

Elon Francis Center Health Sciences Renovation - Phase 4

762 East Haggard Avenue, Elon, NC

Architect of Record:

RND Architects, PA

Durham, North Carolina Phone: 919.490.1266

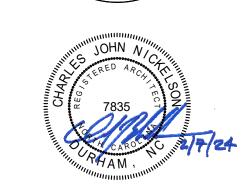
P, M, E, and FP Engineers:

Edmondson Engineers, PA

Durham, North Carolina Phone: 919.544.1936



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Francis Center **Health Sciences** Renovation -Phase 4

762 East Haggard Ave., Elon, NC

FEBRUARY 2, 2024

BID DOCUMENTS

B. Contract Drawings: The contract drawings contain information to a degree of detail which is considered to be both consistent with their scales and adequate to accomplish their purpose. Beyond this point, they are diagrammatic. The contractor shall provide all miscellaneous materials required to completely install the work in accordance with the intent of the drawings and the specified functions. Any omissions from either the drawings or the specifications are unintentional and it shall be the responsibility of the contractor to call to the attention of the designer any pertinent omissions prior to submission of a bid.

C. Site Visitation: The contractor shall examine the site before bidding the project and shall familiarize himself with all existing conditions. Failure of the contractor to visit the site before submission of a bid shall not relieve him of any special problems or costs which might have been avoided had the contractor examined the existing site conditions.

D. All work shall be completed in compliance with applicable codes and to the satisfaction of local building inspectors. The contractor shall be responsible for filing and securing all necessary permits, approvals, etc. for all trades.

shut-downs that will affect other building occupants shall be coordinated with Owner with minimum 3 days' notification.

E. Specifications must be read in conjunction with the drawings to fully determine the scope of work required. Do not attempt to determine the scope of work without reading the specifications. F. All existing building life safety componenets, such as exit signage, exit lights, fire alarm, sprinklers, etc., shall remain continuosly operational and free of obstruction for areas outside of construction zone of work in order to maintain building occupancy during construction. Any building utility

G. All fire-rated partitions shall be continuous to the underside of floor structure above. Existing partitions indicated as fire barriers that are not currently constructed as a fire barriers, shall be added to or altered as necessary to bring them up to the required fire-rating construction as indicated. All fire rated walls and partitions shall be effectively and permanently identified with signs or stenciling. Such identification shall be above the ceiling and in concealed spaces. Suggested wording as appropriate, '2 HOUR RATED FIRE BARRIER - PROTECT ALL OPENINGS' or '1 HOUR RATED FIRE BARRIER - PROTECT ALL OPENINGS'

H. The General Contractor shall be responsible for patching and fire stopping all floor and roof openings left by the removal of P, M, and E ducts, pipes, J. All items scheduled to be removed shall be properly disposed of by the contractor unless specifically noted otherwise. The Owner reserves the right to claim any items removed during demolition. K. Asbestos containing materials (ACM) are not known to be present in the space to be demolished and renovated. If contractor encounters what he suspects to be ACM, they should not disturb the suspect materials and notify the owner immediately. The owner shall be responsible for removing hazardous materials discovered in project area upon notification by contractor. L. Noted ceiling heights for new ceilings shall not be changed due to field conditions without express direction from the Architect. Coordinate trades

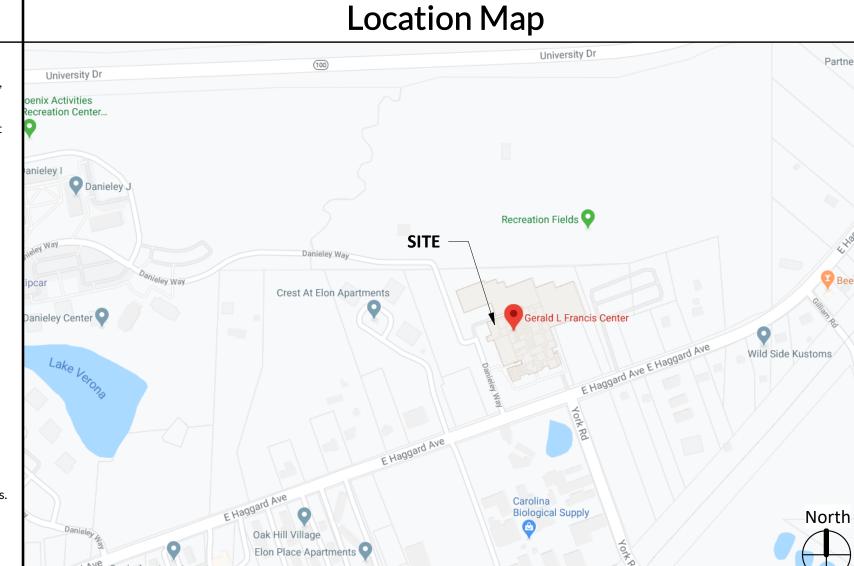
M. Notify Architect of building expansion joint locations.

General Notes

N. The GC shall provide signage on all doors into the project area stating, "CONSTRUCTION SITE - NO ADMITTANCE". Sign shall be professionally made with easily visible letters on background indicating warning to staff and public. The GC shall provide walk-off mats as specified at each door leading from the construction area into other parts of the building

P. See Plumbing, Mechanical, Electrical, and Fire Protection drawings for further information. **Q.** The General Contractor is responsible for:

1. Providing all necessary access panels, with correct fire protection ratings, whether indicated or not on the drawings. 2. Access panels required shall include, but not limited to dampers, plumbing valves, junctions boxes and cleanouts 3. Patching and fire stopping all floor and roof openings left by the removal of P, M, and E ducts, pipes, and conduits. 4. Where existing walls are removed, repair floor substrates to receive new finishes. If area is to receive new tile, provide mortar bed as required. 5. Prepare existing slab to be level, flat, and finished as required for installation of finished floor materials per manufacturers' specifications. Where existing setting beds at tiled areas are removed, provide lightweight concrete fill up to level of adjacent substrate or to level required for new finishes. 6. Coordinate and provide blocking/backing in partitions behind all wall mounted items (millwork shelving, files, etc.). All concealed wood to be fire-7. Where lavatories, mirrors, accessories, etc. are scheduled to be removed from walls to remain, patch and paint walls to match existing where exposed to view.



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Drawn: Checked: CJN Date: 2/2/2024

COVER SHEET

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES) (Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Elon University Francis Center Health Sciences Renovation - Phase 4 Address: 762 East Haggard Ave., Elon, NC Zip Code: 27215 Owner/Authorized Agent: Brad Moore Phone # (336) 278-5492 E-Mail: bmoore6@elon.edu Owned By: Private Code Enforcement Jurisdiction: County

CONTACT:

DESIGNER	FIRM	NAME	LICENSE#	TELEPHONE #	E-MAIL
Architectural	RND Architects	Charles Nickelson, AIA	7835	(919) 490-1266	Charles@RNDpa.com
Electrical	Edmondson Engineers	Dennis Hayes, PE	028869	(919) 544-1936	Dennis@edmpa.com
Fire Alarm	Edmondson Engineers	Dennis Hayes, PE	028869	(919) 544-1936	Dennis@edmpa.com
Plumbing	Edmondson Engineers	Charles Crowl, PE	028862	(919) 544-1936	Charles.crowl@edmpa.com
Mechanical	Edmondson Engineers	Charles Crowl, PE	028862	(919) 544-1936	Charles.crowl@edmpa.com
Sprinkler- Standpipe	Edmondson Engineers	Charles Crowl, PE	028862	(919) 544-1936	Charles.crowl@edmpa.com
Other					

2018 NC BUILDING CODE: Renovation

2018 NC EXISTING BUILDING CODE: Alteration Level II Select one Select one CONSTRUCTED: (date) 1971-1993 CURRENT OCCUPANCY(S) (Ch. 3): B. S-2 RENOVATED: (date) 2011. 2022.2023PROPOSED OCCUPANCY(S) (Ch. 3): B

OCCUPANCY CATEGORY (Table 1604.5): Current: III

BASIC BUILDING DATA Construction Type: II-B Sprinklers: Yes NFPA 13 Standpipes: No

Flood Hazard Area: No

Proposed: III

Primary Fire District: No Special Inspections Required: No

Gross Building Area Table					
Existing (sqft)	New (sq ft)	RENOVATION (SQ FT)	SUB-TOTAL		
19,503	0	0	19,503		
67,586	0	9,450	67,586		
3,219	0	0	3,219		
90,308	0	9,450	90,308		
	19,503 67,586 3,219	EXISTING (SQFT) NEW (SQFT) 19,503 0 67,586 0 3,219 0	EXISTING (SQFT) NEW (SQFT) RENOVATION (SQFT) 19,503 0 0 67,586 0 9,450 3,219 0 0		

ALLOWABLE AREA

2018 NC Administrative Code and Policies

Primary Occupancy Classification(s): <u>Business</u> <u>Assembly - A-3</u> Select one Select one

Accessory Occupancy Classification(s): Low-Hazard Storage S-2

Incidental Uses (Table 509): N/A

Special Uses (Chapter 4 – List Code Sections): N/A

Special Provisions: (Chapter 5 – List Code Sections): N/A

Mixed Occupancy: Yes Separation: 1 Hr. Exception: 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. 15,065/69,000 + 4,438/28,500 = 0.22 + 0.16 = 0.37

63,580/69,000 + 2,078/28,500 = 0.92 + 0.07 = 0.99

Basement Not mixed use					
STORY NO.	DESCRIPTION AND	(A)	(B)	(c)	(D)
	USE	BLDG AREA PER	TABLE 506.2 ⁴	AREA FOR FRONTAGE	ALLOWABLE AREA PER
		STORY (ACTUAL)	AREA	INCREASE ^{1,5}	STORY OR UNLIMITED ^{2,3}
Level 2	Business - B	19,503	69,000	10,580 (46% x	79,580
				23,000)	
Level 1	Business - B	67,586	69,000	10,580 (46% x	79,580
				23,000)	
Basement	Business - B	3,219	69,000	10,580 (46% x	79,580

23,000) 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): 818'
- b. Total Building Perimeter (P): 1,138' c. Ratio (F/P): 818/1,138 = 0.72
- d. W = Minimum width of public way (W): 29.1' e. Percent of frontage increase $I_f = 100[F/P - 0.25] \times W/30 = 100[0.72 - 0.25] \times 29.1/30 = 46\%$
- ² Unlimited area applicable under conditions of Section 507.
- 3 Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2). ⁴ The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air
- traffic control towers must comply with Table 412.3.1. ⁵ Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWARI F HEIGHT

		ALLOWABLE HEIGH				
		ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE		
Building Heig	ht in Feet (Table 504.3)	75'	35'			
Building Heig	Building Height in Stories (Table 504.4) 4 2					
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	RATING	DETAIL#	SHEET # FOR	

2018 NC Administrative Code and Policies

	FIRE SEPARATION DISTANCE (FEET)	REQ'D	PROVIDED (W/* REDUCTION)	AND SHEET#	DESIGN# FOR RATED ASSEMBLY	RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		0	0				
Bearing Walls							
Exterior							
North	10′ ≤ X <30′	1	1	Existing			
East	>30'	0	0	Existing			
West	>30'	0	0	Existing			
South	>30'	0	0	Existing			
Interior		0	0	Existing			
Nonbearing Walls and Partitions Exterior walls							
North	10' ≤ X <30'	1	1	Existing			
East	>30'	0	0	Existing			
West	>30'	0	0	Existing			
South	>30'	0	0	Existing			
Interior walls and partitions		0	0	Existing			
Floor Construction, including supporting beams and joists		0	0	Existing			
Floor Ceiling Assembly		0	0	Existing			
Columns Supporting Floors		0	0	Existing			
Roof Construction, including supporting beams and joists		0	0	Existing			
Roof Ceiling Assembly		0	0	Existing			
Columns Supporting Roof		0	0	Existing			
Shaft Enclosures - Exit		1	N/A	Existing			
Shaft Enclosures - Other		1	1	Existing			
Corridor Separation		0	0	Existing			
Occupancy/Fire Barrier Sepa	ration	1	1	Existing			
Party/Fire Wall Separation		3	3	Existing			
Smoke Barrier Separation			N/A				
Smoke Partition			N/A				
Tenant/Dwelling Unit/ Sleeping Unit Separation			N/A				
Incidental Use Separation			N/A				

* Indicate section number permitting reduction

	PERCENTAGE OF WAL	L OPENING CALCULATIO	NS N/A
FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	Degree of openings Protection (Table 705.8)	Allowable area (%)	Actual shown on plans (%)

LIFE SAFETY SYSTEM REQUIREMENTS

2018 NC Administrative Code and Policies

Emergency Lighting: Exit Signs: Fire Alarm: Smoke Detection Systems: Carbon Monoxide Detection:	Yes Yes Yes Yes No
Carbon Monoxide Detection:	<u>No</u>

LIFE SAFETY PLAN REQUIREMENTS

- Life Safety Plan Sheet #: <u>G003</u>
- 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 oxtimes Occupancy Use for each area as it relates to occupant load calculation (Table 1
- Occupant loads for each area
- \boxtimes Exit access travel distances (1017) \boxtimes Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- Dead end lengths (1020.4)
- ☐ Clear exit widths for each exit door Maximum calculated occupant load capacity each exit door can accommodate based on egress width
- Actual occupant load for each exit door A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided
- for purposes of occupancy separation
- □ Location of doors with panic hardware (1010.1.10)
- Location of doors with delayed egress locks and the amount of delay (1010.1.9.7) Location of doors with electromagnetic egress locks (1010.1.9.9)
- Location of doors equipped with hold-open devices
- Location of emergency escape windows (1030) The square footage of each fire area (202)
- The square footage of each smoke compartment for Occupancy Classification I-2 (407.5) Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS N/A

	(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 UN PROVIDED
_							

ACCESCIDLE DADVING NI/A (EVISTING TO DEMAIN)

ACCESSIBLE PARKING N/A (EXISTING TO REMAIN) (SECTION 1106)							
LOT OR PARKING	TOTAL# OF PA	ARKING SPACES	# OF AC	TOTAL#			
AREA	REQUIRED	REQUIRED PROVIDED REGULAR WITH VAN SPACES WITH				ACCESSIBLE	
			5' ACCESS AISLE 132" ACCESS 8' ACCESS PROV				
				AISLE	AISLE		

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

2018 NC Administrative Code and Policies

	SPECIAL APPROVALS
	Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)
	Third party steel inspections
	
	ENERGY SUMMARY ENERGY REQUIREMENTS:
	The following data shall be considered minimum and any special attribute required to meet the energy coo
	shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.
	Existing building envelope complies with code: Yes (The remainder of this section is not applicable)
	Exempt Building: Select one Provide code or statutory reference:
	Climate Zone: Select one
	Method of Compliance: <u>ASHRAE 90.1 - Prescriptive</u> (If "Other" specify source here)
	THERMAL ENVELOPE (Prescriptive method only)
	Roof/ceiling Assembly (each assembly)
	Description of assembly:
	U-Value of total assembly: R-Value of insulation:
	R-Value of insulation: Skylights in each assembly:
	U-Value of skylight: total square footage of skylights in each assembly:
	Exterior Walls (each assembly)
	Description of assembly:
	U-Value of total assembly:
ΓΙΟΝS N/A	R-Value of insulation: Openings (windows or doors with glazing)
ACTUAL SHOWN ON	II Value of accombly:
(%)	Solar heat gain coefficient:
	projection factor: Door R-Values:
	Walls below grade (each assembly)
	2018 NC Administrative Code and Policies
	Walls below grade (each assembly)
	Description of assembly:
	U-Value of total assembly:
	R-Value of insulation:
	Floors over unconditioned space (each assembly)
	Description of assembly: U-Value of total assembly:
	R-Value of insulation:
	Floors slab on grade
	Description of assembly:
c (705.9)	U-Value of total assembly: R-Value of insulation:
s (705.8) e 1004.1.2)	Horizontal/vertical requirement:
, 1007.1.2)	slab heated:

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS STRUCTURAL DESIGN

(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE) **DESIGN LOADS:**

> Seismic (I_E) <u>1.0</u> Mezzanine ____ psf Floor Ground Snow Load:

> > Ultimate Wind Speed

Exposure Category SEISMIC DESIGN CATEGORY: Select one

Provide the following Seismic Design Parameters: Risk Category (Table 1604.5)

Site Classification (ASCE 7) Data Source: <u>Presumptive</u> Basic structural system Bearing Wall Analysis Procedure: Equivalent Lateral Force Architectural, Mechanical, Components anchored? Yes

Spectral Response Acceleration S_S 0.415 %g

LATERAL DESIGN CONTROL: Wind

SOIL BEARING CAPACITIES: Presumptive Bearing Capacity 2000 psf Pile size, type, and capacity N/A

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

100 mph (ASCE-7)

S_{1_}0.144_ %g

MECHANICAL DESIGN (PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone winter dry bulb: summer dry bulb: Interior design conditions winter dry bulb: summer dry bulb: relative humidity: _____ Building heating load: _____

Building cooling load: _____

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

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS ELECTRICAL DESIGN

(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE) ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: ASHRAE 90.1 - Prescriptive Lighting schedule (each fixture type) lamp type required in fixture number of lamps in fixture ballast type used in the fixture number of ballasts in fixture total wattage per fixture total interior wattage specified vs. allowed (whole building or space by space) total exterior wattage specified vs. allowed Additional Efficiency Package Options

(When using the 2018 NCECC; not required for ASHRAE 90.1)

C406.2 More Efficient HVAC Equipment Performance 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 RND Architects, PA 3608 University Drive, Suite 204 Durham, NC 27707 T 919.490.1266 www.RNDarchitects.com In Association with







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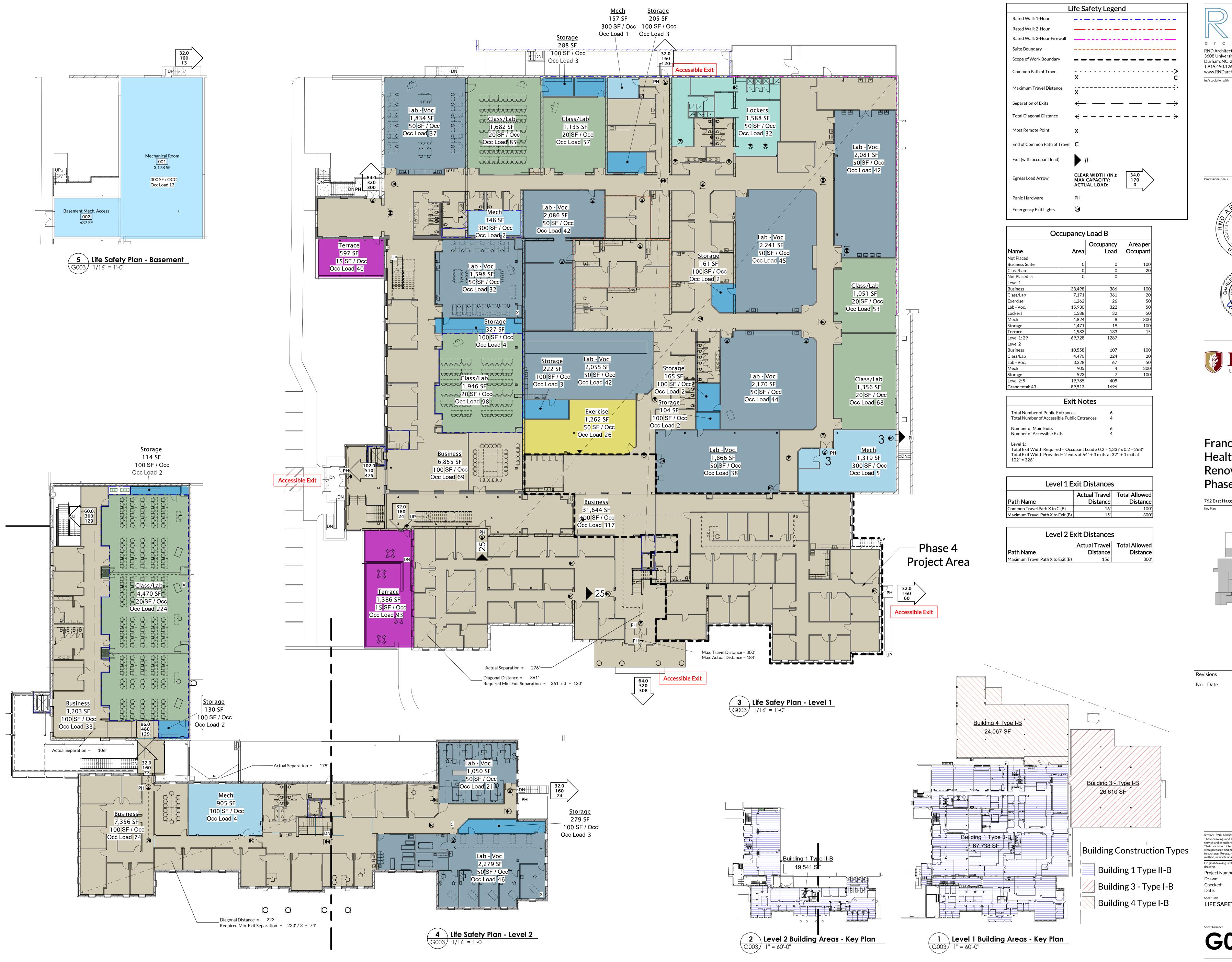
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BUILDING CODE SUMMARY



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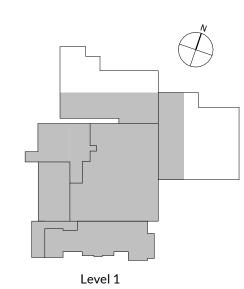






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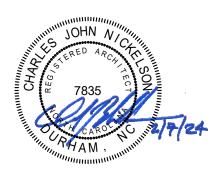
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P,M,E, & FP Legend **Abbreviations** Plan Legend 1-Hour Rated Fire Barrier See Plumbing, Mechanical, Electrical, and Fire Protection Acoustical Ceiling Tile and Grid Detail No. \rightarrow 1 Engineering Drawings for Device, Fixture Quantities and Types. Above Finished Floor Section Mark Sheet No. — A101 2-Hour Rated Fire Wall _---ALUM Architectural plans show devices for reference only. Aluminum BFF Below Finished Floor Scope of Work Boundary ------CMU Concrete Masonry Unit Sprinkler Head Continuous CONT. **Existing Partition to Remain** Sheet No. — A_{101} **Elevation Mark Control Joint** Can Light Detail No. → 1 **EWC** Electric Water Cooler Temporary Dust Partition Electrical Panel Strip or Pendant Light Fixture 10'-0" Ceiling Height AFF Existing partitions, doors or other Existing 1x4 Lay-in Light Fixture items to be demolished Existing to Remain ETR Expansion Joint 2 x 2 Lay-in Light Fixture Demolition Note keynoted to plan Field Verify/Field Measure Acoustical Ceiling Grid and Tile 2'x2' (Note: Not all items keynoted to plan) Finished Floor Elevation 2 x4 Lay-in Light Fixture Fire Extinguisher Cabinet Floor Drain Renovation Note keynoted to plan Supply Air Diffuser Furniture **FURN** Acoustical Ceiling Grid and Tile 2'x4' General Contractor New Interior Partition GYP. BD. Return Air Diffuser Gypsum Board Identification Partition ID Tag, see Wall Types Exit Light Metal Existing Acoustical Ceiling Grid Not in Contract Masonry Partition and Tile to be Demolished Emergency Light On Center Opposite Hand Line of Soffit Above Smoke Detector Reflected Ceiling Plan RCP ADA Clearance Area _____ Gypsum Board Soffit, Ceiling, or Roof Drain or Furniture Not in Contract Occupancy Sensor SIM SCW Solid Core Wood Door Room Name, Number, and Area SPECS Specifications Speaker 150 SF To be determined TBD Wireless Access Point 101 Door I.D., see Door & Frame Schedule Typical UNO Unless Noted Otherwise With Window/Storefront ID, see Elevations Spot Elevation AFF

General Notes

A. GENERAL CONTRACTOR SHALL FIELD VERIFY/FIELD MEASURE ALL DIMENSIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD DIMENSIONS PRIOR TO START OF WORK. OWNER/ARCHITECT CANNOT GUARANTEE THE ACCURACY OF THESE DRAWINGS OF EXISTING CONDITIONS. FAILURE OF THE GENERAL CONTRACTOR TO VERIFY EXISTING DIMENSIONS PRIOR TO START OF WORK OR FABRICATION OF CONTRACT MATERIALS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ANY SPECIAL PROBLEMS, COSTS, OR DELAYS THAT MIGHT HAVE BEEN AVOIDED HAD THE CONTRACTOR DONE SO.

B. Contract Drawings: The contract drawings contain information to a degree of detail which is considered to be both consistent with their scales and adequate to accomplish their purpose. Beyond this point, they are diagrammatic. The contractor shall provide all miscellaneous materials required to completely install the work in accordance with the intent of the drawings and the specified functions. Any omissions from either the drawings or the specifications are unintentional and it shall be the responsibility of the contractor to call to the attention of the designer any pertinent omissions prior to submission of a bid.

C. Site Visitation: The contractor shall examine the site before bidding the project and shall familiarize himself with all existing conditions. Failure of the contractor to visit the site before submission of a bid shall not relieve him of any special problems or costs which might have been avoided had the contractor examined the existing site conditions.

contractor shall be responsible for filing and securing all necessary permits, approvals, etc. for all trades. **E.** Specifications must be read in conjunction with the drawings to fully determine the scope of work required. Do not attempt to

determine the scope of work without reading the specifications. **F.** All existing building life safety componenets, such as exit signage, exit lights, fire alarm, sprinklers, etc., shall remain continuosly operational and free of obstruction for areas outside of construction zone of work in order to maintain building occupancy during construction. Any building utility shut-downs that will affect other building occupants shall be coordinated with Owner with

D. All work shall be completed in compliance with applicable codes and to the satisfaction of local building inspectors. The

minimum 3 days' notification. G. All fire-rated partitions shall be continuous to the underside of floor structure above. Existing partitions indicated as fire barriers that are not currently constructed as a fire barriers, shall be added to or altered as necessary to bring them up to the required fire-rating construction as indicated. All fire rated walls and partitions shall be effectively and permanently identified with signs or stenciling. Such identification shall be above the ceiling and in concealed spaces. Suggested wording as appropriate,

'2 HOUR RATED FIRE BARRIER - PROTECT ALL OPENINGS' or '1 HOUR RATED FIRE BARRIER - PROTECT ALL OPENINGS'

H. The General Contractor shall be responsible for patching and fire stopping all floor and roof openings left by the removal of P, M, and E ducts, pipes, and conduits.

J. All items scheduled to be removed shall be properly disposed of by the contractor unless specifically noted otherwise. The Owner reserves the right to claim any items removed during demolition.

K. Asbestos containing materials (ACM) are not known to be present in the space to be demolished and renovated. If contractor encounters what he suspects to be ACM, they should not disturb the suspect materials and notify the owner immediately. The owner shall be responsible for removing hazardous materials discovered in project area upon notification by contractor.

L. Noted ceiling heights for new ceilings shall not be changed due to field conditions without express direction from the Architect.

M. Notify Architect of building expansion joint locations.

N. The GC shall provide signage on all doors into the project area stating, "CONSTRUCTION SITE - NO ADMITTANCE". Sign shall be professionally made with easily visible letters on background indicating warning to staff and public. The GC shall provide walk-off mats as specified at each door leading from the construction area into other parts of the building

P. See Plumbing, Mechanical, Electrical, and Fire Protection drawings for further information.

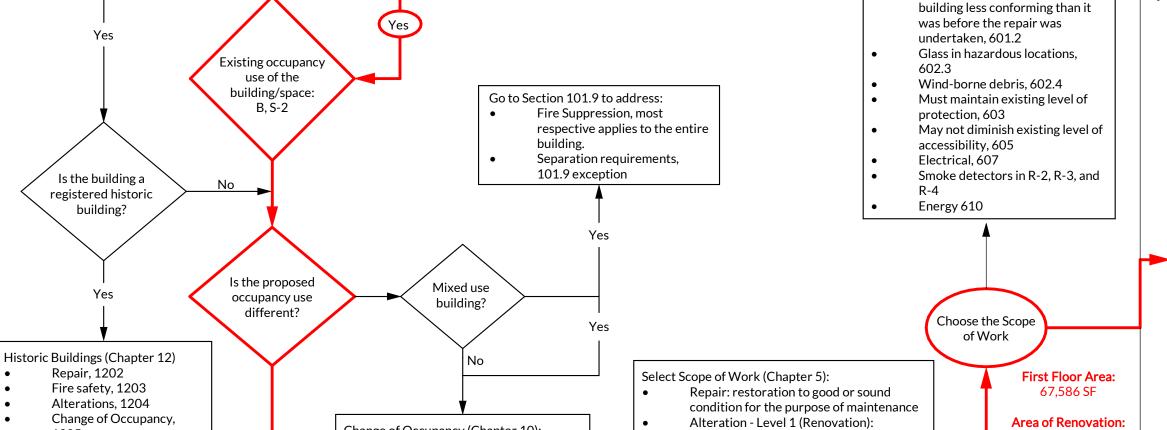
Q. The General Contractor is responsible for:

1. Providing all necessary access panels, with correct fire protection ratings, whether indicated or not on the drawings. 2. Access panels required shall include, but not limited to dampers, plumbing valves, junctions boxes and cleanouts 3. Patching and fire stopping all floor and roof openings left by the removal of P, M, and E ducts, pipes, and conduits.

4. Where existing walls are removed, repair floor substrates to receive new finishes. If area is to receive new tile, provide mortar 5. Prepare existing slab to be level, flat, and finished as required for installation of finished floor materials per manufacturers' specifications. Where existing setting beds at tiled areas are removed, provide lightweight concrete fill up to level of adjacent substrate or to level required for new finishes.

