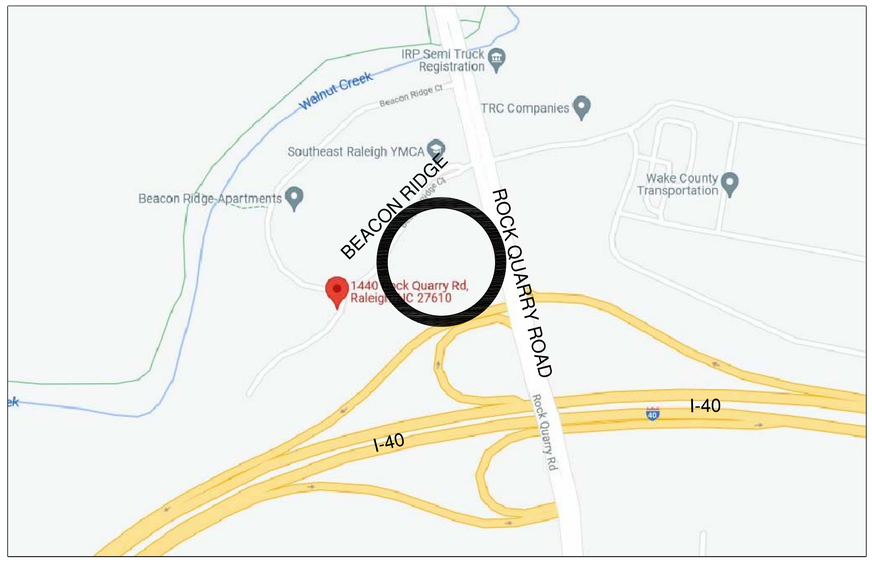
LEGAL AID @ BEACON POINT

RALEIGH, NORTH CAROLINA
SUITE 206

CONSTRUCTION DRAWINGS FOR BIDDING

MAY 16, 2024



LOCATION MAP

DESIGN TEAM

ARCHITECTURAL	DTW ARCHITECTS & PLANNERS, LTD.
MECHANICAL	EDMONDSON ENGINEERS, P.A.
PLUMBING	EDMONDSON ENGINEERS, P.A.
ELECTRICAL	EDMONDSON ENGINEERS, P.A.
FIRE PROTECTION	EDMONDSON ENGINEERS, P.A.
STRUCTURAL	ROSS LINDEN ENGINEERS PC
FIRE SPRINKLER	J&D SPRINKLER COMPANY, INC.
INTERIOR DESIGN	SCC INTERIORS INC.

DRAWING INDEX

REVIEWERS APPROVAL STAMP:.

PROJECT DESCRIPTION

THIS PROJECT IS AN INTERIOR UPFIT IN A NEW 2–STORY BUILDING SHELL.

THE INTERIOR WORK WILL INCLUDE ONE OFFICE SUITE OF 9,871 SF ON THE SECOND FLOOR, INCLUDING A LARGE CONFERENCE ROOM, ONE SMALLER CONFERENCE ROOM WITH COFFEE COUNTER, BREAK ROOM WITH KITCHENETTE, AND A UNISEX RESTROOM.

COVER SHEET
DRAWING INDEX

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
20015E

DTW ARCHITECTS AND PLANNERS, LTD.
REGISTERED ARCHITECTURAL CORPORATION
CERT. NO. 162
NORTH CAROLINA
DURHAM, N.C.

ROBERTO L. SOTOLONGO
REGISTERED
NORTH CAROLINA
04837
ARCHITECT
DURHAM, N.C.
Robert Sotolongo
5-16-2024

DTW
Architects & Planners, Ltd.
3333 Durham-Chapel Hill Blvd
Suite D-100
Durham, NC 27707
919.317.4020

C.D.'s FOR BID

Revisions

Drawn S.O.S.
Checked R.L.S.
Date MAY 16, 2024
Sheet T0
Of

APPENDIX B
2018 BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT ONE AND TWO-FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: SELF-HELP BEACON POINT/ LEGAL AID UPFIT
Address: 1425 PROMISE BEACON, SUITE 206, RALEIGH, NC Zip Code 27610
Owner or Auth. Agent: ASPEN ROMEYN Phone # (919) 313-8565 Email aspen.romeyn@self-help.org
Owned By: ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☒ City RALEIGH ☐ County ☐ State

CONTACT: ROBERT SOTOLONGO, A.I.A.

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	EMAIL
Architectural	DTW ARCHITECTS & PLANNERS	R. SOTOLONGO	04837	(919) 317-4020	r.sotolongo@DTWArch.com
Civil	CLH Design	SJ. MILLER	22625	(919) 319-6716	sm@clhdesignpa.com
Electrical	Edmondson Engineers, P.A.	J.D. HAYES	028869	(919)544-1936	Dennis@edmpa.com
Fire Alarm	Edmondson Engineers, P.A.	J.D. HAYES	028869	(919)544-1936	Dennis@edmpa.com
Plumbing	Edmondson Engineers, P.A.	C. CROWL	028862	(919)544-1936	Charles@edmpa.com
Mechanical	Edmondson Engineers, P.A.	C. CROWL	028862	(919)544-1936	Charles@edmpa.com
Spr.-Stand.	JD Sprinkler Co. Inc.	Dana Graham	16269FS	— — —	— — —
Structural				— — —	
Ret. Walls >5' High				— — —	
Other: (Landscape Arch)				— — —	

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

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

2018 NC EXISTING BUILDING CODE: (check all that apply) ☐ Prescriptive ☐ Alteration - Lvl 1 ☐ Historic Property ☐ Repair ☐ Alteration - Lvl 2 ☐ Change of Use ☐ Chapter 14 ☐ Alteration - Lvl 3

CONSTRUCTED: (date)_____ **CURRENT USE(S):** (Ch. 3):_____
RENOVATED: (date)_____ **PROPOSED USE(S):** (Ch. 3):_____
OCCUPANCY CATEGORY (Table 1604.5): Current:_____ Proposed:_____

BASIC BUILDING DATA

Construction Type: (check all that apply) ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A ☐ I-B ☒ II-B ☐ III-B ☐ V-B
Sprinklers: ☐ No ☐ Partial ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☐ No Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Primary Fire District: ☐ No ☒ Yes Flood Hazard Area: ☐ No ☐ Yes
Special Inspections Required: ☐ No ☐ Yes

GROSS BUILDING AREA TABLE

FLOOR	EXISTING (SQ FT)	RENOVATED (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor				
5th Floor				
4th Floor				
3rd Floor				
2nd Floor			9,871	9,871
Mezzanine				
1st Floor				
Basement			9,871	9,871
TOTAL				

* UPFIT IS 9,871 SF./ TOTAL SQ. FT. IN WHOLE BUILDING IS 39,976.

ALLOWABLE AREA

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

Accessory Occupancies Classification(s): A-2, A-3
Incidental Uses (Table 509): _____
This separation is not exempt as a Non-separated Use (see exceptions).
Special Uses (Chapter 4 - List Code Sections): _____
Special Provisions (Chapter 5 - List Code Sections): _____
Mix Occupancy: ☐ No ☒ Yes Separation: _____ Hr. Exception: _____

☒ Non-separated Use (508.3)

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

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} + \ldots = \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG. AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA	(C) AREA FOR FRONTAGE INCREASE 1, 5	(D) ALLOWABLE AREA PER STORY OR UNLIMITED 2, 3
1	ASSEMBLY 2/3*	20,138	38,000		66,500
2	ASSEMBLY 2/3*	19,838	38,000		66,500

* MOST RESTRICTIVE OF THE NON-SEPARATED MIXED USES.

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

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height In Feet (Table 504.3)	75'	31'	504.4
Building Height In Stories (Table 504.4)	3	2	504.3

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

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ ____ REDUCTION)	DETAIL# AND SHEET#	DESIGN# FOR RATED ASSEMBLY	SHEET# FOR RATED PENETRATION	SHEET# FOR RATED JOINTS
Structural Frame, Including Columns, Girders, Trusses		0					
Bearing walls		0					
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions		0					
Exterior							
North							
East							
West							
South							
Interior walls and partitions							
Floor construction Including supporting beams and joists		0					
Floor Ceiling Assembly		0					
Columns Supporting Floors		0					
Roof construction Including supporting beams and joists		0					
Roof Ceiling Assembly		0					
Columns Supporting Roof		0					
Shafts Enclosures - Exit		1	1	T2	UL #U419		
Shafts Enclosures - Other		1	1	T2	UL #W469		
Corridor Separation		0					
Occupancy/Fire Barrier Separation		NA					
Party/Fire Wall Separation		NA					
Smoke Barrier Separation		NA					
Smoke Partition		NA					
Tenant/Dwelling Unit/ Sleeping Unit Separation		NA					
Incidental Use Separation		NA					

*Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (feet) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
OVER 30'			

LIFE SAFETY SYSTEM REQUIREMENTS

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

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: T3

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

*THERE ARE NO OTHER BUILDINGS WITHIN 60' OF THIS BUILDING.

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

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

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: VAN SPACES WITH REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
MULTI-TENANT BLDG	114 SPACES	114 SPACES	3		2	5
BANK BLDG	7 SPACES	8 SPACES			2	2
TOTAL	121 SPACES	122 SPACES	3		4	7

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATER CLOSETS Male	WATER CLOSETS Female	WATER CLOSETS Unisex	URINALS	LAVATORIES Male	LAVATORIES Female	LAVATORIES Unisex	SHOWERS /TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXISTING										
	NEW	1*	2*	1*	1*	2*	2*	1*	0	2	2
	REQUIRED										

*PUBLIC TOILETS FOR SECOND FLOOR BUSINESS OCCUPANCIES SHOWN/ ONE ADDITIONAL CONVENIENCE UNISEX TOILET IN THIS SUITE. (FIRST FLOOR TENANTS HAVE PLUMBING FIXTURES IN THEIR SUITES.)

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)
CITY OF RALEIGH SITE PLAN APPROVAL #ASR-0023-2021
CITY OF RALEIGH SITE CONSTRUCTION DRAWING APPROVAL

ENERGY SUMMARY
NOTE: INFORMATION FOR EXISTING BUILDING SHELL.

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

Existing building envelope complies with code: ☒ (If checked, the remainder of this section is not applicable.)
Exempt Building: ☐ Provide code or statutory reference: _____
Climate Zone: ☐ 3A ☒ 4A ☐ 5A
Method of Compliance:
Energy Code: ☐ Performance ☒ Prescriptive
ASHRAE 90.1: ☐ Performance ☐ Prescriptive
Other: ☐ Performance (specify source) _____

THERMAL ENVELOPE: (Prescriptive method only)

Roof/Ceiling Assembly (each assembly)
Description of assembly: SINGLE PLY MEMBRANE WITH RIGID INSULATION
U-Value of total assembly: U=0.033
R-Value of insulation: R-30
Skylights in each assembly: N/A
U-Value of skylight: _____
Total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
Description of assembly: METAL STUDS WITH R-19 BATT INSULATION AND R-13 CONT. CAVITY INSULATION
U-Value of total assembly: U=.032
R-Value of insulation: R-32 TOTAL
Openings (windows or doors with glazing): _____
U-Value of assembly: .28 WINTER NIGHT .26 SUMMER DAY
Solar heat gain coefficient: .27
Projection factor: N/A
Door R-Values: U=.28

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

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

Floors slab on grade
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: R-15 PERIMETER RIGID INSULATION 36" WIDE AT PERIMETER
Horizontal/vertical requirement: _____
Slab heated: _____

STRUCTURAL DESIGN (FOR SHELL BUILDING)

DESIGN LOADS:
Importance Factors: Wind (I_W) 1.0; Snow (I_S) 1.0; Seismic (I_E) 1.0
Live Loads: Roof 20 psf; Mezzanine N/A psf; Floor 50 psf (OFFICE)
Ground Snow Load: _____ psf
Wind Load: Basic Wind Speed 115 mph (ASCE-7); Exposure Category B

SEISMIC DESIGN CATEGORY: ☐ A ☒ B ☐ C ☐ D
Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) ☐ I ☒ II ☐ III ☐ IV
Spectral Response Acceleration S_S 0.154 %g; S_1 0.077 %g
Site Classification (ASCE 7) ☐ A ☐ B ☒ C ☐ D ☐ E ☐ F
Data Source: ☒ Field Test ☐ Presumptive ☐ Historical Data
Basic structural system (check one)
☐ Bearing Wall ☐ Dual w/Special Moment Frame
☒ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☐ Yes ☐ No
Seismic base shear: Vx = 44.0 k Vy = 44.0 k

LATERAL DESIGN CONTROL: ☐ Earthquake ☒ Wind

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) 4,000 psf
Presumptive Bearing capacity _____ psf
Pile size, type, and capacity _____

MECHANICAL SUMMARY (Also found on M 0.1)

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone (4A)
Winter dry bulb 16° F
Summer dry bulb 90° F

Interior design conditions
Winter dry bulb 72° F
Summer dry bulb 75° F
Relative humidity 50 %

Building heating load 558.0 MBH
Building cooling load 1158.4 MBH

Mechanical Spacing Conditioning System
Unitary
Description of unit: PACKAGED ROOFTOP DX VAV UNITS
Heating efficiency: ELECTRIC HEATING COILS
Cooling efficiency: 11.0 EER
Size category of unit: (3) > 65,000 BTUH
Boiler
Size category. If oversized, state reason. N/A
Chiller
Size category. If oversized, state reason. N/A

List equipment efficiencies: VARIES - SEE EQUIPMENT SCHEDULES

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance
Energy Code: ☒ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance

Lighting schedule (each fixture type)
Lamp type required in fixture - See Fixture Schedule on Electrical Plans
Number of lamps in fixture - See Fixture Schedule on Electrical Plans
Ballast type used in the fixture - See Fixture Schedule on Electrical Plans
Number of ballasts in the fixture - See Fixture Schedule on Electrical Plans
Total wattage per fixture - See Fixture Schedule on Electrical Plans
Total interior wattage specified vs. allowed - 4,808W vs. 31,254W
Total exterior wattage specified vs. allowed - 475W vs. 1,320W

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

ABBREVIATIONS

@	at	LAM.	laminate
ALT.	alternate	LAV.	lavatory
ALUM.	aluminum	LTL.	lintel
APPR.	approximate	LT. WT.	light weight
BD.	board	MAG.	magnetic
BLDG.	building	MAS.	masonry
B.U.R.	built up roof	MAX.	maximum
C.J.	control joint	MECH.	mechanical
CLG.	ceiling	MIN.	minimum
CLR.	clear	M.O.	masonry opening
C.M.U.	concrete masonry unit	M.R.	moisture resistant
COL.	column	M.T.	metal threshold
CONC.	concrete	MTL. or MET.	metal
CONT.	continuous	N.I.C.	not in contract
CONTR.	contractor	N.T.S.	not to scale
C.T.	ceramic tile	O.C.	on center
DIM.	dimension	OPN'G	opening
DN.	down	OPP.	opposite
DS.	downspout	PART'N.	partition
DWG.	drawing	PL.	plate
EA.	each	PLYWD.	plywood
E.J.	expansion joint	PREFIN.	pre-finish
EL. or ELEV.	elevation	PT.	point
ELEC.	electrical	PWR.	power
EQ.	equal	R.A.G.	return air grill
E.W.C.	electric water cooler	R.D.	roof drain
EXIST.	existing	REF.	reference
EXP.	expansion	REINF.	reinforced
F.D.	floor drain	REQ'D.	required
FIN.	finish	RM.	room
FL.	floor	RW. L.	rainwater leader
F.O.B.	face of brick	SIM.	similar
F.O.C.	face of concrete	S. STL.	stainless steel
F.O.M.	face of masonry	STL.	steel
GA.	gauge	STRUCT.	structural
GALV.	galvanized	SUSP.	suspended
G.B.	grab bar	TH'LD.	threshold
GL.	glass	TYP.	typical
GYP.	gypsum	V.C.T.	vinyl composition tile
H.M.	hollow metal	V.I.F.	verify in field
HT.	height	V.W.C.	vinyl wall covering
INSUL.	insulation	WD.	wood
INV.	invert	W/	with
JT.	joint		

SYMBOLS AND NOTATIONS

NAME / SHEET NUMBER — AREA NAME / AREA NUMBER
DOOR TYPE OR NUMBER
DRAWING NUMBER / SHEET NUMBER
ELEVATION NUMBER & DIRECTION OF VIEW / SHEET NUMBER
SECTION NUMBER & DIRECTION OF VIEW / SHEET NUMBER
DETAIL NUMBER / SHEET NUMBER
COLUMN LINE NUMBER
EQUIPMENT TYPE OR NUMBER
CASEWORK TYPE OR NUMBER

CONCRETE MASONRY
BRICK
CONCRETE
PLYWOOD
FINISH WOOD
BATT INSULATION
RIGID INSULATION
PLASTER, GYP. BD.
EARTH

DATA SHEET

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: 20015E

DTW ARCHITECTS AND PLANNERS, LTD. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 162 NORTH CAROLINA DURHAM, N.C.

ROBERTO L. SOTOLONGO REGISTERED Robert Sotolongo NORTH CAROLINA 04837 5-16-2024 DURHAM, N.C.

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Durham, NC 27707
919.317.4020

C.D.'s FOR BID

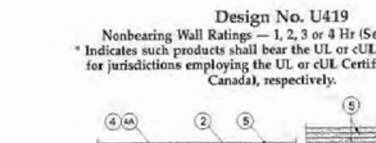
Revisions

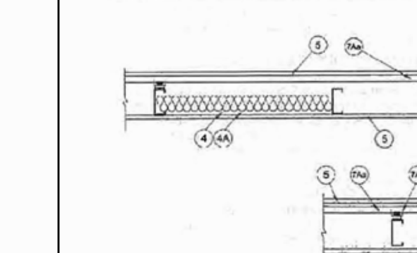
Drawn S.O.S.
Checked R.L.S.
Date MAY 16, 2024
Sheet T1
Of

Design No. U419

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5)

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





1. Floor and Ceiling Runners — (Not shown) — For use with Item 2 - Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. Framing Members* - Floor and Ceiling Runner — Not shown - In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO —Viper25™ Track
CRACO MFG INC —SmartTrack25™
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track
PHILLIPS MFG CO L L C —Viper25™ Track

1B. Framing Members* - Floor and Ceiling Runner — Not shown - In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO —Viper20™ Track
MARINO/WARE, DIV OF WARE INDUSTRIES INC —Viper20™ Track
PHILLIPS MFG CO L L C —Viper20™ Track

1C. Framing Members*— Floor and Ceiling Runners — (Not shown) — In lieu of Item 1 - Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.
ALLSTEEL & GYPSUM PRODUCTS INC —Type SUPREME Framing System
CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV —Type SUPREME Framing System
QUAIL RUN BUILDING MATERIALS INC —Type SUPREME Framing System
SCAFCO STEEL STUD MANUFACTURING CO —Type SUPREME Framing System
STEEL CONSTRUCTION SYSTEMS INC —Type SUPREME Framing System
UNITED METAL PRODUCTS INC —Type SUPREME Framing System

1D. Floor and Ceiling Runners — (Not shown)—For use with Item 2A- Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. Framing Members*— Floor and Ceiling Runners — (Not shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
CLARKDIETRICH BUILDING SYSTEMS —CD ProTRAK
DMFCWBS L L C—ProTRAK
MBA METAL FRAMING —ProTRAK
RAM SALES L L C —Ram ProTRAK
STEEL STRUCTURAL SYSTEMS L L C —Tri-S ProTRAK

1F. Framing Members* - Floor and Ceiling Runner — Not shown - In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
SUPER STUD BUILDING PRODUCTS —The Edge

1G. Framing Members* - Floor and Ceiling Runner — For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size, attached to floor and ceiling with fasteners 24 in. OC max.
STUDCO BUILDING SYSTEMS —CROCSTUD Track

1H. Floor and Ceiling Runners — (Not shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.02 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.
MARINO/WARE, DIV OF WARE INDUSTRIES INC —Viper20™ Track VT100.

1I. Framing Members*— Floor and Ceiling Runners — (Not shown, As an alternate to Item 1) — For use with Item 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
TELLING INDUSTRIES L L C —TRUE-TRACK™

1J. Framing Members* - Floor and Ceiling Runner — Not shown - In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
TELLING INDUSTRIES L L C —Viper25™ Track

1K. Framing Members* - Floor and Ceiling Runner — Not shown - In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
TELLING INDUSTRIES L L C —Viper20™ Track

2. Steel Studs — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. Steel Studs — (As an alternate to Item 2, For use with Items 5B, 5E, 5H and 5J) Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. Framing Members* - Steel Studs — (As an alternate to Item 2, For use with Items 5C, 5I or 5K) - Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
CALIFORNIA EXPANDED METAL PRODUCTS CO —Viper25™
CRACO MFG INC —SmartStud25™
MARINO/WARE, DIV OF WARE INDUSTRIES INC —Viper25™
PHILLIPS MFG CO L L C —Viper25™

2C. Framing Members* - Steel Studs — Not shown - In lieu of Item 2 - proprietary channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO —Viper20™
MARINO/WARE, DIV OF WARE INDUSTRIES INC —Viper20™
PHILLIPS MFG CO L L C —Viper20™

2D. Framing Members*— Steel Studs — In lieu of Item 2 – Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
ALLSTEEL & GYPSUM PRODUCTS INC —Type SUPREME Framing System
CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV —Type SUPREME Framing System
QUAIL RUN BUILDING MATERIALS INC —Type SUPREME Framing System
SCAFCO STEEL STUD MANUFACTURING CO —Type SUPREME Framing System
STEEL CONSTRUCTION SYSTEMS INC —Type SUPREME Framing System
UNITED METAL PRODUCTS INC —Type SUPREME Framing System

2E. Framing Members*— Steel Studs — (Not shown, As an alternate to Item 2) —For use with Items 5F or 5G or 5I only, channel shaped studs, min depth as indicated under Item 5, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
CLARKDIETRICH BUILDING SYSTEMS —CD ProSTUD
DMFCWBS L L C —ProSTUD
MBA METAL FRAMING —ProSTUD

RAM SALES L L C —Ram ProSTUD
STEEL STRUCTURAL SYSTEMS L L C —Tri-S ProSTUD

2F. Framing Members* - Steel Studs — Not shown - In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.
SUPER STUD BUILDING PRODUCTS —The Edge

2G. Framing Members* - Steel Studs — Not shown - In lieu of Item 2 - proprietary channel shaped steel studs, minimum width indicated under Item 5. Studs to be cut 3/8 to 3/4 in less than the assembly height.
STUDCO BUILDING SYSTEMS —CROCSTUD

2H. Framing Members* — Steel Studs — (Not shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
TELLING INDUSTRIES L L C —TRUE-STUD™

2I. Framing Members* - Steel Studs — (As an alternate to Item 2, For use with Items 5C or 5L) - Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than the assembly height and installed with a ½ in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
TELLING INDUSTRIES L L C —Viper25™

2J. Framing Members* - Metal Studs — Not shown - In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights
TELLING INDUSTRIES L L C —Viper20™

2K. Framing Members*— Steel Studs — As an alternate to Item 2 - For use with Item 5, channel shaped steel studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
EB METAL INC —EB Stud

2L. Framing Members* - Steel Studs — As an alternate to Item 2 - For use with Item 1, channel shaped steel studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
OLMAR SUPPLY INC —PRIMESTUD

3. Wood Structural Panel Sheathing — (Optional, For use with Item 5 Only.) (Not Shown) - 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC in the perimeter and 12 in. OC in the field. When used, fastener lengths for gypsum panels increased by min. 1/2 in.

4. Batts and Blankets* — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

4A. Batts and Blankets* — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

4B. Batts and Blankets* — Placed in stud cavities, any 3-1/2 in. thick glass fiber 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.

5. Gypsum Board* — 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 joints need not be backed by steel framing. 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:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F and 2G	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
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.

CGC INC —1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE
UNITED STATES GYPSUM CO —1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE
USG MEXICO S A DE C V —1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, Steel Framing Members*, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. Gypsum Board* — (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.
CGC INC —Type SHX.
UNITED STATES GYPSUM CO —Type FRX-G, SHX.
USG MEXICO S A DE C V —Type SHX.

5B. Gypsum Board* — (Not Shown) - As an alternate to Item 5 when used as the base layer on one or both sides of wall where 5/8 in or ¾ in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 in. or ¾ in. may be used as alternate to all 5/8 in. or ¾ in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or ¾ in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).
RAY-BAR ENGINEERING CORP —Type RB-LBG

5C. Gypsum Board* — (For Use With Item 2B) Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6

in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.
CGC INC —Type SCX.
UNITED STATES GYPSUM CO —Type SCX, SGX.
USG MEXICO S A DE C V —Type SCX.

5D. Gypsum Board* — (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.
UNITED STATES GYPSUM CO —Type USGX.

5E. Gypsum Board* — (Not Shown) - (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.
NEW ENGLAND LEAD BURNING CO INC, DBA NELCO —Nelco

5F. Gypsum Board* — (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only. Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.
UNITED STATES GYPSUM CO —5/8 in. thick Type SCX, SGX.

5G. Gypsum Board* — (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically, as specified in the table below and fastened to the steel studs as described in Item 6. 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 joints need not be backed by steel framing. 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 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

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

CGC INC —1/2 in. thick Type C, IP-X2 or IPC-AR; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE
UNITED STATES GYPSUM CO —1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE
USG MEXICO S A DE C V —1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. Gypsum Board* — (Not Shown) - (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).
MAYCO INDUSTRIES INC —Type X-Ray Shielded Gypsum

5I. Gypsum Board* — (As an alternate to Item 5) – Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.
CGC INC —Type ULX
UNITED STATES GYPSUM CO —Type ULX
USG MEXICO S A DE C V —Type ULX

5J. Gypsum Board* — (Not Shown) - (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RADIATION PROTECTION PRODUCTS INC —Type RPP - Lead Lined Drywall

5K. Gypsum Board* — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Insulation (Item 4B) required. The steel stud size and type and number of layers are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2B	No. of Layers & Thickness of Panel
1	3-5/8	1 layer, 5/8 in. thick

UNITED STATES GYPSUM CO —5/8 in. thick Type ULIX

6. Fasteners — (Not shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). 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 8 in. OC along vertical and bottom edges and 12 in. OC in the field 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.

7. 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 5A and 5E.

7A. Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.
b. Steel Framing Members* — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet.

met. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL INC —Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. Framing Members* — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A and 5E.
b. Steel Framing Members* — Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax

7C. Framing Members* — (Optional, Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.
b. Steel Framing Members* — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PLITEQ INC —Type GENIECLIP

7D. Steel Framing Members — (Optional, Not Shown)* - Furring channels and resilient sound isolation clip as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 4. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge. Not for use with Item 5A and 5E.
b. Steel Framing Members* — Resilient sound isolation clip used to attach furring channels (Item 7Da) to studs. Clips spaced 24 in. OC., and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS —RESILMOUNT Sound Isolation Clips – Type A237 or A237R

8. 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 layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. 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.

10. Caulking and Sealants* — (Optional, not shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO —Type AS

11. Lead Batten Strips — (Not Shown, For Use With Item 5B) - Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. Lead Batten Strips — (Not Shown, For Use With Item 5H) Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. Lead Discs or Tabs — (Not Shown, For Use With Item 5B) - Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

12A. Lead Discs — (Not Shown, for use with Item 5H) Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. Lead Batten Strips — (Not Shown, For Use With Item 5E) Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

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

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

UL Product iQ™

BXUV.W469 - Fire-resistance Ratings - CAN/ULC-S101 Certified for Canada

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

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

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

Design No. W469

October 02, 2019

Bearing Wall Ratings — 3/4 Hr, 1, 1-1/2, 2 Hr or 3-hr

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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

1. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, fabricated from min 0.0329 in., bare metal thickness (No. 20 MSG) corrosion-protected steel, that provide a sound structural connection between steel studs and adjacent assemblies such as floors, ceilings and/or other walls. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. OC.

2. **Steel Studs —** Min 0.0329 in., bare metal thickness (No. 20 MSG) corrosion-protected steel studs, min 3-1/2 in. wide, cold formed, designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute (AISI). All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing shall not exceed 24 in. OC (or 16 in. OC when Item 11 is used). Studs attached to floor and ceiling runners with 1/2 in. long Type S-12 steel screws on both sides of the studs or by welded or bolted connections designed in accordance with the AISI specifications.

3. **Lateral Support Members —** (Not shown) — Where required for lateral support of studs, support shall be provided by means of steel straps, channels or other similar means as specified in the design of a particular steel stud wall system.

4. **Wood Structural Panel Sheathing —** (Optional. For use with Item 5, 5A,5B or 5C) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in. The maximum loading on the steel studs was evaluated with the steel studs braced at mid-height and not braced by the plywood sheathing.

5. **Gypsum Board —** Gypsum panels with beveled, square or tapered edges applied vertically. 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. Outer layer of 3 layer or 4 layer construction may be applied horizontally. The thickness and number of layers and percent of design load for the 45 min, 1-1/2 hr, 2 hr and 3 hr ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	No. of Layers & Thkns of Panel	% of Design Load
45 Min	1 layer, 1/2 in. thick	100
1-1/2 hr	2 layers, 1/2 in. thick	100
2 hr	3 layers, 1/2 in. thick	100
3 hr	4 layers, 1/2 in. thick	100

NATIONAL GYPSUM CO — 1/2 in. thick Type FSW-C, eXP-C, FSMR-C, FSK-C, FSW-G, FSK-G

5A. **Gypsum Board —** 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 system) staggered one stud cavity. Horizontal joints need not be backed by steel framing. 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 system) need not be staggered. When used in widths other than 48 in., gypsum panels to be installed horizontally. The thickness and number of layers and percent of design load for the 1 hr and 2 hr ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	No. of Layers & Thkns of Panel	% of Design Load
1 hr	1 layer, 5/8 in. thick	100
2 hr	2 layers, 5/8 in. thick	100

NATIONAL GYPSUM CO — 5/8 in. thick Type FSL, FSW, FSK, FSW-3, FSW-5, FSW-6, FSW-C, eXP-C, FSMR-C, FSK-C, FSW-G, FSK-G

5B. **Gypsum Board** — 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. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. When used in widths other than 48 in., gypsum panels to be installed horizontally. Insulation (Item 7A) required when using Type FSLX for the 1 hour Rating. The thickness and percent of design load is as follows:

Wallboard Protection on Each Side of Wall

Rating	No. of Layers & Thkns of Panel	% of Design Load
1 hr*	1 layer, 5/8 in. thick	100

*Rating applicable when Batts and Blankets (Item 7A) are used.

NATIONAL GYPSUM CO — 5/8 in. thick Type FSLX

5C. **Gypsum Board* —** (As an alternate to Item 5A) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically only and secured as described in Item 6.
NATIONAL GYPSUM CO — Type SBWB

5D. **Gypsum Board* — As an alternate to Item 5A (1-hr) —** Two layers Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Horizontal joint46s on the same side need not be staggered. When applied horizontally, both layers of gypsum board fastened to each side of framing with 1 in. long Type S steel screws spaced 8 in. OC and staggered 4 in. OC between layers. When applied vertically, both layers of gypsum board fastened to each side of framing with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field, staggered 4 in. OC between layers. Screws spaced a max 12 in. along the top and bottom edges of the wall.
As an alternate to Item 5A (2-Hr) — Four layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. When applied horizontally, base layer secured to studs with 1 in. Type S screws spaced 24 in. OC. Second layer installed with joints offset 12 in. from base layer and secured with 1 in. Type S screws spaced 24 in. OC. Third layer installed with joints in line with base layer and secured with 1-1/2 in. Type S screws spaced 16 in. OC. Fourth layer installed with joints in line with second layer and secured with 1-5/8 in. Type S screws spaced 12 in. OC. For all layers, screws offset 4 in. from previous layer. When applied vertically, base layer secured with 1 in. Type S screws spaced 24 in. OC. Second layer secured with joints offset one stud cavity and secured with 1 in. Type S screws spaced 24 in. OC. Third layer installed with joints in line with base layer end secured with 1-1/2 in. Type S screws spaced 12 in. OC. Fourth layer secured with joints in line with second layer and secured with 1-5/8 in. Type S screws spaced 8 in. OC along vertical edges and 12 in. OC in the field. For all layers, screws offset 4 in. from previous layer.

NATIONAL GYPSUM CO — 5/16 in. thick Type FSW

6. **Fasteners —** (Not Shown) — For use with Item 5, 5A, 5B or 5C - Type S-12 steel screws used to attach panels to runners (Item 1) and studs (Item 2) or furring channels (Item 8).

Single layer systems: 1 in. long, spaced 12 in. OC for 1/2 and 5/8 in. thick panels.

Two layer systems: First layer- 1 in. long, spaced 12 in. OC for 1/2 in. thick panels or spaced 16 in. OC for 5/8 in. thick panels. Second layer- 1-5/8 in. long, spaced 12" OC for 1/2 in. thick panels or spaced 16 in. OC for 5/8 in. thick panels.

Three layer system: (1/2 in. thick panels) First layer- 1 in. long, spaced 12 in. OC. Second layer- 1-5/8 in. long, spaced 12 in. OC. Third layer- 2-1/4 in. long, spaced 12 in. OC. Screws offset min 6 in. from layer below.

Four layer system: (1/2 in. thick panels) First layer - 1 in. long, spaced 48 in. OC. Second layer 1-5/8 in. long, spaced 48" OC. Third layer 2-1/4 in. long, spaced 48 in. OC. Fourth layer 2-5/8 in. long, spaced 12 in. OC. Fourth layer (horizontal applied), 2-5/8 in. long, spaced 12 in. OC and 1-1/2 in. long, Type G, steel screws located midway between studs and 1 in. from horizontal edge joint secured to the second and third layers.

7. **Batts and Blankets* —** (Optional, required when item 10 is used) - Placed in stud cavities, any glass fiber or mineral wool batt material bearing the UL Classification Marking as to Fire Resistance. See **Batts and Blankets* (BKNV or BZJZ) Category for names of Classified companies.**

7A. **Batts and Blankets* —** (Required as indicated under Item 5B) — Nom 3-1/2 in. thick glass fiber or mineral wool batts, friction fitted between studs and runners. See **Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.**

7B. **Fiber, Sprayed* —** Not Shown - As an alternate to Batts and Blankets (Item 7) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product.
U S GREENFIBER L L C — INS735, INS745 and INS750LD for use with wet or dry application. INS765LD and INS773LD are to be used for dry application only.

7C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 7) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 4.58 lb/ft³.
NU-WOOL CO INC — Cellulose Insulation

7D. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 7) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³.
INTERNATIONAL CELLULOSE CORP — Celbar-RL

7E. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 7) — Spray applied mineral wool insulation. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

8. **Furring Channels —** (Optional on one or both sides, 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 panhead steel screws.

8A. **Steel Framing Members (Not Shown)* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring

channels as described in Item 6.

b. **Steel Framing Members* —** Used to attach furring channels (Item 8a) to studs (Item 2). Clips spaced max. 48 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

8B. **Steel Framing Members* —** (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6.

b. **Steel Framing Members* —** Used to attach furring channels to studs (Item 2). Clips spaced max. 48 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PLITEQ INC — Type GENIECLIP

8C. **Steel Framing Members* —** (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 6.

b. **Steel Framing Members* —** Used to attach furring channels to studs (Item 2). Clips spaced max. 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

8D. **Steel Framing Members* —** (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 8Db. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 6.

b. **Steel Framing Members* —** Used to attach furring channels to studs (Item 2). Clips spaced max. 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

8E. **Steel Framing Members* —** (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 8, resilient channels and Steel Framing Members as described below:
a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 8Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to

clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

9. **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 layers. Paper tape and joint compound may be omitted in the four layer system (3 hour) or when gypsum boards are supplied with square edges.

10. **Siding, Brick or Stucco —** (Optional, Not Shown, for use as an additional layer over gypsum board) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies. 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.

11. **Cementitious Backer Units* —** (Optional, Item Not Shown - For Use On Face Of 1 Hr Or 2 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide.- Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.
NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

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

Last Updated on 2019-10-02

U.L. DESIGNS

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: 20015E

DTW ARCHITECTS AND PLANNERS, LTD. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 162 NORTH CAROLINA DURHAM, N.C.

