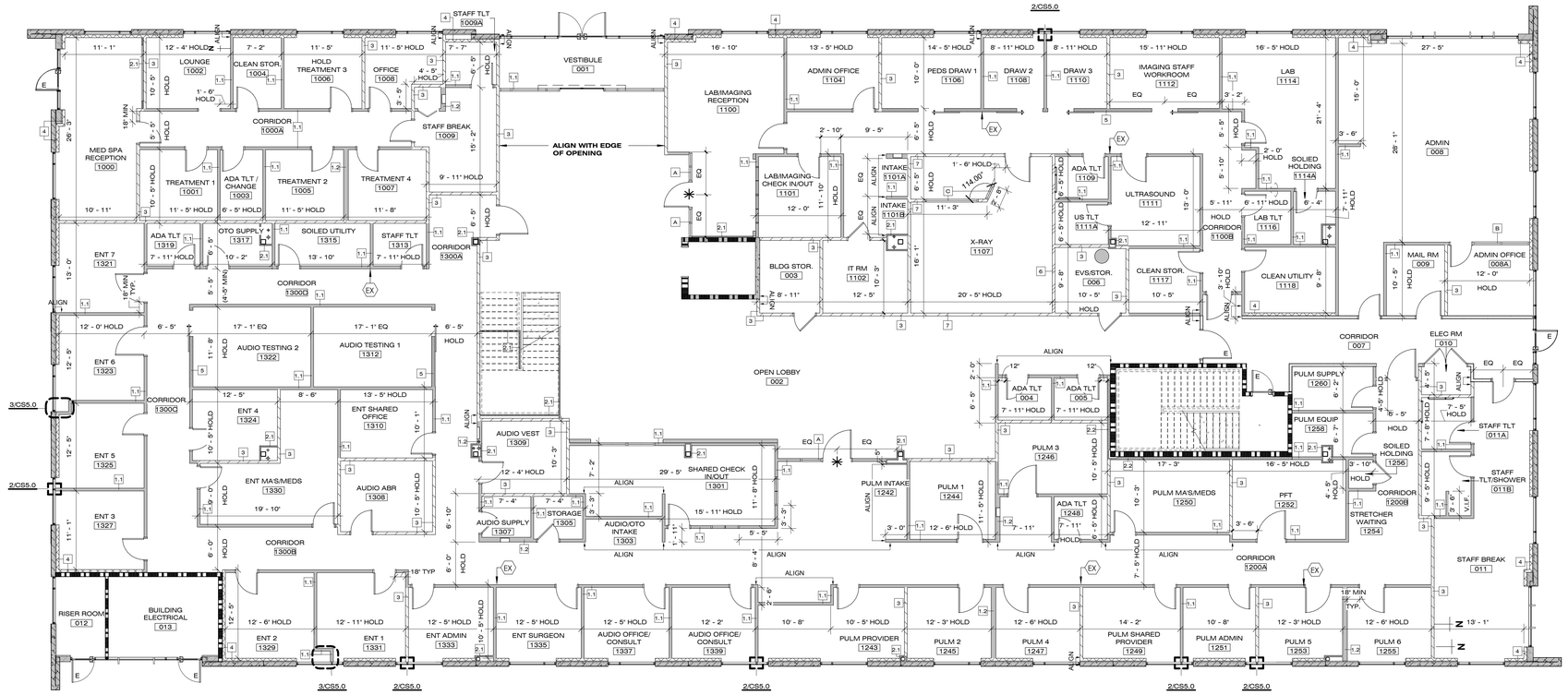
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DEMOLITION PLANS

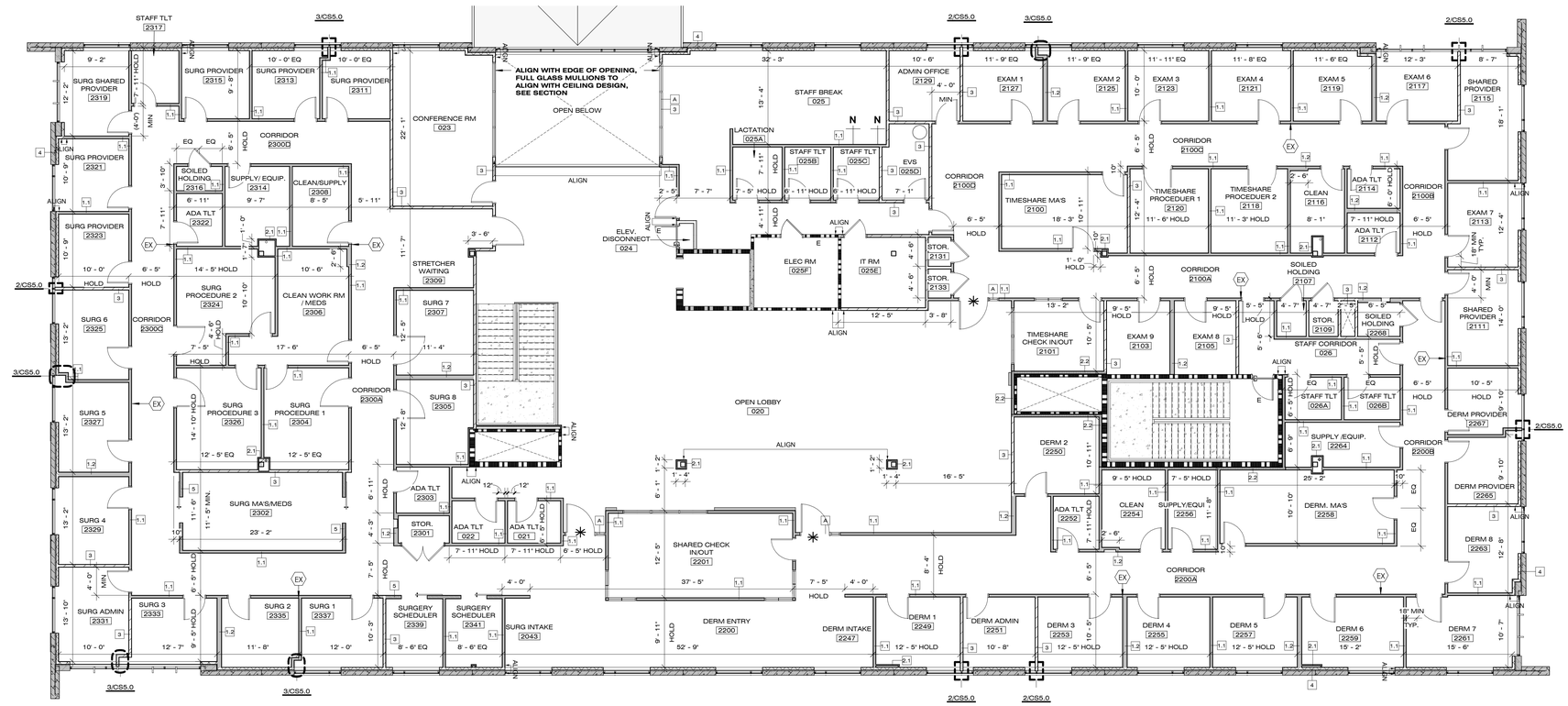
SCALE: 1/8" = 1'-0"

SHEET # A1.0



1 1ST FLOOR CONSTRUCTION DIMENSION PLAN

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



2 2ND FLOOR CONSTRUCTION DIMENSION PLAN

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

WALL & DOOR LEGEND

	FIRE RATED WALL CONSTRUCTION PROVIDED UNDER THE SHELL PACKAGE
	EXISTING WALL TO REMAIN
#	NEW WALL TO BE INSTALLED, REFER TO SHEET CS5.0 FOR WALL TYPES AND TAGS
	DOOR AND FRAME. SEE DOOR KEY PLAN E = EXISTING DOOR
	NEW SLIDING DOOR AND TRACK. SEE DOOR KEY PLAN
N	NEW WATERLINE, SEE ELEVATIONS
ALIGN	ALIGN THESE SURFACES
6'-0"	DIMENSION TO FINISHED FACE OF WALL
6'-0" MIN.	MINIMUM DIMENSION ALLOWED (MAY BE MORE)
6'-0" MAX	MAXIMUM DIMENSION ALLOWED (MAY BE LESS)
6'-0" CLR	MINIMUM DIMENSION REQUIRED (MAY BE MORE)
6'-0" VERIFY	TARGET DIMENSION WHICH MAY NOT BE ACHIEVED IN FIELD, NOTIFY ARCHITECT OF POSSIBLE CHANGE
6'-0" HOLD	EXACT DIMENSION FROM FINISHED FACE OF WALL-DIMENSION CAN NOT BE CHANGED
6'-0" +/-	DIMENSION IS A REFERENCE. PLEASE NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN DIMENSION SHOWN AND IN FIELD. CALLOUT/ALIGN DICTATES WALL PLACEMENT OVER DIMENSION.
	NEW ALUMINUM STOREFRONT FRAMING SYSTEM WITH FULL HEIGHT TEMPERED GLASS SIDELITE.
#	A - FULL HEIGHT STOREFRONT FRAME B - FULL HEIGHT HM FRAME C - 1.5/2" LEADED FRAME AND GLASS
EX	PROVIDE EXPANSION JOINTS RECESSED IN WALL FROM FLOOR TO CEILING EVERY ~30' ALONG THE WALL. COORDINATE THE LOCATION WITH THE ARCHITECT PRIOR TO INSTALLATION.

NOTES:
- PROVIDE MOISTURE RESISTANT GWB IN RESTROOMS AND EVS ROOM.
- FURR-OUT AROUND RAIN LEADERS AS NEEDED

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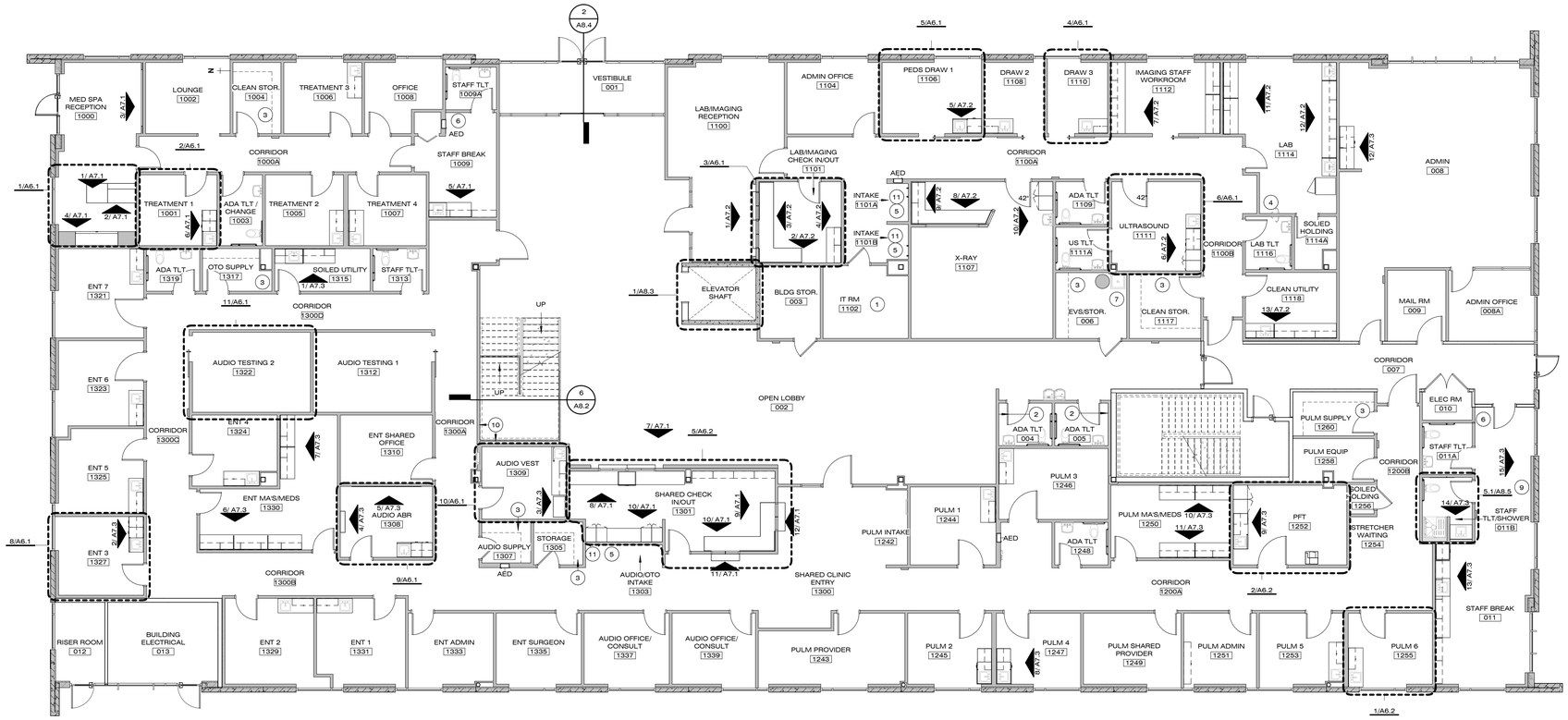
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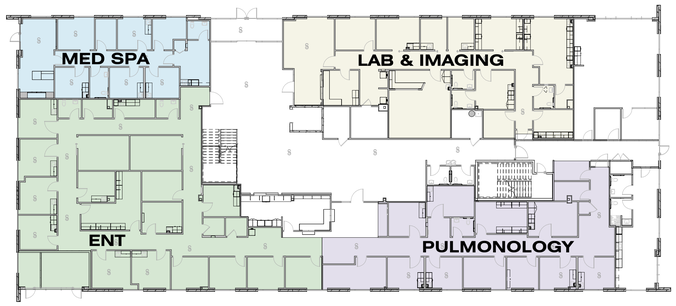
DIMENSION PLANS

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

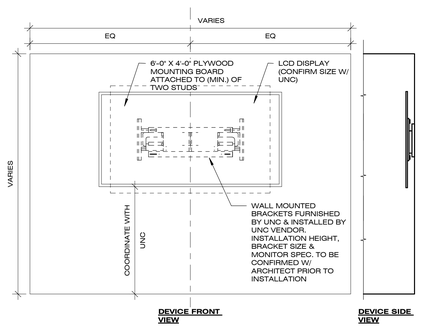
SHEET # A1.1



1 1ST FLOOR CONSTRUCTION KEY PLAN
SCALE:1/8" = 1'-0"



2 1ST FLOOR KEY PLAN
SCALE:1" = 20'-0"



3 CONFERENCE SCREEN ELEVATION
SCALE:1" = 1'-0"

KEY NOTES

1	GC TO PROVIDE PAINTED PLYWOODS ON ALL WALLS, FLOOR TO 7'-0".
2	PROVIDE BLOCKING FOR BABY CHANGE STATION.
3	7'-0" HIGH HEAVY DUTY ADJUSTABLE STANDARDS WITH (5) 18" DEEP CONTINUOUS WHITE MELAMINE SHELVING WITH WHITE HEAVY DUTY BRACKETS.
4	GC TO PROVIDE SPECIMEN PASSTHRU. SEE 1/A8.5 FOR MORE INFORMATION.
5	GC TO PROVIDE VERTICAL GRAB BARS AT SCALE. REFER TO SHEET A8.5 FOR MORE INFORMATION.
6	GC TO PROVIDE COAT HOOKS, REFER TO SHEET A8.5 FOR MORE INFORMATION.
7	GC TO ATTACH COMMERCIAL SOAP DISPENSER AT MOP SINK FAUCET.
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9	GC TO PROVIDE TACKBOARD BLOCKING.
10	GC TO PROVIDE LEVEL 5 WALL.
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5	NAME: SIGNAGE FURNISHED & INSTALLED BY: GC ADDITIONAL NOTES:
6	NAME: ACCESSORIES FURNISHED & INSTALLED BY: SEE A8.5 ADDITIONAL NOTES:
7	NAME: APPLIANCES FURNISHED & INSTALLED BY: BY GC ADDITIONAL NOTES:

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8	**ADD/ALT**: MOISTURE MITIGATION OF THE SLAB
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10	**ADD/ALT**: HANDRAILS INSTALLED IN PULMONOLOGY (REFER TO 5.2)

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11/21/2025

Onslow MEMORIAL HOSPITAL An Affiliate of UNC Health

ONSLOW MEMORIAL HEALTH

172 NORTHWEST CORRIDOR BLVD
JACKSONVILLE, NC 28546

11.21.25

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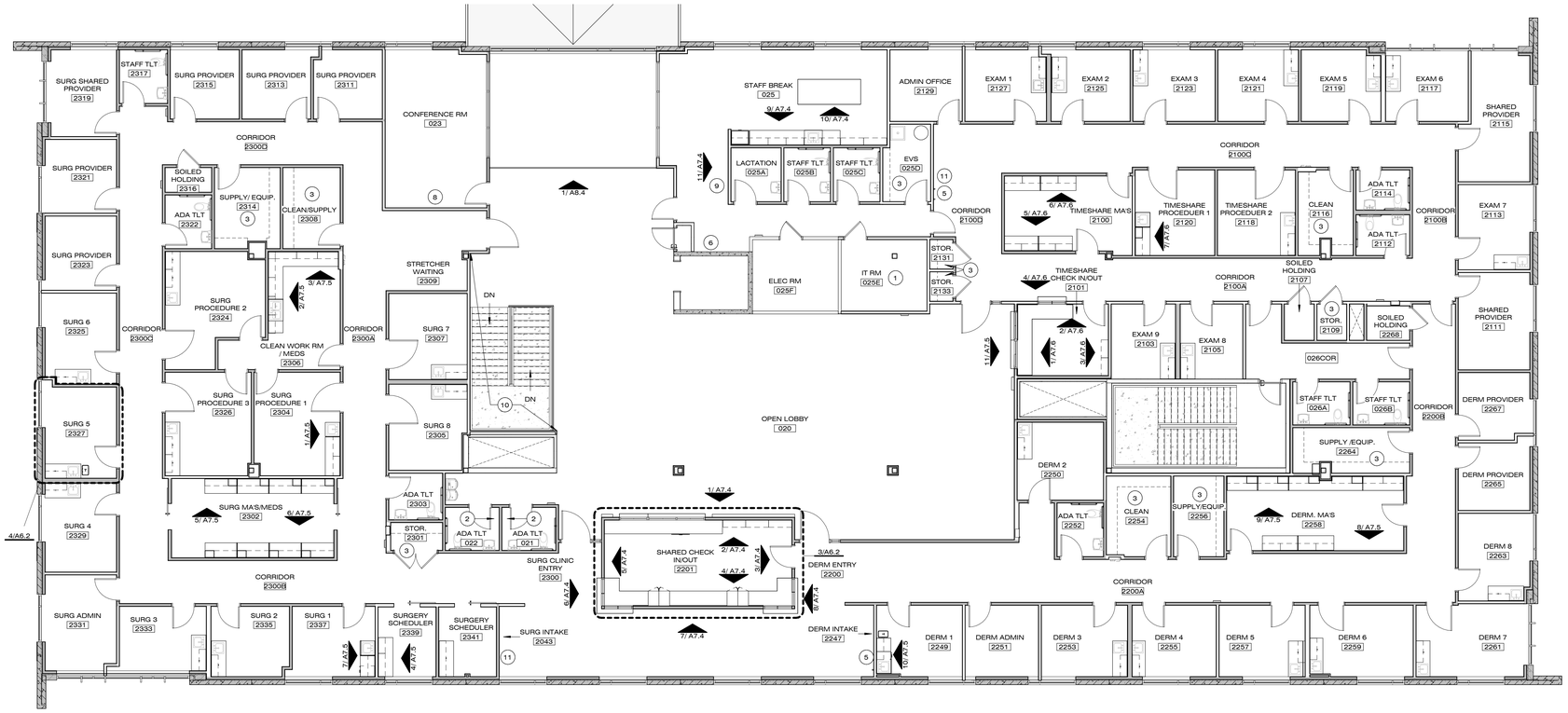
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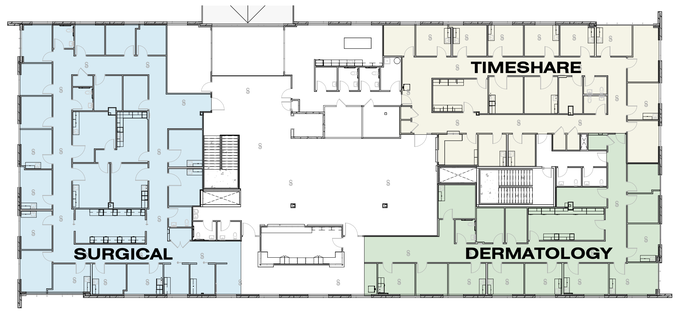
1ST FLOOR KEY PLAN

SCALE: As indicated

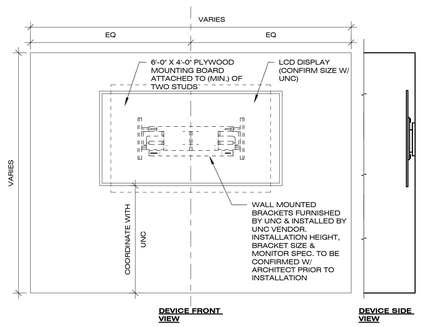
SHEET # **A1.2**



1 2ND FLOOR KEY PLAN
SCALE:1/8" = 1'-0"



2 2ND FLOOR KEY PLAN
SCALE:1" = 20'-0"



3 CONFERENCE SCREEN ELEVATION
SCALE:1" = 1'-0"

KEY NOTES

1	GC TO PROVIDE PAINTED PLYWOODS ON ALL WALLS, FLOOR TO 7'-0".
2	PROVIDE BLOCKING FOR BABY CHANGE STATION.
3	7'-0" HIGH HEAVY DUTY ADJUSTABLE STANDARDS WITH (5) 18" DEEP CONTINUOUS WHITE MELAMINE SHELVING WITH WHITE HEAVY DUTY BRACKETS.
4	GC TO PROVIDE SPECIMEN PASSTHRU. SEE 1/A8.5 FOR MORE INFORMATION.
5	GC TO PROVIDE VERTICAL GRAB BARS AT SCALE. REFER TO SHEET A8.5 FOR MORE INFORMATION.
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JACKSONVILLE, NC 28546

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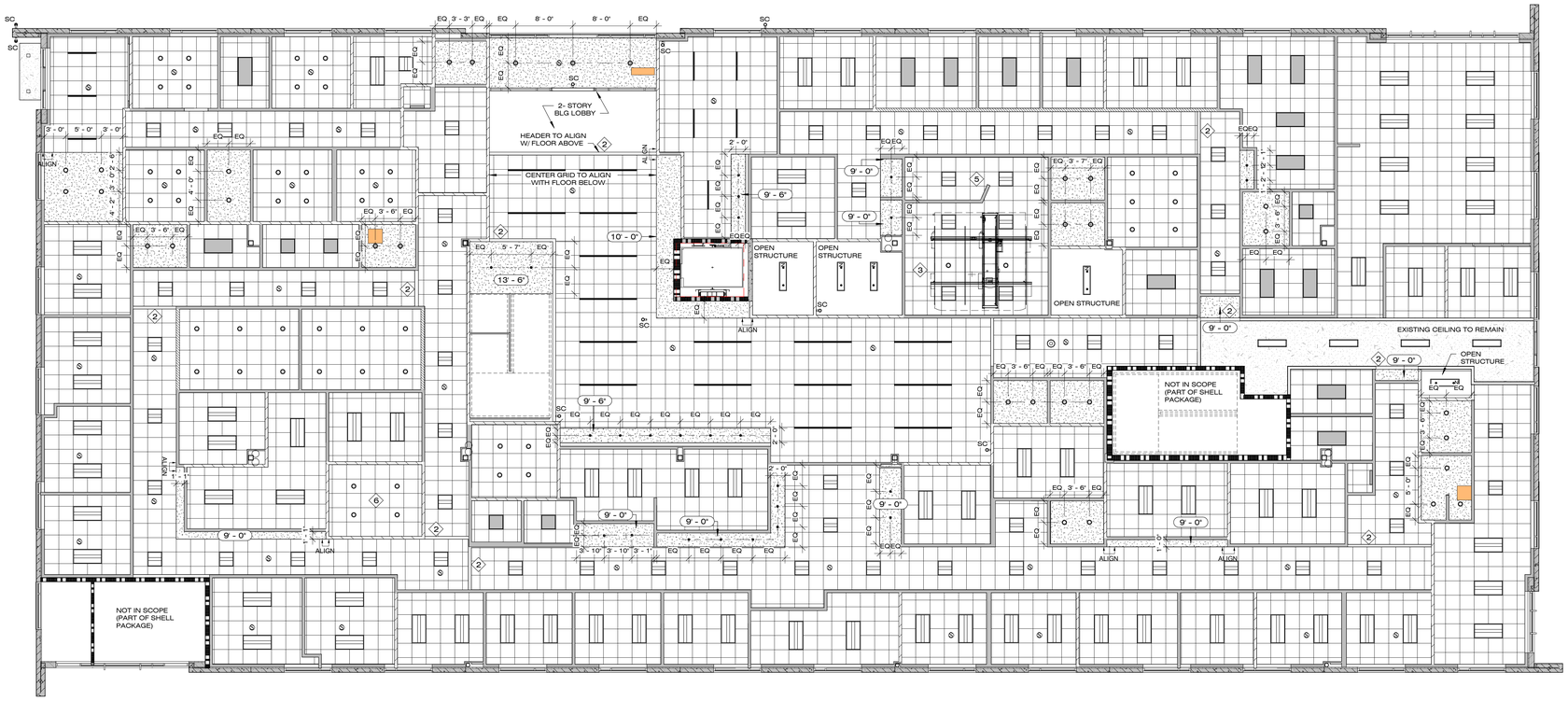
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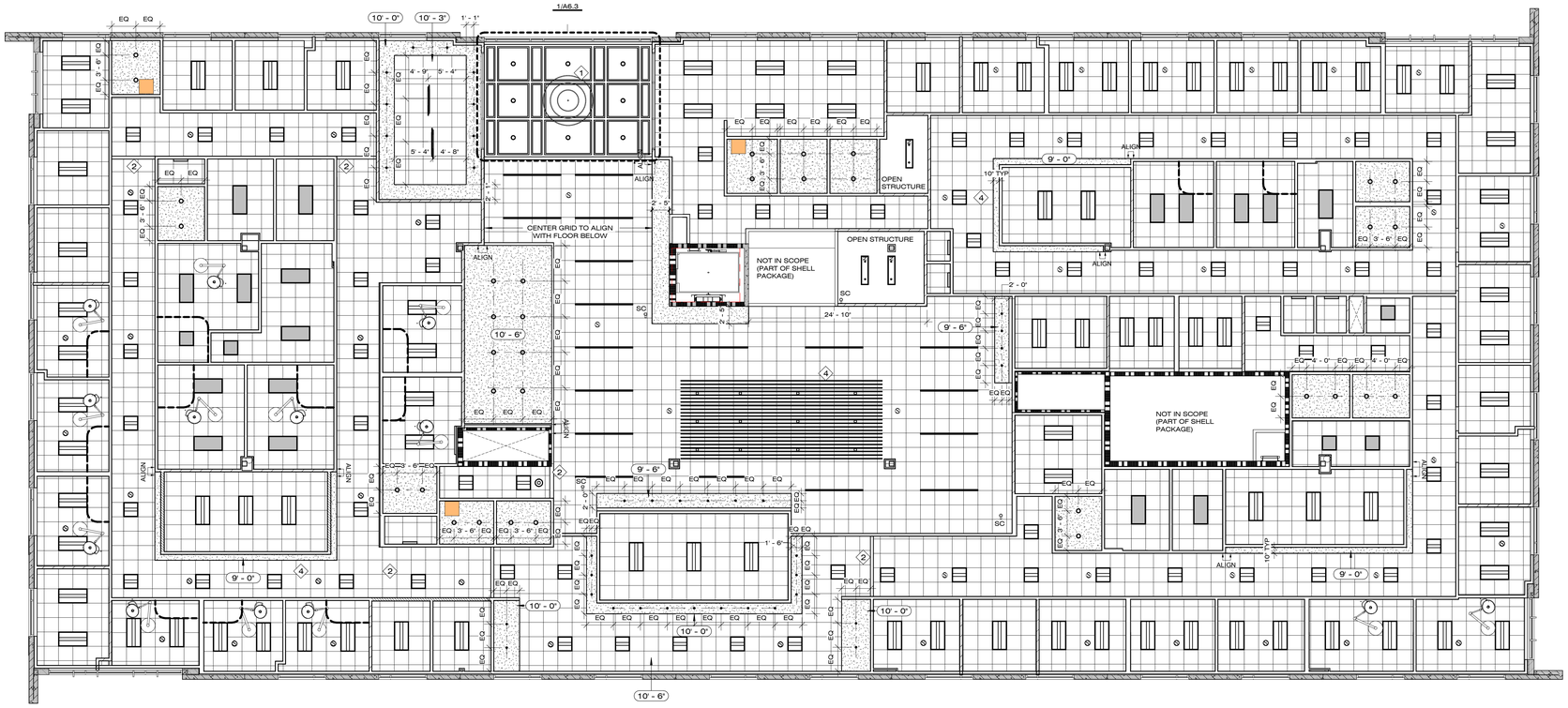
2ND FLOOR KEY PLAN

SCALE: As Indicated

SHEET # **A1.3**



1 1ST FLOOR REFLECTED CEILING PLAN
SCALE:1/8" = 1'-0"



2 2ND FLOOR REFELCTED CEILING PLAN
SCALE:1/8" = 1'-0"

CEILING AND LIGHTING LEGEND

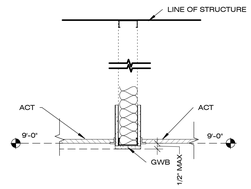
	NEW 2X2 LAY-IN CEILING SYSTEM. **SPEC: ARMSTRONG ULTIMA HIGH CAC,1894 W/ 15/16" PRELUDE GRID.** INSTALL AT 10'-0" U.N.O.
	NEW METAL STUD/ GWB CEILING WITH 1/2" GYPSUM WALL BOARD. INSTALL AT 10'-0" U.N.O. TO BE PAINTED, COLOR: TBD
	NEW 6" LED RECESSED CAN LIGHT. DN= DIMMER TO 0%
	NEW 2" LED RECESSED CAN LIGHT.
	NEW 6' LED PENDANT LIGHT FIXTURE.
	NEW 2X2 RECESSED DIRECT/INDIRECT LED LIGHT FIXTURE
	NEW 2X4 RECESSED DIRECT/INDIRECT LED LIGHT FIXTURE
	NEW 2X2 RECESSED LED LIGHT WITH ACRYLIC LENS
	NEW 2X4 RECESSED LED LIGHT WITH ACRYLIC LENS
	NEW 1X4 SUSPENDED LED LIGHT. MOUNTING HEIGHT: 9'-0" AFF
	NEW 1X2 WALL MOUNTED LED LIGHT. MOUNTING HEIGHT: 9'-0" AFF
	NEW 4' LED PENDANT LIGHT FIXTURES, TYP AT THE OPEN LOBBY #20. BOTTOM OF PENDANT TO NOT EXTEND PAST BAFFLE ADJACENT
	NEW RECESSED LINEAR LIGHT FIXTURES, TYP AT THE BUILDING LOBBY
	NEW DECORATIVE PENDANT LIGHT FIXTURE, INSTALL @ 19'-6" AFF BOTTOM OF FIXTURE. VERIFY HEIGHT W/ ARCHITECT PRIOR TO INSTALLATION **SPEC: BETACALCO MICRO RING II 3D**
	NEW DECORATIVE PENDANT LIGHT FIXTURE, INSTALL @ 6'-0" AFF TO BOTTOM OF FIXTURE **SPEC: MODERN WAVES ZENDUCE 47.2'W, BLACK FINISH**
	NEW CEILING MOUNTED PRIVACY CURTAIN AND TRACK
	CEILING MOUNTED PROCEDURE LIGHT BY TENANT, INSTALLED BY GC. **SPEC: STRYKER F-300.** CONFIRM INSTALL LOCATIONS WITH TENANT.
	NEW CEILING MOUNTED NURSE CALL INDICATOR LIGHT. DEVICE PROVIDED BY ELECTRICAL CONTRACTOR. TYPICAL OUTSIDE LOBBY RESTROOMS. **SPEC: CORNELL, 4000 SERIES, DOME LIGHT L-101.**
	NEW CEILING MOUNTED SPEAKERS PURCHASED AND INSTALLED BY TENANT
	2X2 ACCESS PANEL, REFER 'E' SHEETS FOR MORE INFORMATION

KEY NOTES

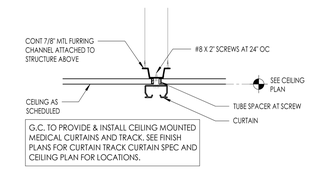
1. GC TO PROVIDE WOOD LOOK COFFERED CEILING, STRAIGHT BEAMS TO BE 6" DEEP WRAPPED IN **CL-1 (REFER TO A5.2 FOR FINISH SPEC)**
2. NEW (METAL STUD AND GWB) HEADER TO BE INSTALLED 2" BELOW ADJACENT LAY-IN CEILING. REFER TO SECTION 2/8.4
3. CEILING MOUNTED X-RAY EQUIPMENT PROVIDED BY VENDOR , GC TO PROVIDE INFRASTRUCTURE AND UNISTRUT, REFER TO STRUCTURAL DRAWINGS AND VENDOR EQUIPMENT DRAWINGS FOR ADDITIONAL INFORMATION
4. (23) 28' LONG TURF CONTOUR ACOUSTIC BAFFLES TO BE INSTALLED 8" O.C. ON ARMSTRONG 15/16" PRELUDE GRID. FELT TILE TO BE SET IN 2X2 GRID OVER BAFFLES. **CL-2 (REFER TO A5.2 FOR FINISH SPEC)**
5. LIGHTS TO BE SWITCHED SEPARATE IN CONTROL AREA

GENERAL NOTES

1. CEILING GRID AND TILES TO BE CENTERED IN ROOM AS SHOWN U.O.N.
2. G.C. TO LAY CONTINUOUS PLENUM RATED BATT INSULATION ABOVE THE CEILING IN EXAMS, PROCEDURE, AND ABR.
3. G.C. TO COORDINATE LIGHT FIXTURE LOCATIONS W/ ELECTRICAL, MECHANICAL, FIRE ALARM, AND FIRE PROTECTION SHEETS. NOTIFY ARCHITECT OF DISCREPANCIES OR CONFLICTS PRIOR TO INSTALLATION.
4. TROFFER ORIENTATION FOR DIRECT/INDIRECT LIGHTING TO BE CONSISTENT THROUGHOUT THE CORRIDORS AS SHOWN ON PLAN.



3 DETAIL AT HEADER
SCALE:1" = 1'-0"



G.C. TO PROVIDE & INSTALL CEILING MOUNTED MEDICAL CURTAINS AND TRACK. SEE FINISH PLANS FOR CURTAIN TRACK CURTAIN SPEC AND CEILING PLAN FOR LOCATIONS.

4 CURTAIN TRACK DETAIL
SCALE: N.T.S.

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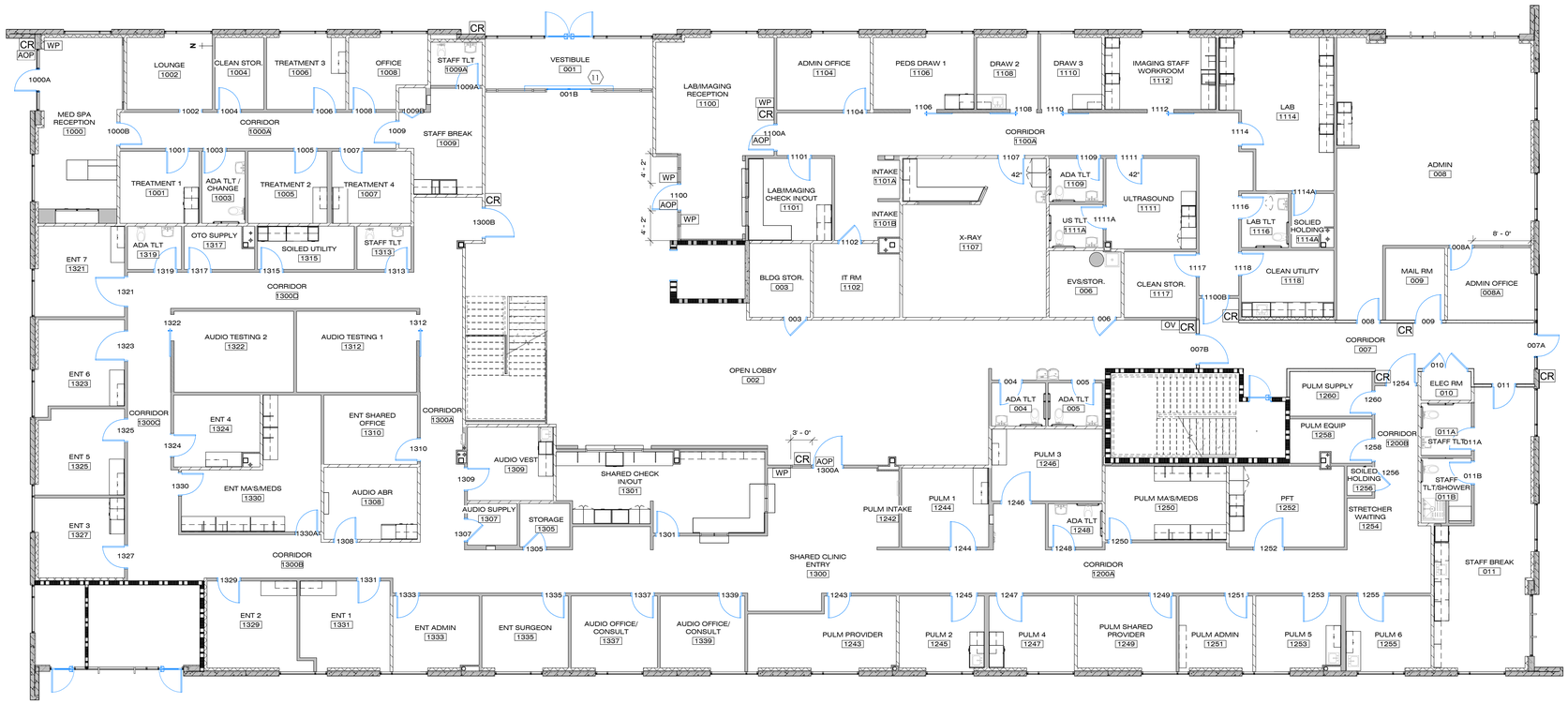
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ARCH. PROJECT # RDU 25-065

REFLECTED CEILING PLANS

SCALE: As indicated

SHEET # A2.1



1 1ST FLOOR DOOR KEY PLAN

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

DOOR KEY NOTES

1	AOP ACTIVATED WITH WAVE PLATE, SEE PLAN FOR WAVEPLATE LOCATIONS, WAVEPLATES BY GC.
2	DOOR RELEASE BUTTONS BY SECURITY VENDORS. SEE RECEPTION DESK FOR LOCATION(S).
3	18" TALL KICKPLATE BOTH SIDES.
4	"IN-USE" SIGN TO BE INSTALLED ABOVE DOOR. COORDINATE WITH X-RAY EQUIPMENT.
5	PROVIDE BIO HAZARD SIGNAGE ON DOOR.
6	PROVIDE PERIMETER GASKETING.
7	PROVIDE OVERRIDE BUTTON WITH CLEAR COVER (SOUND INDICATION WHEN LIFTED) FOR EMERGENCY EGRESS.
8	PROVIDE OVERHEAD STOP.
9	COORDINATE WALL BUMPER LOCATION WITH HANDLE OF PRIVACY SWING DOOR WHEN OPEN 180 DEGREES.
10	EXAM/PROCEDURE DOOR TO HAVE FULL SIZE MIRROR INSTALLED ON INSIDE OF ROOM.
11	LOCKDOWN BUTTON BY SECURITY VENDOR. GC TO COORDINATE DOOR HARDWARE WITH VENDOR TO SECURE DOOR 001A AND PREVENT ENTRY.

GENERAL DOOR NOTES

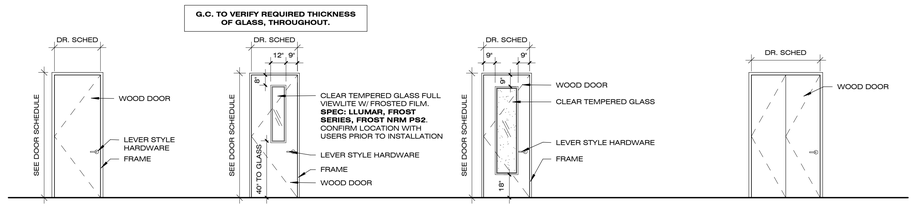
1	ALL HM FRAMES TO BE PAINTED KNOCKDOWN FRAMES. **ADD/ALT: WELDED HOLLOW METAL FRAMES.**
2	NEW INTERIOR DOORS TO BE VT INDUSTRIES, PLAIN SLICED WHITE MAPLE, STAIN: MOCHA MA24. SUBMIT SAMPLE TO ARCHITECT FOR APPROVAL PRIOR TO FABRICATION OF DOORS.
3	HOOKS: ALL SINGLE OCCUPANT RESTROOMS AND PRIVATE OFFICE DOORS TO HAVE (2) COAT HOOKS. SEE ELEVATIONS FOR MOUNTING LOCATIONS. **SPEC: UNISON. FABRICATED OF ANONDIZED ALUMINUM, CURVE MINI WALL HOOKS, FINISH: TBD. DIMENSIONS: 2.25"H X 0.75"W X 1"D. MOUNTING HARDWARE INCLUDED.**
4	MAX. UNDERCUT AT DOOR TO BE 3/4" U.N.O.
5	ALL HINGED DOORS TO RECEIVE (3) SILENCERS (608 GRY ROC), (3) HINGES (4-1/2 X 4-1/2" HINGES: ASSA ABLOY,MCKINNEY US26D) AND (1) WALL BUMPER (409 630 ROC). A. GC TO IDENTIFY LOCATIONS THAT DON'T SUPPORT THE INSTALL OF A WALL BUMPER FOR REVIEW WITH ARCHITECT AND TENANT. B. EXCEPTION: DOORS THAT HAVE BEEN SPECIFIED WITH OVERHEAD STOPS DO NOT NEED WALL BUMPER. C. DOORS TO HAVE 180 DEGREE HINGES. EXCEPT DOORS WITH PRIVACY SWINGS (EXAMS, PROCEDURE, TREATMENT) U.O.N.
6	G.C. TO COORDINATE WITH SECURITY VENDOR FOR REQUIRED DOOR AND FRAME PREP. GC TO PROVIDE ALL REQUIRED DOOR HARDWARE.
7	CARD READERS TO RELEASE LOCK ONLY. ONLY WAVE PLATES TO ENGAGE AUTO-OPENERS.
8	ALL HARDWARE TO BE ASSA ABLOY ACCENTRA 4600LN SERIES/ AU/ 626, COMPATIBLE WITH TENANT'S PREFERRED CYLINDER LOCK. **ADD/ALT: BLACK LEVERS THROUGHOUT.**
9	AUTO-OPERATOR: HORTON AUTOMATICS/AUTOMATIC SWING DOORS & OPERATORS - LOW ENERGY, EASY ACCESS SERIES 7100 SURFACE APPLIED W/ WAVE ACTIVATOR (STAINLESS STEEL) BY GC.
10	ALL LOCKS TO BE CYLINDER TYPE, CORBIN RUSSELL 7-PIN KEYWAY. COORDINATE KEYING WITH TENANT.
11	EXISTING HM DOORS TO BE PAINTED SHERWIN WILLIAMS AGREEABLE GREY.

1ST FLOOR DOOR SCHEDULE

DOOR #	ROOM NAME	WIDTH	HEIGHT	DOOR TYPE	DOOR MATERIAL	FRAME TYPE	HWD GRP #	REMARKS
001B	VESTIBULE	12' -- 16'	--	SG	ALUM	ALUM	--	
003	BLDG STOR.	3' - 0"	7' - 0"	F	WOOD	HM	2	KEY NOTE 3
004	ADA TLT	MATCH SHELL	MATCH SHELL	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
005	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
006	EVS/STOR.	3' - 0"	7' - 0"	F	WOOD	HM	2	KEY NOTE 3
007A	CORRIDOR	3' - 0"	7' - 0"	--	--	--	--	EXISTING DOOR WITH NEW CARD READER DEVICE
007B	CORRIDOR	4' - 0"	7' - 0"	--	--	--	--	EXISTING DOOR WITH NEW CARD READER DEVICE AND OVERRIDE BUTTON
008	ADMIN	--	--	F	WOOD	HM	6	
008A	ADMIN OFFICE	3' - 0"	7' - 0"	FS	WOOD	HM	5	
009	MAIL RM	3' - 6"	7' - 0"	F	WOOD	HM	4	
010	CORRIDOR	6' - 0"	7' - 0"	FD	WOOD	HM	11	
011	STAFF BREAK	3' - 0"	7' - 0"	F	WOOD	HM	14	
011A	STAFF TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	
011B	STAFF TLT/SHOWER	3' - 0"	7' - 0"	F	WOOD	HM	1	
1000A	MED SPA RECEPTION	3' - 0"	7' - 0"	F --	--	--	15	EXISTING DOOR WITH NEW CARD READER DEVICE, KEY NOTE 1
1000B	MED SPA RECEPTION	--	--	F	WOOD	HM	6	
1001	TREATMENT 1	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1002	LOUNGE	3' - 0"	7' - 0"	CASED OPENING	--	HM	--	
1003	ADA TLT / CHANGE	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
1004	CLEAN STOR.	3' - 0"	7' - 0"	F	WOOD	HM	6	
1005	TREATMENT 2	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1006	TREATMENT 3	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1007	TREATMENT 4	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1008	OFFICE	3' - 0"	7' - 0"	F	WOOD	HM	5	
1009	STAFF BREAK	3' - 0"	7' - 0"	F	WOOD	HM	6	
1009A	STAFF TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	
1009B	STAFF BREAK	3' - 0"	7' - 0"	BF	WOOD	HM		
1100	LAB/IMAGING RECEPTION	3' - 6"	7' - 0"	SF	WOOD	ALUM	9	KEY NOTE 1
1100A	LAB/IMAGING RECEPTION	3' - 6"	7' - 0"	F	WOOD	HM	4	KEY NOTE 1 AND 2
1100B	CORRIDOR	3' - 6"	7' - 0"	F	WOOD	HM	4	
1101	LAB/IMAGING CHECK IN/OUT	3' - 0"	7' - 0"	FV	WOOD	HM	6	
1102	IT RM	3' - 0"	7' - 0"	F	WOOD	HM	4	KEY NOTE 3
1104	ADMIN OFFICE	3' - 0"	7' - 0"	F	WOOD	HM	5	
1106	PEDS DRAW 1	3' - 7 1/4"	7' - 0"	AD	--	AD	12	
1107	X-RAY	3' - 6"	7' - 0"	F	WOOD/ 1/32" LEADED	HM/ 1/32" LEADED	3	KEY NOTE 4 AND 8
1108	DRAW 2	3' - 7 1/4"	7' - 0"	AD	--	AD	12	
1109	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
1110	DRAW 3	3' - 7 1/4"	7' - 0"	AD	--	AD	12	
1111	ULTRASOUND	3' - 6"	7' - 0"	F	WOOD	HM	3	
1111A	US TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
1112	IMAGING STAFF WORKROOM	3' - 7 1/4"	7' - 0"	AD	--	AD	12	
1114	LAB	3' - 0"	7' - 0"	F	WOOD	HM	5	
1114A	SOLIED HOLDING	3' - 0"	7' - 0"	F	WOOD	HM	16	
1116	LAB TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
1117	CLEAN STOR.	3' - 0"	7' - 0"	F	WOOD	HM	16	
1118	CLEAN UTILITY	3' - 0"	7' - 0"	F	WOOD	HM	16	
1243	PULM PROVIDER	3' - 0"	7' - 0"	F	WOOD	HM	5	
1244	PULM 1	3' - 6"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1245	PULM 2	3' - 6"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1246	PULM 3	4' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1247	PULM 4	3' - 6"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1248	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
1249	PULM SHARED PROVIDER	3' - 0"	7' - 0"	F	WOOD	HM	5	
1250	PULM MA'S/MEDS	3' - 0"	7' - 0"	FV	WOOD	HM	8	
1251	PULM ADMIN	3' - 0"	7' - 0"	F	WOOD	HM	5	
1252	PFT	4' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 8
1253	PULM 5	3' - 6"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1254	CORRIDOR	4' - 0"	7' - 0"	SF	WOOD	HM	4	
1255	PULM 6	3' - 6"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1256	SOILED HOLDING	3' - 0"	7' - 0"	F	WOOD	HM	6	KEY NOTE 5
1258	PULM EQUIP	3' - 0"	7' - 0"	F	WOOD	HM	6	
1260	PULM SUPPLY	3' - 0"	7' - 0"	F	WOOD	HM	16	
1300A	SHARED CLINIC ENTRY	4' - 0"	7' - 0"	SF	WOOD	ALUM	10	KEY NOTE 1 AND 2
1300B	CORRIDOR	4' - 0"	7' - 0"	F	WOOD	HM	4	KEY NOTE 3
1301	SHARED CHECK IN/OUT	3' - 0"	7' - 0"	FV	WOOD	HM	6	
1305	STORAGE	3' - 0"	7' - 0"	F	WOOD	HM	6	
1307	AUDIO SUPPLY	3' - 0"	7' - 0"	F	WOOD	HM	6	
1308	AUDIO ABR	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 6 AND 9
1309	AUDIO VEST	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
1310	ENT SHARED OFFICE	3' - 0"	7' - 0"	F	WOOD	HM	5	
1312	AUDIO TESTING 1	3' - 7 1/4"	7' - 0"	AD	--	AD	12	
1313	STAFF TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	
1315	SOILED UTILITY	3' - 0"	7' - 0"	F	WOOD	HM	16	
1317	OTO SUPPLY	3' - 0"	7' - 0"	F	WOOD	HM	16	
1319	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
1321	ENT 7	4' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 8
1322	AUDIO TESTING 2	3' - 7 1/4"	7' - 0"	AD	--	AD	12	
1323	ENT 6	4' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 8
1324	ENT 4	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 8
1325	ENT 5	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 8
1327	ENT 3	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 8
1329	ENT 2	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 8
1330	ENT MA'S/MEDS	3' - 0"	7' - 0"	FV	WOOD	HM	8	
1330A	ENT MA'S/MEDS	3' - 0"	7' - 0"	FV	WOOD	HM	8	
1331	ENT 1	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 8
1333	ENT ADMIN	3' - 0"	7' - 0"	F	WOOD	HM	5	
1335	ENT SURGEON	3' - 0"	7' - 0"	F	WOOD	HM	5	
1337	AUDIO OFFICE/ CONSULT	3' - 0"	7' - 0"	F	WOOD	HM	5	
1339	AUDIO OFFICE/ CONSULT	3' - 0"	7' - 0"	F	WOOD	HM	5	

HARDWARE TYPES

HARDWARE TYPE 1	
	(1) PRIVACY LOCKET, WITH OCCUPANY INDICDATOR.
HARDWARE TYPE 2	
	(1) STOREROOM LOCK
HARDWARE TYPE 3	
	(1) PASSAGE SET
HARDWARE TYPE 4	
	(1) CLOSER
	(1) STOREROOM LOCK
	(1) ELECTRIC STRIKE, COORDINATE W/ CARD READER HARDWARE
HARDWARE TYPE 5	
	OFFICE LOCKSET
HARDWARE TYPE 6	
	(1) CLOSER
	(1) MANUAL CIPHER LOCK SET
HARDWARE TYPE 7	
	(1) STOREROOM LOCKSET, ACTIVE LEAF
	(1) DUMMY SET AND (1) FLUSH BOLT, INACTIVE LEAF
	(2) CLOSERS
HARDWARE TYPE 8	
	(1) CLASSROOM LOCKSET
HARDWARE TYPE 9	
	(1) AUTO-OPERATOR
	(1) PASSAGE SET
HARDWARE TYPE 10	
	(1) AUTO-OPERATOR
	(1) STOREROOM LOCK
	(1) ELECTRIC STRIKE, COORDINATE WITH CARD READER HARDWARE
HARDWARE TYPE 11	
	(1) STOREROOM LOCKSET, ACTIVE LEAF
	(1) DUMMY SET AND (1) FLUSH BOLT, INACTIVE LEAF
HARDWARE TYPE 12	
	(2) 118 ROC PULL B TO B MOUNT
HARDWARE TYPE 13	
	(2) 118 ROC PULL B TO B MOUNT
	(2) OFFICE LOCKS, SFIC CYLINDER
HARDWARE TYPE 14	
	(1) PASSAGE SET
	(1) CLOSER
HARDWARE TYPE 15	
	(1) AUTO-OPERATOR
HARDWARE TYPE 16	
	(1) MANUAL CIPHER LOCK SET
HARDWARE TYPE 17	
	(1) PASSAGE SET
	(3) 180 DEGREE HINGES

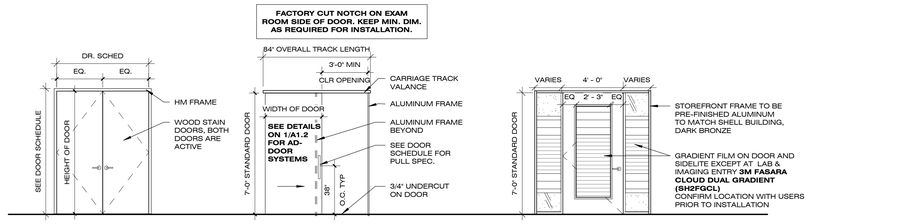


F FLUSH SOLID DOOR

FV FLUSH DOOR WITH VIEWLITE

FG FLUSH DOOR WITH GLASS

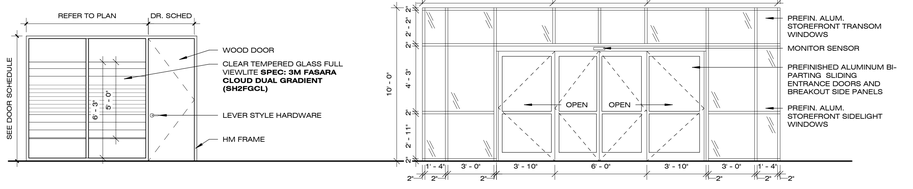
BF BIFOLD DOOR



FD DOUBLE DOOR

AD AD SLIDING DOOR AND FRAME SYSTEM

SF STOREFRONT DOOR WITH ALUMINUM FRAME



FS FLUSH DOOR WITH HM SIDELITE

SG NABCO SLIDING DOOR

NOTE: CONFIRM SIZE, CONFIGURATION AND FINISH MATCHES SHELL.

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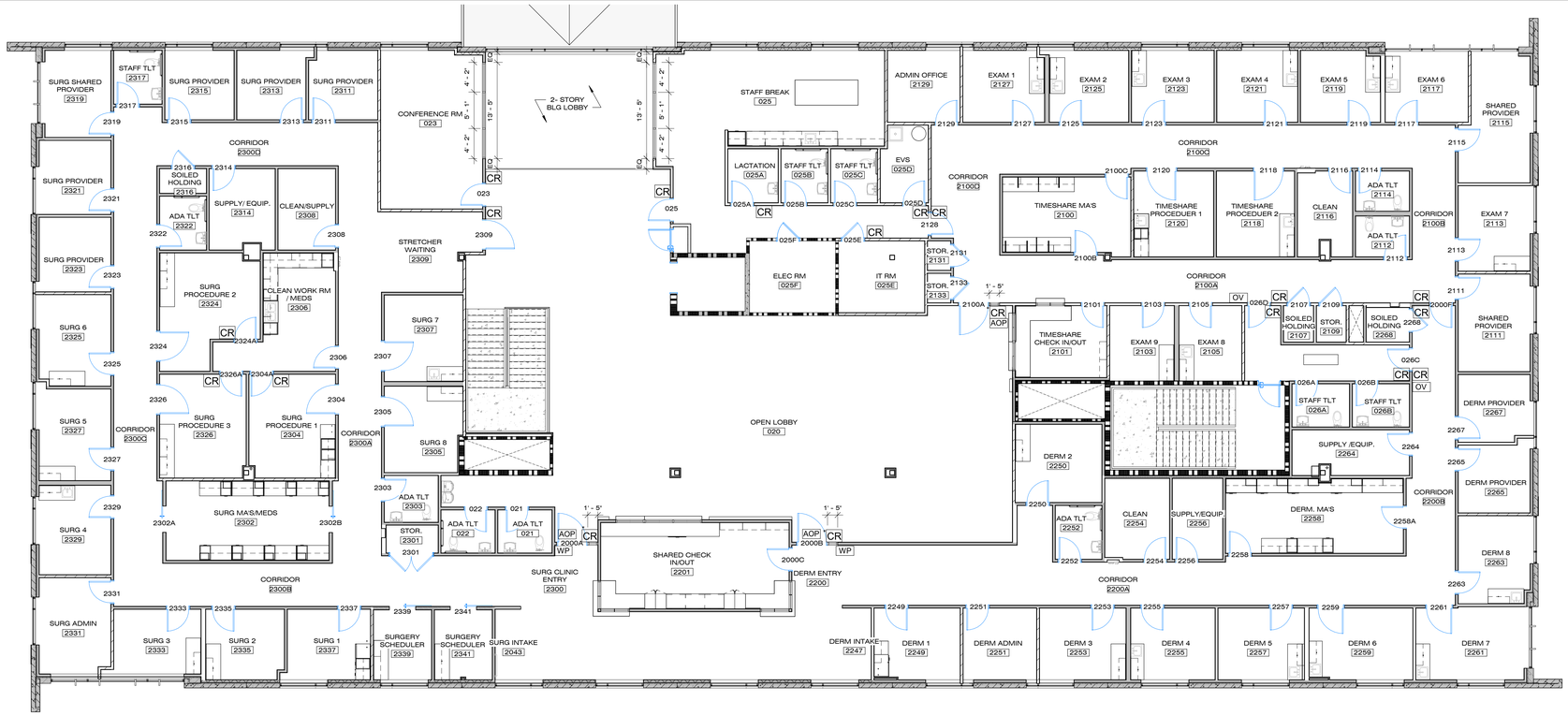
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ARCH. PROJECT # RDU 25-065

1ST FLOOR DOOR SCHEDULE

SCALE: As Indicated

SHEET # A3.1

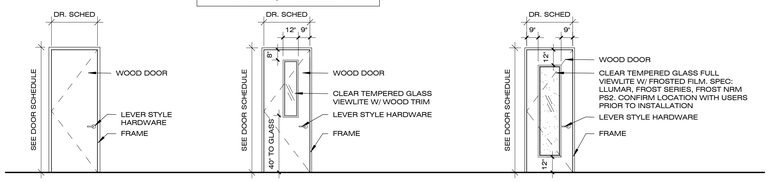


1 2ND FLOOR KEY PLAN
SCALE:1/8" = 1'-0"

2ND FLOOR DOOR SCHEDULE

DOOR #	ROOM NAME	WIDTH	HEIGHT	DOOR TYPE	DOOR MATERIAL	FRAME TYPE	HWD GRP #	REMARKS
021	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
022	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
023	CONFERENCE RM	3' - 0"	7' - 0"	F	WOOD	HM	4	
025	STAFF BREAK	3' - 0"	7' - 0"	F	WOOD	HM	4	
025A	LACTATION	3' - 0"	7' - 0"	F	WOOD	HM	4	
025B	STAFF TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	
025C	STAFF TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	
025D	EVS	3' - 0"	7' - 0"	F	WOOD	HM	2	KEY NOTE 3
025E	IT RM	3' - 0"	7' - 0"	F	WOOD	HM	4	KEY NOTE 3
025F	ELEC RM	3' - 0"	7' - 0"	F	WOOD	HM	2	KEY NOTE 3
026A	STAFF TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	
026B	STAFF TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	
026C	STAFF CORRIDOR	3' - 0"	7' - 0"	F	WOOD	HM	4	
026D	STAFF CORRIDOR	3' - 0"	7' - 0"	F	WOOD	HM	4	
2000A	SURG CLINIC ENTRY	4' - 0"	7' - 0"	SF	WOOD	ALUM	10	KEY NOTE 1 AND 2
2000B	DERM ENTRY	4' - 0"	7' - 0"	SF	WOOD	ALUM	10	KEY NOTE 1 AND 2
2000C	SHARED CHECK IN/OUT	3' - 0"	7' - 0"	FV	WOOD	HM	6	
2000F	CORRIDOR	3' - 0"	7' - 0"	F	WOOD	HM	4	
2100A	CORRIDOR	4' - 0"	7' - 0"	SF	WOOD	ALUM	10	KEY NOTE 1, AND 7
2100B	TIMESHARE MA'S	3' - 0"	7' - 0"	FV	WOOD	HM	8	
2100C	TIMESHARE MA'S	3' - 0"	7' - 0"	FV	WOOD	HM	8	
2101	TIMESHARE CHECK IN/OUT	3' - 0"	7' - 0"	FV	WOOD	HM	6	
2103	EXAM 9	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2105	EXAM 8	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2107	SOILED HOLDING	3' - 0"	7' - 0"	F	WOOD	HM	6	
2109	STOR.	3' - 0"	7' - 0"	F	WOOD	HM	6	
2111	SHARED PROVIDER	3' - 0"	8' - 0"	F	WOOD	HM	5	
2112	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
2113	EXAM 7	3' - 0"	8' - 0"	F	WOOD	HM	17	KEY NOTE 9
2114	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
2115	SHARED PROVIDER	3' - 0"	7' - 0"	F	WOOD	HM	5	
2116	CLEAN	3' - 0"	7' - 0"	F	WOOD	HM	16	
2117	EXAM 6	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2118	TIMESHARE PROCEDUER 2	4' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2119	EXAM 5	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2120	TIMESHARE PROCEDUER 1	4' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2121	EXAM 4	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2123	EXAM 3	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2125	EXAM 2	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2127	EXAM 1	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9
2128	STAFF BREAK ROOM ENTRY	3' - 0"	7' - 0"	F	WOOD	HM	4	
2129	ADMIN OFFICE	3' - 0"	7' - 0"	F	WOOD	HM	5	
2131	STOR.	3' - 0"	7' - 0"	F	WOOD	HM	6	
2133	STOR.	3' - 0"	7' - 0"	F	WOOD	HM	6	
2249	DERM 1	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2250	DERM 2	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2251	DERM ADMIN	3' - 0"	7' - 0"	F	WOOD	HM	5	
2252	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
2253	DERM 3	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2254	CLEAN	3' - 0"	7' - 0"	F	WOOD	HM	16	
2255	DERM 4	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2256	SUPPLY/EQUIP.	3' - 0"	7' - 0"	F	WOOD	HM	6	
2257	DERM 5	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2258	DERM. MA'S	3' - 0"	7' - 0"	FV	WOOD	HM	8	
2258A	DERM. MA'S	3' - 0"	7' - 0"	FV	WOOD	HM	8	KEY NOTE 8
2259	DERM 6	3' - 6"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2261	DERM 7	3' - 6"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2263	DERM 8	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2264	SUPPLY /EQUIP.	3' - 0"	7' - 0"	F	WOOD	HM	6	
2265	DERM PROVIDER	3' - 0"	8' - 0"	F	WOOD	HM	5	
2267	DERM PROVIDER	3' - 0"	8' - 0"	F	WOOD	HM	5	
2268	SOILED HOLDING	3' - 0"	7' - 0"	F	WOOD	HM	6	KEY NOTE 5
2301	STOR.	6' - 0"	7' - 0"	FD	WOOD	HM	18	
2302A	SURG MAS/MEDS	3' - 7 1/4"	7' - 0"	ADG	--	AD	12	
2302B	SURG MAS/MEDS	3' - 7 1/4"	7' - 0"	ADG	--	AD	12	
2303	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
2304	SURG PROCEDURE 1	4' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 8
2304A	SURG PROCEDURE 1	3' - 0"	7' - 0"	F	WOOD	HM	4	KEY NOTE 10
2305	SURG 8	4' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2306	CLEAN WORK RM / MEDS	3' - 0"	7' - 0"	FV	WOOD	HM	6	
2307	SURG 7	4' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2308	CLEAN/SUPPLY	3' - 0"	7' - 0"	F	WOOD	HM	16	
2309	STRETCHER WAITING	4' - 0"	7' - 0"	F	WOOD	HM	4	
2311	SURG PROVIDER	3' - 0"	7' - 0"	F	WOOD	HM	5	
2313	SURG PROVIDER	3' - 0"	7' - 0"	F	WOOD	HM	5	
2314	SUPPLY/ EQUIP.	3' - 0"	7' - 0"	F	WOOD	HM	6	
2315	SURG PROVIDER	3' - 0"	7' - 0"	F	WOOD	HM	5	
2316	SOILED HOLDING	3' - 0"	7' - 0"	F	WOOD	HM	6	
2317	STAFF TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	
2319	SURG SHARED PROVIDER	3' - 0"	7' - 0"	F	WOOD	HM	5	
2321	SURG PROVIDER	3' - 0"	7' - 0"	F	WOOD	HM	5	
2322	ADA TLT	3' - 0"	7' - 0"	F	WOOD	HM	1	ADD/ALT: EMERGENCY RELEASE DOOR FRAME
2323	SURG PROVIDER	3' - 0"	7' - 0"	F	WOOD	HM	5	
2324	SURG PROCEDURE 2	4' - 0"	7' - 0"	F	WOOD	HM	3	KEY NOTE 8
2324A	SURG PROCEDURE 2	3' - 0"	7' - 0"	F	WOOD	HM	4	KEY NOTE 10
2325	SURG 6	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2326	SURG PROCEDURE 3	4' - 0"	7' - 0"	F	WOOD	HM	3	KEY NOTE 8
2326A	SURG PROCEDURE 3	3' - 0"	7' - 0"	F	WOOD	HM	4	KEY NOTE 10
2327	SURG 5	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2329	SURG 4	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2331	SURG ADMIN	3' - 0"	7' - 0"	F	WOOD	HM	5	
2333	SURG 3	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2335	SURG 2	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2337	SURG 1	3' - 0"	7' - 0"	F	WOOD	HM	17	KEY NOTE 9 AND 10
2339	SURGERY SCHEDULER	3' - 7 1/4"	7' - 0"	ADG	--	AD	13	
2341	SURGERY SCHEDULER	3' - 7 1/4"	7' - 0"	ADG	--	AD	13	

G.C. TO VERIFY REQUIRED THICKNESS OF GLASS, THROUGHOUT.

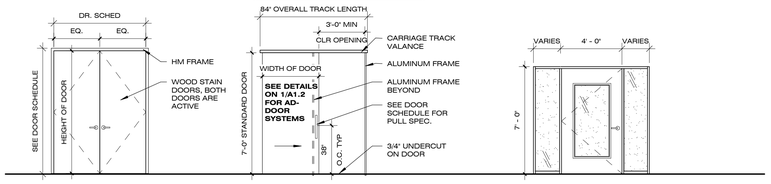


F FLUSH SOLID DOOR

FV FLUSH DOOR WITH VIEWLITE

FG FLUSH DOOR WITH GLASS

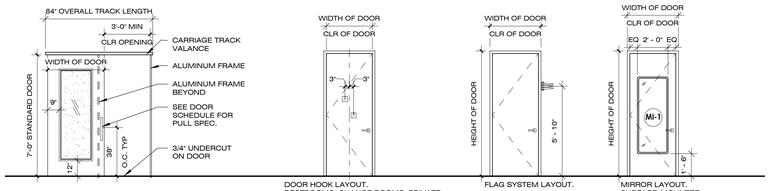
FACTORY CUT NOTCH ON EXAM ROOM SIDE OF DOOR. KEEP MIN. DIM. AS REQUIRED FOR INSTALLATION.



FD DOUBLE DOOR

AD AD SLIDING DOOR AND FRAME SYSTEM

SF STOREFRONT DOOR WITH ALUMINUM FRAME



ADG AD SLIDER WITH GLASS

DOOR HOOK LAYOUT.
RESTROOMS, CHANGE ROOMS, PRIVATE OFFICES, LACTATION ROOM
SPEC: CASSON BENDE CURVE HOOK, MATTE BLACK FINISH

FLAG SYSTEM LAYOUT.

MIRROR LAYOUT.
SURFACE-MOUNTED IN SURGERY & DERMATOLOGY
SPEC: ELEGANT LIGHTING REMY 24" X 60" RECTANGULAR FLAT FRAMED MIRROR

DOOR KEY NOTES

1	AOP ACTIVATED WITH WAVE PLATE, SEE PLAN FOR WAVEPLATE LOCATIONS, WAVEPLATES BY GC.
2	DOOR RELEASE BUTTONS BY SECURITY VENDORS. SEE RECEPTION DESK FOR LOCATION(S).
3	18" TALL KICKPLATE BOTH SIDES.
4	"IN-USE" SIGN TO BE INSTALLED ABOVE DOOR. COORDINATE WITH X-RAY EQUIPMENT.
5	PROVIDE BIO HAZARD SIGNAGE ON DOOR.
6	PROVIDE PERIMETER GASKETING.
7	PROVIDE OVERRIDE BUTTON WITH CLEAR COVER (SOUND INDICATION WHEN LIFTED) FOR EMERGENCY EGRESS.
8	PROVIDE OVERHEAD STOP.
9	COORDINATE WALL BUMPER LOCATION WITH HANDLE OF PRIVACY SWING DOOR WHEN OPEN 180 DEGREES.
10	EXAM/PROCEDURE DOOR TO HAVE FULL SIZE MIRROR INSTALLED ON INSIDE OF ROOM.
11	LOCKDOWN BUTTON BY SECURITY VENDOR. GC TO COORDINATE DOOR HARDWARE WITH VENDOR TO SECURE DOOR 001A AND PREVENT ENTRY.

GENERAL DOOR NOTES

1	ALL HM FRAMES TO BE PAINTED KNOCKDOWN FRAMES. **ADD/ALT: WELDED HOLLOW METAL FRAMES.**
2	NEW INTERIOR DOORS TO BE VT INDUSTRIES, PLAIN SLICED WHITE MAPLE, STAIN: MOCHA MA24. SUBMIT SAMPLE TO ARCHITECT FOR APPROVAL PRIOR TO FABRICATION OF DOORS.
3	HOOKS; ALL SINGLE OCCUPANT RESTROOMS AND PRIVATE OFFICE DOORS TO HAVE (2) COAT HOOKS. SEE ELEVATIONS FOR MOUNTING LOCATIONS. **SPEC: UNISON. FABRICATED OF ANONDIZED ALUMINUM, CURVE MINI WALL HOOKS, FINISH: TBD. DIMENSIONS: 2.25"H X 0.75"W X 1"D. MOUNTING HARDWARE INCLUDED.**
4	MAX. UNDERCUT AT DOOR TO BE 3/4" U.N.O.
5	ALL HINGED DOORS TO RECEIVE (3) SILENCERS (608 GRY ROC), (3) HINGES (4-1/2 X 4-1/2" HINGES: ASSA ABLOY,MCKINNEY US26D) AND (1) WALL BUMPER (409 630 ROC). A. GC TO IDENTIFY LOCATIONS THAT DONT SUPPORT THE INSTALL OF A WALL BUMPER FOR REVIEW WITH ARCHITECT AND TENANT. B. EXCEPTION: DOORS THAT HAVE BEEN SPECIFIED WITH OVERHEAD STOPS DO NOT NEED WALL BUMPER. C. DOORS TO HAVE 180 DEGREE HINGES. EXCEPT DOORS WITH PRIVACY SWINGS (EXAMS, PROCEDURE, TREATMENT) U.O.N.
6	G.C. TO COORDINATE WITH SECURITY VENDOR FOR REQUIRED DOOR AND FRAME PREP. GC TO PROVIDE ALL REQUIRED DOOR HARDWARE.
7	CARD READERS TO RELEASE LOCK ONLY. ONLY WAVE PLATES TO ENGAGE AUTO-OPENERS.
8	ALL HARDWARE TO BE ASSA ABLOY ACCENTRA 4600LN SERIES/ AU/ 626, COMPATIBLE WITH TENANT'S PREFERRED CYLINDER LOCK. **ADD/ALT: BLACK LEVERS THROUGHOUT.**
9	AUTO-OPERATOR: HORTON AUTOMATICS/AUTOMATIC SWING DOORS & OPERATORS - LOW ENERGY, EASY ACCESS SERIES 7100 SURFACE APPLIED W/ WAVE ACTIVATOR (STAINLESS STEEL) BY GC.
10	ALL LOCKS TO BE CYLINDER TYPE, CORBIN RUSSELL 7-PIN KEYWAY. COORDINATE KEYING WITH TENANT.
11	EXISTING HM DOORS TO BE PAINTED SHERWIN WILLIAMS AGREEABLE GREY.

HARDWARE TYPES

HARDWARE TYPE 1	
	(1) PRIVACY LOCKET, WITH OCCUPANY INDICDATOR.
HARDWARE TYPE 2	
	(1) STOREROOM LOCK
HARDWARE TYPE 3	
	(1) PASSAGE SET
HARDWARE TYPE 4	
	(1) CLOSER
	(1) STOREROOM LOCK
	(1) ELECTRIC STRIKE, COORDINATE W/ CARD READER HARDWARE
HARDWARE TYPE 5	
	OFFICE LOCKSET
HARDWARE TYPE 6	
	(1) CLOSER
	(1) MANUAL CIPHER LOCK SET
HARDWARE TYPE 7	
	(1) STOREROOM LOCKSET, ACTIVE LEAF
	(1) DUMMY SET AND (1) FLUSH BOLT, INACTIVE LEAF
	(2) CLOSERS
HARDWARE TYPE 8	
	(1) CLASSROOM LOCKSET
HARDWARE TYPE 9	
	(1) AUTO-OPERATOR
	(1) PASSAGE SET
HARDWARE TYPE 10	
	(1) AUTO-OPERATOR
	(1) STOREROOM LOCK
	(1) ELECTRIC STRIKE, COORDINATE WITH CARD READER HARDWARE
HARDWARE TYPE 11	
	(1) STOREROOM LOCKSET, ACTIVE LEAF
	(1) DUMMY SET AND (1) FLUSH BOLT, INACTIVE LEAF
HARDWARE TYPE 12	
	(2) 118 ROC PULL B TO B MOUNT
HARDWARE TYPE 13	
	(2) 118 ROC PULL B TO B MOUNT
	(2) OFFICE LOCKS, SFIC CYLINDER
HARDWARE TYPE 14	
	(1) PASSAGE SET
	(1) CLOSER
HARDWARE TYPE 15	
	(1) AUTO-OPERATOR
HARDWARE TYPE 16	
	(1) MANUAL CIPHER LOCK SET
HARDWARE TYPE 17	
	(1) PASSAGE SET
	(3) 180 DEGREE HINGES
HARDWARE TYPE 18	
	(1) CLOSER
	(1) MANUAL CIPHER LOCK
	(1) DUMMY SET AND FLUSH BOLT ON INACTIVE LEAF

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11/21/2025

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11.21.25

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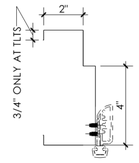
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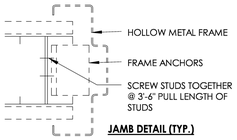
2ND FLOOR DOOR SCHEDULE

SCALE: As Indicated

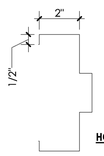
SHEET # A3.2



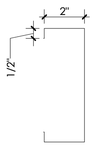
HOLLOW METAL RABBET FRAME PROFILE (TYP.)



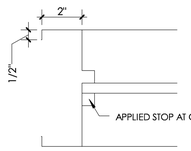
JAMB DETAIL (TYP.)



HOLLOW METAL FRAME PROFILE (TYP.)



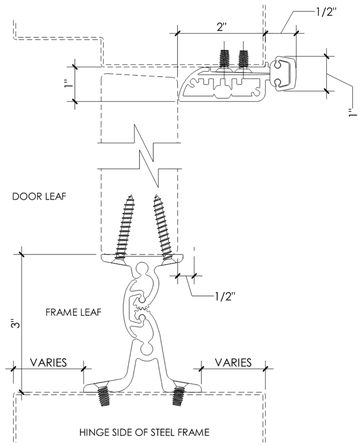
HOLLOW METAL OPENING PROFILE (TYP.)



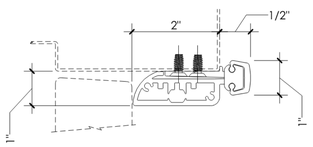
HOLLOW METAL TRANSOM GLASS (TYP.)

1 INTERIOR DOOR JAMB & HEADER DETAILS (TYP.)

SCALE: N.T.S.



ASSA ABLOY-PEMKO: DOUBLE SWING HINGE: DSH



ASSA ABLOY-PEMKO: EMEGENCY RELEASE STOP: ERS

2 ADD/ALT: PATIENT TLTS INTERIOR EMERGENCY DOOR JAMB & HEADER DETAILS (TYP.)

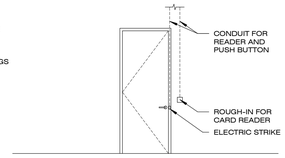
SCALE: N.T.S.

GENERAL NOTES:

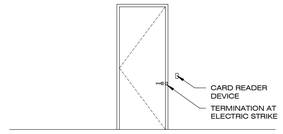
1. GC TO PROVIDE CONDUIT TO CARD READER AND ELECTRIC STRIKE AS NEEDED BASED ON PLANS. FOR BOTH CONCEALED PLENUM SPACES AND OPEN CEILING CONDITIONS, PROVIDE CONDUIT AND PULL STRING.

2. SECURITY VENDOR TO PROVIDE ALL WIRING TO ELECTRIC STRIKE AND CARD READER LOCATIONS.

3. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.



GENERAL CONTRACTOR SCOPE OF WORK



SECURITY VENDOR SCOPE OF WORK

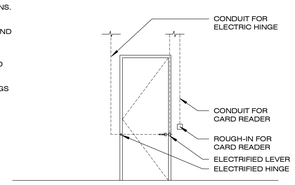
ELECTRIC STRIKE ASSEMBLY

GENERAL NOTES:

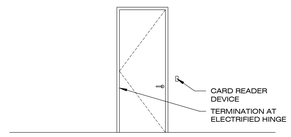
1. GC TO PROVIDE CONDUIT TO CARD READER AND ELECTRIFIED HINGE AS NEEDED BASED ON PLANS. FOR BOTH CONCEALED PLENUM SPACES AND OPEN CEILING CONDITIONS, PROVIDE CONDUIT AND PULL STRING.

2. SECURITY VENDOR TO PROVIDE ALL WIRING TO CARD READER AND ELECTRIFIED HINGE LOCATIONS.

3. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.



GENERAL CONTRACTOR SCOPE OF WORK



SECURITY VENDOR SCOPE OF WORK

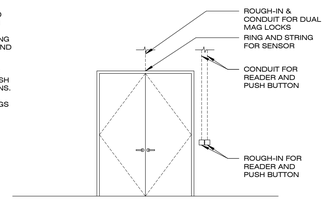
ELECTRIFIED LOCK ASSEMBLY

GENERAL NOTES:

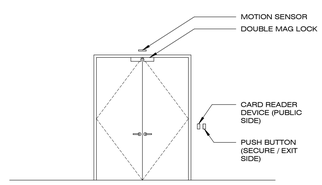
1. GC TO PROVIDE CONDUIT TO CARD READER, PUSH TO EXIT, AND MAG LOCK AS NEEDED BASED ON PLANS. FOR BOTH CONCEALED PLENUM SPACES AND OPEN CEILING CONDITIONS, PROVIDE CONDUIT AND PULL STRING.

2. SECURITY VENDOR TO PROVIDE ALL WIRING TO CARD READER, PUSH TO EXIT, AND MAG LOCK LOCATIONS.

3. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.



GENERAL CONTRACTOR SCOPE OF WORK



SECURITY VENDOR SCOPE OF WORK

MAG LOCK ASSEMBLY

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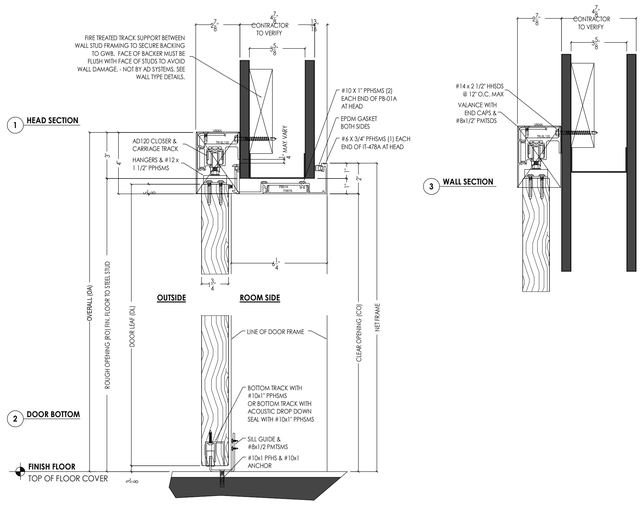
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ARCH. PROJECT # RDU 25-065

DOOR DETAILS & ACCESSORIES

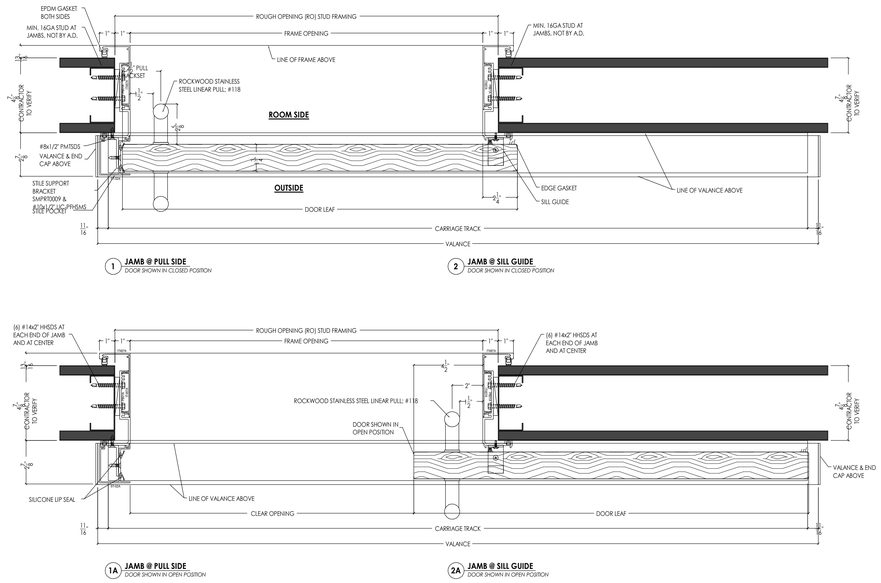
SCALE: 1/8" = 1'-0"

SHEET # A3.3



2 AD DOOR DETAIL
SCALE:3" = 1'-0"

NOTE: CONTRACTOR TO COORDINATE A REQUIRED AD DOOR PRE-INSTALLATION TRAINING MEETING AND A POST INSTALLATION WALK THRU WITH THE ARCHITECT, ONSLOW PM, AND ALLEGIANT.



3 AD DOOR JAMB DETAIL- RIGHT OPEN
SCALE:3" = 1'-0"

ASSEMBLY NOTES:

1. DOOR LEAFS ARE SHIPPED ASSEMBLED, EXCEPT FOR HARDWARE.
2. FRAMING COMPONENTS ARE SHIPPED "K D".
   - HORIZONTAL COMPONENTS ARE CUT AS DRAWN.
   - VERTICAL COMPONENTS ARE CUT 2" LONG. FIELD CUT ONLY FROM BOTTOM OF COMPONENT.
3. UNLESS OTHERWISE INDICATED, THE VERTICAL COMPONENTS CAN BE CUT TO EXACT LENGTH IF GUARANTEED DIMENSIONS ARE PROVIDED.

ATTENTION CUSTOMER

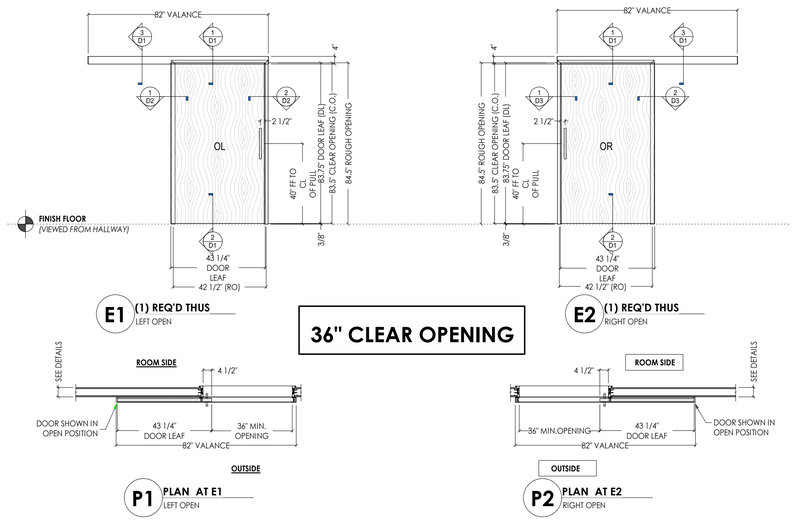
TO ENSURE THE ACCURACY OF YOUR DOOR MACHINING, PLEASE READ AND UNDERSTAND THE DOOR HANDING INFORMATION BELOW. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT YOUR AD SYSTEMS PROJECT MANAGER.

DOOR IS ALWAYS VIEWED FROM VALANCE SIDE FOR HANDING PURPOSES.
STANDARD LAYOUT SHOWS VALANCE SIDE IS OUTSIDE & NON VALANCE SIDE IS ROOM SIDE.
"OL" = OPEN LEFT "OR" = OPEN RIGHT

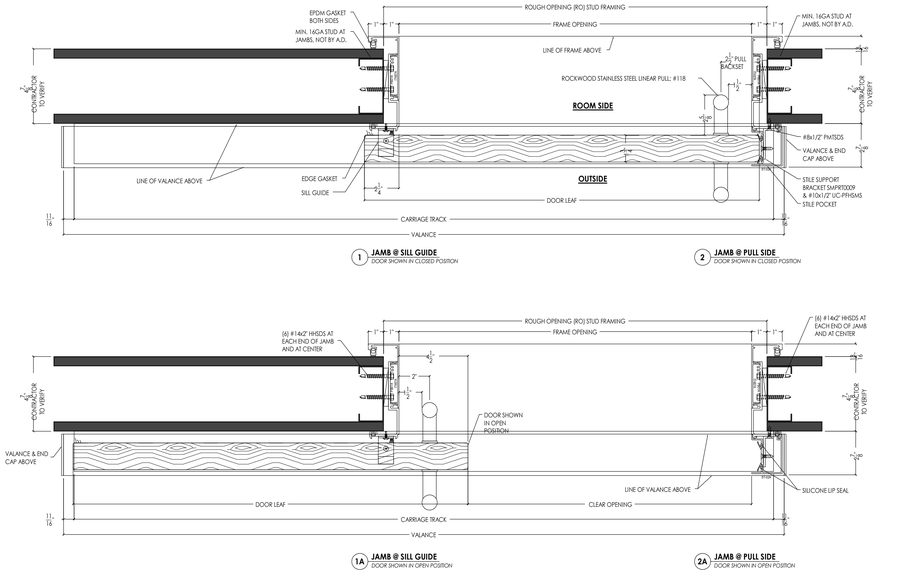
STANDARD HARDWARE CONFIGURATIONS: (IF EQUIPPED)

THUMB-TURN LEVER ALWAYS ON ROOM SIDE AND KEYED CYLINDER ALWAYS ON VALANCE SIDE

ANY DOOR THAT IS TO BE CONFIGURED OPPOSITE OF THE STANDARDS ABOVE MUST BE INDICATED BY AN "R" FOR REVERSE.
"OL-R" = OPEN LEFT - REVERSE "OR-R" = OPEN RIGHT - REVERSE



5 AD DOOR ELEVATION
SCALE:3/8" = 1'-0"



6 AD DOOR JAMB DETAIL- LEFT OPEN
SCALE:3" = 1'-0"

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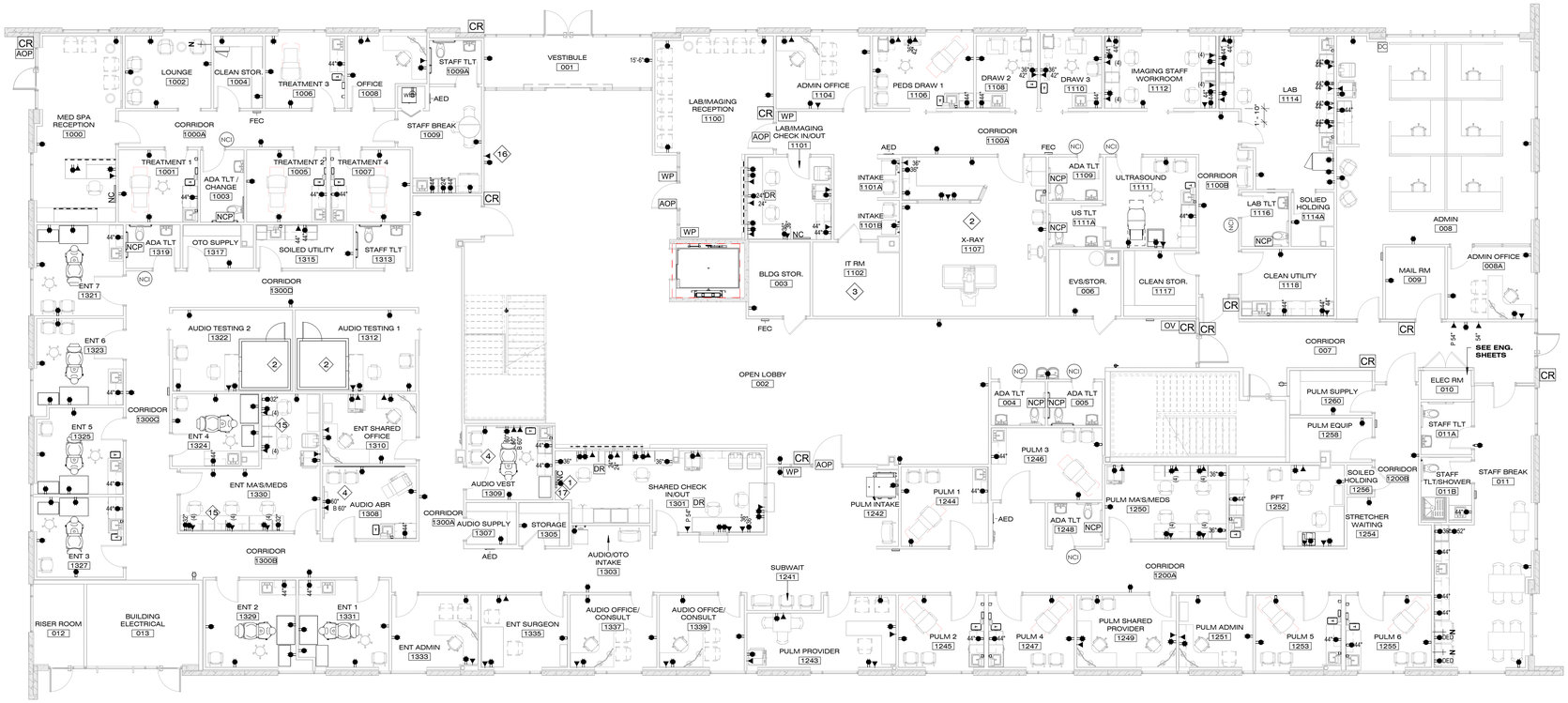
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ARCH. PROJECT # RDU 25-065

AD DOOR DETAILS & ACCESSORIES

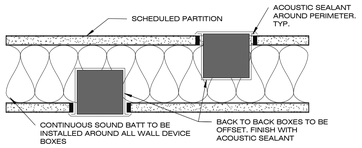
SCALE: As indicated

SHEET # **A3.4**



1 1ST FLOOR FURNITURE & EQUIPMENT PLAN

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



2 DEVICE BOX OUT DETAIL

SCALE:3" = 1'-0"

APPLIANCE & EQUIPMENT LEGEND

ULTRASOUND EQUIPMENT	NAME: GE LOGIQ E10 FURNISHED AND INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
X-RAY	NAME: PHILLIPS RADIOGRAPHY 7300 C/VALUE VS FURNISHED AND INSTALLED BY: GC ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
AUDIO BOOTH	NAME: ECKEL CL-14A LP2 PRIME FURNISHED AND INSTALLED BY: GC ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
COMPACT TROLLEY	NAME: OLYMPUS TC-C4 COMPACT TROLLEY FURNISHED AND INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
MEDICAL-GRADE REF	NAME: HPR125-GX, HORIZON SERIES PHARMACY UPRIGHT FURNISHED AND INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
REF1	NAME: REFRIGERATOR/FREEZER AND ICE MAKER KIT FURNISHED BY: GC INSTALLED BY: GC DESCRIPTION: 25.7 CU FT FRENCH DOOR REFRIDGERTOR MODEL: GE ENERGY GFE26JVMFS ADDITIONAL NOTES: FINGERPRINT RESISTANT STAINLESS STEEL
MW	NAME: MICROWAVE FURNISHED BY: GC INSTALLED BY: GC DESCRIPTION: 1.8" WIDE .7 CU. FT. 700 COUNTERTOP MICROWAVE MODEL: GE GCST07N1WSS ADDITIONAL NOTES: STAINLESS STEEL
W S	NAME: WASHER/DRYER STACK FURNISHED BY: GC INSTALLED BY: GC DESCRIPTION: UNITIZED SPACEMAKER 3.8 CU. FT. WASHER, 5.9 CU. FT. ELECTRIC DRYER MODEL: GE GUD27ESSMWW

RESPONSIBILITY CHART

1	NAME: CABLING FURNISHED & INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO PROVIDE CONDUIT AND BACK BOXES
2	NAME: SECURITY FURNISHED & INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO PROVIDE CONDUIT AND BACK BOXES
3	NAME: MUSIC/SPEAKERS FURNISHED & INSTALLED BY: TENANT ADDITIONAL NOTES:
4	NAME: NURSE CALL FURNISHED & INSTALLED BY: GC ADDITIONAL NOTES:
5	NAME: SIGNAGE FURNISHED & INSTALLED BY: GC ADDITIONAL NOTES:
6	NAME: ACCESSORIES FURNISHED & INSTALLED BY: SEE A8.5 ADDITIONAL NOTES:
7	NAME: APPLIANCES FURNISHED & INSTALLED BY: BY GC ADDITIONAL NOTES:

DEVICE LEGEND

►–	NEW DATA BOX, INSTALLED AT 18" AFF U.O.N. REFER TO THE ENGINEERING SHEETS FOR PORT NUMBER PLACEMENT. P = PHONE LINE
●–	NEW DUPLEX, INSTALLED 18" AFF U.O.N.
●–	NEW QUADRAPLEX, INSTALLED 18" AFF U.O.N.
⊕	NEW WASHER/DRYER NEMA PLUG, INSTALLED 18" AFF U.O.N.
CR	WALL MOUNTED FAIL SAFE CARD READER DEVICE PROVIDED BY SECURITY VENDOR. DOOR PREP BY GC. SEE DOOR KEY PLAN. G.C. TO PROVIDE CONDUIT AND JUNCTION BOX. * = CARD READER ACTIVATES DOOR AUTO-OPERATOR WHEN BADGE SWIPPED
DR	NEW DOOR RELEASE BUTTON INSTALLED AT RECEPTION DESK TO RELEASE ELECTRIC STRIKE, GC TO PROVIDE.
WP	NEW SLIMLINE WALL/MULLION MOUNTED AUTOMATIC ADJUSTABLE RANGE TOUCHLESS ACTUATOR, STAINLESS STEEL PLATE.
AOP	NEW AUTOMATIC DOOR OPENER. DEVICE TO BE MOUNTED ON THE PUSH SIDE OF THE DOOR
NCP	WALL MOUNTED EMERGENCY NURSE CALL. PLASTIC- WRAPPED PULL CORD # 104-1 TO BE INSTALLED IN PATIENT RESTROOMS. BOTTOM OF CORD TO BE 6" OFF FLOOR. DEVICE PROVIDED BY ELECTRICAL CONTRACTOR. ALL NURSE CALL PULLS TO BE CABLED BACK TO PANEL LOCATION AS SHOWN IN THE KEY NOTE.
NCI	NEW WALL MOUNTED NURSE CALL INDICATOR LIGHT. DEVICE PROVIDED BY ELECTRICAL CONTRACTOR. NOTE: LOBBY RESTROOMS TO RING TO SHARED CHECK IN/OUT ON BOTH FLOORS
NC	NEW FLUSH MOUNTED WALL MOUNTED NURSE CALL INDICATOR PANEL TO BE INSTALLED. DEVICE PROVIDED BY ELECTRICAL CONTRACTOR.
N	NEW WATERLINE, TYP FOR REFRIGERATORS, COFFEE MAKERS, ICE MAKERS
FB	NEW POWER/DATA/AV FLOOR BOX WITH 1-1/2" CONDUIT STUBBED UP ADJ. WALL INTO THE CEILING, GC TO COORDINATE THE INSTALLATION LOCATION WITH THE FURNITURE VENDOR.
DC	NEW POWER AND DATA WHIP FOR CONNECTION TO TENANT PROVIDED WORKSTATIONS.
OV	NEW OVERRIDE BUTTON W/ CLEAR ACRYLIC COVER IN CASE OF AN EMERGENCY, COVER TO SOUND ALARM WHEN LIFTED.
- - - -	LED STRIP LIGHT SPEC: KURBA SMALL FIELD BENDABLE 24V SYSTEM COLOR: WHITE, SEE ELEVATIONS FOR MORE DETAIL
— —	POWER/DATA TO BE INSTALLED IN WIREMOLD RACEWAY, MOUNTED ABOVE THE BACKSPLASH. DUPLEXES EVERY 36", TYPICAL IN LAB. **SPEC: LEGRAND, 6000 SERIES, COLOR GREY. EC TO PURCHASE CUTOUTS FOR ANGLED INSERT.**

DEVICE KEY NOTES

1	PROVIDE AUDIOBOOTH POWER PER MANUFACTURER GUIDELINES **(SPEC: ECKEL CL-14LP2 PRIME)**.
2	PROVIDE POWER/DATA/INFRASTRUCTURE PER MANUFACTURERS GUIDELINES.
3	PROVIDE POWER/DATA/INFRASTRUCTURE PER UNC GUIDELINES.
4	COORDINATE POWER/DATA LOCATIONS AND HEIGHTS WITH TENANT.
5	LED STRIP LIGHT TO BE INSTALLED ON PERIMETER WALLS FRAMING SHELVING DISPLAY, SEE 5/PP2.1 FOR MORE INFORMATION.
6	PROVIDE POWER PER MANUFACTURER GUIDELINES **(SPEC: ECKEL CL-14LP2 PRIME)**.
7	LED STRIP LIGHT INSERT INTO SURROUND AT DESK, SEE PP2.1 FOR MORE INFORMATION.
8	ALL NURSE PULLS EXCLUDING MED SPA AND LAB & IMAGING TO RING TO THIS PANEL.
9	PROVIDE OVERRIDE PUSH BUTTON W/ CLEAR ACRYLIC COVER IN CASE OF AN EMERGENCY.
10	REFER TO THE VENDOR'S EQUIPMENT PLANS FOR REQUIRED ELECTRICAL LAYOUT.
11	LAB & IMAGING RESTROOMS TO RING TO THIS PANEL.
12	SURGERY, DERMATOLOGY, AND LOBBY PATIENT TOILETS TO RING TO THIS PANEL.
13	LED STRIP LIGHT TO SURROUND DESK INSERT, SEE 3/PP2.1 FOR MORE INFORMATION.
14	TIMESHARE PATIENT TOILETS TO RING TO THIS PANEL.
15	DUPLEX POWER ABOVE COUNTER TO BE LOWERED INTO BACKSPLASH AND ROTATED 90 DEGREES. G.C. TO PROVIDE EXTENDERS.
16	QUAD DATA BOX WITH 4 CABLES
17	LOCKDOWN BUTTON BY SECURITY VENDOR. GC TO COORDINATE DOOR HARDWARE WITH VENDOR TO SECURE DOOR 001A AND PREVENT ENTRY

GENERAL FURN. + EQUIP. NOTES

1	UNO, ALL APPLIANCES SHOULD BE **STAINLESS STEEL**.
2	VERIFY ALL FINAL EQUIP. & FURN. WITH OWNER VENDORS. COORD. ALL POWER AND DATA W/ OWNER VENDORS PRIOR TO ROUGH-IN OF ALL WALL AND FLOOR OUTLETS. **OWNER OR TENANT** VENDORS ARE RESPONSIBLE FOR VERIFYING ALL CRITICAL DIMS PRIOR TO ORDERING.
3	REFERENCE INTERIOR ELEVATIONS FOR TYPICAL TV MOUNTING HEIGHTS.
4	THE FURNITURE SHOWN IS FOR REFERENCE PURPOSES ONLY. FOR MORE DETAIL, SEE FURNITURE VENDOR'S DRAWINGS. SEE ELECTRICAL DRAWINGS FOR POWER/DATA CONNECTIONS.
5	GC TO COORDINATE ALL WIDTHS, DEPTHS AND HEIGHTS OF PROPOSED APPLIANCES WITH MILLWORK PRIOR TO FABRICATION. UNO, GAPS ON EACH SIDE OF APPLIANCE TO BE NO WIDER THAN 1 INCH. GC TO COORDINATE GAPS AND OPEN SPACE IN MILLWORK CAVITY WITH APPLIANCE VENTILATION REQUIREMENTS. NOTIFY ARCHITECT OF ANY CONFLICTS.
6	FURNITURE VENDOR SHALL COORDINATE DELIVERY, STAGING AND INSTALLATION WITH **OWNER OR TENANT** AND GC. FURNITURE VENDOR SHALL BE RESPONSIBLE FOR DAMAGE TO CONSTRUCTION CAUSED DURING INSTALLATION.
7	UNO, ALL UNDERCOUNTER APPLIANCES THAT ARE BEING INSTALLED BELOW AN ADA COUNTERTOP SHALL BE ADA COMPLIANT.
8	DEVICES TO BE WHITE WITH WHITE COVERPLATE. **ADD/ALT: GREY DEVICE WITH STAINLESS STEEL COVERPLATE.**

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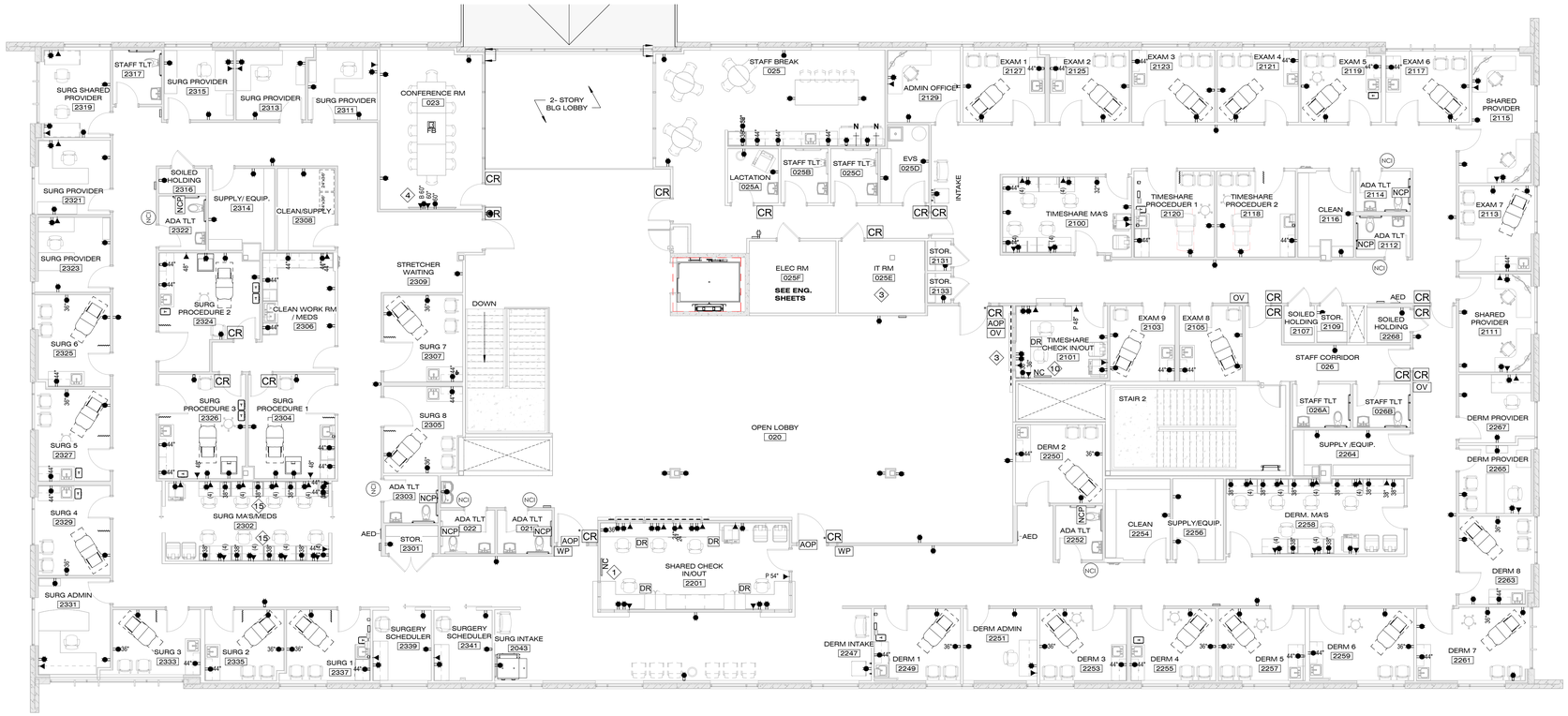
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1ST FLOOR FURNITURE & EQUIPMENT PLANS

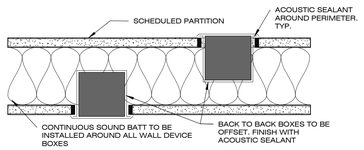
SCALE: As indicated

SHEET # **A4.1**



1 2ND FLOOR FURNITURE & EQUIPMENT PLAN

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



2 DEVICE BOX OUT DETAIL

SCALE: 3" = 1'-0"

APPLIANCE & EQUIPMENT LEGEND

ULTRASOUND EQUIPMENT	NAME: GE LOGIQ E10 FURNISHED AND INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
X-RAY	NAME: PHILLIPS RADIOGRAPHY 7300 C/VALUE VS FURNISHED AND INSTALLED BY: GC ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
AUDIO BOOTH	NAME: ECKEL CL-14A LP2 PRIME FURNISHED AND INSTALLED BY: GC ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
COMPACT TROLLEY	NAME: OLYMPUS TC-C4 COMPACT TROLLEY FURNISHED AND INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
MEDICAL-GRADE REF	NAME: HPR125-GX, HORIZON SERIES PHARMACY UPRIGHT FURNISHED AND INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO COORDINATE EQUIPMENT WITH VENDOR
REF1	NAME: REFRIGERATOR/FREEZER AND ICE MAKER KIT FURNISHED BY: GC INSTALLED BY: GC DESCRIPTION: 25.7 CU FT FRENCH DOOR REFRIDGERTOR MODEL: GE ENERGY GFE26JYMFS ADDITIONAL NOTES: FINGERPRINT RESISTANT STAINLESS STEEL
MW	NAME: MICROWAVE FURNISHED BY: GC INSTALLED BY: GC DESCRIPTION: 18" WIDE .7 CU. FT. 700 COUNTERTOP MICROWAVE MODEL: GE QCST07N1WSS ADDITIONAL NOTES: STAINLESS STEEL
W D	NAME: WASHER/DRYER STACK FURNISHED BY: GC INSTALLED BY: GC DESCRIPTION: UNITIZED SPACEMAKER 3.8 CU. FT. WASHER, 5.9 CU. FT. ELECTRIC DRYER MODEL: GE GUD27ESSMWW

RESPONSIBILITY CHART

1	NAME: CABLING FURNISHED & INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO PROVIDE CONDUIT AND BACK BOXES
2	NAME: SECURITY FURNISHED & INSTALLED BY: TENANT ADDITIONAL NOTES: GC TO PROVIDE CONDUIT AND BACK BOXES
3	NAME: MUSIC/SPEAKERS FURNISHED & INSTALLED BY: TENANT ADDITIONAL NOTES:
4	NAME: NURSE CALL FURNISHED & INSTALLED BY: GC ADDITIONAL NOTES:
5	NAME: SIGNAGE FURNISHED & INSTALLED BY: GC ADDITIONAL NOTES:
6	NAME: ACCESSORIES FURNISHED & INSTALLED BY: SEE A8.5 ADDITIONAL NOTES:
7	NAME: APPLIANCES FURNISHED & INSTALLED BY: BY GC ADDITIONAL NOTES:

DEVICE LEGEND

P	NEW DATA BOX, INSTALLED AT 18" AFF U.O.N. REFER TO THE ENGINEERING SHEETS FOR PORT NUMBER PLACEMENT. P = PHONE LINE
	NEW DUPLEX, INSTALLED 18" AFF U.O.N.
	NEW QUADRAPLEX, INSTALLED 18" AFF U.O.N.
	NEW WASHER/DRYER NEMA PLUG, INSTALLED 18" AFF U.O.N.
CR	WALL MOUNTED FAIL SAFE CARD READER DEVICE PROVIDED BY SECURITY VENDOR. DOOR PREP BY GC. SEE DOOR KEY PLAN. G.C. TO PROVIDE CONDUIT AND JUNCTION BOX. * = CARD READER ACTIVATES DOOR AUTO-OPERATOR WHEN BADGE SWIPPED
DR	NEW DOOR RELEASE BUTTON INSTALLED AT RECEPTION DESK TO RELEASE ELECTRIC STRIKE, GC TO PROVIDE.
WP	NEW SLIMLINE WALL/MULLION MOUNTED AUTOMATIC ADJUSTABLE RANGE TOUCHLESS ACTUATOR, STAINLESS STEEL PLATE.
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NCI	NEW WALL MOUNTED NURSE CALL INDICATOR LIGHT. DEVICE PROVIDED BY ELECTRICAL CONTRACTOR. NOTE: LOBBY RESTROOMS TO RING TO SHARED CHECK IN/OUT ON BOTH FLOORS
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FB	NEW POWER/DATA/AV FLOOR BOX WITH 1-1/2" CONDUIT STUBBED UP ADJ. WALL INTO THE CEILING, GC TO COORDINATE THE INSTALLATION LOCATION WITH THE FURNITURE VENDOR.
DC	NEW POWER AND DATA WHIP FOR CONNECTION TO TENANT PROVIDED WORKSTATIONS.
OV	NEW OVERRIDE BUTTON W/ CLEAR ACRYLIC COVER IN CASE OF AN EMERGENCY, COVER TO SOUND ALARM WHEN LIFTED.
	LED STRIP LIGHT SPEC: KURBA SMALL FIELD BENDABLE 24V SYSTEM COLOR: WHITE, SEE ELEVATIONS FOR MORE DETAIL
	POWER/DATA TO BE INSTALLED IN WIREMOLD RACEWAY, MOUNTED ABOVE THE BACKSPLASH. DUPLEXES EVERY 36", TYPICAL IN LAB. **SPEC: LEGRAND, 6000 SERIES, COLOR GREY. EC TO PURCHASE CUTOUTS FOR ANGLED INSERT.**

DEVICE KEY NOTES

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2	PROVIDE POWER/DATA/INFRASTRUCTURE PER MANUFACTURERS GUIDELINES.
3	PROVIDE POWER/DATA/INFRASTRUCTURE PER UNC GUIDELINES.
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5	LED STRIP LIGHT TO BE INSTALLED ON PERIMETER WALLS FRAMING SHELVING DISPLAY, SEE 5/PP2.1 FOR MORE INFORMATION.
6	PROVIDE POWER PER MANUFACTURER GUIDELINES **(SPEC: ECKEL CL-14LP2 PRIME)**.
7	LED STRIP LIGHT INSERT INTO SURROUND AT DESK, SEE PP2.1 FOR MORE INFORMATION.
8	ALL NURSE PULLS EXCLUDING MED SPA AND LAB & IMAGING TO RING TO THIS PANEL.
9	PROVIDE OVERRIDE PUSH BUTTON W/ CLEAR ACRYLIC COVER IN CASE OF AN EMERGENCY.
10	REFER TO THE VENDORS EQUIPMENT PLANS FOR REQUIRED ELECTRICAL LAYOUT.
11	LAB & IMAGING RESTROOMS TO RING TO THIS PANEL.
12	SURGERY, DERMATOLOGY, AND LOBBY PATIENT TOILETS TO RING TO THIS PANEL.
13	LED STRIP LIGHT TO SURROUND DESK INSERT, SEE 3/PP2.1 FOR MORE INFORMATION.
14	TIMESHARE PATIENT TOILETS TO RING TO THIS PANEL.
15	DUPLEX POWER ABOVE COUNTER TO BE LOWERED INTO BACKSPLASH AND ROTATED 90 DEGREES. G.C. TO PROVIDE EXTENDERS.
16	QUAD DATA BOX WITH 4 CABLES
17	LOCKDOWN BUTTON BY SECURITY VENDOR. GC TO COORDINATE DOOR HARDWARE WITH VENDOR TO SECURE DOOR 001A AND PREVENT ENTRY

GENERAL FURN. + EQUIP. NOTES

1	UNO, ALL APPLIANCES SHOULD BE **STAINLESS STEEL**.
2	VERIFY ALL FINAL EQUIP. & FURN. WITH OWNER VENDORS. COORD. ALL POWER AND DATA W/ OWNER VENDORS PRIOR TO ROUGH-IN OF ALL WALL AND FLOOR OUTLETS. **OWNER OR TENANT** VENDORS ARE RESPONSIBLE FOR VERIFYING ALL CRITICAL DIMS PRIOR TO ORDERING.
3	REFERENCE INTERIOR ELEVATIONS FOR TYPICAL TV MOUNTING HEIGHTS.
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5	GC TO COORDINATE ALL WIDTHS, DEPTHS AND HEIGHTS OF PROPOSED APPLIANCES WITH MILLWORK PRIOR TO FABRICATION. UNO, GAPS ON EACH SIDE OF APPLIANCE TO BE NO WIDER THAN 1 INCH. GC TO COORDINATE GAPS AND OPEN SPACE IN MILLWORK CAVITY WITH APPLIANCE VENTILATION REQUIREMENTS. NOTIFY ARCHITECT OF ANY CONFLICTS.
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7	UNO, ALL UNDERCOUNTER APPLIANCES THAT ARE BEING INSTALLED BELOW AN ADA COUNTERTOP SHALL BE ADA COMPLIANT.
8	DEVICES TO BE WHITE WITH WHITE COVERPLATE. **ADD/ALT: GREY DEVICE WITH STAINLESS STEEL COVERPLATE.**

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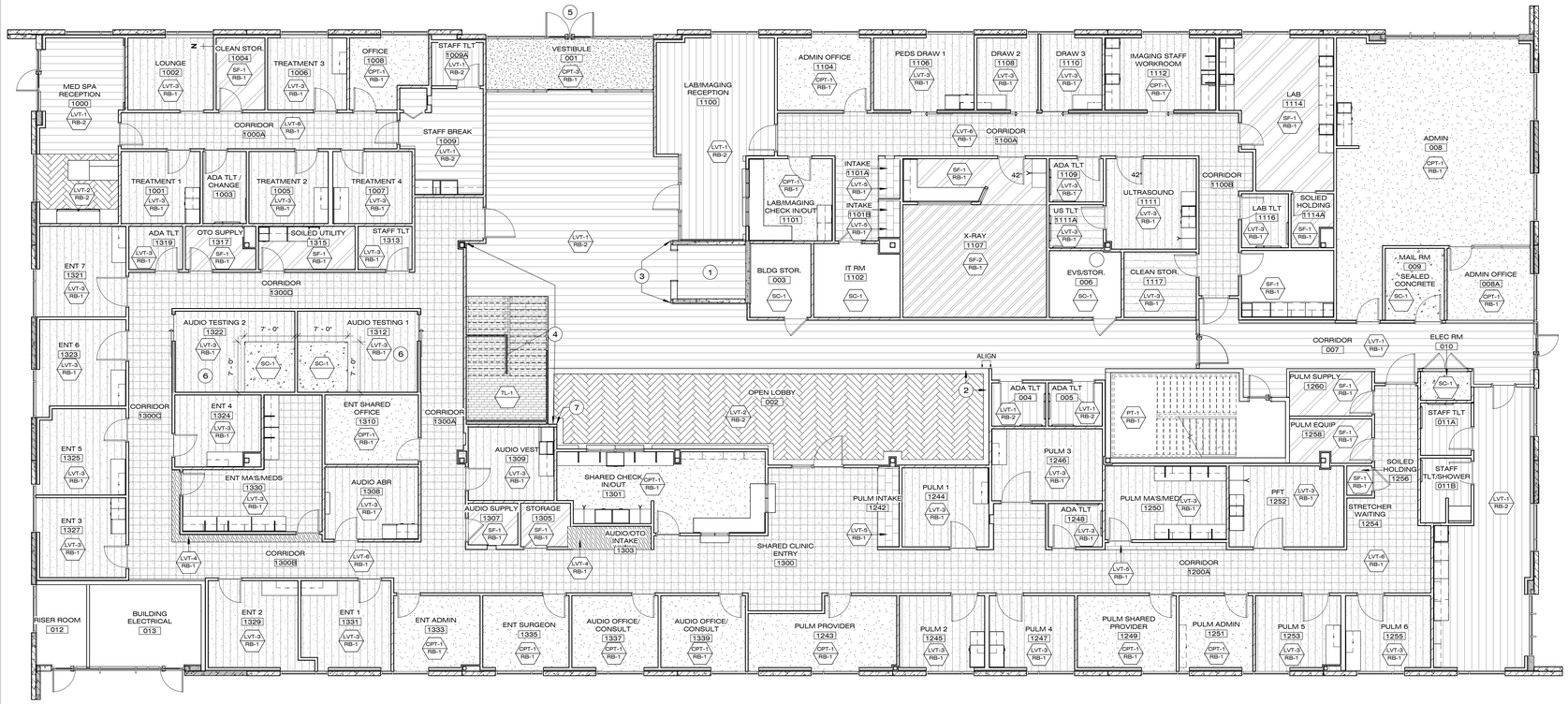
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ARCH. PROJECT # RDU 25-065

2ND FLOOR FURNITURE & EQUIPMENT PLANS

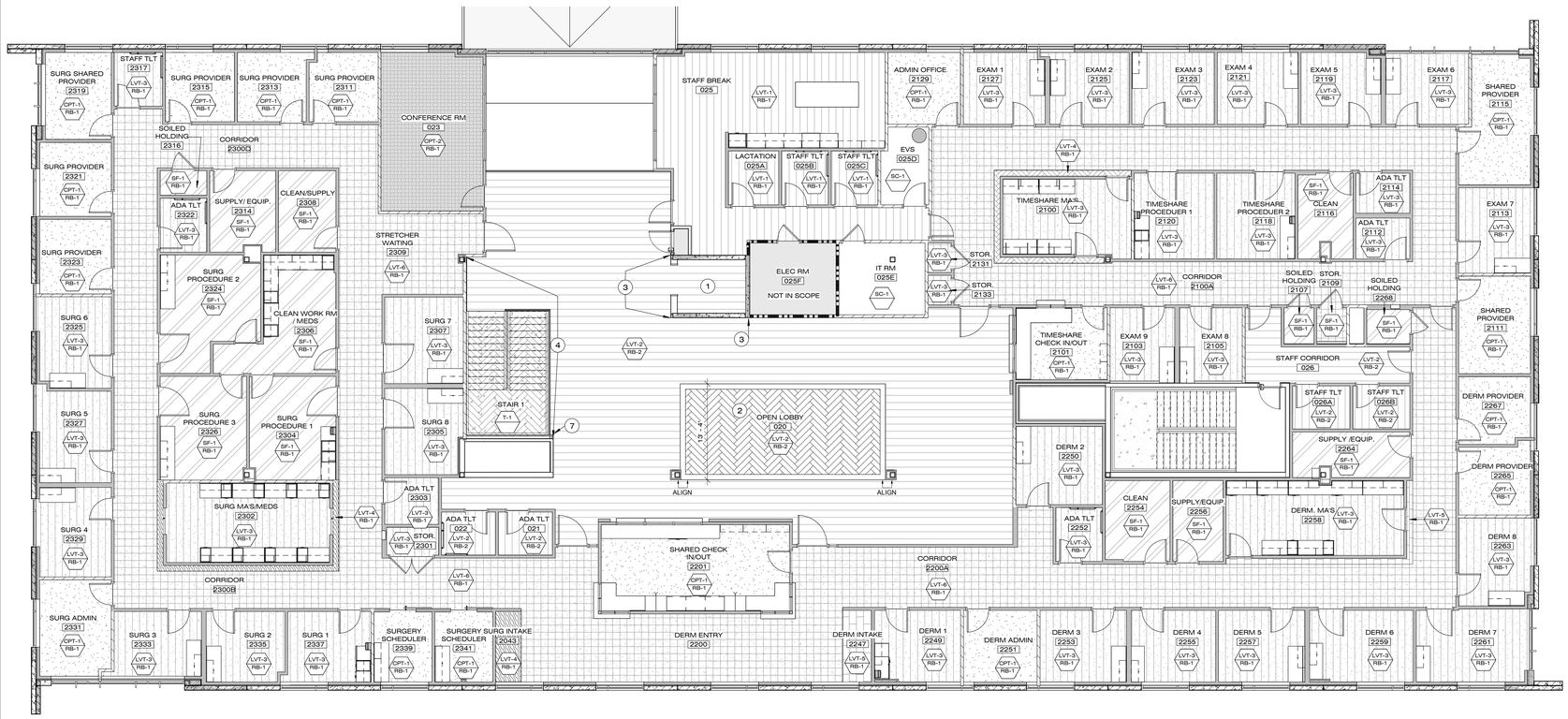
SCALE: As indicated

SHEET # A4.2



1 1ST FLOOR - FLOOR FINISH PLAN

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



2 2ND FLOOR - FLOOR FINISH PLAN

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

PRINTED DATE AND TIME: 11/21/2025 11:41:24 AM DRAWING LOCATION: Autodesk Docs://RDU 25-065 Onslow Memorial Health/RDU 25-065 Onslow.rvt

NOTES:

1.	PROVIDE FINISHES PER FINISH SHEET. PREPARE EXISTING CONDITIONS TO RECEIVE NEW FINISHES.
2.	ALL FINISHES SPECIFIED ARE APPROVED BY THE TENANT. ANY NECESSARY SUBSTITUTIONS SHALL BE SUBMITTED TO THE DESIGNER FOR APPROVAL.
3.	REFER TO THE CONSTRUCTION PLAN DIMENSIONS FOR ALL PRELIMINARY FINISH MATERIAL TAKE-OFFS. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDER PLACEMENT.
4.	REFER TO INTERIOR ELEVATIONS FOR ALL MILLWORK FINISH DESIGNATIONS.
5.	PAINTED SURFACES TO RECEIVE (1) COAT PRIMER AND (3) COATS PAINT
6.	CLEAR CAULK AT MILLWORK AND BACKSPLASH TRANSITION AT WALL.
7.	CEMENT BACKER BOARD TO BE INSTALLED IN LIEU OF DRYWALL AT ALL WALLS RECEIVING WALL TILE.
8.	WHERE INTERIOR FINISHES ARE APPLIED ON WALLS, CEILINGS OR STRUCTURAL ELEMENTS REQUIRED TO HAVE A FIRE-RESISTANCE RATING OR TO BE OF NON-COMBUSTABLE CONSTRUCTION, THEY SHALL COMPLY WITH SECTION 803.11 OF THE NCSBC.
9.	FLOORING IN ELECTRICAL, EVS AND IT TO BE SEALED CONCRETE WITH WALL BASE TO BE RB-1.
10.	SAMPLES OF ALL FINISHES TO BE PROVIDED TO ARCHITECT FOR REVIEW AND APPROVAL.
11.	UNO, ALL GYPSUM BOARD WALLS AND SOFFITS TO RECEIVE PAINT (P-1) WITH WALL BASE (RB-1).
12.	UNO, ALL GWB CEILINGS IN THE RESTROOMS TO BE PAINTED WHITE AND THE SOFFITS AT CHECK-IN AND CHECK-OUT SHALL RECEIVE PAINT (P-1) FLAT FINISH.
13.	UNO, ALL PTD. HOLLOW METAL FRAMES SHALL RECEIVE A WATERBASED ALKYD SEMI-GLOSS PAINT WITH ZERO VOC'S.
14.	PAINT IN THE RESTROOMS AND EVS TO BE EPOXY.
15.	GC TO PROVIDE NEW WINDOW SHADES AROUND ENTIRE PERIMETER OF BUILDING EXCEPT 2-STORY LOBBY. PROVIDE SHADES ON INTERIOR GLASS IN CONF. ROOM AT 2-STORY LOBBY. **SPEC: DRAPER MANUAL ROLLER SHADE. TREATMENT/EXAM ROOM 1% OPENNESS, OFFICES 3% OPENNESS, 5% AT ALL OTHER LOCATIONS. COLOR: GRAYSTONE PW4400.(PROVIDE EYEHOOKS EVERY 2 TO HOLD CHAIN IN PLACE. CONFIRM LOCATIONS W/ TENANT PRIOR TO INSTALL.)**
16.	PROVIDE ADA COMPLIANT BRUSHED CHROME ANODIZED TRANSITION STRIPS BETWEEN FLOORING TYPES. FEATHER FLOOR AS NEEDED FOR SMOOTH TRANSITION. - LVT TO VCT: SCHLUTER, VINPRO-S - LVT TO CARPET: SCHLUTER, VINPRO-S - LVT TO SHEET: SCHLUTER, VINPRO-S
17.	CLEAR CAULK AT MILLWORK AND BACKSPLASH TRANSITION AT WALL.
18.	FINISHES TO BE PROVIDED TO UNC AND ARCHITECT FOR REVIEW AND APPROVAL.
19.	GC TO INCLUDE POST LVT INSTALL CLEANING PER MANUFACTURER INSTRUCTIONS. CLEAN ALL OF THE GLUE OFF, PROVIDE SCUBBER AS REQUIRED.
20.	GC TO PROVIDE CONFERENCE ROOM BOARDS: (2) ULINE FRAMELESS GLASS BOARD, 6'X4', H-7181.
21.	ELECTRICAL DEVICES - TO BE WHITE WITH WHITE COVER PLATES. **ADD ALT: GRAY WITH STAINLESS STEEL COVER PLATES.**

FINISH LEGEND

XX-X XX-X	WALL & BASE FINISH TAG - SEE FINISH SCHEDULE FOR MATERIAL SPECS.
#	FINISH KEY NOTE

FINISH SPECIFICATION

NO.	MATERIAL	SPECIFICATION	NOTES	LOCATIONS
CPT-1	CARPET	MANUFACTURER: PATCRAFT SERIES: RISE COLOR: RATIO	PLANKS: 12" X 48" INSTALL METHOD: STAGGER	SEE PLAN.
CPT-2	CARPET	MANUFACTURER: TARKETT SERIES: SKY ATLAS COLOR: BADLANDS	PLANKS: 18" X 36" INSTALL METHOD: VERTICAL ASHLAR	SEE PLAN.
CPT-3	CARPET	MANUFACTURER: MOHAWK SERIES: TUFF STUFF II STYLE: FIRST STEP II COLOR: IRON ORE	PLANKS: 24" X 24" INSTALL METHOD: BRICK ASHLAR	VESTIBULE
LVT-1	RESILIENT PLANK	MANUFACTURER: PATCRAFT STYLE: PURSUE COLOR: RESTFUL	PLANKS: 7" X 47" INSTALL METHOD: STAGGER	SEE PLAN.
LVT-2	RESILIENT PLANK	MANUFACTURER: PATCRAFT STYLE: PURSUE COLOR: NATURAL	PLANKS: 7" X 47" INSTALL METHOD: HERRINGBONE	SEE PLAN.
LVT-3	RESILIENT PLANK	MANUFACTURER: MANNINGTON SERIES: COLOR ANCHOR STYLE: STRIDE COLOR: COTTONTAIL	PLANKS: 12"X24"	SEE PLAN.
LVT-4	RESILIENT PLANK	MANUFACTURER: MANNINGTON SERIES: COLOR ANCHOR STYLE: STRIDE COLOR: BIG WAVE	PLANKS: 12"X24"	SEE PLAN.
LVT-5	RESILIENT PLANK	MANUFACTURER: MANNINGTON SERIES: COLOR ANCHOR STYLE: STRIDE COLOR: JADE	PLANKS: 12"X24"	SEE PLAN.
LVT-6	RESILIENT PLANK	MANUFACTURER: MANNINGTON SERIES: COLOR ANCHOR STYLE: GROOVE COLOR: COTTONTAIL	PLANKS: 12"X24"	SEE PLAN.
SC-1	SEALED CONCRETE			SEE PLAN.
SF-1	RUBBER FLOORING	MANUFACTURER: PATCRAFT SERIES: HOLISTIC COLOR: ECHO	INSTALL WITH INTEGRAL 4" COVE BASE WITH METAL CAP	SEE PLAN.
SF-2	RUBBER FLOORING	MANUFACTURER: PATCRAFT SERIES: HOLISTIC COLOR: SHEER	INSTALL WITH INTEGRAL 4" COVE BASE WITH METAL CAP	SEE PLAN.
TL-1	TILE	MANUFACTURER: TILEBAR SERIES: ZENTECH COLOR: CHALK GROUT:	24"X48"	SEE PLAN.
RB-1	RUBBER BASE	MANUFACTURER: TARKETT COLOR: 29 MOON ROCK	4" COVE	THROUGHOUT U.O.N
RB-2	RUBBER BASE	MANUFACTURER: JOHNSONITE COLOR: 24 GREY HAZE	SIZE/PROFILE: 4" HIGH MONUMENT	SEE PLAN.