6. Coordinate and provide blocking/backing in partitions behind all wall mounted items (millwork shelving, files, etc.). All concealed wood to be fire-retardant lumber. 7. Where lavatories, mirrors, accessories, etc. are scheduled to be removed from walls to remain, patch and paint walls to match existing where exposed to view.





removal or replacement or covering of

Alteration - Level 2 (Alteration):

the same purpose

existing materials, elements, equipment

or fixtures using new materials that serve

reconfiguration of space, the addition or

elimination of any door or window, the

installation of any additional equipment

reconfiguration of any system or the

Fire alarms and smoke detection,

aggregate area of the building

Alteration - Level 3 (Reconstruction):

work area exceeds 50 percent of the

Change of Occupancy (Chapter 10):

Electrical, 1008

1012.2.2

Mechanical, 1009

Fire suppression, 1012.2

Means of egress, 1012.4

Height and area, 1012.5

Accessibility, 1012.9

Structural, 1206

Structural requirements, 1007.1

Fire alarms and smoke detection,

Exterior wall exposure, 1012.6

Vertical wall openings, 1012.7

Alteration - Level 2 (Alteration) - reconfiguration of space, the addition or elimination of any door or window, the reconfiguration of any system the installation of any additional equipment All work complies with level 1 Alteration (Renovation) work in Chapter 7 in addition to this Chapter Special use and occupancy, 802 Vertical openings, 803.2 Smoke barriers for Group I-2, 803.3 Interior finish in exits and corridors, 803.4 Guards, 803.5 Fire blocking and draft stopping, 803.6 Automatic sprinkler systems, 804.2 Fire alarms and detection, 804.4 Means of egress capacity, 805.4 Accessibility requirements, 806 Electrical (808), Mechanical (809), Plumbing,

9,450 SF

50% of Total Floor Area

= 33,793

9,450 SF < 50%

same purpose

Alteration - Level 3 (Reconstruction) - work area exceeds 50 percent of the aggregate area of the building Work complies with all provisions of Chapters 7 and 8 in addition to this Chapter Special use and occupancy, 902 Existing shaft as and vertical openings, 903.1 Fire separation in Group R-3, 903.2 Automatic sprinkler systems, 904.1 Sandpipes, 904.2 Existing structural elements resisting lateral load, 907.4 Energy requirements, unconditioned to

conditioned space - 10% additional

requirement, 908.1.1

(810), Energy (811)

Alteration - Level 1 (Renovation) - removal or

replacement or covering of existing materials, elements,

equipment or fixtures using new materials that serve the

methods for new construction, 702.4

Replacement of equipment supported by

of egress that is existing, 703, 704

building and re-roofing, 706

Maintain the level of fire protection and means

05/21/2021

Revisions

Drawn: RGFZ Checked: CJN Date: 2/2/2024 Sheet Title LEGENDS, ABBREVIATIONS &

Project Number: 2105.04

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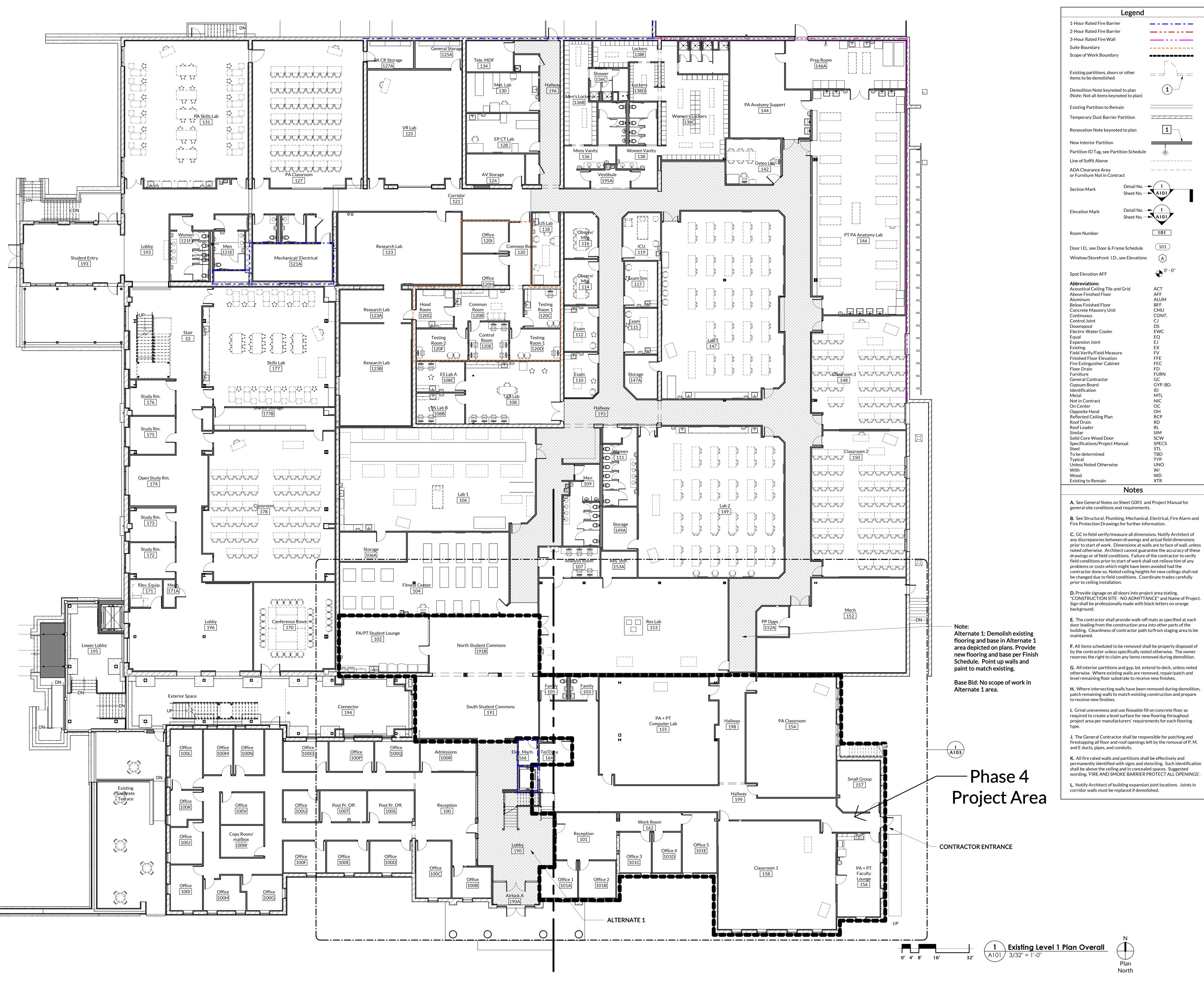
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H. Where intersecting walls have been removed during demolition,

permanently identified with signs and stenciling. Such identification shall be above the ceiling and in concealed spaces. Suggested wording, 'FIRE AND SMOKE BARRIER PROTECT ALL OPENINGS'.

Description

Revisions

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Renovation -

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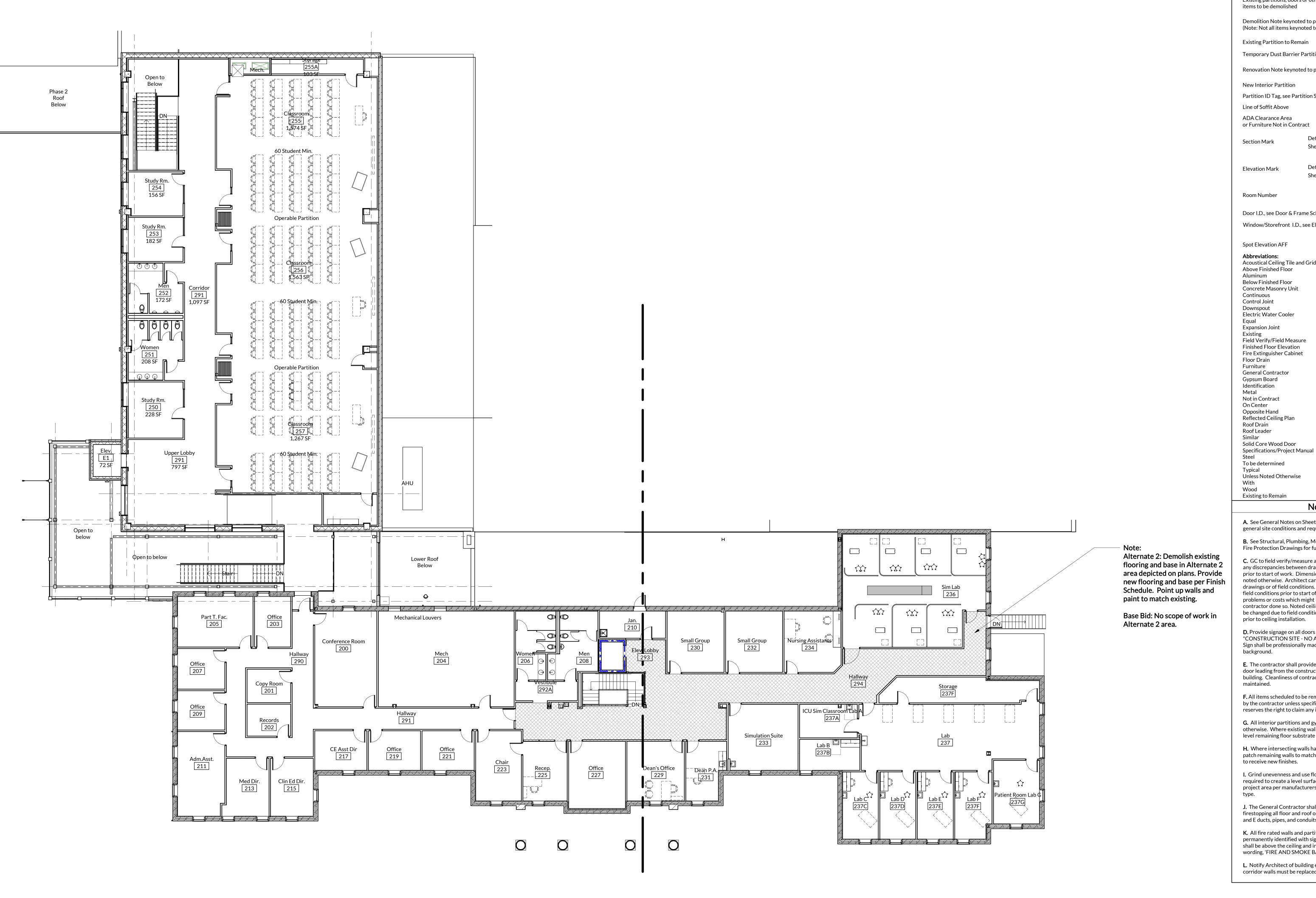
Phase 4

Health Sciences

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Sheet Title **EXISTING LEVEL 1 PLAN** OVERALL



Existing Level 2 Plan Overall

Legend 1-Hour Rated Fire Barrier 2-Hour Rated Fire Barrier _---3-Hour Rated Fire Wall ____ Suite Boundary -----Scope of Work Boundary •••••• Existing partitions, doors or other items to be demolished Demolition Note keynoted to plan (Note: Not all items keynoted to plan) **Existing Partition to Remain** Temporary Dust Barrier Partition Renovation Note keynoted to plan **New Interior Partition** Partition ID Tag, see Partition Schedule Line of Soffit Above ADA Clearance Area _____ or Furniture Not in Contract Detail No. \rightarrow 1 Sheet No. — A101 Section Mark Detail No. → Elevation Mark Sheet No. — A101 101 Room Number Door I.D., see Door & Frame Schedule Window/Storefront I.D., see Elevations Spot Elevation AFF Abbreviations:

ACT Acoustical Ceiling Tile and Grid AFF Above Finished Floor Aluminum ALUM **Below Finished Floor** Concrete Masonry Unit CMU CONT. Continuous Control Joint Downspout **EWC**

FURN

GYP. BD.

MTL

SCW

SPECS STL TBD

TYP

UNO

XTR

Electric Water Cooler **Expansion Joint** Field Verify/Field Measure Finished Floor Elevation Fire Extinguisher Cabinet Floor Drain Furniture **General Contractor** Gypsum Board Identification Not in Contract On Center Opposite Hand Reflected Ceiling Plan **Roof Drain Roof Leader**

To be determined Unless Noted Otherwise **Existing to Remain**

Notes

A. See General Notes on Sheet G001 and Project Manual for general site conditions and requirements.

B. See Structural, Plumbing, Mechanical, Electrical, Fire Alarm and Fire Protection Drawings for further information. **C.** GC to field verify/measure all dimensions. Notify Architect of any discrepancies between drawings and actual field dimensions prior to start of work. Dimensions at walls are to face of wall, unless noted otherwise. Architect cannot guarantee the accuracy of these drawings or of field conditions. Failure of the contractor to verify field conditions prior to start of work shall not relieve him of any problems or costs which might have been avoided had the contractor done so. Noted ceiling heights for new ceilings shall not be changed due to field conditions. Coordinate trades carefully prior to ceiling installation.

D. Provide signage on all doors into project area stating, "CONSTRUCTION SITE - NO ADMITTANCE" and Name of Project. Sign shall be professionally made with black letters on orange

E. The contractor shall provide walk-off mats as specified at each door leading from the construction area into other parts of the building. Cleanliness of contractor path to/from staging area to be maintained.

F. All items scheduled to be removed shall be properly disposed of by the contractor unless specifically noted otherwise. The owner reserves the right to claim any items removed during demolition.

G. All interior partitions and gyp. bd. extend to deck, unless noted otherwise. Where existing walls are removed, repair/patch and level remaining floor substrate to receive new finishes.

H. Where intersecting walls have been removed during demolition, patch remaining walls to match existing construction and prepare to receive new finishes.

I. Grind unevenness and use flowable fill on concrete floor as required to create a level surface for new flooring throughout project area per manufacturers' requirements for each flooring

J. The General Contractor shall be responsible for patching and firestopping all floor and roof openings left by the removal of P, M, and E ducts, pipes, and conduits.

K. All fire rated walls and partitions shall be effectively and permanently identified with signs and stenciling. Such identification shall be above the ceiling and in concealed spaces. Suggested wording, 'FIRE AND SMOKE BARRIER PROTECT ALL OPENINGS'.

L. Notify Architect of building expansion joint locations. Joints in corridor walls must be replaced if demolished.

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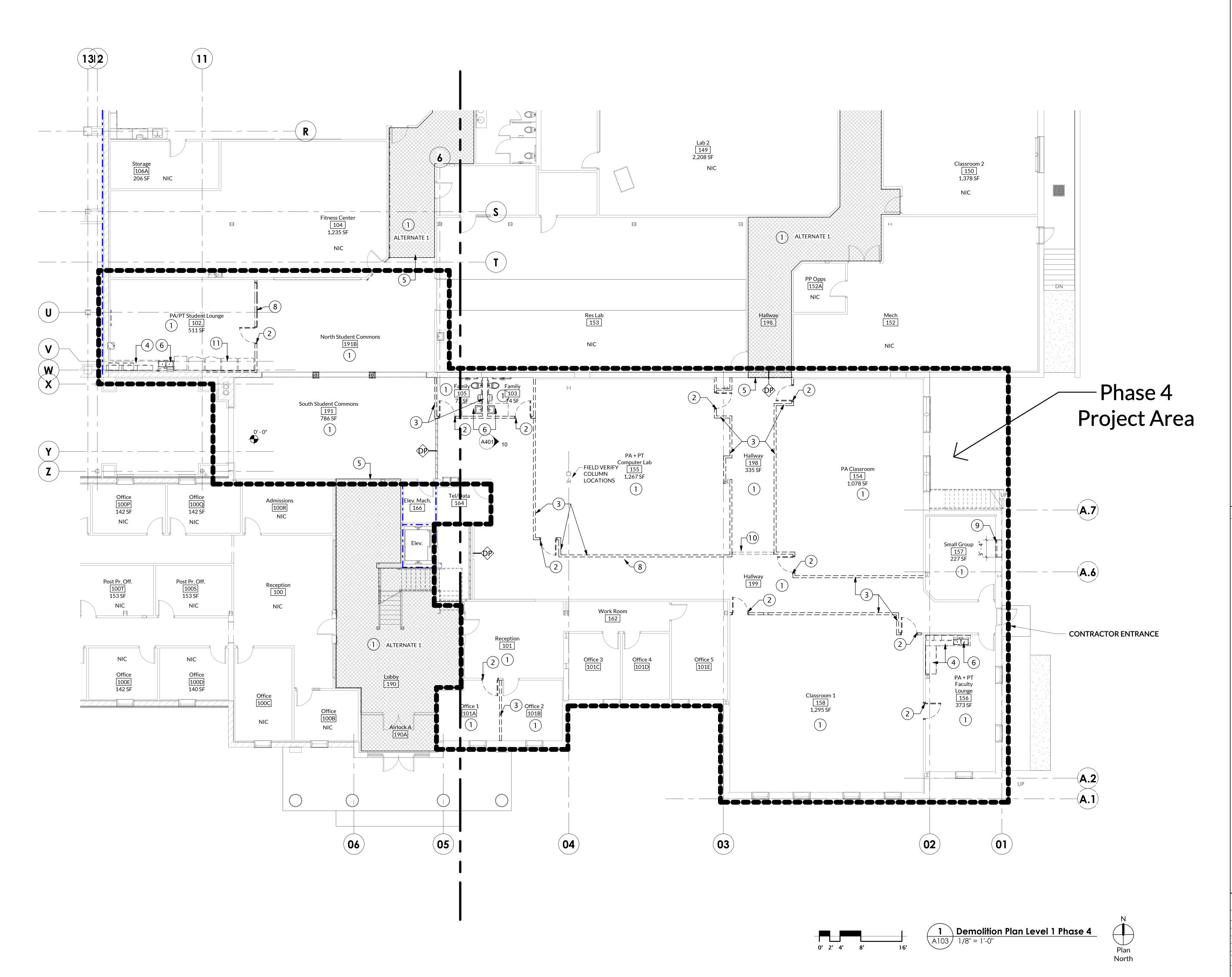
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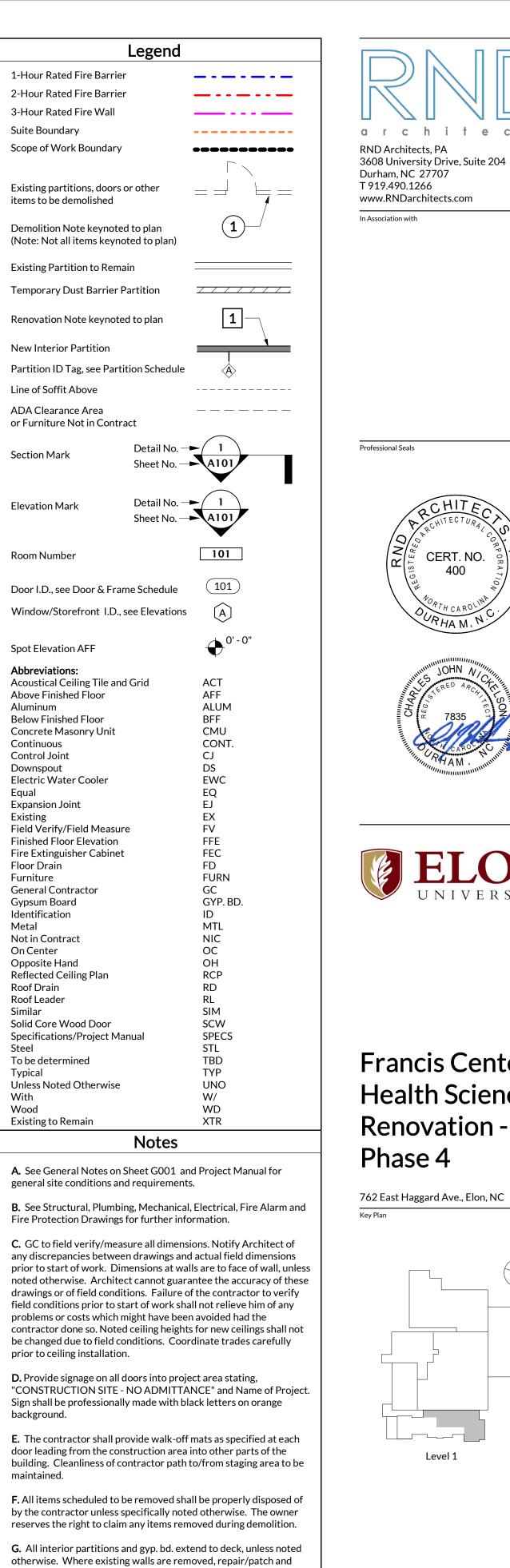
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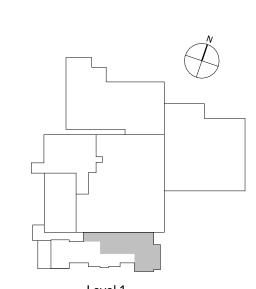
Sheet Title **EXISTING LEVEL 2 PLAN OVERALL**





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Revisions No. Date Description

1 04/09/23 Bulletin B001

permanently identified with signs and stenciling. Such identification shall be above the ceiling and in concealed spaces. Suggested wording, 'FIRE AND SMOKE BARRIER PROTECT ALL OPENINGS'. **L.** Notify Architect of building expansion joint locations. Joints in corridor walls must be replaced if demolished.

Keyed Demolition Notes

level remaining floor substrate to receive new finishes.

to receive new finishes.

H. Where intersecting walls have been removed during demolition,

patch remaining walls to match existing construction and prepare

I. Grind unevenness and use flowable fill on concrete floor as required to create a level surface for new flooring throughout project area per manufacturers' requirements for each flooring

J. The General Contractor shall be responsible for patching and firestopping all floor and roof openings left by the removal of P, M, and E ducts, pipes, and conduits.

K. All fire rated walls and partitions shall be effectively and

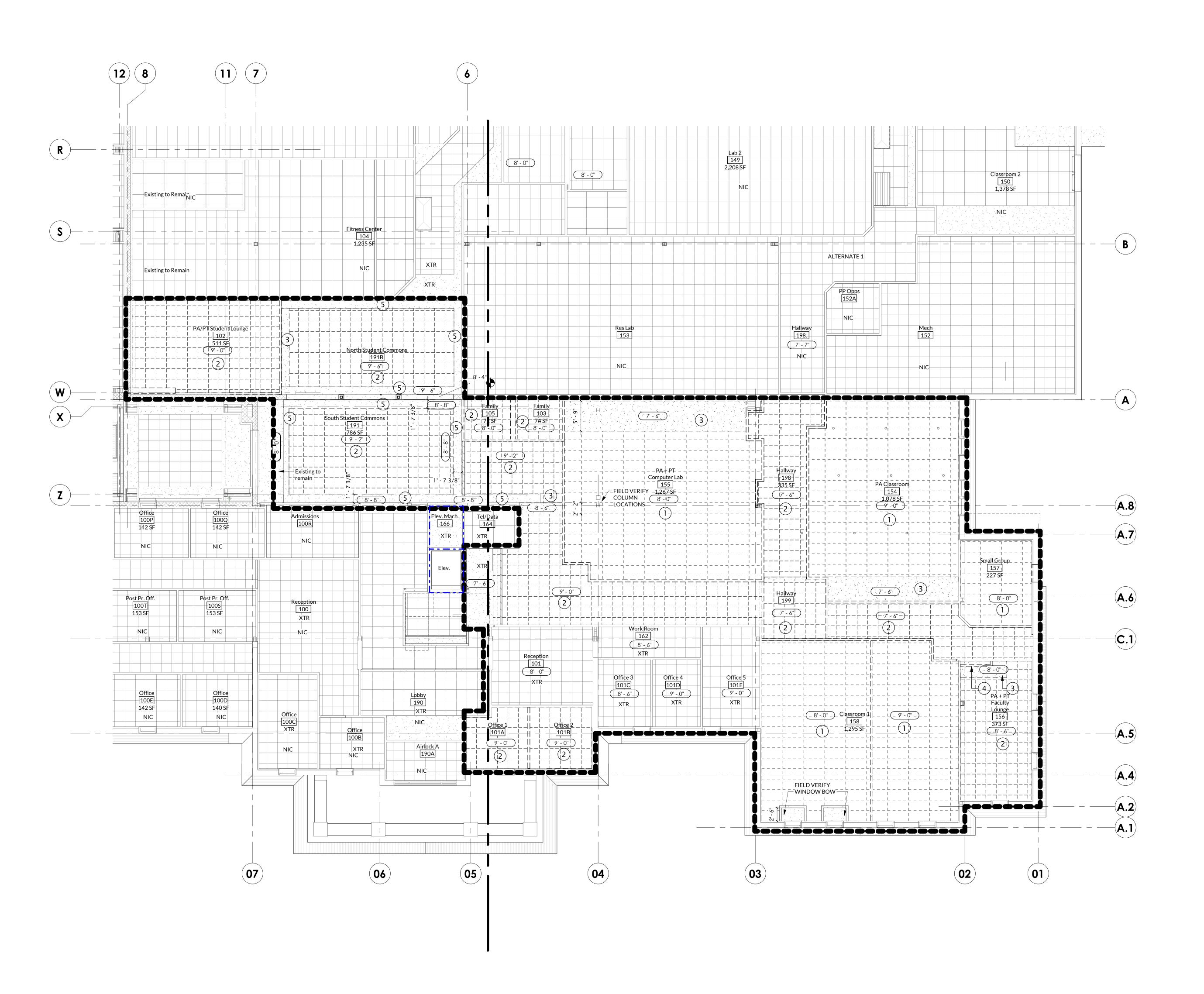
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No.	Note
1	Demolish flooring and base
2	Demolish door and frame
3	Demolish metal framed gyp. bd. wall shown dashed
4	Demolish base cabinets, countertops, wall cabinets, and shelving shown dashed
5	Cut existing flooring in straight line to demo floor. Corridor flooring to remain.
6	Demolish all plumbing fixtures and accessories, see Plumbing drawings
7	Existing casework to remain
8	Demolish exisitng storefront
9	Demolish portion of exterior wall for window shown dashed
10	Demolish cased opening shown dashed
11	Salvage and remove existing Owner Kitchen Equipment to be

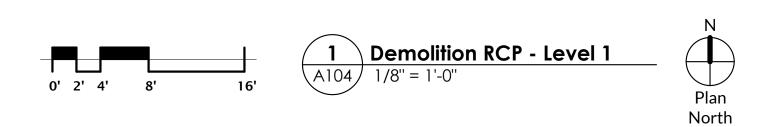
re-installed during renovation.

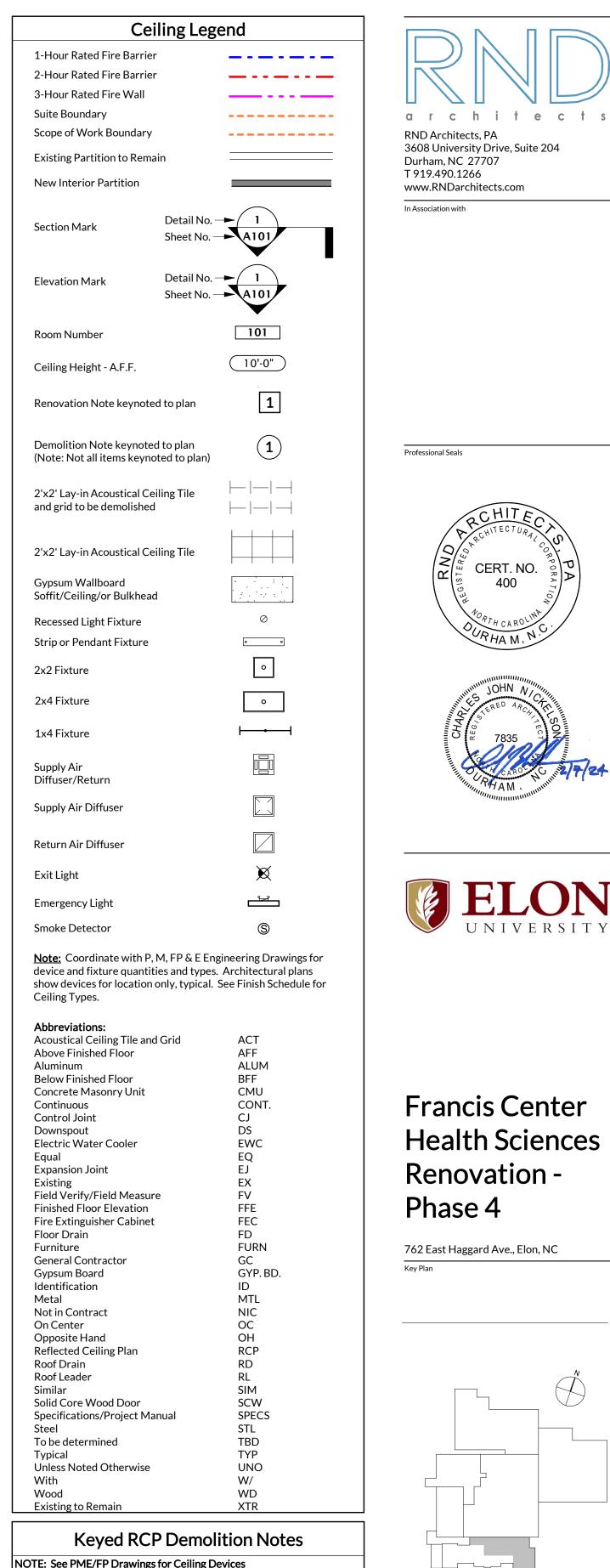
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Project Number: 2105.04 Checked: CJN Date: 2/2/2024

DEMOLITION PLAN LEVEL 1







NOTE: See PME/FP Drawings for Ceiling Devices No. Note Demolish 2x4 ACT grid and tile Demolish 2x2 ACT grid and tile Demolish gyp. board on mtl. framed soffit Demolish bulkhead

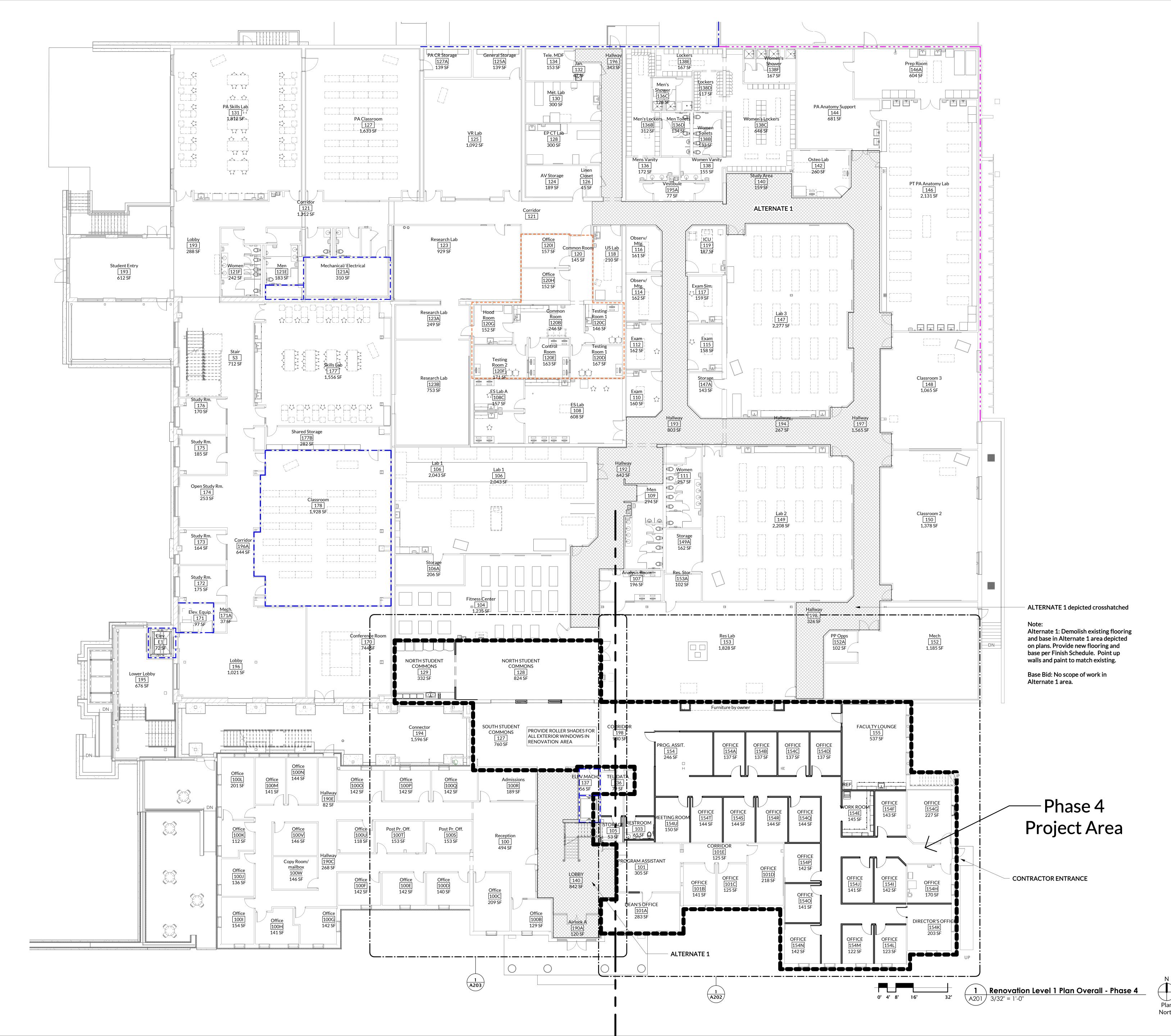
Existing soffit to remain.