ROBERTO L. SOTOLONGO REGISTERED ARCHITECT OF NORTH CAROLINA 04837 DURHAM, N.C.
Robert Sotolongo
5-16-2024

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C.D.'s FOR BID

Revisions	
Drawn	S.O.S.
Checked	R.L.S.
Date	MAY 16, 2024
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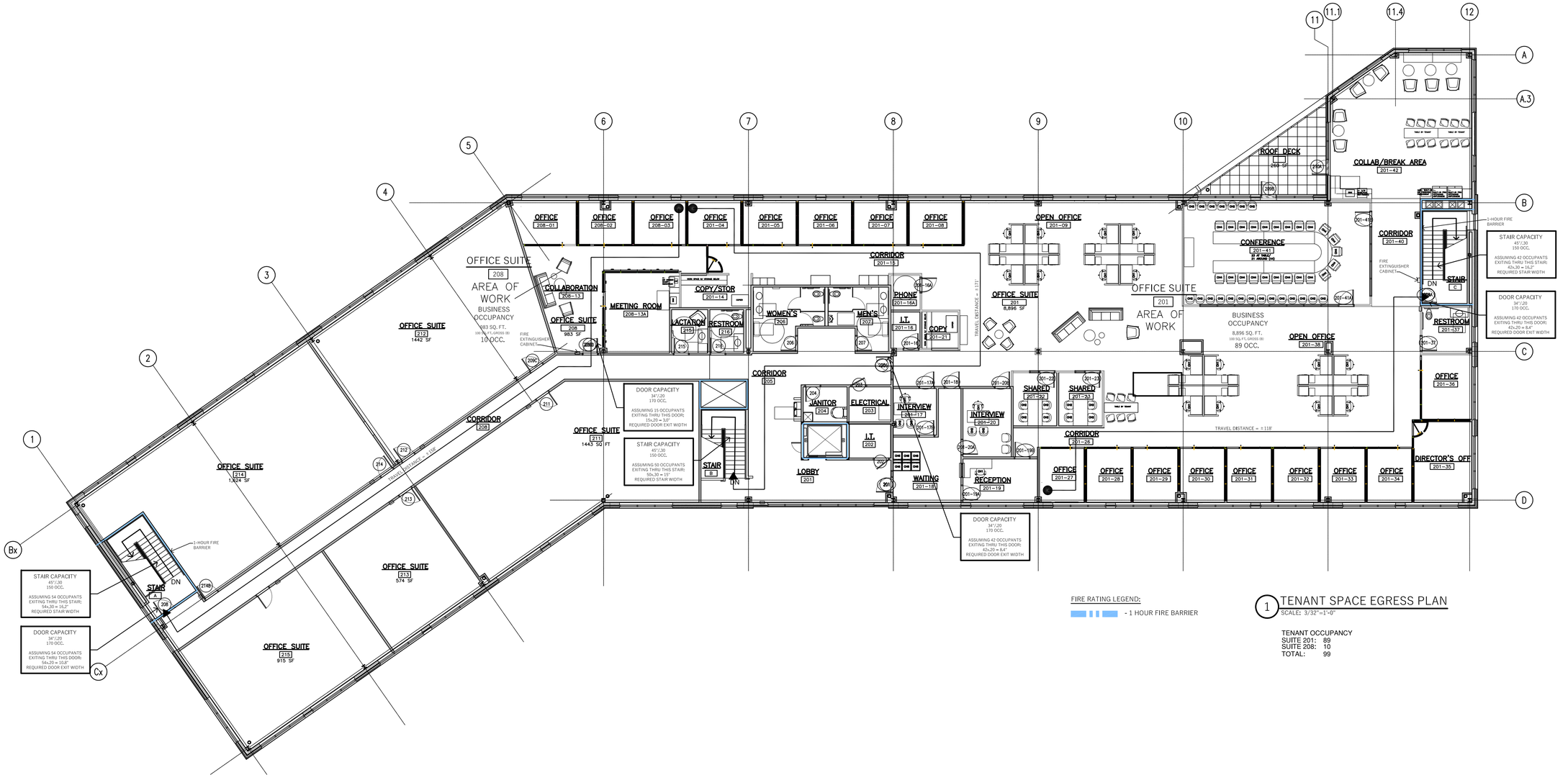


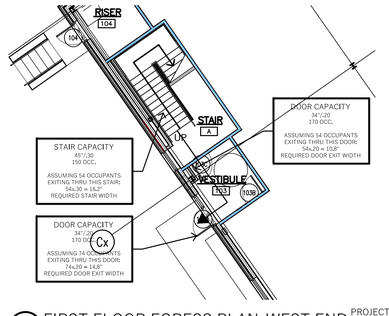
FIRE RATING LEGEND:

- 1 HOUR FIRE BARRIER

1 TENANT SPACE EGRESS PLAN

SCALE: 3/32"=1'-0"

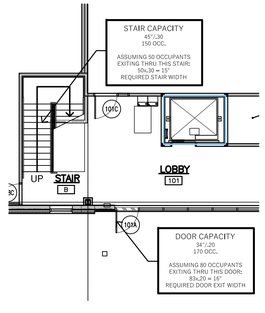
TENANT OCCUPANCY
SUITE 201: 89
SUITE 208: 10
TOTAL: 99



4 FIRST FLOOR EGRESS PLAN-WEST END

SCALE: 3/32"=1'-0"

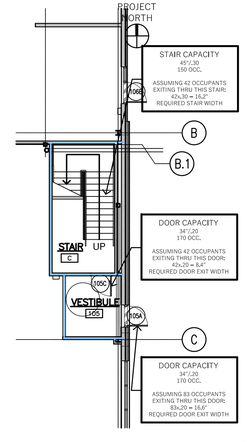
PROJECT NORTH



3 FIRST FLOOR EGRESS PLAN-CENTRAL STAIR

SCALE: 3/32"=1'-0"

PROJECT NORTH



2 FIRST FLOOR EGRESS PLAN-EAST END

SCALE: 3/32"=1'-0"

PROJECT NORTH

EGRESS PLANS

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
20015E

DTW ARCHITECTS AND PLANNERS, LTD. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 162 NORTH CAROLINA DURHAM, N.C.

ROBERTO L. SOTOLONGO REGISTERED ARCHITECT NORTH CAROLINA 04837 DURHAM, N.C.
5-16-2024

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C.D.'s FOR BID

Revisions

Drawn S.O.S.
Checked R.L.S.
Date MAY 16, 2024
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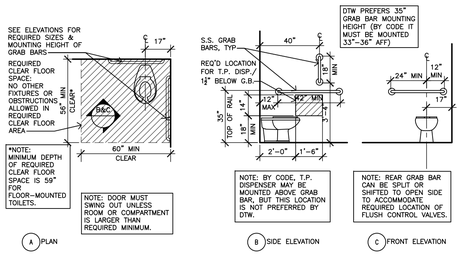
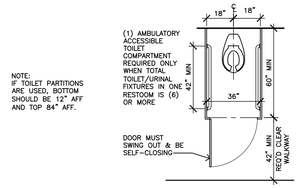
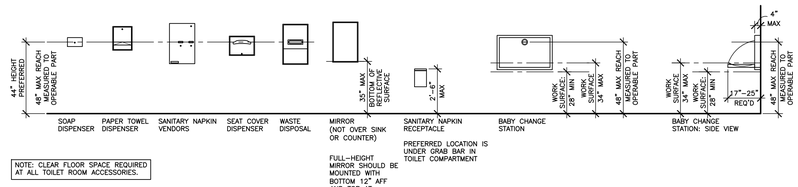


1 WHEELCHAIR ACCESSIBLE TOILET
SCALE: 1/4"=1'-0"

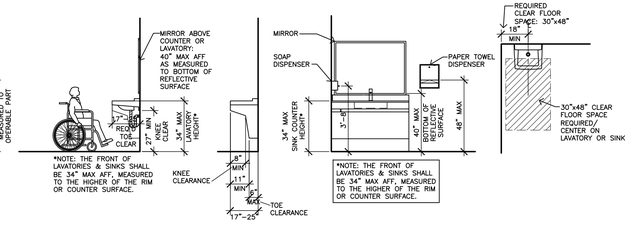
NOTE: THERE ARE OTHER SPECIFIC REQUIREMENTS FOR ACCESSIBLE TOILET ROOMS & SHOWERS IN ACCESSIBLE UNITS, FOR EXAMPLE IN HOTEL ROOMS & NURSING HOMES, OR TYPE A UNITS IN APARTMENT BUILDINGS. DO NOT RELY ON THIS SHEET FOR THOSE SITUATIONS.



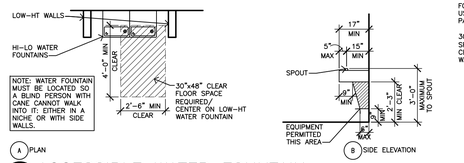
2 AMBULATORY ACCESSIBLE TOILET
SCALE: 1/4"=1'-0"



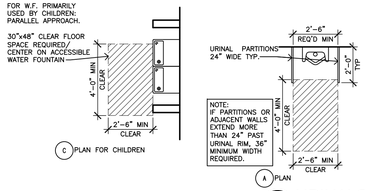
3 MOUNTING HEIGHTS: FORWARD & SIDE APPROACHES, UNOBSTRUCTED
SCALE: 1/4"=1'-0"



4 SINKS & LAVATORIES
SCALE: 1/4"=1'-0"

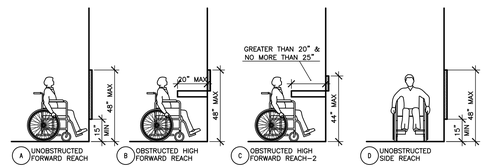


5 ACCESSIBLE WATER FOUNTAIN
SCALE: 1/4"=1'-0"



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

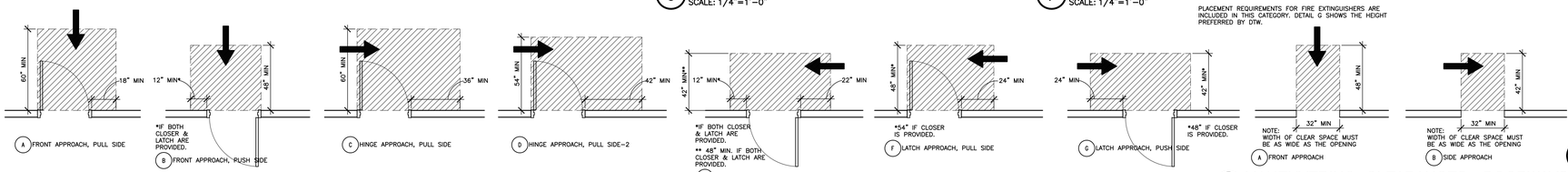
*UNOBSTRUCTED MEANS USER DOES NOT REACH OVER COUNTER/CASEWORK TO REACH OPERABLE PART.



7 REACH RANGES
SCALE: 1/4"=1'-0"

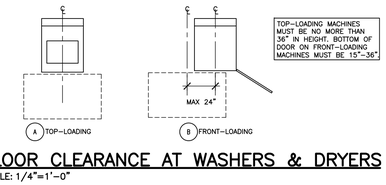
REACH RANGES APPLY TO ANY EQUIPMENT, APPLIANCE, CABINET, OR SIMILAR ITEM. THEY REFERENCE SPECIFICALLY THE HANDLE OR PART THAT MUST BE ACCESSED TO USE THE ITEM.

PLACEMENT REQUIREMENTS FOR FIRE EXTINGUISHERS ARE INCLUDED IN THIS CATEGORY. DETAIL G SHOWS THE HEIGHT PREFERRED BY DTW.



8 MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS
SCALE: 1/4"=1'-0"

9 MANEUVERING CLEARANCES: DOORWAYS WITHOUT DOORS
SCALE: 1/4"=1'-0"

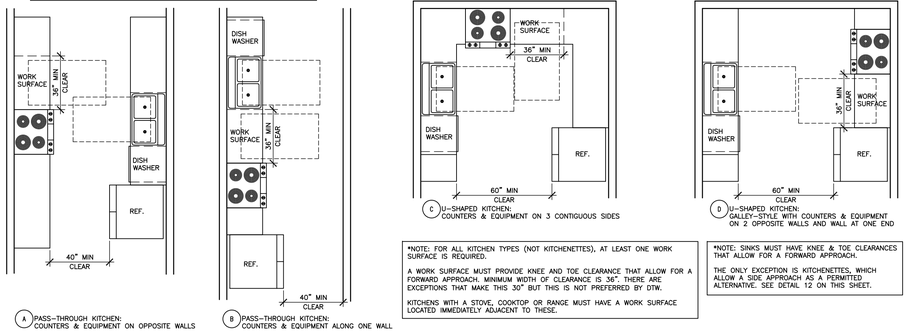


10 FLOOR CLEARANCE AT WASHERS & DRYERS
SCALE: 1/4"=1'-0"

KITCHENS AND KITCHENETTES ARE NOT THE SAME. KITCHENETTES, ALSO CALLED COFFEE COUNTERS, DO NOT HAVE A STOVE, COOKTOP OR RANGE.

KITCHENETTES MUST MEET OTHER REQUIREMENTS IN A KITCHEN, BUT THEY ARE NOT REQUIRED TO HAVE A WORK SURFACE ADJACENT TO THESE COOKING APPLIANCES.

FOR SPECIFIC INFORMATION ABOUT SINKS IN KITCHENETTES, SEE DETAIL 12 ON THIS SHEET.



*NOTE: FOR ALL KITCHEN TYPES (NOT KITCHENETTES), AT LEAST ONE WORK SURFACE IS REQUIRED.

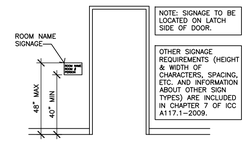
A WORK SURFACE MUST PROVIDE KNEE AND TOE CLEARANCE THAT ALLOW FOR A FORWARD APPROACH. MINIMUM WIDTH OF CLEARANCE IS 36". THERE ARE EXCEPTIONS THAT MAKE THIS 30" BUT THIS IS NOT PREFERRED BY DTW.

KITCHENS WITH A STOVE, COOKTOP OR RANGE MUST HAVE A WORK SURFACE LOCATED IMMEDIATELY ADJACENT TO THESE.

*NOTE: SINKS MUST HAVE KNEE & TOE CLEARANCES THAT ALLOW FOR A FORWARD APPROACH.

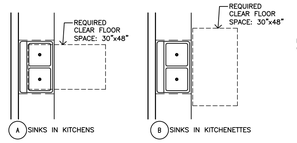
THE ONLY EXCEPTION IS KITCHENETTES, WHICH ALLOW A SIDE APPROACH AS A PERMITTED ALTERNATIVE. SEE DETAIL 12 ON THIS SHEET.

11 REQUIRED CLEARANCES IN KITCHEN & KITCHENETTES
SCALE: 1/4"=1'-0"



NOTE: DTW PREFERS SIGNAGE HEIGHT AS SHOWN. THE SPECIFIC LANGUAGE OF REGULATIONS IS THAT THE BASELINE OF THE CHARACTERS MUST BE A MINIMUM OF 40" AFF. BECAUSE CHARACTERS ARE RAISED SO THAT VISUALLY-IMPAIRED PEOPLE CAN TOUCH THE SIGN, THE TOP OF THE LETTERS MAY BE NO MORE THAN 48" AFF.

17 SIGNAGE AT DOORS
SCALE: 1/4"=1'-0"

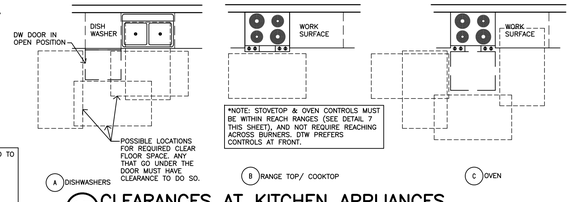


*NOTE: ALL SINKS MUST HAVE A MAXIMUM RIM HEIGHT OF 34" AFF, MEASURED TO THE HIGHER OF THE RIM OR COUNTER SURFACE.

SINKS IN KITCHENS MUST HAVE A FORWARD APPROACH. IF SINK HAS DOUBLE BOWLS, THIS MAY BE ON ONE BOWL ONLY, ALLOWING FOR DEEPER BOWL ON OTHER SIDE. BUT FULL 30"x48" CLEAR FLOOR SPACE MUST BE PROVIDED SO WHEELCHAIR CAN ROLL UNDER SINK.

SINKS IN KITCHENETTES ARE ALLOWED TO HAVE A SIDE APPROACH.

12 CLEARANCES AT KITCHEN SINKS
SCALE: 1/4"=1'-0"



*NOTE: A PARALLEL APPROACH TO REFRIGERATOR IS REQUIRED, AND MUST BE CENTERED ON THE REFRIGERATOR. FOR SIDE-BY-SIDE REFRIGERATORS, CLEAR FLOOR SPACE IS CENTERED ON EACH SIDE: FREEZER & REFRIGERATOR. THE CLEAR FLOOR SPACE MAY BE OFFSET A MAXIMUM OF 24" FROM CENTER LINE OF APPLIANCE.

WHILE REFRIGERATORS WITH BOTH FREEZERS ON TOP AND ON BOTTOM CAN MEET ACCESSIBILITY REQUIREMENTS UNDER CERTAIN CONDITIONS, SIDE-BY-SIDE REFRIGERATORS PROVIDE A HIGHER LEVEL OF ACCESSIBILITY AND ARE PREFERRED BY DTW.

LOCATING REFRIGERATORS SO DOORS CAN SWING BACK 180° CAN PROVIDE GREATER ACCESSIBILITY.

13 CLEARANCES AT KITCHEN APPLIANCES
SCALE: 1/4"=1'-0"

THE SAME DISHWASHER & REFRIGERATOR CLEARANCES ARE REQUIRED IN BOTH KITCHENS & KITCHENETTES.

ACCESSIBILITY DETAILS

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: 20015E

DTW ARCHITECTS AND PLANNERS, LTD. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 162 NORTH CAROLINA DURHAM, N.C.

ROBERTO L. SOTOLONGO REGISTERED ARCHITECT NORTH CAROLINA 04837 SEAL DURHAM, N.C.
5-16-2024

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3333 Durham-Chapel Hill Blvd
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919.317.4020

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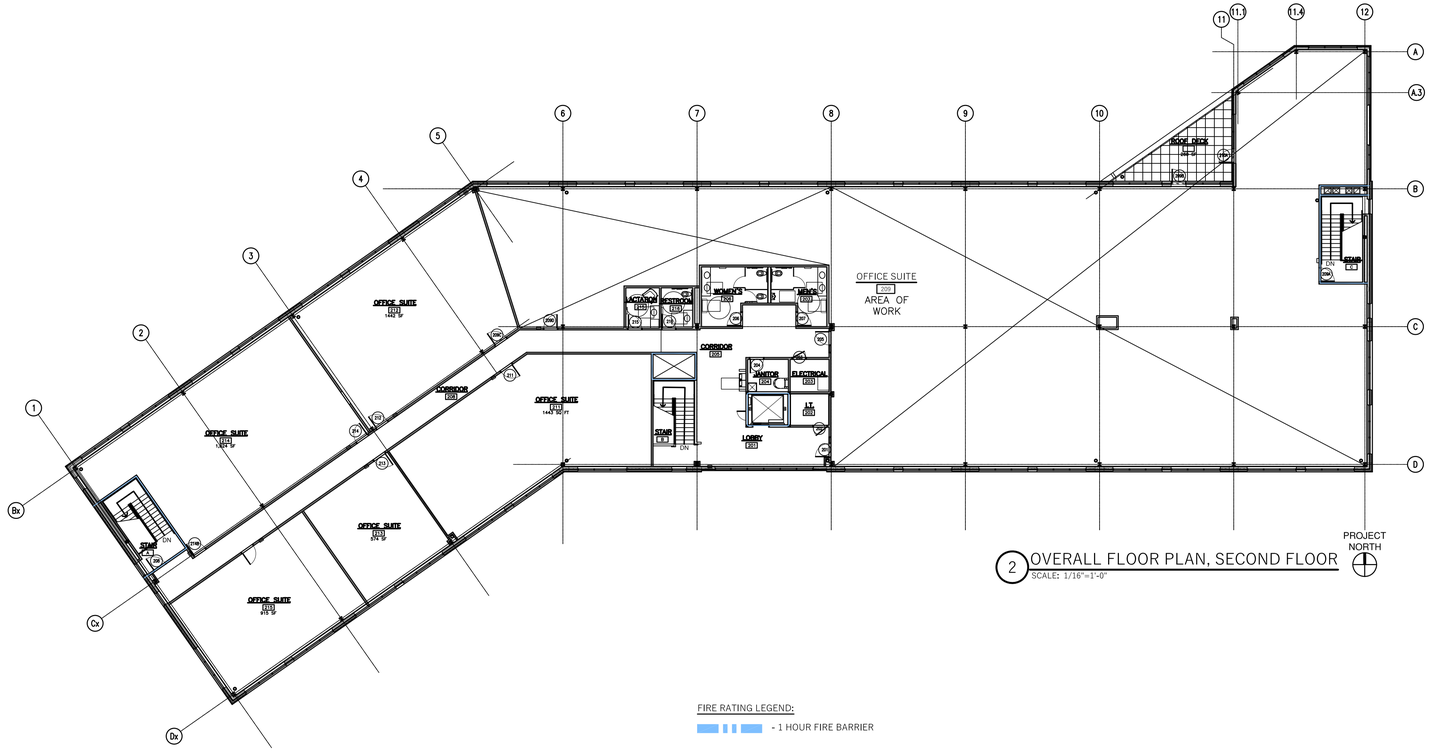
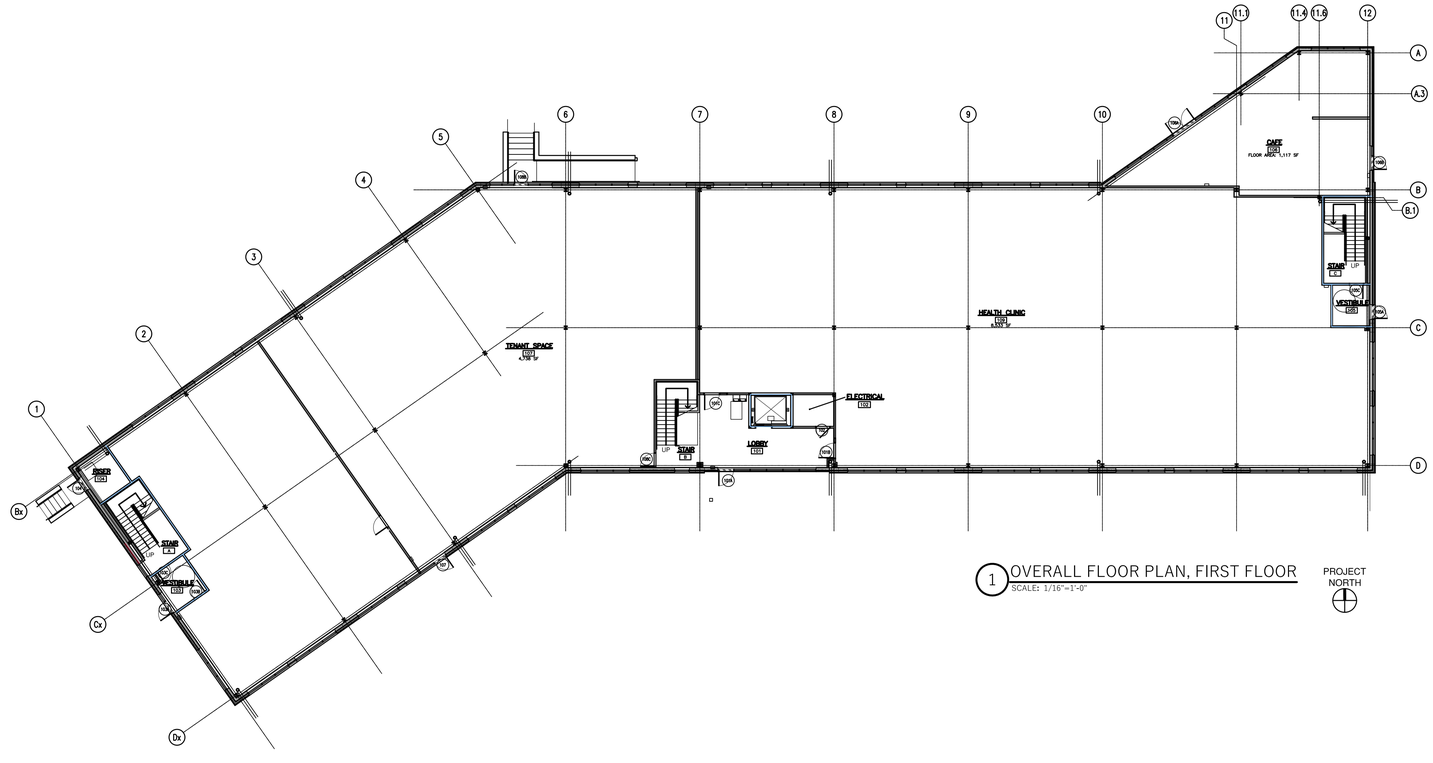


2 OVERALL FLOOR PLAN, SECOND FLOOR
SCALE: 1/16"=1'-0"

PROJECT NORTH



1 OVERALL FLOOR PLAN, FIRST FLOOR
SCALE: 1/16"=1'-0"

PROJECT NORTH

OVERALL FLOOR PLANS
AREA OF WORK

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
20015E

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REGISTERED ARCHITECTURAL CORPORATION
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NORTH CAROLINA
DURHAM, N.C.

ROBERTO L. SOTOLONGO
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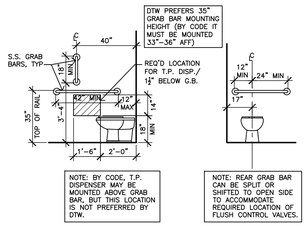
APPLIANCE SCHEDULE

PLAN REFERENCE #	APPLIANCE	MANUFACTURER	MODEL NUMBER
1	REFRIGERATOR	KITCHENAID	KRFC300ESS
2	BUILT-IN MICROWAVE	FRIGIDAIRE PROFESSIONAL	PMBS3080AF
3	DISHWASHER	WHIRLPOOL	WDT750SAKZ
4	MICROWAVE DRAWER	SHARP	SMD2440JS
5	MW TRIM KIT	FRIGIDAIRE PROF.	PMTK3080AF



8 ACCESSIBILITY DETAILS
SCALE: 1/4"=1'-0"

PARTITION TYPE LEGEND

1 – 3½" MTL. STUDS AT 16" O.C. W/ 5/8" GYP. BD ON EACH SIDE/ FILL W/4" R-13 BATT INSULATION BETW/ STUDS. NEW STUD PARTITIONS TO EXTEND TO CEILING GRID ONLY.

1A – 3 ½" MTL STUDS AT 16" O.C. W/ ⅝" GYP BOARD ON ONE SIDE.

1B – 3½" MTL. STUDS AT 16" O.C. W/ 5/8" GYP. BD ON EACH SIDE/ FILL W/4" R-13 BATT INSULATION BETW/ STUDS. NEW STUD PARTITIONS TO EXTEND TO DECK..

2 – EXISTING WALL AT BUILDING CORRIDOR RUNS TO DECK/ NOT IN UPFIT, EXCEPT FOR PAINTING.

3 – EXISTING DEMISING WALL RUNS TO DECK/ NOT IN UPFIT EXCEPT FOR PAINTING.

4 – EXISTING EXTERIOR WALL/ ⅝" GYP BOARD TO BE ADDED AS PART OF UPFIT.

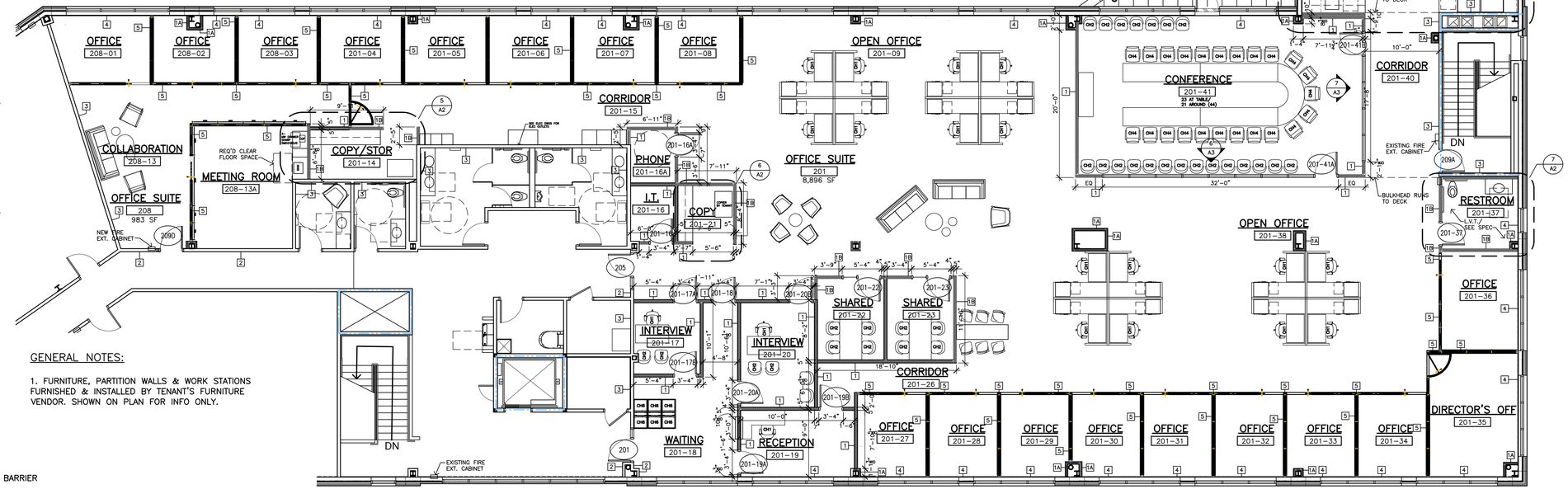
5 – WALL TO BE PROVIDED & INSTALLED BY TENANT'S FURNITURE & PARTITION INSTALLER. NOT IN CONTRACT/ SHOWN ON PLAN FOR INFORMATION ONLY.

FIRE RATING LEGEND:

1 HOUR FIRE BARRIER – 1 HOUR FIRE BARRIER

GENERAL NOTES:

1. FURNITURE, PARTITION WALLS & WORK STATIONS FURNISHED & INSTALLED BY TENANT'S FURNITURE VENDOR. SHOWN ON PLAN FOR INFO ONLY.



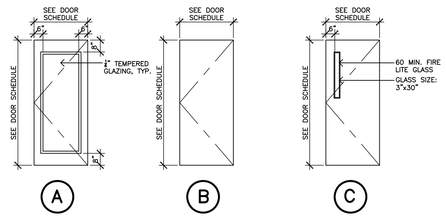
1 UPFIT FLOOR PLAN
SCALE: 1/8"=1'-0"

DOOR SCHEDULE

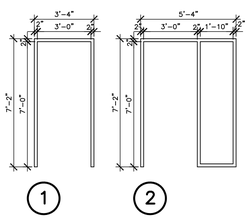
DOOR NUMBER	3'-7"x1'-3/4" PR. 3'x7'x1-3/4" BI-FOLD/ SEE NOTE 1 2 3	DOOR TYPE	DOOR MATERIAL	GLASS & GLAZING	LOUVER W	LOUVER H	FRAME TYPE	FRAME MATERIAL	JAMB	HEAD	SILL	LABEL	HARDWARE SET	NOTE
201	DOOR & FRAME IN SHELL CONTRACT; ADD CARD READER WIRING	ADD	CARD READER WIRING											NOTE 2
205	DOOR & FRAME IN SHELL CONTRACT; ADD CARD READER WIRING	ADD	CARD READER WIRING											NOTE 1
209A	DOOR & FRAME IN SHELL CONTRACT; ADD CARD READER WIRING	ADD	CARD READER WIRING											NOTE 1
209D	DOOR & FRAME IN SHELL CONTRACT; ADD CARD READER WIRING	ADD	CARD READER WIRING											NOTE 1
209-16	1	B	WD				1	HM						
209-16A	1	A	WD				1	HM						
209-17A	1	C	WD				1	HM						
209-17B	1	B	WD				1	HM						
209-18	1	A	WD				1	HM						NOTE 1
209-19A	1	B	WD				1	HM						
209-19B	1	C	WD				1	HM						
209-20A	1	B	WD				1	HM						
209-20B	1	C	WD				1	HM						
209-22	1	A	WD				2	HM						
209-23	1	A	WD				2	HM						
209-37	1	B	WD				1	HM						
209-41A	1	A	AL				1	AL						NOTE 3,5
209-41B	1	A	AL				1	AL						NOTE 3,5

DOOR NOTES:

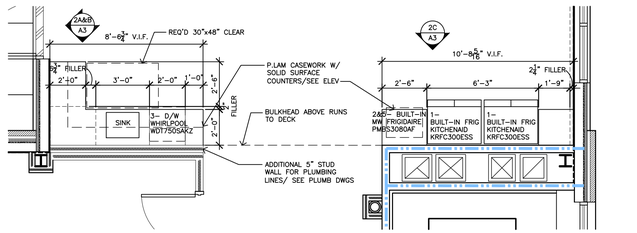
1) DOOR WITH CARD READER. SEE ELECTRICAL DRAWINGS. COORDINATE W/ OWNERS' SECURITY VENDOR.
2) DOOR WITH CARD READER, INTERCOM & CAMERA. SEE ELECTRICAL DRAWINGS. COORDINATE W/ OWNERS' SECURITY VENDOR.
3) SEE 6&7/A3 FOR ALUMINUM FRAMES ELEVATIONS.
4) ALUMINUM FRAMES TO BE EQUAL TO KAWNEER TRI-FAB 400 SYSTEM WITH A CLEAR ANODIZED FINISH. SEE SPECIFICATIONS FOR ¼" CLEAR TEMPERED GLASS.
5) ALUMINUM SWING DOORS TO BE EQUAL TO KAWNEER 350 MEDIUM STYLE DOORS WITH CO 12 PUSH-PULL AND BUTT HINGES. SEE SPECIFICATIONS FOR ¼" CLEAR TEMPERED GLASS.
6) ALL SWING SLIDING DOORS IN WALL TYPE 5 BY OWNER PARTITION VENDOR.