FINISH KEY NOTES

1	ELEVATOR FLOOR TO MATCH OPEN LOBBY (LVT-1)
2	PROVIDE ONE PLANK BORDER AROUND HERRINGBONE (LVT-2)
3	GC TO PROVIDE BRUSHED BLACK ALUMINUM REVEAL AT CORNER
4	GC TO PROVIDE LEVEL 5 FINISH
5	METAL THRESHOLD AT EXTERIOR DOORS
6	CONTRACTOR TO PROVIDE A TRANSITION STRIP WHERE THE LVT FLOOR TRANSITIONS TO THE RECESSED CONCRETE TO ALLOW FOR A SEAMLESS TRANSITION WITH THE EQUIPMENT. COORDINATE WITH EQUIPMENT MANUFACTURER.
7	GC TO PROVIDE FLOOR TO CEILING METAL CORNER TRIM FOR OUTSIDE CORNER OF WALLPAPER, PAINT TRIM TO MATCH ADJACENT WALL COLOR

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11/21/2025

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An Affiliate of UNC Health

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JACKSONVILLE, NC 28546

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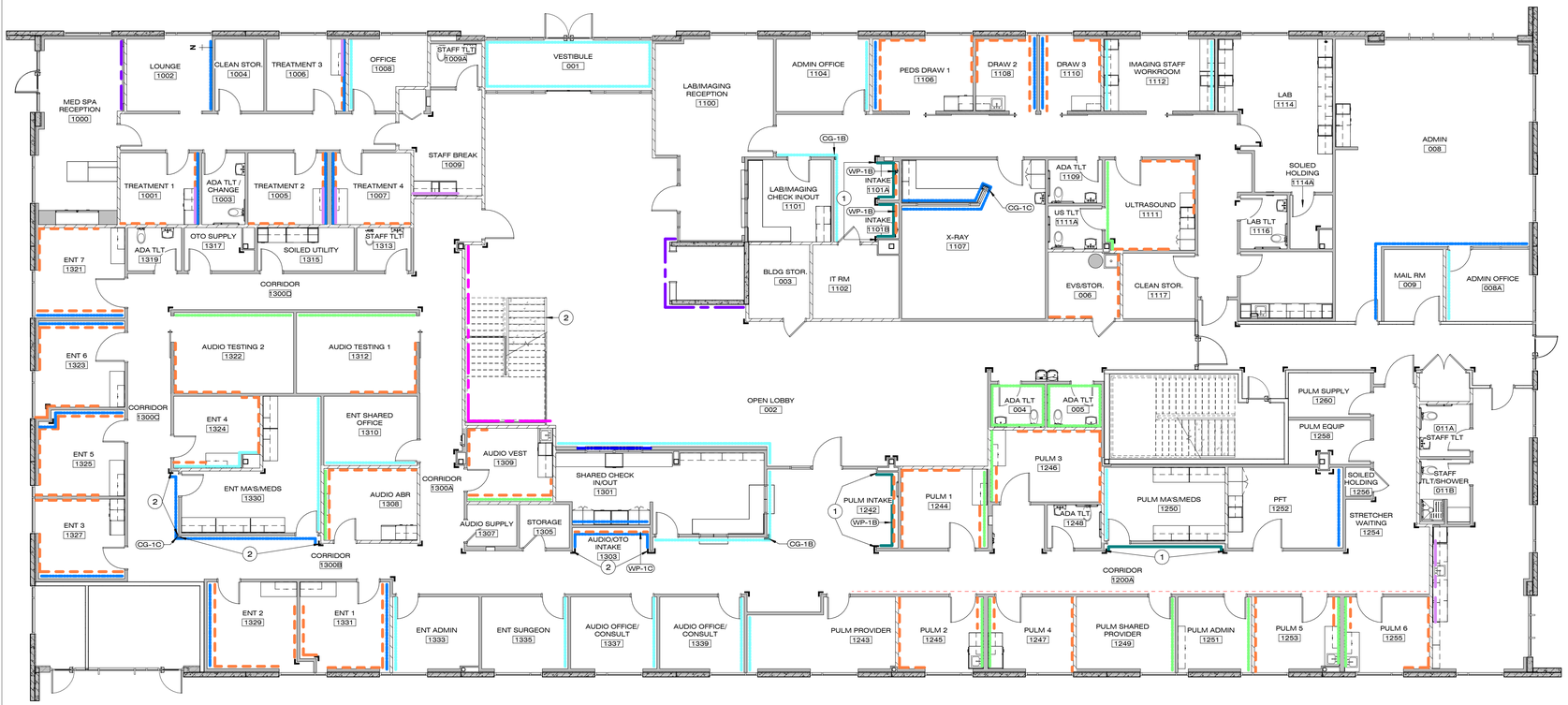
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ARCH. PROJECT # RDU 25-065

FLOOR FINISH PLAN

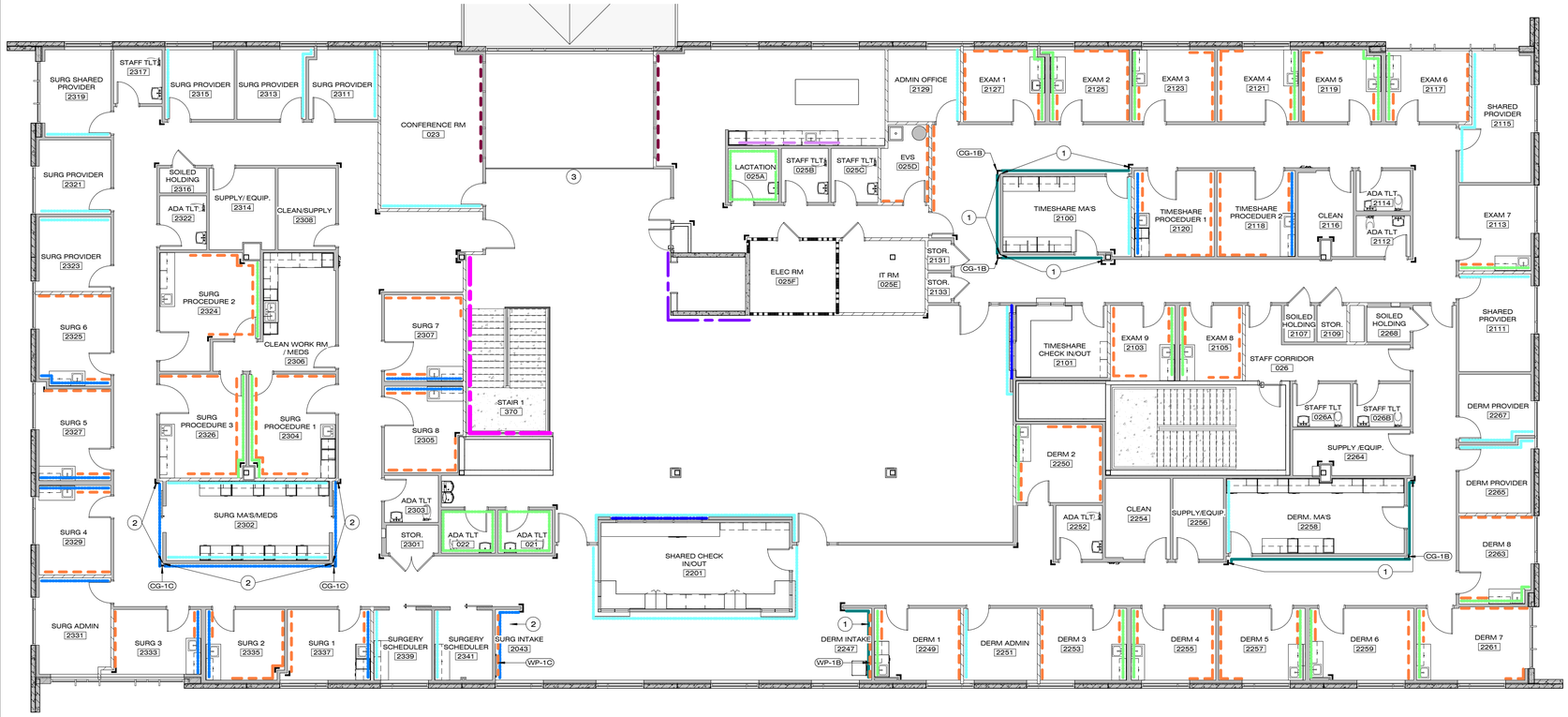
SCALE: 1/8" = 1'-0"

SHEET # A5.1



1 1ST FLOOR - WALL FINISH PLAN

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



2 2ND FLOOR - WALL FINISH PLAN

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

WALL FINISH SPECIFICATION

NO.	MATERIAL	SPECIFICATION	NOTES	LOCATIONS
PT-1	OVERALL PAINT	MANUFACTURER: SHERWIN WILLIAMS COLOR: 6147 PANDA WHITE	WALLS: EGGSHELL DOOR FRAMES SEMI-GLOSS	THROUGHOUT CLINIC
PT-2	ACCENT PAINT	MANUFACTURER: SHERWIN WILLIAMS COLOR: 6225 SLEEPY BLUE	WALLS: EGGSHELL DOOR FRAMES SEMI-GLOSS	ACCENT AS SHOWN ON PLAN
PT-3	ACCENT PAINT	MANUFACTURER: SHERWIN WILLIAMS COLOR: 6227 MEDITATIVE	WALLS: EGGSHELL DOOR FRAMES SEMI-GLOSS	ACCENT AS SHOWN ON PLAN
PT-4	ACCENT PAINT	MANUFACTURER: SHERWIN WILLIAMS COLOR: 0068 COPEN BLUE	WALLS: EGGSHELL DOOR FRAMES SEMI-GLOSS	ACCENT AS SHOWN ON PLAN
PT-5	ACCENT PAINT	MANUFACTURER: SHERWIN WILLIAMS COLOR: 6213 HALCYON GREEN	WALLS: EGGSHELL DOOR FRAMES SEMI-GLOSS	ACCENT AS SHOWN ON PLAN
PT-6	ACCENT PAINT	MANUFACTURER: SHERWIN WILLIAMS COLOR: 7069 IRON ORE		RAILINGS
PT-7	CEILING PAINT	MANUFACTURER: SHERWIN WILLIAMS COLOR: TYP. CEILING WHITE	CEILING: FLAT	GWB SOFFITS, U.O.N.
ACW-1	ACOUSTIC WALLCOVERING	MANUFACTURER: TURF PATTERN: AMOEBA COLOR: 04 LIGHT GREY		AUDIO ABR #1308
WC-1	WALLCOVERING	MANUFACTURER: MOMENTUM PATTERN: YASMINE COLOR: SANDSTONE		OPEN LOBBY
WC-2	WALLCOVERING	MANUF: SURFACING SOLUTION PATTERN: TAMBOUR PROFILE 693 COLOR: WHITE OAK		ACCENT AS SHOWN ON PLAN
T-1	WALL TILE	MANUFACTURER: TILE BAR PATTERN: ENSO COLOR: RIBBED CHARCOAL	SIZE: 23.62" X 47.24" GROUT: MAPEI 5010 BLACK INSTALLED STACK	ELEVATOR & MED SPA RECEPTION
T-2	WALL TILE	MANUFACTURER: ROCA PATTERN: MAIOLICA COLOR: AQUA	SIZE: 4X10 GROUT: MAPEI 5221 MOONBEAM INSTALLED HORIZONTAL STAGGERED RUNNING BOND, EXCEPT MED SPA RECEPTION	STAFF BREAK RM'S & MED SPA TREATMENT RM/RECEPTION
CG-1	CORNER GUARDS	MANUFACTURER: INPRO STYLE: 150 HIGH IMPACT CORNER GUARDS, 90 DEGREES, 3" WING PROVIDE CG-1A THROUGOUT U.O.N.) CG-1A= 0103 WHITE SAND CG-1B=0390 CLEAR BLUE CG-1C=0166 SERENITY	3'-0" HIGH, BOTTOM OF THE CORNER GUARD TO START AT THE TOP OF THE WALL BASE	AS SHOWN ON PLAN
WP-1	WALL PROTECTION	MANUFACTURER: INPRO (PROVIDE WP-1A THROUGOUT U.O.N.) WP-1A= 0103 WHITE SAND WP-1B=0187 CRYSTAL JADE WP-1C=0166 SERENITY	3'-0" HIGH PANEL WITH TOP AND SIDE TRIM TO MATCH WALL PROTECTION COLOR. START AT THE TOP OF THE WALL BASE	ACCENT AS SHOWN ON PLAN
CT-1	CURTAIN	MANUFACTURER: ARC COM STYLE: AQUIFER-X AC-33405X COLOR: CARIBBEAN	G.C. TO PROVIDE AND INSTALL CEILING MOUNTED CURTAIN TRACK SYSTEM WITH ATC 99 MOTH PEST AND DARKENING WHERE SHOWN ON A2.1. TRACK TO BE ANODIZED ALUMINUM. G.C. TO ORDER (EXTRA) CURTAIN PANELS AND ACCESSORIES FOR USE OF CURTAIN TRACK TO SNAP ON TO MESH FOR EASY REMOVAL. MESH SHALL BE 20% CURTAINS SHALL BE 12" APF. MESH TO BE WHITE. PROVIDE TIE BACKS AT LOCATIONS SHOWN ON PLAN. CURTAIN TO BE MDC-119060. G.C. TO PROVIDE 1 ADDITIONAL REPLACEMENT STRAP FOR EACH ROOM. CURTAIN TO BE FLAME RETARDANT. CURTAIN FABRIC: VENDOR TO INCLUDE (2) ANCHOR SCREWS TO SECURE EACH CURTAIN TIE BACK TO WALL.	REFER TO SHEET A2.1
F-1	FILM	MANUFACTURER: 3M FASARA STYLE: CLOUD DUAL GRADIENT (SH2FGCL)	INSTALL FILM AND DRAPER SHADE INSIDE BREAK AND CONFERENCE RM.	
TB-1	TACKBOARD	MANUFACTURER: KOROSEAL STYLE: TAC-WALL COLOR: SANDALWOOD 87		
CL-1	CEILING TREATMENT	MANUFACTURER: BELBIEN PATTER: W-808		REFER TO SHEET A6.3
CL-2	CEILING TREATMENT	MANUFACTURER: TURF STYLE: CONTOUR COLOR: 04 LIGHT GREY		REFER TO SHEET A2.1
HR-1	HAND RAIL **PROVIDE ADD ALT #6 COST**	MANUFACTURER: KOROGARD SERIES: HW75 OR EQUAL STYLE: COLOR: STAIN TO MATCH DOOR	HANDRAIL SHALL BE MOUNTED WITH 36" TO THE TOP OF RAIL. STOP HANDRAIL 2" SHY OF THE CORNER GUARDS AND DOOR FRAMES.	SEE LOCATION IN PULMONOLOGY CLINIC. PROVIDE IN-WALL BLOCKING PER MANUFACTURER REQUIREMENTS. STOP HANDRAIL 2" SHY

NOTES:

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21.	ELECTRICAL DEVICES - TO BE WHITE WITH WHITE COVER PLATES. **ADD ALT: GRAY WITH STAINLESS STEEL COVER PLATES.**

FINISH LEGEND

XX-X XX-X	WALL & BASE FINISH TAG - SEE FINISH SCHEDULE FOR MATERIAL SPECS.
#	FINISH KEY NOTE

FINISH KEY NOTES

1	GYP CEILING (UNDERSIDE OF SOFFIT) AND WALLS TO BE PAINTED PT-5
2	GYP CEILING (UNDERSIDE OF SOFFIT) AND WALLS TO BE PAINTED PT-3
3	RAILING TO PAINTED TO MATCH STAIR RAILING

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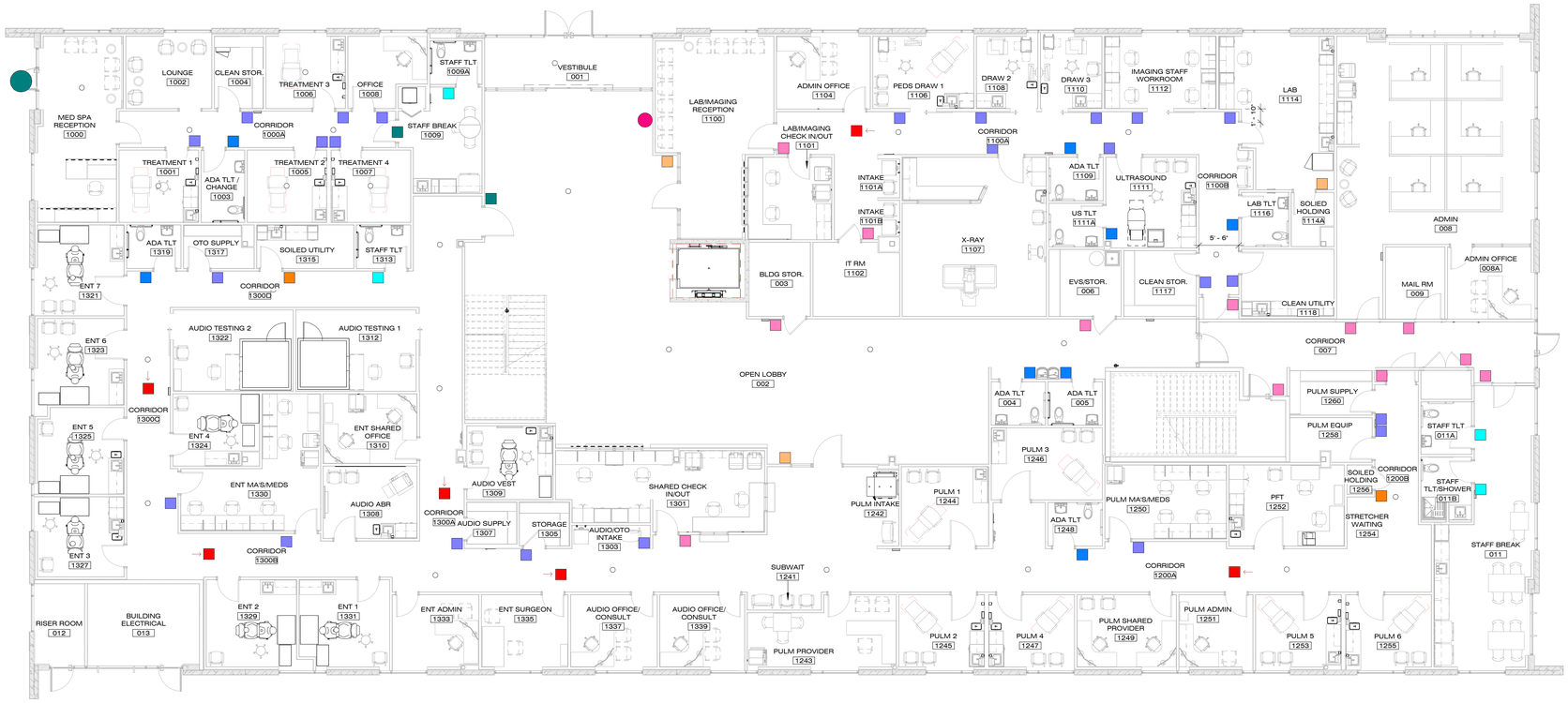
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WALL FINISH PLAN

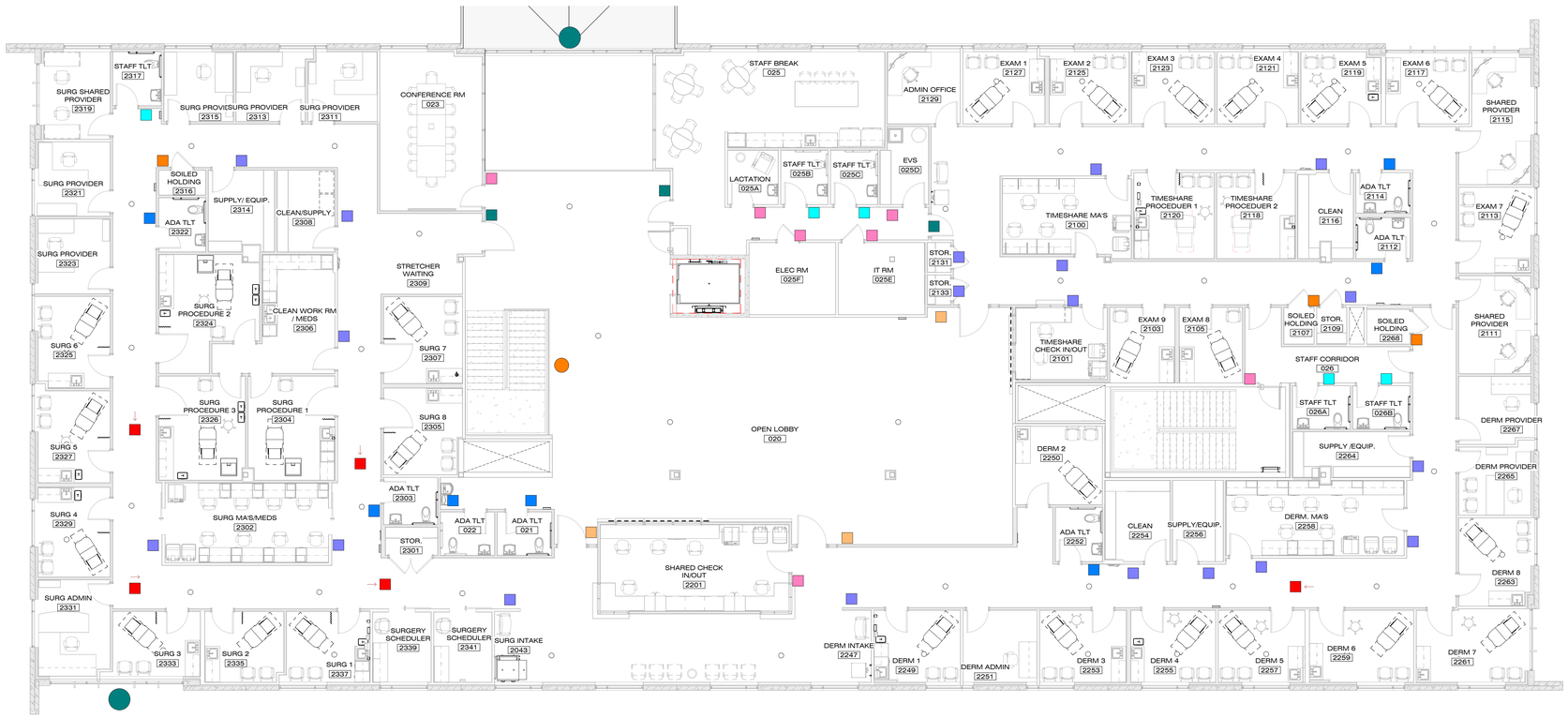
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SHEET # **A5.2**



1 1ST FLOOR SIGNAGE PLAN

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



2 2ND FLOOR SIGNAGE PLAN

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

SIGNAGE LEGEND

IMAGE	COLOR CODE	DESCRIPTION	QTY
		12" X 12" ACRYLIC POLYMER, ON GLASS, NO STAND-OFFS, PROVIDE BACKER IF APPLICABLE COLOR: TBD	6
		8" X 10.5" ACRYLIC POLMER COLOR: TBD	15
		8" X 10.5" ACRYLIC POLYMER COLOR: TBD	9
		8" X 10.5" ACRYLIC POLYMER COLOR: TBD	5
		8" X 10.5" ACRYLIC POLYMER COLOR: TBD	5
		8" X 10.5" ACRYLIC POLYMER COLOR: TBD	19
		24" X 12" ACRYLIC , OVERHEAD SIGN SIDED COLOR: TBD	13
		8" X 10.5" ACRYLIC POLYMER, WITH SLOT FOR PAPER INSERT COLOR: TBD **ADD/ALT:** ALL EXAMS,OFFICES AND PROCEDURE ROOMS	43
	EXAM/ PROCEDURE/ OFFICE	8" X 3" ALUMINUM CURVED WALL SIGN HOLDER COLOR: TBD	--
		65" DIGITAL SIGN, ALUMINUM FRAME POTRAIT DIRECTORY, MAX. PROJECTION 4"	1
		FLOOR STAND WITH 8" X 11" ACRYLIC SIGN HOLDER, 12" WIDE X 48" TALL	1
		GC TO PROVIDE EXTERIOR SIGNAGE "UNC HEALTH ONSLOW"	3

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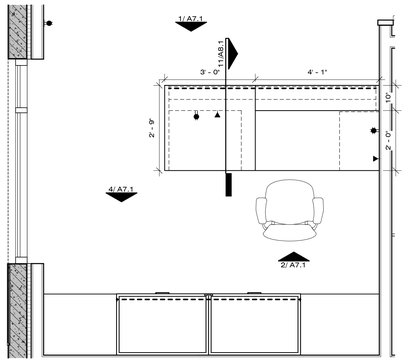
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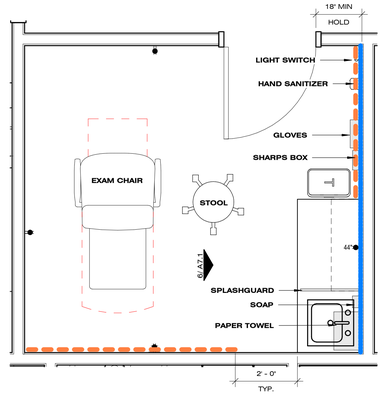
SIGNAGE PLANS

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

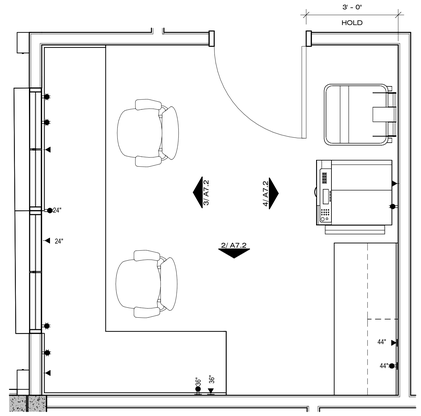
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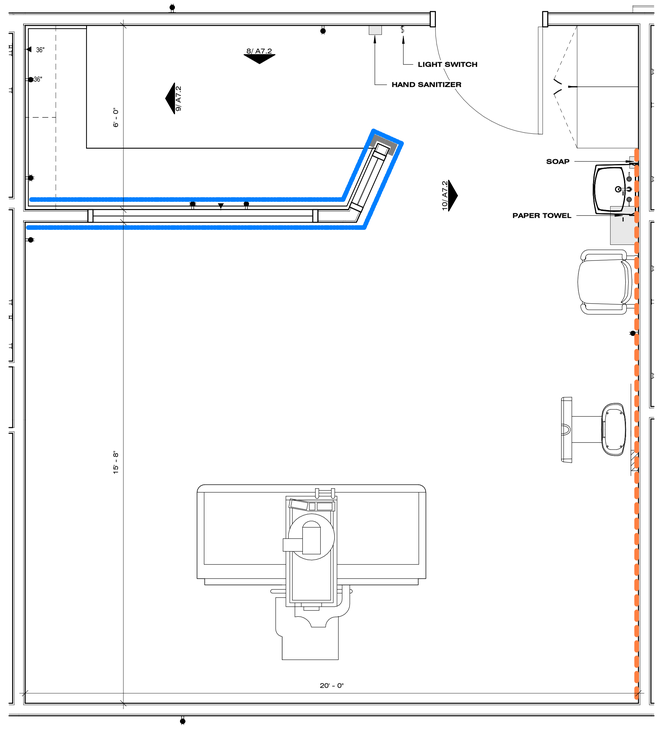
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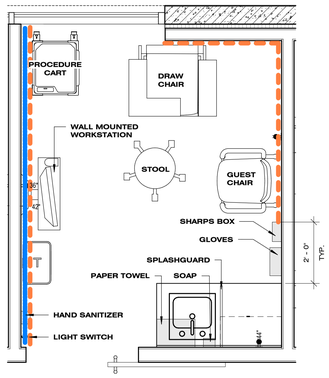
2 MED SPA TREATMENT TYP.
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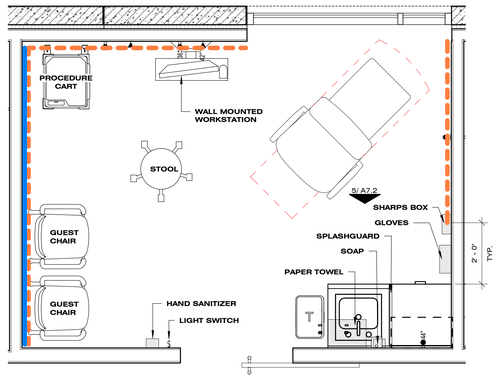
3 LAB/IMAGING CHECK IN/OUT #1101
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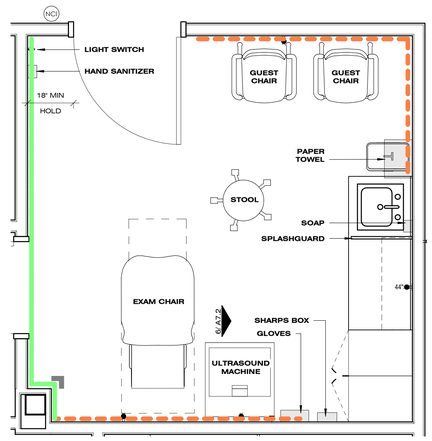
12 X-RAY #1107
SCALE:1/2" = 1'-0"



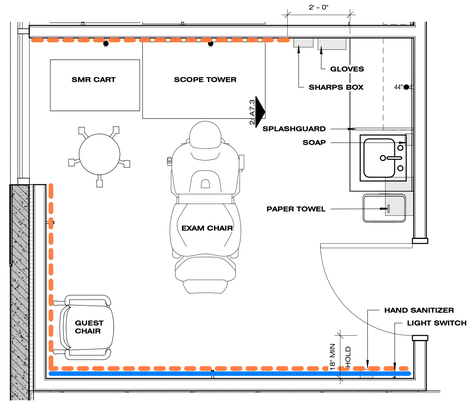
4 LAB DRAW TYP.
SCALE:1/2" = 1'-0"



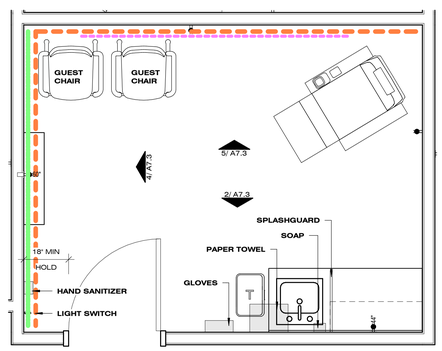
5 PED DRAW #1106
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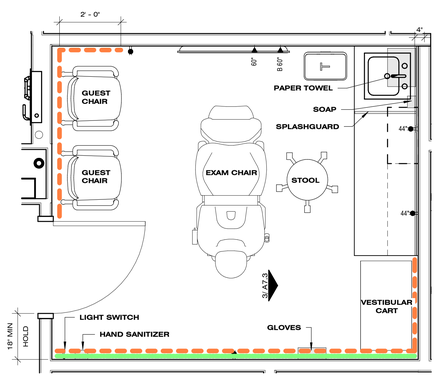
6 ULTRASOUND #1111
SCALE:1/2" = 1'-0"



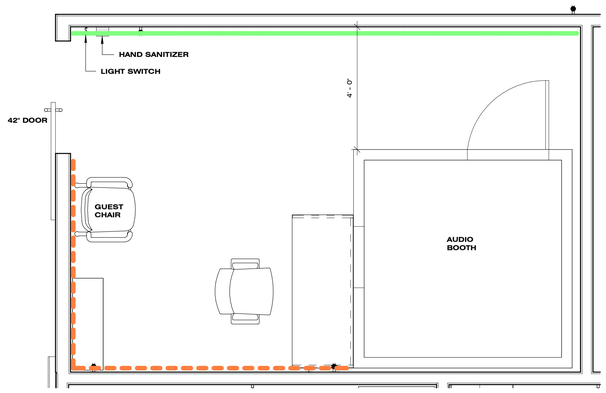
8 ENT TYP.
SCALE:1/2" = 1'-0"



9 AUDIO ABR #1308
SCALE:1/2" = 1'-0"



10 AUDIO VEST. #1309
SCALE:1/2" = 1'-0"



11 AUDIO TESTING TYP.
SCALE:1/2" = 1'-0"

GENERAL CONTRACTOR TO COORDINATE LOCATION & SPEC. FOR ALL ACCESSORIES WITH TENANT
GENERAL CONTRACTOR TO PROVIDE WOOD BLOCKING FOR ALL WALL MOUNTED ACCESSORIES AS NEEDED

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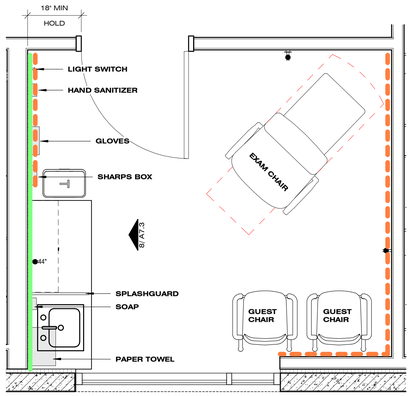
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ARCH. PROJECT # RDU 25-065

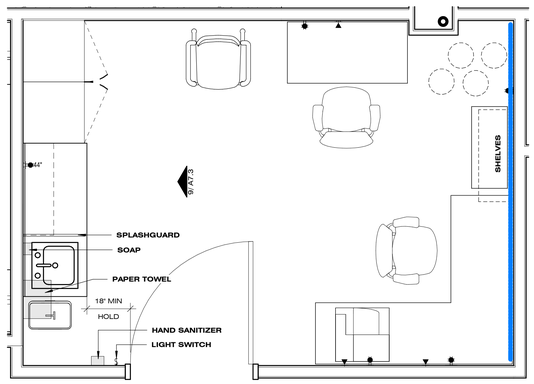
ENLARGED PLANS

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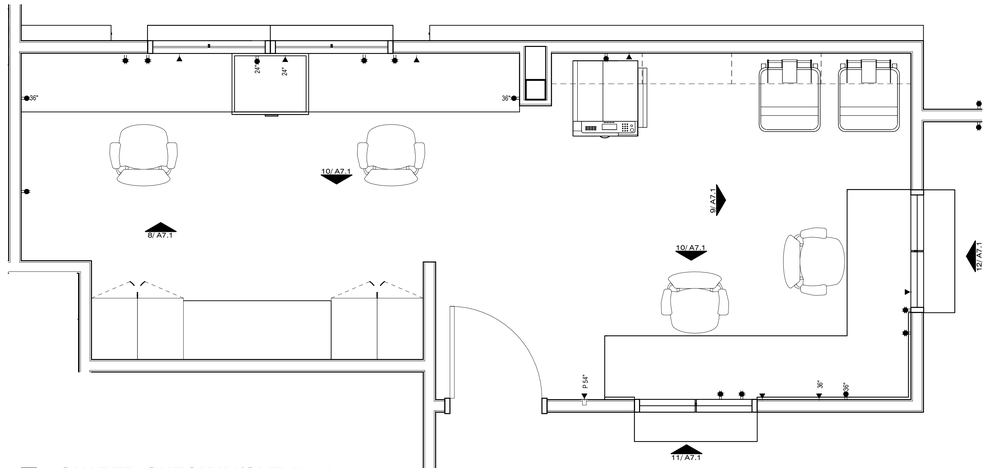
SHEET # **A6.1**



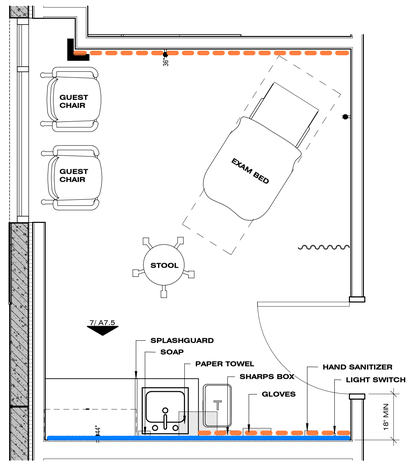
1 PUL TYP.
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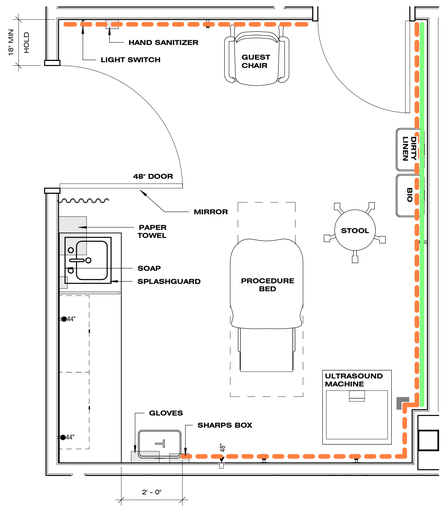
2 PFT #1252
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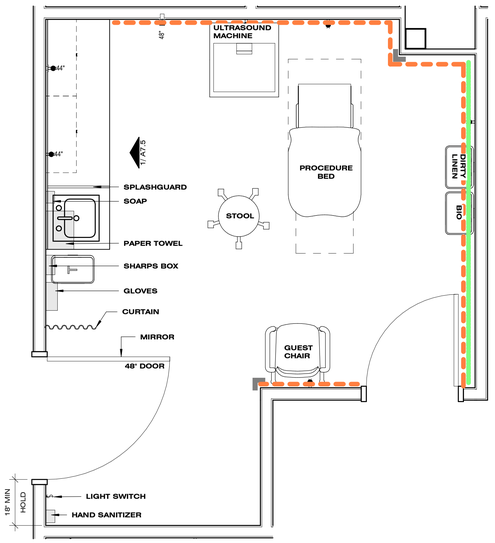
5 SHARED CHECK IN/OUT #1301
SCALE: 1/2" = 1'-0"



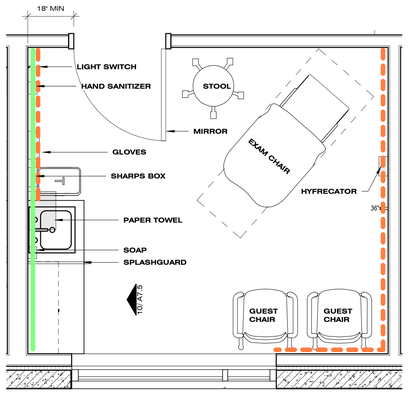
4 SURG TYP.
SCALE: 1/2" = 1'-0"



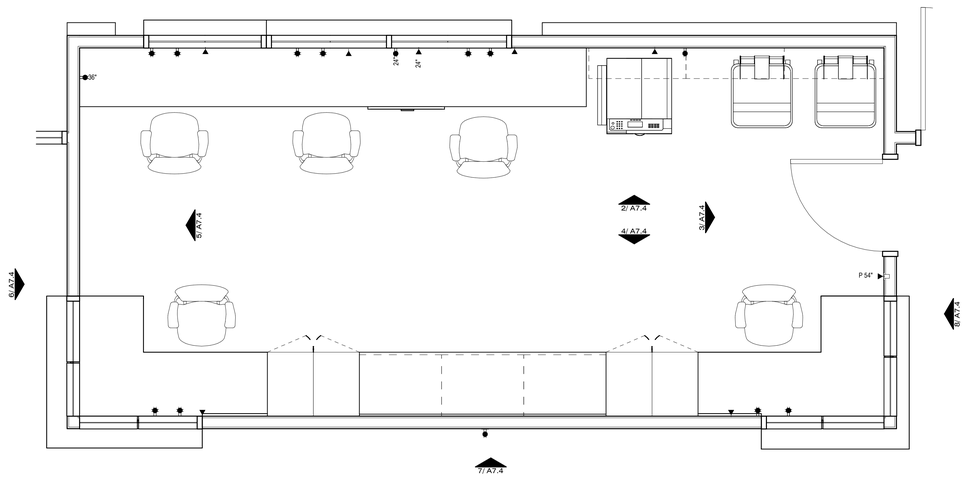
6 SURG PROCEDURE TYP.
SCALE: 1/2" = 1'-0"



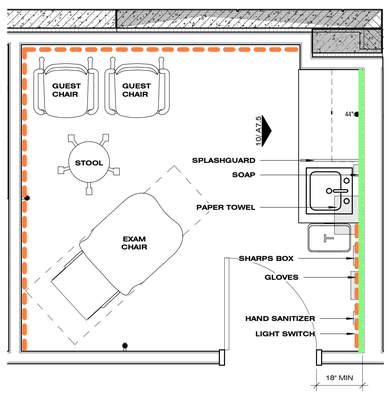
7 SURG PROCEDURE 2 #2324
SCALE: 1/2" = 1'-0"



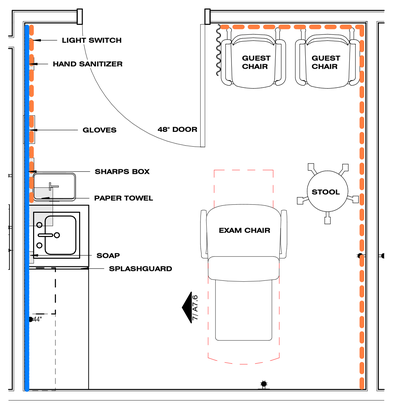
8 DERM TYP.
SCALE: 1/2" = 1'-0"



3 SHARED CHECK IN/OUT #2201
SCALE: 1/2" = 1'-0"



9 TIMESHARE EXAM TYP.
SCALE: 1/2" = 1'-0"



10 TIMESHARE PROCEDURE TYP.
SCALE: 1/2" = 1'-0"

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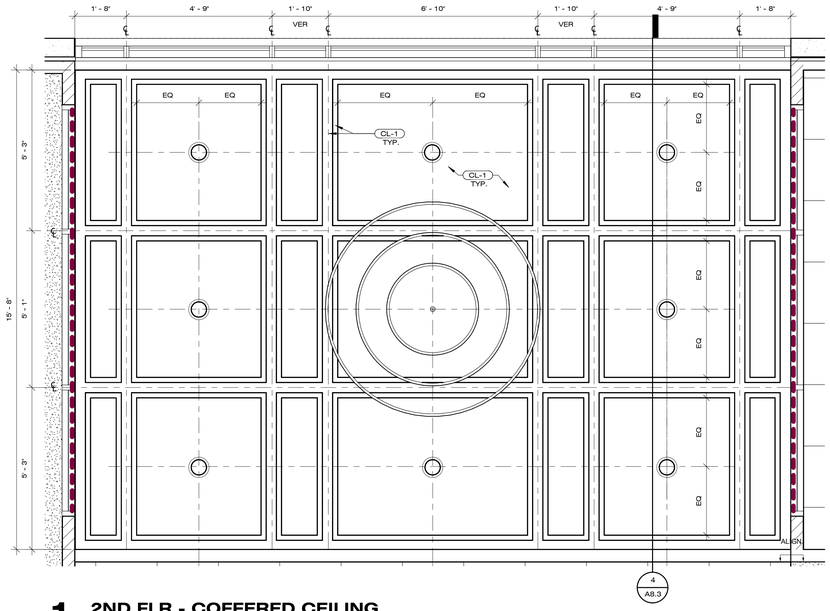
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ENLARGED PLANS

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

SHEET # A6.2



1 **2ND FLR - COFFERED CEILING**
SCALE:1/2" = 1'-0"



2 **OPEN LOBBY #002 (FOR REFERENCE ONLY)**
SCALE: N.T.S.



3 **CORRIDOR #1200A (FOR REFERENCE ONLY)**
SCALE: N.T.S.



4 **OPEN LOBBY #002 (FOR REFERENCE ONLY)**
SCALE: N.T.S.



5 **OPEN LOBBY #020 (FOR REFERENCE ONLY)**
SCALE: N.T.S.



6 **OPEN LOBBY #020 (FOR REFERENCE ONLY)**
SCALE: N.T.S.

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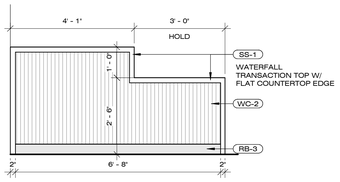
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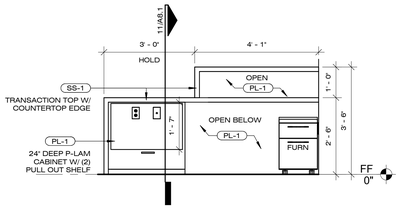
ENLARGED PLANS & RENDERINGS

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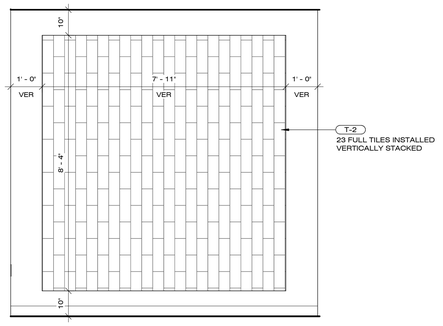
SHEET # **A6.3**



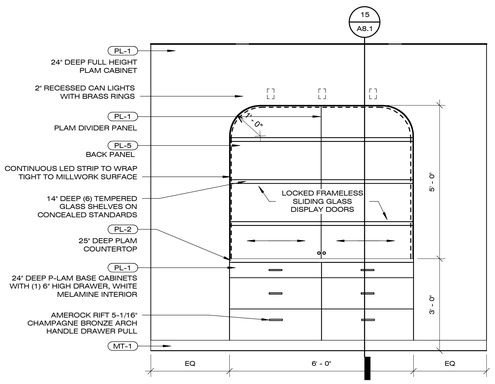
1 MED SPA RECEPTION DESK (S)
SCALE:1/2" = 1'-0"



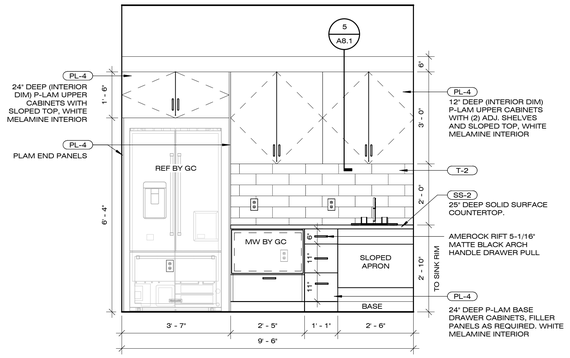
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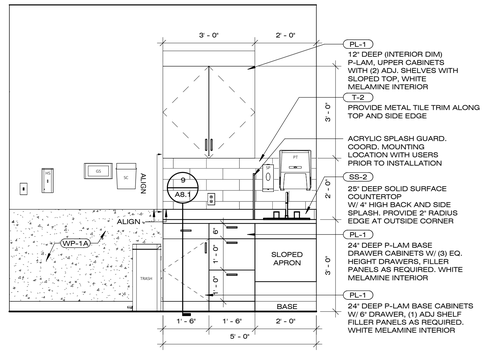
3 MED SPA RECEPTION #1000 (E)
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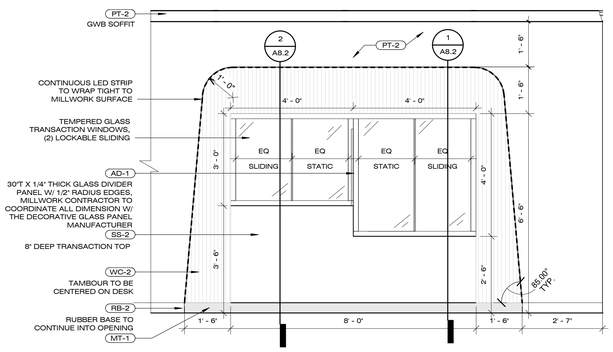
4 MED SPA RECEPTION #1000
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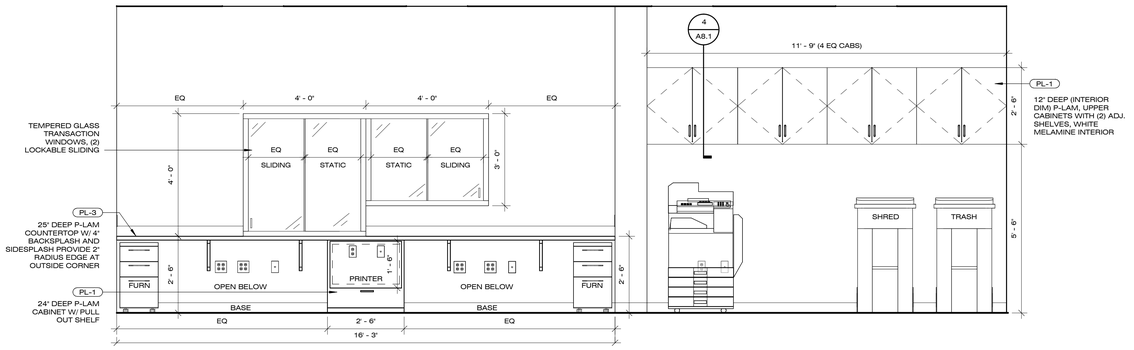
5 MED SPA STAFF BREAK #1009
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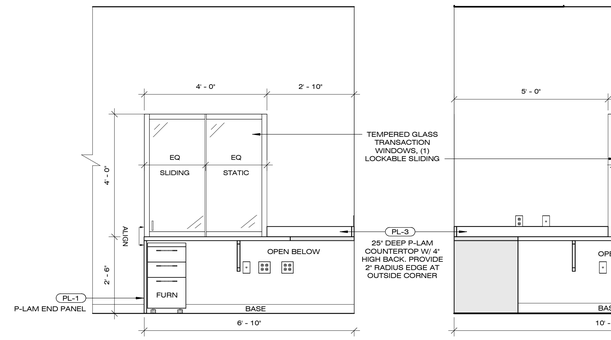
6 MED SPA TREATMENT TYP.
SCALE:1/2" = 1'-0"



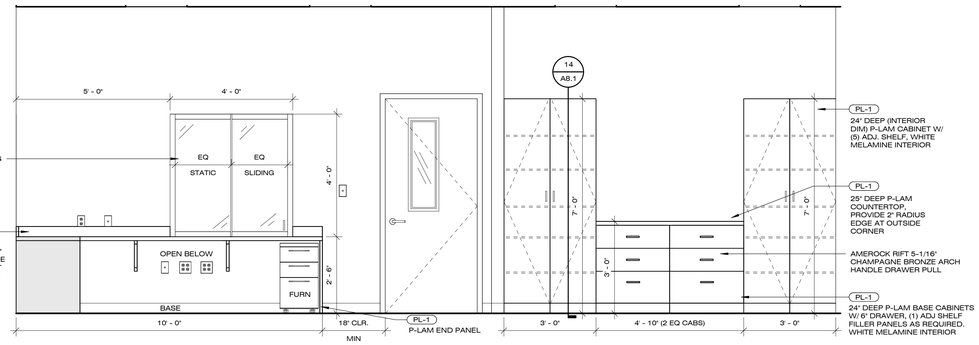
7 OPEN LOBBY #002
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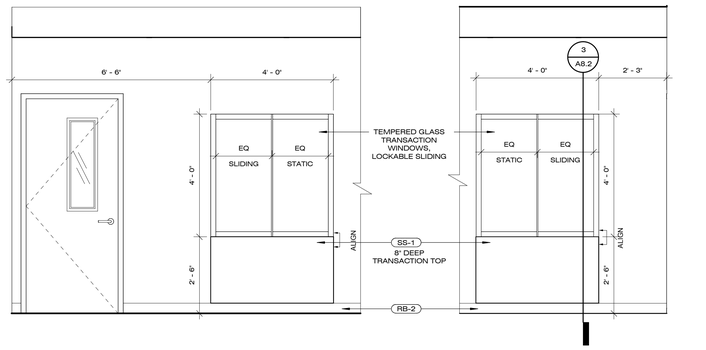
8 SHARED CHECK IN/OUT #1201 (N)
SCALE:1/2" = 1'-0"



9 SHARED CHECK OUT #1201 (E)
SCALE:1/2" = 1'-0"



10 SHARED CHECK IN/OUT #1201 (S)
SCALE:1/2" = 1'-0"



11 CORRIDOR #1200 (N)
SCALE:1/2" = 1'-0"

12 CORRIDOR #1200 (W)
SCALE:1/2" = 1'-0"

MILLWORK FINISH SPECIFICATION

NO.	MATERIAL	SPECIFICATION
SS-1	QUARTZ	MANUFACTURER: CAMBRIA STYLE: TRAYMORE BAY
SS-2	SOLID SURFACE	MANUFACTURER: LXHAUSYS STYLE: Hi-MACS PAUSE R009
PL-1	PLASTIC LAMINATE	MANUFACTURER: FORMICA STYLE: CAMEL ELM
PL-2	PLASTIC LAMINATE	MANUFACTURER: WILSONART STYLE: ANTIQUE WHITE
PL-3	PLASTIC LAMINATE	MANUFACTURER: WILSONART STYLE: BEIGE PAMPAS
PL-4	PLASTIC LAMINATE	MANUFACTURER: WILSONART STYLE: GREY MESH
PL-5	PLASTIC LAMINATE	MANUFACTURER: FORMICA STYLE: LIQUID GLASS 8240-90
MT-1	METAL BASE	MANUFACTURER: CHENMETAL STYLE: BRONZE STAINLESS ALUMINUM #924
AD-1	DIVIDER PANEL	MANUFACTURER: 3FORM STYLE: 1/4" RENEW FINISH: RENEWABLE MATTE

MILLWORK NOTES

1	RUN THE GRAIN OF THE CABINET AND FASCIA PANELS IN THE SAME DIRECTION WITHIN A SPACE. ALIGN THE FRONT FACE OF THE FASCIA PANEL WITH THE FACE OF THE UPPER CABINET DOOR
2	MAX WIDTH OF THE FILLER PANELS TO BE 1 1/2" WIDE.
3	PROVIDE SLIM PROFILE "L" SHAPED BRACKETS AT COUNTERTOPS WITH EXPOSED KNEE SPACE. PAINT BRACKET TO MATCH WALL. **SPEC: STEEL DESIGN SOLUTIONS, TRITON HEAVY DUSTY STEEL BRACKET OR SIMILAR**
4	CABINET HARDWARE TO BE BRUSHED SILVER WIRE PULLS, U.N.O.
5	DOOR NOTED WITH LOCKS TO BE COMPX, TIMBERLINE, SINGLE/DOUBLE DOOR LATCH. NO ELBOW CATCHES ON DOUBLE DOORS. KEY ALL THE LOCKS THE SAME PER CLINIC.
6	INSTALL GROMMETS AT EACH WORKSPACE ABOVE POWER AND DATA. COORDINATE LOCATION WITH THE USERS PRIOR TO INSTALLATION. GROMMET COLOR TO MATCH THE COUNTERTOP ON WHICH IT APPEARS.
7	ALL CABINETS TO HAVE 3MM EDGE BANDING TO MATCH P-LAM.
8	AT P-LAM COUNTERTOPS, PROVIDE PVC EDGE BANDING TO MATCH THE LAMINATE.
9	G.C. TO PROVIDE SPLASHGUARDS ADJ. TO ALL COUNTERTOP SINKS EXCEPT FOR THE BREAKROOMS. DEPTH TO MATCH COUNTERTOP, SEE A8.1. **ADD/ALT: GLOBAL INDUSTRIES, T9F732136, 4.5"W X 18"H IN LIEU OF BUILT-IN SPLASHGUARDS.**
10	GC TO PROVIDE CLEAR CAULK AT ALL BACKSPLASH AND COUNTERTOPS
11	ADD CLEAR STOPPERS TO SIDE WALL ADJACENT TO MILLWORK TO PREVENT DOOR HANDLES TOUCHING THE WALL.
12	PUNCH CODE, **SPEC: KIT LOCK, #KL-1006 ELECTRONIC KEYLESS CABINET LOCK.**
13	TRANSCATION WINDOW TO BE, **SPEC: CRL DURANODIC BRONZE ANODIZED SHARYN FRAMELESS PASS-THRU WITH INTERIOR PUSH LOCK, PROVIDE PUSH LOCK 42" A.F.F.**

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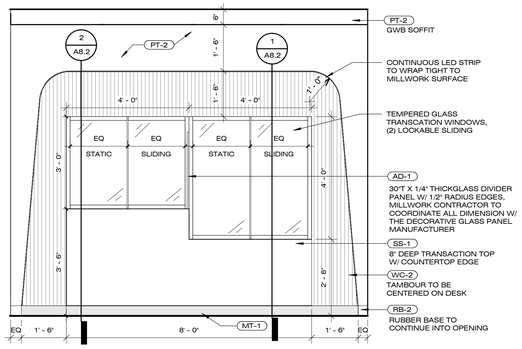
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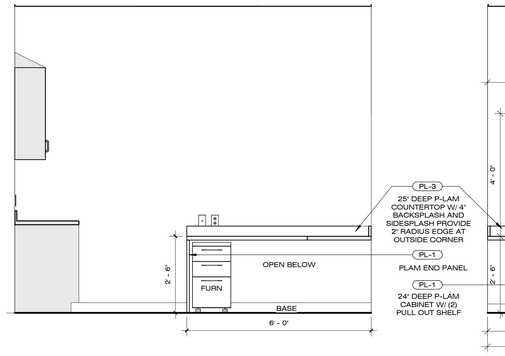
INTERIOR ELEVATIONS

SCALE: As indicated

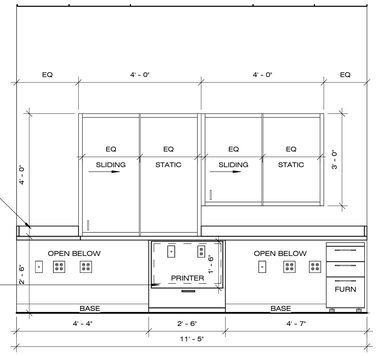
SHEET # **A7.1**



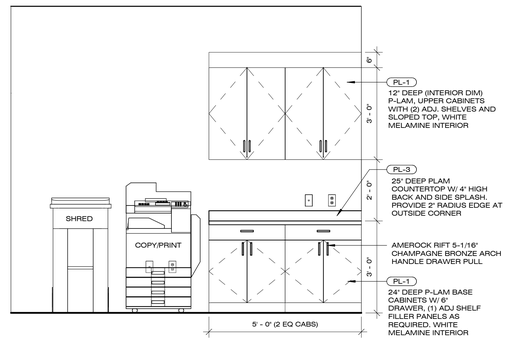
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SCALE:1/2" = 1'-0"



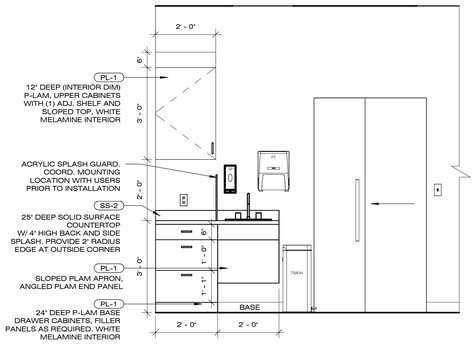
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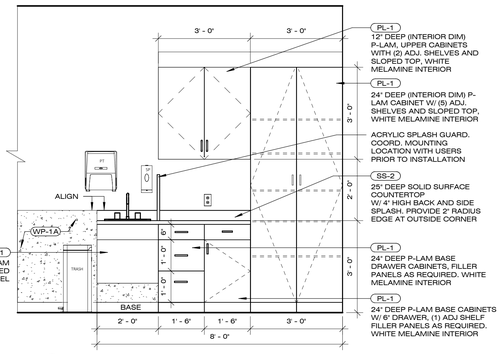
3 LAB/IMAGING CHECK IN/OUT (W)
SCALE:1/2" = 1'-0"



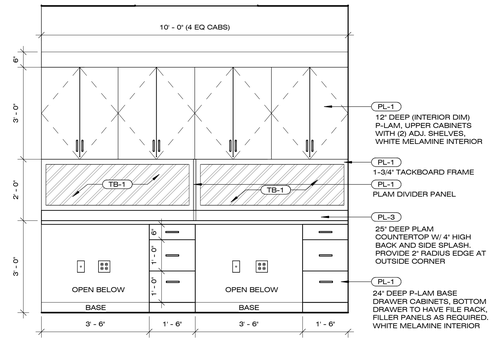
4 LAB/IMAGING CHECK-IN/OUT #1101 (E)
SCALE:1/2" = 1'-0"



5 LAB DRAW TYP.
SCALE:1/2" = 1'-0"

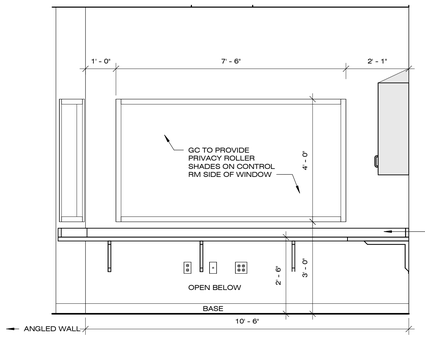


6 ULTRASOUND #1111
SCALE:1/2" = 1'-0"

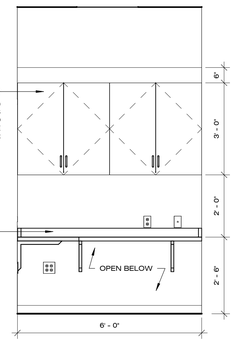


7 IMAGING STAFF WKRM #1112
SCALE:1/2" = 1'-0"

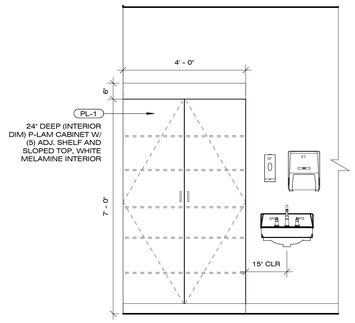
NOTE: MIRROR ON OTHER SIDE TO STAGGER SEATS



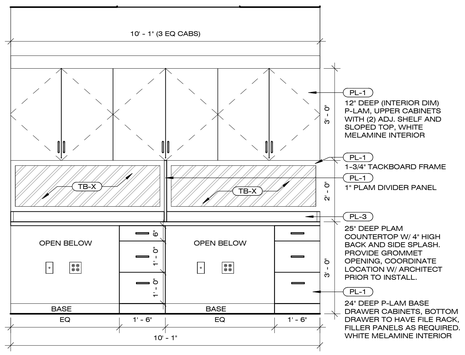
8 X-RAY #1107 (S)
SCALE:1/2" = 1'-0"



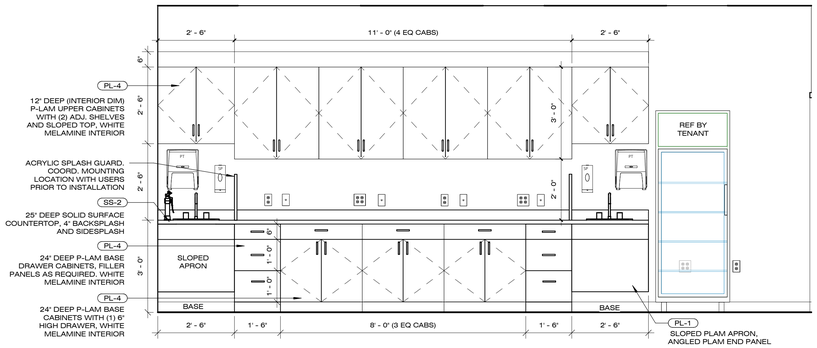
9 X-RAY #1107 (W)
SCALE:1/2" = 1'-0"



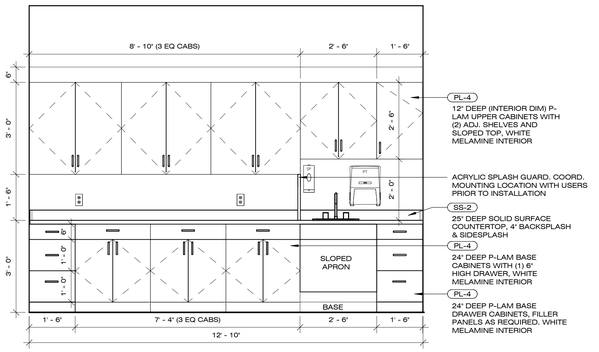
10 X-RAY #1107 (E)
SCALE:1/2" = 1'-0"



11 LAB #1114 (W)
SCALE:1/2" = 1'-0"



12 LAB #1114 (E)
SCALE:1/2" = 1'-0"



13 CLEAN UTILITY #1118
SCALE:1/2" = 1'-0"

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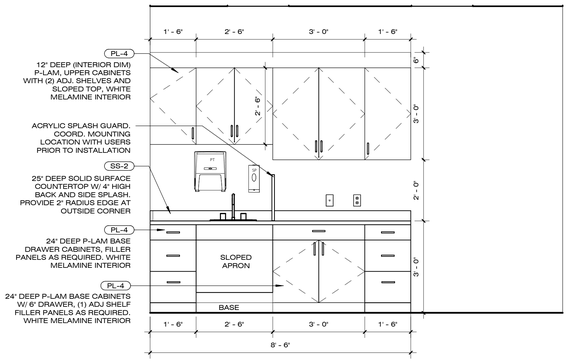
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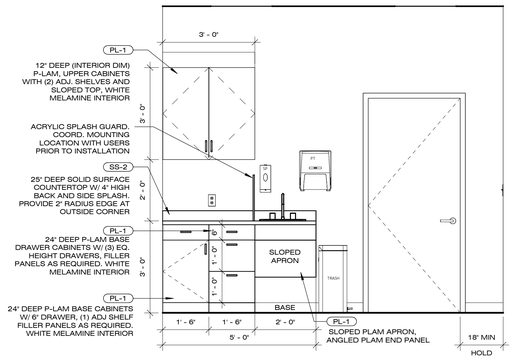
INTERIOR ELEVATIONS

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

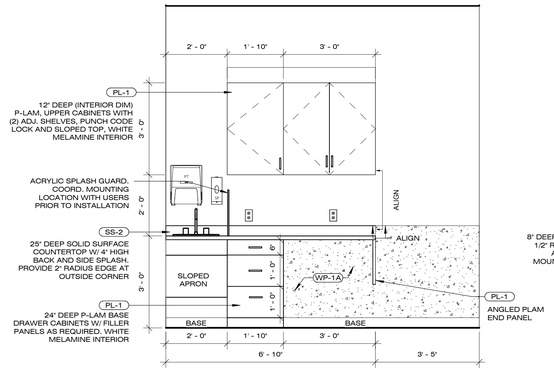
SHEET # A7.2



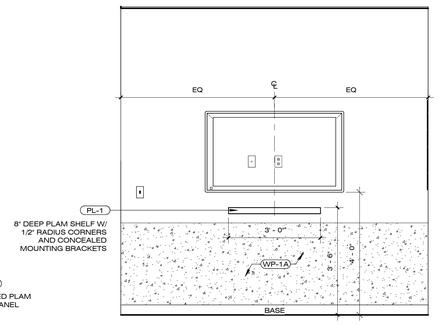
1 SOILED UTILITY #1215
SCALE:1/2" = 1'-0"



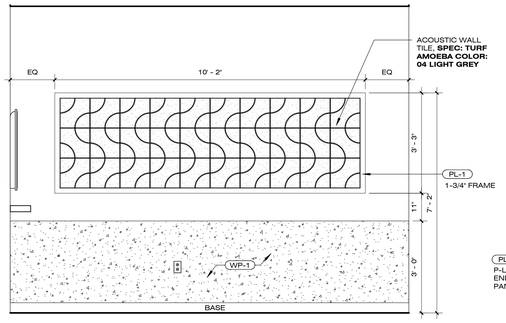
2 AUDIO ABR & OTO EXAM TYP.
SCALE:1/2" = 1'-0"



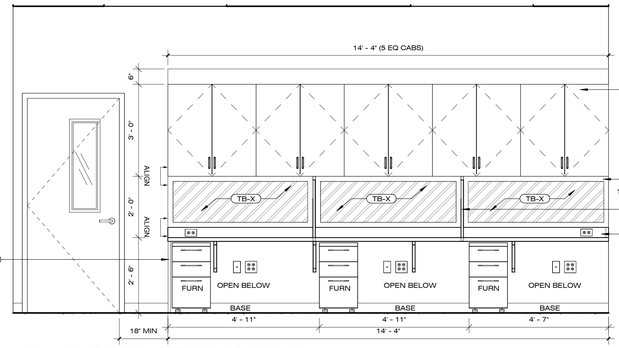
3 AUDIO VEST. #1209
SCALE:1/2" = 1'-0"



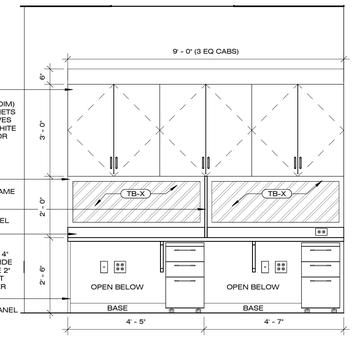
4 AUDIO ABR #1208 (W)
SCALE:1/2" = 1'-0"



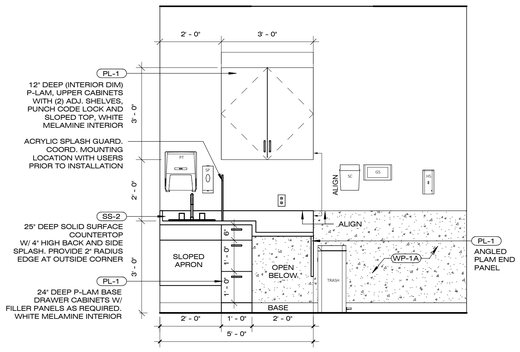
5 AUDIO ABR #1208 (N)
SCALE:1/2" = 1'-0"



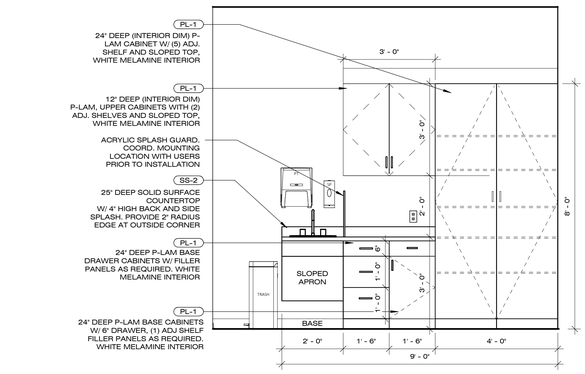
6 ENT MA'S/MEDS #1230 (S)
SCALE:1/2" = 1'-0"



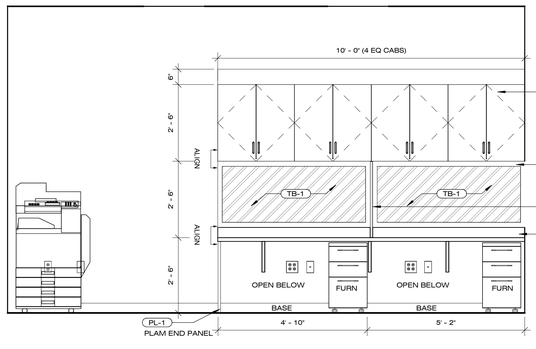
7 ENT MA'S/MEDS #1230 (W)
SCALE:1/2" = 1'-0"



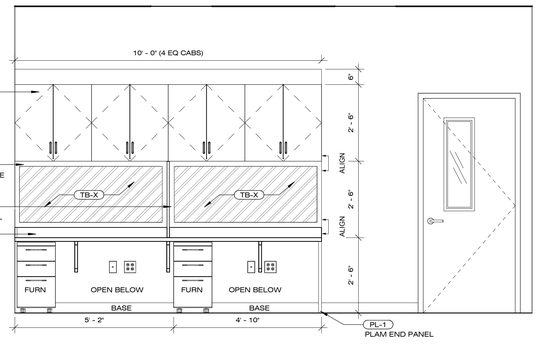
8 PUL EXAM TYP.
SCALE:1/2" = 1'-0"



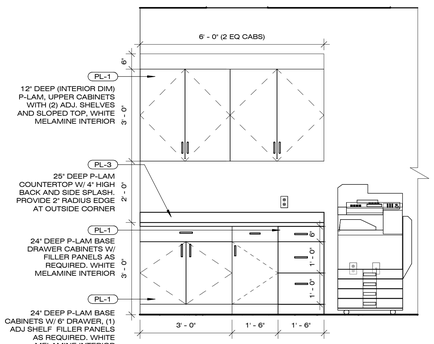
9 PFT ELEVATION
SCALE:1/2" = 1'-0"



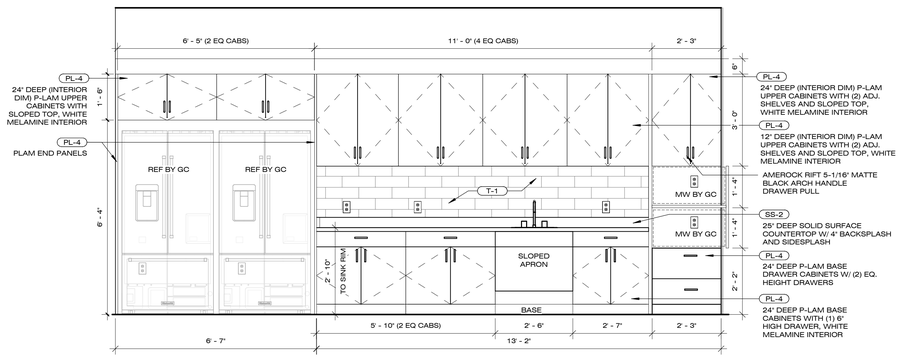
10 PUL MA'S/MEDS #1250 (N)
SCALE:1/2" = 1'-0"



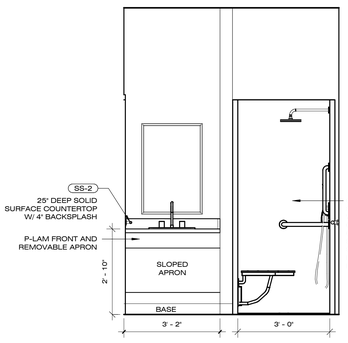
11 PUL MA'S/MEDS #1250 (S)
SCALE:1/2" = 1'-0"



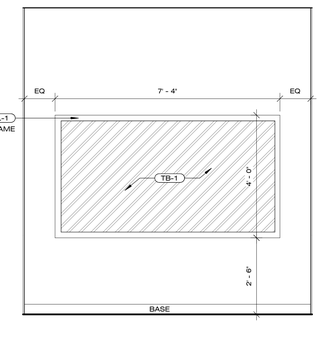
12 ADMIN #008
SCALE:1/2" = 1'-0"



13 STAFF BREAK #011 (W)
SCALE:1/2" = 1'-0"



14 STAFF TLT/SHOWER #011B
SCALE:1/2" = 1'-0"



15 STAFF BREAK #011 (E)
SCALE:1/2" = 1'-0"

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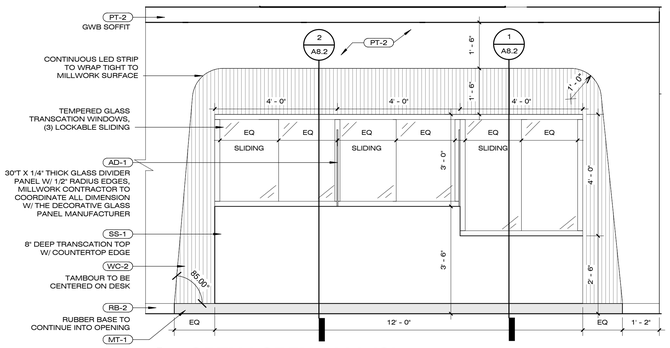
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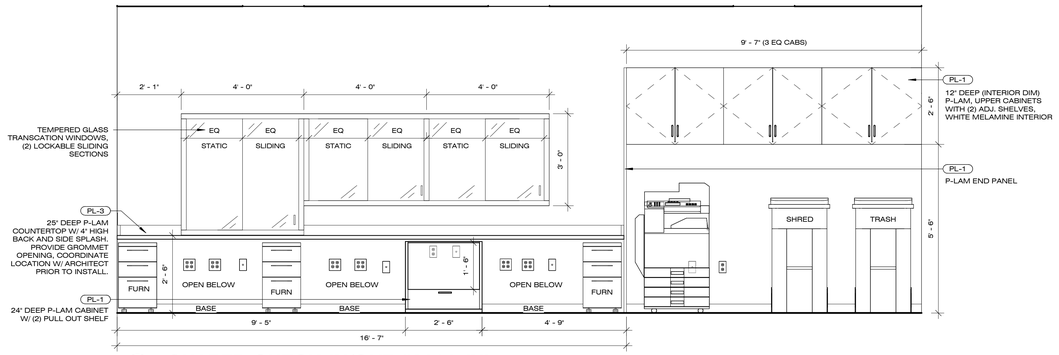
INTERIOR ELEVATIONS

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

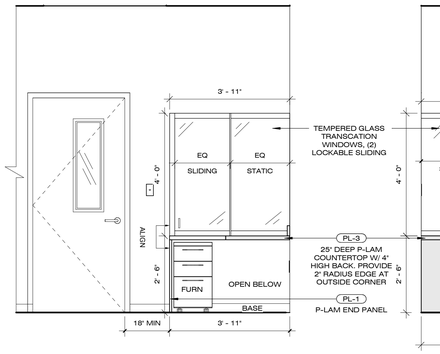
SHEET # A7.3



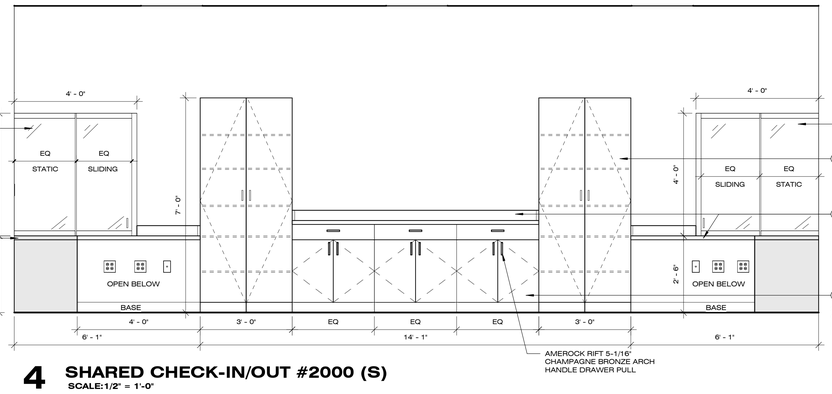
1 OPEN LOBBY #020 (S)
SCALE:1/2" = 1'-0"



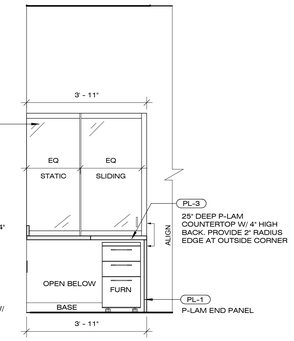
2 SHARED CHECK-IN/OUT #2000 (N)
SCALE:1/2" = 1'-0"



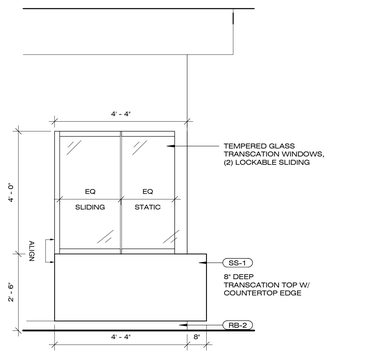
3 SHARED CHECK-IN/OUT #2000 (E)
SCALE:1/2" = 1'-0"



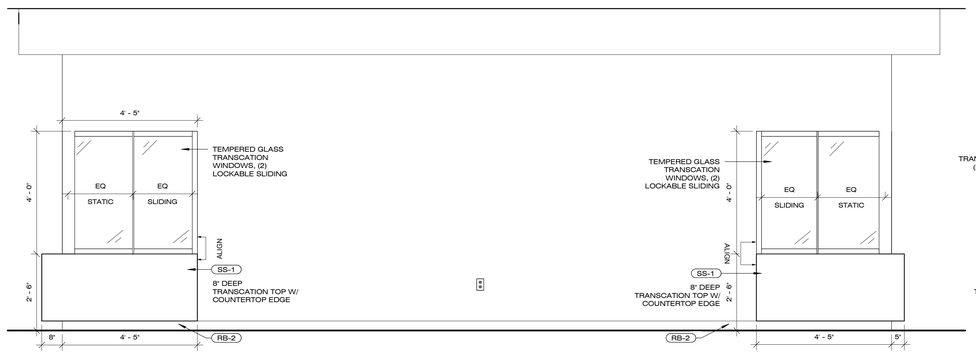
4 SHARED CHECK-IN/OUT #2000 (S)
SCALE:1/2" = 1'-0"



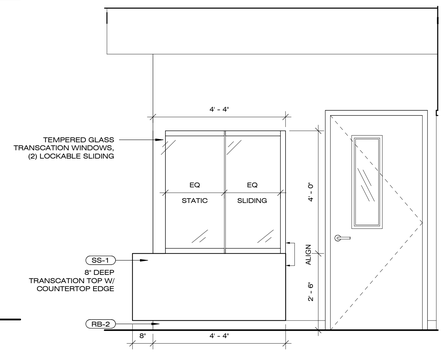
5 SHARED CHECK-IN/OUT #2000 (W)
SCALE:1/2" = 1'-0"



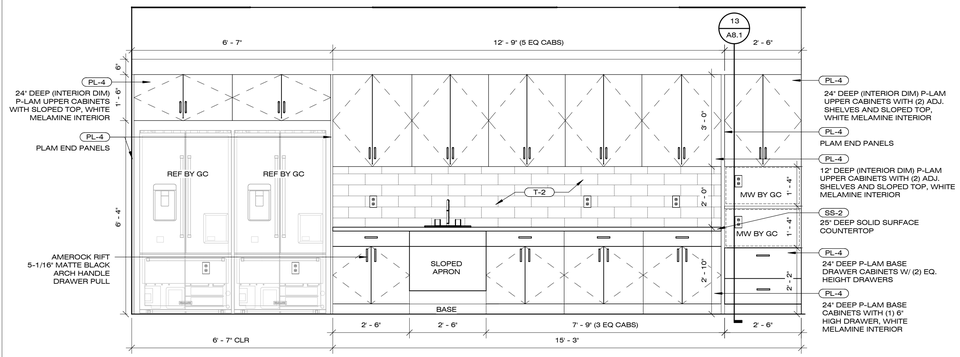
6 SURG CLINIC ENTRY #2300 (E)
SCALE:1/2" = 1'-0"



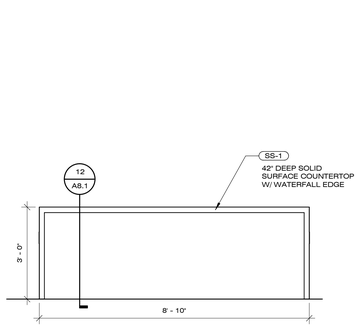
7 SURG CLINIC ENTRY #2300 (N)
SCALE:1/2" = 1'-0"



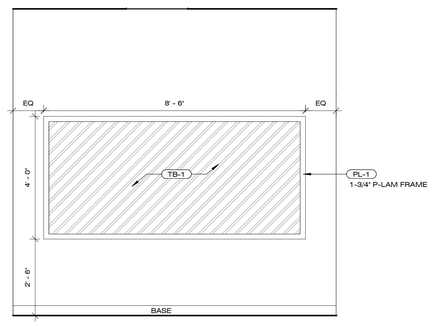
8 DERM ENTRY #2200 (W)
SCALE:1/2" = 1'-0"



9 STAFF BREAK #025 (S)
SCALE:1/2" = 1'-0"



10 STAFF BREAK #025 (N)
SCALE:1/2" = 1'-0"



11 STAFF BREAK TACKBOARD
SCALE:1/2" = 1'-0"

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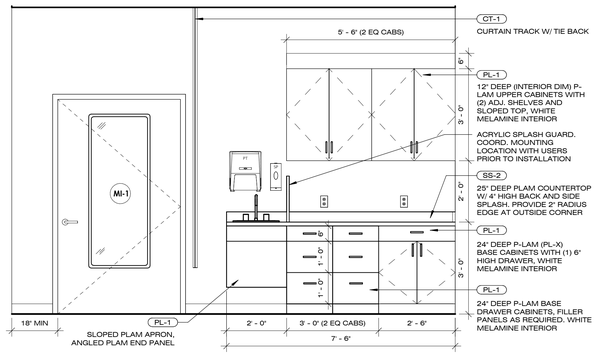
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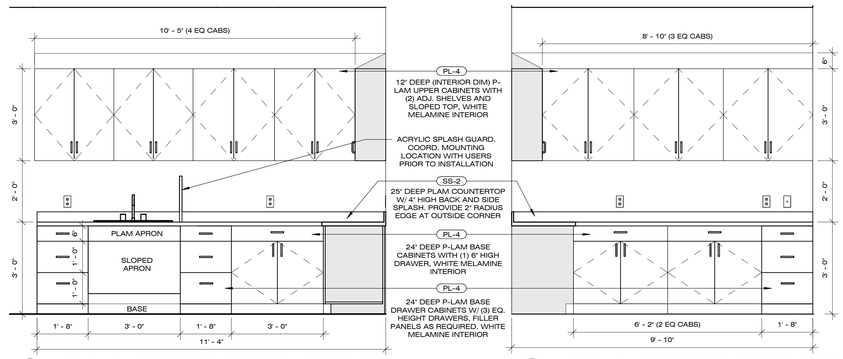
INTERIOR ELEVATIONS

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

SHEET # **A7.4**

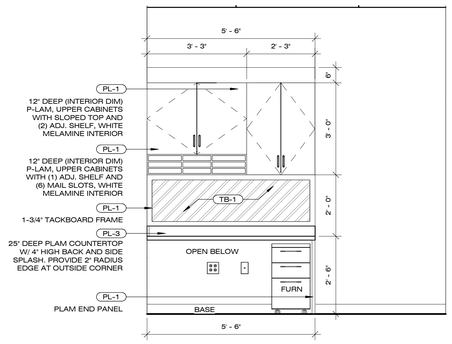


1 SURGERY PROCEDURE TYP.
SCALE:1/2" = 1'-0"

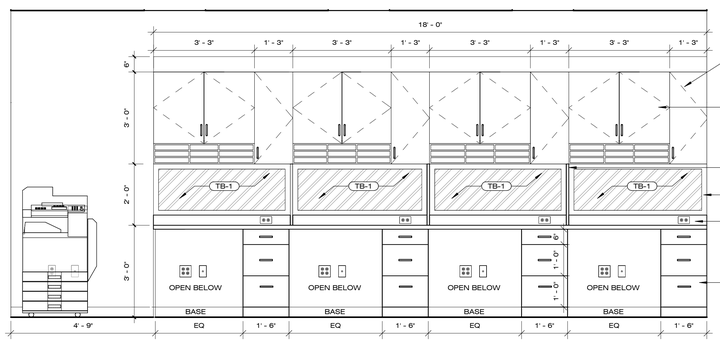


2 CLEAN WORK RM/MEDS #2006 (W)
SCALE:1/2" = 1'-0"

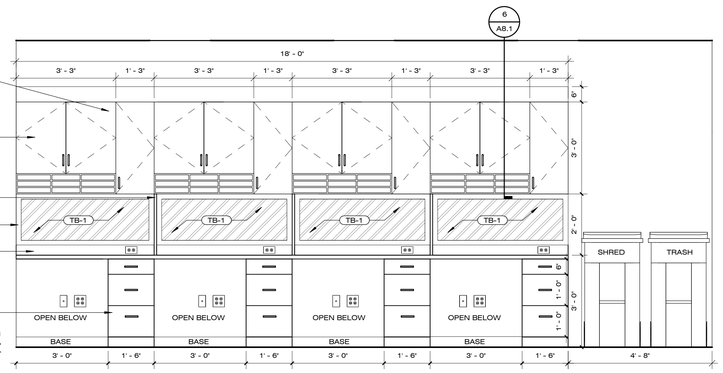
3 CLEAN WORK RM/MEDS #2006 (N)
SCALE:1/2" = 1'-0"



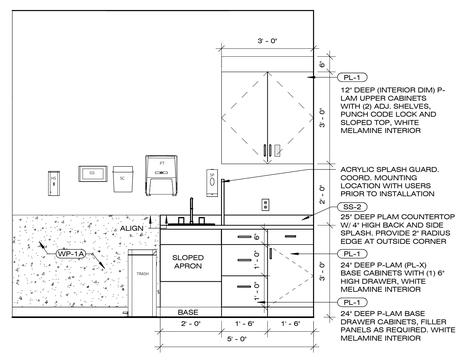
4 SURGERY SCHEDULERS TYP.
SCALE:1/2" = 1'-0"



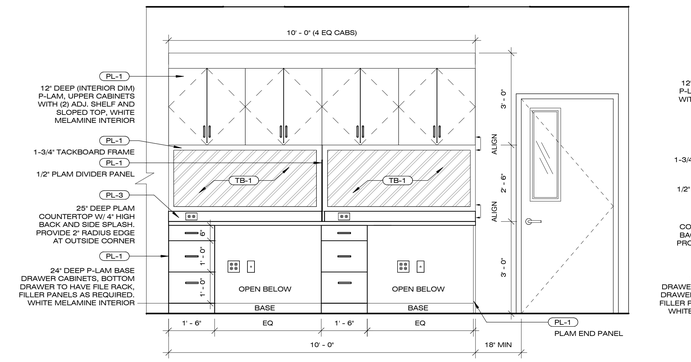
5 SURGERY MA'S/MEDS #2002 (N)
SCALE:1/2" = 1'-0"



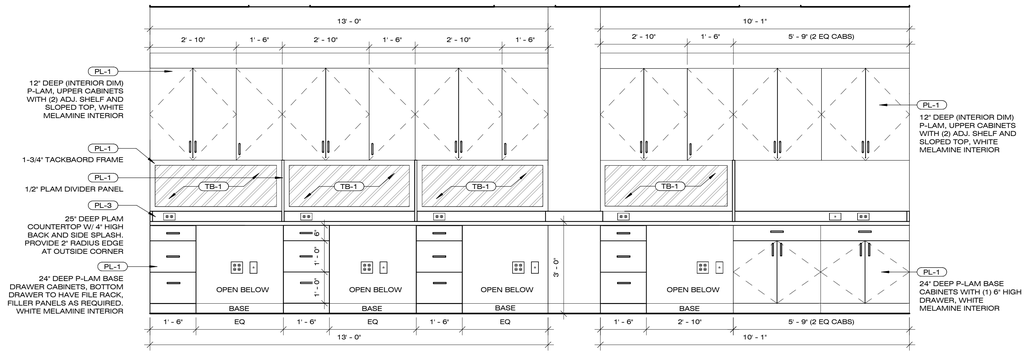
6 SURGERY MA'S/MEDS #2002 (S)
SCALE:1/2" = 1'-0"



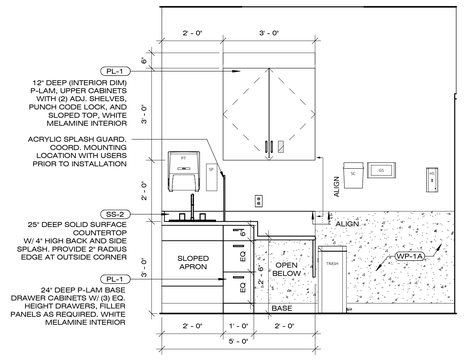
7 SURGICAL EXAM TYP.
SCALE:1/2" = 1'-0"



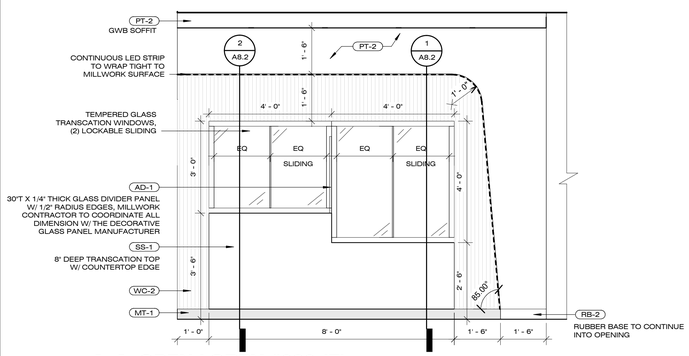
8 DERM MA'S/MEDS #2058 (S)
SCALE:1/2" = 1'-0"



9 DERM MA'S/MEDS #2058 (N)
SCALE:1/2" = 1'-0"



10 DERM/ TIMESHARE EXAM TYP.
SCALE:1/2" = 1'-0"



11 OPEN LOBBY #020 (E)
SCALE:1/2" = 1'-0"

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11.21.25

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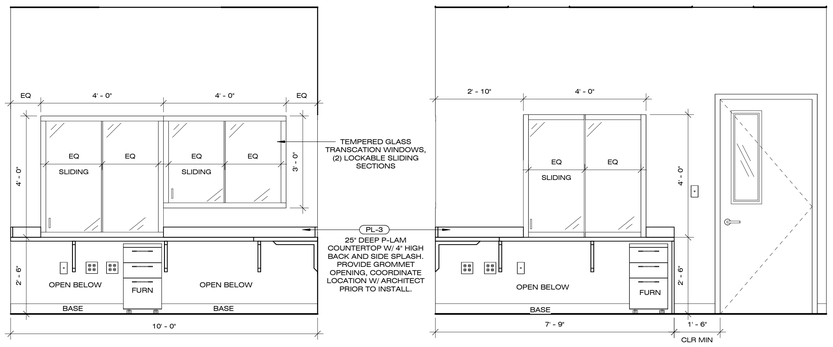
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ARCH. PROJECT # **RDU 25-065**

INTERIOR ELEVATIONS

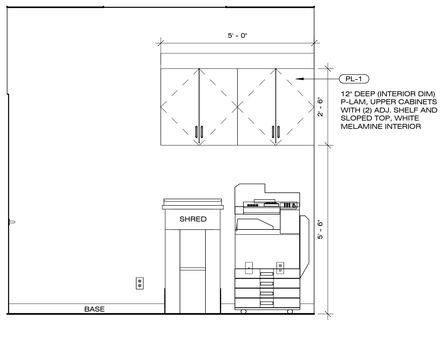
SCALE: 1/2" = 1'-0"

SHEET # **A7.5**

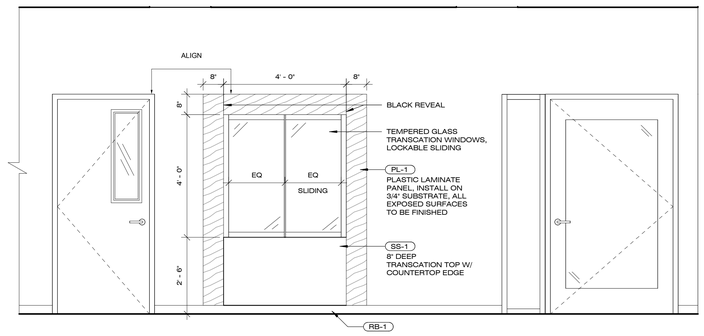


1 TIMESHARE CHECK IN #2101 (W)
SCALE:1/2" = 1'-0"

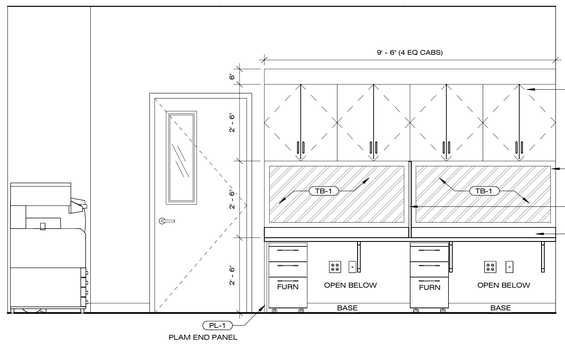
2 TIMESHARE CHECK IN #2101 (N)
SCALE:1/2" = 1'-0"



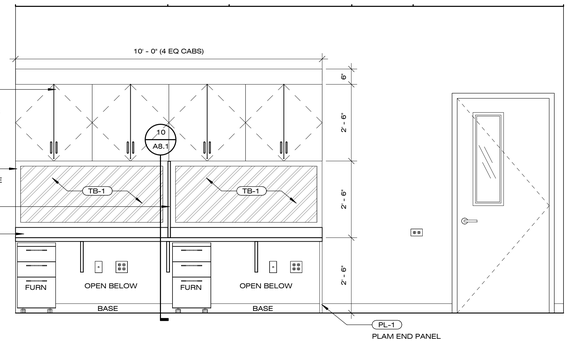
3 TIMESHARE CHECK IN #2101 (E)
SCALE:1/2" = 1'-0"



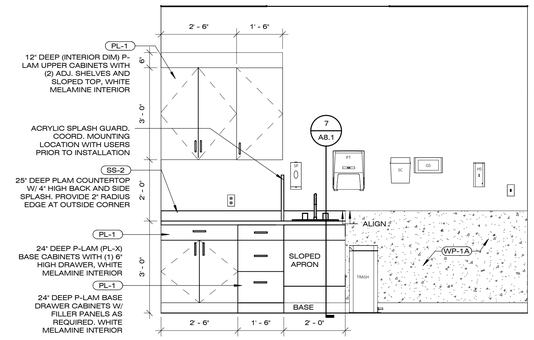
4 2100ACOR (S)
SCALE:1/2" = 1'-0"



5 TIMESHARE MA'S #2100 (S)
SCALE:1/2" = 1'-0"



6 TIMESHARE MA'S #2100 (N)
SCALE:1/2" = 1'-0"



7 TIMESHARE PROCEDURE TYP.
SCALE:1/2" = 1'-0"

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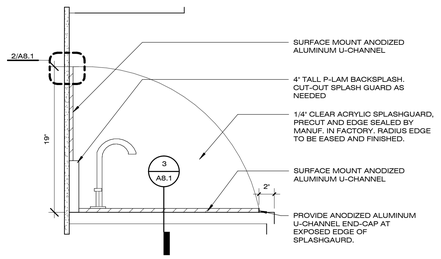
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ARCH. PROJECT # RDU 25-065

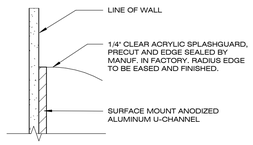
INTERIOR ELEVATIONS

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

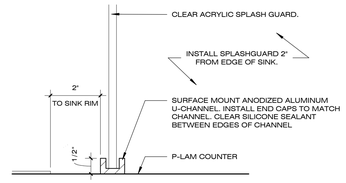
SHEET # A7.6



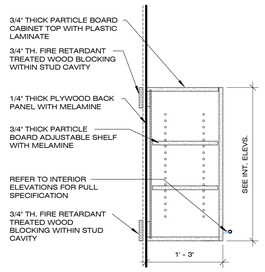
1 SPLASHGUARD SECTION
SCALE:1 1/2" = 1'-0"



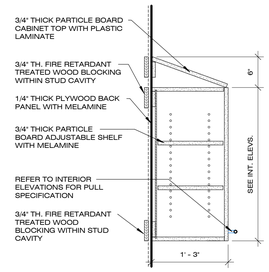
2 SPLASHGUARD DETAIL AT TOP
SCALE:3" = 1'-0"



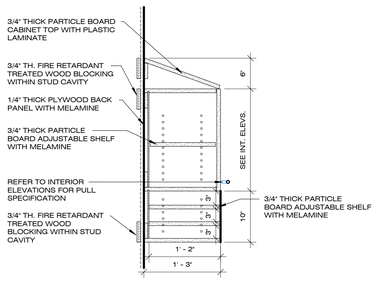
3 SPLASHGUARD AT BOTTOM
SCALE:6" = 1'-0"



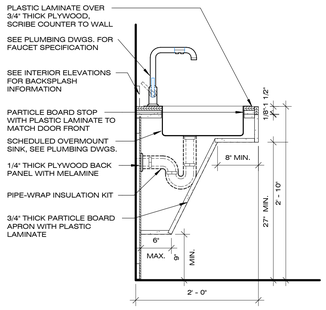
4 UPPER CABINET
SCALE:1" = 1'-0"



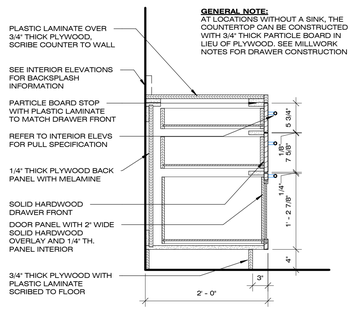
5 UPPER CABINET W/ SLOPED TOP
SCALE:1" = 1'-0"



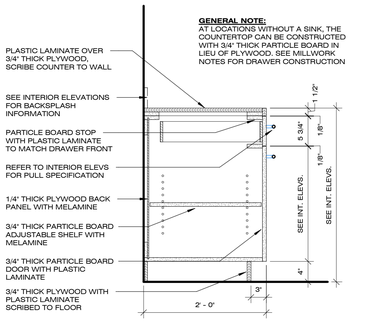
6 UPPER CABINET W/ MAIL SLOTS
SCALE:1" = 1'-0"



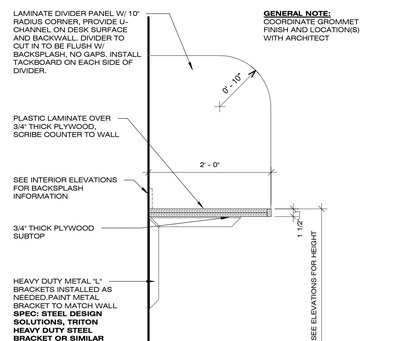
7 SINK W/ ANGLED PANEL
SCALE:1" = 1'-0"



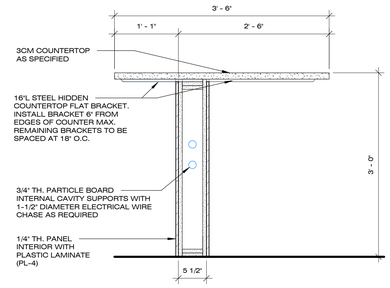
8 3 DRAWER BASE CABINET
SCALE:1" = 1'-0"



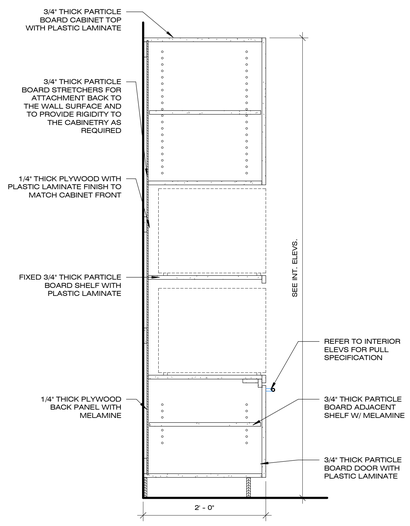
9 1 DRAWER BASE CABINET
SCALE:1" = 1'-0"



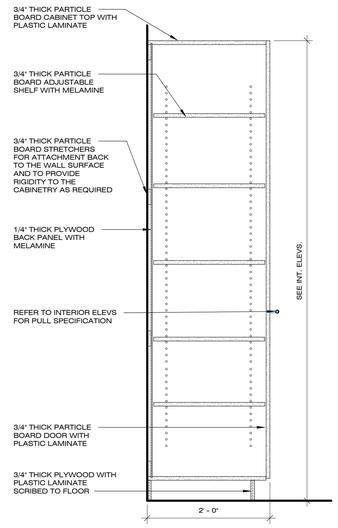
10 WORK COUNTER W/ DIVIDER PANEL
SCALE:1" = 1'-0"



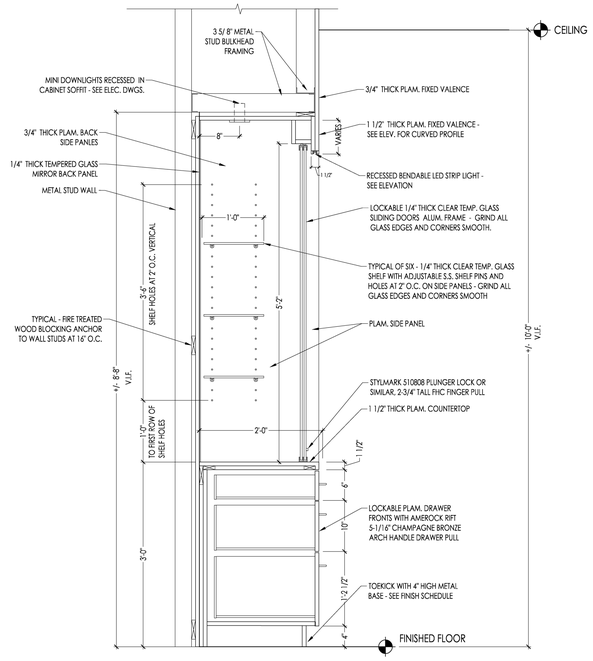
12 SECTION @ ISLAND
SCALE:1" = 1'-0"



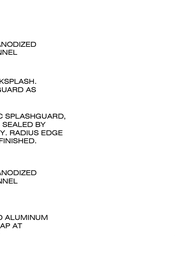
13 FULL HGT CABINET W/ (2) MICROWAVE
SCALE:1" = 1'-0"



14 FULL HGT CABINET
SCALE:1" = 1'-0"



15 SECTION @ MED SPA DISPLAY
SCALE:1" = 1'-0"



11 PULL OUT PRINTER
SCALE:1" = 1'-0"

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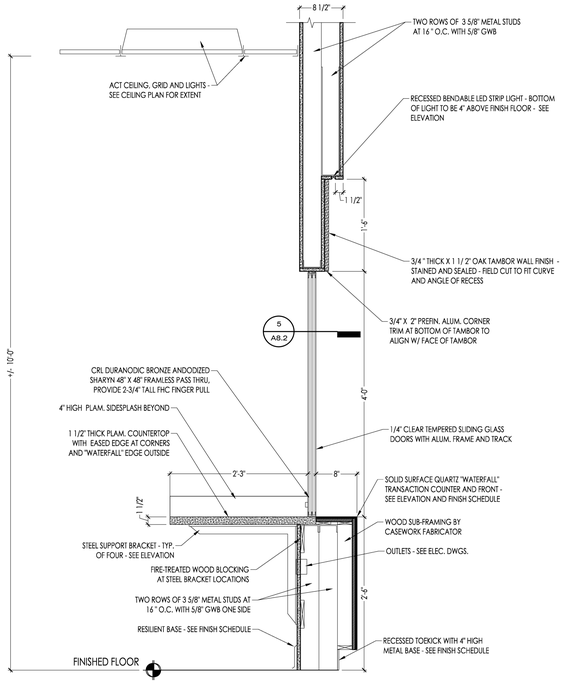
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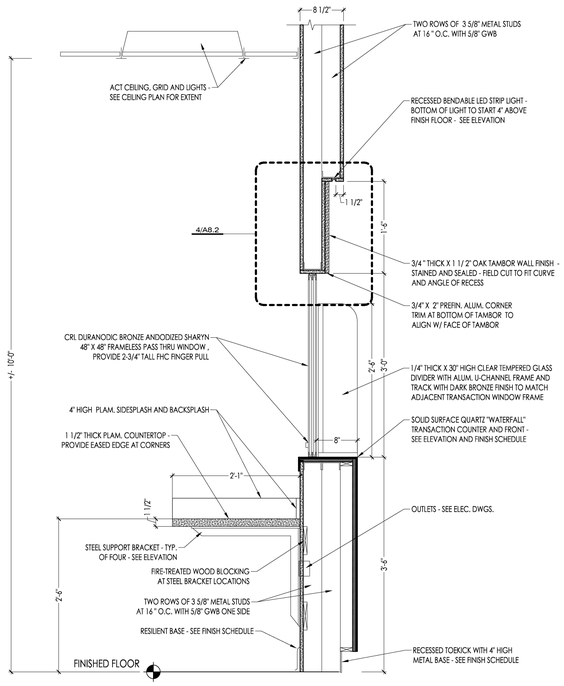
SECTIONS & DETAILS

SCALE: As indicated

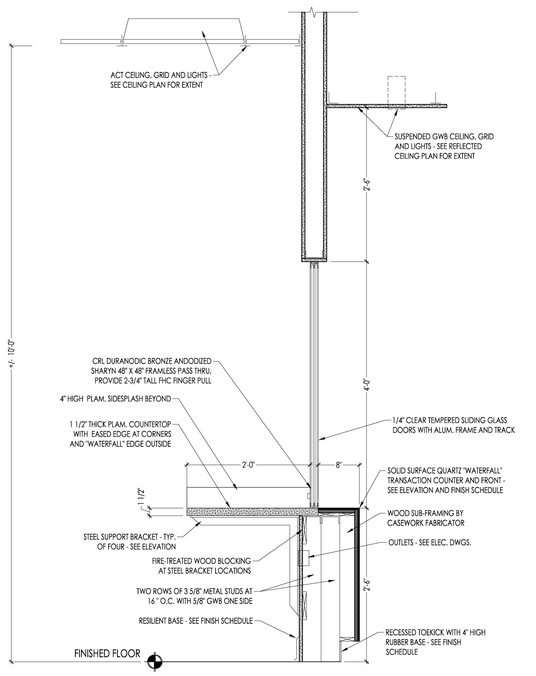
SHEET # A8.1



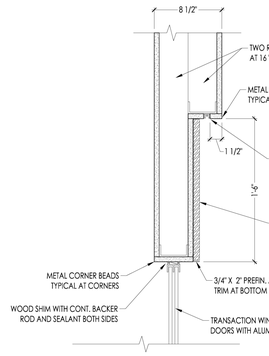
1 SECTION @ RECEPTION DESK (ADA HEIGHT)
SCALE:1" = 1'-0"



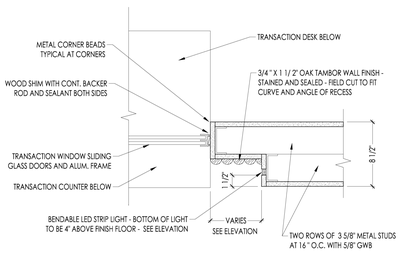
2 SECTION @ RECEPTION DESK (COUNTER HEIGHT)
SCALE:1" = 1'-0"



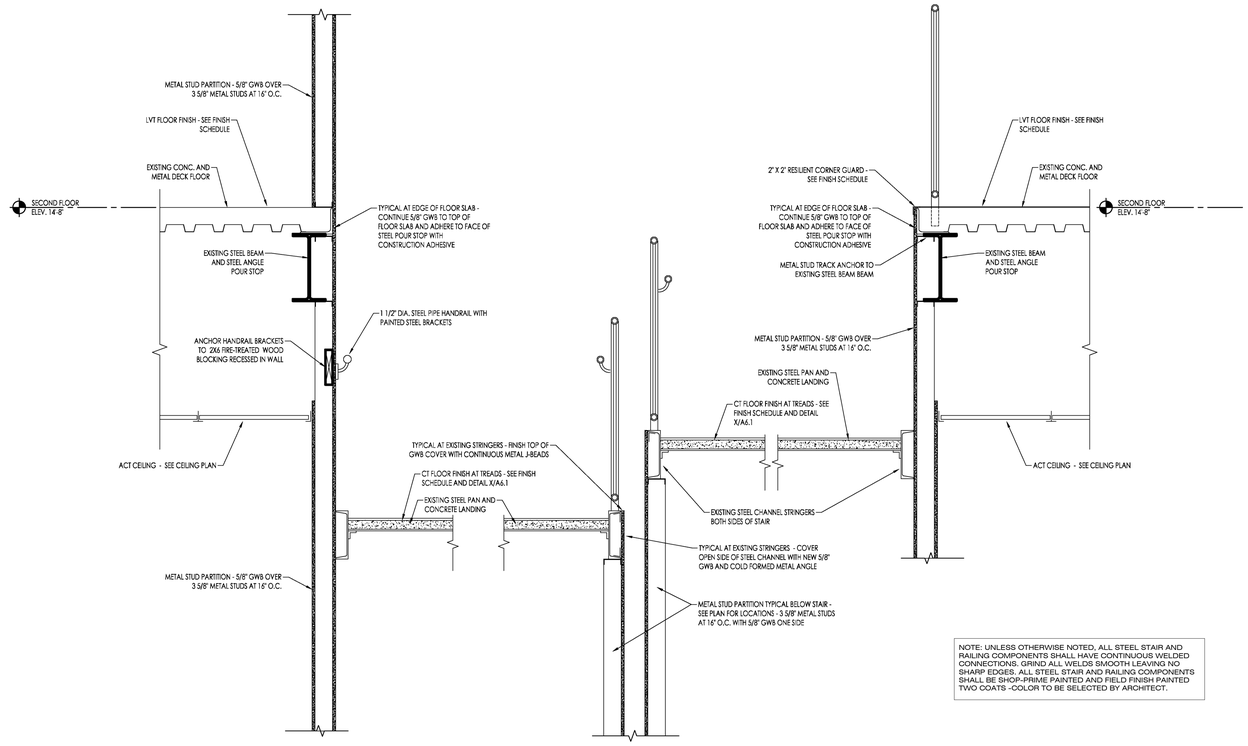
3 SECTION @ CHECK-OUT
SCALE:1" = 1'-0"



4 DETAIL @ RECEPTION DESK
SCALE:1 1/2" = 1'-0"



5 DETAIL @ RECEPTION DESK
SCALE:1 1/2" = 1'-0"



6 SECTION @ OPEN STAIR
SCALE:1" = 1'-0"

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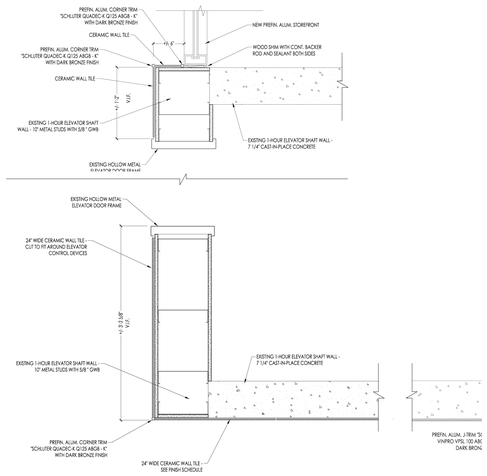
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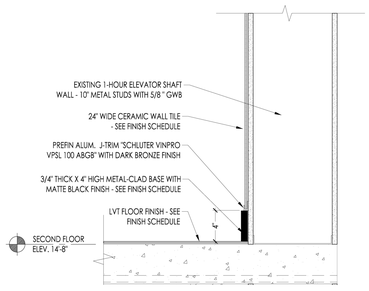
SCALE: As indicated

SHEET # **A8.2**

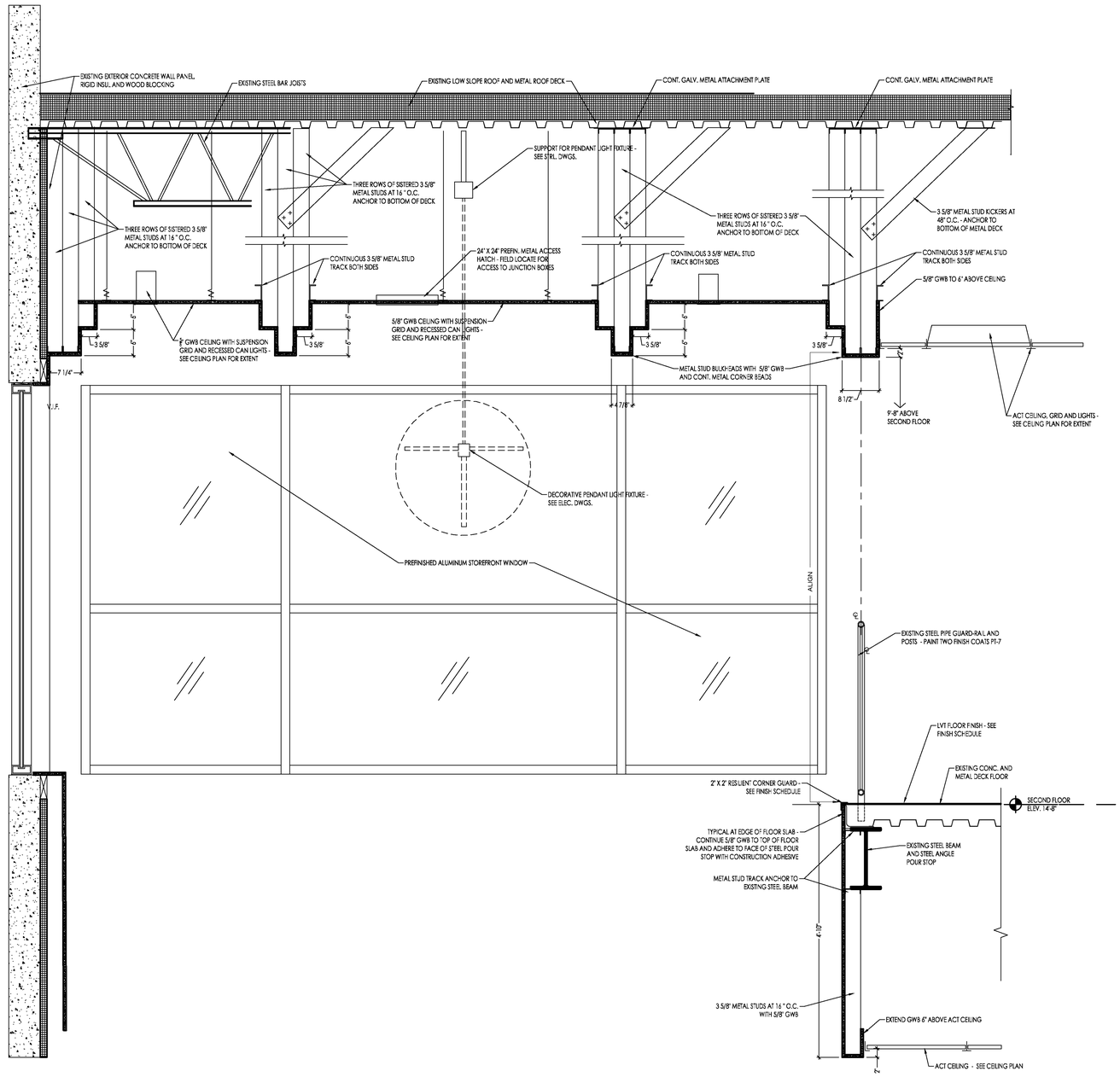


1 DETAIL @ 1ST FLOOR ELEVATOR
SCALE:1" = 1'-0"

2 DETAIL @ 2ND FLOOR ELEVATOR
SCALE:1" = 1'-0"



3 DETAIL @ ELEVATOR WALL TILE
SCALE:1 1/2" = 1'-0"



4 SECTION @ COFFERED CEILING & LOBBY RAILING
SCALE:1" = 1'-0"

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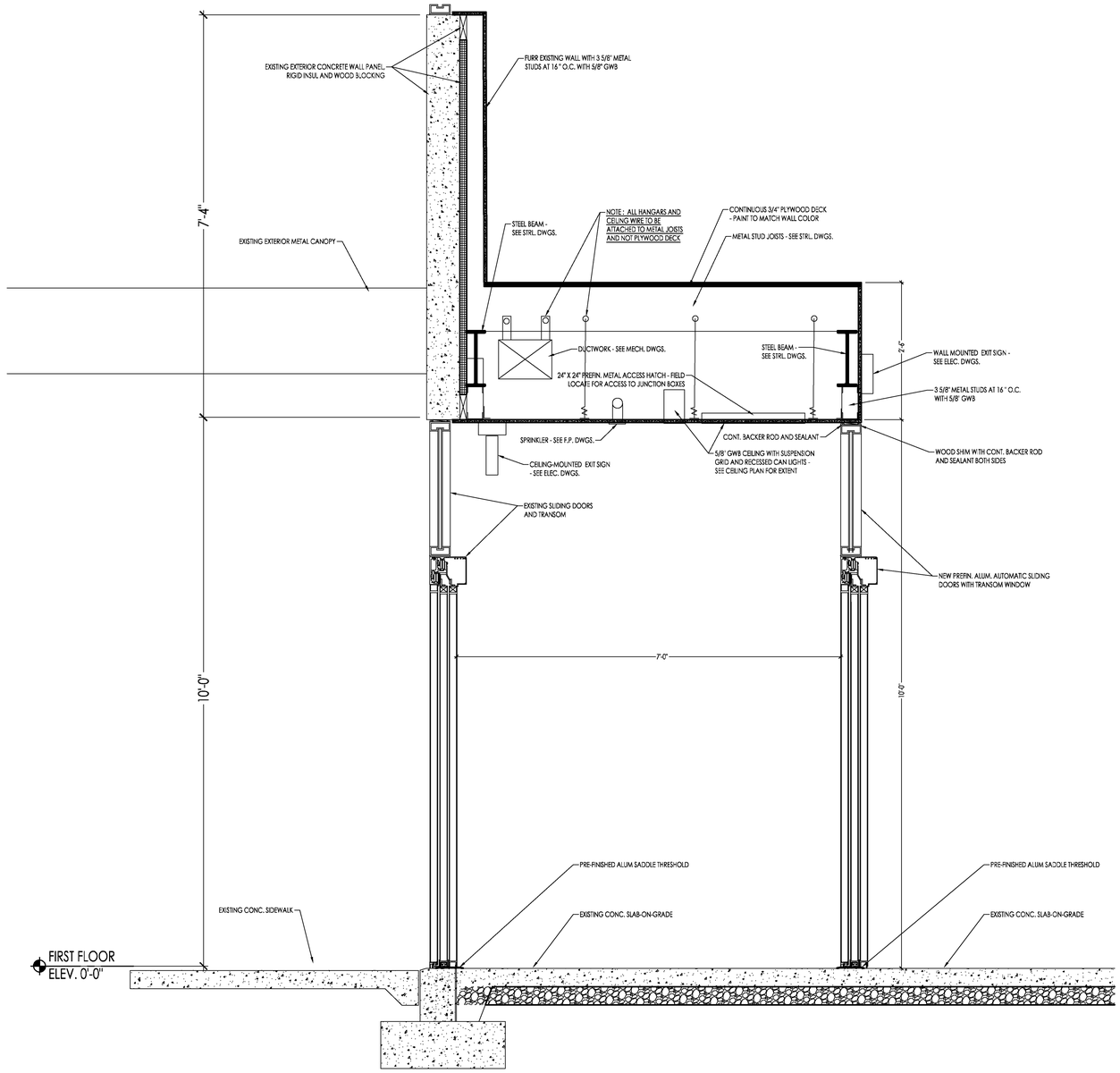
SCALE: As Indicated

SHEET # A8.3



1 OPEN LOBBY #020 (N)

SCALE:1" = 1'-0"



2 SECTION @ VESTIBULE

SCALE:1" = 1'-0"

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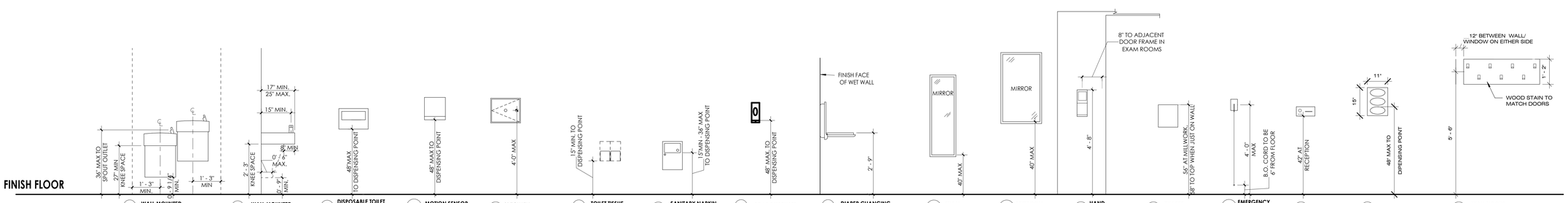
ARCH. PROJECT # **RDU 25-065**

SECTIONS & DETAILS

SCALE: 1" = 1'-0"

SHEET # **A8.4**

GENERAL CONTRACTOR TO COORDINATE LOCATION & SPEC. FOR ALL ACCESSORIES WITH TENANT
GENERAL CONTRACTOR TO PROVIDE WOOD BLOCKING FOR ALL WALL MOUNTED ACCESSORIES AS NEEDED



WC1 **WALL MOUNTED HI/LO WATERCOOLER (FRONT ELEVATION)**

WC2 **WALL MOUNTED HI/LO WATERCOOLER (SIDE ELEVATION)**

TS **DISPOSABLE TOILET SEAT COVER DISPENSER**

SURFACE-MOUNTED **(FURNISHED & INSTALLED BY GC)** ALL RESTROOMS SPEC: HOSPECO HEALTH GARDS® HALF-FOLD TOILET SEAT COVER DISPENSER

PT **MOTION SENSOR HAND TOWEL DISPENSER**

SURFACE-MOUNTED **(FURNISHED BY TENANT & INSTALLED BY GC)** CONFIRM LOCATIONS WITH TENANT PRIOR TO INSTALLATION. SPEC: GEORGIA-PACIFC PAPER TOWEL DISPENSER: HARDWOUND, 10 IN PAPER TOWEL WD, 1 3/4 IN, PLASTIC, BLACK

SP **SPECIMEN PASS-THRU**

MOUNTED THROUGH WALL SPEC: ASI 8154 **(FURNISHED & INSTALLED BY GC)**

TT **TOILET TISSUE DISPENSER**

SURFACE-MOUNTED DOUBLE-ROLL TOILET TISSUE HOLDER SPEC: GA PACIFIC 56784A BLACK, COMPACT TOILET PAPER DISPENSER **(FURNISHED & INSTALLED BY GC)**

SN **SANITARY NAPKIN (TRASH) DISPOSAL**

SURFACE-MOUNTED SPEC: ASI 0473-A **(FURNISHED & INSTALLED BY G.C.)**

QTY: 20

SD **SOAP DISPENSER**

SURFACE MOUNTED **(FURNISHED BY TENANT, INSTALLED BY GC) SPEC: PROVON® ADX-12™ DISPENSER**

QTY: 100

DC **DIAPER CHANGING STATION**

HORIZONTAL SURFACE-MOUNTED SPEC: KOALAKARE, KB200-01, COLOR:GREY **(FURNISHED & INSTALLED BY GC)**

MI-1 **EXAM MIRROR**

SURFACE-MOUNTED (SEE MIRROR NOTES BELOW) IN SURGERY & DERMATOLOGY **SPEC: ELEGANT LIGHTING REMY 24" X 60" RECTANGULAR FLAT FRAMED MIRROR**

MI-2 **RESTROOM MIRROR**

SURFACE-MOUNTED (SEE MIRROR NOTES BELOW)**(FURNISHED & INSTALLED BY G.C.) SPEC: ELEGANT LIGHTING REMY 24" X 36" RECTANGULAR FLAT FRAMED MIRROR**

HS **HAND SANITIZER**

SURFACE-MOUNTED **(FURNISHED BY TENANT, INSTALLED BY GC)** SPEC: PURELL® ADX-12 ™ DISPENSER

QTY: 100

SC **SHARPS CONTAINER**

SURFACE-MOUNTED **(FURNISHED BY TENANT, INSTALLED BY GC)** SPEC: STERICYCLE'S 3-GALLON CABINET

QTY: 100

NCP **EMERGENCY NURSE CALL**

SURFACE MOUNTED **(FURNISHED & INSTALLED BY ELECTRICIAN)**

NC **NURSE CALL**

SURFACE MOUNTED **(FURNISHED & INSTALLED BY ELECTRICIAN)**

GL **GLOVE BOX**

SURFACE-MOUNTED (3) GLOVE BOX HOLDER **(FURNISHED BY TENANT, INSTALLED BY GC)** SPEC: MEDLINE PLEXIGLASS GLOVE HOLDER

QTY: 100

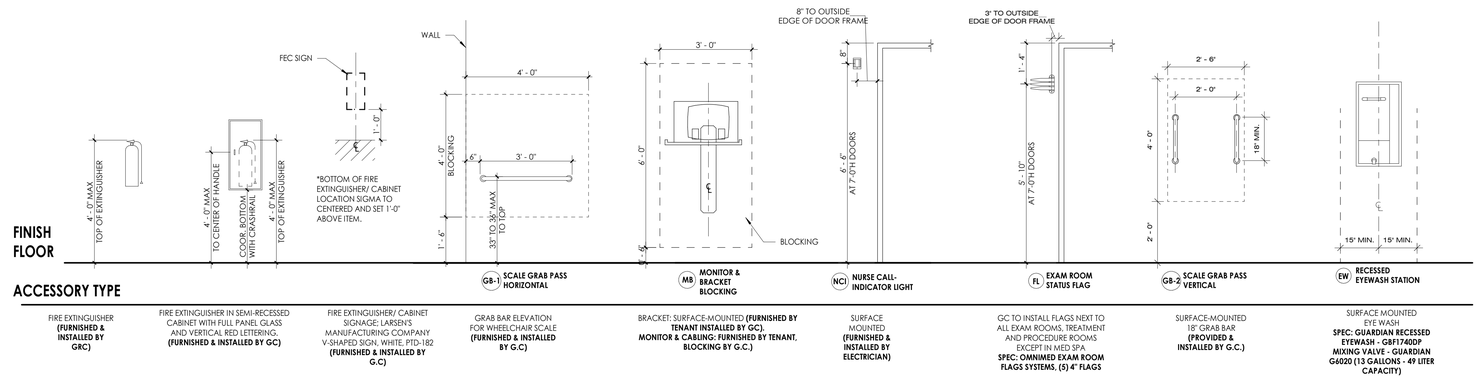
WH **WALL HOOKS**

SURFACE-MOUNTED **(FURNISHED BY TENANT, INSTALLED BY GC)** SPEC: CASSON BENDE CURVE HOOK, MATTE BLACK FINISH

MIRRORS:

- FRONT APPROACH FOR ADULT ILLUSTRATED
- 4" MIN HIGH WATER STREAM SHALL BE WITHIN 3" OF THE FRONT OF THE DRINKING FOUNTAIN.
- GC TO ENSURE IN COMPLIANCE WITH 2010 ADA CODE CHAPTER 6

1 CLINIC FIXTURES & ACCESSORY ELEVATIONS (TYPICAL)
SCALE:1/2" = 1'-0"



FIRE EXTINGUISHER **(FURNISHED & INSTALLED BY GRC)**

FIRE EXTINGUISHER IN SEMI-RECESSED CABINET WITH FULL PANEL GLASS AND VERTICAL RED LETTERING. **(FURNISHED & INSTALLED BY GC)**

FIRE EXTINGUISHER/ CABINET SIGNAGE: LARSEN'S MANUFACTURING COMPANY V-SHAPED SIGN, WHITE, PTD-182 **(FURNISHED & INSTALLED BY G.C)**

GB-1 **SCALE GRAB PASS HORIZONTAL**

GRAB BAR ELEVATION FOR WHEELCHAIR SCALE **(FURNISHED & INSTALLED BY G.C)**

MB **MONITOR & BRACKET BLOCKING**

BRACKET: SURFACE-MOUNTED **(FURNISHED BY TENANT INSTALLED BY GC). MONITOR & CABLING: FURNISHED BY TENANT, BLOCKING BY G.C.)**

NCI **NURSE CALL-INDICATOR LIGHT**

SURFACE MOUNTED **(FURNISHED & INSTALLED BY ELECTRICIAN)**

FL **EXAM ROOM STATUS FLAG**

GC TO INSTALL FLAGS NEXT TO ALL EXAM ROOMS, TREATMENT AND PROCEDURE ROOMS EXCEPT IN MED SPA **SPEC: OMNIMED EXAM ROOM FLAGS SYSTEMS, (5) 4" FLAGS**

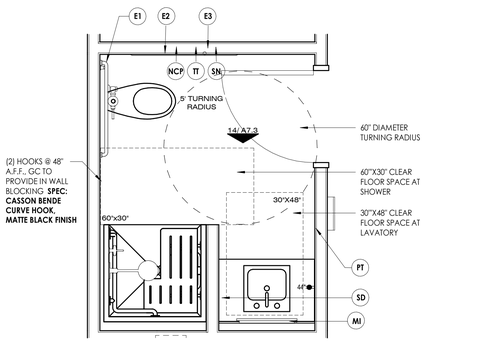
GB-2 **SCALE GRAB PASS VERTICAL**

SURFACE-MOUNTED 18" GRAB BAR **(PROVIDED & INSTALLED BY G.C.)**

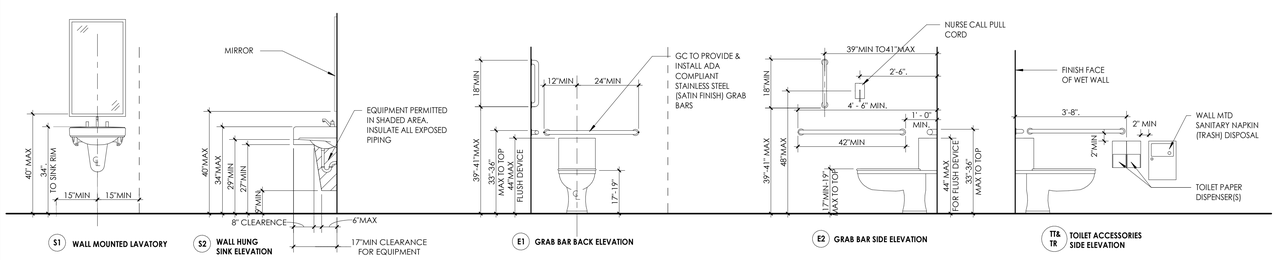
EW **RECESSED EYEWASH STATION**

SURFACE MOUNTED EYE WASH **SPEC: GUARDIAN RECESSED EYEWASH - GBF1740DP MIXING VALVE - GUARDIAN G6020 (13 GALLONS - 49 LITER CAPACITY)**

2 CLINIC FIXTURES & ACCESSORY ELEVATIONS (TYP.)
SCALE:1/2" = 1'-0"



STAFF TLT/SHOWER FLOOR CLEARANCE PLAN



S1 **WALL MOUNTED LAVATORY**

S2 **WALL HUNG SINK ELEVATION**

E1 **GRAB BAR BACK ELEVATION**

E2 **GRAB BAR SIDE ELEVATION**

TT& TR **TOILET ACCESSORIES SIDE ELEVATION**

MIRROR BLOCKING NOTES:

1.) DEPTH OF BLOCKING BEHIND THE MIRROR TO MATCH THE DEPTH OF THE WALL TILE.
2.) HOLD BLOCKING TIGHT TO THE MIRROR.