Revisions No. Date

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Sheet Title **DEMOLITION REFLECTED CEILING PLAN**



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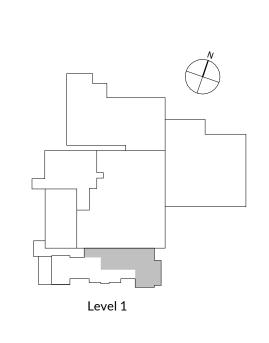






Francis Center Health Sciences Renovation -Phase 4

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to such use. Re-use, reproduction, or publication by any method, in whole or in part, is prohibited.

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Project Number: 2105.04

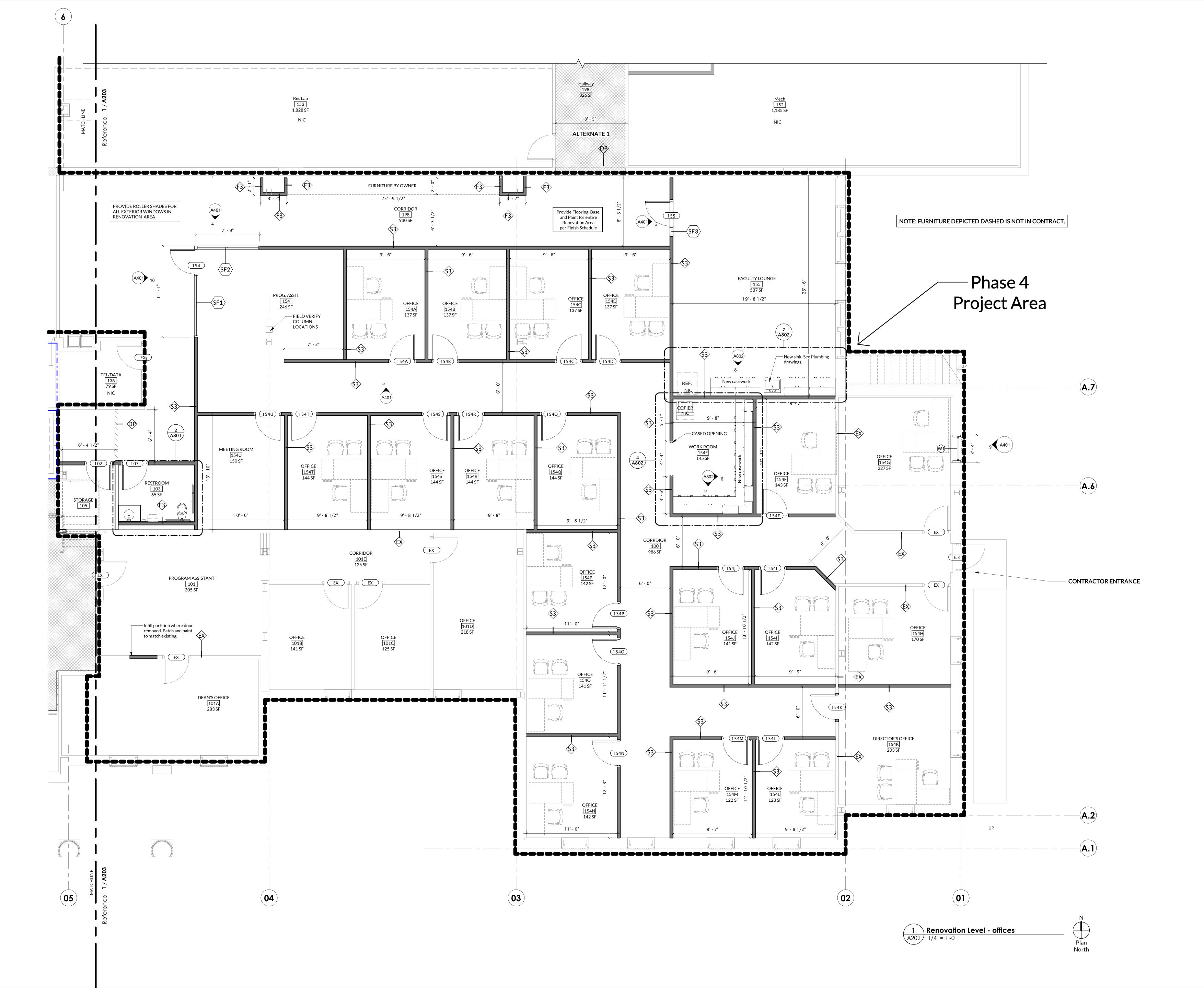
Drawn: RGFZ

Checked: CJN

Date: 2/2/2024

Sheet Title
RENOVATION PLAN LEVEL 1
OVERALL

A201





Professional Seals



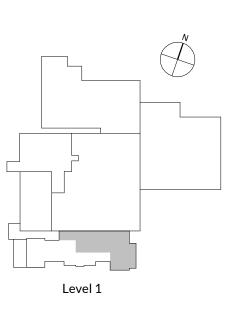




Francis Center Health Sciences Renovation Phase 4

762 East Haggard Ave., Elon, NC

Key Plan



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Project Number: 2105.04

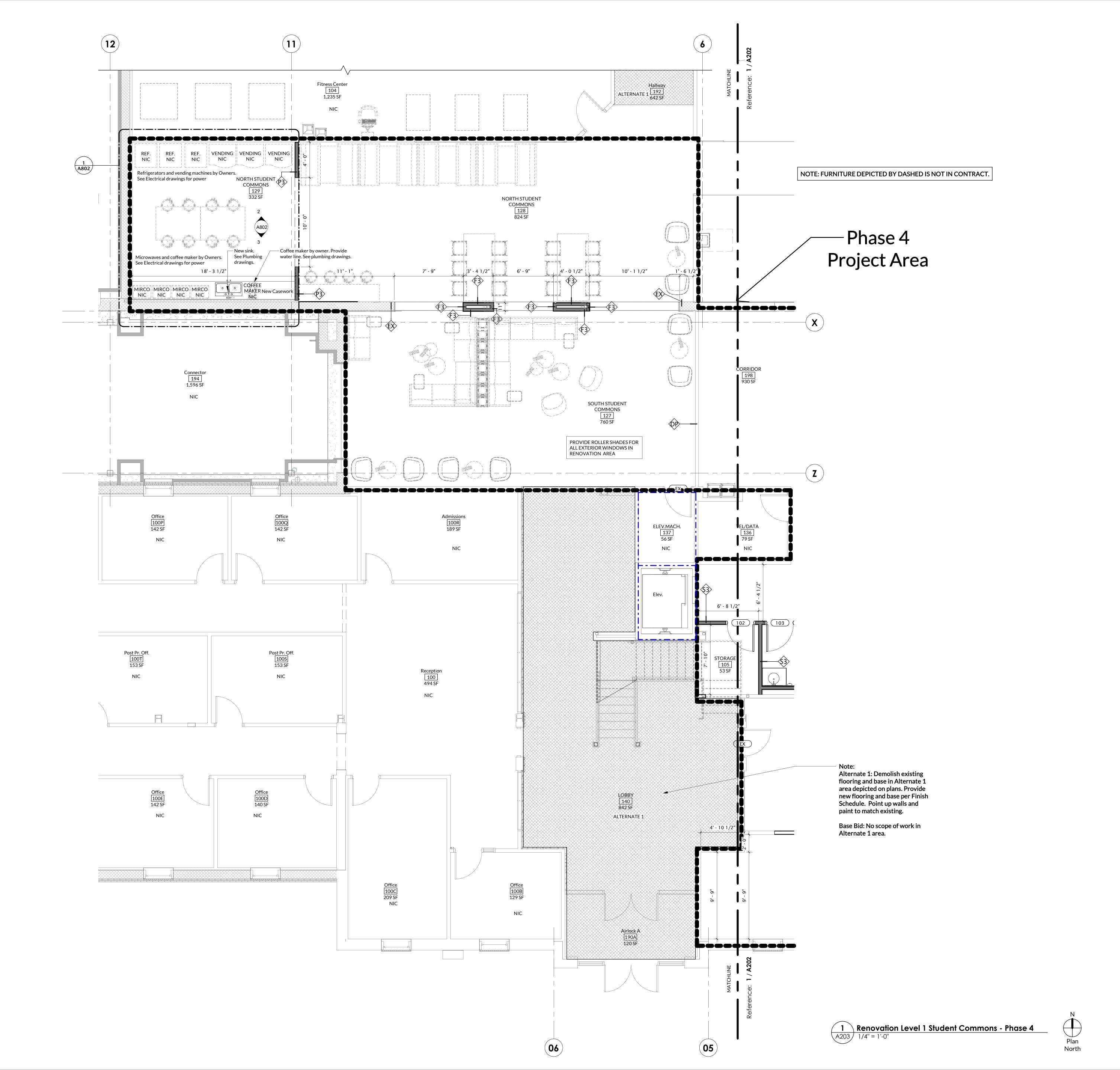
Drawn: MTM

Checked: CJN

Date: 2/2/2024

Sheet Title

RENOVATION PLAN LEVEL 1 OFFICES





Professional Seals

In Association with

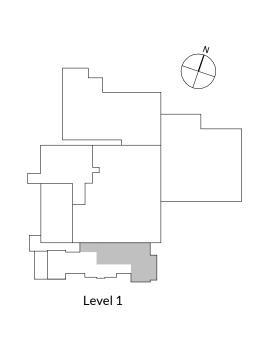






Francis Center Health Sciences Renovation Phase 4

762 East Haggard Ave., Elon, NC
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Project Number: 2105.04

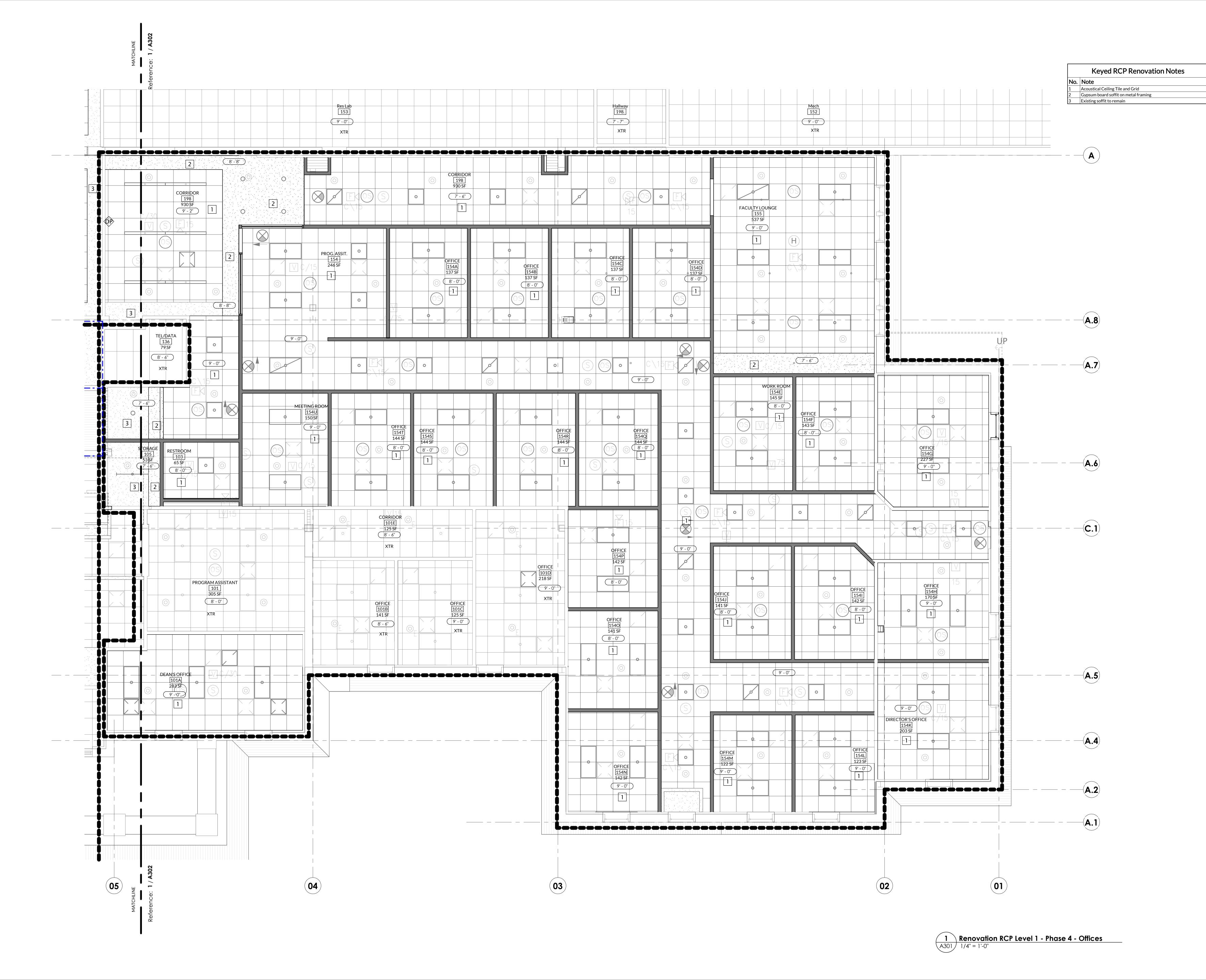
Drawn: MTM

Checked: CJN

Date: 2/2/2024

Sheet Title

RENOVATION PLAN LEVEL 1 STUDENT COMMONS





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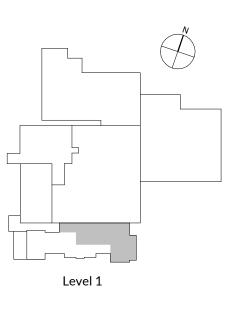




Francis Center Health Sciences Renovation Phase 4

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method, in whole or in part, is prohibited.

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Project Number: 2105.04

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Checked: CJN

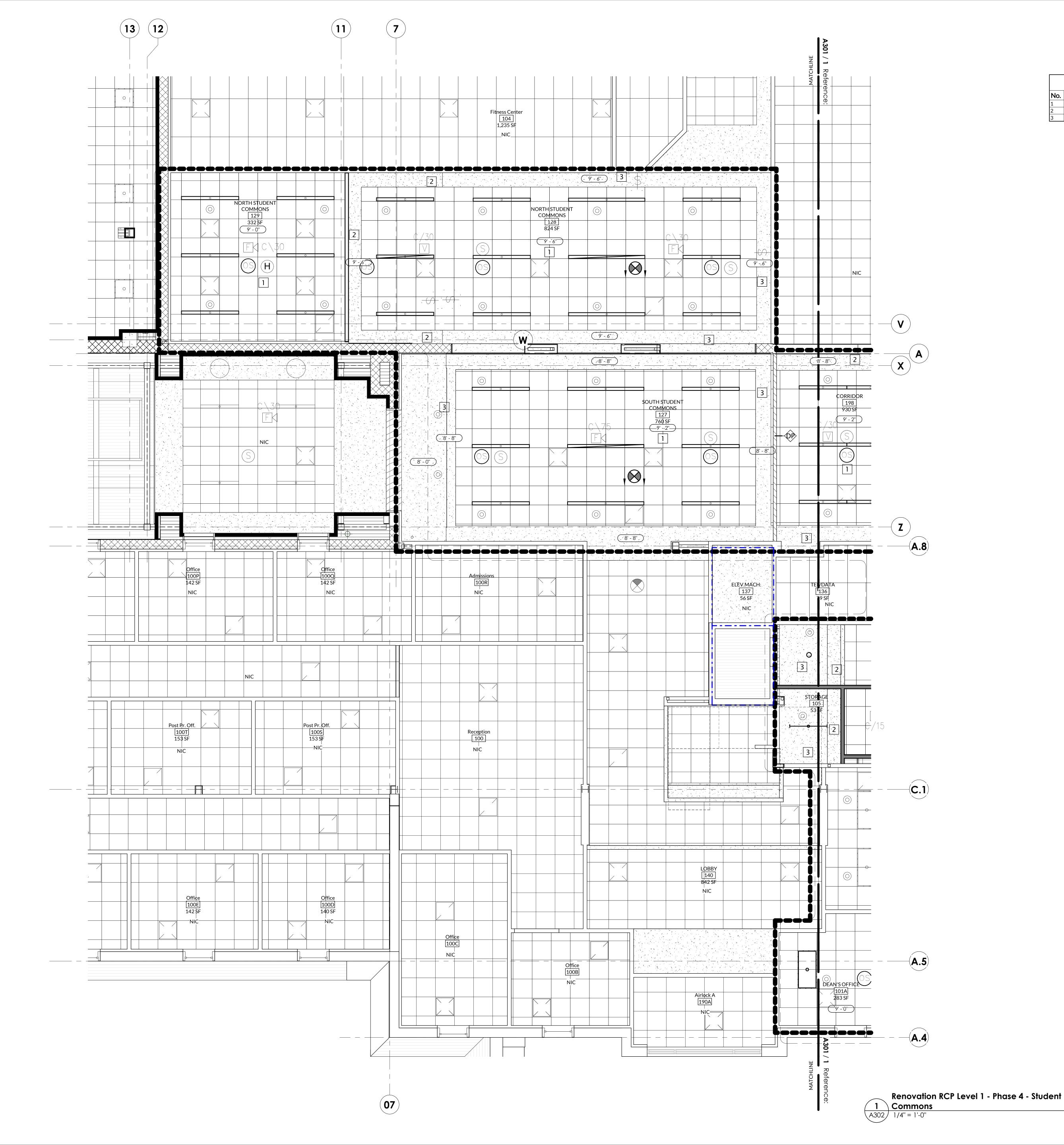
Date: 2/2/2024

Date: 2/2/2024

Sheet Title

RENOVATION REFLECTED

CEILING PLAN - OFFICES





Keyed RCP Renovation Notes

No. Note
1 Acoustical Ceiling Tile and Grid
2 Gypsum board soffit on metal framing

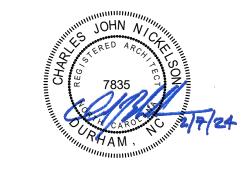
Existing soffit to remain

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Duefassianal Carla



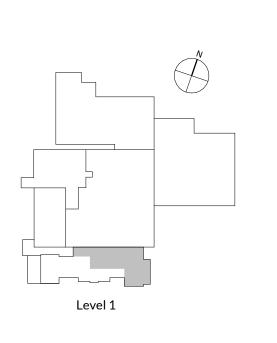




Francis Center Health Sciences Renovation Phase 4

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Project Number: 2105.04

Drawn: MTM

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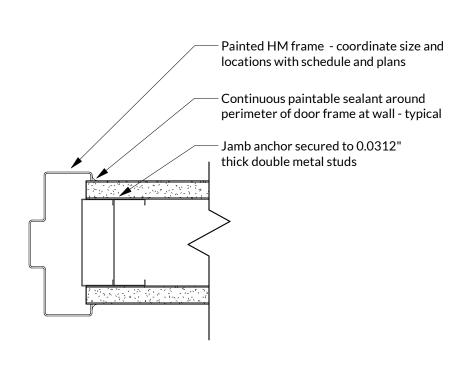
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Sheet Title

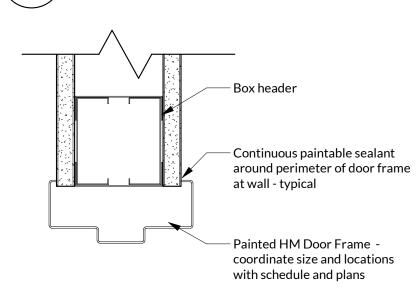
RENOVATION REFLECTED

CEILING PLAN - STUDENT

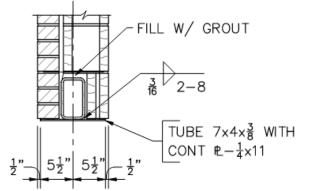
COMMONS
Sheet Number



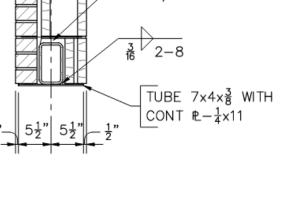




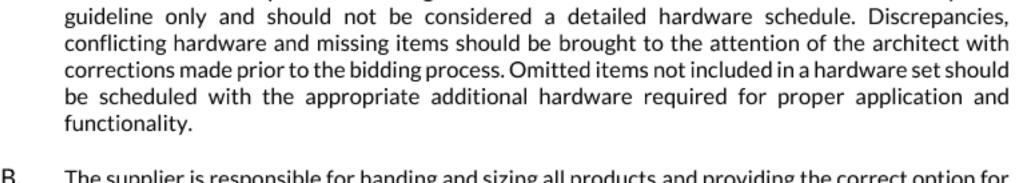




EXTERIOR WALL OPENING DETAIL



A. The hardware sets represent the design intent and direction of the owner and architect. They are a



The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.

Manufacturer's Abbreviations:

SECTION 087100.13 DOOR HARDWARE SCHEDULE

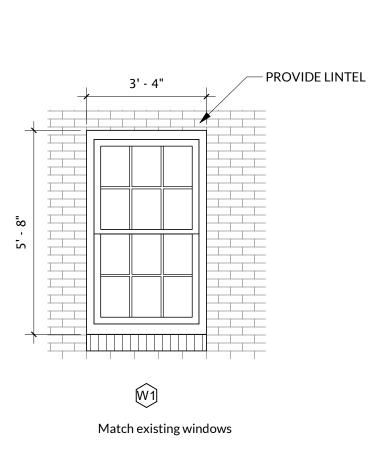
HA – Hager

IV - Ives

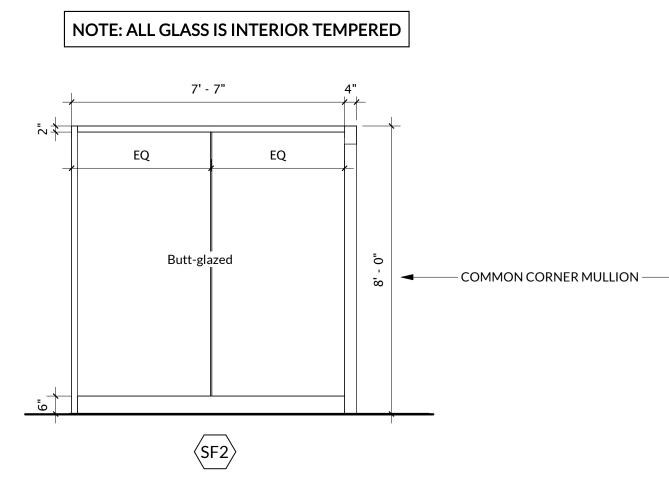
LC - LCN Closers

SC – Schlage
RO – Rockwood

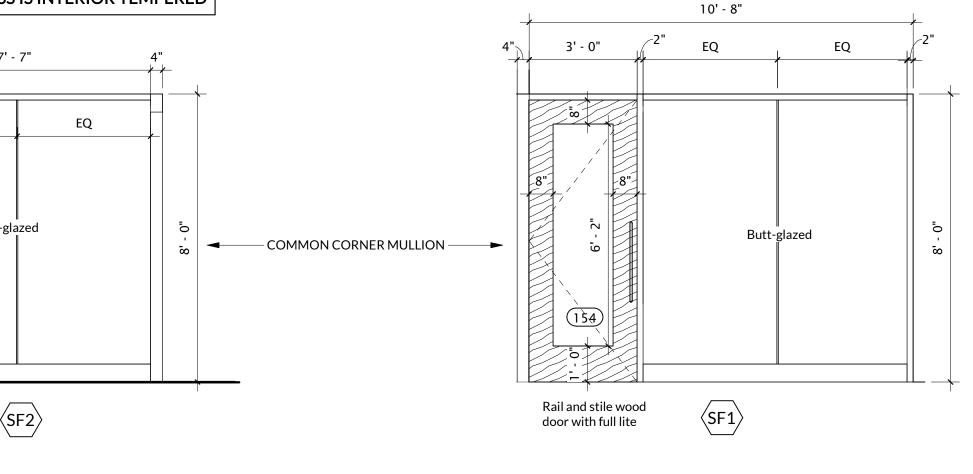
	HW-1 - Offices			
3 1	Hinge Lockset	BB1279 4 ½ X 4 ½ NC73RD	US26D 626	HA SC
3	Silencers	608	GRAY	RO
3 1 1 1 3	HW-2 - Toilet Hinge Privacy Set Closer Kickplate Wall Bumper Silencers	BB1279 4 ½ X 4 ½ NC40S ATH 10-025 13-048 4041 REG/PA TBSRT 8400 8" x 34" WS407CCV 608	US26D 626 AL US32D US32D GRAY	HA SC LC IV IV RO
	HW-3 - Storage			
3 1	Hinge Lockset	BB1279 4 ½ X 4 ½ NC80RD ATH 10-025 13-047	US26D 626	HA SC
1	Closer	4041 REG/PA TBSRT	AL	LC
1 1	Kickplate Wall Bumper	8400 8" x 34" WS407CCV	US32D US32D	IV IV
3	Silencers	608	GRAY	RO
_	HW-4 - Storefront			
2	Hinge Deadlock	BB1279 4 ½ X 4 ½ B660J x 12-296 x 10-094 Single Cylinder outside, Turn Inside	US26D 626	HA SC
1	Closer	4040XP RWPA 689 TBSRT	AL	LC
1 1	Misc Push/Pull	4040XP-18 th 689 9264 Optional flat tip (F) with	689 US26D	LC IV
3	Silencers	(O) mounting hardware 608	GRAY	RO

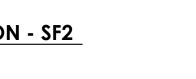






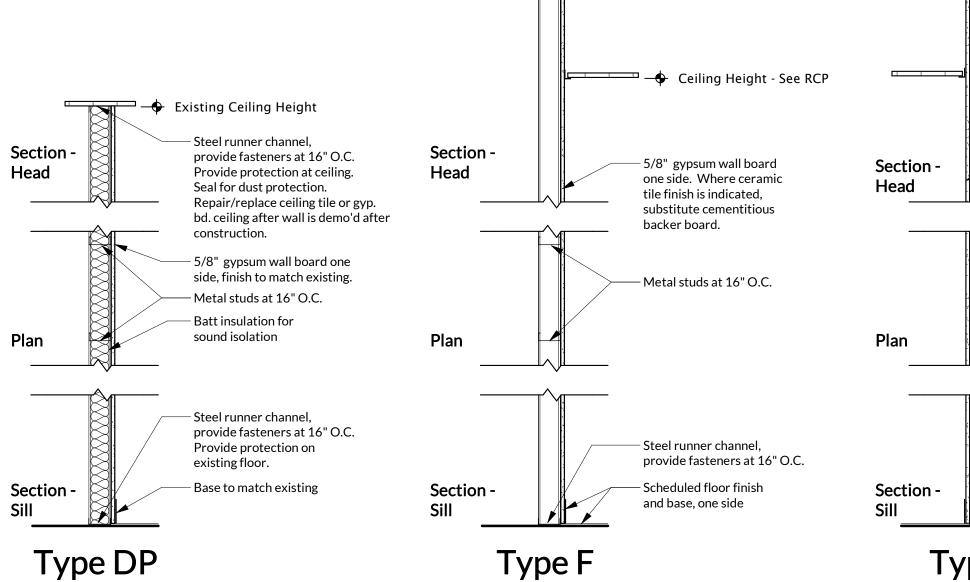








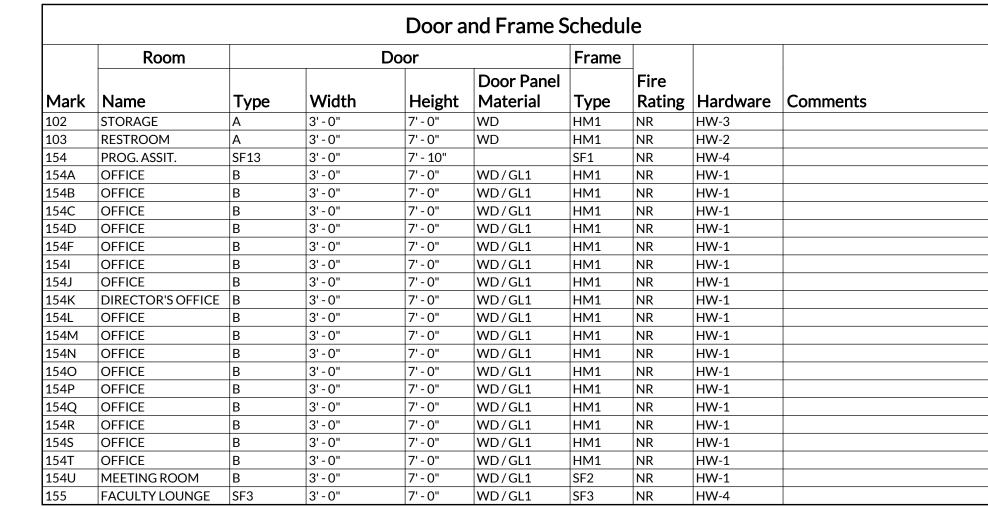
Deck above



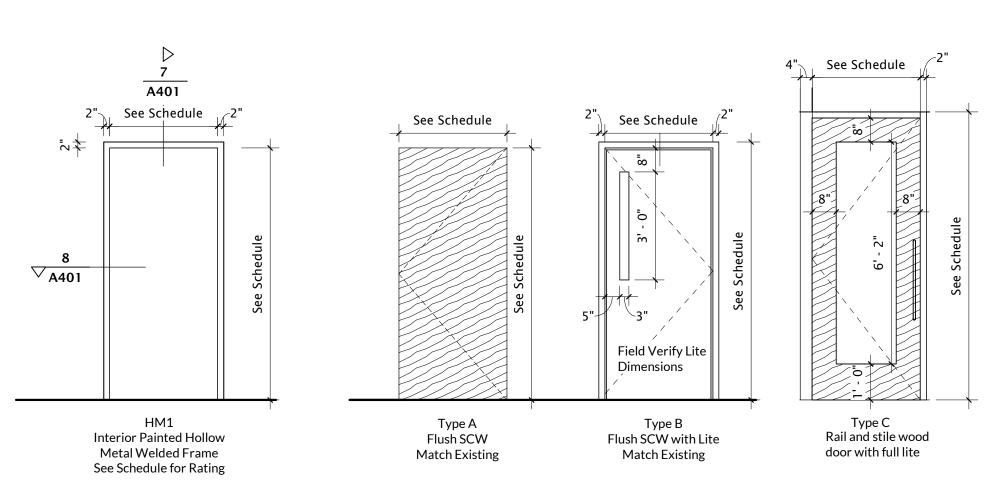
F3: 35/8" Metal studs

1 Wall Types Phase 4 A401 / 3/4" = 1'-0"

DP: 35/8" Metal studs

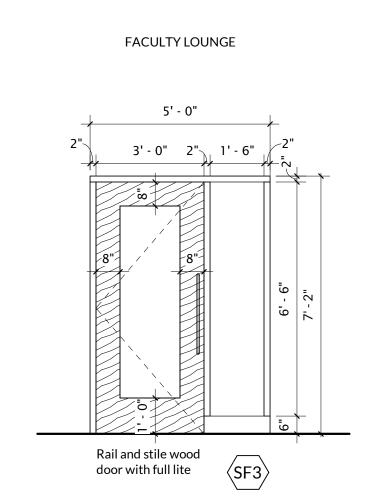


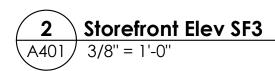
NOTE: DOOR FRAMES TO BE PAINTED PT 4; WOOD DOOR FINISH TO MATCH EXISTING. WOOD DOORS ARE REDOAK PLAIN SLICED 3119 BURNISHED WALNUT.