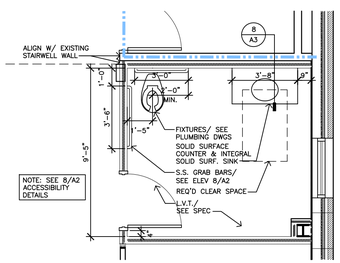
2 DOOR ELEVATIONS
SCALE: 1/4"=1'-0"



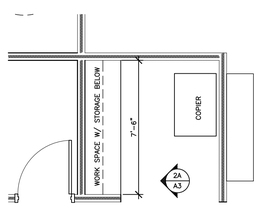
3 H.M. FRAME ELEVATIONS
SCALE: 1/4"=1'-0"



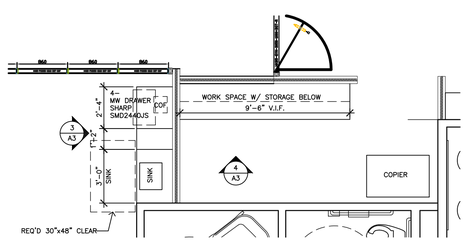
4 ENLARGED BREAK ROOM FLOOR PLAN
SCALE: 1/4"=1'-0" 209-42



7 ENLRG RESTROOM PLAN
SCALE: 1/4"=1'-0" 209-37



6 ENLRG COPY ROOM PLAN
SCALE: 1/4"=1'-0" 209-21



5 ENLARGED MTG ROOM & COPY/STOR PLAN
SCALE: 1/4"=1'-0" 209-13A & 209-14

UPFIT FLOOR PLAN
ENLARGED FLOOR PLANS
DOOR & APPLIANCE SCHEDULES

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
20015E

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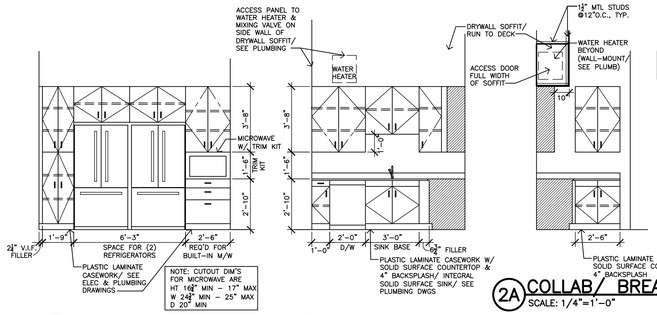
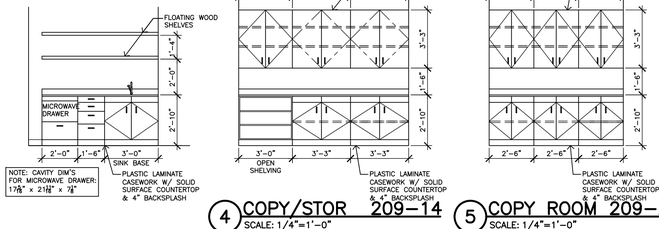
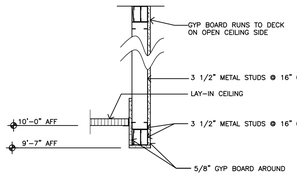


NOTE: SHELVING REQ'D IN ALL UPPER & LOWER CASEWORK (EXCEPT SINK BASE)





9 DETAIL @BULKHEAD
SCALE: 3/4"=1'-0"

2C COLLAB/ BREAK AREA
SCALE: 1/4"=1'-0"

2B COLLAB/ BREAK AREA
SCALE: 1/4"=1'-0"

2A COLLAB/ BREAK AREA
SCALE: 1/4"=1'-0"

4 COPY/STOR 209-14
SCALE: 1/4"=1'-0"

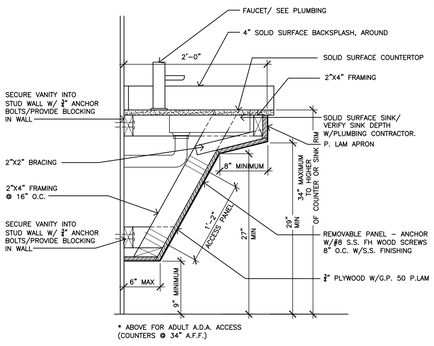
5 COPY ROOM 209-21
SCALE: 1/4"=1'-0"

3 MEETING ROOM 209-13A
SCALE: 1/4"=1'-0"

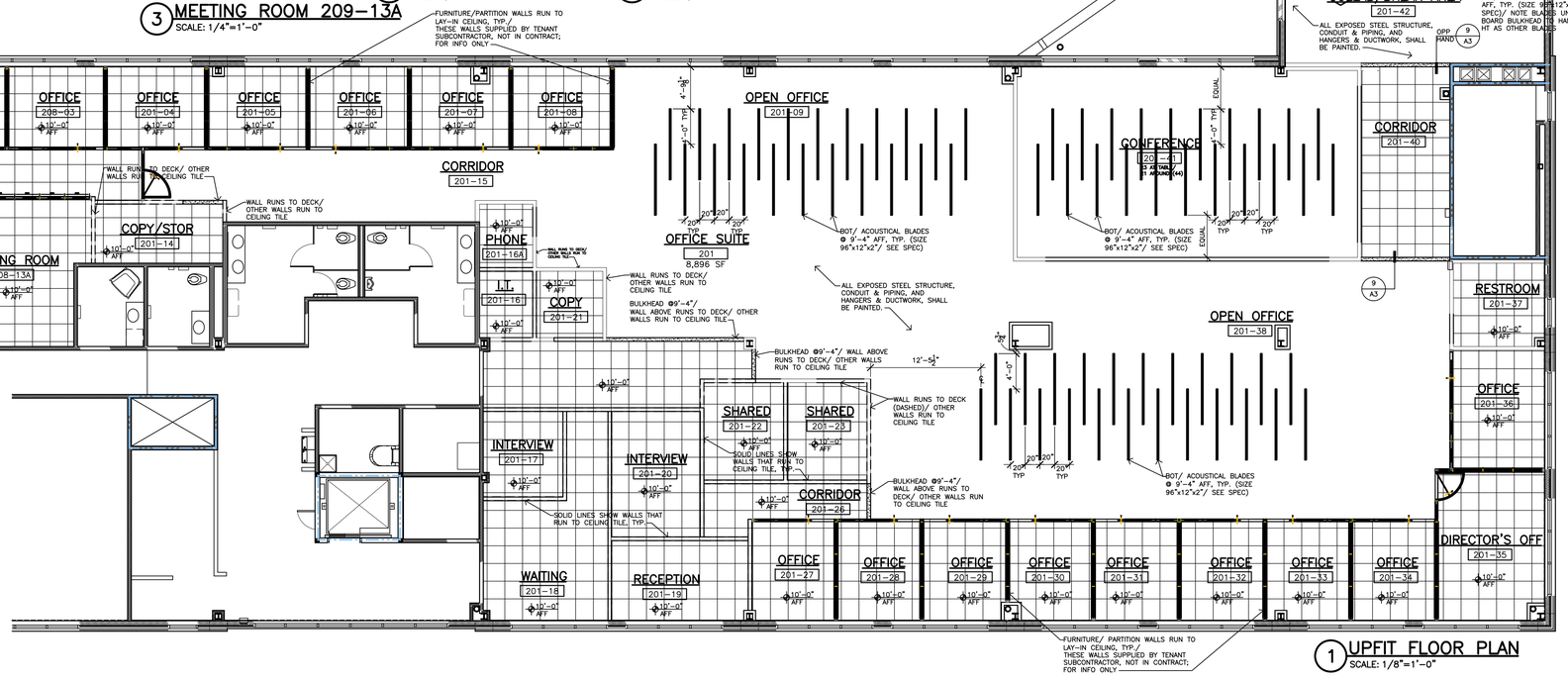
GENERAL NOTES (CEILING):

1. DRYWALL BULKHEAD CONSTRUCTED WITH 4" METAL STUDS @16"O.C. AND (1) LAYER OF ⅝" GYPSUM BOARD. FOUR VERTICAL SIDES TO RUN UP TO ROOF DECK. FILL (4) SIDES & BOTTOM WITH R-13 BATT INSULATION BETWEEN STUDS. BOTTOM/ BULKHEAD AS HIGH AS POSSIBLE TO ALLOW HVAC DUCTS TO TURN AND ACOUSTIC LIGHTS TO HANG IN SAME PLANE AS OTHER LIGHTS.

2. ALL EXPOSED STEEL STRUCTURE, CONDUIT & PIPING, AND HANGERS & DUCTWORK, SHALL BE PAINTED.



8 SINK DETAIL
SCALE: 1"=1'-0"



1 UPFIT FLOOR PLAN
SCALE: 1/8"=1'-0"

FINISH SCHEDULE

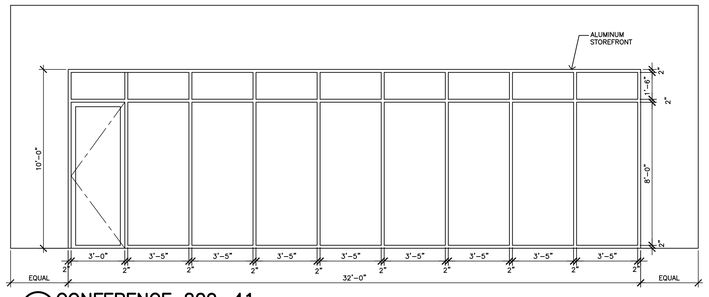
ROOM NUMBER		FLOOR MATERIAL: NOT USED 1	LVT 2	CARPET 3	4	5	BASE MATERIAL: NOT USED 1	4" RUBBER BASE 2	WS	HT.	WALL MATERIAL: GYP. BOARD, PAINT 1	CEILING MAT'L.: 1756 TEGULAR 2'x2' 1	CEILING HEIGHT	NOTE NUMBER
208-01	OFFICE		3					2			1	1	10'	NOTE 1
208-02	OFFICE		3					2			1	1	10'	NOTE 1
208-03	OFFICE		3					2			1	1	10'	NOTE 1
201-04	OFFICE		3					2			1	1	10'	NOTE 1
201-05	OFFICE		3					2			1	1	10'	NOTE 1
201-06	OFFICE		3					2			1	1	10'	NOTE 1
201-07	OFFICE		3					2			1	1	10'	NOTE 1
201-08	OFFICE		3					2			1	1	10'	NOTE 1
201-09	OPEN OFFICE		3					2			1	1		
208-13	COLLABORATION		3					2			1	1	10'	NOTE 1
208-13A	MEETING ROOM		3					2			1	1	10'	NOTE 1
201-14	COPY/ STORAGE		3					2			1	1	10'	
201-15	CORRIDOR		3					2			1			NOTE 1
201-16	I.T.		3					2			1	1	10'	
201-16A	PHONE ROOM		3					2			1	1	10'	
201-17	INTERVIEW ROOM		3					2			1		10'	
201-18	WAITING ROOM		3					2			1		10'	
201-19	RECEPTION		3					2			1		10'	
201-20	INTERVIEW ROOM		3					2			1		10'	
201-21	COPY ROOM		3					2			1		10'	
201-22	SHARED SPACE		3					2			1		10'	
201-23	SHARED SPACE		3					2			1		10'	

FINISH SCHEDULE, CON'T.

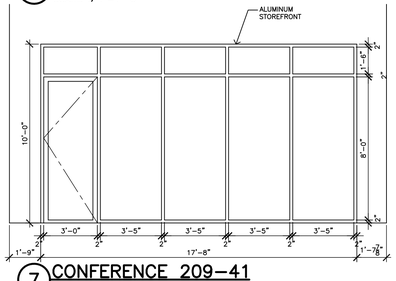
ROOM NUMBER		FLOOR MATERIAL: NOT USED 1	LVT 2	CARPET 3	SEALED CONCRETE 4	CONCRETE PAVERS 5	BASE MATERIAL: 12"x4" C. TILE 1	4" RUBBER BASE 2	WS	HT.	WALL MATERIAL: GYP. BOARD, PAINT 1	CEILING MAT'L.: 1756 TEGULAR 2'x2' 1	CEILING HEIGHT	NOTE NUMBER
201-26	CORRIDOR			3				2			1	1	10'	NOTE 1
201-27	OFFICE			3				2			1	1	10'	NOTE 1
201-28	OFFICE			3				2			1	1	10'	NOTE 1
201-29	OFFICE			3				2			1	1	10'	NOTE 1
201-30	OFFICE			3				2			1	1	10'	NOTE 1
201-31	OFFICE			3				2			1	1	10'	NOTE 1
201-32	OFFICE			3				2			1	1	10'	NOTE 1
201-33	OFFICE			3				2			1	1	10'	NOTE 1
201-34	OFFICE			3				2			1	1	10'	NOTE 1
201-35	DIRECTOR'S OFFICE			3				2			1	1	10'	NOTE 1
201-36	OFFICE			3				2			1	1	10'	NOTE 1
201-37	RESTROOM		2					2			1	1	10'	
201-38	OPEN OFFICE			3				2			1	1		
201-40	CORRIDOR			3				2			1		10'	
201-41	CONFERENCE ROOM			3				2			1			
201-42	COLLAB/BREAK			3				2			1			

FINISH NOTES:

1) SEE PLANS FOR LOCATION OF PARTITIONS BY OWNER PARTITION VENDOR.
2)



6 CONFERENCE 209-41
SCALE: 1/4"=1'-0"



7 CONFERENCE 209-41
SCALE: 1/4"=1'-0"

UPFIT CEILING PLAN
INTERIOR ELEVATIONS
FINISH SCHEDULE

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: 20015E

DTW ARCHITECTS AND PLANNERS, LTD. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 162 NORTH CAROLINA DURHAM, N.C.

ROBERTO L. SOTOLONGO REGISTERED ARCHITECT NORTH CAROLINA 04837 5-16-2024 DURHAM, N.C.

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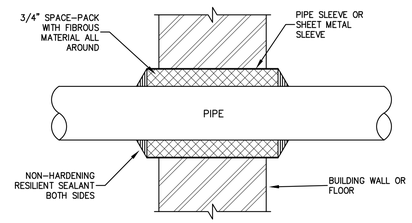
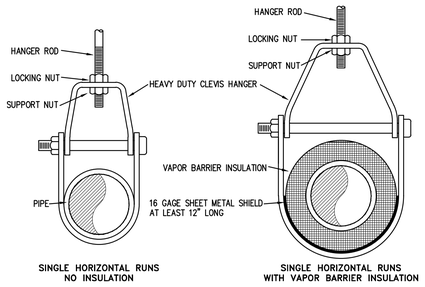


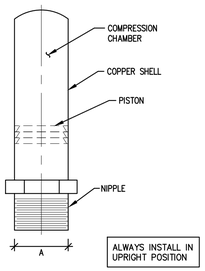
1 / P0.1 **Typical Wall Penetration Detail**

SCALE: NONE



2 / P0.1 **Clevis Hanger Detail**

SCALE: NONE



P.D.I. SYMBOL	FIXTURE UNIT RATING	A SIZE
A	1-11	1/2
B	12-32	3/4
C	33-60	1
D	61-113	1 1/4
E	114-154	1 1/2
F	155-330	2

3 / P0.1 **Shock Arrestor Schedule**

SCALE: NONE

FIXTURE SCHEDULE - PHASE 6

SYMBOL	FIXTURE	CW	HW	WASTE	REMARKS
P-1	WATER CLOSET *	1"	-	4"	FLOOR MOUNTED, HANDS FREE FLUSH VALVE, ADA
P-2	LAVATORY	1/2"	1/2"	1-1/2"	COUNTER MOUNTED, ADA, SINGLE HANDLE
P-3	SINK	1/2"	1/2"	1-1/2"	COUNTER MOUNTED, SINGLE BOWL.
P-4	WASHER BOX	-	-	2"	

PLUMBING GENERAL NOTES:

1. PROVIDE ALL WORK, EQUIPMENT, SERVICES, LABOR, AND MATERIALS NECESSARY FOR THE CONSTRUCTION OF NEW PLUMBING SYSTEMS AS DESCRIBED OR IMPLIED BY THE CONTRACT DOCUMENTS.
2. THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO INCLUDE EVERY DETAIL OF CONSTRUCTION, MATERIALS, AND EQUIPMENT. TAKE ACTUAL FIELD MEASUREMENTS AT THE JOB SITE IN LIEU OF SCALING THE DRAWINGS.
3. REVIEW THE CONTRACT DOCUMENTS OF ALL TRADES AND COORDINATE ALL WORK WITH OTHER TRADES AS NECESSARY TO AVOID CONFLICTS AND INTERFERENCES.
4. VISIT THE PROJECT SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING FIELD CONDITIONS.
5. ALL WORK AND MATERIALS SHALL COMPLY WITH APPLICABLE STATE, LOCAL, AND NATIONAL CODES (INCLUDING OSHA) AND IN COMPLIANCE WITH THE LATEST EDITION OF THE BUILDING CODE. THESE PLANS AND SPECIFICATIONS SHALL BE THE ABSOLUTE MINIMUM STANDARD OF ACCEPTANCE.
6. OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS AND APPROVAL.
7. LOCATIONS SHOWN FOR EQUIPMENT, PIPING, VALVES, DEVICES, ETC., ARE DIAGRAMMATIC. ADJUSTMENTS IN THESE LOCATIONS SHALL BE MADE BY THE CONTRACTOR TO FULLY COORDINATE THE WORK OF ALL TRADES AND EXISTING CONDITIONS.
8. PROVIDE ONLY NEW MATERIALS AND EQUIPMENT LISTED AND LABELED (FOR THE USE INTENDED) BY AN APPROVED THIRD PART LABORATORY SERVICE SUCH AS UNDERWRITER'S LABORATORIES, INC.
9. ALL WATER AND VENT PIPING SHALL BE INSTALLED ABOVE CEILING OR IN CHASE WALLS U.N.O.
10. ALL WASTE PIPING SHALL BE INSTALLED BELOW FLOOR OR SLAB U.N.O.
11. COORDINATE ALL WASTE, VENT, AND WATER PIPING WITH OTHER TRADES PRIOR TO INSTALLATION.
12. PROVIDE ALL OFFSETS IN PIPING AS REQUIRED TO AVOID STRUCTURE AND MECHANICAL EQUIPMENT ABOVE CEILING.
13. ALL ABOVE CEILING PLUMBING PIPING SHALL BE INSTALLED TIGHT TO STRUCTURE WHERE POSSIBLE.
14. THE LOCATION OF BALL VALVES SHALL BE COORDINATED WITH OTHER TRADES. VALVES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION WITHIN 24" ABOVE CEILING.
15. ALL PIPING PENETRATIONS THROUGH FIRE RATED FLOORS OR PARTITIONS/WALLS SHALL BE SEALED IN ACCORDANCE WITH THE PROPER UL LISTED SYSTEMS. ALL PENETRATIONS THROUGH NON-RATED WALLS SHALL BE SEALED TO PREVENT SOUND TRANSFER USING CAULK OR SHEETROCK MUD.
16. SEE RISER DIAGRAMS FOR ADDITIONAL INFORMATION NOT SHOWN ON FLOOR PLANS.
17. TESTING SHALL COMPLY WITH ALL LOCAL AND STATE STANDARDS AND NATIONAL CODES.
18. FIRE-STOPPING SEALANT SHALL BE USED TO SEAL ALL FIRE RATED WALL AND FLOOR PENETRATIONS.
19. FIXTURES REFERENCED AS ADA OR HANDICAP SHALL BE INSTALLED PER HANDICAP CODES.
20. ALL PIPING PENETRATIONS THROUGH NON-RATED WALLS SHALL BE SEALED TO PREVENT SOUND TRANSFER.
21. ALL PLUMBING PIPING SHALL REMAIN CAPPED DURING ROUGH-IN INSTALLATIONS.
22. IN THE CASE THAT ANY DAMAGE OCCURS WHILE INSTALLING THIS WORK TO AREAS OF BUILDING OR SYSTEMS THAT ARE TO REMAIN WITHIN CONSTRUCTION AREA SHALL BE RECTIFIED AT THIS CONTRACTORS EXPENSE.
23. IN THE EVENT THE CONTRACTOR CHOOSES TO USE PRODUCTS OTHER THAN THE BASIS OF DESIGN. HE ASSUMES FULL RESPONSIBILITY FOR COORDINATION AND INTEGRATION OF SUCH ITEMS. THE FUNCTIONAL DESIGN INTEGRITY OF ALL SYSTEMS AND COMPONENTS SHALL BE MAINTAINED. VOLTAGES, LOADS, WIRE SIZES AND QUANTITIES, DISCONNECT SWITCHES AND FUSE SIZES, PHYSICAL SIZE, LOCATIONS, CLEARANCES, ETC. SHALL BE FULLY COORDINATED BY THE CONTRACTOR AND SHALL BE HIS RESPONSIBILITY. ANY ADDITIONAL COST RESULTING FROM SAID SUBSTITUTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

PLUMBING LEGEND

CW	COLD WATER
DN	DOWN
FD	FLOOR DRAIN
HW	HOT WATER
HWR	HOT WATER RECIRCULATING
SS	SANITARY SEWER
V	VENT
VTR	VENT THRU ROOF
W	WASTE
ANO	AS NOTED OTHERWISE
BFF	BELOW FINISHED FLOOR
AFF	ABOVE FINISHED FLOOR
GPM	GALLONS PER MINUTE
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
ORD	OVERFLOW ROOF DRAIN
ORDL	OVERFLOW ROOF DRAIN LEADER
	ROOF DRAIN PIPING
	SANITARY SEWER PIPING
	VENT PIPING
P-	PLUMBING FIXTURE
	COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RECIRCULATING PIPING
	STORM SEWER PIPING
FD-	FLOOR DRAIN
	ELBOW UP
	ELBOW DOWN
	SERVICE (BALL) VALVE
	CHECK VALVE
	C.O. CLEAN OUT - FINISHED FLOOR
	C.O. WALL CLEAN OUT
	UNION
SA-_	SHOCK ARRESTOR
	CONNECT TO EXISTING
	TERMINATION POINT OF DEMOLITION
FS-	FLOOR SINK
	HOSE BIBB
CS	CIRCUIT SETTER

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Plumbing Legends, Notes and Schedules

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: EE# 23-046

NORTH CAROLINA PROFESSIONAL SEAL 028866 ENGINEER CHARLES T. CROWL

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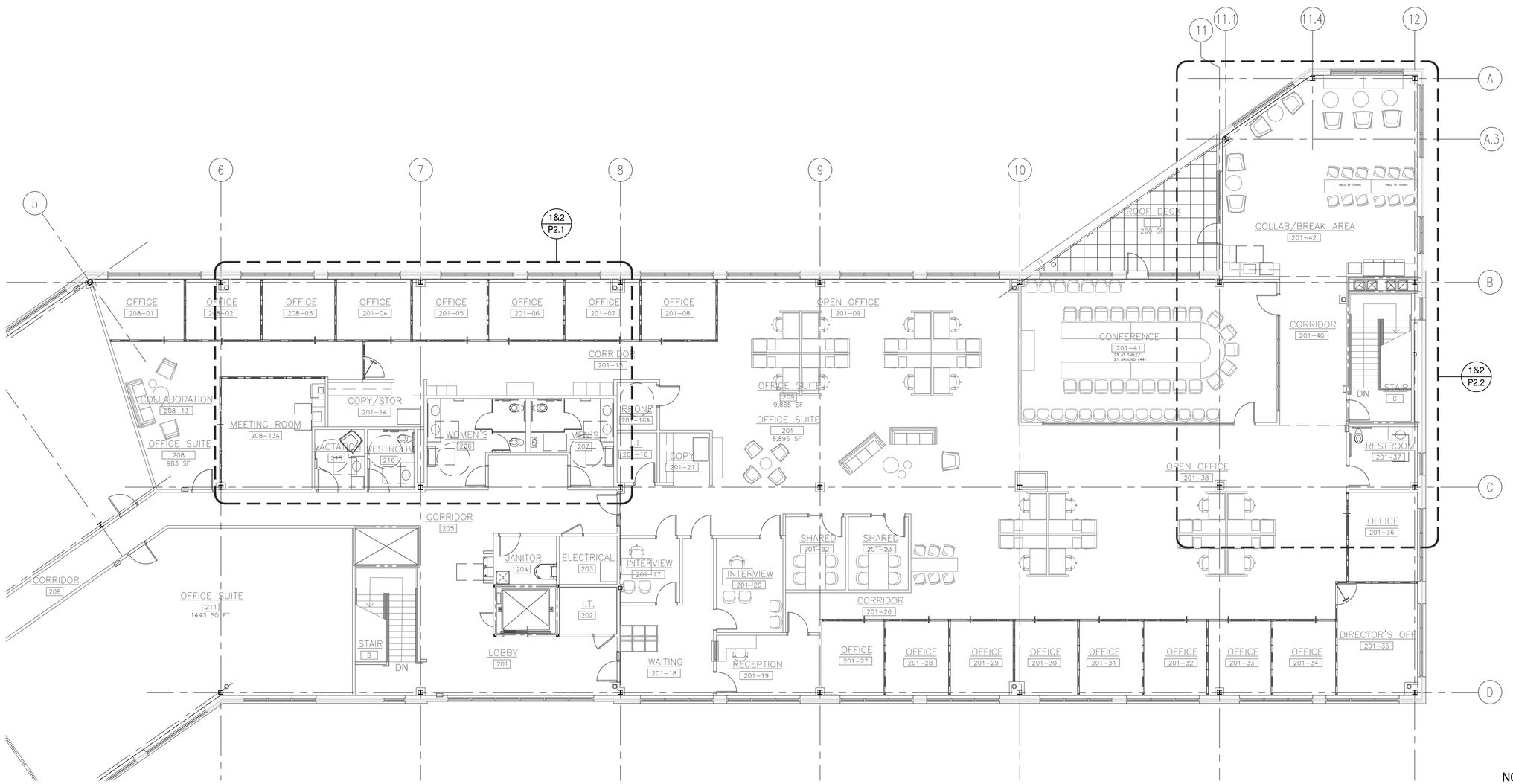

1 / P1.1 Plumbing Plan

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

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Plumbing Plan

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

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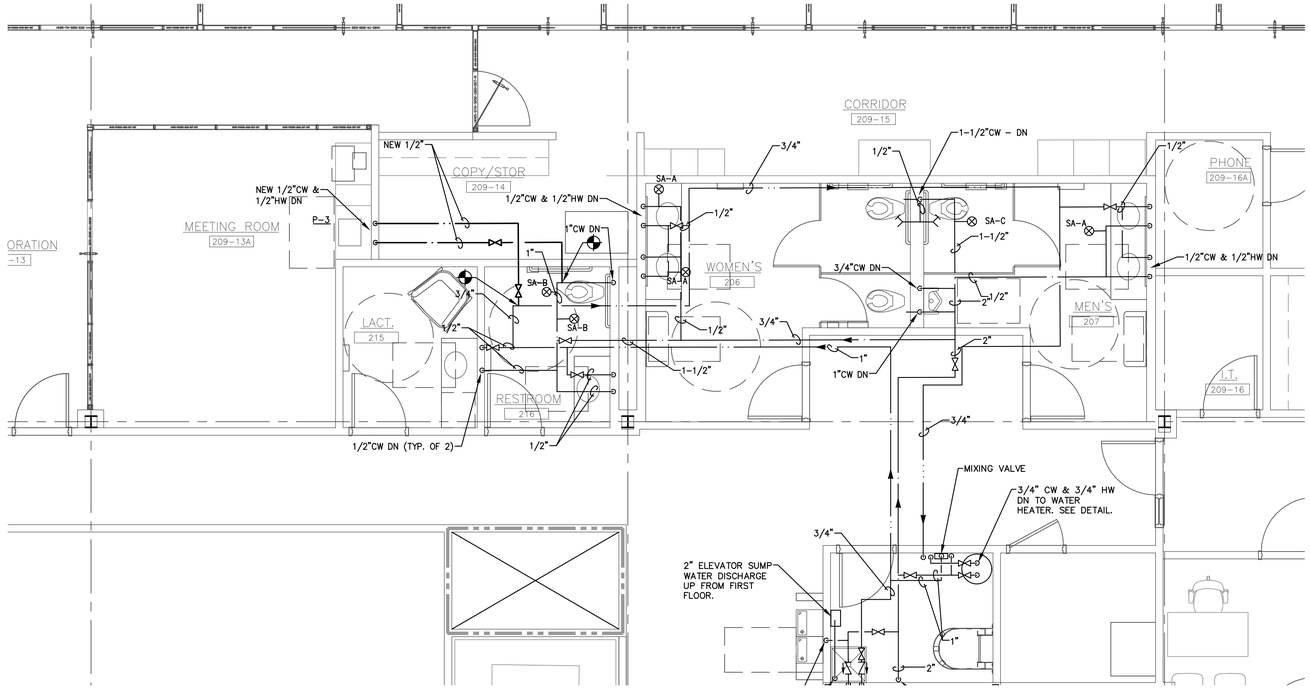
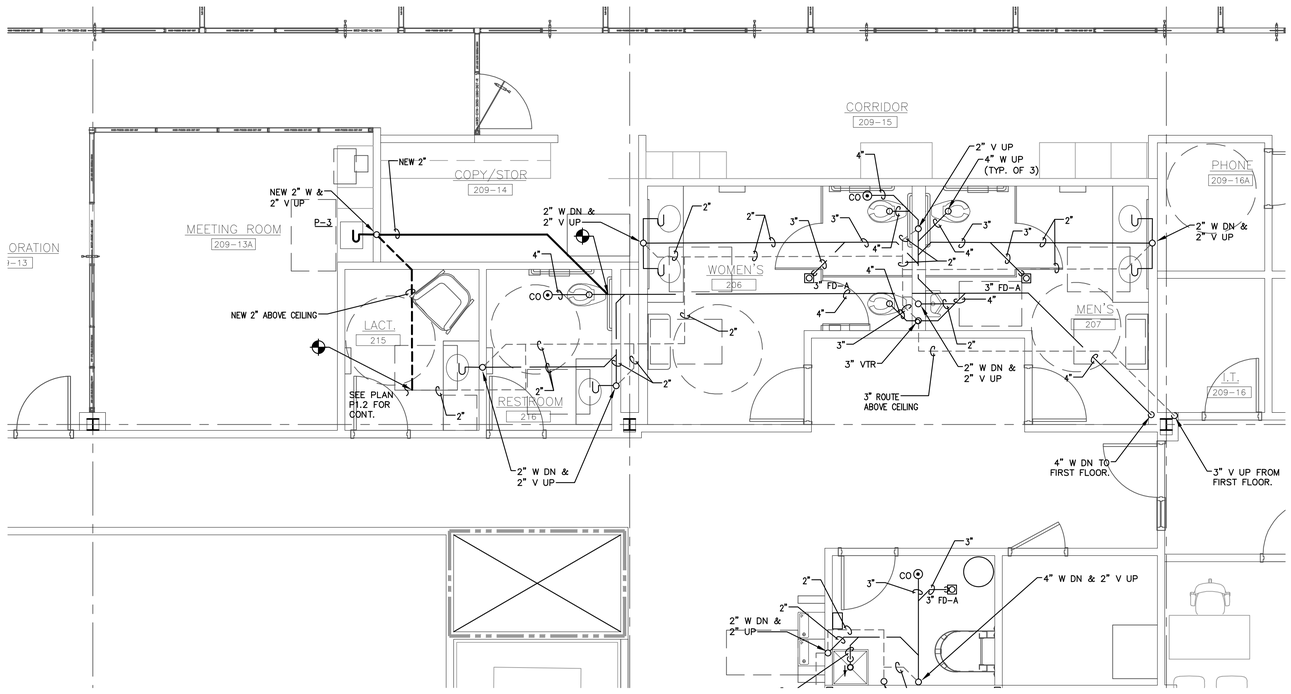


2 / P2.1 **Plumbing Plan - Water Piping**

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



1 / P2.1 **Plumbing Plan - Waste & Vent**

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

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Plumbing Plan - Main Toilets

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

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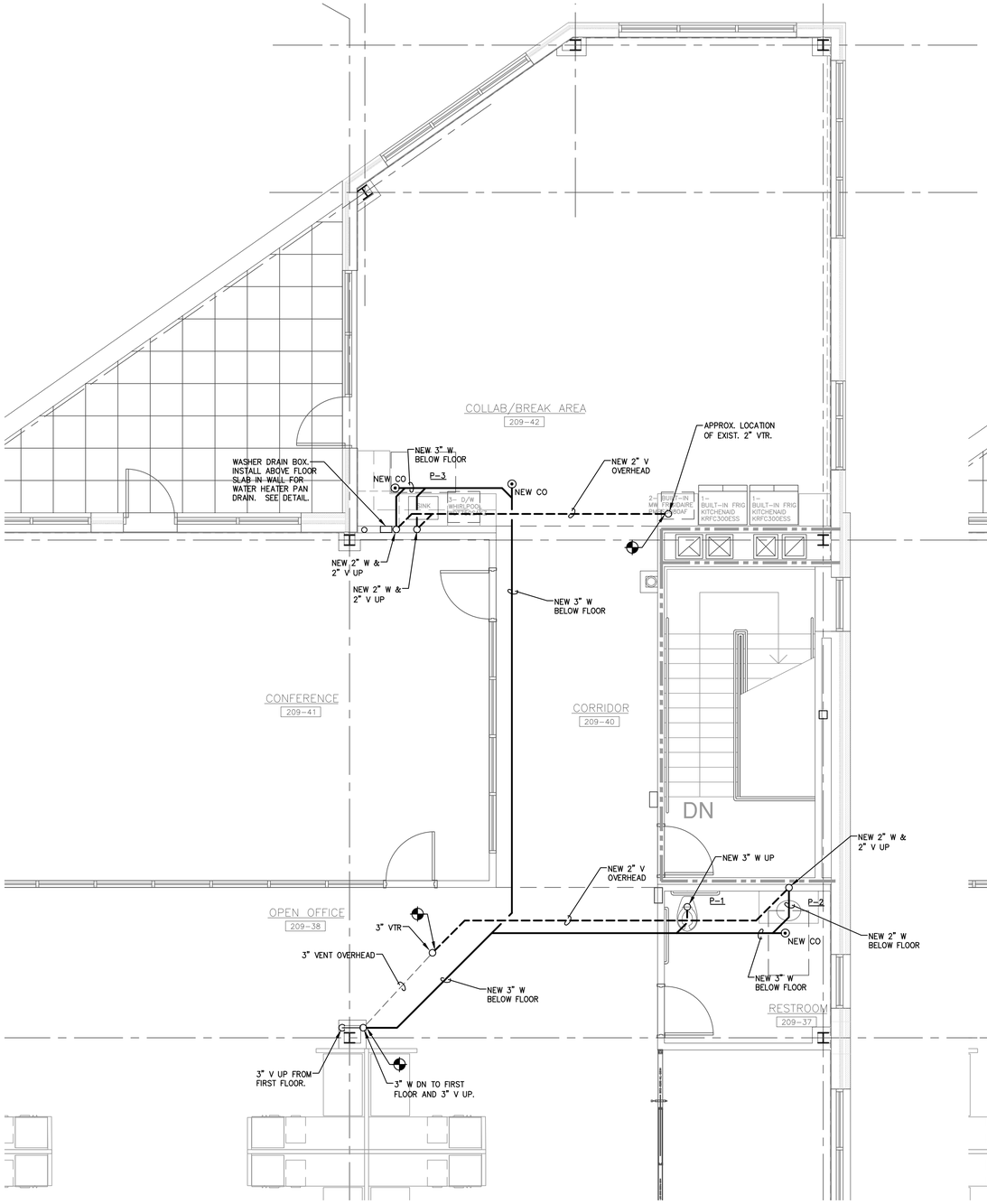

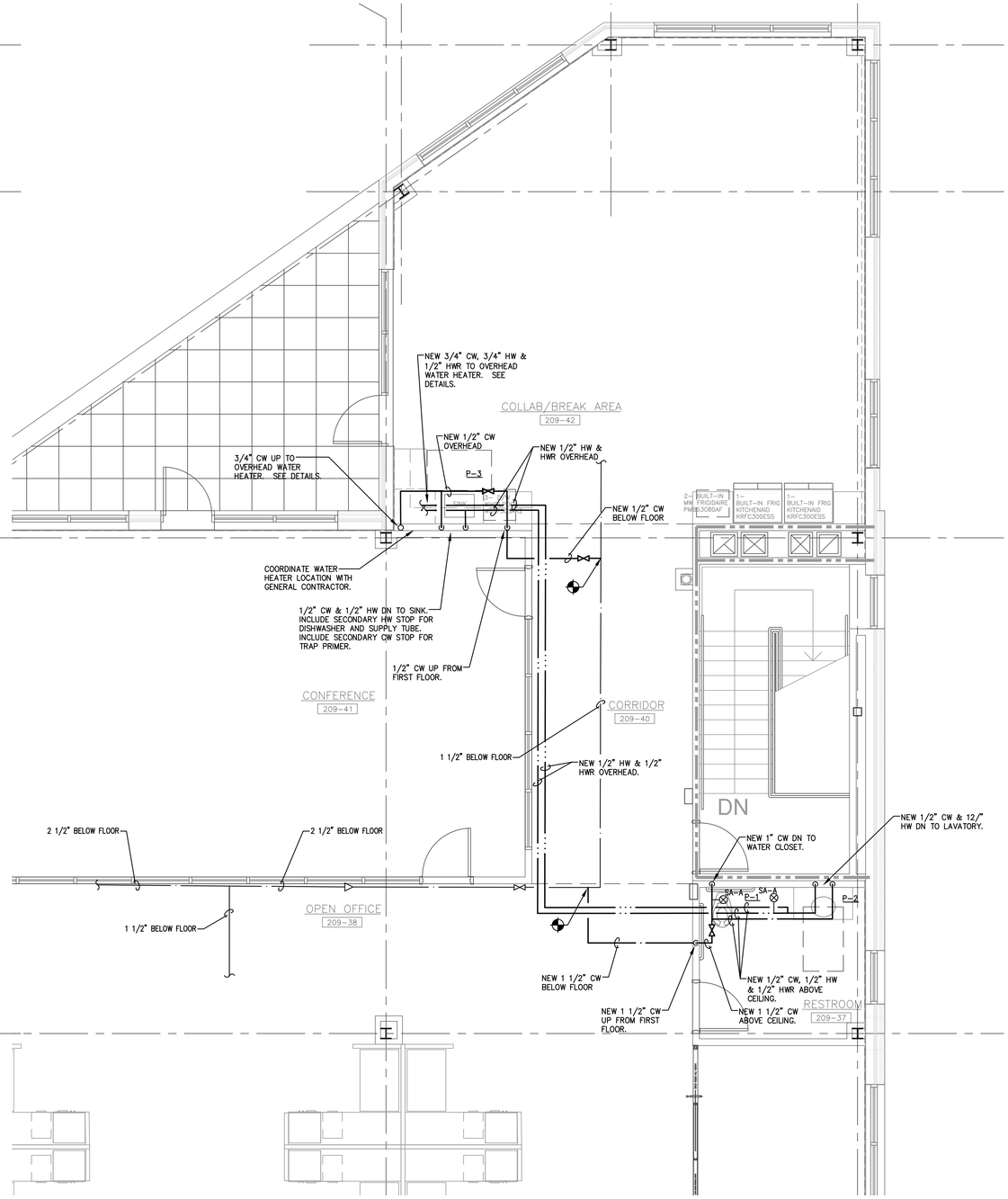

1 P2.2 Plumbing Plan - Waste & Vent

SCALE: 1/4" = 1'-0" Break Area & Restroom

2 P2.2 Plumbing Plan - Water Piping

SCALE: 1/4" = 1'-0" Break Area & Restroom

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Plumbing Plan - Break Area & Restroom