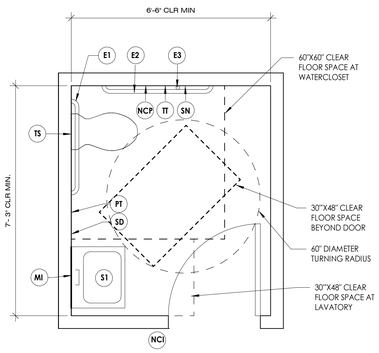
LAVATORY NOTES:

1.) 4" MIN. HIGH WATER STREAM SHALL BE WITHIN 3" OF THE FRONT OF THE DRINKING FOUNTAIN.
2.) GC TO ENSURE IN COMPLIANCE WITH 2010 ADA CODE CHAPTER-6.
3.) INSTALL SHROUD/KNEE CONTACT GUARD TO COVER PIPES, SHROUD FINISH TO MATCH SINK.

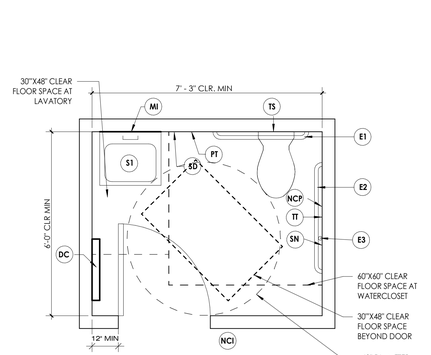
ALL GRAB BARS SHALL:

1.) HAVE GRIPPING SURFACE OF 1-1/4"
2.) 1-1/2" IN WIDTH OF OUTSIDE DIAMETER
3.) 1-1/2" HAND CLEARANCE BETWEEN THE FACE OF THE BAR & THE FINISHED SURFACE OF THE WALL/PARTITION
4.) BE CAPABLE OF SUPPORTING A 250 LB. LOAD APPLIED IN ANY DIRECTION ANYWHERE ALONG ITS LENGTH - NOT ROTATED WITHIN THEIR FITTINGS.
5.) BE FREE OF ANY SHARP/ABRASIVE ELEMENTS
6.) EDGES SHALL HAVE A 1/8" MIN. RADIUS.
7.) PROVIDE CONCEALED ESCUTCHEON ON ALL GRAB BARS

3 RESTROOM FIXTURE ELEVATIONS
SCALE:1/2" = 1'-0"



RESTROOM FLOOR CLEARANCE PLAN, TYPICAL



RESTROOM FLOOR CLEARANCE PLAN,WITH BABY CHANGING STATION, TYPICAL

4 STAFF/ PATIENT RESTROOM TYPICALS
SCALE:1/2" = 1'-0"

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11.21.25

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ARCH. PROJECT # **RDU 25-065**

ACCESSORIES & DETAILS

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

SHEET # **A8.5**

GENERAL NOTES

1 REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF PLUMBING FIXTURES, DRAINS, PIPE CHASES, WALLS AND FURRINGS.

2 THESE DRAWINGS ARE DIAGRAMMATIC WHEREIN THE POSITIONING OF PLUMBING PIPING IS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE WITH THE BUILDING DESIGN/CONSTRUCTION CONDITIONS, ALL OTHER DISCIPLINES AND TRADES OF WORK, THE POSITION AND ROUTING OF PIPING INCLUDING OFFSETS IN WALLS, CEILINGS AND CASEWORK, ETC. PRIOR TO INSTALLATION. THE CONTRACTOR SHALL PROVIDE LABOR AND MATERIALS REQUIRED FOR COMPLETE SYSTEMS INSTALLATION.

3 WORK REQUIRED BY THESE DOCUMENTS SHALL CONFORM TO APPLICABLE CODES AND STANDARDS. WHERE CONFLICTS OCCUR WITH CODES, DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENT SHALL PREVAIL.

4 PROVIDE SLEEVING, CUTTING, CORING AND PATCHING OF WALLS, FLOORS, ROOFS, FOOTINGS AND GRADE BEAMS WHERE REQUIRED FOR INSTALLATION OF WORK.

5 PROVIDE AUTOMATIC TRAP PRIMERS AND NECESSARY PIPING FOR CONNECTION TO FLOOR SINKS, FLOOR DRAINS AND OTHER WASTE DRAIN RECEPTORS SUBJECT TO INFREQUENT USE PER CODE. LOCATIONS OF TRAP PRIMERS SHOWN ON PLANS AND ARE SUBJECT TO APPROVAL BY THE LOCAL BUILDING INSPECTOR. FLUSH VALVE TRAP PRIMERS CAN BE SUBSTITUTED AT ALL RESTROOMS WHERE FLOOR DRAINS ARE INDICATED AND REQUIRED BY CODE.

6 PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER DISSIMILAR METALS ARE JOINED.

7 MECHANICAL DEVICES (VALVES, TRAP PRIMERS, WATER HAMMER ARRESTORS, ETC.) SHALL BE READILY ACCESSIBLE AND INSTALLED AS TO BE PROTECTED FROM PHYSICAL DAMAGE. PROVIDE ACCESS PANELS WHERE INSTALLED WITHIN OR BEHIND WALLS OR ABOVE HARD LID CEILINGS.

8 PIPING AND CONDUIT PENETRATIONS THRU FIRE RATED ASSEMBLIES (FLOORS, WALLS, CEILINGS, ETC.) SHALL BE INSTALLED WITH UL LISTED FIRESTOP SYSTEMS PER IPC REQUIREMENTS.

9 ACCESSIBLE FIXTURES SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT APPLICABLE ACCESSIBILITY CODES. REFER TO ARCHITECTURAL PLANS FOR ACCESSIBLE FIXTURE LOCATIONS.

10 BURIED METALLIC PIPING (CAST IRON, STEEL, COPPER, ETC.) SHALL BE INSTALLED WITHIN POLYETHYLENE SLEEVE OR SEALED SHEET PER SPECIFICATIONS.

11 CROSS CONNECTION PROTECTION SHALL BE PROVIDED AT POTABLE WATER SUPPLIED APPLIANCES AND EQUIPMENT WHERE SUSCEPTIBLE TO CONTAMINATION. PROVIDE VACUUM BREAKERS AT HOSE BIBBS.

12 DO NOT ROUTE PIPING OVER ELECTRIC ROOMS, ELECTRICAL CLOSETS, TELECOMMUNICATION ROOMS, DATA ROOMS, AND ELEVATOR EQUIPMENT ROOMS FROM STRUCTURAL FLOOR TO STRUCTURAL CEILING UNLESS PIPING IS DEDICATED TO SERVE THAT ROOM. NO PIPING SHALL BE INSTALLED OVER ELECTRICAL PANELS.

13 CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION OF PLUMBING SYSTEMS.
- 13.1. SHOP DRAWINGS SHALL BE COORDINATED WITH ALL DISCIPLINES ON PROJECT.
- 13.2. CONSTRUCTION DOCUMENTS SHALL NOT BE CONSIDERED SHOP DRAWINGS.
- 13.3. SHOP DRAWINGS SHALL BE REPRODUCIBLE.
- 13.4. SHOP DRAWINGS SHALL CLEARLY INDICATE PLUMBING SYSTEMS, PIPE SIZES, ELEVATIONS, LOCATION, FIXTURES, EQUIPMENT & ACCESSORIES.
- 13.5. NO WORK SHALL START PRIOR TO REVIEW OF SHOP DRAWINGS.
- 13.6. SHOP DRAWINGS SHALL BE KEPT UP TO DATE THROUGH THE ENTIRETY OF THE PROJECT. AFTER COMPLETION OF PROJECT RECORD AS-BUILT DRAWINGS SHALL BE PROVIDED FOR ALL WORK PERFORMED.

14 PIPING SHALL HAVE ALL BURRS REMOVED, PIPE ENDS REAMED, AND CHIPS REMOVED. PLASTIC PIPING INSTALLED ON PRESSURIZED SYSTEMS SHALL BE CUT WITH PROPER TOOL. CUTTERS PER THE MANUFACTURERS INSTRUCTIONS. SAW CUTTING OF PIPE PRODUCING SHAVINGS AND BURRS IS NOT ACCEPTABLE.

15 PROVIDE HANGERS, BRACES, INTERMEDIATE FRAMING SUPPORTS, ANCHORS AND MISCELLANEOUS DEVICES REQUIRED FOR PIPE AND EQUIPMENT INSTALLATIONS.

16 UNIFORMLY GRADE STORM DRAIN AND INDIRECT DRAIN PIPING NOT LESS THAN 1/8 INCH PER FOOT AND WASTE AND SEWER DRAIN PIPING NOT LESS THAN 1/4 INCH PER FOOT UNLESS OTHERWISE NOTED AND APPROVED BY THE INSPECTOR.

17 PROVIDE NEW VALVES, HOSES, ADAPTORS, CONNECTORS, AND OTHER MISCELLANEOUS DEVICES NECESSARY FOR COMPLETE INSTALLATION.

18 ROUGH-INS FOR WATER STOPS, MOUNTING OF MIXING VALVES, SUPPLY RISERS, ETC. BELOW SINK AND LAVATORY COUNTERS SHALL BE INSTALLED WITHIN THE DIMENSIONS OF A SKIRT WITH NO PART OF INSTALLATION VISIBLE BELOW OR ON EITHER SIDE OF SKIRT. WHERE A SKIRT IS NOT PROVIDED ALL COMPONENTS SHALL BE INSTALLED IN A NEAT AND ORDERLY FASHION.

19 PROVIDE WATER HAMMER ARRESTORS WITH ACCESS PANELS AT ALL SINGLE AND GROUP FLUSH VALVE FIXTURE LOCATIONS.

20 CONTRACTOR TO PAY FOR ALL PERMITTING FEES AND CHARGES FROM MUNICIPALITIES. REFER TO DIVISION 1 FOR REQUIREMENTS.

21 ALL CONSTRUCTION DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.

22 CONTRACTOR SHALL STERILIZE ALL DOMESTIC (POTABLE) AND INDUSTRIAL WATER PIPING PER ACCEPTED PLUMBING CODE OR SPECIFICATIONS - THE MORE STRINGENT SHALL APPLY.

23 ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.

24 EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX (6) INCHES ABOVE THE FLOOD-LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER VENT.

25 DOMESTIC HOT WATER PIPING SHALL BE INSULATED PER IPC REQUIREMENTS.

PLUMBING ABBREVIATIONS

A/C	ABOVE CEILING	IE	INVERT ELEVATION
ACFM	ACTUAL CUBIC FEET PER MINUTE	ID	INSIDE DIAMETER
ADA	AMERICANS WITH DISABILITIES ACT	INV	INVERT
AFF	ABOVE FINISHED FLOOR	IN. HG	INCHES MERCURY
AFG	ABOVE FINISHED GRADE	IN. W.C.	INCHES WATER COLUMN
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE	IVTR	INDUSTRIAL VENT THROUGH ROOF
AP	ACCESS PANEL	KW	KILOWATT
ARCH	ARCHITECT OR ARCHITECTURAL	LB	POUND
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	LWVTR	LABORATORY WASTE VENT THROUGH ROOF
BFF	BELOW FINISHED FLOOR	MAX	MAXIMUM
BFV	BUTTERFLY VALVE	MECH	MECHANICAL
BHP	BRAKE HORSEPOWER	MFR	MANUFACTURER
B/F	BELOW FLOOR	MIN	MINIMUM
B/G	BELOW GRADE	NC	NORMALLY CLOSED
B/S	BELOW SLAB	NIC	NOT IN CONTRACT
BTU	BRITISH THERMAL UNITS	NO	NORMALLY OPEN
BTUH	BRITISH THERMAL UNITS PER HOUR	NPSH	NET POSITIVE SUCTION HEAD
BV	BALL VALVE	NTS	NOT TO SCALE
°C	DEGREES CELSIUS	OD	OUTSIDE DIAMETER
CFH	CUBIC FEET PER HOUR	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CFM	CUBIC FEET PER MINUTE	PLBG	PLUMBING
CONN	CONNECT OR CONNECTION	PSI	POUNDS PER SQUARE INCH
CONT	CONTINUATION	POC	POINT OF CONNECTION
CONTR	CONTRACTOR	PRV	PRESSURE REDUCING VALVE
DEG	DEGREE	PV	PRESSURE RELIEF VALVE
DFU	DRAINAGE FIXTURE UNITS	PVC	POLYVINYL CHLORIDE
DN	DOWN	QTY	QUANTITY
DWG	DRAWING	RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
ECO	EXTERIOR CLEAN OUT	RM	ROOM
EFF	EFFICIENCY	RPM	REVOLUTIONS PER MINUTE
ELEC	ELECTRICAL	SCFM	STANDARD CUBIC FEET PER MINUTE
ELEV	ELEVATION	SF	SQUARE FEET
EQUIP	EQUIPMENT	SHT	SHEET
°F	DEGREES FAHRENHEIT	SOV	SHUT OFF VALVE
FCO	FLOOR CLEAN OUT	SPEC	SPECIFICATION
FFE	FINISH FLOOR ELEVATION	SS	STAINLESS STEEL
FLR	FLOOR	TEMP	TEMPERATURE
FT	FEET	TYP	TYPICAL
GAL	GALLONS	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
GALV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE
GLV	GLOBE VALVE	UV	ULTRA VIOLET
GPF	GALLONS PER FLUSH	VFD	VARIABLE FREQUENCY DRIVE
GPH	GALLONS PER HOUR	VTR	VENT THROUGH ROOF
GPM	GALLONS PER MINUTE	V/PH/HZ	VOLTS/PHASE/HERTZ
GV	GATE VALVE	W/	WITH
HD	HEAD	WCO	WALL CLEAN OUT
HP	HORSEPOWER	WHA	WATER HAMMER ARRESTOR
HR	HOUR	WSFU	WATER SUPPLY FIXTURE UNITS
HVAC	HEATING, VENTILATION, & AIR CONDITIONING		

TAGS AND CALL OUT SYMBOLS

EQUIP #	EQUIPMENT REQUIRING ELECTRICAL SERVICE. REFER TO SCHEDULES FOR PERFORMANCE REQUIREMENTS.	#	REVISION CALLOUT
EQUIP #	EQUIPMENT NOT REQUIRING ELECTRICAL SERVICE. REFER TO SCHEDULES FOR PERFORMANCE REQUIREMENTS.	X	KEYNOTE CALLOUT
			POINT OF CONNECTION
			POINT OF DEMARCATION
X / XXX	SECTION CALLOUT SECTION DESIGNATION SHEET NUMBER	S 1 / E 1	HEAT TRACE CIRCUIT START AND END HEAT TRACE CIRCUIT NUMBER
A / P3.1	DETAIL CALLOUT DETAIL DESIGNATION SHEET NUMBER		

PLUMBING SYMBOL LEGEND

	PIPING TURN DOWN OR DROP		WALL HYDRANT
	PIPING TURN UP OR RISE		UNION
	PIPING TEE DOWN OR DROP		PETE'S PLUG
	PIPING TEE UP OR RISE	FS	FLOW SWITCH
	P-TRAP	PS	PRESSURE SWITCH
	GATE VALVE	AV	AUTOMATIC AIR VENT
	CHECK VALVE	EJ	EXPANSION JOINT
	BALL VALVE		PUMP
	MIXING VALVE	M	METER
	BUTTERFLY VALVE		PRESSURE GAUGE WITH GAUGE COCK
	GLOBE VALVE		VALVE ON PIPING RISE OR DROP
	PRESSURE REDUCING VALVE		AQUASTAT
	PLUG VALVE		TRAP PRIMER
	BACKFLOW PREVENTER		THERMOMETER
	BALANCING VALVE		WATER HAMMER ARRESTOR
	TEMP. & PRESSURE RELIEF VALVE		DIRECTION OF FLOW
	PRESSURE RELIEF VALVE		SLOPE & DIRECTION OF FALL
	VACUUM RELIEF VALVE		REDUCER OR INCREASER
M	MOTORIZED SHUT-OFF VALVE	ø	DIAMETER
	SOLENOID VALVE		DRAIN RECEPTOR
	STRAINER		FLOOR DRAIN
	FLOOR CLEAN OUT		AREA DRAIN
	WALL CLEAN OUT		FLOOR SINK
	EXTERIOR CLEAN OUT		ROOF DRAIN
	CAPPED PIPE / CLEAN OUT		SECONDARY ROOF DRAIN
	CONTINUATION	(E)	EXISTING
	FLEXIBLE CONNECTION (PIPE)		
	HOSE BIBB		

PLUMBING PIPING LEGEND

CWW	CLEAR WATER WASTE ABOVE FLOOR OR GROUND	IW	INDUSTRIAL WASTE BELOW FLOOR OR GROUND
CWW	CLEAR WATER WASTE BELOW FLOOR OR GROUND	KW	KITCHEN WASTE ABOVE FLOOR/GROUND
CWV	CLEAR WATER WASTE VENT	KW	KITCHEN WASTE BELOW FLOOR/GROUND
CW	COLD WATER	LPG	LIQUID PETROLEUM GAS
CWHP	COLD WATER HIGH PRESSURE	G	NATURAL GAS
CSD	COMBINED STORM DRAIN ABOVE FLOOR OR GROUND	HG	NATURAL GAS - HIGH PRESSURE
CSD	COMBINED STORM DRAIN BELOW FLOOR OR GROUND	MG	NATURAL GAS - MEDIUM PRESSURE
CA	COMPRESSED AIR	PD	PUMP DISHARGE
CAI	COMPRESSED AIR INTAKE	RW	RECLAIMED WATER
DI	DEIONIZED WATER SUPPLY	RO	REVERSE OSMOSIS WATER
DIR	DEIONIZED WATER RETURN	ROR	REVERSE OSMOSIS WATER RETURN
FOR	FUEL OIL RETURN	S	SANITARY SEWER ABOVE FLOOR/GROUND
FO	FUEL OIL SUPPLY	S	SANITARY SEWER BELOW FLOOR/GROUND
GW	GRAY WATER ABOVE FLOOR OR GROUND	V	SANITARY SEWER VENT
GW	GRAY WATER BELOW FLOOR OR GROUND	SSO	SECONDARY STORM DRAIN ABOVE FLOOR OR GROUND
HW	HOT WATER	SSO	SECONDARY STORM DRAIN BELOW FLOOR OR GROUND
HW140	HOT WATER (140°F)	SCW	SOFT COLD WATER
HWR140	HOT WATER RETURN (140°F)	SHW	SOFT HOT WATER
HW160	HOT WATER (160°F)	SHWR	SOFT HOT WATER RETURN
HWR160	HOT WATER RETURN (160°F)	SD	STORM DRAIN ABOVE FLOOR/GROUND
HWR	HOT WATER RETURN	SD	STORM DRAIN BELOW FLOOR/GROUND
ICW	INDUSTRIAL NONPOTABLE COLD WATER	SUB	SUBSURFACE STORM DRAIN
IHW	INDUSTRIAL NONPOTABLE HOT WATER	TP	TRAP PRIMER
IHWR	INDUSTRIAL NONPOTABLE HOT WATER RETURN	TW	TEMPERED WATER
ISCW	INDUSTRIAL NONPOTABLE SOFT COLD WATER	TWR	TEMPERED WATER RETURN
ISHW	INDUSTRIAL NONPOTABLE SOFT HOT WATER	VAC	VACUUM
ISHWR	INDUSTRIAL NONPOTABLE SOFT HOT WATER RETURN	VEX	VACUUM EXHAUST
IV	INDUSTRIAL VENT	WO	WASTE OIL
IW	INDUSTRIAL WASTE ABOVE FLOOR OR GROUND	WOV	WASTE OIL VENT
			DEMOLITION PIPING
			DEMOLITION EQUIPMENT

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Andrew Barker
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ARCH. PROJECT # **RDU 25-065**

PLUMBING LEGEND, GENERAL NOTES, AND ABBREVIATIONS

SCALE:

SHEET # **P0.0**

220500 COMMON WORK RESULTS FOR PLUMBING

1.1 MODIFICATIONS IN LAYOUT

A. DRAWINGS AND SPECIFICATIONS FORM COMPLEMENTARY REQUIREMENTS; PROVIDE WORK SPECIFIED AND NOT SHOWN, AND WORK SHOWN AND NOT SPECIFIED AS THOUGH EXPLICITLY REQUIRED BY BOTH. ALTHOUGH WORK MAY NOT BE SPECIFICALLY SHOWN OR SPECIFIED, PROVIDE SUPPLEMENTARY OR MISCELLANEOUS ITEMS, APPURTENANCES, DEVICES AND MATERIALS OBVIOUSLY NECESSARY FOR A SOUND, SECURE AND COMPLETE INSTALLATION.

B. IT IS THE INTENT THAT THESE SPECIFICATIONS AND ASSOCIATED DRAWINGS ESTABLISH MINIMUM REQUIREMENTS FOR PRODUCTS AND EQUIPMENT WITH THE INTENT TO PROVIDE PLUMBING SYSTEMS FINISHED, TESTED AND READY FOR OPERATION. INCIDENTAL DETAIL THAT IS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER INSTALLATION AND OPERATION SHALL BE INCLUDED IN THE WORK AND IN THESE CONTRACTOR'S ESTIMATES, THE SAME AS IF SPECIFIED. LOCATIONS OF ALL EQUIPMENT AND MATERIAL SHALL BE ADJUSTED AT NO EXTRA COST TO THE OWNER, TO ACCOMMODATE THE WORK INTERFERENCES ANTICIPATED AND/OR ENCOUNTERED. PRIOR TO INSTALLATION, DETERMINE THE EXACT ROUTE AND LOCATION OF EACH PIPEAND PIECE OF EQUIPMENT TO MINIMIZE CONFLICTS WITH OTHER TRADES.

C. INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS BUT NOT SHOWN ON PLANS, AND VICE VERSA, SHALL BE PROVIDED AS IF EXPRESSLY REQUIRED ON BOTH.

D. IT IS THE REQUIREMENT OF THE BIDDING CONTRACT DOCUMENTS TO HAVE THE CONTRACTORS PROVIDE SYSTEMS AND COMPONENTS THAT ARE FULLY COMPLETE, OPERATIONAL AND SUITABLE FOR THE INTENDED USE. THERE MAY BE SITUATIONS IN THE DOCUMENTS WHERE INSUFFICIENT INFORMATION EXISTS TO PRECISELY DESCRIBE A CERTAIN COMPONENT OR SUBSYSTEM, OR THE ROUTING OF A COMPONENT OR ITS COORDINATION WITH OTHER BUILDING ELEMENTS. IN CASES SUCH AS THIS, WHERE THE CONTRACTOR HAS FAILED TO NOTIFY THE ARCHITECT OF THE SITUATION THE CONTRACTOR SHALL INCLUDE THE SPECIFIC COMPONENTS OR SUBSYSTEMS WITH ALL PARTS NECESSARY FOR THE INTENDED USE, FULLY COMPLETE AND OPERATIONAL, AND INSTALLED IN WORKMANLIKE MANNER EITHER CONCEALED OR EXPOSED PER THE DESIGN INTENT.

1.2 MODIFICATIONS IN LAYOUT

A. DRAWINGS ARE INTENDED TO OUTLINE THE SCOPE OF WORK REQUIRED AND ARE NOT INTENDED TO BE INSTALLATION DRAWINGS. DRAWINGS ARE NOT INTENDED TO BE ABSOLUTELY PRECISE; THEY ARE NOT INTENDED TO SPECIFY OR TO SHOW EVERY OFFSET, FITTING, AND COMPONENT NOR DO THEY SHOW THE EXACT ROUTINGS AND LOCATIONS NEEDED TO COORDINATE WITH STRUCTURE AND OTHER TRADES AND TO MEET ARCHITECTURAL REQUIREMENTS. THE PURPOSE OF THE DRAWINGS IS TO INDICATE A SYSTEMS CONCEPT, THE MAIN COMPONENTS OF THE SYSTEMS, AND THE APPROXIMATE GEOMETRICAL RELATIONSHIPS. DRAWINGS DO NOT NECESSARILY SHOW THE EXACT ROUTINGS AND LOCATIONS INTENDED TO FULLY COORDINATE WITH STRUCTURE AND OTHER TRADES TO MEET ARCHITECTURAL REQUIREMENTS.BASED ON THE SYSTEMS CONCEPT, THE MAIN COMPONENTS, AND THE APPROXIMATE GEOMETRICAL RELATIONSHIPS, THE CONTRACTOR SHALL PROVIDE ALL OTHER COMPONENTS AND MATERIALS NECESSARY TO MAKE THE SYSTEMS FULLY COMPLETE AND OPERATIONAL.

B. UNLESS SPECIFICALLY STATED TO THE CONTRARY, NO MEASUREMENT OF A DRAWING DERIVED BY SCALING SHALL BE USED AS A DIMENSION TO WORK BY. DIMENSIONS NOTED ON THE DRAWINGS ARE SUBJECT TO MEASUREMENTS OF ADJACENT AND PREVIOUSLY COMPLETED WORK. MEASUREMENTS SHALL BE PERFORMED PRIOR TO THE ACTUAL INSTALLATION OF EQUIPMENT.

C. PRIOR TO INSTALLATION OF VISIBLE MATERIAL AND EQUIPMENT (INCLUDING ACCESS PANELS) IN FINISHED SPACES, REVIEW ARCHITECTURAL DRAWINGS FOR DESIRED LOCATIONS AND WHERE NOT DEFINITELY INDICATED, REQUEST INFORMATION FROM ARCHITECT.

D. MAKE REASONABLE MODIFICATIONS IN LAYOUT AND COMPONENTS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES. SYSTEMS SHALL BE RUN PARALLEL WITH OR PERPENDICULAR TO MAJOR ARCHITECTURAL AND STRUCTURAL BUILDING ELEMENTS.

E. WHERE CONFLICTS OR POTENTIAL CONFLICTS EXIST AND ENGINEERING GUIDANCE IS DESIRED, SUBMIT SKETCH OF PROPOSED RESOLUTION TO ARCHITECT FOR REVIEW AND APPROVAL.

1.3 COORDINATION

A. WHEN INCLUDED AS PART OF THE CONTRACT DOCUMENTS, THERE SHALL BE FULL COOPERATION AND COORDINATION OF ALL SPECIALTY TRADES.

END OF SECTION 220500

220523 GENERAL-DUTY VALVES FOR PLUMBING PIPING

1.1 GENERAL REQUIREMENTS FOR VALVES

A. VALVE PRESSURE AND TEMPERATURE RATINGS: NOT LESS THAN INDICATED AND AS REQUIRED FOR SYSTEM PRESSURES AND TEMPERATURES.

B. VALVE SIZES: SAME AS UPSTREAM PIPING UNLESS OTHERWISE INDICATED.

C. VALVE ACTUATOR TYPES:

1. HANDLEVER: FOR QUARTER-TURN VALVES NPS 6 AND SMALLER.

D. VALVES IN INSULATED PIPING: WITH 2-INCH STEM EXTENSIONS. BALL VALVES SHALL HAVE EXTENDED HANDLE OF NON-THERMAL-CONDUCTIVE MATERIAL, AND PROTECTIVE SLEEVE THAT ALLOWS OPERATION OF VALVE WITHOUT BREAKING THE VAPOR SEAL OR DISTURBING INSULATION

1.2 BRONZE BALL VALVES

A. TWO PIECE, FULL PORT BRONZE BODY BALL VALVE, CHROME BALL, BRONZE TRIM, LEVER HANDLE AND PTFE FOR TFE SEATS, 600 PSI CWP.

END OF SECTION 220523

220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

1.1 METAL PIPE HANGERS AND SUPPORTS

A. CARBON STEEL PIPE HANGERS AND SUPPORTS:

1. DESCRIPTION: MSS SP-58, TYPES 1 THROUGH 58, FACTORY-FABRICATED COMPONENTS.
2. GALVANIZED METALLIC COATINGS: PREGALVANIZED OR HOT DIPPED.
3. NONMETALLIC COATINGS: PLASTIC COATING, JACKET, OR LINER.
4. PADDED HANGERS: HANGER WITH FIBERGLASS OR OTHER PIPE INSULATION PAD OR CUSHION TO SUPPORT BEARING SURFACE OF PIPING.
5. HANGER RODS: CONTINUOUS-THREAD ROD, NUTS, AND WASHER: CARBON STEEL.

B. COPPER PIPE HANGERS:

1. DESCRIPTION: MSS SP-58, TYPES 1 THROUGH 58, COPPER-COATED-STEEL, FACTORY-FABRICATED COMPONENTS.
2. HANGER RODS: CONTINUOUS-THREAD ROD, NUTS, AND WASHER: STAINLESS STEEL.

1.2 FASTENER SYSTEMS

A. MECHANICAL-EXPANSION ANCHORS: INSERT-WEDGE-TYPE ZINC-COATED STEEL, FOR USE IN HARDENED PORTLAND CEMENT CONCRETE WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED. STAINLESS STEEL ANCHORS SHALL BE USED IN EXTERIOR OR COOROSIVE INTERIOR APPLICATIONS.

END OF SECTION 220529

220553 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

1.1 EQUIPMENT LABELS

A. PLASTIC LABELS FOR EQUIPMENT:

1. MATERIAL AND THICKNESS: MULTILAYER, MULTICOLOR, PLASTIC LABELS FOR MECHANICAL ENGRAVING, 1/8 INCH THICK, AND HAVING PREDRILLED HOLES FOR ATTACHEMENT HARDWARE.
2. LETTER COLOR: WHITE.
3. BACKGROUND COLOR: BLACK, RED SHALL BE USED IF THE EQUIPMENT IS ON EMERGENCY POWER.
4. MAXIMUM TEMPERATURE: ABLE TO WITHSTAND TEMPERATURES UP TO 160 DEG F.
5. MINIMUM LABEL SIZE: LENGTH AND WIDT VARY FOR REQUIRED LABEL CONTENT, BUT NOT LESS THAN 2-1/2 BY 1-1/2 INCH.
6. MINIMUM LETTER SIZE: ⅛ INCH INCLUDE SECONDARY LETTERING TWO-THIRDS TO THREE-FOURTHS THE SIZE OF PRINCIPAL LETTERING.
7. FASTENERS: STAINLESS-STEEL RIVETS OR SELF-TAPPING SCREWS.
8. ADHESIVE: CONTACT-TYPE PERMANENT ADHESIVE, COMPATIBLE WITH LABEL AND WITH SUBSTRATE.

B. CEILING GRID LABELS FOR CONCEALED EQUIPMENT AND VALVES:

1. COORDINATE LABEL STYLE (E.G. KROYP-TOUCH TAPE, COLOR CODED DOTS, ETC.) WITH ARCHITECT AND OWNER.

C. LABEL CONENT: INCLUDE EQUIPMENT'S DRAWING DESIGNATION OR UNIQUE EQUIPMENT NUMBER, DRAWING NUMBERS WHERE EQUIPMENT IS INDICATED (PLANS, DETAILS, AND SCHEDULES).

D. EQUIPMENT LABEL SCHEDULE: FOR EACH ITEM OF EQUIPMENT TO BE LABELED, ON 8-1/2 BY 11 INCH (A4) BOND PAPER, TABULATE EQUIPMENT IDENTIFICATION NUMBER AND IDENTIFY DRAWING NUMBERS WHERE EQUIPMENT IS INDICATED (PLANS, DETAILS, AND SCHEDULES), PLUS THE SPECIFICATION SECTION NUMBER AND TITLE WHERE EQUIPMENT IS SPECIFIED. EQUIPMENT SCHEDULE SHALL BE INCLUDED IN OPERATION AND MAINTENANCE DATA.

1.2 PIPE LABELS

A. GENERAL REQUIREMENTS FOR MANUFACTURED PIPE LABELS: PREPRINTED, COLOR-CODED, WITH LETTERING INDICATING SERVICE, AND SHOWING FLOW DIRECTION.

B. SELF-ADHESIVE PIPE LABELS: PRINTED PLASTIC WITH CONTACT-TYPE, PERMANENT-ADHESIVE BACKING.

C. PIPE LABEL CONTENTS: INCLUDE IDENTIFICATION OF PIPING SERVICE USING SAME DESIGNATIONS OR ABBREVIATIONS AS USED ON DRAWINGS, PIPE SIZE, AND AN ARROW INDICATING FLOW DIRECTION.

1. FLOW-DIRECTION ARROWS: INTEGRAL WITH PIPING SYSTEM SERVICE LETTERING TO ACCOMMODATE BOTH DIRECTIONS, OR AS SEPARATE UNIT ON EACH PIPE LABEL TO INDICATE FLOW DIRECTION.
2. COLOR AND LETTERING SIZE: CONFORM TO ANSI/ASME A13.1-2015 STANDARDS.

D. BASIS OF DESIGN MANUFACTURER: SETON.

1.3 STENCILS

A. STENCILS: PREPARED WITH LETTER SIZES ACCORDING TO ASME A13.1 FOR PIPING; AND MINIMUM LETTER HEIGHT OF ¾ INCH FOR ACCESS PANEL AND DOOR LABELS, EQUIPMENT LABELS AND SIMILAR OPERATIONAL INSTRUCTIONS.

1. STENCIL MATERIAL: FIBERBOARD OR METAL.
2. STENCIL PAINT: EXTERIOR, GLOSS, ENAMEL BLACK UNLESS OTHERWISE INDICATED. PAINT MAY BE IN PRESSURIZED SPRAY-CAN FORM.
3. IDENTIFICATION PAINT: EXTERIOR, ENAMEL IN COLORS ACCORDING TO ASME A13.1 UNLESS OTHERWISE INDICATED.

1.4 VALVE TAGS

A. VALVE TAGS: STAMPED OR ENGRAVED WITH ¼ INCH LETTERS FOR PIPING SYSTEM ABBREVIATION AND ½ INCH NUMBERS, VALVES SHALL BE TAGGED PER THE CHART BELOW,

1. FOR THE SYSTEMS NOT LISTED ABOVE, A SIMILAR NAMED STRATEGY SHALL BE UTILIZED.
2. TAG MATERIAL: BRASS, 0.032 INCH MINIMUM THICKNESS, 1-1/2" MINIMUM DIAMETER AND HAVING PREDRILLED OR STAMPED HOLES FOR ATTACHMENT HARDWARE.
3. FASTENERS: BRASS WIRE-LINK OR BEADED CHAIN; OR S-HOOK.

B. VALVE SCHEDULES: FOR EACH PIPING SYSTEM, ON 8-1/2 BY 11 INCH (A4) BOND PAPER, TABULATE VALVE NUMBER, PIPING SYSTEM, SYSTEM ABBREVIATION (AS SHOWN ON VALVE TAG), LOCATION OF VALVE (ROOM OR SPACE), NORMAL-OPERATING POSITION (OPEN, CLOSED, OR MODULATING), AND VARIATIONS FOR IDENTIFICATION. MARK VALVES FOR EMERGENCY SHUTOFF AND SIMILAR SPECIAL USES.

1. VALVE-TAG SCHEDULE SHALL BE INCLUDED IN OPERATION AND MAINTENANCE DATA.
2. FURNISH A TYPEWRITTEN FRAMED CHART UNDER GLASS INDICATING FIXTURES OR AREAS SUPPLIED BY EACH NUMBER VALVE AND MOUNT SAME AS DIRECTED BY OWNER OR ARCHITECT.

C. CEILING IDENTIFICATION: PROVIDE COLOR CODED DOTS ON ACCESIBLE CEILIN GRID TO IDENTIFY THE LOCATION OF VALVES MOUNTED ABOVE THE CEILING.

END OF SECTION 220553

220700 PLUMBING INSULATION

1.5 INSULATION MATERIALS

A. TYPE 'R': RIGID (MOLDED) FIBROUS GLASS, 850 DEG F MATERIALS: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN, COMPLY WITH ASTM C 547, TYPE I, GRADE A, WITH FACTORY-APPLIED ASJ OR WITH FACTORY-APPLIED ASJ-SSL, INSULATION SHALL BE PROVIDED WITH FACTORY APPLIED JACKETING, INSTALL WITH ASJ TAPE AS NEEDED.

1. OWENS CORNING; FIBERGLASS PIPE INSULATION SSL II-ASJ
2. JOHNS MANVILLE; MICRO-LOK
3. KNAUF INSULATION; 1000-DEGREE PIPE INSULATION.

END OF SECTION 220700

221116 DOMESTIC WATER PIPING

1.1 COPPER TUBE AND FITTINGS

A. ABOVE-GROUND DOMESTIC WATER PIPING

1. HARD COPPER TUBE: ASTM B 88, TYPE L WATER TUBE, DRAWN TEMPER.

B. ABOVE-GROUND PIPING CONNECTIONS TO COFFEE MACHINES

1. SOFT COPPER TUBE: ASTM B 88, TYPE L WATER TUBE, ANNEALED TEMPER

C. FITTINGS SHALL BE SOLDER JOINT, BRONZE FLANGED, PRESSURE SEAL.

1. COPPER PRESSURE-SEAL-JOINT FITTINGS:
   a. MANUFACTURERS: ELKHART/APOLLO, NIBCO
   b. WROUGHT-COPPER FITTING WITH FACTORY INSTALLED EPDM-ELASTOMERIC SEALING ELEMENT,
   c. PRESS ENDS SHALL HAVE A DESIGNED LEAKAGE PATH, IN ½" TO 4" DIMENSIONS, THE FEATURE ASSURES LEAKAGE OF LIQUIDS AND/OR GASES FROM INSIDE THE SYSTEM PAST THE SEALING ELEMENT OF AN UNPRESSED CONNECTION, THE FUNCTION OF THIS FEATURE IS TO PROVIDE THE INSTALLER QUICK AND EASY INDENTIFICATION OF CONNECTIONS WHICH HAVE NOT BEEN PRESSED PRIOR TO PUTTING THE SYSTEM INTO OPERATION.
   d. ALL CONNECTIONS SHALL BEAR FULL INSERTION MARKS ON THE TUBING.
   e. ALL FITTINGS SHALL BE BY THE SAME MANUFACTURER. DIFFERENT MANUFACTURERS MAY USE DIFFERENT TECHNOLOGY AND THEREFORE HAVE DIFFERENT INSTALLATION AND TESTING INSTRUCTIONS.

D. PRESSURE TESTING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. IF THE AHJ HAS NO SPECIFIC REQUIREMENTS, PERFORM THE FOLLOWING AT A MINIMUM:

1. FLUSH ALL PIPING PRIOR TO TESTING
2. FILL DOMESTIC WATER PIPING WITH WATER, CHECK COMPONENTS TO DETERMINE THAT THEY ARE NOT AIR BOUND AND THAT PIPING IS FULL OF WATER.
3. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT A SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF PIPING TESTED.
4. LEAVE NEW, ALTERED, EXTENDED, OR REPLACED DOMESTIC WATER PIPING UNCOVERED AND UNCONCEALED UNTIL IT HAS BEEN TESTED AND APPROVED, EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED.
5. CAP AND SUBJECT PIPING TO STATIC WATER PRESSUR OF 100 PSIG ABOVE OPERATING PRESSURE, WITHOUT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS FOR 24 HOURS. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR FOUR HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
   a. NOTE: SOME MANUFACTURERS OF VARIOUS SYSTEM COMPONENTS, SUCH AS PRESS FITTINGS, REQUIRE A LOWER PRESSURE TEST, SHOULD THE CONTRACTOR INSTALL ANY SYSTEM COMPONENTS THAT THE MANUFACTURER SPECIFICALLY REQUIRES A LOWER PRESSURE TEST, THIS SHALL BE COMPLETED PRIOR TO THAT INDICATED HERE. THE MANUFACTURER'S RETSING REQUIREMENTS SHALL BE ADHERED TO.
6. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE OBTAINED.
7. PREPARE REPORTS FOR TESTS AND FOR CORRECTIVE ACTION REQUIRED.

E. PREPARE TEST AND INSPECTION REPORTS.

END OF SECTION 221116

221123 DOMESTIC WATER PUMPS

1.1 GENERAL: REFER TO PUMP SCHEDULE ON DRAWINGS FOR MAKE, MODEL AND CHARACTERISTICS.

1.2 CONTROLS:

A. AQUASTATS: ELECTRIC; ADJUSTABLE FOR CONTROL OF HOT-WATER CIRCULATION PUMP.

1. MANUFACTURERS:
   a. HONEYWELL INTERNATIONAL INC.
   b. SQUARE D.
   c. WHITE-RODGERS DIV.; EMERSON ELECTRIC CO.
2. TYPE: WATER-IMMERSION SENSOR, FOR INSTALLATION IN HOT-WATER CIRCULATION PIPING.
3. OPERATION OF PUMP: ON OR OFF.

B. TIMERS: ELECTRIC TIME CLOCK FOR CONTROL OF HOT-WATER CIRCUATION PUMP.

1. MANUFACTURERS:
   a. HONEYWELL INTERNATIONAL INC.
   b. JOHNSON CONTROLS, INC.
2. TYPE: PROGRAMMABLE, SEVEN-DAY CLOCK WITH MANUAL OVERRIDE ON-OFF SWITCH
3. ENCLOSURE: NEMA 250, TYPE 1, SUITABLE FOR WALL MOUNTING
4. OPERATION OF PUMP: ON OR OFF.

END OF SECTION 221123

221316 SANITARY & VENT PIPING

1.3 ABOVE GROUND, SANITARY AND VENT PIPING SHALL BE THE FOLLOWING:

A. HUBLESS CAST-IRON SOIL PIPE AND FITTINGS: STANDARD SHIELDED, STAINLESS-STEEL COUPLINGS; AND HUBLESS COUPLING JOINTS, BOTH SIDES OF THE ELBOW AT THE BASE OF A STACK OF 3 STORIES OR MORE AS WELL AS THE FIRST JOINT BOTH UPSTREAM AND DOWNSTREAM OF THE ELBOW, SHALL UTILIZE HEAVY-DUTY NO-HUB COUPLINGS.

1.4 ABOVE GROUND CONDENSATE PIPING SHALL BE THE FOLLOWING:

A. HARD COPPER TUBE: ASTM B 88, TYPE L, WATER TUBE, DRAWN TEMPER.

1. COPPER PRESSURE FITTINGS: ASME B16.18, CAST-COPPER-ALLOY OR ASME B16.22, WROUGHT-COPPER, SOLDER-JOINT FITTINGS, FURNISH WROUGHT-COPPER FITTINGS IF INDICATED.

B. SOLDER: ASTM B 32, LEAD FREE WITH ASTM B 813, WATER-FLUSHABLE FLUX.

1.5 PRESSURE TESTING:

A. TEST SANITARY DRAINAGE AND VENT PIPING ACCORDING TO PROCEDURES OF AUTHORITIES HAVING JURISDICTION OR, IN ABSENCE OF PUBLISHED PROCEDURES AS FOLLOWS:

1. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF PIPING TESTED.
2. LEAVE UNCOVERED AND UNCEALED NEW, ALTERED, EXTENDED, OR REPLACED DRAINAGE AND VENT PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED.
3. MATERIAL AND THICKNESS TEST PROCEDURE: TEST DRAINAGE AND VENT PIPING, EXCEPT OUTSIDE LEADERS, ON COMPLETION OF ROUGHING-IN. CLOSE OPENINGS IN PIPING SYSTEM AND FILL WITH WATER TO POINT OF OVERFLOW, BUT NOT LESS THAN 10-FOOT HEAD OF WATER. DURING THE TEST DURAITON BEING A MINIMUM OF 15 MINUTES, THE WATER LEVEL MUST NOT DROP. INSPECT JOINTS FOR LEAKS.

4. FINISHED PLUMBING TEST PROCEDURE: AFTER PLUM BING FIXTURES HAVE BEEN SET AND TRAPS FILLED WITH WATER, TEST CONNECTIONS AND PROVE THEY ARE GASTIGHT AND WATERTIGHT. PLUG VENT-STACK OPENINGS ON ROOF AND BUILDING DRAINS WHEN THEY LEAVE BUILDING. INTRODUCE AIR INTO PIPING SYSTEM EQUAL TO PRESSURE OF 1-INCH WG. USE U-TUBE OR MANOMETER INSTERED IN TRAP OF WATER CLOSET TO MEASURE THIS PRESSURE,AIR PRESSURE MUST REMAIN CONSTANT WITHOUT INTRODUCING ADDITIONAL AIR THROUGHOUT PERIOD OF INSPECTION. INSPECT PLUMBING FIXTURE CONNECTIONS FOR GAS AND WATER LEAKS.

5. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING, OR PORTION THEREOF, UNTIL SATISFACTORY RESULTS ARE OBTAINED.
6. PREPARE REPORTS FOR TESTS AND REQUIRED CORRECTIVE ACTION.
7. TEST FORCE-MAIN PIPING ACCORDING TO PROCEDURES OF AUTHORITIES HAVING JURISDICTION OR, IN ABSENCE OF PUBLISHED PROCEDURES, AS FOLLOWS:
1. LEAVE UNCOVERED AND UNCONCELEAD NEW, ALTERED, EXTENDED, OR REPLACED FORCE-MAIN PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED.
2. CAP AND SUBJECT PIPING TO STATIC-WATER PRESSURE OF 50 PSIG ABOVE OPERATING PRESSURE, WITHOUT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR FOUR HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
3. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING, OR PORTION THEREOF, UNTIL SATISFACTORY RESULTS ARE OBTAINED.
4. PREPARE REPORTS FOR TESTS AND REQUIRED CORRETIVE ACTION.

END OF SECTION 221316

221319 SANITARY WASTE PIPING SPECIALTIES

1.1 CLEANOUTS

A. MANUFACTURERS: JOSAM, JAY R. SMITH, WADE, WATTS, ZURN.

B. INSTALL CLEANOUTS IN ABOVEGROUND PIPING AND BUILDING DRAIN PIPING ACCORDING TO THE FOLLOWING, UNLESS OTHERWISE INDICATED:

1. SIZE SAME AS DRAINAGE PIPING UP TO NPS 4, USE NPS 4 FOR LARGER DRAINAGE PIPING UNLESS LARGER CLEANOUT IS INDICATED.
2. LOCATE AT EACH CHANGE IN DIRECTION OF PIPING GREATER THAN 45 DEGREES.
3. LOCATE AT MINIMUM INTERVALS OF 100 FEET.

END OF SECTION 221319

223300 ELECTRIC DOMESTIC WATER HEATERS

1.1 GENERAL.

A. ALL TANKS, SHALL BE FURNISHED WITH THE FOLLOWING:

1. INSULATION: COMPLY WITH ASHRAE/IESNA 90.1, SURROUND ENTIRE STORAGE TANK EXCEPT CONNECTIONS AND CONTROLS.
2. JACKET: STEEL WITH ENAMELED FINISH
3. ANODE RODS: FACTORY INSTALLED, REPLACEABLE MAGNESIUM.
4. DIP TUBE: PROVIDE UNLESS COLD-WATER INLET IS NEAR BOTTOM OF TANK. NOT REQUIRED ON COMMERCIAL BOOSTER HEATERS.
5. DRAIN VALVE: CORROSION-RESITANT METAL COMPLYING WITH ASSE 1005, FACTORY INSTALLED.
6. RELIEF VALVE: ASME RATED AND STAMPED AND COMPLYING WITH ASME PTC 25.3 FOR COMBINATION TEMPERATURE AND PRESSURE RELIEF VALVES, INCLUDE RELIEVING CAPACITY AT LEAST AS GREAT AS HEAT INPUT, AND INCLUDE PRESSURE SETTING LESS THAN WATER HEATER WORKING-PRESSURE RATING. SELECT RELIEF VALVE WITH SENSING ELEMENT THAT EXTENDS INTO STORAGE TANK.
7. INTERIOR FINISH: COMPLY WITH NSF 61 BARRIER MATERIALS FOR POTABLE-WATER TNAK LININGS, INCLUDING EXTENDING LINING MATERIAL INTO TAPPINGS.

B. TAPPINGS AND CONNECTIONS SHALL BE FACTORY FABRICATED OF MATERIALS COMPATIBLE WITH TANK. ATTACH TAPPINGS TO TANK BEFORE TESTING. TAPPINGS AND CONNECTIONS ON EACH TANK/INSTANTANEOUS HEATER AND/OR BOILER SHALL BE:

1. COMMERCIAL NPS 2 AND SMALLER: THREADED ENDS ACCORDING TO ASME B1.20.1.
2. COMMERCIAL NPS 2-1/2 AND LARGER: FLANGED ENDS ACCORDING TO ASME B16.5 FOR STEEL AND STAINLESS-STEEL FLANGES, AND ACCORDING TO ASME B16.24 FOR COPPER AND COPPER-ALLOY FLANGES.

C. REFER TO WATER HEATER SCHEDULE ON DRAWINGS FOR SPECIFIC MAKE AND MODELS AND CHARACTERISTICS.

END OF SECTION 223300

224000 PLUMBING FIXTURES

1.2 REFER TO PLUMBING FIXTURE SCHEDULE ON DRAWINGS FOR SPECIFIC MAKE AND MODELS

END OF SECTION 224000

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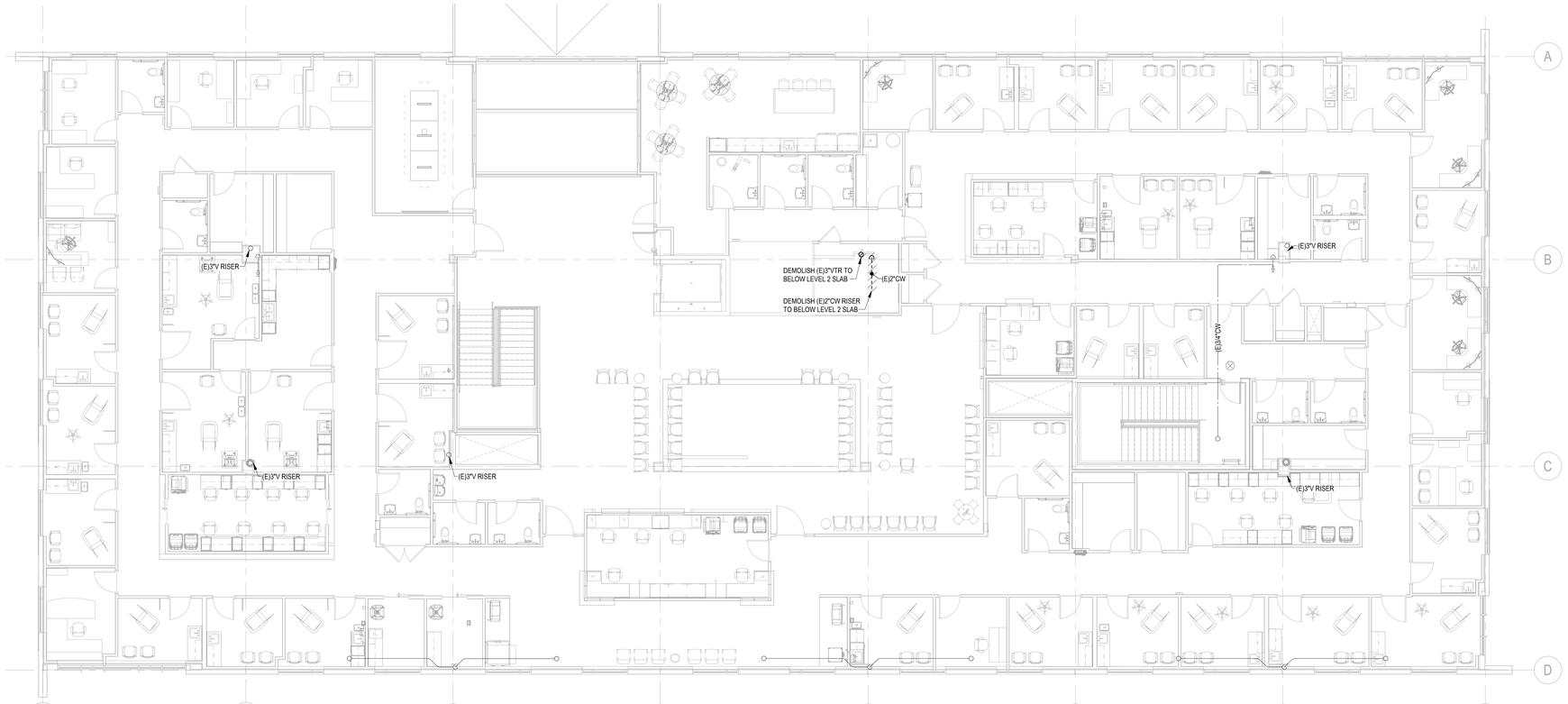
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ARCH. PROJECT # **RDU 25-065**

PLUMBING SPECIFICATIONS

SCALE:

SHEET # **P0.1**



2 LEVEL 2 - PLUMBING DEMO

1/8" = 1'-0"



1 LEVEL 1 - PLUMBING DEMO

1/8" = 1'-0"

KEY NOTES

802 DEMOLISH AT POINT INDICATED AND PREPARE FOR NEW CONNECTION.

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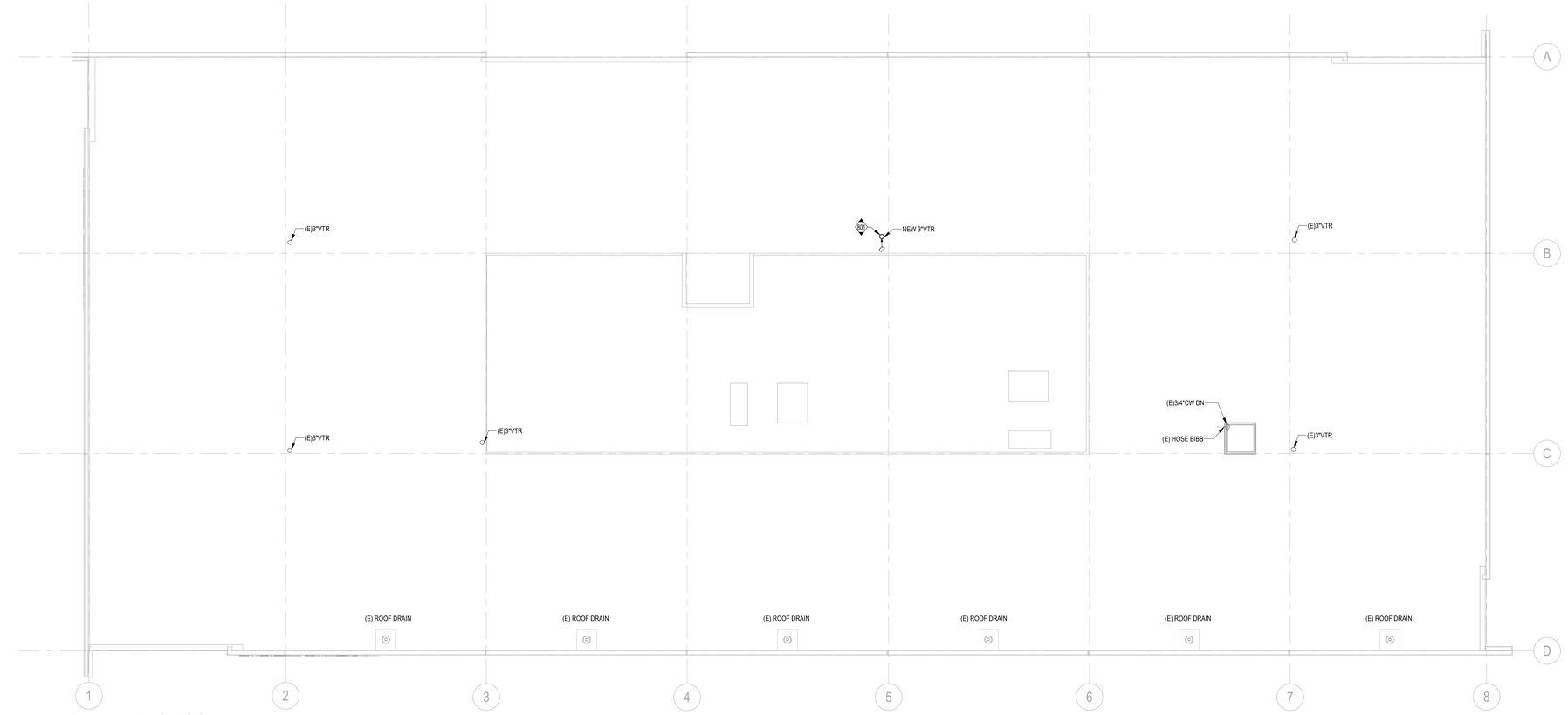
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OVERALL PLUMBING DEMO PLANS - LEVEL 1 & 2

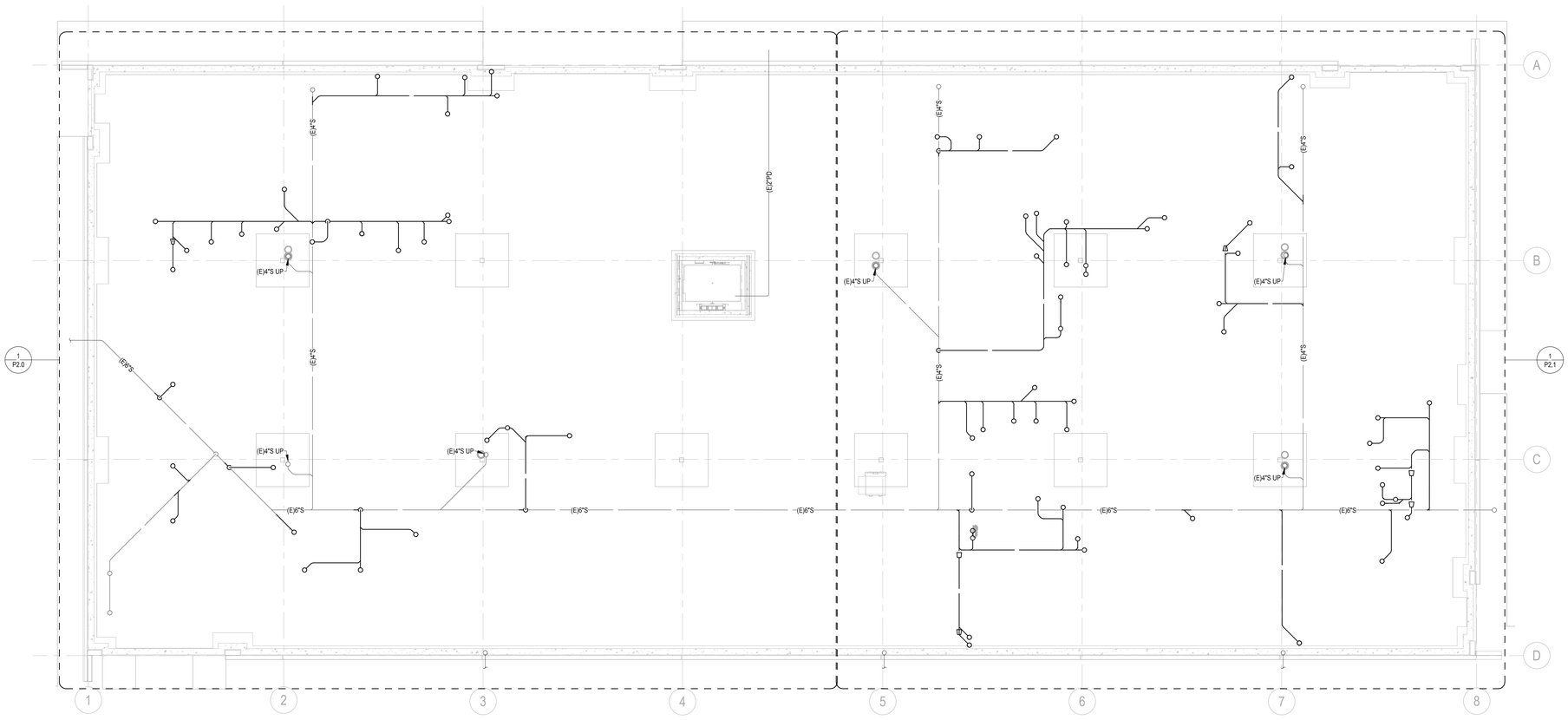
SCALE: 1/8" = 1'-0"

SHEET # PD1.1



2 PLUMBING ROOF PLAN

1/8" = 1'-0"



1 UNDERGROUND SANITARY PLUMBING

1/8" = 1'-0"

KEY NOTES

801 DEMOLISH EXISTING 3"VTR PIPING AND PROVIDE NEW 3"VTR.

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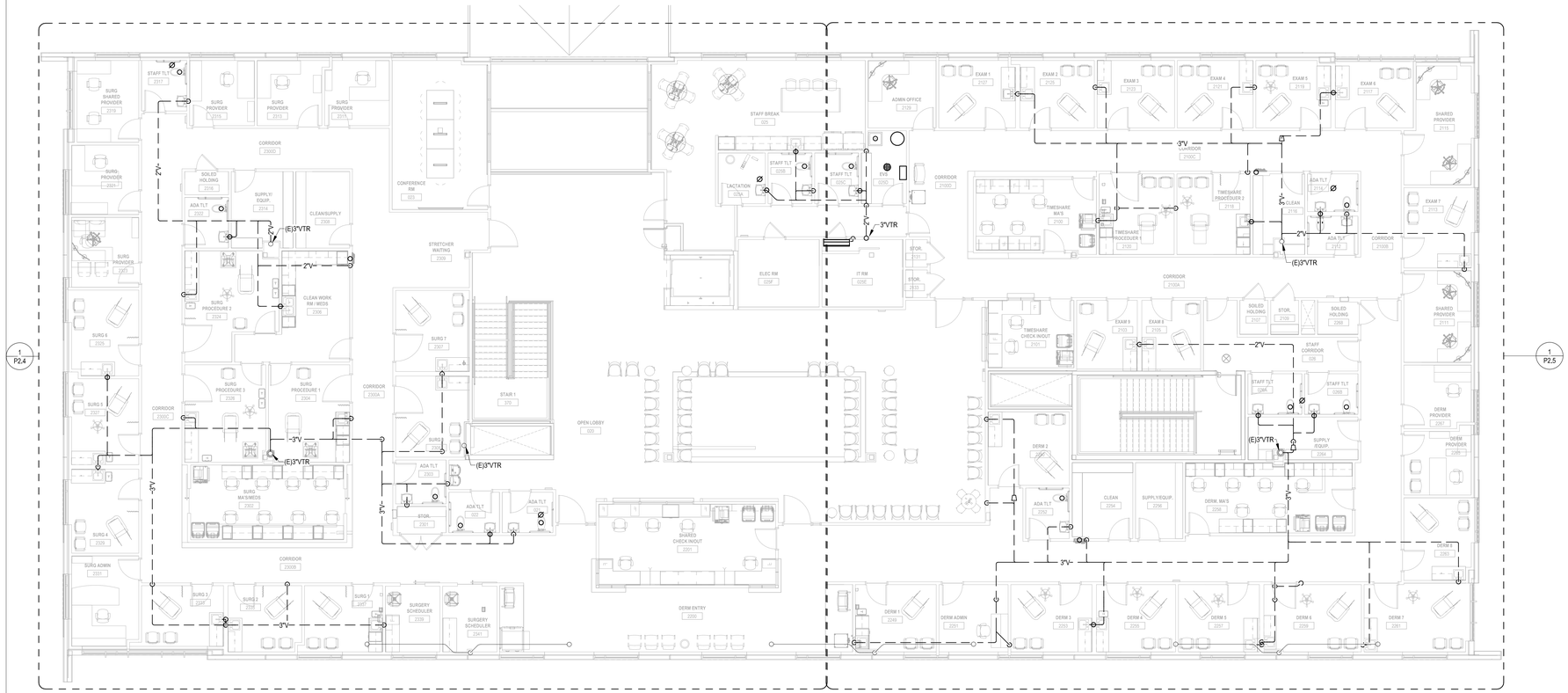
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OVERALL PLUMBING NEW WORK PLAN - UNDERGROUND & ROOF

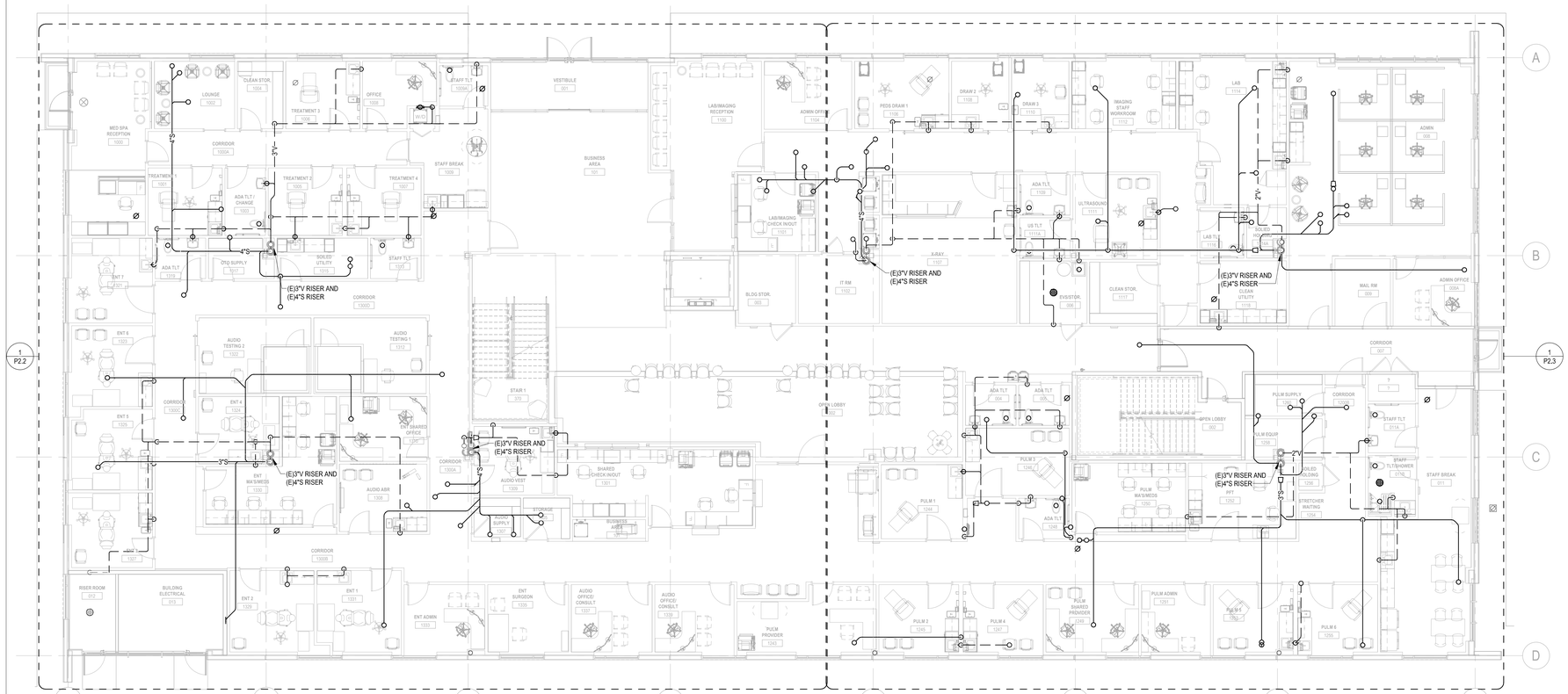
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SHEET # P1.0



2 LEVEL 2 - SANITARY & VENT PLUMBING

1/8" = 1'-0"



1 LEVEL 1 - SANITARY & VENT PLUMBING

1/8" = 1'-0"

KEY NOTES

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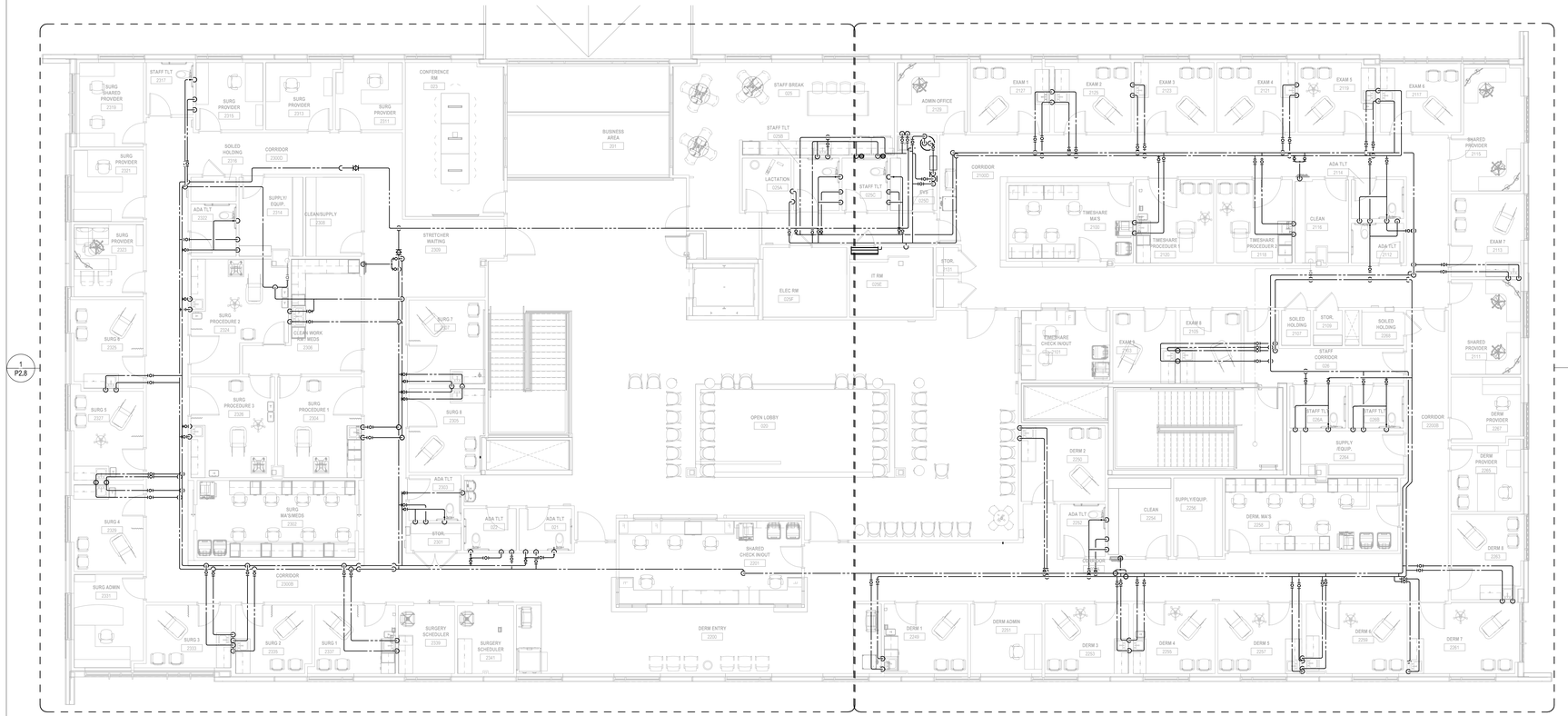
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OVERALL PLUMBING NEW WORK PLANS - SANITARY & VENT - LEVEL 1 & 2

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

SHEET # P1.1



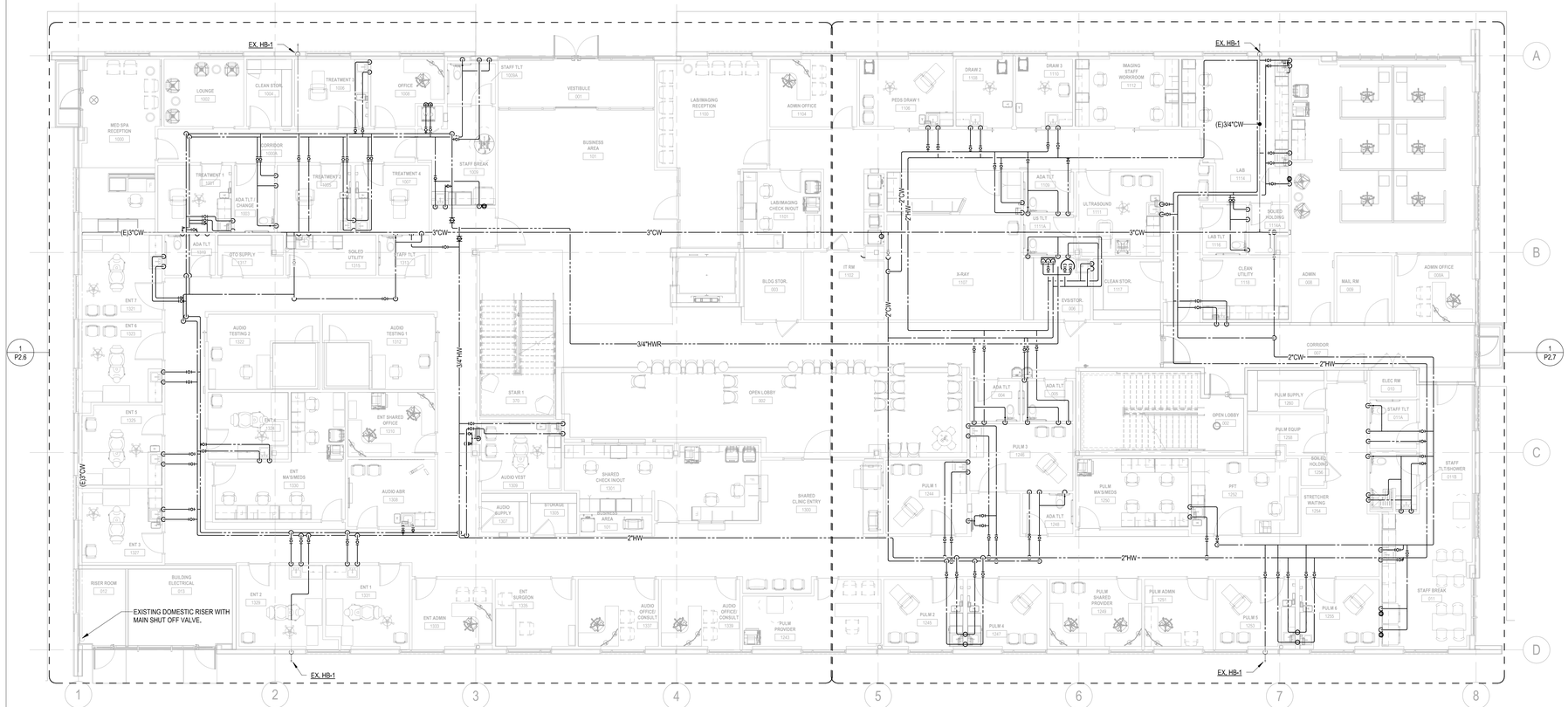
1 P2.8

1 P2.9

2 LEVEL 2 - DOMESTIC WATER PLUMBING

1/8" = 1'-0"

KEY NOTES



1 P2.6

1 P2.7

1 LEVEL 1 - DOMESTIC WATER PLUMBING

1/8" = 1'-0"

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OVERALL PLUMBING NEW WORK PLANS - DOMESTIC WATER - LEVEL 1 & 2

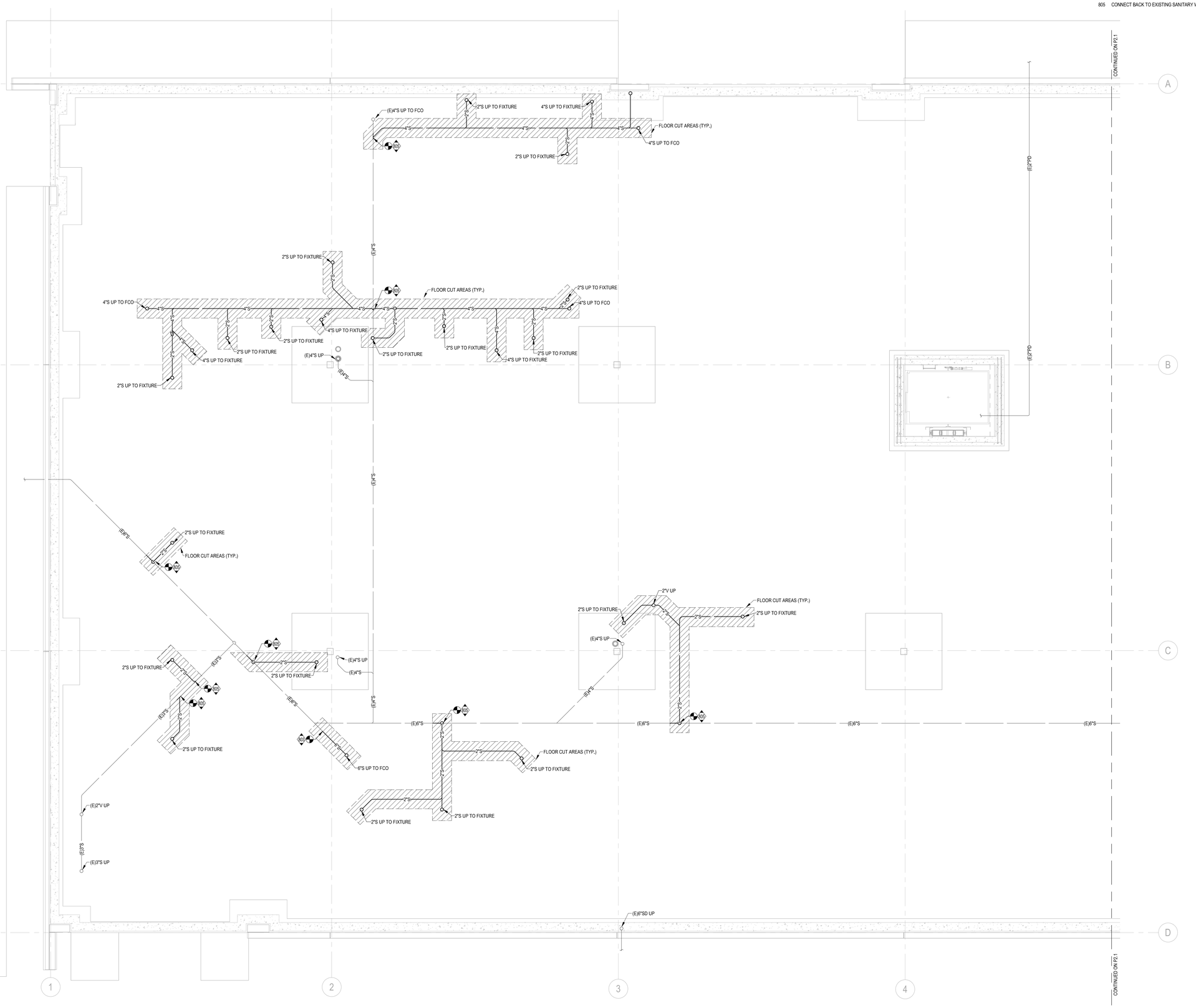
SCALE: 1/8" = 1'-0"

SHEET # **P1.2**

KEY NOTES

803 DEMOLISH EXISTING CLEANOUT BELOW SLAB AND EXTEND EXISTING 6"S TO NEW FCO.

805 CONNECT BACK TO EXISTING SANITARY WASTE PIPING.



1 UNDERGROUND SANITARY PLUMBING - AREA A

1/4" = 1'-0"

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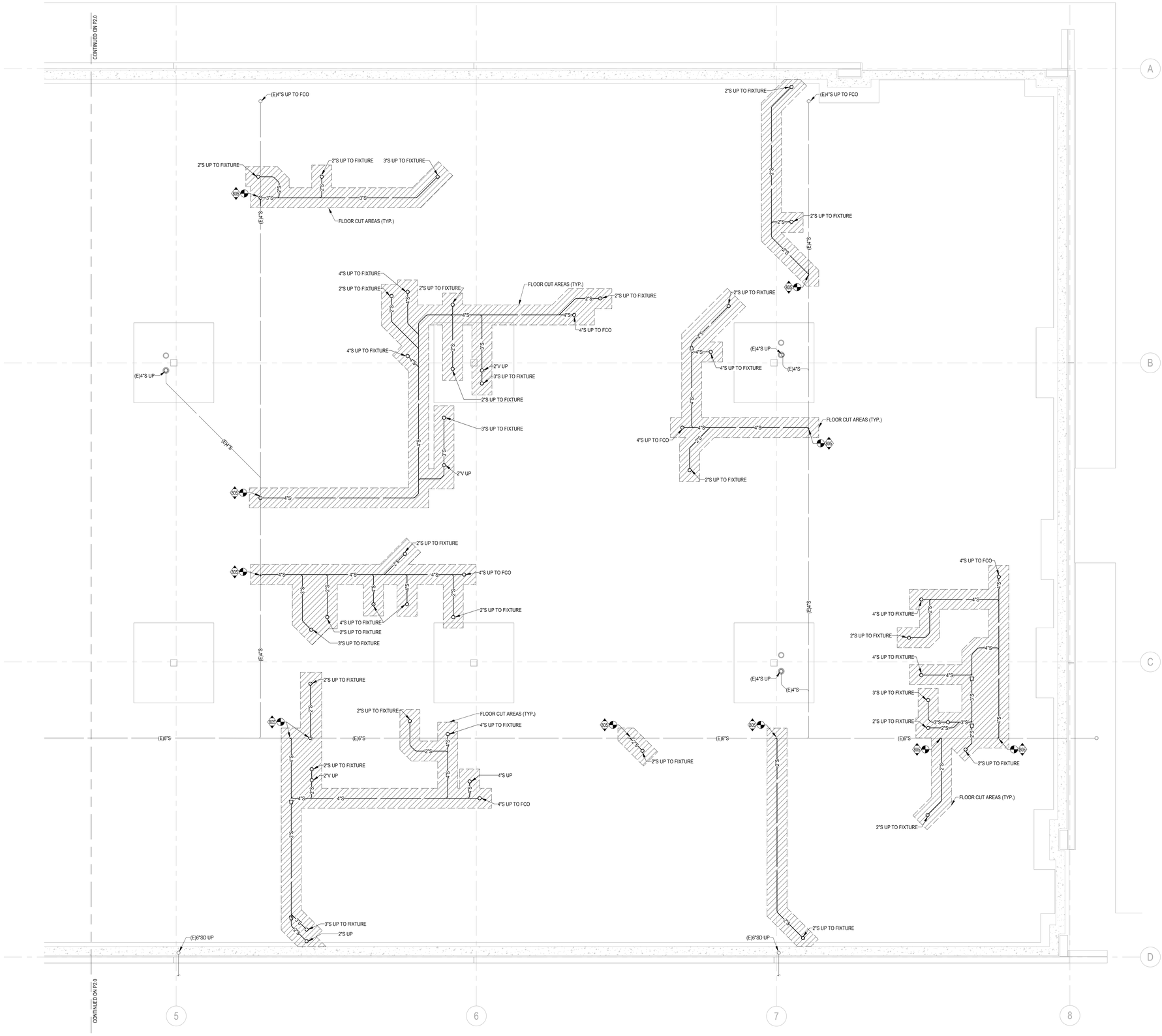
ENLARGED SANITARY NEW WORK PLAN - UNDERGROUND - AREA A

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

SHEET # P2.0

KEY NOTES

805 CONNECT BACK TO EXISTING SANITARY WASTE PIPING.



1 UNDERGROUND SANITARY PLUMBING - AREA B

1/4" = 1'-0"

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ENLARGED SANITARY NEW WORK PLAN - UNDERGROUND - AREA B

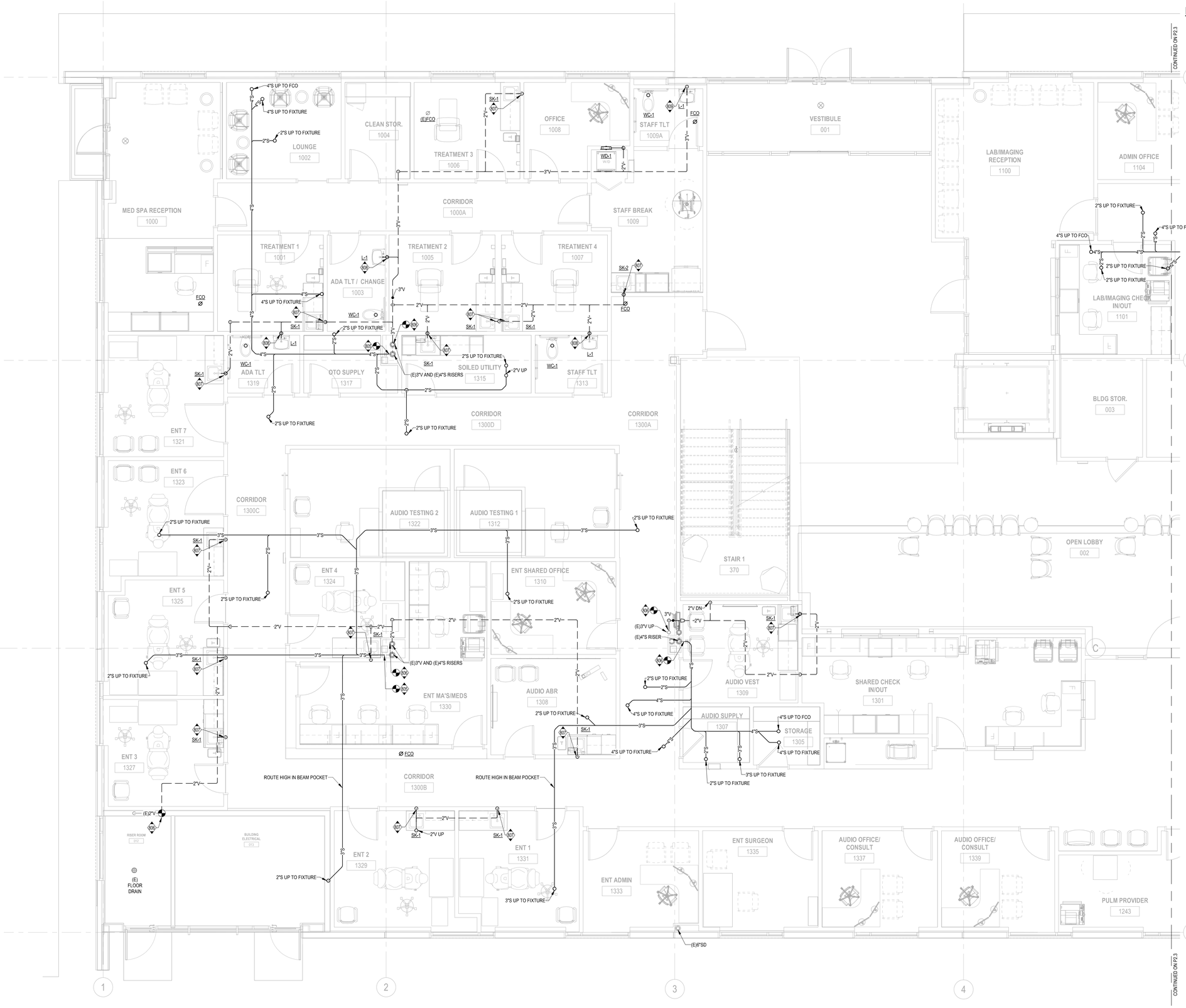
SCALE: 1/4" = 1'-0"

SHEET # P2.1

KEY NOTES

805 CONNECT BACK TO EXISTING SANITARY WASTE PIPING.
806 CONNECT BACK TO EXISTING SANITARY VENT PIPING.
807 1 1/2"S TO FIXTURE, 2"S DN, 2"V RISE.
808 1 1/4"S TO FIXTURE, 2"S DN, 2"V RISE.
809 1 1/4"S TO FIXTURE, 3"S DN, 3"V RISE.

CONTINUED ON P2.3



CONTINUED ON P2.3

1 SANITARY & VENT - LEVEL 1 - AREA A

1/4" = 1'-0"

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ENLARGED SANITARY & VENT NEW WORK PLAN - LEVEL 1 - AREA A

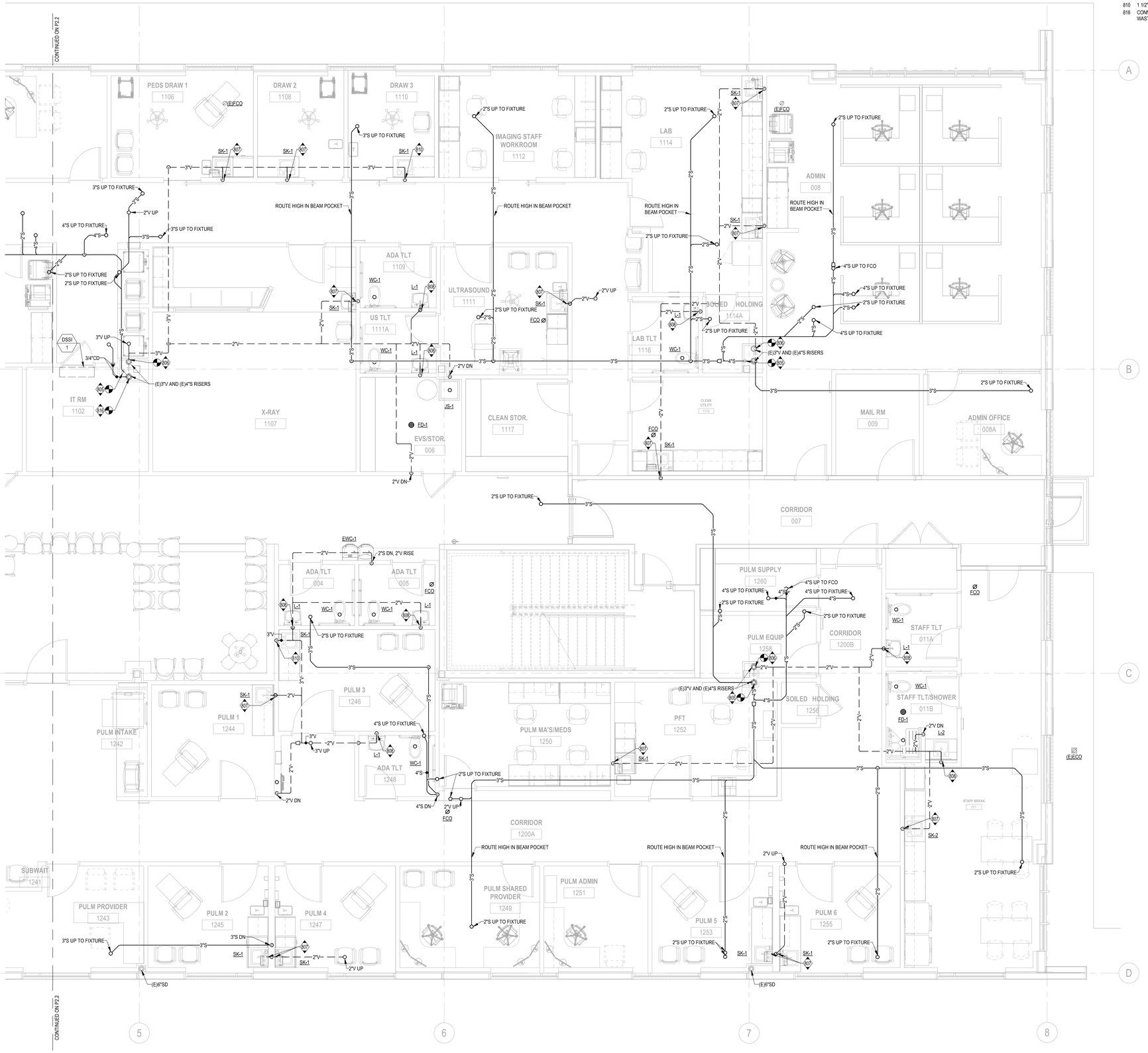
SCALE: 1/4" = 1'-0"

SHEET # **P2.2**

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KEY NOTES

805 CONNECT BACK TO EXISTING SANITARY WASTE PIPING.
806 CONNECT BACK TO EXISTING SANITARY VENT PIPING.
807 1 1/2"S TO FIXTURE, 2"S DN, 2"V RISE.
808 1 1/4"S TO FIXTURE, 2"S DN, 2"V RISE.
810 1 1/2"S TO FIXTURE, 3"S DN, 3"V RISE.
816 CONNECT 3/4"CONDENSATE WITH A WYE FITTING TO EXISTING SANITARY WASTE RISER.



1 SANITARY & VENT - LEVEL 1 - AREA B

1/4" = 1'-0"

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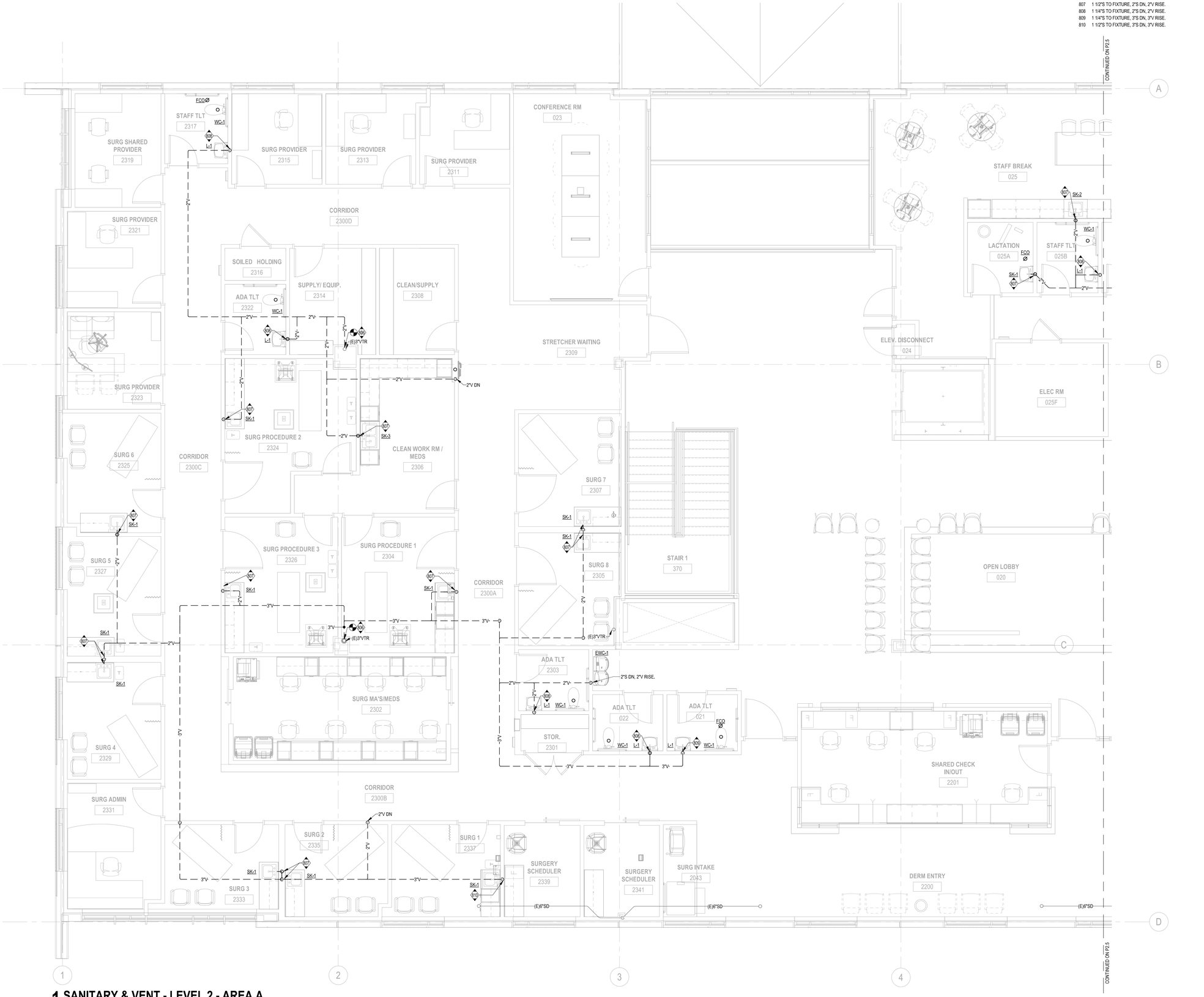
ENLARGED SANITARY & VENT NEW WORK PLAN - LEVEL 1 - AREA B

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

SHEET # P2.3

KEY NOTES

806 CONNECT BACK TO EXISTING SANITARY VENT PIPING.
807 1 1/2"S TO FIXTURE, 2"S DN, 2"V RISE.
808 1 1/4"S TO FIXTURE, 2"S DN, 2"V RISE.
809 1 1/4"S TO FIXTURE, 3"S DN, 3"V RISE.
810 1 1/2"S TO FIXTURE, 3"S DN, 3"V RISE.



1 SANITARY & VENT - LEVEL 2 - AREA A

1/4" = 1'-0"

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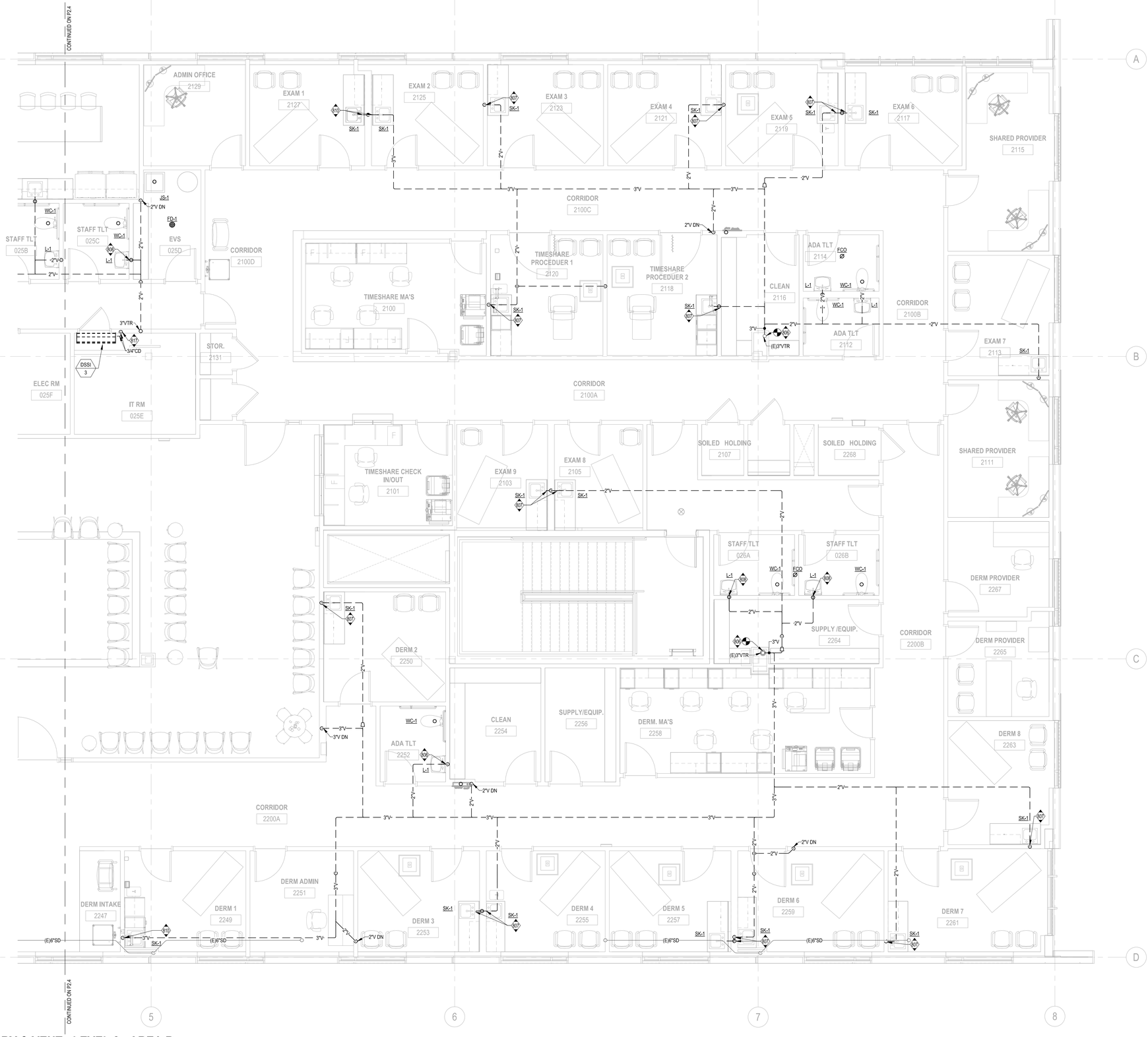
ENLARGED SANITARY & VENT NEW WORK PLAN - LEVEL 2 - AREA A

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

SHEET # P2.4

KEY NOTES

806 CONNECT BACK TO EXISTING SANITARY VENT PIPING.
807 1 1/2"S TO FIXTURE, 2"S DN, 2"V RISE.
808 1 1/4"S TO FIXTURE, 2"S DN, 2"V RISE.
810 1 1/2"S TO FIXTURE, 3"S DN, 3"V RISE.
817 CONNECT 3/4" CONDENSATE DOWN IN WALL TO ABOVE CEILING OF LEVEL 1 AND CONNECT TO EXISTING SANITARY WASTE RISER.