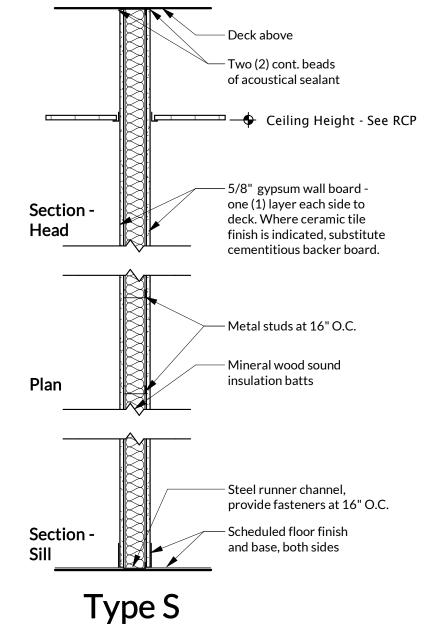












S3: 35/8" Metal studs

Sound Rated Partition

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Phase 4

Revisions

No. Date

Description

Health Sciences

Project Number: 2105.04 Drawn: RGFZ Checked: CJN Date: 2/2/2024 Sheet Title

SCHEDULE, STOREFRONT

AND WINDOW ELEVATIONS Sheet Number

WALL TYPES, DOOR





Toilet Accessory Schedule

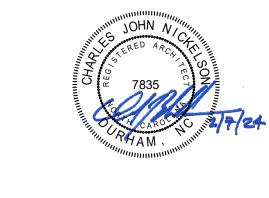
Frameless Mirror: 2'-0" x 3'-0"

Grab Bar 18"
Grab Bar 36"
Grab Bar 42"

Soap Dispenser
Paper Towel Dispenser
Toilet Paper Dispenser

Comments

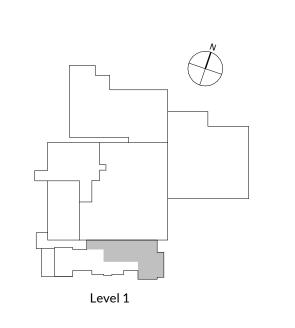






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Project Number: 2105.04

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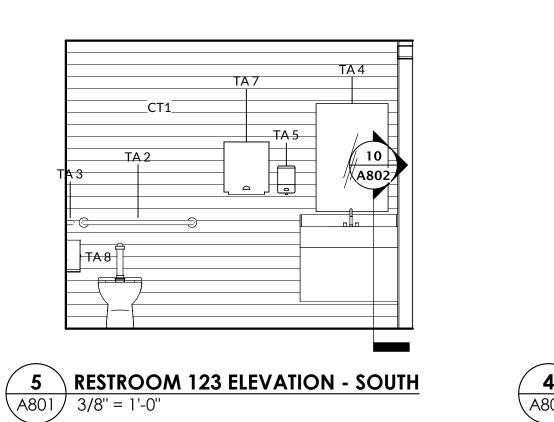
Checked: CJN

Date: 2/2/2024

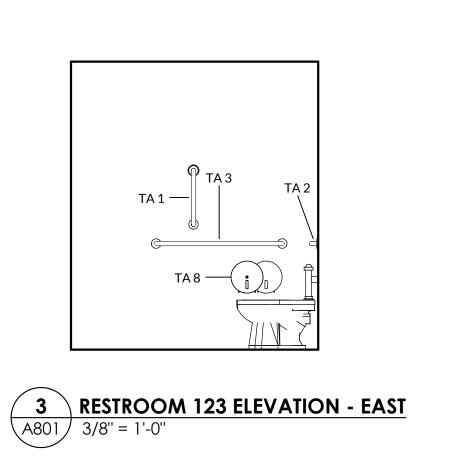
Sheet Title

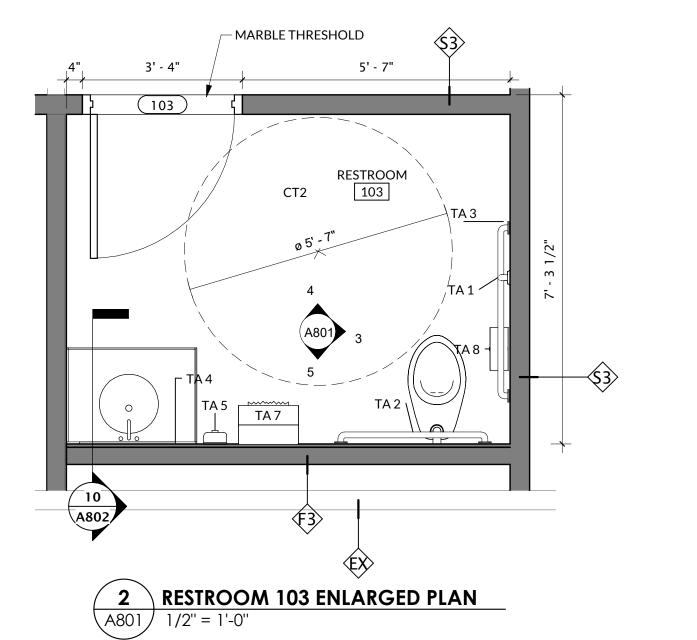
ENLARGED RESTROOM PLAN,
ELEVATIONS & TYP.
MOUNTING HEIGHTS

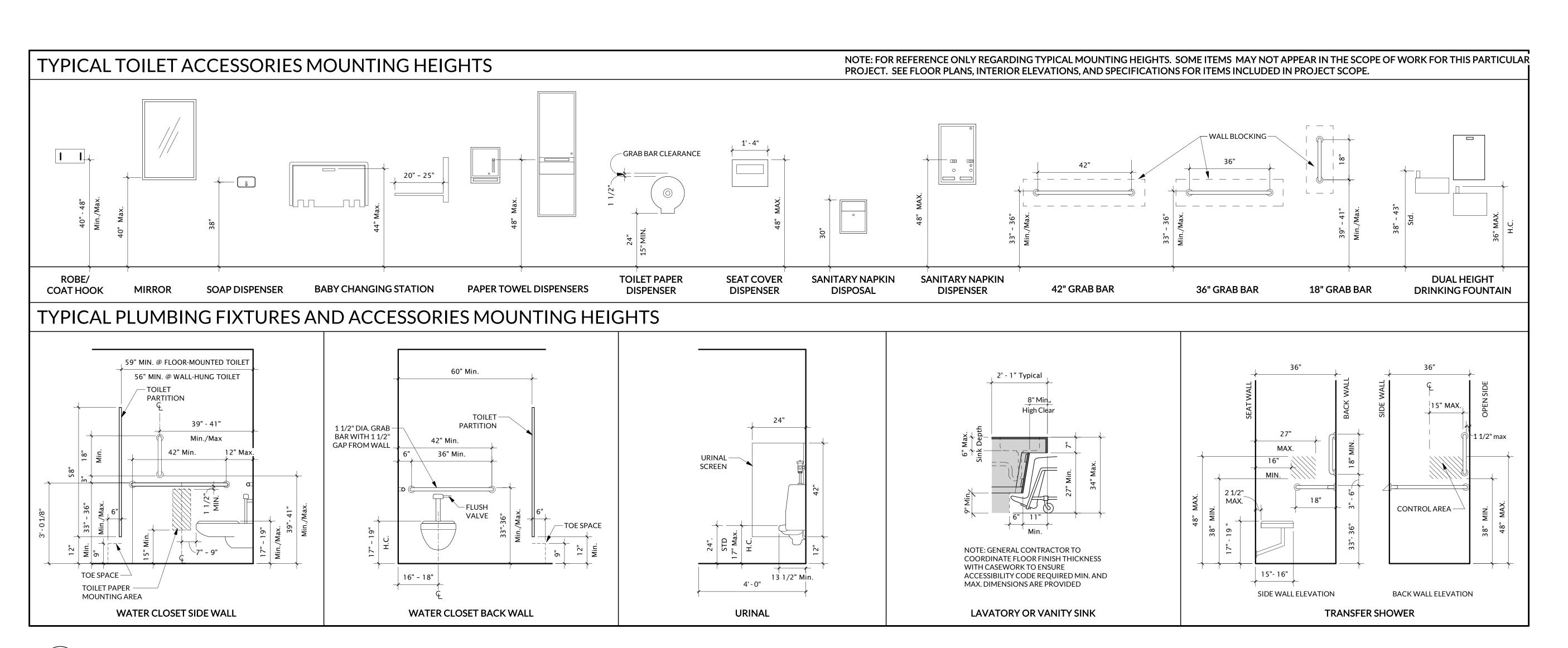
A801



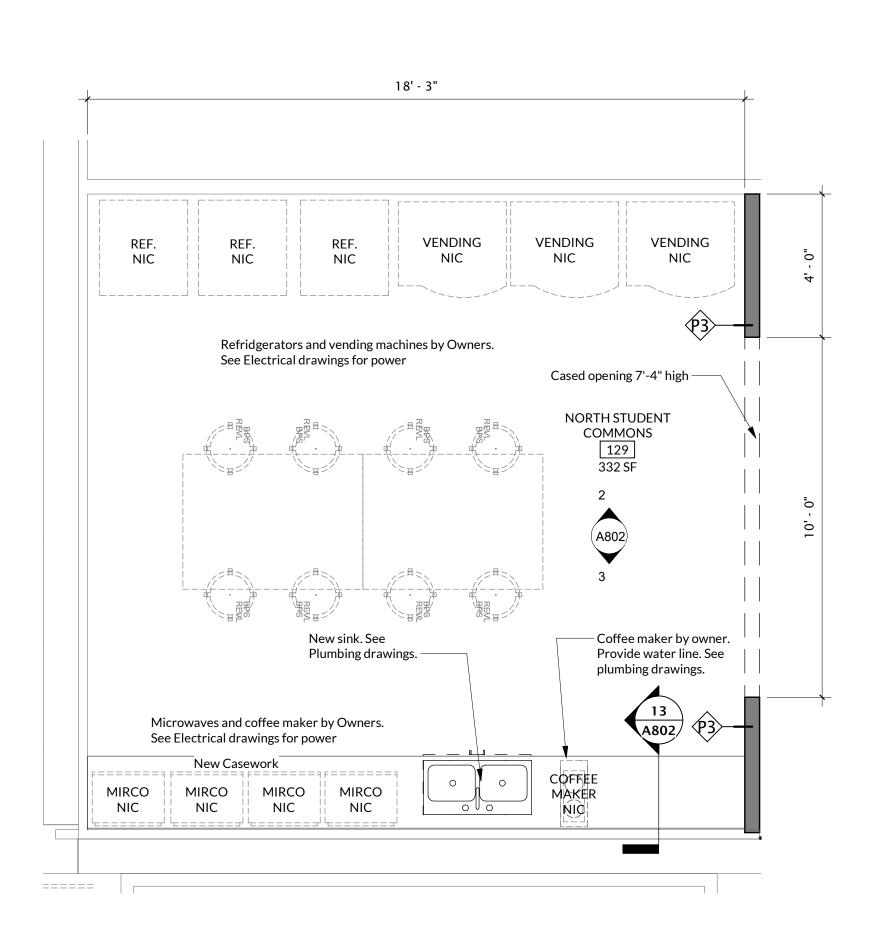




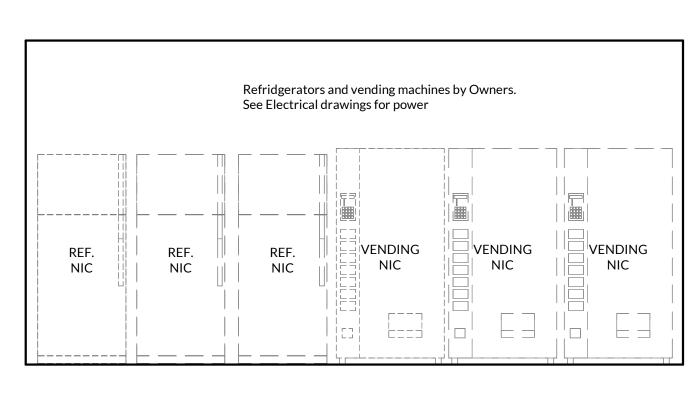




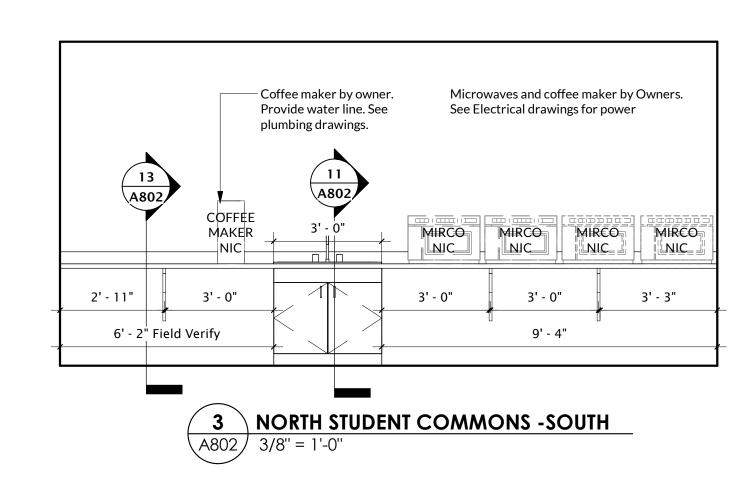


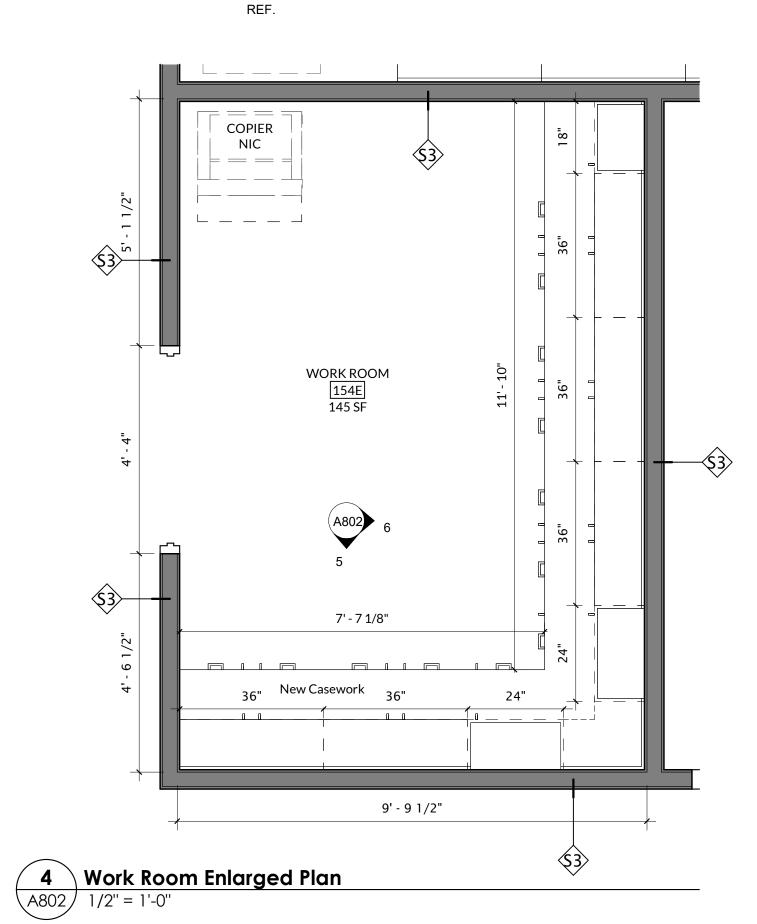


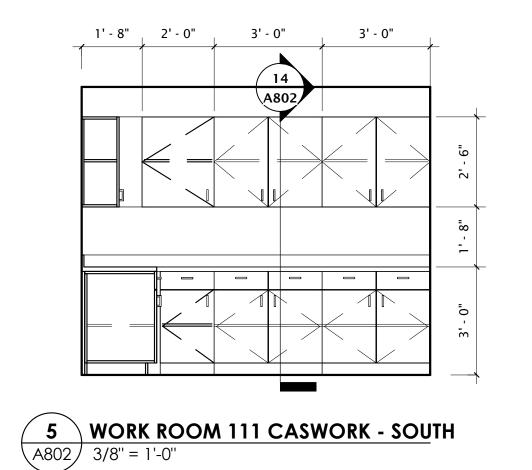


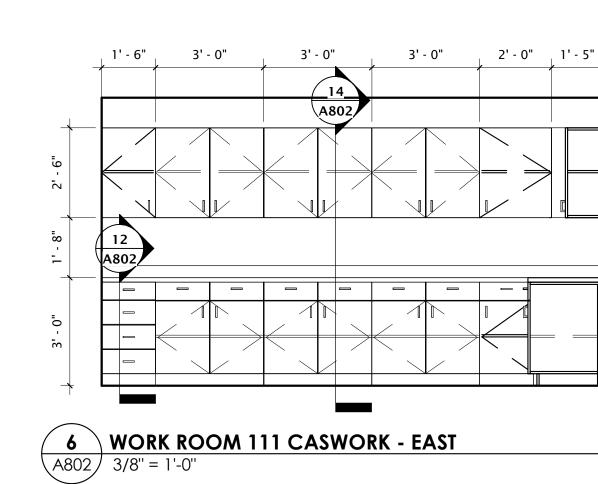


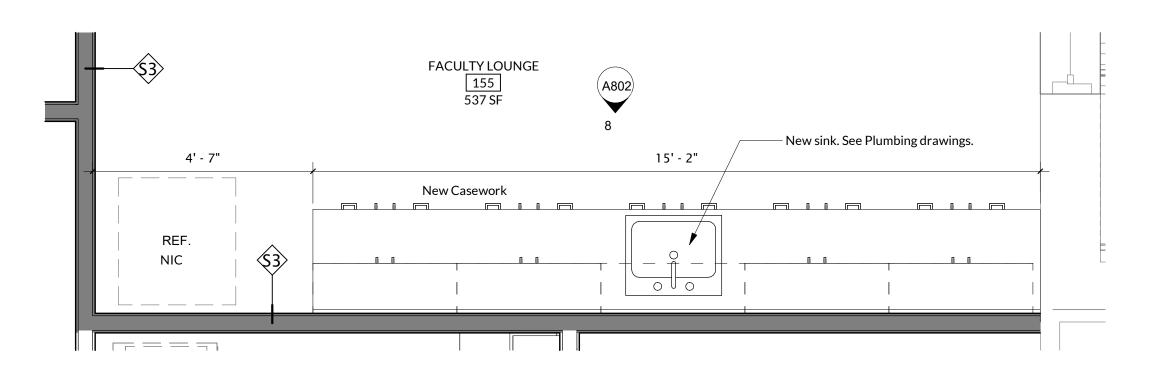
2 NORTH STUDENT COMMONS - NORTH A802 3/8" = 1'-0"





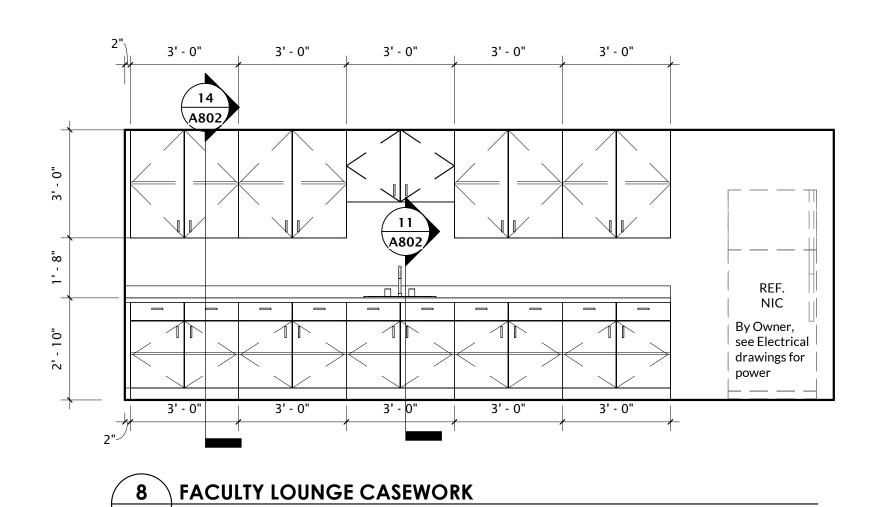


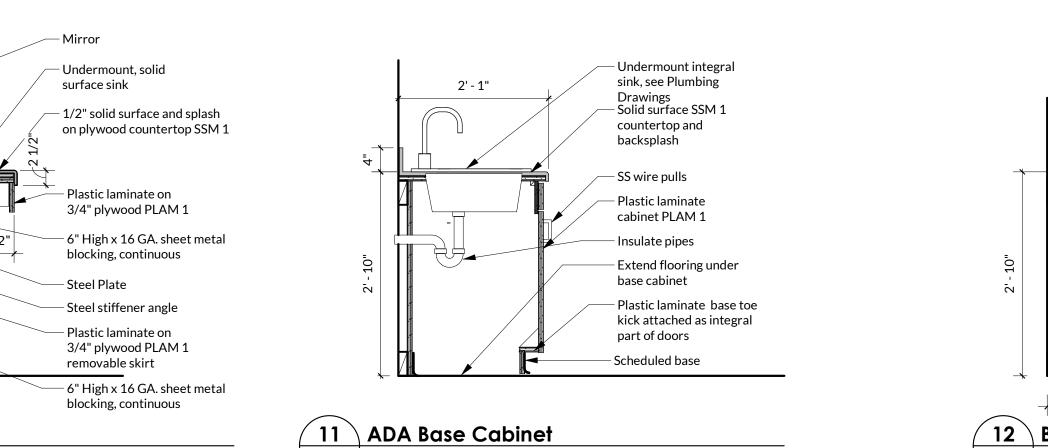




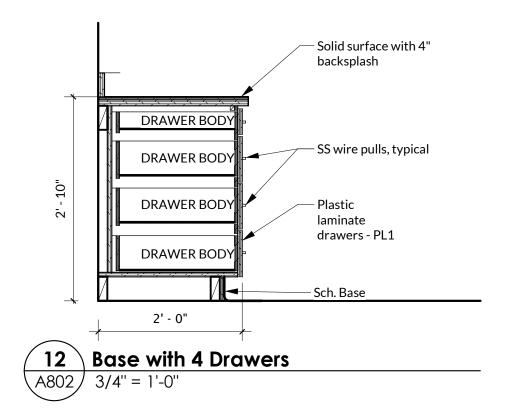


10 ADA Sink Counter A802 3/4" = 1'-0"

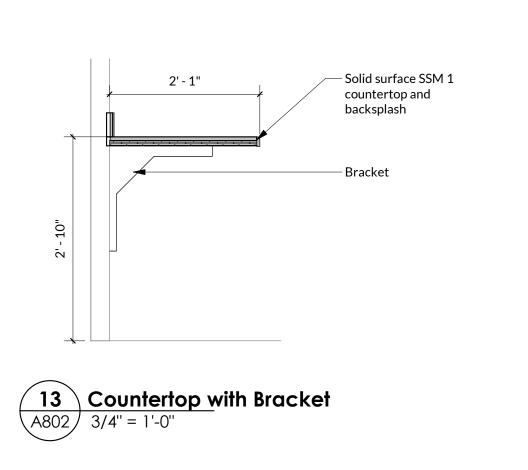


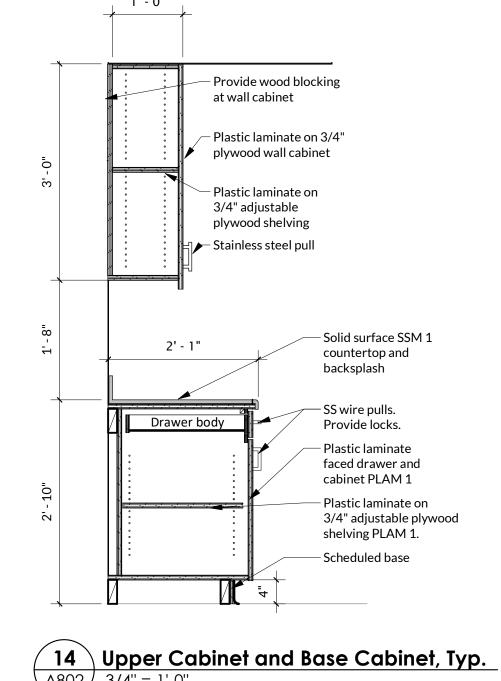


A802 3/4" = 1'-0"



A802 3/8" = 1'-0"





14 Upper Cabinet and Base Cabinet, Typ.

A802 3/4" = 1'-0"



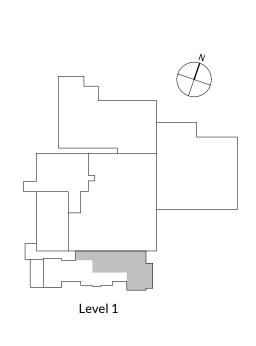






Francis Center **Health Sciences** Renovation -Phase 4

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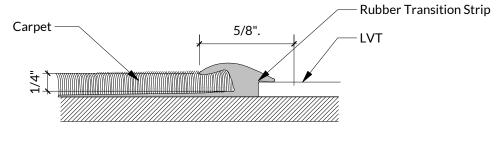


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Project Number: 2105.04 Drawn: RGFZ Checked: CJN Date: 2/2/2024

Sheet Title ENLARGED PLANS, **ELEVATIONS & CASEWORK SECTIONS**



T1 Floor Transition Detail-Carpet to LVT

Floor Pattern Legend

Ceramic Tile

Tx Floor transition detail number

LVT 1

		1			K	oom Finish Sch	eauie	1	
Room				Walls					
No.	Name	Floor	Base	North	East	South	West	Ceiling	Comments
Level 1			•	•	,		•	•	·
100	CORRDIOR	CPT 2	RB1	PT1	PT1	PT1	PT1	ACT1	
101	PROGRAM ASSISTANT	CPT 2	RB1	PT1	PT1	PT1	PT1	XTR	
101A	DEAN'S OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
103	RESTROOM	CT2	RB1	PT1	PT1	CT1	PT1	ACT1	
105	STORAGE	LVT1	RB1	PT1	PT1	PT1	PT1	GYP	
127	SOUTH STUDENT COMMONS	LVT1	RB1	PT1	PT1	PT1	PT1	ACT1/GYP	
128	NORTH STUDENT COMMONS	LVT1	RB1	PT1	PT1	PT1	PT1	ACT1/GYP	
129	NORTH STUDENT COMMONS	LVT1	RB1	PT1	PT1	PT1	PT1	ACT1	
140	LOBBY	CPT2	RB1	PT1	PT2	PT1	PT1	ACT 1	
154	PROG. ASSIT.	CPT2	RB1	PT1	PT2	PT1	PT1	ACT1	
154A	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154B	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154C	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154D	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154E	WORK ROOM	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154F	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154G	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154H	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154I	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154J	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154K	DIRECTOR'S OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154L	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154M	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154N	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
1540	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154P	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154Q	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154R	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154S	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154T	OFFICE	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
154U	MEETING ROOM	CPT 1	RB1	PT1	PT1	PT1	PT1	ACT1	
155	FACULTY LOUNGE	LVT1	RB1	PT1	PT1	PT1	PT1	ACT1/GYP	
198	CORRIDOR	LVT 1	RB1	PT1	PT1	PT1	PT1	ACT1/GYP	

		Finish Material Legend
Code	Manufacturer	Description
ACT 1	Armstrong	Ultima, 2' x 2' x 3/4" Square Lay-in White tiles with 15/16" Prelude XL White grid, (NRC .70, 29-54% Recycled Content; no added formaldehyde)
CPT 1	Shaw Contract	24x24 Artisan Tile 5T097 Color: Bayon 99585. Confirm layout in field with Owner.
CPT 2	Shaw Contract	24x24 5T098 Color: Bayon 99585 Install: Plain Weave. Confirm layout in field with Owner.
CT 1	Mosaic Tile	4x16 Portobello, Krea: Color: Artic Glossy. Stacked Installation; Grout: Custom Building Products Arctic #640
CT 2	Crossville Tile	12x24 Gotham AV326; Color: Pavement UPS; Grout: Custom Building Products Shadow #644
CTB-1	Crossville Tile	Single Bullnose 4x24 Gotham; Color: Pavement UPS; Grout: Custom Buildng Products Shadow #644
LVT 1	Mohawk	Living Local, Chromascope C0159, 94 Jack Rabbit, 12" x 24" Color TBD by Owner
PLAM 1	Wilsonart	Standard laminate - Wilsonart 4880-38 Carbon Mesh
PT 1	Sherwin Williams	Alabaster SW 7008, eggshell - COLOR FROM PREVIOUS PHASE
PT 2	Sherwin Williams	Alabaster SW 7008, semigloss - COLOR FROM PREVIOUS PHASE
PT 3	Sherwin Williams	Ceiling white - flat
PT 4	Match Existing	Door frames; Steel doors; Semi-gloss - Match to newest renovation - confirm with Owner
PT 5	Sherwin Williams	Match existing - Verify: Maison Blanche SW 7526, eggshell sheen @ walls unless noted otherwise, semi-gloss where scheduled, flat sheen where scheduled on ceilings/ ProGreen 200 Interior Latex
PT 6	Sherwin Williams	SW 6941 Open Air - COLOR FROM PREVIOUS PHASE
PT 7	Sherwin Williams	Steel columns and beams - RND REQUEST FOR ELON TO PICK A WHITE COLOR FOR STRUCTURAL COMPONENTS
PT 8	Sherwin Williams	SW 6496 Oceanside; Eggshell (Accent Lobby) - COLOR FROM PREVIOUS PHASE
PT 9	Sherwin Williams	SW 7069 Iron Ore; Eggshell (Accent Hallway) - COLOR FROM PREVIOUS PHASE
PT 10	Sherwin Williams	SW TBD; Eggshell (VR Lab) - FROM PREVIOUS PHASE
RB 1	Burke	Espresso 103
SSM 1	Solid Surface	Pearl. Cofirm material with Owner