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

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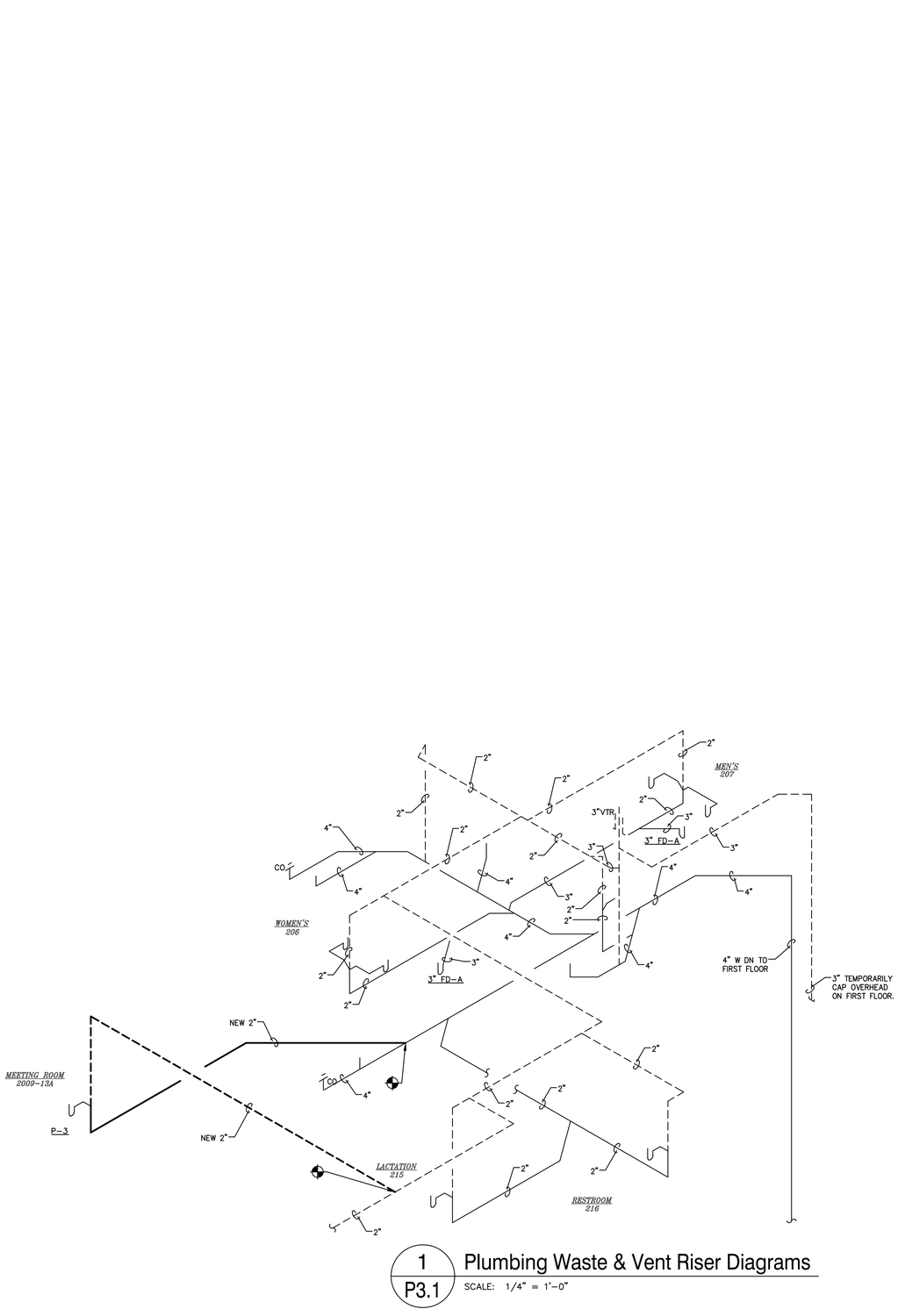

1 / P3.1 Plumbing Waste & Vent Riser Diagrams

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

2 / P3.1 Plumbing Waste & Vent Riser Diagrams

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

Plumbing Waste & Vent Riser Diagrams

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

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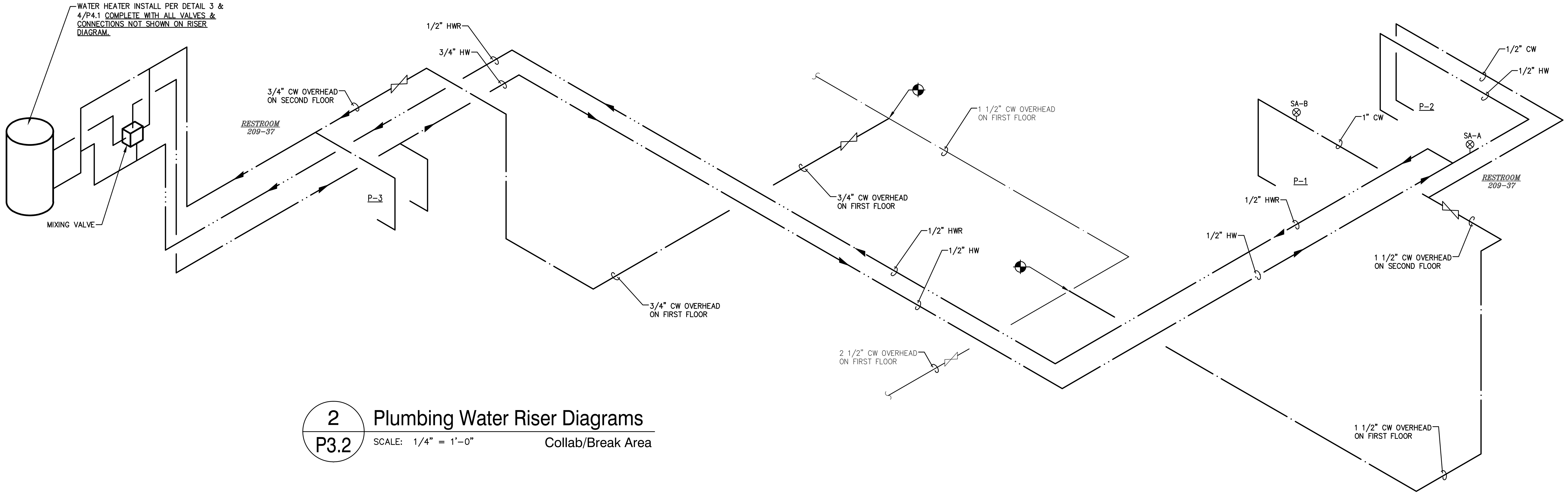
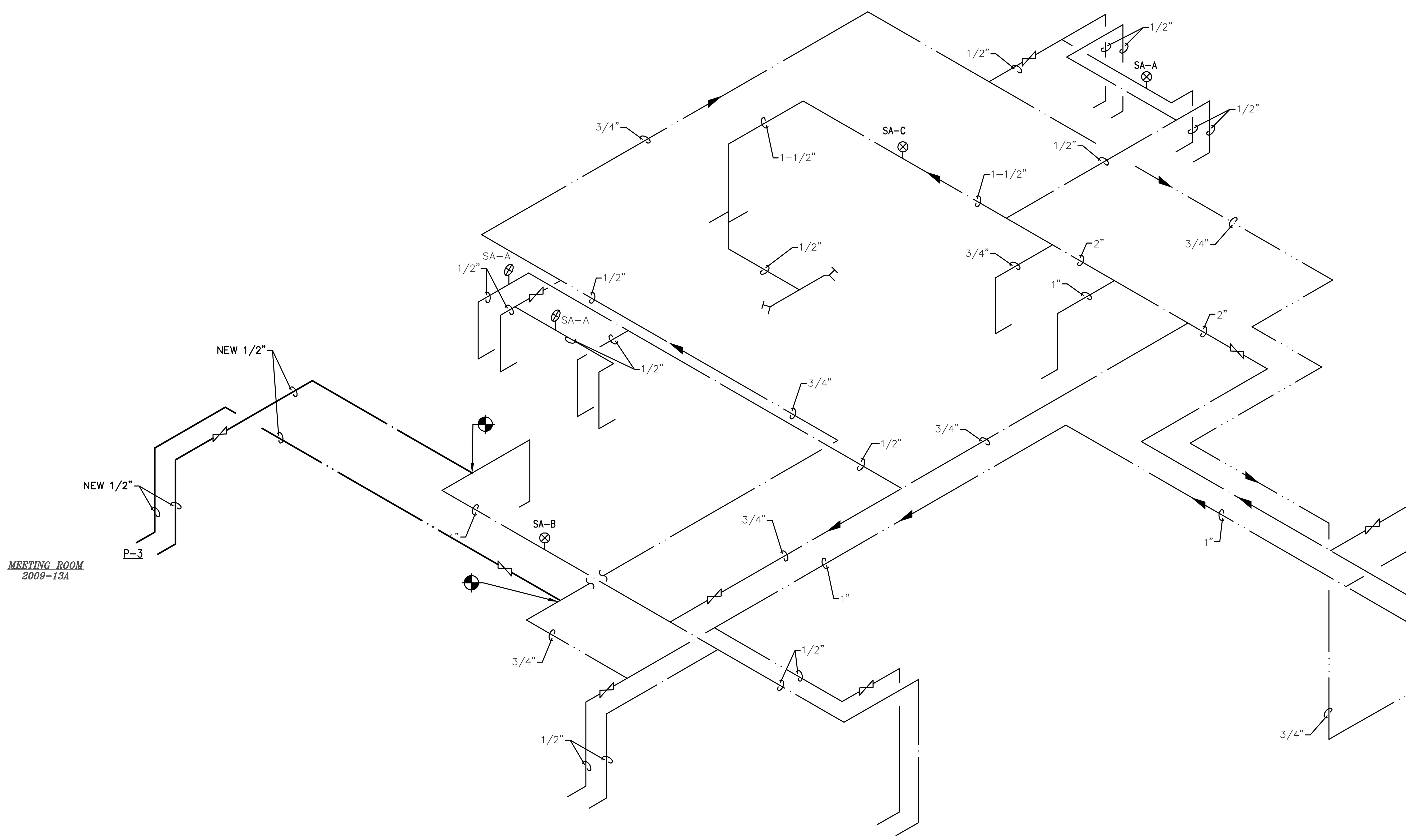


2 | P3.2 — Plumbing Water Riser Diagrams

SCALE: 1/4" = 1'-0" Collab/Break Area



1 | P3.2 — Plumbing Water Riser Diagrams

SCALE: 1/4" = 1'-0" Main Toilets/Meeting Room

Plumbing Water Riser Diagrams

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

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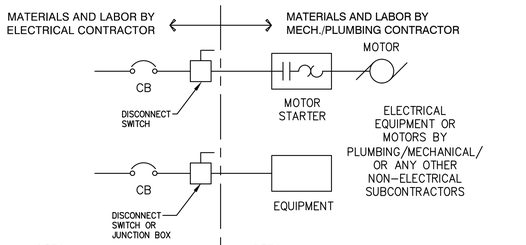


NOTES:

CONTRACTORS SHALL COORDINATE WITH EACH OTHER TO VERIFY EQUIPMENT NAMEPLATE RATINGS AND LOCATIONS BEFORE INSTALLATION OF CONDUIT, WIRING, CIRCUIT BREAKER, DISCONNECT SWITCH, OR FUSES. WHERE FUSED DISCONNECTS ARE SPECIFIED IN THE ELECTRICAL CONSTRUCTION DOCUMENTS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE APPROPRIATELY SIZED FUSES.

NOTES:

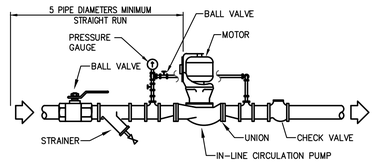
EQUIPMENT PROVIDED BY NON-ELECTRICAL SUBCONTRACTORS SHALL BE INSTALLED BY THE SUBCONTRACTOR PROVIDING THE EQUIPMENT. THIS INSTALLATION SHALL INCLUDE:

1. ALL POWER CONDUIT AND WIRING ON THE LOAD SIDE OF THE DISCONNECT SWITCH.
2. ALL CONTROLS AND CONTROL CONDUIT AND WIRING.

ALL CONDUIT AND WIRING (POWER AND CONTROL) INSTALLED BY THE NON-ELECTRICAL SUBCONTRACTORS SHALL BE INSTALLED BY A LICENSED ELECTRICAL CONTRACTOR PER THE DIVISION 26 SPECIFICATIONS AND SHALL BE INSPECTED BY THE ELECTRICAL INSPECTOR HAVING JURISDICTION.

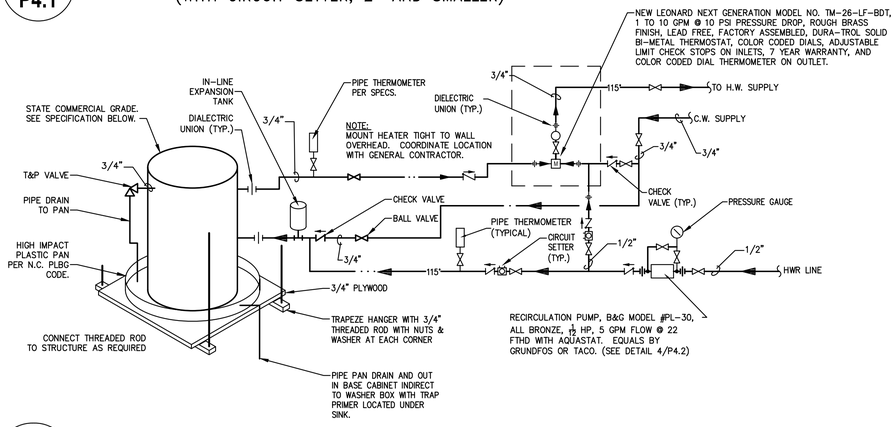
1 / P4.1 Motor / Equipment Installation - Division of Work

SCALE: NONE



3 / P4.1 In-line Centrifugal Circulating Pump

NONE (WITH CIRCUIT SETTER, 2" AND SMALLER)

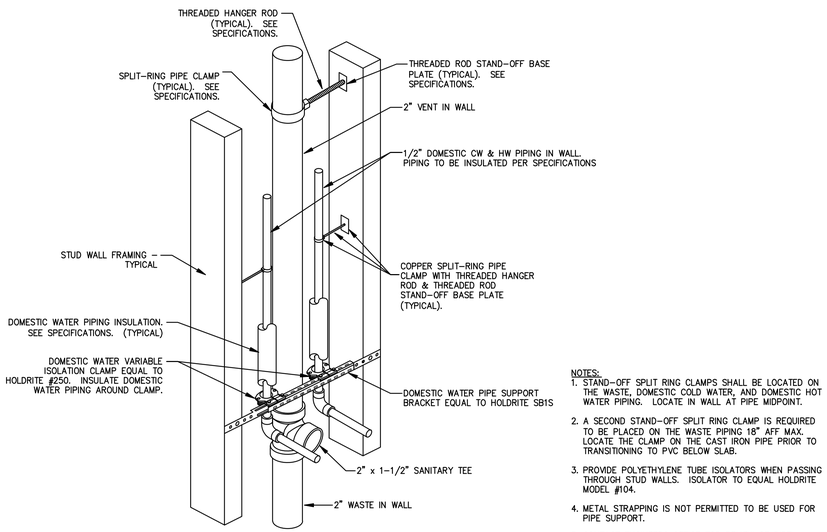


4 / P4.1 Water Heater Detail

SCALE: NONE

Suspended

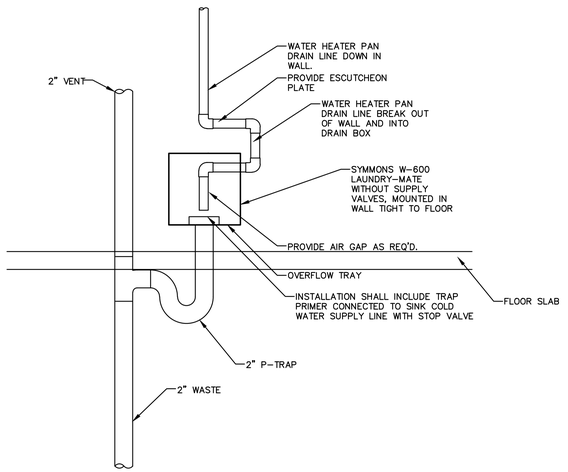
WATER HEATER:
STATE COMMERCIAL GRADE ELECTRIC WATER HEATER MODEL ES6-20-SOMS-K, 20 GALLON CAPACITY, (1) 6.0 KW NON-SIMULTANEOUS OPERATION ELEMENT (6.0 KW TOTAL), 208V, 1ø, 11 GPH. RECOVERY @ 90°F RISE. SET THERMOSTAT @ 135°F. PRE-APPROVED EQUALS BY LOCHINVAR OR BRADFORD WHITE.



NOTES:
1. STAND-OFF SPLIT RING CLAMPS SHALL BE LOCATED ON THE WASTE, DOMESTIC COLD WATER, AND DOMESTIC HOT WATER PIPING. LOCATE IN WALL AT PIPE MIDPOINT.
2. A SECOND STAND-OFF SPLIT RING CLAMP IS REQUIRED TO BE PLACED ON THE WASTE PIPING 18" AFF MAX. LOCATE THE CLAMP ON THE CAST IRON PIPE PRIOR TO TRANSITIONING TO PVC BELOW SLAB.
3. PROVIDE POLYETHYLENE TUBE ISOLATORS WHEN PASSING THROUGH STUD WALLS. ISOLATOR TO EQUAL HOLDRITE MODEL #104.
4. METAL STRAPPING IS NOT PERMITTED TO BE USED FOR PIPE SUPPORT.
5. CONTACT ENGINEERS OFFICE FOR REVIEW OF PIPE ROUGH-INS WITH WATER TEST ON.
6. CONTACT ENGINEERS OFFICE FOR REVIEW OF COMPLETED INSULATION PRIOR TO WALL BOARD INSTALLATION.

2 / P4.2 Supply Pipe Support At Fixture Connection

SCALE: NONE



5 / P4.1 Drain Box Detail

SCALE: NONE

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Plumbing Details

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: EE# 23-046

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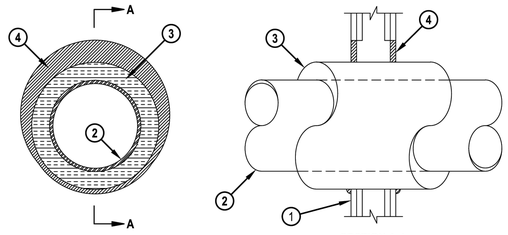
Of

WL 5029

System No. W-L-5029

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1, 2 and 3 Hr (See Items 1, 3 and 4)	F Ratings — 1, 2 and 3 Hr (See Items 1, 3 and 4)
T Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3)	FT Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3)
L Rating At Ambient — 4 CFM/Sq Ft	FH Ratings — 1, 2 and 3 Hr (See Items 1, 2 and 4)
L Rating At 400 F — Less Than 1 CFM/Sq Ft	FTH Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3)
	L Rating At Ambient — 4 CFM/Sq Ft
	L Rating At 400 F — Less Than 1 CFM/Sq Ft



SECTION A-A

1. Wall Assembly — The 1, 2 or 3 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide for 1 and 2 hr F and FH rating and 3-1/2 in. (89 mm) wide for 3 hr F and FH rating and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Min 5/8 in. (16 mm) thick with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 18-5/8 in. (473 mm).
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrants — One metallic pipe or tubing to be installed within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. When the hourly F or FH Rating of the firestop system is 3 hr, the nom diam of copper tube shall not exceed 4 in. (102 mm).
   D. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe. When the hourly F or FH Rating of the firestop system is 3 hr, the nom diam of copper pipe shall not exceed 4 in. (102 mm).

WL 5029

System No. W-L-5029

3. Pipe Covering* — Nom 1, 1-1/2 or 2 in. (25, 38 or 51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. For 1 and 2 hr F and FH Ratings, the annular space between insulated penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). For 3 hr F and FH Ratings, the annular space shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm).
   See Pipe and Equipment Covering — Materials (BRGU) category in the Building Material Directory for the names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   The hourly T, FT, FTH Ratings of the firestop system are 1/2 hr for 1 hr rated walls and 1 hr for 2 hr rated walls. For 3 hr rated walls, the hourly T, FT and FTH Ratings when steel and iron pipes are used are 1 hr. For 3 hr rated walls, the hourly T, FT and FTH Ratings when copper penetrants are used are 1-1/4 hr for 2 in. (51 mm) thick pipe covering and 0 hr for pipe covering thickness less than 2 in. (51 mm).
3A. Pipe Covering* — (Not Shown) — As an alternate to Item 3, max 2 in. (51 mm) thick cylindrical calcium silicate (min 14 pcf) units sized to the outside diam of the pipe or tube may be used. Pipe insulation secured with stainless steel bands or min 18 AWG stainless steel wire spaced max 12 in. (305 mm) OC. When the alternate pipe covering is used, the T and FT Rating shall be as specified in item 3 above.
   See Pipe and Equipment Covering — Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. Fill, Void or Cavity Material* — Sealant — For 1 and 2 hr F and FH Rating, min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. For 3 hr F and FH Rating, min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and gypsum board, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe covering/gypsum board interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

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

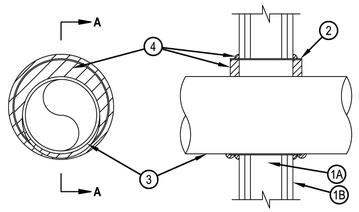
Hilti Firestop Systems

WL 1465

System No. W-L-1465

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 or 2 Hr (See Item 1)	F Ratings — 1 or 2 Hr (See Item 1)
T Rating — 0 and 1/4 Hr (See Item 1)	FT Rating — 0 and 1/4 Hr (See Item 1)
L Rating At Ambient — Less Than 1 CFM/Sq Ft	FH Rating — 1 or 2 Hr (See Item 1)
L Rating At 400 F — Less Than 1 CFM/Sq Ft	FTH Rating — 0 and 1/4 Hr (See Item 1)
	L Rating At Ambient — Less Than 1 CFM/Sq Ft
	L Rating At 400 F — Less Than 1 CFM/Sq Ft



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Thickness, type, number of layers and orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 10 in. (254 mm).
   The hourly F, FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. The T, FT, FTH Ratings are 0 and 1/4 hr for 1 and 2 hr rated wall assemblies, respectively.
2. Steel Sleeve — Cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) thick galv sheet steel and having a min 1 in. (25 mm) lap along the longitudinal seam. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers. The ends of the steel sleeve shall be flush with or extend max 1 in. (25 mm) beyond each surface of the wall.

WL 1465

System No. W-L-1465

3. Through Penetrants — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of sleeve shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) steel conduit.
   D. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

Configuration A

4. Fill, Void or Cavity Material* — Sealant — Min 1 in. (25 mm) thickness of sealant applied within annulus, flush with both ends of sleeve. A min 1/4 in. (6 mm) diam bead of sealant to be applied at the tubing/sleeve interface at the point contact location and around the entire perimeter of the sleeve at the sleeve/gypsum board interface when the sleeve extends beyond the wall surface.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 606 Sealant, FS ONE Sealant or FS-ONE MAX Intumescent Sealant

Configuration B

4. Firestop System — The firestop system shall consist of the following items:
   A. Packing Material — Min 5/8 in. (16 mm) thickness of min 4 pcf Mineral wool bat insulation compressed and tightly and packed in to each end of the sleeve. Packing material is to be recessed from each end of the sleeve to accommodate fill material.
   A1. Packing Material* - Strips — (As an alternate to Config .B Item 4A) - Nom 5/8 in. in. (16 mm) wide precut mineral wool strips. The strips are firmly packed into the gap between penetrant and the steel sleeve Item 2 on both sides of the wall. Packing material is to be recessed from each end of the sleeve to accommodate fill material.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 767 Speed Strips
   B. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of sealant applied within annulus, flush with both ends of sleeve. A min 1/4 in. (6 mm) diam bead of sealant to be applied at the tubing/sleeve interface at the point contact location and around the entire perimeter of the sleeve at the sleeve/gypsum board interface when the sleeve extends beyond the wall surface.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 606 Sealant or FS ONE Sealant or FS-ONE MAX Intumescent Sealant

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

Hilti Firestop Systems

Plumbing Details

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

NORTH CAROLINA PROFESSIONAL SEAL 028866 ENGINEER CHARLES T. CROUL

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C.D.'s FOR BID

Revisions

Drawn LDH
Checked CTC
Date MAY 16, 2024
Sheet P4.2
Of

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

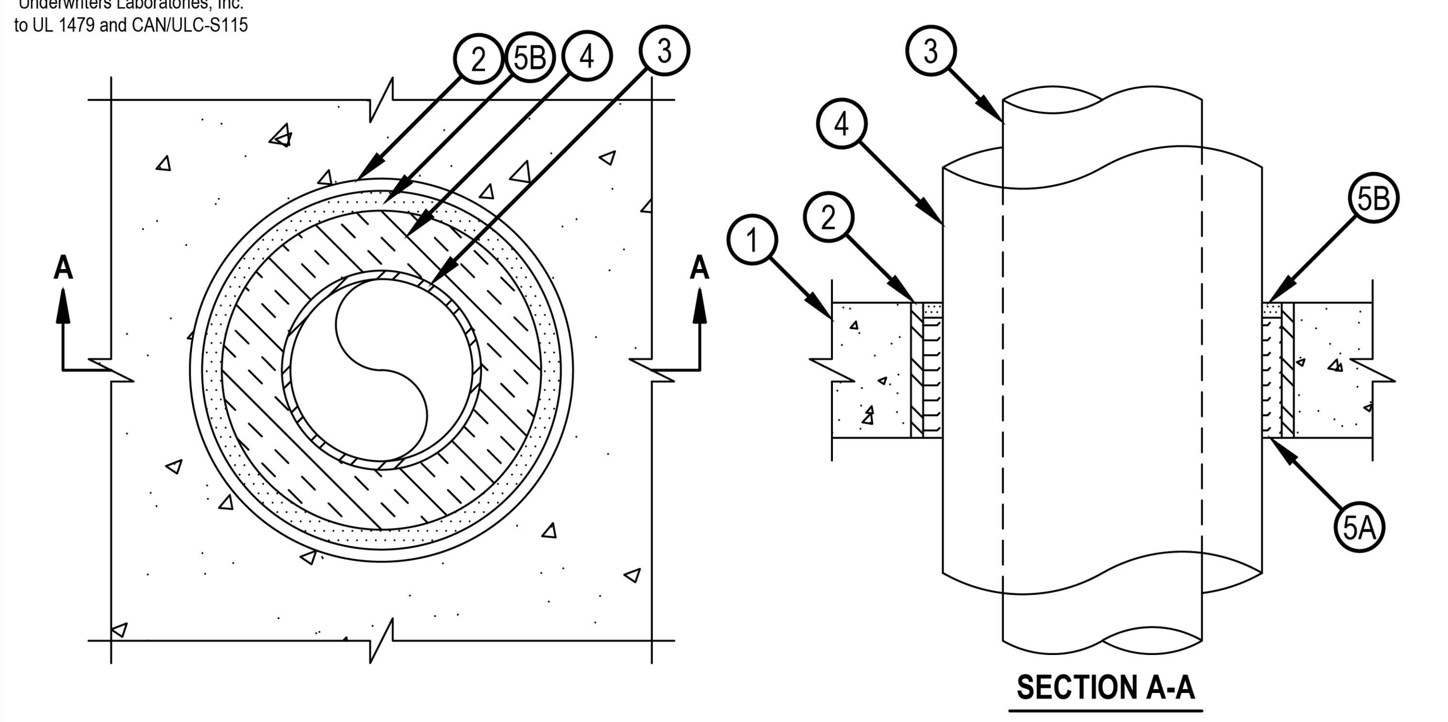
NORTH

System No. C-AJ-5265

CAJ 5265

CLASSIFIED C UL US
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

F Rating -- 2 Hr
T Rating -- 0 and 1/2 Hr (See Item 4)



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete floor. Min 5 in. (127 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 12 in. (305 mm).
2. Steel Sleeve — (optional) - Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
3. Through-Penetrant — One metallic pipe, tube or conduit to be installed within the opening. The following types and sizes of metallic penetrants may be used:
   A. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
4. Pipe Covering* — Nom 2 in. (51 mm) thick (or thinner) hollow cylindrical heavy density glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the pipe covering and periphery of opening shall be min 1/4 in. (6 mm) to max 1-5/8 in. (41 mm).
   See Pipe and Equipment Covering - Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used
   The T Rating is 0 Hr when pipe covering is less than nom 2 in. (51 mm) thick.
5. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of 4 pcf (64 kg/m3) mineral wool batt insulation tightly packed into the opening as a permanent form. Packing material to be recessed from top surface of floor to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material - Sealant* — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus flush with the top surface of the floor or both surfaces of the wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP606 Sealant

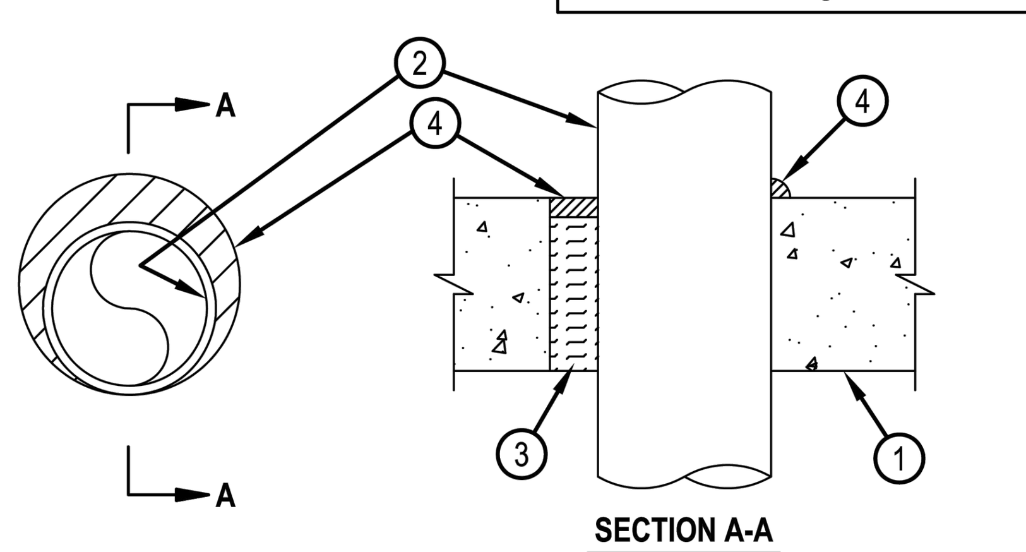
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

System No. C-AJ-1149

CAJ 1149

CLASSIFIED C UL US
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating —2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 2 Hr
L Rating At 400 F — 4 CFM/sq ft	FTH Rating — 0 Hr
W Rating — Class 1 (See Item 4)	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — 4 CFM/sq ft



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks *. Max diam of opening is 12 in. (305 mm).
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — One metallic pipe, conduit or tubing to be installed within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The annular space shall be 0 in. (point contact) to max 1-1/4 in. (32 mm). The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 10 in. (254 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 10 in. (254 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or steel conduit.
   D. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 4 in. (102 in.) diam (or smaller) Regular (or heavier) copper pipe.
3. Packing Material — Min 3 in. (76 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation for nom 4 in. diam (and smaller) pipes, conduits or tubings and a min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation for pipe greater than nom 4 in. diam, firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.
4. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with the top surface of floor or both surfaces of wall. At the point of contact location between pipe and concrete, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the concrete/pipe interface on the top surface of floor and on both surfaces of wall. W Rating applies only when CFS-S SIL GG, CFS-S SIL SL (floors only), CP601S or CP604 sealant is used.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S, CP604, CFS-S SIL GG, CFS-S SIL SL (floors only), CP606 or FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.

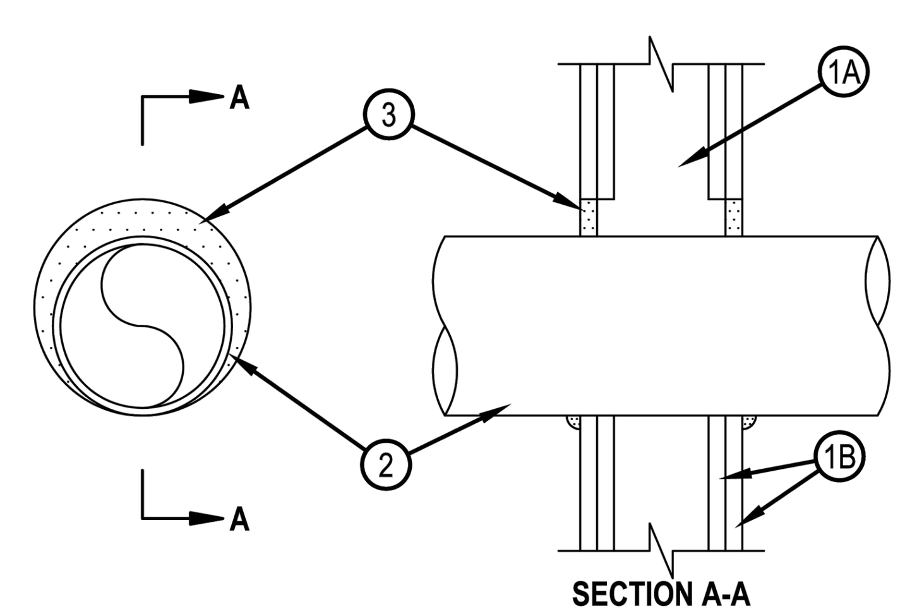
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

System No. W-L-1054

WL 1054

CLASSIFIED C UL US
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft L Rating at 400 F — Less Than 1 CFM/sq ft



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.
   The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.

System No. W-L-1054

WL 1054

2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

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

Plumbing Details

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 028865 CHARLES T. CROW

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C.D.'s FOR BID

Revisions

Drawn	LDH
Checked	CTC
Date	MAY 16, 2024
Sheet	P4.3
Of	

FAN SCHEDULE

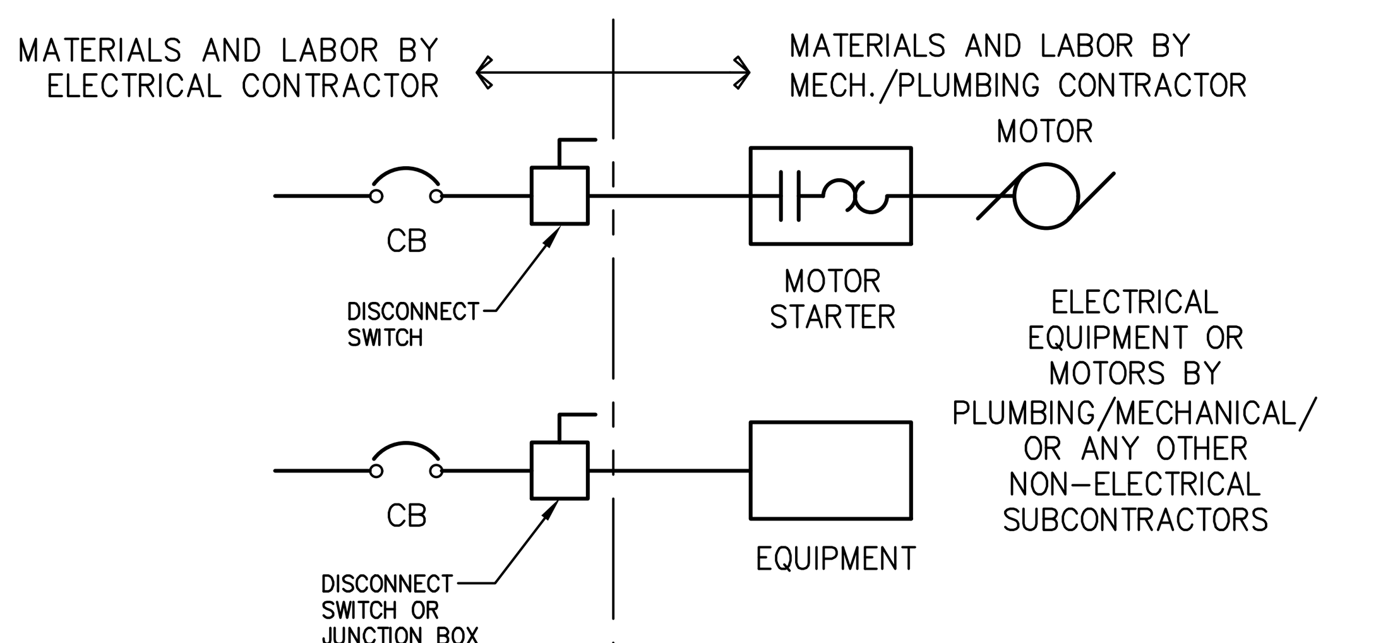
DESIG	MANUF	MODEL NO.	TYPE	SERVICE	CFM	STATIC PRESSURE	FAN RPM	SONES	MAX WATTS	VOLTS / PH	DRIVE	CONTROL TYPE	NOTES:
EF-1	GREENHECK	SP-A200	CEILING FAN	RESTROOM 37	100	0.5" WG	1,057	1.1	56.1	120 / 1	DIRECT	OCC. SENSOR	1 - 7

NOTES:
1. FAN SHALL BE UL LISTED (UL 507)
2. PROVIDE BACKDRAFT DAMPER
3. FAN HOUSING SHALL BE GALV. STEEL WITH 1/2" ACOUSTICAL INSULATION
4. PROVIDE ALUMINUM GRILLE WITH WHITE ENAMEL FINISH
5. PROVIDE DISCONNECT SWITCH
6. PROVIDE UNIT MOUNTED ADJUSTABLE SPEED CONTROLLER
7. MC SHALL PROVIDE RELAY AND WIRING TO INTERLOCK FAN WITH RM. ELECTRICAL OCCUPANCY SENSOR

AIR TERMINAL UNIT REBALANCE SCHEDULE

DESIG	TYPE	SIZE	PRIMARY AIR				FAN		HEATING COIL	
			RATED		REBALANCE		CFM	HP	CAPACITY (KW)	VOLTS/ PHASE
			MAX CFM	MIN CFM	MAX CFM	MIN CFM				
FPB-2-08	PFP	12	1,100	165	800	160	-	1/4	6.0	480/3
FPB-2-10	PFP	12	380	60	440	90	-	1/8	3.1	277/1
FPB-2-15	PFP	12	1,200	180	640	130	-	1/4	6.6	480/3

REMARKS:
1. FAN AND HEATING COIL PERFORMANCE IS EXISTING SHOWN FOR REFERENCE ONLY
2. REBALANCE MAXIMUM AND MINIMUM AIRFLOW AS INDICATED IN REBALANCE COOLING COLUMNS
3. PFP ATU TYPE INDICATES PARALLEL FAN POWERED



NOTES:

CONTRACTORS SHALL COORDINATE WITH EACH OTHER TO VERIFY EQUIPMENT NAMEPLATE RATINGS AND LOCATIONS BEFORE INSTALLATION OF CONDUIT, WIRING, CIRCUIT BREAKER, DISCONNECT SWITCH, OR FUSES. WHERE FUSED DISCONNECTS ARE SPECIFIED IN THE ELECTRICAL CONSTRUCTION DOCUMENTS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE APPROPRIATELY SIZED FUSES.