1 SANITARY & VENT - LEVEL 2 - AREA B

1/4" = 1'-0"

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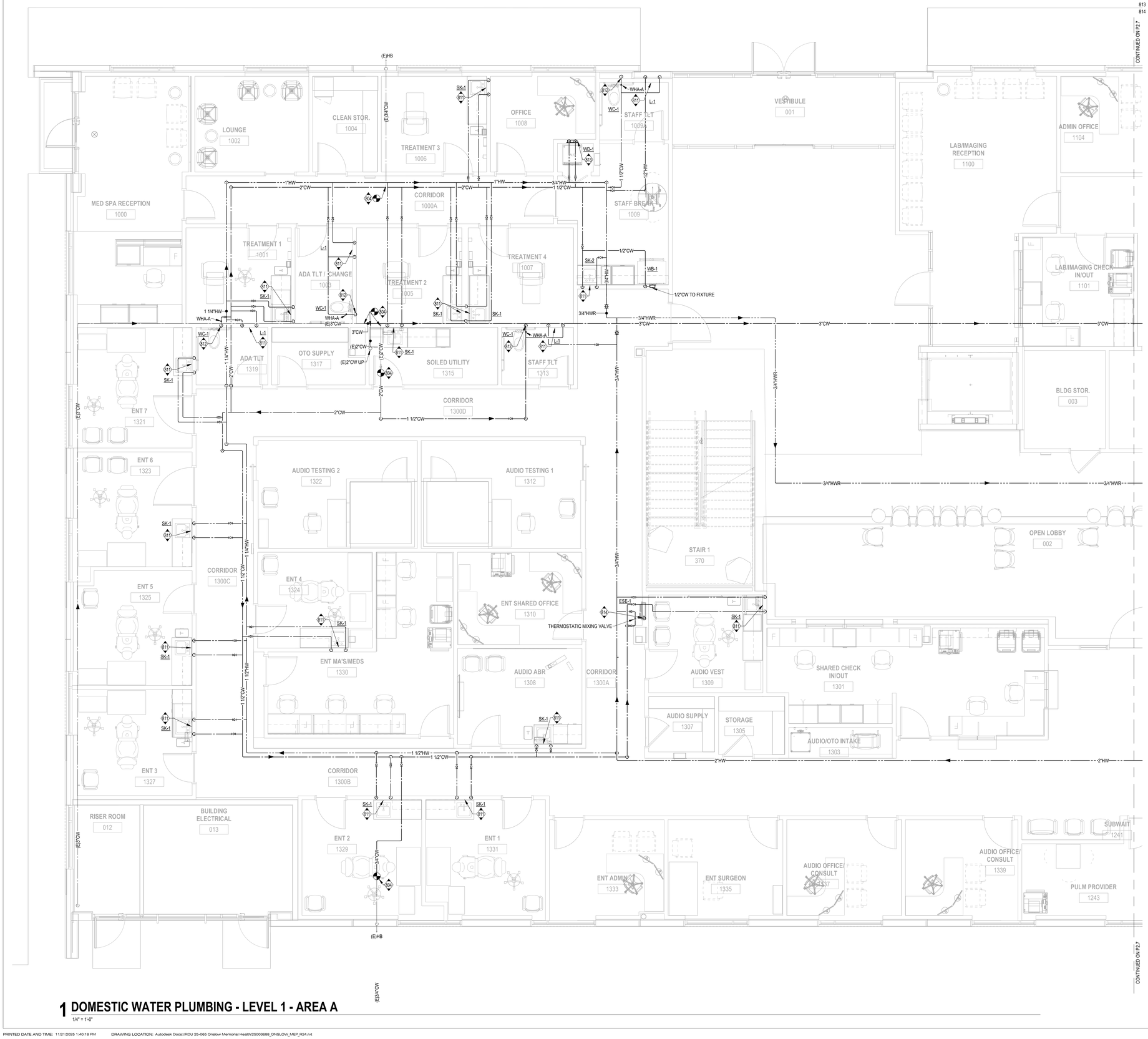
ENLARGED SANITARY & VENT NEW WORK PLAN - LEVEL 2 - AREA B

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

SHEET # P2.5

KEY NOTES

804 CONNECT BACK TO EXISTING DOMESTIC WATER PIPING.
811 1/2"CW AND 1/2"HW DROP TO FIXTURE.
812 1 1/2"CW DROP TO FIXTURE
813 3/4"CW AND 3/4"HW DROP TO FIXTURE.
814 1"CW AND 1"HW TO THERMOSTATIC MIXING VALVE, 1 1/4"TW FROM MIXING VALVE TO FIXTURE



1 DOMESTIC WATER PLUMBING - LEVEL 1 - AREA A

1/4" = 1'-0"

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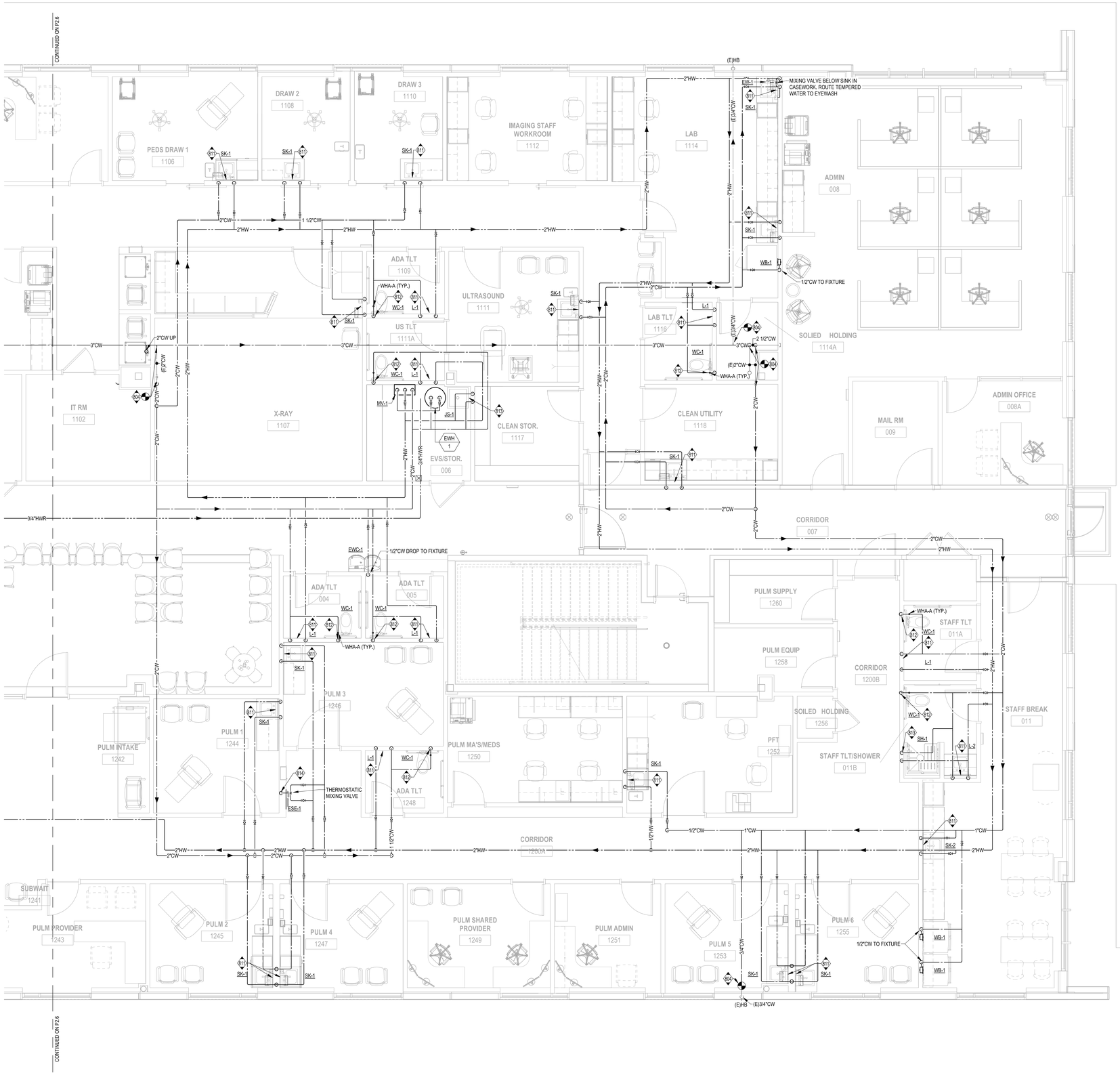
ENLARGED DOMESTIC WATER NEW WORK PLAN - LEVEL 1 - AREA A

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

SHEET # P2.6

KEY NOTES

804 CONNECT BACK TO EXISTING DOMESTIC WATER PIPING.
811 1/2"CW AND 1/2"HW DROP TO FIXTURE.
812 1 1/2"CW DROP TO FIXTURE
813 3/4"CW AND 3/4"HW DROP TO FIXTURE.
814 1"CW AND 1"HW TO THERMOSTATIC MIXING VALVE, 1 1/4"TW FROM MIXING VALVE TO FIXTURE



1 DOMESTIC WATER PLUMBING - LEVEL 1 - AREA B

1/4" = 1'-0"

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JACKSONVILLE, NC 28546

11.21.25

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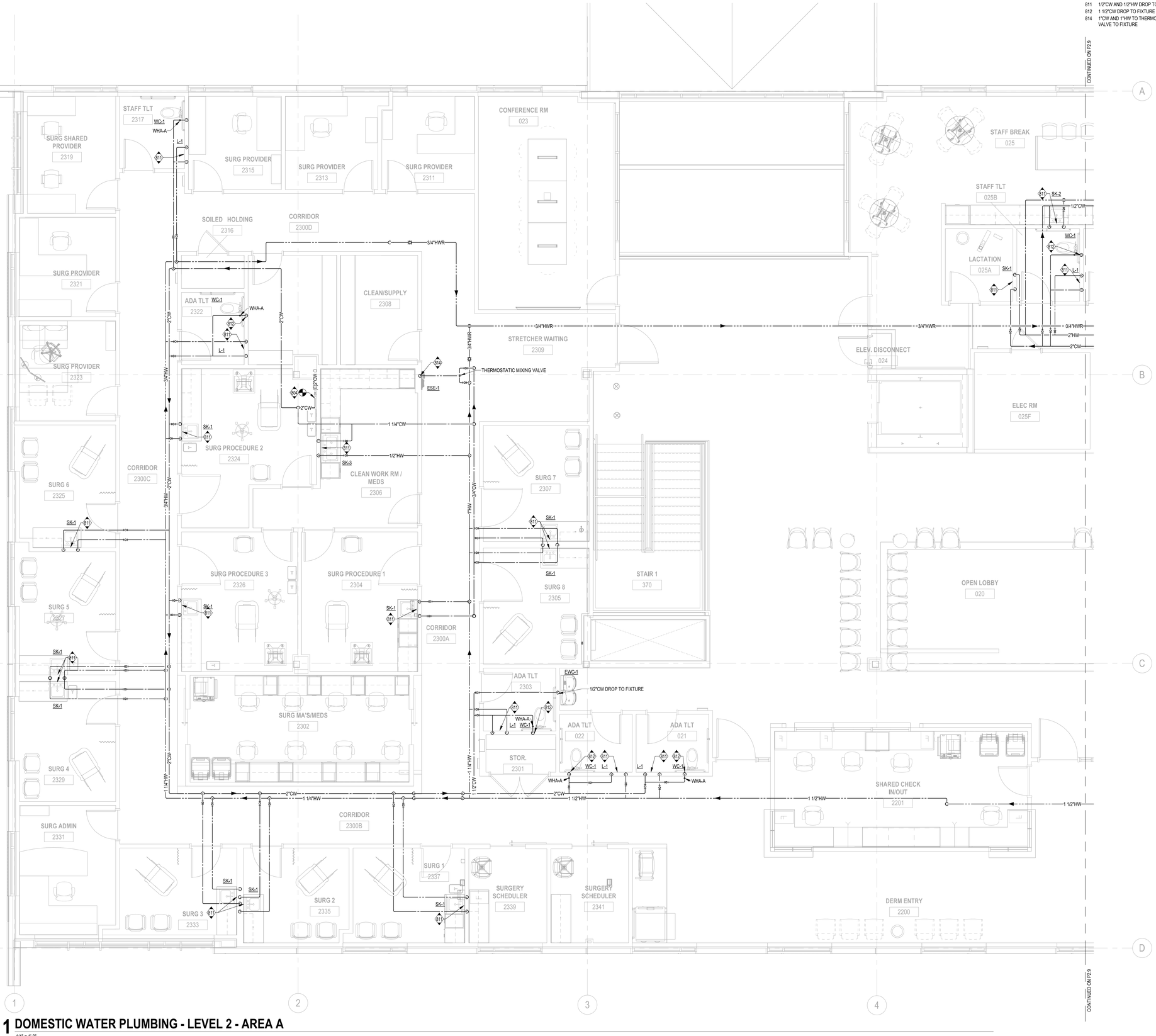
ENLARGED DOMESTIC WATER NEW WORK PLAN - LEVEL 1 - AREA B

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

SHEET # P2.7

KEY NOTES

804 CONNECT BACK TO EXISTING DOMESTIC WATER PIPING.
811 1/2"CW AND 1/2"HW DROP TO FIXTURE.
812 1 1/2"CW DROP TO FIXTURE
814 1"CW AND 1"HW TO THERMOSTATIC MIXING VALVE, 1 1/4"TW FROM MIXING VALVE TO FIXTURE



1 DOMESTIC WATER PLUMBING - LEVEL 2 - AREA A

1/4" = 1'-0"

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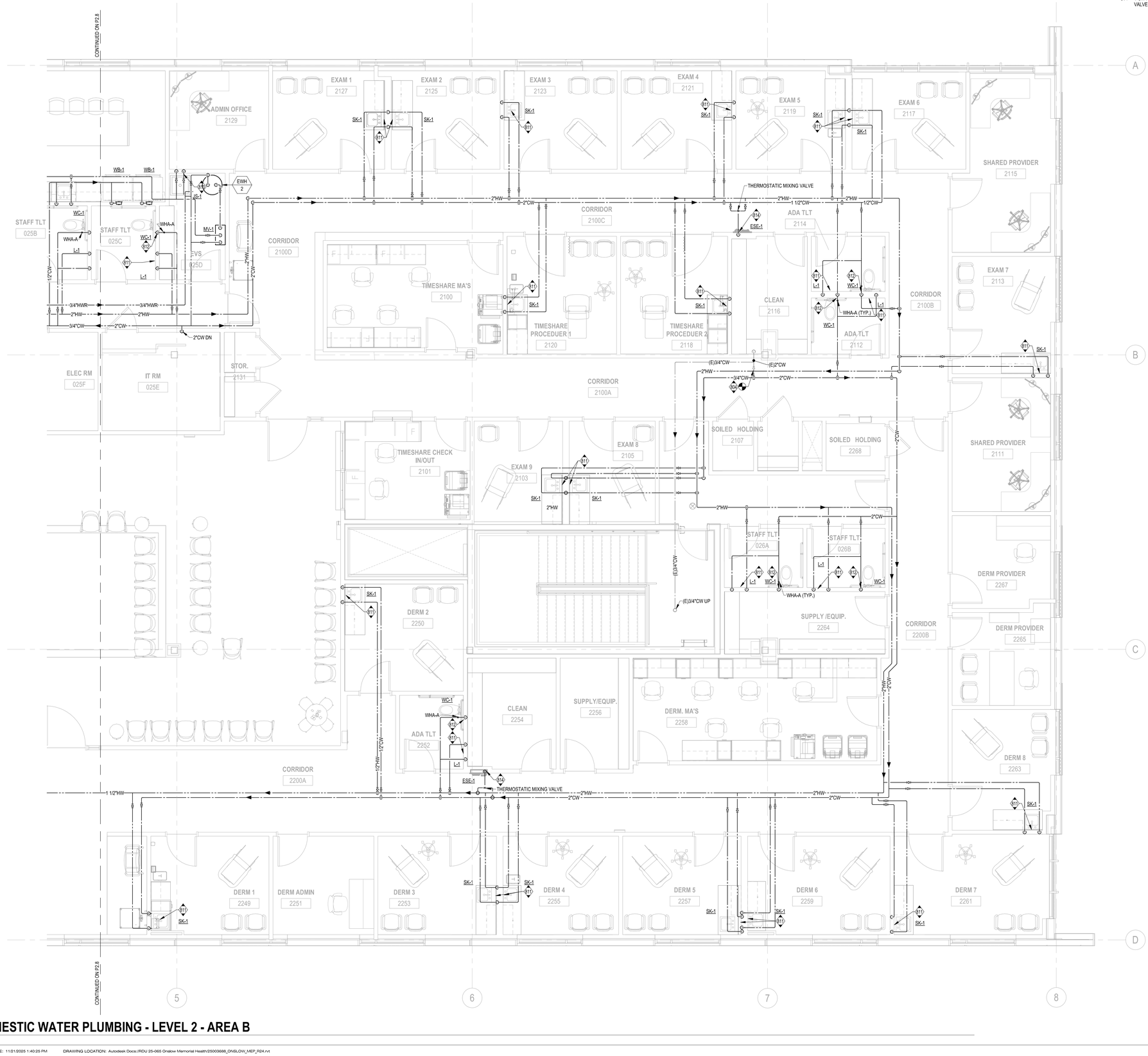
ENLARGED DOMESTIC WATER NEW WORK PLAN - LEVEL 2 - AREA A

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

SHEET # P2.8

KEY NOTES

804 CONNECT BACK TO EXISTING DOMESTIC WATER PIPING.
811 1/2"CW AND 1/2"HW DROP TO FIXTURE.
812 1 1/2"CW DROP TO FIXTURE
813 3/4"CW AND 3/4"HW DROP TO FIXTURE.
814 1"CW AND 1"HW TO THERMOSTATIC MIXING VALVE, 1 1/4"TW FROM MIXING VALVE TO FIXTURE



1 DOMESTIC WATER PLUMBING - LEVEL 2 - AREA B

1/4" = 1'-0"

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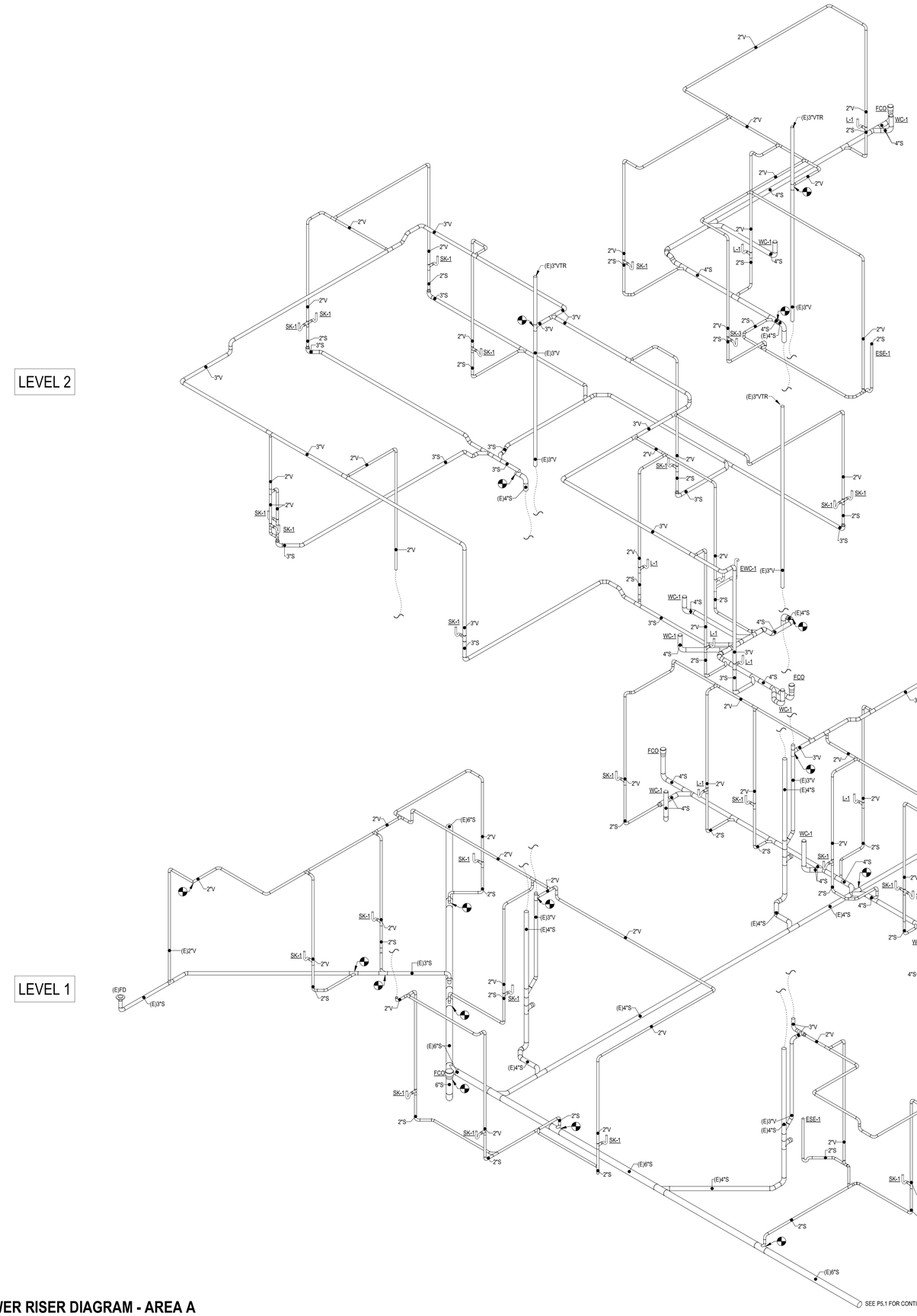
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ENLARGED DOMESTIC WATER NEW WORK PLAN - LEVEL 2 - AREA B

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

SHEET # P2.9



1 SANITARY SEWER RISER DIAGRAM - AREA A

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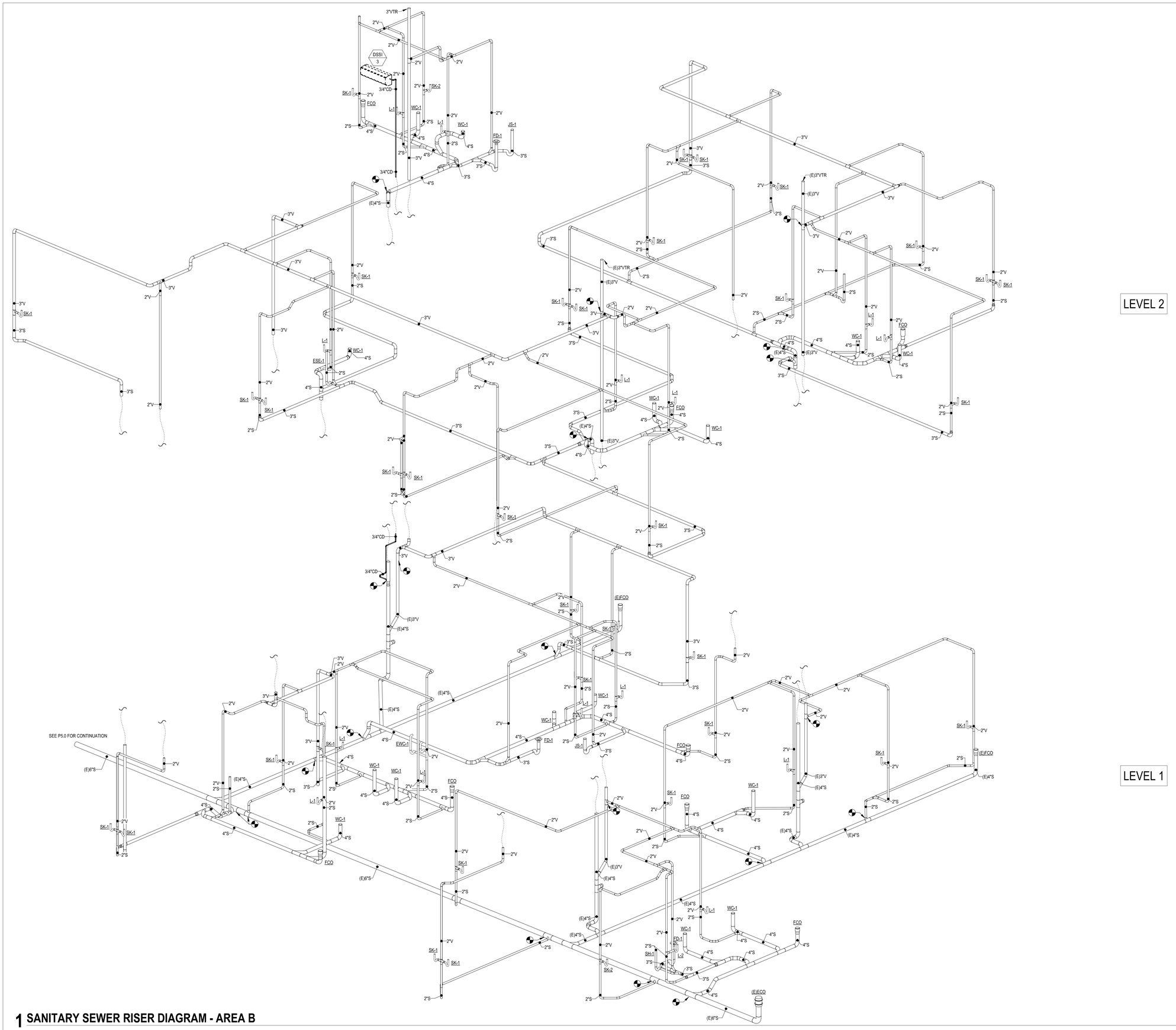
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PLUMBING SANITARY & VENT RISER DIAGRAM - AREA A

SCALE:

SHEET # P5.0



1 SANITARY SEWER RISER DIAGRAM - AREA B

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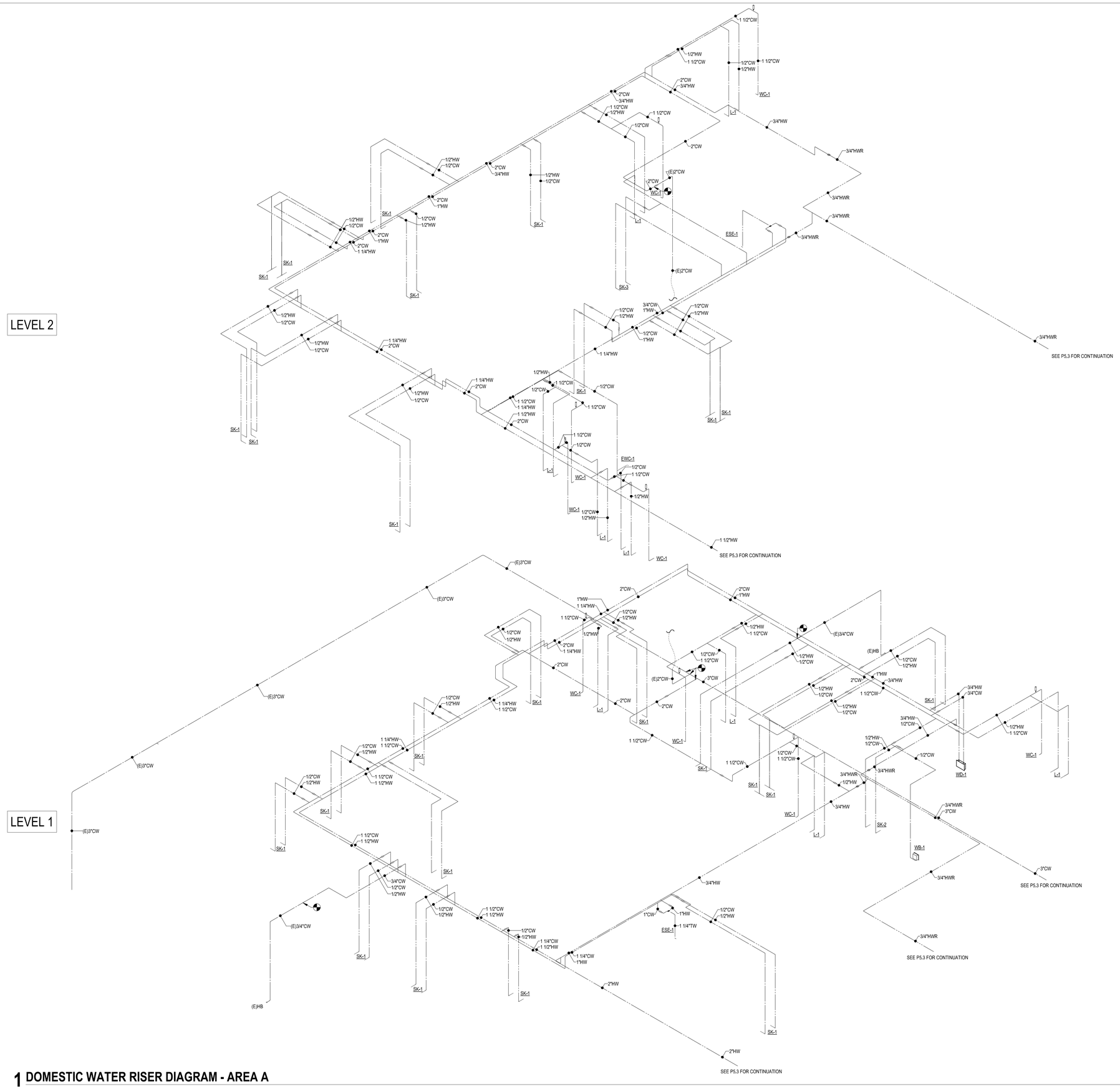
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PLUMBING SANITARY & VENT RISER DIAGRAM - AREA B

SCALE:

SHEET # **P5.1**



1 DOMESTIC WATER RISER DIAGRAM - AREA A

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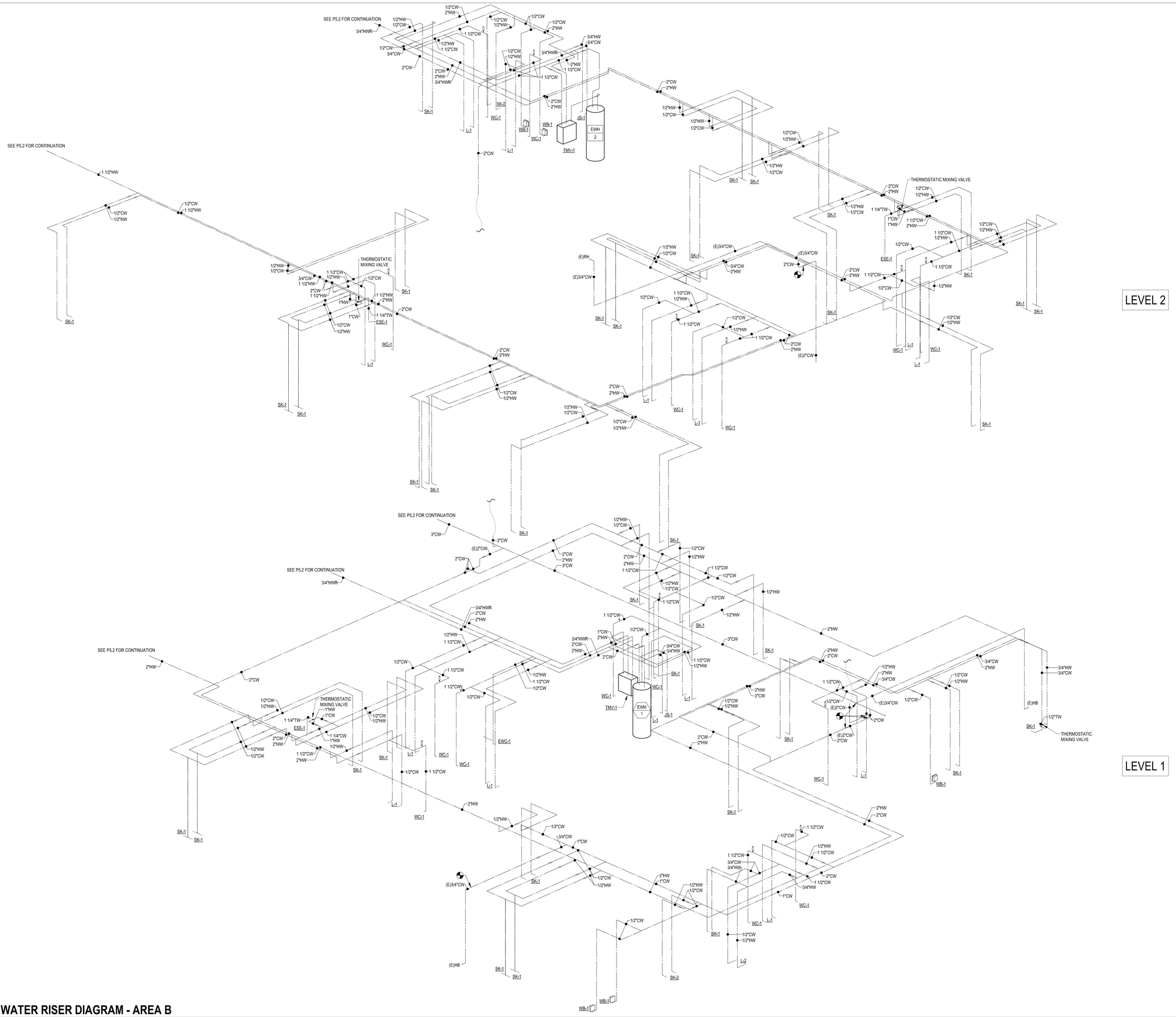
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PLUMBING DOMESTIC WATER RISER DIAGRAM- AREA A

SCALE:

SHEET # P5.2



1 DOMESTIC WATER RISER DIAGRAM - AREA B

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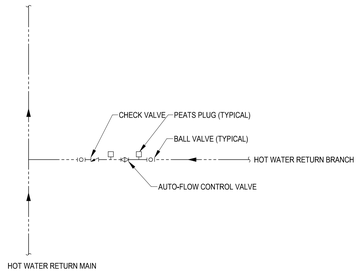
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PLUMBING DOMESTIC WATER RISER DIAGRAM - AREA B

SCALE:

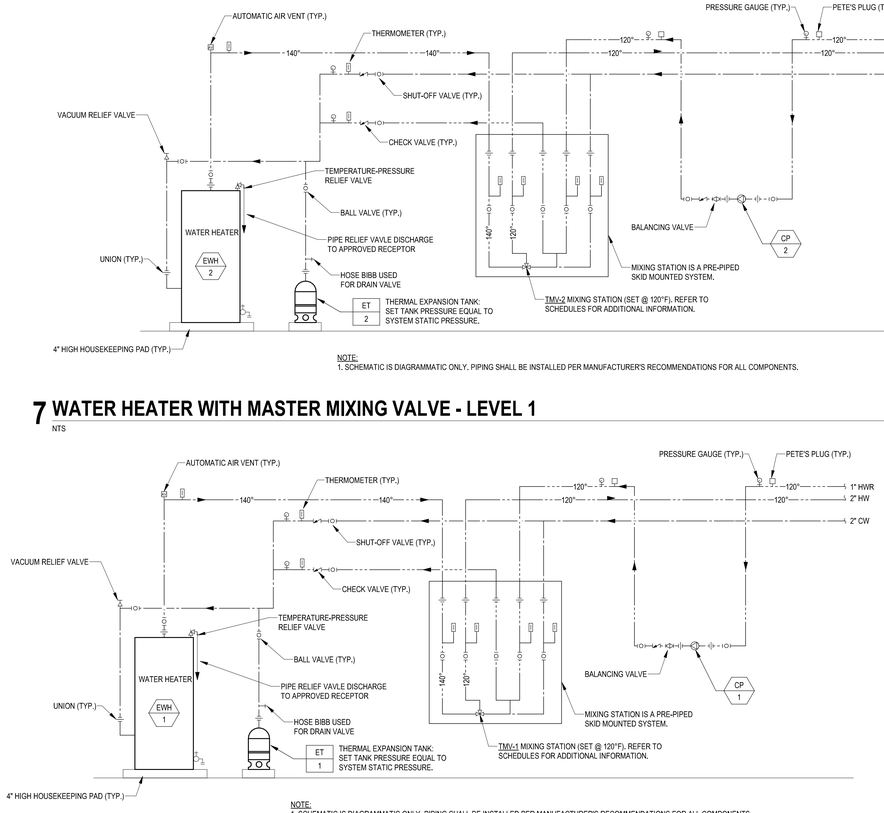
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3 HOT WATER RETURN BRANCH CONNECTION TO MAIN
NTS

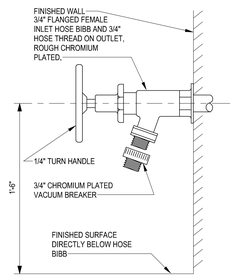
NOTE:
1. SCHEMATIC IS DIAGRAMMATIC ONLY. PIPING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS FOR ALL COMPONENTS.

7 WATER HEATER WITH MASTER MIXING VALVE - LEVEL 1
NTS

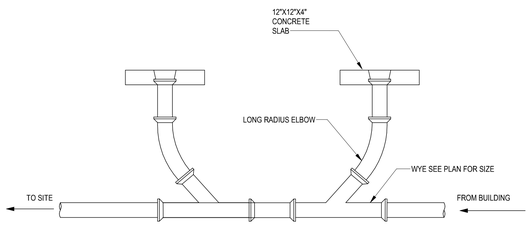


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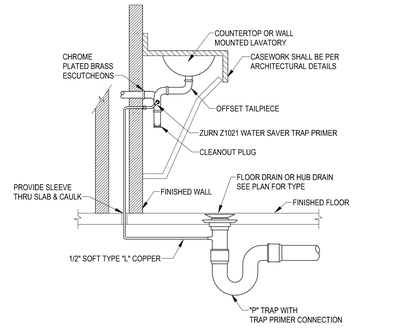
6 WATER HEATER WITH MASTER MIXING VALVE - LEVEL 1
NTS



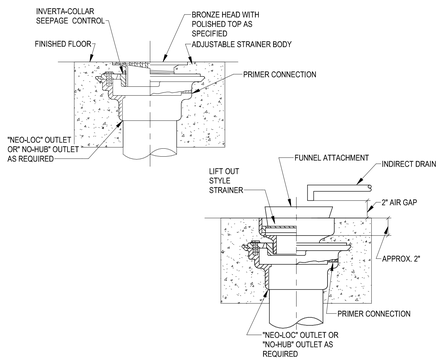
5 TYPICAL HOSE BIBB DETAIL
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4 TYPICAL CLEANOUT DETAIL
NTS



2 TYPICAL LAVATORY TRAP PRIMER
NTS



1 TYPICAL FLOOR DRAIN DETAIL
NTS

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PLUMBING DETAILS

SCALE: As indicated

SHEET # P6.0

WATER HAMMER ARRESTORS

MARK	AA	A	B	C	D	E	F
MAXIMUM FIXTURE UNITS	3	11	32	60	113	154	330
MAXIMUM PRESSURE RATING	350 PSI						
MANUFACTURER	SIOUX CHIEF						
MODEL NUMBER	660 SERIES	650 SERIES					

GENERAL NOTES:

A. THE BASIS OF DESIGN MANUFACTURER DOES NOT REQUIRE AN ACCESS PANEL FOR THE DEVICE. MANUFACTURERS THAT REQUIRE ACCESS PANELS ARE NOT ACCEPTABLE. ACCESS PANELS ARE ONLY TO BE PROVIDED FOR HAMMER ARRESTORS WHEN REQUIRED BY THAT JURISDICTION.

B. ALL WATER HAMMER ARRESTORS SHALL MEET ASSE 1010-2004 STANDARDS.

C. WATER HAMMER ARRESTORS ARE NOTED ON THE PLANS AND RISERS WITH THE ABBREVIATION 'WHA-X'.

FIXTURE CONNECTIONS

FIXTURE	WASTE	VENT	TRAP	COLD	HOT	NOTES
WATER CLOSET (FLUSH VALVE)	4"	2"	INTEGRAL	1-1/4"	-	-
LAVATORY	2"	2"	1-1/4"	3/4"	3/4"	-
SINK	2"	2"	1-1/2"	3/4"	3/4"	-
JANITOR SINK	3"	2"	3"	3/4"	3/4"	1
SHOWER	2"	2"	2"	3/4"	3/4"	2
WALL HYDRANT / HOSE BIBB	-	-	-	3/4"	-	-
ROOF HYDRANT	-	-	-	1"	-	-
WASHER BOX	2"	2"	2"	3/4"	3/4"	-
ICE MAKER BOX	-	-	-	1/2"	-	-
ELECTRIC WATER COOLER	2"	2"	1-1/4"	3/4"	-	-

GENERAL NOTES:

A. ALL SIZES INDICATED ARE GENERAL MINIMUM ACCEPTABLE PIPE SIZES TO EACH FIXTURE. ACTUAL CONNECTION SIZES TO EACH FIXTURE MAY REQUIRE A TRANSITION. SEE FLOOR PLANS AND RISERS FOR ADDITIONAL SIZES.

NOTES:

1 PROVIDE AN ADDITIONAL 3/4"CW WHEN A SEPERATE SOAP FAUCET / HOSE BIBB IS SPECIFIED.

2 SHOWERS WITH MULTIPLE HEADS ABLE TO FUNCTION AT THE SAME TIME SHALL HAVE 3/4" MINIMUM SUPPLIES. SHOWERS WITH MULTIPLE HEADS MAY ALSO HAVE 3" DRAINS. REFER TO PLANS.

PLUMBING FIXTURES

TAG	FIXTURE DESCRIPTION	MANUFACTURER & MODEL NUMBER	PART DESCRIPTION	ELECTRICAL
WC-1	WATER CLOSET - FLUSH VALVE TYPE -ADA	BOWL - AMERICAN STANDARD - 3040.001 FLUSH VALVE - ZURN - Z6000AV SEAT - BEMIS - 1955SSCT	FLOOR MOUNTED, VITREOUS CHINA, ELONGATED BOWL, TOP SPUD, 1.28 GPF, WHITE, FLUSH VALVE TYPE, ADA COMPLIANT. INSTALL FIXTURE TO MEET ADA COMPLIANCE. AQUAVANTAGE EXPOSED FLUSH VALVE, QUIET DIAPHRAGM-TYPE, CHROME-PLATED FLUSHOMETER VALVE. POLISHED EXTERIOR, CHLORAMINE RESISTANT, DUAL SEAL DIAPHRAGM, CLOG RESISTANT, ADA COMPLIANT.	NO
L-1	LAVATORY	BOWL - AMERICAN STANDARD - LUCERNE FAUCET - CHICAGO - 786-E35-319ABCP	WALL HUNG LAVATORY, VITREOUS CHINA, 8" CENTERSET DECK OPENINGS, FRONT OVERFLOW. 6" CONCEALED DECK MOUNTED GOOSENECK FAUCET, SWIVEL GOOSENECK, 4" WRISTBLADE HANDLES, 8" CENTERSET, LAMINAR FLOW CONTROL DEVICE, 0.5 GPM, WITH QUARTER TURN ANGLE STOPS.	NO
L-2	LAVATORY	BOWL - ELKAY - LRAD191955 FAUCET - CHICAGO - 786-E35-319ABCP	SINGLE BOWL, STAINLESS STEEL, DROP-IN SINK, LUSTERTONE CLASSIC FINISH, 19-1/2" X 19" X 5-1/2". 8" CONCEALED DECK MOUNTED GOOSENECK FAUCET, SWIVEL GOOSENECK, 4" WRISTBLADE HANDLES, 8" CENTERSET, LAMINAR FLOW CONTROL DEVICE, 0.5 GPM, WITH QUARTER TURN ANGLE STOPS.	NO
SH-1	TRANSFER SHOWER	TRIM - KOHLER - K-TLS14422-3 HANDSHOWER - KOHLER - K-99898-G ELBOW - KOHLER - K-98351 MIXING VALVE - KOHLER - K-2976-KS-NA DRAIN - ZURN - Z415-BZ1-DP-VP	SHOWER TRIM KIT WITH PUSH-BUTTON DIVERTER AND CROSS HANDLE. ADA COMPLIANT. 42" THREE-FUNCTION HANDSHOWER KIT, WALL-MOUNT. 1.75 GPM. ADA COMPLIANT. WALL-MOUNT SUPPLY ELBOW WITH CHECK VALVE. THERMOSTATIC MIXING VALVE WITH INTEGRATED VOLUME CONTROL AND STOPS. ADA COMPLIANT SHOWER DRAIN, DURA-COATED CAST IRON BODY, BOTTOM OUTLET, STAINLESS STEEL DECK PLATE, AND TOP ASSEMBLY, VANDAL-PROOF SECURITY TOP.	NO
SK-1	HAND SINK	BOWL - ELKAY - LRAD151765 FAUCET - CHICAGO - 786-E35-319ABCP	SINGLE BOWL, STAINLESS STEEL, DROP-IN SINK, LUSTERTONE CLASSIC FINISH, 15-1/2" X 17" X 6-1/2". 8" CONCEALED DECK MOUNTED GOOSENECK FAUCET, SWIVEL GOOSENECK, 4" WRISTBLADE HANDLES, 8" CENTERSET, LAMINAR FLOW CONTROL DEVICE, 1.5 GPM, WITH QUARTER TURN ANGLE STOPS.	NO
SK-2	BREAKROOM SINK	BOWL - ELKAY - LRAD191955 FAUCET - CHICAGO - 434-ABCP	SINGLE BOWL, STAINLESS STEEL, DROP-IN SINK, LUSTERTONE CLASSIC FINISH, 19-1/2" X 19" X 5-1/2". CAST BRASS SINGLE CONTROL, INTEGRAL 8-INCH PULL-DOWN SPRAYER, CERAMIC DISC VALVE, 1.5 GPM, ADA COMPLIANT..	NO
SK-3	MED WORKROOM SINK	BOWL - ELKAY - LRAD372260 FAUCET -CHICAGO - 786-E35-319ABCP	DOUBLE BOWL, STAINLESS STEEL, DROP-IN SINK, LUSTERTONE CLASSIC FINISH, 37" X 22" X 6". 8" CONCEALED DECK MOUNTED GOOSENECK FAUCET, SWIVEL GOOSENECK, 4" WRISTBLADE HANDLES, 8" CENTERSET, LAMINAR FLOW CONTROL DEVICE, 1.5 GPM, WITH QUARTER TURN ANGLE STOPS.	NO
JS-1	JANITOR SINK	BASIN - FIAT - SB24224 FAUCET - CHICAGO - 897-CCP	TERRAZZO 6" MOP BASIN, PROVIDE OPTIONAL MOP HANGER # 889CC. PROVIDE OPTIONAL STAINLESS STEEL WALL GAURDS # MSG. 8" WALL MOUNTED MIXING FAUCET, ROUGH CHROME PLATED BRASS BODY AND SPOUT, VACUUM BREAKER, PAIL HOOK, GARDEN HOSE MALE OUTLET.	NO
WB-1	ICE MAKER WALL BOX	SUPPLY BOX - GUY GRAY - 88531	WHITE POWDER COATED SUPPLY BOX, 20 GAUGE STEEL CONSTRUCTION, QUARTER TURN BRASS SUPPLY BALL VALVE, FACTORY INSTALLED WATER HAMMER ARRESTER. REFRIGERATOR PROVIDED AND INSTALLED BY OWNER. REFER TO ARCH PLAN FOR EXACT MAKE/MODEL.	NO
WB-2	COFFEE MAKER WALL BOX	SUPPLY BOX - GUY GRAY - 88531	WHITE POWDER COATED SUPPLY BOX, 20 GAUGE STEEL CONSTRUCTION, QUARTER TURN BRASS SUPPLY BALL VALVE, FACTORY INSTALLED WATER HAMMER ARRESTER. .PROVIDE INLINE BACKFLOW TO MEET ASSE 1022 COUNTER TOP COFFEE MAKER PROVIDED AND INSTALLED BY OWNER. REFER TO ARCH PLAN FOR EXACT MAKE/MODEL	NO
EWC-1	ELECTRIC WATER COOLER	UNIT - ELKAY - LZSTL8WSSK CARRIER - ELKAY - MLP200	VERSATILE BI-LEVEL ADA REFRIGERATED WATER COOLER WITH BOTTLE FILL STATION. 8.0 GPH CHILLING CAPACITY, STAINLESS STEEL FINISH, FLEXI-GAURD SAFETY BUBBLER, MOUNT BOTTLE FILL STATION ON LOW SIDE. IN-WALL CARRIER FOR BI-LEVEL WATER COOLERS.	YES
WD-1	WASHER/DRYER BOX	DRAIN/SUPPLY BOX - GUY GRAY - 82158	WHITE POWDER COATED CENTER DRAIN BOX, QUARTER TURN SUPPLY STOP VALVES, FACTORY INSTALLED WATER HAMMER ARRESTERS	NO
EW-1	EMERGENCY EYEWASH	EYEWASH - GUARDIAN - G1899	EMERGENCY EYEWASH STATION. DECK MOUNT. 3.09 GPM. PROVIDE GUARDIAN # G5022 THERMOSTATIC MIXING VALVE	NO
EWS-1	EMERGENCY EYEWASH (RECESSED)	EYEWASH - GUARDIAN - GBF1740DP	EMERGENCY EYEWASH STATION. 3.09 GPM. PROVIDE GUARDIAN # G5022 THERMOSTATIC MIXING VALVE	NO

GENERAL NOTES:

A. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, MOUNTING HEIGHTS, AND ADA REQUIREMENTS.
B. ALL PLUMBING FIXTURES SHALL MEET LOCAL CODE REQUIREMENTS FOR WATER CONSUMPTION AND ACCESSIBILITY.
C. ALL ADA SINKS AND LAVATORIES WITH EXPOSED SUPPLIES AND TRAPS SHALL BE PROVIDED WITH UNDER-SINK ADA PROTECTIVE INSULATION.
D. ALL EXPOSED PLUMBING FITTINGS AND CONNECTIONS SHALL MATCH TRIM FINISH IN PUBLIC SPACES.
E. ALL PLUMBING FIXTURES SHALL BE INSTALLED PER CODE REQUIREMENTS AND THE MANUFACTURES INSTALLATION RECOMMENDATION.
F. ALL FIXTURES AND EQUIPMENT THAT HAVE QUICK CLOSING VALVES SHALL BE PROVIDED WITH WATER HAMMER ARRESTORS.
G. STOP VALVES SHALL BE PROVIDED AT ALL WATER CONSUMING FIXTURES/EQUIPMENT INCLUDING INTEGRAL SCREW STOPS AT EACH SHOWER VALVE.
H. EXPOSED TRAP TAILPIECES, ETC., WILL BE TUBULAR BRASS WITH A POLISHED CHROME FINISH. CONCEALED TRAP TAILPIECES CAN BE PVC.

EXPANSION TANKS

UNIT	NUMBER	MANUFACTURER & MODEL NUMBER	SERVICE	LOCATION	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	REPLACEABLE BLATTER	PRESSURE RATING (PSI)	ASME RATED	DIMENSIONS		OPERATING WEIGHT (LBS)	NOTES
										DIAMETER (INCH)	HEIGHT (INCH)		
ET	1	AMTROL - ST-30V/C-DD	HOT WATER	EVS/STOR (006)	16.6	11.3	NO	150	YES	15	25	188	-
ET	2	AMTROL - ST-30V/C-DD	HOT WATER	EVS (025D)	16.6	11.3	NO	150	YES	15	25	188	-

GENERAL NOTES:

A. SET THE TANK PRESSURE TO EQUAL THE SYSTEM OPERATING PRESSURE. TANK MUST BE DRAINED BEFORE ADJUSTING SET PRESSURE.

MIXING VALVES

UNIT	NUMBER	MANUFACTURER & MODEL NUMBER	SERVICE	LOCATION	TYPE	SYSTEM			ELECTRICAL DATA				DIMENSIONS			OPERATING WEIGHT (LBS)	NOTES
						MINIMUM (GPM)	MAXIMUM (GPM)	OUTLET TEMP (°F)	V	PH	HZ	EMERGENCY POWER	LENGTH (INCH)	WIDTH (INCH)	HEIGHT (INCH)		
TMV	1	LAWLER #803 MIXING SYSTEM	HOT WATER	EVS/STOR (006)	PRE-PIPED	1/2	3	120	120	1	60	NO	-	-	-	-	-
TMV	2	LAWLER #803 MIXING SYSTEM	HOT WATER	EVS (025D)	PRE-PIPED	1/2	3	120	120	1	60	NO	-	-	-	-	-

PUMPS

UNIT	NUMBER	MANUFACTURER & MODEL NUMBER	SERVICE	LOCATION	TYPE	PER PUMP		SYSTEM			ELECTRICAL DATA						DIMENSIONS			OPERATING WEIGHT (LB)	NOTES
						FLOW (GPM)	HEAD (FT)	NUMBER OF PUMPS	FLOW (GPM)	OPERATING PRESSURE (PSI)	VFD	WATTS	V	PH	HZ	EMERGENCY POWER	LENGTH (INCH)	WIDTH (INCH)	HEIGHT (INCH)		
CP	1	B&G PL-30	HOT WATER RETURN	EVS/STOR (006)	IN-LINE CIRCULATOR	3	3	1	3	150	NO	44	120	1	60	NO	8 5/8	4 3/8	6 3/8	5.3	-
CP	2	B&G PL-30	HOT WATER RETURN	EVS (025D)	IN-LINE CIRCULATOR	3	3	1	3	150	NO	44	120	1	60	NO	8 5/8	4 3/8	6 3/8	5.3	-

ELECTRIC WATER HEATERS

UNIT	NUMBER	MANUFACTURER & MODEL NUMBER	SERVICE	LOCATION	TYPE	ASME RATED	MAXIMUM PRESSURE (PSI)	UNIT CAPACITY			SYSTEM OUTLET TEMP (°F)	ELECTRICAL DATA								DIMENSIONS		OPERATING WEIGHT (LB)	NOTES
								STORAGE (GAL)	RECOVERY (GPH)	DEGREE RISE (°F)		NUMBER OF ELEMENTS	KW PER ELEMENT	SIMULTANEOUS / NONSIMULTANEOUS	POWER (KW)	V	PH	HZ	EMERGENCY POWER	DIAMETER (INCH)	HEIGHT (INCH)		
EWH	1	AO SMITH DVE-120A-18	LEVEL 1 DOMESTIC HOT WATER	EVS/STOR.	TANK TYPE - COMMERCIAL	YES	160	120	92	80	140	3	6	SIMULTANEOUS	18	480	3	60	NO	29.5	62.25	1,173	1,2
EWH	2	AO SMITH DVE-120A-15	LEVEL 2 DOMESTIC HOT WATER	EVS/STOR.	TANK TYPE - COMMERCIAL	YES	160	120	77	80	140	3	5	SIMULTANEOUS	15	480	3	60	NO	29.5	62.25	1,173	1,3

NOTES:

1 PIPE TEMPERATURE AND PRESSURE RELIEF VALVE TO NEARBY FLOOR DRAIN OR JANITOR'S SINK.
2 PROVIDE IN-LINE CIRCULATING PUMP CP-1, AND EXPANSION TANK ET-1.
3 PROVIDE IN-LINE CIRCULATING PUMP CP-2, AND EXPANSION TANK ET-2.

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ARCH. PROJECT # RDU 25-065

PLUMBING SCHEDULES

SCALE:

SHEET # P7.0

GENERAL NOTES

1. THE CONTRACT DOCUMENTS ARE COMPLIMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN THE CASE OF A CONFLICT, DISAGREEMENT OR AMBIGUITY, PROVIDE THE BETTER QUALITY.
2. DURING CONSTRUCTION PROCESS PROTECT ALL MECHANICAL EQUIPMENT, DEVICES, DUCTWORK, PIPING AND APPURTENANCES FROM DIRT AND DEBRIS. STORE IN A COVERED LOCATION OFF OF THE FLOOR AND OUT OF STANDING WATER.
3. ENSURE THAT ITEMS TO BE FURNISHED OR PROVIDED WILL FIT IN THE SPACE AVAILABLE AND HAVE ADEQUATE CLEARANCES PER THE MANUFACTURERS RECOMMENDATIONS. MAKE NECESSARY FIELD MEASURES TO ASCERTAIN SPACE REQUIREMENTS , INCLUDING THOSE CONNECTIONS.
4. PROVIDE ALL SUPPORT DEVICES NECESSARY FOR THE WORK, COORDINATE ALL LOCATIONS WITH OTHER DISCIPLINES PRIOR TO INSTALLATION
5. ALL WALL AND FLOOR PENETRATIONS SHALL BE SEALED.
6. PROVIDE ALL CUTTING AND PATCHING OF FLOORS AND WALLS FOR THE WORK UNLESS OTHERWISE INDICATED..
7. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR, UNLESS OTHERWISE INDICATED.
8. WHERE EXISTING DUCTWORK, PIPING OR EQUIPMENT IS REMOVED, REMOVE ALL ABANDONED HANGERS AND ACCESSORIES.
9. SUPPORT ALL DUCTWORK, PIPING, EQUIPMENT AND ACCESSORIES FROM THE BUILDING STRUCTURE AND NOT THE ROOF DECK.
10. CARE SHOULD BE TAKEN IN THE REMOVAL OF ITEMS TO MINIMIZE DAMAGE.
11. FIRE DAMPERS ACCESS DOORS SHALL BE A MINIMUM OF 12X12. PROVIDE TRANSITION AS NEEDED (NOT SHOWN).
12. NEW AIR DISTRIBUTION, BALANCE TO CFM AS SHOWN. DUCTWORK TO AIR DISTRIBUTION DIFFUSER/GRILLE SHALL BE FULL NECK SIZE UNLESS OTHER WISE NOTED REFER TO SCHEDULE AND SUBMITTALS FOR SIZES. PROVIDE MANUAL BALANCING DAMPERS NEAR AIR INLET OR OUTLET. TIE YELLOW OR ORANGE SURVEYORS TAPE TO HANDLE TO HELP LOCATE DAMPER.
13. NEW SINGLE AIR DUCT TERMINAL UNITS WITH ELECTRIC REHEAT COILS. PROVIDE NEW DDC THERMOSTAT. DUCTWORK UPSTREAM OF THE BOX SHALL BE FULL NOMINAL SIZE UNLESS OTHERWISE NOTED. ALL DOWNSTREAM DUCTWORK SHALL BE FULL FACE SIZE UNLESS OTHERWISE NOTED. MARK LOCATION OF TERMINAL BOX ON T-BAR WITH COLORED DOT. ELECTRICAL CONTRACTOR SHALL PROVIDE WIRING FROM TRANSFORMER TO TERMINAL BOX. COORDINATE ACCESS TO TERMINAL UNIT CONTROLS WITH EMPTY CEILING TILES. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF CEILING DEVICES FOR COORDINATION.

GENERAL ABBREVIATIONS

°F	DEGREES FAHRENHEIT	MCC	MOTOR CONTROL CENTER
°C	DEGREES CELSIUS	MECH	MECHANICAL
ø	DIAMETER	MFR	MANUFACTURER
AD	ACCESS DOOR	MIN	MINIMUM
ADJ	ADJUSTABLE	MOCP	MAXIMUM OVERCURRENT PROTECTION
AFF	ABOVE FINISHED FLOOR	MTD	MOUNTED
AFG	ABOVE FINISHED GRADE	N/A	NOT APPLICABLE
AFR	ABOVE FINISHED ROOF	NC	NORMALLY CLOSED OR NOISE CRITERIA
ARCH	ARCHITECT	NEG	NEGATIVE
BHP	BRAKE HORSEPOWER	NIC	NOT IN CONTRACT
BOD	BOTTOM OF DUCT	NO	NORMALLY OPEN
BMS	BUILDING MANAGEMENT CONTROL SYSTEM	NTS	NOT TO SCALE
BOP	BOTTOM OF PIPE	OC	ON CENTER
BTU	BRITISH THERMAL UNIT	ODP	OPEN DRIP PROOF
BTUH	BRITISH THERMAL UNIT PER HOUR	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CLG	CEILING	OFOI	OWNER FURNISHED OWNER INSTALLED
CL	CENTERLINE	PD	PRESSURE DROP
DB	DRY BULB TEMPERATURE	PH	PHASE
DDC	DIRECT DIGITAL CONTROL	PLBG	PLUMBING
DN	DOWN	POC	POINT OF CONNECTION
DP	DIFFERENTIAL PRESSURE	POD	POINT OF DEMARCATION
DWG	DRAWING	POS	POSITION OR POSITIVE
EA	EACH	PSI	POUNDS PER SQUARE INCH
EFF	EFFICIENCY	RC	ROOM CRITERIA (NOISE)
ELEC	ELECTRICAL	RET	RETURN
EMER	EMERGENCY	RH	RELATIVE HUMIDITY
ENT	ENTERING	RM	ROOM
EQUIP	EQUIPMENT	RPM	REVOLUTIONS PER MINUTE
EXH	EXHAUST	SC	SENSIBLE COOLING
(E)	EXISTING	SCH	SCHEDULE
FA	FIRE ALARM	SH	SENSIBLE HEAT
FLR	FLOOR	SPEC	SPECIFICATION
FP	FIRE PROTECTION	SQ	SQUARE
FPM	FEET PER MINUTE	SF	SQUARE FEET
FT	FEET	SS	STAINLESS STEEL
GA	GAUGE	STD	STANDARD
GAL	GALLONS	TEFC	TOTALLY ENCLOSED FAN COOLED
GPH	GALLONS PER HOUR	TEMP	TEMPERATURE
GPM	GALLONS PER MINUTE	TON	TONS OF REFRIGERATION
GYP	GYPSUM BOARD	UTR	UP TO ROOF
HP	HORSEPOWER	V	VENT
HR	HOUR	VAV	VARIABLE AIR VOLUME
HZ	HERTZ	VEL	VELOCITY
ID	INSIDE DIAMETER	VFD	VARIABLE FREQUENCY DRIVE
IN	INCHES	VTR	VENT THROUGH ROOF
KW	KILOWATT	W	WIDTH
LB	POUND	W/	WITH
LF	LINEAR FEET	W/O	WITHOUT
LVG	LEAVING	WB	WET BULB TEMPERATURE
MAX	MAXIMUM	WG	WATER GAUGE
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR	XFMR	TRANSFORMER
MCA	MINIMUM CIRCUIT AMPS		

AIR SIDE SYSTEM ABBREVIATIONS

AC	AIR CONDITIONING	LAT	COIL LEAVING AIR TEMPERATURE
AF	AIR FOIL	MA	MIXED AIR
APD	AIR PRESSURE DROP	MAT	MIXED AIR TEMPERATURE
AT	AIR TERMINAL	MAU	MAKE UP AIR
BI	BACKWARD INCLINE	OA	OUTSIDE AIR
BDD	BACKDRAFT DAMPER	OAI	OUTSIDE AIR INTAKE
CD	CEILING DIFFUSER (SUPPLY)	OBD	OPPOSED BLADE DAMPER
CFM	CUBIC FEET PER MINUTE	OED	OPEN END DUCT
CV	CONSTANT VOLUME	RA	RETURN AIR
UC	UNDERCUT DOOR	RAT	RETURN AIR TEMPERATURE
DWDI	DOUBLE WIDTH DOUBLE INLET	RG	RETURN AIR GRILLE OR REGISTER
DWSI	DOUBLE WIDTH SINGLE INLET	SA	SUPPLY AIR
EA	EXHAUST AIR	SAT	SUPPLY AIR TEMPERATURE FROM UNIT
EAT	COIL ENTERING AIR OR EXHAUST AIR TEMP.	SP	STATIC PRESSURE
EG	EXHAUST AIR GRILLE	SS	STAINLESS STEEL
ER	EXHAUST AIR REGISTER	SWDI	SINGLE WIDTH DOUBLE INLET
ESP	EXTERNAL STATIC PRESSURE	SWSI	SINGLE WIDTH SINGLE INLET
F&B	FACE AND BYPASS	TG	TRANSFER AIR GRILLE
FC	FOWARD CURVE OR FLEXIBLE CONNECTION	TSP	TOTAL STATIC PRESSURE
FA	FREE AREA	VAV	VARIABLE AIR VOLUME
FPI	FINS PER INCH	WMS	WIRE MESH SCREEN
HEPA	HIGH EFFICIENCY PARTICULATE AIR FILTER		

CONTROL DIAGRAM ABBREVIATIONS

AI	ANALOG INPUT CONTROL POINT	EMS	ENERGY MANAGEMENT SYSTEM
AO	ANALOG OUTPUT CONTROL POINT	FC	FAIL CLOSED ON LOSS OF POWER
BAS	BUILDING AUTOMATION CONTROL SYSTEM	FO	FAIL OPEN ON LOSS OF POWER
BI	BINARY INPUT CONTROL POINT	NC	NORMALLY CLOSED WHEN OPERATING
BO	BINARY OUTPUT CONTROL POINT	NO	NORMALLY OPEN WHEN OPERATING
		VFD	VARIABLE FREQUENCY DRIVE

TAGS AND CALL OUT SYMBOLS

EQUIP #	EQUIPMENT REQUIRING ELECTRICAL SERVICE. REFER TO SCHEDULES FOR PERFORMANCE REQUIREMENTS.	#	REVISION CALLOUT
EQUIP #	EQUIPMENT NOT REQUIRING ELECTRICAL SERVICE. REFER TO SCHEDULES FOR PERFORMANCE REQUIREMENTS.	X	KEYNOTE CALLOUT
1 / XXX	SECTION CALLOUT SECTION DESIGNATION SHEET NUMBER		POINT OF CONNECTION
A / XXX	DETAIL CALLOUT DETAIL DESIGNATION SHEET NUMBER		POINT OF DEMARCATION

AIR SYSTEM LEGEND

	RECTANGULAR SUPPLY/ OUTSIDE AIR DUCT UP	CFM	SPACE PRESSURIZATION ARROW
	RECTANGULAR SUPPLY/ OUTSIDE AIR DUCT DOWN	UC	UNDERCUT DOOR AIRFLOW
	RECTANGULAR RETURN/ RELIEF AIR DUCT UP		SUPPLY AIRFLOW ARROW
	RECTANGULAR RETURN/ RELIEF AIR DUCT DOWN		RETURN OR EXHAUST AIRFLOW ARROW
	RECTANGULAR EXHAUST AIR DUCT UP		CEILING DIFFUSER (SUPPLY)
	RECTANGULAR EXHAUST AIR DUCT DOWN		RETURN AIR GRILLE OR REGISTER
	ROUND SUPPLY/ OUTSIDE AIR DUCT UP		EXHAUST AIR GRILLE OR REGISTER
	ROUND SUPPLY/ OUTSIDE AIR DUCT DOWN		DIFFUSER WITH FLOW DIRECTION. NO FLOW ARROWS INDICATES STANDARD 4-WAY PATTERN.
	ROUND RETURN/ RELIEF AIR DUCT UP		
	ROUND RETURN/ RELIEF AIR DUCT DOWN		SIDE WALL GRILLE
	ROUND EXHAUST AIR DUCT UP	(H) X	HUMIDITY SENSOR OR HUMIDISTAT AND NUMBER
	ROUND EXHAUST AIR DUCT DOWN	(S) X	SENSOR AND NUMBER
	DUCT WITH LINING OR SOUND INSULATION	SW X	SWITCH AND NUMBER
M	MOTORIZED CONTROL DAMPER FOR ROUND AND RECTANGULAR DUCT	(T) X	TEMPERATURE SENSOR OR THERMOSTAT & ZONE NUMBER
BDD	BACKDRAFT DAMPER FOR ROUND AND RECTANGULAR DUCT	(T) X	TEMPERATURE SENSOR OR THERMOSTAT W/ VANDAL GUARD & ZONE NUMBER
FD	FIRE DAMPER FOR ROUND AND RECTANGULAR DUCT	(YR)	REMOTE DAMPER OPERATOR (YOUNG REGULATOR)
SD	SMOKE DAMPER FOR ROUND AND RECTANGULAR DUCT	(DP)	DIFFERENTIAL PRESSURE SENSOR
FSD	COMBINATION FIRE/SMOKE DAMPER FOR ROUND AND RECTANGULAR DUCT	(SD)	DUCT SMOKE DETECTOR
VD	MANUAL VOLUME DAMPER FOR ROUND AND RECTANGULAR DUCT	(SP)	STATIC PRESSURE SENSOR
	FLEXIBLE CONNECTION	(CO)	CARBON MONOXIDE SENSOR
EPO	EMERGENCY POWER OFF BUTTON	(CO_2)	CARBON DIOXIDE SENSOR
DSD	DUCT SMOKE DETECTOR	(NO_2)	NITROGEN DIOXIDE SENSOR

CONTROL DIAGRAM LEGEND

FSD	MOTORIZED DAMPER - FIRE/ SMOKE DAMPER, 2 POSITION, SPRING CLOSED	HHL	HIGH LIMIT HUMIDITY - SWITCH
	3-WAY CONTROL VALVE	TLL	LOW LIMIT THERMOSTAT - SWITCH
	2-WAY CONTROL VALVE	THL	HIGH LIMIT THERMOSTAT - SWITCH
	BUTTERFLY CONTROL VALVE	SP	DIFFERENTIAL STATIC PRESSURE SENSOR
2	2 POSITION ACTUATOR	DP	DIFFERENTIAL PRESSURE SENSOR (ANALOG)
M	MODULATING ACTUATOR	DPS	DIFFERENTIAL PRESSURE SWITCH
2SC	2 POSITION - SPRING CLOSED	SHL	STATIC PRESSURE - HIGH LIMIT SWITCH
2SO	2 POSITION - SPRING OPEN	SLL	STATIC PRESSURE - LOW LIMIT SWITCH
MSC	MODULATING - SPRING CLOSED	FM	FLOW METER
MSO	MODULATING - SPRING OPEN	CT	CURRENT TRANSDUCER SENSOR (ANALOG)
F	FLOATING - 24VAC	CTS	CURRENT TRANSDUCER SWITCH
T	ROOM TEMPERATURE SENSOR OR THERMOSTAT	R	RELAY
H	ROOM HUMIDITY SENSOR	M	RELAY CONTACTOR - OPEN WITH NO CONTROL POWER
CO	CARBON MONOXIDE SENSOR	M	RELAY CONTACTOR - CLOSED WITH NO CONTROL POWER
CO_2	CARBON DIOXIDE SENSOR		TRANSFORMER
NO_2	NITROGEN DIOXIDE SENSOR		FUSE
T	PIPE TEMPERATURE SENSOR		TWISTED PAIR MULTI-SIGNAL CONTROL WIRING
T	DUCT TEMPERATURE SENSOR	S P	DUCT MOUNTED SMOKE DETECTOR (S) SUPPLY DUCT MOUNTED (R) RETURN DUCT MOUNTED (I) IONIZATION (P) PHOTOELECTRIC
T	SERPENTINE TEMPERATURE SENSOR		HORN
H	DUCT HUMIDITY SENSOR		STROBE
		S/S	START/ STOP

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: 16 deg F
summer dry bulb: 95 deg F

Interior design conditions
winter dry bulb: 70 deg. F.
summer dry bulb: 75 deg F.
relative humidity: 50%

Building heating load: 1,074,824 BTUH

Building cooling load: 1,339.6 MBH

Mechanical Spacing Conditioning System
Unitary
description of unit: EXISTING
heating efficiency: EXISTING
cooling efficiency: EXISTING
size category of unit: EXISTING
Boiler
Size category. If oversized, state reason.: NA
Chiller
Size category. If oversized, state reason.: NA

List equipment efficiencies: NA

2018 NC Administrative Code and Policies **Revised 6/15/2020**

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ARCH. PROJECT # **RDU 25-065**

MECHANICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS

SCALE: 12" = 1'-0"

SHEET # **M0.0**

230500 COMMON WORK RESULTS FOR HVAC

1.1 MODIFICATIONS IN LAYOUT
A. DRAWINGS AND SPECIFICATIONS FORM COMPLEMENTARY REQUIREMENTS; PROVIDE WORK SPECIFIED AND NOT SHOWN, AND WORK SHOWN AND NOT SPECIFIED AS THOUGH EXPLICITLY REQUIRED BY BOTH. ALTHOUGH WORK MAY NOT BE SPECIFICALLY SHOWN OR SPECIFIED, PROVIDE SUPPLEMENTARY OR MISCELLANEOUS ITEMS, APPURTENANCES, DEVICES AND MATERIALS OBVIOUSLY NECESSARY FOR A SOUND, SECURE AND COMPLETE INSTALLATION.
B. IT IS THE INTENT THAT THESE SPECIFICATIONS AND ASSOCIATED DRAWINGS ESTABLISH MINIMUM REQUIREMENTS FOR PRODUCTS AND EQUIPMENT WITH THE INTENT TO PROVIDE HVAC SYSTEMS FINISHED, TESTED AND READY FOR OPERATION. INCIDENTAL DETAIL THAT IS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER INSTALLATION AND OPERATION SHALL BE INCLUDED IN THE WORK AND IN THESE CONTRACTOR'S ESTIMATES, THE SAME AS IF SPECIFIED. LOCATIONS OF ALL EQUIPMENT AND MATERIAL SHALL BE ADJUSTED AT NO EXTRA COST TO THE OWNER, TO ACCOMMODATE THE WORK INTERFERENCES ANTICIPATED AND/OR ENCOUNTERED. PRIOR TO INSTALLATION, DETERMINE THE EXACT ROUTE AND LOCATION OF EACH PIPE, DUCT AND PIECE OF EQUIPMENT TO MINIMIZE CONFLICTS WITH OTHER TRADES.
C. IT IS THE REQUIREMENT OF THESE CONTRACT DOCUMENTS TO HAVE THE CONTRACTORS PROVIDE SYSTEMS AND COMPONENTS THAT ARE FULLY COMPLETE, OPERATIONAL AND SUITABLE FOR THE INTENDED USE. THERE MAY BE SITUATIONS IN THE DOCUMENTS WHERE INSUFFICIENT INFORMATION EXISTS TO PRECISELY DESCRIBE A CERTAIN COMPONENT OR SUBSYSTEM, OR THE ROUTING OF A COMPONENT OR ITS COORDINATION WITH OTHER BUILDING ELEMENTS. IN CASES SUCH AS THIS, WHERE THE CONTRACTOR HAS FAILED TO NOTIFY THE ARCHITECT OF THE SITUATION THE CONTRACTOR SHALL INCLUDE THE SPECIFIC COMPONENTS OR SUBSYSTEMS WITH ALL PARTS NECESSARY FOR THE INTENDED USE, FULLY COMPLETE AND OPERATIONAL, AND INSTALLED IN WORKMANLIKE MANNER EITHER CONCEALED OR EXPOSED PER THE DESIGN INTENT.

1.2 MODIFICATIONS IN LAYOUT
A. DRAWINGS ARE INTENDED TO OUTLINE THE SCOPE OF WORK REQUIRED AND ARE NOT INTENDED TO BE INSTALLATION DRAWINGS. DRAWINGS ARE NOT INTENDED TO BE ABSOLUTELY PRECISE; THEY ARE NOT INTENDED TO SPECIFY OR TO SHOW EVERY OFFSET, FITTING, AND COMPONENT NOR DO THEY SHOW THE EXACT ROUTINGS. THE PURPOSE OF THE DRAWINGS IS TO INDICATE A SYSTEMS CONCEPT, THE MAIN COMPONENTS OF THE SYSTEMS, AND THE APPROXIMATE GEOMETRICAL RELATIONSHIPS, BASED ON THE SYSTEMS CONCEPT, THE MAIN COMPONENTS, AND THE APPROXIMATE GEOMETRICAL RELATIONSHIPS, THE CONTRACTOR SHALL PROVIDE ALL OTHER COMPONENTS AND MATERIALS NECESSARY TO MAKE THE SYSTEMS FULLY COMPLETE AND OPERATIONAL, NOR DO THEY SHOW THE EXACT ROUTINGS AND LOCATIONS NEEDED TO COORDINATE WITH STRUCTURE AND OTHER TRADES AND TO MEET ARCHITECTURAL REQUIREMENTS.
B. UNLESS SPECIFICALLY STATED TO THE CONTRARY, NO MEASUREMENT OF A DRAWING DERIVED BY SCALING SHALL BE USED AS A DIMENSION TO WORK BY. DIMENSIONS GIVEN ON THE DRAWINGS ARE SUBJECT TO MEASUREMENTS OF ADJACENT AND PREVIOUSLY COMPLETED WORK. MEASUREMENTS SHALL BE PERFORMED PRIOR TO THE ACTUAL INSTALLATION OF EQUIPMENT.
C. PRIOR TO INSTALLATION OF VISIBLE MATERIAL AND EQUIPMENT (INCLUDING ACCESS PANELS) IN FINISHED SPACES, REVIEW ARCHITECTURAL DRAWINGS FOR DESIRED LOCATIONS AND WHERE NOT DEFINITELY INDICATED, REQUEST INFORMATION FROM ARCHITECT.
D. CHECK CONTRACT DOCUMENTS, AS WELL AS, SUBMITTALS AND SHOP DRAWINGS OF ALL SUBCONTRACTORS TO VERIFY AND COORDINATE SPACES IN WHICH WORK OF DIVISIONS 21 THROUGH 28 WILL BE INSTALLED.
E. MAKE REASONABLE MODIFICATIONS IN LAYOUT AND COMPONENTS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES. SYSTEMS SHALL BE RUN PARALLEL WITH OR PERPENDICULAR TO MAJOR ARCHITECTURAL AND STRUCTURAL BUILDING ELEMENTS.
F. WHERE CONFLICTS OR POTENTIAL CONFLICTS EXIST AND ENGINEERING GUIDANCE IS DESIRED, SUBMIT SKETCH OF PROPOSED RESOLUTION TO ARCHITECT FOR REVIEW AND APPROVAL.

1.3 COORDINATION
A. COORDINATE ARRANGEMENT, MOUNTING, AND SUPPORT OF PIPING AND EQUIPMENT:
1. TO MAINTAIN MAXIMUM HEADROOM; ALL PIPING, DUCT, CONDUIT AND ASSOCIATED COMPONENTS TO BE AS TIGHT AS POSSIBLE TO UNDERSIDE OF STRUCTURE TO PROVIDE FOR EASE OF DISCONNECTING THE EQUIPMENT WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS.
2. TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.
3. TO BE CLEAR OF OBSTRUCTIONS AND OF THE WORKING AND ACCESS SPACE OF OTHER EQUIPMENT.
B. COORDINATE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES IN CAST-IN-PLACE CONCRETE, MASONRY WALLS, AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.
C. COORDINATE LOCATION OF ACCESS PANELS AND DOORS FOR ELECTRICAL ITEMS THAT ARE BEHIND FINISHED SURFACES OR OTHERWISE CONCEALED. ACCESS DOORS AND PANELS ARE SPECIFIED IN DIVISION 08 SECTION "ACCESS DOORS AND FRAMES."
D. BUILDING ACCESS:
1. ARRANGE FOR NECESSARY OPENINGS IN BUILDING TO ALLOW FOR ADMITTANCE OF ALL APPARATUS.
E. ELECTRICAL COORDINATION:
1. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING ITEMS AS SPECIFIED UNDER DIVISION 23:
a. MOTORS.
b. ELECTRICALLY POWERED EQUIPMENT.
c. ELECTRICALLY CONTROLLED EQUIPMENT.
d. STARTERS WHERE SPECIFIED.
e. VARIABLE FREQUENCY DRIVES, WHERE SPECIFIED.
f. CONTROL DEVICES, WHERE SPECIFIED.
g. TEMPERATURE CONTROL WIRING.
h. WIRING DIAGRAMS TO ELECTRICAL CONTRACTOR FOR APPARATUS INDICATING EXTERNAL CONNECTION AND INTERNAL CONTROLS.
2. ELECTRICAL CONTRACTOR WILL PROVIDE THE FOLLOWING DEVICES REQUIRED FOR CONTROL OF MOTORS OR ELECTRICAL EQUIPMENT, UNLESS OTHERWISE NOTED:
a. STARTERS.
b. DISCONNECT DEVICES.
c. CONTROL DEVICES – PUSH BUTTONS, PILOT LIGHTS, CONTACTS, ETC.
d. CONDUIT, BOXES AND WIRING FOR POWER WIRING.
e. CONDUIT, BOXES AND WIRING FOR CONTROL WIRING, EXCEPT TEMPERATURE CONTROL WIRING.
3. ELECTRICAL CONTRACTOR WILL MAKE CONNECTIONS, FROM POWER SOURCE TO STARTER OR VARIABLE FREQUENCY DRIVE AND FROM STARTER OR VARIABLE FREQUENCY DRIVE, WHERE SPECIFIED, TO MOTOR FOR READY TO OPERATE.
4. WHERE STARTERS OR OTHER SIMILAR CONTROL DEVICES ARE FURNISHED BY THIS CONTRACTOR, THEY SHALL BE INSTALLED BY THIS CONTRACTOR, AND WIRED BY THE ELECTRICAL CONTRACTOR.
5. SHOULD ANY CHANGE IS SIZE, HP RATING OR MEANS OF CONTROL BE MADE TO ANY MOTOR OR OTHER ELECTRICAL EQUIPMENT AFTER CONTRACTS ARE AWARDED, THIS CONTRACTOR SHALL IMMEDIATELY NOTIFY ELECTRICAL CONTRACTOR OF CHANGE. ADDITIONAL COSTS DUE TO THESE CHANGES SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.

1.4 COORDINATION DRAWINGS
A. WHEN INCLUDED AS PART OF THE CONTRACT DOCUMENTS, THERE SHALL BE FULL COOPERATION AND COORDINATION OF ALL SPECIALTY TRADES.

END OF SECTION 230500

230529 HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

1.1 METAL FRAMING SYSTEMS
A. DESCRIPTION: MFMA-3, SHOP- OR FIELD-FABRICATED PIPE-SUPPORT ASSEMBLY MADE OF STEEL CHANNELS AND OTHER COMPONENTS.
B. COATINGS: MANUFACTURER'S STANDARD FINISH, UNLESS BARE METAL SURFACES ARE INDICATED.
C. NONMETALLIC COATINGS: PLASTIC COATING, JACKET, OR LINER.

1.2 FASTENER SYSTEMS
A. MECHANICAL-EXPANSION ANCHORS: INSERT-WEDGE-TYPE ZINC-COATED (STAINLESS STEEL IN CORROSIVE ENVIRONMENTS), FOR USE IN HARDENED PORTLAND CEMENT CONCRETE WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

1.3 MISCELLANEOUS MATERIALS
A. STRUCTURAL STEEL: ASTM A 36/A 36M, STEEL PLATES, SHAPES, AND BARS; BLACK AND GALVANIZED.
B. GROUT: ASTM C 1107, FACTORY-MIXED AND -PACKAGED, DRY, HYDRAULIC-CEMENT, NON-SHRINK AND NONMETALLIC GROUT; SUITABLE FOR INTERIOR AND EXTERIOR APPLICATIONS.
1. PROPERTIES: NON-STAINING, NON-CORROSIVE, AND NON-GASEOUS.
2. DESIGN MIX: 5000-PSI, 28-DAY COMPRESSIVE STRENGTH.

END OF SECTION 230529

230553 IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

1.1 EQUIPMENT LABELS
A. PLASTIC LABELS FOR EQUIPMENT:
1. MATERIAL AND THICKNESS: MULTILAYER, MULTICOLOR, PLASTIC LABELS FOR MECHANICAL ENGRAVING, 1/8 INCH THICK, AND HAVING
2. PREDRILLED HOLES FOR ATTACHMENT HARDWARE,
3. LETTER COLOR: WHITE.
4. BACKGROUND COLOR: BLACK. RED SHALL BE USED IF THE EQUIPMENT IS ON EMERGENCY POWER.
5. MAXIMUM TEMPERATURE: ABLE TO WITHSTAND TEMPERATURES UP TO 160 DEG F.
6. MINIMUM LABEL SIZE: LENGTH AND WIDTH VARY FOR REQUIRED LABEL CONTENT, BUT NOT LESS THAN 2-1/2 BY 1-1/2 INCH.
7. MINIMUM LETTER SIZE: 1/2 INCH INCLUDE SECONDARY LETTERING TWO-THIRDS TO THREE-FOURTHS THE SIZE OF PRINCIPAL LETTERING.
8. FASTENERS: STAINLESS-STEEL RIVETS OR SELF-TAPPING SCREWS.
9. ADHESIVE: CONTACT-TYPE PERMANENT ADHESIVE, COMPATIBLE WITH LABEL AND WITH SUBSTRATE.
10. EQUIPMENT LABEL SCHEDULE: FOR EACH ITEM OF EQUIPMENT TO BE LABELED, ON 8-1/2-BY-11-INCH (A4) BOND PAPER, TABULATE EQUIPMENT
a. IDENTIFICATION NUMBER AND IDENTIFY DRAWING NUMBERS WHERE EQUIPMENT IS INDICATED (PLANS, DETAILS, AND SCHEDULES), PLUS THE SPECIFICATION SECTION NUMBER AND TITLE WHERE EQUIPMENT IS SPECIFIED, EQUIPMENT SCHEDULE SHALL BE INCLUDED IN OPERATION AND MAINTENANCE DATA
B. CEILING GRID LABELS FOR CONCEALED EQUIPMENT AND VALVES:
1. COORDINATE LABEL STYLE (E.G. KROY/P-TOUCH TAPE, COLOR CODED DOTS, ETC.) WITH ARCHITECT AND OWNER.

END OF SECTION 230553

230593 TESTING ADJUSTING AND BALANCING FOR HVAC

1.1 SET HVAC SYSTEM AIRFLOW RATES WITHIN THE FOLLOWING TOLERANCES:
A. SUPPLY, RETURN, AND EXHAUST FANS AND EQUIPMENT WITH FANS: PLUS 5 PERCENT TO PLUS 10 PERCENT. THIS INCLUDES DUCT DISTRIBUTION LOSS.
B. TAB SCOPE OF WORK TO INCLUDE REBALANCING RTUS (PROVIDED IN CORE AND SHELL); EXHAUST FANS AND TERMINAL BOXES AND AIR DISTRIBUTION.
C. OUTDOOR AIR INTAKES: PLUS 10 PERCENT TO MINUS 10 PERCENT, AS LONG AS THE OVERALL ROOM IS BALANCED PROPERLY.

END OF SECTION 230593

230700 HVAC INSULATION

1.1 MINERAL-FIBER BLANKET INSULATION: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 553, TYPE II AND ASTM C 1290, TYPE III WITH FACTORY-APPLIED FSK JACKET. FACTORY-APPLIED JACKET REQUIREMENTS ARE SPECIFIED IN "FACTORY-APPLIED JACKETS" ARTICLE.
A. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
1. CERTAINTEED CORP.; DUCT WRAP.
2. JOHNS MANVILLE; MICROLITE.
3. KNAUF INSULATION; DUCT WRAP.
4. OWENS CORNING; ALL-SERVICE DUCT WRAP.

1.2 CLOSED-CELL ELASTOMERIC INSULATION: CLOSED-CELL EXPANDED RUBBER MATERIALS. COMPLY WITH ASTM C 534, TYPE I FOR TUBULAR MATERIALS AND TYPE II FOR SHEET MATERIALS.
A. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
1. AEROFLEX USA, INC.
2. ARMACELL LLC.
3. K-FLEX.

1.3 CONCEALED SUPPLY-AIR DUCT INSULATION SHALL BE THE FOLLOWING:
A. MINERAL-FIBER BLANKET: 1-1/2 INCHES THICK AND 0.75-LB/CU. FT. NOMINAL DENSITY.
B. FLEXIBLE GLASS FIBER : MINIMUM DENSITY OF 0.75 LB/ CU. FT WITH THERMAL CONDUCTIVITY OF NOT MORE THAN 0.27 AT 75 DEG F MEAN TEMPERATURE AND SUITABLE FOR TEMPERATURE TO 250 DEG F. OWENS CORNING "ALL SERVICE DUCT WRAP" JOHNS MANVILLE MICROLITE.

1.4 CLOSED CELL ELASTOMERIC INSULATION FOR REFRIGERNANT PIPING: CLOSED-CELL EXPANDED RUBBER MATERIALS, COMPLY WITH ASTM C 534, TYPE I FOR TUBULAR MATERIALS AND TYPE II FOR SHEET MATERIALS
A. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
1. AEROFLEX USA, INC.
2. ARMACELL LLC.
3. K-FLEX.

END OF SECTION 230700

230900 INSTRUMENTATION AND CONTROL FOR HVAC

1.1 CONTROL SYSTEM
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. MATCH EXISTING DDC SYSTEM
B. CONTROL SYSTEM SHALL CONSIST OF SENSORS, INDICATORS, ACTUATORS, FINAL CONTROL ELEMENTS, INTERFACE EQUIPMENT, POWER SUPPLIES, OTHER APPARATUS, ACCESSORIES, AND SOFTWATER CONNECTED TO DISTRIBUTED CONTROLLERS OPERATING IN MULTIUSER, MULTITASKING ENVIRONMENT AND PROGRAMMED TO CONTROL MECHANICAL SYSTEMS. CONTROL SYSTEM SHALL BE ON A DEDICATED NETWORK. THE USE OF THE BUILDING IT NETWORK MAY BE UTILIZED FOR COMMUNICATION IF OWNER APPROVAL IS RECEIVED. AN OPERATOR WORKSTATION PERMITS INTERFACE WITH THE NETWORK VIA DYNAMIC COLOR GRAPHICS WITH EACH MECHANICAL SYSTEM, BUILDING FLOOR PLAN, AND CONTROL DEVICE DEPICTED BY POINT AND CLICK GRAPHICS.
C. THIRD PARTY MANUFACTURERS: CONTROL COMPONENTS PROVIDED BY OTHER MANUFACTURES ARE SUBJECT TO COMPLIANCE WITH PERFORMANCE REQUIREMENTS SPECIFIED

1.2 AIR TERMINAL UNITS CONTROLLER
A. COORDINATED WITH THE AIR TERMINAL UNIT MANUFACTURER AMPLIFIED DIFFERENTIAL PRESSURE TRANSDUCER CONTROLLER TO READ FLOW AND DAMPER ACTUATOR FOR PRESSURE INDEPENDENT PROPORTIONAL CONTROL COMPLETE WITH HEATING CONTROL, SUPPLY AIR TEMPERATURE SENSOR, SPACE THERMOSTAT AND BAS NETWORK CONNECTIONS. DAMPER CONTROLLER WITH POSITION FEEDBACK DESIGNED FOR FACTORY MOUNTING TO AIR TERMINAL UNIT DAMPER AND AIRFLOW ASSEMBLY
1. TRANSDUCER MANUFACTURERERS: AS SPECIFIED FOR STATIC-PRESSURE TRANSMITTERS.
2. ACTUATOR MANUFACTURER: AS SPECIFIED FOR FACILITY CONTROL SYSTEM.
3. CONTROLLER WITH SET UP INTERFACE FOR SETTING MINIMUM AND MAXIMUM FLOW LIMITS
4. PLENUM RATED POLYETHYLENE TUBING OR ALUMINUM TUBING FROM PROBES TO PRESSURE TRANSDUCER.
5. NETWORK CONNECTION TO FACILITY CONTROL SYSTEM.
6. BIDIRECTIONAL TRANSDUCER WITH SUITABLE RANGE FOR EXPECTED INPUT.
7. PERFORMANCE:
a. TRANSDUCER ACCURACY WITHIN PLUS OR MINUS 10% OF READING.
b. AIRFLOW RANGE FOR OPERATION BETWEEN 300 FPM AND 5000 FPM

1.3 ALL CONTROLS SHALL BE IN 3/4" CONDUIT

230900 INSTRUMENTATION AND CONTROL FOR HVAC - CONT.

1.3 THERMOSTATS
A. ELECTRIC, SOLID-STATE, MICROCOMPUTER-BASED ROOM THERMOSTAT WITH REMOTE SENSOR WITH INTEGRAL BATTERY PACK.
1. AUTOMATIC SWITCHING FROM HEATING TO COOLING.
2. PREFERENTIAL RATE CONTROL TO MINIMIZE OVERSHOOT AND DEVIATION FROM SET POINT.
3. SET UP FOR FOUR SEPARATE TEMPERATURES PER DAY.
4. INSTANT OVERRIDE OF SET POINT FOR CONTINUOUS OR TIMED PERIOD FROM 1 HOUR TO 31 DAYS.
5. SHORT-CYCLE PROTECTION.
6. PROGRAMMING BASED ON EVERY DAY OF WEEK.
7. SELECTION FEATURES INCLUDE DEGREE F DEGREE C DISPLAY, 12- OR 24-HOUR CLOCK, KEYBOARD DISABLE, REMOTE SENSOR, AND FAN ON-AUTO.
8. BATTERY REPLACEMENT WITHOUT PROGRAM LOSS.
9. THERMOSTAT DISPLAY FEATURES INCLUDE THE FOLLOWING:
a. TIME OF DAY.
b. ACTUAL ROOM TEMPERATURE.
c. PROGRAMMED TEMPERATURE.
d. PROGRAMMED TIME.
e. DURATION OF TIMED OVERRIDE.
f. DAY OF WEEK.
g. SYSTEM MODE INDICATIONS INCLUDE "HEATING," "OFF," "FAN AUTO," AND "FAN ON."

1.4 TEMPERATURE SENSORS
A. VIBRATION AND CORROSION RESISTANT, FOR WALL, IMMERSION, OR DUCT MOUNTING AS REQUIRED.
1. ACCURACY: PLUS OR MINUS 0.2 PERCENT AT CALIBRATION POINT.
2. WIRE: TWISTED, SHIELDED-PAIR CABLE.
3. INSERTION ELEMENTS IN DUCTS: SINGLE POINT; USE WHERE NOT AFFECTED BY TEMPERATURE STRATIFICATION OR WHERE DUCTS ARE SMALLER THAN 9 SQ. FT.
4. AVERAGING ELEMENTS IN DUCTS AND AIR HANDLING UNITS: 24 FEET LONG, FLEXIBLE; USE WHERE PRONE TO TEMPERATURE STRATIFICATION OR WHERE DUCTS ARE LARGER THAN 9 SQ. FT.; LENGTH AS REQUIRED. PROVIDE AVERAGING SENSORS FOR ALL MIXED AIR APPLICATIONS.
5. ROOM SENSOR COVER CONSTRUCTION: MANUFACTURER'S STANDARD DISPLAY AND COVERS,
a. SET POINT ADJUSTMENT: CONCEALED FOR PUBLIC AREAS.
6. OUTSIDE-AIR SENSORS: WATER TIGHT INLET FITTING, SHIELDED FROM DIRECT SUNLIGHT.

1.5 HUMIDITY SENSORS
A. BULK POLYMER SENSOR ELEMENT
1. ACCURACY: 2 PERCENT FULL RANGE WITH LINEAR OUTPUT
2. ROOM SENSOR RANGE: 20 TO 80 PERCENT RELATIVE HUMIDITY
3. ROOM SENSOR COVER CONSTRUCTION: MANUFACTURER'S STANDARD LOCKING COVERS
4. DUCT SENSOR: 0 TO 100 PERCENT RELATIVE HUMIDITY RANGE WITH ELEMENT GUARD AND MOUNTING PLATE.
5. OUTSIDE AIR SENSOR: 0 TO 100 PERCENT RELATIVE HUMIDITY RANGE WITH MOUNTING ENCLOSURE. SUITABLE FOR OPERATION AT OUTDOOR TEMPERATURES OF MINUS 22 TO PLUS 185 DEG F.

1.6 LEVEL SENSORS
A. FLOWLINE ECHOPOD DL14 OR APPROVED EQUAL
B. PROVIDE LEVEL MEASUREMENT, SWITCHES AND CONTROL FUNCTIONS
C. DETAILS:
1. RANGE: 49 INCHES
2. ACCURACY: 0.125 INCHES
3. RESOLUTION: 0.019 INCHES
4. DEAD BAND: 2 INCHES
5. BEAM WIDTH: 2 INCHES
6. SIGNAL OUTPUT: 4-30mA, TWO WIRE
7. CONTACT TYPE: FOUR SPST RELAYS
8. PROCESS TEMPERATURE: 20 TO 140 DEG F
9. AMBIENT TEMPERATURE: -30 TO 140 DEG F
10. PRESSURE: 30 PSI

END OF SECTION 230900

233005 BIM COORDINATION DRAWINGS

1.1 SUMMARY
A. THIS SECTION INCLUDES THE REQUIREMENTS FOR ALL TRADES TO SPATIALLY COORDINATE THEIR SCOPES OF WORK IN A BUILDING INFORMATION MODEL (BIM) PRIOR TO INSTALLATION TO PREVENT AVOIDABLE CONFLICTS. THE MEP/FP CONTRACTORS SHALL CREATE ELECTRONIC 3D BIM MODELS IN THEIR PROPRIETARY TRADE-SPECIFIC FABRICATION SOFTWARE, THEN THEY SHALL IMPORT THOSE SEPARATE FILES INTO A COLLABORATIVE BIM COORDINATION SOFTWARE SIMILAR TO NAVISWORKS. THE CONTRACTORS SHALL REVISE THEIR MODELS AS NECESSARY FOR SPATIAL 3D COORDINATION AND CLASH DETECTION WITH THE OVERALL BIM MODEL. THE EXPECTATION IS FOR THE CONTRACTORS TO OPTIMIZE HOW TO ASSEMBLE AND CONSTRUCT THE BUILDING AND SYSTEMS USING A DIGITAL BIM MODEL BEFORE ACTUAL CONSTRUCTION BEGINS.

1.2 BIM MANAGEMENT
A. THIS SECTION SHALL BE A SUPPLEMENT TO DIVISION 1 REQUIREMENT FOR THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER. UNLESS DIRECTED OTHERWISE IN DIVISION 1, THE MECHANICAL CONTRACTOR SHALL LEAD AND MANAGE THE BIM COORDINATION PROCESS FOR THE MEP/FP CONTRACTORS AND BECOME THE MEP/FP BIM COORDINATOR.
B. THE CONSTRUCTION TEAM SHALL UTILIZE THEIR OWN BIM MODEL TO COORDINATE THE SPATIAL REQUIREMENTS OF EACH TRADE AND PREVENT AVOIDABLE CONFLICTS DURING CONSTRUCTION.
C. ALL TRADES ARE RESPONSIBLE FOR MAINTAINING THEIR OWN BIM SOFTWARE THROUGHOUT THE PROJECT.
D. THE BIM COORDINATOR SHALL CREATE A BIM COORDINATION CALENDAR SCHEDULE FOR ALL TRADES, INTEGRATED WITH THE OVERALL PROJECT CONSTRUCTION SCHEDULE. THE BIM COORDINATOR SHALL COMBINE THE SUB-CONTRACTORS TRADE-SPECIFIC 3D MODELLING SOFTWARE INTO A COMBINED COLLABORATION MODEL (SIMILAR TO NAVISWORKS), FOR THE PURPOSES OF 3D COORDINATION AND CLASH DETECTION AT A 400 LEVEL OF DEVELOPMENT (LOD).

1.3 DISCIPLINE / TRADE COORDINATION
A. EACH OF THE MEP/FP TRADES INVOLVED IN THE CREATION OF THE PROJECT'S BIM MODEL SHALL PROVIDE A BIM COORDINATOR TO SERVE AS THE LEAD TECHNICIAN AND COMMUNICATOR TO ENSURE THEIR TRADE'S INFORMATION IS SHARED IN THE OVERALL BIM COORDINATION MODEL.

1.4 RELIANCE ON 3D BIM MODEL
A. THE ARCHITECT AND ENGINEER USE 3D BIM SOFTWARE AS A MEANS TO PRODUCE TWO DIMENSIONAL DRAWINGS TO MEET THE REQUIREMENTS OF LOCAL BUILDING DEPARTMENTS. THE ARCHITECT AND ENGINEER HAVE NO OBLIGATION TO THE CONTRACTOR FOR THE 3D BIM MODEL OTHER THAN FOR THE DEVELOPMENT AND PREPARATION OF 2D DRAWINGS. THE CONTRACTORS CAN ASSUME THAT THE ENGINEER'S PRINTED CONSTRUCTION DOCUMENTS ARE SPATIALLY COORDINATED. EXP HAS NO OBLIGATION TO THE CONTRACTOR TO PROVIDE THE MEP/FP REVIT MODEL FILES, NOR SHALL THE CONTRACTOR RELY ON THE ACCURACY OF ANY ELEMENT'S ELEVATION IN THE MODEL. THE ELEVATIONS FOR ALL EQUIPMENT MUST BE COORDINATED WITH THE ARCHITECT'S MODEL. EXP'S MEP/FP BIM REVIT MODEL FILES ARE NOT COLLISION-FREE AS IT RELATES TO THE CLASH DETECTION PROCESS IN NAVISWORKS OR SIMILAR BIM SIMULATION SOFTWARE.
B. AT ANY PARTICULAR PROJECT MILESTONE, THE CONTRACTORS CAN ONLY RELY ON THE ACCURACY AND COMPLETENESS OF THE DESIGN TEAM'S BIM MODEL (REVIT FILES) ONLY TO THE EXTENT CONSISTENT WITH THE MINIMUM DATA REQUIRED FOR THE LEVEL OF DEVELOPMENT (LOD) FOR THAT PROJECT MILESTONE.
C. THE MEP/FP CONSTRUCTION DRAWING REVIT BIM MODELS ARE GENERALLY PREPARED TO THE LOD 300 STANDARD FOR MOST SYSTEMS, EXCEPT ELECTRICAL WHICH IS BETWEEN LOD 200 AND 300.

1.5 SPATIAL COORDINATION MEETINGS
A. THE BIM COORDINATOR SHALL HOST REGULAR COORDINATION MEETINGS. ATTENDANCE IS MANDATORY FOR ALL MEP/FP BIM TRADE REPRESENTATIVES TO FOR THE 3D COORDINATION PROCESS TO MAINTAIN THE CONSTRUCTION SCHEDULE
B. ELECTRONIC MEP/FP SPATIAL INTERFERENCE RECONCILIATION SHALL OCCUR DURING MANDATORY COORDINATION MEETINGS. USING COLLABORATIVE SOFTWARE (SIMILAR TO NAVISWORKS) THE BIM COORDINATOR PROVIDES REAL TIME RENDERED VIEWS OF THE STRUCTURE AND MEP/FP COMPONENTS, DOCUMENTATION OF SPATIAL INTERFERENCES, AND IDENTIFICATION OF THE PARTY RESPONSIBLE FOR MAKING REVISIONS. IT IS ASSUMED THAT THE SUB-CONTRACTORS WILL USE SPECIALTY SOFTWARE FOR PREPARATION OF THEIR INSTALLATION AND SHOP DRAWINGS, AFTER EVERY SPATIAL COORDINATION MEETING A REPORT OF REQUIRED REVISIONS SHALL BE DISTRIBUTED TO THE MEP/FP SUB-CONTRACTORS.
C. THE CONTRACTORS SHALL COORDINATE THEIR SCOPE OF WORK SPATIALLY IN 3D COLLABORATION SOFTWARE PRIOR TO CONSTRUCTION INSTALLATION. A CONTRACTOR WHO FAILS TO PROPERLY COORDINATE HIS WORK THROUGH THE BIM COORDINATION PROCESS SHALL ASSUME FULL RESPONSIBILITY OF ANY INSTALLATION CONFLICTS AFFECTING HIS WORK AND OF ANY PROJECT SCHEDULE RAMIFICATIONS. INSTALLATION OF WORK THAT MUST BE RELOCATED OR CHANGED PRIOR TO THE COMPLETION OF THE BIM COORDINATION PROCESS SHALL NOT BE A BASIS FOR A CHANGE REQUEST.
D. COORDINATION INCLUDES SHIFTING LOCATIONS OF EQUIPMENT OR SYSTEMS SHOWN ON THE DESIGN DRAWINGS TO FIT WITHIN THE AVAILABLE SPACE. IT ALSO INCLUDES RELOCATING PATHWAYS OF PIPING, CONDUIT AND DUCTWORK TO RESOLVE SPATIAL INTERFERENCE ISSUES. CONFLICTING DUCTWORK DIMENSIONS AND ASPECT RATION CAN BE ALTERED BY THE CONTRACTORS PROVIDING THE AIR VELOCITIES AND PRESSURE DROPS ARE NOT INCREASED MORE THAN 10%.

1.6 DIMENSIONAL CONTROL WITH MODELS
A. ONCE THE MEP/FP SUB-CONTRACTOR'S SPECIALTY FABRICATION MODELS ARE COORDINATED, THE ACTUAL CONSTRUCTION IN THE FIELD MUST MATCH THE COORDINATION MODELS. WHEN THIS DOES NOT OCCUR, THE ELEMENTS ARE NOT INSTALLED PER THE COORDINATED MODEL AND RESULT IN PHYSICAL CONFLICTS, WHICH MAY DELAY CONSTRUCTION ACTIVITIES AND INCREASE THE SUB-CONTRACTOR'S COST TO BUILD THE PROJECT. A KEY ASPECT OF MAINTAINING POSITIONAL ACCURACY OF INSTALLED COMPONENTS IS PLANNING. THIS INVOLVES IDENTIFYING TRADE SUB-CONTRACTOR CAPABILITIES REGARDING THE LAYOUT, MAINTAINING AN ACCURATE SURVEY-CONTROL NETWORK, MAPPING THE PROCESS FOR TAKING THE FABRICATION MODEL DATA TO THE FIELD FOR LAYOUT, AND THE QUALITY ASSURANCE/QUALITY CONTROL PROCESS FOR CONFIRMATION THAT COMPONENTS ARE INSTALLED PER THE COORDINATED MODEL.

1.7 CLASH DETECTION
A. THE DESIGN TEAM'S LOD DOES NOT REQUIRE THE DESIGN BIM MODEL TO BE FREE FROM CLASHES. THE OWNER DOES REQUIRE THE CONTRACTOR'S BIM COORDINATION MODEL ILLUSTRATE REASONABLE SPATIAL COORDINATION WITH THE ACTUAL EQUIPMENT TO BE INSTALLED, AS REFLECTED IN THE SUBMITTALS. THE APPROVED MANUFACTURER'S ACTUAL BIM COMPONENTS SHALL BE USED IN THE CONTRACTOR'S BIM MODEL REFLECTING THE ACTUAL PHYSICAL DIMENSIONS AND REQUIRED CLEARANCES. CLASHES IN THE CONTRACTORS BIM MODELS SHALL BE RESOLVED.

1.8 3D COORDINATION
A. AS THE CONTRACTORS SPECIALTY FABRICATION SOFTWARE MODELS ARE DEVELOPED TO PRODUCE SHOP DRAWINGS AND ASSIST WITH PRE-FABRICATION, THESE MODELS MUST BE COORDINATED TO RESOLVE CLASHES BEFORE WORK IS PERFORMED IN THE FIELD. TRADE CONTRACTORS ARE REQUIRED TO MODEL ADDITIONAL CONSTRUCTION ELEMENTS REFLECTIVE OF LOD 400 WHICH ARE NOT SHOWN IN THE DESIGN TEAM'S LOD 200-300 MODELS. EXAMPLES INCLUDE CONDUIT, ACTUAL CABLE TRAY SIZES AND FITTINGS, DUCT AND PIPE HANGERS, INSULATION FOR PIPES AND DUCTS, SPRINKLER BRANCH PIPING, ETC. AS THE INSTALLATION MODELS BECOME MORE DETAILED, CLASH DETECTION AND MANAGEMENT IS REQUIRED TO MANAGE DIMENSIONAL CHANGES TO THESE SYSTEMS AS THE ACTUAL SIZES, ROUTING, AND LAYOUTS ARE FURTHER DEFINED. THE PROCESS OF ESTABLISHING CLASH PRIORITIES DURING DESIGN MAY DIFFER FROM THE PRIORITIES NEEDED DURING CONSTRUCTION.

1.9 SUBMITTALS
A. BIM INSTALLATION/COORDINATION DRAWINGS SHALL NOT BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW UNLESS NOTED OTHERWISE.
B. INSTALLATION/COORDINATION DRAWINGS. MEP/FP CONTRACTORS SHALL NOT INSTALL ANY SYSTEMS OR EQUIPMENT WITHOUT FIRST PREPARING A BIM MODEL TO REFLECT A COORDINATION INSTALLATION PROCESS AND SCHEDULE.
C. SHEET METAL SHOP DRAWINGS: THE MECHANICAL CONTRACTOR SHALL SUBMIT COORDINATED SHEET METAL SHOP DRAWINGS FO

233300 AIR DUCT ACCESSORIES - CONT.

1.3 FIRE DAMPERS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. AIR BALANCE INC., A DIVISION OF MESTEK INC.
2. GREENHECK
3. NAILOR INDUSTRIES INC.
4. POTTORFF; A DIVISION OF PCI INDUSTRIES, INC.
B. DYNAMIC TYPE FIRE DAMPERS, MEETING THE REQUIREMENTS OF THE LATEST EDITION OF UL STANDARD 555, SUITABLE FOR APPLICATION IN DYNAMIC OR STATIC HVAC SYSTEMS. PROVIDE DAMPERS FOR VERTICAL OR HORIZONTAL AS APPROPRIATE FOR THE INSTALLATION.
C. PROVIDE STAINLESS STEEL CONSTRUCTION WHEN MOUNTED IN STAINLESS STEEL OR ALUMINUM DUCT SYSTEMS.
D. DYNAMIC CLOSING RATING IN DUCTS UP TO 4-INCH WG STATIC PRESSURE CLASS AND MINIMUM 2000 FPM VELOCITY.
E. FIRE RATING: 1-1/2 AND 3 HOURS, COMPATIBLE WITH ASSEMBLY BEING INSTALLED IN.
F. MULTIBLADE TYPE
1. TRIPLE V-GROOVE BLADES FOR 1 ½ HOUR FIRE RATING TO 4-INCH WG STATIC PRESSURE CLASS AND MINIMUM 2000 FPM VELOCITY.
2. AIR FOIL BLADES FOR 3 HOUR FIRE RATING TO 8-INCH WG STATIC PRESSURE CLASS AND UP TO 4000 FPM VELOCITY.
3. FRAME: INTEGRAL FRAME CONSTRUCTED OF 16-GAUGE ROLL FORMED GALVANIZED STEEL HAT SHAPED CHANNEL, REINFORCED AT CORNERS, PROVIDE DUCT FIRE DAMPERS WITH FACTORY MOUNTED WALL MOUNTING SLEEVE OF LENGTH SUITABLE FOR WALL TYPE.
4. BLADES:
a. V-GROOVE BLADES SINGLE SKIN WITH 3 LONGITUDINAL GROOVES CONSTRUCTED OF MINIMUM 16-GAUGE GALVANIZED STEEL, ACMA TESTED FOR DUCTED CONFIGURATION WITH MAXIMUM AIR PRESSURE DROP OF 0.2 IN WG AT 2000-FPM THROUGH 24"x24" DAMPER ASSEMBLY.
b. AIRFOIL-SHAPED, SINGLE-PIECE OF MINIMUM 14-GAUGE EQUIVALENT THICKNESS, GALVANIZED STEEL, ACMA TESTED FOR DUCTED CONFIGURATION WITH MAXIMUM AIR PRESSURE DROP OF 0.1 IN. WG AT 2000-FPM THROUGH 24"x24" DAMPER ASSEMBLY.
5. BEARINGS: SELF LUBRICATING STAINLESS STEEL SLEEVE, TURNING IN EXTRUDED HOLE IN FRAME.
6. LINKAGE: CONCEALED IN FRAME WITH MINIMUM ½" DIAMETER PLATED STEEL AXLES MECHANICALLY ATTACHED TO BLADE WITH SPRING CLOSURE UPON FUSIBLE LINK RELEASE.
7. MOUNTING SLEEVE: FACTORY-INSTALLED, 20-GAUGE, OR DUCT THICKNESS WHICH IS GREATER, THICK, GALVANIZED SHEET STEEL; LENGTH TO SUIT WALL OR FLOOR APPLICATION INCLUDING OUT OF WALL APPLICATIONS.
8. HEAT-RESPONSIVE DEVICE: REPLACEABLE, 165 DEG F UNLESS SPECIFICALLY IDENTIFIED TO BE 212 DEG F RATED, FUSIBLE LINKS.
9. ACCESSORIES:
a. FIELD OR FACTORY FURNISHED MOUNTING ANGLES INCLUDING MANUFACTURER ONE SIDED ANGLE.
b. STEEL MULLIONS FOR DAMPERS IN OVERSIZED MASONRY WALL OPENINGS.
c. PROVIDE SLEEVE AND INSULATING MATERIAL TO ALLOW FOR OUT OF WALL INSTALLATION WITH DAMPER UP TO 8" OUT OF PLANE OF WALL OR FLOOR AS REQUIRED FOR THE APPLICATION.
d. WHEN INDICATED ON PLANS, TWO POSITION INDICATOR SWITCHES LINKED DIRECTLY TO DAMPER BLADE FOR POSITION INDICATION.

1.4 COMBINATION FIRE AND SMOKE DAMPERS
A. MANUFACTURERS:
1. AIR BALANCE INC., A DIVISION OF MESTEK, INC.
2. GREENHECK
3. NAILOR INDUSTRIES INC.
4. POTTORFF; A DIVISION OF PCI INDUSTRIES INC.
B. COMBINATION FIRE SMOKE DAMPER WITH FACTORY ACTUATOR, MEETING THE REQUIREMENTS OF THE LATEST EDITION OF THE UL STANDARD 555 AND 555S, SUITABLE FOR APPLICATION IN HVAC SYSTEMS, PROVIDE DAMPERS FOR VERTICAL OR HORIZONTAL AS APPROPRIATE FOR THE INSTALLATION WITH A MINIMUM TEMPERATURE RATING OF 350 DE F.
C. FIRE RATING: 1-1/2 AND 3 HOURS, COMPATIBLE WITH ASSEMBLY BEING INSTALLED IN/
D. PROVIDE STAINLESS STEEL CONSTRUCTION WHEN MOUNTED IN STIANLESS STEEL OR ALUMINUM DUCT SYSTEMS.
E. TRIPLE V-GROOVE BLADES WITH SEALS FOR LEAKAGE CLASS I RATING DYNAMIC CLOSURE IN DUCTS UP TO 4-IN WG STATIC PRESSURE CLASS AND MINIMUM 2000-FPM VELOCITY.
F. AIR FOIL BLADES WITH SEALS FOR LEAKAGE CLASS I RATING DYNAMIC CLOSURE IN DUCTS UP TO 4-IN WG STATIC PRESSURE CLASS AND MINIMUM 3000-FPM VELOCITY.
G. FRAME: INTEGRAL FRAME CONSTRUCTED OF 16-GAUGE ROLL FORMED GALVANIZED STEEL HATE SHAPED CHANNEL, REINFORCED AT CORNERS, PROVIDE DUCT SMOKE DAMPERS WITH FACTORY MOUNTED WALL MOUNTING SLEAVE OF LENGTH SUITABLE FOR WALL TYPE.
H. BLADES:
1. V-GROOVE BLADES SINGLE SKIN WITH 3 LONGITUDINAL GROOVES CONSTRUCTED OF MINIMUM 18-GAUGE GALVANIZED STEEL, ACMA TESTED FOR DUCTED CONFIGURATION WITH MAXIMUM AIR PRESSURE DROP OF 0.2 IN WG AT 2000-FPM THROUGH 24"x24" DAMPER ASSEMBLY
2. AIRFOIL-SHAPED, SINGLE PIECE OF MINIMUM 14-GAUGE EQUIVALENT THICKNESS, GALVANIZED STEEL, ACMA TESTED FOR DUCTED CONFIGURATION WITH MAXIMUM AIR PRESSURE DROP OF 0.1 IN WG AT 2000-FPM THROUGH 24"x24" DAMPER ASSEMBLY.
I. BEARINGS: SELF-LUBRICATING STAINLESS STELL SLEEVE, TURNING IN EXTRUDED HOLE IN FRAME.
J. LINKAGE: CONCEALED IN FRAME WITH MINIMUM ½" DIAMETER PLATED STEEL AXLES MECHANICALLY ATTACHED TO BLADE WITH ACTUATOR CLOSUREAND TEMPERATURE RELEASE DEVICE.
K. HEAT-RESPONSIVE DEVICE: ELECTRIC RESETTABLE LINK AND SWITCH PACKAGE, FACTORY INSTALLED.
1. CLOSE IN A TIMED CONTROLLED MANNER FOR DUCT PRESSURE EQUALIZATION
2. ALLOW DAMPER TO BE AUTOMATICALLY AND REMOTELY RESET AFTER TEST OR POWER FAILURE.
3. MOUNT ON SAME SIDE AS DAMPER ACTUATOR
L. MOUNTING SLEEVE: FACTORY-INSTALLED, 20-GAUGE, OR DUCT THICKNESS WHICHEVER IS GREATER, THICK, GALVANIZED SHEET STEEL,; LENGTH TO SUIT WALL OR FLOOR APPLICATION INCLUDING OUT OF WALL APPLICATIONS.
M. DAMPER MOTORS/ACTUATORS:
1. TWO-POSITION ACTION.
2. EXTERNAL OUT OF AIR STREAM MOUNTING
3. ELECTRICAL CONNECTION: 120V. CONTRACTORS OPTION TO USE 24V ACTUATORS PLUS CONTROLS CONTRACTOR WIRING AS A PRE-APPROVED SUBSTITUTION INCLUDING CREDIT FROM DIV 26 FOR NOT PROVIDING 120V WIRING.
4. ACTUATORS SHALL INCLUDE THE FOLLOWING:
a. ACTUATOR SHALL BE FURNISHED FACTORY MOUNTED TO THE DAMPER
b. PROVIDE SPRING FAIL SAFE RETUR. PROVIDE NORMALLY OPEN OR CLOSED POSITION AS INDICATED IN THE POINTS LIST OR SEQUENCE OF OPERATION.
c. LOW VOLTAGE RELAY FOR 24V DAMPERS.

1.5 ACCESSORIES:
1. FIELD OR FACTORY FURNISHED MOUNTING ANGLES INCLUDING MANUFACTURER ONE SIDED ANGLE.
2. STEEL MULLIONS FOR DAMPER SIN OVERSIZED MASONRY WALL OPENINGS.
3. PROVIDE SLEEVE AND INSULATING MATERIAL TO ALLOW FOR OUT OF WALL INSTALLATION WITH DAMPER UP TO 8" OUT OF PLANE OF WALL OR FLOOR AS REQUIRED FOR THE APPLICATION.
4. TWO POSITION INDICATOR SWITCHES LINKED DIRECTLY TO DAMPER BLADE TO REMOTELY INDICATE DAMPER POSITION.
5. MOMENTARY TEST SWITCH, DAMPER MOUNTED.
6. SMOKE DETECTOR.

1.5 FLEXIBLE CONNECTORS
A. MATERIALS: FLAME-RETARDANT OR NONCOMBUSTIBLE FABRICS.
B. COATINGS AND ADHESIVES: COMPLY WITH UL 181, CLASS 1.
C. METAL-EDGED CONNECTORS: FACTORY FABRICATED WITH A FABRIC STRIP 5-3/4 INCHES) WIDE ATTACHED TO 2 STRIPS OF 2-3/4-INCH-) WIDE, 0.028-INCH-) THICK, GALVANIZED SHEET STEEL OR 0.032-INCH-) THICK ALUMINUM SHEETS. PROVIDE METAL COMPATIBLE WITH CONNECTED DUCTS.
D. INDOOR SYSTEM, FLEXIBLE CONNECTOR FABRIC: GLASS FABRIC DOUBLE COATED WITH NEOPRENE.
1. MINIMUM WEIGHT: 26 OZ./SQ. YD.,
2. TENSILE STRENGTH: 480 LBF/INCH IN THE WARP AND 360 LBF/INCH IN THE FILLING.
3. SERVICE TEMPERATURE: MINUS 40 TO PLUS 200 DEG F.

1.6 FLEXIBLE DUCTS
A. AVAILABLE MANUFACTURERS:
1. FLEXMASTER U.S.A., INC.
2. THERMAFLEX
B. FACTORY FABRICATED SUITABLE FOR PRESSURES AND TEMPERATURES INVOLVED. FLEXIBLE DUCT UNDERWRITERS' LABORATORIES LISTING, UL-181 CLASS 1 DUCT AND NFPA 90A A FLAME SPREAD OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR UNDER.
C. PRESSURE RATING OF FLEXIBLE DUCT, 6 INCH W.G.1500 PA POSITIVE, 1 INCH W.G. 250 PA NEGATIVE, RATED FOR A VELOCITY OF AT LEAST 4000 FPM (20 M/S UNLESS OTHERWISE SPECIFIED).
D. TEMPERATURE RATING OF FLEXIBLE DUCT, CONTINUOUS OPERATION AT A TEMPERATURE RANGE OF -20°F TO +250°F,UNLESS OTHERWISE SPECIFIED.
E. INSULATED FLEXIBLE DUCT SHALL BE CONSTRUCTED OF AN INNER AIR BARRIER LINER SUPPORTED BY AND MECHANICALLY LOCKED TO A HELICAL WOUND GALVANIZE STEEL HELIX WITHOUT THE USE OF ADHESIVES OR CHEMICALS. FACTORY-INSULATE THE FLEXIBLE DUCT WITH FIBERGLASS INSULATION WITH AN R VALUE OF 6 MINIMUM AT A MEAN TEMPERATURE OF 75 F. COVER THE INSULATION WITH A FIRE-RETARDANT METALIZED VAPOR BARRIER JACKET REINFORCED WITH CROSSHATCHED SCRIM HAVING A PERMEANCE OF NOT GREATER THAN .05 PERMS WHEN TESTED IN ACCORDANCE WITH ASTM E96.
F. INSULATED, FLEXIBLE DUCT: INNER AIR BARRIER LINER LAMINATED POLYESTER FILM OR TRILAMINATE ALUMINIZED POLYESTER, FLEXMASTER TYPE 5M, THERMOFLEX FLEX-VENT KM.
1. PRESSURE RATING: 6-INCH WG POSITIVE AND .5-INCH WG NEGATIVE.
G. FLEXIBLE DUCT CONNECTIONS:
1. CLAMPS: STAINLESS-STEEL BAND WITH CADMIUM-PLATED HEX SCREW TO TIGHTEN BAND WITH A WORM-GEAR ACTION OR NYLON STRAP TO MATCH DUCT MATERIAL AND TO SUIT DUCT SIZE. SHEET METAL SCREWS WILL NOT BE ALLOWED.

1.7 DUCT SILENCERS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. INDUSTRIAL ACOUSTICS.
2. KINETICS NOISE CONTROL.
3. MCGILL AIRFLOW LLC.
4. RUSKIN COMPANY.
5. VIBRO-ACOUSTICS.
6. PRICE INDUSTRIES.
7. DYNASONICS; A DIVISION OF PCI INDUSTRIES. INC.
8. POTTORFF; A DIVISION OF PCI INDUSTRIES, INC.
B. GENERAL REQUIREMENTS:
1. FACTORY FABRICATED.
2. FIRE-PERFORMANCE CHARACTERISTICS: ADHESIVES, SEALANTS, PACKING MATERIALS, AND ACCESSORY MATERIALS SHALL HAVE FLAME-SPREAD INDEX NOT EXCEEDING 25 AND SMOKE-DEVELOPED INDEX NOT EXCEEDING 50 WHEN TESTED ACCORDING TO ASTM E 84.
C. RECTANGULAR SILENCER OUTER CASING: ASTM A 653/A 653M, G90 (Z275), GALVANIZED SHEET STEEL.
D. ELBOW SILENCER OUTER CASING: ASTM A 653/A 653M, G90 (Z275), GALVANIZED SHEET STEEL.
E. INNER CASING AND BAFFLES: ASTM A 653/A 653M, G90 (Z275), GALVANIZED SHEET METAL, WITH 1/8-INCH- (3-MM-) DIAMETER PERFORATIONS.
F. PRINCIPAL SOUND-ABSORBING MECHANISM: DISSIPATIVE TYPE AS SCHEDULED:
1. DISSIPATIVE ABSORPTIVE TYPE WITH FILL MATERIAL.
a. FILL MATERIAL: FIBROUS-GLASS FILL WITH FIBERGLASS CLOTH LINER COMPLYING WITH NFPA 90 A AND 90B, UNLESS SCHEDULED OTHERWISE.
b. LINING: PERFORATED LINER RIGIDLY FASTENED TO THE CASING ON BOTH ENDS, AND ATTACHED TO THE OUTER CASING WITH A MINIMUM OF TWO STIFFENERS
G. FABRICATE SILENCERS TO FORM RIGID UNITS THAT WILL NOT PULSATE, VIBRATE, RATTLE, OR OTHERWISE REACT TO SYSTEM PRESSURE VARIATIONS, DO NOT USE MECHANICAL FASTENERS FOR UNIT ASSEMBLIES.
1. FLANGE CONNECTIONS.
2. SUSPENDED UNITS: FACTORY-INSTALLED SUSPENSION HOOKS OR LUGS ATTACHED TO FRAME IN QUANTITIES AND SPACED TO PREVENT DEFLECTION OR DISTORTION.
3. REINFORCEMENT: CROSS OR TRAPEZE ANGLES FOR RIGID SUSPENSION.
H. ACCESSORIES:
1. FACTORY-INSTALLED END CAPS TO PREVENT CONTAMINATION DURING SHIPPING.
2. REMOVABLE SPLITTERS.
I. CAPACITIES, TYPES AND CHARACTERISTICS:
1. ABSORPTIVE OR PACKLESS TYPE AS SCHEDULED ON THE DRAWINGS.
2. MAXIMUM PRESSURE DROP INCLUDING SYSTEM EFFECT FACTORS DUE TO SILENCER INLET AND DISCHARGE CONDITIONS UNLESS OTHERWISE SCHEDULED: 0.35-INCH WG (0.09 KPA).

END OF SECTION 233300

233616 - AIR TERMINAL UNITS

1.1 SINGLE-DUCT AIR TERMINAL UNITS (WITH OR WITHOUT REHEAT)
A. MANUFACTURERS:
1. METALAIRE, INC.; METAL INDUSTRIES INC.
2. NAILOR INDUSTRIES INC.
3. PRICE
4. TITUS
B. CONFIGURATION: VOLUME-DAMPER ASSEMBLY INSIDE UNIT CASING WITH CONTROL COMPONENTS LOCATED INSIDE A PROTECTIVE METAL SHROUD.
C. CASING: 0.034-INCH STEEL,
1. CASING LINING: 1/2-INCH-THICK. EACH UNIT SHALL BE FULLY LINED WITH A NON-POROUS CLOSED CELL ELASTOMERIC FOAM LINER.
2. AIR INLET: ROUND STUB CONNECTION OR S-SLIP AND RIVE CONNECTIONS FOR DUCT ATTACHMENT.
3. AIR OUTLET: S-SLIP AND DRIVE CONNECTIONS.
4. ACCESS: REMOVABLE PANELS FOR ACCESS TO DAMPERS AND OTHER PARTS REQUIRING SERVICE, ADJUSTMENT, OR MAINTENANCE; WITH AIRTIGHT GASKET.
D. REGULATOR ASSEMBLY: EXTRUDED-ALUMINUM OR GALVANIZED-STEEL COMPONENTS; KEY DAMPER BLADES ONTO SHAFT WITH NYLON-FITTED PIVOT POINTS LOCATED INSIDE UNIT CASING.
E. VOLUME DAMPER: GALVANIZED STEEL WITH PERIPHERAL GASKET AND SELF-LUBRICATING BEARINGS.
1. MAXIMUM DAMPER LEAKAGE: AIR 880 RATED, 3 PERCENT OF NOMINAL AIRFLOW AT 3-INCH WG INLET STATIC PRESSURE.
2. DAMPER POSITION: NORMALLY OPEN.
F. ACCESS: ACCESS SHALL BE PROVIDED TO THE CONTROL DAMPER AND OPERATOR VIA A REMOVABLE PANEL. ACCESS PANEL SHALL ALLOW ADJUSTMENT AND REPLACEMENT OF CONTROL DAMPER AND OPERATOR WHEN INSTALLED INTERNALLY, PROVIDE ADEQUATE ACCESSIBILITY WHEN CONTROL DAMPER WITH OPERATOR IS FIELD INSTALLED.
G. ELECTRIC HEATING COIL: SLIP-IN-TYPE, OPEN-COIL DESIGN WITH INTEGRAL CONTROL BOX FACTORY WIRED AND INSTALLED.
1. INCLUDE THE FOLLOWING FEATURES:
a. PRIMARY AND SECONDARY OVERTEMPERATURE PROTECTION
b. NICKEL CHROME 80/20 HEATING ELEMENTS
c. DIFFERENTIAL PRESSURE AIRFLOW PROVING SWITCH
d. AUTO-RESET HIGH LIMIT
e. DOOR-INTERLOCKING DISCONNECT SWITCH
f. FUSES FOR EACH POWER PHASE
g. ELECTRICAL SWITCHES AND RELAYS
h. THE ELECTRIC COILS SHALL BE PROVIDED WITH SILICON-CONTROLLED RECTIFIER (SCR) CONTROLLER
i. PROTECTIVE INLET SCREEN
j. CLASS II TRANSFORMER FOR CONTROL POWER
2. THE ELECTRIC REHEAT COIL SHALL BE CAPABLE OF WORKING WITH A 3-WIRE ELECTRICAL CONNECTION. A NEUTRAL SHALL NOT BE REQUIRED TO ALLOW FOR OPERATION OF THE ELECTRIC HEATING COIL. AIR TERMINALS SUBMITTED THAT REQUIRE A 4-WIRE CONNECTION ARE UNACCEPTABLE.
H. ELECTRONIC CONTROLS:
1. COORDINATE WITH CONTROLS VENDOR ON LOW VOLTAGE REQUIREMENTS.
2. ELECTRONIC AIR VOLUME CONTROLLER: PRESSURE-INDEPENDENT ANALOG ELECTRONIC CONTROLLER, FACTORY CALIBRATED AND FIELD ADJUSTABLE TO MINIMUM AND MAXIMUM AIR VOLUMES; PROVIDE CONSISTENT AIRFLOW TO THE SPACE IN RESPONSE TO ELECTRONIC THERMOSTAT SIGNAL WHILE COMPENSATING FOR INLET STATIC-PRESSURE VARIATIONS OF UP TO 4 INCHES WG; INCLUDES A MULTIPOINT VELOCITY SENSOR AT AIR INLET.

END OF SECTION 233616

233713 DIFFUSERS, REGISTERS, GRILLES

1.1 MANUFACTURERS
A. MANUFACTURERS FOR SPECIALTY PRODUCTS ARE LISTED UNDER THOSE ARTICLES. FOR ALL OTHER DIFFUSERS, REGISTERS AND GRILLES AVAILABLE MANUFACTURERS ARE AS FOLLOWS:
1. TITUS
2. PRICE INDUSTRIES
3. NAILOR
4. TUTTLE & BAILEY

1.2 CEILING DIFFUSERS
A. DIFFUSER MODELS, SIZES AND FINISHES SHALL BE AS SHOWN ON THE PLANS AND/OR AS SCHEDULED. UNLESS NOTED OTHERWISE, DIFFUSERS SHALL HAVE A BAKED ENAMEL FINISH WITH COLOR TO BE SELECTED BY THE ARCHITECT.
B. PERFORATED FACE CEILING DIFFUSERS SHALL HAVE FIELD ADJUSTABLE PATTERN CONTROLLERS ACCESSIBLE THROUGH A REMOVABLE OR HINGED FACE PLATE.
C. FURNISH ROUND OR SQUARE NECK DUCT ADAPTERS FOR EACH UNIT FOR TOP CONNECTION OR SIDE CONNECTION AS APPROPRIATE TO THE SPACE.
D. UNLESS OTHERWISE INDICATED, INTERIOR OF PERFORATED FACE DIFFUSERS SHALL BE FINISHED IN FLAT BLACK.

END OF SECTION 233713

233400 FANS

1.1 DOWNBLAST FANS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. GREENHECK FAN CORPORATION
2. LOREN COOK COMPANY
B. DESCRIPTION: DOWNBLAST, DIRECT DRIVEN OR BELT CENTRIFUGAL FANS CONSISTING OF HOUSING, WHEEL, FAN SHAFT, BEARINGS, MOTOR, STARTER AND DISCONNECT SWITCH, DRIVE ASSEMBLY OR BELT, MOUNTING BRACKETS, AND ACCESSORIES.
C. HOUSING: , SPUN ALUMINUM, COMPLETE WITH MANUFACTURER REQUIRED ROOF CURB ASSEMBLE, SQUARE OR RECTANGULAR PER SCHEDULE.
D. FAN WHEELS: ALUMINUM,CENTRIFUGAL WHEEL.
E. ACCESSORIES:
1. MOTORIZED DAMPER, COORDINATE POWER REQUIREMENTS WITH CONTROLS VENDOR
2. MANUFACTURER PROVIDED ROOF CURB

END OF SECTION 233400

SECTION 238126 DUCTLESS DX SPLIT SYSTEMS

1.1 MANUFACTURERS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. DAIKIN
2. CARRIER CORPORATION.
3. MITSUBISHI

1.2 WALL-MOUNTING, EVAPORATOR-FAN COMPONENTS
A. CABINET: ENAMELED STEEL WITH REMOVABLE PANELS ON FRONT AND ENDS IN COLOR SELECTED BY ARCHITECT, AND DISCHARGE DRAIN PANS WITH DRAIN CONNECTION.
1. SURFACES IN CONTACT WITH AIRSTREAM SHALL COMPLY WITH REQUIREMENTS IN ASHRAE 62.1.
2. DRAIN PAN AND DRAIN CONNECTION: COMPLY WITH ASHRAE 62.1.
B. FAN: DIRECT DRIVE, CENTRIFUGAL FAN, WITH POWER INDUCED OUTSIDE AIR AND INTEGRAL CONDENSATE PUMP
C. REFRIGERANT COIL: COPPER TUBE, WITH MECHANICALLY BONDED ALUMINUM FINS, COMPLYING WITH ARI 210/240, AND WITH THERMAL-EXPANSION VALVE.
D. SPECIAL MOTOR FEATURES: MULTITAPPED, MULTISPEED WITH INTERNAL THERMAL PROTECTION AND PERMANENT LUBRICATION.

1.3 ACCESSORIES
1. COMPRESSOR TIME DELAY.
2. 24-HOUR TIME CONTROL OF SYSTEM STOP AND START.
3. LIQUID-CRYSTAL DISPLAY INDICATING TEMPERATURE, SET-POINT TEMPERATURE, TIME SETTING, OPERATING MODE, AND FAN SPEED.
4. FAN-SPEED SELECTION, INCLUDING AUTO SETTING.
E. AUTOMATIC-RESET TIMER TO PREVENT RAPID CYCLING OF COMPRESSOR.
F. REFRIGERANT LINE KITS: SOFT-ANNEALED COPPER SUCTION AND LIQUID LINES FACTORY CLEANED, DRIED, PRESSURIZED, AND SEALED; FACTORY-INSULATED SUCTION LINE WITH FLARED FITTINGS AT BOTH ENDS.
1. MINIMUM INSULATION THICKNESS: 1 INCH THICK.
G. PROVIDE WITH ANTI CORROSION AND 5000 HR SALT TREATMENT.
H. PROVIDE WITH HAIL GUARD.

1.4 REFRIGERANT CIRCUIT
A. ALL FITTINGS TO BE ACR TYPE, ALL SWEAT-TYPE FITTINGS TO BE WROUGHT COPPER OR FORGED BRASS, ALL ELBOWS AND RETURN BENDS TO BE OF THE LONG RADIUS TYPE, FLARE FITTINGS TO BE OF THE FROSTPROOF TYPE AND CONSTRUCTED OF FORGED BRASS.

1.5 LINE TEST PRESSURE FOR REFRIGERANT R-32, R410A AND R-454B: SHALL TEST PRESSURE FOR 12 HOURS.
A. SUCTION LINES FOR HEAT PUMP APPLICATIONS: 535 PSIG.
B. SUCTION LINES FOR AIR CONDITIONING APPLICATIONS: 300 PSIG
C. HOT GAS AND LIQUID LINES: 535 PSIG.