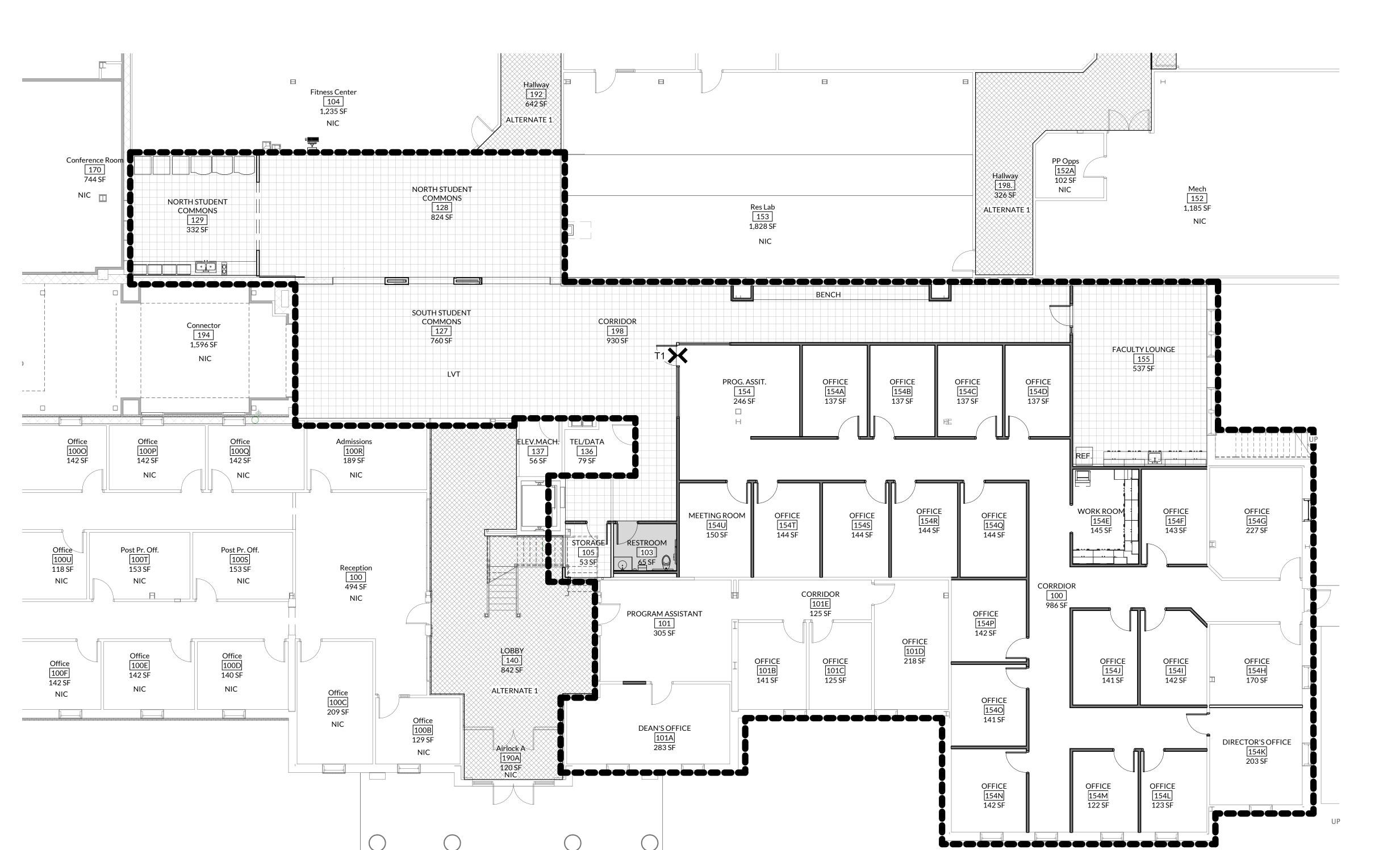


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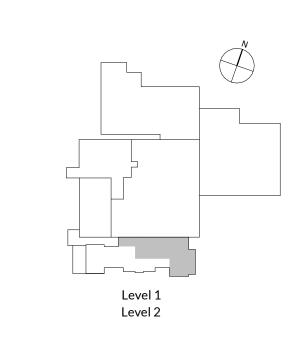






Francis Center **Health Sciences** Renovation -Phase 4

762 East Haggard Ave., Elon, NC
Key Plan

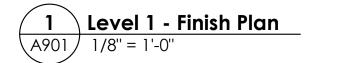


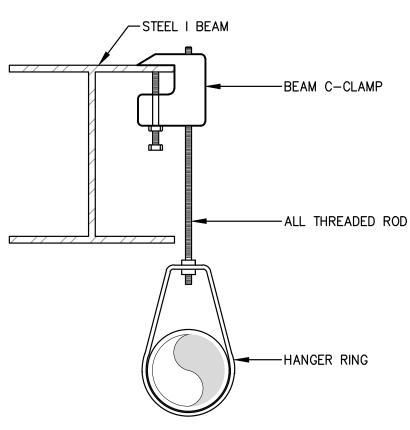
Revisions

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Drawn: MM Checked: CJN Date: 2/2/2024 Sheet Title

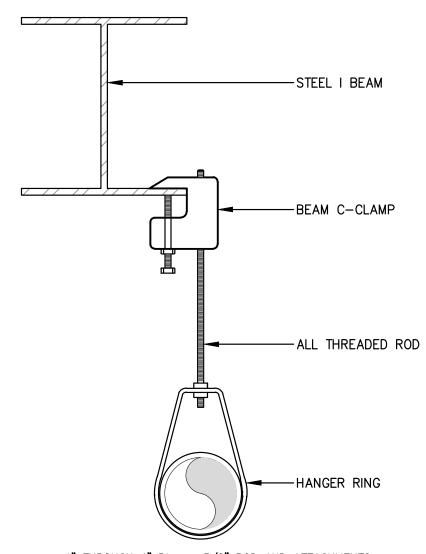
FINISH SCHEDULE AND PLANS





FOR PIPE SIZES 1" - 4" Pipe - 3/8" ROD AND ATTACHMENTS FOR PIPE SIZES 5" - 8" Pipe - 1/2" ROD AND ATTACHMENTS

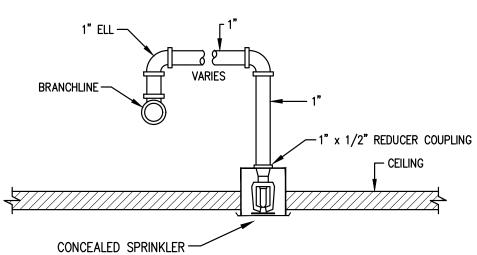




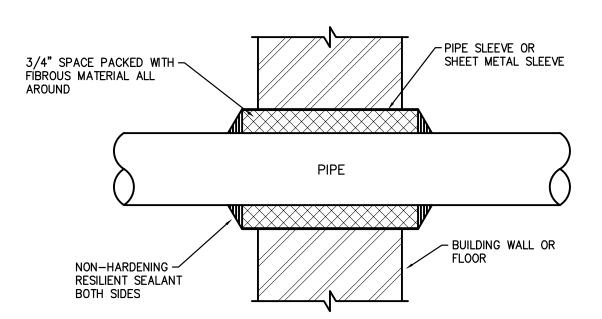
1" THROUGH 4" Pipe - 3/8" ROD AND ATTACHMENTS 5" THROUGH 8" Pipe - 1/2" ROD AND ATTACHMENTS - 5/8" ROD AND ATTACHMENTS

ALL ROD SHALL EXTEND DOWN TO TOP OF PIPE WHERE PRESSURE EXCEEDS 100 PSI

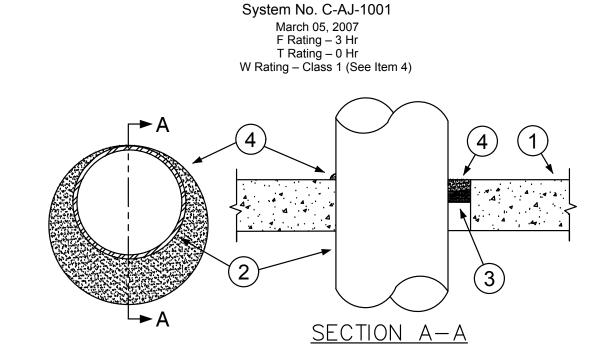








6 Typical Wall Penetration Detail FP100.1 SCALE: NONE



1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick 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 circular through opening is 32-1/2 in. (826 mm). See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

1A. Steel Sleeve — (Optional, not shown) — Nom 12 in. (305 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe sleeve cast into concrete floor or wall. Sleeve to be flush with or project max 2 in. (51 mm) from top surface of floor or from both surfaces of wall. As an alternate, nom 12 in. (305 mm) diam (or smaller) sleeve fabricated from nom 0.019 in. (0.48 mm) thick galv steel cast or grouted into floor or wall assembly flush with floor or wall surfaces.

2. Through — Penetrant — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (0 mm, point contact) to max 1-3/8 in. (35 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 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel

A1. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.

B. Conduit — Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit. C. Conduit — Nom 4 in. (152 mm) diam (or smaller) steel electrical metallic tubing.

3. Packing Material — Polyethylene backer rod or nom 1 in. (25 mm) thickness of tightly-packed ceramic (alumina silica) fiber blanket, mineral wool batt or glass fiber insulation material used as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of solid concrete or concrete block wall as required to accommodate the required thickness of caulk fill material (Item 4). As an alternate when max pipe size is 10 in. (254 mm) diam and when max annular space is 1 in. (25 mm), a min 1 in. (25 mm) thickness of tightly-packed ceramic fiber blanket or mineral wool batt packing material may be recessed min 1/2 in. (13 mm) from bottom surface of floor or from either side of solid concrete wall.

4. Fill, Void or Cavity Materials* — Caulk — Applied to fill the annular space to the min thickness shown in the following table:

Max Pipe Diam In.	Max Annular Space In.	Packing Mtl Type (a)	Min Caulk Thkns In.
10 (254)	1 (25) BF	R, CF, GF or MW	1/2 (13) (b)
10 (254)	1 (25)	CF or MW	/ 1/2 (13) (c)
30 (762)	2-1/2 (64) BF	R, CF, GF or MW	1 (25) (b)
	(a) BR=Polvethyl	ene backer rod	

(a) BR=Polyethylene backer rod. CF=Ceramic fiber blanket.

GF=Glass fiber insulation.

MW=Mineral-wool batt.

(b) Caulk installed flush with top surface of floor or both surfaces of wall (c) Caulk installed flush with bottom surface of floor or one surface of solid (non-concrete

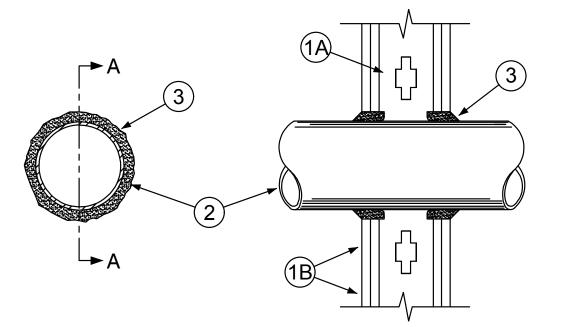
3M COMPANY — Type CP 25WB+ or FB-3000 WT

(Note - W Rating applies only when FB-3000 WT is used on top surface of floor and when it laps onto concrete for sleeved opening.)

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

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System No. W-L-1001 June 15, 2005 F Ratings – 1, 2, 3 and 4 Hr (See Items 2 and 3) T Ratings – 0, 1, 2, 3, and 4 Hr (See Item 3) L Rating At Ambient – less than 1 CFM/sq ft L Rating At 400 F – less than 1 CFM/sq ft



SECTION A-A

1. Wall Assembly — The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. Gypsum Board* — Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660

2. Through-Penetrant — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in / (0 mm). (point contact) to max 2 in. (51 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 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel

B. Iron Pipe — Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in (102 mm) diam (or smaller) steel electrical metallic tubing

D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper

E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper

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

1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC 2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

GASTITE, DIV OF TITEFLEX 3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on

3. Fill, Void or Cavity Material* — Caulk or Sealant — Min 5/8., 1-1/4,1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

piping may or may not be removed on both sides of floor or wall assembly.

or Conduit Rating Rating Diam In (mm) Hr 1 (25) 1 or 2 0+, 1 or 2

WARD MFG L L C

1 (25) 3 or 4 3 or 4 4 (102) 1 or 2 6 (152) 3 or 4 12 (305) 1 or 2

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

3M COMPANY — CP 25WB+ or FB-3000 WT.

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

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GENERAL SPRINKLER INSTALLATION NOTES:

- A. THE AUTOMATIC SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED IN STRICT ACCORDANCE WITH NFPA STANDARD 13. THE NORTH CAROLINA BUILDING CODE, AND WITH ALL OTHER STATE, COUNTY, LOCAL AUTHORITIES HAVING JURISDICTION,
- B. THE AUTOMATIC SPRINKLERS, PIPING AND EQUIPMENT LOCATED ON THE DRAWINGS ARE DIAGRAMMATIC, ARE FOR COORDINATION, AND DO NOT CONSTITUTE ALL COMPONENTS OF A COMPLETE AND OPERATING AUTOMATIC SPRINKLER SYSTEM.

 THE CONTRACTOR SHALL PROVIDE COMPLETE COVERAGE THROUGHOUT ALL PROJECT AREAS INCLUDING EQUIPMENT AND

 OBSTRUCTIONS OR DUCTWORK AS INDICATED BY NFPA—FULLY TESTED AND PLACED IN SERVICE.
- ALL SPRINKLER WORK SHALL BE PERFORMED BY A FIRE SPRINKLER CONTRACTOR LICENSED IN THE STATE OF NORTH
- PIPING FOR WET-PIPE SYSTEMS SHALL BE SCHEDULE 40 BLACK STEEL WHERE THREADED, AND SCHEDULE 10 OR 40 BLACK STEEL WHERE JOINED BY GROOVE MECHANICAL FITTINGS. THREADED FITTINGS SHALL BE CAST IRON OR MALLEABLE PER NFPA 13. ALL DRAIN PIPING SHALL BE GALVANIZED STEEL. ALL UNDERGROUND PIPING SHALL BE DUCTILE IRON.
- SPRINKLERS INSTALLED WITHIN AREAS OF LAY-IN ACOUSTIC TYPE OR OTHER THAN LAY-IN TYPE FINISHED CEILINGS SHALL BE RECESSED STYLE SPRINKLERS UNLESS NOTED OTHERWISE ON PLANS. SPRINKLER HEADS SHALL BE INSTALLED IN CENTER OF LAY-IN ACOUSTIC CEILING TILE. EXPOSED SPRINKLERS IN AREAS WITH NO CEILINGS SHALL BE BRASS UPRIGHT OR PENDENT AS THE CONDITION REQUIRES. SPRINKLERS LOCATED WITHIN AREAS OF DANGER OF DAMAGE SHALL HAVE PROTECTIVE WIRE GUARDS. REFER TO AUTOMATIC SPRINKLER LEGEND FOR ADDITIONAL INFORMATION.
- INSTALL ALL SPRINKLERS USING "RETURN BENDS." SPRINKLERS LOCATED IN GYPSUM BOARD OR PLASTER CEILINGS (INCLUDING GYPSUM BOARD CEILINGS WITH VENEER FINISH) SHALL BE LOCATED INLINE WITH OTHER CEILING ELEMENTS IN THE CEILING (SUCH AS LIGHTS, DIFFUSERS, ETC.) AND IN A SYMMETRIC MANNER AS SHOWN ON THE FIRE PROTECTION PLANS
- AND/OR THE ARCHITECTURAL REFLECTED CEILING PLANS. PROVIDE FIRE STOP AT PIPE PENETRATIONS THROUGH FIRE RATED PARTITIONS AND WALLS. ALL NON RATED WALLS SHALL BE SEALED AS DETAILED.
- ALL PIPING SHALL BE LOCATED CONCEALED ABOVE CEILING AND IN WALLS OR CHASES UNLESS LOCATED IN AREAS WITH NO CEILING. ALL PIPING EXPOSED TO VIEW OR TO THE OUTDOORS SHALL BE CLEANED AND PAINTED WITH (1) COAT PRIMER AND (2) COATS OF APPROVED RED PAINT. THIS INCLUDES ALL MECHANICAL AND ELECTRICAL ROOMS. LABEL ALL EXPOSED PIPING "FIRE SERVICE" PER SPECIFICATIONS.
- ALL PIPE CUTTING OIL TO BE BIODEGRADABLE.
- J. INSPECTOR'S TEST AND DRAINS SHALL BE PIPED TO AN APPROVED OUTDOOR LOCATION.
- K. ALL PIPING (INCLUDING FDC PIPING) SHALL BE FLUSHED AND HYDROSTATICALLY TESTED PER NFPA.
- L. SUBMIT "WORKING" SHOP DRAWINGS HYDRAULIC CALCULATIONS, AND EQUIPMENT BROCHURES TO THE ENGINEER OF REVIEW AS OUTLINED IN SPECIFICATIONS BY ELECTRONIC FILE OR HARD COPIES.. NO SPRINKLER INSTALLATION SHALL BE STARTED PRIOR TO APPROVAL. PREPARATION OF THE WORKING DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE THE RESPONSIBILITY OF THE LICENSED FIRE SPRINKLER CONTRACTOR AND SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER OR NICET LEVEL III (MINIMUM) TECHNICIAN. <u>WORKING SHOP DRAWINGS SHALL BE PREPARED AND SUBMITTED IN STRICT ACCORDANCE AND DEFINED BY NFPA 13.</u> <u>DRAWINGS SHALL INCLUDE PIPE SIZES AND ELEVATIONS, BUILDING SECTIONS, DUCTWORK, LIGHTS, DIFFUSERS, ETC. INCLUDE REPARED SUCH AS STRUCTURAL, PLUMBING, ETC. AS NECESSARY FOR A COMPLETE AND CORDENATED SET OF MODIFIED REPARED.</u> <u>OORDINATED SET OF WORKING DRAWINGS.</u>
- M. **ELON PROJECT MANAGER AND PLUMBING DEPARTMENT SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO ANY SCHEDULED SPRINKLER OUTAGE.

SPRINKLER DATA SHEET:

NAME OF PROJECT: RENOVATIONS TO FRANCIS CENTER ELON UNIVERSITY EAST HAGGARD AVENUE

ELON, NORTH CAROLINA

1. CLASSIFICATION OF TYPES OF SYSTEM (NFPA 13-1-6):

A. WET PIPE SPRINKLER SYSTEM THROUGHOUT ENTIRE BUILDING SPACE.

2. <u>WATER SUPPLY AVAILABLE:</u>

A. WATERFLOW - TEST FLOW 1,440 GPM, 20 PSI FLOW 2000 GPM B. STATIC PRESSURE 75 PSI RESIDUAL PRESSURE 44 PSI DATE 8/26/2020 FLOW TEST PERFORMED BY KEVIN J. WIDDERICH - HAZEN & SAWYER

> 758 E. HAGGARD AVENUE TEST HYDRANT -

(762 E. HAGGARD AVENUE)

3. <u>DESIGN (SPRINKLER CONTRACTOR SHALL INCLUDE A MINIMUM SAFETY</u> FACTOR OF 10 PSI LESS STATIC, 10 PSI LESS RESIDUAL, AND 10 PERCENT

LESS FLOW IN THE HYDRAULIC CALCULATIONS.) 4. CLASSIFICATION OF OCCUPANCY HAZARD:

F. TEST HYDRANTS — FLOW HYDRANT —

A. LIGHT HAZARD, THROUGHOUT BUILDING. (UNLESS NOTED OTHERWISE) 0.10 GPM/SQ.FT. OVER THE MOST REMOTE 1500 SQ.FT. B. ORDINARY HAZARD, GROUP 1: MECHANICAL, ELECTRICAL, TELECOM

5. SYSTEM DESIGN:

& STORAGE ROOMS.

A. HYDRAULICALLY CALCULATED PER NFPA 13. 225 S.F. MAXIMUM PER SPRINKLER. ORIGINAL BUILDING AREA IS APPROXIMATELY 47,740 SQ.FT.

D. ADDITIONAL AREA OF PROJECT IS APPROXIMATELY 1,860 SQ.FT. * SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CURRENT

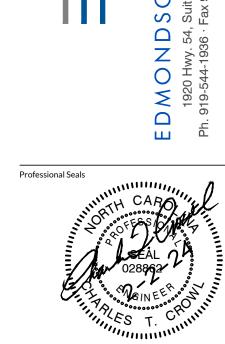
WATER FLOW TEST FOR USE IN HYDRAULIC CALCULATIONS PERFORMED IN PREVIOUS 12 MONTHS.

* SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CURRENT WATER FLOW TEST FOR USE IN HYDRAULIC CALCULATIONS PERFORMED IN PREVIOUS 12 MONTHS.

AUT	TOMATIC SPRINKLER LEGEND
SYMBOL	DESCRIPTION
○ _E	EXISTING UPRIGHT SPRINKLER HEAD
©EC	EXISTING CONCEALED PENDANT SPRINKLER HEAD
⊚ _E	EXISTING PENDANT SPRINKLER HEAD
\$, \$.	EXISTING SPRINKLER HEAD TO BE DEMOLISHED
© _C	CONCEALED PENDENT SPRINKLER HEAD — QUICK RESPONSE, MATCH EXISTING IN STYLE, COLOR, TEMPERATURE AND FINISH
0	UPRIGHT SPRINKLER HEAD — QUICK RESPONSE, BRASS HEAD, MATCH EXIST. IN TEMPERATURE
©	RECESSED PENDENT SPRINKLER HEAD — QUICK RESPONSE, STYLE, TYPE AND FINISH TO MATCH PREVIOUSLY RENOVATED SPACES.

	ADDDEVIATIONS	
	ABBREVIATIONS	
SYMBOL	DESCRIPTION	
AFF	ABOVE FINISHED FLOOR ELEVATION	
AFG	ABOVE FINISHED GRADE ELEVATION	
CR	CONCENTRIC REDUCER	
ELEV	ELEVATION	
FDC	FIRE DEPARTMENT CONNECTION	
FS	FLOW SWITCH	
FT	FEET OF HEAD	
GALV	GALVANIZED	
GC	GENERAL CONTRACTOR	
GPM	GALLONS PER MINUTE	
NIC	NOT IN CONTRACT	
ОС	ON CENTER	
PSIG	POUNDS PER SQUARE INCH GUAGE	
TYP	TYPICAL	
TS	SUPERVISORY "TAMPER" SWITCH	

F	PIPE AND VALVE LEGEND
SYMBOL	DESCRIPTION
	AUTOMATIC SPRINKLER SYSTEM PIPING
— FWS —	FIRE SERVICE WATER PIPING
	PIPE UP
	PIPE DOWN
	PIPE CAP (GROOVED COUPLING)
	PIPE CAP (THREADED)
	TEE OFF TOP
-	TEE OFF BOTTOM
→ × −	GATE VALVE
─ ₩─	BUTTERFLY VALVE
→ ×	BALL OR GLOBE VALVE
- ₩-	DUAL TEXT ORIFICE—DRAIN VALVE
-	CHECK VALVE
-0:3-	FLOOR SPRINKLER CONTROL, TEST & DRAIN ASSEMBLY



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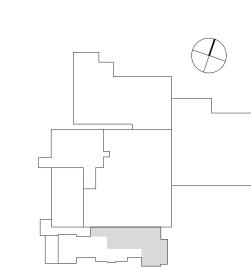
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Francis Center Health Sciences Renovation -Phase 4

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Revisions

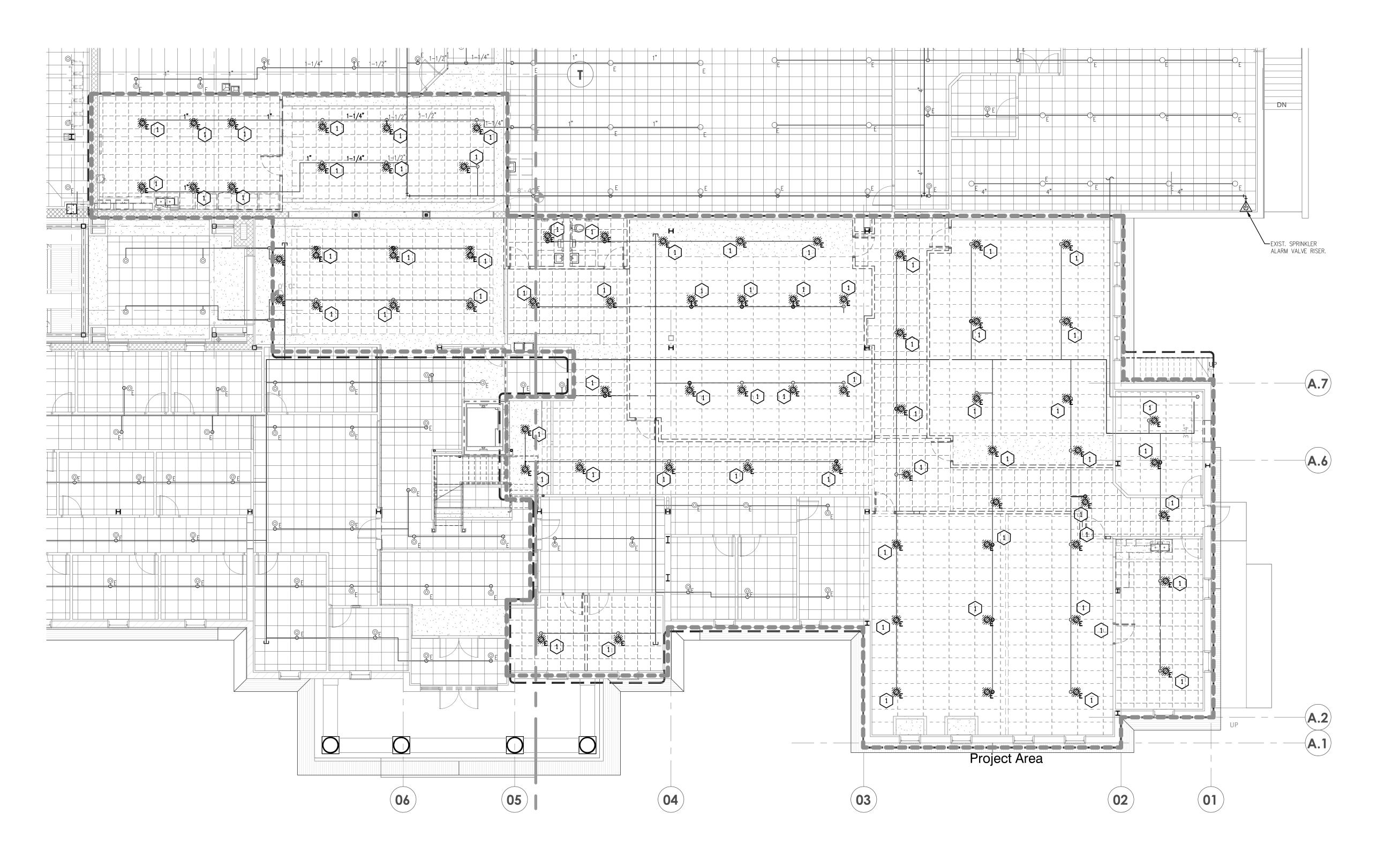
No. Date Description

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2/2/2024 Date: Fire Protection **Demolition Plan** Level 1 - Phase 4

FP100.1





GENERAL DEMOLITION NOTES:

- A. EXISTING SPRINKLER SYSTEM PIPING AND HEADS ON THIS DRAWING ARE TAKEN FROM SITE INVESTIGATION AND ORIGINAL SPRINKLER SHOP DRAWINGS. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPING LAYOUT AND MODIFY PER NEW HEAD LAYOUT ON RENOVATION PLANS WITHIN EACH WORK AREA. ONLY PERTINENT INFORMATION TO THIS RENOVATION IS SHOWN ON THESE PLANS.
- B. SPRINKLER CONTRACTOR SHALL COORDINATE ALL WORK WITH OWNER AND GENERAL CONTRACTOR.
- C. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING ALL SYSTEM SERVICE INTERRUPTIONS WITH OWNERS PROJECT MANAGER.
- D. PROVIDE ALL CAPS, PLUGS, VALVES, ETC. NECESSARY TO ISOLATE DEMOLITION WORK FROM EXISTING SPRINKLER SYSTEM TO REMAIN. THE BUILDING SPRINKLER SYSTEM SHALL REMAIN IN SERVICE WHILE CONTRACTOR IS NOT PRESENT ON SITE.
- E. ANY DAMAGE TO EXISTING SERVICES BY THIS CONTRACTOR SHALL BE REPAIRED OR REPLACED TO THE OWNERS SATISFACTION AT THE CONTRACTOR'S EXPENSE.
- F. REMOVE EXISTING AUTOMATIC SPRINKLERS, PIPING, AND HANGERS INDICATED ON PLAN WITHIN HATCHED AREA. PROPERLY PATCH ALL HOLES LEFT IN WALLS AS A RESULT OF DEMOLITION NOT BEING REUSED FOR NEW PIPE ROUTING IN ORDER TO MAINTAIN FIRE RATINGS.

FIRE PROTECTION DEMOLITION KEY NOTES:

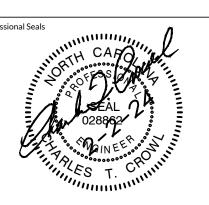
REMOVE EXISTING SPRINKLER HEAD. EXISTING ARM—OVER SHALL BE MODIFIED TO CONNECT TO NEW SPRINKLER HEAD AS SHOWN ON RENOVATION PLAN.



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NDSON ENGIN

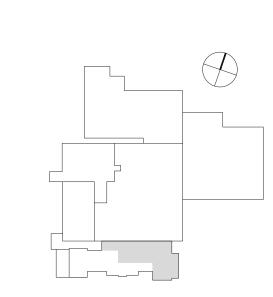






Francis Center Health Sciences Renovation Phase 4

762 East Haggard Ave., Elon, NC



Revisions

No. Date Description

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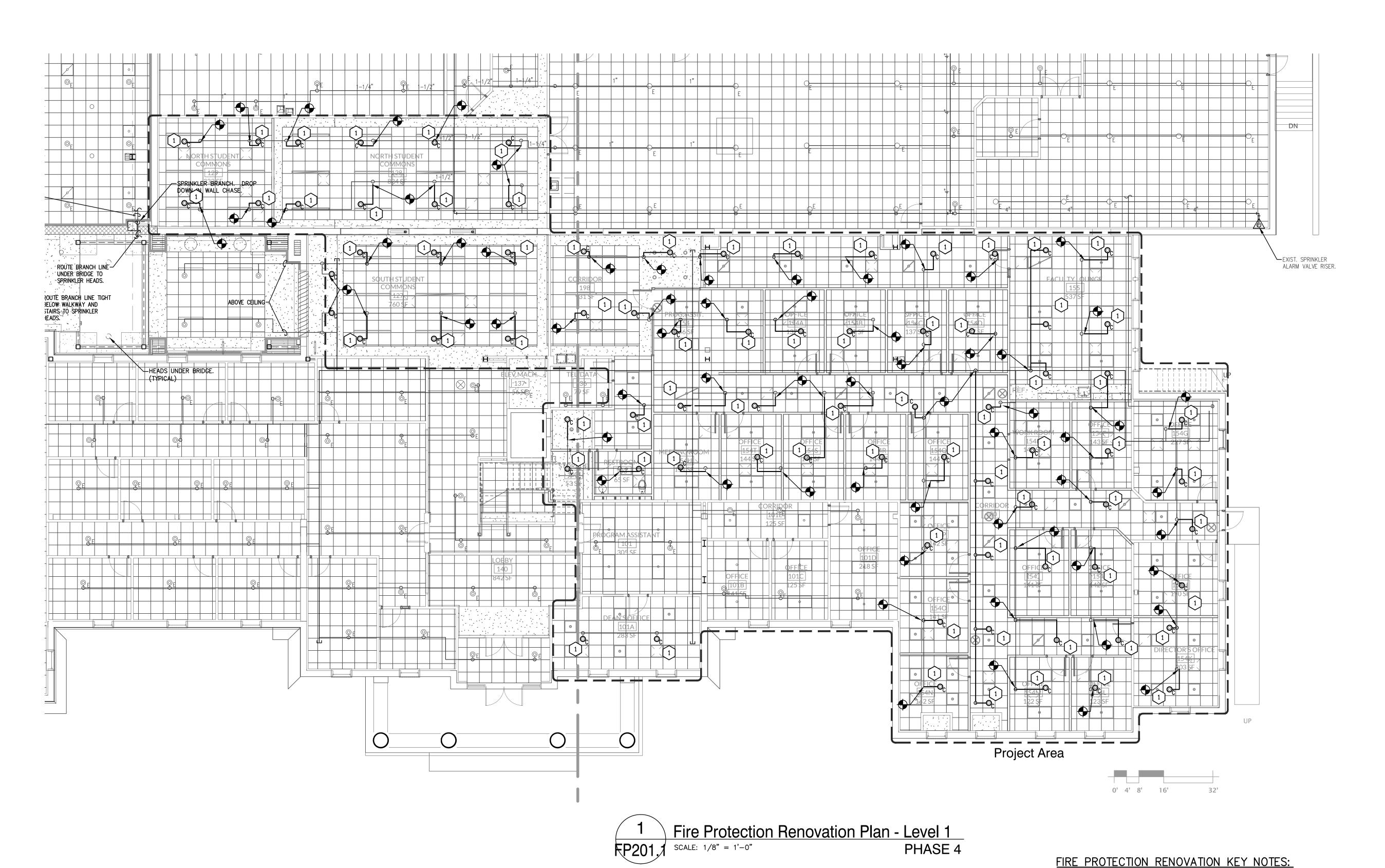
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Drawn: LDH
Checked: CTC
Date: 2/2/2024

Fire Protection
Demolition Plan
Level 1 - Phase 4

Sheet Number

FP101.1

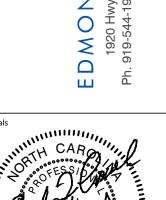


FIRE PROTECTION RENOVATION KEY NOTES:

INSTALL NEW CONCEALED PENDENT TYPE SPRINKLER HEADS AT LOCATIONS SHOWN. COORDINATE LOCATION WITH OTHER TRADES. CONTRACTOR TO PROVIDE NEW BRANCH PIPING AND ARM-OVERS AS REQUIRED TO CONNECT TO EXISTING SPRINKLER MAIN OR BRANCH. CONTRACTOR TO FIELD LOCATE EXISTING SPRINKLER PIPING.