NOTES:

EQUIPMENT PROVIDED BY NON–ELECTRICAL SUBCONTRACTORS SHALL BE INSTALLED BY THE SUBCONTRACTOR PROVIDING THE EQUIPMENT. THIS INSTALLATION SHALL INCLUDE:

1. ALL POWER CONDUIT AND WIRING ON THE LOAD SIDE OF THE DISCONNECT SWITCH.
2. ALL CONTROLS AND CONTROL CONDUIT AND WIRING.

ALL CONDUIT AND WIRING (POWER AND CONTROL) INSTALLED BY THE NON–ELECTRICAL SUBCONTRACTORS SHALL BE INSTALLED BY A LICENSED ELECTRICAL CONTRACTOR PER THE DIVISION 26 SPECIFICATIONS AND SHALL BE INSPECTED BY THE ELECTRICAL INSPECTOR HAVING JURISDICTION.

1 / M0.1 Motor / Equipment Installation - Division of Work

SCALE: NONE

VARIABLE AIR VOLUME TERMINAL SCHEDULE

DESIG	MODEL	PRIMARY AIR			HEATING						NC @ 1.5" WG	FAN HP	SP INCHES WG
		SIZE	MAX CFM	MIN CFM	CFM	EAT F°	LAT F°	BTUH	KW	VOLTS/ PHASE			
VAV-2-7	PRICE SDV-S.M.	6	300	150	150	55	85	4860	1.4	**277V/1PH**	22	-	0.63
VAV-2-8	PRICE SDV-S.M.	6	380	190	190	55	85	6156	1.8	**277V/1PH**	22	-	0.63
VAV-2-9	PRICE SDV-S.M.	9	900	450	450	55	85	14580	4.3	**480V/3PH**	24	-	0.40
VAV-2-10	PRICE SDV-S.M.	10	1200	600	600	55	85	19440	5.7	**480V/3PH**	26	-	0.60
VAV-2-11	PRICE SDV-S.M.	7	410	205	205	55	85	6642	1.9	**277V/1PH**	25	-	0.51
FPB-2-11	PRICE FDV	2008	530	80	530	69	85	8901	2.6	**277V/1PH**	32	1/8	0.14
FPB-2-12	PRICE FDV	2008	400	60	400	69	85	6718	2.0	**277V/1PH**	32	1/8	0.14
FPB-2-14	PRICE FDV	3010	900	135	900	69	85	15115	4.4	**480V/3PH**	32	1/4	0.10
FPB-2-16	PRICE FDV	2008	400	60	400	69	85	6718	2.0	**277V/1PH**	32	1/8	0.14
FPB-2-17	PRICE FDV	2008	400	60	400	69	85	6718	2.0	**277V/1PH**	32	1/8	0.14
FPB-2-18	PRICE FDV	3008	640	100	640	69	85	10748	3.2	**480V/3PH**	32	1/4	0.04
FPB-2-19	PRICE FDV	2008	550	85	550	69	85	9237	2.7	**277V/1PH**	32	1/8	0.14

REMARKS:
1. AIR TERMINAL UNIT MANUFACTURER BASIS OF DESIGN : PRICE INDUSTRIES
2. NC LEVEL IS DISCHARGE NC FOR SINGLE DUCT UNITS AND RADIATED FOR FAN POWERED UNITS AT 1.5" W.G. INLET STATIC PRESSURE
3. MIN. DIFFERENTIAL PRESSURE IS PRIMARY AIRFLOW PRESSURE DROP ACROSS ASSEMBLY
4. PROVIDE INTEGRAL AIR FLOW SWITCH AND INTEGRAL MAIN LINE POWER DOOR INTERLOCK DISCONNECT
5. PROVIDE SOLID METAL LINER (S.M.)
6. DISCHARGE AIR TEMPERATURE SENSOR SHALL BE INSTALLED IN THE DUCTWORK IN METAL ENCLOSURE
7. WIRING FROM CONTROL PANEL TO DAT SENSOR SHALL BE IN FLEXIBLE METAL CONDUIT
8. TERMINAL UNITS SHALL BE PRESSURE INDEPENDENT WITH DIRECT DIGITAL CONTROLS
9. PROVIDE CONTROL POWER TRANSFORMER WITH DISCONNECT
10. PROVIDE 42" CLEARANCE IN FRONT OF ELECTRICAL ENCLOSURE

AIR DISTRIBUTION SCHEDULE

DESIG	TYPE	CFM RANGE	NECK SIZE	FACE SIZE	ROUND ADAPTER	MAX NC	MAX TP	FRAME	CONSTRUCTION	MODEL	NOTES
A	LOUVERED FACE SUPPLY DIFFUSER	0 - 110	9x9	24x24	6"Ø	15	0.10	LAY-IN	ALUMINUM	AMDA	1 - 4
		111 - 240	9x9	24x24	8"Ø	20	0.10				
		240 - 350	12x12	24x24	10"Ø	25	0.10				
		351 - 550	15x15	24x24	12"Ø	25	0.10				
B	ROUND CONE SUPPLY DIFFUSER	0 - 160	6"Ø	13.5"Ø	N/A	20	0.10	EXPOSED	ALUMINUM	RCDA	1, 6, 7
		161 - 280	8"Ø	18"Ø	N/A	20	0.10				
		281 - 400	10"Ø	22.5"Ø	N/A	23	0.10				
RAC	PERFORATED FACE RETURN GRILLE	0 - 350	14x14	24x24	N/A	15	0.03	LAY-IN	ALUMINUM	APDDR	1, 2, 5

NOTES
1. DIFFUSERS AND GRILLES TO BE BY PRICE OR APPROVED EQUIVALENT
2. WHITE POWDER COAT FINISH WITH BLACK INTERIOR BACK PAN
3. DEVICES LOCATED IN ACOUSTICAL TILE CEILINGS SHALL BE PROVIDED WITH FACTORY SHEET METAL PANEL.
4. PROVIDE FACTORY ROUND ADAPTOR WITH OPENING CENTERED IN FACE
5. PROVIDE RETURN GRILLE WITH RETURN AIR CANOPY
6. VOLUME DAMPER SHALL BE INSTALLED AT BRANCH DUCT TAKEOFF. DO NOT PROVIDE FACTORY ACCESSORY DAMPER AT DIFFUSER INLET.
7. HORIZONTAL TO VERTICAL AIR PATTERN ADJUSTABLE BY TURNING THE SMALL CENTER CONE

APPENDIX B

2018 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 4A
- winter dry bulb: 16° F
- summer dry bulb: 90° F

Interior design conditions
- winter dry bulb: 72° F
- summer dry bulb: 75° F
- relative humidity: 50%

Building heating load: -
Building cooling load: -

Mechanical Spacing Conditioning System

Unitary
- description of unit: Existing
- heating efficiency: Existing
- cooling efficiency: N/A
- size category of unit: N/A

Boiler
- N/A

Chiller
- N/A

List equipment efficiencies: See Equipment Schedules

GENERAL HVAC NOTES

1. VERIFY EVERY ASPECT OF THE PROPOSED WORK AS DESCRIBED OR IMPLIED BY THE CONTRACT DOCUMENTS.
2. IN THE EVENT THE CONTRACTOR CHOOSES TO USE PRODUCTS OTHER THAN THE BASIS OF DESIGN, HE ASSUMES FULL RESPONSIBILITY FOR COORDINATION AND INTEGRATION OF SUCH ITEMS. THE FUNCTIONAL DESIGN INTEGRITY OF ALL SYSTEMS AND COMPONENTS SHALL BE MAINTAINED. VOLTAGES, LOADS, WIRE SIZES AND QUANTITIES, DISCONNECT SWITCHES AND FUSE SIZES, PHYSICAL SIZE, LOCATIONS, CLEARANCES, ETC. SHALL BE FULLY COORDINATED BY THE ELECTRICAL CONTRACTOR AND SHALL BE HIS RESPONSIBILITY. ANY ADDITIONAL COST RESULTING FROM SAID SUBSTITUTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. INSTALL ALL EQUIPMENT SO THAT ALL CODE–REQUIRED AND MANUFACTURER–RECOMMENDED SERVICING CLEARANCES ARE MAINTAINED. ADJUSTMENTS IN THESE LOCATIONS SHALL BE MADE BY THE CONTRACTOR TO FULLY COORDINATE WITH BUILDING CONDITIONS.
4. ALL ITEMS THAT REQUIRE ACCESS, I.E. FOR OPERATING, CLEANING, SERVICING, MAINTENANCE, AND CALIBRATION, SHALL BE EASILY AND SAFELY ACCESSIBLE INCLUDING BUT NOT LIMITED TO ALL TYPES OF VALVES, FILTERS AND STRAINERS, TRANSMITTERS, AND CONTROL DEVICES.
5. ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE MECHANICAL DRAWINGS REGARDING BUILDING CONSTRUCTION, DIMENSION AND ARRANGEMENT. LINES THAT REQUIRE SLOPE, SUCH AS PLUMBING WASTE LINES SHALL TAKE PRECEDENCE OVER ELECTRICAL LINES. CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL TRADES TO AVOID CONFLICTS AND SHALL PROVIDE ALL OFFSETS AND EQUIPMENT AS REQUIRED TO FIT THE MECHANICAL WORK INTO THE AVAILABLE SPACE.
6. READ ALL NOTES AND REMARKS SUPPLIED ON EQUIPMENT SCHEDULES.
7. COORDINATE LIGHT, PIPING, AND DUCT LOCATIONS CLOSELY WITH E.C. PRIOR TO BEGINNING WORK.
8. COORDINATE PIPING, EQUIPMENT, ROOF DRAIN PENETRATIONS, AND DUCT LOCATIONS IN MECHANICAL ROOMS WITH PLUMBING CONTRACTOR BEFORE BEGINNING INSTALLATION.
9. DUCTWORK AND PIPING ELEVATION CHANGES, TRANSITIONS, AND OFFSETS MAY NOT BE SHOWN AND SHALL BE PROVIDED AS REQUIRED.
10. PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR THE PROPER INSTALLATION OF WORK AND TO REPAIR ANY DAMAGE DONE DURING INSTALLATION.
15. INSTALL MANUAL VOLUME DAMPERS IN SUPPLY, RETURN, AND EXHAUST SYSTEMS FOR EACH AIR DISTRIBUTION DEVICE AND AS REQUIRED FOR SYSTEM AIR BALANCING. LOCATE DAMPERS AWAY FROM AIR DISTRIBUTION DEVICES, NEAR DUCT MAINS, AND MAINTAIN EASY ACCESSIBILITY.
16. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AT ALL NEW FIRE DAMPERS, SMOKE DAMPERS, SMOKE DETECTORS AND HEATING COILS.
17. REFER TO ARCHITECTURAL DRAWINGS FOR WALL ELEVATIONS AND REFLECTED CEILING PLANS FOR LOCATIONS OF HVAC DEVICES.
18. ADJUSTABLE THERMOSTATS SHALL BE MOUNTED AT 48" FROM FINISHED FLOOR TO TOP OF DEVICE IN ACCORDANCE WITH ANSI 308.
19. PROTECT ALL RTU COILS FROM DUST, DEBRIS, THROUGHOUT INSTALLATION, INITIAL START–UP, AND CONSTRUCTION DURATION USING FILTERING MEDIA SHEET PRE–FILTERS ON ALL RETURN INTAKES.
20. ALL AIR DISTRIBUTION DEVICES, AIR TERMINAL UNITS, COILS, AND EQUIPMENT, ETC. SHALL BE COORDINATED WITH THE OTHER BUILDING TRADES FOR PROPER LOCATION AND TO PREVENT INTERFERENCE WITH THE LIGHTS, PLUMBING, CONDUIT, ETC.
21. DUCT SIZES SHOWN INDICATE NET INSIDE DIMENSIONS.
22. ALL 45° AND 90° TURNS IN RECTANGULAR DUCTWORK SHALL BE PROVIDED WITH TURNING VANES UNLESS SPECIFICALLY OTHERWISE NOTED.
23. SEAL ALL DUCTWORK WITH HARDCAST IRON–GRIP WATER BASED SEALANT.
24. ROUND ELBOWS SHALL BE LONG RADIUS WITH A MINIMUM CENTER LINE RADIUS OF ONE AND ONE–HALF THE DUCT DIAMETER (1.5 X D).
25. LOW PRESSURE FLEXIBLE DUCT SHALL BE OF A LENGTH NO GREATER THAN 6'–0" AND SHALL CONTAIN ELBOWS AND BENDS BEING NO GREATER THAN 90° WITH A MINIMUM RADIUS OF ONE AND ONE–HALF THE DUCT DIAMETER (1.5 X D).
26. FLEXIBLE DUCTWORK SHALL BE LABELED IN ACCORDANCE WITH UL 181.
27. COORDINATE INSTALLATION OF EQUIPMENT WITH GENERAL CONTRACTOR AND OTHER TRADES TO MAINTAIN MANUFACTURER REQUIRED MINIMUM SERVICE ACCESS.
28. MECHANICAL CONTRACTOR TO LOCATE ROOF PENETRATIONS FOR ROOFING CONTRACTOR. ALL ROOFING PENETRATIONS TO BE MADE BY ROOFING CONTRACTOR.
29. MECHANICAL CONTRACTOR TO SUPPLY ROOFING CONTRACTOR WITH ANY CURBS, HOODS, OR CAPS PRIOR TO ROOFING CONTRACTOR BEGINNING ROOF WORK. MECHANICAL CONTRACTOR TO INSTALL EQUIPMENT ON INSTALLED ROOFING CURB.
30. ALL DRAIN PIPING SHALL SLOPE DOWN IN THE DIRECTION OF FLOW.

MECHANICAL ABBREVIATIONS

AD	ACCESS DOOR
ADA	AMERICAN DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
ATM	ATMOSPHERE
ATU	AIR TERMINAL UNIT (TERMINAL BOX)
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
DB	DRY BULB TEMPERATURE
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
FLA	FULL LOAD AMPS
FPF	FINS PER FOOT
GC	GENERAL CONTRACTOR
HP	HORSEPOWER
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTDOOR AIR
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
RA	RETURN AIR
RB	RE–BALANCE
RH	RELATIVE HUMIDITY
SA	SUPPLY AIR
SP	STATIC PRESSURE
TAB	TESTING, ADJUSTING, AND BALANCING
TDH	TOTAL DYNAMIC HEAD
TYP.	TYPICAL
XE	EXISTING EXHAUST AIR GRILLE
XR	EXISTING RETURN AIR GRILLE
XS	EXISTING SUPPLY AIR GRILLE

DUCTWORK SYMBOLS LEGEND

T ATU–1	THERMOSTAT – SERVICE: AIR TERMINAL UNIT 1
18/14	RECTANGULAR DUCT (W/H) INSIDE CLEAR DIM.
	NEW DUCT
	EXISTING DUCT
	EXISTING DUCT/EQUIPMENT TO BE DEMOLISHED
	FLEXIBLE DUCT CONNECTOR
	DUCT ELBOW WITH TURNING VANES
VD	MANUAL VOLUME DAMPER / BALANCING DAMPER (VD)
	SUPPLY AIR DUCT IN SECTION
	RETURN DUCT IN SECTION
	EXHAUST DUCT IN SECTION
	DUCTWORK TURNING DOWN
	DUCTWORK TURNING UP
A–375	AIR DISTRIBUTION DEVICE TYPE "A" BALANCED FOR 375 CFM
	FLEXIBLE AIR DUCT
	SUCTION/TRANSFER AIRFLOW
	DISCHARGE AIRFLOW
	END OF DEMOLITION
	CONNECT TO EXISTING

MECHANICAL SHEET INDEX

Mechanical Legends, Notes and Schedules

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

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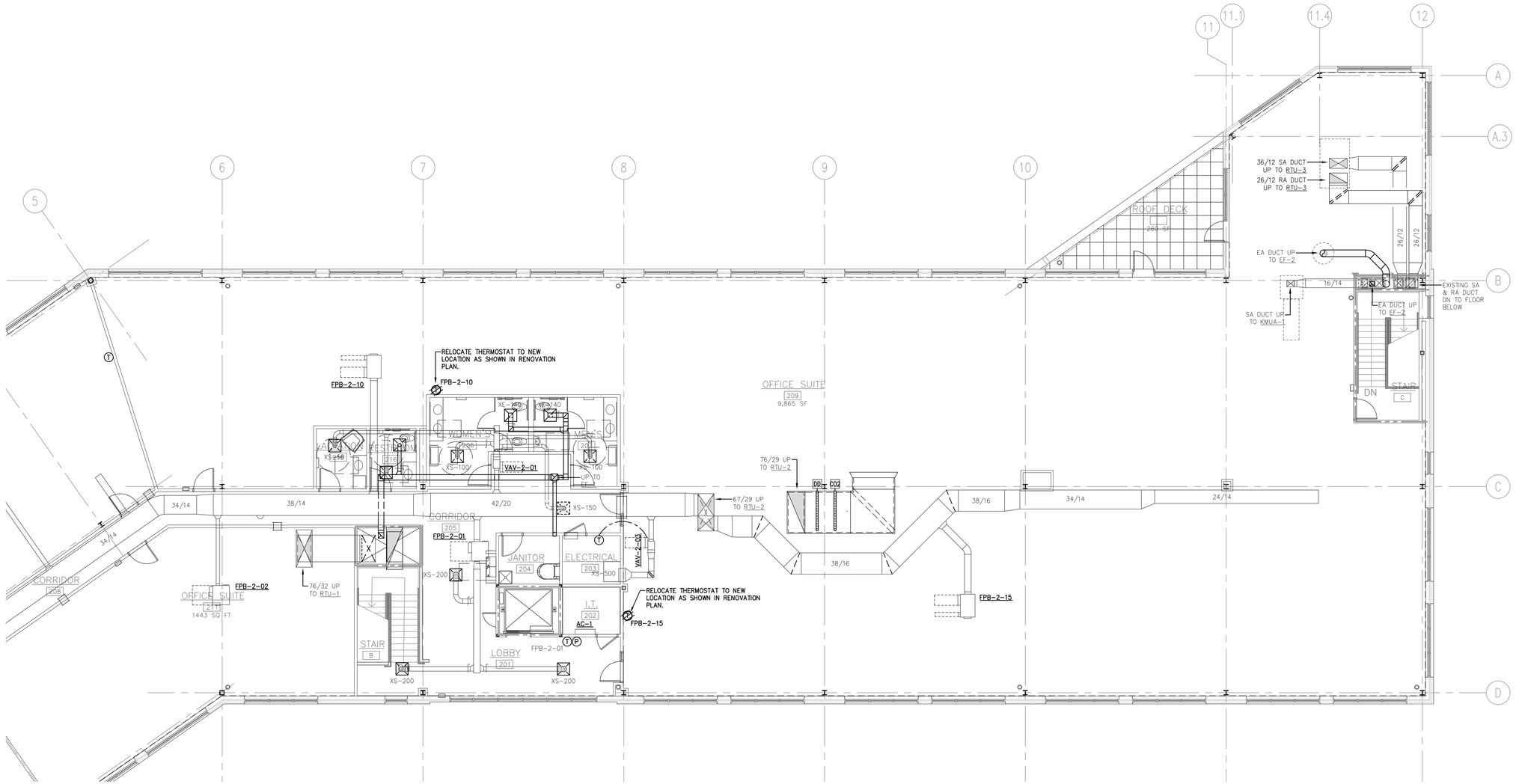

1 / M1.1 Mechanical Demolition Plan

SCALE: 1/8" = 1'-0" 2nd Floor

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Mechanical Demolition Plan

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

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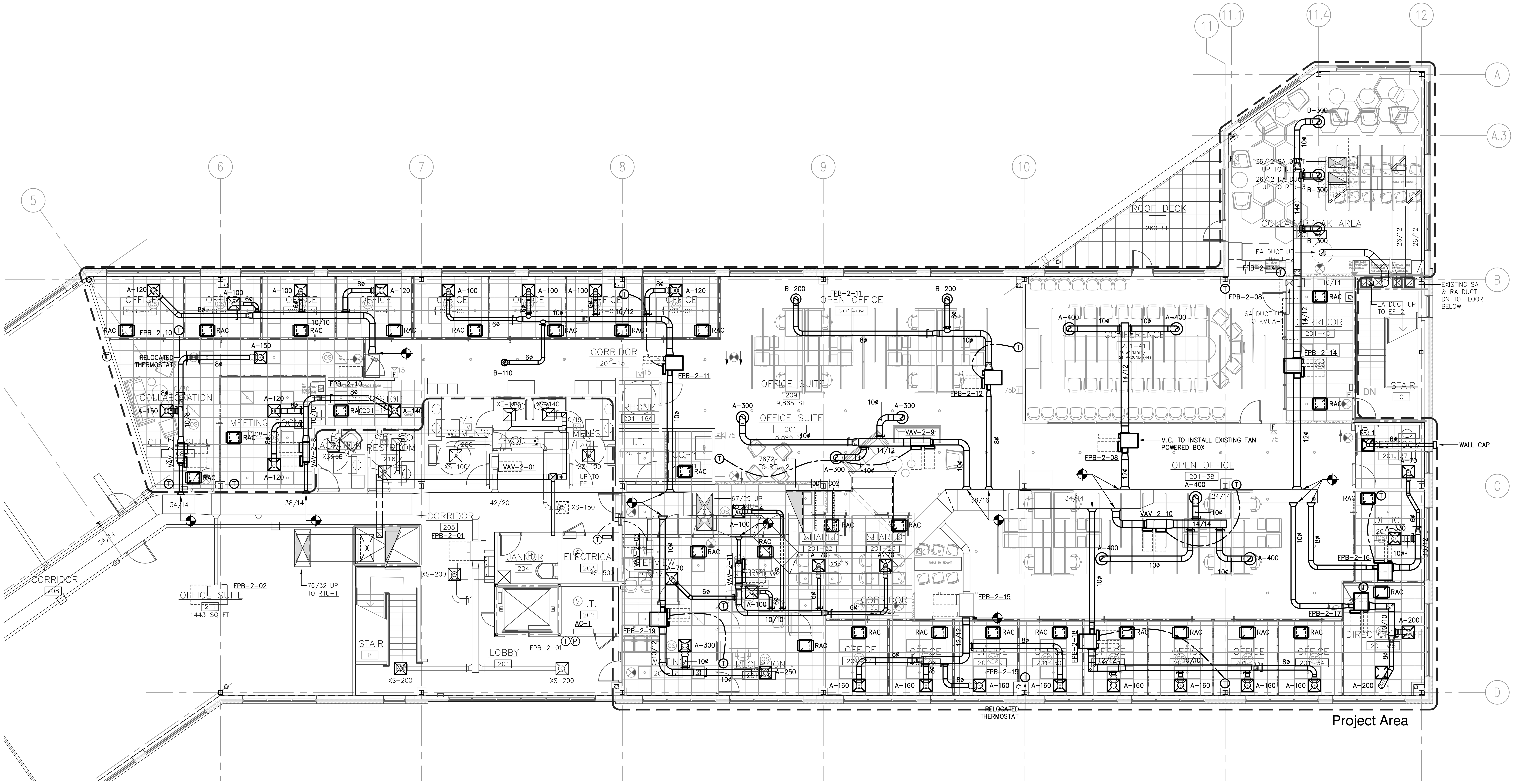

1 M2.1 Mechanical Renovation Plan

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

2nd Floor

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Mechanical Renovation Plan

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

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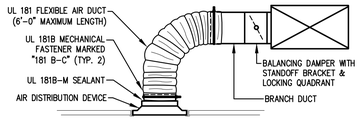
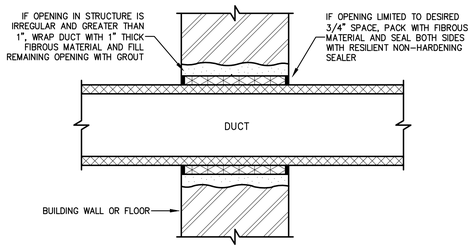


NOTES:

1. FLEXIBLE DUCTS SHALL NOT BE INSTALLED ABOVE HARD CEILINGS, ABOVE INACCESSIBLE CEILINGS, ON HIGH PRESSURE SYSTEMS, AND EXHAUST SYSTEMS
2. FLEXIBLE DUCTS SHALL BE INSTALLED MIN. 4" ABOVE CEILING
3. SUPPORT FLEXIBLE DUCT WITH INTERMEDIATE SUPPORTS TO LIMIT 4" PER FOOT MAXIMUM DEFLECTION
4. AIR DISTRIBUTION DEVICE BACKPAN SHALL BE INSULATED
5. PROVIDE VELOCITY GRID ON DIFFUSERS WITH LESS THAN TWO STRAIGHT INLET DIAMETERS AT DUCT CONNECTION

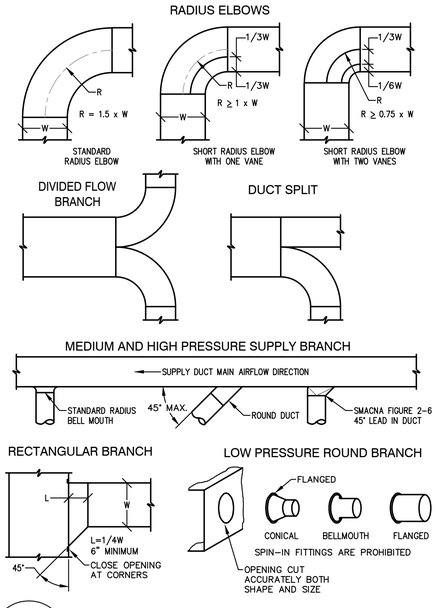
9 M3.1 Air Device Connection Detail

SCALE: NONE



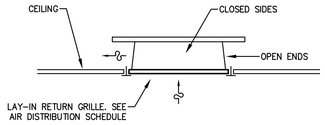
8 M3.1 Typical Wall Penetration Details

SCALE: NONE — Non-Rated or Smoke-Tight



7 M3.1 Low Pressure Branch Duct Details

SCALE: NONE

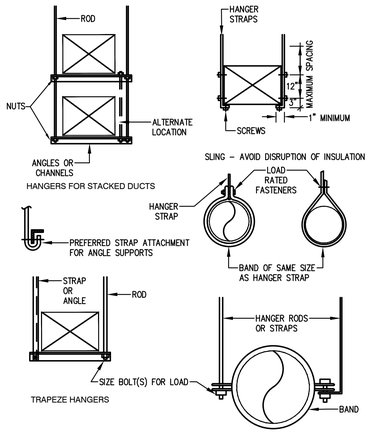


NOTES:

1. RETURN AIR CANOPY SHALL BE EQUAL TO PRICE MODEL RAC. PROVIDE FOR EACH NON-DUCTED RETURN AIR GRILLE.

6 M3.1 Return Air Grille Detail

SCALE: NONE

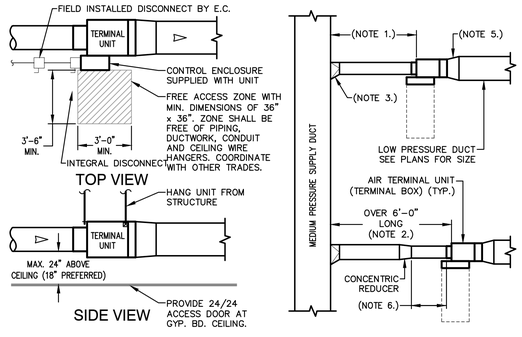


NOTES:

1. REINFORCEMENT MAY BE USED FOR ATTACHMENT IF IT QUALIFIES FOR BOTH DUTIES. DO NOT EXCEED LOAD RATINGS FOR METHOD USED.
2. PROVIDE TRAPEZE HANGERS FOR OVAL DUCTS & RECTANGULAR DUCTS 36" & WIDER AND FOR MEDIUM AND HIGH PRESSURE DUCTS
3. SUPPORT CHANNEL TRAPEZE HANGERS BY RODS
4. HANGER RODS SHALL BE ATTACHED WITH WASHER, THREAD LOCKER, & LOCKING NUT

5 M3.1 Typical Duct Hangers

SCALE: NONE

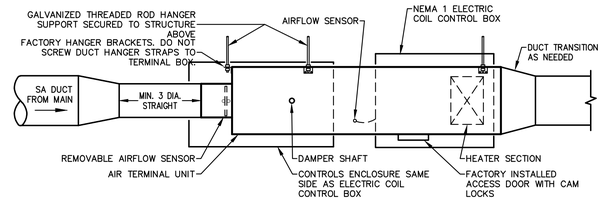


NOTES:

1. PROVIDE 3 DUCT DIAMETERS, MINIMUM 24" LONG, SECTION OF STRAIGHT SHEET METAL DUCT (MAXIMUM LENGTH OF 6') AT THE INLET OF EACH TERMINAL UNIT. SEE TERMINAL UNIT SCHEDULE FOR INLET DUCT SIZE.
2. PROVIDE SHEET METAL DUCT OF ONE SIZE LARGER THAN VAV TERMINAL INLET FOR LENGTH OVER 6'-0"
3. 45 DEGREE LEAD IN, CONICAL, OR 45 DEG. ROUND AT EACH CONNECTION TO MEDIUM PRESSURE DUCTWORK
4. SEE PLANS FOR DISCHARGE DUCT SIZE
5. PROVIDE TRANSITION FITTING FROM VAV BOX DISCHARGE TO FULL SIZE OF DISCHARGE DUCT SIZE INDICATED ON PLANS
6. MINIMUM 3 DUCT DIAMETERS OF STRAIGHT DUCT SAME SIZE AS BOX INLET

4 M3.1 Terminal Unit Inlet & Discharge Ductwork

SCALE: NONE

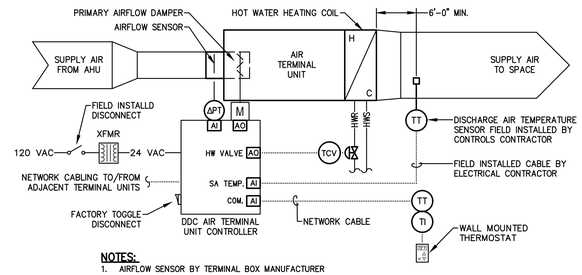


NOTES:

1. PROVIDE COMPLETE PRESSURE INDEPENDENT CONTROLS PACKAGE
2. MAINTAIN MINIMUM CLEARANCE IN FRONT OF CONTROL AND ELECTRICAL PANELS PER NEC. AS FOLLOWS: 36" FOR 0-150 VAC AND 42" FOR 151-600 VAC.
3. COORDINATE HAND CONFIGURATION OF CONTROL PANEL WITH ALL OTHER TRADES PRIOR TO PROCUREMENT.
4. CONTROL PANEL AND ELECTRICAL PANEL SHALL BE ACCESSIBLE WITHIN 24" OF CEILING
5. SEE COIL PIPING DETAIL AND VAV TERMINAL BOX SCHEDULE FOR ADDITIONAL REQUIREMENTS
6. WHERE HEATING COILS ARE NOT FACTORY INSULATED, FIELD INSTALL INSULATION ON HEATING COIL
7. INSTALL AIRFLOW BALANCING DAMPER IN DUCTWORK BEFORE EACH SUPPLY AIR DIFFUSER

3 M3.1 Terminal Unit Installation

SCALE: NONE — Electric Heat

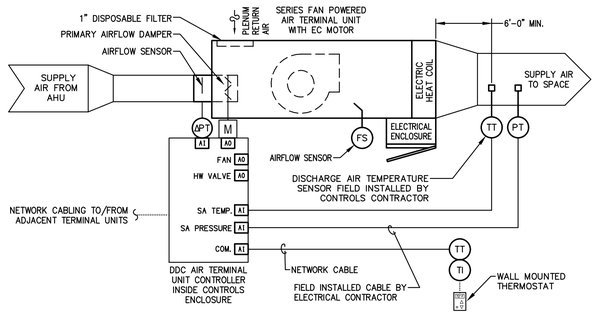


NOTES:

1. AIRFLOW SENSOR BY TERMINAL BOX MANUFACTURER
2. DDC CONTROLLER / ACTUATOR SUPPLIED AND FIELD INSTALLED BY CONTROLS CONTRACTOR
3. FACTORY INSTALLED CONTROL PANEL SHALL INCLUDE CONTROL POWER TRANSFORMER AND DISCONNECT SWITCH. SEE ELECTRICAL DRAWINGS FOR POWER CIRCUITING.
4. COORDINATE ELECTRICAL ENCLOSURE ORIENTATION AND MOUNTING PRIOR TO PROCUREMENT
5. MAINTAIN MINIMUM 36" CLEARANCE IN FRONT OF 0-150 VAC CONTROL PANELS PER NEC.

2 M3.1 Air Terminal Unit with HW Heat Controls

SCALE: NONE — DDC - Pressure Independent



NOTES:

1. AIRFLOW SENSOR BY TERMINAL BOX MANUFACTURER
2. DDC CONTROLLER / ACTUATOR SUPPLIED AND FIELD INSTALLED BY CONTROLS CONTRACTOR
3. FACTORY INSTALLED CONTROL PANEL SHALL INCLUDE MANUAL AND AUTOMATIC RESET, CONTROL POWER TRANSFORMER, AND INTERLOCKING DOOR DISCONNECT SWITCH. SEE ELECTRICAL DRAWINGS FOR POWER CIRCUITING.
4. COORDINATE ELECTRICAL ENCLOSURE ORIENTATION AND MOUNTING PRIOR TO PROCUREMENT
5. MAINTAIN MINIMUM CLEARANCE IN FRONT OF CONTROL AND ELECTRICAL PANELS PER NEC. AS FOLLOWS: 36" FOR 0-150 VAC AND 42" FOR 151-600 VAC.