END OF SECTION 238126

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NORTH CAROLINA PROFESSIONAL SEAL 038551 ENGINEER ANDREW BARKER

Andrew Barker
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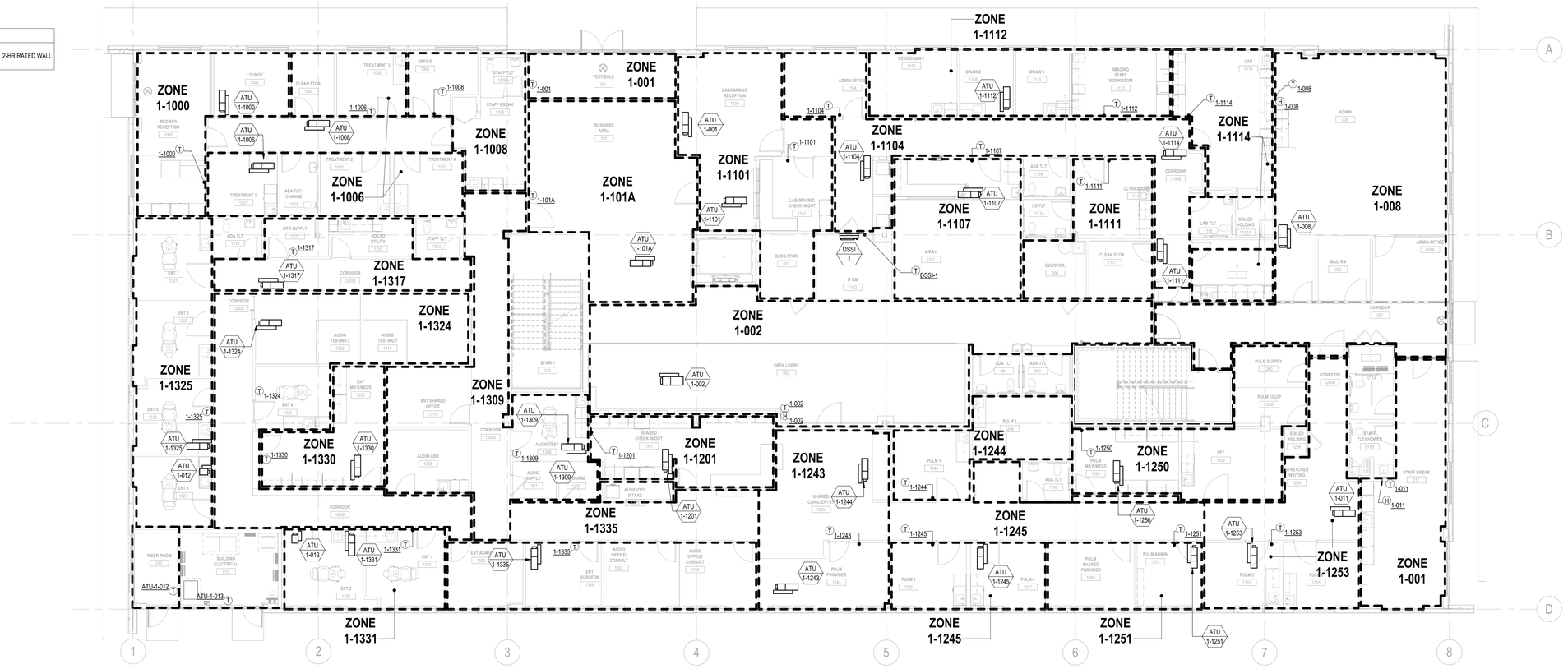
MECHANICAL SPECIFICATIONS

SCALE:

SHEET # **M0.2**

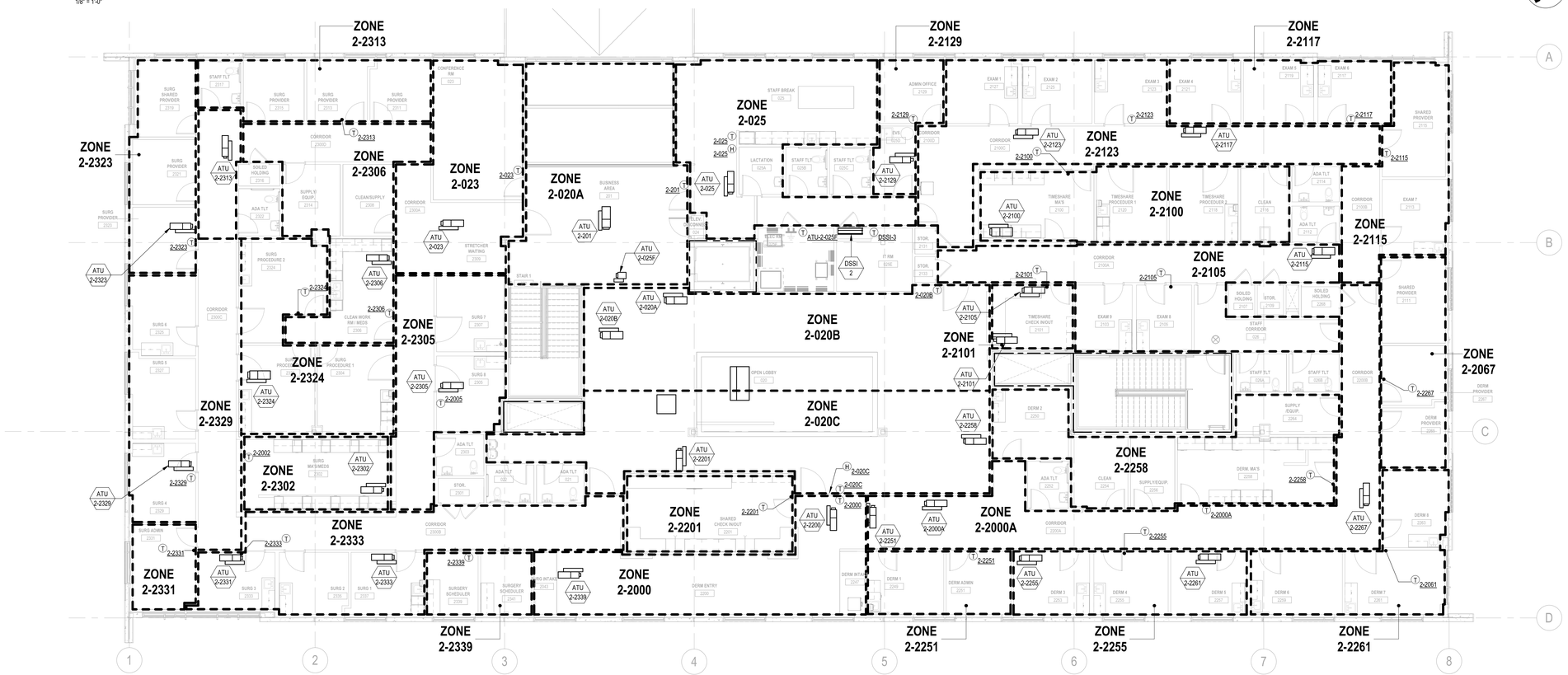
WALL RATING LEGEND

2-HR RATED WALL



1 LEVEL 1 MECHANICAL ZONE PLAN

1/8" = 1'-0"



2 LEVEL 2 MECHANICAL ZONE PLAN

1/8" = 1'-0"

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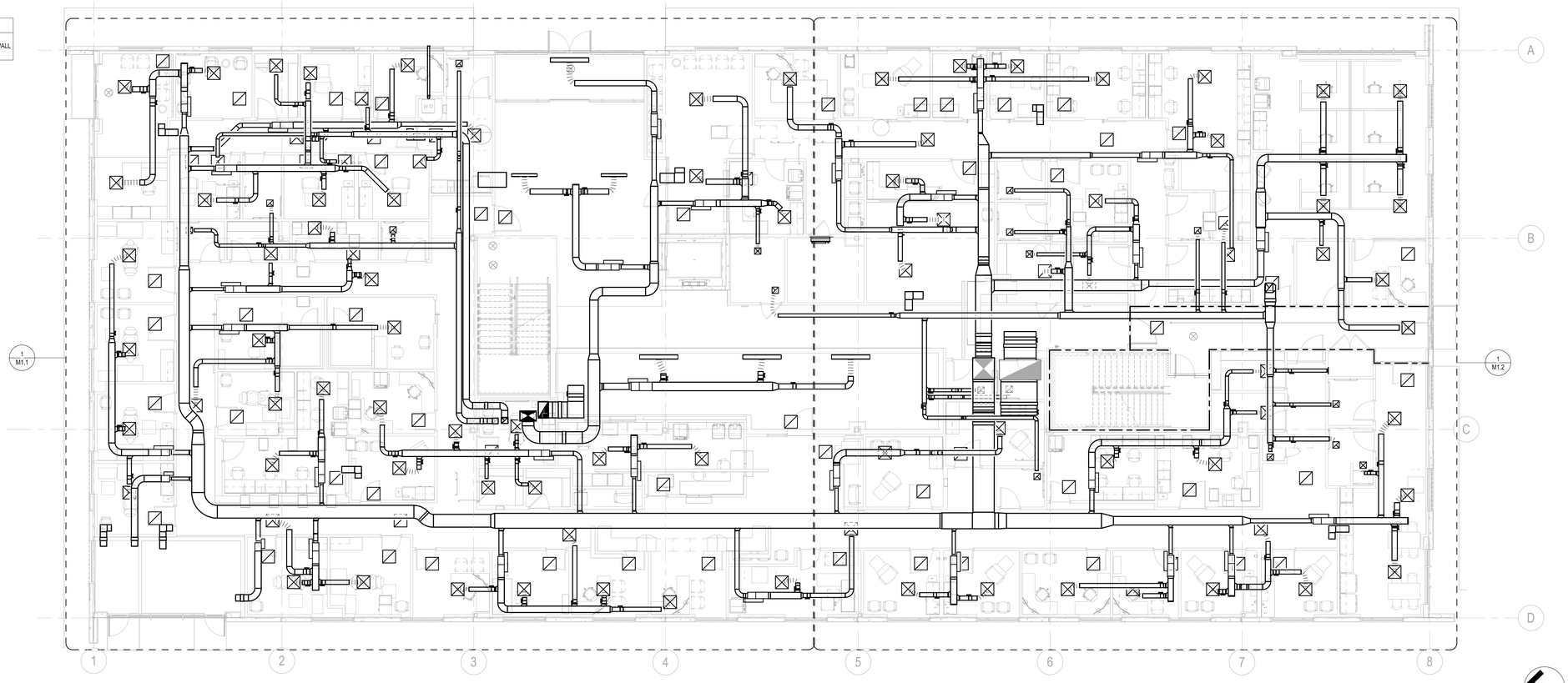
MECHANICAL ZONE PLAN

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

SHEET # M0.3

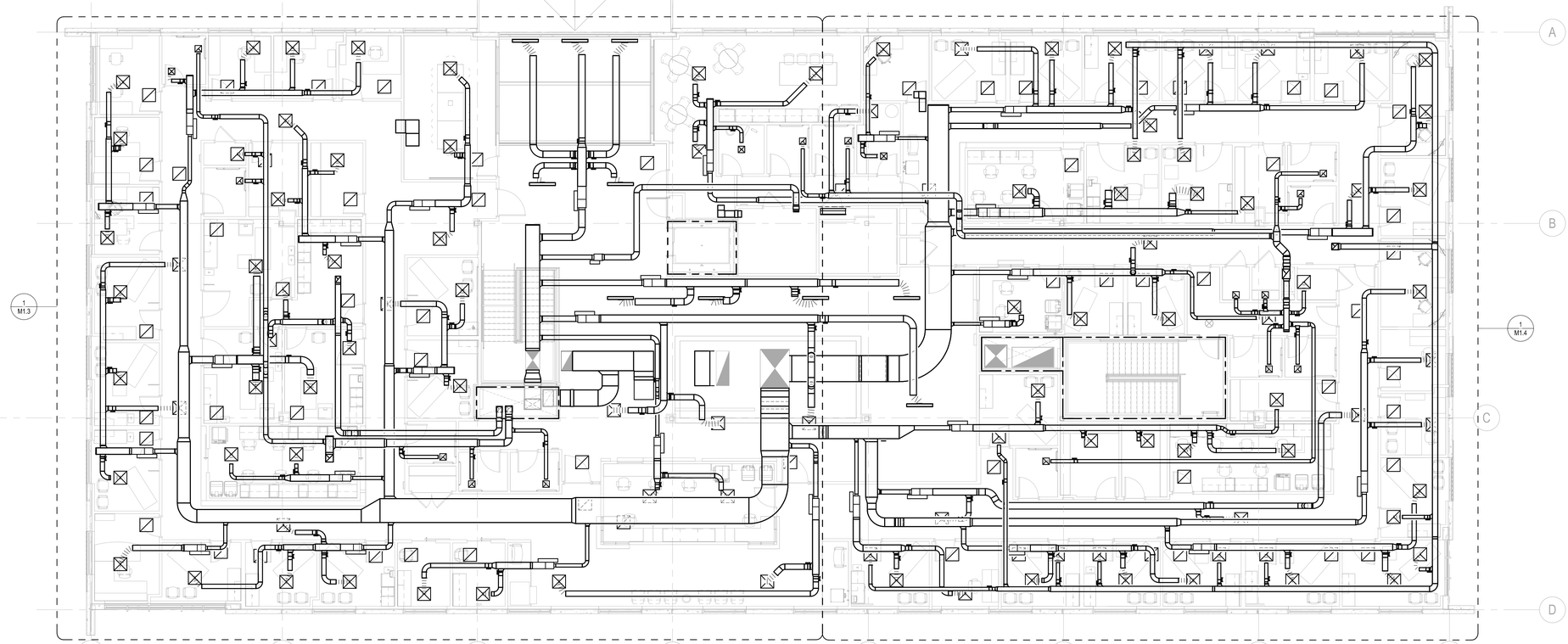
WALL RATING LEGEND

1-HR RATED WALL



1 LEVEL 1 MECHANICAL OVERALL

1/8" = 1'-0"



2 LEVEL 2 MECHANICAL OVERALL

1/8" = 1'-0"

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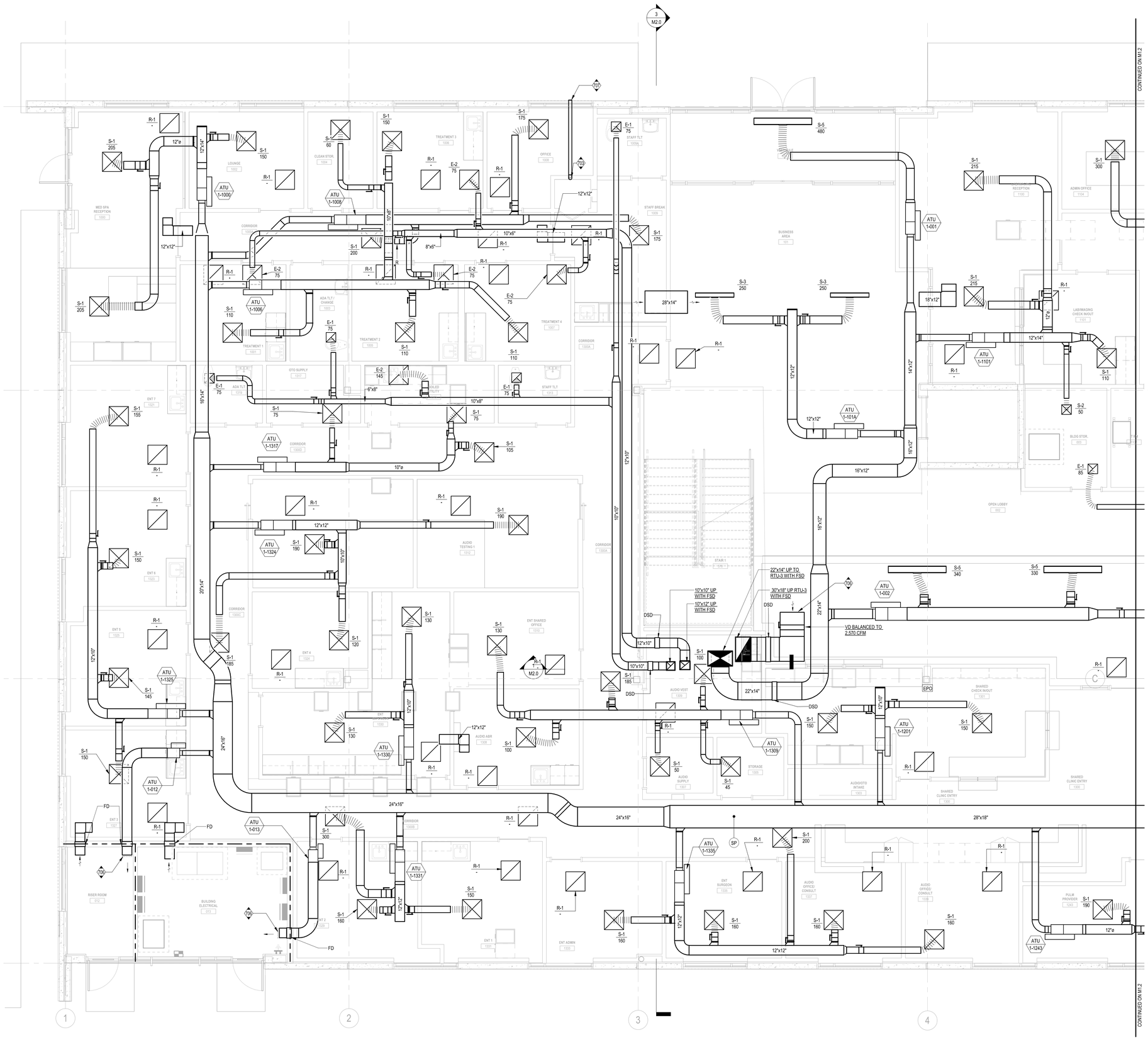
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ARCH. PROJECT # RDU 25-065

MECHANICAL NEW WORK PLAN - OVERALL PLANS

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

SHEET # M1.0



1 LEVEL 1 AREA A MECHANICAL

1/4" = 1'-0"

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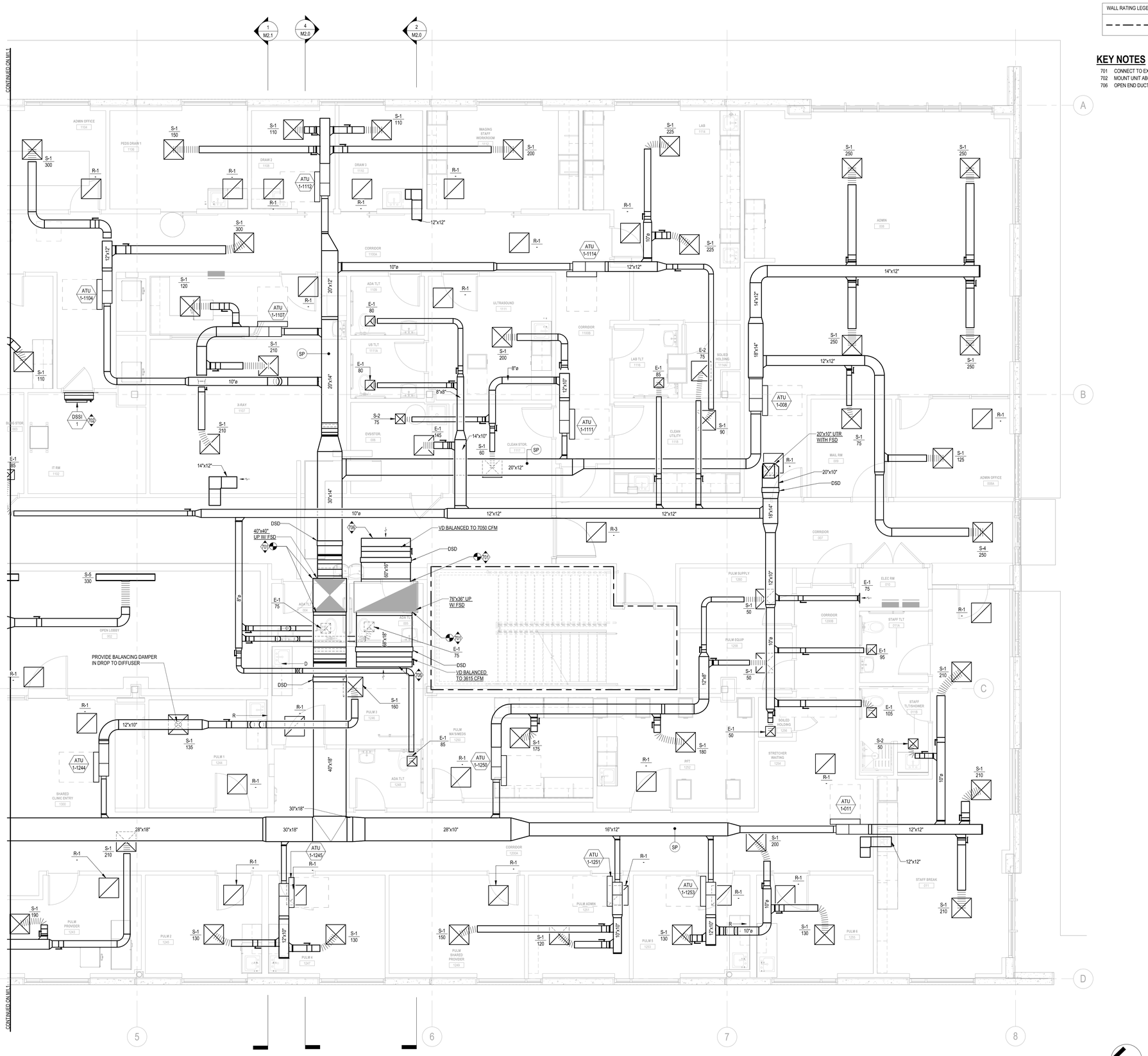
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MECHANICAL NEW WORK PLAN - LEVEL 1 AREA A

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

SHEET # M1.1



1 LEVEL 1 AREA B MECHANICAL

1/4" = 1'-0"

WALL RATING LEGEND

1-HR RATED WALL

KEY NOTES

701 CONNECT TO EXISTING DUCTWORK AND SEAL AIR TIGHT.
702 MOUNT UNIT ABOVE DOOR.
706 OPEN END DUCT. PROVIDE BIRDSCREEN AT OPENING.

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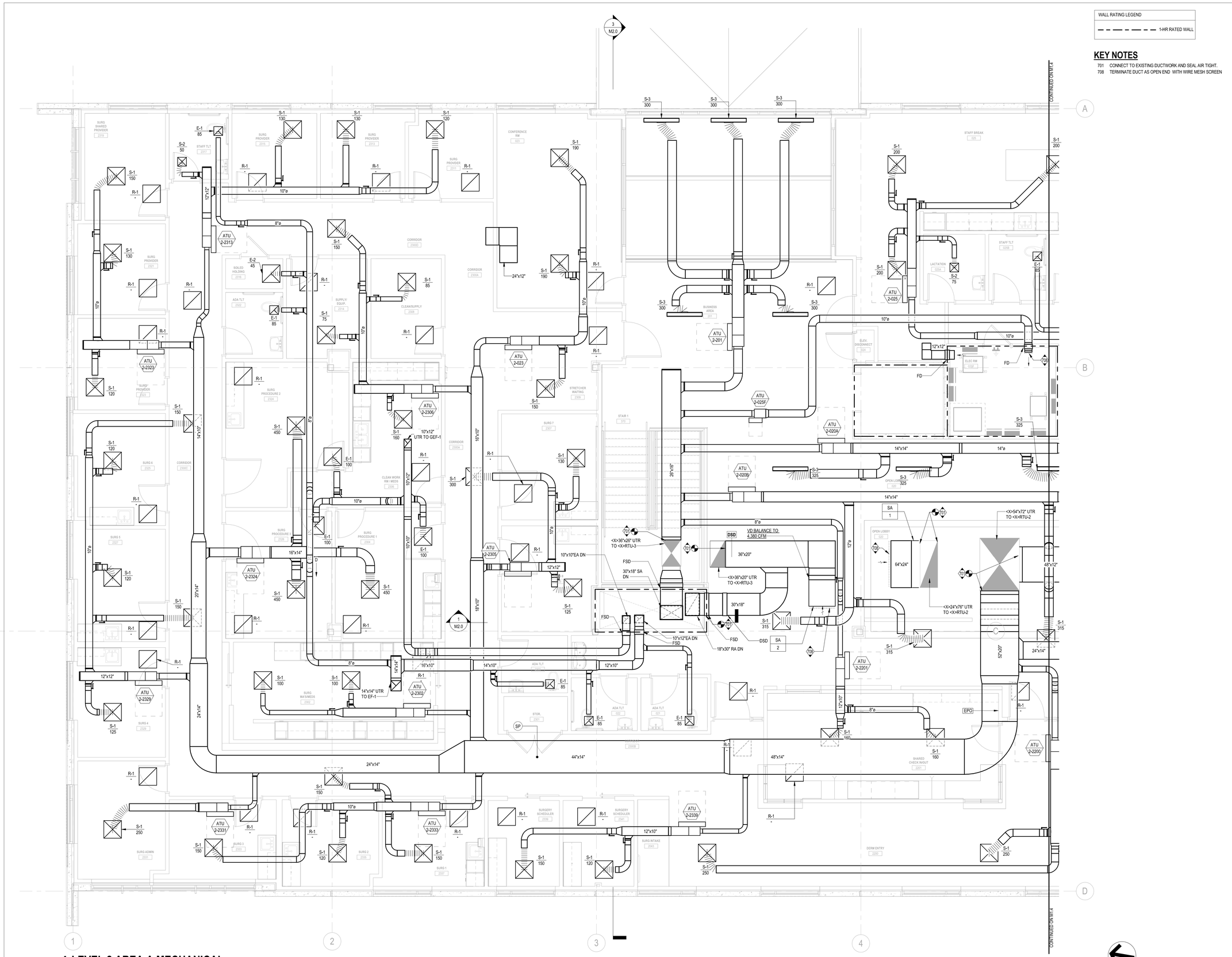
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MECHANICAL NEW WORK PLAN - LEVEL 1 AREA B

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

SHEET # M1.2



1 LEVEL 2 AREA A MECHANICAL

1/4" = 1'-0"

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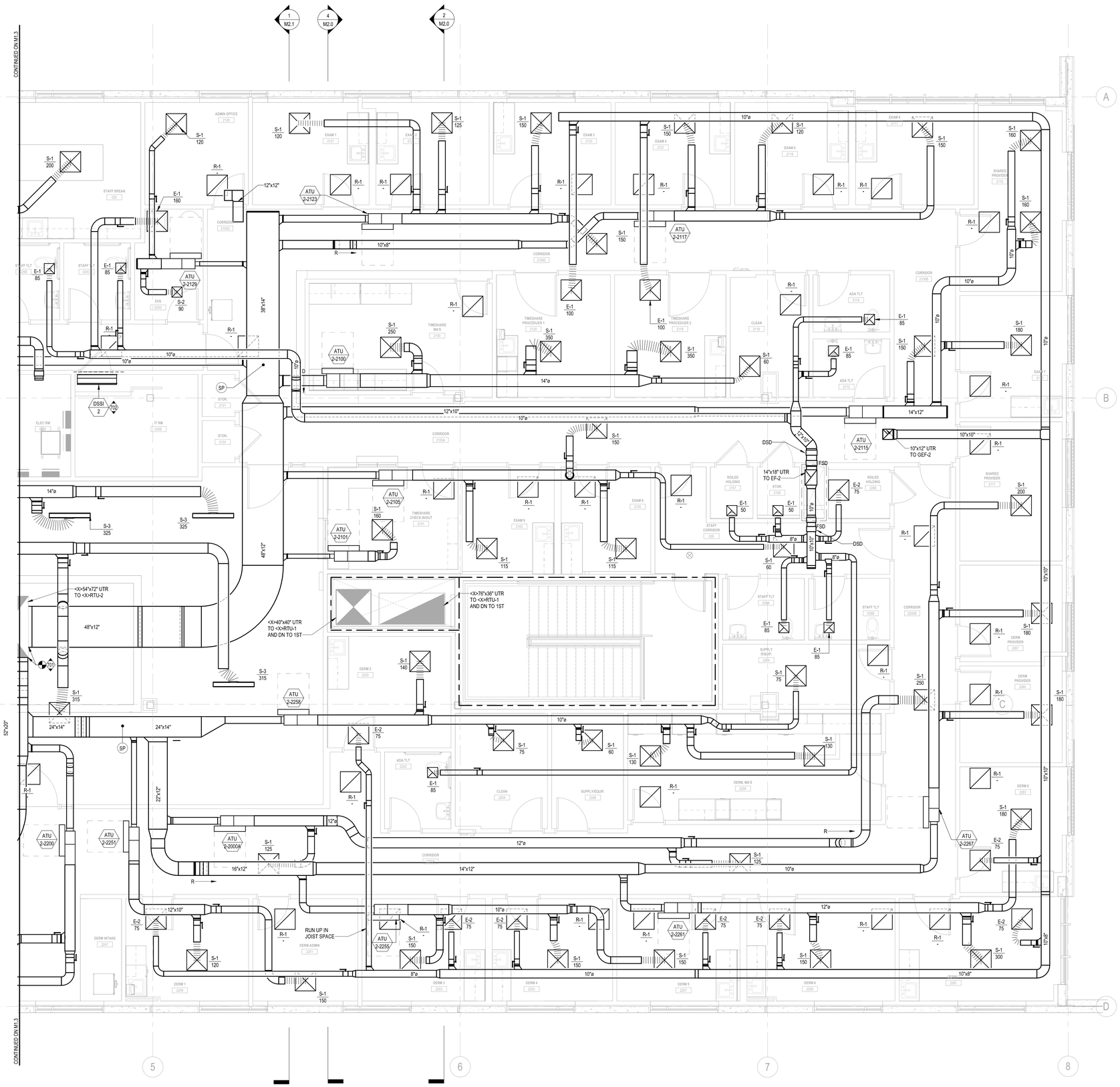
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MECHANICAL NEW WORK PLAN - LEVEL 2 AREA A

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

SHEET # M1.3



WALL RATING LEGEND

- - — — - - — — 1-HR RATED WALL

KEY NOTES

701 CONNECT TO EXISTING DUCTWORK AND SEAL AIR TIGHT.
702 MOUNT UNIT ABOVE DOOR.

1 LEVEL 2 AREA B MECHANICAL

1/4" = 1'-0"

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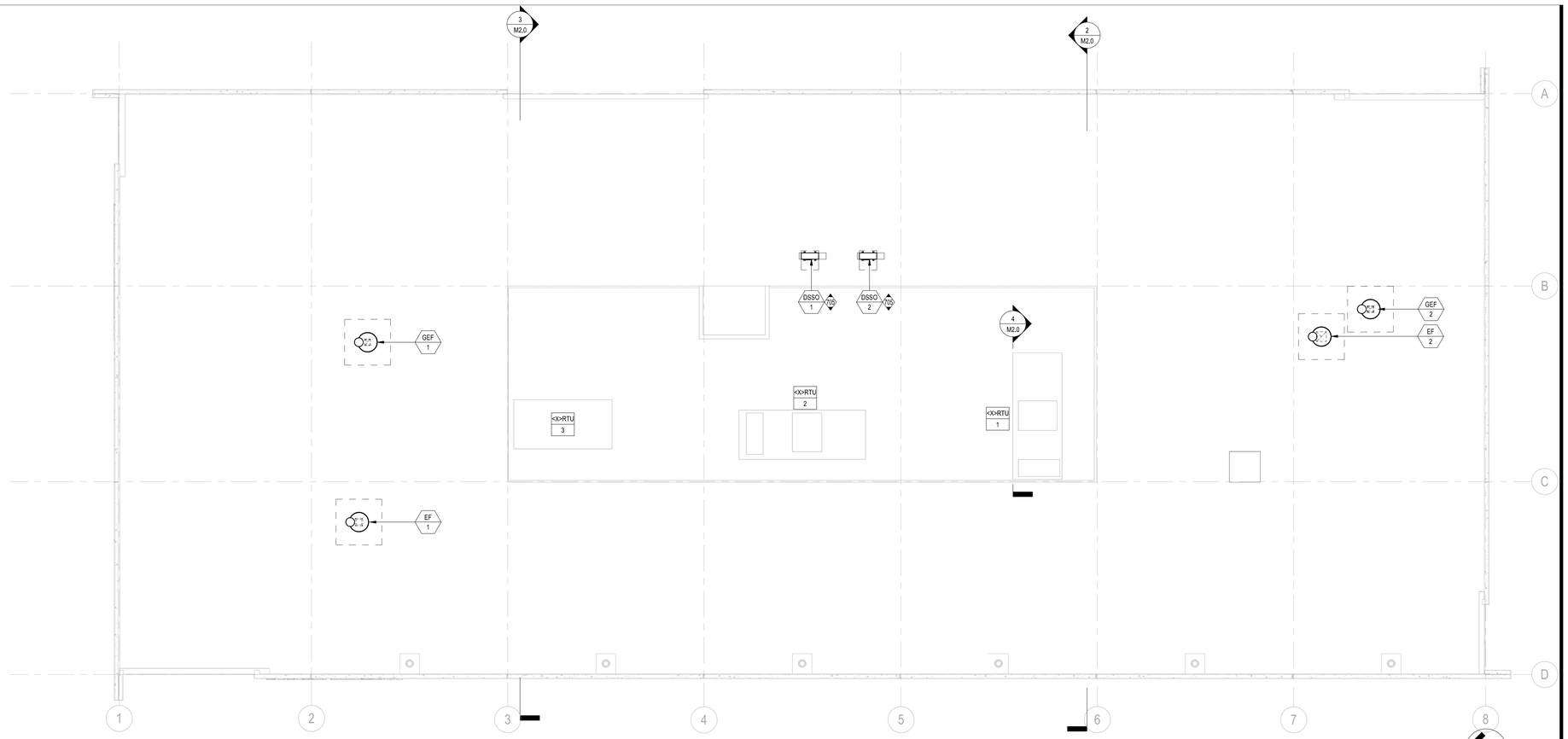
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MECHANICAL NEW WORK PLAN - LEVEL 2 AREA B

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

SHEET # M1.4



1 ROOF MECHANICAL

1/8" = 1'-0"

KEY NOTES

705 MOUNT DSSO UNIT ON EQUIPMENT PAD AND PROVIDE HIGH WIND METHOD OF INSTALLATION FOR 140 MPH WINDS TO SECURE CURB AND UNIT TO ROOF .

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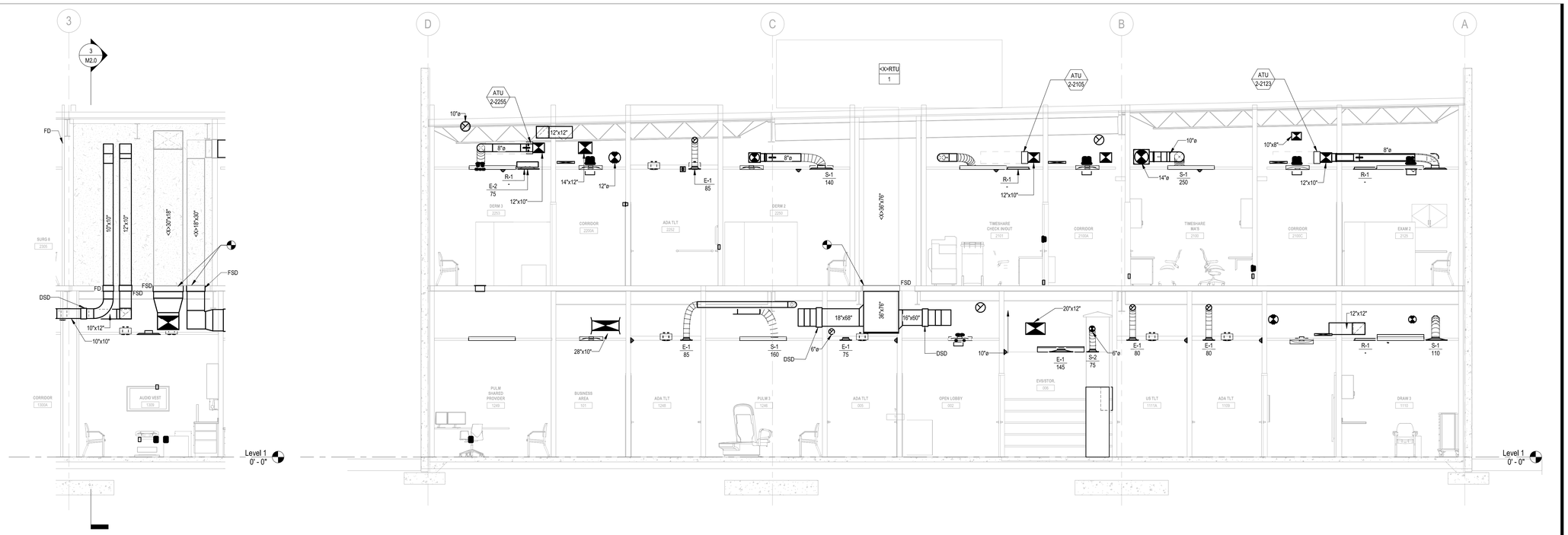
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MECHANICAL NEW WORK PLAN - ROOF

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

SHEET # M1.5

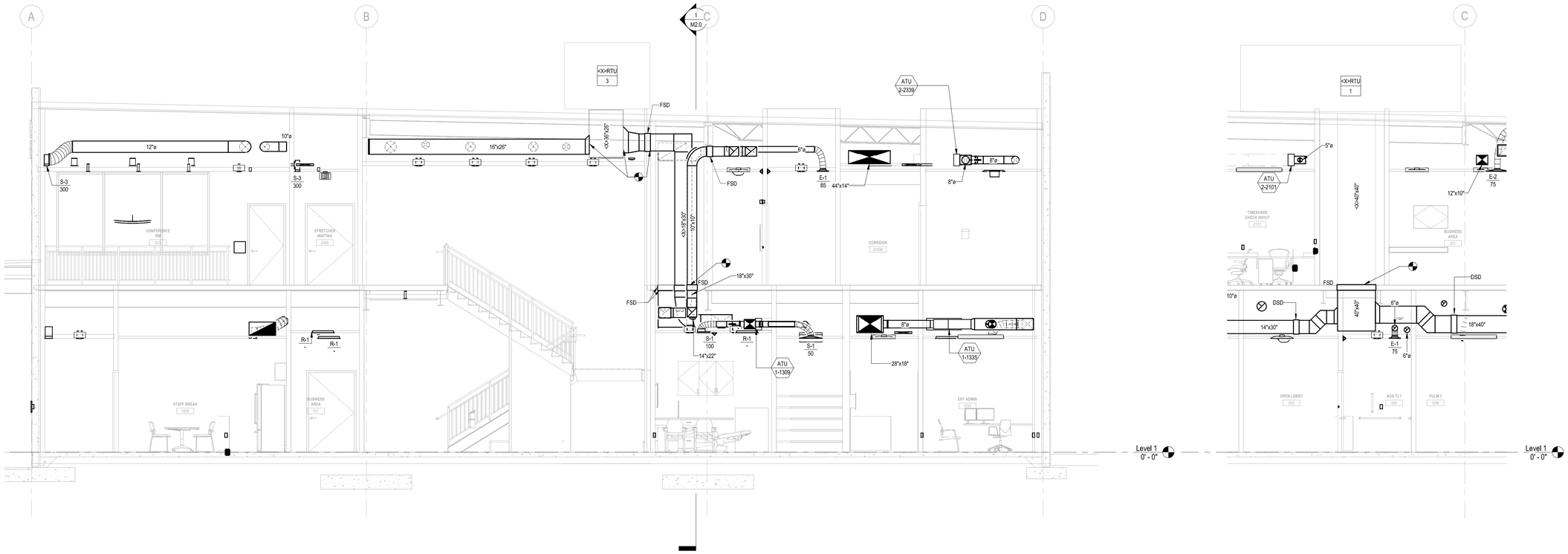


1 SECTION 1

1/4" = 1'-0"

2 SECTION 2

1/4" = 1'-0"



3 SECTION 3

1/4" = 1'-0"

4 SECTION 4

1/4" = 1'-0"

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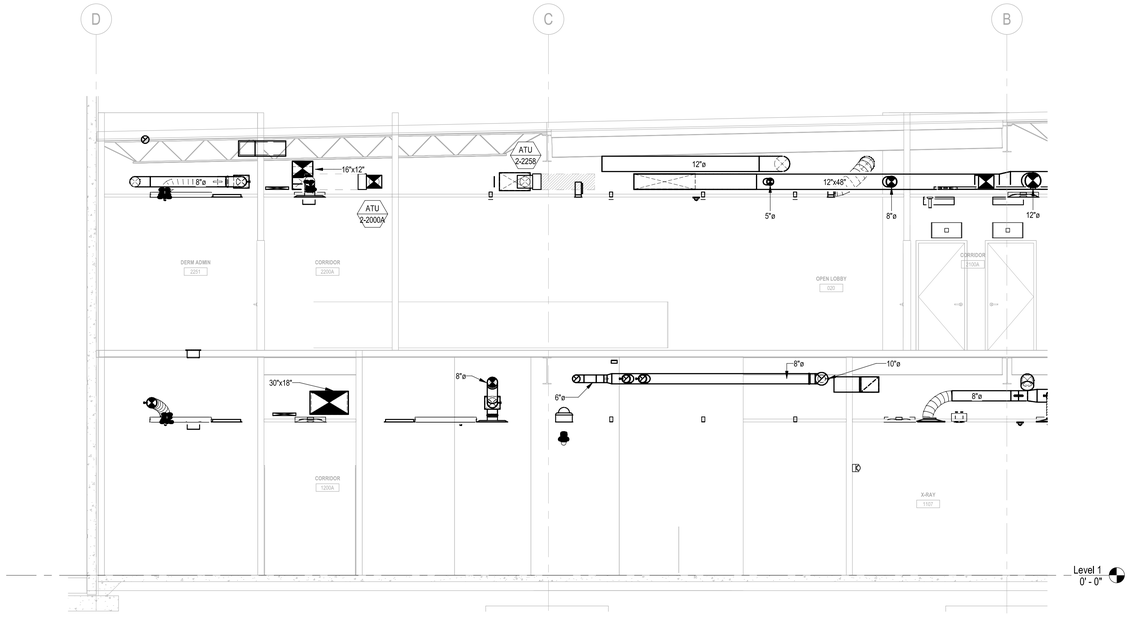
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MECHANICAL NEW WORK PLAN - SECTION VIEWS

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

SHEET # M2.0



1 SECTION 5

1/4" = 1'-0"

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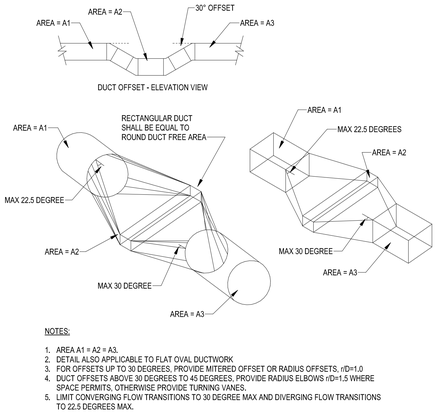
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MECHANICAL NEW WORK PLAN - SECTION VIEWS

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

SHEET # M2.1

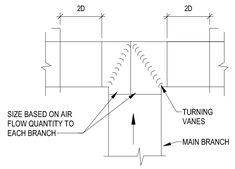


NOTES:

1. AREA A1 = A2 = A3.
2. DETAIL ALSO APPLICABLE TO FLAT OVAL DUCTWORK
3. FOR OFFSETS UP TO 30 DEGREES, PROVIDE MITERED OFFSET OR RADIUS OFFSETS, r/D=1.0
4. DUCT OFFSETS ABOVE 30 DEGREES TO 45 DEGREES, PROVIDE RADIUS ELBOWS r/D=1.5 WHERE SPACE PERMITS, OTHERWISE PROVIDE TURNING VANES.
5. LIMIT CONVERGING FLOW TRANSITIONS TO 30 DEGREE MAX AND DIVERGING FLOW TRANSITIONS TO 22.5 DEGREES MAX.

9 DUCT PASSING AN OBSTRUCTION

NTS



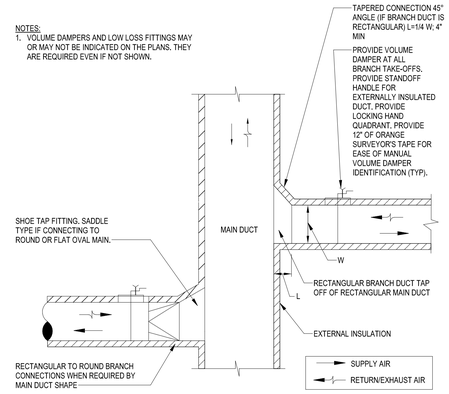
DUCT TEE DETAIL

NOTES:

1. REFER TO PLANS FOR DUCT SIZES.

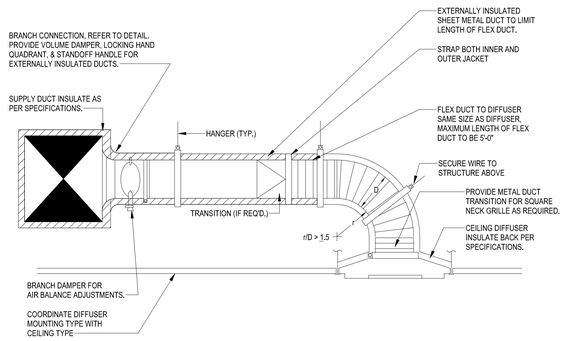
6 DUCT TEE - SPLITTER

NTS



3 BRANCH DUCT

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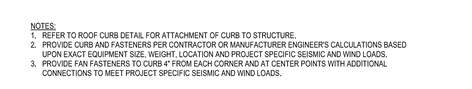


NOTES:

1. THIS DETAIL ALSO APPLIES TO EXHAUST. REFER TO SPECIFICATIONS FOR EXHAUST DUCT INSULATION REQUIREMENTS.
2. PROVIDE FLEX DUCT WITH AT LEAST ONE 90° RADIUS ELBOW.
3. IF r/D > 1.5 CAN NOT FIT, THEN r/D > 1.0 IS FIRST ALTERNATE AND ALTERNATE 2 IS MITERED WITH TURNING VANES.
4. FOR BRANCHES OFF ROUND OR FLAT OVAL DUCTS, USE SADDLE TYPE CONNECTION.
5. PROVIDE CEILING GRID CLIPS AT TWO DIAGONALLY OPPOSITE CORNERS OF GRILLE.

8 CEILING DIFFUSER - FLEXIBLE DUCT POLY TYPE LINING

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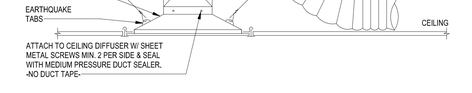


NOTES:

1. REFER TO ROOF CURB DETAIL FOR ATTACHMENT OF CURB TO STRUCTURE.
2. PROVIDE CURB AND FASTENERS PER CONTRACTOR OR MANUFACTURER ENGINEER'S CALCULATIONS BASED UPON EXACT EQUIPMENT SIZE, WEIGHT, LOCATION AND PROJECT SPECIFIC SEISMIC AND WIND LOADS.
3. PROVIDE FAN FASTENERS TO CURB 4" FROM EACH CORNER AND AT CENTER POINTS WITH ADDITIONAL CONNECTIONS TO MEET PROJECT SPECIFIC SEISMIC AND WIND LOADS.

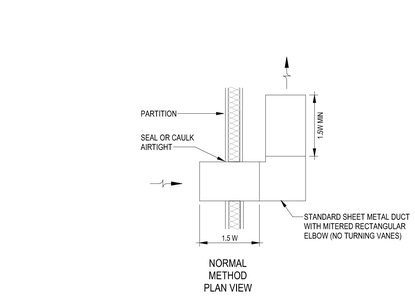
5 DOWNBLAST EXHAUST FAN

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2 RETURN AIR GRILLE WITH FLEX DUCT SOUND BOOT

NTS



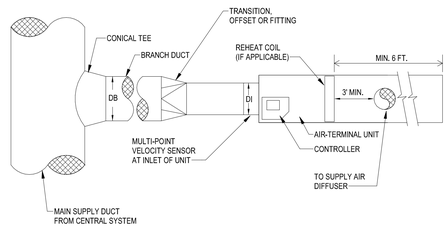
NORMAL METHOD PLAN VIEW

NOTES:

1. IF PARTITION IS FIRE RATED PROVIDE FIRE RATED DAMPER.
2. IF SIZE NOT SHOWN ON PLANS, SIZE TRANSFER DUCT AT 300 FPM MAXIMUM.
3. REFER TO SPECIFICATIONS FOR LINING TYPE ALLOWED.
4. SUPPORT DUCT PER SPECIFICATIONS.

7 PLENUM TRANSFER DUCT PLAN VIEW

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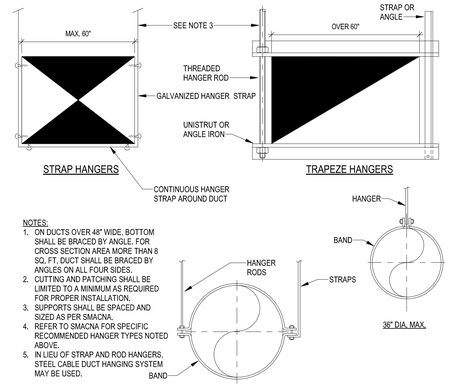


NOTES:

1. WHEN BRANCH DUCT TO AIR TERMINAL UNIT EXCEEDS 15' OR HAS TWO OR MORE ELBOWS, THEN DB = DI + 2", OTHERWISE DB = DI
2. DI = THE INLET SIZE CONNECTION OF THE AIR TERMINAL UNIT - TYPICALLY ROUND OR OVAL.
3. PROVIDE A MINIMUM OF 4 DUCT DIAMETERS (DI) OF STRAIGHT DUCT AT INLET
4. HEATING COILS AS SCHEDULED OR SPECIFIED.

4 AIR TERMINAL UNIT CONNECTION

NTS



NOTES:

1. ON DUCTS OVER 48" WIDE, BOTTOM SHALL BE BRACED BY ANGLE. FOR CROSS SECTION AREA MORE THAN 8 SQ. FT. DUCT SHALL BE BRACED BY ANGLES ON ALL FOUR SIDES.
2. CUTTING AND PATCHING SHALL BE LIMITED TO A MINIMUM AS REQUIRED FOR PROPER INSTALLATION.
3. SUPPORTS SHALL BE SPACED AND SIZED AS PER SMACNA.
4. REFER TO SMACNA FOR SPECIFIC RECOMMENDED HANGER TYPES NOTED ABOVE.
5. IN LIEU OF STRAP AND ROD HANGERS, STEEL CABLE DUCT HANGING SYSTEM MAY BE USED.

1 DUCT HANGER SUPPORT

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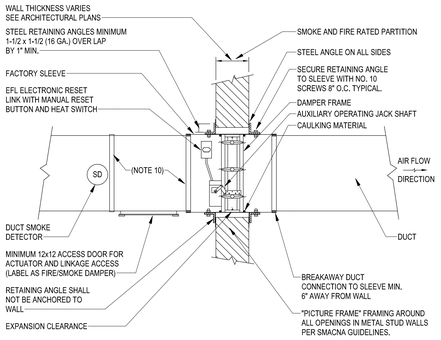
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MECHANICAL DETAILS

SCALE: As indicated

SHEET # M5.0



NOTES:
1. DAMPERS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION REQUIREMENTS.
2. DAMPERS ARE TO BE INSTALLED IN STRICT ACCORDANCE WITH THE U.L. REQUIREMENTS.
3. ALL FIRE/SMOKE DAMPERS AND THEIR RESPECTIVE DAMPER OPERATOR MECHANISMS SHALL BE U.L. LABELED AND TESTED AS AN ASSEMBLY WITH THE DAMPER OPERATOR MECHANISM FASTENED TO THE DAMPER SLEEVE MEETING THE REQUIREMENTS SET IN UL555
4. VERTICAL DAMPER SHOWN - HORIZONTAL INSTALLATION SIMILAR.
5. SMOKE DAMPER INSTALLATION SIMILAR BUT WITHOUT RESETTABLE LINK DEVICE.
6. GENERAL CONTRACTOR TO COORDINATE CEILING ACCESS DOORS AS REQUIRED TO ACCESS AND MAINTAIN DAMPER.
7. DUCT SMOKE DETECTOR SHALL BE FURNISHED FOR EACH FIRE SMOKE DAMPER. SMOKE DETECTOR SHALL BE INSTALLED WITHIN 5 FEET OF THE FIRE SMOKE DAMPER.
8. WHERE A 12X12 DUCT ACCESS DOOR IS NOT POSSIBLE DUE TO DUCT SIZE, PROVIDE A MIN. 12" REMOVEABLE SECTION WITH DUCTMATE CONNECTOR SYSTEM FOR DAMPER ACCESS.

6 COMBINATION FIRE SMOKE DAMPER
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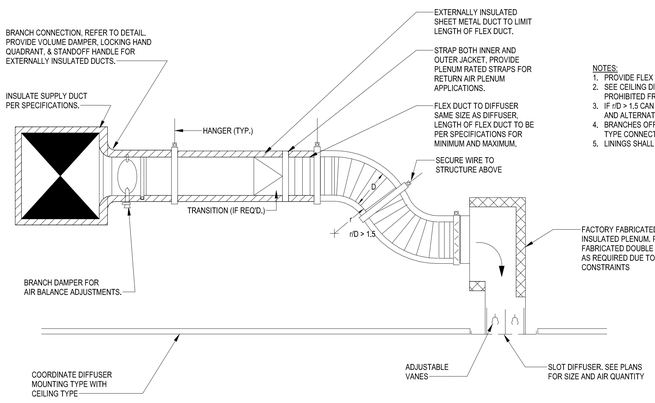
1. SMOKE DAMPERS ,SMOKE PURGE AND FIRE ALARM SHUTDOWN

   A. SMOKE DAMPERS ON SHAFT WALLS SHALL BE ASSOCIATED WITH RESPECTIVE AIR HANDLING UNIT OR EXHAUST FAN. SMOKE DAMPERS IN SMOKE BARRIER WALLS SHALL BE ASSOCIATED WITH THE WALL AND RESPECTIVE AIR HANDLING UNIT OR EXHAUST FAN.

   B. IF SMOKE IS DETECTED IN THE AREA SERVED BY RTU-1, RTU-2 AND RTU-3 SHUT DOWN THE UNITS AND ALL EXHAUST FANS SERVINGTHE AREA. AFTER A 30-SECOND DELAY, CLOSE ALL SMOKE DAMPERS ASSOCIATED WITH RTU-1, RTU-2 AND RTU-3, AND ANY EXHAUST FANS SERVING THE AREA.

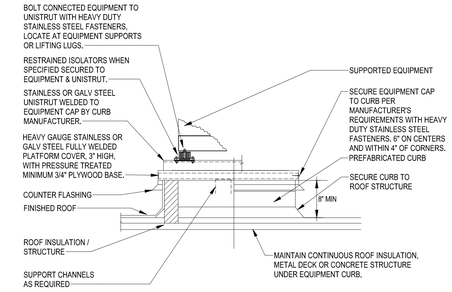


5 BELLMOUTH INLET FITTING - PLENUM RETURN MAINS
NTS



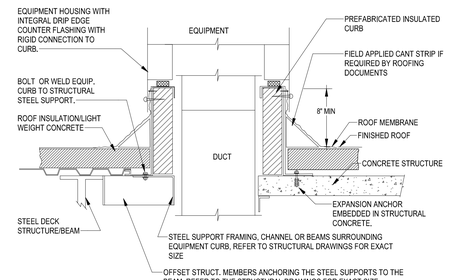
NOTES:
1. PROVIDE FLEX DUCT WITH AT LEAST ONE 90° RADIUS ELBOW.
2. SEE CEILING DIFFUSER DETAIL - RIGID DUCT FOR LOCATION PROHIBITED FROM USING FLEX DUCT.
3. IF r/D > 1.5 CAN NOT FIT, THEN r/D > 1.0 IS FIRST ALTERNATE AND ALTERNATE 2 IS MITERED WITH TURNING VANES.
4. BRANCHES OFF ROUND OR FLAT OVAL DUCT, USE SADDLE TYPE CONNECTION.
5. LININGS SHALL BE FOIL FACED.

4 LINEAR DIFFUSER CONNECTION WITH MANUFACTURER'S PLENUM
NTS



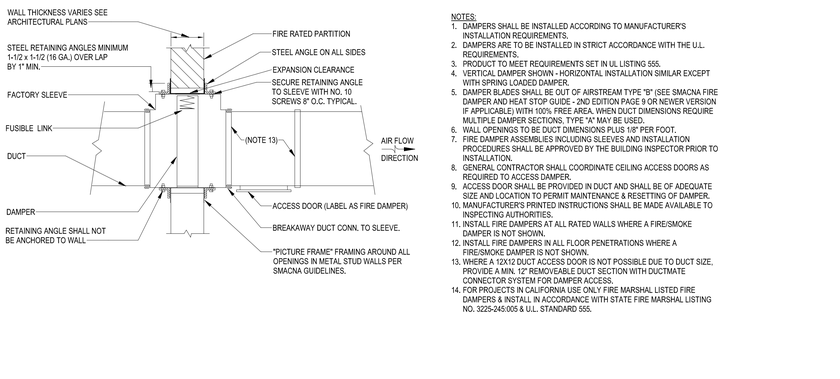
NOTES:
1. REFER TO ROOF CURB DETAIL FOR ATTACHMENT OF CURB TO STRUCTURE.
2. PROVIDE CURB PLATFORM, CURB AND FASTENERS PER CONTRACTOR OR MANUFACTURER ENGINEER'S CALCULATIONS BASED UPON EXACT EQUIPMENT SIZE, WEIGHT, LOCATION AND PROJECT SPECIFIC SEISMIC AND WIND LOADS.
3. PROVIDE CURB CAP TO CURB FASTENERS 4" FROM EACH CORNER, AT CENTER POINTS AND MAXIMUM OF 24" ON CENTER WITH ADDITIONAL CONNECTIONS TO MEET PROJECT SPECIFIC SEISMIC AND WIND LOADS.

3 EQUIPMENT CURB PLATFORM
NTS



NOTES:
1. MINIMUM HEIGHT OF CURB 24", ADDITIONAL HEIGHT MAY BE REQUIRED TO MAINTAIN SPECIFIC CLEARANCES.
2. PROVIDE CURB AND FASTENERS PER CONTRACTOR OR MANUFACTURER ENGINEER'S CALCULATIONS BASED UPON EXACT EQUIPMENT SIZE, WEIGHT, LOCATION AND PROJECT SPECIFIC SEISMIC AND WIND LOADS.
3. PROVIDE CURB FASTENERS TO STRUCTURE AT EACH CORNER AND AT CENTER POINTS WITH ADDITIONAL CONNECTIONS TO MEET PROJECT SPECIFIC SEISMIC AND WIND LOADS.
4. SEE PROJECT ROOFING DETAILS FOR ADDITIONAL REQUIREMENTS.

2 ROOF CURB
NTS



NOTES:
1. DAMPERS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION REQUIREMENTS.
2. DAMPERS ARE TO BE INSTALLED IN STRICT ACCORDANCE WITH THE U.L. REQUIREMENTS.
3. PRODUCT TO MEET REQUIREMENTS SET IN UL LISTING 555.
4. VERTICAL DAMPER SHOWN - HORIZONTAL INSTALLATION SIMILAR EXCEPT WITH SPRING LOADED DAMPER.
5. DAMPER BLADES SHALL BE OUT OF AIRSTREAM TYPE "B" (SEE SMACNA FIRE DAMPER AND HEAT STOP GUIDE - 2ND EDITION PAGE 9 OR NEWER VERSION IF APPLICABLE) WITH 100% FREE AREA. WHEN DUCT DIMENSIONS REQUIRE MULTIPLE DAMPER SECTIONS, TYPE "A" MAY BE USED.
6. WALL OPENINGS TO BE DUCT DIMENSIONS PLUS 1/8" PER FOOT.
7. FIRE DAMPER ASSEMBLIES INCLUDING SLEEVES AND INSTALLATION PROCEDURES SHALL BE APPROVED BY THE BUILDING INSPECTOR PRIOR TO INSTALLATION.
8. GENERAL CONTRACTOR SHALL COORDINATE CEILING ACCESS DOORS AS REQUIRED TO ACCESS DAMPER.
9. ACCESS DOOR SHALL BE PROVIDED IN DUCT AND SHALL BE OF ADEQUATE SIZE AND LOCATION TO PERMIT MAINTENANCE & RESETTING OF DAMPER.
10. MANUFACTURER'S PRINTED INSTRUCTIONS SHALL BE MADE AVAILABLE TO INSPECTING AUTHORITIES.
11. INSTALL FIRE DAMPERS AT ALL RATED WALLS WHERE A FIRE/SMOKE DAMPER IS NOT SHOWN.
12. INSTALL FIRE DAMPERS IN ALL FLOOR PENETRATIONS WHERE A FIRE/SMOKE DAMPER IS NOT SHOWN.
13. WHERE A 12X12 DUCT ACCESS DOOR IS NOT POSSIBLE DUE TO DUCT SIZE, PROVIDE A MIN. 12" REMOVEABLE DUCT SECTION WITH DUCTMATE CONNECTOR SYSTEM FOR DAMPER ACCESS.
14. FOR PROJECTS IN CALIFORNIA USE ONLY FIRE MARSHAL LISTED FIRE DAMPERS & INSTALL IN ACCORDANCE WITH STATE FIRE MARSHAL LISTING NO. 3225-245:005 & U.L. STANDARD 555.

1 FIRE DAMPER
NTS

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038551 ANDREW BARKER

Andrew Barker
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ARCH. PROJECT # RDU 25-065

MECHANICAL DETAILS

SCALE: As indicated

SHEET # M5.1

AIR TERMINAL UNIT SEQUENCE OF OPERATION

THE SINGLE DUCT AIR TERMINAL UNIT SHALL UTILIZE FULL DDC CONTROLS AND SHALL COMMUNICATE WITH THE EXISTING BUILDING MANAGEMENT SYSTEM (BMS), TERMINAL BOXES SHALL BE CONSTANT OR VARIABLE VOLUME AS SHOWN ON SCHEDULES.

HEATING AND COOLING OPERATION - VARIABLE VOLUME:

THE DAMPER SHALL BE NORMALLY OPEN. THE DAMPER SHALL MODULATE TO MAINTAIN THE AIR FLOW SETPOINT AS SENSED BY THE INTERNAL AIR FLOW SENSOR, AS A CALL FOR COOLING BECOMES SATISFIED, THE AIRFLOW SHALL BE REDUCED TO THE MINIMUM SETPOINT. UPON REACHING THE MINIMUM AIRFLOW SETPOINT, THE ELECTRIC REHEAT COIL CONTROLLER SHALL MODULATE OPEN SHOULD THE TEMPERATURE CONTINUE TO DROP BELOW ROOM SETPOINT

HEATING AND COOLING OPERATION - CONSTANT VOLUME:

THE DAMPER SHALL BE NORMALLY OPEN. THE DAMPER SHALL MODULATE TO MAINTAIN THE SPECIFIED AIR FLOW CFM . UPON A CALL FOR HEATING, THE ELECTRIC REHEAT COIL CONTROLLER SHALL MODULATE OPEN TO MAINTAIN SPACE TEMPERATURE SETPOINT

DEHUMIFICATION MODE:

SHOULD THE RELATIVE HUMIDITY LEVEL EXCEED 60% (ADJ.) AS SENSED BY THE SPACE HUMIDITY SENSOR , THE VARIABLE VOLUME AIR TERMINAL UNIT DAMPER SHALL FULLY OPEN AND THE REHEAT COIL SHALL BE ENABLED. ONCE THE SPACE RELATIVE HUMIDITY DROPS BELOW 60% (ADJ.) THE UNIT SHALL GO BACK TO NORMAL OPERATION

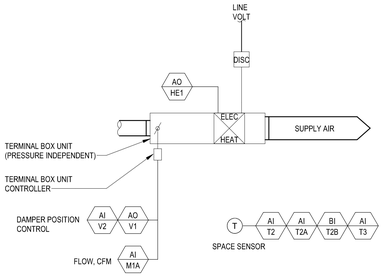
THERMOSTATS SHALL ALLOW USER SETPOINT ADJUSTMENT EXCEPT IN PUBLIC SPACES. THE CONTROL SYSTEM SHALL ALLOW MAXIMUM AND MINIMUM LIMITS BE SET FOR THE USER SETPOINT. THE ROOM TEMPERATURE SHALL INCLUDE A LOCAL THERMOMETER OR TEMPERATURE DISPLAY. NORMAL SETPOINT SHALL BE 72 DEG F.

DISPLAY:

1. SYSTEM GRAPHIC.
2. AIRFLOW MAXIMUM AND MINIMUM SETPOINTS.
3. AIRFLOW READING.
4. DAMPER POSITION.
5. ROOM TEMPERATURE SETPOINT AND READING.
6. ROOM TEMPERATURE SETPOINT MAXIMUM AND MINIMUM LIMITS.
7. TERMINAL BOX DISCHARGE TEMPERATURE.
8. ROOM HUMIDITY SETPOINT AND READING.

ALARMS

IF MEASURED AIRFLOW IS LESS THAN 70% OF SETPOINT WHILE SETPOINT IS GREATER THAN ZERO FOR 5 MINUTES, GENERATE AN ALARM.



CONTROL POINT LIST		
POINT DESIGNATION	DEVICE OR POINT DESCRIPTION	CONTROLLED BY
T2	SPACE TEMP SENSOR	
T2A	SPACE TEMP SENSOR - USER ADJUSTMENT	
T2B	SPACE TEMP SENSOR - "OVERRIDE"	BUTTON
T3	SPACE HUMIDITY	
M1A	TERMINAL UNIT CFM FLOW	
V1	TERMINAL UNIT DAMPER POSITION	T2
V2	TERMINAL UNIT DAMPER POSITION FEEDBACK	
HE1	ELECTRICAL REHEAT SCR LEVEL CONTROL	T2

NOTES:

1. HUMIDITY SENSORS ARE NOT REQUIRED FOR ALL TERMINAL UNITS.REFER TO PLANS FOR LOCATION OF HUMIDITY SENSORS.
2. DAMPER POSITION FEEDBACK IS REQUIRED FOR AHU STATIC PRESSURE RESET OR SUPPLY AIR TEMP RESET SEQUENCES.
3. ENSURE MIN CFM SETPOINTS FOR ALL BOXES COMPLY WITH MANUFACTURER'S REQUIREMENTS FOR MIN. HEATING COIL AIR VALVES AND AHU DX COILS IF PRESENT.
4. VERIFY MINIMUM CFM VALUES ARE APPROPRIATE FOR VAV AHU'S RANGE OF PERFORMANCE.

1 VAV/CAV TERMINAL UNIT WITH SCR ELECTRIC REHEAT

NTS

CONTROL POINT LIST		
POINT DESIGNATION	DEVICE OR POINT DESCRIPTION	CONTROLLED BY
R	CONTROL RELAY	BMS
CT	CURRENT TRANSDUCER	BMS

TYPICAL EXHAUST FAN EF-1 AND EF-2 SEQUENCE OF OPERATION

THE FANS SHALL OPERATE CONTINUOUSLY AT 100% SCHEDULED AIRFLOW.

ALARM CONDITIONS

AN ALARM SHALL BE SENT TO THE BMS IF THE FAN IS COMMANDED ON AND THE FAN STATUS FEEDBACK FAILS TO PROVE RUN STATUS VIA THE CURRENT TRANSDUCER

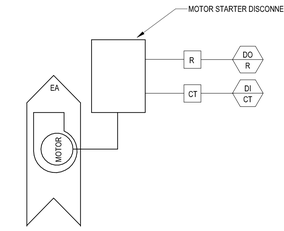
TYPICAL EXHAUST FAN GEF-1 AND GEF-2 SEQUENCE OF OPERATION

WHILE BUILDING IS OCCUPIED, FANS SHALL OPERATE CONTINUOUSLY AT 100% SCHEDULED AIRFLOW.

WHEN THE BUILDING IS UN-OCCUPIED, THE FAN SHALL BE DISABLED.

ALARM CONDITIONS

AN ALARM SHALL BE SENT TO THE BMS IF THE FAN IS COMMANDED ON AND THE FAN STATUS FEEDBACK FAILS TO PROVE RUN STATUS VIA THE CURRENT TRANSDUCER



2 EXHAUST FAN CONTROLS

NTS

TYPICAL DUCTLESS SPLIT SYSTEM SEQUENCE OF OPERATION - DSSI-1,3 AND 4

SEE PLANS FOR LOCATION OF ALL EQUIPMENT, WHERE SUCH DEVICES ARE NOT INDICATED BUT ARE REQUIRED BY THE SEQUENCES, THEY SHAL; BE PROVIDED BY THE CONTRACTOR AND LOCATED IN THE FIELD BY THE ENGINEER.

THE UNIT SHALL BE PROVIDED WITH DISCONNECT SWITCH AND SHALL RUN CONTINUOUSLY. THE UNIT SHALL BE PROVIDED WITH FACTORY CONTROLLER AND ROOM THERMOSTATS, THE SYSTEM SHALL BE CONTROLLED VIA ROOM THERMOSTAT AND SHALL BE ENABLED EITHER LOCALLY OR VIA THE BMS.

AN ALARM SHALL BE SENT TO THE BMS WHENEVER THE UNIT INTERNAL DIAGNOSTIC ALARMS.

SPACE TEMPERATURE SHALL BE ADJUSTED LOCALLY.

COMPRESSOR TYP DSSO SHALL MODULATE AS REQUIRED TO SATISFY TYP DSSI DEMAND, TYP DSSI SHALL CYCLE ON WHEN THE SPACE(S) CALL FOR COOLING AND BE OFF WHEN RESPECTIVE SPACE TEMPERATURE MEETS SET POINT OF 75 DEG. F (ADJ.) IS SATISFIED.

TYPICAL DUCTLESS SPLIT SYSTEM SEQUENCE OF OPERATION - DSSI-2 AND DSSI- 5

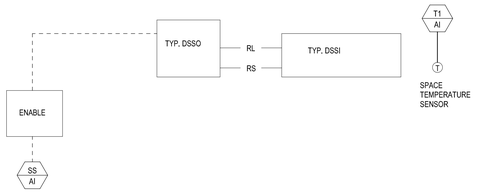
SEE PLANS FOR LOCATION OF ALL EQUIPMENT, WHERE SUCH DEVICES ARE NOT INDICATED BUT ARE REQUIRED BY THE SEQUENCES, THEY SHAL; BE PROVIDED BY THE CONTRACTOR AND LOCATED IN THE FIELD BY THE ENGINEER.

THE UNIT SHALL BE PROVIDED WITH DISCONNECT SWITCH AND SHALL RUN CONTINUOUSLY. THE UNIT SHALL BE PROVIDED WITH FACTORY CONTROLLER AND ROOM THERMOSTATS, THE SYSTEM SHALL BE CONTROLLED VIA ROOM THERMOSTAT AND SHALL BE ENABLED EITHER LOCALLY OR VIA THE BMS.

AN ALARM SHALL BE SENT TO THE BMS WHENEVER THE UNIT INTERNAL DIAGNOSTIC ALARMS.

SPACE TEMPERATURE SHALL BE ADJUSTED LOCALLY.

COMPRESSOR TYP DSSO SHALL MODULATE AS REQUIRED TO SATISFY TYP DSSI DEMAND, TYP DSSI SHALL CYCLE ON WHEN THE SPACE(S) CALL FOR COOLING AND BE OFF WHEN RESPECTIVE SPACE TEMPERATURE MEETS SET POINT OF 75 DEG. F (ADJ.) IS SATISFIED, TYP DSSI SHALL CYCLE ON WHEN THE SPACE(S) CALL FOR HEATING AND BE OFF WHEN RESPECTIVE SPACE TEMPERATURE MEETS SET POINT OF 70 DEG. F (ADJ.) IS SATISFIED. IF SPACE TEMPERATURE EXCEEDS 80 DEG F. (ADJ.) OR DROPS BELOW 45 DEG F (ADJ.) AND ALARM SHALL BE SENT TO THE BMS



CONTROL POINT LIST		
POINT DESIGNATION	DEVICE OR POINT DESCRIPTION	CONTROLLED BY
T1	SPACE TEMP SENSOR	
SS	START/STOP STATUS	T1

SYSTEM ARCHITECTURE

NTS

3 DUCTLESS SPLIT SYSTEM CONTROLS

NTS

DOMESTIC HOT WATER RECIRCULATO R PUMP SEQUENCE OF OPERATION

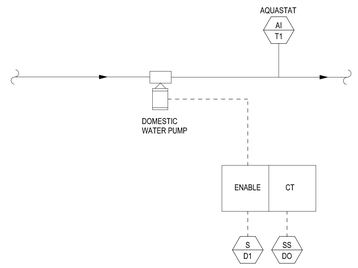
DOMESTIC HOT WATER RECIRCULATOR PUMPS SHALL OPERATE ON AN OCCUPIED / UNOCCUPIED SCHEDULE AND SHALL BE TEMPERATURE CONTROLLED DURING OCCUPIED MODE.

THE BUILDING MANAGEMENT SYSTEM (BMS) SHALL AUTOMATICALLY TURN THE PUMP OFF DURING UNOCCUPIED PERIOD (ADJ.) AND ON 60 MINUTE BEFORE OCCUPIED PERIOD.

DURING THE OCCUPIED PERIOD, THE CORRESPONDING AQUASTAT, VIA THE BMS, SHALL DE-ENERGIZE THE PUMP WHEN THE TEMPERATURE IN THE RETURN LINES REACH THE UPPER LIMIT OF THE AQUASTAT 140 DEG F. (ADJ.) AND ENERGIZE THE PUMP WHEN THE TEMPERATURE IN THE RETURN LINE HAS REACHED THE LOWER LIMIT OF 130 DEG F. (ADJ.)

IF THE PUMP FAILS OR FAILS TO START AS SENSED BY ITS CURRENT TRANSDUCER, THE BMS SHALL BE ALARMED..

CONTROL POINT LIST		
POINT DESIGNATION	DEVICE OR POINT DESCRIPTION	CONTROLLED BY
T1	WATER TEMPERATURE SENSOR	
S	STATUS	
SS	START/STOP	T1



SYSTEM ARCHITECTURE

NTS

4 DOMESTIC HOT WATER HEATER CONTROLS

NTS

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ARCH. PROJECT # **RDU 25-065**

MECHANICAL CONTROLS

SCALE: 12" = 1'-0"

SHEET # **M5.2**

AIR TERMINAL UNITS - VARIABLE AND CONSTANT VOLUME W/ ELECTRIC HEAT - RTU-1

UNIT NO.	MANUFACTURER & MODEL NUMBER	SYSTEM	SERVICE	LOCATION	MAX. CFM	MIN. CFM	INLET SIZE (IN.)	OUTLET SIZE (IN.)	MAX. APD (IN. WG.)	MAX. RC RATING	ELECTRIC HEATING COIL						ELECTRICAL DATA				OPER. WT. (LBS)	NOTES
											HEATING CFM	EAT (°F)	LAT (°F)	CAP. MBH	KW	NUMBER OF STEPS	VOLT	PH	HZ	EMER. POWER (Y/N)	
ATU-1-008	TITUS / DESV	RTU-1	MAIL RM, ADMIN OFFICE, ADMIN	ADMIN 008	1,450	800	12	16 x 15	0.75	30	800	55	90	30.4	9.0	SCR	277	1	60	N		1
ATU-1-1000	TITUS / DESV	RTU-1	LOUNGE, MED SPA, RECEPT	LOUNGE 1002	560	250	8	12 x 10	0.75	30	250	55	95	10.9	3.5	SCR	277	1	60	N		1
ATU-1-1006	TITUS / DESV	RTU-1	TREATMENT RMS 1-4 AND CLEAN STOR.	TREATMENT 1 1001	540	540	8	12 x 10	0.75	30	540	55	95	23.4	7.0	SCR	277	1	60	N		1
ATU-1-1008	TITUS / DESV	RTU-1	OFFICE, BREAKRM	COR 1000A	550	310	8	12 x 10	0.75	30	310	55	95	13.5	4.0	SCR	277	1	60	N		1
ATU-1-011	TITUS / DESV	RTU-1	STAFF BREAK ROOM TENANT SPACE	COR 1200A	680	320	8	12 x 10	0.75	30	320	55	95	13.9	4.0	SCR	277	1	60	N		1
ATU-1-1104	TITUS / DESV	RTU-1	CORR, ADMIN OFFICE	COR 1100B	600	300	8	12 x 10	0.75	30	300	55	95	13.0	4.0	SCR	277	1	60	N		1
ATU-1-1107	TITUS / DESV	RTU-1	XRAY	XRAY 1107	540	540	8	12 x 10	0.75	30	540	55	95	23.4	7.0	SCR	277	1	60	N		1
ATU-1-1111	TITUS / DESV	RTU-1	ULTRASOUND EVS, CLEAN STOR.	CLEAN STOR 1117	340	340	6	12 x 8	0.75	30	340	55	95	14.8	4.5	SCR	277	1	60	N		1
ATU-1-1112	TITUS / DESV	RTU-1	PEDS DRAW 1-3 , IMAGINING STAFF WORK RM.	CORR 1110A	570	570	8	12 x 10	0.75	30	570	55	95	24.7	7.5	SCR	277	1	60	N		1
ATU-1-1114	TITUS / DESV	RTU-1	LAB, CLEAN UTILITY	CORR 1100B	540	540	8	12 x 10	0.75	30	540	55	95	23.4	7.0	SCR	277	1	60	N		1
ATU-1-1317	TITUS / DESV	RTU-1	OTO SUPPLY, SOILED, CORR	CORR 1300D	255	255	6	12 x 8	0.75	30	225	55	95	9.8	3.5	SCR	277	1	60	N		1
ATU-1-1201	TITUS / DESV	RTU-1	SHARED CHECKOUT	RM 1201	300	150	6	12 x 8	0.75	30	150	55	95	6.5	2.0	SCR	277	1	60	N		1
ATU-1-1309	TITUS / DESV	RTU-1	AUDIO VEST, AUDIO ABR, OTO OFFICE, CORR, AUDIO SUPPLY	CORR 1300A	610	610	8	12 x 10	0.75	30	610	55	95	26.5	8.0	SCR	277	1	60	N		1
ATU-1-1324	TITUS / DESV	RTU-1	CORR, AUDIO TEST 1-2, OTO EXAM	ROOM 1322	685	685	8	12 x 10	0.75	30	685	55	90	25.9	8.0	SCR	277	1	60	N		1
ATU-1-1325	TITUS / DESV	RTU-1	ENT EXAM 3-6	ENT EXAM 3 1227	600	600	8	12 x 10	0.75	30	600	55	95	26.0	8.0	SCR	277	1	60	N		1
ATU-1-1330	TITUS / DESV	RTU-1	MAS/MEDS	RM 1330	260	130	6	12 x 8	0.75	30	130	55	95	5.6	1.5	SCR	277	1	60	N		1
ATU-1-1331	TITUS / DESV	RTU-1	ENT EXAM 1 AND 2	ENT EXAM 2 1329	610	610	8	12 x 10	0.75	30	610	55	95	26.5	8.0	SCR	277	1	60	N		1
ATU-1-1335	TITUS / DESV	RTU-1	ADMIN, SURGEON OFFICE, AUDIO OFFICE	SURGEON OFFICE 1335	840	420	8	12 x 10	0.75	30	420	55	95	18.2	5.5	SCR	277	1	60	N		1
ATU-1-1244	TITUS / DESV	RTU-1	PULM EXAM 1 AND 3	SHARED ENTRY 1300	295	295	8	12 x 10	0.75	30	295	55	90	11.2	3.5	SCR	277	1	60	N		1
ATU-1-1243	TITUS / DESV	RTU-1	PULM PROVIDER	PULM PROVIDER 1243	400	200	8	12 x 10	0.75	30	200	55	95	8.7	4.0	SCR	277	1	60	N		1
ATU-1-1245	TITUS / DESV	RTU-1	PUL EXAM 1-2	PUL EXAM 1245	260	260	6	12 x 8	0.75	30	260	55	90	9.9	3.0	SCR	277	1	60	N		1
ATU-1-1250	TITUS / DESV	RTU-1	MEDS/ MAS STRETCHER	PUL MA'S/MEDS 1250	455	455	8	12 x 10	0.75	30	455	55	90	17.3	5.0	SCR	277	1	60	N		1
ATU-1-1251	TITUS / DESV	RTU-1	SHARED PROVIDER, ADMIN OFFICE	ADMIN 1251	270	130	6	12 x 8	0.75	30	130	55	95	5.6	1.5	SCR	277	1	60	N		1
ATU-1-1253	TITUS / DESV	RTU-1	PUL EXAM 3-4, CORRIDOR	PUL EX 3 1253	460	460	6	12 x 8	0.75	30	460	55	95	20.0	5.0	SCR	277	1	60	N		1
ATU-1-012	TITUS / DESV	RTU-1	FIRE RISER ROOM	ENT 3 1327	200	0	6	12 x 8	0.75	30	0	--	--	--	--	--	--	--	--	N		1
ATU-1-013	TITUS / DESV	RTU-1	BUILDING ELECTRIC ROOM	ENT 2 1329	400	0	8	12 x 10	0.75	30	0	--	--	--	--	--	--	--	--	N		1
				TOTAL CFM	13,270						9,740				124							

L

1 PROVIDE WITH INTEGRAL DISCONNECTS

AIR TERMINAL UNITS - VARIABLE AND CONSTANT VOLUME W/ ELECTRIC HEAT - RTU-2

UNIT NO.	MANUFACTURER & MODEL NUMBER	SYSTEM	SERVICE	LOCATION	MAX. CFM	MIN. CFM	INLET SIZE (IN.)	OUTLET SIZE (IN.)	MAX. APD (IN. WG.)	MAX. RC RATING	ELECTRIC HEATING COIL						ELECTRICAL DATA				OPER. WT. (LBS)	NOTES
											HEATING CFM	EAT (°F)	LAT (°F)	CAP. MBH	KW	NUMBER OF STEPS	VOLT	PH	HZ	EMER. POWER (Y/N)	
ATU-2-023	TITUS / DESV	RTU-2	CONF RM, STRETCHER WAIT	STRETCHER WAIT 2309	530	260	8	12 x 10	0.50	25	260	55	95	11.2	3.5	SCR	277	1	60	N		1
ATU-2-025	TITUS / DESV	RTU-2	STAFF BRK, LACTATION, STAFF TLT	STAFF BREAK 025	675	425	8	12 x 10	0.50	25	425	55	95	18.4	5.4	SCR	277	1	60	N		1
ATU-2-2000A	TITUS / DESV	RTU-2	CORR	COR 2000A	500	280	8	12 x 10	0.50	25	280	55	95	9.1	3.5	SCR	277	1	60	N		1
ATU-2-2302	TITUS / DESV	RTU-2	MA'S/MED'S/TD	MA'S/MED'S/TD 2302	200	200	6	12 x 8	0.50	25	200	55	90	7.6	2.2	SCR	277	1	60	N		1
ATU-2-2305	TITUS / DESV	RTU-2	CORR, EXAM 7-8, ADA TLT	EX 8 2305	555	555	8	12 x 10	0.50	25	555	55	95	24.1	6.5	SCR	277	1	60	N		1
ATU-2-2306	TITUS / DESV	RTU-2	CLEAN WORK, CLEAN/SUPPLY, SUPPLY/EQUIP, ADA TLT	CLEAN WORK RM/MEDS 2306	470	470	8	12 x 10	0.50	25	470	55	95	20.4	6.0	SCR	277	1	60	N		1
ATU-2-2313	TITUS / DESV	RTU-2	STAFF TLT, PRO OFF 4-5	COR 2300D	430	240	6	12 x 8	0.50	25	240	55	95	10.3	3.0	SCR	277	1	60	N		1
ATU-2-2323	TITUS / DESV	RTU-2	SHARED PRO, PRO OFF 1-2	PRO OFF 1 2323	300	200	8	12 x 10	0.50	25	200	55	95	8.7	2.5	SCR	277	1	60	N		1
ATU-2-2324	TITUS / DESV	RTU-2	PROCED 1-3,	PROCED 2 2326	1,350	1,350	12	16 x 15	0.50	25	1,350	55	90	51.3	13.0	SCR	277	1	60	N		1
ATU-2-2329	TITUS / DESV	RTU-2	EX 4-6, CORR	EX 4 2329	655	655	8	12 x 10	0.50	25	655	55	95	24.1	7.0	SCR	277	1	60	N		1
ATU-2-2331	TITUS / DESV	RTU-2	ADMIN	ADMIN 2031	250	125	6	12 x 8	0.50	25	125	55	90	4.7	1.5	SCR	277	1	60	N		1
ATU-2-2333	TITUS / DESV	RTU-2	EX 1-3, CORR	EXAM 1 2337	570	570	8	12 x 10	0.50	25	570	55	95	24.7	7.5	SCR	277	1	60	N		1
ATU-2-2339	TITUS / DESV	RTU-2	SURG SCHEDULER	DERMATOLOGY 2000	270	150	6	12 x 8	0.50	25	150	55	95	6.2	2.0	SCR	277	1	60	N		1
ATU-2-2200	TITUS / DESV	RTU-2	DERMATOLOGY ENTRY & INTAKES	DERMATOLOGY 2000	500	500	8	12 x 10	0.50	25	500	55	95	21.7	6.5	SCR	277	1	60	N		1
ATU-2-2251	TITUS / DESV	RTU-2	EXAM 2, ADMIN	COR 2200A	270	270	6	12 x 8	0.50	25	270	55	95	11.7	3.5	SCR	277	1	60	N		1
ATU-2-2255	TITUS / DESV	RTU-2	EXAM 3-5	EXAM 3 2253	450	450	8	12 x 10	0.50	25	450	56	95	19.0	6.0	SCR	277	1	60	N		1
ATU-2-2258	TITUS / DESV	RTU-2	EXAM, ADA TLT, CLEAN, SUPPLY/EQUIP, (4) MA'S	OPEN LOBBY 020	610	610	8	12 x 10	0.50	25	610	55	90	23.2	7.0	SCR	277	1	60	N		1
ATU-2-2261	TITUS / DESV	RTU-2	EXAM 6-8	EXAM 5 2257	630	630	8	12 x 10	0.50	25	630	55	90	23.9	7.0	SCR	277	1	60	N		1
ATU-2-2267	TITUS / DESV	RTU-2	SHARED PROVIDER, PROVIDER OFFICE	COR 2200B	560	300	8	12 x 10	0.50	25	300	55	95	13.0	3.5	SCR	277	1	60	N		1
ATU-2-2100	TITUS / DESV	RTU-2	MA'S, PROCED 1-2, CLEAN	MA'S 2100	1,010	1,010	12	16 x 15	0.50	25	1,010	55	90	38.4	11.5	SCR	277	1	60	N		1
ATU-2-2101	TITUS / DESV	RTU-2	TIMESHARE CHECK IN/OUT	TIMESHARE CHECK IN/OUT & WK RM 2101	160	90	5	12 x 8	0.50	25	90	55	90	3.4	1.0	SCR	277	1	60	N		1
ATU-2-2105	TITUS / DESV	RTU-2	EX 8-9, COR, STAFF TLT, CORR	TIMESHARE CHECK IN/OUT & WK RM 2101	440	440	8	12 x 10	0.50	25	440	55	90	16.7	5.0	SCR	277	1	60	N		1
ATU-2-2115	TITUS / DESV	RTU-2	ADA TLT, EX 5-7, SHARED PRO, CORR	COR 2100A	650	650	10	14 x 12-1/2	0.50	25	650	55	95	28.2	7.5	SCR	277	1	60	N		1
ATU-2-2117	TITUS / DESV	RTU-2	EX 4-6	COR 2100C	420	420	8	12 x 10	0.50	25	420	55	95	18.2	5.0	SCR	277	1	60	N		1
ATU-2-2123	TITUS / DESV	RTU-2	EX 1-3, CORR	COR 2100C	545	545	8	12 x 10	0.50	25	545	55	95	23.7	7.0	SCR	277	1	60	N		1
ATU-2-2129	TITUS / DESV	RTU-2	ADMIN, EVS	EVS 025D	210	210	5	12 x 8	0.50	25	210	55	95	9.1	2.0	SCR	277	1	60	N		1
				TOTAL MAX CFM	13,530						11,925				139							

NOTES:

1 PROVIDE WITH INTEGRAL DISCONNECTS

AIR TERMINAL UNITS - VARIABLE AND CONSTANT VOLUME W/ ELECTRIC HEAT - RTU-3

UNIT NO.	MANUFACTURER & MODEL NUMBER	SYSTEM	SERVICE	LOCATION	MAX. CFM	MIN. CFM	INLET SIZE (IN.)	OUTLET SIZE (IN.)	MAX. APD (IN. WG.)	MAX. RC RATING	ELECTRIC HEATING COIL						ELECTRICAL DATA				OPER. WT. (LBS)	NOTES
											HEATING CFM	EAT (°F)	LAT (°F)	CAP. MBH	KW	NUMBER OF STEPS	VOLT	PH	HZ	EMER. POWER (Y/N)	
ATU-1-001	TITUS / DESV	RTU-3	VESTIBULE	WAITING 1100	480	250	8	12 x 10	0.75	30	250	55	95	10.8	3.5	SCR	277	1	60	N		1
ATU-1-002	TITUS / DESV	RTU-3	OPEN LOBBY	OPEN LOBBY 002	1,000	550	12	16 x 15	0.75	30	550	55	95	32.4	7.0	SCR	277	1	60	N		1
ATU-1-101A	TITUS / DESV	RTU-3	BUSINESS AREA	BUSINESS AREA 101	500	300	8	12 x 10	0.75	30	300	55	95	12.9	4.0	SCR	277	1	60	N		1
ATU-1-1101	TITUS / DESV	RTU-3	WAITING, LAB CHECK IN/OUT	WAITING 1100	590	590	8	12 x 10	0.75	30	590	55	95	25.5	7.5	SCR	277	1	60	N		1
ATU-2-201	TITUS / DESV	RTU-3	BUSINESS AREA	BUSINESS AREA	1,500	750	12	16 x 15	0.50	25	750	55	95	32.4	9.5	SCR	277	1	60	N		1
ATU-2-020A	TITUS / DESV	RTU-3	OPEN LOBBY	OPEN LOBBY 020	1,300	715	10	14 x 12-1/2	0.50	25	715	55	95	31.0	9.5	SCR	277	1	60	N		1
ATU-2-020B	TITUS / DESV	RTU-3	OPEN LOBBY	OPEN LOBBY 020	1,260	695	12	16 x 15	0.50	25	695	55	95	30.2	9.0	SCR	277	1	60	N		1
ATU-2-2201	TITUS / DESV	RTU-3	SHARED CHECK IN /OUT	OPEN LOBBY 020	320	160	6	12 x 8	0.50	25	160	55	95	6.9	2.0	SCR	277	1	60	N		1
ATU-2-025F	TITUS / DESV	RTU-3	ELECTRIC ROOM	OPEN LOBBY 020	400	0	8	12 x 8	0.50	25	--	--	--	--	--	--	--	--	--	N		1
				TOTAL CFM	7,350						4,010				52							

NOTES:

1 PROVIDE WITH INTEGRAL DISCONNECTS

DUCTLESS SPLIT SYSTEM INDOOR UNIT

UNIT NO.	MANUFACTURER & MODEL NUMBER	SERVICE	LOCATION	TYPE	FAN DATA			DX COIL (COOLING)						REFRIG. TYPE	ELECTRICAL DATA (POWERED FROM OUTDOOR UNIT)	OPER. WT. (LBS)	NOTES
					ELEVATION (FT)		◊	EAT (°F)		LAT (°F)		COOLING CAP. (MBH)					
					CFM	ESP	MOTOR (W)	DB	WB	DB	WB	TOTAL	SENS.				
DSSI-1	DAIKIN / FTKF12AXVJU	IT ROOM 1102	IT ROOM 1102	WALL HUNG	315	-	29	80	67	55	55	13.3	12.0	R32	N/A	25	1,2,3
DSSI-2	DAIKIN / FTKF12AXVJU	IT ROOM 025E	IT ROOM 025E	WALL HUNG	315	-	29	80	67	55	55	13.3	12.0	R32	N/A	25	1,2,3

NOTES:

1 PROVIDE MFR.'S WIRED CONTROLLER/THERMOSTAT.
2 INDOOR UNIT IS POWERED BY OUTDOOR UNIT.
3 PROVIDE INTEGRAL CONDENSATE PUMP.

DUCTLESS SPLIT SYSTEM OUTDOOR UNITS

UNIT NO.	MANUFACTURER & MODEL NUMBER	SERVICE	LOCATION	COOLING CAPACITY (MBH)	EER	COP	SEER	REFRIG. TYPE	AMBIENT AIR TEMP (°F)		ELECTRICAL DATA						OPER. WT. (LBS)	NOTES
									SUMMER	WINTER	MCA	MOCP	VOLT	PH	HZ	EMER. POWER (Y/N)		
DSSO-1	DAIKIN / RFK12AXVJU	IT ROOM 1102	ROOF	13.3	8.5	3.3	18.0	R32	95	16	9.36	15	208	1	60	N	66	
DSSO-2	DAIKIN / RFK12AXVJU	IT ROOM 025	ROOF	13.3	8.5	3.3	18.0	R32	95	16	9.36	15	208	1	60	N	66	

GENERAL NOTES:

A. PROVIDE A COMPLETE REFRIGERANT PIPING SYSTEM SIZED AND INSTALLED PER MFR.'S INSTALLATION INSTRUCTIONS.
B. PROVIDE WITH ANTI CORROSION AND 5000 HR SALT TREATMENT.
C. PROVIDE WITH HAIL GUARD.
D. PROVIDE WITH LOW AMBIENT COOLING.
E. REFRIGERANT : R-32

SOUND ATTENUATORS

UNIT NO.	MANUFACTURER & MODEL NUMBER	SERVICE	LOCATION	CFM (MAX)	SIZE ID X OD (IN.)	MAX APD (IN WG)	FACE VELOCITY (FPM)	AIR FLOW REV/FWD	LENGTH IN.	THROAT LENGTH IN.	DYNAMIC INSERTION LOSS (dB)								OPER. WT. (LBS)	NOTES
											63 (Hz)	125 (Hz)	250 (Hz)	500 (Hz)	1000 (Hz)	2000 (Hz)	4000 (Hz)	8000 (Hz)		
SA-1	PRICE ERM	RTU-2	RTU-2 RETURN	13,530	64X24	0.25	1500	REV	-	12"	6	4	17	20	29	28	24	20		1,2,3
SA-2	PRICE RM	RTU-3	RTU-3 RETURN	7,350	36X20	0.25	1500	REV	36"	-	2	4	8	17	26	20	15	13		1,2,3

NOTES:

1 VELOCITY SHOWN IS +(FORWARD FLOW) OR -(REVERSE FLOW) AS DEFINED BY ASTM E477-13
2 PRESSURE DROP, DYNAMIC INSERTION LOSS, AND SELF GENERATED NOISE PER ASTM E477-13.
3 MAXIMUM PRESSURE DROP INCLUDES SILENCER PRESSURE DROP PER ASTM E477-13 AND SYSTEM EFFECTS FOR NEARBY DUCT ELEMENTS.

EXHAUST FANS

UNIT NO.	MANUFACTURER & MODEL NUMBER	SERVICE	LOCATION	FAN TYPE	DRIVE	CFM	CFM TO BALANCE FAN TO	ESP (IN.WG)	FAN RPM	MAX SOUND (SONES)	MOTORIZED DAMPER (Y/N)	STARTING MEANS	MOTOR DATA		ELECTRICAL DATA				OPER. WT (LBS)	NOTES
													HP	RPM	VOLT	PH	HZ	EMER. POWER...		
EF-1	GREENHECK - GB-140HP	ONSLOW 1ST/2ND FLOOR	ROOF	DOWNBLAST	BELT	1100	915	1.50	1,725	14.4	N	STARTER	0.75	1,750	460	3	60	N	107	A,B,C,D
EF-2	GREENHECK - GB-160HP	ONSLOW 1ST/2ND FLOOR	ROOF	DOWNBLAST	BELT	2640	2,205	1.00	1,298	15.8	N	STARTER	1.0	1,750	460	3	60	N	173	A,B,C,D
GEF-1	GREENHECK - GB-100HP	ONSLOW 1ST/2ND FLOOR	ROOF	DOWNBLAST	BELT	720	600	0.80	1,550	10.1	Y	STARTER	0.33	1,750	460	3	60	N	75	A,C,D
GEF-2	GREENHECK - GB-140HP	ONSLOW 2ND FLOOR	ROOF	DOWNBLAST	BELT	870	725	1.50	1,792	15.3	Y	STARTER	0.50	1,750	460	3	60	N	107	A,C,D

GENERAL NOTES:

A. PROVIDE WITH BACKDRAFT DAMPER
B. FANS TO RUN CONTINUOUSLY.
C. PROVIDE WITH INTEGRAL DISCONNECT.
D. PROVIDE SELECTIONS WITH HIGH WIND RATING OF 150 MPH

AIR DISTRIBUTION SCHEDULE

TAG	TYPE	CFM	NECK SIZE	FACE SIZE / LENGTH	OPPOSED BLADE DAMPER (Y/N)	MATERIAL	FINISH	MANUFACTURER / DESCRIPTION	MODEL	ACCESSORIES / CONFIGURATION
S-1	SUPPLY	0-90 91-200 201-300 301-450 451-600...	6"ø 8"ø 10"ø 12"ø 14"ø...	24x24 24x24 24x24 24x24 24x24...	Y	ALUMINUM	WHITE	TITUS	TDC-AA	CEILING DIFFUSER SQUARE LOUVERED FACE "FLUSH FACE"
S-2	SUPPLY	0-90	6"ø	12x12	Y	ALUMINUM	WHITE	TITUS	TDC-AA	CEILING DIFFUSER SQUARE LOUVERED FACE "FLUSH FACE"
S-3	SUPPLY	120-350	10"ø	48"X 3 3/4"	N	ALUMINUM	BLACK	TITUS	FL-15	LINEAR CEILING DIFFUSER 2-SLOT HIGH THROW WITH PLENUM
S-4	SUPPLY	0-250	8"ø	24x24	Y	ALUMINUM	WHITE	TITUS	TMS-FR	FIRE RATED SUPPLY DIFFUSER
S-5	SUPPLY	0-480	10"ø	72"X 7 1/2"	N	ALUMINUM	BLACK	TITUS	FL-15	LINEAR CEILING DIFFUSER 2-SLOT HIGH THROW WITH PLENUM
R-1 / E-1	RETURN / EXHAUST	0-90 0-90 91-200 201-300 301-450 451-600 601-750 751-1150 1151-1600	6"ø 6"ø 8"ø 10"ø 12"ø 14"ø 16"ø 18x18 22x22	12x12 24x24 24x24 24x24 24x24 24x24 24x24 24X24 24X24	N	ALUMINUM	WHITE	TITUS	PAR - AA	RETURN OR EXHAUST GRILLE PERFORATED FACE
R-2 / E-2	RETURN / EXHAUST	ON PLANS	ON PLANS	NECK + 1-3/4"	Y	ALUMINUM	WHITE	TITUS	350FL	RETURN OR EXHAUST REGISTER 35 DEG. FIXED DEFLECTION 3/4" BLADE SPACING BLADES PARALLEL TO LONG DIMENSION
R-3	RETURN	ON PLANS	22x22	24x24	Y	ALUMINUM	WHITE	TITUS	PAR-FR	FIRE RATED RETURN GRILLE

NOTES:

1. SEE ARCHITECTURAL PLANS FOR CEILING TYPE. PROVIDE LAY-IN TYPE BORDER FOR ACOUSTICAL TILE CEILINGS AND SURFACE MOUNT BORDER FOR GYPSUM BOARD AND OTHER TYPES OF CEILING OR WALLS.
2. PROVIDE 24X24 MODULE FOR STANDARD LAY-IN CEILINGS. PROVIDE 12x12 MODULE FOR SMALL ROOMS WHERE 24x24 GRID LOCATIONS ARE NOT AVAILABLE.
3. INCREASE NECK SIZE 2" FOR 2 AND 3 WAY BLOW APPLICATIONS.
4. DIFFUSER AND REGISTER COLOR AND FINISH SHALL BE SELECTED BY THE ARCHITECT. WHITE LISTED AS STANDARD.
5. PROVIDE SQUARE TO ROUND TRANSITION FOR RETURN, EXHAUST AND TRANSFER GRILLES WHERE THEY ARE CONNECTED WITH FLEXIBLE DUCTWORK.
6. PROVIDE SECTIONING BAFFLES FOR 1,2, AND 3 WAY BLOW APPLICATIONS.
7. FOR CEILING MOUNTED RETURN/EXHAUST GRILLES, PROVIDE MINIMUM 2' PLENUM BEHIND GRILLE.
8. FOR LINEAR DIFFUSERS, PROVIDE MANUFACTURER'S INSULATED PLENUM FOR SUPPLY LINEARS.
9. FOR FIRE RATED CEILINGS, PROVIDE DIFFUSER WITH MANUFACTURER'S FIRE RATED OPTION.

EXISTING ROOFTOP UNIT AIR BALANCING SCHEDULE

UNIT NO.	SYSTEM TYPE	SERVICE	LOCATION	COOLING AIRFLOW (CFM)	MINIMUM AIRFLOW (CFM)	HEATING AIRFLOW (CFM)	MIN DEMAND CONTROL VENTILATION OA (CFM)	RETURN AIR (CFM)	OA (CFM)
<X>-RTU-1	SZVAV	FIRST FLOOR	ROOF	13,270	9,740	9,740	1,370	11,980	2,700
<X>-RTU-2	SZVAV	SECOND FLOOR	ROOF	13,530	11,925	11,925	1,720	10,480	2,700
<X>-RTU-3	SZVAV	1ST AND 2ND FLR	ROOF	7,350	4,010	4,010	700	7,350	1,470

GENERAL

A. ROOM AIR SETPOINT 74 DEG., F AT 50% RH
B. OUTDOOR AIR TEMPERATURE 93 DEG. F DB , 78 DEG. F WB

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ARCH. PROJECT # **RDU 25-065**

MECHANICAL SCHEDULES

SCALE:

SHEET # **M7.0**

ROOM AIR FLOW REQUIREMENTS - LEVEL 1 - RTU-3

ROOM INFO				ASHRAE REQUIRED AIR CHANGES								ROOM AIRFLOWS				
					OUTSIDE AIR		ROOM AIR									
NAME	NUMBER	AREA (SQFT)	CLG HT (FT)	ROOM CLASSIFICATION	(ACH)	MIN. REQD OA CFM TO MEET...	(ACH)	MIN. REQD SUPPLY CFM TO...	EXHAUST REQUIRED	CFM EXH FOR 100% EXH	ROOM PRESSURIZATION	SUPPLY AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	RETURN AIRFLOW (CFM)	OFFSET AIRFLOW (CFM)	TOTAL ACH
VESTIBULE	001	180	10.00	Corridor	2	60	2	60	NR	0	NR	480		480	0	16
BUSINESS AREA	101	180	10.00	NA	0	0	0	0	NR	0	NR	500		500	0	17
OPEN LOBBY	002	1800	10.00	Corridor	2	600	2	600	NR	0	NR	1000		1000	0	3
LAB IMAGING CHECK IN/OUT	1101	120	10.00	NA	0	0	0	0	NR	0	NR	590		590	0	30
TOTAL		2280										2570	0	2570	0	

ROOM AIR FLOW REQUIREMENTS - LEVEL 2 RTU-3

ROOM INFO				ASHRAE REQUIRED AIR CHANGES								ROOM AIRFLOWS				
					OUTSIDE AIR		ROOM AIR									
NAME	NUMBER	AREA (SQFT)	CLG HT (FT)	ROOM CLASSIFICATION	(ACH)	MIN. REQD OA CFM TO MEET...	(ACH)	MIN. REQD SUPPLY CFM TO...	EXHAUST REQUIRED	CFM EXH FOR 100% EXH	ROOM PRESSURIZATION	SUPPLY AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	RETURN AIRFLOW (CFM)	OFFSET AIRFLOW (CFM)	TOTAL ACH
SHARED CHECK IN/CHECK OUT	2201	315	10.00	NA	0	0	0	0	NR	0	NR	320		320	0	6
BUSINESS AREA	201	180	10.00	Corridor	0	0	2	60	NR	0	NR	1500		1500	0	50
ELECTRIC ROOM	025F	124	10.00	NA	0	0	0	0	NR	0	NR	400		400	0	19
OPEN LOBBY	020	2315	10.00	Corridor	0	0	2	775	NR	0	NR	2560		2560	0	7
TOTAL		2934										4780	0	4780	0	

ROOM AIR FLOW REQUIREMENTS - LEVEL 1 - RTU-1

ROOM INFO				ASHRAE REQUIRED AIR CHANGES								ROOM AIRFLOWS				
					OUTSIDE AIR		ROOM AIR									
NAME	NUMBER	AREA (SQFT)	CLG HT (FT)	ROOM CLASSIFICATION	(ACH)	MIN. REQD OA CFM TO MEET...	(ACH)	MIN. REQD SUPPLY CFM TO...	EXHAUST REQUIRED	CFM EXH FOR 100% EXH	ROOM PRESSURIZATION	SUPPLY AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	RETURN AIRFLOW (CFM)	OFFSET AIRFLOW (CFM)	TOTAL ACH
MED SPA RECEPTION	1000	300	10.00	NA	0	0	0	0	NR	0	NR	410		410	0	8
LOUNGE	1002	125	10.00	NA	0	0	0	0	NR	0	NR	150		150	0	7
CORRIDOR	1000A	192	10.00	Corridor	2	65	2	65	NR	0	NR	200		200	0	6
CLEAN STORAGE	1004	70	10.00	Clean Holding	2	25	4	50	NR	0	+	60		0	60	5
TREATMENT 2	1005	115	10.00	Treatment Room	2	40	6	115	NR	0	NR	110	75	75	-40	8
OFFICE	1008	100	10.00	NA	0	0	0	0	NR	0	NR	175		175	0	11
STAFF TLT	1009A	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	75	0	-75	10
STAFF BREAK	1009	145	10.00	NA	0	0	0	0	NR	0	NR	175		100	75	7
TREATMENT 1	1001	115	10.00	Treatment Room	2	40	6	115	NR	0	NR	110	75	35	0	6
ADA TLT/CHANGE	1003	65	10.00	Toilet Room	0	0	10	110	YES	110	-	0	75	0	-75	7
TREAMENT 3	1006	115	10.00	Treatment Room	2	40	6	115	NR	0	NR	150	75	35	40	8
TREAMENT 4	1007	110	10.00	Treatment Room	2	40	6	110	NR	0	NR	110	75	35	0	6
CORRIDOR 1000A	1000	200	10.00	Corridor	2	70	2	70	NR	0	NR	200		200	0	6
STAFF TLT	1313	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	75	0	-75	10
SOILED UTILITY	1315	85	10.00	Soiled Holding	0	0	10	145	YES	145	-	75	145		-70	10
OTO SUPPLY	1317	55	10.00	Clean Holding	2	20	4	40	NR	0	+	75		0	75	8
ADA TLT	1319	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	75	0	-75	10
AUDIO TESTING 1	1312	187	10.00	Examination Room	2	65	6	190	NR	0	NR	190		190	0	6
AUDIO TESTING 2	1322	187	10.00	Examination Room	2	65	6	190	NR	0	NR	190		190	0	6
ENT SHARED OFFICE	1310	130	10.00	NA	0	0	0	0	NR	0	NR	130		130	0	6
AUDIO ABR	1308	135	10.00	NA	0	0	0	0	NR	0	NR	100		100	0	4
MAS/MEDS	1330	255	10.00	NA	0	0	0	0	NR	0	NR	260		260	0	6
ENT 4	1324	120	10.00	Examination Room	2	40	6	120	NR	0	NR	120		120	0	6
ENT 7	1321	155	10.00	Examination Room	2	55	6	155	NR	0	NR	155		155	0	6
ENT 6	1323	150	10.00	Examination Room	2	50	6	150	NR	0	NR	150		150	0	6
ENT 5	1325	145	10.00	Examination Room	2	50	6	145	NR	0	NR	145		145	0	6
ENT 3	1327	135	10.00	Examination Room	2	45	6	135	NR	0	NR	150		150	0	7
ENT 2	1329	160	10.00	Examination Room	2	55	6	160	NR	0	NR	160		160	0	6
ENT 1	1331	150	10.00	Examination Room	2	50	6	150	NR	0	NR	150		150	0	6
ENT ADMIN OFFICE	1333	125	10.00	NA	0	0	0	0	NR	0	NR	160		160	0	8
CORRIDOR 1300A	1300A	230	10.00	Corridor	2	80	2	80	NR	0	NR	185		110	75	5
CORRIDOR 1300C	1300C	170	10.00	Corridor	2	60	2	60	NR	0	NR	185		185	0	7
CORRIDOR 1300B	1300B	580	10.00	Corridor	2	195	2	195	NR	0	NR	300		300	0	3
CORRIDOR 1300D	1300D	305	10.00	Corridor	2	105	2	105	NR	0	NR	105		105	0	2
AUDIO VEST	1309	125	10.00	NA	0	0	0	0	NR	0	NR	100		100	0	5
AUDIO SUPPLY	1307	40	10.00	NA	0	0	0	0	NR	0	NR	50		50	0	8
STORAGE	1305	40	10.00	NA	0	0	0	0	NR	0	NR	45		0	45	7
SHARED CHECK IN/OUT	1301	305	10.00	NA	0	0	0	0	NR	0	NR	300		300	0	6
SHARED CLINIC ENTRY	1300	560	10.00	Corridor	2	190	2	190	NR	0	NR	240		240	0	3
SURGEON OFFICE	1335	125	10.00	NA	0	0	0	0	NR	0	NR	160		160	0	8
AUDIO OFFICE/CONSULT	1337	125	10.00	NA	0	0	0	0	NR	0	NR	160		160	0	8
AUDIO OFFICE/CONSULT	1339	135	10.00	NA	0	0	0	0	NR	0	NR	160		160	0	7
PUL PROVIDER OFFICE	1243	185	10.00	NA	0	0	0	0	NR	0	NR	190		190	0	6
CORRIDOR 1200A	1200A	515	10.00	Corridor	2	175	2	175	NR	0	NR	120		120	0	1
PUL EXAM 1	1244	132	10.00	Examination Room	2	45	6	135	NR	0	NR	135		135	0	6
PUL EXAM 2	1245	125	10.00	Examination Room	2	45	6	125	NR	0	NR	130		130	0	6
SHARED PROVIDER OFFICE	1249	140	10.00	NA	0	0	0	0	NR	0	NR	150		150	0	6
ADMIN OFFICE	1251	105	10.00	NA	0	0	0	0	NR	0	NR	120		120	0	7
PUL EXAM 5	1253	120	10.00	Examination Room	2	40	6	120	NR	0	NR	130		130	0	7
PUL EXAM 6	1255	120	10.00	Examination Room	2	40	6	120	NR	0	NR	130		130	0	7
PUL EXAM 4	1247	125	10.00	Examination Room	2	45	6	125	NR	0	NR	130		130	0	6
STAFF BREAK	011	440	10.00	NA	0	0	0	0	NR	0	NR	630		460	170	9
STAFF TLT/SHOWER	011B	65	10.00	Toilet Room	0	0	10	110	YES	110	-	50	105	0	-55	10
STAFF TLT	011A	50	10.00	Toilet Room	0	0	10	85	YES	85	-	0	95	0	-95	11
ELEC RM	010	30	10.00	NA	0	0	0	0	NR	0	NR	0	75	0	-75	15
PULM SUPPLY RM	1260	75	10.00	Clean Holding	2	25	4	50	NR	0	+	50		0	50	4
PUL EQUIP	1258	70	10.00	Clean Holding	2	25	4	50	NR	0	+	50		0	50	4
PFT	1252	180	10.00	NA	0	0	0	0	NR	0	NR	180		180	0	6
PULM MAS/MEDS	1250	175	10.00	NA	0	0	0	0	NR	0	NR	175		175	0	6
SOILED HOLDING	1256	15	10.00	Soiled Holding	0	0	10	25	YES	25	-	0	50	0	-50	20
ADA TLT	1248	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	85	0	-85	11
PUL EXAM 3	1246	160	10.00	Examination Room	2	55	6	160	NR	0	NR	160	0	160	0	6
ADA TLT	004	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	75	0	-75	10
ADA TLT	005	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	75	0	-75	10
CORRIDOR 007	007	335	10.00	Corridor	2	115	2	115	NR	0	NR	250		250	0	4
ADMIN OFFICE	008A	120	10.00	NA	0	0	0	0	NR	0	NR	125		125	0	6
MAIL RM	009	90	10.00	NA	0	0	0	0	NR	0	NR	75		75	0	5
ADMIN	008	850	10.00	NA	0	0	0	0	NR	0	NR	1000		1000	0	7
CLEAN UTILITY	1118	105	10.00	Clean Workroom	2	35	4	70	NR	0	+	90		90	0	5
LAB TLT	1116	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	85	0	-85	11
SOILED HOLDING	1114A	45	10.00	Soiled Holding	0	0	10	75	YES	75	-	0	75	0	-75	10
LAB	1114	310	10.00	Lab	2	105	6	310	YES	310	-	450		375	75	9
IMAGING STAFF WORKROOM	1112	160	10.00	Clean Workroom	2	55	4	110	NR	0	+	200		200	0	8
DRAW 3	1110	90	10.00	Examination Room	2	30	6	90	NR	0	NR	110		110	0	7
DRAW 2	1108	90	10.00	Examination Room	2	30	6	90	NR	0	NR	110		110	0	7
PEDS DRAW 1	1106	145	10.00	Examination Room	2	50	6	145	NR	0	NR	150		150	0	6
ADMIN OFFICE	1104	135	10.00	NA	0	0	0	0	NR	0	NR	300		300	0	13
BLD STOR.	0003	95	10.00	Storage	2	35	2	35	YES	35	0	50	85	0	-35	5
IT RM	1102	120	10.00	NA	0	0	0	0	NR	0	NR	0		0	0	0
XRAY/ CONTROL RM	1107	435	10.00	X-Ray	2	145	6	435	NR	0	NR	540		540	0	7
EVS	006	85	10.00	Toilet Room	0	0	10	145	YES	145	-	75	145	0	-70	10
CLEAN STOR.	1117	95	10.00	Clean Holding	2	35	4	65	NR	0	+	65		0	65	4
ULTRASOUND	1111	160	10.00	Examination Room	2	55	6	160	NR	0	NR	200		200	0	8
US TLT	1111A	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	80	0	-80	11
ADA TLT	1109	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	80	0	-80	11
CORRIDOR 1100A-B	1100A	575	10.00	Corridor	2	195	2	195	NR	0	NR	300		300	0	3
FIRE RISER ROOM	012	575	10.00	NA	0	0	0	0	NR	0	NR	200		200	0	2
BUILDING ELECTRICAL...	013	575	10.00	NA	0	0	0	0	NR	0	NR	400		400	0	4
TOTAL		14988										13270	1855	11980	-565	

ROOM AIR FLOW REQUIREMENTS - LEVEL 2 - RTU-2

ROOM INFO				ASHRAE REQUIRED AIR CHANGES								ROOM AIRFLOWS				
					OUTSIDE AIR		ROOM AIR									
NAME	NUMBER	AREA (SQFT)	CLG HT (FT)	ROOM CLASSIFICATION	(ACH)	MIN. REQD OA CFM TO MEET...	(ACH)	MIN. REQD SUPPLY CFM TO...	EXHAUST REQUIRED	CFM EXH FOR 100% EXH	ROOM PRESSURIZATION	MAX SUPPLY AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	RETURN AIRFLOW (CFM)	OFFSET AIRFLOW (CFM)	TOTAL ACH
SURG SHARED PROVIDER	2319	115	10.00	NA	0	0	0	0	NR	0	NR	150		150	0	8
STAFF TLT	2317	50	10.00	Toilet Room	0	0	10	85	YES	85	-	50	85	0	-35	10
SURG PROVIDER	2323	105	10.00	NA	0	0	0	0	NR	0	NR	120		120	0	7
SURG PROVIDER	2321	105	10.00	NA	0	0	0	0	NR	0	NR	130		130	0	7
SURG PROVIDER	2315	100	10.00	NA	0	0	0	0	NR	0	NR	130		130	0	8
SURG PROVIDER	2313	100	10.00	NA	0	0	0	0	NR	0	NR	130		130	0	8
SURG PROVIDER	2311	100	10.00	NA	0	0	0	0	NR	0	NR	120		120	0	7
CONFERENCE ROOM	023	315	10.00	NA	0	0	0	0	NR	0	NR	380		380	0	7
STRETCHER WAITING	2309	140	10.00	Corridor	2	50	2	50	NR	0	NR	150		150	0	6
EXAM 7	2307	130	10.00	Examination Room	2	45	6	130	NR	0	NR	130		130	0	6
EXAM 8	2305	125	10.00	Examination Room	2	45	6	125	NR	0	NR	125		125	0	6
SOILED HOLDING	2316	25	10.00	Soiled Holding	0	0	10	45	YES	45	-	0	45	0	-45	11
ADA TLT	2322	50	10.00	Toilet Room	0	0	10	85	YES	85	-	0	85	0	-85	10
SUPPLY/EQUIP	2314	105	10.00	Clean Holding	2	35	4	70	NR	0	+	75		75	0	4
CLEAN/SUPPLY	2308	95	10.00	Clean Holding	2	35	4	65	NR	0	+	85		0	85	5
PROCEDURE 3	2324	200	10.00	Procedure Room	3	100	15	500	NR	0	+	450	100	0	350	14
CLEAN WORK RM/MEDS	2306	195	10.00	Clean Workroom	2	65	4	130	NR	0	+	160		160	0	5
PROCEDURE 2	2326	170	10.00	Procedure Room	3	85	15	425	NR	0	+	450	100	0	350	16
PROCEDURE 1	2304	170	10.00	Procedure Room	3	85	15	425	NR	0	+	450	100	0	350	16
MEDS/MAS/TD	2302	265	10.00	NA	0	0	0	0	NR	0	NR	200		200	0	5
EXAM 6	2325	130	10.00	Examination Room	2	45	6	130	NR	0	NR	130		130	0	6
EXAM 5	2327	130	10.00	Examination Room	2	45	6	130	NR	0	NR	130		130	0	6
EXAM 4	2329	125	10.00	Examination Room	2	45	6	125	NR	0	NR	125		125	0	6
ADMIN	2331	135	10.00	NA	0	0	0	0	NR	0	NR	250		250	0	11
EXAM 3	2333	115	10.00	Examination Room	2	40	6	115	NR	0	NR	150		150	0	8
EXAM 2	2335	110	10.00	Examination Room	2	40	6	110	NR	0	NR	120		120	0	7
EXAM 1	2337	115	10.00	Examination Room	2	40	6	115	NR	0	NR	150		150	0	8
ADA TLT	2303	50	10.00	Toilet Room	0	0	10	85	YES	85	-	0	85	0	-85	10
STOR.	2301	30	10.00	NA	0	0	0	0	NR	0	NR	30		30	0	6
CORRIDOR 2300A	2300A	370	10.00	Corridor	2	125	2	125	NR	0	NR	300		300	0	5
CORRIDOR 2300B	2300B	335	10.00	Corridor	2	115	2	115	NR	0	NR	150		150	0	3
CORRIDOR 2300C	2300C	235	10.00	Corridor	2	80	2	80	NR	0	NR	150		150	0	4
CORRIDOR 2300D	2300D	345	10.00	Corridor	2	115	2	115	NR	0	NR	150		150	0	3
SURGERY SCHEDULER	2339	80	10.00	NA	0	0	0	0	NR	0	NR	150		150	0	11
SURGERY SCHEDULER	2341	80	10.00	NA	0	0	0	0	NR	0	NR	120		120	0	9
INTAKES AND DERMATOLOGY ENTRY	2200	320	10.00	Corridor	2	110	2	110	NR	0	NR	500		500	0	9
ADA TLT	022	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	85	0	-85	11
ADA TLT	021	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	85	0	-85	11
DERM EXAM 1	2249	115	10.00	Examination Room	2	40	6	115	NR	0	NR	120	75	45	0	6
DERM ADMIN	2251	105	10.00	NA	0	0	0	0	NR	0	NR	150		150	0	9
DERM EXAM 3	2253	120	10.00	Examination Room	2	40	6	120	NR	0	NR	150	75	75	0	8
DERM EXAM 4	2255	120	10.00	Examination Room	2	40	6	120	NR	0	NR	150	75	75	0	8
DERM EXAM 5	2257	120	10.00	Examination Room	2	40	6	120	NR	0	NR	150	75	75	0	8
DERM EXAM 6	2259	150	10.00	Examination Room	2	50	6	150	NR	0	NR	150	75	75	0	6
DERM EXAM 7	2061	155	10.00	Examination Room	2	55	6	155	NR	0	NR	300	75	125	100	12
DERM EXAM 8	2063	135	10.00	Examination Room	2	45	6	135	NR	0	NR	180	75	105	0	8
PROVIDER OFFICE	2265	100	10.00	NA	0	0	0	0	NR	0	NR	180		180	0	11
PROVIDER OFFICE	2267	95	10.00	NA	0	0	0	0	NR	0	NR	180		180	0	11
SHARED PROVIDER	2211	140	10.00	NA	0	0	0	0	NR	0	NR	200		200	0	9
DERM EXAM 2	2250	140	10.00	Examination Room	2	50	6	140	NR	0	NR	140	75	65	0	6
ADA TLT	2052	50	10.00	Toilet Room	0	0	10	85	YES	85	-	0	85	0	-85	10
CLEAN	2254	110	10.00	Clean Workroom	2	40	4	75	NR	0	+	75		75	0	4
SUPPLY EQUIP	2256	80	10.00	Clean Holding	2	30	4	55	NR	0	+	60		60	0	5
MAS	2258	260	10.00	NA	0	0	0	0	NR	0	NR	260		260	0	6
SUPPLY/EQUIP	2264	105	10.00	Clean Holding	2	35	4	70	NR	0	+	75		75	0	4
STAFF TLT	026A	50	10.00	Toilet Room	0	0	10	85	YES	85	-	0	85	0	-85	10
STAFF TLT	026B	50	10.00	Toilet Room	0	0	10	85	YES	85	-	0	85	0	-85	10
SOILED HOLDING	2107	22	10.00	Soiled Holding	0	0	10	40	YES	40	-	0	50	0	-50	14
SOILED HOLDING	2068	45	10.00	Soiled Holding	0	0	10	75	YES	75	-	0	75	0	-75	10
STAFF CORRIDOR 026	026	155	10.00	Corridor	2	55	2	55	NR	0	NR	60		60	0	2
CORRIDOR 2200A	2200A	220	10.00	Corridor	2	75	2	75	NR	0	NR	250		250	0	7
CORRIDOR 2200B	2200B	625	10.00	Corridor	2	210	2	210	NR	0	NR	250		250	0	2
STAFF BREAK	025	665	10.00	Break Room	2	225	4	445	NR	0	NR	600		600	0	5
ELEV DISCONNECT	024	10	10.00	NA	0	0	0	0	NR	0	NR	0		0	0	0
LACTATION	025A	55	10.00	NA	0	0	0	0	NR	0	NR	75		75	0	8
STAFF TLT	025B	50	10.00	Toilet Room	0	0	10	85	YES	85	-	0	85	0	-85	10
STAFF TLT	025C	50	10.00	Toilet Room	0	0	10	85	YES	85	-	0	85	0	-85	10
ADMIN OFFICE	2129	101	10.00	NA	0	0	0	0	NR	0	NR	120		120	0	7
EVS	025D	70	10.00	Toilet Room	0	0	10	120	YES	120	-	90	160	0	-70	14
EXAM 1	2127	115	10.00	Examination Room	2	40	6	115	NR	0	NR	120		120	0	6
EXAM 2	2125	115	10.00	Examination Room	2	40	6	115	NR	0	NR	125		125	0	7
EXAM 3	2123	115	10.00	Examination Room	2	40	6	115	NR	0	NR	150		150	0	8
EXAM 4	2121	115	10.00	Examination Room	2	40	6	115	NR	0	NR	150		150	0	8
EXAM 5	2119	110	10.00	Examination Room	2	40	6	110	NR	0	NR	120		120	0	7
EXAM 6	2117	110	10.00	Examination Room	2	40	6	110	NR	0	NR	150		150	0	8
SHARED PROVIDER	2115	160	10.00	NA	0	0	0	0	NR	0	NR	320		320	0	12
EXAM 7	2113	120	10.00	Examination Room	2	40	6	120	NR	0	NR	180		180	0	9
ADA TLT	2114	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	85	0	-85	11
ADA TLT	2112	45	10.00	Toilet Room	0	0	10	75	YES	75	-	0	85	0	-85	11
CLEAN	2116	90	10.00	Clean Holding	2	30	4	60	NR	0	+	60		60	0	4
PROCEDURE 2	2118	130	10.00	Procedure Room	3	65	15	325	NR	0	+	350	100	0	250	16
PROCEDURE 1	2120	135	10.00	Procedure Room	3	70	15	340	NR	0	+	350	100	0	250	16
TIMESHARE MAS	2100	190	10.00	NA	0	0	0	0	NR	0	NR	250		250	0	8
EXAM 8	2105	115	10.00	Examination Room	2	40	6	115	NR	0	NR	115		115	0	6
EXAM 9	2103	115	10.00	Examination Room	2	40	6	115	NR	0	NR	115		115	0	6
TIMESHARE CHECK IN	2101	130	10.00	NA	0	0	0	0	NR	0	NR	160		160	0	7
CORRIDOR 2100A	2100A	400	10.00	Corridor	2	135	2	135	NR	0	NR	150		150	0	2
CORRIDOR 2100B	2100B	155	10.00	Corridor	2	55	2	55	NR	0	NR	150		150	0	6
CORRIDOR 2100C	2100C	355	10.00	Corridor	2	120	2	120	NR	0	NR	300		300	0	5
TOTAL		12858										13460	2450	10485	525	

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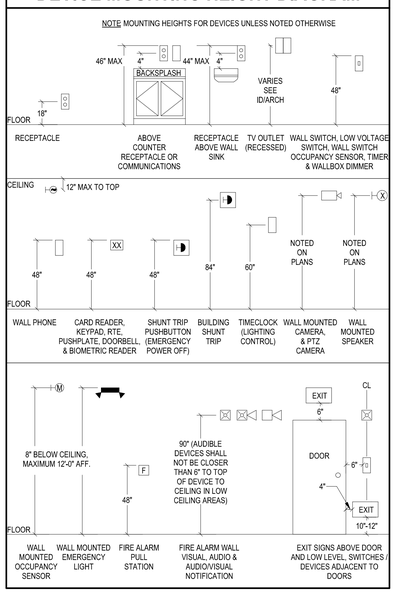
Andrew Barker
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ABBREVIATIONS

A	AMPERES	HPRS	HORSEPOWER RATED SWITCH
AAC	ABOVE ACCESSIBLE CEILING	HP	HORSEPOWER
AC	ALTERNATING CURRENT	HZ	HERTZ
ADA	AMERICANS WITH DISABILITIES ACT	JB	JUNCTION BOX
AF	AMPERE FRAME	KCMIL	THOUSAND CIRCULAR MILS
AFF	ABOVE FINISHED FLOOR	KVA	KILOVOLT-AMPERES
AFG	ABOVE FINISHED GRADE	KW	KILOWATTS
AFU	AMPERE FUSE	LTG	LIGHTING
AIC	AMPERES INTERRUPTING CAPACITY, SYMMETRICAL	MAX	MAXIMUM
ARCH	ARCHITECT	MCB	MAIN CIRCUIT BREAKER
ATS	AUTOMATIC TRANSFER SWITCH	MECH	MECHANICAL
AWG	AMERICAN WIRE GAUGE	MIN	MINIMUM
BFC	BELOW FINISHED CEILING	MLO	MAIN LUGS ONLY
BFG	BELOW FINISHED GRADE	N	NEUTRAL
BKBD	BACKBOARD	NC	NORMALLY CLOSED
BOH	BACK OF HOUSE	NEC	NATIONAL ELECTRICAL CODE
C	CONDUIT	NF	NON FUSED
CAT	CATALOG	NO	NORMALLY OPEN
CB	CIRCUIT BREAKER	NTS	NOT TO SCALE
CKT	CIRCUIT	Ø, PH	PHASE
CLG	CEILING	PIR	PASSIVE INFRARED
CONT	CONTINUATION	PLBG	PLUMBING
Δ	DELTA	PVC	POLYVINYL CHLORIDE
DISC	DISCONNECT SWITCH	PWR	POWER
DIV	DIVISION	REF	REFRIGERATOR
DWG	DRAWING	RGS	RIGID GALVANIZED STEEL
EA	EACH	SPD	SURGE PROTECTIVE DEVICE
ECB	ENCLOSED CIRCUIT BREAKER	ST	SHUNT TRIP
ELEC	ELECTRICAL	SURF	SURFACE
EM	EMERGENCY	SWBD	SWITCHBOARD
EMT	ELECTRICAL METALLIC TUBING	TBD	TO BE DETERMINED
EPO	EMERGENCY POWER OFF	TYP	TYPICAL
EWC	ELECTRIC WATER COOLER	UNO	UNLESS NOTED OTHERWISE
EXT	EXTERIOR	V	VOLTS
FA	FIRE ALARM	VFD	VARIABLE FREQUENCY DRIVE
FACP	FIRE ALARM CONTROL PANEL	W	WATTS
FAA	FIRE ALARM ANNUNCIATOR	WP	WEATHER PROOF
FOH	FRONT OF HOUSE	XFMR	TRANSFORMER
FT	FEET OR FOOT	Y	WYE
G	GROUND		
GEN	GENERATOR		
GFCI	GROUND FAULT CIRCUIT INTERRUPTER		

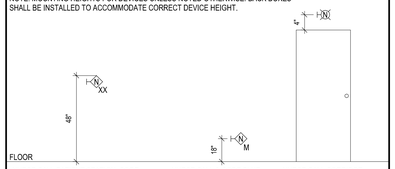
DEVICE MOUNTING HEIGHT DIAGRAM

NOTE MOUNTING HEIGHTS FOR DEVICES UNLESS NOTED OTHERWISE



HEALTHCARE DEVICE MTG. HT. DIAGRAM

NOTE: MOUNTING HEIGHTS FOR DEVICES UNLESS NOTED OTHERWISE. BACK BOXES SHALL BE INSTALLED TO ACCOMMODATE CORRECT DEVICE HEIGHT.



FIRE ALARM SYSTEM

XXcd X	FIRE ALARM VISUAL DEVICE, WALL MOUNTED.	XXcd	FIRE ALARM VISUAL DEVICE, CEILING MOUNTED.
X	FIRE ALARM AUDIO DEVICE, WALL MOUNTED		FIRE ALARM AUDIO DEVICE, CEILING MOUNTED
XXcd	FIRE ALARM AUDIO/VISUAL DEVICE, WALL MOUNTED	XXcd X	FIRE ALARM AUDIO/VISUAL DEVICE, CEILING MOUNTED.
XXcd P X	FIRE ALARM AUDIO/VISUAL DEVICE, POLE MOUNTED		
P X	FIRE ALARM AUDIO DEVICE, POLE MOUNTED		

NOTE: FOR ABOVE AUDIO AND AUDIO/VISUAL DEVICES, SUBSCRIPTS INDICATES: "XXcd" INDICATES STROBE CANDELA RATING (75cd UNLESS NOTED OTHERWISE), WP - WEATHERPROOF, CC - CUSTOM COLOR SELECTED BY ARCHITECT.