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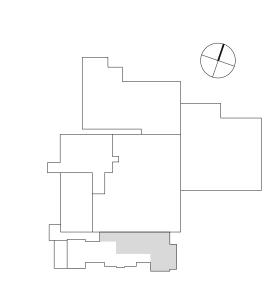




Francis Center **Health Sciences Renovation -**Phase 4

762 East Haggard Ave., Elon, NC

Key Plan



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Project Number: 22-010.1 LDH Drawn: CTC Checked: 2/2/2024 Date:

Fire Protection Renovation Plan Level 1 - Phase 4

GENERAL PLUMBING NOTES:

- 1. OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS.
- 2. DO NOT SCALE DRAWING. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT. DRAWINGS ARE DIAGRAMMATIC. ALL INSTALLED PIPING SHALL BE COORDINATED WITH EXISTING STRUCTURE AND EQUIPMENT IN FIELD.
- 3. ALL WATER AND VENT PIPING SHALL BE INSTALLED ABOVE CEILING OR IN CHASE WALLS U.N.O.
- 4. ALL WASTE PIPING SHALL BE INSTALLED BELOW SLAB/FLOOR, OR ABOVE CEILING AS NOTED ON PLANS.
- 5. COORDINATE ALL WASTE, VENT, AND WATER PIPING WITH OTHER TRADES PRIOR TO INSTALLATION. OFFSET LINES AS NEEDED TO
- 6. SET FLOOR DRAINS WITH LIP SET $\frac{1}{4}$ " BELOW FINISHED FLOOR ELEVATION. COORDINATE FLOOR DRAINS AND CLEANOUTS IN MECHANICAL AREAS WITH OTHER TRADES.
- 7. PROVIDE ALL OFFSETS IN PIPING AS REQUIRED TO AVOID STRUCTURE AND MECHANICAL EQUIPMENT ABOVE CEILING.
- 8. ALL PLUMBING PIPING SHALL REMAIN CAPPED DURING ROUGH—IN INSTALLATIONS.
- 9. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, LOCAL CODES, PLANS, AND THE PROJECT SPECIFICATIONS. THIS WORK SHALL INCLUDE CLEANOUTS, AND VACUUM BREAKERS REQUIRED FOR A COMPLETE OPERATIONAL PLUMBING SYSTEM.
- 10. 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.
- 11. THE LOCATION OF BALL VALVES SHALL BE COORDINATED WITH OTHER TRADES. VALVES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION WITHIN 24" ABOVE CEILING.
- 12. SEE RISER DIAGRAMS FOR ADDITIONAL INFORMATION NOT SHOWN ON FLOOR PLANS.
- 13. ALL ABOVE CEILING PLUMBING PIPING SHALL BE INSTALLED TIGHT TO STRUCTURE WHERE POSSIBLE. ALL NECESSARY CHANGES IN ELEVATIONS OF PIPING NOT SHOWN SHALL BE PROVIDED AS PART OF THIS CONTRACT DUE TO FIELD COORDINATION WITH OTHER TRADES WITHOUT ADDITIONAL CHARGES TO THE OWNER.
- 14. ALL PLUMBING WATER PIPING INSTALLED IN OR PENETRATING BLOCK WALLS SHALL BE INSULATED WITH MINIMUM 1/2" ARMACELL ELASTOMERIC THERMAL TYPE INSULATION. NO POLYOLEFIN/POLYETHYLENE THERMAL INSULATION WILL BE ACCEPTED. FOR ALL FLUSH VALVE SUPPLY PENETRATIONS PIPE SHALL BE SLEEVED COPPER SLEEVE OR ACCEPTABLE PLASTIC PIPE SLEEVE.
- 15. ALL WATER PIPING BRANCH CONNECTIONS SHALL CONNECT ON TOP OF PIPE WITH TEE AND ELBOW. IF SPACE DOES NOT ALLOW THEN BRANCH LINES CAN CONNECT TO SIDE OR COME OF BOTTOM OF PIPE.
- 16. 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

GENERAL PLUMBING DEMOLITION NOTES:

- 1. ALL PIPING AND FIXTURES ARE TO REMAIN UNLESS NOTED FOR DEMOLITION OR INCLUDED WITHIN DEMOLITION HATCH AREAS.
- 2. NO EXISTING PIPING SHALL BE LEFT OPEN AFTER PARTIAL REMOVAL. PIPES SHALL BE CAPPED OR EITHER MADE READY FOR CONNECTION TO NEW WORK.
- 3. VERIFY THAT ALL EXISTING FLOOR PENETRATIONS (ABOVE & BELOW) ARE PROPERLY FIRE STOPPED AFTER THE DEMO. THE G.C. SHALL FIRE STOP ALL EXISTING PENETRATIONS EXCEPT OPENINGS LEFT BY THE REMOVAL OF P, M & E PIPES, DUCT, ETC. PM & E CONTRACTORS SHALL FIRE STOP ALL THESE PENETRATIONS. NEW PENETRATIONS TO BE FIRE STOPPED BY RESPECTIVE
- 4. FIELD VERIFY ALL EXISTING PIPE LOCATIONS, SIZES, AND INVERTS. THIS IS TO INCLUDE ALL COLD, HOT, AND HOT WATER RETURN PIPING, DRAIN WASTE AND VENT PIPING. REVIEW ALL NEW WORK PLANS THOROUGHLY PRIOR TO STARTING DEMOLITION.
- 5. REMOVE EXISTING ABANDONED PIPE HANGERS, RODS, AND SUPPORTS DURING DEMOLITION.
- 6. ALL LINES THAT ARE TO BE REMOVED SHALL BE CAPPED AT A MAIN LINE, RISER OR STACKS.
- 7. ALL WALL CUTTING, CONCRETE DEMOLITION, CUTTING, AND REMOVAL FOR PLUMBING WORK SHALL BE COMPLETED AS PART OF THE PLUMBING CONTRACT. ALL CONCRETE FLOOR AND WALL PATCHING SHALL BE COMPLETED UNDER THE GENERAL CONTRACT.
- 8. COORDINATE ALL SYSTEM SHUTDOWNS FOR DEMOLITION AND NEW WORK WITH OWNER.
- 9. FIELD VERIFY THE CURRENT CONDITION OF ALL EXISTING SEWER LINES PRIOR TO CONNECTION. THIS SHALL BE COMPLETED BY MEANS OF <u>CAMERA AND SCOPE</u>. WASTE PIPING SHALL BE DEEMED IN GOOD WORKING CONDITION AND USABLE FOR CONNECTION OF NEW WASTE PIPING PRIOR TO MAKING ANY FINAL CONNECTIONS.

		FIXTUI	RE SO	CHED	ULE
SYMBOL	FIXTURE	CW	HW	WASTE	REMARKS
P-1	*WATER CLOSET (ADA)	1"	_	4"	FLOOR MOUNTED, DUAL FLUSH
P-2	LAVATORY	1/2"	1/2"	1 1/2"	UNDERMOUNT BY OTHERS, SINGLE LEVER FAUCET
P-3	SINK (SINGLE BOWL)	1/2"	1/2"	1 1/2"	SINGLE LEVER FAUCET
P-4	SINK (DOUBLE BOWL)	1/2"	1/2"	1 1/2"	SINGLE LEVER FAUCET
P-5	ICE MAKER BOX	1/2"	_	_	MOUNT 18" ABOVE FINISHED FLOOR

NOTES:

*INSTALL ADA FIXTURE WITH FLUSH HANDLE ON WIDE SIDE OF ROOM/STALL.

PLUMBING FIXTURES SPECIFICATIONS:

FIXTURE MANUFACTURERS:

1.	FIXTURES A. KOHLER	4. FIXTURE SUPPORTS A. SMITH B. ZURN
2.	FIXTURE SEATS A. BEMIS B. CHURCH C. OLSONITE	C. JOSAM 5. FLUSH VALVES A. SLOAN B. ZURN
3.	FAUCETS A. DELTA	6. KITCHEN SINKS A. ELKAY MANUFACTURING COMP
		7 FLIVILIDE CTODE

FUXTURE STOPS A. MCGUIRE

- P-1 WATER CLOSET: ADA COMPLIANT, WHITE VITREOUS CHINA, FLOOR MOUNTED, FLUSH VALVE TYPE, ELONGATED BOWL, SIPHON JET ACTION, 1.1 TO 1.6 GALLON FLUSH, 16 5/8" BOWL HEIGHT, 1-1/2" TOP SPUD KOHLER HIGHCLIFF ULTRA MODEL K-96057. PROVIDE WITH BEMIS 1955SSCT COMMERCIAL TOILET SEAT WITH STAINLESS STEEL CHECK HINGES, SLOAN ROYAL MODEL NO. WES-111-YL UPPERCUT DUAL FLUSH FLUSHOMETER (1.1 GPF LIFTING HANDLE UP AND 1.6 GPF PUSHING HANDLE DOWN), SWEAT SOLDER ADAPTOR & CAST WALL FLANGE WITH SET SCREW AND SEAT BUMPER, ADHESIVE BACKED METAL WALL PLATES ETCHED WITH INSTRUCTIONS, ADA COMPLAINT HANDLE, WAXED SEAL, TOILET BOLTS AND BOLT CAPS. INSTALL TO COMPLY WITH THE REQUIREMENTS OF ADA.
- P-2 LAVATORY: ADA COMPLIANT SOLID SURFACE UNDERMOUNT LAVATORIES BY OTHERS. PROVIDE AND INSTALL DELTA MODEL 501LF-HDF SINGLE HANDLE LAVATORY FAUCET, WITH 4" CENTERSET, CERAMIC CARTRIDGE AND 1.2 GPM VANDAL RESISTANT AERATOR. INCLUDE MCGUIRE C8912 (1 1/4" X 1 1/2") P-TRAP AND WALL BEND, MCGUIRE NO. LFBV2165 BRASS BALL VALVE ANGLE STOPS WITH CHROMED SOFT COPPER RISERS. MCGUIRE 155A GRID STRAINER AND 1 1/4" TAILPIECE. INSTALL WHITE PRE-MOLDED ANTIMICROBIAL VINYL INSULATION KIT ON TAILPIECE, P-TRAP, AND SUPPLIES AS REQUIRED.
- P-3 SINK: SINGLE BOWL, ADA COMPLIANT ELKAY UNDERMOUNT MODEL #ELUHAD211555PD (21 1/2" X 18 1/2" X 5 3/8"), 18 GAUGE, TYPE 304 STAINLESS STEEL, 5 3/8" DEEP WITH MODIFIED DRAIN IN REAR CENTER OF BOWL, DELTA MODEL 101-LF-HDF SINGLE POST, SINGLE HANDLE BRASS FAUCET, 1.5 GPM AERATOR, ELKAY LKPD1 STAINLESS STEEL PERFECT DRAIN, 1-1/2" TAILPIECE, McGUIRE NO. C8912 (1 1/2" X 1 1/2") 17 GAUGE P-TRAP AND WALL BEND, McGUIRE NO. LFBV2165 BALL VALVE ANGLE STOPS AND CHROMED COPPER FLEXIBLE RISERS. INSTALL WHITE PRE-MOLDED ANTIMICROBIAL VINYL INSULATION KIT ON TAILPIECE, P-TRAP AND SUPPLIES.
- P-4 SINK: DOUBLE BOWL ADA COMPLIANT ELKAY UNDERMOUNT MODEL #ELUHAD311855PD (30 3/4" X 18 1/2" X 5 3/8"), 18 GAUGE, TYPE 304 STAINLESS STEEL, 5 3/8" DEEP WITH MODIFIED DRAIN IN REAR CENTER OF EACH BOWL, DELTA MODEL 101-LF-HDF SINGLE POST, SINGLE HANDLE BRASS FAUCET, 1.5 GPM AERATOR, (2) ELKAY LKPD1 STAINLESS STEEL PERFECT DRAIN, 1-1/2" TAILPIECE, McGUIRE NO. C8912 (1 1/2" X 1 1/2") 17 GAUGE P-TRAP AND WALL BEND, McGUIRE CONTINUOUS WASTE MODEL 113C21G17 17 GAUGE, McGUIRE NO. LFBV2165 BALL VALVE ANGLE STOPS AND CHROMED COPPER FLEXIBLE RISERS. INSTALL WHITE PRE-MOLDED ANTIMICROBIAL VINYL INSULATION KIT ON TAILPIECE, P-TRAP, CONTINUOUS WASTE AND SUPPLIES.
- P-5 ICE MAKER BOX: SYMMONS MODEL IM-600A ICEMAKER HOOK-UP BOX WITH 1/2" INLET AND 1/4" OUTLET COMPRESSION ANGLE VALVE AND WATER HAMMER ARRESTOR.

PLU	IMBING SYMBOLS LEGEND					
W	WASTE					
٧	VENT					
VTR	VENT THRU ROOF					
CW	COLD WATER					
HW	HOT WATER					
HWR	HOT WATER RECIRCULATING					
RD	ROOF DRAIN					
RDL	ROOF DRAIN LEADER					
SD	STORM DRAIN					
CLG	CEILING					
DN	DOWN					
AFF	ABOVE FINISHED FLOOR					
AFG	ABOVE FINISHED GRADE					
BFF	BELOW FINISHED FLOOR					
U.N.O.	UNLESS NOTED OTHERWISE					
<u>P-#</u>	PLUMBING FIXTURE					
	SANITARY SEWER PIPING					
	VENT PIPING					
	COLD WATER PIPING					
	HOT WATER PIPING					
	HOT WATER RECIRCULATING PIPING					
	STORM/RAIN LEADER PIPING					
	EXISTING SANITARY SEWER PIPING					
	EXISTING VENT PIPING					
	EXISTING STORM SEWER PIPING					
	EXISTING COLD WATER PIPING					
	EXISTING HOT WATER PIPING					
♦	CONNECT TO EXISTING					
 	TERMINATION POINT OF DEMOLITION					
++++	EXISTING TO BE REMOVED					
FD-# □ □	FLOOR DRAIN					
→ HB	HOSE BIBB					
— • co	CLEAN OUT — FINISHED FLOOR					
—— I co	CLEAN OUT - END OF LINE, STACK OR WALL					
6A−# ⊗ 	SHOCK ARRESTOR					
0	PIPE RISER UP					
<u> </u>	PIPE RISER DOWN					
	PIPE CAP					
—— -——	UNION					
──	SERVICE (BALL) VALVE					
	BALANCING VALVE (CIRCUIT SETTER) W/ CHECK VALVE					
	CHECK VALVE					
	PRESSURE REDUCING VALVE					
→	DIRECTION OF FLOW					
	DIRECTION OF SLOPE					
	TEE OFF TOP					
_	1					

TEE OFF BOTTOM

BUTTERFLY VALVE

STRAINER WITH BLOW DOWN

PRESSURE GUAGE WITH SHUT-OFF COCK

BALL VALVE

 \longrightarrow

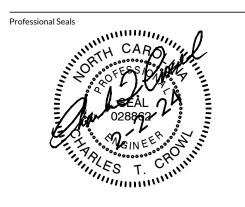
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CONCENTRIC REDUCER



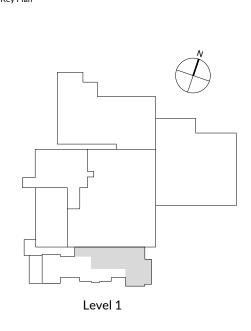
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Francis Center Health Sciences Renovation -Phase 4

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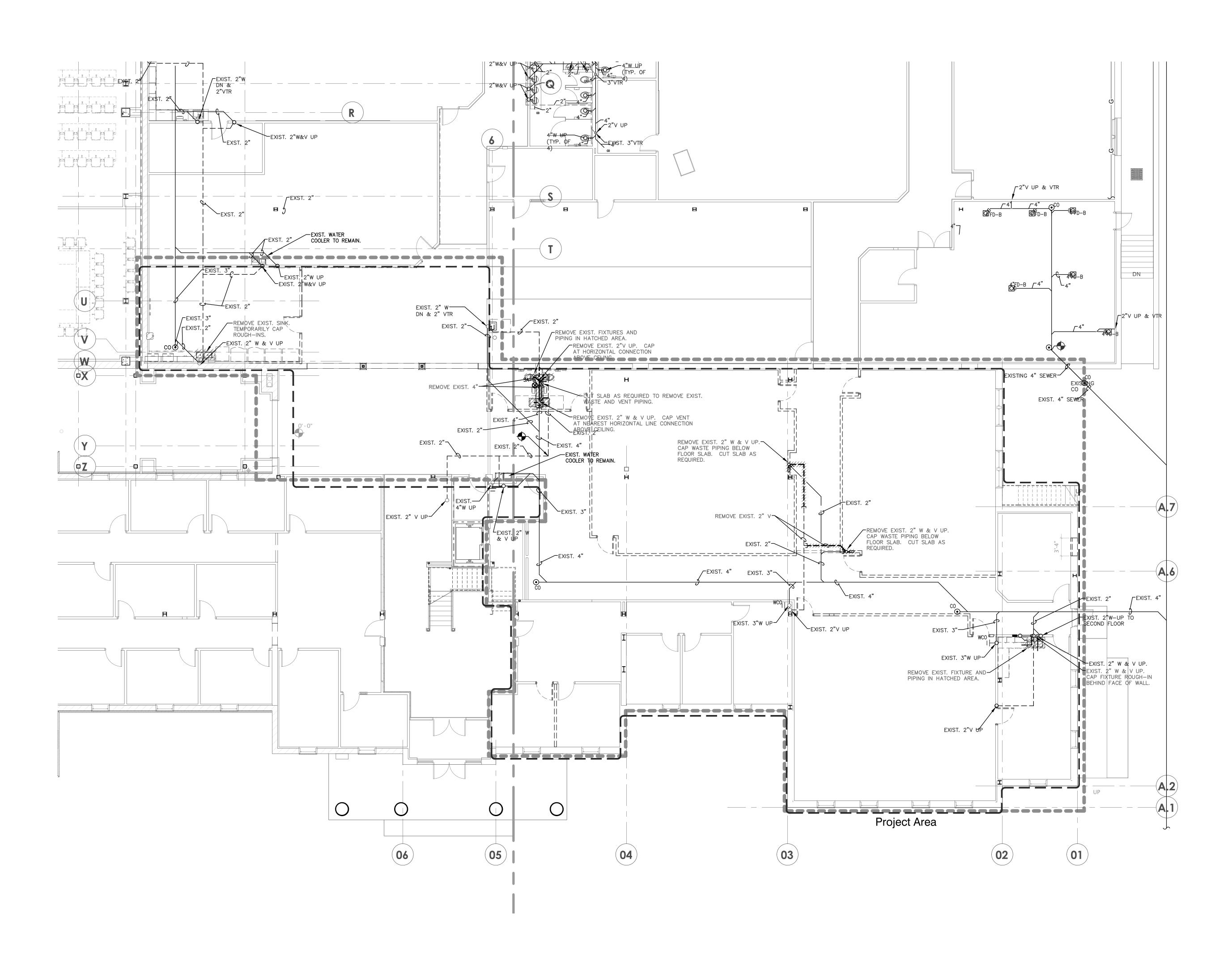
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Date: Plumbing Legends, Notes & **Schedules**

2/2/2024

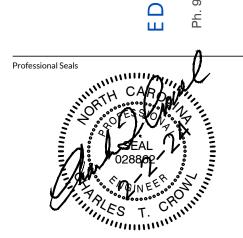


Plumbing Demolition Plan - Waste & Vent - Level 1
P101.1 SCALE: 1/8" = 1'-0" PHASE 4



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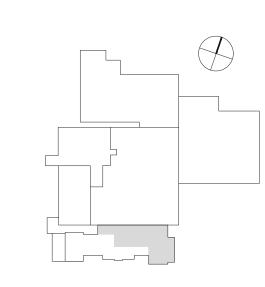
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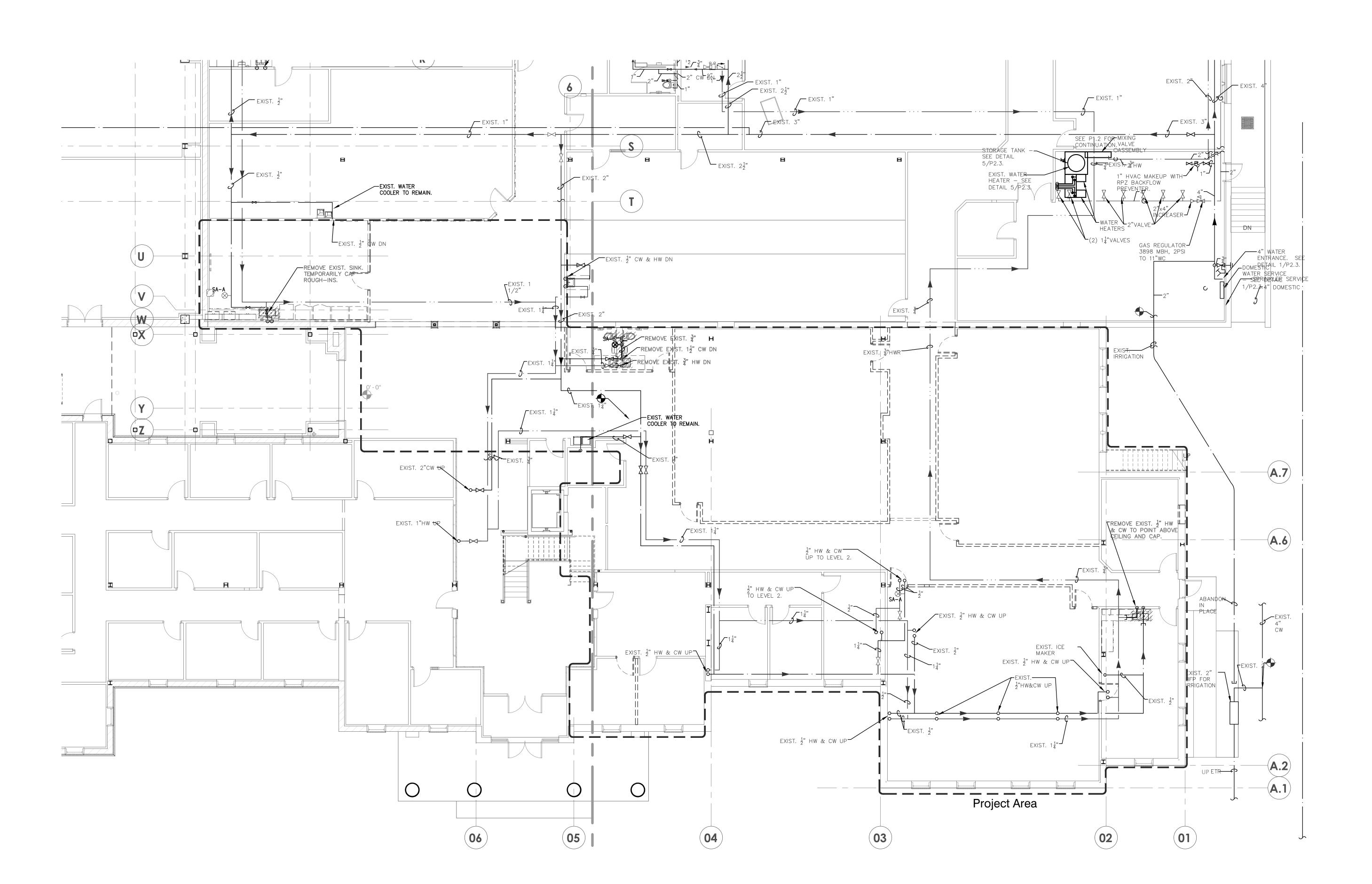
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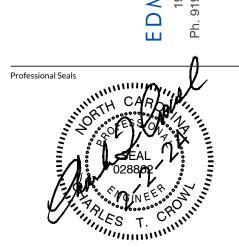
Plumbing Demolition
Plan Level 1 - Phase 4



Plumbing Demolition Plan - Water - Level 1
Plumbing Demolition Plan - Water - Level 1



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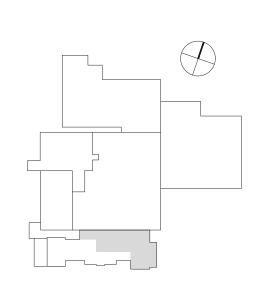




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Key Plan



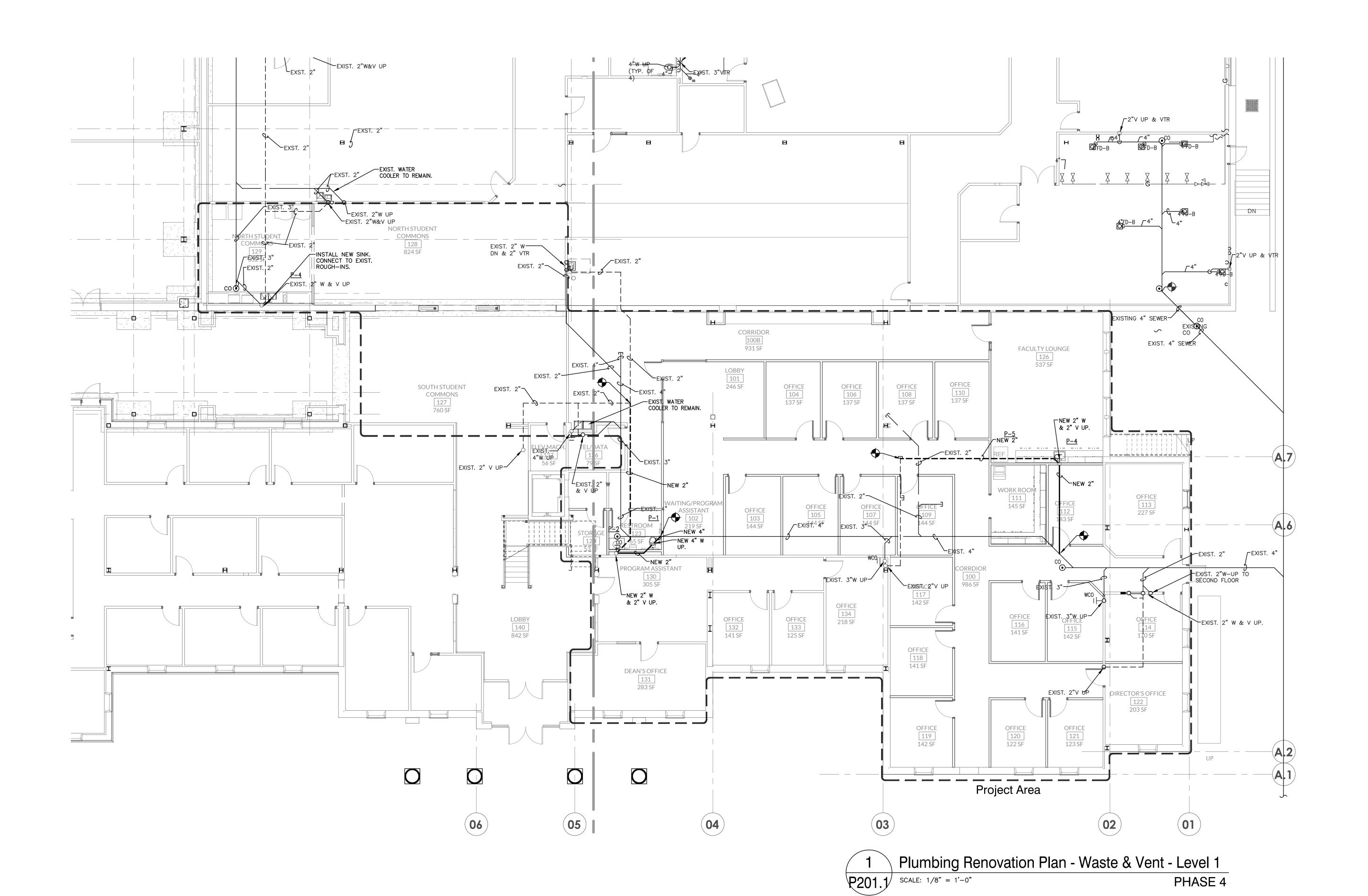
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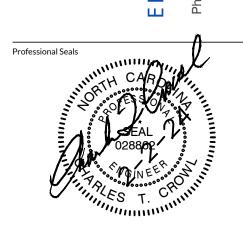
Project Number: 22-010.1 LDH Drawn: CTC Checked: 2/2/2024 Date:

Sheet Title
Plumbing Demolition Plan Level 1 - Phase 4

Partial Plumbing Renovation Waste & Vent Riser Diagrams



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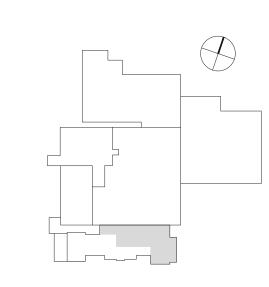