1 M3.1 Series Fan Powered ATU with Elect. Heat Controls

SCALE: NONE — DDC - Pressure Independent

HVAC Details

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: EE# 23-046

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EXISTING PANEL 'HL2'

NOTES	CKT	LOAD	DESCRIPTION	COND	EGC	N	W	CB	LOAD		CB	W	N	EGC	COND	DESCRIPTION	LOAD	CKT	NOTES
	1	360	RTU-1 8TU-2 RECEP	3/4"	12	12	12	20	720		20	12	12	12	3/4"	RM 215, 216 RECEP	360	2	
	3	720	ROOF DECK REC	3/4"	12	12	12	20		1080	20	12	12	12	3/4"	RESTROOMS 206,207	360	4	
	5	540	W. SHELL CONV REC	3/4"	12	12	12	20			20	12	12	12	3/4"	HK. JANITOR RECEP	1080	6	
	7	2700	EX PANEL 'T3'					100	3025		20	12	12	12	3/4"	EWC - CORRIDOR 205	325	8	
	9	3360	(SUITE 211)	SEE RISER				3P		3860	20	12	12	12	3/4"	ARA COMM PANEL	500	10	
	11	3048	(FRCSA)					-		3548	20	12	12	-	-	FACP	500	12	
	13	1440	IT SPLIT SYSTEM	3/4"	12	-	12	15	1940		20	12	12	-	-	ACCESS CONTROLS	500	14	
	15	1440	"	-	-	-	12	2P		2640	20	12	12	12	3/4"	ELEVATOR SUMP PUMP	1200	16	
	17		SPARE					20		4500	60	6	-	10	3/4"	WATER HEATER	4500	18	
	19		SPARE					20	4500		2P	6	-	-	-	-	4500	20	
	21		SPARE					20		720	20	12	12	12	3/4"	HK CORRIDOR 208	720	22	
	23		SPARE					20		540	20	12	12	12	3/4"	CONV REC SHELL EAST	540	24	
	25		SPARE					20	3600		100					EX PANEL 'T1'	3600	26	
	27		SPARE					20		3000	3P		SEE RISER			(SUITE 214)	3000	28	
	29		SPARE					20		3396	-					(SE PROMISE)	3396	30	
	31		SPARE					20	1440		20	12	12	12	3/4"	IT ROOM REC	1440	32	
	33		SPARE					20		1200	20	12	12	-	-	IT ROOM REC	1200	34	
	35		SPARE					20		1200	20	12	12	-	-	IT ROOM REC	1200	36	
	37		SPARE					20	6860		100					EX PANEL 'T2'	6860	38	
	39		SPARE					20		6320	3P		SEE RISER			(SUITE 212)	6320	40	
	41		SPARE					20		3576	-					(SE PROMISE)	3576	42	
	43		SPARE					20	0		20					SPARE		44	
	45		SPARE					20		0	20					SPARE		46	
	47		SPARE					20		0	20					SPARE		48	
3	49	**3190**	**NEW PANEL 'T4A'**					100	16030		**100**					**NEW PANEL 'T4'**	**12840**	50	**2**
	51	**7256**	**(SUITE 201)**	**SEE RISER**				3P		19076	**3P**		**SEE RISER**			**(SUITE 201)**	**11820**	52	**2**
	53	**6248**	**(LEGAL AID)**					-		16868	-					**(LEGAL AID)**	**10620**	54	**2**

NA SUBFEED LUG OR CB

208Y/ 120 VOLTS 3 PHASE 4 WIRE SURFACE MOUNT
400 BUSS AMPS N/A MLO X GROUND BAR NEMA 1
400 FEEDER AMPS SE RATED 22K AIC MINIMUM
400 MCB AMPS X MCB

NOTES:
1. SQUARE D NQOO PANELBOARD
2. PROVIDE NEW BREAKER AND RETURN SPARES TO OWNER WHERE APPLICABLE.
3. USE EXISTING BREAKER
4.
5.

AMPS	PHASE TOTALS:	KVA
317.63	PHASE A:	38.12
315.80	PHASE B:	37.90
293.73	PHASE C:	35.25
309.06	TOTAL CONNECTED	111.26
230.56	TOTAL DEMAND *	83.00

NEC SERVICE CALCULATION - MIXED USE BUILDING

LOAD DESCRIPTION		ACTUAL KVA	DEMAND FACTOR	DEMAND KVA
LIGHTING	1.6 VA/SF	60.41	1.00	60.41
RECEPTACLES		322.00		
FIRST 10KVA		10.00	1.00	10.00
REMAINDER		312.00	0.50	156.00
HVAC		457.00	1.00	457.00
WATER HEATER		15.00	1.00	15.00
CLINIC FIT-UP MISCELLANEOUS POWER		44.54	1.00	44.54
EV CHARGING STATIONS		14.40	1.25	18.00
EV CHARGING STATIONS (FUTURE)		108.00	1.25	135.00
FOOD TRUCK		6.24	1.00	6.24
ELEVATOR	20 HP	22.44	1.00	22.44
LARGEST MOTOR *			0.25	0.00
TOTAL SERVICE LOAD (KVA)				**924.62 KVA**
TOTAL SERVICE LOAD (AMPS)				**1113 AMPS**
SERVICE EQUIPMENT	**480 / 277**			**1200 AMPS**

*** INCLUDED IN HVAC LOAD**

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL BUILDINGS

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE (SELECT ONE)

	ENERGY CODE :	X	PRESCRIPTIVE		PERFORMANCE
	ASHRAE 90.1 :		PRESCRIPTIVE		PERFORMANCE

LIGHTING SCHEDULE (EACH FIXTURE TYPE)

	LAMP TYPE REQUIRED IN FIXTURE	–	SEE FIXTURE SCHEDULE				
	NUMBER OF LAMPS IN FIXTURE	–	SEE FIXTURE SCHEDULE				
	BALLAST TYPE USED IN FIXTURE	–	SEE FIXTURE SCHEDULE				
	NUMBER OF BALLASTS IN FIXTURE	–	SEE FIXTURE SCHEDULE				
	TOTAL WATTAGE PER FIXTURE	–	SEE FIXTURE SCHEDULE				
	TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED	–	[SPC X SPC] [BUILDING]	6,754W	SPECIFIED	8,364W	ALLOWED
	TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED	–	[EXISTING]	N/A	SPECIFIED	N/A	ALLOWED

ADDITIONAL PRESCRIPTIVE COMPLIANCE (WHEN USING THE 2018 NCECC: NOT REQUIRED FOR ASHRAE 90.1)

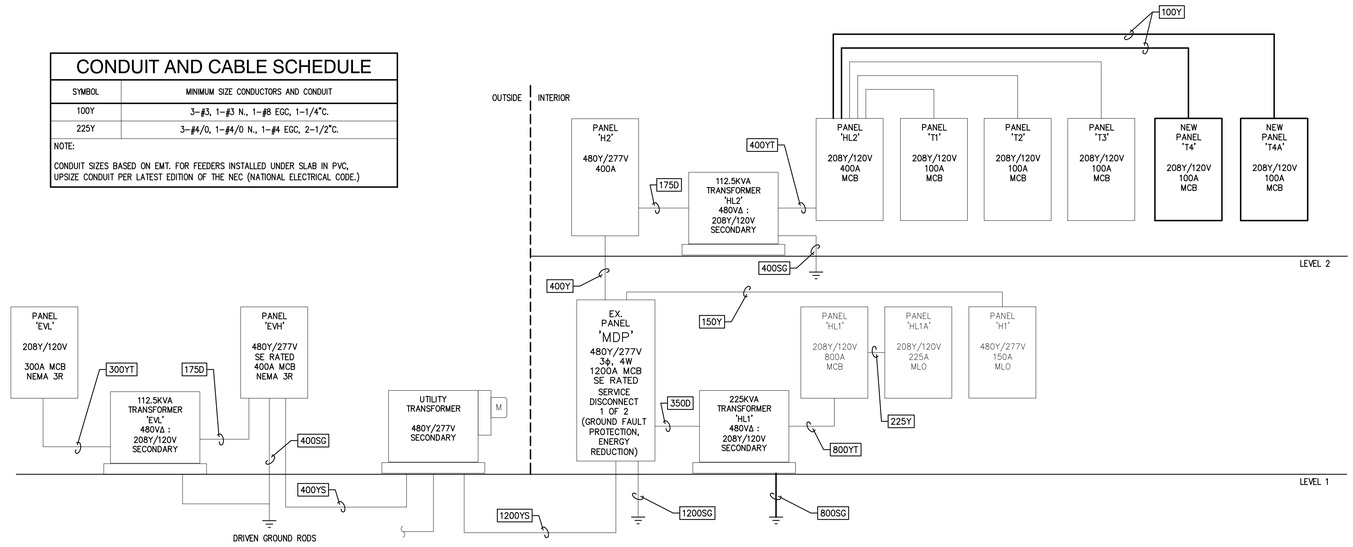
	C406.2 –	MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
X	C406.3 –	REDUCED LIGHTING POWER DENSITY
	C406.4 –	ENHANCED DIGITAL LIGHTING CONTROLS
	C406.5 –	ON-SITE RENEWABLE ENERGY
	C406.6 –	DEDICATED OUTDOOR AIR SYSTEM
	C406.7 –	REDUCED ENERGY USE IN SERVICE WATER HEATING

CONDUIT AND CABLE SCHEDULE

SYMBOL	MINIMUM SIZE CONDUCTORS AND CONDUIT
100Y	3–#3, 1–#3 N., 1–#8 EGC, 1–1/4"C.
225Y	3–#4/0, 1–#4/0 N., 1–#4 EGC, 2–1/2"C.

NOTE:

CONDUIT SIZES BASED ON EMT. FOR FEEDERS INSTALLED UNDER SLAB IN PVC, UPSIZE CONDUIT PER LATEST EDITION OF THE NEC (NATIONAL ELECTRICAL CODE.)



1 / E1.0 Power Riser Diagram (Partial)
SCALE: NONE MIXED USE

GENERAL ELECTRICAL NOTES:

1. THE CONTRACTOR SHALL VERIFY EQUIPMENT NAMEPLATE INFORMATION BEFORE INSTALLING CONDUIT, WIRING, CIRCUIT BREAKERS, DISCONNECT SWITCHES OR FUSES.
2. IN THE EVENT THE CONTRACTOR CHOOSES TO USE PRODUCTS OTHER THAN THE BASIS OF DESIGN, HE ASSUMES FULL RESPONSIBILITY FOR COORDINATION AND INTEGRATION OF SUCH ITEMS. THE FUNCTIONAL DESIGN INTEGRITY OF ALL SYSTEMS AND COMPONENTS SHALL BE MAINTAINED. VOLTAGES, LOADS, WIRE SIZES AND QUANTITIES, DISCONNECT SWITCHES AND FUSE SIZES, PHYSICAL SIZE, LOCATIONS, CLEARANCES, ETC. SHALL BE FULLY COORDINATED BY THE ELECTRICAL CONTRACTOR AND SHALL BE HIS RESPONSIBILITY. ANY ADDITIONAL COST RESULTING FROM SAID SUBSTITUTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE ELECTRICAL DRAWINGS REGARDING BUILDING CONSTRUCTION, DIMENSION AND ARRANGEMENT. LINES THAT REQUIRE SLOPE, SUCH AS PLUMBING WASTE LINES SHALL TAKE PRECEDENCE OVER ELECTRICAL LINES. CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL TRADES TO AVOID CONFLICTS AND SHALL PROVIDE ALL OFFSETS AND EQUIPMENT AS REQUIRED TO FIT THE ELECTRICAL WORK INTO THE AVAILABLE SPACE.
4. ALL DISCONNECTS SHALL BE HEAVY DUTY TYPE, HAVE A GROUND BAR, A NEUTRAL BAR AND TOOL DEFEATABLE INTERLOCKS.
5. COORDINATE ANY AND ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION SO AS TO AVOID CONFLICT DURING CONSTRUCTION.
6. ALL PANELS SHALL HAVE TYPED, COMPLETED DIRECTORIES INDICATING EQUIPMENT SERVED AND ROOM NUMBER (AS INDICATED ON FINAL BUILDING ROOM SIGNAGE) OF EQUIPMENT LOCATION, OR SPARE, OR SPACE.
7. THE CONTRACTOR SHOULD READ AND UNDERSTAND THE ENTIRE SET OF CONSTRUCTION DOCUMENTS WHICH INCLUDES BUT IS NOT LIMITED TO THE SPECIFICATIONS, ARCHITECTURAL, CIVIL, STRUCTURAL AND ALL ENGINEERING DRAWINGS, SO THAT HE MAY UNDERSTAND THE FULL SCOPE OF WORK AND CONVEY THE PROPER REQUIRED MATERIALS AND METHODS OF INSTALLATION TO THE ESTIMATORS, SUPPLIERS AND INSTALLERS.
8. THE CONTRACTOR SHALL INSPECT AND OBSERVE THE EXISTING SITE, BUILDING, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL CONDITIONS PRIOR TO BEGINNING WORK AND SHALL PROVIDE AND INSTALL FIXTURES, DEVICES AND EQUIPMENT IN A MANNER TO ACCOMMODATE THESE EXISTING CONDITIONS.
9. ALL ELECTRICAL EQUIPMENT AND WIRING SHALL BE 75 DEG. RATED.
10. FINAL LOCATIONS OF ALL POWER DEVICES SHALL BE COORDINATED WITH FINAL EQUIPMENT PLAN PRIOR TO ROUGH-IN OF ANY LOCATIONS.
11. ELECTRICAL CONTRACTOR SHALL FIRE SEAL ALL PENETRATIONS THRU FIRE RATED WALLS. REFER TO PME SHEET FOR U.L. PENETRATION DETAILS.
12. ALL LOW VOLTAGE WIRING SHALL BE PLENUM RATED.
13. EXIT AND EMERGENCY LIGHTING UNITS SHALL BE CIRCUITED TO THE LINE SIDE OF THE LOCAL SWITCH TO ENSURE OPERATION IN A LOSS OF NORMAL POWER SITUATION. SWITCHED EMERGENCY LIGHTS SHALL HAVE BOTH SWITCHED AND UNSWITCHED LEGS SO THAT FIXTURES ARE CONTROLLED BY AREA LIGHTING CONTROLS WHEN NORMAL POWER IS AVAILABLE. PROVIDE A UL924 EMERGENCY LIGHTING BY-PASS RELAY TO OPEN DIMMING CONTROL CIRCUIT UPON LOSS OF NORMAL POWER. PROVIDE FUNCTIONAL DEVICES ESR2401B OR EQUAL FOR EACH DIMMED ZONE.
14. ALL EXTERIOR CONDUIT ROUTINGS SHOWN ARE DIAGRAMMATIC AND FOR CONTRACTOR INFORMATION. ANY PATHWAYS INSTALLED SHALL MEET ALL CURRENT NEC AND NC BUILDING CODE REQUIREMENTS. CONTRACTOR SHALL FIELD LOCATE AND PROTECT ALL EXISTING UNDERGROUND UTILITIES.
15. ALL CONDUITS IN FINISHED AREAS SHALL BE CONCEALED UNDERSLAB, IN WALLS. ANY CONDUIT THAT MUST BE EXPOSED IN UNFINISHED AREAS SHALL BE NEATLY ROUTED PARALLEL AND PERPENDICULAR TO THE BUILDING STRUCTURE. ROUTE IN CORNERS AND TIGHT ALONG COLUMNS WHERE POSSIBLE TO PROTECT AND CONCEAL. ALL EXPOSED CONDUITS, BOXES AND SUPPORTS SHALL BE PAINTED TO MATCH THE ADJACENT SURFACE.
16. NEW TELEDATA OUTLETS SHOWN WILL BE BY THE ELECTRICAL CONTRACTOR AND SHALL INCLUDE BACKBOXES AND CONDUIT WITH PULL STRINGS ABOVE NEAREST ACCESSIBLE CEILING OR SUITE CLOSET. ALL OTHER TELEDATA WORK INCLUDING, BUT NOT LIMITED TO PULLING CABLES, EQUIPMENT, INSTALLING, TERMINATING, TESTING AND LABELING OF CABLES, FACEPLATES AND JACKS SHALL BE BY THE OWNER'S VENDOR.

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
	DOWN LIGHT (REFER TO SCHEDULE FOR TYPE)
	LAY-IN TROFFER (REFER TO SCHEDULE FOR TYPE)
	NIGHT LIGHT (REFER TO SCHEDULE FOR TYPE)
	WALL MOUNT EMERGENCY LIGHT (REFER TO SCHEDULE FOR TYPE)
	EXIT LIGHT (REFER TO SCHEDULE FOR TYPE)
$	LIGHT CONTROL SWITCH (3 OR 4-WAY OR KEYED AS INDICATED)
	DIMMER SWITCH
W	WIRELESS DIMMER SWITCH – SEE DETAIL 2/E1.2.
A–15	NEW HOMERUN (EX. PANEL 'A', CIRCUIT 15)
	NEW UNSWITCHED LIGHTING CIRCUIT
	NEW POWER OR LIGHTING CIRCUIT
	DUPLEX RECEPTACLE
USB	DUPLEX RECEPTACLE WITH INTEGRAL USB PORTS
	DISCONNECT SWITCH – REFER TO DISCONNECT SCHEDULE FOR DETAILS
	POWER PANEL – SEE PLANS AND SCHEDULES FOR DETAILS
J	POWER SYSTEM JUNCTION BOX
FB	6" FIRE RATED POKE-THROUGH FLOOR BOX. 60/40 DEVICE PLATE HUBBELL SYSTEM ONE WITH 1-1/2" DATA/AV CONDUIT TO ABOVE CEILING AND 3/4" POWER CONDUIT. DIE CAST ALUMINUM COVER.
OS1	WALL-MOUNTED LUTRON POWR SAVR WIRELESS OCCUPANCY/VACANCY SENSOR. 180 DEGREE COVERAGE TYPE. MODEL # LRF2-OWLB-P-WH
OS2	WALL-MOUNTED LUTRON POWR SAVR WIRELESS OCCUPANCY/VACANCY SENSOR. 90 DEGREE CORNER COVERAGE TYPE. MODEL # LRF2-OKLB-P-WH

Electrical Notes, Schedules & Power Riser

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: EE# 23-046

NORTH CAROLINA PROFESSIONAL SEAL 028862 ENGINEER JOHN DENNIS HAYES 5/16/24

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C.D.'s FOR BID

Revisions

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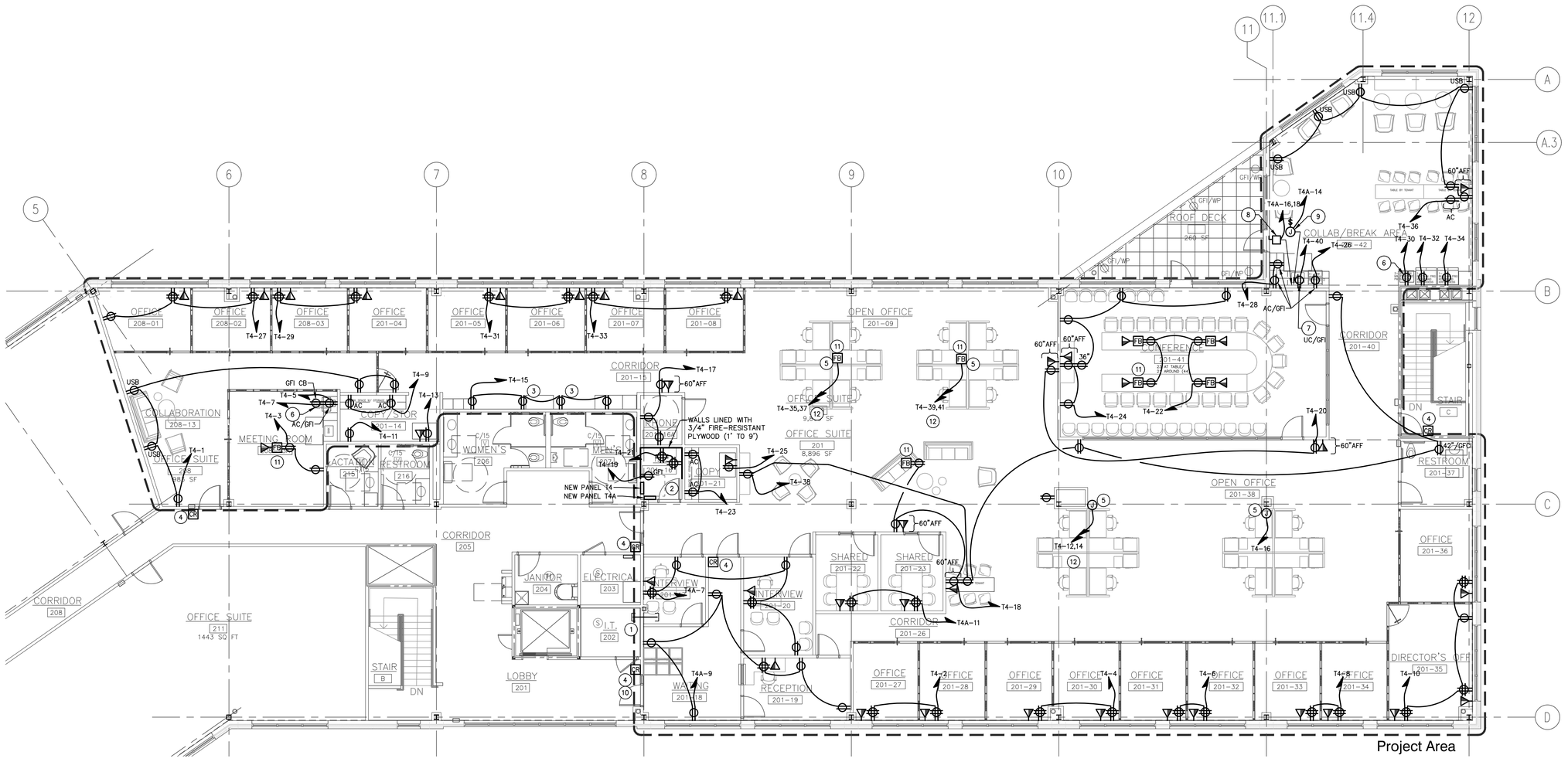

1 / E1.1 Power Renovation Plan

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

NEW PANEL 'T4'

NOTES	CKT	LOAD	DESCRIPTION	COND	EGC	N	W	CB	LOAD			CB	W	N	EGC	COND	DESCRIPTION	LOAD	CKT	NOTES
	1	900	COLLAB 13	3/4"	12	12	12	20	1620			20	12	12	12	3/4"	OFFICE 27, 28	720	2	
	3	360	MEETING 13A FLR BOX	3/4"	12	12	12	20		1080		20	12	12	12	3/4"	OFFICE 29, 30	720	4	
	5	1200	MEETING 13A COFFEE	3/4"	12	12	12	20			1920	20	12	12	12	3/4"	OFFICE 31, 32	720	6	
2	7	1200	MEETING 13A MICRO	3/4"	12	12	12	20	1920			20	12	12	12	3/4"	OFFICE 33, 34	720	8	
	9	360	COPY 14	3/4"	12	12	12	20		1620		20	12	12	12	3/4"	OFFICE 35, 36	1260	10	
	11	180	COPY 14	3/4"	12	12	12	20			900	20	12	12	12	3/4"	OPEN OFFICE WS 38 A	720	12	1
	13	1500	COPIER 206-14	3/4"	12	12	12	20	2220			20	12	12	-	-	OPEN OFFICE WS 38 A	720	14	1
	15	720	LOCKERS RECEP	3/4"	12	12	12	20		1440		20	12	12	12	3/4"	OPEN OFFICE 38 B	720	16	
	17	540	PHONE RECEPTIV	3/4"	12	12	12	20			1260	20	12	12	12	3/4"	FLR BOX, DISPLAYS	720	18	
	19	180	IT SERVICE RECEP	3/4"	12	12	12	20	540			20	12	12	12	3/4"	REC DISPLAYS	360	20	
	21	720	IT EQUIPMENT	3/4"	12	12	12	20		1440		20	12	12	12	3/4"	CONF FLOOR BOX	720	22	
	23	540	COPY 21	3/4"	12	12	12	20			1620	20	12	12	12	3/4"	CONF CONVENIENCE	1080	24	
	25	1500	COPIER 21	3/4"	12	12	12	20	3000			20	12	12	12	3/4"	BREAK CNT RECEP	1500	26	
	27	900	OFFICE 01, 02	3/4"	12	12	12	20		2400		20	12	12	12	3/4"	BREAK CNT RECEP	1500	28	
	29	720	OFFICE 03, 04	3/4"	12	12	12	20			2220	20	12	12	12	3/4"	BREAK MICROWAVE	1500	30	
	31	720	OFFICE 05, 06	3/4"	12	12	12	20	1920			20	12	12	12	3/4"	BREAK FRIDGE 1	1200	32	
	33	720	OFFICE 07, 08	3/4"	12	12	12	20		1920		20	12	12	12	3/4"	BREAK FRIDGE 2	1200	34	
1	35	720	OPEN OFFICE 09 A FB	3/4"	12	12	12	20			1980	20	12	12	12	3/4"	COLLAB RECEP	1260	36	
1	37	720	OPEN OFFICE 09 A FB	-	-	12	12	20	1620			20	12	12	12	3/4"	RECS HK, RR 37	900	38	
1	39	720	OPEN OFFICE 09 B FB	3/4"	12	12	12	20		1920		20	12	12	12	3/4"	DISHWASHER BREAK 42	1200	40	
1	41	720	OPEN OFFICE 09 B FB	-	-	12	12	20			720	20					SPARE		42	
		N/A	SUBFEED LUG OR CB																	

208Y/ 120 VOLTS, 3 PHASE, 4 WIRE, SURFACE MOUNT
100 BUSS AMPS, N/A MLO, X GROUND BAR, NEMA 1
100 FEEDER AMPS, SE RATED, 10K AIC MINIMUM
100 MCB AMPS, X MCB

NOTES:	AMPS	PHASE TOTALS:	KVA
1 PROVIDE BREAKER HANDLE TIE IF OFFICE FURNITURE SHARES A NEUTRAL BUS.	107.00	PHASE A:	12.84
2 6mA TRIP GFCI BREAKER	98.50	PHASE B:	11.82
3	88.50	PHASE C:	10.62
4	98.00	TOTAL CONNECTED	35.28
5	62.89	TOTAL DEMAND *	22.64

NEW PANEL 'T4A'

NOTES	CKT	LOAD	DESCRIPTION	COND	EGC	N	W	CB	LOAD			CB	W	N	EGC	COND	DESCRIPTION	LOAD	CKT	NOTES
1	1	200	LIGHTING INVERTER	3/4"	12	12	12	20	1430			20	12	12	12	3/4"	NORTH/WEST LIGHTS	1230	2	
	3	564	LTS COLLAB/BREAK 42	3/4"	12	12	12	20		1716		20	12	12	12	3/4"	CORE OFFICE LTS	1152	4	
	5	800	CONF RM LTS - 41	3/4"	12	12	12	20			1808	20	12	12	12	3/4"	SOUTH/EAST LTS	1008	6	
	7	1260	INTERVIEW 1 & 2	3/4"	12	12	12	20	1260			20					SPARE		8	
	9	1260	WAITING & RECEPTION	3/4"	12	12	12	20		2540		20	12	12	12	3/4"	OPEN OFFICE LTS	1280	10	
	11	720	SHARED OFFICE 22,23	3/4"	12	12	12	20			1440	20	12	12	12	3/4"	OPEN OFFICE SOUTH -38	720	12	
	13		SPARE					20	500			20	12	12	12	3/4"	RECIRC PUMP	500	14	
	15		SPARE					20		3000		40	8	8	10	3/4"	WATER HEATER	3000	16	
	17		SPARE					20			3000	2P	8	-	-	-	-	3000	18	
	19		SPARE					20	0			20					SPARE		20	
	21		SPARE					20		0		20					SPARE		22	
	23		SPARE					20			0	20					SPARE		24	
	25		SPARE					20	0			20					SPARE		26	
	27		SPARE					20		0		20					SPARE		28	
	29		SPARE					20			0	20					SPARE		30	
	31		SPARE					20	0			20					SPARE		32	
	33		SPARE					20		0		20					SPARE		34	
	35		SPARE					20			0	20					SPARE		36	
	37		SPARE					20	0			20					SPARE		38	
	39		SPARE					20		0		20					SPARE		40	
	41		SPARE					20			0	20					SPARE		42	
			SUBFEED LUG OR CB																	

208Y/ 120 VOLTS, 3 PHASE, 4 WIRE, SURFACE MOUNT
100 BUSS AMPS, N/A MLO, X GROUND BAR, NEMA 1
100 FEEDER AMPS, SE RATED, 10K AIC MINIMUM
100 MCB AMPS, X MCB

NOTES:	AMPS	PHASE TOTALS:	KVA
1	26.58	PHASE A:	3.19
2	60.47	PHASE B:	7.26
3	52.07	PHASE C:	6.25
4	46.37	TOTAL CONNECTED	16.69
5	51.20	TOTAL DEMAND *	18.43

KEYNOTES:

1. EXISTING 2" EMT INTO MDF ROOM 202. EXTEND AND REWORK AS REQUIRED SO RACEWAY CONNECTS MAIN BUILDING IT ROOM WITH SUITE I.T. CLOSET 209-16.
2. REWORK 2" EMT FOR TELECOM INTO THIS ROOM. COORDINATE EXACT LOCATION WITH OWNER'S I.T. EQUIPMENT.
3. RECEPTACLES AT APPROXIMATE 44" AFF ABOVE LOCKERS. COORDINATE EXACT HEIGHT WITH OWNER AND FURNITURE VENDOR.
4. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN FOR CARD ACCESS EQUIPMENT TO BE PROVIDED BY OTHERS. ROUGH-IN SHALL INCLUDE MOUNTING BOXES WITH BLANK FACEPLATES, LOW VOLTAGE WIRING, AND CONDUIT WITH PULL STRING COMPLETE TO ABOVE NEAREST ACCESSIBLE LAY-IN CEILING. OWNER'S VENDOR WILL PROVIDE AND INSTALL BOX MOUNTED DEVICES, AND TERMINATE, TEST AND LABEL ALL CABLING. ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOW VOLTAGE WIRING REQUIRED FOR OWNER-PROVIDED DEVICE. COORDINATE MOUNTING HEIGHTS OF DEVICES WITH OWNER PRIOR TO BEGINNING ROUGH-INS. ALL EQUIPMENT TO BE PROVIDED BY THE OWNER'S LOW VOLTAGE VENDOR, NETWORK SOUTH. SEE DETAIL 4/E2.0.
5. POWER TRANSITION BOX WITH WHIP INTO FURNITURE SYSTEM FROM JUNCTION BOX IN WALL OR FLOOR BOX BELOW. COORDINATE POWER WITH CUBICLE FURNITURE SYSTEM AND COORDINATE EXACT LOCATION WITH FURNITURE VENDOR.
6. COORDINATE EXACT LOCATION OF RECEPTACLE FOR MICROWAVE INTEGRATED INTO CASEWORK WITH CASEWORK VENDOR.
7. UNDER SINK. COORDINATE EXACT LOCATION OF RECEPTACLE FOR DISHWASHER WITH CASEWORK VENDOR.
8. 240V, 60A, NON-FUSED 2P D.S. AT OVERHEAD WATER HEATER LOCATION. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
9. MOTOR-RATED SWITCH FOR RECIRCULATION PUMP. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
10. ELECTRICAL CONTRACTOR TO PROVIDE ROUGH-IN FOR DOOR CAMERA EQUIPMENT TO BE PROVIDED BY OWNER. ROUGH-IN SHALL INCLUDE MOUNTING BOXES WITH BLANK FACEPLATES, LOW VOLTAGE WIRING, AND CONDUIT WITH PULL STRING COMPLETE TO ABOVE NEAREST ACCESSIBLE LAY-IN CEILING. OWNER'S VENDOR WILL PROVIDE AND INSTALL BOX MOUNTED DEVICES, AND TERMINATE, TEST AND LABEL ALL CABLING. ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOW VOLTAGE WIRING REQUIRED FOR OWNER-PROVIDED DEVICE. COORDINATE MOUNTING HEIGHTS OF DEVICES WITH OWNER PRIOR TO BEGINNING ROUGH-INS. ALL EQUIPMENT TO BE PROVIDED BY THE OWNER'S LOW VOLTAGE VENDOR. SEE DETAIL 4/E2.0.
11. COORDINATE EXACT FLOOR BOX CORE DRILL LOCATIONS WITH STRUCTURAL DRAWINGS AND FURNITURE LOCATIONS. TYPICAL ALL FLOOR BOXES.
12. PROVIDE BREAKER HANDLE TIES IF FURNITURE BUS SHARES NEUTRAL.

RATED WALL LEGEND	
1 HOUR FIRE BARRIER	

NORTH

Power Renovation Plan

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: EE# 23-046

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C.D.'s FOR BID

Revisions

Drawn MS3
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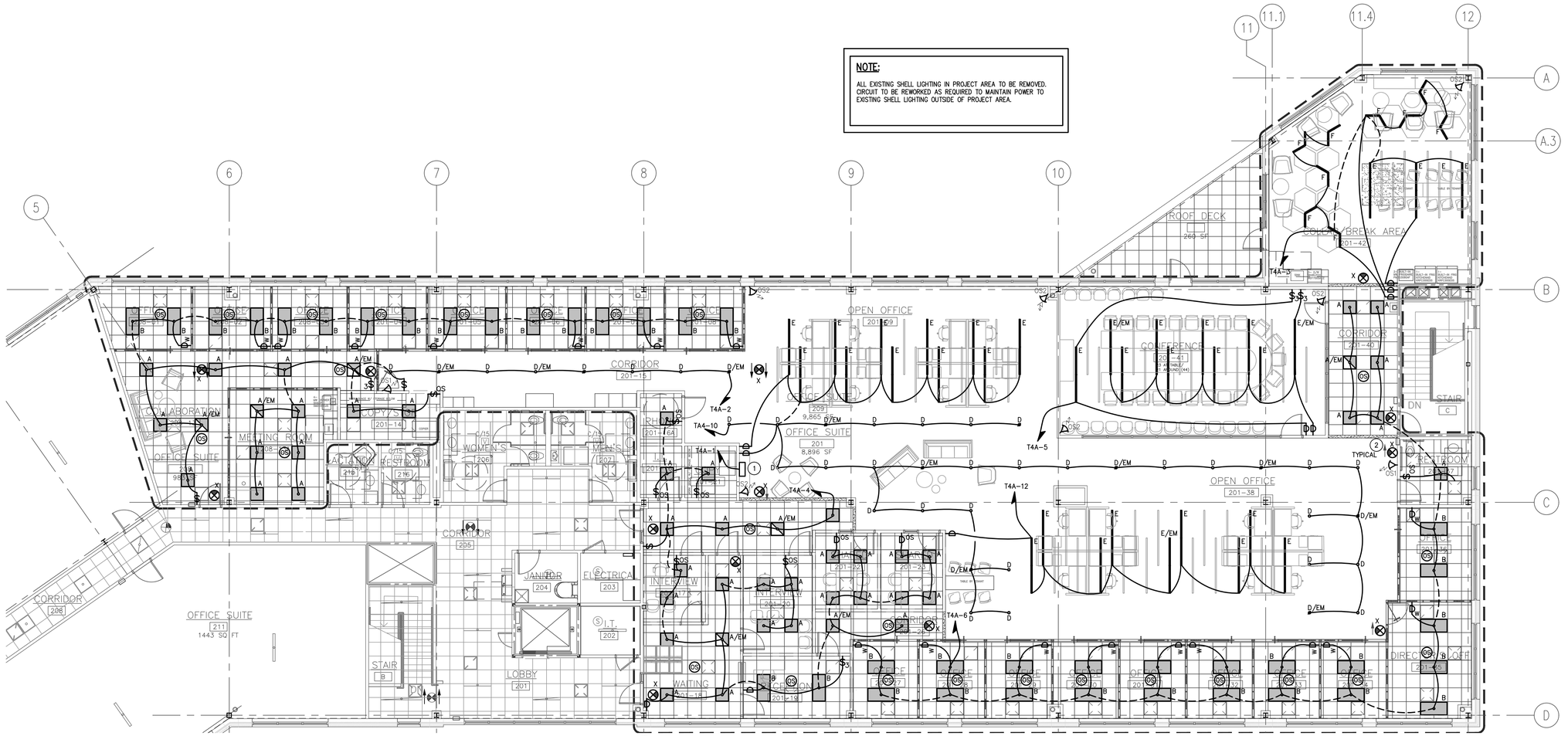
Of

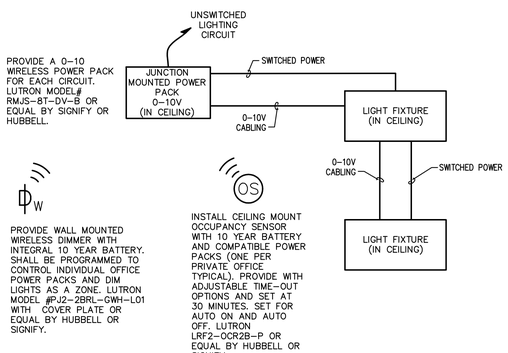


1 / E1.2 Lighting Plan

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

KEYNOTES:

1. 400VA BODINE EMERGENCY BACKUP INVERTER (OR EQUAL) MOUNTED HIGH ON WALL APPROX 11' AFF. SEE DETAIL 5/E2.0 FOR EMERGENCY LIGHTING SCHEMATIC. PROVIDE BLOCKING TO SUPPORT WEIGHT OF INVERTER.
2. CIRCUIT ALL EXIT LIGHTS TO UNSWITCHED LEG OF AREA LIGHTING CIRCUIT.