	CARBON MONOXIDE DETECTOR, CEILING MOUNTED		SMOKE DETECTOR, WALL MOUNTED CO - WITH CARBON MONOXIDE E - ELEVATOR RECALL SB - INTEGRAL SOUNDER BASE SS - SINGLE/MULTIPLE STATION SMOKE ALARM (120V - NON SYSTEM)
	HEAT DETECTOR, CEILING MOUNTED FS - FIRE SERVICE ELEVATOR LOBBY TEMPERATURE MONITORING		
	SMOKE DETECTOR, CEILING MOUNTED CO - WITH CARBON MONOXIDE E - ELEVATOR RECALL SB - INTEGRAL SOUNDER BASE SS - SINGLE/MULTIPLE STATION SMOKE ALARM (120V - NON SYSTEM)	X	BEAM SMOKE DETECTOR, SUBSCRIPT "X" INDICATES: BT - BEAM TRANSMITTER BR - BEAM RECEIVER
			SMOKE DAMPER
X	SMOKE DETECTOR, DUCT MOUNTED. SUBSCRIPT "X" INDICATES UNIT SERVED	FS	FLOW SWITCH
	FIRE/SMOKE DAMPER	P	PRESSURE ALARM
TS	TAMPER SWITCH	R	CONTROL RELAY
XXXX	FIRE ALARM PANEL XXXX INDICATES TYPE FACP - FIRE ALARM CONTROL PANEL FATC - FIRE ALARM TERMINAL CABINET FAA - FIRE ALARM REMOTE ANNUNCIATOR ASD - ASPIRATING SMOKE DETECTION CONTROL PANEL VEP - VOICE EVACUATION PANEL	RAL	REMOTE ALARM INDICATOR LIGHT
		E	ELECTRIC FIRE BELL/GONG
		RT	REMOTE TEST STATION
			FIREFIGHTERS TELEPHONE OUTLET
F	FIRE ALARM PULL STATION	KB	KEY BOX

COMMUNICATIONS SYSTEM

X	DATA OUTLET, WALL MOUNTED	X	VOICE OUTLET, WALL MOUNTED
X	DATA OUTLET, FLOOR MOUNTED	X	VOICE OUTLET, FLOOR MOUNTED
X	DATA OUTLET, CEILING MOUNTED	X	VOICE OUTLET, CEILING MOUNTED
X	VOICE-DATA OUTLET, WALL MOUNTED		AUDIO/VISUAL OUTLET, WALL MOUNTED
X	VOICE-DATA OUTLET, FLOOR MOUNTED		AUDIO/VISUAL OUTLET, FLOOR MOUNTED
X	VOICE-DATA OUTLET, CEILING MOUNTED		AUDIO/VISUAL OUTLET, CEILING MOUNTED

NOTE: FOR ABOVE VOICE, DATA AND AUDIO/VISUAL DEVICES, SUBSCRIPT "X" INDICATES:

C - ABOVE BACKSPLASH OF CABINET, OR COUNTERTOP
F - FURNITURE OR MILLWORK MOUNTED
H - HORIZONTALLY MOUNTED
POS - DEDICATED FOR POINT OF SELL OUTLET
PV - PHOTO VENDOR
W - WALL PHONE - MOUNT 48" A.F.F.
WAP - WIRELESS ACCESS POINT
WP - WEATHER PROOF

X	SPEAKER WALL MOUNTED	X	SPEAKER CEILING MOUNTED
	CCTV CAMERA, WALL MOUNTED		CCTV CAMERA, CEILING MOUNTED
TV	TV OUTLET - WALL MOUNTED	TV	TV OUTLET - CEILING MOUNTED
	PLYWOOD BACKBOARD		

18"W X 2"D LADDER STYLE CABLE TRAY, REFER TO FLOOR PLANS FOR DIMENSIONS AND ELEVATIONS

18"W X 2"D BASKET STYLE CABLE TRAY, REFER TO FLOOR PLANS FOR DIMENSIONS AND ELEVATIONS

COMMUNICATIONS SYSTEMS NOTES:
1. FOR WALL AND CEILING MOUNTED DEVICES PROVIDE 4-11/16" BY 2-1/8" DEEP BACKBOX WITH SINGLE GANG REDUCTION RING AT EACH LOCATION, UNO.
2. PROVIDE A 1" CONDUIT FROM EACH JUNCTION BOX BACK TO CLOSEST LOW VOLTAGE CABLE PATHWAY (CABLE TRAY, J HOOKS) IF SHOWN ON DRAWINGS OR UP ABOVE ACCESSIBLE CEILING IF LOW VOLTAGE CABLE PATHWAYS ARE NOT SHOWN OR SPECIFIED IN SPECIFICATIONS, UNO.

ELECTRONIC ACCESS CONTROL SYSTEM

CR	PROXIMITY/CARD READER	WP	WAVE PLATE
DR	DOOR RELEASE BUTTON (NOTE 3)	ACP	ACCESS CONTROL PANEL
ACD #1	ACCESS CONTROL DOOR DETAIL TAG. REFER TO THE CORRESPONDING DETAIL NUMBER ON THE ACCESS CONTROLS DETAIL SHEET E6.1.		

ELECTRONIC ACCESS CONTROL SYSTEM NOTES:
1. PROVIDE A 4-11/16" SQUARE BY 2-1/8" DEEP BACK BOX WITH A SINGLE GANG REDUCTION RING AT EACH LOCATION UNO.
2. PROVIDE A 3/4" CONDUIT ROUTED TO THE ACCESS CONTROL JUNCTION BOX LOCATED ABOVE THE DOOR UNO.
3. DOOR RELEASE SHALL BE SURFACE MOUNTED TO UNDERSIDE OF COUNTER/DESK. MOUNT THE BACKBOX DIRECTLY BELOW THE COUNTER PROVIDE AND INSTALL SURFACE MOUNTED RACEWAY FROM THE BACKBOX TO THE DOOR RELEASE BUTTON LOCATION UNO. REFER TO THE DESK MOUNTED DOOR RELEASE DETAIL ON SHEET E6.2 FOR MORE INFORMATION.

NURSE CALL SYSTEM

XX N	NURSE CALL STATION		

DEVICE NOTES:
1. REFER TO THE NURSE CALL RISER DIAGRAM ON SHEET E7.0 FOR MORE INFORMATION.
2. PROVIDE A 4-11/16" SQUARE BY 2-1/8" DEEP BACK BOX WITH A SINGLE GANG REDUCTION RING.
   XX = DEVICE TYPE
   CB = CODE BLUE
   CBA = CODE BLUE WITH STAFF ASSIST BUTTON
   E = EMERGENCY PULL STATION
   SA = STAFF ASSIST

XX N	NURSE CALL CORRIDOR LIGHT, CEILING-MOUNTED	XX N	NURSE CALL CORRIDOR LIGHT, WALL-MOUNTED

DEVICE NOTES:
1. REFER TO THE NURSE CALL RISER DIAGRAM ON SHEET E7.0 FOR MORE INFORMATION.
2. PROVIDE A 4-11/16" SQUARE BY 2-1/8" DEEP BACK BOX WITH A SINGLE GANG REDUCTION RING AT EACH LOCATION, UNO.
   XX = DEVICE TYPE
   D = DOME LIGHT

N	NURSE CALL JUNCTION BOX, WALL-MOUNTED		

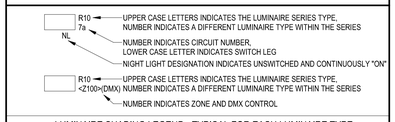
DEVICE NOTES:
1. PROVIDE A 4-11/16" SQUARE BY 2-1/8" DEEP BACK BOX WITH A SINGLE GANG REDUCTION RING AT EACH LOCATION, UNO.

NCAP	NURSE CALL ANNUNCIATOR PANEL	R	NURSE CALL RELAY

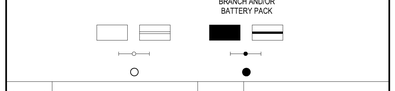
DEVICE NOTES:
1. REFER TO THE NURSE CALL RISER DIAGRAM ON SHEET E7.0 FOR MORE INFORMATION.
2. PROVIDE A (5" HIGH BY 12-1/2" WIDE) BB-02 BACK BOX (BY CORNELL).

NURSE CALL ZONE 1 — DENOTES NURSE CALL ZONE FROM WHICH ALL NURSE CALL DEVICES WITHIN DESIGNATED AREA SHALL BE SERVED, UNO.

LIGHTING



LUMINAIRE SHADING LEGEND - TYPICAL FOR EACH LUMINAIRE TYPE



	TROFFER, FLAT LENS		ADJUSTABLE DOWNLIGHT
	TROFFER, VOLUMETRIC		SCONCE
	RECESSED STRIP LIGHT		PENDANT
	WALL MOUNTED STRIP LIGHT		STRIP LIGHT
	CIRCULAR APERTURE DOWNLIGHT		POLE MOUNTED LIGHT
	SQUARE APERTURE DOWNLIGHT		EMERGENCY LIGHT

EXIT SIGNS

	CEILING MOUNTED SINGLE FACE EXIT SIGN - ARROWS INDICATE DIRECTION		CEILING MOUNTED DOUBLE FACE EXIT SIGN - ARROWS INDICATE DIRECTION
X	WALL MOUNTED SINGLE FACE EXIT SIGN ARROWS INDICATE DIRECTION SUBSCRIPT "L" INDICATES LOW LEVEL EXIT SIGN		WALL MOUNTED DOUBLE FACE EXIT SIGN - ARROWS INDICATE DIRECTION
	WALL END-MOUNTED SINGLE FACE EXIT SIGN ARROWS INDICATE DIRECTION		

SWITCHES / CONTROLS

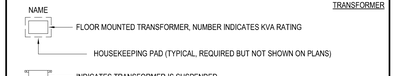
X a,b SL#,#	WALL MOUNTED SWITCH "a,b" INDICATES CONTROL ZONES, SUBSCRIPT "X" INDICATES: 2 - DOUBLE POLE 3 - THREE WAY 4 - FOUR WAY D - WALL BOX DIMMER H - HORSEPOWER RATED LV - LOW VOLTAGE T - WALL BOX TIMER WP - WEATHER PROOF "SL#,#" INDICATES SWITCH LABEL IDENTIFIER, REFER TO LIGHTING SWITCH FACEPLATE DETAIL ON SHEET E6.0 FOR MORE INFORMATION.	OCCUPANCY AND VACANCY SENSORS	
TC X	TIME CLOCK, SUBSCRIPT "X" INDICATES UNIQUE IDENTIFIER	M X a,b	OCCUPANCY/VACANCY SENSOR, CEILING MOUNTED
C X	CONTACTOR, SUBSCRIPT "X" INDICATES UNIQUE IDENTIFIER	M X a,b	OCCUPANCY/VACANCY SENSOR, WALL MOUNTED (REFER TO MOUNTING HEIGHT LEGEND)
PC X	PHOTOCELL	X a,b SL#,#	OCCUPANCY/VACANCY SENSOR, WALL SWITCH TYPE NOTE: "ab" INDICATES SWITCH LEGS CONTROLLED, SUBSCRIPT "X" INDICATES: OS - OCCUPANCY SENSOR TYPE VS - VACANCY SENSOR TYPE W - WIRELESS "SL#,#" INDICATES SWITCH LABEL IDENTIFIER, REFER TO LIGHTING SWITCH FACEPLATE DETAIL ON SHEET E6.0 FOR MORE INFORMATION.

DISTRIBUTION EQUIPMENT

PANELBOARD



TRANSFORMER



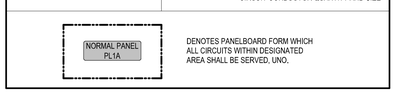
TAGS AND CALL OUT SYMBOLS

1 XXXX	SECTION CALLOUT SECTION DESIGNATION SHEET NUMBER		POINT OF CONNECTION
			POINT OF DEMARCATION
	DETAIL CALLOUT	X	REVISION CALLOUT
A XXXX	DETAIL DESIGNATION SHEET NUMBER	X	KEYNOTE CALLOUT

DEMOLITION

< R >	EXISTING TO BE REMOVED	< X >	EXISTING TO REMAIN
< RL >	EXISTING TO BE RELOCATED	< NL >	EXISTING - NEW LOCATION
	DEMOLITION CONDUIT		DEMOLITION EQUIPMENT

CIRCUITING



POWER CONNECTIONS

J	JUNCTION BOX, WALL MOUNTED	E X	SPECIAL EQUIPMENT CONNECTION, WALL MOUNTED. SUBSCRIPT "X" INDICATES UNIQUE IDENTIFIER, REFER TO EQUIPMENT CONNECTION SCHEDULE.
J	JUNCTION BOX, CEILING MOUNTED		
J FS	JUNCTION BOX FOR FIRE SMOKE DAMPERS SERVING THE AREA. REFER TO DIV 23 DRAWINGS FOR EXACT LOCATIONS AND CONNECTION REQUIREMENTS.	E X	SPECIAL EQUIPMENT CONNECTION, CEILING MOUNTED. SUBSCRIPT "X" INDICATES UNIQUE IDENTIFIER, REFER TO EQUIPMENT CONNECTION SCHEDULE.
	DISCONNECT SWITCH. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR DISCONNECT TYPE, UNO		COMBINATION MOTOR STARTER DISCONNECT, REFER TO EQUIPMENT CONNECTION SCHEDULE FOR DISCONNECT TYPE, UNO

RECEPTACLES

	DUPLEX RECEPTACLE, WALL MOUNTED		DOUBLE DUPLEX RECEPTACLE, WALL MOUNTED
	DUPLEX RECEPTACLE, ABOVE BACKSPLASH OF CABINET, COUNTERTOP OR SINK		DOUBLE DUPLEX RECEPTACLE, ABOVE BACKSPLASH OF CABINET, COUNTERTOP OR SINK
	DUPLEX RECEPTACLE, FLUSH MTD IN CEILING		DOUBLE DUPLEX RECEPTACLE, FLUSH MOUNTED IN CEILING
	HALF SWITCHED DUPLEX RECEPTACLE, WALL MOUNTED		SIMPLEX RECEPTACLE, WALL MOUNTED
TYPE	SPECIAL PURPOSE RECEPTACLE, WALL MOUNTED, NEMA CONFIGURATION AS NOTED ON PLANS	TYPE	SPECIAL PURPOSE RECEPTACLE, CEILING MOUNTED NEMA CONFIGURATION AS NOTED ON PLANS
MA-X	MULTI-OUTLET ASSEMBLY, "X" INDICATES TYPE		

X — RECEPTACLE TYPE
12 — NUMBER INDICATES BRANCH CIRCUIT NUMBER

NOTE: FOR ABOVE DEVICES, SUBSCRIPT "X" INDICATES:

EWC - ELECTRIC WATER COOLER
F - FURNITURE OR MILLWORK MOUNTED
GFCI - GROUND FAULT CURRENT INTERRUPTER
T - TAMPER PROOF
TV - TELEVISION (TV) OUTLET (RECESSED)
WP - WEATHER PROOF
U - USB TYPE

FLOOR OUTLETS

	FLOOR BOX, SINGLE-SERVICE TYPE DUPLEX RECEPTACLE		FLOOR BOX, SINGLE-SERVICE TYPE DOUBLE DUPLEX RECEPTACLE
	FLOOR BOX, MULTI-SERVICE TYPE DUPLEX/COMMUNICATIONS OUTLET		FLOOR BOX, MULTI-SERVICE TYPE, DOUBLE DUPLEX/COMMUNICATIONS OUTLET
	POKE THRU, SINGLE-SERVICE TYPE DUPLEX RECEPTACLE	J	FLOOR BOX, SINGLE-SERVICE TYPE JBOX (POWER) - UNO
	POKE THRU, MULTI-SERVICE TYPE POWER/COMMUNICATIONS OUTLET	J	FLOOR BOX, MULTI-SERVICE TYPE JBOX (POWER)/COMMUNICATIONS
	POKE THRU, MULTI-SERVICE TYPE JBOX (POWER)/COMMUNICATIONS		POKE THRU, SINGLE-SERVICE TYPE DOUBLE DUPLEX RECEPTACLE
J	POKE THRU, SINGLE-SERVICE TYPE JBOX (POWER) - UNO		POKE THRU, MULTI-SERVICE TYPE, DOUBLE DUPLEX/COMMUNICATIONS OUTLET
	FLOOR BOX, SINGLE-SERVICE TYPE, SPECIAL PURPOSE RECEPTACLE(S), NEMA CONFIGURATION AS NOTED		FLOOR BOX, MULTI-SERVICE TYPE, SPECIAL PURPOSE RECEPTACLE(S) / COMMUNICATIONS, NEMA CONFIGURATION AS NOTED.

X — FLOOR BOX TYPE (REFER TO SPECIFICATIONS FOR FLOOR BOX TYPES AND CATALOG NUMBERS AND QUANTITY AND SIZES OF CONDUITS TO EACH BOX,UNO)
12 — NUMBER INDICATES BRANCH CIRCUIT NUMBER
FLOOR BOX, CONFIGURATION AS INDICATED, FLUSH MOUNTED, UNLESS OTHERWISE NOTED.

NOTE: FOR ABOVE DEVICES, SUBSCRIPT "X" INDICATES:
F - FURNITURE FEED
M - MULTI-SERVICE TYPE

* "C" SUBSCRIPT NEXT TO ANY FLOOR BOX INDICATES HALF OF RECEPTACLES IN BOX TO BE AUTOMATICALLY CONTROLLED

SINGLE LINE SYMBOLS

####/# X	CKT BREAKER, "###" INDICATES TRIP SETTING, "#" INDICATES NUMBER OF POLES	M	UTILITY METER
	SS - SOLID STATE GFP - GROUND FAULT PROTECTION ERMS - ENERGY-REDUCING MAINTENANCE SWITCH EO - ELECTRICALLY OPERATED	PANEL NAME	PANELBOARD
	ENCLOSED NON-FUSED DISCONNECT SWITCH		
####/#	ENCLOSED CIRCUIT BREAKER "###" INDICATES TRIP SETTING, "#" INDICATES NUMBER OF POLES	L G N E	AUTOMATIC TRANSFER SWITCH
SPD	SURGE SUPPRESSION DEVICE		TRANSFORMER
	GROUND		PAD MOUNTED TRANSFORMER
XXX	FEEDER REFERENCE		

THIS PROJECT REQUIRES A SYSTEM STUDY PRIOR TO EQUIPMENT PROCUREMENT

THE ELECTRICAL GEAR SPECIFIED IN THIS PROJECT HAS POTENTIAL LONG LEAD TIMES. IN ORDER TO MITIGATE ADDITIONAL DELAYS IN REVIEWING SUBMITTAL IT IS IMPERATIVE THAT THE CONTRACTOR SUBMIT A SYSTEM STUDY IN ACCORDANCE WITH SPECIFICATION SECTION 3.12 WHICH INCLUDES A FAULT STUDY AND ARC FLASH ANALYSIS.

SUBMITTALS LISTED BELOW WILL NOT BE APPROVED WITHOUT AN APPROVED SYSTEM STUDY. ORDERING EQUIPMENT PRIOR TO AN APPROVED SYSTEM STUDY IS AT CONTRACTOR'S RISK.

2.9 - DISCONNECT SWITCHES
2.10 - PANELBOARDS
2.11 - DRY-TYPE TRANSFORMERS

GROUNDING

	GROUND ROD		GROUND BUS BAR

PRICING ALTERNATES

ALTERNATE #1: ELECTRICAL DEVICE FINISHES

- **BASE BID:** PROVIDE WHITE ELECTRICAL WIRING DEVICES AND LIGHTING CONTROL DEVICES WITH WHITE SMOOTH NYLON FACE PLATES.
- **ALTERNATE:** PROVIDE GRAY ELECTRICAL WIRING DEVICES AND LIGHTING CONTROL DEVICES WITH 304 STAINLESS STEEL FACE PLATES.

ALTERNATE #2: OVERHEAD TELECOMMUNICATIONS SERVICE CONDUITS

- **ALTERNATE:** PROVIDE TELECOMMUNICATIONS SERVICE CONDUITS ROUTED OVERHEAD AS SHOWN ON SHEET E4.0.

SYSTEMS RESPONSIBILITY MATRIX

SCOPE ITEM	FURNISHED BY	INSTALLED BY
COMMON COMMUNICATION SYSTEMS		
CABLE TRAY SYSTEM	EC	EC
J-HOOK SUPPORTS	EC	EC
STRUCTURED CABLING RACEWAYS	EC	EC
TWO-POST DATA RACKS	OSC	OSC
IT ROOM PLYWOOD BACKBOARDS	EC	EC
COMMUNICATIONS SYSTEM GROUNDING	EC	EC
DATA OUTLET BACK BOXES AND JUNCTION BOXES	EC	EC
DATA OUTLET FACEPLATES AND PORTS	OSC	OSC
WIRELESS ACCESS POINTS	OSC	OSC
DATA OUTLET CABLING	OSC	OSC
ACCESS CONTROL AND SECURITY SYSTEMS		
ACCESS CONTROL DEVICE RACEWAYS	EC	EC
ACCESS CONTROL DEVICE BACK BOXES AND JUNCTION BOXES	EC	EC
ACCESS CONTROL DEVICES (CARD READERS, WAVE PLATES, ETC.)	OSC	OSC
ACCESS CONTROL DEVICE CABLING	OSC	OSC
ACCESS CONTROL PANEL(S)	OSC	OSC
SECURITY CAMERA RACEWAYS	EC	EC
SECURITY CAMERA BACK BOXES AND JUNCTION BOXES	EC	EC
SECURITY CAMERAS	OSC	OSC
SECURITY CAMERA CABLING	OSC	OSC
SECURITY PANEL(S)	OSC	OSC
AUDIO / VISUAL SYSTEMS		
SPEAKER RACEWAYS	EC	EC
SPEAKER BACK BOXES AND JUNCTION BOXES	EC	EC
SPEAKERS	OSC	OSC
AUDIO CONTROL PANEL	OSC	OSC
AV RACEWAYS	EC	EC
AV BACK BOXES AND JUNCTION BOXES	EC	EC
AV DEVICE FACEPLATES	OSC	OSC
AV DEVICE CABLING	OSC	OSC
NURSE CALL DEVICES		
NURSE CALL DEVICE RACEWAYS	EC	EC
NURSE CALL DEVICE BACK BOXES AND JUNCTION BOXES	EC	EC
NURSE CALL DEVICES	EC	EC
NURSE CALL CABLING	EC	EC
NURSE CALL DOME LIGHTS	EC	EC
NURSE CALL ANNUNCIATOR PANELS	EC	EC

EC: ELECTRICAL CONTRACTOR
OSC: OWNER SELECTED CONTRACTOR

NOTES:
1. MATRIX INTENDED TO SHOW BASIC SCOPE OF RESPONSIBILITY AND IS INEXHAUSTIVE IN NATURE. THE ELECTRICAL CONTRACTOR SHALL IN GENERAL BE RESPONSIBLE FOR THE ELECTRICAL INFRASTRUCTURE SUPPORTING THE LOW VOLTAGE SYSTEMS INDICATED, ALL NECESSARY CONDUITS, BACKBOXES, AND OTHER INFRASTRUCTURE COMPONENTS SHALL BE COORDINATED WITH THE SYSTEM SHOP DRAWINGS PROVIDED BY THE OWNER SELECTED CONTRACTOR.
2. REFER TO THE SYSTEMS PLANS FOR LOCATIONS AND QUANTITIES OF LOW VOLTAGE SYSTEMS APPLICABLE TO THE PROJECT SCOPE.

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code [X] Performance [ ] Prescriptive
ASHRAE 90.1 [ ] Performance [ ] Prescriptive

Lighting schedule (each fixture type)
lamp type required in fixture: Refer to luminaire schedule
number of lamps in fixture: Refer to luminaire schedule
ballast type used in the fixture: Refer to luminaire schedule
number of ballasts in fixture: Refer to luminaire schedule
total wattage per fixture: Refer to luminaire schedule
total interior wattage specified vs. allowed (whole building or space by space): Whole building: 22,800W specified vs. 34,900W allowed
total exterior wattage specified vs. allowed: Not in scope

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

2018 NC Administrative Code and Policies — Revised 6/15/2020

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SEAL 044840 — NORTH CAROLINA — REGISTERED — PROFESSIONAL ENGINEER — ANASTASIYA V. SMURYGINA

Anastasiya Smurygina
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Onslow MEMORIAL HOSPITAL — An Affiliate of UNC Health

ONSLOW MEMORIAL HEALTH

172 NORTHWEST CORRIDOR BLVD
JACKSONVILLE, NC 28546

11.21.25

#		DESCRIPTION	DATE
1		PERMIT SET	11.21.2025
2			
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ARCH. PROJECT # RDU 25-065

ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS

SCALE: NTS

SHEET # **E0.0**

PART 1 - GENERAL

1.1 SUMMARY:

A. THE INTENT OF THE DRAWINGS AND THIS GENERAL ELECTRICAL SPECIFICATION SHEET IS TO PROVIDE THE COMMON REQUIREMENTS FOR A COMPLETE ELECTRICAL SYSTEM, TESTED, COMMISSIONED AND MADE READY FOR OPERATION.
B. PROVIDE ALL MATERIALS AND EQUIPMENT, AND THE LABOR REQUIRED TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND SPECIFIED IN THIS DOCUMENT.
C. ANY DEVIATIONS FROM THIS GENERAL SPECIFICATION MUST BE SUBMITTED AS A WRITTEN REQUEST INCLUDING ANY JUSTIFICATION. ENGINEER OF RECORD'S WRITTEN APPROVAL IS REQUIRED BEFORE WORK MAY PROCEED.
D. EXCEPT AS OTHERWISE DEFINED IN GREATER DETAIL, THE TERMS "PROVIDE", "FURNISH" AND "INSTALL" SHALL HAVE THE FOLLOWING MEANINGS:
   1. "PROVIDE" SHALL MEAN FURNISH AND INSTALL.
   2. "FURNISH" DOES NOT INCLUDE INSTALLATION.
   3. "INSTALL" DOES NOT INCLUDE FURNISHING.
E. CHECK, VERIFY AND COORDINATE WORK WITH DRAWINGS AND SPECIFICATIONS PREPARED FOR OTHER TRADES. INCLUDE MODIFICATIONS, RELOCATIONS OR ADJUSTMENTS NECESSARY TO COMPLETE WORK OR O AVOID INTERFERENCE WITH OTHER TRADES.
F. THE WORK INCLUDES ELECTRICAL POWER CONNECTIONS TO ALL EQUIPMENT PROVIDED BY OTHERS. IT ALSO INCLUDES THE INFRASTRUCTURE REQUIRED FOR ALL BUILDING SYSTEMS SUCH AS FIRE ALARM, SECURITY, TELDATA, BUILDING AUTOMATION SYSTEM (BAS), AUDIO-VISUAL (AV), ETC. REFER TO SPECIFIC DISCIPLINE DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL OUTLETS AND VARIOUS CONNECTION REQUIREMENTS.

1.2 QUALITY ASSURANCE:

A. MATERIAL AND EQUIPMENT THROUGHOUT THE PROJECT SHALL BE NEW, COMMERCIAL OR INDUSTRIAL GRADE AS APPLICABLE TO THE PROJECT AND DETERMINED BY THE ENGINEER.
B. MATERIALS OF THE SAME TYPE SHALL BE THE PRODUCT OF ONE MANUFACTURER.
C. ALL MATERIALS, COMPONENTS, AND SYSTEMS SHALL BE UL LISTED FOR THE INTENDED APPLICATION.
D. REFERENCE STANDARDS:
   1. ADA - AMERICANS WITH DISABILITIES ACT.
   2. ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE.
   3. ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS.
   4. FM - FACTORY MUTUAL.
   5. ICBO - INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS.
   6. ICEA - INSULATED CABLE ENGINEERS ASSOCIATION.
   7. IEEE - INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS.
   8. NECA - NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION.
   9. NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION.
   10. NESC - NATIONAL ELECTRICAL SAFETY CODE.
   11. NFPA - NATIONAL FIRE PROTECTION ASSOCIATION.
   12. NIST - UNDERWRITERS LABORATORIES, INC.
   13. NCEC - NORTH CAROLINA ELECTRICAL CODE; LATEST EDITION.
   14. NCECC- NORTH CAROLINA ENERGY CONSERVATION CODE, LATEST EDITION.
   15. LOCAL CITY CODES.

1.3 RELATED WORK:

A. CONTINUITY OF SERVICE:
   1. WHEN INTERRUPTION OF SERVICES OF ANY KIND IS REQUIRED, COORDINATE WITH GENERAL CONTRACTOR (GC), OTHER TRADES AND OWNER. OWNER'S WRITTEN APPROVAL IS REQUIRED BEFORE WORK CAN PROCEED.
B. DEMOLITION:
   1. EQUIPMENT, APPARATUS, AND EXPOSED WIRING AND RACEWAYS RENDERED USELESS DUE TO CHANGES SHALL BE REMOVED.
   2. WHERE EXISTING CEILINGS ARE REMOVED, LUMINAIRES, EXIT SIGNS, AND OTHER ELECTRICAL POWER AND SIGNAL APPARATUS MOUNTED TO THE CEILING OR CEILING SUPPORTS, INCLUDING ASSOCIATED RACEWAYS AND WIRING, SHALL BE REMOVED.
   3. MATERIAL AND EQUIPMENT WHICH HAS BEEN REMOVED SHALL NOT BE USED IN THE NEW WORK, EXCEPT AS INDICATED HEREIN.
   4. MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS AND FEEDERS PASSING THROUGH RENOVATED AREAS AND SERVICING UNDISTURBED AREAS.
   5. CONCEALED WIRING AND RACEWAYS WHICH ARE EXPOSED BY THE REMOVAL OF WALLS, PARTITIONS, AND CEILINGS SHALL BE REMOVED. NEW CONCEALED WIRING AND RACEWAYS SERVING EXISTING LOADS PRESENTLY SERVED BY THE REMOVED WIRING AND RACEWAYS SHALL BE PROVIDED.
   6. WHERE EXISTING MECHANICAL EQUIPMENT IS REMOVED, ELECTRIC WIRING, RACEWAYS, SWITCHES AND STARTERS ASSOCIATED WITH THE EQUIPMENT SHALL BE REMOVED.
   7. WHERE EXISTING MECHANICAL EQUIPMENT IS MODIFIED OR RELOCATED, ELECTRICAL CONNECTIONS TO THE EQUIPMENT SHALL BE MODIFIED TO ADAPT THEM TO THEIR NEW FUNCTION OR LOCATION.
   8. EXISTING LUMINAIRES REMOVED AND NOT REUSED ELSEWHERE SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STORED ON THE PREMISES AS DIRECTED.
   9. OTHER APPARATUS, WIRING, CONDUIT, AND METAL MOLDING RENDERED USELESS DUE TO CHANGES IN THE EXISTING BUILDING SHALL BE REMOVED. WHERE EXPOSED TO VIEW, SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE REMOVED FROM THE PREMISES.

1.4 SUBMITTALS:

A. SUBMITTAL DATA:
   1. PROVIDE SUBMITTAL DATA FOR THE FOLLOWING EQUIPMENT AND SYSTEMS:
      a. BUILDING WIRE AND CABLE
      b. CABLE TRAYS
      c. DRY-TYPE TRANSFORMERS
      d. GROUNDING EQUIPMENT
      e. INDIVIDUAL CIRCUIT BREAKERS
      f. LIGHTING CONTROL DEVICES
      g. LUMINAIRES INCLUDING SPECIFIED OPTIONS AND ACCESSORIES
      h. MODULAR FLEXIBLE WIRING SYSTEMS
      i. OVERCURRENT PROTECTIVE DEVICES
      j. PANELBOARDS
      k. RACEWAYS
      l. SURGE PROTECTIVE DEVICES
      m. WIRING DEVICES
   2. SUBMITTAL DATA FOR DIFFERENT SYSTEMS AND EQUIPMENT SHALL BE BOUND SEPARATELY BY SPECIFICATION SECTION AND NOT BOUND BY MANUFACTURER. PROVIDE EACH SECTION AND/OR ITEM WITHIN EACH SUBMITTAL WITH ITS OWN COVER SHEET LABELED AND TAGGED TO MATCH THE DRAWINGS.
B. SHOP DRAWINGS:
   1. PROVIDE SHOP DRAWINGS FOR THE FOLLOWING EQUIPMENT AND SYSTEMS:
      a. CABLE TRAYS
      b. COORDINATION DRAWINGS OF ELECTRICAL CONDUIT 2" AND LARGER, CABLE TRAYS, EQUIPMENT AND RECESSED LUMINAIRES, COORDINATED WITH THE WORK OF OTHER TRADES.
      c. ELECTRICAL EQUIPMENT ROOM DRAWINGS FOR EACH RISER CLOSET AND MAJOR ELECTRIC AND TELEPHONE/DATA ROOM SHOWING EQUIPMENT, RISERS AND CODE REQUIRED CLEARANCES.
      d. OCCUPANCY SENSOR LAYOUT AND COVERAGE DRAWINGS
      e. PANELBOARDS
      f. SELECTED LIGHTING FIXTURES
   2. SHOP DRAWINGS SHOWING LAYOUTS OF SYSTEMS SHALL CONTAIN SUFFICIENT PLANS, ELEVATIONS, SECTIONS, DETAILS AND SCHEMATICS TO DESCRIBE WORK CLEARLY. THEY SHALL BE 1/4" = 1'-0" SCALE.
   3. SHOP DRAWINGS: SHALL CONTAIN DETAILED DIMENSIONAL DRAWINGS, ACCURATE AND COMPLETE DESCRIPTION OF MATERIALS OF CONSTRUCTION, MANUFACTURER'S PUBLISHED PERFORMANCE CHARACTERISTICS AND CAPACITY RATINGS, ELECTRICAL REQUIREMENTS AND WIRING DIAGRAMS. DRAWINGS SHALL CLEARLY INDICATE LOCATION, VOLTAGE AND FUNCTION FOR ALL FIELD TERMINATIONS, AND OTHER INFORMATION NECESSARY TO DEMONSTRATE COMPLIANCE WITH ALL REQUIREMENTS OF CONTRACT DOCUMENTS.
C. CERTIFICATES AND INSPECTIONS:
   1. OBTAIN AND PAY FOR INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION AND DELIVER CERTIFICATES APPROVING INSTALLATIONS TO THE OWNER UNLESS OTHERWISE DIRECTED.
   2. INSPECTIONS WITH THE LOCAL INSPECTION AUTHORITY SHALL BE SCHEDULED SO THAT NO NEW WORK IS CONCEALED PRIOR TO REQUIRED INSPECTIONS.
D. RECORD DOCUMENTS:
   1. REFER TO GENERAL CONDITIONS OF CONTRACT, AND CLOSEOUT PROCEDURES. PREPARE COMPLETE SET OF RECORD DRAWINGS AS REQUIRED.
E. SHORT CIRCUIT AND OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY, AND ARC FLASH STUDY:
   1. CONTRACTOR SHALL SUBMIT ARC – FLASH STUDY AND SHORT-CIRCUIT STUDY REPORT SIGNED, DATED, AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NC.

1.5 JOB CONDITIONS:

A. COORDINATION:
   1. PROVIDE POWER WIRING AND MOTOR CONTROL WIRING, EXCEPT TEMPERATURE CONTROL WIRING, FOR MOTORS AND ELECTRICALLY POWERED OR ELECTRICALLY CONTROLLED EQUIPMENT, AS INDICATED ON ELECTRICAL CONTRACT DOCUMENTS.
   2. CONNECT AND WIRE EQUIPMENT COMPLETE AND READY TO OPERATE ACCORDING TO WIRING DIAGRAMS FURNISHED BY VARIOUS TRADES.
   3. PROVIDE TRANSFORMERS, STARTERS, DISCONNECTS, RELAYS, WIRE, CONDUIT, PUSHBUTTONS, PILOT LIGHTS AND OTHER DEVICES REQUIRED FOR POWER AND CONTROL OF MOTORS OR ELECTRICAL EQUIPMENT EXCEPT AS SPECIFICALLY NOTED ELSEWHERE IN THESE SPECIFICATIONS.
   4. WHERE STARTERS, VARIABLE FREQUENCY DRIVES OR OTHER DEVICES ARE FURNISHED AND INSTALLED BY OTHERS, THEY SHALL BE CONNECTED AND WIRED BY THIS CONTRACTOR.
   5. THE ELECTRICAL CONTRACTOR'S DRAWINGS AND/OR SPECIFICATIONS SHALL SHOW NUMBER AND HP RATING OF MOTORS FURNISHED BY OTHERS, TOGETHER WITH THEIR ACTUATING DEVICES. SHOULD ANY CHANGE IN SIZE, HP RATING OR MEANS OF CONTROL BE MADE TO ANY MOTOR OR OTHER ELECTRICAL EQUIPMENT AFTER CONTRACTS ARE AWARDED, CONTRACTOR RESPONSIBLE FOR CHANGE SHALL IMMEDIATELY NOTIFY THE ELECTRICAL CONTRACTOR. ADDITIONAL COSTS DUE TO THESE CHANGES SHALL BE THE RESPONSIBILITY OF CONTRACTOR INITIATING THE CHANGE.
   6. MOTORS SHALL BE FURNISHED AND STARTING IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS AND SHALL BE COMPATIBLE WITH STARTERS AS SPECIFIED HEREIN OR UNDER VARIOUS TRADE SECTIONS OF THESE SPECIFICATIONS.
   7. INSTALL PANELBOARDS SUCH THAT NO PIPING, DUCTWORK OR OTHER FOREIGN EQUIPMENT IS INSTALLED IN THE SPACE EQUAL TO THE WIDTH OF THE EQUIPMENT EXTENDING FROM THE FLOOR TO THE STRUCTURE ABOVE. IN ADDITION, PANELBOARDS, TRANSFORMERS, VARIABLE FREQUENCY DRIVES, AND STARTERS SHALL BE INSTALLED SUCH THAT THE WORKING SPACE IN FRONT, REAR AND/OR SIDE (WHERE REAR AND/OR SIDE ACCESS IS REQUIRED) IS CLEAR OF PIPING, DUCTWORK AND OTHER FOREIGN EQUIPMENT. DIMENSIONS OF THE WORKING SPACE SHALL BE A MINIMUM DEPTH OF 42" HORIZONTALLY, THE WIDTH OF THE EQUIPMENT OR 30", WHICHEVER IS GREATER, AND THE HEIGHT OF THE EQUIPMENT OR 78", WHICHEVER IS GREATER.
   8. CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS OF THE EQUIPMENT ACTUALLY FURNISHED ON THIS PROJECT AND PROVIDE THE ELECTRICAL SYSTEMS REQUIRED BY THAT EQUIPMENT. ELECTRICAL SYSTEM REVISIONS REQUIRED TO COORDINATE WITH THE EQUIPMENT ACTUALLY FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
   9. MINOR MODIFICATION IN THE LOCATION OF OUTLETS AND EQUIPMENT IS CONSIDERED INCIDENTAL UP TO A DISTANCE OF 10 FEET WITH NO ADDITIONAL COMPENSATION, PROVIDING NECESSARY INSTRUCTIONS ARE GIVEN PRIOR TO ROUGHING-IN OF OUTLET.
   10. COORDINATE MOUNTING HEIGHTS AND LOCATION OF OUTLETS MOUNTED ABOVE COUNTERS, BENCHES, AND BACKSPLASHES. CONTRACTOR SHALL REVIEW ARCHITECTURAL ELEVATIONS AND MILLWORK DRAWINGS BEFORE ROUGHING-IN BOXES AND CONDUIT.
B. CUTTING AND PATCHING:
   1. PERFORM CUTTING AND PATCHING REQUIRED FOR COMPLETE INSTALLATION OF SYSTEMS UNLESS OTHERWISE NOTED. PATCH AND RESTORE ALL WORK CUT OR DAMAGED TO ORIGINAL CONDITION. THIS INCLUDES OPENINGS REMAINING FROM REMOVAL OR RELOCATION OF EXISTING SYSTEM COMPONENTS.
   2. PROVIDE ALL MATERIALS REQUIRED FOR PATCHING UNLESS OTHERWISE NOTED.
   3. DO NOT PIERCE BEAMS OR COLUMNS WITHOUT PERMISSION OF ENGINEER AND THEN ONLY AS DIRECTED. IF OPENINGS ARE REQUIRED THROUGH WALLS OR FLOORS WHERE NO SLEEVE HAS BEEN PROVIDED, HOLE SHALL BE CORE DRILLED TO AVOID UNNECESSARY DAMAGE AND STRUCTURAL WEAKENING.
   4. WHERE ALTERATIONS DISTURB LAWNS, PAVING, WALKS, ETC., REPLACE, REPAIR OR REFINISH SURFACES TO CONDITION EXISTING PRIOR TO COMMENCEMENT OF WORK. THIS MAY INCLUDE AREAS BEYOND CONSTRUCTION LIMITS.
C. HOUSEKEEPING AND CLEANUP:
   1. PERIODICALLY AS WORK PROGRESSES AND/OR AS DIRECTED BY CM/GS, REMOVE WASTE MATERIALS FROM BUILDING AND LEAVE AREA OF WORK BROOM CLEAN. UPON COMPLETION OF WORK, REMOVE TOOLS, SCAFFOLDING, BROKEN AND WASTE MATERIALS, ETC. FROM SITE.
D. PRODUCT DELIVERY AND HANDLING:
   1. ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE STORED PER MANUFACTURER'S INSTRUCTIONS IN A CLEAN, DRY ENVIRONMENT. CONDENSATION SHALL BE PREVENTED BY ENVIRONMENTAL CONTROL AND/OR ENERGIZING OF SPACE HEATERS WHEN PRESENT. MATERIALS STORED AT THE PROJECT SITE THAT BECOME SOILED WITH CONSTRUCTION DIRT, CONCRETE, OR EARTHWORK SHALL BE WASHED, CLEANED, AND DRIED TO THE SATISFACTION OF THE OWNER OR THE OWNER'S REPRESENTATIVE, OR REMOVED FROM THE PROJECT SITE AND REPLACED WITH NEW MATERIALS. DO NOT INSTALL SOILED MATERIAL.
   2. MANUFACTURERS AND/OR CONTRACTORS SHALL PROTECT AND STORE MATERIAL AND EQUIPMENT IN SUCH A MANNER AS TO EFFECTIVELY PREVENT DAMAGE FROM CLIMATIC CONDITIONS. REPLACE DAMAGED OR DEFECTIVE ITEMS.

1.6 GUARANTEE:

A. A STANDARD CONTRACTOR WARRANTY SHALL BE PROVIDED FOR A PERIOD OF ONE (1) YEAR UPON ACCEPTANCE OF THE INSTALLED SYSTEM BY THE OWNER.

PART 2 - PRODUCTS

2.1 GENERAL:

A. AT ENGINEER'S DISCRETION ALTERNATIVE PRODUCTS MAY BE CONSIDERED, PROVIDED THAT IT MEETS OR EXCEEDS THE SPECIFIED REQUIREMENTS. NO PRODUCT SUBSTITUTION SHALL BE ALLOWED WITHOUT WRITTEN ENGINEER'S APPROVAL.
B. EQUIPMENT ENCLOSURES:
   1. NEMA 1 - FOR USE IN DRY INDOOR LOCATIONS.
   2. NEMA 12 - FOR USE IN INDUSTRIAL INDOOR LOCATIONS SUBJECTED TO DUST, DIRT, AND LIGHT SPLASHING
   3. NEMA 3R - FOR USE IN OUTDOOR AND WET INDOOR LOCATIONS.
   4. NEMA 4X - FOR USE IN OUTDOORS AND INDOOR CORROSIVE LOCATIONS. ONLY 316 GRADE STAINLESS STEEL IS ACCEPTABLE.
C. ALL CONTROL COMPONENTS SHALL BE UL 508 AND ALL CONTROL PANELS SHALL BE UL 508A LISTED.
D. VOLTAGE SEPARATION:
   1. A SEPARATE ENCLOSURE SHALL BE PROVIDED FOR ANY SYSTEM OPERATING AT 50 VAC OR LESS.
   2. WHEN SEPARATE ENCLOSURE IS IMPRACTICAL (AS DETERMINED BY THE ENGINEER), SINGLE ENCLOSURE MAY BE UTILIZED PROVIDED THAT:
      a. IT IS COMPARTMENTALIZED WITH METAL BARRIERS TO PROVIDE FULL SEPARATION BETWEEN DIFFERENT VOLTAGE COMPONENTS AND WIRING.
      b. HIGHER VOLTAGE COMPONENTS HAVE DEAD FRONT PROVISIONS.
E. EQUIPMENT SUPPORT:
   1. PROVIDE SUPPORTING STEEL AS REQUIRED FOR INSTALLATION OF EQUIPMENT AND MATERIALS INCLUDING ANGLES, CHANNELS, BEAMS, HANGERS, ETC.
   2. CONCRETE ANCHOR, USED FOR ATTACHMENT TO CONCRETE. SHALL BE STEEL SHELL WITH PLUG TYPE, PLASTIC, RAWHIDE OR ANCHORS UTILIZING LEAD ARE NOT ALLOWED.
   3. DO NOT SUPPORT EQUIPMENT OR FIXTURES FROM METAL ROOF DECKING.
   4. UNLESS OTHERWISE NOTED, SUPPORT MATERIALS SHALL BE 316 GRADE STAINLESS STEEL IN MECHANICAL ROOMS, ELECTRICAL ROOMS, OUTDOOR LOCATIONS AND ALL WASH-DOWN AREAS. IN ALL OTHER AREAS, SUPPORTING MATERIALS SHALL BE GALVANIZED STEEL UNLESS OTHERWISE SPECIFIED.

2.2 CONDUIT:

A. RIGID STEEL CONDUIT:
   1. HEAVY WALL TUBING WITH HOT DIPPED GALVANIZED COATING.
   2. CONNECTORS AND COUPLINGS FOR RIGID CONDUIT SHALL BE THREADED GALVANIZED STEEL.
   3. CONDUIT, BUSHINGS, FITTINGS AND TERMINATIONS SHALL BE UL LISTED AS GROUNDING TYPE FITTINGS, OR SHALL BE SUPPLEMENTED BY A UL APPROVED GROUNDING TYPE DEVICE.
B. EMT CONDUIT:
   1. THIN WALL STEEL TUBING WITH HOT DIPPED GALVANIZED COATING.
   2. CONNECTORS AND COUPLINGS FOR ELECTRICAL METAL TUBING SHALL BE STEEL, COMPRESSION TYPE WITH INSULATED THROATS.
C. FLEXIBLE METAL CONDUIT:
   1. ELECTRO-GALVANIZED SINGLE STRIP STEEL.
   2. FLEXIBLE METAL CONDUIT SHALL CONTAIN BUILT-IN CONTINUOUS GROUND.
   3. CONNECTORS FOR FLEXIBLE STEEL CONDUIT SHALL BE OF THE TWIST-IN, INSERTION TYPE, WITH INSULATED THROAT.
D. LIQUID TIGHT FLEXIBLE METAL CONDUIT:
   1. ELECTRO-GALVANIZED SINGLE STRIP STEEL WITH PVC COATING.
   2. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL CONTAIN BUILT-IN CONTINUOUS GROUND.
E. RIGID NONMETALLIC CONDUIT:
   1. HEAVY WALL RIGID TYPE 40, LISTED FOR ABOVE GROUND AND UNDERGROUND ENCASEMENT.
F. CONNECTORS AND COUPLINGS
   1. SET-SCREW TYPE CONNECTORS AND COUPLINGS SHALL NOT BE USED.
G. CONDUIT SIZE:
   1. MINIMUM CONDUIT SIZE IS 3/4 INCH, EXCEPT AS NOTED.
   2. MINIMUM SIZE FOR FLEXIBLE METAL CONDUIT IS 3/4 INCH EXCEPT 1/2 INCH FOR LIGHTING FIXTURES.
   3. MINIMUM SIZE FOR TELECOM/DATA SYSTEM IS 1 INCH.

2.3 CONDUCTORS AND CABLES:

A. UNLESS NOTED OTHERWISE, PROVIDE SINGLE CONDUCTOR INSULATED WIRE RATED FOR 600 VAC, CONDUCTORS SHALL BE COPPER, SOLID FOR #10 AWG AND SMALLER, AND STRANDED FOR #8 AWG AND LARGER.
B. MINIMUM WIRE SIZE SHALL BE #12 AWG FOR USE AT 600 VOLTS OR BELOW.
C. INSULATION FOR CONDUCTORS #6 AWG AND LARGER SHALL BE THHN/THWN OR XHHW, 90°C DRY, 75°C WET.
D. INSULATION FOR CONDUCTORS #10 AWG AND SMALLER SHALL BE THHN/THWN, 90°C DRY, 75°C WET.
E. FOR MAKING CONNECTIONS TO EQUIPMENT USE 600 VAC, PREMIUM-GRADE STD CABLE MADE OF EXTRA FLEXIBLE STRANDED COPPER.
F. SPLICES, TAPS, AND TERMINATIONS:
   1. SPLICES AND TAPS IN BRANCH CIRCUIT CONDUCTORS, #12 AWG THROUGH #8 AWG, SHALL BE MADE WITH SPRING WIRE CONNECTORS. SPRING WIRE CONNECTORS SHALL BE CORROSION RESISTING, SELF-ACTION SPRING IN INSULATED SHELL, RATED 105 DEGREES C. NON-SPRING TYPE CONNECTORS SHALL NOT BE USED.
   2. TERMINATIONS OF STRANDED COPPER CONDUCTORS SHALL BE MADE WITH COPPER COMPRESSION OR INDENTER TYPE LUGS ON MECHANICAL PRESSURE LUGS.
   3. JOINTS SHALL BE COVERED WITH 7 MIL ELECTRICAL TAPE ON BRANCH CIRCUIT WIRING CONNECTIONS, AND 10 MIL ELECTRICAL TAPE ON MECHANICAL AND INDENT CONNECTORS ON LARGER CABLES. PATENTED PLASTIC CONNECTION COVERS MAY BE USED FOR CONNECTORS IF APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION.
G. CORD DROPS AND PORTABLE APPLIANCE CONNECTIONS SHALL BE TYPE 'SO', HARD SERVICE CORD WITH STAINLESS-STEEL, WIRE-MESH, STRAIN RELIEF DEVICE AT TERMINATIONS TO SUIT APPLICATION.
H. METAL-CLAD (MC) CABLE:
   1. TYPE MC CABLE SHALL NOT BE USED.

2.4 WIRING DEVICES:

A. PROVIDE WIRING DEVICES FROM ONE OF THE FOLLOWING MANUFACTURERS:
   1. LEVITON
   2. HUBBELL
   3. LEGRAND
B. DEVICES SHALL BE BY THE SAME MANUFACTURER.
C. REFER TO PRICING ALTERNATE ON SHEET E0.0 FOR DEVICE AND FACEPLATE FINISH REQUIREMENTS.
D. SWITCHES SHALL BE 20 AMPERE, 120-277 VOLT, AC, QUIET TYPE, UNLESS OTHERWISE NOTED.
E. GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES SHALL BE 20 AMPERE, 125 VOLT, DUPLEX, SELF-TESTING, WEATHER RESISTANT TYPE WHEN INSTALLED IN DAMP OR WET LOCATIONS.
F. DUPLEX RECEPTACLES SHALL BE HOSPITAL GRADE, 125 V, 20A, NEMA 5-20R CONFIGURATION WITH ONE-PIECE SOLID BRASS MOUNTING STRAP WITH INTEGRAL GROUND CONTACTS, UNLESS OTHERWISE NOTED.
G. HOSPITAL GRADE RECEPTACLES SHALL BE INDUSTRY MARKED AS "HOSPITAL GRADE", MOUNTING STRAP, GROUND CONTACTS AND POWER CONTACTS SHALL BE NICKEL-PLATED.
H. WEATHERPROOF COVERS SHALL BE DIE-CAST ALUMINUM, DESIGNED FOR WET LOCATION PROTECTION WHETHER THE ATTACHMENT PLUG IS INSERTED OR REMOVED. COVERS SHALL BE NEMA 3R RATED WHEN USED WITH THE APPROPRIATE WEATHERPROOF OUTLET BOX.

2.5 WALL BOXES:

A. OUTLET AND DEVICE BOXES SHALL BE GALVANIZED STEEL, DOUBLE-GANG, WITH MINIMUM DIMENSIONS 4" SQUARE BY 2-1/8" DEEP. PROVIDE SINGLE-GANG PLASTER RING FOR SINGLE-GANG FACEPLATES.
B. WEATHERPROOF OUTLETS SHALL UTILIZE A STAINLESS STEEL OR CADMIUM PLATED MALLEABLE IRON BOX SUITABLE FOR FLUSH MOUNTING.
C. USE MASONRY BOXES WITH SQUARE CORNERS IN TILE, MARBLE, BRICK OR CONCRETE BLOCK.
D. BOX EXTENSIONS USED TO ACCOMMODATE NEW BUILDING FINISHES SHALL BE OF THE SAME MATERIAL AS RECESSED BOX.
E. GANGABLE BOXES SHALL NOT BE USED.
F. TV OUTLET BOXES:
   1. TV OUTLET BOXES SHALL BE FOUR-GANG STEEL BOX WITH WHITE, NON-METALLIC TRIM PLATE. PROVIDE VOLTAGE SEPARATOR BETWEEN EACH GANG AND CONDUIT KNOCKOUTS FOR EACH GANG.
   2. TV OUTLET BOXES SHALL BE EQUIVALENT TO LEGRAND WIREMOLD EVOLUTION SERIES EFSB4.

2.6 FLOOR BOXES:

A. MULTI SERVICE TYPE - POKE THRU - 8" (DUPLEX):
   1. 8" ROUND BOX WITH ROUND COVER AND SURFACE TYPE FLANGE.
   2. (1) 3/4" CONDUIT KNOCKOUT FOR POWER AND (2) 1-1/2" CONDUIT KNOCKOUT FOR COMMUNICATIONS AND AV.
   3. EQUIVALENT TO WIREMOLD EVOLUTION SERIES (8ATCP).
B. BOX TRIM SHALL BE METALLIC, FINISH BY ARCHITECT.
C. POKE THRU TYPE BOXES SHALL BE FIRE RATED TO MATCH FLOOR RATING.
D. RECEPTACLES INSTALLED IN FLOOR BOXES SHALL BE 20-AMP RATED AND SHALL BE MANUFACTURER'S LISTED RECEPTACLE(S).
E. PROVIDE ALL ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION WITH THE DEVICE TYPES INDICATED.

2.7 EQUIPMENT GROUNDS:

A. EQUIPMENT, ENCLOSURES AND RACEWAYS SHALL BE GROUNDED.
B. THE METALLIC RACEWAY SYSTEM SHALL NOT BE RELIED UPON FOR EQUIPMENT GROUND CONTINUITY.
C. A GREEN-COLORED OR GREEN IDENTIFIED GROUNDING CONDUCTOR SHALL BE INSTALLED IN RACEWAYS ALONG WITH THE PHASE CONDUCTORS.
D. BOND GROUND CONDUCTORS TOGETHER AND TO ENCLOSURES USING GROUNDING LUGS AT ORIGIN OF CIRCUITS, AT INTERMEDIATE PULL BOXES, INDIVIDUAL CIRCUIT BREAKERS, DISCONNECT SWITCHES, AND TO PANELBOARDS OR EQUIPMENT AT TERMINATIONS.
E. GROUNDING CONDUCTORS SHALL BE CONNECTED TO GROUNDING BUSSES PROVIDED IN THE EQUIPMENT.

2.8 GROUNDING AND BONDING:

A. GROUNDING BUS:
   1. PREDRILLED RECTANGULAR BARS OF 1/4" ANNEALED COPPER, MINIMUM 4" x 20" IN MAIN ELECTRICAL ROOMS AND MINIMUM 4" x 10" IN ALL OTHER AREAS, WITH HOLES SPACED 1-1/8" APART.
   2. STAND-OFF INSULATORS FOR MOUNTING SHALL COMPLY WITH UL 891, 600V LEXAN OR PVC, IMPULSE TESTED AT 5000V.

2.9 DISCONNECT SWITCHES:

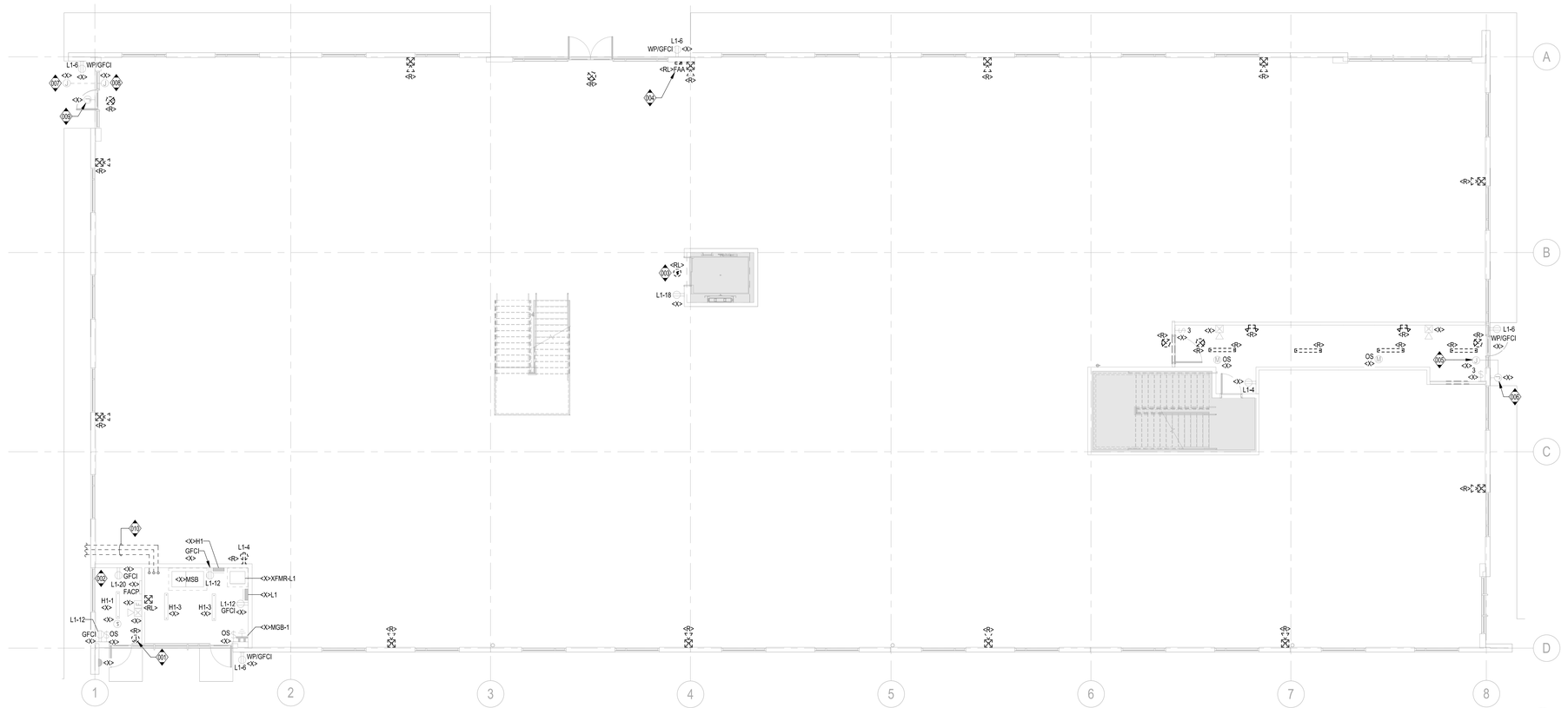
A. DISCONNECT SWITCHES SHALL BE PROVIDED BY ONE OF THE FOLLOWING MANUFACTURERS:
   1. SQUARE D
   2. EATON
   3. GE/ABB
   4. SIEMENS
B. PROVIDE FUSED, NON-FUSED, OR CIRCUIT BREAKER SWITCHES AS SHOWN ON THE DRAWINGS.
C. DISCONNECT SWITCHES SHALL BE CAPABLE OF BEING LOCKED IN OFF POSITION WITH THREE (3) PADLOCKS.
D. PROVIDE HEAVY DUTY SWITCHES, FOR CLASSIFIED AREAS, PROVIDE SWITCHES SPECIFICALLY DESIGNED FOR THE INTENDED APPLICATION.
E. SWITCHES SHALL HAVE GROUND AND INSULATED NEUTRAL LUGS WHERE GROUND AND NEUTRAL CONDUCTORS ARE PROVIDED IN THE CIRCUIT.
F. NONFUSIBLE TYPE FOR MOTOR LOADS 2 HP OR SMALLER OR NONMOTOR LOADS CONNECTED TO A 20 A OR SMALLER CIRCUIT MAY BE TOGGLE TYPE SWITCHES, OR NONAUTOMATIC CIRCUIT BREAKERS, UL LISTED FOR EACH SPECIFIC TYPE LOAD.
G. PROVIDE CONTROL WIRING FOR ELECTRICAL INTERLOCKS BETWEEN DRIVES AND VARIABLE FREQUENCY MOTOR DISCONNECT SWITCHES
H. COORDINATE LOCATION OF DISCONNECTS WITH EQUIPMENT BEING CONTROLLED.
I. WHEN USED AS DISCONNECTING MEANS, LOCATE AS NEAR AS PRACTICABLE TO THE LOAD CONTROLLED.
J. WHEN USED FOR BRANCH CIRCUIT PROTECTION, DISCONNECTS SHALL BE LOCATED AS NEAR AS PRACTICABLE TO THE SUPPLY END OF THE CONDUCTORS BEING PROTECTED.
K. DISCONNECTS USED WITH MOTOR-DRIVEN APPLIANCES, OR MOTORS AND CONTROLLERS SHALL BE LOCATED WITHIN SIGHT OF CONTROLLER, UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
L. DISCONNECTS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.

2.10 PANELBOARDS:

A. PANELBOARDS SHALL BE PROVIDED BY ONE OF THE FOLLOWING MANUFACTURERS:
   1. SQUARE D
   2. EATON
   3. GE/ABB
   4. SIEMENS
B. REFER TO PANELBOARD SCHEDULES FOR THE MINIMUM REQUIREMENT FOR ITEMS SUCH AS BUS AMPACITY, NUMBER OF CIRCUIT BREAKERS, CIRCUIT BREAKER SIZES, AND SHORT CIRCUIT CURRENT RATING.
C. SHORT CIRCUIT CURRENT RATING: PANELBOARD ASSEMBLIES (INCLUDING CIRCUIT BREAKERS) SHALL BE FULLY RATED, SERIES RATED EQUIPMENT SHALL NOT BE PROVIDED.
D. PROVIDE COPPER PHASE, NEUTRAL, AND GROUND BUS WITHIN A GALVANIZED STEEL BACK BOX ENCLOSURE.
E. PROVIDE PANELBOARD DIRECTORY CARD INSIDE PANELBOARD DOOR. EXISTING PANELBOARD DIRECTORIES SHALL BE UPDATED TO REFLECT NEW LOADS. DIRECTORIES SHALL BE COMPUTER GENERATED, MOUNTED INSIDE PANELBOARD DOOR WITH TRANSPARENT PLASTIC PROTECTIVE COVER.
F. PANELBOARDS SHALL BE DOOR-IN-DOOR CONSTRUCTION WITH CONCEALED HINGES.
G. PROVIDE SURGE PROTECTIVE DEVICES IN PANELBOARDS WHERE INDICATED ON THE DRAWINGS.

2.11 DRY-TYPE TRANSFORMERS:

A. TRANSFORMERS SHALL BE PROVIDED BY ONE OF THE FOLLOWING MANUFACTURERS:
   1. SQUARE D
   2. EATON
   3. GE/ABB
   4. SIEMENS
B. NOMINAL SYSTEM VOLTAGES SHALL BE 480V, 3-PHASE, DELTA CONNECTED AT THE PRIMARY AND 208V, 3-PHASE, WYE CONNECTED AT THE SECONDARY, UNLESS OTHERWISE NOTED.
C. PROVIDE CONTINUOUS COPPER CORE WINDINGS WITHOUT SPLICES AROUND A GRAIN-ORIENTED, NON-AGING SILICON STEEL CORE. CORE SHALL BE ENCAPSULATED WITHIN A RESIN COMPOUND, SEALING OUT MOISTURE AND AIR.
D. INSULATION CLASS: 220 DEGREES C, UL-COMPONENT-RECOGNIZED INSULATION SYSTEM WITH A MAXIMUM OF 150 DEGREES C RISE ABOVE 40 DEGREES C AMBIENT TEMPERATURE.
E. LOW SOUND LEVEL REQUIREMENTS: SHALL NOT EXCEED NEMA ST20 STANDARD SOUND LEVELS WHEN FACTORY TESTED ACCORDING TO IEEE C57.12.91.
   1. 9 KVA AND LESS: 40 dba.
   2. 30 TO 50 KVA: 45 dba.
   3. 51 TO 150 KVA: 50 dba.
   4. 151 TO 300 KVA: 55 dba.
F. DRY-TYPE TRANSFORMERS SHALL MEET DO



1 LEVEL 1 DEMO PLAN

1/8" = 1'-0"

GENERAL NOTES:

1 ALL AREAS HIGHLIGHTED IN GRAY ARE CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.

2 ALL DEVICES, LUMINAIRES, AND CONNECTIONS SHOWN AS EXISTING OR EXISTING TO BE REMOVED ARE BEING PROVIDED AS PART OF THE CORE AND SHELL SCOPE OF WORK.

3 REMOVE ALL ELECTRICAL DEVICES, LUMINAIRES, AND LIGHTING CONTROL DEVICES PREFIXED WITH <R> INCLUDING ASSOCIATED BACKBOXES AND CONDUIT. WHEN A COMPLETE BRANCH CIRCUIT IS REMOVED, CONTRACTOR SHALL REMOVE ALL ASSOCIATED BRANCH CIRCUIT WIRING AND CONDUIT BACK TO THE SOURCE, TURN OFF THE CIRCUIT BREAKER, AND LABEL AS SPARE. WHEN A PARTIAL BRANCH CIRCUIT IS REMOVED, THE CONTRACTOR SHALL REMOVE ALL ASSOCIATED BRANCH CIRCUIT WIRING AND CONDUIT BACK TO THE NEAREST JUNCTION BOX, CAP CONDUCTORS AND LABEL WITH CIRCUIT NUMBER.

4 REMOVE ALL FIRE ALARM DEVICES PREFIXED WITH <R> INCLUDING ASSOCIATED BACKBOXES AND CONDUIT. REMOVE ALL ASSOCIATED WIRING BACK TO ASSOCIATED FIRE ALARM PANEL.

KEY NOTES

001 REMOVE ELECTRICAL CONNECTION TO EXISTING UNIT HEATER PROVIDED UNDER CORE AND SHELL PACKAGE.

002 TAMPER AND FLOW SWITCHES PROVIDES AS PART OF THE CORE AND SHELL PACKAGE.

003 REMOVE AND RELOCATE SMOKE DETECTOR FOR ELEVATOR RECALL PROVIDED IN CORE AND SHELL PACKAGE TO NEW CEILING SHOWN ON THE NEW WORK TENANT IMPROVEMENT FIRE ALARM PLANS.

004 REMOVE AND RELOCATE FIRE ALARM ANNUNCIATOR PROVIDED IN CORE AND SHELL PACKAGE TO NEW LOCATION SHOWN ON THE NEW WORK TENANT IMPROVEMENT FIRE ALARM PLANS.

005 EXISTING TO REMAIN JUNCTION BOX FOR CONNECTION TO AUTOMATIC DOOR OPERATOR. REFER TO NEW WORK PLANS FOR BRANCH CIRCUITING INFORMATION.

006 EXISTING TO REMAIN, WALL MOUNTED JUNCTION BOX FOR CONNECTION TO AUTOMATIC DOOR OPERATOR PUSHBUTTON.

007 EXISTING TO REMAIN, IN-GRADE JUNCTION BOX FOR CONNECTION TO AUTOMATIC DOOR OPERATOR PUSHBUTTON PEDESTAL. UTILIZE EXISTING EMPTY CONDUIT TO GREATEST EXTENT POSSIBLE.

008 EXISTING TO REMAIN JUNCTION BOX FOR CONNECTION TO AUTOMATIC DOOR OPERATOR MOUNTED ABOVE DOOR. CONCEAL JUNCTION BOX ABOVE ACCESSIBLE CEILING PROVIDED AS PART OF THE TENANT IMPROVEMENT SCOPE OF WORK. REFER TO NEW WORK PLANS FOR BRANCH CIRCUITING INFORMATION.

009 EXISTING TO REMAIN JUNCTION BOX FOR CONNECTION TO BUILDING SIGNAGE. REFER TO NEW WORK PLANS FOR BRANCH CIRCUITING INFORMATION.

010 (3) 4" TELECOMMUNICATION SERVICE CONDUITS INSTALLED AS PART OF CORE AND SHELL PACKAGE. REFER TO NEW WORK SYSTEMS PLANS FOR CONDUIT ROUTING PATH TO NEW IDF ROOM.

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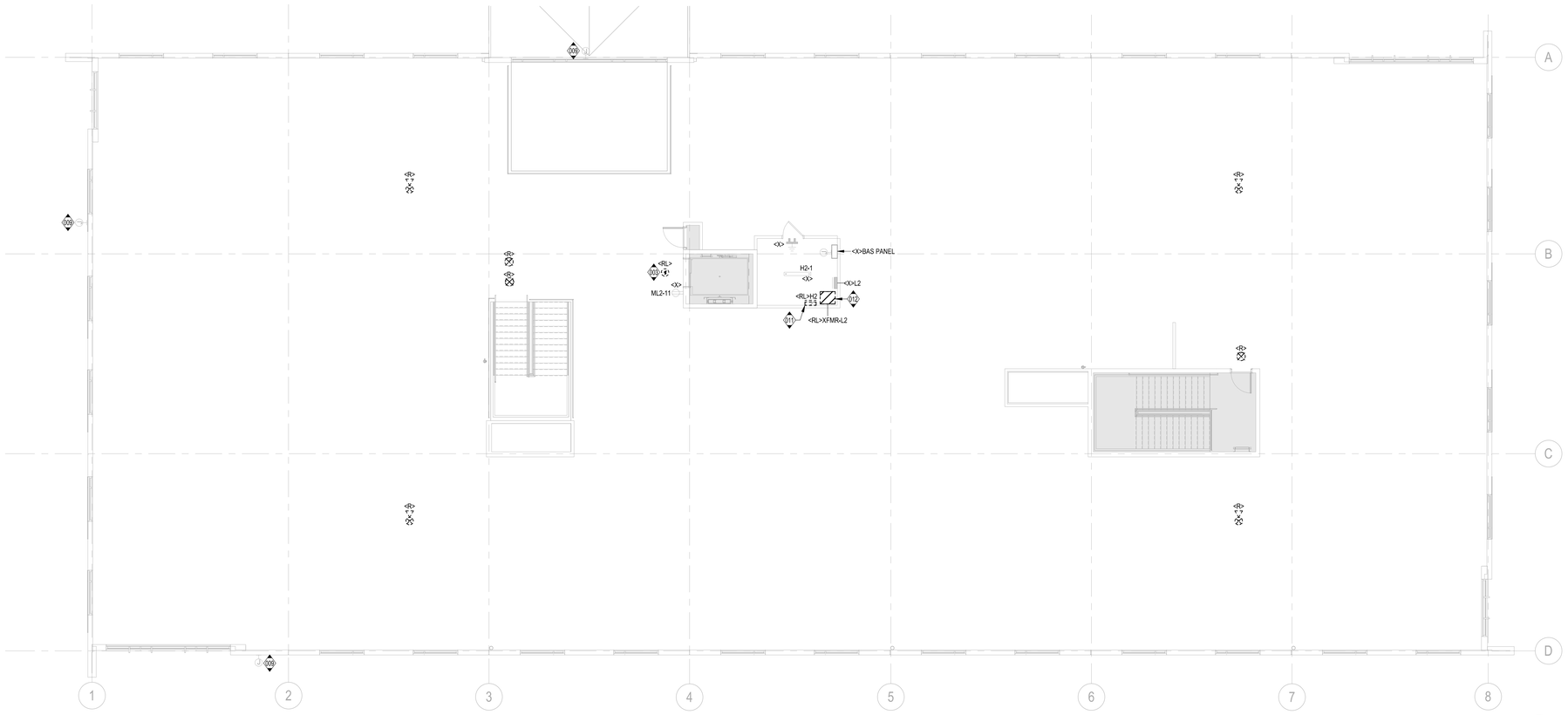
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ELECTRICAL AND FIRE ALARM DEMOLITION PLAN - LEVEL 1

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

SHEET # ED1.0



1 LEVEL 2 DEMO PLAN

1/8" = 1'-0"

GENERAL NOTES:

1 ALL AREAS HIGHLIGHTED IN GRAY ARE CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.

2 ALL DEVICES, LUMINAIRES, AND CONNECTIONS SHOWN AS EXISTING OR EXISTING TO BE REMOVED ARE BEING PROVIDED AS PART OF THE CORE AND SHELL SCOPE OF WORK.

3 REMOVE ALL ELECTRICAL DEVICES, LUMINAIRES, AND LIGHTING CONTROL DEVICES PREFIXED WITH <R> INCLUDING ASSOCIATED BACKBOXES AND CONDUIT. WHEN A COMPLETE BRANCH CIRCUIT IS REMOVED, CONTRACTOR SHALL REMOVE ALL ASSOCIATED BRANCH CIRCUIT WIRING AND CONDUIT BACK TO THE SOURCE, TURN OFF THE CIRCUIT BREAKER, AND LABEL AS SPARE. WHEN A PARTIAL BRANCH CIRCUIT IS REMOVED, THE CONTRACTOR SHALL REMOVE ALL ASSOCIATED BRANCH CIRCUIT WIRING AND CONDUIT BACK TO THE NEAREST JUNCTION BOX, CAP CONDUCTORS AND LABEL WITH CIRCUIT NUMBER.

4 REMOVE ALL FIRE ALARM DEVICES PREFIXED WITH <R> INCLUDING ASSOCIATED BACKBOXES AND CONDUIT. REMOVE ALL ASSOCIATED WIRING BACK TO ASSOCIATED FIRE ALARM PANEL.

KEY NOTES

003 REMOVE AND RELOCATE SMOKE DETECTOR FOR ELEVATOR RECALL PROVIDED IN CORE AND SHELL PACKAGE TO NEW CEILING SHOWN ON THE NEW WORK TENANT IMPROVEMENT FIRE ALARM PLANS.

009 EXISTING TO REMAIN JUNCTION BOX FOR CONNECTION TO BUILDING SIGNAGE. REFER TO NEW WORK PLANS FOR BRANCH CIRCUITING INFORMATION.

011 REMOVE AND RELOCATE EXISTING PANELBOARD PROVIDED IN CORE AND SHELL PACKAGE TO NEW LOCATION SHOWN ON THE NEW WORK TENANT IMPROVEMENT POWER PLANS.

012 REMOVE AND RELOCATE EXISTING TRANSFORMER PROVIDED IN CORE AND SHELL PACKAGE TO NEW LOCATION SHOWN ON THE NEW WORK TENANT IMPROVEMENT POWER PLANS.

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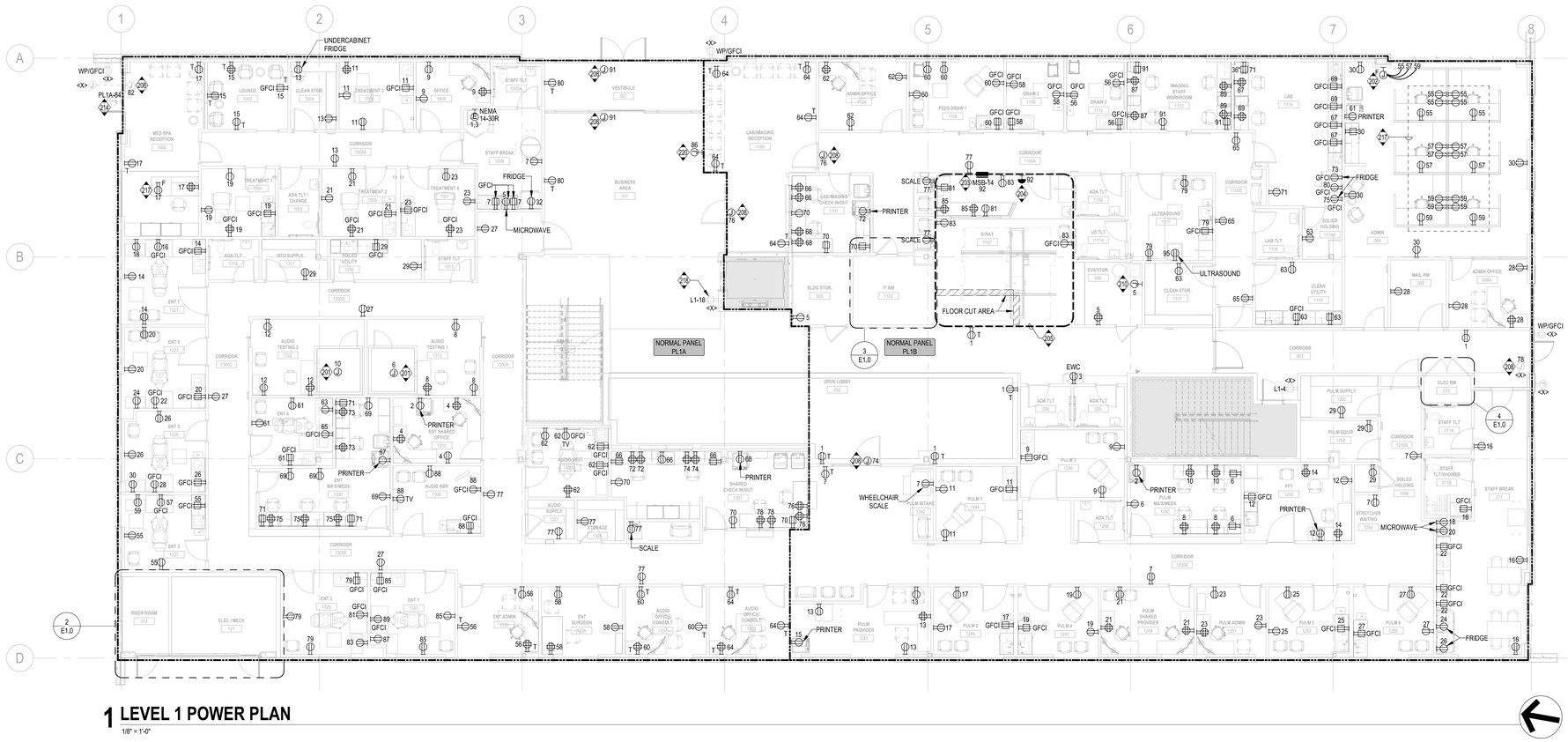
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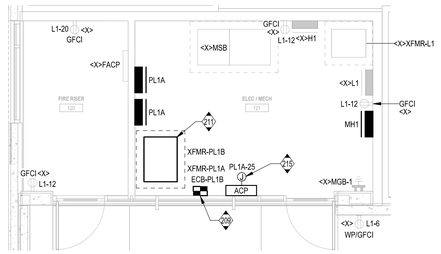
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ELECTRICAL AND FIRE ALARM DEMOLITION PLAN - LEVEL 2

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

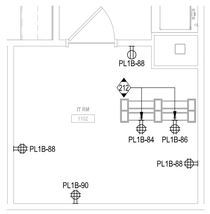
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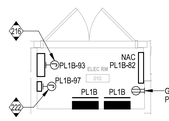
2 LEVEL 1 ENLARGED ELEC - RM 121

1/4" = 1'-0"



3 LEVEL 1 ENLARGED IT

1/4" = 1'-0"



4 LEVEL 1 ENLARGED ELEC - RM 010

1/4" = 1'-0"

GENERAL NOTES:

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2 REFER TO ARCHITECUTRAL FURNITURE AND EQUIPMENT PLANS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL DEVICES. DEVICES SHOWN TO CONVEY QUANTITY, TYPE, AND BRANCH CIRCUITING INFORMATION ONLY.

3 DEVICES PREFIXED WITH <X> ARE EXISTING TO REMAIN AND SHOWN FOR REFERENCE ONLY.

4 REFER TO PRICING ALTERNATE SCOPE INFORMATION ON THE LEGENDS SHEET FOR ADDITIONAL WIRING DEVICE SCOPE.

KEY NOTES

201 PROVIDE SINGLE POINT CONNECTION TO AUDIO BOOTH. PREWIRED LIGHTING AND RECEPTACLES INSTALLED BY THE MANUFACTURER.

202 PROVIDE JUNCTION BOX FOR FURNITURE FEED CONNECTION TO WORKSTATIONS, CIRCUITS INDICATED. COORDINATE EXACT CONNECTION REQUIREMENTS WITH FURNITURE VENDOR.

203 480V, 3P, 50A ENCLOSED CIRCUIT BREAKER (BASIS OF DESIGN - SCHNEIDER HGL36050) WITH 120V SHUNT TRIP CIRCUIT (BASIS OF DESIGN - SCHNEIDER P30986) MOUNTED IN RECESSED CIRCUIT BREAKER ENCLOSURE (BASIS OF DESIGN - SCHNEIDER J200F). PROVIDE 10KAIC SHORT CIRCUIT CURRENT RATING. CIRCUIT BREAKER SHALL ACT AS LOCAL DISCONNECTING MEANS PER NEC 680.5. REFER TO DETAILS ON DRAWING E6.0 FOR ADDITIONAL INFORMATION. COORDINATE EXACT LOCATION WITH ARCHITECT.

204 EMERGENCY POWER OFF BUTTON FOR X-RAY. DEVICE SHALL REMOTELY TRIP SHUNT TRIP CIRCUIT BREAKER WITHIN THIS ROOM. COORDINATE EXACT LOCATION WITH ARCHITECT. REFER TO DETAILS ON DRAWING E6.0 FOR ADDITIONAL INFORMATION.

205 REFER TO DETAILS ON DRAWING E6.0 FOR ADDITIONAL REQUIREMENTS PERTAINING TO INFRASTRUCTURE AND WIRING INFORMATION IN THIS SPACE.

208 FOR CONNECTION TO AUTOMATIC DOOR OPERATOR. COORDINATE CONNECTION REQUIREMENTS WITH ACCESS CONTROL DOOR DETAILS AND DOOR HARDWARE VENDOR.

209 PROVIDE UNISTRUT STRUCTURE FOR ENCLOSED CIRCUIT BREAKER INSTALLATION.

210 FOR CONNECTION TO SOAP DISPENSER. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR AND ARCHITECT PRIOR TO ROUGH-IN.

211 MOUNT TRANSFORMERS STACKED IN LOCATION SHOWN. DELEGATED DESIGN OF TRANSFORMER SUPPORT STRUCTURE SHALL BE PROVIDED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF NORTH CAROLINA. PROVIDE DESIGN TO ENGINEER OF RECORD FOR REVIEW.

212 MOUNT RECEPTACLE TO CABLE TRAY ABOVE.

214 FOR CONNECTION TO BUILDING MOUNTED SIGNAGE. COORDINATE FINAL CONNECTION REQUIREMENTS WITH SIGNAGE PROVIDED.

215 FOR CONNECTION TO SECURITY SYSTEM PANEL. COORDINATE FINAL CONNECTION REQUIREMENTS WITH SECURITY VENDOR. MOUNT PANEL TO UNISTRUT RACK, OFFSET FROM THE GLASS STOREFRONT WALL, ANCHORED TO THE FLOOR.

216 FOR CONNECTION TO AUDIO SYSTEM PANEL. COORDINATE FINAL CONNECTION REQUIREMENTS WITH TELECOMMUNICATIONS VENDOR.

217 RECEPTACLE BACK BOXES INDICATED ARE SHOWN FOR REFERENCE ONLY, TO PROVIDE QUANTITY AND DESIGN INTENT FOR WORKSTATION MANUFACTURER.

218 REPLACE EXISTING DEVICE WITH TAMPER RESISTANT HOSPITAL GRADE RECEPTACLE.

220 FOR CONNECTION TO DIGITAL DIRECTORY. COORDINATE EXACT CONNECTION REQUIREMENTS WITH EQUIPMENT PROVIDED.

222 FOR CONNECTION TO NURSE CALL SYSTEM POWER SUPPLY. REFER TO THE NURSE CALL SYSTEM RISER DIAGRAM FOR MORE INFORMATION. COORDINATE FINAL CONNECTION REQUIREMENTS WITH NURSE CALL VENDOR.

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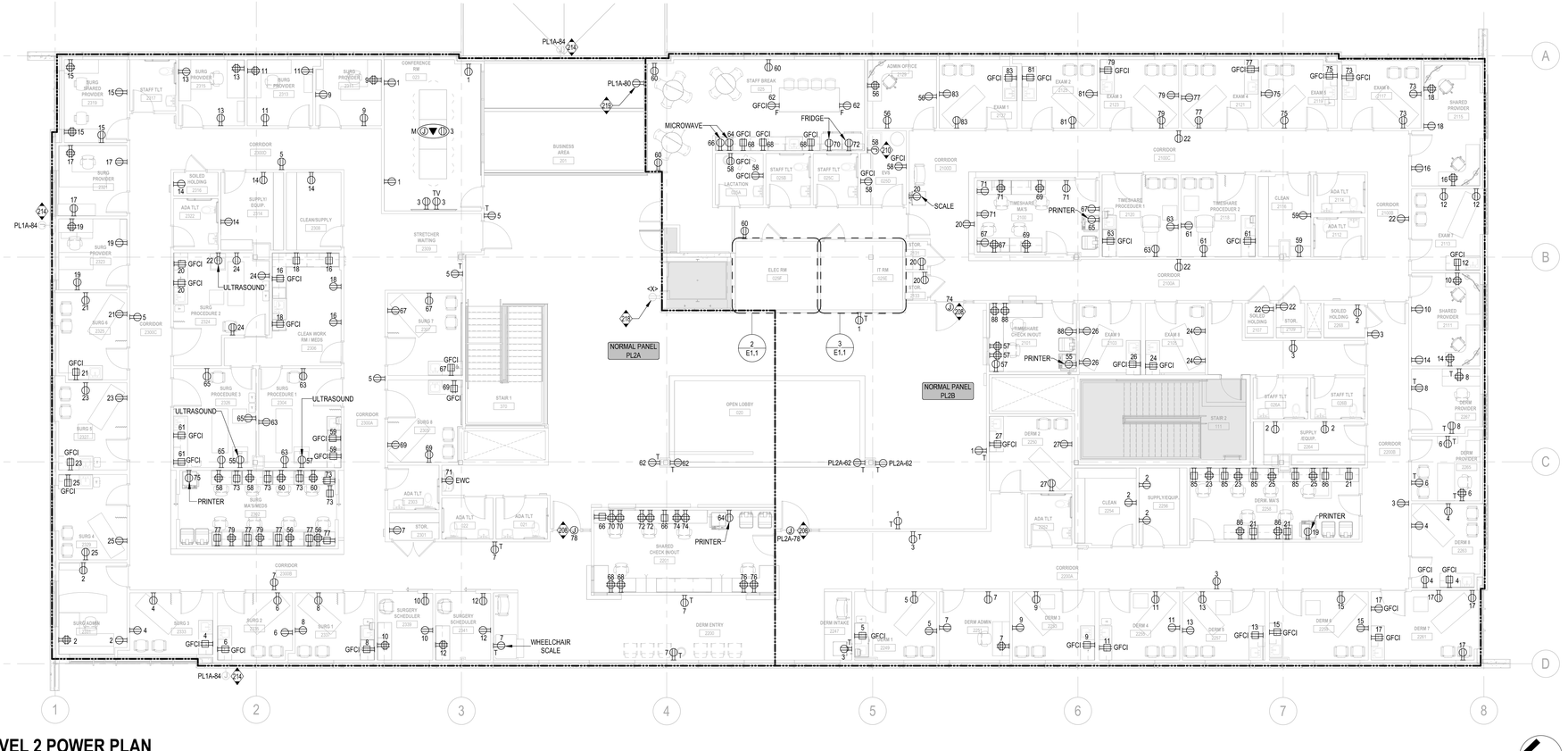
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ELECTRICAL POWER PLAN - LEVEL 1

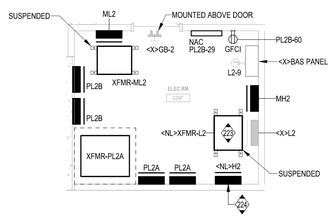
SCALE: As indicated

SHEET # E1.0



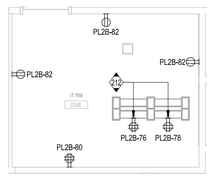
1 LEVEL 2 POWER PLAN

1/8" = 1'-0"



2 LEVEL 2 ENLARGED ELEC

1/4" = 1'-0"



3 LEVEL 2 ENLARGED IT

1/4" = 1'-0"

GENERAL NOTES:

1. ALL AREAS HIGHLIGHTED IN GRAY ARE CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.
2. REFER TO ARCHITECUTRAL FURNITURE AND EQUIPMENT PLANS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL DEVICES. DEVICES SHOWN TO CONVEY QUANTITY, TYPE, AND BRANCH CIRCUITING INFORMATION ONLY.
3. DEVICES PREFIXED WITH <X> ARE EXISTING TO REMAIN AND SHOWN FOR REFERENCE ONLY.
4. REFER TO PRICING ALTERNATE SCOPE INFORMATION ON THE LEGENDS SHEET FOR ADDITIONAL WIRING DEVICE SCOPE.

KEY NOTES

208 FOR CONNECTION TO AUTOMATIC DOOR OPERATOR. COORDINATE CONNECTION REQUIREMENTS WITH ACCESS CONTROL DOOR DETAILS AND DOOR HARDWARE VENDOR.

210 FOR CONNECTION TO SOAP DISPENSER. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR AND ARCHITECT PRIOR TO ROUGH-IN.

212 MOUNT RECEPTACLE TO CABLE TRAY ABOVE.

214 FOR CONNECTION TO BUILDING MOUNTED SIGNAGE. COORDINATE FINAL CONNECTION REQUIREMENTS WITH SIGNAGE PROVIDED.

218 REPLACE EXISTING DEVICE WITH TAMPER RESISTANT HOSPITAL GRADE RECEPTACLE.

219 REFCEPTACLE MOUNTED ABOVE VESTIBULE ENCLOSURE FOR HOLIDAY DECORATIONS. REFER TO ARCHITECUTRAL FURNITURE AND EQUIPMENT PLANS FOR EXACT MOUNTING HEIGHT.

223 SUSPEND EXISTING TRANSFORMER IN LOCATION SHOWN. EXTEND FEEDER CONDUIT AND WIRING AS NECESSARY.

224 RELOCATED EXISTING PANEL IN LOCATION SHOWN. EXTEND EXISTING FEEDER AND BRANCH CIRCUIT CONDUIT AND WIRING AS NECESSARY.

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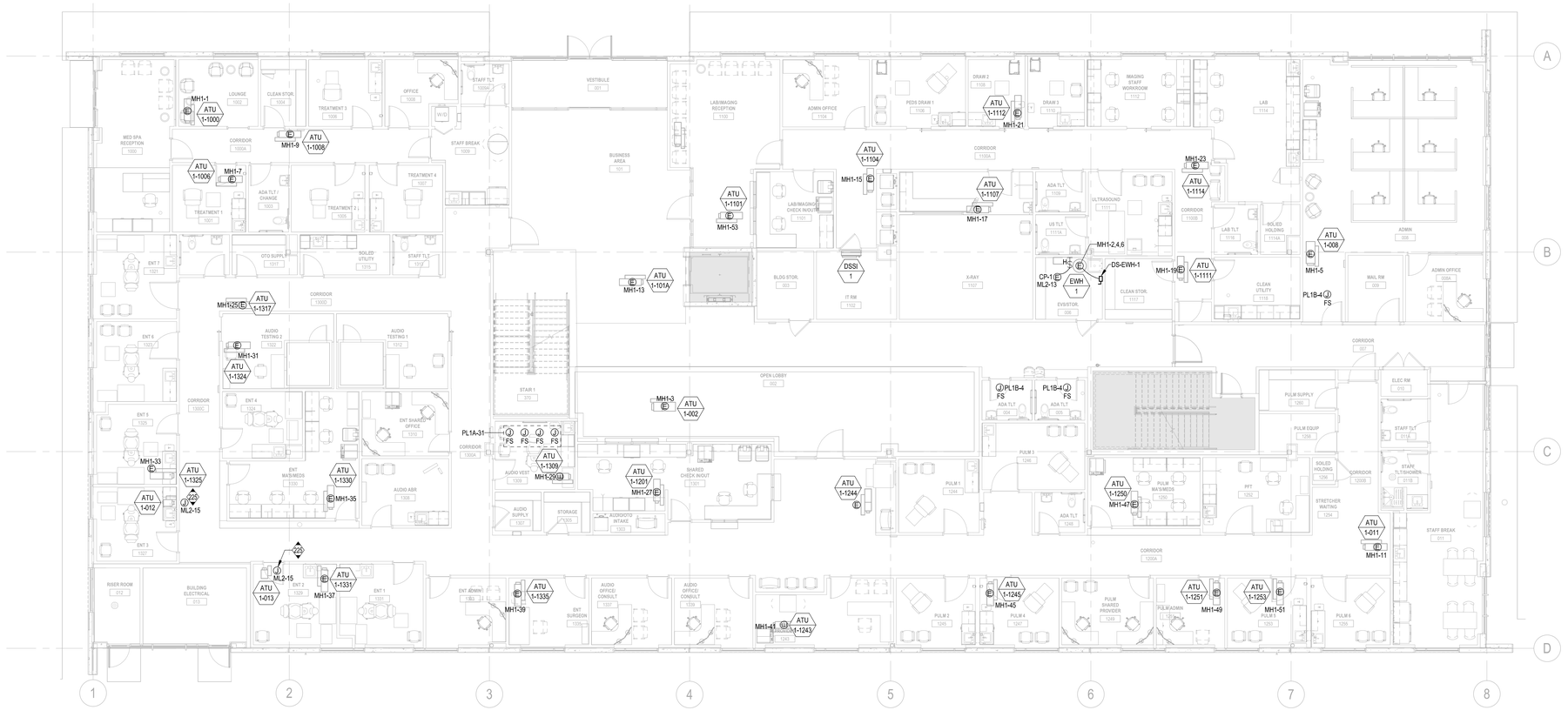
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ELECTRICAL POWER PLAN - LEVEL 2

SCALE: As indicated

SHEET # E1.1



1 LEVEL 1 POWER EQUIPMENT PLAN

1/8" = 1'-0"

EQUIPMENT CONNECTION SCHEDULE (LEVEL 1)

ID	EQUIPMENT DESCRIPTION	EQUIPMENT LOAD	VOLTAGE	PHASE Ø	STARTER TYPE	DISCONNECTING MEANS	CIRCUITED TO PANEL	FEEDER OR BRANCH WIRE SIZE	NOTES
ATU-1-002	AIR TERMINAL UNIT	7KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-008	AIR TERMINAL UNIT	9KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-011	AIR TERMINAL UNIT	4KW	277 V	1		INTEGRAL	MH1	2#10, 1#10G – 3/4"	
ATU-1-101A	AIR TERMINAL UNIT	4KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1000	AIR TERMINAL UNIT	3.5KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1006	AIR TERMINAL UNIT	7KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-1008	AIR TERMINAL UNIT	4KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1101	AIR TERMINAL UNIT	7.5KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-1104	AIR TERMINAL UNIT	4KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1107	AIR TERMINAL UNIT	7KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-1111	AIR TERMINAL UNIT	4.5KW	277 V	1		INTEGRAL	MH1	2#10, 1#10G – 3/4"	
ATU-1-1112	AIR TERMINAL UNIT	7.5KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-1114	AIR TERMINAL UNIT	7KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-1201	AIR TERMINAL UNIT	2KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1243	AIR TERMINAL UNIT	4KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1244	AIR TERMINAL UNIT	3.5KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1245	AIR TERMINAL UNIT	3KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1250	AIR TERMINAL UNIT	5KW	277 V	1		INTEGRAL	MH1	2#10, 1#10G – 3/4"	
ATU-1-1251	AIR TERMINAL UNIT	1.5KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1253	AIR TERMINAL UNIT	5KW	277 V	1		INTEGRAL	MH1	2#10, 1#10G – 3/4"	
ATU-1-1309	AIR TERMINAL UNIT	8KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-1317	AIR TERMINAL UNIT	3.5KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1324	AIR TERMINAL UNIT	8KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-1325	AIR TERMINAL UNIT	8KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-1330	AIR TERMINAL UNIT	1.5KW	277 V	1		INTEGRAL	MH1	2#12, 1#12G – 3/4"	
ATU-1-1331	AIR TERMINAL UNIT	8KW	277 V	1		INTEGRAL	MH1	2#8, 1#10G – 3/4"	
ATU-1-1335	AIR TERMINAL UNIT	5.5KW	277 V	1		INTEGRAL	MH1	2#10, 1#10G – 3/4"	
CP-1	RECIRCULATING PUMP	0.044KW	120 V	1		HPRS	ML2	2#12, 1#12G – 3/4"	
EWH-1	WATER HEATER	18KW	480 V	3		30/3/F/1	MH1	3#8, 1#10G – 3/4"	
WD-1	COMBINATION WASHER/DRYER	4.992KW	208 V	1		NEMA 14-30R	PL1A	3#10, 1#10G – 3/4"	

EQUIPMENT CONNECTION SCHEDULE GENERAL NOTES

A. VERIFY ALL MCA AND MOCP REQUIREMENTS WITH SUBMITTED AND APPROVED EQUIPMENT PRIOR TO ELECTRICAL ROUGH-IN.
B. REFER TO SPECIFICATIONS FOR SPECIFIC REQUIREMENTS AND SCOPE FOR CONTROL WIRING, POWER WIRING, DISCONNECT, AND STARTING MEANS.
C. VERIFY ALL INSTALLATION REQUIREMENTS WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.
D. REFER TO DIVISION 23 SPECIFICATION "COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT" FOR SCOPE REQUIREMENTS REGARDING STARTERS AND DISCONNECTS.
E. REFER TO DIVISION 22 SPECIFICATION "COMMON MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT" FOR SCOPE REQUIREMENTS REGARDING STARTERS AND DISCONNECTS.
F. LOCATIONS OF STARTERS, VFD'S, AND DISCONNECTS FOR EACH PIECE OF EQUIPMENT MAY NOT BE SHOWN ON PLANS. IF NOT SHOWN, CONTRACTOR TO FIELD COORDINATE LOCATION MAINTAINING REQUIRED WORKING CLEARANCES IN ACCORDANCE WITH CODE.
G. DISCONNECTING MEANS - 'DR' DESIGNATES 20A, 120V DUPLEX RECEPTACLE, 'SR' DESIGNATES 20A, 120V SIMPLEX RECEPTACLE, 'NEMA X-XX' DESIGNATES NEMA PLUG TYPE AND AMPERAGE, 'HPRS' DESIGNATES HORSEPOWER-RATED SWITCH, 'FD' DESIGNATES A FUSED DISCONNECT, 'NF' DESIGNATES A NON-FUSED DISCONNECT, 'L' DESIGNATES LOCKABLE CIRCUIT BREAKER. VERIFY CONNECTION REQUIREMENTS WITH DIVISION 22 AND 23, CONTRACTORS PRIOR TO ROUGH-IN.
H. FUSED DISCONNECTS SHALL HAVE FUSES SIZED AS LISTED ON EQUIPMENT NAMEPLATE, OTHERWISE MATCH UPSTREAM OVERCURRENT DEVICE IF NO MAXIMUM OVERCURRENT SIZE LISTED ON EQUIPMENT, UNLESS NOTED OTHERWISE.
I. FOR ALL EQUIPMENT WITH NON-INTEGRAL STARTER/DISCONNECT/VFD, CONTRACTOR SHALL RUN CONDUIT AND WIRE FROM PANEL TO STARTER/DISCONNECT/VFD AND THEN FROM STARTER/DISCONNECT/VFD TO EQUIPMENT.
J. STARTER TYPE DESIGNATIONS: ECM - ELECTRONICALLY COMMUTATED MOTOR, FVNR - FULL VOLTAGE NON-REVERSING, RVSS - REDUCED VOLTAGE SOLID STATE, VFD - VARIABLE FREQUENCY DRIVE, VFD W/BYPASS - VARIABLE FREQUENCY DRIVE WITH BYPASS, INTEGRAL - STARTER IS INTEGRAL TO EQUIPMENT OR COMES FROM THE FACTORY WITH FACTORY MOUNTED STARTER, NA - NOT APPLICABLE.
K. REFER TO FEEDER SCHEDULES FOR FEEDER WIRE SIZES FOR ALL 3 PHASE EQUIPMENT.
L. FOR MOTORS WITH ECM CONTROL, PROVIDE RELAY/CONTACTOR AS REQUIRED FOR FIRE ALARM SHUTDOWN.
M. IF VFD OR STARTER IS LOCATED AT EQUIPMENT THEN INTEGRAL DISCONNECT TO STARTER OR VFD CAN SERVE AS THE CODE REQUIRED DISCONNECTING MEANS.
N. ANY CONTROL POWER REQUIRED SHALL BE FROM SAME BRANCH OF POWER AS POWER FEED SERVING UNITS.
O. ALL STARTERS AND VFDS SHALL BE SIZED IN ACCORDANCE WITH EQUIPMENT RATINGS AND REQUIREMENTS.

GENERAL NOTES:

1 ALL AREAS HIGHLIGHTED IN GRAY ARE BEING CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.

KEY NOTES

2ZS PROVIDE 120V CONNECTION FOR ATU CONTROL POWER. COORDINATE EXACT CONNECTION REQUIREMENTS WITH HVAC EQUIPMENT PROVIDED.

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Anastasiya Smurygina
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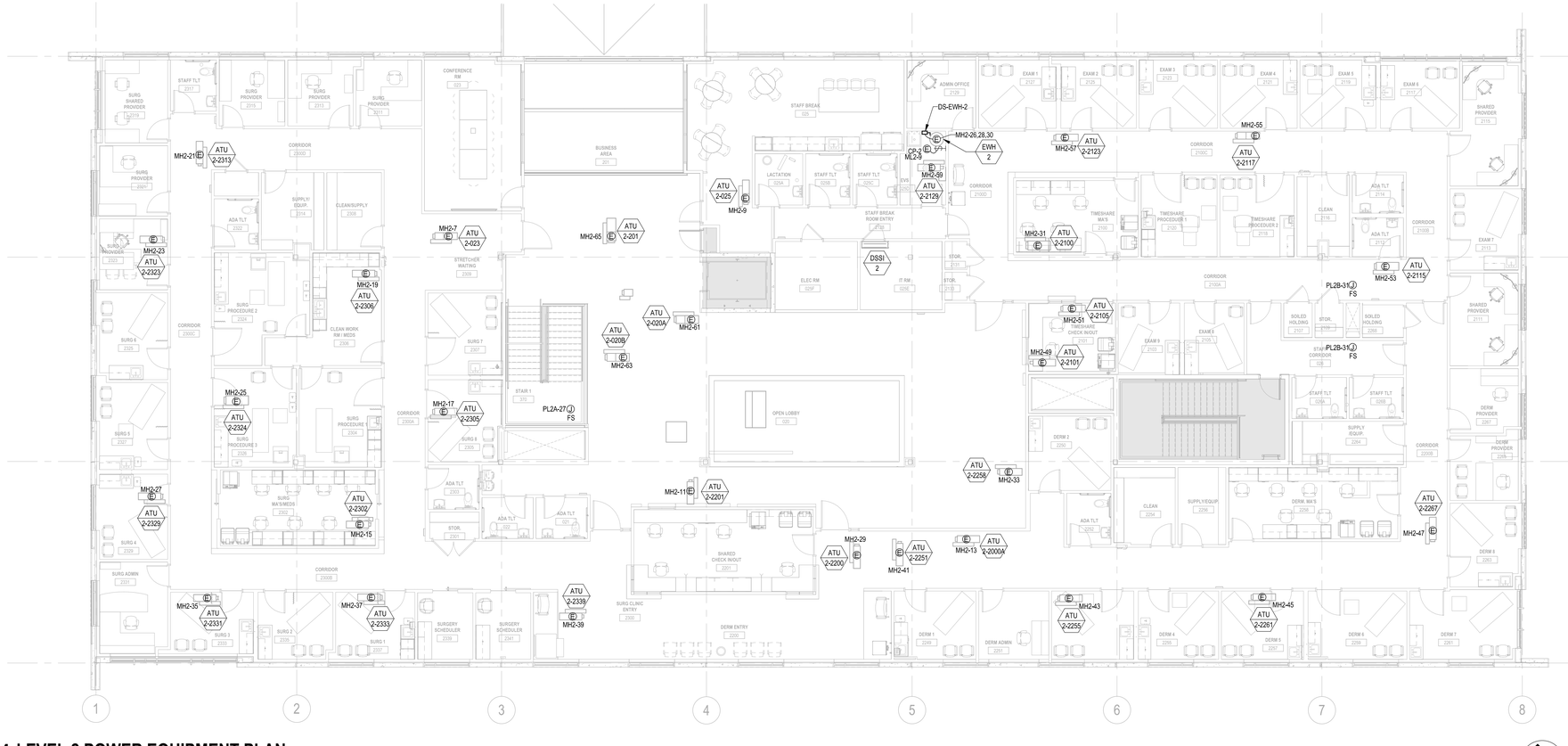
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ARCH. PROJECT # RDU 25-065

ELECTRICAL POWER EQUIPMENT PLAN - LEVEL 1

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

SHEET # E2.0



1 LEVEL 2 POWER EQUIPMENT PLAN

1/8" = 1'-0"

EQUIPMENT CONNECTION SCHEDULE (LEVEL 2)

ID	EQUIPMENT DESCRIPTION	EQUIPMENT LOAD	VOLTAGE	PHASE Ø	STARTER TYPE	DISCONNECTING MEANS	CIRCUITED TO PANEL	FEEDER OR BRANCH WIRE SIZE	NOTES
ATU-2-020A	AIR TERMINAL UNIT	9.5KW	277 V	1		INTEGRAL	MH2	2#6, 1#10G – 3/4"	
ATU-2-020B	AIR TERMINAL UNIT	9KW	277 V	1		INTEGRAL	MH2	2#8, 1#10G – 3/4"	
ATU-2-023	AIR TERMINAL UNIT	3.5KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-025	AIR TERMINAL UNIT	5.5KW	277 V	1		INTEGRAL	MH2	2#10, 1#10G – 3/4"	
ATU-2-201	AIR TERMINAL UNIT	9.5KW	277 V	1		INTEGRAL	MH2	2#6, 1#10G – 3/4"	
ATU-2-2000A	AIR TERMINAL UNIT	3.5KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2100	AIR TERMINAL UNIT	11.5KW	277 V	1		INTEGRAL	MH2	2#6, 1#8G – 3/4"	
ATU-2-2101	AIR TERMINAL UNIT	1KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2105	AIR TERMINAL UNIT	5KW	277 V	1		INTEGRAL	MH2	2#10, 1#10G – 3/4"	
ATU-2-2115	AIR TERMINAL UNIT	7.5KW	277 V	1		INTEGRAL	MH2	2#8, 1#10G – 3/4"	
ATU-2-2117	AIR TERMINAL UNIT	5KW	277 V	1		INTEGRAL	MH2	2#10, 1#10G – 3/4"	
ATU-2-2123	AIR TERMINAL UNIT	7KW	277 V	1		INTEGRAL	MH2	2#8, 1#10G – 3/4"	
ATU-2-2129	AIR TERMINAL UNIT	2KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2200	AIR TERMINAL UNIT	6.5KW	277 V	1		INTEGRAL	MH2	2#10, 1#10G – 3/4"	
ATU-2-2201	AIR TERMINAL UNIT	2KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2251	AIR TERMINAL UNIT	3.5KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2255	AIR TERMINAL UNIT	6KW	277 V	1		INTEGRAL	MH2	2#10, 1#10G – 3/4"	
ATU-2-2258	AIR TERMINAL UNIT	7KW	277 V	1		INTEGRAL	MH2	2#8, 1#10G – 3/4"	
ATU-2-2261	AIR TERMINAL UNIT	7KW	277 V	1		INTEGRAL	MH2	2#8, 1#10G – 3/4"	
ATU-2-2267	AIR TERMINAL UNIT	3.5KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2302	AIR TERMINAL UNIT	2.2KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2305	AIR TERMINAL UNIT	6.5KW	277 V	1		INTEGRAL	MH2	2#10, 1#10G – 3/4"	
ATU-2-2306	AIR TERMINAL UNIT	6KW	277 V	1		INTEGRAL	MH2	2#10, 1#10G – 3/4"	
ATU-2-2313	AIR TERMINAL UNIT	3KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2323	AIR TERMINAL UNIT	2.5KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2324	AIR TERMINAL UNIT	13KW	277 V	1		INTEGRAL	MH2	2#6, 1#8G – 3/4"	
ATU-2-2329	AIR TERMINAL UNIT	7KW	277 V	1		INTEGRAL	MH2	2#8, 1#10G – 3/4"	
ATU-2-2331	AIR TERMINAL UNIT	1.5KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
ATU-2-2333	AIR TERMINAL UNIT	7.5KW	277 V	1		INTEGRAL	MH2	2#6, 1#10G – 3/4"	
ATU-2-2339	AIR TERMINAL UNIT	2KW	277 V	1		INTEGRAL	MH2	2#12, 1#12G – 3/4"	
CP-2	RECIRCULATING PUMP	0.044KW	120 V	1		HPRS	ML2	2#12, 1#12G – 3/4"	
EWH-2	WATER HEATER	15KW	480 V	3		30/3F/1	MH2	3#8, 1#10G – 3/4"	

EQUIPMENT CONNECTION SCHEDULE GENERAL NOTES

A. VERIFY ALL MCA AND MOCP REQUIREMENTS WITH SUBMITTED AND APPROVED EQUIPMENT PRIOR TO ELECTRICAL ROUGH-IN.
B. REFER TO SPECIFICATIONS FOR SPECIFIC REQUIREMENTS AND SCOPE FOR CONTROL WIRING, POWER WIRING, DISCONNECT, AND STARTING MEANS.
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E. REFER TO DIVISION 22 SPECIFICATION "COMMON MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT" FOR SCOPE REQUIREMENTS REGARDING STARTERS AND DISCONNECTS.
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G. DISCONNECTING MEANS - 'DR' DESIGNATES 20A, 120V DUPLEX RECEPTACLE, 'SR' DESIGNATES 20A, 120V SIMPLEX RECEPTACLE, 'NEMA X-XX' DESIGNATES NEMA PLUG TYPE AND AMPERAGE, 'HPRS' DESIGNATES HORSEPOWER-RATED SWITCH, 'FD' DESIGNATES A FUSED DISCONNECT, 'NF' DESIGNATES A NON-FUSED DISCONNECT, 'L' DESIGNATES LOCKABLE CIRCUIT BREAKER. VERIFY CONNECTION REQUIREMENTS WITH DIVISION 22 AND 23, CONTRACTORS PRIOR TO ROUGH-IN.
H. FUSED DISCONNECTS SHALL HAVE FUSES SIZED AS LISTED ON EQUIPMENT NAMEPLATE, OTHERWISE MATCH UPSTREAM OVERCURRENT DEVICE IF NO MAXIMUM OVERCURRENT SIZE LISTED ON EQUIPMENT, UNLESS NOTED OTHERWISE.
I. FOR ALL EQUIPMENT WITH NON-INTEGRAL STARTER/DISCONNECT/VFD, CONTRACTOR SHALL RUN CONDUIT AND WIRE FROM PANEL TO STARTER/DISCONNECT/VFD AND THEN FROM STARTER/DISCONNECT/VFD TO EQUIPMENT.
J. STARTER TYPE DESIGNATIONS: ECM - ELECTRONICALLY COMMUTATED MOTOR, FVNR - FULL VOLTAGE NON-REVERSING, RVSS - REDUCED VOLTAGE SOLID STATE, VFD - VARIABLE FREQUENCY DRIVE, VFD W/BYPASS - VARIABLE FREQUENCY DRIVE WITH BYPASS, INTEGRAL - STARTER IS INTEGRAL TO EQUIPMENT OR COMES FROM THE FACTORY WITH FACTORY MOUNTED STARTER, NA - NOT APPLICABLE.
K. REFER TO FEEDER SCHEDULES FOR FEEDER WIRE SIZES FOR ALL 3 PHASE EQUIPMENT.
L. FOR MOTORS WITH ECM CONTROL, PROVIDE RELAY/CONTACTOR AS REQUIRED FOR FIRE ALARM SHUTDOWN.
M. IF VFD OR STARTER IS LOCATED AT EQUIPMENT THEN INTEGRAL DISCONNECT TO STARTER OR VFD CAN SERVE AS THE CODE REQUIRED DISCONNECTING MEANS.
N. ANY CONTROL POWER REQUIRED SHALL BE FROM SAME BRANCH OF POWER AS POWER FEED SERVING UNITS.
O. ALL STARTERS AND VFDS SHALL BE SIZED IN ACCORDANCE WITH EQUIPMENT RATINGS AND REQUIREMENTS.

GENERAL NOTES:

1. ALL AREAS HIGHLIGHTED IN GRAY ARE BEING CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.

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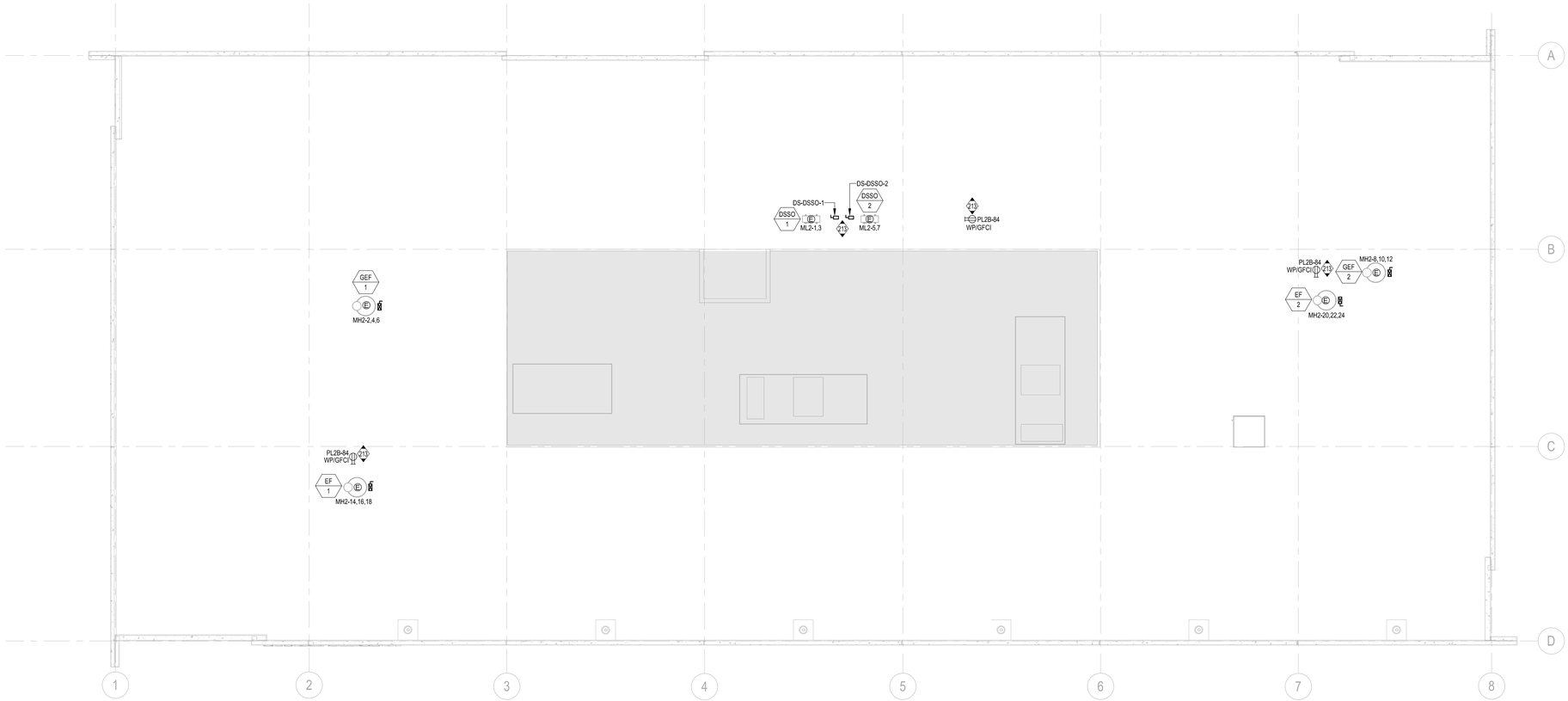
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ELECTRICAL POWER EQUIPMENT PLAN - LEVEL 2

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

SHEET # **E2.1**



1 ROOF POWER EQUIPMENT PLAN

1/8" = 1'-0"

EQUIPMENT CONNECTION SCHEDULE (ROOF)

ID	EQUIPMENT DESCRIPTION	EQUIPMENT LOAD	VOLTAGE	PHASE Ø	STARTER TYPE	DISCONNECTING MEANS	CIRCUITED TO PANEL	FEEDER OR BRANCH WIRE SIZE	NOTES
DSSO-1	DUCTLESS SPLIT SYSTEM OUTDOOR UNIT	9.36MCA	208 V	1	INTEGRAL	30/2/F/3R	ML2	2#12, 1#12G – 3/4"	
DSSO-2	DUCTLESS SPLIT SYSTEM OUTDOOR UNIT	9.36MCA	208 V	1	INTEGRAL	30/2/F/3R	ML2	2#12, 1#12G – 3/4"	
EF-1	EXHAUST FAN	0.75HP	480 V	3	FVNR	INTEGRAL	MH2	3#12, 1#12G – 3/4"	
EF-2	EXHAUST FAN	1HP	480 V	3	FVNR	INTEGRAL	MH2	3#12, 1#12G – 3/4"	
GEF-1	EXHAUST FAN	0.5HP	480 V	3	FVNR	INTEGRAL	MH2	3#12, 1#12G – 3/4"	
GEF-2	EXHAUST FAN	0.5HP	480 V	3	FVNR	INTEGRAL	MH2	3#12, 1#12G – 3/4"	

EQUIPMENT CONNECTION SCHEDULE GENERAL NOTES

A. VERIFY ALL MCA AND MOCP REQUIREMENTS WITH SUBMITTED AND APPROVED EQUIPMENT PRIOR TO ELECTRICAL ROUGH-IN.
B. REFER TO SPECIFICATIONS FOR SPECIFIC REQUIREMENTS AND SCOPE FOR CONTROL WIRING, POWER WIRING, DISCONNECT, AND STARTING MEANS.
C. VERIFY ALL INSTALLATION REQUIREMENTS WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.
D. REFER TO DIVISION 23 SPECIFICATION "COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT" FOR SCOPE REQUIREMENTS REGARDING STARTERS AND DISCONNECTS.
E. REFER TO DIVISION 22 SPECIFICATION "COMMON MOTOR REQUIREMENTS FOR PLUMBING EQUIPMENT" FOR SCOPE REQUIREMENTS REGARDING STARTERS AND DISCONNECTS.
F. LOCATIONS OF STARTERS, VFD'S, AND DISCONNECTS FOR EACH PIECE OF EQUIPMENT MAY NOT BE SHOWN ON PLANS. IF NOT SHOWN, CONTRACTOR TO FIELD COORDINATE LOCATION MAINTAINING REQUIRED WORKING CLEARANCES IN ACCORDANCE WITH CODE.
G. DISCONNECTING MEANS - 'DR' DESIGNATES 20A, 120V DUPLEX RECEPTACLE, 'SR' DESIGNATES 20A, 120V SIMPLEX RECEPTACLE, 'NEMA X-XX' DESIGNATES NEMA PLUG TYPE AND AMPERAGE, 'HPRS' DESIGNATES HORSEPOWER-RATED SWITCH, 'FD' DESIGNATES A FUSED DISCONNECT, 'NF' DESIGNATES A NON-FUSED DISCONNECT, 'L' DESIGNATES LOCKABLE CIRCUIT BREAKER. VERIFY CONNECTION REQUIREMENTS WITH DIVISION 22 AND 23, CONTRACTORS PRIOR TO ROUGH-IN.
H. FUSED DISCONNECTS SHALL HAVE FUSES SIZED AS LISTED ON EQUIPMENT NAMEPLATE, OTHERWISE MATCH UPSTREAM OVERCURRENT DEVICE IF NO MAXIMUM OVERCURRENT SIZE LISTED ON EQUIPMENT, UNLESS NOTED OTHERWISE.
I. FOR ALL EQUIPMENT WITH NON-INTEGRAL STARTER/DISCONNECT/VFD, CONTRACTOR SHALL RUN CONDUIT AND WIRE FROM PANEL TO STARTER/DISCONNECT/VFD AND THEN FROM STARTER/DISCONNECT/VFD TO EQUIPMENT.
J. STARTER TYPE DESIGNATIONS: ECM - ELECTRONICALLY COMMUTATED MOTOR, FVNR - FULL VOLTAGE NON-REVERSING, RVSS - REDUCED VOLTAGE SOLID STATE, VFD - VARIABLE FREQUENCY DRIVE, VFD W/BYPASS - VARIABLE FREQUENCY DRIVE WITH BYPASS, INTEGRAL - STARTER IS INTEGRAL TO EQUIPMENT OR COMES FROM THE FACTORY WITH FACTORY MOUNTED STARTER, NA - NOT APPLICABLE.
K. REFER TO FEEDER SCHEDULES FOR FEEDER WIRE SIZES FOR ALL 3 PHASE EQUIPMENT.
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M. IF VFD OR STARTER IS LOCATED AT EQUIPMENT THEN INTEGRAL DISCONNECT TO STARTER OR VFD CAN SERVE AS THE CODE REQUIRED DISCONNECTING MEANS.
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O. ALL STARTERS AND VFDS SHALL BE SIZED IN ACCORDANCE WITH EQUIPMENT RATINGS AND REQUIREMENTS.

GENERAL NOTES:

1 ALL AREAS HIGHLIGHTED IN GRAY ARE BEING CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.

KEY NOTES

213 MOUNT RECEPTACLE BACK BOX/DISCONNECT SWITCH TO CHANNEL RACK STRUCTURE. COORDINATE DIMENSIONS WITH ACTUAL EQUIPMENT PROVIDED.

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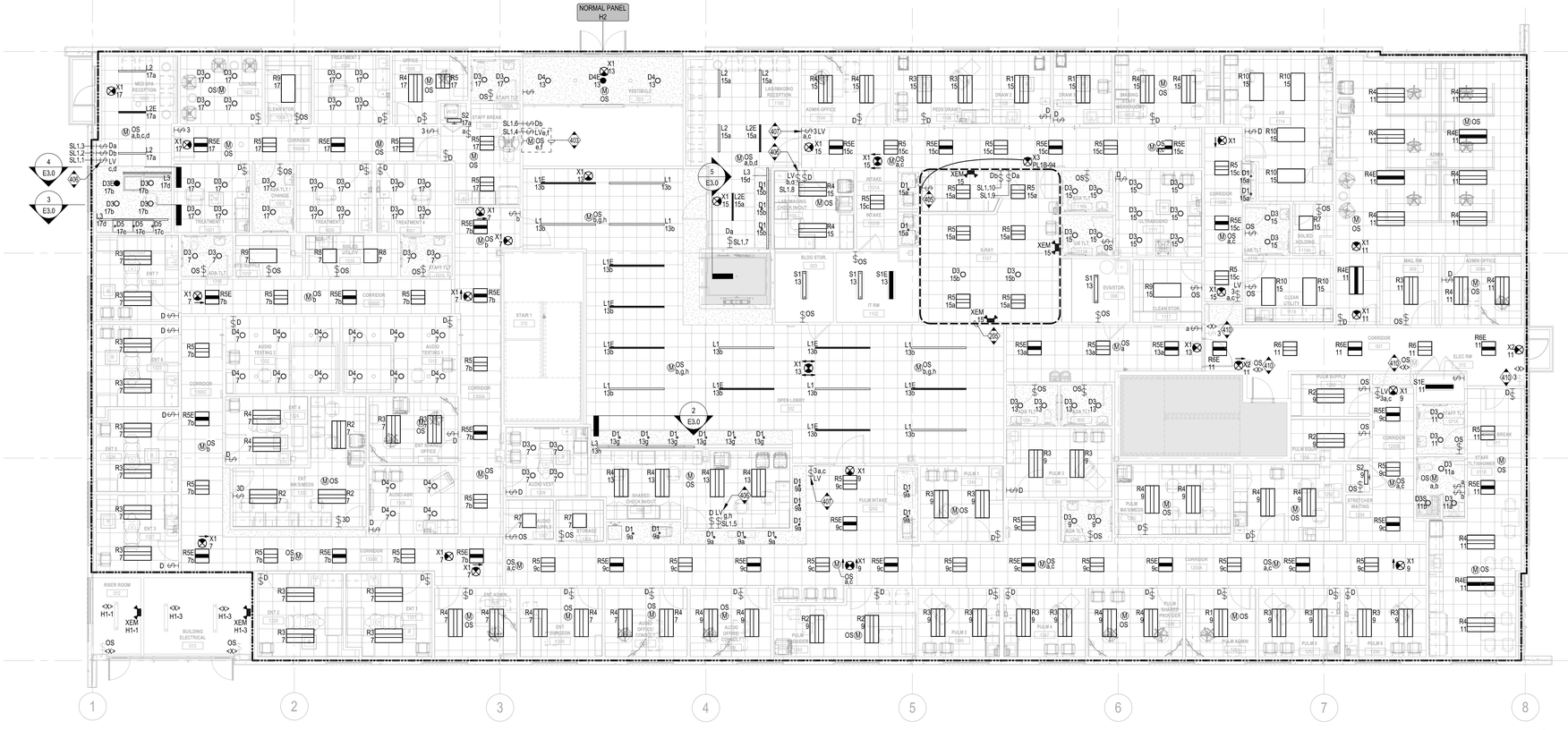
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ELECTRICAL POWER EQUIPMENT PLAN - ROOF

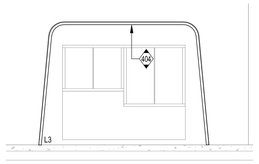
SCALE: 1/8" = 1'-0"

SHEET # **E2.2**



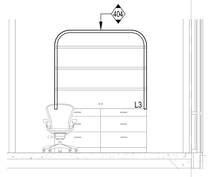
1 LEVEL 1 LIGHTING PLAN

1/8" = 1'-0"



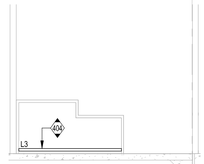
2 LIGHTING ELEVATION - SHARED CHECK IN/OUT 1201

1/4" = 1'-0"



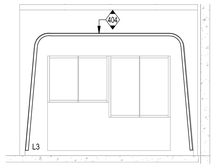
3 LIGHTING ELEVATION - MED SPA RECEPTION 1000

1/4" = 1'-0"



4 LIGHTING ELEVATION - MED SPA RECEPTION DESK 1000

1/4" = 1'-0"



5 LIGHTING ELEVATION - LAB CHECK IN/OUT 351

1/4" = 1'-0"

GENERAL NOTES:

1 ALL AREAS HIGHLIGHTED IN GRAY WERE CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.

2 LUMINAIRES AND CONTROL DEVICES PREFIXED WITH <X> ARE EXISTING TO REMAIN AND SHOWN FOR REFERENCE ONLY.

KEY NOTES

205 REFER TO DETAILS ON DRAWING E6.0 FOR ADDITIONAL REQUIREMENTS PERTAINING TO INFRASTRUCTURE AND WIRING INFORMATION IN THIS SPACE.