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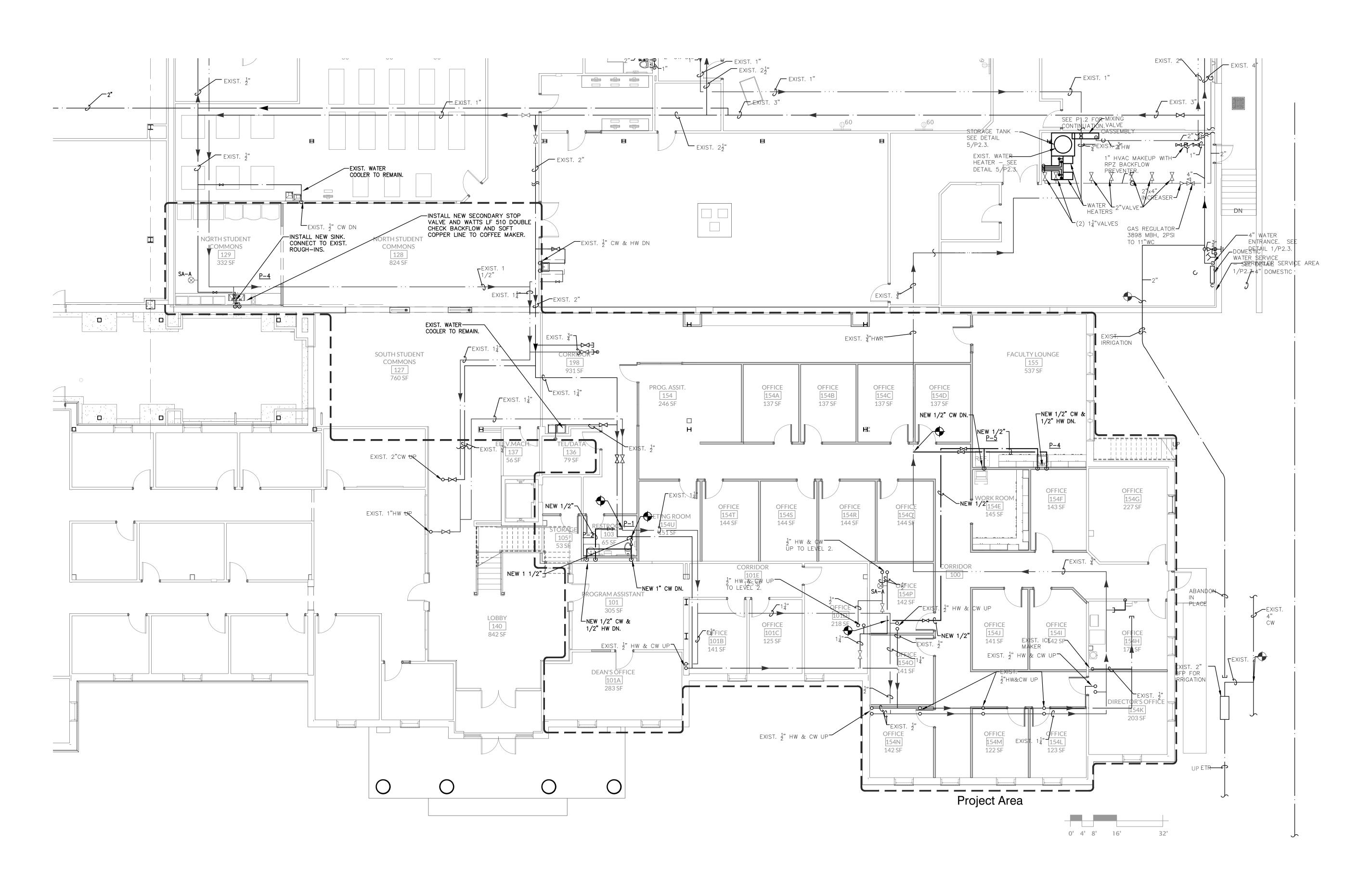
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Plumbing Renovation Plan Level 1 - Phase 4

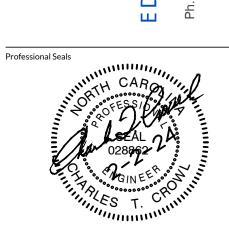


Plumbing Renovation Plan - Water - Level 1
P202.1 SCALE: 1/8" = 1'-0" PHASE 4



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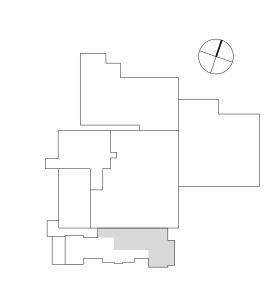




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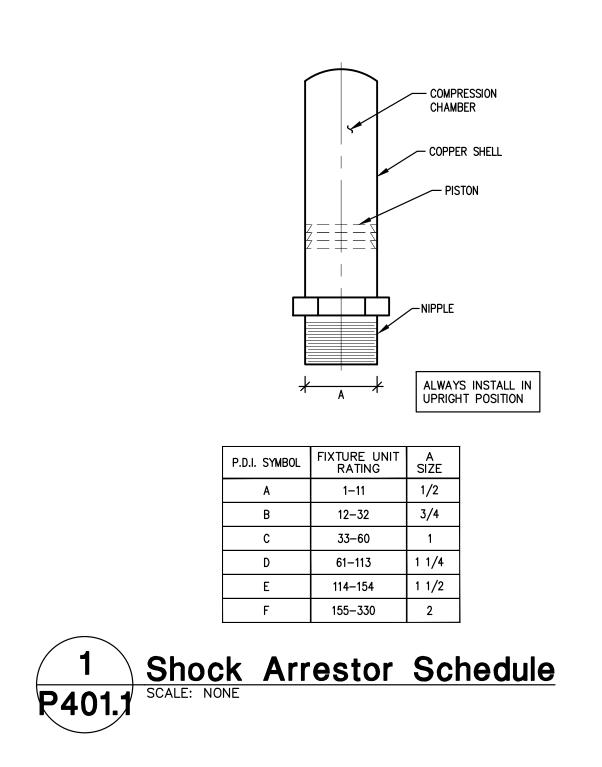
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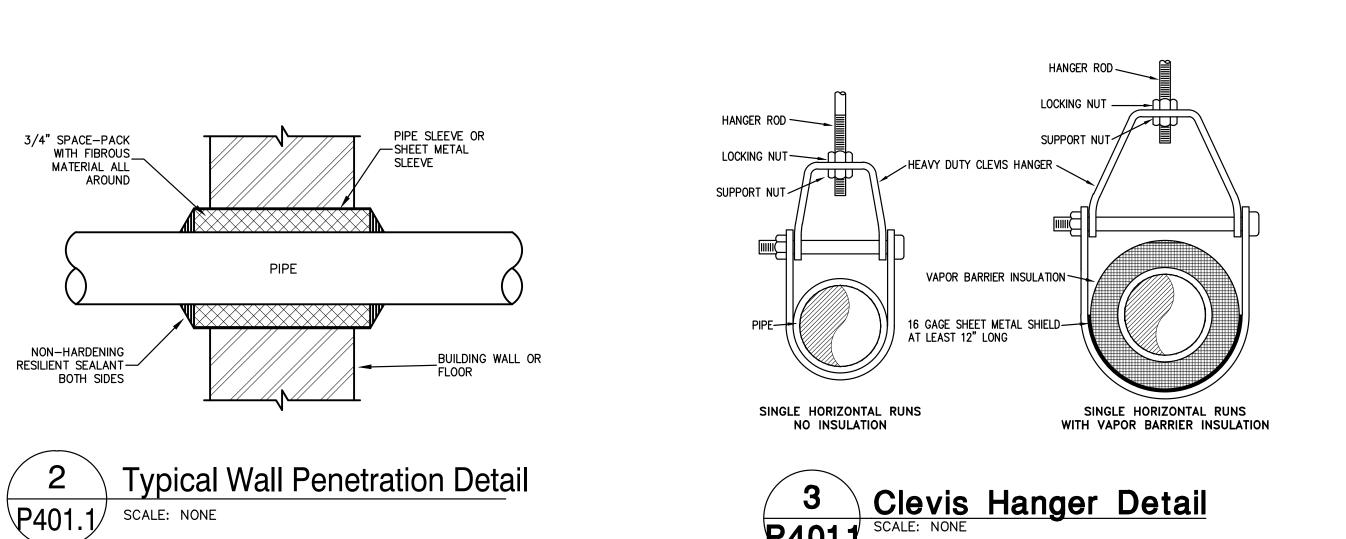
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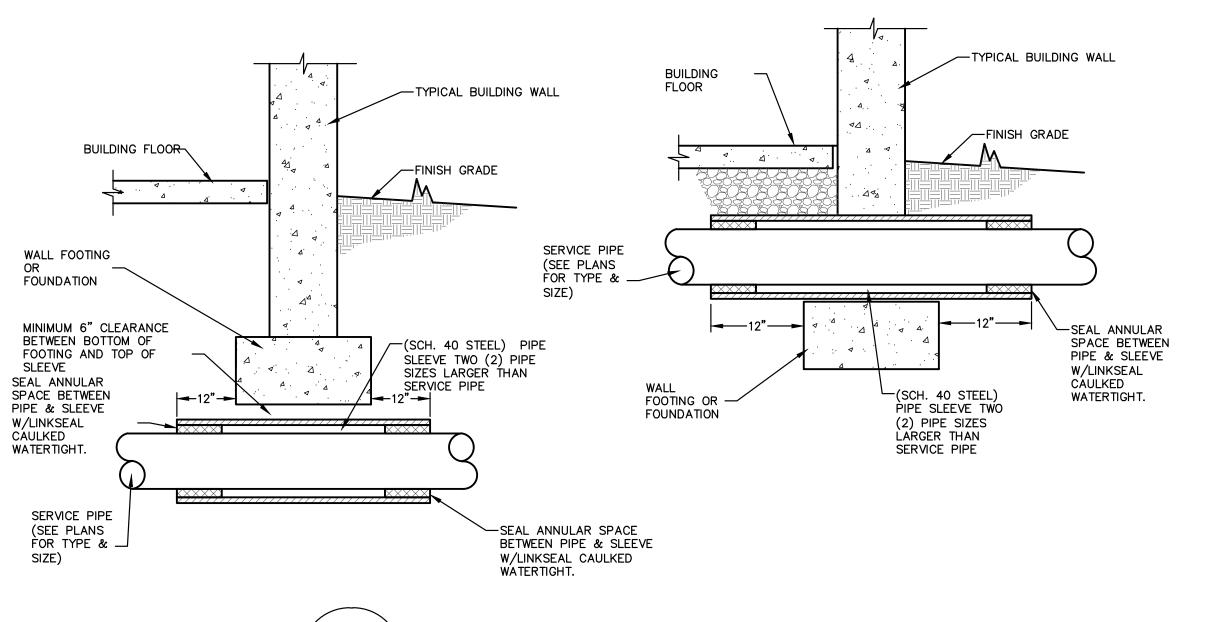
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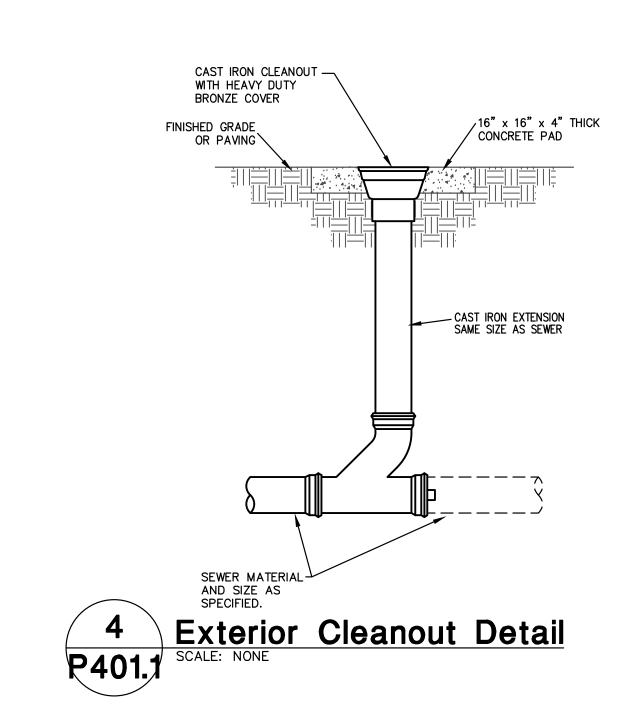
Plumbing Renovation Plan Level 1 - Phase 4

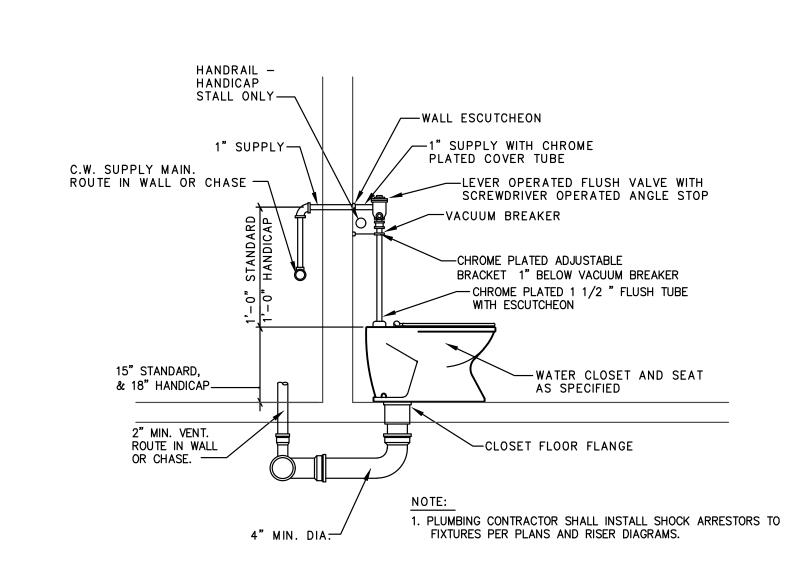






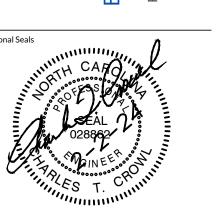














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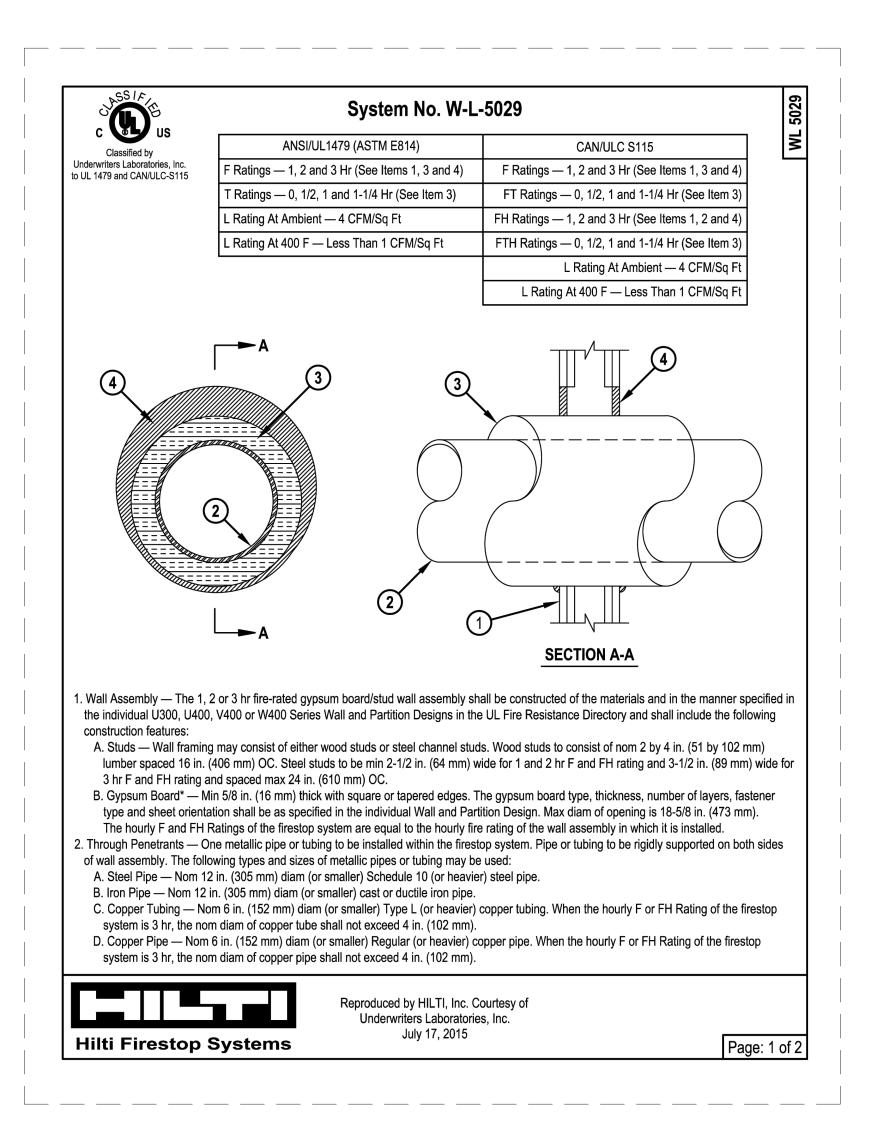
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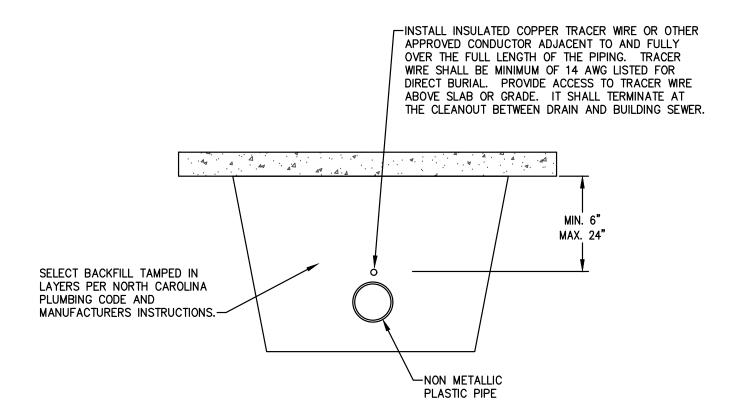
2/2/2024 Date: Plumbing Details Sheet

Checked:

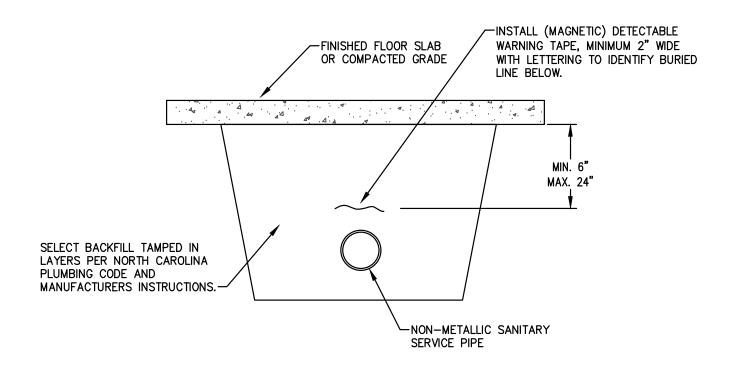
P401.1







Interior Non Metallic Sewer Piping



Exterior Non Metallic Plumbing Piping SCALE: NONE

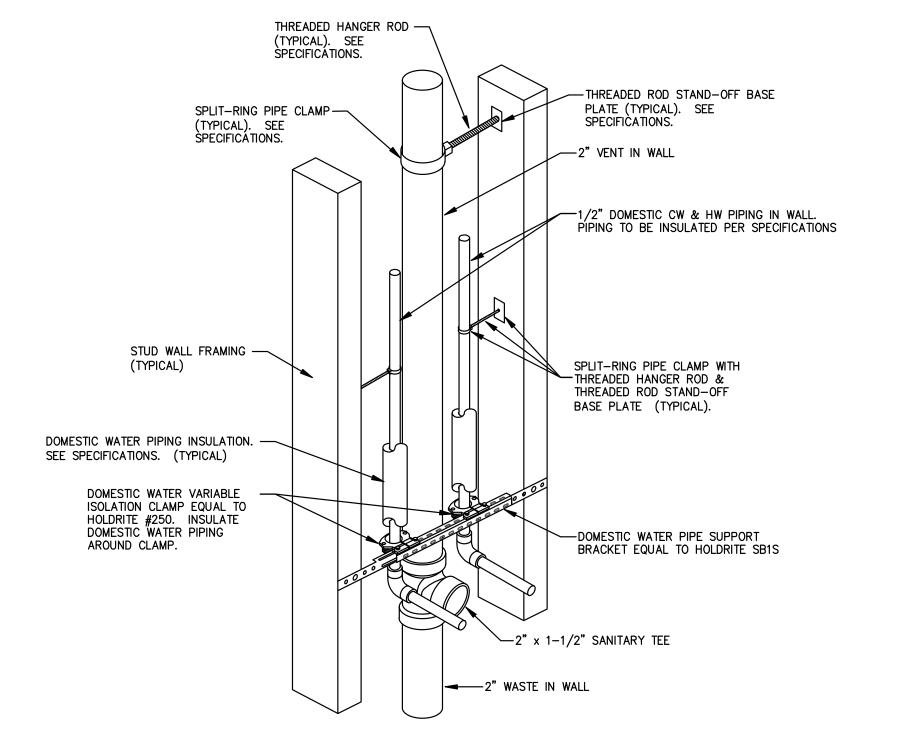
1 Buried F P402.1 SCALE: NONE

SCALE: NONE

Buried Plumbing Pipe Identification

NOTES:

TRACER WIRE SHALL BE INSTALLED OVER SEWER AND STORM PIPING THROUGHOUT BUILDING AND TERMINATE AT THE EXTERIOR CLEANOUT. METALLIC TAPE SHALL BE USED OVER EXTERIOR NON METALLIC PIPE. INSTALL PER NCPC SECTION 306.2.4.



2 Supply Pip

Supply Pipe Support At Fixture Connection

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.

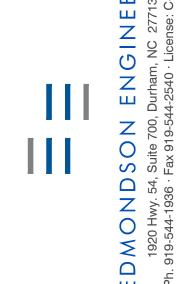
2. A SECOND STAND-OFF SPLIT RING CLAMP IS REQUIRED TO BE PLACED ON THE WASTE PIPING 18" AFF MAX. LOCATE THE CLAMP ON THE CAST IRON PIPE PRIOR TO TRANSITIONING TO PVC BELOW SLAB.

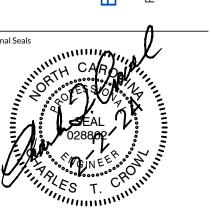
3. PROVIDE POLYETHYLENE TUBE ISOLATORS WHEN PASSING THROUGH STUD WALLS. ISOLATOR TO EQUAL HOLDRITE MODEL #104.

4. METAL STRAPPING IS NOT PERMITTED TO BE USED FOR PIPE SUPPORT.

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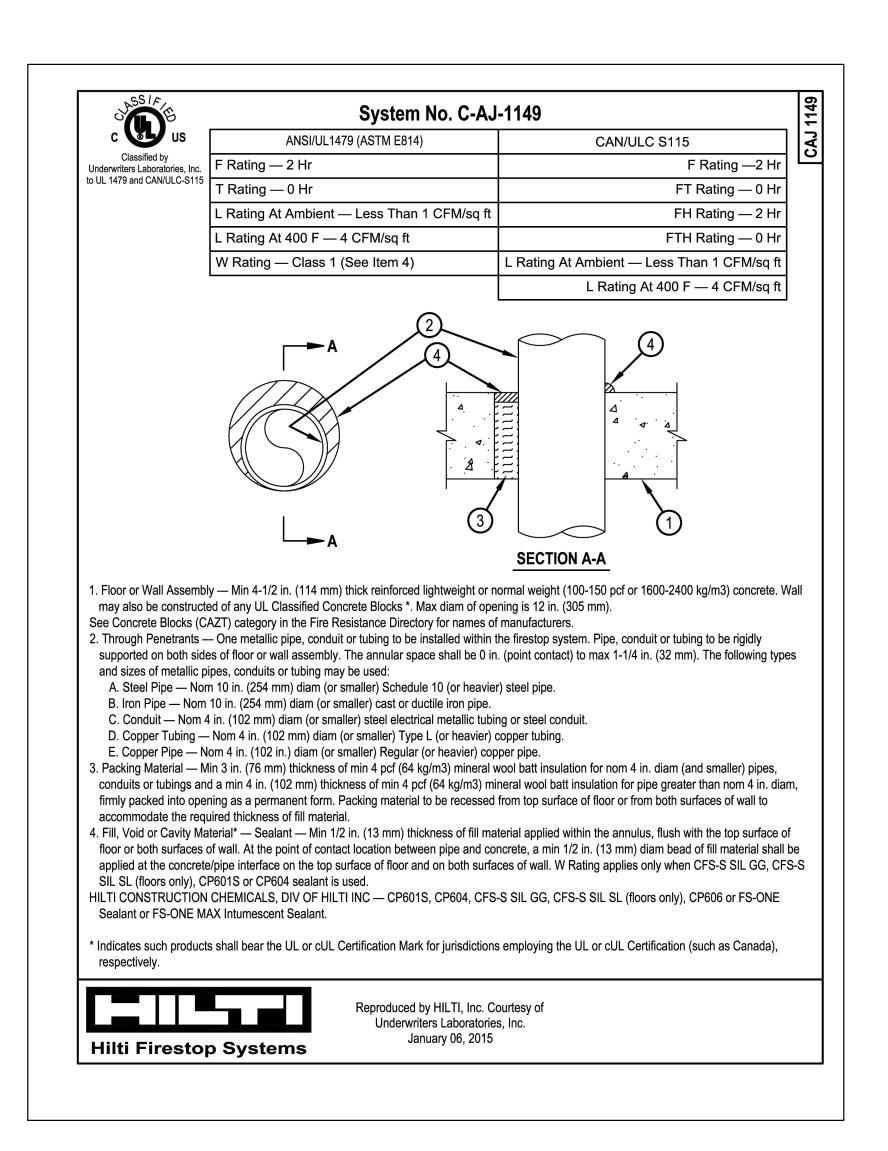
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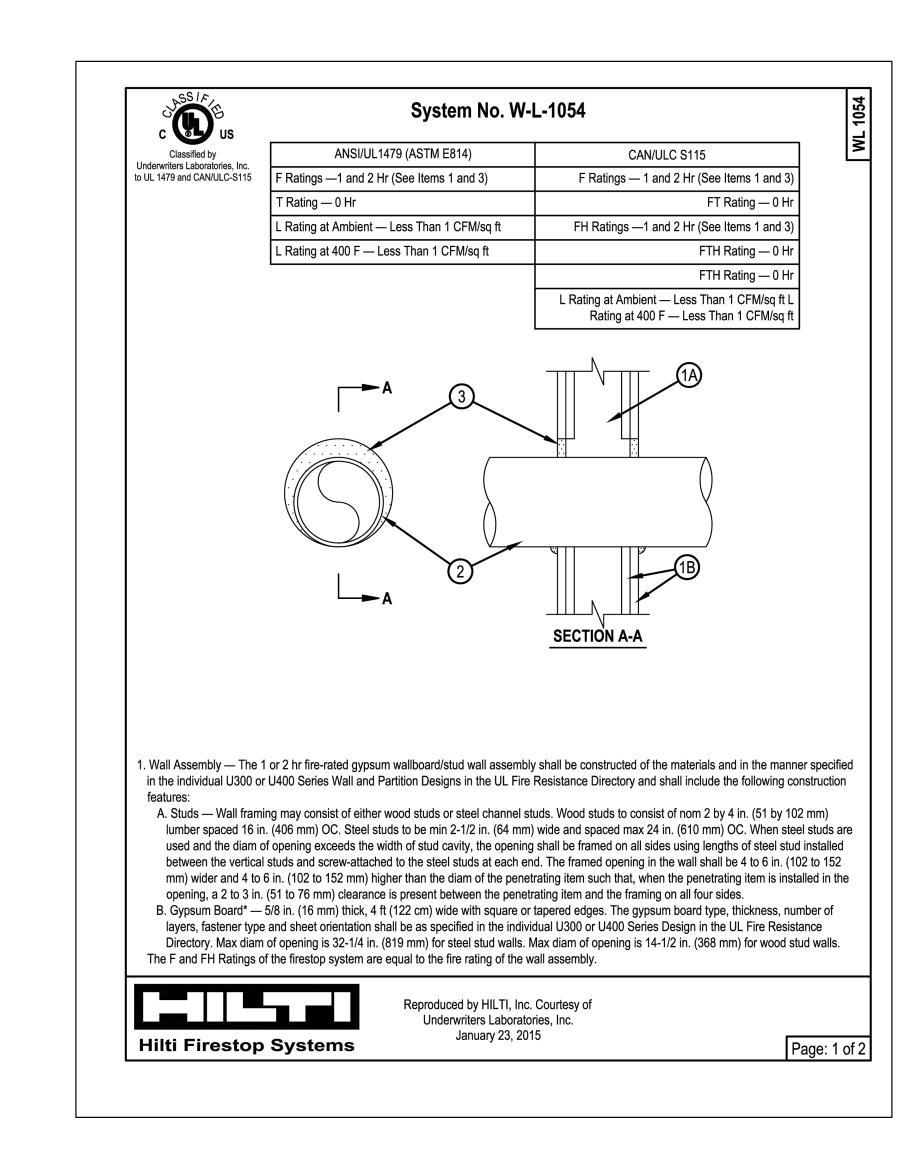
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Plumbing Details Sheet