2 / E1.2 Wireless Lighting Control Detail

SCALE: NONE — Typical Private Office

LIGHT FIXTURE SCHEDULE

TYPE	PRODUCT IMAGE	MANUFACTURER	MODEL NUMBER	LAMPING	VOLTAGE	VA	FIXTURE DESCRIPTION
A A/EM		LSI BEGHELLI HUBBELL OR EQUAL	LPEC22-LED-45L -UNV-DIM1-35 LPEC22-LED-45L -UNV-DIM1-35 -EM10	LED, 3500K 4500 LUMENS	120-277V	36W	2'x2' RECESSED CENTER BASKET TROFFER. 'A/EM' HAS INTEGRAL BATTERY BACKUP.
B		LSI BEGHELLI HUBBELL OR EQUAL	LPEC24-LED-48L -UNV-DIM1-35	LED, 3500K 4800 LUMENS	120-277V	36W	2'x4' RECESSED CENTER BASKET TROFFER.
C		LITHONIA LSI HUBBELL OR EQUAL	LCL-2-40-ML-E-U	LED, 4000K 3000 LUMENS	120-277V	24W	2' INDUSTRIAL LED STRIP LIGHT. PROVIDE WITH NECESSARY MOUNTING ACCESSORIES.
D		DMF LIGHTING OR EQUAL	XCP-R-6-C-C60-S -D-12-WF-0-00 -00-35-WH-D-0 -F	LED, 3500K 1250 LUMENS	120-277V	14.3W	3" DIAMETER PENDANT MOUNT CYLINDER. MACHINED ALUMINUM BODY WITH DECORATIVE FLOAT LENS. WIDE FLOOD BEAM SPREAD.
E		METALUMEN FRASCH ACOUFELT ALTISPACE BARTCO OR EQUAL	RAIL2-ACL-35K -8-MB-12-CG-750 -1-PA-60-1-90	LED, 3500K	120V	10W/FT	8' ILLUMINATED ACOUSTIC BLADE. ALL SUSPENDED BLADES, ILLUMINATED AND NOT ILLUMINATED, FURNISHED AND INSTALLED BY CC. FINAL ELECTRICAL CONNECTION BY ELECTRICAL CONTRACTOR. 9'-4" TO BOTTOM OF BLADE TYPICAL. SEE ARCHITECTURAL DRAWINGS.
F		MARK LIGHTING METALUMEN ALCON LIGHTING OR EQUAL	S1PDMP-OPP-04FT -_-120C-90-35K -1000LMF-SCT-MIN1 -FLL-120-WHTT-ZT -F1-72A-ROCY -BLKCY-WCRD	LED, 3500K 1000 LUMENS/FT	120V	9W/FT	NOMINAL 1" WIDTH SUSPENDED PENDANT IN 120 DEGREE CORNER CONFIGURATION TO FIT AROUND HEXAGON ACOUSTIC BAFFLES. SATIN WHITE FINISH. AIRCRAFT CABLE SUSPENSION. COORDINATE
X		BEGHELLI HUBBELL LSI OR EQUAL	BRZ-LR-U-W-AT	LED	120-277V	5W	RED LED COMBO EXIT LIGHT WITH LED STRIP EMERGENCY LIGHT BAR AND 90-MINUTE BATTERY BACKUP. UNIVERSAL MOUNTING, SELF DIAGNOSTICS.

NOTES:

1. FIXTURES SHALL BE APPROVED WITH ALL NECESSARY MOUNTING HARDWARE, OPTIONS. LAMPS AND COMPONENTS AS REQUIRED FOR THE INSTALLATION AND AS DESCRIBED IN THE SCHEDULE.
2. ARCHITECT TO SELECT ALL FINISH COLORS TO THE ELECTRICAL CONTRACTOR.
3. PROVIDE SEPARATE POWER SUPPLIES, MOUNTING BRACKETS, END CAPS, ACCESSORIES AND ALL COMPONENTS TO ENSURE A COMPLETE AND CLEAN INSTALLATION.
4. COORDINATE EXACT MOUNTING DETAILS, COLORS AND LENGTHS WITH ARCHITECTURAL DETAILS PRIOR TO ORDERING.
5. ALL EXIT SIGNS AND EMERGENCY LIGHTS SHALL BE CIRCUITED TO THE LINE SIDE OF THE LOCAL AREA LIGHTING SWITCH.
6. EQUAL FIXTURES IN APPEARANCE, QUALITY AND PERFORMANCE MAY BE SUBMITTED UNLESS OTHERWISE NOTED BY THE ENGINEER, ARCHITECT OR OWNER.

Lighting Plan

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

NORTH CAROLINA PROFESSIONAL SEAL 028863 ENGINEER DENNIS HAYES

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Revisions

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Checked JDH
Date MAY 16, 2024
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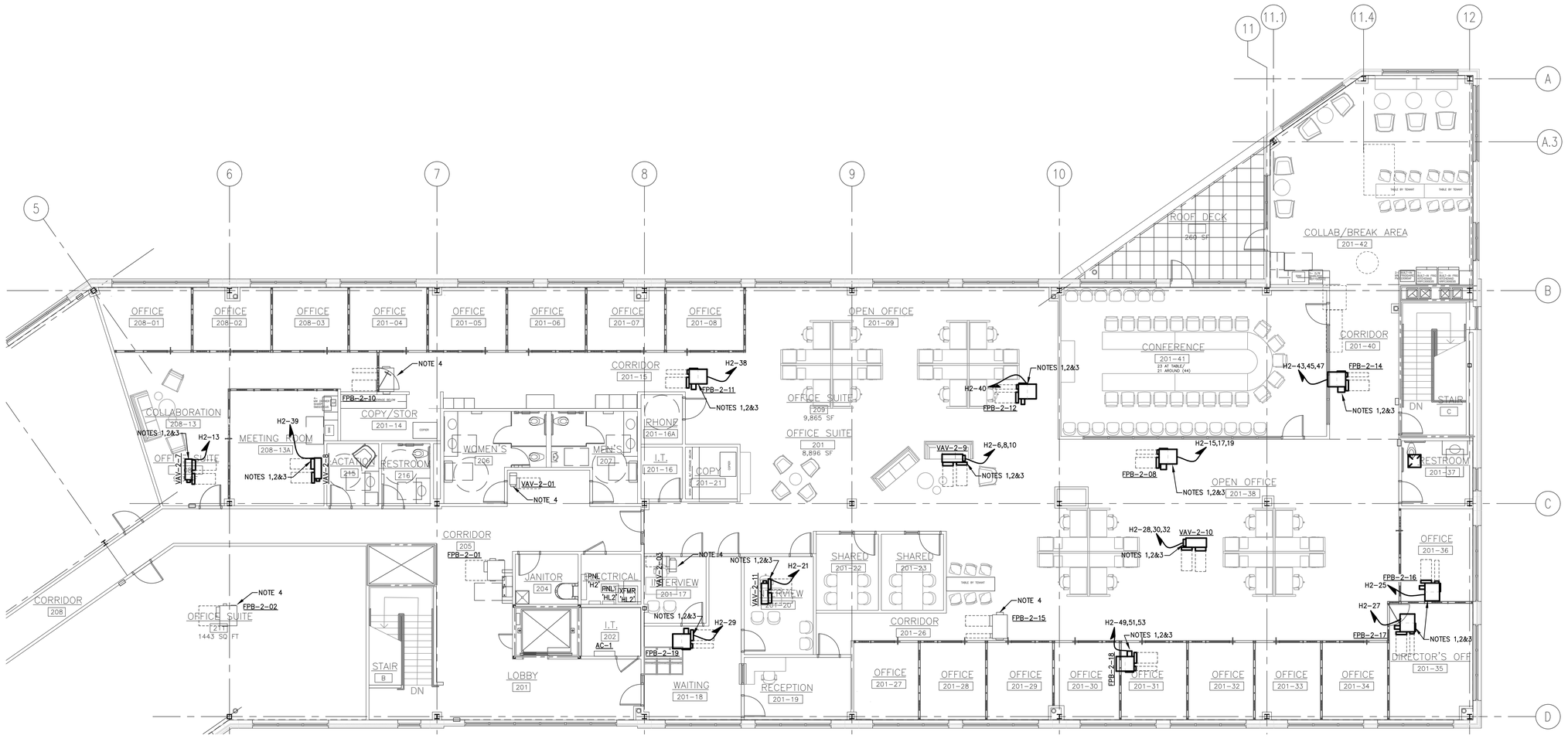

EXISTING PANEL 'H2'

NOTES	CKT	LOAD	DESCRIPTION	COND	EGC	N	W	CB	LOAD			CB	W	N	EGC	COND	DESCRIPTION	LOAD	CKT	NOTES
	1	1200	VAV-2-01 (COR 205)	3/4"	12	12	12	20	4730			20	12	12	12	3/4"	FPB-2-01 (COR 205)	3530	2	
	3	2100	VAV-2-02 (SHELL 213)	3/4"	12	12	12	20		4530		20	12	12	12	3/4"	FPB-2-02 (SUITE 211)	2430	4	
	5	700	VAV-2-03 (RM 203)	3/4"	12	12	12	20			2133.333	20	**12**	**12**	**12**	**3/4"**	**VAV-2-09 (SUITE 201)**	**1433**	6	**5**
	7	2300	VAV-2-04 (SUITE 212)	3/4"	12	12	12	20	3733			3P	12	-	-	-	-	**1433**	8	
	9	1600	VAV-2-05 (FUTURE)	FUTURE				20		3033		-	**12**	-	-	-	-	**1433**	10	
	11	2100	VAV-2-06 (FUTURE)	FUTURE				20			4466.667	20	12	12	12	3/4"	FPB-2-04	2367	12	
5	13	**1400**	**VAV-2-07 (SUITE 208-13)**	**3/4"**	**12**	**12**	**12**	20	3766.667			3P	12	-	-	-	-	2367	14	
4, 6	15	**2300**	**FPB-2-8 (SUITE 201)**	**3/4"**	**12**	**12**	**12**	**15**		4666.667		-	12	-	-	-	-	2367	16	
	17	**2300**	-				**12**	**3P**			4100	3P	12	12	12	3/4"	FPB-2-05 (SUITE 214)	1800	18	
	19	**2300**	-				**12**	-	4100			3P	12	-	-	-	-	1800	20	
5	21	**1900**	**VAV-2-11 (SUITE 201)**	**3/4"**		**12**	**12**	20		3700		-	12	-	-	-	-	1800	22	
	23		VAV-2-12 (FUTURE)	FUTURE				20			2400	20	12	12	12	3/4"	VAV-2-02B (SUITE 211)	2400	24	
5	25	2500	**FPB-2-16 (SUITE 201-36)**	**3/4"**	**12**	**12**	**12**	20	2500			20	FUTURE						26	
5	27	2500	**FPB-2-17 (SUITE 201-35)**	**3/4"**	**12**	**12**	**12**	20		4400		20	**12**	**12**	**12**	**3/4"**	**VAV-2-10 (SUITE 201)**	**1900**	28	**5**
5	29	3200	**FPB-2-19 (SUITE 201)**	**3/4"**	**12**	**12**	**12**	20			5100	3P	**12**	-	-	-	-	**1900**	30	
	31	500	LTS EAST	3/4"	12	12	12	20	2400			**12**	-	-	-	-	-	**1900**	32	
	33	500	SPARE	-	-	12	12	20		2130		20	FUTURE				FPB-2-09 (FUTURE)	1630	34	
	35	500	LTS WEST	3/4"	12	12	12	20			3830	20	12	12	12	3/4"	FPB-2-10 (SUITE 212)	3330	36	
	37	500	LTS WEST	-	-	12	12	20	3700			20	**12**	**12**	**12**	**3/4"**	**FPB-2-11 (SUITE 201)**	**3200**	38	**5**
5	39	**1800**	**VAV-2-08 (SUITE 208.13A)**	**3/4"**	**12**	**12**	**12**	20		4400		20	**12**	**12**	**12**	**3/4"**	**FPB-2-12 (SUITE 201)**	**2600**	40	**5**
	41		SPARE					20			2330	20	12	12	12	3/4"	FPB-2-13 (SUITE 214)	2330	42	
4, 6	43	**1707**	**FPB-2-14 (SUITE 201)**	**3/4"**	**12**	**12**	**12**	**15**	1706.667			20					SPARE		44	
	45	**1707**	-	**-**	**-**	**-**	**12**	**3P**		4073.667		20	12	12	12	3/4"	FPB-2-15	2367	46	
	47	**1707**	-	**-**	**-**	**-**	**12**	-			4073.667	3P	12					2367	48	
4, 6	49	1307	**FPB-2-18 (SUITE 201)**	**3/4"**	**12**	**12**	**12**	**15**	3673.667			-	12	-	-	-	-	2367	50	
	51	1307	-	**-**	**-**	**-**	**12**	**3P**		3139.667		15	12	12	12	3/4"	FPB-2-02A (SUITE 211)	1833	52	
	53	1307	-	**-**	**-**	**-**	**12**	-			3139.667	3P	12	-	-	-	-	1833	54	
	55							100	3000			-	12	-	-	-	-	3000	56	
	57		-		SPARE			SP		0							SPACE		58	
	59		-					-			0						SPACE		60	
		X	SUBFEED CB TO 'XFMR 'HL2'					175, 3P	38115	37898	35248									

480Y/ 277 VOLTS 3 PHASE
400 BUSS AMPS X M.L.O
400 FEEDER AMPS
MCB AMPS N/A MCB

4 WIRE
X GROUND BAR
SE RATED

SURFACE MOUNT
NEMA 1
35K AIC MINIMUM

NOTES:
1 EXISTING PANELBOARD IS SCHNEIDER ELECTRIC NF TYPE PANELBOARD
2 CIRCUITS SHOWN IN BOLD TEXT ARE PART OF TENANT FIT-UP
3 EXISTING TERMINAL BOX IN SHELL AREA OF SE PROMISE SUITE TO BE REUSED.
4 PROVIDE NEW BREAKER.
5 UTILIZE EXISTING SPARE BREAKER. CONFIRM MOCP WITH SUBMITTED EQUIPMENT.
6 RETURN SPARE BREAKER TO OWNER.

AMPS	PHASE TOTALS:	KVA
257.85	PHASE A:	71.43
259.82	PHASE B:	71.97
241.23	PHASE C:	66.82
252.97	TOTAL CONNECTED	210.22
217.40	TOTAL DEMAND *	180.66

1 / E1.3 Power Renovation Plan - Mechanical Equipment

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

NOTES:

1. PROVIDE CIRCUITS TO ABOVE CEILING TERMINAL BOXES AS SHOWN.
2. TERMINAL BOXES HAVE INTEGRAL DISCONNECT SWITCHES.
3. COORDINATE WITH MECHANICAL CONTRACTOR.
4. EXISTING TERMINAL BOX TO REMAIN.

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Power Renovation Plan

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

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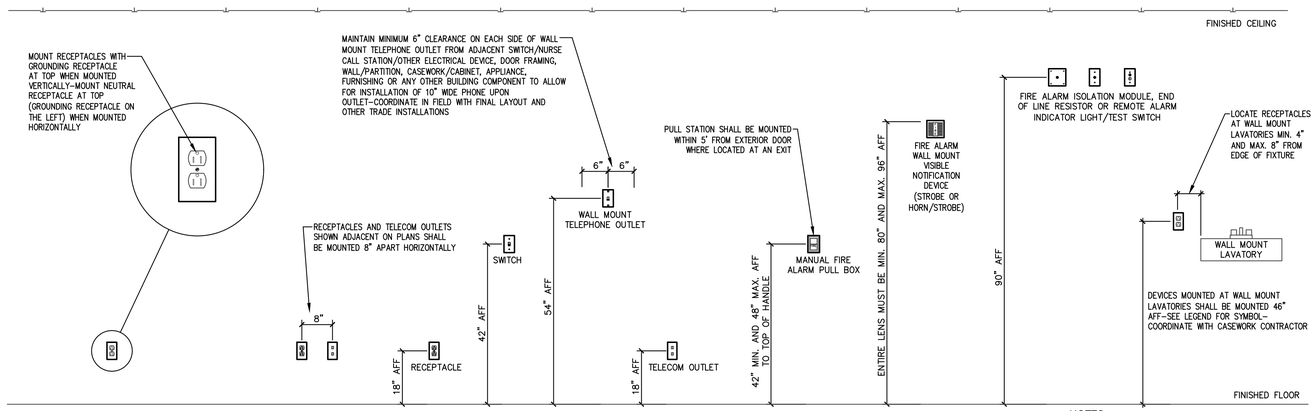
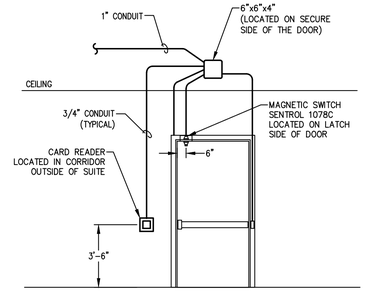


NOTES:

1. MOUNTING HEIGHTS ARE INDICATED TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.

1 / E2.0 Mounting Heights & Configurations

SCALE: NONE

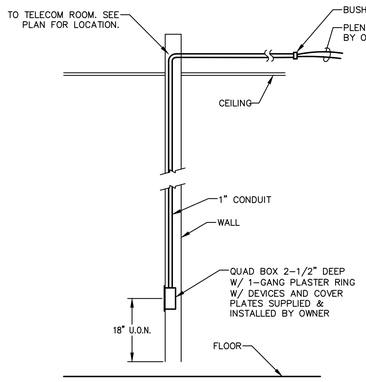


2 / E2.0 Single Door Card Access Detail

SCALE: NONE

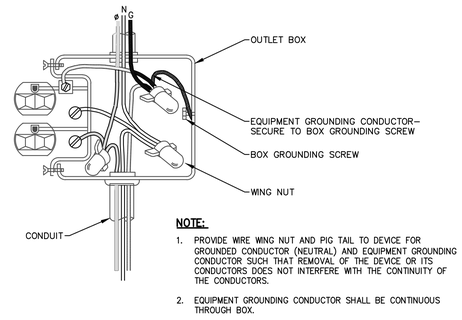
NOTES:

1. COORDINATE EXACT ROUGH IN WITH ARCHITECTURAL PLANS AND DOOR HARDWARE.
2. STUB CONDUIT OUT INTO CEILING OF TENANT SPACE (12' AFF).
3. PROVIDE PULL STRINGS IN ALL EMPTY CONDUIT.



3 / E2.0 Typical Data/Communications Outlet Installation

SCALE: NONE

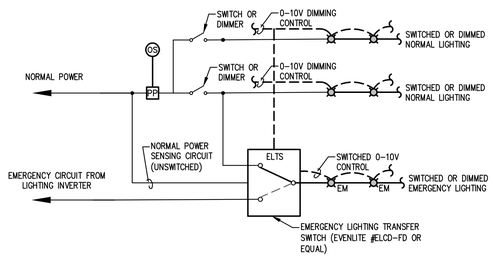


NOTE:

1. PROVIDE WIRE WING NUT AND PIG TAIL TO DEVICE FOR GROUNDED CONDUCTOR (NEUTRAL) AND EQUIPMENT GROUNDING CONDUCTOR SUCH THAT REMOVAL OF THE DEVICE OR ITS CONDUCTORS DOES NOT INTERFERE WITH THE CONTINUITY OF THE CONDUCTORS.
2. EQUIPMENT GROUNDING CONDUCTOR SHALL BE CONTINUOUS THROUGH BOX.

4 / E2.0 Receptacle Wiring Detail

SCALE: NONE



5 / E2.0 Emergency Lighting Control Schematic

SCALE: Not To Scale

NOTE:

1. PROVIDE (1) ELTS PER SWITCHED ZONE. TYPICAL ALL ZONES WITH "/EM" FIXTURES WITHOUT INTEGRAL BATTERIES (TYPE D/EM AND TYPE E/EM).

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Electrical Details

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: EE# 23-046

NORTH CAROLINA PROFESSIONAL SEAL 028869 ENGINEER JOHN DENNIS HAYES 5/16/24

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Revisions	
Drawn	MS3
Checked	JDH
Date	MAY 16, 2024
Sheet	E2.0
Of	

FIRE ALARM MATRIX

BEACON POINT MIXED USE

FIRE ALARM SYSTEM INPUTS

		FIRE ALARM SYSTEM OUTPUTS																																				
		CONTROL UNIT ANNUNCIATION									NOTIFICATION										FIRE SAFETY CONTROL									SUPPLEMENTARY							
		ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL	ACTUATE ZONE OR DEVICE ADDRESS ALARM INDICATOR	ACTUATE GENERAL EVACUATION ALARM INDICATOR		ACTUATE HORN NOTIFICATION DEVICES – ENTIRE BUILDING	ACTUATE STROBE NOTIFICATION DEVICES – ENTIRE BUILDING	DISPLAY CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISORY STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION				RECALL ELEVATOR TO PRIMARY RECALL FLOOR (1ST FLOOR)	RECALL ELEVATOR TO ALTERNATE RECALL FLOOR (2ND FLOOR)	SHUT DOWN THE HVAC UNITS	ALLOW THE HVAC UNITS TO RUN	CLOSE RELAY TO SHUNT TRIP ELEVATOR POWER		CLOSE FIRE/SMOKE DAMPERS ASSOCIATED WITH UNIT	RELEASE MAGNETIC DOOR HOLDS			REMOTE ANNUNCIATORS TO MMC MAIN PANEL DISPLAY								
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE						
1	BUILDING MANUAL PULL STATIONS	•	•					•	•	•	•	•	•											•		•							1						
2	SMOKE DETECTORS	•	•					•	•	•	•	•	•											•		•							2						
3	DUCT SMOKE DETECTORS WITH RELAY – HVAC UNITS			•	•			•				•		•						•			•			•							4						
4	SPRINKLER POST INDICATOR VALVE TAMPER SWITCH			•	•			•				•		•												•							6						
5	SPRINKLER SYSTEM HOT BOX LOW TEMP SENSOR FS			•	•			•				•		•												•							7						
6	SPRINKLER SYSTEM RISER TAMPER SWITCH			•	•			•				•		•												•							8						
7	SPRINKLER SYSTEM FLOW SWITCHES	•	•					•	•	•	•	•	•											•		•							9						
8	OPEN CIRCUIT					•	•								•											•							10						
9	GROUND FAULT					•	•								•											•							11						
10	NOTIFICATION APPLIANCE CIRCUIT SHORT					•	•								•											•							12						
11	FIRE ALARM SYSTEM DISABLED					•	•					•			•											•							13						
12	FIRE ALARM SYSTEM AC POWER FAILURE					•	•								•											•							14						
13	FIRE ALARM SYSTEM LOW BATTERY					•	•								•											•							15						
14	HVAC BYPASS SWITCH OVERRIDE DURING FIRE ALARM REPAIRS			•	•							•			•						•					•							16						
15	ELEVATOR LOBBY SMOKE DETECTORS – PRIMARY LEVEL	•	•					•	•	•	•	•	•						•					•		•							17						
16	ELEVATOR LOBBY SMOKE DETECTORS – ALTERNATE LEVELS	•	•					•	•	•	•	•	•	•	•			•						•		•							18						
17	ELEVATOR PIT / MACHINE ROOM SMOKE DETECTOR	•	•					•	•	•	•	•	•	•	•			•						•		•							19						
18	ELEVATOR PIT / MACHINE ROOM HEAT DETECTOR	•	•					•	•	•	•	•	•	•	•			•						•		•							20						
19	MONITOR POWER FOR ELEVATOR SHUNT TRIP CONTROL POWER					•	•								•											•	•	•	•	•	•	•	21						
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE						

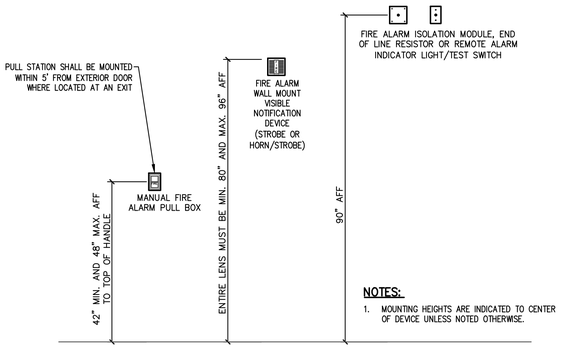
FIRE ALARM NOTES:

THE FOLLOWING NOTES DETAIL THE GENERAL INTENT OF THE FIRE ALARM SCOPE OF WORK. THE FIRE ALARM SYSTEM SHALL FULLY COMPLY WITH THE PLANS AND SPECIFICATIONS AND ALL APPLICABLE CODES. THESE NOTES APPLY TO ALL FIRE ALARM SHEETS.

1. THIS PROJECT WILL ADD NEW INITIATION AND NOTIFICATION DEVICES TO AN EXISTING ADDRESSABLE FIRE ALARM SYSTEM AS REQUIRED FOR THE TENANT FIT-UP.
2. THIS RISER DIAGRAM DOES NOT ACCURATELY DEPICT THE NUMBER OF DEVICES REQUIRED TO BE INSTALLED. COUNT THE ACTUAL NUMBER OF DEVICES FROM THE PROVIDED FLOOR PLANS.
3. THE CONTRACTOR SHALL FURNISH ALL PARTS, MATERIALS, AND LABOR CUSTOMARILY REQUIRED OR PROVIDED FOR A COMPLETE AND OPERATING TURN-KEY SYSTEM INSTALLATION, IN ACCORDANCE WITH ALL REQUIREMENTS APPLICABLE, EVEN IF EACH NEEDED ITEM IS NOT SPECIFICALLY SHOWN OR DESCRIBED IN THE PROJECT PLANS OR SPECIFICATIONS.
4. THE FIRE ALARM SYSTEM SHALL COMPLY WITH APPLICABLE PROVISIONS OF THE NC BUILDING CODE, NFPA 70 – NATIONAL ELECTRICAL CODE (NEC), NFPA 72 – NATIONAL FIRE ALARM CODE.
5. ALL WIRING SHALL TERMINATE AT DEVICE TERMINAL BLOCKS (NO SPLICES IN THE SYSTEM OTHER THAN TERMINAL BLOCKS). "WIRE NUTS" AND CRIMP SPLICES WILL NOT BE PERMITTED. PERMANENT WIRE MARKERS SHALL BE USED TO IDENTIFY ALL CONNECTIONS AND WIRE TERMINATIONS AT THE FACP AND OTHER CONTROL EQUIPMENT, NAC BOOSTER PANELS AND ANY APPLICABLE TERMINAL CABINETS.
6. MAINTAIN A MINIMUM OF 3" DISTANCE FROM ALL HVAC SUPPLY AND RETURN GRILLES WHEN INSTALLING SMOKE DETECTORS. COORDINATE WITH MECHANICAL CONTRACTOR.
7. FIRE ALARM WIRING SHALL BE PLENUM RATED AND RUN AS OPEN CABLE ABOVE LAY-IN CEILINGS, NEATLY ROUTED AND SUPPORTED BY J-HOOKS EVERY 5'. WIRING FROM FIRE ALARM DEVICES TO ABOVE CEILING SHALL BE RUN IN CONDUIT CONCEALED IN WALLS WITH WALL CONDUIT STUBBED OUT 6" ABOVE FINISHED CEILING. CONDUITS CARRYING CLASS "A" WIRING SHALL MAINTAIN A MINIMUM OF 4" SEPARATION BETWEEN OUTGOING AND RETURN LOOPS. WIRING NOT ABOVE ACCESSIBLE CEILINGS SHALL BE IN CONDUIT.
8. ALL NOTIFICATION DEVICES WITH A STROBE COMPONENT MUST BE SYNCHRONIZED THROUGHOUT THE BUILDING.
9. THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A COMPLETE SET OF SUBMITTALS AND SHOP DRAWINGS FOR THE ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL SHOW EQUIPMENT, MATERIAL LIST, DEVICE IDENTIFICATION NUMBERS AND LOCATIONS, AND CONNECTING WIRING OF ENTIRE FIRE ALARM SYSTEM. INCLUDE WIRING AND RISER DIAGRAMS AND SYSTEM RESPONSE MATRIX SHOWING SYSTEM INPUTS AND OUTPUTS. WIRING DIAGRAMS SHALL BE BASED ON THE PROJECT FLOOR PLANS WITH DEVICES AND PROPOSED CONDUIT ROUTING. PROVIDE BATTERY CALCULATIONS WITH THE REQUIRED STANDBY AND ALARM LOAD. PROVIDE NAC BOOSTER PANEL(S) AS SHOWN ON PLANS.
10. FIRE ALARM CONTRACTOR TO DETERMINE REQUIRED NUMBER OF CIRCUITS AND BATTERY SIZES FOR EMERGENCY BACKUP POWER. PROVIDE ADDITIONAL CIRCUITS, BATTERIES OR POWER SUPPLIES AS REQUIRED.
11. AT THE END OF THE PROJECT THE ENTIRE FIRE ALARM SYSTEM SHALL BE COMPLETELY TESTED IN THE PRESENCE OF THE LOCAL AHJ AS REQUIRED TO RECERTIFY THE SYSTEM IN ACCORDANCE WITH NFPA 72. PROVIDE 7 DAYS ADVANCE NOTICE OF THESE TESTS.
12. PROVIDE ADDITIONAL NFPA 72 RECORD OF COMPLETION FORM AND ZONE MAPS TO REFLECT MODIFIED SYSTEM.
13. CONTRACTOR IS RESPONSIBLE FOR DOL PERMIT AND ELEVATOR CONTRACTOR AS REQUIRED FOR DOL INSPECTIONS OF ELEVATOR FUNCTIONS AFTER FA SYSTEM MODIFICATIONS.

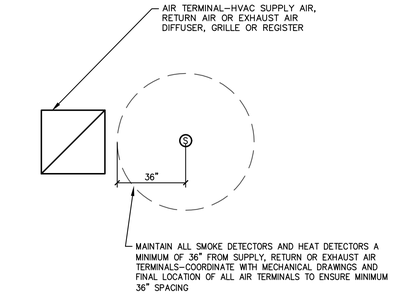
FIRE ALARM SYMBOLS

SYMBOL	DESCRIPTION
(S)	SMOKE DETECTOR
(H)	HEAT DETECTOR
F	MANUAL PULL STATION
V #	VISUAL ONLY NOTIFICATION DEVICE (# INDICATES CANDELA)
F V #	HORN AND STROBE NOTIFICATION DEVICE (# INDICATES CANDELA)
ER	EXISTING RELOCATED



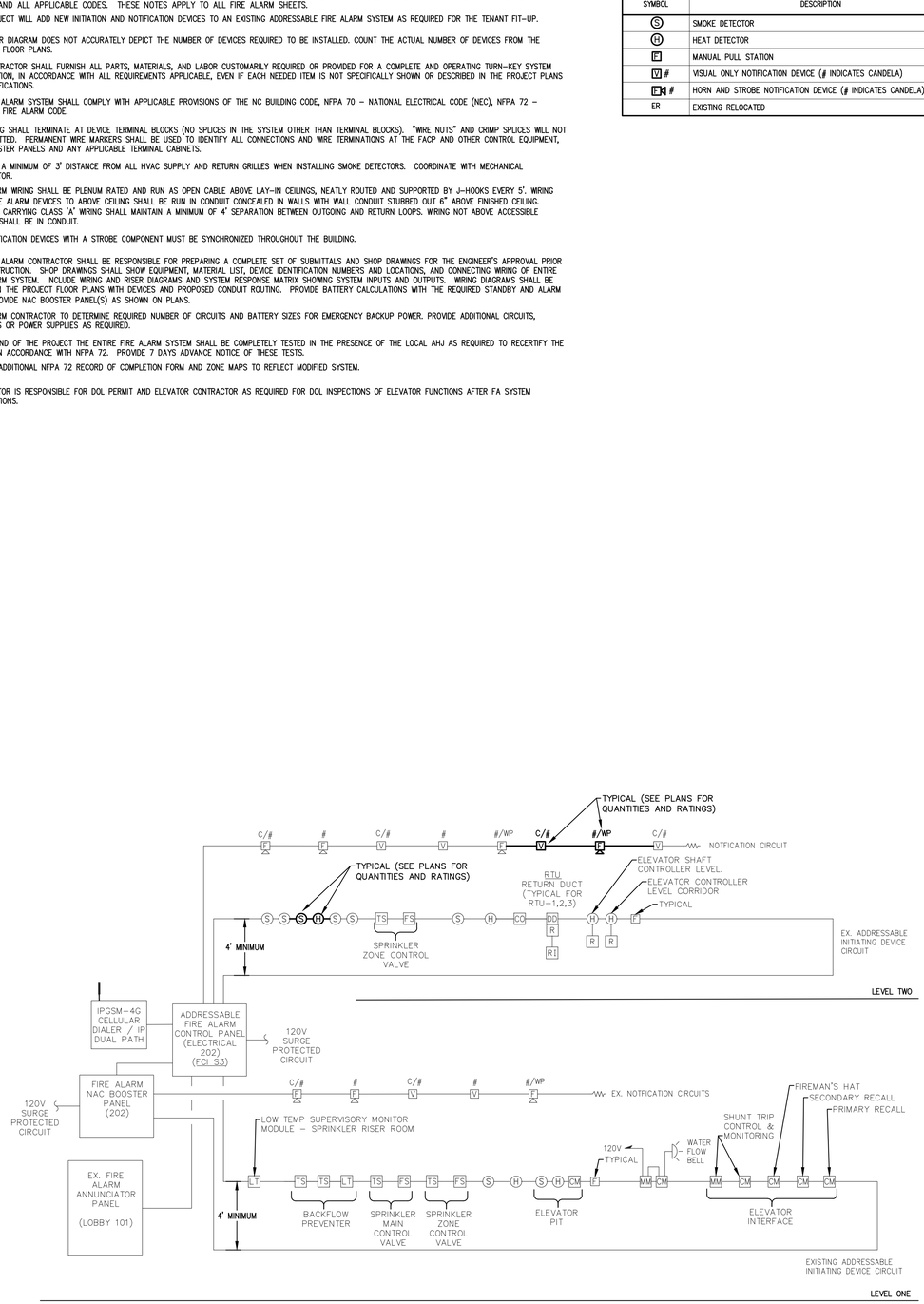
2 FA1.0 Mounting Heights & Configurations

SCALE: NONE



3 FA1.0 Smoke & Heat Detector Clearance From Air Terminals

SCALE: NONE



1 FA1.0 Fire Alarm Riser

SCALE: NONE

MIXED USE BUILDING

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Power Renovation Plan

UPFIT FOR:

SELF-HELP BEACON POINT

LEGAL AID
1425 PROMISE BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER: EE# 23-046

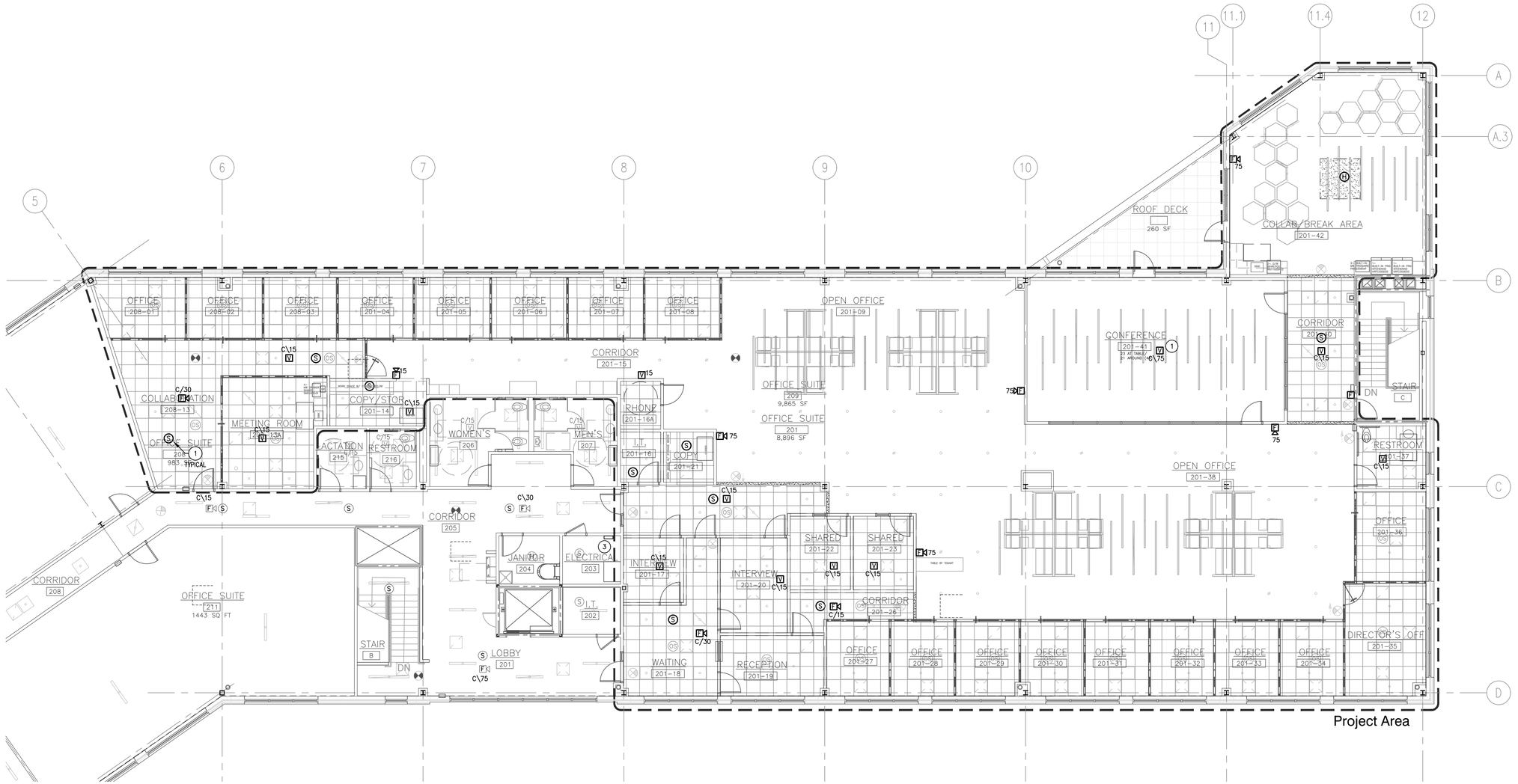
NORTH CAROLINA PROFESSIONAL SEAL 028869 ENGINEER DENNIS HAYES

EDMONDSON ENGINEERS
1920 Hwy. 54, Suite 700, Durham, NC 27713
Ph. 919-544-1936 Fax 919-544-2540 License: C-1813

DTW Architects & Planners, Ltd.
3333 Durham-Chapel Hill Blvd
Suite D-100
Durham, NC 27707
919.317.4020

C.D.'s FOR BID

Revisions	
Drawn	MS3
Checked	JDH
Date	MAY 16, 2024
Sheet	FA1.0
Of	



1 FA1.1 Fire Alarm Plan

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

KEYNOTES:

1. STROBE LENS FLUSH WITH BOTTOM OF FIXTURES AND SLATS.
2. SMOKE AND HEAT DETECTORS LOCATIONS TO BE FIELD COORDINATED WITH MECHANICAL CONTRACTOR AS REQUIRED TO MAINTAIN 3' SEPARATION FROM HVAC GRILLES.
3. EXISTING NAC BOOSTER PANEL.
4. SHELL FIRE ALARM DEVICES IN FIT-UP AREA TO BE REUSED WHERE APPLICABLE. ANY UNUSED DEVICES TO BE TURNED OVER TO OWNER.