403 LIGHTING DEVICE SHALL CONTROL LUMINAIRES INDICATED ON LEVEL 2, DRAWING E3.1.

404 REFER TO ARCHITECTURAL PLANS FOR TAPE LIGHT MOUNTING RECESS DETAILS. INSTALL LUMINAIRE REMOTE DRIVER ABOVE NEAREST ACCESSIBLE CEILING.

405 SINGLE POLE SWITCH FOR CONTROL OF "X-RAY ON" FIXTURE X2. REFER TO DETAILS ON DRAWING E6.0 FOR ADDITIONAL INFRASTRUCTURE AND WIRING REQUIREMENTS.

406 PROVIDE 0-10V DIMMING ROOM CONTROLLER WITH PROGRAMMABLE HIGH AND LOW TRIM FOR EACH LIGHTING ZONE INDICATED AT SWITCH. ELECTRICAL CONTRACTOR TO ADJUST AND CONFIRM DIMMING LEVELS AT THE ROOM CONTROLLER DURING THE PRE-PUNCH WALK WITH TENANT. THE SWITCH INDICATED SHALL ONLY PROVIDE ON/OFF CONTROL OF LIGHTING ZONES.

407 PROVIDE 0-10V DIMMING ROOM CONTROLLER WITH PROGRAMMABLE HIGH AND LOW TRIM FOR LIGHTING ZONE CONTROLLING THE D1 DOWNLIGHTS ONLY. ELECTRICAL CONTRACTOR TO ADJUST AND CONFIRM DIMMING LEVELS AT THE ROOM CONTROLLER DURING THE PRE-PUNCH WALK WITH TENANT. THE SWITCH INDICATED SHALL ONLY PROVIDE ON/OFF CONTROL OF LIGHTING ZONES.

410 REUSE EXISTING LIGHTING CONTROLS DEVICES TO CONTROL NEW LUMINAIRES IN THE ASSOCIATED AREA. PROVIDE NEW BRANCH CIRCUIT WIRING AS NECESSARY.

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ARCH. PROJECT # RDU 25-065

ELECTRICAL LIGHTING PLAN - LEVEL 1

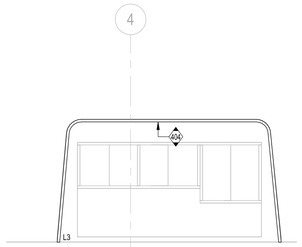
SCALE: As indicated

SHEET # E3.0



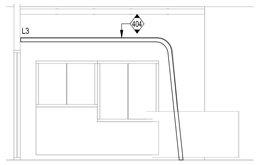
1 LEVEL 2 LIGHTING PLAN

1/8" = 1'-0"



2 LIGHTING ELEVATION - SHARED CHECK/IN OUT 2000

1/4" = 1'-0"



3 LIGHTING ELEVATION - TIMESHARE CHECK IN/OUT 2101

1/4" = 1'-0"

GENERAL NOTES:

1 ALL AREAS HIGHLIGHTED IN GRAY WERE CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.

2 LUMINAIRES AND CONTROL DEVICES PREFIXED WITH <X> ARE EXISTING TO REMAIN AND SHOWN FOR REFERENCE ONLY.

KEY NOTES

401 FOR CONNECTION TO EXAM ROOM LIGHT. COORDINATE CONNECTION WITH EQUIPMENT PROVIDED.

402 REFER TO LEVEL 1 LOBBY ON SHEET E3.0 FOR LOCATION OF LIGHTING CONTROL DEVICE CONTROLLING LUMINAIRES WITHIN BOUNDARY.

404 REFER TO ARCHITECTURAL PLANS FOR TAPE LIGHT MOUNTING RECESS DETAILS. INSTALL LUMINAIRE REMOTE DRIVER ABOVE NEAREST ACCESSIBLE CEILING.

406 PROVIDE 0-10V DIMMING ROOM CONTROLLER WITH PROGRAMMABLE HIGH AND LOW TRIM FOR EACH LIGHTING ZONE INDICATED AT SWITCH. ELECTRICAL CONTRACTOR TO ADJUST AND CONFIRM DIMMING LEVELS AT THE ROOM CONTROLLER DURING THE PRE-PUNCH WALK WITH TENANT. THE SWITCH INDICATED SHALL ONLY PROVIDE ON/OFF CONTROL OF LIGHTING ZONES.

407 PROVIDE 0-10V DIMMING ROOM CONTROLLER WITH PROGRAMMABLE HIGH AND LOW TRIM FOR LIGHTING ZONE CONTROLLING THE D1 DOWNLIGHTS ONLY. ELECTRICAL CONTRACTOR TO ADJUST AND CONFIRM DIMMING LEVELS AT THE ROOM CONTROLLER DURING THE PRE-PUNCH WALK WITH TENANT. THE SWITCH INDICATED SHALL ONLY PROVIDE ON/OFF CONTROL OF LIGHTING ZONES.

408 PROVIDE HIGH BAY TYPE OCCUPANCY SENSOR SERVING STAIRS.

409 PROVIDE 120V FORWARD PHASE TRIAC DIMMER FOR LIGHTING ZONE INDICATED.

411 PROVIDE 0-10V DIMMING ROOM CONTROLLER WITH PROGRAMMABLE HIGH AND LOW TRIM FOR THE LIGHTING ZONE CONTROLLING THE P1 RING LIGHTS. ELECTRICAL CONTRACTOR TO ADJUST AND CONFIRM DIMMING LEVELS AT THE ROOM CONTROLLER DURING THE PRE-PUNCH WALK WITH TENANT. THE SWITCH INDICATED SHALL ONLY PROVIDE ON/OFF CONTROL OF LIGHTING ZONES.

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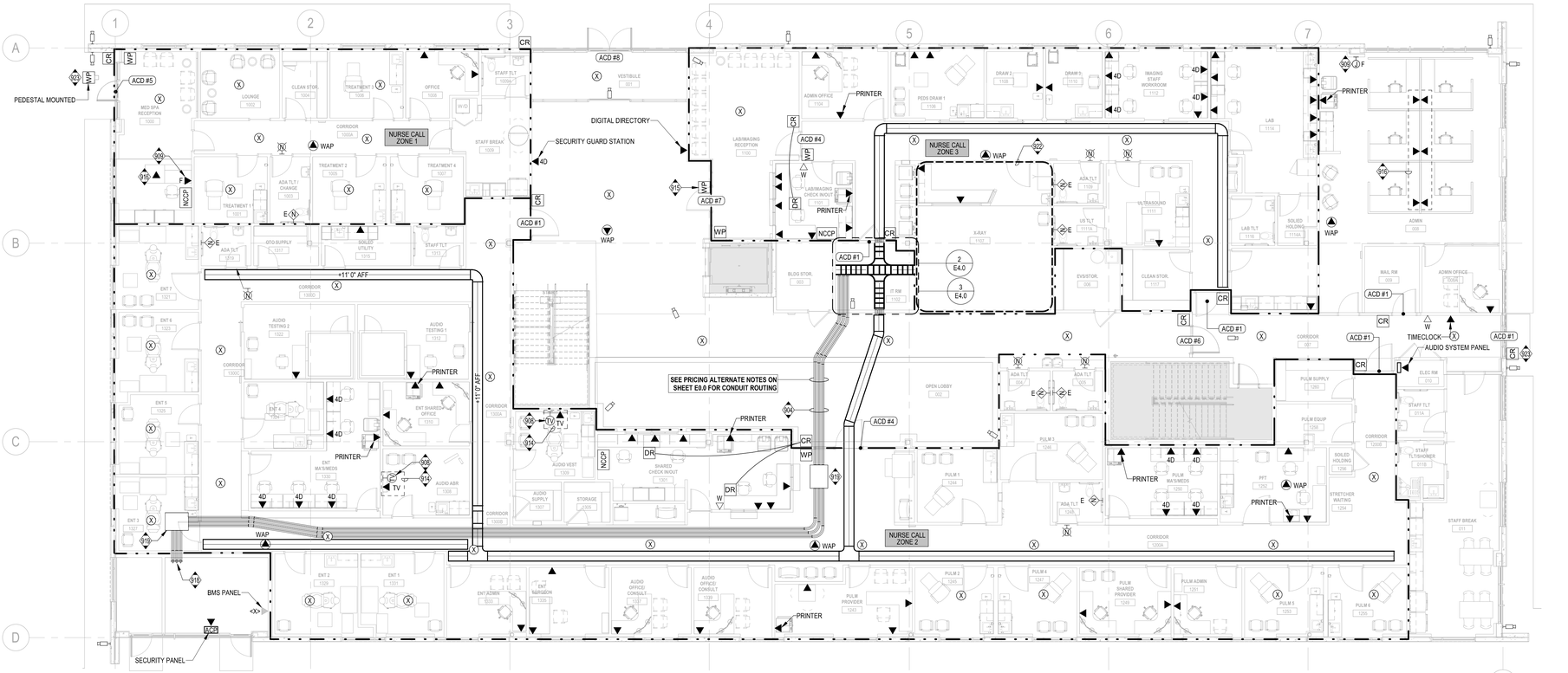
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ELECTRICAL LIGHTING PLAN - LEVEL 2

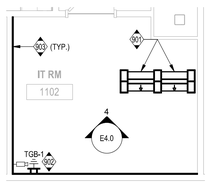
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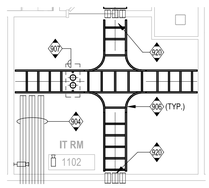
1 LEVEL 1 SYSTEMS PLAN

1/8" = 1'-0"



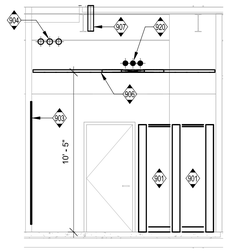
2 LEVEL 1 ENLARGED IDF

1/4" = 1'-0"



3 LEVEL 1 ENLARGED IDF (CEILING)

1/4" = 1'-0"



4 LEVEL 1 IDF ELEVATION

1/4" = 1'-0"

GENERAL NOTES:

1 ALL AREAS HIGHLIGHTED IN GRAY WERE CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.

2 ALL DATA OUTLETS SHOWN SHALL HAVE (2) CABLE DROPS, UNLESS OTHERWISE NOTED.

3 REFER TO NURSE CALL RISER DIAGRAM ON SHEET E7.0 FOR CONDUIT INTERCONNECTION REQUIREMENTS BETWEEN NURSE CALL ANNUNCIATORS.

4 REFER TO ARCHITECUTRAL PLANS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF DATA DEVICES. DEVICES SHOWN TO CONVEY QUANTITY AND TYPE ONLY.

5 CAMERAS SHOWN TO PROVIDE QUANTITIES AND LOCATIONS OF BACK BOXES ONLY. FINAL MOUNTING AND AIMING REQUIREMENTS SHALL BE COORDINATED IN THE FIELD BY THE OWNER SELECTED SECURITY CONTRACTOR.

KEY NOTES

901 7'H X 20 1/4"W TWO POST RACK WITH WIRE MANAGER SHOWN FOR REFERENCE ONLY. RACKS PROVIDED BY TELECOMMUNICATIONS CABLING CONTRACTOR.

902 PROVIDE TELECOMMUNICATIONS GROUND BAR IN LOCATION SHOWN. REFER TO DETAILS SHEET AND GROUNDING RISER DIAGRAM FOR MORE INFORMATION.

903 PROVIDE 3/4" 4'X8' FIRERETARDANT PLYWOOD BACKBOARD ON THE WALLS INDICATED. MOUNTED FROM 0'-6" TO 8'-8".

904 ALTERNATE 2: EXTEND (3) 4" EXISTING TELECOMMUNICATIONS SERVICE CONDUITS FROM THE MECH/ELEC ROOM TO THE IDF ROOM CABLE TRAY DISTRIBUTION NETWORK SHOWN.

906 PROVIDE 18"W X 2"D CABLE TRAY. ROUTE AS INDICATED AT ELEVATIONS SHOWN ON PLANS. PROVIDE ALL THE NECESSARY FITTINGS AND SUPPORTS FOR A COMPLETE INSTALLATION. REFER TO LEGENDS SHEET FOR TRAY TYPE.

907 PROVIDE (2) 4" VERTICAL CONDUIT SLEEVES FOR TELECOMMUNICATIONS CABLING FROM LEVEL 1 IDF ROOM LEVEL 2 IDF ROOM.

908 PROVIDE 1-1/4" EMPTY CONDUIT WITH PULL STRING FROM TV BACK BOX TO ACCESSIBLE CEILING.

909 FOR DATA CONNECTION TO PRE-WIRED OFFICE FURNITURE STATIONS. COORDINATE EXACT CONNECTION REQUIREMENTS WITH FURNITURE VENDOR.

914 DEVICES SHOWN AS WELL AS THE TV RECEPTACLE SHOWN ON THE POWER PLANS SHALL BE MOUNTED IN A RECESSED BACK BOX. REFER TO THE SPECIFICATIONS FOR TYPE AND MANUFACTURER.

915 DEVICE RECESSED INTO MULLION CHANNEL.

916 DATA DEVICE BACK BOXES INDICATED ARE SHOWN FOR REFERENCE ONLY, TO PROVIDE QUANTITY AND DESIGN INTENT FOR WORKSTATION MANUFACTURER.

918 ALTERNATE #2: INTERCEPTION POINT OF EXISTING TELECOMMUNICATIONS SERVICE ENTRANCE CONDUITS PROVIDED AS PART OF THE CORE AND SHELL PACKAGE.

919 ALTERNATE #2: PULL BOXES FOR TELECOMMUNICATIONS SERVICE ENTRANCE CONDUITS SHALL BE PROVIDED EVERY 100' OR WHERE THERE ARE MORE THAN 180 DEGREES OF BENDS. COORDINATE QUANTITY AND LOCATIONS IN THE FIELD WITH OTHER TRADES. SIZE PER THE NEC.

920 PROVIDE (3) 4" HORIZONTAL CONDUIT SLEEVES THROUGH WALL FOR CABLE TRAY CONTINUITY.

922 REFER TO DETAILS ON DRAWING E6.0 FOR ADDITIONAL REQUIREMENTS PERTAINING TO INFRASTRUCTURE AND WIRING INFORMATION IN THIS SPACE.

923 UTILIZE EXISTING PEDESTAL (IF APPLICABLE), BACKBOX AND CONDUIT INFRASTRUCTURE PROVIDED AS PART OF THE CORE AND SHELL SCOPE

CABLE TRAY MOUNTING ELEVATION

MOUNT CABLE TRAY AT 10'-6" ABOVE FINISHED FLOOR TO THE BOTTOM OF THE TRAY, UNLESS OTHERWISE NOTED.

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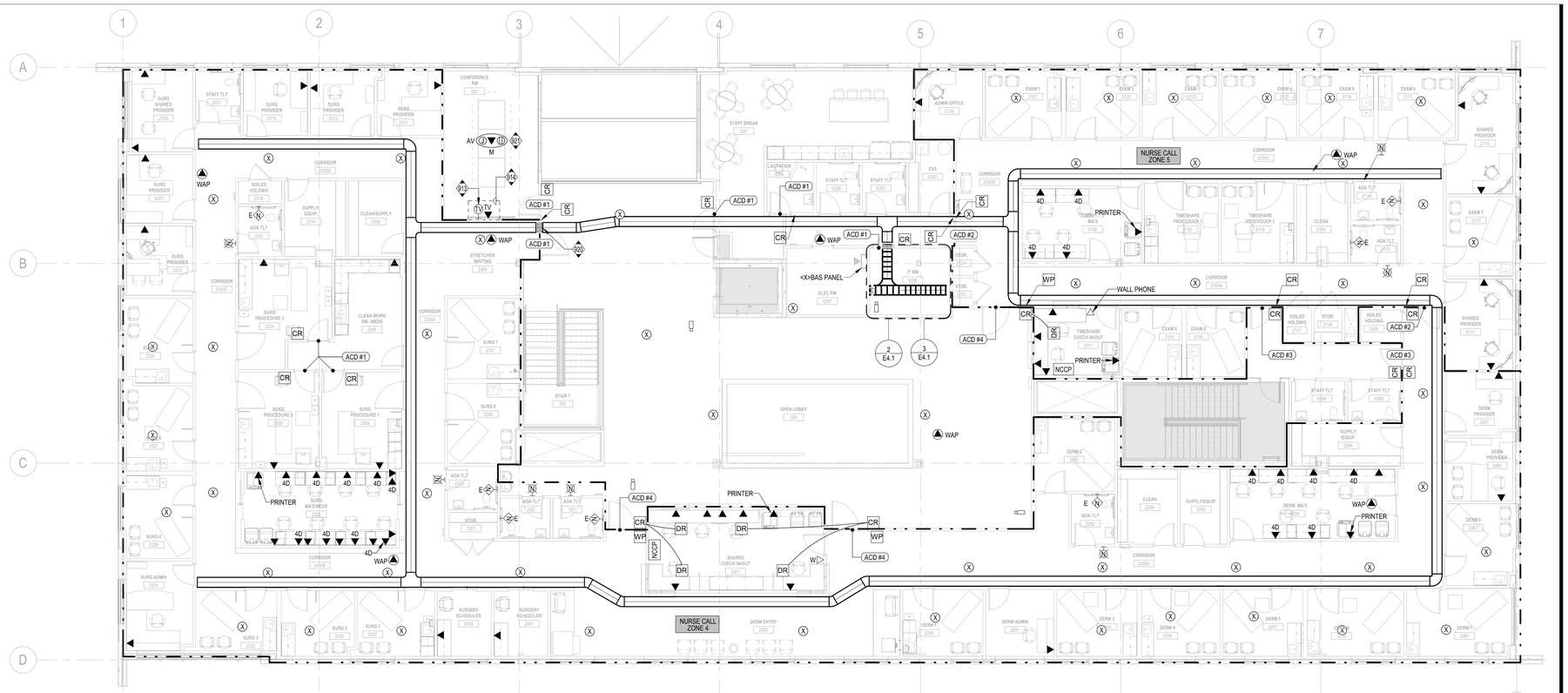
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ELECTRICAL SYSTEMS PLAN - LEVEL 1

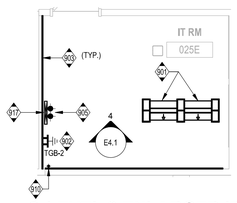
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SHEET # E4.0



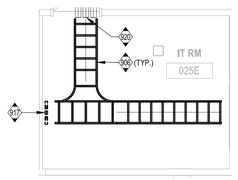
1 LEVEL 2 SYSTEMS PLAN

1/8" = 1'-0"



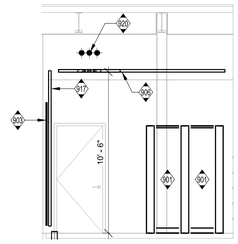
2 LEVEL 2 ENLARGED IDF

1/4" = 1'-0"



3 LEVEL 2 ENLARGED IDF (CEILING)

1/4" = 1'-0"



4 LEVEL 2 IDF ELEVATION

1/4" = 1'-0"

GENERAL NOTES:

1. ALL AREAS HIGHLIGHTED IN GRAY WERE CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.
2. ALL DATA OUTLETS SHOWN SHALL HAVE (2) CABLE DROPS, UNLESS OTHERWISE NOTED.
3. REFER TO NURSE CALL RISER DIAGRAM ON SHEET E7.0 FOR CONDUIT INTERCONNECTON REQUIREMENTS BETWEEN NURSE CALL ANNUNCIATORS.
4. REFER TO ARCHITECUTRAL PLANS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF DATA DEVICES. DEVICES SHOWN TO CONVEY QUANTITY AND TYPE ONLY.
5. CAMERAS SHOWN TO PROVIDE QUANTITIES AND LOCATIONS OF BACK BOXES ONLY. FINAL MOUNTING AND AIMING REQUIREMENTS SHALL BE COORDINATED IN THE FIELD BY THE OWNER SELECTED SECURITY CONTRACTOR.

KEY NOTES

- 901 7'H X 20 1/4"W TWO POST RACK WITH WIRE MANAGER SHOWN FOR REFERENCE ONLY. RACKS PROVIDED BY TELECOMMUNICATIONS CABLING CONTRACTOR.
- 902 PROVIDE TELECOMMUNICATIONS GROUND BAR IN LOCATION SHOWN. REFER TO DETAILS SHEET AND GROUNDING RISER DIAGRAM FOR MORE INFORMATION.
- 903 PROVIDE 3/4" 4'X8' FIRERETARDANT PLYWOOD BACKBOARD ON THE WALLS INDICATED. MOUNTED FROM 0'-6" TO 8'-8".
- 905 (2) 4" CONDUIT SLEEVES FROM IDF ROOM BELOW.
- 906 PROVIDE 18"W X 2"D CABLE TRAY. ROUTE AS INDICATED AT ELEVATIONS SHOWN ON PLANS. PROVIDE ALL THE NECESSARY FITTINGS AND SUPPORTS FOR A COMPLETE INSTALLATION. REFER TO LEGENDS SHEET FOR TRAY TYPE.
- 910 PROVIDE (1) 2" CONDUIT SLEEVE FOR GROUNDING CONDUCTOR PATHWAY BETWEEN LEVEL 1 IDF ROOM AND LEVEL 2 IDF ROOM.
- 913 PROVIDE BACK BOX FOR HDMI PLATE. PROVIDE A 1.25" EMPTY CONDUIT WITH PULL STRING BETWEEN WALL BACK BOX AND AV JUNCTION BOX IN POKE-THRU ASSEMBLY.
- 914 DEVICES SHOWN AS WELL AS THE TV RECEPTACLE SHOWN ON THE POWER PLANS SHALL BE MOUNTED IN A RECESSED BACK BOX. REFER TO THE SPECIFICATIONS FOR TYPE AND MANUFACTURER.
- 917 PROVIDE 18"W X 2"D VERTICALLY MOUNTED LADDER STYLE CABLE TRAY. ROUTE FROM THE FLOOR SLEEVES TO THE HORIZONTAL CABLE TRAY IN THE IDF ROOM. PROVIDE ALL THE NECESSARY FITTINGS AND SUPPORTS FOR A COMPLETE INSTALLATION.
- 920 PROVIDE (3) 4" HORIZONTAL CONDUIT SLEEVES THROUGH WALL FOR CABLE TRAY CONTINUITY.
- 921 REFER TO ELECTRICAL SPECIFICATIONS FOR POKE-THROUGH SIZE AND TYPE.

CABLE TRAY MOUNTING ELEVATION

MOUNT CABLE TRAY AT 10'-3" ABOVE FINISHED FLOOR TO THE BOTTOM OF THE TRAY, UNLESS OTHERWISE NOTED.

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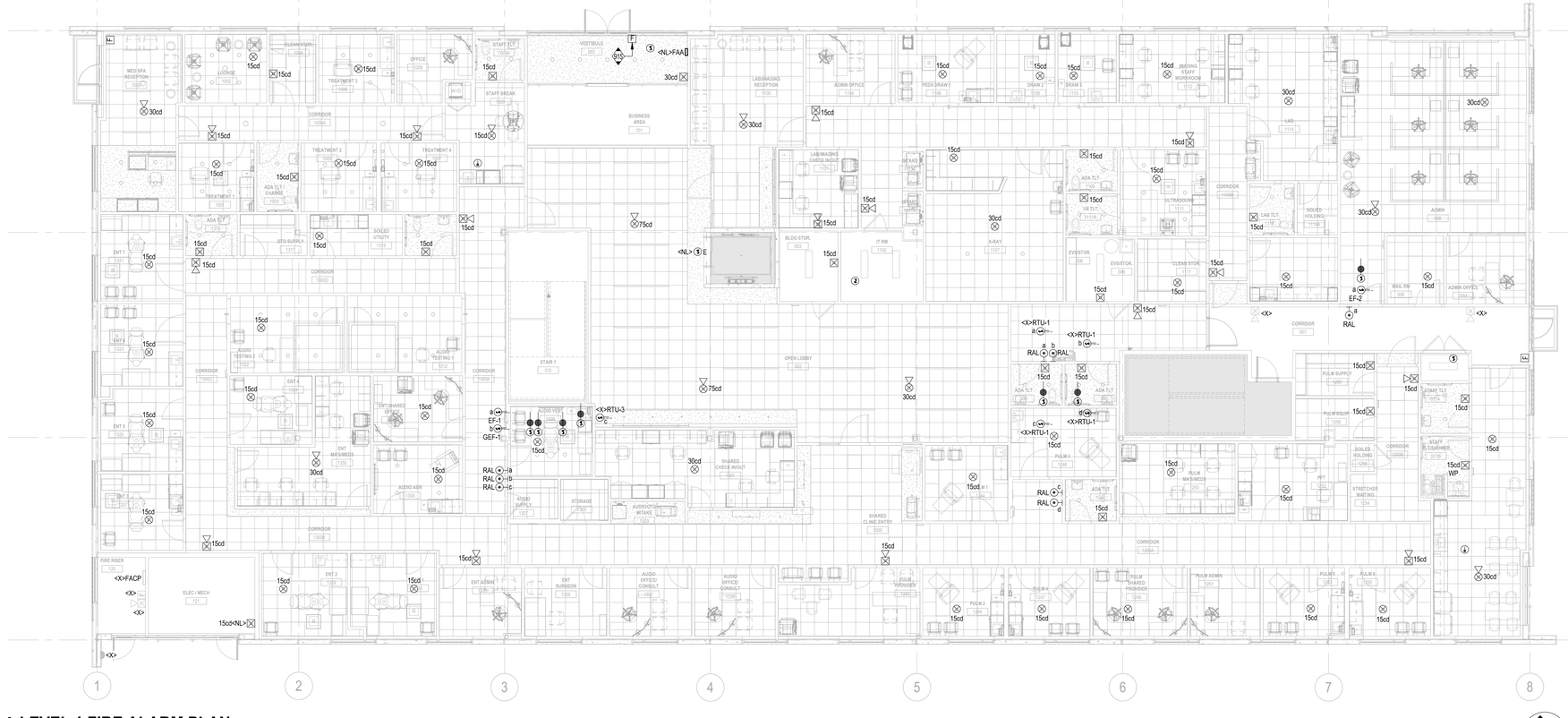
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ELECTRICAL SYSTEMS PLAN - LEVEL 2

SCALE: As indicated

SHEET # E4.1



1 LEVEL 1 FIRE ALARM PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. ALL AREAS HIGHLIGHTED IN GRAY WERE CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.
2. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND QUANTITIES OF DUCT MOUNTED SMOKE DETECTORS. CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT, WIRING, AND CONNECTIONS TO DUCT MOUNTED SMOKE DETECTORS.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND QUANTITIES OF FIRE SMOKE DAMPERS. CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT, WIRING, AND CONNECTIONS TO FIRE SMOKE DAMPERS.

KEY NOTES

915 DEVICE RECESSED INTO MULLION CHANNEL.

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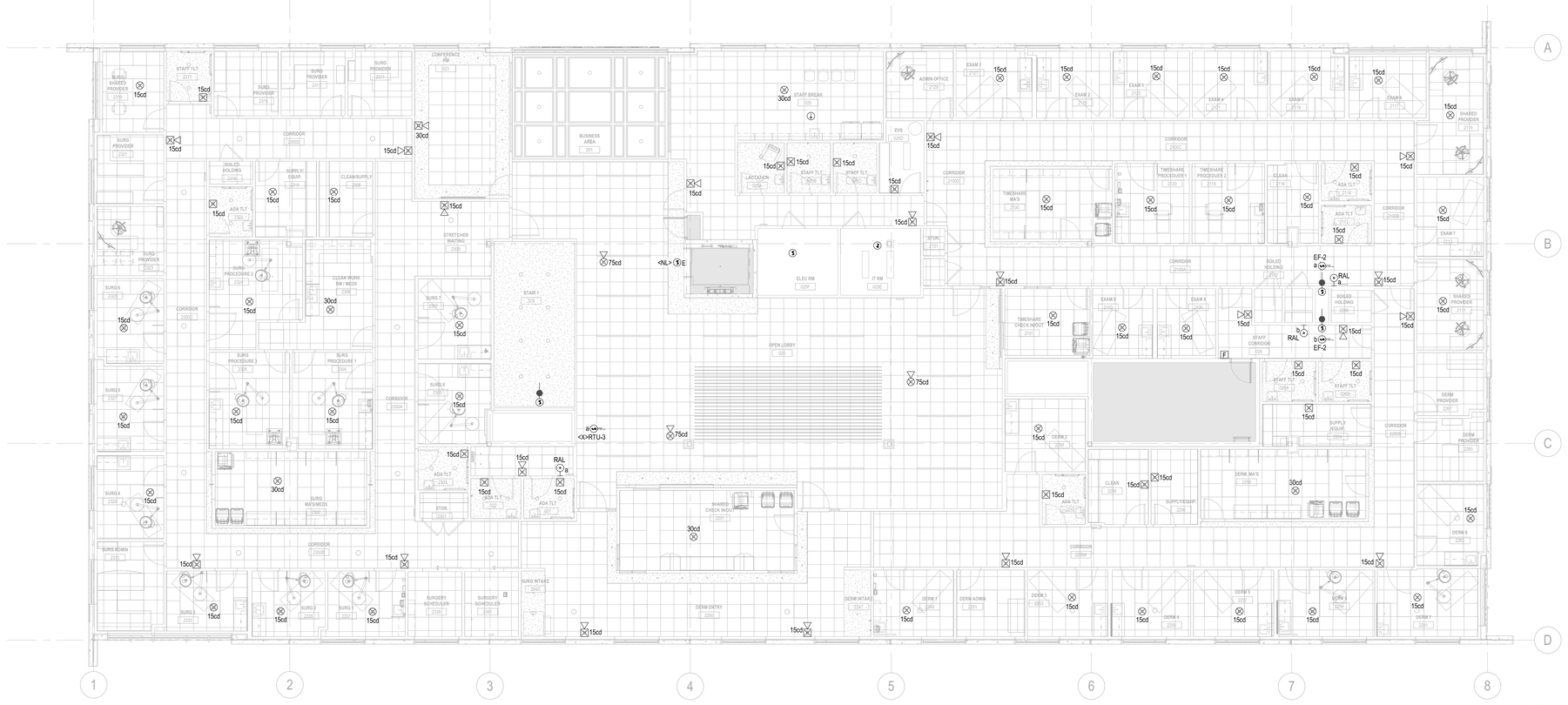
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ELECTRICAL FIRE ALARM PLAN - LEVEL 1

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

SHEET # E5.0



1 LEVEL 2 FIRE ALARM PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. ALL AREAS HIGHLIGHTED IN GRAY WERE CONSTRUCTED AS PART OF THE CORE AND SHELL PACKAGE. THERE IS NO ANTICIPATED SCOPE OF WORK IN THESE AREAS ASSOCIATED WITH THE TENANT IMPROVEMENT PACKAGE.
2. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND QUANTITIES OF DUCT MOUNTED SMOKE DETECTORS. CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT, WIRING, AND CONNECTIONS TO DUCT MOUNTED SMOKE DETECTORS.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND QUANTITIES OF FIRE SMOKE DAMPERS. CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT, WIRING, AND CONNECTIONS TO FIRE SMOKE DAMPERS.

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ELECTRICAL FIRE ALARM PLAN - LEVEL 2

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

SHEET # E5.1

CONDUIT AND CONNECTIONS (#)				
SYMBOL	FROM	TO	CONDUIT	NOTES
1	MSB	CB	2"	PROVIDE 4 #2/0, #20G WIRING
2	CB	ME	2"	MAX CONDUIT/CABLE LENGTH 50'-0", PROVIDE 4 #4, #4G WIRING WITH 8' TAIL AND CONNECT TO "TB" INSIDE "ME"
3	CB	ST	3/4"	MAX CONDUIT LENGTH 50'-0", PROVIDE 2 #12, #12G WIRING
4	ME	S1	1/2"	MAX COMBINED CONDUIT LENGTH 50'-0" WITH "S", CONNECT TO "TB" INSIDE "ME" WITH 1 #12, #12G WIRING
5	S1	WL	1/2"	MAX COMBINED CONDUIT LENGTH 50'-0" WITH "4", CONNECT FROM "TB" INSIDE "ME" WITH 1 #12, #12G WIRING
6	ME	DS	1/2"	MAX CONDUIT LENGTH 50'-0", CONNECT TO / FROM "TB" INSIDE "ME" WITH 2 #12, #12G WIRING
7	ME	ELW	2"	MAX CONDUIT LENGTH 88'-0" (NOTE 1)
8	ME	ELW	3"	MAX CONDUIT LENGTH 88'-0" (NOTE 1)
9	ME	MS	2"	MAX CONDUIT LENGTH 55'-0" (NOTE 1 & 2)
10	ME	MS	2"	MAX CONDUIT LENGTH 55'-0" (NOTE 1 & 2)
11	ME	DVS	2"	MAX CONDUIT LENGTH 55'-0" (NOTE 1)
12	ME	DVS	2"	MAX CONDUIT LENGTH 55'-0" (NOTE 1)
13	ME	CS	3"	MAX CONDUIT LENGTH 45'-0" (NOTE 1)
14	ME	CS	3"	MAX CONDUIT LENGTH 45'-0" (NOTE 1)
15	ME	CS	3"	MAX CONDUIT LENGTH 45'-0" (NOTE 1)
16	ELW	MS	2"	MAX CONDUIT LENGTH 98'-0" (NOTE 1 & 2)
17	ELW	DVS	1"	MAX CONDUIT LENGTH 98'-0" (NOTE 1)
18	WAP	ELW	1"	MAX CONDUIT LENGTH 65'-0" (NOTE 1)

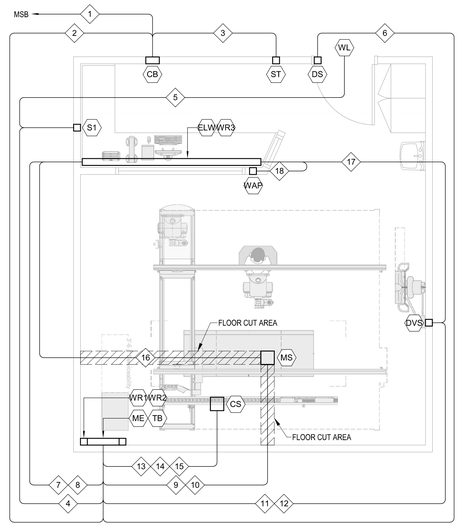
CONDUIT AND CONNECTIONS NOTES:

1. CABLES SUPPLIED AND INSTALLED BY MANUFACTURER.
2. CONDUITS ARE DISALLOWED FROM BEING RUN UNDERSLAB TO TABLE CONNECTION "MS". PROVIDE CABLE TROUGHS WITH EQUALLY-SPACED METAL BARRIERS TO SEPARATELY ROUTE POWER, DATA, VIDEO, AND HIGH-TENSION CABLES WHEN INSTALLING FLOOR CONNECTIONS.

EQUIPMENT AND DEVICES (AA)		
SYMBOL	DESCRIPTION	NOTES
CB	SHUNT TRIP CIRCUIT BREAKER	RATING PER DRAWING E1.0
CS	8"L x 4"W x 4"D FLUSH BOX WITH REMOVABLE SCREW COVERPLATE	CEILING MOUNTED
DS	DOOR SWITCH (120V, 5A) - LEGRAND P&S 1201 OR EQUIVALENT	SEE X-RAY SCHEMATIC ON THIS DRAWING
DVS	6"L x 6"W x 4"D FLUSH BOX WITH REMOVABLE SCREW COVERPLATE	WALL MOUNTED, 39" AFF TO BOTTOM
ELW	GROMMET OPENING ON WR3	SIZE AND LOCATION BY MFGR
ME	19.25"W x 67"H x 4"D FLANGED TERMINAL WALL BOX WITH REMOVABLE SCREW COVERPLATE	SURFACE MOUNTED, 75" AFF TO TOP
MS	8"L x 8"W x 4"D FLUSH BOX WITH REMOVABLE GASKETED SCREW COVERPLATE	FLOOR MOUNTED
S1	SINGLE POLE SWITCH WITH RED COVER	SEE X-RAY SCHEMATIC ON THIS DRAWING
ST	SHUNT TRIP FOR "CB" EMERGENCY POWER OFF	SEE X-RAY SCHEMATIC ON THIS DRAWING
TB	(3) TERMINAL BLOCKS ("A" BLOCK, "D" BLOCK, "E" BLOCK) ASSEMBLED ON DIN RAIL	MOUNT INSIDE "ME"
WAP	4"L x 4"W x 4"D FLUSH BOX WITH REMOVABLE SCREW COVERPLATE	WALL MOUNTED, 10" BFC TO TOP
WL	WARNING LIGHT	SEE "X2" ON LUMINAIRE SCHEDULE
WR1	4"W x 4"D WALL RACEWAY WITH REMOVABLE SCREW COVERPLATE	SURFACE MOUNTED, 4" AFF TO BOTTOM
WR2	10"W x 4"D WALL RACEWAY WITH REMOVABLE SCREW COVERPLATE	SURFACE MOUNTED, 75" AFF TO BOTTOM
WR3	10"W x 4"D WALL RACEWAY WITH REMOVABLE SCREW COVERPLATE	SURFACE MOUNTED, 6" AFF TO BOTTOM

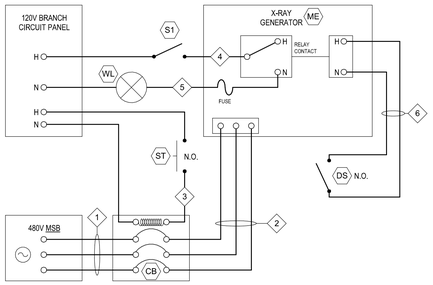
GENERAL DETAIL NOTES:

1. CONDUIT SHOWN IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING AND ELEVATIONS WITH EQUIPMENT SITE SPECIFIC DRAWINGS PRIOR TO CONDUIT INSTALLATION.
2. GROUND ALL SECTIONS OF CONDUIT AND TROUGHS WITH AN INDEPENDENT #6 WIRE.
3. REFER TO RADIOLOGY EQUIPMENT SITE SPECIFIC DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. PROVIDE ALL INFRASTRUCTURE, VENDOR-REQUIRED WIRING, HARDWARE, AND ACCESSORIES AS REQUIRED BY MANUFACTURER. THESE INCLUDE (BUT ARE NOT LIMITED TO) CONDUITS, FLOOR CORES AND SLEEVES, CABLE TRAYS, PULL BOXES, RELAYS, WIRING TO DOOR SWITCH, WIRING TO WARNING LIGHT, WIRING TO EPO, ETC.
4. COORDINATE LOCATION OF "CB", "S1", AND "ST" WITH THE ARCHITECT.



7 X-RAY SYSTEMS INSTALLATION DETAIL

NTS

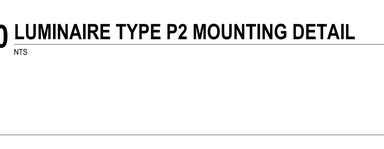


DETAIL GENERAL NOTES:

1. REFER TO "X-RAY SYSTEMS INSTALLATION DETAIL" FOR CONDUIT AND WIRING DESIGNATOR LEGEND. (#)
2. REFER TO "X-RAY SYSTEMS INSTALLATION DETAIL" FOR EQUIPMENT DESIGNATOR LEGEND. (AA)

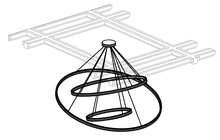
8 X-RAY SHUNT TRIP, WARNING LIGHT, AND DOOR SWITCH SCHEMATIC

NTS



9 LUMINAIRE TYPE P1 MOUNTING DETAIL

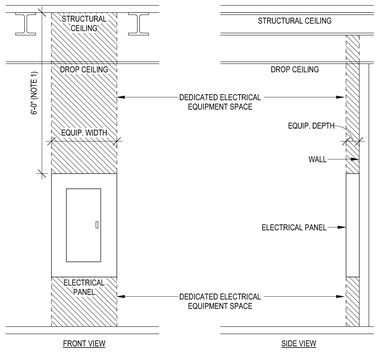
NTS



LUMINAIRE ISOMETRIC VIEW

NOTES:

1. REFER TO THE LIGHTING PLANS FOR LUMINAIRE LOCATION AND ASSOCIATED CONTROL INFORMATION.
2. REFER TO LUMINAIRE SCHEDULE ON SHEET E7.2 FOR LUMINAIRE SELECTION INFORMATION.
3. COORDINATE THE EXACT ELEVATION AND TILT OF EACH RING IN THE FIELD WITH ARCHITECT PRIOR TO ANCHORING.

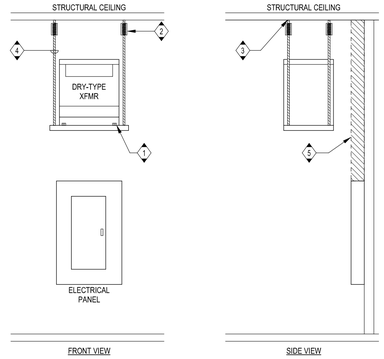


DETAIL NOTES:

1. HEIGHT OF DEDICATED ELECTRICAL EQUIPMENT SPACE SHALL BE EXTENDED 6'-0" ABOVE TOP OF ELECTRICAL EQUIPMENT OR TO STRUCTURAL CEILING, WHICHEVER IS LOWER. SEE NEC 110.26(E)(1).

4 DEDICATED ELECTRICAL EQUIPMENT SPACE

NTS

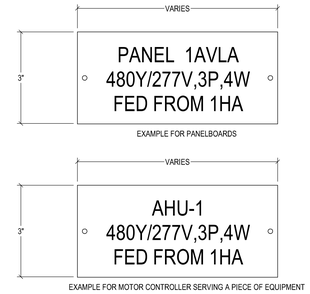


DETAIL KEYNOTES:

1. SECURELY ANCHOR TRANSFORMER TO SUPPORT STRUCTURE AT ALL FOUR CORNERS.
2. PROVIDE SPRING ISOLATORS FOR VIBRATION ISOLATION. TYPICAL FOR ALL THREADED SUPPORT RODS.
3. SECURELY ANCHOR ALL THREADED RODS TO STRUCTURE. COORDINATE CONNECTION POINTS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
4. THREADED ROD, TYPICAL OF FOUR. SIZE THREADED RODS AND SUPPORT STRUCTURE TO ADEQUATELY SUPPORT SUSPENDED TRANSFORMER.
5. SUSPEND TRANSFORMER OUTSIDE OF THE DEDICATED ELECTRICAL EQUIPMENT SPACE.

5 SUSPENDED TRANSFORMER MOUNTING

NTS

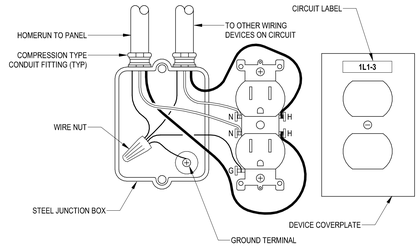


DETAIL NOTES:

1. TAGS TO BE MELAMINE PLASTIC LAMINATE IN SIZES AND THICKNESSES INDICATED. TAG THICKNESS TO BE 1/16" FOR UNITS UP TO 20 SQUARE INCHES OR 8" IN LENGTH AND 1/8" FOR LARGER TAGS.
2. SECURE TAGS TO EQUIPMENT WITH SELF-TAPPING STAINLESS-STEEL SCREWS, EXCEPT CONTACT TYPE PERMANENT COMMERCIAL GRADE ADHESIVE PROVIDING A PERMANENT BOND SHALL BE USED WHERE SCREWS CANNOT OR SHOULD NOT PENETRATE SUBSTRATE.
3. REFER TO SPECIFICATIONS ON DRAWING E0.1 FOR FURTHER INFORMATION INCLUDING LABEL COLOR CODES.

1 EQUIPMENT IDENTIFICATION LABELS

NTS

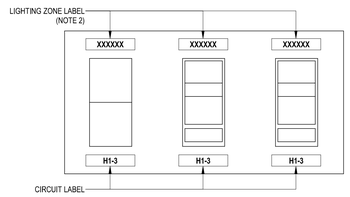


DETAIL NOTES:

1. REFER TO SPECIFICIATIONS ON DRAWING E0.1 FOR MORE INFORMATION REGARDING RECEPTACLE TYPES, COVERPLATE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.

2 RECEPTACLE WIRING DETAIL

NTS



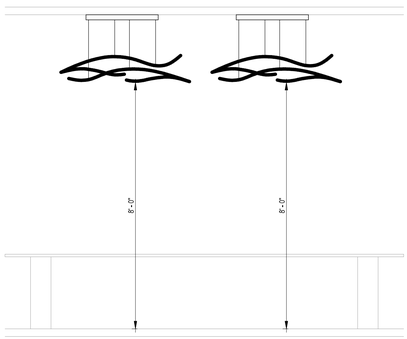
DETAIL NOTES:

1. REFER TO SPECIFICATIONS ON DRAWING E0.1 FOR MORE INFORMATION REGARDING LIGHTING SWITCH TYPES, COVERPLATE MATERIAL, AND OTHER INSTALLATION REQUIREMENTS.
2. PROVIDE PRINTED LABEL INDICATING LIGHTING ZONE DESCRIPTION. REFER TO ZONE LABELING TABLE BELOW FOR MORE INFORMATION.
3. REFER TO LIGHTING PLANS ON SHEETS E3.0 AND E3.1 FOR LOCATIONS OF LABELED SWITCHES. THE INFORMATION IN THIS DETAIL APPLIES TO ALL LABELED SWITCHES REGARDLESS OF SWITCH TYPE OR THE NUMBER OF GANGS.

ZONE LABELING TABLE		
LABEL ID	LABEL TEXT	ROOM NAME & NUMBER
SL1.1	ACCENT LTG	MED SPA RECEPTION 1000
SL1.2	RECEPTION	MED SPA RECEPTION 1000
SL1.3	WAITING	MED SPA RECEPTION 1000
SL1.4	VESTIBULE CORRIDOR	OPEN LOBBY 002
SL1.5	ACCENT LTG	OPEN LOBBY 002
SL1.6	LOBBY	OPEN LOBBY 002
SL1.7	WAITING	LAB/IMAGING RECEPTION 1100
SL1.8	ACCENT LTG	LAB/IMAGING RECEPTION 1100
SL1.9	GENERAL LTG	XRAY 1107
SL1.10	TASK LTG	XRAY 1107
SL2.1	PERIMETER LTG	CONFERENCE RM 023
SL2.2	TASK LTG	CONFERENCE RM 023
SL2.3	WAITING	OPEN LOBBY 020
SL2.4	LOBBY	OPEN LOBBY 020
SL2.5	ACCENT LTG	OPEN LOBBY 020
SL2.6	ACCENT LTG	OPEN LOBBY 020

11 LIGHTING SWITCH FACEPLATE DETAIL

NTS

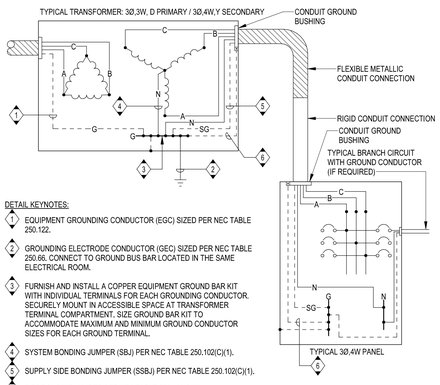


NOTES:

1. REFER TO THE LIGHTING PLANS FOR LUMINAIRE LOCATION AND ASSOCIATED CONTROL INFORMATION.
2. REFER TO LUMINAIRE SCHEDULE ON SHEET E7.2 FOR LUMINAIRE SELECTION INFORMATION.
3. COORDINATE THE EXACT ELEVATION IN THE FIELD WITH ARCHITECT PRIOR TO ANCHORING.

10 LUMINAIRE TYPE P2 MOUNTING DETAIL

NTS



DETAIL KEYNOTES:

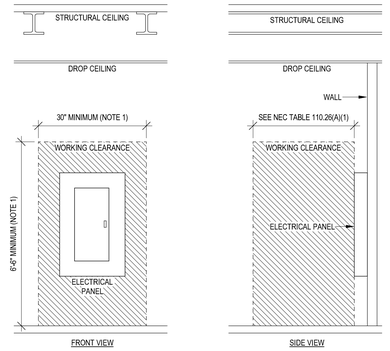
1. EQUIPMENT GROUNDING CONDUCTOR (EGC) SIZED PER NEC TABLE 250.122.
2. GROUNDING ELECTRODE CONDUCTOR (GEC) SIZED PER NEC TABLE 250.66. CONNECT TO GROUND BUS BAR LOCATED IN THE SAME ELECTRICAL ROOM.
3. FURNISH AND INSTALL A COPPER EQUIPMENT GROUND BAR KIT WITH INDIVIDUAL TERMINALS FOR EACH GROUNDING CONDUCTOR. SECURELY MOUNT IN ACCESSIBLE SPACE AT TRANSFORMER TERMINAL COMPARTMENT. SIZE GROUND BAR KIT TO ACCOMMODATE MAXIMUM AND MINIMUM GROUND CONDUCTOR SIZES FOR EACH GROUND TERMINAL.
4. SYSTEM BONDING JUMPER (SBJ) PER NEC TABLE 250.102(C)(1).
5. SUPPLY SIDE BONDING JUMPER (SSBJ) PER NEC TABLE 250.102(C)(1).
6. SIZE BONDING JUMPER PER NEC TABLE 250.102(C)(1).

BONDING NOTES:

1. BOND METAL WATER PIPING SYSTEMS LOCATED IN THE AREA SERVED BY A TRANSFORMER TO THE GROUND BUS BAR (IF NEARBY) OR TO THE METAL STRUCTURAL BUILDING FRAME PART OF THE GROUNDING ELECTRODE SYSTEM.
2. SIZE BONDING JUMPER PER NEC TABLE 250.102(C)(1).

6 DRY-TYPE TRANSFORMER WIRING

NTS



DETAIL NOTES:

1. WIDTH AND HEIGHT OF WORKING CLEARANCE SHALL BE INCREASED IF EQUIPMENT DIMENSIONS ARE LARGER THAN THE MINIMUM SHOWN PER NEC 110.26(A)(2) AND 110.26(A)(3).

3 ELECTRICAL EQUIPMENT WORKING CLEARANCES

NTS

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044840 ANASTASIYA V. SMURYGINA

Anastasiya Smurygina
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#	△	DESCRIPTION	DATE
1		PERMIT SET	11.21.2025
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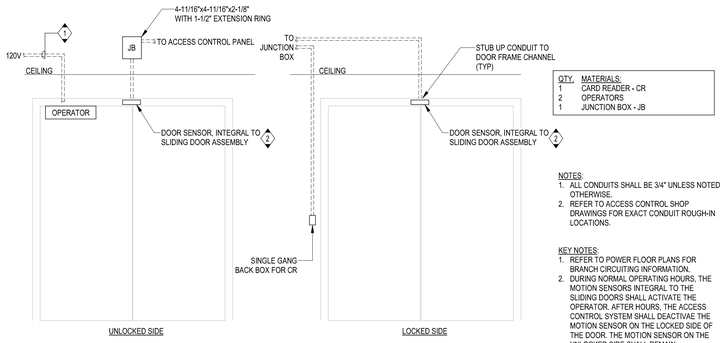
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ARCH. PROJECT # RDU 25-065

ELECTRICAL DETAILS

SCALE: As indicated

SHEET # E6.0

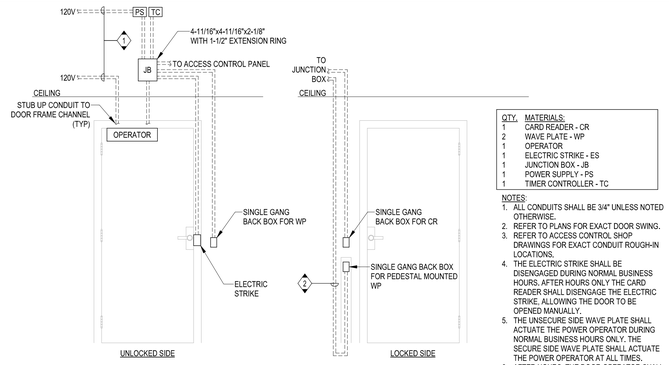


QTY.	MATERIALS:
1	CARD READER - CR
2	OPERATORS
1	JUNCTION BOX - JB

NOTES:
1. ALL CONDUITS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. REFER TO ACCESS CONTROL SHOP DRAWINGS FOR EXACT CONDUIT ROUGH-IN LOCATIONS.

KEY NOTES:
1. REFER TO POWER FLOOR PLANS FOR BRANCH CIRCUITING INFORMATION.
2. DURING NORMAL OPERATING HOURS, THE MOTION SENSORS INTEGRAL TO THE SLIDING DOORS SHALL ACTIVATE THE OPERATOR. AFTER HOURS, THE ACCESS CONTROL SYSTEM SHALL DEACTIVAE THE MOTION SENSOR ON THE LOCKED SIDE OF THE DOOR. THE MOTION SENSOR ON THE UNLOCKED SIDE SHALL REMAIN OPERATIONAL AT ALL TIMES.

8 SLIDING ACCESS CONTROL DOOR (SINGLE SIDE LOCKING)
NTS

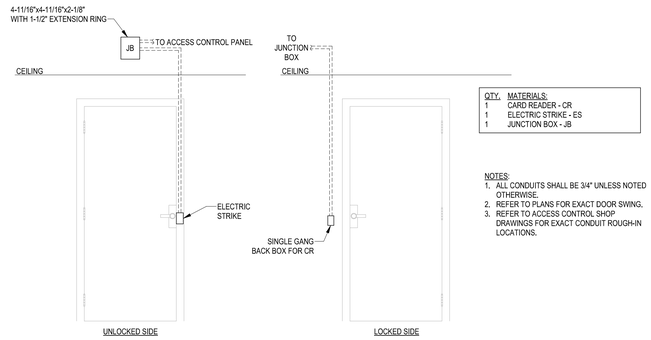


QTY.	MATERIALS:
1	CARD READER - CR
2	WAVE PLATE - WP
1	OPERATOR
1	ELECTRIC STRIKE - ES
1	JUNCTION BOX - JB
1	POWER SUPPLY - PS
1	TIMER CONTROLLER - TC

NOTES:
1. ALL CONDUITS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. REFER TO PLANS FOR EXACT DOOR SWING.
3. REFER TO ACCESS CONTROL SHOP DRAWINGS FOR EXACT CONDUIT ROUGH-IN LOCATIONS.
4. THE ELECTRIC STRIKE SHALL BE DISENGAGED DURING NORMAL BUSINESS HOURS. AFTER HOURS ONLY THE CARD READER SHALL DISENGAGE THE ELECTRIC STRIKE, ALLOWING THE DOOR TO BE OPENED MANUALLY.
5. THE UNSECURE SIDE WAVE PLATE SHALL ACTUATE THE POWER OPERATOR DURING NORMAL BUSINESS HOURS ONLY. THE SECURE SIDE WAVE PLATE SHALL ACTUATE THE POWER OPERATOR AT ALL TIMES.
6. AFTER HOURS, THE DOOR OPERATOR SHALL BE ON A TIME DELAY SO THAT THE ELECTRIC STRIKE RELEASES PRIOR TO ACTUATING THE DOOR OPERATOR.
7. THE ELECTRIC STRIKE SHALL BE HELD IN A DISENGAGED STATE WHILE THE DOORS ARE OPENING VIA THE OPERATOR.

KEY NOTES:
1. REFER TO POWER FLOOR PLANS FOR BRANCH CIRCUITING INFORMATION.
2. THE PEDESTAL MOUNTED BACK BOXES AND CONDUIT PATHWAY INTO THE BUILDING WAS PROVIDED AS PART OF THE CORE AND SHELL PACKAGE. REFER TO THE DEMOLITION FLOOR PLANS FOR MORE INFORMATION.

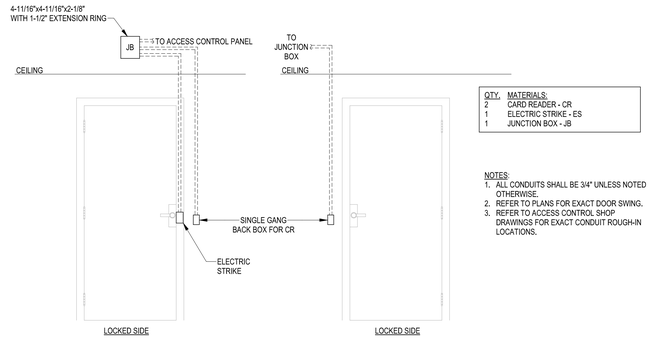
5 SINGLE ACCESS CONTROL DOOR WITH WAVEPLATE (SINGLE SIDE LOCKING)
NTS



QTY.	MATERIALS:
1	CARD READER - CR
1	ELECTRIC STRIKE - ES
1	JUNCTION BOX - JB

NOTES:
1. ALL CONDUITS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. REFER TO PLANS FOR EXACT DOOR SWING.
3. REFER TO ACCESS CONTROL SHOP DRAWINGS FOR EXACT CONDUIT ROUGH-IN LOCATIONS.

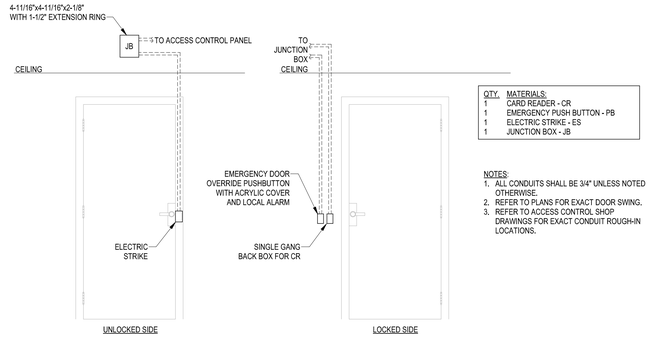
1 SINGLE ACCESS CONTROL DOOR (SINGLE SIDE LOCKING)
NTS



QTY.	MATERIALS:
2	CARD READER - CR
1	ELECTRIC STRIKE - ES
1	JUNCTION BOX - JB

NOTES:
1. ALL CONDUITS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. REFER TO PLANS FOR EXACT DOOR SWING.
3. REFER TO ACCESS CONTROL SHOP DRAWINGS FOR EXACT CONDUIT ROUGH-IN LOCATIONS.

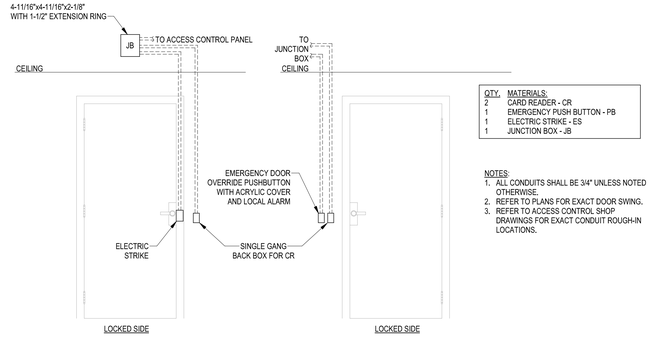
2 SINGLE ACCESS CONTROL DOOR (DOUBLE SIDE LOCKING)
NTS



QTY.	MATERIALS:
1	CARD READER - CR
1	EMERGENCY PUSH BUTTON - PB
1	ELECTRIC STRIKE - ES
1	JUNCTION BOX - JB

NOTES:
1. ALL CONDUITS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. REFER TO PLANS FOR EXACT DOOR SWING.
3. REFER TO ACCESS CONTROL SHOP DRAWINGS FOR EXACT CONDUIT ROUGH-IN LOCATIONS.

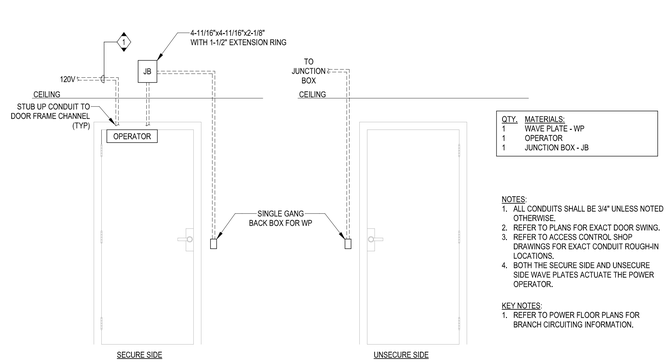
6 SINGLE ACCESS CONTROL DOOR WITH PUSHBUTTON (SINGLE SIDE LOCKING)
NTS



QTY.	MATERIALS:
2	CARD READER - CR
1	EMERGENCY PUSH BUTTON - PB
1	ELECTRIC STRIKE - ES
1	JUNCTION BOX - JB

NOTES:
1. ALL CONDUITS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. REFER TO PLANS FOR EXACT DOOR SWING.
3. REFER TO ACCESS CONTROL SHOP DRAWINGS FOR EXACT CONDUIT ROUGH-IN LOCATIONS.

3 SINGLE ACCESS CONTROL DOOR WITH PUSHBUTTON (DOUBLE SIDE LOCKING)
NTS

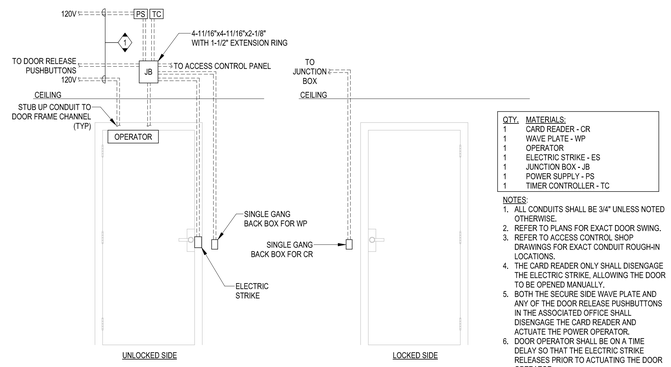


QTY.	MATERIALS:
1	WAVE PLATE - WP
1	OPERATOR
1	JUNCTION BOX - JB

NOTES:
1. ALL CONDUITS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. REFER TO PLANS FOR EXACT DOOR SWING.
3. REFER TO ACCESS CONTROL SHOP DRAWINGS FOR EXACT CONDUIT ROUGH-IN LOCATIONS.
4. BOTH THE SECURE SIDE AND UNSECURE SIDE WAVE PLATES ACTUATE THE POWER OPERATOR.

KEY NOTES:
1. REFER TO POWER FLOOR PLANS FOR BRANCH CIRCUITING INFORMATION.

7 SINGLE ACCESS CONTROL DOOR
NTS



QTY.	MATERIALS:
1	CARD READER - CR
1	WAVE PLATE - WP
1	OPERATOR
1	ELECTRIC STRIKE - ES
1	JUNCTION BOX - JB
1	POWER SUPPLY - PS
1	TIMER CONTROLLER - TC

NOTES:
1. ALL CONDUITS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2. REFER TO PLANS FOR EXACT DOOR SWING.
3. REFER TO ACCESS CONTROL SHOP DRAWINGS FOR EXACT CONDUIT ROUGH-IN LOCATIONS.
4. THE CARD READER ONLY SHALL DISENGAGE THE ELECTRIC STRIKE, ALLOWING THE DOOR TO BE OPENED MANUALLY.
5. BOTH THE SECURE SIDE WAVE PLATE AND ANY OF THE DOOR RELEASE PUSHBUTTONS IN THE ASSOCIATED OFFICE SHALL DISENGAGE THE CARD READER AND ACTUATE THE POWER OPERATOR.
6. DOOR OPERATOR SHALL BE ON A TIME DELAY SO THAT THE ELECTRIC STRIKE RELEASES PRIOR TO ACTUATING THE DOOR OPERATOR.
7. THE ELECTRIC STRIKE SHALL BE HELD IN A DISENGAGED STATE WHILE THE DOORS ARE OPENING VIA THE OPERATOR.

KEY NOTES:
1. REFER TO POWER FLOOR PLANS FOR BRANCH CIRCUITING INFORMATION.

4 SINGLE ACCESS CONTROL DOOR WITH WAVEPLATE (DOUBLE SIDE LOCKING)
NTS

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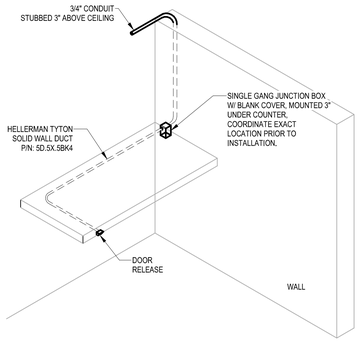
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ACCESS CONTROL DETAILS

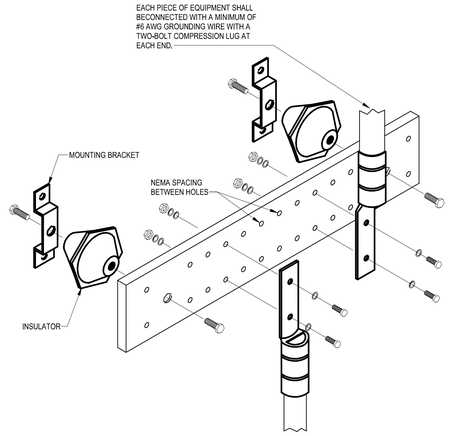
SCALE: NTS

SHEET # E6.1



4 DESK MOUNTED DOOR RELEASE DETAIL

NTS

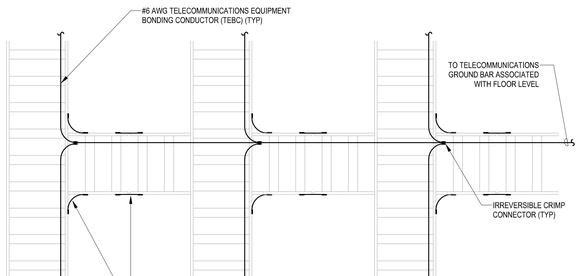


NOTES:

1. THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB) SHALL HAVE MINIMUM DIMENSIONS OF 0.25" THICK BY 4" WIDE, AND VARIABLE IN LENGTH DEPENDING ON NEED, WITH A MINIMUM LENGTH OF 10".
2. THE TELECOMMUNICATIONS GROUNDING BUSBAR (TGB) SHALL HAVE MINIMUM DIMENSIONS OF 0.25" THICK BY 2" WIDE, AND VARIABLE IN LENGTH DEPENDING ON NEED, WITH A MINIMUM LENGTH OF 10".
3. THE TELECOMMUNICATIONS GROUNDING BUSBAR(S) SHALL BE CONNECTED TO THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR WITH CONDUCTOR SIZE SHOWN ON THE GROUNDING AND TELECOMMUNICATIONS CONDUIT RISER DIAGRAM.
4. THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR SHALL BE BONDED TO THE ELECTRICAL POWER GROUND WITH CONDUCTOR SIZE SHOWN ON THE GROUNDING AND TELECOMMUNICATIONS CONDUIT RISER DIAGRAM.
5. THE GROUNDING BUSBAR(S) SHALL BE INSTALLED AT +18" A.F.F. WITH 6" CLEAR ON ALL OTHER SIDES.
6. REFER TO SYSTEMS PLANS FOR EXACT LOCATION OF GROUNDING BUSBAR(S).
7. MOUNTING BRACKETS AND INSULATOR SHALL BE MOUNTED TO PROVIDE A 3.750" SPACE FROM MOUNTING BACKBOARD TO BUSBAR.

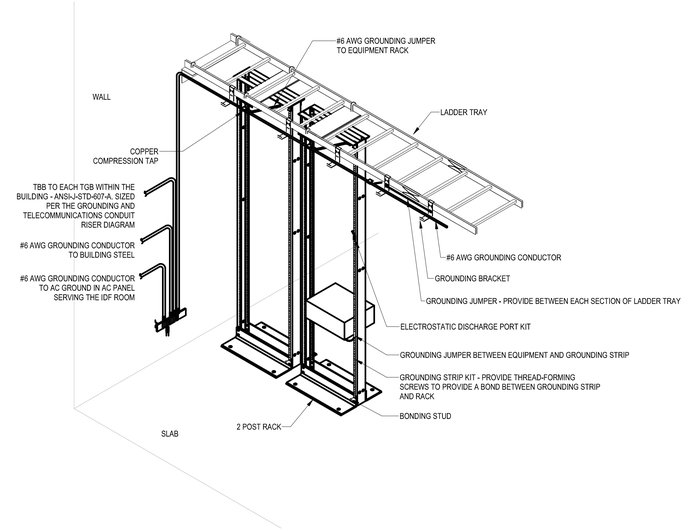
1 TELECOMMUNICATIONS GROUNDING BUSBAR DETAIL

NTS



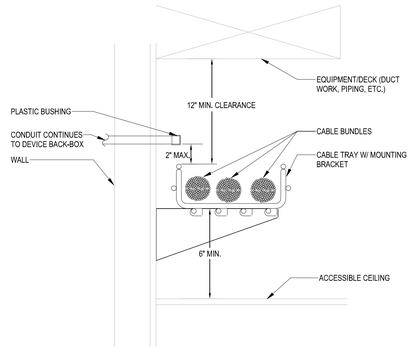
5 CABLE TRAY BONDING DETAIL

NTS



2 IDF ROOM GROUNDING DETAIL

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3 CABLE BASKET TRAY DETAIL

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ARCH. PROJECT # **RDU 25-065**

TECHNOLOGY DETAILS

SCALE: 12" = 1'-0"

SHEET # **E6.2**

COPPER FEEDER SCHEDULE

FEEDER DESIGNATION	No. OF SETS	PHASE CONDUCTORS (PER SET)	N NEUTRAL CONDUCTOR (PER SET)	G GROUND CONDUCTOR (PER SET)	SG SYSTEM BONDING JUMPER (PER SET)	P PARTIAL NEUTRAL SERVICE CONDUCTOR (PER SET)	I ISOLATED GROUND CONDUCTOR (PER SET)	CONDUIT SIZE - CONDUIT TYPES EMT, FMC, LFMC, IMC, GRC, SCH 40 PVC: 3 PHASE & GROUND G (PER SET)	3 PHASE NEUTRAL & GROUND P, N, NG, NSG (PER SET)	3 PHASE NEUTRAL GROUND & ISOLATED GROUND NGI, NSGI (PER SET)	CONDUIT SIZE - CONDUIT TYPES SCH 80 PVC: 3 PHASE & GROUND G (PER SET)	3 PHASE NEUTRAL & GROUND NG, NSG (PER SET)	3 PHASE NEUTRAL GROUND & ISOLATED GROUND NG, NSGI (PER SET)
40/50	1	3 # 8	1 # 8	1 # 10	1 # 8		1 # 10	3/4"	3/4"	1"	3/4"	1"	1"
100/110	1	3 # 2	1 # 2	1 # 6	1 # 8	1 # 8	1 # 6	1 1/4"	1 1/4"	1 1/2"	1 1/4"	1 1/2"	1 1/2"
125	1	3 # 1	1 # 1	1 # 6	1 # 6	1 # 6	1 # 6	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"
175	1	3 # 2/0	1 # 2/0	1 # 6	1 # 4	1 # 4	1 # 6	1 1/2"	2"	2"	2"	2"	2"
200	1	3 # 3/0	1 # 3/0	1 # 6	1 # 4	1 # 4	1 # 6	2"	2"	2"	2"	2 1/2"	2 1/2"
225	1	3 # 4/0	1 # 4/0	1 # 4	1 # 2	1 # 2	1 # 4	2"	2 1/2"	2 1/2"	2"	2 1/2"	2 1/2"
250	1	3 # 250	1 # 250	1 # 4	1 # 2	1 # 2	1 # 4	2"	2 1/2"	2 1/2"	2 1/2"	3"	3"
400	2	3 # 3/0	1 # 3/0	1 # 3	1 # 1/0	1 # 1/0	1 # 3	2"	2"	2 1/2"	2"	2 1/2"	2 1/2"

EXAMPLES:

1. 150NG = INDICATES (1) SET OF 3#1/0 + 1#1/0 NEUTRAL + 1#6 GROUND
2. 400NGI = INDICATES (2) SETS OF 3#3/0 + 1#3/0 NEUTRAL + 1#3 GROUND + 1#3 ISOLATED GROUND CONDUCTORS PER SET
3. 500P = INDICATES (2) SETS OF 3#250 + 1#1/0 PARTIAL NEUTRAL SERVICE CONDUCTORS PER SET

COPPER BRANCH CIRCUIT WIRING SCHEDULE

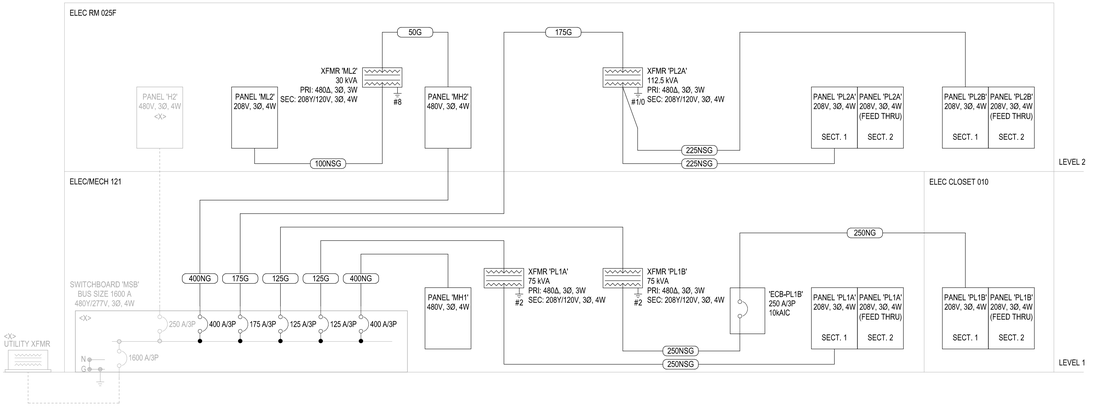
CIRCUIT BREAKER SIZE	No. OF POLES	PHASE CONDUCTORS	NEUTRAL CONDUCTOR	GROUND CONDUCTOR	CONDUIT SIZE - CONDUIT TYPES EMT, FMC, LFMC, IMC, GRC, SCH 40 PVC: PHASE & GROUND	PHASE NEUTRAL & GROUND
15	1	1 # 12	1 # 12	1 # 12	-	3/4"
	2	2 # 12	1 # 12		3/4"	3/4"
	3	3 # 12	1 # 12		3/4"	3/4"
20	1	1 # 12	1 # 12	1 # 12	-	3/4"
	2	2 # 12	1 # 12		3/4"	3/4"
	3	3 # 12	1 # 12		3/4"	3/4"
25	1	1 # 10	1 # 10	1 # 10	-	3/4"
	2	2 # 10	1 # 10		3/4"	3/4"
	3	3 # 10	1 # 10		3/4"	3/4"
30	1	1 # 10	1 # 10	1 # 10	-	3/4"
	2	2 # 10	1 # 10		3/4"	3/4"
	3	3 # 10	1 # 10		3/4"	3/4"
35	1	1 # 8	1 # 8	1 # 10	-	3/4"
	2	2 # 8	1 # 8		3/4"	3/4"
	3	3 # 8	1 # 8		3/4"	3/4"
40	1	1 # 8	1 # 8	1 # 10	-	3/4"
	2	2 # 8	1 # 8		3/4"	3/4"
	3	3 # 8	1 # 8		3/4"	3/4"
45	1	1 # 8	1 # 8	1 # 10	-	3/4"
	2	2 # 8	1 # 8		3/4"	3/4"
	3	3 # 8	1 # 8		3/4"	3/4"
50	1	1 # 8	1 # 8	1 # 10	-	3/4"
	2	2 # 8	1 # 8		3/4"	3/4"
	3	3 # 8	1 # 8		3/4"	3/4"
60	1	1 # 6	1 # 6	1 # 8	-	1"
	2	2 # 6	1 # 6		3/4"	1"
	3	3 # 6	1 # 6		3/4"	1"
70	1	1 # 4	1 # 4	1 # 8	-	1 1/4"
	2	2 # 4	1 # 4		1"	1 1/4"
	3	3 # 4	1 # 4		1"	1 1/4"
80	1	1 # 4	1 # 4	1 # 8	-	1 1/4"
	2	2 # 4	1 # 4		1"	1 1/4"
	3	3 # 4	1 # 4		1"	1 1/4"
90	1	1 # 2	1 # 2	1 # 8	-	1 1/4"
	2	2 # 2	1 # 2		1 1/4"	1 1/4"
	3	3 # 2	1 # 2		1 1/4"	1 1/4"
100	1	1 # 2	1 # 2	1 # 8	-	1 1/4"
	2	2 # 2	1 # 2		1 1/4"	1 1/4"
	3	3 # 2	1 # 2		1 1/4"	1 1/4"

NOTES:

1. ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH A DEDICATED NEUTRAL WIRE UNLESS DETERMINED NOT NECESSARY BY EQUIPMENT MANUFACTURER.

2. INCREASE WIRE SIZE AND CONDUIT SIZE (AS NECESSARY) EVERY 100 FEET IN LENGTH FOR ALL 120/208V CIRCUITS TO COMPENSATE FOR VOLTAGE DROP.

3. INCREASE WIRE SIZE AND CONDUIT SIZE (AS NECESSARY) EVERY 150 FEET IN LENGTH FOR ALL 480/277V CIRCUITS TO COMPENSATE FOR VOLTAGE DROP.



RISER DIAGRAM NOTES:

1. ALL EQUIPMENT AND FEEDERS SHOWN HALFTONE AND/OR DENOTED WITH <X> ARE EXISTING PROVIDED UNDER THE CORE AND SHELL SCOPE OF WORK.

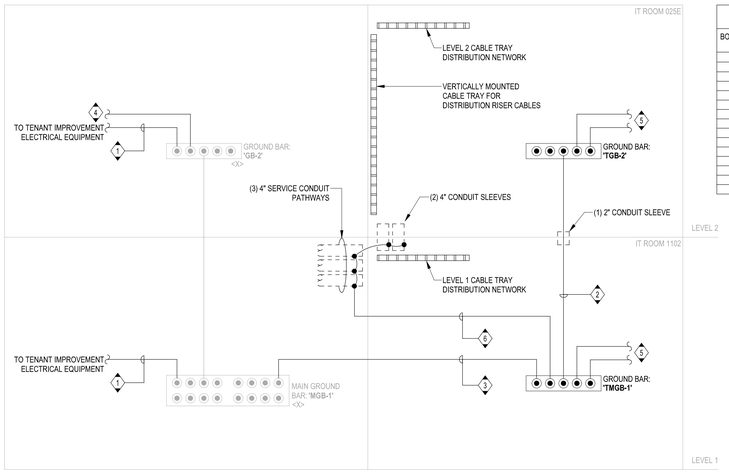
ELECTRICAL PANEL ID LEGEND

PL1A

- SEQUENCE IDENTIFIER
- LEVEL
  - H - 480/277V
  - L - 120/208V
- P - POWER
  M - MECHANICAL
  L - LIGHTING

1 ELECTRICAL RISER DIAGRAM

NTS



TELECOMMUNICATIONS BONDING BACKBONE ELECTRODE SIZES	
BONDING BACKBONE LENGTH (FT)	BONDING BACKBONE SIZE
< 13	#6 AWG
14 - 20	#4 AWG
21 - 26	#3 AWG
27 - 33	#2 AWG
34 - 41	#1 AWG
42 - 52	#1/0 AWG
53 - 66	#2/0 AWG
67 - 84	#3/0 AWG
85 - 105	#4/0 AWG
106 - 125	#250 kcmil AWG
126 - 150	#300 kcmil AWG
151 - 175	#350 kcmil AWG
176 - 250	#500 kcmil AWG
251 - 300	#600 kcmil AWG
> 301	#750 kcmil AWG

GENERAL NOTES:

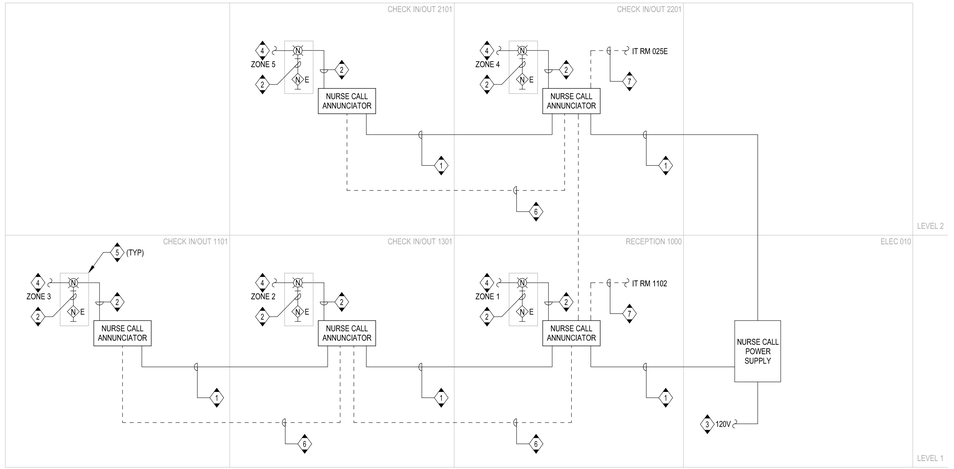
1. REFER TO DETAILS SHEETS FOR ADDITIONAL GROUNDING DETAILS AND REQUIREMENTS.
2. REFER TO ELECTRICAL SYSTEMS FLOOR PLANS FOR CONDUIT PATHWAY AND CABLE TRAY ROUTING.
3. GROUND BARS SHOWN AS HALFTONE ARE EXISTING PROVIDED BY THE CORE AND SHELL PACKAGE SCOPE OF WORK. REFER TO THE CORE AND SHELL PLANS FOR EXISTING GROUNDING CONNECTIONS.

KEY NOTES:

1. FOR TRANSFORMER CONNECTIONS, REFER TO THE ELECTRICAL RISER DIAGRAM FOR GROUNDING ELECTRODE CONDUCTOR SIZES.
2. REFER TO TELECOMMUNICATIONS BONDING BACKBONE (TBB) CONDUCTOR TABLE (THIS SHEET) FOR ELECTRODE SIZE. EXACT CONDUCTOR LENGTHS SHALL BE MEASURED IN THE FIELD.
3. BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT) SHALL BE AT MINIMUM THE SAME SIZE AS THE LARGEST TELECOMMUNICATION BONDING BACKBONE (TBB). EXACT CONDUCTOR LENGTH SHALL BE MEASURED IN THE FIELD.
4. BONDING JUMPER CONNECTION TO METAL WATER PIPING SYSTEMS, INCLUDING SPRINKLER PIPING. SIZE PER NEC TABLE 250.102(C)(1).
5. BONDING CONDUCTOR TO CABLE TRAY AND BUILDING STEEL. REFER TO IDF ROOM GROUNDING DETAIL ON SHEET E6.2 FOR MORE INFORMATION.
6. #6 BONDING CONDUCTOR TO METALLIC TELECOMMUNICATIONS SERVICE CONDUITS AND CONDUIT SLEEVES THROUGH FLOOR.

2 GROUNDING & TELECOMMUNICATIONS CONDUIT RISER DIAGRAM

NTS



GENERAL NOTES:

1. NURSE CALL SYSTEM DESIGN IS SCHEMATIC IN NATURE AND IS NOT INTENDED TO CONVEY FINAL CONNECTION DETAILS, WIRE SIZES, OR SYSTEM COMPONENT QUANTITIES. REFER TO NURSE CALL SYSTEM SHOP DRAWINGS FOR EXACT SYSTEM INFORMATION. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE AND FUNCTIONAL INSTALLATION AS DESCRIBED IN THE OPERATIONAL SEQUENCE BELOW.
2. NURSE CALL SYSTEM DESIGN IS BASED ON THE 4000 SERIES BY CORNELL. REFER TO THE BASIS OF DESIGN MODEL NUMBERS FOR THE SYSTEM COMPONENTS LISTED BELOW.
   A. NURSE CALL POWER SUPPLY: CORNELL P-512243A
   B. NURSE CALL ANNUNCIATOR: CORNELL A-4015/XX (15 LIGHT VERSION)
   C. NURSE CALL STATION: CORNELL E-104-1
   D. NURSE CALL DOME LIGHT: CORNELL L-101A (WHITE LIGHT)

OPERATIONAL SEQUENCE:

WHEN A NURSE CALL STATION IS ACTIVATED, THE DOME LIGHT SERVING THE TOILET ASSOCIATED WITH THE STATION SHALL ILLUMINATE. A SIGNAL SHALL ALSO BE SENT TO THE RESPECTIVE ANNUNCIATOR PANEL WHICH SHALL EMIT AN AUDIBLE AND VISUAL NOTIFICATION.

KEY NOTES:

1. 24V, 2-CONDUCTOR POWER WIRING, #18 AWG MINIMUM, ROUTED IN 3/4" CONDUIT.
2. 24V, 2-CONDUCTOR POWER WIRING, #18 AWG MINIMUM, AND 2-CONDUCTOR SIGNAL WIRING, #22 AWG MINIMUM, ROUTED IN 3/4" CONDUIT TO NURSE CALL DEVICES.
3. REFER TO ELECTRICAL PLANS FOR BRANCH CIRCUIT INFORMATION.
4. TO OTHER NURSE CALL DEVICES ASSOCIATED WITH THE ZONE INDICATED. REFER TO ELECTRICAL SYSTEMS FLOOR PLANS FOR NURSE CALL ZONE BOUNDARIES.
5. NURSE CALL PULL STATION AND DOME LIGHT PAIR ASSOCIATED WITH A SINGLE TOILET. REFER TO ELECTRICAL SYSTEMS PLANS FOR QUANTITIES.
6. PROVIDE EMPTY 1" CONDUIT WITH PULL STRING BETWEEN ANNUNCIATOR PANELS AS INDICATED FOR FUTURE USE.
7. PROVIDE EMPTY 1" CONDUIT WITH PULL STRING TO IT ROOM INDICATED FOR FUTURE USE.

3 NURSE CALL RISER DIAGRAM

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ARCH. PROJECT # RDU 25-065

ELECTRICAL RISER DIAGRAMS

SCALE: 12" = 1'-0"

SHEET # **E7.0**

LEGEND	
X	SYSTEM INPUT CAUSES SYSTEM OUTPUT
F	FAULT LED(S) AND SOUNDER(S) ARE ON THE FSCS WHENEVER A FSCS PROOF SENSOR FAILS TO VERIFY AN END PROCESS WITHIN THE REQUIRED TIME.
S	INDICATES THE EQUIPMENT STATUS ON THE FSCS BASED ON THE PROOF SENSORS AND THE EVACUATION ZONES IN ALARM.
ABBREVIATIONS	
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FCC	FIRE COMMAND CENTER
FSD	FIRE/SMOKE DAMPER, SMOKE DAMPERS

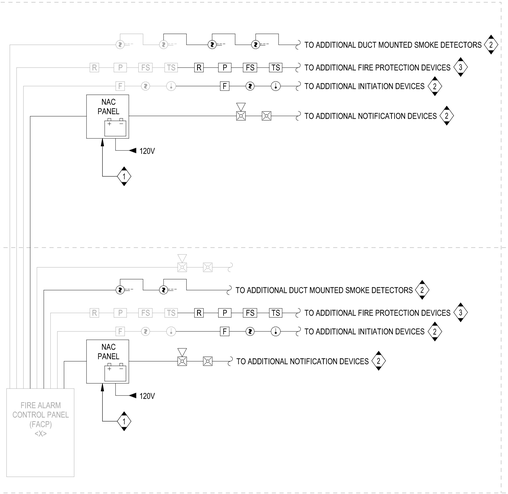
SPECIFIC NOTES	
1	ACTIVATE FAULT ONLY IF POWER LOSS EXCEEDS 10 SECONDS.
2	ACTIVATE FAULT ONLY IF POWER LOSS EXCEEDS 60 SECONDS.
3	EXCEPTION EGRESS STAIRS (MANUAL PAGING ONLY).
4	ACTIVATE ALTERNATE RECALL FLOOR IF PRIMARY RECALL FLOOR DETECTOR IS IN ALARM.
5	FIRE / SMOKE DAMPERS ARE INTERLOCKED VIA CONTROLS TO DOAS UNITS. SEPARATE FIRE ALARM CONNECTION TO EACH ASSOCIATED DAMPER IS NOT REQUIRED.
6	FIRE / SMOKE DAMPERS ARE INTERLOCKED VIA CONTROLS RESPECTIVE UNIT. SEPARATE FIRE ALARM CONNECTION TO EACH ASSOCIATED DAMPER IS NOT REQUIRED.
7	VISUAL ONLY REQUIRED IN HEARING IMPAIRED ROOMS AND ADDITIONALLY WHERE NOTED ON PLANS.
8	DIVISION 26 CONTRACTOR TO WIRE TO PROOF OF FLOW SWITCH PROVIDED BY DIVISION 23 CONTRACTOR.
9	WIRE TO DISCONNECT AUX CONTACT TO MONITOR DISCONNECT HANDLE POSITION.
GENERAL NOTES	
A	COORDINATE ALL MONITORING POINTS WITH EXISTING FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX FOR FINAL PROGRAMMING.
B	REFER TO DIVISION 26 SPECIFICATION SECTION 'DIGITAL ADDRESSABLE FIRE-ALARM SYSTEM' FOR ADDITIONAL REQUIREMENTS.
C	CONTRACTOR TO PROVIDE ALL CONTROL POINTS, WHICH INCLUDES ALL WIRING FOR ALL CONTROL POINTS NOTED UNDER SYSTEM INPUTS.
D	DIVISION 26 CONTRACTOR TO PROVIDE PHASE LOSS MONITOR WITH RESPECTIVE OUTPUTS FOR FIRE ALARM SYSTEM FOR EACH PIECE OF EQUIPMENT THAT REQUIRES POWER MONITORING.
E	HVAC SYSTEMS SHALL AUTOMATICALLY RESTART AFTER FACP RESET.
F	EACH EGRESS STAIR, ELEVATOR LOBBY, AND AREAS OF REFUGE SHALL HAVE DEDICATED PAGING ZONE.

FIRE ALARM MATRIX

SYSTEM OUTPUTS

SYSTEM INPUTS	CONTROL UNIT ANNUNCIATION													NOTIFICATION						REQUIRED FIRE SAFETY CONTROL												
	FACP / FAA			FCC SPRINKLER VALVE AND WATER FLOW ANNUNCIATOR	BYPASS									DIALER		ELEVATORS		EVACUATION ZONE (FULL BUILDING)	LIFE SAFETY	ELEVATORS			HVAC CONTROL								
	AUDIBLE/VISUAL ALARM - GENERAL ALARM	AUDIBLE/VISUAL ALARM SIGNAL - SUPERVISORY ALARM	AUDIBLE/VISUAL ALARM SIGNAL - TROUBLE ALARM	VISUAL INDICATION ON GRAPHIC ANNUNCIATOR	BYPASS AUDIBLE NOTIFICATION (ALL EVACUATION ZONES)	BYPASS VISUAL NOTIFICATION (ALL EVACUATION ZONES)	BYPASS FAA SUPERVISORY & TROUBLE AUDIBLE ALARM SIGNAL	BYPASS ELEVATOR PRIMARY RECALL FLOOR IN ACTIVE EVACUATION ZONE(S)	BYPASS MAGNETICALLY HELD SMOKE DOORS IN ACTIVE EVACUATION ZONE(S)	BYPASS HVAC EQUIPMENT SHUTDOWN	BYPASS MUTE BACKGROUND AUDIO (ALL EVACUATION ZONES)	BYPASS EGRESS LIGHTING (ALL EVACUATION ZONES)		TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	ACTIVATE EGLS (HEADING 'HOT' ON ALL FLOORS & CARS - ELEVATOR BANK	ACTIVATE FLASHING 'FIREMANS HAT' ON ALL FLOORS & CARS - ELEVATOR BANK	ACTIVATE ALL AUDIBLE AND VISUAL NOTIFICATION DEVICES - EVACUATION ZONE (NOTE 5)	RECORD CHANGE OF STATUS - FACP	UNLOCK ALL CONTROLLED DOORS IN ACTIVE EVACUATION ZONE(S)	MUTE ALL BACKGROUND AUDIO	ELEVATOR SHUNT (ALL ELEVATORS EXCEPT FIRE SERVICE ACCESS ELEVATORS)	ACTIVATE ELEVATOR PRIMARY RECALL FLOOR - ELEVATOR BANK (NOTE 4)	ACTIVATE ELEVATOR ALTERNATE RECALL FLOOR - ELEVATOR BANK	SHUTDOWN HVAC UNIT IN ALARM	SHUTDOWN ALL 2000+ CFM HVAC EQUIP. AND ASSOCIATED EXHAUST FANS (NOTE 7) AND FLOOR ABOVE AND BELOW (NOTE 7)	SHUTDOWN ALL 2000+ CFM HVAC EQUIPMENT AND ASSOCIATED FSD (NOTE 7)	SHUTDOWN DOAS UNIT(S) AND ASSOCIATED FIRE / SMOKE DAMPERS SERVING ZONE IN ALARM (NOTE 6)	SHUTDOWN ASSOCIATED MAKEUP UNIT AND AIR HANDLING UNITS SERVING RESPECTIVE KITCHEN		
#	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	
ALARM INPUTS																														
1 MANUAL FIRE ALARM BOX (PULL STATION)	X												X					X	X	X	X						X			1
2 SMOKE DETECTOR - EVACUATION ZONE	X													X				X	X	X	X					X		X	X	2
3 HEAT DETECTOR - EVACUATION ZONE	X												X					X	X	X	X					X		X	X	3
SUPERVISORY INPUTS																														
4 DUCT DETECTOR - EVACUATION ZONE		X												X					X						X					4
SYSTEM CONTROL INPUTS																														
5 NOTIFICATION APPLIANCE - ACTIVATE SWITCH			X												X			X	X											5
6 NOTIFICATION APPLIANCE - BYPASS SWITCH			X		X	X		X							X				X											6
7 MUTE BACKGROUND AUDIO - ACTIVATE SWITCH			X												X				X		X									7
8 MUTE BACKGROUND AUDIO - BYPASS SWITCH			X								X				X				X											8
9 SHUTDOWN ALL 2000+ CFM HVAC EQUIPMENT - ACTIVATE SWITCH			X												X				X								X			9
10 SHUTDOWN ALL 2000+ CFM HVAC EQUIPMENT - BYPASS SWITCH			X							X					X				X											10
#	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	

FIRE ALARM MATRIX NOTE: FIRE ALARM MATRIX REPRESENTING THE TENANT IMPROVEMENT SCOPE OF WORK ONLY. COORDINATE FINAL SYSTEM MATRIX WITH THE FIRE ALARM SHOP DRAWINGS SUBMITTED AS PART OF THE CORE AND SHELL PACKAGE.



DETAIL NOTES:
1. ALL DEVICES SHOWN AS HALFTONE ARE EXISTING TO REMAIN. PROVIDED AS PART OF THE CORE AND SHELL SCOPE OF WORK.
2. DIVISION 26 CONTRACTOR RESPONSIBLE FOR COORDINATION OF COMPLETE SYSTEM INSTALLATION.
3. REFER TO FIRE ALARM SYSTEM SPECIFICATIONS AND FIRE ALARM SYSTEM MATRIX FOR ADDITIONAL MONITORING POINTS AND ADDITIONAL REQUIREMENTS.

DETAIL KEYNOTES:
1. NEW NOTIFICATION APPLIANCE CIRCUIT (NAC) PANEL. PROVIDE QUANTITY (IF ANY) AS NEEDED FOR A COMPLETE AND FUNCTIONING SYSTEM.
2. PROVIDE NEW FIRE ALARM DEVICES. CONNECT NEW DEVICES TO EXISTING FIRE ALARM SYSTEM. REFER TO FIRE ALARM DRAWINGS FOR QUANTITIES AND LOCATIONS OF NOTIFICATION AND INITIATION DEVICES.
3. PROVIDE NEW FIRE ALARM DEVICES. CONNECT NEW DEVICES TO EXISTING FIRE ALARM SYSTEM. REFER TO FIRE PROTECTION SHOP DRAWINGS FOR QUANTITIES AND LOCATIONS OF DEVICES.

1 FIRE ALARM RISER DIAGRAM
NTS

FIRE ALARM SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY:

A. THE INTENT OF THE DRAWINGS AND THIS GENERAL FIRE ALARM SPECIFICATION SHEET IS TO FURNISH AND INSTALL A COMPLETE UL-CERTIFIED, NON-CODED, POINT ADDRESSABLE, INTELLIGENT FIRE ALARM SYSTEM.
B. SYSTEM SHALL BE DEDICATED TO FIRE SERVICE ONLY.
C. PROVIDE ALL MATERIALS AND EQUIPMENT, AND THE LABOR REQUIRED TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND SPECIFIED IN THIS DOCUMENT.
D. CHECK, VERIFY AND COORDINATE WORK WITH DRAWINGS AND SPECIFICATIONS PREPARED FOR OTHER TRADES. INCLUDE MODIFICATIONS, RELOCATIONS OR ADJUSTMENTS NECESSARY TO COMPLETE WORK OR TO AVOID INTERFERENCE WITH OTHER TRADES.

1.2 SUBMITTALS:

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT. INCLUDE A BILL OF MATERIALS AND PRODUCT DATA SHEETS.
   1. PRODUCT DATA SHEETS SHALL BE SUBMITTED FOR ALL HARDWARE, DEVICES, CABLE, AND WIRE. MARK DATA SHEETS TO INDICATE THE MODEL NUMBERS, MODULAR COMPONENTS, AND APPLICABLE OPTIONS.
B. SHOP DRAWINGS: FOR FIRE-ALARM SYSTEM. INCLUDE INSTALLATION DRAWINGS AND CALCULATIONS.
   1. COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS IN "DOCUMENTATION" SECTION OF "FUNDAMENTALS" CHAPTER IN NFPA 72.
   2. DRAWINGS SHALL BE PREPARED USING AUTOCAD SOFTWARE AND SHALL SHOW EACH FLOOR IN PLAN VIEW TO A SCALE NOT SMALLER THAN 1/8" = 1'-0". IN PLAN VIEWS, INDICATE THE LOCATION OF DEVICES, APPROXIMATE RACEWAY ROUTING BETWEEN DEVICES, CONDUCTOR REQUIREMENTS IN EACH SECTION OF RACEWAY, THE ADDRESS OF SIGNALING LINE CIRCUIT (SLC) DEVICES, THE CIRCUIT NUMBER FOR NOTIFICATION APPLIANCES, WATTAGE TAPS FOR SPEAKERS, AND THE INTENSITY OF THE STROBE LIGHTS. PLAN VIEWS SHALL INCLUDE ROOM IDENTIFICATIONS WITH ROOM NAMES AND NUMBERS.
   3. PROVIDE HOOK-UP DETAILS FOR FIRE ALARM INITIATING AND NOTIFICATION DEVICES AND INDICATE THE WIRING COLOR CODE TO BE USED.
   4. INCLUDE A SYSTEM OPERATING SEQUENCE IN THE FORM OF AN I/O SCHEDULE.
   5. PROVIDE CONTROL PANEL DIAGRAMS SHOWING THE ARRANGEMENT OF MODULAR COMPONENTS AND TERMINAL CONNECTIONS FOR EXTERNAL WIRING.
   6. PROVIDE A RISER DIAGRAM SHOWING THE INTERCONNECTION OF CONTROL PANELS, POWER SUPPLIES, AND CONNECTION TO THE REMOTE MONITORING STATION.
   7. PROVIDE CALCULATIONS FOR THE VOLTAGE DROP ON NOTIFICATION APPLIANCE CIRCUITS, AMPLIFIED SIZES, AND BATTERY SIZES. FOR THE STARTING VOLTAGE FOR VOLTAGE DROP CALCULATIONS, USE THE BATTERY VOLTAGE AVAILABLE AFTER BATTERIES HAVE OPERATED THE SYSTEM IN THE QUIESCENT AND ALARM MODES FOR THE SPECIFIED DURATION OF TIME.
   8. SUBMIT A LETTER FROM THE REMOTE SUPERVISING STATION INDICATING THAT THEY HAVE RECEIVING EQUIPMENT THAT IS UL-LISTED FOR RECEIPT OF SIGNALS FROM THIS FIRE ALARM SYSTEM.

1.3 CLOSEOUT SUBMITTALS:

A. UPON COMPLETION OF WORK, SUBMIT THREE HARD COPIES AND ONE DIGITAL COPY OF TURNOVER PACKAGE DOCUMENTATION TO OWNER. THE PACKAGE SHALL INCLUDE THE FOLLOWING AT MINIMUM:
   1. WRITTEN NARRATIVE PROVIDING INTENT AND SYSTEM DESCRIPTION
   2. RISER DIAGRAM
   3. APPROVED CONSTRUCTION DIAGRAMS
   4. APPROVED RECORD DRAWINGS REFLECTING AS-BUILT CONDITIONS WITH REVISION DATE
   5. INPUT / OUTPUT MATRIX
   6. EQUIPMENT TECHNICAL DATA SHEETS
   7. O&M MANUALS AND INSTRUCTIONS
   8. BATTERY CAPACITY AND SAFETY MARGIN CALCULATIONS
   9. MINIMUM SOUND PRESSURE LEVELS PRODUCED BY AUDIBLE NOTIFICATION DEVICES

1.4 QUALITY ASSURANCE:

A. MATERIAL AND EQUIPMENT THROUGHOUT THE PROJECT SHALL BE NEW AND MATERIALS OF THE SAME TYPE SHALL BE THE PRODUCT OF ONE MANUFACTURER, NEW DEVICES SHALL MATCH TYPE AND MANUFACTURER OF EXISTING DEVICES SERVING THE BUILDING.
B. ALL MATERIALS, COMPONENTS, AND SYSTEMS SHALL BE UL LISTED FOR THE INTENDED APPLICATION.
C. PERSONNEL MUST BE TRAINED AND CERTIFIED BY MANUFACTURER FOR INSTALLATION OF UNITS REQUIRED FOR THIS PROJECT.
D. REFERENCE STANDARDS:
   1. ADA - AMERICANS WITH DISABILITIES ACT
   2. ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS
   3. NECA - NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION
   4. NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
   5. NESC - NATIONAL ELECTRICAL SAFETY CODE
   6. NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
   7. UL - UNDERWRITERS LABORATORIES, INC

1.5 WARRANTY:

A. WARRANTY PERIOD SHALL BE FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

PART 2 -PRODUCTS

2.1 SYSTEM COMPONENTS:

A. FIRE ALARM SYSTEMS SHALL BE PROVIDED BY ONE OF THE FOLLOWING MANUFACTURERS.
   1. EDWARDS SYSTEMS TECHNOLOGIES (EST)
   2. NOTIFIER: A HONEYWELL COMPANY
   3. SIEMENS BUILDING TECHNOLOGIES, INC.; FIRE SAFETY DIVISION
   4. SIMPLEX-GRINNELL LP: A TYCO INTERNATIONAL COMPANY

B. FIRE ALARM SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES AND SYSTEMS:
   1. MANUAL FIRE ALARM PULL STATIONS
   2. HEAT DETECTORS
   3. SMOKE DETECTORS
   4. DUCT SMOKE DETECTORS

C. SYSTEM TROUBLE SIGNAL INITIATION SHALL BE BY ONE OR MORE OF THE FOLLOWING DEVICES AND ACTIONS, REFER TO THE FIRE ALARM MATRIX ON THIS SHEET FOR A FULL LIST OF SYSTEM INPUTS AND OUTPUTS.
   1. OPEN CIRCUITS, SHORTS, AND GROUNDS IN DESIGNATED CIRCUITS
   2. LOSS OF PRIMARY POWER AT FIRE ALARM CONTROL PANEL
   3. GROUND OR A SINGLE BREAK IN FIRE ALARM CONTROL PANEL INTERNAL CIRCUITS
   4. ABNORMAL AC VOLTAGE AT FIRE ALARM CONTROL PANEL
   5. BREAK IN STANDBY BATTERY CIRCUITRY
   6. FAILURE OF BATTERY CHARGING

D. FIRE ALARM CONTROL PANEL:
   1. FIELD-PROGRAMMABLE, MICROPROCESSOR-BASED, MODULAR, POWER-LIMITED DESIGN WITH ELECTRONIC MODULES.
   2. COMPLY WITH NFPA 72 AND UL864.
   3. THE FIRE ALARM CONTROL PANEL SHALL HAVE AN OPERATOR INTERFACE TO ALLOW FOR LOADING OR EDITING SPECIAL INSTRUCTIONS AND SYSTEM OPERATING SEQUENCES AS REQUIRED. THE SYSTEM SHALL BE CAPABLE OF ONSITE PROGRAMMING TO ACCOMMODATE AND FACILITATE EXPANSION, BUILDING PARAMETER CHANGES, AND CHANGES AS REQUIRED BY LOCAL CODES. ALL SOFTWARE OPERATIONS ARE TO BE STORED IN A NON-VOLATILE PROGRAMMABLE MEMORY WITHIN THE FIRE ALARM CONTROL PANEL.
   4. THE FIRE ALARM CONTROL PANEL SHALL ALLOW FOR OPERATOR TO SET DETECTOR SENSITIVITY RATINGS FOR EACH DEVICE WITHIN CODE-ALLOWED PARAMETERS.
   5. INITIATION CIRCUITS SHALL BE INDIVIDUALLY CONFIGURABLE ON SITE TO PROVIDE EITHER ALARM/TROUBLE OPERATION, ALARM ONLY, TROUBLE ONLY, CURRENT LIMITED ALARM, NO ALARM, NORMALLY CLOSED DEVICE MONITORING, A NON-LATCHING CIRCUIT OR AN ALARM VERIFICATION CIRCUIT.
   6. ALL CONTROL EQUIPMENT SHALL HAVE TRANSIENT PROTECTION DEVICES TO COMPLY WITH UL864 REQUIREMENTS.
   7. FIRE ALARM CONTROL PANEL SHALL ACCEPT ADDRESSABLE ANALOG DETECTORS AND ADDRESSABLE MONITOR MODULES FOR DRY CONTACT DEVICES.
   8. BYPASS SWITCHES SHALL BE INCLUDED FOR SYSTEM TESTING. BYPASS SWITCHES SHALL BE LOCATED IN MAIN FIRE ALARM CONTROL PANEL.
   9. CIRCUITS:
      a. INITIATING DEVICE CIRCUITS: NFPA 72, CLASS B
      b. NOTIFICATION APPLIANCE CIRCUITS: NFPA 72, CLASS B
      c. SIGNALING LINE CIRCUITS: NFPA 72, CLASS B
      d. NETWORK CIRCUITS: NFPA 72, CLASS A
      e. PROVIDE 25% SPARE CAPACITY ON CIRCUITS FOR ADDITIONAL DEVICES.
   10. INITIATING DEVICES, NOTIFICATION APPLIANCES, SIGNALING LINES, TROUBLE SIGNALS, SUPERVISORY AND DIGITAL ALARM COMMUNICATOR TRANSMITTERS SHALL BE PRIMARILY POWERED BY 24VDC POWER SOURCE OBTAINED FROM 120VAC SERVICE. ALARM CURRENT DRAW OF ENTIRE FIRE ALARM SYSTEM SHALL NOT EXCEED 80% OF THE POWER SUPPLY MODULE RATING.
   11. SECONDARY POWER SHALL BE PROVIDED BY 24VDC SUPPLY SYSTEM WITH SEALED LEAD CALCIUM BATTERIES, AUTOMATIC BATTERY CHARGER, AND AUTOMATIC TRANSFER SWITCH.
   12. SURGE PROTECTION:
      a. THE SYSTEM SHALL BE PROVIDED SURGE PROTECTION WITH A DITEK DTK-120HW OR EQUAL UL-LISTED DEVICE APPROVED BY NCDOI TO PREVENT DAMAGE OF NUISANCE ALARMS BY NEARBY LIGHTNING STRIKES, STRAY CURRENTS, OR VOLTAGE TRANSIENTS. INSTALL AT THE ELECTRICAL PANELBOARD AND TRIM EXCESS LEAD LENGTHS. WIND SMALL COIL IN THE BRANCH CIRCUIT CONDUCTOR JUST DOWNSTREAM OF THE SUPPRESSOR CONNECTION. COIL SHALL BE 5 TO 10 TURNS OF 1" DIAMETER AND TIE-WRAPPED.

E. FIRE ALARM ANNUNCIATOR:
   1. ARRANGED FOR INTERFACE BETWEEN HUMAN OPERATOR AT FIRE ALARM CONTROL PANEL AND ADDRESSABLE SYSTEM COMPONENTS INCLUDING ANNUNCIATION AND SUPERVISION. DISPLAY ALARM, SUPERVISORY, AND COMPONENT STATUS MESSAGES AND PROGRAMMING AND CONTROL MENU.
   2. DISPLAY SHALL BE LCD WITH MINIMUM 80 CHARACTERS AND MATCH FIRE ALARM CONTROL PANEL. PROVIDE CONTROLS TO ACKNOWLEDGE, SILENCE, RESET, AND TEST FUNCTIONS FOR ALARM, SUPERVISORY, AND TROUBLE SIGNALS.
   3. KEYPAD SHALL BE ARRANGED TO PERMIT ENTRY AND EXECUTION OF PROGRAMMING, DISPLAY, AND CONTROL COMMANDS.
   4. MATCH ANNUNCIATOR FUNCTIONS TO FIRE ALARM CONTROL PANEL FOR ALARM, SUPERVISORY, AND TROUBLE INDICATIONS. MANUAL SWITCHING FUNCTIONS SHALL MATCH THE FIRE ALARM CONTROL PANEL FOR ACKNOWLEDGING, SILENCING, RESETTING, AND TESTING. MOUNT IN FLUSH NEMA 250, TYPE 1 CABINET.

F. MANUAL FIRE ALARM PULL STATIONS:
   1. COMPLY WITH UL38.
   2. PULL STATIONS SHALL BE RED WITH MOLDED RAISED-LETTER OPERATING INSTRUCTIONS IN CONTRASTING COLOR; SHALL SHOW VISIBLE INDICATION OF OPERATION; AND SHALL BE MOUNTED ON RECESSED OUTLET BOX. IF INDICATED AS SURFACE MOUNTED, PROVIDE MANUFACTURER'S SURFACE BACK BOX.
   3. DOUBLE-ACTION MECHANISM REQUIRING TWO ACTIONS TO INITIATE AN ALARM, PULL-LEVER TYPE, WITH INTEGRAL ADDRESSABLE MODULE ARRANGED TO COMMUNICATE MANUAL STATION STATUS (NORMAL, ALARM, OR TROUBLE) TO FIRE ALARM CONTROL PANEL.
   4. STATION RESET: KEY- OR WRENCH-OPERATED SWITCH.
   5. PROVIDE WEATHERPROOF PROTECTED SHIELD FOR DEVICES LOCATED OUTDOORS. SHIELD SHALL BE FACTORY-FABRICATED CLEAR PLASTIC ENCLOSURE HINGED AT THE TOP TO PERMIT LIFTING FOR ACCESS TO INITIATE AN ALARM.

G. FIRE ALARM ADDRESSABLE INTERFACE DEVICES:
   1. INCLUDE ADDRESS-SETTING MEANS ON MODULE.
   2. STORE INTERNAL IDENTIFYING CODE FOR CONTROL PANEL USE TO IDENTIFY MODULE TYPE.
   3. LIST FOR CONTROLLING HVAC FAN MOTOR CONTROLLERS.
   4. INCLUDE MICROELECTRONIC MODULE PROVIDING SYSTEM ADDRESS FOR ALARM-INITIATING DEVICES FOR WIRED APPLICATIONS WITH NORMALLY-OPEN CONTACTS.
   5. PROVIDE AND INSTALL A SUPERVISED ADDRESSABLE OUTPUT RELAY AT EACH AIR HANDLING SYSTEM FOR SHUTDOWN ON ALARM FROM FIRE ALARM SYSTEM. THE UNIT SHALL BE NORMALLY CLOSED WITH A COIL TO MATCH VOLTAGE OF FIRE ALARM CONTROL PANEL AND INTERRUPT STARTING CIRCUIT OF AIR HANDLING SYSTEM UNIT FANS. PROVIDE AND INSTALL A SUPERVISED ADDRESSABLE OUTPUT RELAY AT EACH EXHAUST FAN FOR SHUTDOWN ON ALARM FROM FIRE ALARM SYSTEM AS PER SYSTEM OPERATION DESCRIPTION, UNLESS EXHAUST FAN IS INTERLOCKED WITH AHU.

H. DIGITAL ALARM COMMUNICATOR TRANSMITTER:
   1. ACCEPTABLE TO THE REMOTE CENTRAL STATION, COMPLIANT WITH UL632 AND LISTED BY AN NRTL.
   2. UNIT SHALL RECEIVE AN ALARM, SUPERVISORY, OR TROUBLE SIGNAL FROM FIRE ALARM CONTROL PANEL; AUTOMATICALLY CAPTURE TELEPHONE LINE; AND DIAL A PRESET NUMBER FOR A REMOTE CENTRAL STATION. WHEN CONTACT IS MADE WITH CENTRAL STATION, SIGNALS SHALL BE TRANSMITTED. IF SERVICE ON EITHER LINE IS INTERRUPTED FOR MORE THAN 45 SECONDS, TRANSMITTER SHALL INITIATE A LOCAL TROUBLE SIGNAL AND TRANSMIT THE SIGNAL INDICATING LOSS OF TELEPHONE LINE TO THE REMOTE ALARM RECEIVING STATION OVER THE REMAINING LINE. TRANSMITTER SHALL AUTOMATICALLY REPORT TELEPHONE SERVICE RESTORATION TO THE CENTRAL STATION. IF SERVICE IS LOST ON TELEPHONE LINE OR BACKUP SOURCE, TRANSMITTER SHALL INITIATE THE LOCAL SIGNAL.
   3. PROVIDE SECOND BACKUP SOURCE IN ACCORDANCE WITH NFPA 72.
   4. LOCAL FUNCTIONS AND DISPLAY SHALL INCLUDE VERIFICATION THAT TELEPHONE IS AVAILABLE, PROGRAMMING DEVICE, LED DISPLAY, MANUAL TEST REPORT FUNCTION AND MANUAL CLEAR INDICATION, AND COMMUNICATIONS FAILURE WITH THE CENTRAL STATION OR FIRE ALARM CONTROL PANEL.
   5. DIGITAL DATA TRANSMISSION SHALL INCLUDE ADDRESS OF THE ALARM-INITIATING DEVICE, ADDRESS AND/OR ZONE OF THE SUPERVISORY SIGNAL AND TROUBLE-INITIATING DEVICE, LOSS OF AC POWER, LOW POWER, ABNORMAL TEST SIGNAL, AND COMMUNICATION BUS FAILURE.
   6. CONDUCT SELF-TEST AUTOMATICALLY EVERY 24 HOURS WITH REPORT TRANSMITTED TO CENTRAL STATION.

I. DUCT SMOKE DETECTORS:
   1. PHOTOELECTRIC TYPE COMPLYING WITH UL268A AND NFPA 72.
   2. INTEGRAL ADDRESSABLE MODULE ARRANGED TO COMMUNICATE DETECTOR STATUS (NORMAL, ALARM, OR TROUBLE) TO FIRE ALARM CONTROL PANEL.
   3. SELF-RESTORING WITH NO REQUIRING RESETTING OR READJUSTMENT AFTER ACTUATION TO RESTORE TO NORMAL OPERATION.
   4. INTEGRAL LED VISUAL-INDICATING LIGHT TO INDICATE DETECTOR HAS OPERATED AND POWER-ON STATUS.
   5. DETECTOR ADDRESS MUST BE ACCESSIBLE FROM FIRE ALARM CONTROL PANEL AND MUST BE ABLE TO IDENTIFY DETECTOR'S LOCATION WITHIN SYSTEM AND ITS SENSITIVITY SETTING.
   6. FIRE ALARM CONTROL PANEL OPERATOR MUST BE ABLE TO MANUALLY ACCESS PRIMARY STATUS, DEVICE TYPE, PRESENT AVERAGE VALUE, PRESENT SENSITIVITY SELECTED, AND SENSOR RANGE (NORMAL, DIRTY, ETC.) FOR EACH DETECTOR.
   7. EACH SENSOR MUST HAVE MULTIPLE LEVELS OF DETECTION SENSITIVITY.
   8. SAMPLING TUBES SHALL BE DESIGNED AND DIMENSIONED AS RECOMMENDED BY THE MANUFACTURER FOR SPECIFIC DUCT SIZE, AIR VELOCITY, AND INSTALLATION CONDITIONS WHERE APPLIED.

J. SMOKE DETECTORS:
   1. SMOKE DETECTORS SHALL BE PHOTOELECTRIC, FOUR-WIRE TYPE.
   2. INTEGRAL ADDRESSABLE MODULE: ARRANGED TO COMMUNICATE DETECTOR STATUS (NORMAL, ALARM, OR TROUBLE) TO FIRE ALARM CONTROL UNIT.
   3. DETECTORS SHALL NOT REQUIRE RESETTING OR READJUSTMENT AFTER ACTUATION TO RESTORE THEM TO NORMAL OPERATION.
   4. DETECTORS SHALL HAVE FUNCTIONAL HUMIDITY RANGE WITHIN 10 AND 90 PERCENT RELATIVE HUMIDITY.

K. HEAT DETECTORS SHALL BE DESIGNED FOR DETECTION OF FIRE BY MIXED TEMPERATURE OR COMBINATION FIXED TEMPERATURE AND RATE-OF-RISE PRINCIPLE. NOMINAL SET TEMPERATURE SHALL BE 135-DEG F.
L. DETECTORS SHALL HAVE FUNCTIONAL HUMIDITY RANGE WITHIN 10 AND 90 PERCENT RELATIVE HUMIDITY.

M. VISIBLE NOTIFICATION APPLIANCES:
   1. STROBE LIGHTS SHALL CONFORM TO UL 1971-2002.
   2. LED FLASH, CLEAR OPTIC LENS, WHITE FACTORY FINISH, AND IDENTIFICATION "FIRE" IN A CONTRASTING COLOR TO THE FACEPLATE.
   3. STROBE INTENSITY SHALL BE FIELD SELECTABLE WITH A RANGE OF 15 TO 110 CANDELA, AND SHALL FLASH SYNCHRONOUSLY AT APPROXIMATELY 1 FLASH PER SECOND. STROBES SHALL BE SEMIFLUSH-MOUNTED ON THE WALLS AND CEILINGS.
   4. EXTERIOR MOUNTED DEVICES SHALL BE PROVIDED WITH FLUSH MOUNTED WEATHERPROOF BACKBOX.

N. AUDIBLE NOTIFICATION APPLIANCES (HORNS):
   1. WHITE FACTORY FINISH AND IDENTIFICATION "FIRE" IN A CONTRASTING COLOR TO THE FACEPLATE.
   2. 24VDC ELECTRIC-VIBRATING-POLARIZED TYPE WITH PROVISION FOR HOUSING THE OPERATING MECHANISM BEHIND A GRILLE.
   3. COMPLY WITH UL464 AND PRODUCE A SOUND PRESSURE LEVEL OF 90 dBA AS MEASURED 10 FEET FROM THE HORN USING THE CODED SIGNAL PRESCRIBED IN UL464 TEST PROTOCOL.
   4. FIELD-SELECTABLE HIGH AND LOW dB OUTPUT AND FIELD-SELECTABLE TEMPORAL OR STEADY OUTPUT.
   5. EXTERIOR MOUNTED DEVICES SHALL BE PROVIDED WITH FLUSH MOUNTED WEATHERPROOF BACKBOX.

O. WIRING:
   1. WIRING SHALL BE COLOR CODED WITHOUT COLOR CHANGE IN ANY WIRE RUN.
   2. WIRING FOR VISIBLE AND AUDIBLE NOTIFICATION APPLIANCE CIRCUITS SHALL BE TYPE FPL/FPLR, SOLID COPPER, #14 AWG MINIMUM, RED(+) AND BLUE(-).
   3. WIRING FOR SIGNALING LINE CIRCUITS SHALL BE TYPE FPL/FPLR, SOLID COPPER, TWISTED PAIR, SHIELDED, #18 AWG MINIMUM, YELLOW(+) AND BROWN(-). THE CAPACITANCE SHALL NOT EXCEED 30 PF/FT BETWEEN CONDUCTORS.
   4. WIRING FOR AHU SHUTDOWN CIRCUITS SHALL BE TYPE FPL/FPLR, SOLID COPPER, #14 AWG MINIMUM, ORANGE.

PART 3 -EXECUTION

3.1 INSTALLATION OF EQUIPMENT:

A. COMPLY WITH NECA 305, NFPA 72, NFPA 101, AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR INSTALLATION AND TESTING OF FIRE ALARM EQUIPMENT. INSTALL ELECTRICAL WIRING TO COMPLY WITH REQUIREMENTS IN NFPA 70 INCLUDING, BUT NOT LIMITED TO, ARTICLE 760, "FIRE ALARM SYSTEMS."
B. DEVICES INSTALLED, BUT NOT YET PLACED IN SERVICE MUST BE PROTECTED FROM CONSTRUCTION DUST, DEBRIS, DIRT, MOISTURE, AND DAMAGE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN STORAGE INSTRUCTIONS.
C. INSTALL WALL-MOUNTED EQUIPMENT WITH TOPS OF CABINETS NOT MORE THAN 72" ABOVE THE FINISHED FLOOR.
D. SMOKE AND HEAT DETECTOR SPACING
   1. COMPLY WITH "SMOKE-SENSING FIRE DETECTORS" SECTION IN "INITIATING DEVICES" CHAPTER IN NFPA 72 FOR SMOKE DETECTOR SPACING.
   2. SMOOTH CEILING SPACING MUST NOT EXCEED 30FT.
   3. FOR IRREGULAR CEILING CONSTRUCTION, AND FOR HIGH CEILING AREAS MUST BE DETERMINED IN ACC

LIGHTING CONTROL SEQUENCE OF OPERATIONS (NC ENERGY CODE)

SPACE OR AREA	SEQUENCE OF OPERATIONS	FUNCTIONALITY			NOTES
		ON CONTROLS	OFF CONTROLS	LIGHT REDUCTION	
LOBBIES, WAITING AREAS, VESTIBULES	UPON DETECTION OF OCCUPANCY, LIGHTING SHALL BE BROUGHT TO 100% BRIGHTNESS.	OCCUPANCY SENSOR	OCCUPANCY SENSOR TIME OUT OR MANUAL SWITCH	DIMMER SWITCH	1
	LIGHTING SHALL BE AUTOMATICALLY DE-ENERGIZED IF NO OCCUPANCY IS DETECTED AFTER A PERIOD OF 30 MINUTES.				
	LIGHTING LEVELS MAY BE ADJUSTED VIA LOCAL CONTROL SWITCH.				
	LIGHTING MAY BE TURNED OFF VIA LOCAL CONTROL SWITCH.				
CONFERENCE ROOMS, PRIVATE OFFICES, OPEN OFFICES, BREAK ROOMS, MED ROOMS	UPON DETECTION OF OCCUPANCY, LIGHTING SHALL BE BROUGHT TO 100% BRIGHTNESS.	OCCUPANCY SENSOR	OCCUPANCY SENSOR TIME OUT OR MANUAL SWITCH	DIMMER SWITCH	1
	LIGHTING SHALL BE AUTOMATICALLY DE-ENERGIZED IF NO OCCUPANCY IS DETECTED AFTER A PERIOD OF 30 MINUTES.				
	LIGHTING LEVELS MAY BE ADJUSTED VIA LOCAL CONTROL SWITCH.				
	LIGHTING MAY BE TURNED OFF VIA LOCAL CONTROL SWITCH.				
PRIVATE RESTROOMS	UPON DETECTION OF OCCUPANCY, LIGHTING SHALL BE BROUGHT TO 100% BRIGHTNESS.	OCCUPANCY SENSOR	OCCUPANCY SENSOR TIME OUT OR MANUAL SWITCH	N/A	
	LIGHTING SHALL BE AUTOMATICALLY DE-ENERGIZED IF NO OCCUPANCY IS DETECTED AFTER A PERIOD OF 30 MINUTES.				
	LIGHTING MAY BE TURNED OFF VIA LOCAL CONTROL SWITCH.				
ELECTRICAL ROOMS	LIGHTING SHALL BE MANUALLY ENERGIZED TO 100% BRIGHTNESS.	MANUAL SWITCH	MANUAL SWITCH	N/A	
	LIGHTING SHALL BE MANUALLY DE-ENERGIZED VIA LOCAL CONTROL SWITCH.				
CORRIDORS	UPON DETECTION OF OCCUPANCY, LIGHTING SHALL BE BROUGHT TO 100% BRIGHTNESS.	OCCUPANCY SENSOR	OCCUPANCY SENSOR TIME OUT OR MANUAL SWITCH	N/A	1
	LIGHTING SHALL BE AUTOMATICALLY DE-ENERGIZED IF NO OCCUPANCY IS DETECTED AFTER A PERIOD OF 30 MINUTES.				
	LIGHTING MAY BE TURNED OFF VIA LOCAL CONTROL SWITCH.				
JANITORS AND STORAGE CLOSETS	UPON DETECTION OF OCCUPANCY, LIGHTING SHALL BE BROUGHT TO 100% BRIGHTNESS.	OCCUPANCY SENSOR	OCCUPANCY SENSOR TIME OUT OR MANUAL SWITCH	N/A	
	LIGHTING SHALL BE AUTOMATICALLY DE-ENERGIZED IF NO OCCUPANCY IS DETECTED AFTER A PERIOD OF 30 MINUTES.				
	LIGHTING MAY BE TURNED OFF VIA LOCAL CONTROL SWITCH.				
EXAM, TESTING, PROCEDURE ROOMS	LIGHTING SHALL BE MANUALLY ENERGIZED TO 100% BRIGHTNESS.	MANUAL SWITCH	MANUAL SWITCH	DIMMER SWITCH	1
	LIGHTING LEVELS MAY BE ADJUSTED VIA LOCAL CONTROL SWITCH.				
	LIGHTING MAY BE TURNED OFF VIA LOCAL CONTROL SWITCH.				
STAIRWELLS	UPON DETECTION OF OCCUPANCY, LIGHTING SHALL BE BROUGHT TO 100% BRIGHTNESS.	N/A	N/A	OCCUPANCY SENSOR	1
	LIGHTING SHALL BE AUTOMATICALLY REDUCED TO 50% BRIGHTNESS IF NO OCCUPANCY IS DETECTED AFTER A PERIOD OF 30 MINUTES.				

SEQUENCE OF OPERATION NOTES:

1 ALL LUMINAIRES INDICATED AS EMERGENCY SHALL BE CONTROLLED ALONG WITH THE NORMAL LUMINAIRES IN THE SAME LIGHTING ZONE. EMERGENCY LUMINAIRES SHALL BE AUTOMATICALLY ENERGIZED VIA INTEGRAL BATTERY PACKS UPON LOSS OF NORMAL POWER. UON.

LUMINAIRE SCHEDULE

IMAGE	REV △	FIXTURE						PERFORMANCE				VOLTAGE	ACCESSORIES	NOTES
		TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	FINISH COLOR	MOUNTING	CCT	CRI	LUMENS	WATT			
		D1	GOTHAM 3G LIGHTING PRESCOLITE LIGHTHEADED	EVO2 3G-DL20RF D2LED PURIST	2" ROUND X 6"D LED DOWNLIGHT WITH NARROW BEAM ANGLE, SEMI-SPECULAR LENS, AND REMOTE 0-10V DIMMING DRIVER.	BY ARCHITECT	RECESSED	3500K	80+	500 LM	6 W	UNV		2
		D2	GOTHAM 3G LIGHTING PRESCOLITE INTEGER	IVO4 3G-POL45RF LTC-4RDIV RPA4CY	4" ROUND X 9"D LED CYLINDRICAL PENDANT WITH 50 DEGREE BEAM ANGLE, SEMI-SPECULAR LENS, AND INTEGRAL 0-10V DIMMING DRIVER.	BY ARCHITECT	PENDANT, 9'-2" AFF TO BOTTOM	3500K	80+	500 LM	5 W	UNV		
		D3	GOTHAM 3G LIGHTING PRESCOLITE INTEGER	IVO6 3G-DL45RF LTR-4RD RPA6	6" ROUND X 6"D LED DOWNLIGHT WITH 50 DEGREE BEAM ANGLE, SEMI-SPECULAR LENS, PARABOLIC TRIM, AND INTEGRAL 0-10V DIMMING DRIVER.	BY ARCHITECT	RECESSED	3500K	80+	1000 LM	9.8 W	UNV		
		D3E	GOTHAM 3G LIGHTING PRESCOLITE INTEGER	IVO6 3G-DL45RF LTR-4RD RPA6	SAME AS TYPE D3, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	RECESSED	3500K	80+	1000 LM	9.8 W	UNV		
		D3S	GOTHAM 3G LIGHTING PRESCOLITE INTEGER	IVO6 3G-DL45RF LTR-4RD RPA6	SAME AS TYPE D3, EXCEPT WET LOCATION RATED AND SHOWER TRIM.	BY ARCHITECT	RECESSED	3500K	80+	1000 LM	9.8 W	UNV		
		D4	GOTHAM 3G LIGHTING PRESCOLITE INTEGER	IVO6 3G-DL45RF LTR-4RD RPA6	SAME AS TYPE D4, EXCEPT WITH HIGHER LUMEN PACKAGE.	BY ARCHITECT	RECESSED	3500K	80+	1500 LM	15 W	UNV		
		D4E	GOTHAM 3G LIGHTING PRESCOLITE INTEGER	IVO6 3G-DL45RF LTR-4RD RPA6	SAME AS TYPE D4, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	RECESSED	3500K	80+	1500 LM	15 W	UNV		
		D5	MP LIGHTING TRULY GREEN SOLUTIONS CANDELA LIGHTING LIGHTHEADED	L67 ICON-R-2 PUCK-24V ACCENTS & MILLWORK	2" ROUND X 1"D LED DOWNLIGHT WITH 45 DEGREE BEAM ANGLE, SEMI-SPECULAR LENS, AND REMOTE 0-10V DIMMING DRIVER.	BY ARCHITECT	RECESSED WITHIN DISPLAY CASE	3500K	80+	120 LM	3 W	UNV		2
		L1	NULITE LEDALITE LITECONTROL EXTANT	RG4-D 3901L 3L-R-D HTG-3R-LP	3"W RECESSED LINEAR LED WITH FORSTED LENS. BATWING LIGHT DISTRIBUTION, AND INTEGRAL 0-10V DIMMING DRIVER.	BY ARCHITECT	RECESSED	3500K	80+	300 LM/FT	8.8 W	UNV		3
		L1E	NULITE LEDALITE LITECONTROL EXTANT	RG4-D 3901L 3L-R-D HTG-3R-LP	SAME AS TYPE L1, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	RECESSED	3500K	80+	300 LM/FT	8.8 W	UNV		3
		L2	NULITE LEDALITE LITECONTROL EXTANT	RG4-D 3901L 3L-R-D HTG-3R-LP	SAME AS TYPE L1, EXCEPT WITH HIGHER LUMEN PACKAGE.	BY ARCHITECT	RECESSED	3500K	80+	600 LM/FT	27 W	UNV		3
		L2E	NULITE LEDALITE LITECONTROL EXTANT	RG4-D 3901L 3L-R-D HTG-3R-LP	SAME AS TYPE L2, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	RECESSED	3500K	80+	600 LM/FT	27 W	UNV		3
		L3	QTL KELVIX JESCO LIGHTING LUMINII	ANBD SW3S DL-FLEX2-UP KURBA SMALL	0.5" SQUARE FIELD BENDABLE LED STRIP LIGHT WITH REMOTE 0-10V DIMMING DRIVER. PROVIDE CONTINUOUS LENGTH AS INDICATED ON THE DRAWINGS.	BY ARCHITECT	SURFACE	3500K	80+	85 LM/FT	1.4 W	UNV		2
		P1	BETA CALCO	MICRO RING II	GROUP OF 3' ROUND, 5' ROUND, AND 7' ROUND LED DIRECT/INDIRECT DECORATIVE PENDANT RING LIGHTS. PROVIDE VERTICAL REMOTE 0-10V DIMMING DRIVER.	BY ARCHITECT	PENDANT	3500K	80+	350 LM/FT	5 W	UNV		1,2
		P2	ZENDUCE	MODERN WAVES	LED DECORATIVE WAVE PENDANT LIGHT. CONSULT MANUFACTURER TO PROVIDE FORWARD PHASE DIMMING AND 3500K CCT AS CUSTOM OPTIONS.	BY ARCHITECT	PENDANT	3500K	80+	5000LM	60 W	120V		1
		R1	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR24	2' X 4' RECESSED EDGE LIT LED VOLUMETRIC TROFFER WITH FROSTED LENS AND INTEGRAL 0-10V DIMMING DRIVER.	BY ARCHITECT	RECESSED	3500K	80+	7000 LM	55.9 W	UNV		
		R2	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR24	SAME AS TYPE R1, EXCEPT LOWER LUMEN PACKAGE.	BY ARCHITECT	RECESSED	3500K	80+	6000 LM	48.5 W	UNV		
		R3	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR24	SAME AS TYPE R1, EXCEPT LOWER LUMEN PACKAGE.	BY ARCHITECT	RECESSED	3500K	80+	5000 LM	41.1 W	UNV		
		R3E	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR24	SAME AS TYPE R3, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	RECESSED	3500K	80+	5000 LM	41.1 W	UNV		
		R4	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR24	SAME AS TYPE R1, EXCEPT LOWER LUMEN PACKAGE.	BY ARCHITECT	RECESSED	3500K	80+	4000LM	29.3 W	UNV		
		R4E	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR24	SAME AS TYPE R4, EXCEPT WITH INTEGRAL 90-MINUTE BATIERY BACKUP.	BY ARCHITECT	RECESSED	3500K	80+	4000LM	29.3 W	UNV		
		R5	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR22	2' X 2' RECESSED EDGE LIT LED VOLUMETRIC TROFFER WITH FROSTED LENS AND INTEGRAL 0-10V DIMMING DRIVER.	BY ARCHITECT	RECESSED	3500K	80+	4000 LM	29.2 W	UNV		
		R5E	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR22	SAME AS TYPE R5, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	RECESSED	3500K	80+	4000 LM	29.2 W	UNV		
		R6	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR22	SAME AS TYPE R5, EXCEPT SURFACE MOUNTED.	BY ARCHITECT	SURFACE	3500K	80+	4000 LM	29.2 W	UNV		4
		R6E	MARK ARCHITECTURAL FINELITE PINNACLE	WHSPR HPR TR22	SAME AS TYPE R6, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	SURFACE	3500K	80+	4000 LM	29.2 W	UNV		4
		R7	LITHONIA HE WILLAIMS COLUMBIA LIGHTING	CPX BP NBT	2' X 2' RECESSED LED FLAT PANEL WITH FROSTED LENS AND INTEGRAL 0-10V DIMMING DRIVER.	BY ARCHITECT	RECESSED	3500K	80+	5000LM	40 W	UNV		
		R7E	LITHONIA HE WILLAIMS COLUMBIA LIGHTING	CPX BP NBT	SAME AS TYPE R7 EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARHCITECT	RECESSED	3500K	80+	5000LM	40 W	UNV		
		R8	LITHONIA HE WILLAIMS COLUMBIA LIGHTING	CPX BP NBT	SAME AS TYPE R7, EXCEPT WITH LOWER LUMEN PACKAGE.	BY ARCHITECT	RECESSED	3500K	80+	3125LM	25 W	UNV		
		R9	LITHONIA HE WILLAIMS COLUMBIA LIGHTING	CPX BP NBT	2' X 4' RECESSED LED FLAT PANEL WITH FROSTED LENS AND INTEGRAL 0-10V DIMMING DRIVER.	BY ARCHITECT	RECESSED	3500K	80+	6250 LM	50 W	UNV		
		R9E	LITHONIA HE WILLAIMS COLUMBIA LIGHTING	CPX BP NBT	SAME AS TYPE R9, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	RECESSED	3500K	80+	6250 LM	50 W	UNV		
		R10	LITHONIA HE WILLAIMS COLUMBIA LIGHTING	CPX BP NBT	SAME AS TYPE R9, EXCEPT WITH A LOWER LUMEN PACKAGE.	BY ARCHITECT	RECESSED	3500K	80+	5000 LM	50 W	UNV		
		R10E	LITHONIA HE WILLAIMS COLUMBIA LIGHTING	CPX BP NBT	SAME AS TYPE R10, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	RECESSED	3500K	80+	5000 LM	50 W	UNV		
		S1	LITHONIA HE WILLAIMS COLUMBIA LIGHTING MERCURY	ZL1D 75R MPS LW4	4' SUSPENDED LINEAR LED STRIP FIXTURE WITH CURVED FROSTED LENS AND INTEGRAL 0-10V DIMMING DRIVER.	BY ARCHITECT	SUSPENDED, 10'-0" AFF TO BOTTOM	3500K	80+	7000 LM	44 W	UNV	HANGER CHAIN	
		S1E	LITHONIA HE WILLAIMS COLUMBIA LIGHTING MERCURY	ZL1D 75R MPS LW4	SAME AS TYPE S1, EXCEPT WITH INTEGRAL 90-MINUTE BATTERY BACKUP.	BY ARCHITECT	SUSPENDED, 10'-0" AFF TO BOTTOM	3500K	80+	7000 LM	44 W	UNV	HANGER CHAIN	
		S2	LITHONIA HE WILLAIMS COLUMBIA LIGHTING MERCURY	ZL1D 75R MPS LW4	2' WALL-MOUNTED LINEAR LED STRIP WITH CURVED FROSTED ACRYLIC LENS AND INTEGRAL 0-10V DIMMING DRIVER.	BY ARCHITECT	WALL, SURFACE	3500K	80+	4000 LM	30 W	UNV		
		X1	LITHONIA MULE LIGHTING COMPASS	EDGR CEL CEL	UNIVERSALLY-MOUNTED LED EXIT SIGN, WITH INTEGRAL 90-MINUTE BATTERY BACKUP AND SELF TEST DIAGNOSTICS. EXIT SIGN SHALL BE UL924 LISTED WITH RED LETTERS, FIELD-SELECTABLE CHEVRONS, AND QUANTITY OF FACES AS INDICATED ON THE DRAWINGS.	BY ARCHITECT	RECESSED	NA	NA	NA	4 W	UNV		
		X2	LITHONIA MULE LIGHTING COMPASS	EDGR CEL CEL	SAME AS TYPE X1, EXCEPT SURFACE MOUNTED.	BY ARCHITECT	RECESSED	NA	NA	NA	4 W	UNV		
		X3	LITHONIA MULE LIGHTING COMPASS	EDGR CEL CEL	UNIVERSALLY-MOUNTED AC-ONLY LED EXIT SIGN WITH CUSTOM LETTERING "X-RAY ON".	BY ARCHITECT	RECESSED	NA	NA	NA	4 W	UNV	CUSTOM "X-RAY ON" LETTERING	
		XEM	LITHONIA EMERGI-LITE COMPASS	ELM4L EL2-ED-R-AD CU2HL	LED DUAL HEAD EMERGENCY BATTERY UNIT WITH INTEGRAL 90-MINUTE BATTERY BACKUP AND SELF TEST DIAGNOSTICS.	BY ARCHITECT	WALL, SURFACE, 8'-0" AFF TO BOTTOM	NA	NA	NA	2 W	UNV		

LUMINAIRE SCHEDULE GENERAL NOTES:

1 ONLY BASIS OF DESIGN LUMINAIRE TYPE AND MANUFACTURER LISTED, AS WELL AS ALTERNATE MANUFACTURERS, WILL BE ACCEPTED. LUMINAIRES WITH ONLY ONE TYPE AND MANUFACTURER LISTED SHOULD BE CONSIDERED SOLE SOURCE.

LUMINAIRE SCHEDULE SPECIFIC NOTES:

1 REFER TO SHEET E6.0 FOR MORE INFORMATION REGARDING FIXTURE INSTALLATION.
2 INSTALL REMOTE DRIVER ABOVE NEAREST ACCESSIBLE CEILING. COORDINATE MAXIMUM LEAD DISTANCE WITH LUMINAIRE MANUFACTURER.
3 REFER TO LIGHTING PLANS FOR LUMINAIRE LENGTHS.
4 PROVIDE SURFACE MOUNTING KIT FOR INSTALLATION IN A HARD CEILING.

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Anastasiya Smurygina
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Onslow MEMORIAL HOSPITAL
An Affiliate of UNC Health

ONSLOW MEMORIAL HEALTH

172 NORTHWEST CORRIDOR BLVD
JACKSONVILLE, NC 28546

11.21.25

#	△	DESCRIPTION	DATE
1		PERMIT SET	11.21.2025
2			
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ARCH. PROJECT # RDU 25-065

LIGHTING SCHEDULES

SCALE:

SHEET # **E7.2**

PANELBOARD: PL1B

VOLTAGE : 208Y/120V, 3Ø, 4W
BUS RATING : 400 A
MAIN : 250 A MCB
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 10kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

(SEC 1 OF 2)

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)	B (VA)	C (VA)	CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
RECEPTACLE	1	REC - OPEN LOB 002	20	1		900 500				1	20	REC - PRINTER 1250	2	RECEPTACLE
RECEPTACLE	3	REC - EWC 002	20	1	GF		500 150			1	20	PWR - FS DAMPERS 007	4	MISC
RECEPTACLE	5	REC - STOR 003, 006	20	1				540 540		1	20	REC - MAS/MEDS 1250	6	RECEPTACLE
RECEPTACLE	7	REC - CRRDR 1200, 1242	20	1		900 720				1	20	REC - MAS/MEDS 1250	8	RECEPTACLE
RECEPTACLE	9	REC - STRCHR EXAM 1246	20	1			540 720			1	20	REC - MAS/MEDS 1250	10	RECEPTACLE
RECEPTACLE	11	REC - EXAM 1244	20	1				540 860		1	20	REC - PFT 1252	12	RECEPTACLE
RECEPTACLE	13	REC - PRVDR OFF 1243	20	1		900 720				1	20	REC - PFT 1252	14	RECEPTACLE
RECEPTACLE	15	REC - PRINTER 1243	20	1			1000 720			1	20	REC - STAFF BRK 011, 011B	16	RECEPTACLE
RECEPTACLE	17	REC - PUL EXAM 1245	20	1				540 1050	GF	1	20	REC - MICROW 011	18	RECEPTACLE
RECEPTACLE	19	REC - PUL EXAM 1247	20	1		540 1050			GF	1	20	REC - MICROW 011	20	RECEPTACLE
RECEPTACLE	21	REC - PRVDR OFF 1249	20	1			900 540			1	20	REC - STAFF BRK 011	22	RECEPTACLE
RECEPTACLE	23	REC - ADMIN OFF 1251	20	1				720 392		1	20	REC - FRIDGE 011	24	RECEPTACLE
RECEPTACLE	25	REC - PUL EXAM 1253	20	1		540 392				1	20	REC - FRIDGE 011	26	RECEPTACLE
RECEPTACLE	27	REC - PUL EXAM 1255	20	1			540 900			1	20	REC - 008A, 009	28	RECEPTACLE
RECEPTACLE	29	REC - 1256, 1258, 1260	20	1				720 900		1	20	REC - ADMN 008	30	RECEPTACLE
--	31	SPARE	20	1	--	0 0			--	1	20	SPARE	32	--
--	33	SPARE	20	1	--		0 0		--	1	20	SPARE	34	--
--	35	SPARE	20	1	--			0 0	--	1	20	SPARE	36	--
--	37	SPARE	20	1	--	0 0			--	1	20	SPARE	38	--
--	39	SPARE	20	1	--		0 0		--	1	20	SPARE	40	--
--	41	SPARE	20	1	--			0 0	--	1	20	SPARE	42	--
--	43	SPARE	20	1	--	0 0			--	1	20	SPARE	44	--
--	45	SPARE	20	1	--		0 0		--	1	20	SPARE	46	--
--	47	SPARE	20	1	--			0 0	--	1	20	SPARE	48	--
--	49	SPARE	20	1	--	0 0			--	1	20	SPARE	50	--
--	51	SPARE	20	1	--		0 0		--	1	20	SPARE	52	--
--	53	SPARE	20	1	--			0 0	--	1	20	SPARE	54	--
		TOTAL LOAD:				7162 VA	6500 VA	6802 VA						
		FEED THROUGH LOADS:				10380 VA	8186 VA	9060 VA						

PANEL CALCULATIONS : LOAD TYPE	CONNECTED LOAD
LIGHTING	4 VA
MISC	1569 VA
RECEPTACLE	46824 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT.(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	48092 VA
TOTAL DEMAND LOAD	29773 VA
TOTAL DEMAND CURRENT	83 A
VOLTAGE	208Y/120V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	83 A

NOTES & SPECIAL OPTIONS:
1. PROVIDE WITH FEED THROUGH LUGS.

PANELBOARD: PL1A

VOLTAGE : 208Y/120V, 3Ø, 4W
BUS RATING : 400 A
MAIN : 250 A MCB
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 10kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

(SEC 1 OF 2)

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)	B (VA)	C (VA)	CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
RECEPTACLE	1	REC - WSHER/DRYER 1009	30	2	GF	2496 1000				1	20	REC - PRINTER 1310	2	RECEPTACLE
	3						2496 900			1	20	REC - OTO OFF 1310	4	RECEPTACLE
RECEPTACLE	5	REC - MICROWAVE 1009	20	1				1050 1200		1	15	PWR - AUDIO BTH 1312	6	MISC
RECEPTACLE	7	REC - STAFF BRK 1009	20	1		540 720				1	20	REC - AUDIO 1312	8	RECEPTACLE
RECEPTACLE	9	REC - OFF 1008	20	1			720 1200			1	15	PWR - AUDIO BTH 1322	10	MISC
RECEPTACLE	11	REC - TREATMENT 1006	20	1				900 720		1	20	REC - AUDIO 1322	12	RECEPTACLE
RECEPTACLE	13	REC - FRIDGE 1004	20	1		860 540				1	20	REC - OTO EXAM 1321	14	RECEPTACLE
RECEPTACLE	15	REC - LOUNGE 1002	20	1			720 1200			1	20	REC - LARGE CART 1321	16	RECEPTACLE
RECEPTACLE	17	REC - SPA RECEP. 1000	20	1				900 1250		1	20	REC - SMALL CART 1321	18	RECEPTACLE
RECEPTACLE	19	REC - TREATMENT 1001	20	1		900 540				1	20	REC - OTO EXAM 1323	20	RECEPTACLE
RECEPTACLE	21	REC - TREATMENT 1005	20	1			720 1200			1	20	REC - LARGE CART 1323	22	RECEPTACLE
RECEPTACLE	23	REC - TREATMENT 1007	20	1				720 1250		1	20	REC - SMALL CART 1323	24	RECEPTACLE
MISC	25	PWR - SECURITY PANEL	20	1		300 540				1	20	REC - OTO EXAM 1325	26	RECEPTACLE
RECEPTACLE	27	REC - CRRDR 1200	20	1			720 1200			1	20	REC - LARGE CART 1325	28	RECEPTACLE
RECEPTACLE	29	REC - 1315, 1317	20	1				540 1250		1	20	REC - SMALL CART 1325	30	RECEPTACLE
MISC	31	PWR - FS DAMPERS	20	1		200 392			GF	1	20	REC - STAFF FRIDGE 1009	32	RECEPTACLE
--	33	SPARE	20	1	--		0 0		--	1	20	SPARE	34	--
--	35	SPARE	20	1	--			0 0	--	1	20	SPARE	36	--
--	37	SPARE	20	1	--	0 0			--	1	20	SPARE	38	--
--	39	SPARE	20	1	--		0 0		--	1	20	SPARE	40	--
--	41	SPARE	20	1	--			0 0	--	1	20	SPARE	42	--
--	43	SPARE	20	1	--	0 0			--	1	20	SPARE	44	--
--	45	SPARE	20	1	--		0 0		--	1	20	SPARE	46	--
--	47	SPARE	20	1	--			0 0	--	1	20	SPARE	48	--
--	49	SPARE	20	1	--	0 0			--	1	20	SPARE	50	--
--	51	SPARE	20	1	--		0 0		--	1	20	SPARE	52	--
--	53	SPARE	20	1	--			0 0	--	1	20	SPARE	54	--
		TOTAL LOAD:				9028 VA	11076 VA	9780 VA						
		FEED THROUGH LOADS:				8180 VA	8540 VA	8335 VA						

PANEL CALCULATIONS : LOAD TYPE	CONNECTED LOAD
LIGHTING	775 VA
MISC	4000 VA
RECEPTACLE	50164 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT.(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	54939 VA
TOTAL DEMAND LOAD	35051 VA
TOTAL DEMAND CURRENT	97 A
VOLTAGE	208Y/120V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	97 A

NOTES & SPECIAL OPTIONS:
1. PROVIDE WITH FEED THROUGH LUGS.

<X> SWITCHBOARD: MSB

VOLTAGE: 480Y/277V, 3Ø, 4W
BUS RATING: 1600 A
MAIN: 1600 A MCB
BRANCH TYPE: NORMAL

CB OPT: ST – SHUNT TRIP, FR – 100% RATED, L – LOCKABLE
AF – ARC FAULT CIRCUIT INTERRUPTER
GF – GROUND FAULT CIRCUIT INTERRUPTER
EO– ELECTRICALLY OPERATED, SS – SOLID STATE
ERMS – ENERGY-REDUCING MAINTENANCE SWITCH..

A.I.C. RATING: 65kA
MOUNTING: PAD MOUNTED
ENCLOSURE: TYPE 1

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A	B	C
--	1	<X> H1	250 A	3	--	0	0	0
LIGHTING; SPARE; EXISTING DESIG...	2	<X> H2	250 A	3		7726	7560	4626
--	3	<X> ELEVATOR MOTOR	60 A	3	--	0	0	0
--	4	<X> PWR: RTU 2	150 A	3	--	0	0	0
--	5	<X> PWR: RTU 1	150 A	3	--	0	0	0
--	6	<X> SPC	30 A	3	--	0	0	0
--	7	<X> SPARE	100 A	3	--	0	0	0
--	8	<X> SPARE	400 A	3	--	0	0	0
LIGHTING; MISC; SPARE;...	9	**XFMR-PL1B (NOTE 2)**	**125 A**	**3**		**17542**	**14686**	**15862**
LIGHTING; MISC; SPARE;...	10	**XFMR-PL1A (NOTE 2)**	**125 A**	**3**		**17208**	**19616**	**18115**
MISC; HVAC	11	**MH1 (NOTE 2)**	**400 A**	**3**		**49500**	**52000**	**59000**
LIGHTING; MISC; SPARE;...	12	**XFMR-PL2A (NOTE 2)**	**175 A**	**3**		**26420**	**26912**	**22190**
MISC; MOTORS; SPARE...	13	**MH2 (NOTE 2)**	**400 A**	**3**		**75126**	**62552**	**52780**
X-RAY	14	**X-RAY 1107 (NOTE 2)**	**50 A**	**3**		**11080**	**11080**	**11080**
--	15	<X> SPACE	--	3	--	--	--	--
--	16	<X> SPACE	--	3	--	--	--	--
--	17	<X> SPACE	--	3	--	--	--	--
--	18	<X> SPACE	--	3	--	--	--	--
		TOTAL LOAD:				274102 VA	262995 VA	253154 VA
		FEED THROUGH LOAD:				69500 VA	69500 VA	69500 VA

PANEL CALCULATIONS: LOAD TYPE	CONNECTED LOAD
LIGHTING	19990 VA
MISC	43110 VA
X-RAY	33240 VA
MOTORS	88 VA
RECEPTACLE	170432 VA
HVAC	313805 VA
EXISTING DESIGN LOAD	209601 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT.(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	790251 VA
TOTAL DEMAND LOAD	698424 VA
TOTAL DEMAND CURRENT	840 A
VOLTAGE	480Y/277V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	840 A

NOTES & SPECIAL OPTIONS:
1. ALL LOADS SHOWN BOLD ARE NEW PROVIDED AS PART OF THE TENANT IMPROVEMENT PACKAGE.
2. PROVIDE NEW CIRCUIT BREAKER (SIZE INDICATED). NEW CIRCUIT BREAKER SHALL MATCH EXISTING TYPE, MANUFACTURER, DUTY CYCLE, AND HIGHEST SCCR RATING.
3. ELECTRICAL EQUIPMENT PROVIDED AS PART OF THE CORE AND SHELL SCOPE OF WORK.

<X> PANELBOARD: H2

VOLTAGE : 480Y/277V, 3Ø, 4W
BUS RATING : 250 A
MAIN : 250 A MCB
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 14kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)	B (VA)	C (VA)	CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
LIGHTING	1	<X> LTS: ELEC RM	20	1		0 0			--	1	20	<X> SPARE	2	--
--	3	<X> LTS: ELEVATOR HOISTWAY	20	1	--		0 0		--	1	20	<X> SPARE	4	--
--	5	<X> LTS: ELEVATOR PIT	20	1	--			0 0	--	1	20	<X> SPARE	6	--
LIGHTING	7	**LTG - AUDIOLOGY SUITE**	20	1		2050 0			--	1	20	<X> SPARE	8	--
LIGHTING	9	**LTG - PULMONARY SUITE**	20	1			1671 0		--	1	20	<X> SPARE	10	--
LIGHTING	11	**LTG - ADMIN 008**	20	1				782 0	--	1	20	<X> SPARE	12	--
LIGHTING	13	**LTG - OPEN LOBBY 002**	20	1		2102 0			--	1	20	<X> SPARE	14	--
LIGHTING	15	**LTG - LAB & IMAGING SUITE**	20	1			1959 0		--	1	20	<X> SPARE	16	--
LIGHTING	17	**LTG - MED SPA SUITE**	20	1				1064 0	--	1	20	<X> SPARE	18	--
LIGHTING	19	**LTG - SURGICAL SUITE**	20	1		2019 0			--	1	20	<X> SPARE	20	--
LIGHTING	21	**LTG - CORRIDOR 2000**	20	1			1577 0		--	1	20	<X> SPARE	22	--
LIGHTING	23	**LTG - OPEN LOBBY 020**	20	1				2413 0	--	1	20	<X> SPARE	24	--
LIGHTING	25	**LTG - DERMATOLOGY SUITE**	20	1		1188 0			--	1	20	<X> SPARE	26	--
LIGHTING	27	**LTG - TIMESHARE SUITE**	20	1			1985 0		--	1	20	<X> SPARE	28	--
--	29	<X> SPARE	20	1	--			0 0	--	1	20	<X> SPARE	30	--
--	31	<X> SPARE	20	1	--	0 0			--	1	20	<X> SPARE	32	--
--	33	<X> SPARE	20	1	--		0 0		--	1	20	<X> SPARE	34	--
--	35	<X> SPARE	20	1	--			0 0	--	1	20	<X> SPARE	36	--
--	37	<X> SPARE	20	1	--	0 0			--	3	50	<X> XFMR-L2	38	--
--	39	<X> SPARE	20	1	--		0 0		--				40	--
--	41	<X> SPARE	20	1	--			0 0	--				42	--
		TOTAL LOAD:				7359 VA	7193 VA	4259 VA						
		FEED THROUGH LOADS:				367 VA	367 VA	367 VA						

PANEL CALCULATIONS : LOAD TYPE	CONNECTED LOAD
LIGHTING	18811 VA
EXISTING DESIGN LOAD	1101 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT.(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	19912 VA
TOTAL DEMAND LOAD	24815 VA
TOTAL DEMAND CURRENT	30 A
VOLTAGE	480Y/277V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	30 A

NOTES & SPECIAL OPTIONS:
1. NEW OR MODIFIED LOADS ARE INDICATED IN BOLD. NEW LOADS SHALL UTILIZE EXISTING SPARE CIRCUIT BREAKERS.
2. ELECTRICAL EQUIPMENT PROVIDED AS PART OF THE CORE AND SHELL SCOPE OF WORK.

PANELBOARD: MH1

VOLTAGE : 480Y/277V, 3Ø, 4W
BUS RATING : 400 A
MAIN : 400 A MCB
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 35kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)	B (VA)	C (VA)	CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
HVAC	1	ATU-1-1000	20	1		3500 6000							2	
HVAC	3	ATU-1-002	45	1			7000 6000			3	30	EWH-1	4	MISC
HVAC	5	ATU-1-008A	45	1				9000 6000					6	
HVAC	7	ATU-1-1006	35	1		7000 --			--	1	--	SPACE	8	--
HVAC	9	ATU-1-1008	20	1			4000 --		--	1	--	SPACE	10	--
HVAC	11	ATU-1-011	25	1				4000 --	--	1	--	SPACE	12	--
HVAC	13	ATU-1-1014	20	1		4000 --			--	1	--	SPACE	14	--
HVAC	15	ATU-1-1104	20	1			4000 --		--	1	--	SPACE	16	--
HVAC	17	ATU-1-1107	35	1				7000 --	--	1	--	SPACE	18	--
HVAC	19	ATU-1-1111	25	1		4500 --			--	1	--	SPACE	20	--
HVAC	21	ATU-1-1112	35	1			7500 --		--	1	--	SPACE	22	--
HVAC	23	ATU-1-1114	35	1				7000 --	--	1	--	SPACE	24	--
HVAC	25	ATU-1-1317	20	1		3500 --			--	1	--	SPACE	26	--
HVAC	27	ATU-1-1201	15	1			2000 --		--	1	--	SPACE	28	--
HVAC	29	ATU-1-1309	40	1				8000 --	--	1	--	SPACE	30	--
HVAC	31	ATU-1-1324	45	1		8000 --			--	1	--	SPACE	32	--
HVAC	33	ATU-1-1225	40	1			8000 --		--	1	--	SPACE	34	--
HVAC	35	ATU-1-1330	15	1				1500 --	--	1	--	SPACE	36	--
HVAC	37	ATU-1-1331	40	1		8000 --			--	1	--	SPACE	38	--
HVAC	39	ATU-1-1335	25	1			5500 --		--	1	--	SPACE	40	--
HVAC	41	ATU-1-1243	20	1				4000 --	--	1	--	SPACE	42	--
HVAC	43	ATU-1-1244	20	1		3500 --			--	1	--	SPACE	44	--
HVAC	45	ATU-1-1245	20	1			3000 --		--	1	--	SPACE	46	--
HVAC	47	ATU-1-1250	30	1				5000 --	--	1	--	SPACE	48	--
HVAC	49	ATU-1-1251	15	1		1500 --			--	1	--	SPACE	50	--
HVAC	51	ATU-1-1253	25	1			5000 --		--	1	--	SPACE	52	--
HVAC	53	ATU-1-1101	35	1				7500 --	--	1	--	SPACE	54	--
		TOTAL LOAD:				49500 VA	52000 VA	59000 VA						
		FEED THROUGH LOADS:				0 VA	0 VA	0 VA						

PANEL CALCULATIONS : LOAD TYPE	CONNECTED LOAD
MISC	18000 VA
HVAC	142500 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT.(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	160500 VA
TOTAL DEMAND LOAD	160500 VA
TOTAL DEMAND CURRENT	193 A
VOLTAGE	480Y/277V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	193 A

NOTES & SPECIAL OPTIONS:

PANELBOARD: PL1B

VOLTAGE : 208Y/120V, 3Ø, 4W
BUS RATING : 400 A
MAIN : MLO
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 10kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

(SEC 2 OF 2)

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)	B (VA)	C (VA)	CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
RECEPTACLE	55	REC - WRKSTATION 008	20	1		1080 540				1	20	REC - DRAW 1110	56	RECEPTACLE
RECEPTACLE	57	REC - WRKSTATION 008	20	1			1080 540			1	20	REC - DRAW 1108	58	RECEPTACLE
RECEPTACLE	59	REC - WRKSTATION 008	20	1				1080 900		1	20	REC - DRAW 1106	60	RECEPTACLE
RECEPTACLE	61	REC - PRINTER 008	20	1		1000 720				1	20	REC - ADMN OFF 1104	62	RECEPTACLE
RECEPTACLE	63	REC - 114A, 1117, 1118	20	1			900 900			1	20	REC - WAITING 1100	64	RECEPTACLE
RECEPTACLE	65	REC - CRRDR 1100	20	1				540 720		1	20	REC - LAB/IMG CHECK IN 351	66	RECEPTACLE
RECEPTACLE	67	REC - LAB 1114	20	1		720 720				1	20	REC- LAB/IMG CHECK IN 351	68	RECEPTACLE
RECEPTACLE	69	REC - LAB 1114	20	1			720 540			1	20	REC- LAB/IMG CHECK IN 351	70	RECEPTACLE
RECEPTACLE	71	REC - LAB 1114	20	1				360 1000		1	20	REC - PRINTER 351	72	RECEPTACLE
RECEPTACLE	73	REC - FRIDGE 1114	20	1		1000 200				1	20	PWR - DOOR OPERATOR 1242	74	MISC
RECEPTACLE	75	REC - FRIDGE 1114	20	1			1000 200			1	20	PWR - DOOR OPERATOR 1100	76	MISC
RECEPTACLE	77	REC - CRRDR 1100	20	1				540 200		1	20	PWR - AUTO DOOR 007	78	MISC
RECEPTACLE	79	REC - ULTRASOUND 1111	20	1		540 1000				1	20	REC - FRIDGE CNTRL 1114	80	RECEPTACLE
RECEPTACLE	81	REC - XRAY 1107	20	1			360 600		FA	1	20	FIRE - NAC	82	MISC
RECEPTACLE	83	REC - XRAY 1107	20	1				540 1200		1	20	REC - IT 1102 (RACK)	84	RECEPTACLE
RECEPTACLE	85	REC - XRAY 1107	20	1		720 1200				1	20	REC - IT 1102 (RACK)	86	RECEPTACLE
RECEPTACLE	87	REC - IMAGING 1112	20	1			720 900			1	20	REC - IT 1102	88	RECEPTACLE
RECEPTACLE	89	REC - IMAGING 1112	20	1				720 360		1	20	REC - IT 1102	90	RECEPTACLE
RECEPTACLE	91	REC - IMAGING 1112	20	1		540 0				1	20	PWR - XRAY SHUNT TRIP 1107	92	MISC
MISC	93	PWR - SPEAKER AUDIO PNL	20	1			300 4			1	20	LTG - XRAY IN USE 1107	94	LIGHTING
RECEPTACLE	95	REC - ULTRASOUND 1111	20	1				900 0	--	1	20	SPARE	96	--
MISC	97	PWR - NURSE CALL CNTRL PNL	20	1		400 0			--	1	20	SPARE	98	--
--	99	SPARE	20

PANELBOARD: PL2B

VOLTAGE : 208Y/120V, 3Ø, 4W
BUS RATING : 225 A
MAIN : 225 A MCB
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 10kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

(SEC 1 OF 2)

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)		B (VA)		C (VA)		CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
RECEPTACLE	1	REC - OPEN LOB 020	20	1		540	1080						1	20	REC - 2254, 2256, 2264, 2068	2	RECEPTACLE
RECEPTACLE	3	REC - CRRDR 2200, 026	20	1				1080	720				1	20	REC - EXAM 2263	4	RECEPTACLE
RECEPTACLE	5	REC - EXAM 2249	20	1						540	720		1	20	REC - ADMN OFF 2265	6	RECEPTACLE
RECEPTACLE	7	REC - PRVDR OFF 2251	20	1		720	720						1	20	REC - PRVDR OFF 2267	8	RECEPTACLE
RECEPTACLE	9	REC - EXAM 2253	20	1				540	540				1	20	REC - PRVDR OFF 2111	10	RECEPTACLE
RECEPTACLE	11	REC - EXAM 2255	20	1						540	540		1	20	REC - EXAM 2113	12	RECEPTACLE
RECEPTACLE	13	REC - EXAM 2257	20	1		540	540						1	20	REC - PRVDR OFF 2115	14	RECEPTACLE
RECEPTACLE	15	REC - EXAM 2259	20	1				540	540				1	20	REC - PRVDR OFF 2115	16	RECEPTACLE
RECEPTACLE	17	REC - EXAM 2261	20	1						900	540		1	20	REC - PRVDR OFF 2115	18	RECEPTACLE
RECEPTACLE	19	REC - PRINTER 2058	20	1		1000	720						1	20	REC - 2128, 2129	20	RECEPTACLE
RECEPTACLE	21	REC - MA'S 2258	20	1				540	900				1	20	REC - 2100, 2107, 2109	22	RECEPTACLE
RECEPTACLE	23	REC - MA'S 2258	20	1						720	540		1	20	REC - EXAM 2105	24	RECEPTACLE
RECEPTACLE	25	REC - MA'S 2258	20	1		720	540						1	20	REC - EXAM 2103	26	RECEPTACLE
RECEPTACLE	27	REC - EXAM 2250	20	1				540	0				1	20	LTG - EXAM 2059, 2061	28	LIGHTING
MISC	29	FIRE - NAC 025F	20	1	FA					600	0	--	1	20	SPARE	30	--
MISC	31	PWR - FS DAMPERS	20	1		100	0					--	1	20	SPARE	32	--
--	33	SPARE	20	1	--			0	0			--	1	20	SPARE	34	--
--	35	SPARE	20	1	--					0	0	--	1	20	SPARE	36	--
--	37	SPARE	20	1	--	0	0					--	1	20	SPARE	38	--
--	39	SPARE	20	1	--			0	0			--	1	20	SPARE	40	--
--	41	SPARE	20	1	--					0	0	--	1	20	SPARE	42	--
--	43	SPARE	20	1	--	0	0					--	1	20	SPARE	44	--
--	45	SPARE	20	1	--			0	0			--	1	20	SPARE	46	--
--	47	SPARE	20	1	--					0	0	--	1	20	SPARE	48	--
--	49	SPARE	20	1	--	0	0					--	1	20	SPARE	50	--
--	51	SPARE	20	1	--			0	0			--	1	20	SPARE	52	--
--	53	SPARE	20	1	--					0	0	--	1	20	SPARE	54	--
		TOTAL LOAD:				7220 VA		5940 VA		5054 VA							
		FEED THROUGH LOADS:				6960 VA		8222 VA		7422 VA							

PANEL CALCULATIONS : LOAD TYPE	CONNECTED LOAD
LIGHTING	0 VA
MISC	671 VA
RECEPTACLE	40504 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	40808 VA
TOTAL DEMAND LOAD	25598 VA
TOTAL DEMAND CURRENT	71 A
VOLTAGE	208Y/120V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	71 A

NOTES & SPECIAL OPTIONS:
1. PROVIDE WITH FEED THROUGH LUGS.

PANELBOARD: PL2A

VOLTAGE : 208Y/120V, 3Ø, 4W
BUS RATING : 225 A
MAIN : 225 A MCB
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 10kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

(SEC 1 OF 2)

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)		B (VA)		C (VA)		CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
RECEPTACLE	1	REC - CONF RM 023	20	1		540	720						1	20	REC - ADMN OFF 2331	2	RECEPTACLE
RECEPTACLE	3	REC / FB - CONF RM 023	20	1				720	540				1	20	REC - EXAM 2333	4	RECEPTACLE
RECEPTACLE	5	REC - CRRDR 2300	20	1						900	540		1	20	REC - EXAM 2335	6	RECEPTACLE
RECEPTACLE	7	REC - 2200, 2301, 2043, 2045	20	1		1080	540						1	20	REC - EXAM 2337	8	RECEPTACLE
RECEPTACLE	9	REC - PRVDR OFF 2311	20	1				720	720				1	20	REC - SURG SCHED 2339	10	RECEPTACLE
RECEPTACLE	11	REC - PRVDR OFF 2313	20	1						720	720		1	20	REC - SURG SCHED 2341	12	RECEPTACLE
RECEPTACLE	13	REC - PRVDR OFF 2315	20	1		720	720						1	20	REC - 2308, 2314, 2316	14	RECEPTACLE
RECEPTACLE	15	REC - PRVDR OFF 2319	20	1				1080	540				1	20	REC - CLEAN WRK / MEDS 2306	16	RECEPTACLE
RECEPTACLE	17	REC - PRVDR OFF 2321	20	1						720	540		1	20	REC - CLEAN WRK / MEDS 2306	18	RECEPTACLE
RECEPTACLE	19	REC - PRVDR OFF 2323	20	1		720	360						1	20	REC - PROCEDURE 2324	20	RECEPTACLE
RECEPTACLE	21	REC - EXAM 2325	20	1				540	900				1	20	REC - ULTRASOUND 2024	22	RECEPTACLE
RECEPTACLE	23	REC - EXAM 2327	20	1						540	540		1	20	REC - PROCEDURE 2324	24	RECEPTACLE
RECEPTACLE	25	REC - EXAM 2329	20	1		540	0						1	20	LTG - SURGICAL STRYKER	26	LIGHTING
MISC	27	PWR - FS DAMPERS	20	1				50	400				1	20	LTG - CONFERENCE 023	28	LIGHTING
--	29	SPARE	20	1	--					0	0	--	1	20	SPARE	30	--
--	31	SPARE	20	1	--	0	0					--	1	20	SPARE	32	--
--	33	SPARE	20	1	--			0	0			--	1	20	SPARE	34	--
--	35	SPARE	20	1	--					0	0	--	1	20	SPARE	36	--
--	37	SPARE	20	1	--	0	0					--	1	20	SPARE	38	--
--	39	SPARE	20	1	--			0	0			--	1	20	SPARE	40	--
--	41	SPARE	20	1	--					0	0	--	1	20	SPARE	42	--
--	43	SPARE	20	1	--	0	0					--	1	20	SPARE	44	--
--	45	SPARE	20	1	--			0	0			--	1	20	SPARE	46	--
--	47	SPARE	20	1	--					0	0	--	1	20	SPARE	48	--
--	49	SPARE	20	1	--	0	0					--	1	20	SPARE	50	--
--	51	SPARE	20	1	--			0	0			--	1	20	SPARE	52	--
--	53	SPARE	20	1	--					0	0	--	1	20	SPARE	54	--
		TOTAL LOAD:				5940 VA		6210 VA		5220 VA							
		FEED THROUGH LOADS:				6300 VA		5640 VA		4500 VA							

PANEL CALCULATIONS : LOAD TYPE	CONNECTED LOAD
LIGHTING	400 VA
MISC	450 VA
RECEPTACLE	32960 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	33810 VA
TOTAL DEMAND LOAD	22430 VA
TOTAL DEMAND CURRENT	62 A
VOLTAGE	208Y/120V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	62 A

NOTES & SPECIAL OPTIONS:
1. PROVIDE WITH FEED THROUGH LUGS.

PANELBOARD: MH2

VOLTAGE : 480Y/277V, 3Ø, 4W
BUS RATING : 400 A
MAIN : 400 A MCB
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 35kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)		B (VA)		C (VA)		CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
MISC; MOTORS; SPARE; RECEPTACLE;...	1							1991	305							2	
	3	XFMR-ML2	50	3						1217	305		3	15	GEF-1	4	HVAC
	5															6	
HVAC	7	ATU-2-023	20	1				3500	305							8	
HVAC	9	ATU-2-025	25	1						5500	305		3	15	GEF-2	10	HVAC
HVAC	11	ATU-2-2201	20	1												12	
HVAC	13	ATU-2-2000A	20	1		3500	443									14	
HVAC	15	ATU-2-2302	15	1						2200	443		3	15	EF-1	16	HVAC
HVAC	17	ATU-2-2305	30	1												18	
HVAC	19	ATU-2-2306	30	1		6000	582									20	
HVAC	21	ATU-2-2313	15	1						3000	582		3	15	EF-2	22	HVAC
HVAC	23	ATU-2-2323	15	1												24	
HVAC	25	ATU-2-2324	60	1		13000	5000									26	
HVAC	27	ATU-2-2329	45	1						7000	5000		3	25	EWH-2	28	MISC
HVAC	29	ATU-2-2200	30	1												30	
HVAC	31	ATU-2-2100	60	1		11500	--					--	1	--	SPACE	32	--
HVAC	33	ATU-2-2258	35	1						7000	--	--	1	--	SPACE	34	--
HVAC	35	ATU-2-2331	15	1								--	1	--	SPACE	36	--
HVAC	37	ATU-2-2333	35	1		7500	--					--	1	--	SPACE	38	--
HVAC	39	ATU-2-2339	15	1						2000	--	--	1	--	SPACE	40	--
HVAC	41	ATU-2-2251	20	1								--	1	--	SPACE	42	--
HVAC	43	ATU-2-2255	30	1		6000	--					--	1	--	SPACE	44	--
HVAC	45	ATU-2-2261	35	1						7000	--	--	1	--	SPACE	46	--
HVAC	47	ATU-2-2267	20	1								--	1	--	SPACE	48	--
HVAC	49	ATU-2-2101	15	1		1000	--					--	1	--	SPACE	50	--
HVAC	51	ATU-2-2105	25	1						5000	--	--	1	--	SPACE	52	--
HVAC	53	ATU-2-2115	35	1								--	1	--	SPACE	54	--
HVAC	55	ATU-2-2117	25	1		5000	--					--	1	--	SPACE	56	--
HVAC	57	ATU-2-2123	35	1						7000	--	--	1	--	SPACE	58	--
HVAC	59	ATU-2-2129	15	1								--	1	--	SPACE	60	--
HVAC	61	ATU-2-020A	45	1		9500	--					--	1	--	SPACE	62	--
HVAC	63	ATU-2-020B	45	1						9000	--	--	1	--	SPACE	64	--
HVAC	65	ATU-2-201	45	1								--	1	--	SPACE	66	--
--	67	SPACE	--	1	-	--	--					--	1	--	SPACE	68	--
--	69	SPACE	--	1	-			--	--			--	1	--	SPACE	70	--
--	71	SPACE	--	1	-					--	--	--	1	--	SPACE	72	--
		TOTAL LOAD:				75126 VA		62552 VA		52788 VA							
		FEED THROUGH LOADS:				0 VA		0 VA		0 VA							

PANEL CALCULATIONS : LOAD TYPE	CONNECTED LOAD
MISC	18894 VA
MOTORS	88 VA
RECEPTACLE	180 VA
HVAC	171305 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	190467 VA
TOTAL DEMAND LOAD	190478 VA
TOTAL DEMAND CURRENT	229 A
VOLTAGE	480Y/277V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	229 A

NOTES & SPECIAL OPTIONS:

PANELBOARD: PL2B

VOLTAGE : 208Y/120V, 3Ø, 4W
BUS RATING : 225 A
MAIN : MLO
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 10kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

(SEC 2 OF 2)

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)		B (VA)		C (VA)		CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
RECEPTACLE	55	REC - PRINTER 2101	20	1		1000	720						1	20	REC - ADMN OFF 2129	56	RECEPTACLE
RECEPTACLE	57	REC - TIMESHARE 2101	20	1				900	900				1	20	REC - 025A, 025D	58	RECEPTACLE
RECEPTACLE	59	REC - CLEAN 2116	20	1						360	900		1	20	REC - STAFF BRK 025	60	RECEPTACLE
RECEPTACLE	61	REC - PROCEDURE 2118	20	1		540	360						1	20	REC - STAFF BRK 025	62	RECEPTACLE
RECEPTACLE	63	REC - PROCEDURE 2120	20	1				540	1050			GF	1	20	REC - MICROW 025	64	RECEPTACLE
RECEPTACLE	65	REC - PRINTER 2100	20	1						1000	1050	GF	1	20	REC - MICROW 025	66	RECEPTACLE
RECEPTACLE	67	REC - MA'S 2100	20	1		720	540						1	20	REC - STAFF BRK 025	68	RECEPTACLE
RECEPTACLE	69	REC - MA'S 2100	20	1				720	392			GF	1	20	REC - FRIDGE 025	70	RECEPTACLE
RECEPTACLE	71	REC - MA'S 2100	20	1						900	392		1	20	REC - FRIDGE 025	72	RECEPTACLE
RECEPTACLE	73	REC - EXAM 2117	20	1		540	200						1	20	PWR - DOOR OPERATOR 2100A	74	MISC
RECEPTACLE	75	REC - EXAM 2119	20	1				540	1200				1	20	REC - IT 025E (RACK)	76	RECEPTACLE
RECEPTACLE	77	REC - EXAM 2121	20	1						540	1200		1	20	REC - IT 025E (RACK)	78	RECEPTACLE
RECEPTACLE	79	REC - EXAM 2123	20	1		540	180						1	20	REC - IT 025E	80	RECEPTACLE
RECEPTACLE	81	REC - EXAM 2125	20	1				540	540				1	20	REC - IT 025E	82	RECEPTACLE
RECEPTACLE	83	REC - EXAM 2127	20	1						540	540		1	20	REC - ROOF	84	RECEPTACLE
RECEPTACLE	85	REC - MA'S 2258	20	1		720	900						1	20	REC - MA'S 2258	86	RECEPTACLE
--	87	SPARE	20	1	--			900					1	20	REC - TIMESHARE CHECK IN 2101	88	RECEPTACLE
--	89	SPARE	20	1	--					0	0	--	1	20	SPARE	90	--
--	91	SPARE	20	1	--	0	0					--	1	20	SPARE	92	--
--	93	SPARE	20	1	--			0	0			--	1	20	SPARE	94	--
--	95	SPARE	20	1	--					0	0	--	1	20	SPARE	96	--
--	97	SPARE	20	1	--	0	0					--	1	20	SPARE	98	--
--	99	SPARE	20	1	--			0	0			--	1	20	SPARE	100	--
--	101	SPARE	20	1	--					0	0	--	1	20	SPARE	102	--
--	103	SPARE	20	1	--	0	0					--	1	20	SPARE	104	--
--	105	SPARE	20	1	--			0	0			--	1	20	SPARE	106	--
--	107	SPARE	20	1	--					0	0	--	1	20	SPARE	108	--
		TOTAL LOAD:				6960 VA		8222 VA		7422 VA							
		FEED THROUGH LOADS:				0 VA		0 VA		0 VA							

PANEL CALCULATIONS : LOAD TYPE	CONNECTED LOAD
MISC	200 VA
RECEPTACLE	22404 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	22604 VA
TOTAL DEMAND LOAD	16402 VA
TOTAL DEMAND CURRENT	46 A
VOLTAGE	208Y/120V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	46 A

NOTES & SPECIAL OPTIONS:

PANELBOARD: PL2A

VOLTAGE : 208Y/120V, 3Ø, 4W
BUS RATING : 225 A
MAIN : MLO
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER
EO - ELECTRICALLY OPERATED, SS - SOLID STATE
ERMS - ENERGY-REDUCING MAINTENANCE SWITCH
EP - EQUIPMENT GROUND FAULT
FA - RED LOCK-ON DEVICE FOR NFPA 72 SYSTEM
ATS - SPECIFIC BREAKER REQUIRED

A.I.C. RATING: 10kA
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

(SEC 2 OF 2)

LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)		B (VA)		C (VA)		CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE
RECEPTACLE	55	REC - ULTRASOUND 2326	20	1		900	720						1	20	REC - MA'S/MEDS/TD 2302	56	RECEPTACLE
RECEPTACLE	57	REC - ULTRASOUND 2304	20	1				900	720				1	20	REC - MA'S/MEDS/TD 2302	58	RECEPTACLE
RECEPTACLE	59	REC - PROCEDURE 2304	20	1						360	720		1	20	REC - MA'S/MEDS/TD 2302	60	RECEPTACLE
RECEPTACLE	61	REC - PROCEDURE 2326	20	1		360	720						1	20	REC - OPEN LOB 020	62	RECEPTACLE
RECEPTACLE	63	REC - PROCEDURE 2304	20	1				540	1000				1	20	REC - PRINTER 2000	64	RECEPTACLE
RECEPTACLE	65	REC - PROCEDURE 2326	20	1						540	360		1	20	REC - CHECK IN 2000	66	RECEPTACLE
RECEPTACLE	67	REC - EXAM 2307	20	1		540	720						1	20	REC - CHECK IN 2000	68	RECEPTACLE
RECEPTACLE	69	REC - EXAM 2305	20	1				540	720				1	20	REC - CHECK IN 2000	70	RECEPTACLE
RECEPTACLE	71	REC - EWC 020	20	1	GF					500	720		1	20	REC - CHECK IN 2000	72	RECEPTACLE
RECEPTACLE	73	REC - MA'S/MEDS/TD 2302	20	1		900	720						1	20	REC - CHECK IN 2000	74	RECEPTACLE
RECEPTACLE	75	REC - PRINTER 2302	20	1				500	720				1	20	REC - CHECK IN 2201	76	RECEPTACLE
RECEPTACLE	77	REC - MA'S/MEDS/TD 2302	20	1						900	400		1	20	PWR - DOOR OPERATOR 2043	78	MISC
RECEPTACLE	79	REC - MA'S/MEDS/TD 2302	20	1		720	0						--	1	20	SPARE	80	--
--	81	SPARE	20	1	--			0	0				--	1	20	SPARE	82	--
--	83	SPARE	20	1	--					0	0		--	1	20	SPARE	84	--
--	85	SPARE	20	1	--	0	0						--	1	20	SPARE	86	--
--	87	SPARE	20	1	--			0	0				--	1	20	SPARE	88	--
--	89	SPARE	20	1	--					0	0		--	1	20	SPARE	90	--
--	91	SPARE	20	1	--	0	0						--	1	20	SPARE	92	--
--	93	SPARE	20	1	--			0	0				--	1	20	SPARE	94	--
--	95	SPARE	20	1	--					0	0		--	1	20	SPARE	96	--
--	97	SPARE	20	1	--	0	0						--	1	20	SPARE	98	--
--	99	SPARE	20	1	--			0	0				--	1	20	SPARE	100	--
--	101	SPARE	20	1	--					0	0		--	1	20	SPARE	102	--
--	103	SPARE	20	1	--	0	0						--	1	20	SPARE	104	--
--	105	SPARE	20	1	--			0	0				--	1	20	SPARE	106	--
--	107	SPARE	20	1	--					0	0		--	1	20	SPARE	108	--
		TOTAL LOAD:				6300 VA		5640 VA		4500 VA							
		FEED THROUGH LOADS:				0 VA		0 VA		0 VA							

PANEL CALCULATIONS : LOAD TYPE	CONNECTED LOAD
MISC	400 VA
RECEPTACLE	16040 VA

DEMAND FACTOR LEGEND

ELEVATOR	PER NEC 620.14	MOTOR	100%
HOTEL	PER NEC 220.42	HEAT	100%
KITCHEN	PER NEC 220.56	MISC	100%
RECEPTACLE	PER NEC 220.44	LIGHTING	125%
RECEPT(HEALTHCARE)	PER NEC 220.42	LARGEST MOTOR	125%
UNIT PANEL	PER NEC 220.84	NON-COINCIDENTAL	100%
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%

PANEL TOTALS	
TOTAL CONNECTED LOAD	16440 VA
TOTAL DEMAND LOAD	13420 VA
TOTAL DEMAND CURRENT	37 A
VOLTAGE	208Y/120V, 3Ø, 4W
SPARE LOAD CAPACITY %	
PANEL AMPS	37 A

NOTES & SPECIAL OPTIONS:

PANELBOARD: ML2

VOLTAGE : 208Y/120V, 3Ø, 4W
BUS RATING : 100 A
MAIN : 100 A MCB
BRANCH TYPE : NORMAL

CB OPT : ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE
AF - ARC FAULT CIRCUIT INTERRUPTER
GF - GROUND FAULT CIRCUIT INTERRUPTER

GENERAL NOTES

1. FIRE PROTECTION SYSTEM TO COMPLY WITH NFPA 13, 14, AND ALL APPLICABLE STATE AND LOCAL CODES.
2. ADHERE TO AND OBTAIN ALL PERMITS, LICENSES AND ALL GOVERNMENT REQUIREMENTS.
3. FINAL INSPECTION AND APPROVAL BY LOCAL FIRE DEPARTMENT, BLDG. DEPT. AND ARCHITECT/ENGINEER.
4. VISIT THE SITE TO CHECK AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING TO INSURE THE COORDINATION OF THE FIRE SERVICES WITH EXISTING CONDITIONS.
5. CUTTING OF STRUCTURAL AND/OR ARCHITECTURAL MEMBERS TO BE DONE ONLY WITH THE WRITTEN APPROVAL OF THE ARCHITECT AND STRUCTURAL ENGINEER.
6. CONTRACTOR SHALL OBTAIN A NEW FLOW TEST IF TEST IS NOT WITHIN SIX MONTHS OF PERMIT DATE.
7. PIPE ROUTING SHOWN SHALL BE USED AND ANY ADDITIONAL OFFSETS OR FITTINGS REQUIRED FOR PROPER INSTALLATION, COORDINATION WITH OTHER TRADES, AND/OR TO MAINTAIN PROPER CLEARANCES SHALL BE PROVIDED. VERIFY STRUCTURAL, MECHANICAL, ELECTRICAL INSTALLATIONS AND AVOID ALL OBSTRUCTIONS OR INTERFERENCES.
8. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING DRAWINGS FOR CEILING DESCRIPTIONS AND HEIGHTS.
9. FIRE STOP ALL PENETRATIONS OF SMOKE/FIRE WALLS, CEILINGS, FLOORS, ROOFS, ETC., FLASH AND COUNTERFLASH ROOF PENETRATIONS.
10. PROVIDE ACCESS PANELS TO ALL VALVES ABOVE NON-ACCESSIBLE CEILINGS AND CHASES.
11. SPRINKLER HEADS ARE TO BE COORDINATED WITH ALL DIFFUSERS, SPEAKERS, LIGHTING FIXTURES, CEILING SYSTEMS AND STRUCTURAL SYSTEM.
12. INDICATE CENTER-TO-CENTER DIMENSIONS AND/OR PIPE CUT LENGTHS AND NOMINAL PIPE DIAMETERS ON ALL PIPING.
13. INDICATE PIPE TYPE, SCHEDULE OF WALL THICKNESS AND METHOD OF JOINING ON SHOP DRAWINGS.
14. PROVIDE STOCK OF EXTRA SPRINKLERS IN ACCORDANCE WITH NFPA 13.
15. PROVIDE DETAIL AND INDICATE TYPE OF HANGER TO BE INSTALLED FOR SPRINKLER PIPING. METHODS OF HANGING PIPES, HEADERS AND BRANCHES SHALL BE IN ACCORDANCE WITH NFPA 13, HANGERS SHALL NOT INTERFERE WITH ANY OTHER TRADE. POWDER DRIVEN STUDS SHALL NOT BE USED.
16. ALL GROOVED & SCREWED FITTING SHALL BE APPROVED PRIOR TO ANY INSTALLATION BY ENGINEER WHO RESERVES THE RIGHT TO DISAPPROVE ANY FITTING.
17. ALL SCREWED PIPING SHALL BE SCHEDULE 40 PIPE IN ACCORDANCE WITH SPECIFICATIONS ASTM A135/A795 AND SHALL BE JOINED BY SCREWED JOINTS IN ACCORDANCE WITH SPECIFICATION ANSI B2.1.
18. ALL GROOVED PIPING 1-1/4" OR LARGER SHALL BE SCHEDULE 10 ASTM A135.
19. ALL SPRINKLER PIPING & FITTINGS SHALL BE INSTALLED RUST-FREE.
20. AUTOMATIC SPRINKLER TEMPERATURE RATINGS OF GLASS BULB ELEMENTS TO BE IN ACCORDANCE WITH NFPA 13. ALL SPRINKLERS SHALL HAVE A CORROSIVE-RESISTANT COATING.
21. ALL VALVES FOR FIRE SERVICE SHALL BE LISTED BY THE UNDERWRITERS LABORATORIES, INC. AND HE FACTORY MUTUAL LABORATORIES. VALVES SHALL BE FACTORY MARKED "UL" AND "FM", 175 WORKING PRESSURE, AND 300 WORKING PRESSURE WHERE APPLICABLE.
22. ALL VALVES ON THE FIRE PROTECTION SYSTEM TO BE ELECTRICALLY SUPERVISED. TYPE AND EXACT LOCATION OF FLOW AND SUPERVISORY SWITCHES SHALL BE ACCOMPLISHED/COORDINATED BETWEEN THE DIFFERENT RESPONSIBLE TRADES. ADDITIONAL WIRING OR ADDITIONAL SWITCHES REQUIRED SHALL BE PROVIDED.
23. BE ADVISED THAT PIPING SHOWN IS ARRANGED TO ALLOW FOR FIRE ALARM ZONING. FIRE PROTECTION PIPING ARRANGEMENT SHALL REFLECT AND ALLOW SAME ZONING AS SHOWN.
24. CAUTION: FINAL SPRINKLER SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER THROUGH ARCHITECT. NO INSTALLATION SHALL BE PERMITTED UNTIL SPRINKLER SHOP DRAWINGS HAVE BEEN APPROVED.
25. SPRINKLERS SHALL COVER THE ENTIRE AREA OF ALL STRUCTURAL MEMBERS. SPRAY SHALL NOT BE BLOCKED BY WALLS, PARTITIONS OR STRUCTURAL COMPONENTS.
26. IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES FOUND BETWEEN THESE PLANS, OTHER ENGINEERING PLANS, THE ARCHITECTURAL PLANS AND/OR FIELD CONDITIONS PRIOR TO FINAL BID PRICE OR FINAL PERMITTING.
27. SIDEWALL FIRE SPRINKLER(S) LOCATED AT THE BOTTOM OF HYDRAULIC ELEVATOR(S) SHAFT(S) SHALL BE INSTALLED LESS THAN TWO(2) FEET FROM THE BOTTOM OF THE ELEVATOR PIT.
28. IN CASE OF DISPUTE OR DOUBT AS TO INTENT OF DRAWINGS OR SPECIFICATIONS, OBTAIN ARCHITECT/ENGINEER'S WRITTEN DECISION BEFORE PROCEEDING WITH BID INVOLVED.
29. BEFORE SUBMITTING PROPOSAL OR BID, EXAMINE ALL DRAWINGS AND SPECIFICATIONS RELATING TO THIS PROJECT. THE AMOUNT OF SPACE AVAILABLE FOR PIPING, EQUIPMENT AND CONNECTING SERVICES THE SITE OF THE WORK, THE REQUIREMENTS TO CORRELATE THE FIRE PROTECTION WORK WITH THAT OF OTHER TRADES AND THE TIME SCHEDULE NECESSARY TO PERFORM THAT WORK.
30. AFTER EXAMINATION OF ALL PLANS AND SPECIFICATIONS, INCLUDE ALL THE COSTS NECESSARY FOR ALTERATION, MODIFICATIONS AND/OR ADDITIONS TO THE FIRE PROTECTION SYSTEM(S) NECESSARY TO MAKE A COMPLETE, APPROVED AND FINISHED INSTALLATION IN ALL ASPECTS. IT IS THE INTENT THAT ALL COSTS REQUIRED BE INCLUDED IN THE BID OF THIS TRADE.
31. PIPE SHALL BE REAMED AND CLEANED BEFORE ASSEMBLY, AND AFTER ASSEMBLY. THE ENTIRE PIPING SYSTEM SHALL BE FLUSHED CLEAN.
32. ADJUST NEW SPRINKLER PIPING AND SPRINKLER HEAD PLACEMENT TO ACCOMMODATE NEW/EXISTING CEILING HEIGHTS AND STRUCTURAL CONFIGURATIONS.
33. PROVIDE SYSTEM(S) WITH FLUSHING CONNECTION(S).
34. PROVIDE SPRINKLERS ABOVE AND BELOW EXPOSED DUCTWORK, AN OBSTRUCTION, OR COMBINATIONS OF OBSTRUCTIONS 4 FEET OR WIDER.
35. INDICATE THE ROOM FUNCTIONS FOR EACH AREA ON THE SHOP DRAWINGS.
36. INDICATE THE LOCATION AND SIZE OF BLIND SPACES AND CLOSETS ON THE SHOP DRAWINGS.
37. INDICATE THE TOTAL SQUARE FOOT AREA PROTECTED BY SYSTEM(S) ON EACH FLOOR(S) ON THE SHOP DRAWINGS.
38. INDICATE THE NUMBER OF SPRINKLERS ON EACH RISER PER FLOOR ON THE SHOP DRAWINGS.
39. PROVIDE HEAD GUARDS ON SPRINKLER HEADS IN ELECTRIC, TELEPHONE AND MECHANICAL ROOMS.
40. ALL PENDENT SPRINKLERS SHALL BE CENTER-OF-TILE, UNLESS MAXIMUM DISTANCES FROM WALLS OR BETWEEN HEADS IS EXCEEDED. ALL SPRINKLER HEADS MOUNTED IN CEILING SHALL BE LOCATED A MINIMUM OF 4" AWAY FROM ANY WALLS, CEILING GRID MEMBERS, CEILING HEIGHT CHANGES OR ANY OTHER VERTICAL INTERSECTING STRUCTURAL SURFACE.
41. INSPECTOR'S TEST VALVE SHALL NOT EXCEED 7 FEET ABOVE THE FINISHED FLOOR.
42. PROVIDE SMOOTH BORE CORROSION RESISTANT OUTLET FOR INSPECTOR'S TEST GIVING FLOW EQUIVALENT TO 1 SPRINKLER.
43. FIRE PROTECTION CONTRACTOR SHALL ASSIST IN PREPARATION OF COORDINATION DRAWINGS FOR ALL LEVELS WHICH INDICATE ALL THE ENGINEERING DISCIPLINES & FIRE PROTECTION PIPING. THESE DRAWINGS SHALL BE PREPARED & APPROVED BY THE ENGINEER PRIOR TO ANY INSTALLATION. REFER TO SPECIFICATION SECTION 233005 - BIM COORDINATION DRAWINGS.
44. FIRE SPRINKLER PIPING SHALL NOT TRAVEL WITHIN 6 FEET OVER THE TOPS OF ELECTRICAL PANEL BOARDS PER NFPA 70.
45. ALL SPRINKLERS SHALL MEET WITH NFPA 13 TEMPERATURE RATINGS FOR FIRE SPRINKLERS (i.e. SPRINKLERS LOCATED IN A HIGH TEMPERATURE ZONE SHALL HAVE HIGH-TEMPERATURE CLASSIFICATION SPRINKLERS AND SPRINKLERS LOCATED IN AN INTERMEDIATE ZONE SHALL HAVE INTERMEDIATE TEMPERATURE CLASSIFICATION SPRINKLERS).
46. FIRE PROTECTION CONTRACTOR SHALL PROVIDE ANY/ALL 1-INCH SPRIG-UPS FOR UPRIGHT SPRINKLERS TO ACHIEVE NFPA REQUIRED DEFLECTOR DISTANCE(S) FROM ANY/ALL STRUCTURAL MEMBERS. COSTS FOR UPRIGHT SPRINKLERS SPRIG-UPS SHALL BE INCLUDED IN THIS BID WHETHER OR NOT SAID SPRIG-UPS ARE GRAPHICALLY SHOWN IN THE BID DOCUMENTS.
47. ALL EXISTING FIRE SPRINKLERS WITHIN THE SMOKE COMPARTMENT WHICH ARE PART OF THE PROJECT SCOPE SHALL BE REPLACED WITH QUICK RESPONSE SPRINKLERS. THE NEW OR REPLACEMENT QUICK RESPONSE SPRINKLERS SHALL MATCH THE EXISTING COLORS AND STYLE.
48. FIRE SPRINKLER CONTRACTOR SHALL SUBMIT DETAILED SIGNED AND SEALED SPRINKLER SHOP DRAWINGS FOR SEPARATE PLAN CHECK AND APPROVAL.
49. LABEL ALL PIPING ASSOCIATED WITH THE FIRE PROTECTION SYSTEM (EXCEPT SPRINKLER BRANCH LINES) TO INDICATED PIPE USE AND DIRECTION OF FLOW. LABELS SHOULD APPEAR AT 10'-0" INTERVALS ALONG PIPING, AND SHOULD BE PLACED THEY ARE EASILY VIEWED FROM ANY ACCESS PANELS. LABELS SHALL BE RED WITH WHITE LETTERING AND SHALL BE SIZED APPROPRIATELY FOR THE PIPE ON WHICH THEY APPEAR. A SAMPLE ALONG WITHMANUFACTURER'S SUBMITTAL DATA SHALL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO ANY INSTALLATION.
50. ALL EXTERIOR FITTINGS, PIPING, HANGERS, VALVING SHALL HAVE CORROSIVE RESISTANT FINISHES (I.E. EPOXY COATED, ETC.),
51. ALL SPRINKLER ZONES SHALL MATCH FIRE ALARM / SMOKE ZONES AND SPRINKLER TEMPERATURE RATING INDICATED IN THE RATIONAL ANALYSIS PRECISELY. FIRE SPRINKL CONTRACTOR SHALL OBTAIN AND COMPARE WITH THE LATEST PLANS / DOCUMENTS TO VERIFY FIRE SPRINKLE AND FIRE ALARM / SMOKE ZONES AND TEMPERATURE RATINGS ARE COORDINATED.
52. INFORMATION TECHNOLOGY EQUIPMENT ROOMS AND INFORMATION TECHNOLOGY EQUIPMENT AREAS LOCATED IN A SPRINKLERED BUILDING SHALL BE VALVED SEPARATELY FROM ALL OTHER SPRINKLER SYSTEMS.
53. THIS IS A PERFORMANCED-BASED PROJECT WITH DIVISION 21 CONTRACTOR RESPONSIBLE FOR PROVIDING ENGINEERING DESIGN. INSTALLATION AND TESTING ASSOCIATED WITH THE WORK TO BE PERFORMED. ALL DESIGN WORK WILL BE PERFORMED AND SIGNED BY A "DELEGATED ENGINEER", WHO IS A PROFESSIONAL ENGINEER AND HENCEFORTH SHALL BE KNOWN AS THE ENGINEER OF RECORD (EOR), WHO SHALL BE LICENSED TO PRATICE IN THE PROJECT LOCATION AND COMPETENT IN FIRE PROTECTION ENGINEERING.
54. ALL SPRINKLER ZONES SHALL MATCH FIRE ALARM / SMOKE ZONES PRECISELY. FIRE SPRINKLER CONTRACTOR SHALL OBTAIN AND COMPARE WITH THE LATEST PLANS/DOCUMENTS TO VERIFY FIRE SPRINKLER AND FIRE ALARM/SMOKE ZONES ARE COORDINATED.
55. THE KITCHEN HOOD FIRE SUPRESSION SYSTEM SHALL BE REVIEWED BY THE FIRE SPRINKLER CONTRACTOR. A CONNECTION IS REQUIRED, THE SUPPLY LINE SHALL CONNECT INTO THE FIRE SUPPRESSION SYSTEM AND HAVE AN ALARM CHECK VALVE AND A MONITORED CONTROL VALVE.
56. FIRE SPRINKLER TEMPERATURE RATING AND PLACEMENT NEAR HEAT SOURCES SHALL COMPLY WITH NFPA 13 TABLE 8.3.2.5 (a).
57. ALL RESIDENTIAL BATHROOMS UNDER 55 SF SHALL NOT REQUIRE FIRE SPRINKLER PROTECTION PER NFPA 13 SECTION 8.15.8.1.1.
58. LOCATION OF RECESSED FIRE HOSE VALVE CABINETS SHALL BE COORDINATED TO ENSURE PIPING DOWN TO CABINET IS ROUTED WITHIN WALL. ALL FIRE VALVE CABINETS SHALL HAVE THE SAME FIRE RATING AS THE WALL IN WHICH THEY ARE INSTALLED.
59. ALL KITCHEN HOOD FIRE SUPPRESSION SUPPLY LINES SHALL HAVE 30 TO 75 PSI OPERATING PRESSURE, SIZED TO MATCH PRESSURE DROP BETWEEN WALL MOUNT PACKAGE AND HOOD DEDICATED LINE WITH NO MANUAL SHUT-OFF VALVE. PROVIDE TAMPERED CONTROL VALVE. SEE KITCHEN CONSULTANT DRAWINGS FOR DETAILS.
60. A SINGLE AIR VENT SHALL BE REQUIRED FOR EACH WET SYSTEM UTILIZING METALLIC PIPE PER NFPA 13 SECTION 7.1.5.

DEMOLITION

	EXISTING PIPING AND/OR SPRINKLERS TO BE REMOVED		

ENGINEERING DOCUMENT INFO.

61G15—32.004 (2)(A-M):

A. THE POINT OF SERVICE IS EXISTING.

B. APPLICABLE CODES AND STANDARDS:

IN ADDITION TO LOCAL ORDINANCES, APPLICABLE CODES AND STANDARDS ARE AS FOLLOWS:
- NORTH CAROLINA FIRE PREVENTION CODE (2018)
- NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2013 EDITION
- NFPA 25, STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS, 2014 EDITION

C. CLASSIFICATION OF HAZARD OCCUPANCY FOR EACH ROOM OR AREA SHALL BE AS FOLLOWS:

LIGHT HAZARD (LH): GUEST UNITS, CORRIDORS, OFFICES, BATHROOMS AND AREAS OF SIMILAR FIRE LOAD.

ORDINARY HAZARD GROUP 1 (OH1): MECHANICAL ROOMS, ELECTRICAL ROOMS AND AREAS OF SIMILAR FIRE LOAD.

ORDINARY HAZARD GROUP 2 (OH2): LAUNDRY, STORAGE AREAS AND AREAS OF SIMILAR FIRE LOAD.

D. DESIGN APPROACH

SCOPE OF WORK CONSISTS OF THE INSTALLATION OF A NEW FIRE SPRINKLER SYSTEM. LIGHT HAZARD: FIRE PROTECTION SHALL BE PROVIDED BY A WET PIPE AUTOMATIC SPRINKLER SYSTEM, USING EXPOSED STEEL SUPPLY PIPING ROUTED BELOW STRUCTURE, IN ROOMS/AREAS PROVIDED WITH CEILINGS PIPING SHALL BE LOCATED ABOVE THE CEILING, PIPING SHALL SUPPLY UPRIGHT SPRINKLER HEADS IN EXPOSED AREAS AND CONCEALED PENDENT SPRINKLER HEADS IN ROOMS PROVIDED WITH CEILINGS. DESIGN DENSITY: 0.10 GPM/SQ. FT. FOR A 1,500 SQ. FT. AREA OF SPRINKLER OPERATION. HEAD TEMPERATURE RATING: 155 DEGREE F. SPACING: FOR STANDARD COVERAGE HEADS, 15 FT. MAXIMUM WITH A MAXIMUM PROTECTION AREA OF 225 SQ. FT. AREA REDUCTION ALLOWED PER NFPA.

ORDINARY HAZARD GROUP 1: FIRE PROTECTION SHALL BE PROVIDED BY A WET PIPE AUTOMATIC SPRINKLER SYSTEM, USING EXPOSED STEEL SUPPLY PIPING ROUTED BELOW STRUCTURE. IN ROOMS/AREAS PROVIDED WITH CEILINGS PIPING SHALL BE LOCATED ABOVE THE CEILING, PIPING SHALL SUPPLY UPRIGHT SPRINKLER HEADS IN EXPOSED AREAS AND CONCEALED PENDENT SPRINKLER HEADS IN ROOMS PROVIDED WITH CEILINGS. DESIGN DENSITY: 0.15 GPM/SQ. FT. FOR A 1,500 SQ. FT. AREA OF SPRINKLER OPERATION. HEAD TEMPERATURE RATING: 155 DEGREE F. SPACING: FOR STANDARD COVERAGE HEADS, 15 FT. MAXIMUM WITH A MAXIMUM PROTECTION AREA OF 130 SQ.FT. AREA REDUCTION ALLOWED PER NFPA.

ORDINARY HAZARD GROUP 2: FIRE PROTECTION SHALL BE PROVIDED BY A WET PIPED AUTOMATIC SPRINKLER, USING STEEL SUPPLY PIPING LOCATED ABOVE THE CEILING, WITH PIPE DROPS TO STANDARD COVERAGE PENDENT HEADS LOCATED IN THE CEILING. DENSITY: 0.20 GPM/SQ. FT. FOR A 1500 SQ. FT. AREA OF SPRINKLER OPERATION. HEAD TEMPERATURE RATING: 155 DEGREE F. SPACING: FOR STANDARD COVERAGE HEADS, 15 FT. MAXIMUM WITH A MAXIMUM PROTECTION AREA OF 130 SQ. FT. AREA REDUCTION ALLOWED PER NFPA 13.

FIRE STOPPING FOR STEEL PIPE PENETRATING A CONCRETE FLOOR OR A CONCRETE BLOCK WALL:
UL SYSTEM NO. C-AJ-1001, USE 3M TYPE CP ZSWB + CAULK, F RATING 3 HRS.

E. CHARACTERISTICS OF WATER SUPPLY:

EXISTING MUNICIPAL WATER MAIN WITH AN EXISTING TAP TO THE BUILDING FEEDS THE PROJECT. DURATION IS GOOD BASED ON THE HYDRANT FLOW TEST SHOWN IN ITEM (F) BELOW.

F. FIRE FLOW TEST:
- HYDRANT NO: PROVIDED BY FP CONTRACTOR,
- STATIC PRESSURE: PROVIDED BY FP CONTRACTOR.
- RESIDUAL PRESSURE: PROVIDED BY FP CONTRACTOR,
- FLOW RATE: PROVIDED BY FP CONTRACTOR.
- DATE OF TEST: PROVIDED BY FP CONTRACTOR.

G. QUALITY AND PERFORMANCE SPECIFICATIONS OF FIRE PROTECTION COMPONENTS:

FIRE PROTECTION SYSTEM COMPONENTS SHALL BE UNDERWRITERS LABORATORIES LISTED OR FM APPROVED TO ENSURE QUALITY OF SYSTEM COMPONENTS. COMPONENTS SHALL ALSO BE PROVIDED IN ACCORDANCE WITH PERFORMANCE REQUIREMENTS IN FIRE PROTECTION TECHNICAL SPECIFICATIONS.

FIRE PROTECTION ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	GPM	GALLONS PER MINUTE
AMD	AIR MAINTENANCE DEVICE	GRV'D	GROOVED
BFV	BACK FLOW VALVE	HLL	HIGH/LOW PRESSURE
BFF	BELOW FINISHED FLOOR	NIC	NOT IN CONTRACT
CONT.	CONTINUATION	NTS	NOT TO SCALE
DN	DOWN	OS&Y	OUTSIDE STEM & YOKE
DWG.	DRAWING	PSI	POUNDS / SQUARE INCH
DPAC	DRY PIPE AIR COMPRESSOR	PAAC	PRE ACTION AIR COMPRESSOR
ELEC	ELECTRIC	PRV	PRESSURE REDUCING VALVE
EX.	EXISTING	PS	PRESSURE SWITCH
FDC	FIRE DEPARTMENT CONNECTION	STP	STANDPIPE
FE	FIRE EXTINGUISHER	TS	TAMPER SWITCH
FVC	FIRE VALVE CABINET	UNO	UNLESS NOTED OTHERWISE
FS	FLOW SWITCH	VRC	VICTAULIC REDUCING COUPLING

TAGS AND CALL OUT SYMBOLS

1 / FP3.1	SECTION CALLOUT SECTION DESIGNATION SHEET NUMBER	#	REVISION CALLOUT
		1	KEYNOTE CALLOUT
A / FP3.1	DETAIL CALLOUT DETAIL DESIGNATION SHEET NUMBER		POINT OF CONNECTION
			POINT OF DEMARCATION
		XX	HYDRAULIC REFERENCE POINT

FIRE PROTECTION SPRINKLER LEGEND

DISCLAIMER: TEMPERATURE RATINGS SHOWN ARE INDUSTRY STANDARDS, FIRE SPRINKLER CONTRACTOR TO REVIEW RATIONAL ANALYSIS TO BE SURE TEMPERATURE RATINGS MATCH.

- 1/2" WHITE QUICK RESPONSE PENDENT SPRINKLER 155°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK302)
- 1/2" BRASS QUICK RESPONSE CONCEALED PENDENT SPRINKLER 165°F - "K" FACTOR 5.6 - VIKING MODEL MIRAGE WITH COVER PLATE 135°F (SIN VK462). FINAL COLOR TO BE OBTAINED FROM ARCHITECT IN WRITING. PROVIDE ADDITIONAL 15% SUPPLY OF COVER PLATES.
- S — 1/2" QUICK RESPONSE CONCEALED PENDENT SPRINKLER 165°F - "K" FACTOR 5.6 - VIKING MODEL MIRAGE WITH COVER PLATE 135°F (SIN VK462). FINAL COLOR TO BE OBTAINED FROM ARCHITECT IN WRITING. PROVIDE ADDITIONAL 15% SUPPLY OF COVER PLATES.
- 1/2" WHITE ADJUSTABLE QUICK RESPONSE CONCEALED DRY PENDENT SPRINKLER 155°F - "K" FACTOR 5.6 - STANDARD COVERAGE RELIABLE MODEL "F3QR" WITH WHITE COVER PLATE 135°F (SIN R5714). PROVIDE ADDITIONS 15% SUPPLY OF COVER PLATES.
- 1/2" WHITE QUICK RESPONSE SEMI-RECESSED PENDENT SPRINKLER 165°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK302) WITH MODEL "E-1" WHITE ESCUTCHEON.
- 1/2" WHITE QUICK RESPONSE PENDENT SPRINKLER 155°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK302) WITH GUARD.
- 1/2" WHITE/BRASS QUICK RESPONSE UPRIGHT SPRINKLER 155°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK300) WITH GUARD.
- U — 1/2" WHITE/BRASS QUICK RESPONSE UPRIGHT SPRINKLER 155°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK300) WITH GUARD. SPRINKLER SHALL BE POSITIONED UNDER DUCTWORK.
- 200° — 1/2" WHITE/BRASS QUICK RESPONSE UPRIGHT SPRINKLER 200°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK300) WITH GUARD.
- 286° — 1/2" WHITE/BRASS QUICK RESPONSE UPRIGHT SPRINKLER 286°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK300) WITH GUARD.
- 1/2" WHITE/BRASS QUICK RESPONSE UPRIGHT SPRINKLER 155°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK300).
- 1/2" WHITE/BRASS QUICK RESPONSE UPRIGHT SPRINKLER ON 1-INCH SPRIG-UP 155°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK300).
- 1/2" WHITE QUICK RESPONSE HORIZONTAL SIDEWALL SPRINKLER 155°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK305).
- 1/2" WHITE QUICK RESPONSE EXTENDED COVERAGE HORIZONTAL SIDEWALL SPRINKLER 155°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK605).
- 200° — 1/2" BRASS QUICK RESPONSE HORIZONTAL SIDEWALL SPRINKLER 200°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK305). INSTALLATION HEIGHT SHALL NOT EXCEED 18-INCHES ABOVE ELEVATOR PIT FLOOR.
- D — 1/2" WHITE QUICK RESPONSE DRY HORIZONTAL SIDEWALL SPRINKLER 155°F - "K" FACTOR 5.6 - VIKING MODEL "M" (SIN VK182).
- I — 1/2" CHROME INSTITUTIONAL QUICK RESPONSE FLUSH HORIZONTAL SIDEWALL SPRINKLER 165°F - "K" FACTOR 5.6 - VIKING MODEL "HQR" (SIN VK412).
- 1/2" CHROME INSTITUTIONAL QUICK RESPONSE FLUSH PENDENT SPRINKLER 165°F - "K" FACTOR 5.6 - VIKING MODEL "HQR-2" (SIN VK410).
- EC — 1/2" WHITE QUICK RESPONSE EXTENDED COVERAGE UPRIGHT SPRINKLER 155°F - "K" FACTOR 11.2 - VIKING MICROFAST MODEL "M" (SIN VK532).
- W — 1/2" POLYESTER COATED QUICK RESPONSE WINDOW SPRINKLER 155°F - "K" FACTOR 5.6 - TYCO MODEL "TY3388"
- EXISTING SPRINKLER TO BE REPLACED WITH 1" ARM OVER TO NEW 1/2" WHITE QUICK RESPONSE CONCEALED PENDENT SPRINKLER 165°F - "K" FACTOR 5.6 - VIKING MODEL MIRAGE WITH WHITE COVER PLATE 135°F (SIN VK462).
- EXISTING SPRINKLER TO BE REPLACED WITH 1" ARM OVER TO NEW 1/2" WHITE QUICK RESPONSE SEMI-RECESSED PENDENT SPRINKLER 165°F - "K" FACTOR 5.6 - VIKING MICROFAST MODEL "M" (SIN VK302).

FIRE PROTECTION PIPING AND SYMBOL LEGEND

	NEW PIPING	F.C.	GROOVED FITTINGS
	EXISTING PIPING	F.C.	FLUSHING CONNECTION
	UNDERGROUND PIPING		PIPE CAPPED
	NEW OS&Y GATE VALVE WITH TAMPER SWITCH		EXISTING OS&Y GATE VALVE WITH TAMPER SWITCH
	NEW FLOW SWITCH		EXISTING FLOW SWITCH
	NEW PRESSURE GAUGE		EXISTING PRESSURE GAUGE
	NEW BUTTERFLY VALVE		EXISTING BUTTERFLY VALVE
	NEW CHECK VALVE		EXISTING CHECK VALVE
	NEW STANDPIPE		EXISTING STANDPIPE
	NEW FLOOR CONTROL ASSEMBLY WITH BUTTERFLY VALVE, FLOW SWITCH, PRESSURE GAUGE, AND INSPECTORS TEST/DRAIN PIPING OUTLET		DRY-PIPE VALVE ASSEMBLY
	DOUBLE CHECK BACKFLOW PREVENTER		BUTTERFLY VALVE IN THE VERTICAL RISE
	FREE STANDING FIRE DEPARTMENT CONNECTION		OS&Y IN THE VERTICAL RISE
	ALARM BELL		
	WALL MOUNTED FIRE DEPARTMENT CONNECTION		
	FIRE HYDRANT		
	NEW FIRE VALVE CABINET		

DESIGN DENSITY

	HAZARD CATEGORY	SPRINKLER HEAD SPACING	HOSE ALLOWANCE	SPRINKLER DESIGN DEMAND (gpm/ft2)/ft2	
				WET	DRY
A	LIGHT HAZARD	225	100	0.10/1500	0.10/1950
B	ORDINARY HAZARD GROUP 1	130	250	0.15/1500	0.15/1950
C	ORDINARY HAZARD GROUP 2	130	250	0.20/1500	0.20/1950

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NORTH CAROLINA PROFESSIONAL SEAL 038551 ENGINEER ANDREW BARKER

Andrew Barker
This document has been digitally signed and sealed using a Digital Signature. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies.
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JACKSONVILLE, NC 28546

11.21.25

#	△	DESCRIPTION	DATE
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ARCH. PROJECT # RDU 25-065

FIRE PROTECTION LEGEND, GENERAL NOTES, AND ABBREVIATIONS

SCALE: 12" = 1'-0"

SHEET # **FP0.0**

SECTION 210500 - COMMON WORK RESULTS FOR FIRE SUPPRESSION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
B. Division 07 Section "Penetration Firestopping" for piping, conduit and wiring penetration firestopping installed in fire-resistance-rated walls, horizontal assemblies and smoke barriers.

1.2 SUMMARY

A. This Section includes the following:

1. Piping materials and installation instructions common to most piping systems.
2. Access panels
3. Additional sprinkler heads
4. Painting
5. Supports and anchorages.

1.3 DEFINITIONS

A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe chases, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.
B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.
D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in chases.
E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

1.4 SCOPE

A. Drawings and Specifications form complementary requirements; provide work specified and not shown, and work shown and not specified as though explicitly required by both. Although work may not be specifically shown or specified, provide supplementary or miscellaneous items, appurtenances, devices and materials obviously necessary for a sound, secure and complete installation.
B. It is the intent that these Specifications and associated Drawings establish minimum requirements for products and equipment with the intent to provide fire protection systems

finished, tested and ready for operation. Incidental detail that is not shown or specified, but necessary for proper installation and operation shall be included in the work and in these Contractor's estimates, the same as if specified. Locations of all equipment and material shall be adjusted at no extra cost to the Owner, to accommodate the work interferences anticipated and/or encountered. Prior to installation, determine the exact route and location of each pipe and piece of equipment to minimize conflicts with other trades.
C. Information and components shown on riser diagrams but not shown on plans, and vice versa, shall be provided as if expressly required on both.
D. This is a performance based specification with the Division 21 Contractor responsible for providing engineering design, installation and testing associated with the work to be performed. All design work will be performed and signed by a "delegated engineer", who is a professional engineer and henceforth shall be known as the Engineer of Record (EOR), who shall be licensed to practice in the project location and competent in fire protection engineering.
E. It is the requirement of these Contract Documents to have the contractors provide systems and components that are fully complete, operational and suitable for the intended use. There may be situations in the documents where insufficient information exists to precisely describe a certain component or subsystem, or the routing of a component or its coordination with other building elements. In cases such as this, where the Contractor has failed to notify the Architect of the situation the Contractor shall include the specific components or subsystems with all parts necessary for the intended use, fully complete and operational, and installed in workmanlike manner either concealed or exposed per the design intent.
F. The Division 21 scope of work is a deferred submittal with the Division 21 Contractor as the Engineer of Record (EOR).

1.5 MODIFICATIONS IN LAYOUT

A. Drawings are intended to outline the scope of work required and are not intended to be installation drawings. Drawings are not intended to be absolutely precise; they are not intended to specify or to show every offset, fitting, and component nor do they show the exact routing and locations needed to coordinate with structure and other trades and to meet Architectural requirements. The purpose of the drawings is to indicate a systems concept, the main components of the systems, and the approximate geometrical relationships. Based on the systems concept, the main components, and the approximate geometrical relationships, the contractor shall provide all other components and materials necessary to make the systems fully complete and operational.
B. Unless specifically stated to the contrary, no measurement of a drawing derived by scaling shall be used as a dimension to work by. Dimensions noted on the drawings are subject to measurements of adjacent and previously completed work. Measurements shall be performed prior to the actual installation of equipment.
C. Prior to installation of visible material and equipment (including access panels) in finished spaces, review Architectural Drawings for desired locations and where not definitely indicated, request information from Architect.
D. Check Contract Documents, as well as, Submittals and Shop Drawings of all subcontractors to verify and coordinate spaces in which work of Divisions 21 through 28 will be installed.
E. Make reasonable modifications in layout and components needed to prevent conflict with work of other trades. Systems shall be run parallel with or perpendicular to major architectural and structural building elements.
F. Where conflicts or potential conflicts exist and engineering guidance is desired, submit sketch of proposed resolution to Architect for review and approval.

1.6 SUBMITTALS

A. Welding certificates.

1.7 COORDINATION

A. Coordinate arrangement, mounting, and support of piping and equipment:

1. To maintain maximum headroom; all piping, duct, conduit and associated components to be as tight as possible to underside of structure to provide for ease of disconnecting the equipment with minimum interference to other installations.
2. To allow right of way for piping installed at required slope.
3. To be clear of obstructions and of the working and access space of other equipment.

B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.
C. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed. Access doors and panels are specified in Division 08 Section "Access Doors and Frames."

1.8 COORDINATION DRAWINGS

A. When included as part of the Contract Documents, there shall be full cooperation and coordination of all specialty trades.
B. This Division's contractors shall comply fully with the requirements set forth in the Division 23 "BIM Coordination Drawings" section.

1.9 RECORD DOCUMENTS

A. Record Drawings are specified in Division 01 Section "Project Record Documents."
B. The Contractor shall keep a detailed up-to-date record, of the manner and location in which installations are actually made, indexing each pipe, valve, and piece of equipment. Record documents are to reflect all changes in work including change orders, field directives, addenda from bid set of Contract Documents, request for information responses, etc. Upon completion of the project, the contractor shall modify the project electronic drawing and specification files to incorporate this information. Modified documents shall be turned over to the Owner in both electronic and hard paper copy formats. Record drawings shall also include:

1. Locations of buried piping or similar items. Include buried depth.
2. Field changes of dimension or detail.
3. Changes made by field order or change order.
4. Details not on original contract drawings.

1.10 MAINTENANCE MANUALS AND OPERATING INSTRUCTIONS

A. Obtain at time of purchase of equipment, three copies of operation, lubrication and maintenance manuals for all items. Assemble literature in a coordinated manual. Manual shall contain names

and addresses of manufacturers and local representatives who stock or furnish repair parts for items or equipment.
B. The manuals shall include the following and shall have an index of contents and tabs for each Specification Section and each piece of equipment specified in that Section and be provided in the order listed below, per Specification Section.

1. Copies of all approved submittals/shop drawings.
2. Manufacturer's operating and maintenance instructions and parts lists of all items or equipment. Where manufacturer's data includes several types or models, the applicable type or model shall be clearly designated.
3. Startup and shutdown procedures.
4. Flow diagrams.
5. Test records.
6. Wiring diagrams.
7. Lubrication instructions detailing type of lubricant, amount, and intervals recommended by manufacturer for each item of equipment.
8. Owner's written acknowledgement of satisfactory completion of instruction period.

C. Furnish three copies of manuals to Architect for approval and distribution to Owner. Deliver manuals no less than 30 days prior to acceptance of equipment to permit Owner's personnel to become familiar with equipment and operation prior to acceptance.
D. Operating instructions: Upon completion of installation or when Owner accepts portions of building and equipment for operational use, instruct Owner's operating personnel in any or all parts of all systems. Factory-trained personnel shall perform instructions.

1.11 SUBMITTAL PROCEDURE AND FORMAT

A. This Article supplements Division 1.
B. Submittal Cover Sheet

1. Submittal data for each product shall include a copy of the following cover sheet completely filled out. Incomplete or incorrect cover sheet submittal shall constitute reason for rejection.
2. Material submittals shall be organized by specification section. All items requiring a submittal per each specification section shall be combined into a single submittal. Provide each section/item within that submittal with its own cover sheet labeled and tagged to match the drawings.

Shop Drawings showing layouts of systems shall contain sufficient plans, elevations, sections, details and schematics to describe work clearly. They shall be 1/4 inches = 1 foot 0 inch scale unless specified otherwise.

C. Shop drawings and submittals showing manufacturer's product data shall contain detailed dimensional drawings, accurate and complete description of materials of construction, manufacturer's published performance characteristics and capacity ratings (performance data, alone, is not acceptable), electrical requirements and wiring diagrams. Drawings shall clearly indicate location (terminal block or wire number), voltage and function for all field terminations, and other information necessary to demonstrate compliance with all requirements of Contract Documents.

D. Shop drawings for different systems and equipment shall be bound separately by specification section as indicated above and not bound by manufacturer. Each separate submittal shall have its own transmittal and cover letter. Submittals which contain different specification section systems bound together may be returned un-reviewed for re-submittal.

1.12 QUALITY ASSURANCE

A. Steel Support Welding: Qualify processes and operators according to AWS D1.1, "Structural Welding Code--Steel."
B. Steel Pipe Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."

1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.

C. Electrical Characteristics for Fire-Suppression Equipment: Equipment of higher electrical characteristics may be furnished provided such proposed equipment is approved in writing and connecting electrical services, circuit breakers, and conduit sizes are appropriately modified. If minimum energy ratings or efficiencies are specified, equipment shall comply with requirements.
D. The work performed under this Division shall be performed by a State of North Carolina certified fire protection contractor with a minimum of 5 years of experience.
E. Fire-Resistance Ratings: For piping, conduit and wiring penetrations, provide penetration firestopping devices tested for fire resistance per ASTM E 814 by a testing agency acceptable to authorities having jurisdiction. Indicate design designations from UL's "Fire Resistance Directory."
F. Acceptable Manufacturers

1. The Engineer's design for each product is based on the manufacturer listed in the schedule or shown on the drawings. In Part 2 of some technical specifications, other manufacturers are listed as being acceptable. The listing of a manufacturer as acceptable does not imply automatic approval. It is the sole responsibility of the Contractor to ensure that any submittals made are for products that meet or exceed the specifications included herein. These are acceptable only if, as a minimum, they:

a. Meet all performance criteria listed in the schedules and outlined in the specification.
b. Have identical operating characteristics to those called for in the specification. For example, a two-stroke diesel generator will not be acceptable if a four-stroke model is specified.
c. Fit within the available space it was designed for, including space for maintenance and component removal, with no modification to either the space or the product. Clearances to walls, ceilings and other equipment will be at least equal to those shown on the design drawings. The fact that a manufacturer's name appears as acceptable shall not be taken to mean that the Engineer has determined that the manufacturer's products will fit within the available space - this determination is solely the responsibility of the contractor.
d. Products must adhere to all architectural considerations including but not limited to: being of the same color as the product scheduled or specified, fitting within

D. Shop drawings for different systems and equipment shall be bound separately by specification section as indicated above and not bound by manufacturer. Each separate submittal shall have its own transmittal and cover letter. Submittals which contain different specification section systems bound together may be returned un-reviewed for re-submittal.

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D. The work performed under this Division shall be performed by a State of North Carolina certified fire protection contractor with a minimum of 5 years of experience.
E. Fire-Resistance Ratings: For piping, conduit and wiring penetrations, provide penetration firestopping devices tested for fire resistance per ASTM E 814 by a testing agency acceptable to authorities having jurisdiction. Indicate design designations from UL's "Fire Resistance Directory."
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ARCH. PROJECT # RDU 25-065

FIRE PROTECTION SPECIFICATIONS

SCALE:

SHEET # FP0.1

2.4 ADDITIONAL HEADS

A. Provide additional sprinkler heads, fittings, appurtenances, and all other work necessary to accommodate a minimum of an additional 15% of the total contract price as indicated on the Contract Documents. The 15% of the total contract price shall be used to provide any additional fire protection sprinkler coverage which may be needed to accommodate any interior design layouts, or changes to such layouts which are or may be included in the work. These sprinklers and associated work shall be provided where required to resolve any conflicts or other layout changes needed to accommodate all miscellaneous items (i.e., ceiling offsets, soffits, coves, code corrections/interpretations, structural system conflicts, or related interior design configurations). At project completion, a credit will be due to the Owner for all unused portion of the 15% of the total contract price, and this credit will be incorporated into the final pay application at a rate established in the bid proposal as two separate line items. One line item will identify the total cost of the required 15% total contract price, and the second line item will identify an individual cost per sprinkler head and all associated piping, fittings and hangers.

PART 3 - EXECUTION

3.1 PRE-BID SITE VISIT

A. Before submitting bid, visit and carefully examine site to identify existing conditions and difficulties that will affect work of this division. No extra payment will be allowed for additional work caused by unfamiliarity with site conditions that are visible or readily construed by an experienced observer.
B. Contractor shall visit job site to familiarize himself with the specific location of the new equipment installations in existing areas, to ensure there is adequate access for the installation of equipment. All entries, pathways, corridors, stairwells, etc., that may be used to install equipment shall be investigated. All existing conditions and potential obstructions that may impede access and installation shall be addressed prior to equipment purchasing/ordering.

3.2 PIPING SYSTEMS - COMMON REQUIREMENTS

A. Install piping according to the following requirements and Division 21 Sections specifying piping systems.
B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
C. Type of system configuration as well as pipe sizing, fittings, and any/all system components indicated in the Contract Documents shall be followed without exception. For example, if a looped system configuration is shown, that piping configuration and its associated pipe sizing shall be installed. The same is applicable for tree system configurations, as well as grid system configurations
D. Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.
E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
G. Install piping to permit valve servicing.
H. Install piping at indicated slopes.
I. Install piping free of sags and bends.
J. Install fittings for changes in direction and branch connections.
K. Install piping to allow application of insulation.
L. Select system components with pressure rating equal to or greater than system operating pressure.
M. Install escutcheons for penetrations of walls, ceilings, and floors.
N. Fire-Resistance-Rated Penetrations, Horizontal Assembly Penetrations, and Smoke-Barrier Penetrations: Maintain indicated fire or smoke rating of walls, partitions, ceilings, and floors at pipe, conduit and wiring penetrations. Seal penetrations with fire- and smoke-stop materials. Refer to Division 07 for firestopping and fill materials.
O. Waterproof Penetrations: Maintain integrity of waterproof roof, wall and floor penetrations for pipe, conduit and equipment support penetrations. Seal penetrations with waterproof materials with clamps, sleeves, flashings, pipe boots and/or pipe curb assemblies as detailed or specified. Refer to Division 07 for waterproofing methods and materials when not specified in this section.
P. No piping or ductwork shall pass over electrical apparatus. Piping, ductwork or equipment installed in dedicated electrical spaces as defined in NFPA shall be relocated at no additional expense.

3.3 PIPING JOINT CONSTRUCTION

A. Join pipe and fittings according to the following requirements and Division 21 Sections specifying piping systems.
B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
D. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.
E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter, using copper-phosphorus brazing filler metal complying with AWS A5.8.
F. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

G. Welded Joints: Construct joints according to AWS D10.12, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.
H. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.
I. Plastic Piping Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402, for safe-handling practice of cleaners, primers, and solvent cements.

J. Painting of fire protection, equipment, and components is specified in Division 09 Sections "Interior Painting" and "Exterior Painting." Unless noted otherwise, all exposed equipment, piping, hangers, etc., shall be painted. Confirm with Owner the color scheme prior to commencing with painting. Unless otherwise directed, each exposed system shall be painted according to the following schedule:

SYSTEM	COLOR
Automatic Sprinkler	Red
Standpipe	Red

K. Damage and Touchup: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.
L. Furnish one can of aerosol-free touch-up paint for each different color factory finish which is to be the final finished surface of the product.

3.4 INSTALLATION ONLY ITEMS:

A. Where this contractor is required to install items which he does not purchase, he shall coordinate their delivery and be responsible for their unloading from delivery vehicles and for their safe handling and field storage up to the time of installation. This contractor shall be responsible for:

1. Any necessary field assembly and internal connections, as well as mounting in place of the items, including the purchase and installation of all dunnage supporting members and fastenings necessary to adapt them to architectural and structural conditions.
2. Their connection to building systems including the purchase and installation of all terminating fittings necessary to adapt and connect them to the building systems.

B. This Contractor shall carefully examine such items upon delivery. Claims that any of these items have been received in such condition that their installation will require procedures beyond the reasonable scope of work of this Contractor will be considered only if presented in writing within one week of their date of delivery. Unless such claims have been submitted, this Contractor shall be fully responsible for the complete reconditioning or replacement of the damaged items.

END OF SECTION 210500

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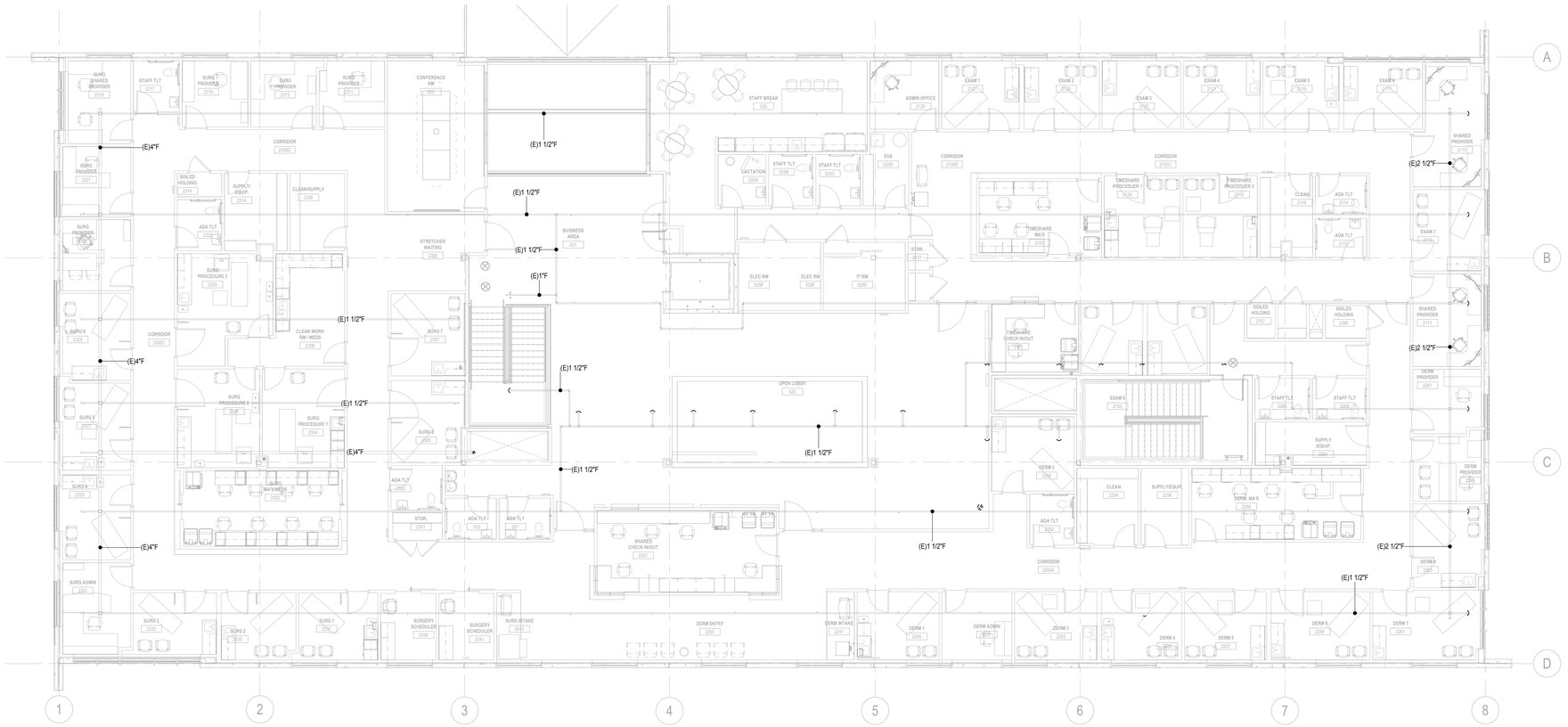
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ARCH. PROJECT # **RDU 25-065**

FIRE PROTECTION SPECIFICATIONS

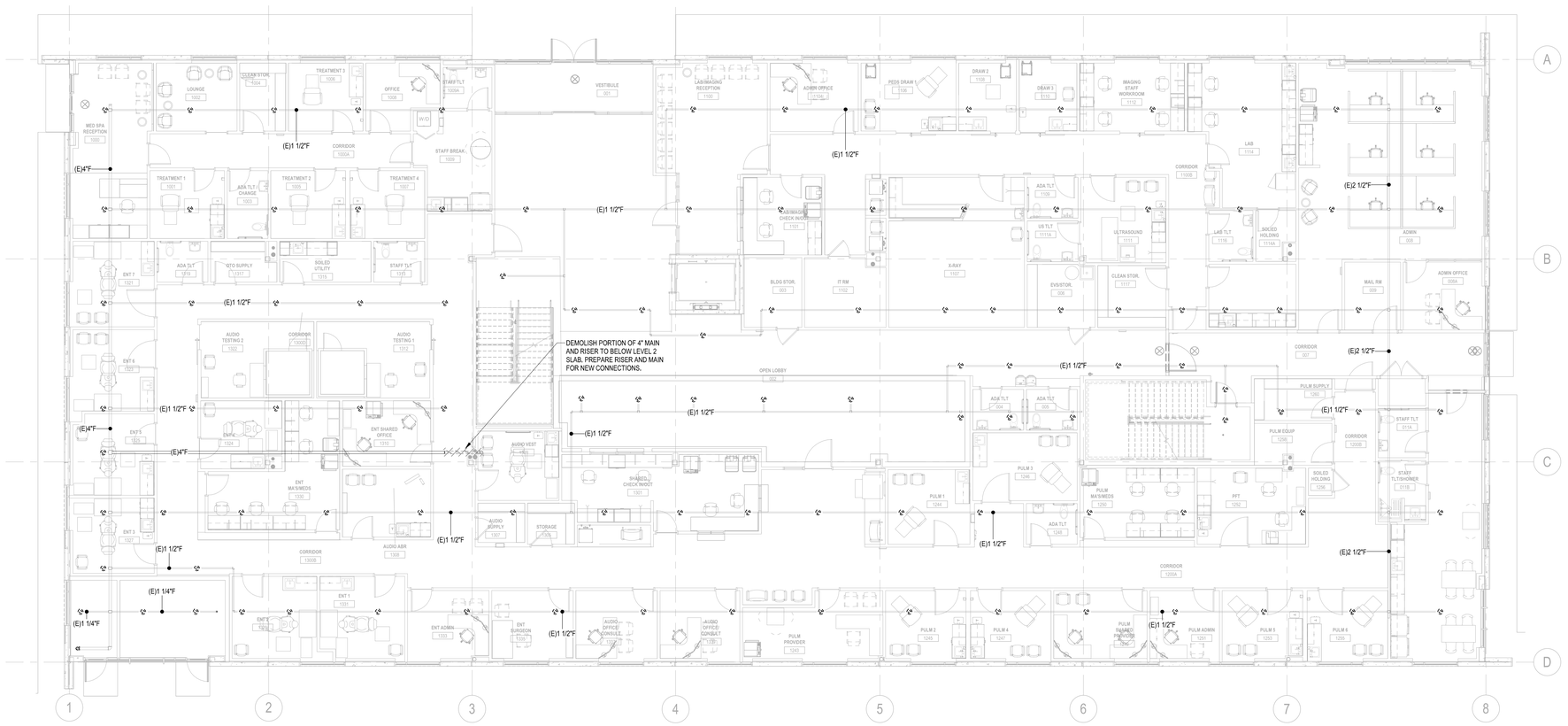
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2 FIRE PROTECTION - DEMOLITION - LEVEL 2

1/8" = 1'-0"



1 FIRE PROTECTION - DEMOLITION - LEVEL 1

1/8" = 1'-0"

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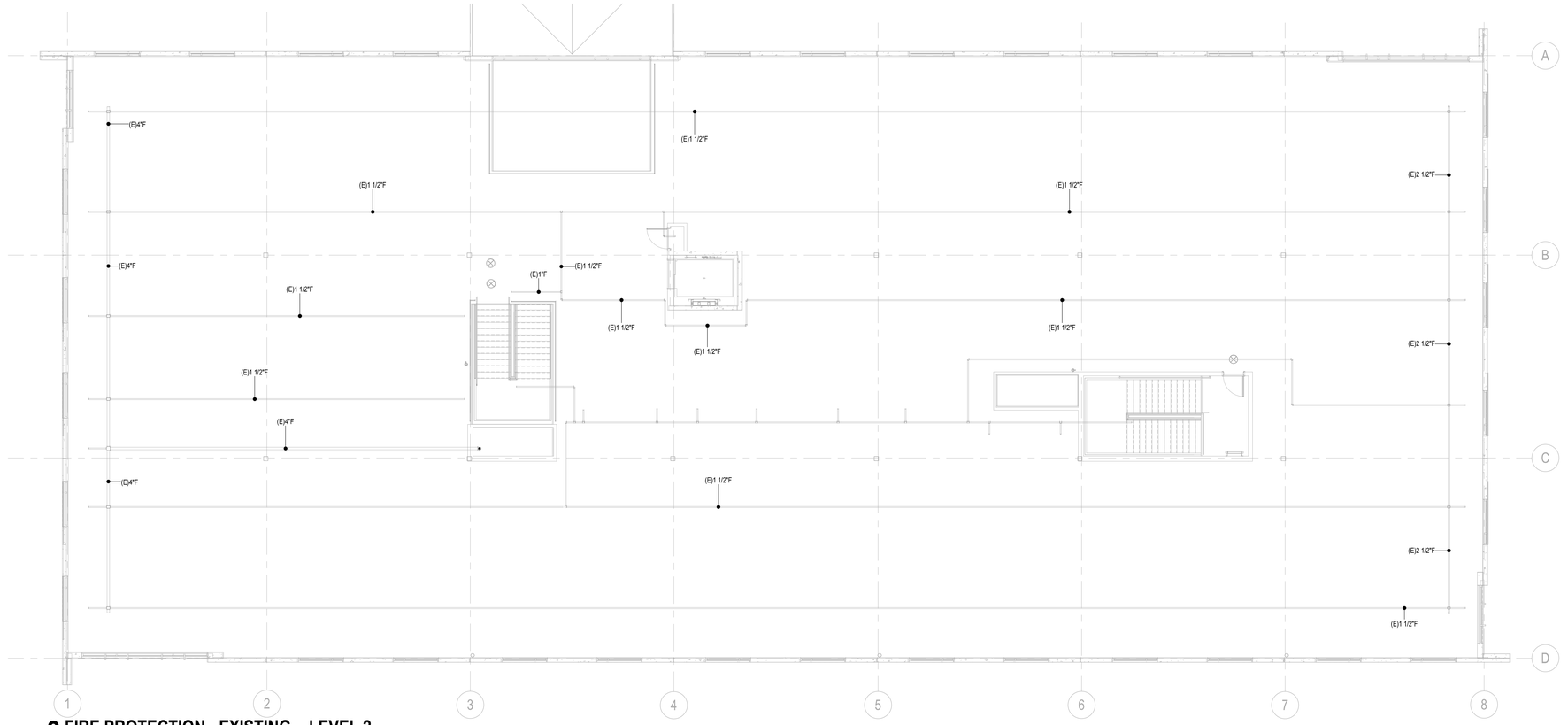
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FIRE PROTECTION DEMOLITION

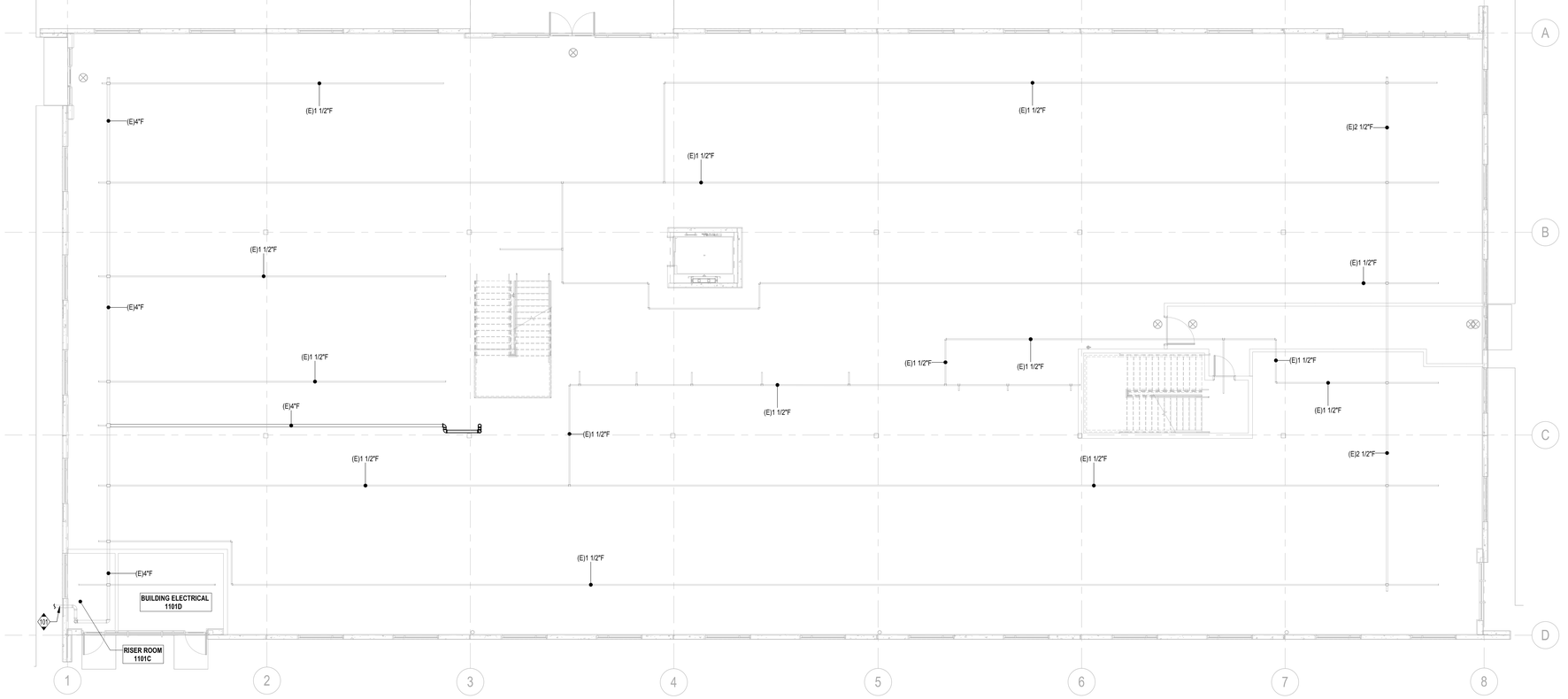
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2 FIRE PROTECTION - EXISTING - LEVEL 2

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1 FIRE PROTECTION - EXISTING - LEVEL 1

1/8" = 1'-0"

GENERAL NOTES:

1 APPROXIMATELY (110) TOTAL EXISTING SPRINKLER HEADS ON LEVEL 1
2 APPROXIMATELY (120) TOTAL EXISTING SPRINKLER HEADS ON LEVEL 2

KEY NOTES

101 EXISTING BACKFLOW PREVENTER LOCATED OUTDOORS WITHIN INSULATED HOTBOX.

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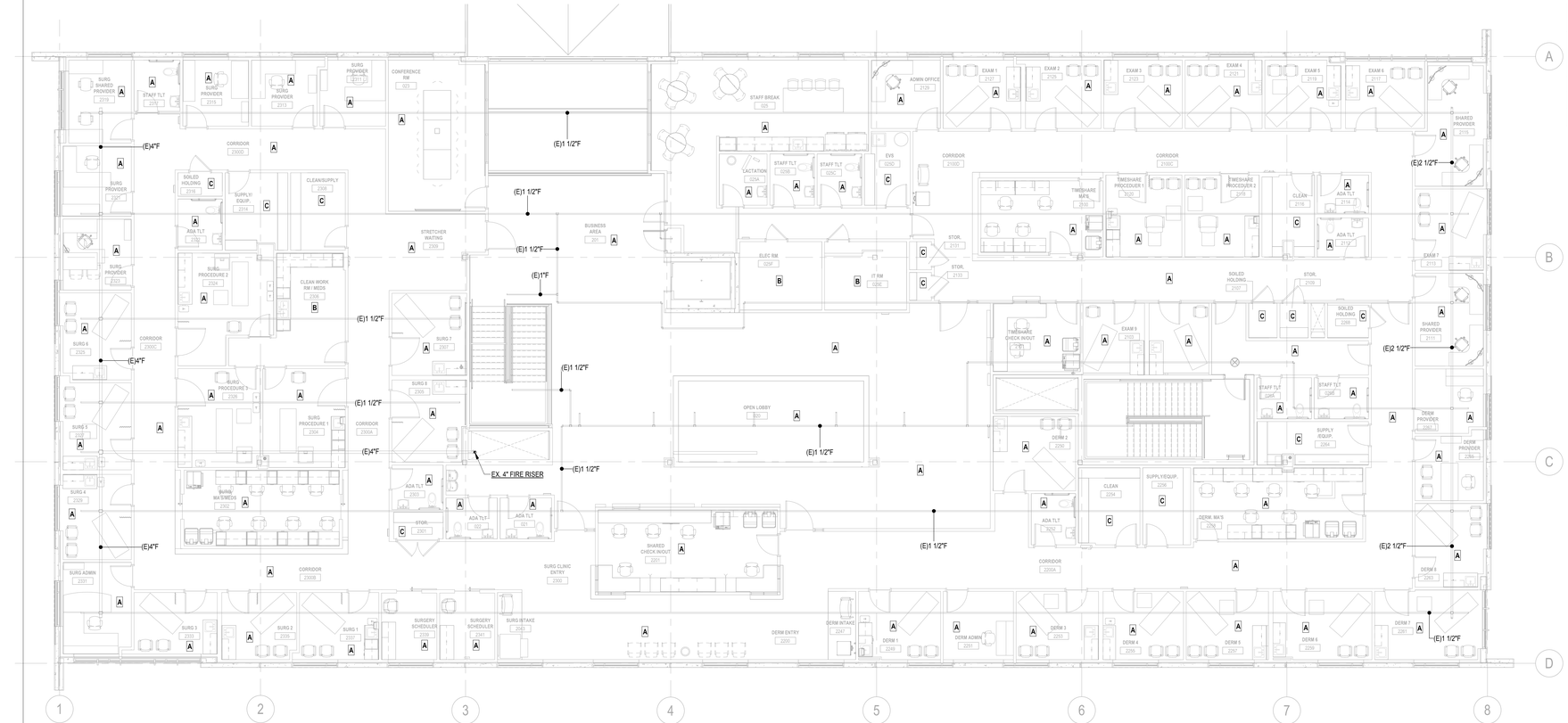
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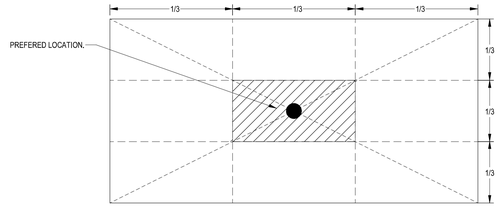
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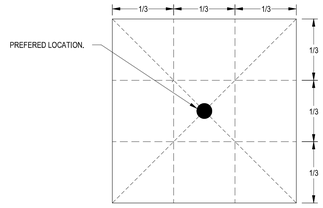
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SHEET # FP1.0


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(E)1 1/2"F
(E)1"F
EX. 4" FIRE RISER
CORRIDOR 2300C
CORRIDOR 2300A
CORRIDOR 2300B
OPEN LOBBY 002
CORRIDOR 2200A
SURG CLINIC ENTRY 2300
DERM ENTRY 2200
SURG ADMIN 2201
SURG 1 2337
SURG 2 2335
SURG 3 2333
SURG 4 2329
SURG 5 2327
SURG 6 2325
SURG 7 2307
SURG 8 2309
SURG PROCEDURE 1 2304
SURG PROCEDURE 2 2324
SURG PROCEDURE 3 2326
SURG MA'S/MEDS 2302
SURGERY SCHEDULER 2339
SURG INTAKE 2343
SHARED CHECK IN/OUT 2301
DERM 1 2249
DERM 2 2250
DERM 3 2253
DERM 4 2255
DERM 5 2257
DERM 6 2259
DERM 7 2261
DERM 8 2263
DERM INTAKE 2247
DERM ADMIN 2251
EXAM 1 2127
EXAM 2 2125
EXAM 3 2123
EXAM 4 2121
EXAM 5 2119
EXAM 6 2117
EXAM 7 2113
EXAM 8 2103
CLEAN 2254
SUPPLY/EQUIP 2256
DERM MA'S 2258
SOILED HOLDING 2260
SOILED HOLDING 2262
SOILED HOLDING 2102
TIMESHARE PROCEDURE 1 2120
TIMESHARE PROCEDURE 2 2118
TIMESHARE MA'S 2130
TIMESHARE CHECK IN/OUT 2101
STAFF TLT 0256
STAFF TLT 0254
STAFF TLT 0252
STAFF TLT 0248
STAFF TLT 0246
ADA TLT 2303
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STOR. 2133
STOR. 2135
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LACTATION 0254
EVS 025C
ELEC RM 025F
IT RM 025E
BUSINESS AREA 201
STRETCHER WAITING 2309
SUPPLY/ EQUIP. 2314
CLEAN/SUPPLY 2316
CLEAN WORK RM / MDS 2306
SOILED HOLDING 2312
CONFERENCE RM 023
SURG PROVIDER 2311
SURG PROVIDER 2315
SURG PROVIDER 2313
SURG SHARED PROVIDER 2319
SURG PROVIDER 2321
SURG PROVIDER 2323
SHARED PROVIDER 2115
SHARED PROVIDER 2111
DERM PROVIDER 2261
DERM PROVIDER 2265
STAFF TLT 2246
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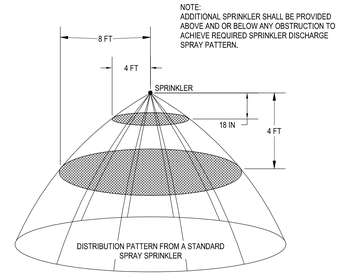
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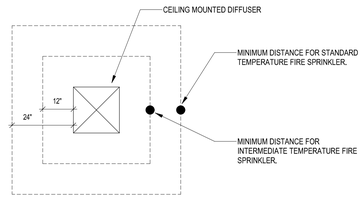
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NTS

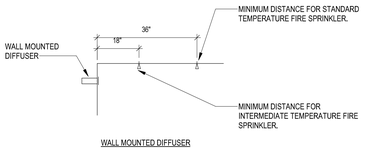


3 OBSTRUCTION TO SPRINKLER DISCHARGE PATTERN DETAIL

NTS



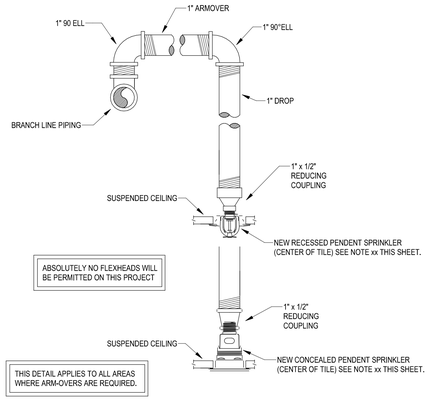
CEILING MOUNTED DIFFUSER



WALL MOUNTED DIFFUSER

2 SPRINKLER PLACEMENT BY HOT AIRE DIFFUSERS

NTS



1 TYPICAL SWING JOINT

NTS

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NORTH CAROLINA PROFESSIONAL SEAL 038551 ENGINEER ANDREW BARKER

Andrew Barker
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Onslow MEMORIAL HOSPITAL
An Affiliate of UNC Health

ONSLOW MEMORIAL HEALTH

172 NORTHWEST CORRIDOR BLVD
JACKSONVILLE, NC 28546

11.21.25

#	△	DESCRIPTION	DATE
1		PERMIT SET	11.21.2025
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ARCH. PROJECT # **RDU 25-065**

FIRE PROTECTION DETAILS

SCALE: 12" = 1'-0"

SHEET # **FP6.0**