RATED WALL LEGEND	
	1 HOUR FIRE BARRIER

NORTH

Fire Alarm Plan

UPFIT FOR:

SELF-HELP
BEACON
POINT

LEGAL AID
1425 PROMISE
BEACON CIRCLE
SUITE 209
RALEIGH, NC

PROJECT NUMBER:
EE# 23-046

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 028869 DENNIS HAYES

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C.D.'s FOR BID

Revisions

Drawn MS3
Checked JDH
Date MAY 16, 2024
Sheet FA1.1
Of

Sprinkler Design Data

Project Name: LEGAL AID		System: WET	
Project Street Address: 1440 ROCK QUARRY RD., RALEIGH, NC 27610		Sys. Sq. Ft.: 20,000 PER FLOOR +/-	
Suite: -	Floor#: 2	Ceiling Height: VARIES	
Designed By: J&D SPRINKLER CO.	Phone: 919.553.2356	Total Bldg. Hgt.: 31'-0 +/-	
Occupancy: OFFICE	Hazard: LIGHT HAZARD		

Design Summary

	System #1	System #2	System #3	System #4	System #5
Design Method	CALCULATED	CALCULATED	-	-	-
Design Area #	A	A	-	-	-
Location	OFFICE	OFFICE	-	-	-
Type of System	WET	WET	-	-	-
Hazard Class	LIGHT	LIGHT	-	-	-
Criteria From	NFPA 13 (2013)	NFPA 13 (2013)	-	-	-
Design Area	1500 SF	900 SF	-	-	-
Sprinkler Spacing	225 MAX	225 MAX	-	-	-
Density	0.10	0.10	-	-	-
K-factor	5.6	5.6	-	-	-
Hose Allowance	100	100	-	-	-
# Design Sprinklers	16	11	-	-	-
Special Application Spk.	-	-	-	-	-
Requirement @ TEST					
G.P.M. Req'd	440.27	333.20	-	-	-
P.S.I. Req'd	94.395	74.991	-	-	-
Requirement @ BASE					
GPM Required	340.27	233.20	-	-	-
PSI Required	77.578	58.719	-	-	-
Safety factor @ Test	12.450	32.180	-	-	-
Dry Sys. Volume (gal)	-	-	-	-	-

Water Supply Information

Tested by	EPM	Date/Time	04.29.2022	Pressure Hydrant	-
Hydrant Elevation	-	Flow Hydrant # 1	-	Flow Hydrant #2	-
Static (PSI)	107.7	Residual (PSI)	95.1	Flow (gpm)	1850
Copy of Water Test Data Included with Calculation is required					

Fire Pump Data

Rated G.P.M.	----	Rated Pressure	----	Horsepower	----
Diesel/Electric	----	Churn Pressure	-	Style of pump	-
Combined Discharge	-	150%%% Flow (suction)	----	150%%% Flow (gpm)	----
Certified pump curve required					

If Storage is Greater than 12 Feet Complete Commodity Storage Design Information

Comodity Description	-		Storage Type (Rack,Bin,Pile)	-	
Comodity Class	-	Storage Height	-	Clearance	-
Stable/Unstable	-	Open/Close Array	-	Wet/Dry System	-

Figure #	Curve #		Density / Area	Height Factor	Clear Factor	Array Factor	Dry Penalty	Design	Minimum Design	Final Design
-	-	-								
		Initial	-	-	-	-	-	-	-	-
			-	-	-	-	-	-	-	-
		Secon	-	-	-	-	-	-	-	-
		-dary	-	-	-	-	-	-	-	-
Is system compliant with Chapter 23 (FPC)			-	Is storage area layout, rack, and pile plan included?						-

HANGER INSTALLATION REQUIREMENTS

MAXIMUM DISTANCE BETWEEN HANGERS

NOMINAL PIPE SIZE	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
BLAZEMASTER CPVC	5' 6"	6' 0"	6' 6"	7' 0"	8' 0"	9' 0"	10' 0"	N/A	N/A
THREADABLE LIGHTWALL	N/A	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	N/A	N/A
STEEL PIPE (10/ 40)	N/A	12' 0"	12' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"

100 PSI STATIC PRESSURE ON SYSTEM REQUIRES UP-LIFT RESTRAINT WITHIN 12 INCHES HORIZONTALLY OF HEAD FOR ARM-OVERS AND END OF BRANCH LINE

THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT EXCEED 36" FOR 1" PIPE, 48" FOR 1 1/4" PIPE AND 60" FOR 1 1/2" PIPE OR LARGER

THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOVER TO A SPRINKLER, SPRINKLER DROP, OR SPRIG-UP SHALL NOT EXCEED 24"

TRAPEZE INSTALLATION REQUIREMENTS

SPAN OF TRAPEZE (Schedule 10)	NOMINAL PIPE SIZE SUPPORTED							
	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
1 FT. 6 IN.	1"	1"	1"	1"	1"	1"	1-1/4"	1-1/4"
2 FT. 0 IN.	1"	1"	1"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"
2 FT. 6 IN.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	2"
3 FT. 0 IN.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	1-1/2"	1-1/2"	2"
4 FT. 0 IN.	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2-1/2"
5 FT. 0 IN.	2"	2"	2"	2"	2"	2"	2-1/2"	2-1/2"
6 FT. 0 IN.	2"	2"	2"	2"	2"	2-1/2"	2-1/2"	3"
7 FT. 0 IN.	2"	2"	2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"
8 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"
9 FT. O IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	4"
10 FT. 0 IN.	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	3"	3"	4"

GENERAL NOTES:

1. MATERIALS AND INSTALLATION SHALL COMPLY WITH APPLICABLE NFPA CODES (2013), STATE BUILDING CODE, LOCAL AUTHORITY HAVING JURISDICTION, AND INSURANCE UNDERWRITER'S REQUIREMENTS.

2. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, UL LISTED FOR THE INTENDED USE AND SHALL BE INSTALLED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.

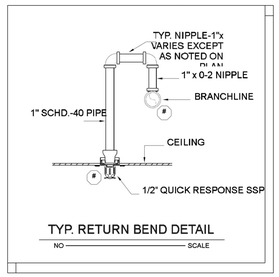
3. ALL NEW SPRINKLER PIPE 1¼" AND SMALLER IS SCHEDULE-40 BLACK STEEL WITH THREADED ENDS AND FITTINGS. ALL NEW SPRINKLER PIPE 1½" AND LARGER IS SCHEDULE-10 BLACK STEEL WITH GROOVED ENDS AND FITTINGS.

4. SPRINKLER HEAD SPACING IN OFFICE AREA IS BASED ON THE NFPA 13 2013 STANDARDS FOR LIGHT HAZARD OCCUPANCIES ALLOWING A MAXIMUM HEAD SPACING OF 225 S.F. PER HEAD.

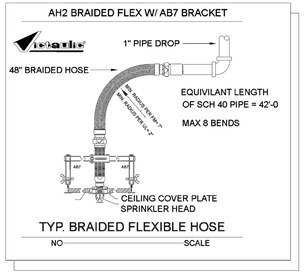
5. LOCATIONS OF PIPING AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD.

6. THE WATER TEST INFORMATION HAS BEEN PROVIDED BY ENGINEERING PLANNING AND MANAGEMENT DATED 04.29.2022 INDICATES THE FOLLOWING...

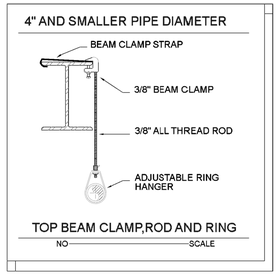
STATIC: 107.7 PSI
RESIDUAL: 95.1 PSI
FLOW: 1850 GPM



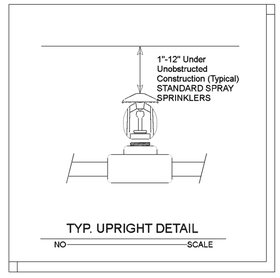
TYP. RETURN BEND DETAIL
NO SCALE



TYP. BRAIDED FLEXIBLE HOSE
NO SCALE



TOP BEAM CLAMP,ROD AND RING
NO SCALE



TYP. UPRIGHT DETAIL
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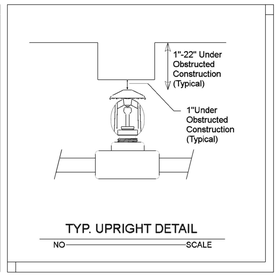

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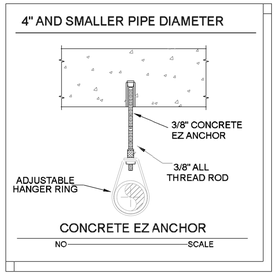
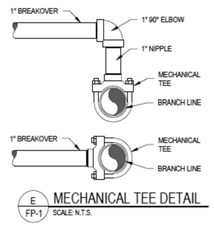


CONCRETE EZ ANCHOR
NO SCALE



E FP-1 MECHANICAL TEE DETAIL
SCALE: N.T.S.

PIPING LEGEND

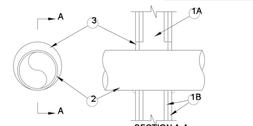
EXISTING PIPE	
NEW PIPE	
RELOCATED UPRIGHTSPRINKLER	R
NEW UPRIGHT SPRINKLER	N
RELOCATED PENDENT SPRINKLER	R
NEW PENDENT SPRINKLER	N
RELOCATED CONCEALED PENDENT	R
EXISTING UPRIGHTSPRINKLER	
EXISTING PENDENT SPRINKLER	
EXISTING CONCEALED PENDENT	
PLUG OUTLET	PLUG X
MECHANICAL TEE	

System No. W-L-1054

WL 1054

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Items 1 and 3)	F Ratings - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr	FT Rating - 0 Hr
L Rating at Ambient - Less Than 1 CFM/sq ft	FH Ratings - 1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F - Less Than 1 CFM/sq ft	FTH Rating - 0 Hr
	L Rating at Ambient - Less Than 1 CFM/sq ft
	L Rating at 400 F - Less Than 1 CFM/sq ft



SECTION A-A

1. Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* - 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel and steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.
   The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
2. Through-Penetrants - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous joint contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe - Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe - Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* - Sealant - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) dam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - FS-One Sealant or FS-ONE MAX Intumescent Sealant

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

Hilti Firestop Systems

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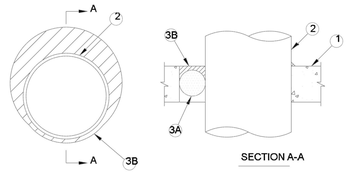
October 14, 2015

System No. C-AJ-1154

CAJ 1154

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating -1/4 Hr	FT Rating - 1/4 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 3 Hr
L Rating At 400 F - 4 CFM/sq ft	FTH Rating - 1/4 Hr
	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - 4 CFM/sq ft



SECTION A-A

1. Floor or Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 14 in. (356 mm). See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through-Penetrants - One metallic pipe, conduit or tubing to installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 3-1/4 in. (83 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe - Nom 10 in. (254 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Conduit - Nom 4 in. (254 mm) diam (or smaller) steel electrical metallic tubing or steel conduit.
   C. Copper Tubing - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   D. Copper Pipe - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. Firestop System - The firestop system shall consist of the following:
   A. Packing Material - Mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material. As an option to the above, backer rod and/or foamed plastic backer material may be used.
   B. Fill, Void or Cavity Material* - Sealant - Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. At the point contact location between pipe and concrete, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the concrete/pipe interface on the top surface of floor and on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC 3 FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

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

HILTI Firestop Systems

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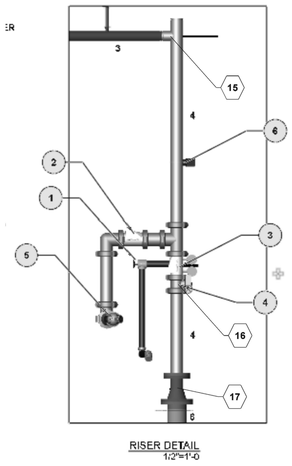
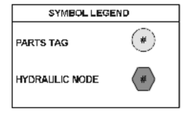
January 06, 2015



RISER DETAIL
1/2"=1'-0

Existing Riser Legend

Key Note	Size	Description
1	2	Valve, T-T Angle (Main Drain)
2	4	Valve, G-G Check
3	4	Valve, G-G Riser Check (Viking Easy Riser W/ Trim)
4	4	Valve, G-G Butterfly
5	4 x 2½ x 2½	FDC, Exposed, Storz
6	4 x 2	Waterflow Detector



LEGAL AID
BEACON POINT
1440 ROCK QUARRY RD.
RALEIGH, NC 27510

J & D SPRINKLER CO. INC.
315 W. MAIN ST., CLAYTON, NC 27520
PHONE: (919)553-2356 FAX: (919) 359-0622

SHEET TITLE: NOTES AND DETAILS

J&D SPRINKLER CO. INC. 315 WEST MAIN STREET CLAYTON NORTH CAROLINA 919-553-2356 FIRE PROTECTION

DANA GRAHAM
NC # 16269FS CERT # 71075 NICET LEVEL III
JASON GRAHAM
NC # 16269FS CERT # 121842 NICET LEVEL III

REVISION:

NO.	DATE

Date: 05.15.2024

Scale: 1/8"=1'-0" (0 10')

Job Number: F24054

Drawn By: BKB

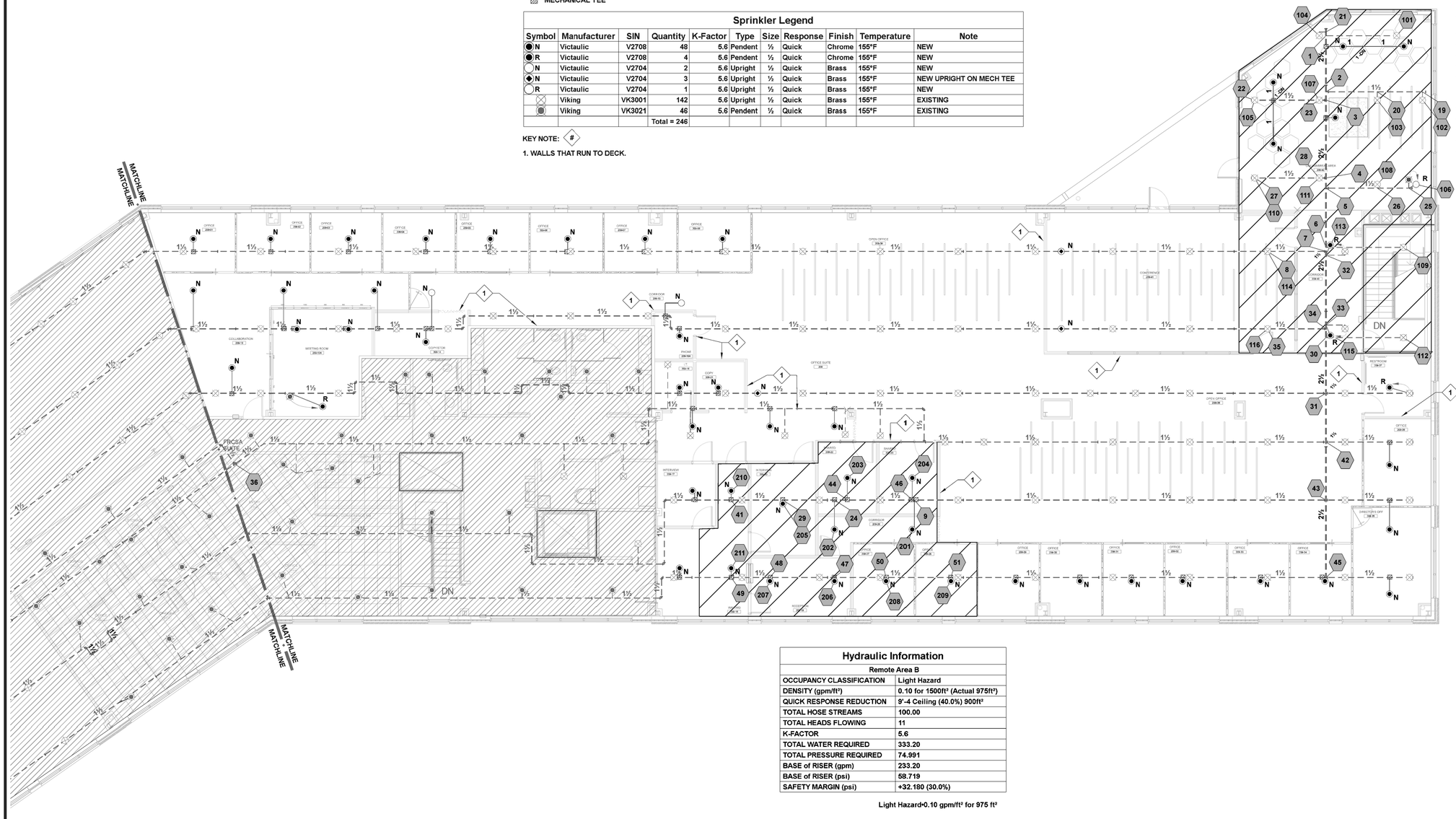
Sheet Number: FP1 OF 4

GENERAL NOTES:
ALL ARMOVERS TO BE 1" SCH 40 PIPE TO FLEXDROP
ALL EXISTING UPRIGHTS TO REMAIN ABOVE CEILING UNLESS NOTED OTHERWISE.
▨ MECHANICAL TEE

Sprinkler Legend										
Symbol	Manufacturer	SIN	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
● N	Victaulic	V2708	48	5.6	Pendent	½	Quick	Chrome	155°F	NEW
● R	Victaulic	V2708	4	5.6	Pendent	½	Quick	Chrome	155°F	NEW
○ N	Victaulic	V2704	2	5.6	Upright	½	Quick	Brass	155°F	NEW
◆ N	Victaulic	V2704	3	5.6	Upright	½	Quick	Brass	155°F	NEW UPRIGHT ON MECH TEE
○ R	Victaulic	V2704	1	5.6	Upright	½	Quick	Brass	155°F	NEW
⊗	Viking	VK3001	142	5.6	Upright	½	Quick	Brass	155°F	EXISTING
◉	Viking	VK3021	46	5.6	Pendent	½	Quick	Brass	155°F	EXISTING
			Total = 246							

KEY NOTE: ⟨#⟩

1. WALLS THAT RUN TO DECK.



Hydraulic Information	
Remote Area A	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1522ft²)
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	16
K-FACTOR	5.6
TOTAL WATER REQUIRED	440.35
TOTAL PRESSURE REQUIRED	94.390
BASE of RISER (gpm)	340.35
BASE of RISER (psi)	77.572
SAFETY MARGIN (psi)	+12.425 (11.6%)

Light Hazard=0.10gpm/ft² for 1522ft²

Hydraulic Information	
Remote Area B	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 975ft²)
QUICK RESPONSE REDUCTION	9'-4 Ceiling (40.0%) 900ft²
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	11
K-FACTOR	5.6
TOTAL WATER REQUIRED	333.20
TOTAL PRESSURE REQUIRED	74.991
BASE of RISER (gpm)	233.20
BASE of RISER (psi)	58.719
SAFETY MARGIN (psi)	+32.180 (30.0%)

Light Hazard=0.10 gpm/ft² for 975 ft²

Plan North

PIPING PLAN
PLAN EAST 1/8"=1'-0

LEGAL AID
BEACON POINT
1440 ROCK QUARRY RD.
RALEIGH, NC 27510

J & D SPRINKLER CO. INC.
315 W. MAIN ST., CLAYTON, NC 27520
PHONE: (919)553-2356 FAX: (919) 359-0622

SHEET TITLE:
PIPING PLAN
EAST

J&D SPRINKLER CO INC
315 WEST MAIN STREET CLAYTON NORTH CAROLINA
919-553-2356
FIRE PROTECTION

DANA GRAHAM
NC # 16269FS CERT # 71075 NICET LEVEL III
JASON GRAHAM
NC # 16269FS CERT # 121842 NICET LEVEL III

REVISION:

NO.	DATE

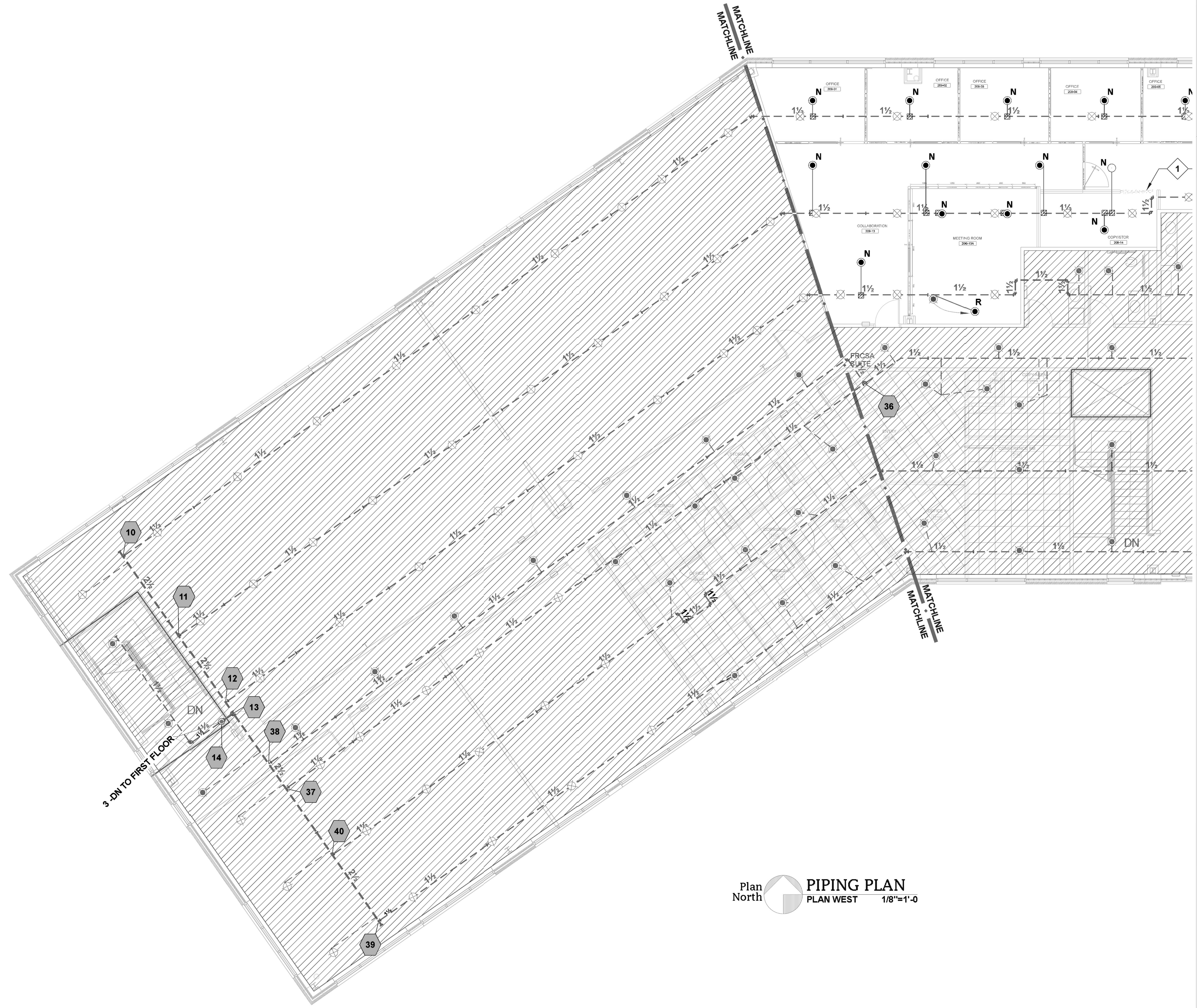
Date: 05.15.2024

Scale: 1/8"=1'-0" (0 10')

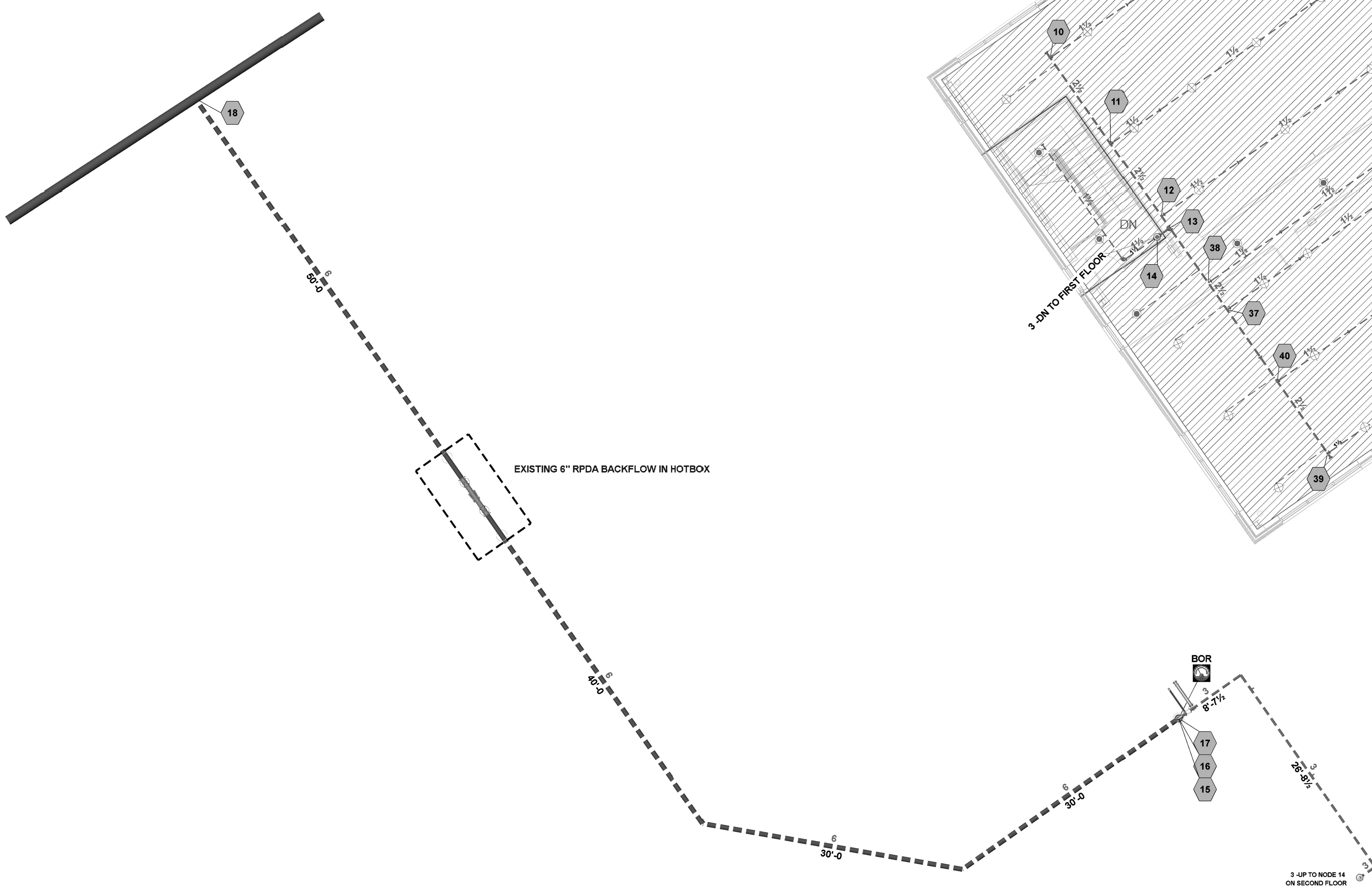
Job Number: F24054

Drawn By: BKB

Sheet Number: FP2 OF 4



PIPING PLAN
PLAN WEST 1/8"=1'-0



MAIN PIPING BACK TO RISER
1/8"=1'-0
SHOWN FOR HYDRAULIC REFERENCE ONLY

LEGAL AID
BEACON POINT
1440 ROCK QUARRY RD.
RALEIGH, NC 27510

J & D SPRINKLER CO. INC.
315 W. MAIN ST., CLAYTON, NC 27520
PHONE: (919)553-2356 FAX: (919) 359-0622

SHEET TITLE: PIPING PLAN WEST

DANA GRAHAM
NC # 16269FS CERT # 71075 NICET LEVEL III

JASON GRAHAM
NC # 16269FS CERT # 121842 NICET LEVEL III

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Sheet Number: FP3 OF 4

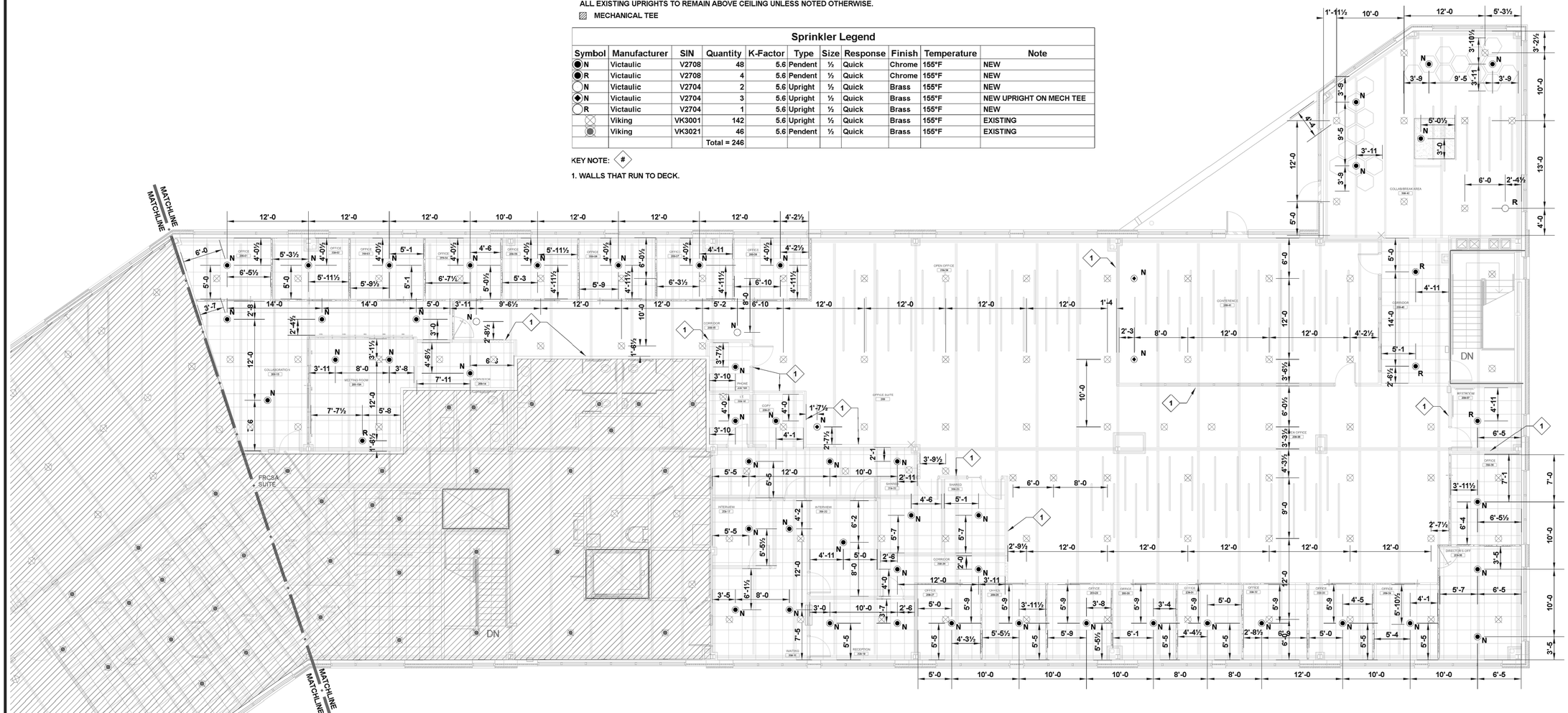
GENERAL NOTES:
ALL ARMOVERS TO BE 1" SCH 40 PIPE TO FLEXDROP
ALL EXISTING UPRIGHTS TO REMAIN ABOVE CEILING UNLESS NOTED OTHERWISE.
▨ MECHANICAL TEE

Sprinkler Legend

Symbol	Manufacturer	SIN	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
◉N	Victaulic	V2708	48	5.6	Pendent	½	Quick	Chrome	155°F	NEW
◉R	Victaulic	V2708	4	5.6	Pendent	½	Quick	Chrome	155°F	NEW
○N	Victaulic	V2704	2	5.6	Upright	½	Quick	Brass	155°F	NEW
◆N	Victaulic	V2704	3	5.6	Upright	½	Quick	Brass	155°F	NEW UPRIGHT ON MECH TEE
○R	Victaulic	V2704	1	5.6	Upright	½	Quick	Brass	155°F	NEW
⊗	Viking	VK3001	142	5.6	Upright	½	Quick	Brass	155°F	EXISTING
◉	Viking	VK3021	46	5.6	Pendent	½	Quick	Brass	155°F	EXISTING
			Total = 246							

KEY NOTE: ◇#

1. WALLS THAT RUN TO DECK.



Plan North
REFLECTED CEILING PLAN
PLAN EAST 1/8"=1'-0

LEGAL AID
BEACON POINT
1440 ROCK QUARRY RD.
RALEIGH, NC 27510

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SHEET TITLE:
REFLECTED CEILING PLAN

J&D SPRINKLER CO INC
315 WEST MAIN STREET CLAYTON NORTH CAROLINA
919-553-2356
FIRE PROTECTION

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REVISION:

NO.	DATE

Date: 05.15.2024

Scale: 1/8"=1'-0" (0 10')

Job Number: F24054

Drawn By: BKB

Sheet Number: FP4 OF 4