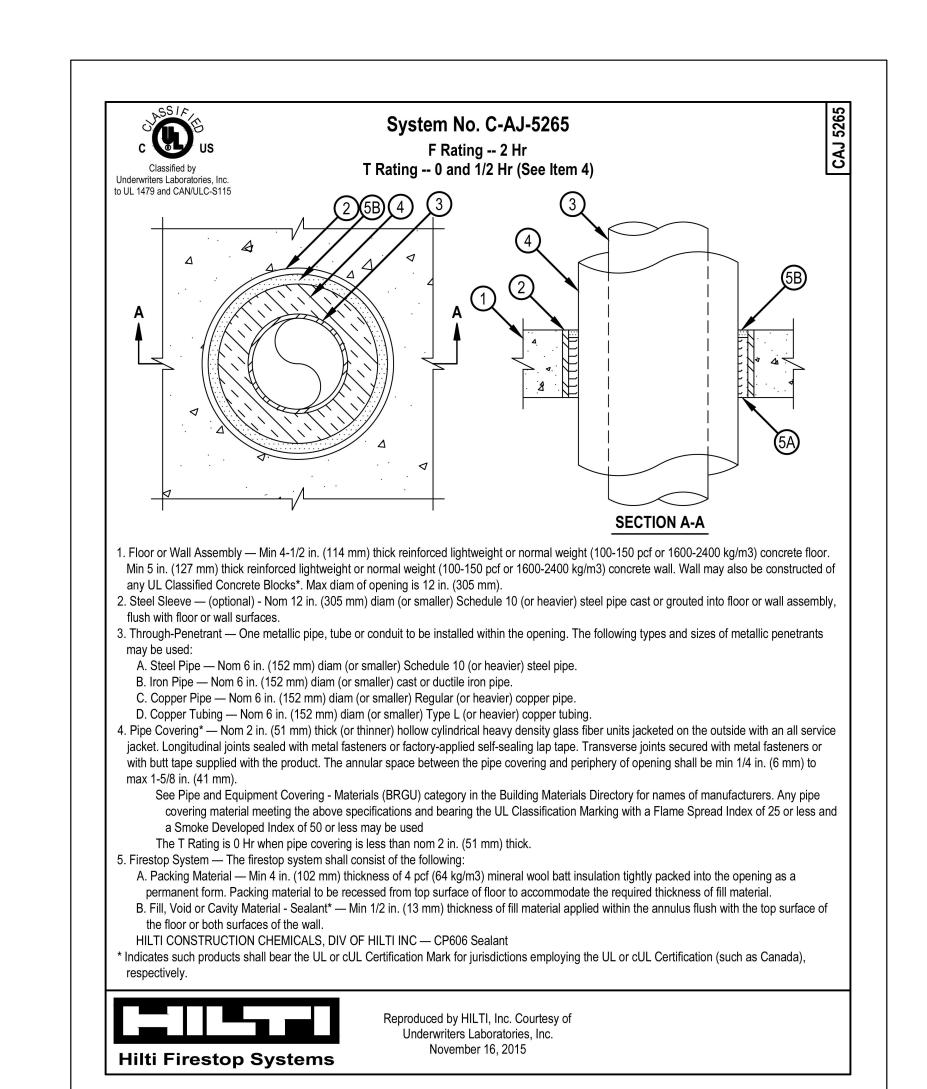
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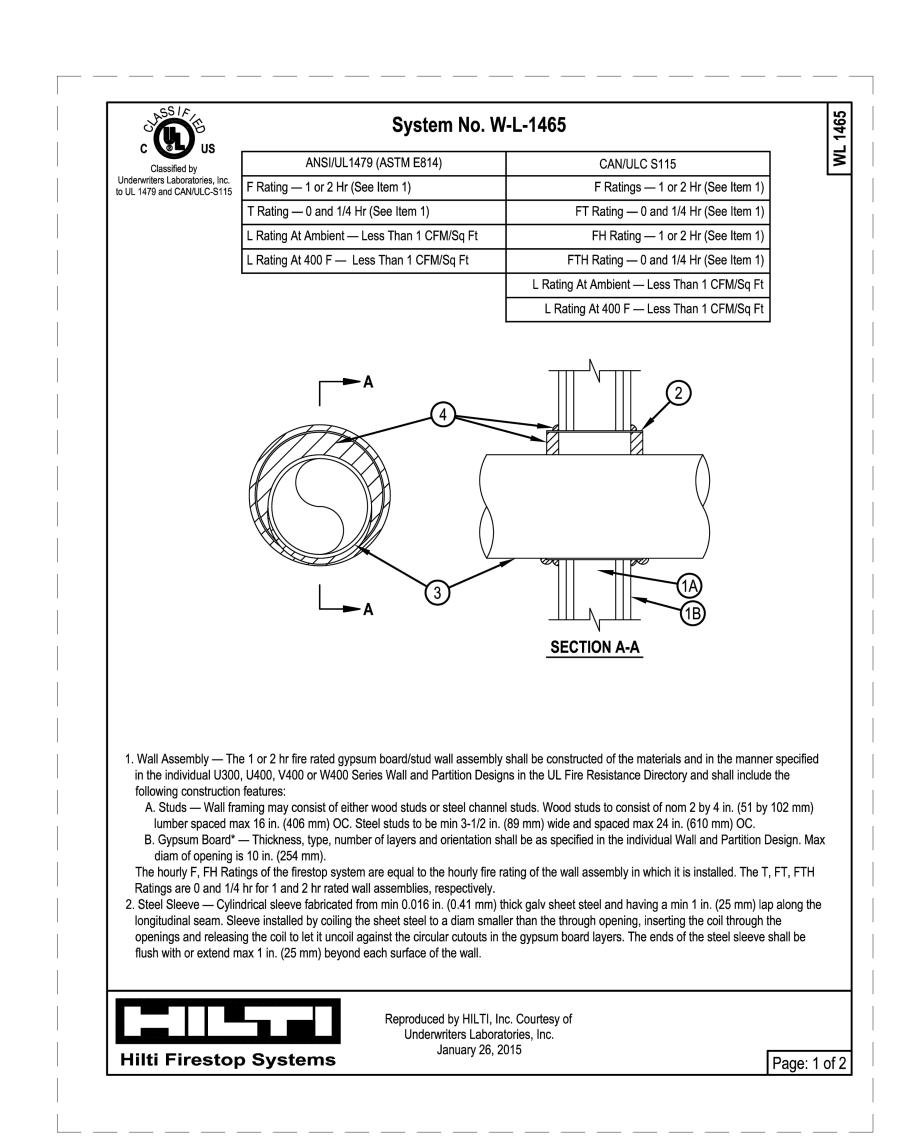
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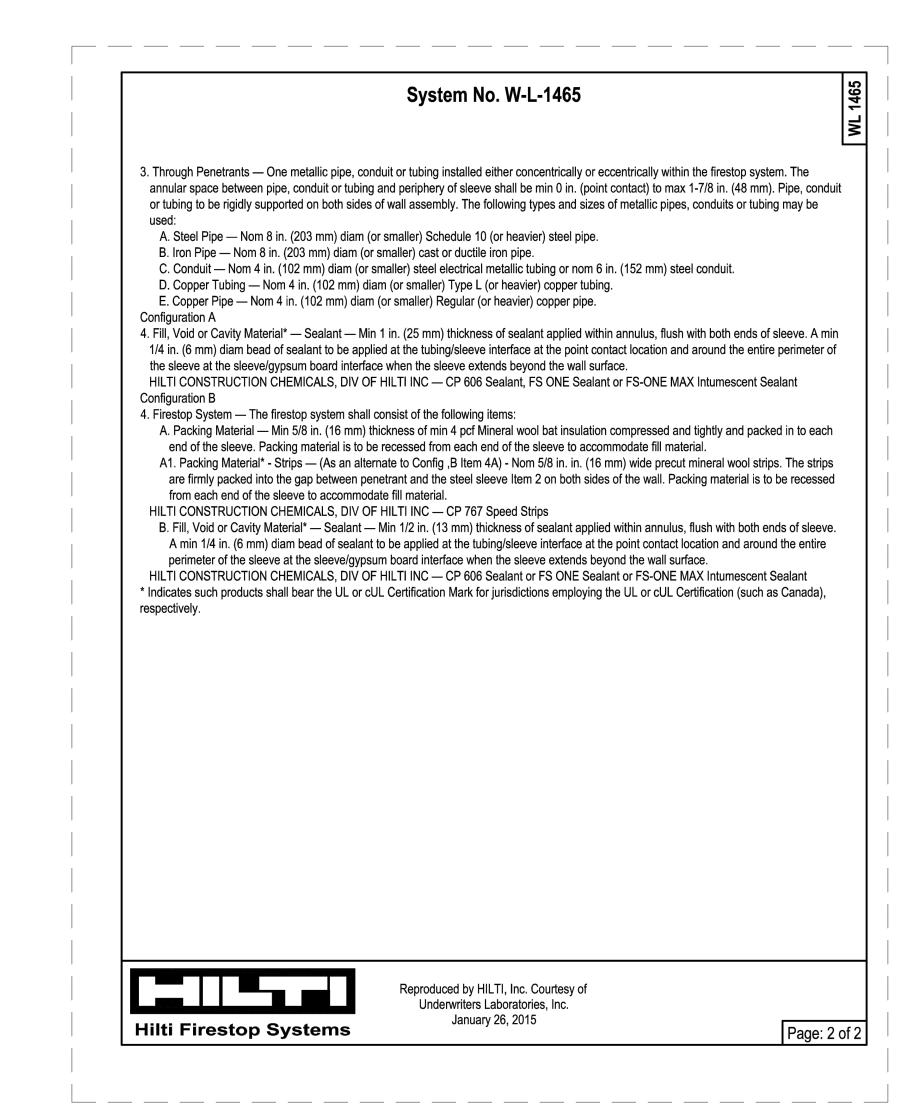








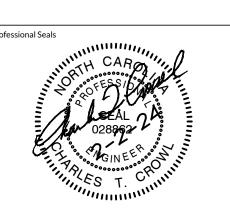






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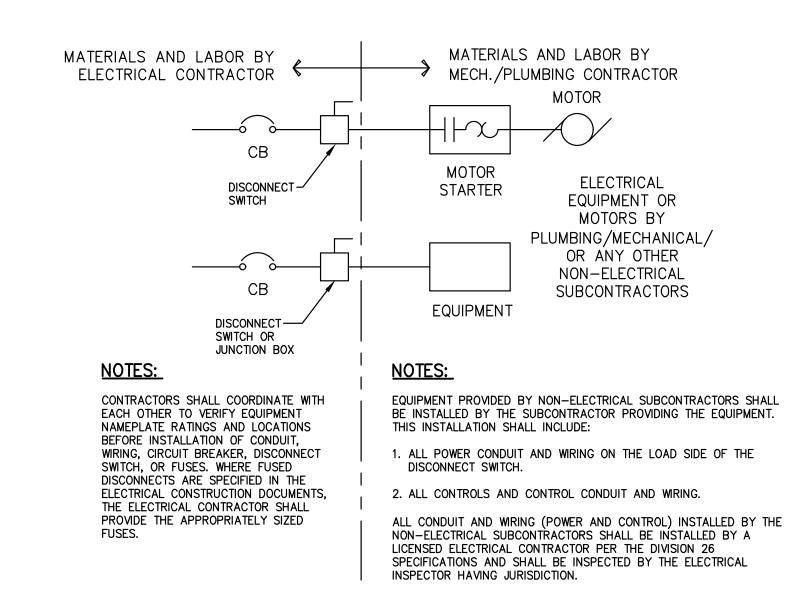
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Date:

2/2/2024



Motor / Equipment Installation - Division of Work M001.1 SCALE: NONE

GENERAL DEMOLITION NOTES

- THE DEMOLITION PLAN IS INTENDED TO PROVIDE THE CONTRACTOR WITH A GENERAL KNOWLEDGE OF THE EXISTING CONDITIONS WITHIN THE PROJECT AREA. EXISTING EQUIPMENT, STRUCTURE, DUCTWORK, ETC. LOCATED ON DRAWING WERE DERIVED FROM EXISTING DRAWINGS AND LIMITED FIELD OBSERVATIONS. THIS DRAWING MAY NOT BE ALL INCLUSIVE OF SERVICES THAT EXIST IN THE PROJECT AREA. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BID AND DEMOLITION WORK. FIELD CONDITIONS SHALL GOVERN. ANY DEVIATIONS IMPACTING WORK SHOWN ON THESE DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER PRIOR TO BEGINNING DEMOLITION. BEGINNING OF DEMOLITION SHALL SIGNIFY CONTRACTORS ACCEPTANCE OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED DEMOLITION WHETHER SHOWN ON THE PLANS OR
- CONTRACTOR SHALL PERFORM A PRE-BID SURVEY TO FIELD-VERIFY AND COORDINATE ALL DIMENSIONS PRIOR TO PROCUREMENT OR FABRICATION. FIELD CONDITIONS SHALL GOVERN. COORDINATE THE WORK WITH OTHER TRADES INVOLVED. COORDINATE NEW WORK WITH EXISTING ELEMENTS SUCH AS THE BUILDING STRUCTURE AND ARCHITECTURAL FEATURES, SPRINKLER PIPING, LIGHTS, PLUMBING, AND ELECTRICAL CONDUIT. COST OF REROUTING DUCTWORK OR PIPING DUE TO CONFLICTS WITH EXISTING CONDITIONS SHALL BE PAID BY CONTRACTOR.
- PRIOR TO THE START OF ANY DEMOLITION WORK BY ANY TRADE, ISOLATE ALL SUPPLY. RETURN. AND EXHAUST DUCTWORK IN PROJECT AREA FROM THE REMAINING BUILDING BY CAPPING DUCT MAINS AT THE POINT OF CONNECTION BETWEEN "EXISTING DUCT TO REMAIN" AND "EXISTING DUCT TO BE DEMOLISHED", AS INDICATED ON DWGS BY SYMBOL
- PROVIDE A PRE-CONSTRUCTION TEST AND BALANCE REPORT FOR ALL AIR DISTRIBUTION DEVICES AND ASSOCIATED MECHANICAL EQUIPMENT SERVING THE PROJECT AREA. PROVIDE MEASUREMENTS FOR ALL EQUIPMENT SERVING THE PROJECT AREA INCLUDING AIR TERMINAL UNITS, EXHAUST FANS, AND AIR HANDLING UNITS. MEASUREMENTS INCLUDE NAMEPLATE DATA SUPPLY AIRFLOW. RETURN AIRFLOW, OUTDOOR AIRFLOW, EXHAUST AIRFLOW, MOTOR HP, MOTOR FLA AND VOLTAGE, PRESSURE DROP ACROSS COILS AND FILTERS, AND FAN EXTERNAL STATIC PRESSURE. REPORT SHALL INCLUDE NOTES OF ANY DEFICIENCIES. SUBMIT T&B REPORT TO THE ARCHITECT AND ENGINEER PRIOR TO BEGINNING DEMOLITION WORK.
- CONTRACTOR SHALL PROVIDE MECHANICAL WORK FOR PHASING AS REQUIRED OR DIRECTED BY THE ARCHITECT, COORDINATE WITH ARCHITECTURAL PHASING PLANS. TEMPORARY MECHANICAL SERVICES SHALL BE PROVIDED WHEN NEW WORK AFFECTS SERVICES NEEDING TO REMAIN ACTIVE. ORGANIZE WORK TO MINIMIZE THE DURATION OF EXISTING UTILITY SERVICE INTERRUPTIONS. DEMOLITION WORK SHOWN PARTIALLY REPRESENTS CONDITIONS AT THE END OF CONSTRUCTION. TEMPORARY HVAC CONSTRUCTION SUCH AS DUCTWORK, PIPING AND REBALANCING IN-BETWEEN PHASES WHICH SHALL BE PROVIDED BY CONTRACTOR TO MAINTAIN SERVICE TO EXISTING SPACES IS NOT FULLY REPRESENTED IN THESE DOCUMENTS.
- NO EXISTING PIPE OR DUCT SHALL BE LEFT OPEN AFTER PARTIAL REMOVAL. PIPES AND DUCTS SHALL EITHER BE CAPPED OR MADE READY FOR CONNECTION TO NEW WORK. MATERIALS USED FOR CAPPING SYSTEMS SHALL MATCH EXISTING UTILITY
- ALL EXISTING FLOOR OPENINGS WHERE PIPE IS REMOVED SHALL BE PATCHED TO MATCH EXISTING FLOOR AND MAINTAIN ASSEMBLY FIRE RATING
- THE CONTRACTOR SHALL VERIFY THAT ALL EXISTING FLOOR PENETRATIONS (ABOVE & BELOW) ARE PROPERLY FIRE STOPPED AFTER THE DEMOLITION
- 9. FIELD VERIFY ALL EXISTING PIPE LOCATIONS, SIZES, AND ELEVATIONS
- 10. REMOVE EXISTING ABANDONED PIPE HANGERS, RODS, AND SUPPORTS 11. ALL LINES THAT ARE TO BE REMOVED SHALL BE CAPPED AT A MAIN LINE, RISER
- 12. ALL MECHANICAL SYSTEMS SERVING OTHER SPACES OR FLOORS THAT RUN THROUGH
- THE PROJECT AREA SHALL REMAIN ACTIVE DURING CONSTRUCTION SO AS NOT TO CAUSE ANY DISRUPTION TO THESE OTHER SPACES
- 13. ALL NEW AND EXISTING AIR DISTRIBUTION DEVICES LOCATED WITHIN PROJECT AREA SHALL BE FITTED WITH TEMPORARY CONSTRUCTION FILTERS THROUGHOUT PROJECT
- DURATION TO HELP PREVENT ACCUMULATION OF DUST IN DEVICES AND DUCTWORK CONTRACTOR SHALL REMOVE OR RELOCATE EXISTING THERMOSTATS WHERE
- NECESSARY. REMOVED THERMOSTATS SHALL BE RETURNED TO OWNER PROPERLY REMOVE AND DISPOSE OF ALL EXISTING TO BE REMOVED HVAC
- TC.. CONSULT WITH OWNER AND OBTAIN OWNERS APPROVAL PRIOR TO DISPOSAL OF REMOVED MATERIAL. ANY WORK REQUIRED OUTSIDE OF THE CONSTRUCTION LIMITS MUST BE COORDINATED WITH THE PROJECT MANAGER FOR METHOD OF ISOLATION. EXISTING UTILITY

EQUIPMENT, DUCTWORK, AIR DISTRIBUTION DEVICES, HYDRONIC PIPING, SYSTEMS

- SERVICES SHALL REMAIN ACTIVE THROUGHOUT CONSTRUCTION DURATION. NEW UTILITY TIE-INS TO EXISTING SYSTEMS WHICH CANNOT BE ISOLATED WITHOUT AFFECTING AREAS OUTSIDE THE PROJECT AREA SHALL BE WITH HOT-TAPS.
- REPROGRAM BUILDING CONTROLS TO REFLECT DEMOLITION WORK AFFECTING AIR TERMINAL UNITS, T-STATS, CONTROL VALVES, ETC.
- 18. ALL EXISTING BUILDING LIFE SAFETY COMPONENTS SUCH AS EXIT SIGNAGE, EXIT LIGHTS, FIRE ALARM, FIRE SPRINKLERS, ETC SHALL REMAIN CONTINUOUSLY OPERATIONAL AND FREE OF OBSTRUCTION FOR AREAS OUTSIDE OF THE CONSTRUCTION ZONE IN ORDER TO MAINTAIN BUILDING OCCUPANCY DURING CONSTRUCTION.

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 winter dry bulb: summer dry bulb: 92° F Interior design conditions

> summer dry bulb: 75° F relative humidity: 50% Building heating load:

winter dry bulb:

Building cooling load: Mechanical Spacing Conditioning System (For Addition Space) description of unit: N/A heating efficiency: N/A

N/A TONS

cooling efficiency: N/A size category of unit: N/A Boiler Existing-N/A Chiller Existing-N/A

List equipment efficiencies: See Equipment Schedules

GENERAL NOTES

- VERIFY EVERY ASPECT OF THE PROPOSED WORK AS DESCRIBED OR IMPLIED BY THE CONTRACT DOCUMENTS.
- 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, LEARANCES FTC SHALL BE FULLY COORDINATED BY THE FLECTRICAL CONTRACTO AND SHALL BE HIS RESPONSIBILITY. ANY ADDITIONAL COST RESULTING FROM SAID SUBSTITUTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- PROVIDE ONLY NEW MATERIALS WITHOUT DEFECTS AND OF THE HIGHEST QUALITY OF THEIR SPECIFIED CLASS AND KIND.
- 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. MAINTAIN A MINIMUM OF 3FT CLEARANCE AROUND EQUIPMENT FOR SERVICING.
- 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
- 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. READ ALL NOTES AND REMARKS SUPPLIED ON EQUIPMENT SCHEDULES COORDINATE ALL SERVICE OUTAGES WITH OWNER. PROVIDE OWNER WITH WRITTEN NOTICE AT LEAST 48 HOURS PRIOR TO SHUTDOWN INDICATING DATE, DURATION,
- COORDINATE LIGHT, PIPING, AND DUCT LOCATIONS CLOSELY WITH E.C. PRIOR TO COORDINATE PIPING, EQUIPMENT, ROOF DRAIN PENETRATIONS, AND DUCT LOCATIONS

UTILITIES AFFECTED, AND TRADES AFFECTED.

- IN MECHANICAL ROOMS WITH PLUMBING CONTRACTOR BEFORE BEGINNING INSTALL ATION DUCTWORK AND PIPING ELEVATION CHANGES, TRANSITIONS, AND OFFSETS MAY NOT BE SHOWN AND SHALL BE PROVIDED AS REQUIRED. PROVIDE ADDITIONAL FITTINGS
- AS REQUIRED BASED ON COORDINATION DRAWINGS PREPARED BY MC. PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR THE PROPER INSTALLATION
- OF WORK AND TO REPAIR ANY DAMAGE DONE DURING INSTALLATION 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.
- 13. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AT ALL NEW FIRE DAMPERS, SMOKE DAMPERS, SMOKE DETECTORS, HEATING COILS, AND HUMIDIFIERS. PROVIDE ADDITIONAL ACCESS DOORS PER SPECIFICATIONS.
- CONSULT GENERAL CONTRACTOR FOR INFORMATION ABOUT STAGING AREAS TO BE USED DURING CONSTRUCTION
- REFER TO ARCHITECTURAL DRAWINGS FOR WALL ELEVATIONS AND REFLECTED CEILING PLANS FOR LOCATIONS OF HVAC DEVICES

TOP OF DEVICE IN ACCORDANCE WITH ADA ANSI 308

- 16. REFER TO LIFE SAFETY PLAN FOR FIRE AND SMOKE PARTITION LOCATIONS ADJUSTABLE THERMOSTATS SHALL BE MOUNTED AT 48" FROM FINISHED FLOOR TO
- PROTECT ALL AHU COILS FROM DUST, DEBRIS, THROUGHOUT INSTALLATION, INITIAL START-UP, AND CONSTRUCTION DURATION USING FILTERING MEDIA SHEET PRE-FILTERS ON ALL RETURN INTAKES
- 19. 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.
- 20. DUCT SIZES SHOWN INDICATE NET INSIDE DIMENSIONS 21. ALL 45° AND 90° TURNS IN RECTANGULAR DUCTWORK SHALL BE PROVIDED WITH
- TURNING VANES UNLESS SPECIFICALLY OTHERWISE NOTED 22. ROUND ELBOWS SHALL BE LONG RADIUS WITH A MINIMUM CENTER LINE RADIUS OF ONE AND ONE-HALF THE DUCT DIAMETER (1.5 X D)
- 23. LOW PRESSURE FLEXIBLE DUCT SHALL BE OF A LENGTH NO GREATER THAN 5'-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) 24. FLEXIBLE DUCTWORK SHALL BE LABELED IN ACCORDANCE WITH UL 181. FLEXIBLE
- DUCTWORK IS NOT ALLOWED ON HIGH PRESSURE SYSTEMS, ABOVE INACCESSIBLE CEILINGS, OR ON EXHAUST SYSTEMS.
- 5. WHERE FIRE ALARM RELAYS ARE INDICATED PROVIDE ADDRESSABLE IAM RELAYS AS
- 26. COORDINATE INSTALLATION OF EQUIPMENT WITH GENERAL CONTRACTOR AND OTHER TRADES TO MAINTAIN MANUFACTURER REQUIRED MINIMUM SERVICE ACCESS . IN AREAS OF THE BUILDING WHERE EXISTING DUCTS, PIPING, CONDUITS, CONTROLS, LIGHTS, AND ITEMS OF EQUIPMENT ARE TO REMAIN AND MAY INTERFERE WITH THE INSTALLATION OF NEW SYSTEMS, THE MECHANICAL CONTRACTOR SHALL COORDINATE AND MAKE ADJUSTMENTS IN THE NEW AND EXISTING SYSTEMS TO MAKE

INSTALLATION OF THE NEW SYSTEMS AS INDICATED

- 28. ALL MEDIUM PRESSURE BRANCH TAKE-OFFS SHALL BE MADE WITH CONICAL TEE TAPS UNLESS NOTED OTHERWISE
- 29. INSULATE ALL EXISTING DUCTWORK AND PIPING TO REMAIN AFFECTED BY NEW WORK 30. MINIMUM PIPE SIZE IS 3/4" WHERE SIZE IS NOT INDICATED ON PLANS
- 31. ALL BRANCH PIPING TAPS SHALL BE FROM THE TOP OR SIDE OF MAIN PIPING 32. ALL NEW HOT WATER PIPING SHALL SLOPE UP IN THE DIRECTION OF FLOW WHEREVER POSSIBLE. PROVIDE ALL NECESSARY MANUAL AIR VENT REQUIRED TO VENT AIR FROM THE PIPING SYSTEMS. PROVIDE ALL NECESSARY DRAINS VALVES WITH HOSE END ADAPTERS REQUIRED TO PROPERLY DRAIN PIPING SYSTEMS.
- 33. ALL NEW DRAIN PIPING SHALL SLOPE DOWN IN THE DIRECTION OF FLOW 34. COORDINATE ALL WORK WITH PROJECT PHASING. SEE ARCHITECTURAL DRAWINGS



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MECHANICAL ABBREVIATIONS

ACCESS DOOR

AMERICAN DISABILITIES ACT

AIR TERMINAL UNIT (TERMINAL BOX)

ABOVE FINISHED FLOOR

AIR HANDLING UNIT

CONDENSATE DRAIN

CUBIC FEET PER MINUTE

CHILLED WATER SUPPLY

CHILLED WATER RETURN

DRY BULB TEMPERATURE

ENTERING AIR TEMPERATURE

EXTERNAL STATIC PRESSURE

ENTERING WATER TEMPERATURE

ELECTRICAL CONTRACTOR

CLEANOUT

DOWN

EXHAUST AIR

EXHAUST FAN

FIRE DAMPER

FULL LOAD AMPS

FINS PER FOOT

HORSEPOWER

NOT APPLICABLE

NORMALLY CLOSED

NOT IN CONTRACT

NORMALLY OPEN

NOT TO SCALE

OUTDOOR AIR

PRESSURE DROP

RETURN AIR

RE-BALANCE

SUPPLY AIR

TYPICAL

WET BULB

WATER GAUGE

SMOKE DAMPER

STATIC PRESSURE

TOTAL DYNAMIC HEAD

EXISTING EXHAUST AIR GRILLE

EXISTING RETURN AIR GRILLE

EXISTING SUPPLY AIR GRILLE

— CHWS — CHILLED WATER SUPPLY PIPING

CONDENSATE DRAIN

EXISTING PIPING

NEW PIPING

PIPE CAP

UNION

TEE OFF TOP

ISOLATION VALVE

PIPE RISER UP

PIPE RISER DOWN

PIPING SYMBOLS LEGEND

CHILLED WATER RETURN PIPING

HOT WATER SUPPLY PIPING

HOT WATER RETURN PIPING

PIPING TO BE DEMOLISHED

TESTING, ADJUSTING, AND BALANCING

RELATIVE HUMIDITY

PLUMBING CONTRACTOR

GENERAL CONTRACTOR

GALLONS PER MINUTE

HYDRONIC HEATING HOT WATER

LEAVING AIR TEMPERATURE

LEAVING WATER TEMPERATURE

MECHANICAL EQUIPMENT ROOM

AD

CD

CFM

CO

DB

DN

EA

ESP

FD

FLA

GPM

LWT

MER

N/A

NC

NTS

SA

SP

TAB

TYP.

XS

— CHWR —

— нws —

— HWR —

— CD —

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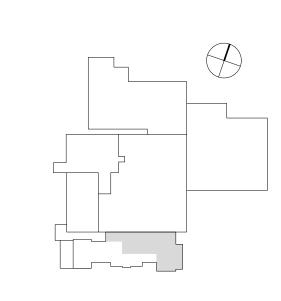
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IVERSITY

Francis Center **Health Sciences Renovation -**Phase 4

762 East Haggard Ave., Elon, NC Key Plan



Revisions

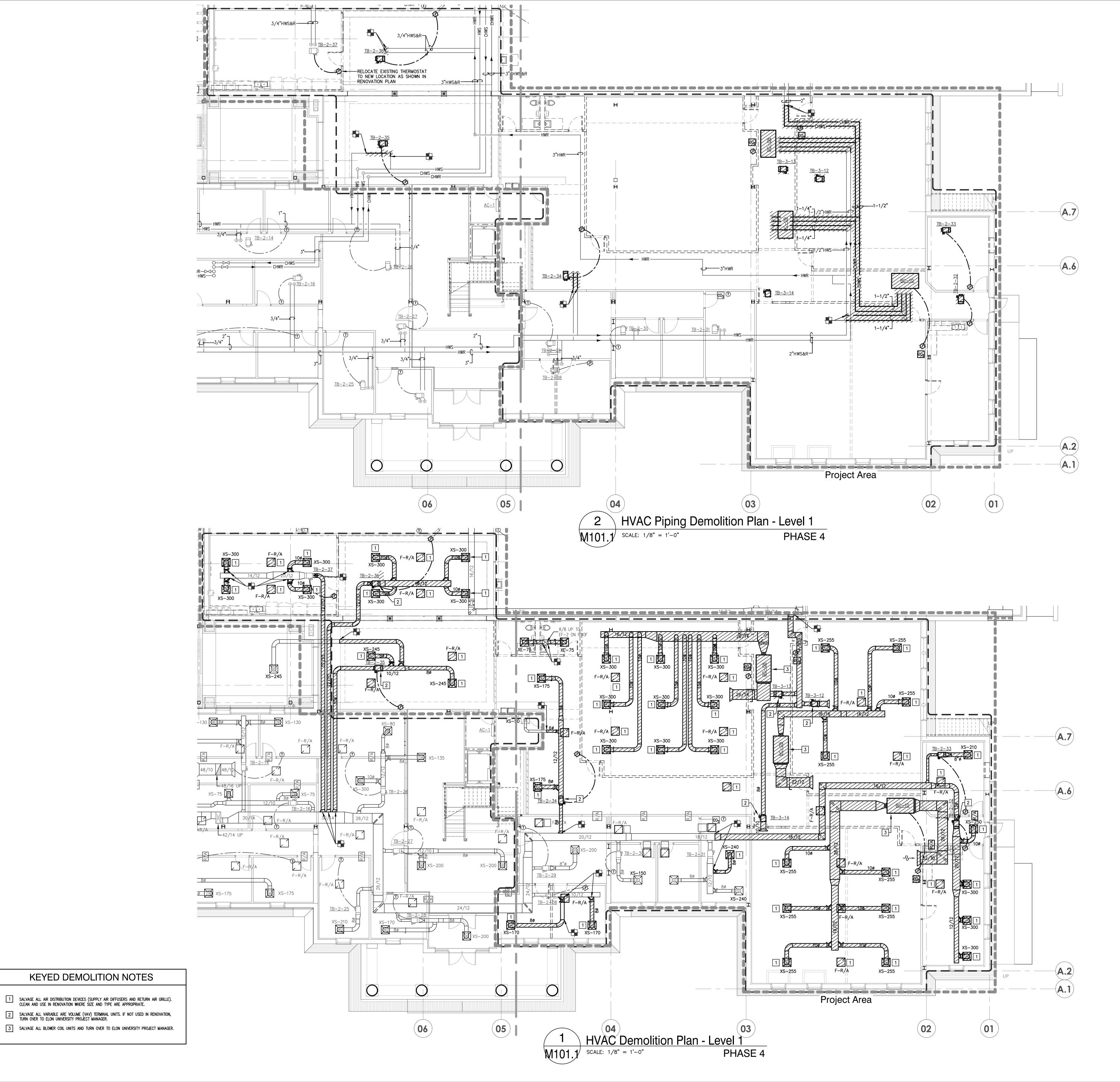
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DUCTWORK SYMBOLS LEGEND FLEXIBLE DUCT CONNECTION THERMOSTAT - SERVICE: TERMINAL UNIT 1 CO2 SENSOR BALANCING DAMPER **_**.__ RECTANGULAR DUCT (W/H) INSIDE CLEAR DIM. NEW DUCT EXISTING DUCT EXISTING DUCT/EQUIPMENT TO BE DEMOLISHED FLEXIBLE CONNECTION IN DUCTWORK DUCT ELBOW WITH TURNING VANES SUPPLY AIR DUCT IN SECTION RETURN DUCT IN SECTION EXHAUST DUCT IN SECTION DUCTWORK TURNING DOWN DUCTWORK TURNING UP AIR DISTRIBUTION DEVICE TYPE "A" BALANCED FOR 375 CFM. --%-SUCTION/TRANSFER AIRFLOW DISCHARGE AIRFLOW MECHANICAL KEYED NOTE NO. 1 END OF DEMOLITION

CONNECT TO EXISTING

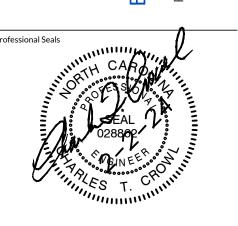
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Mechanical Symbols Legends, Notes and **Abbreviations**



KEYED DEMOLITION NOTES

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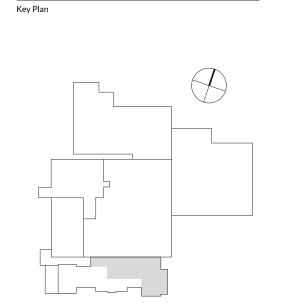




Francis Center Health Sciences Renovation -Phase 4

762 East Haggard Ave., Elon, NC

Key Plan



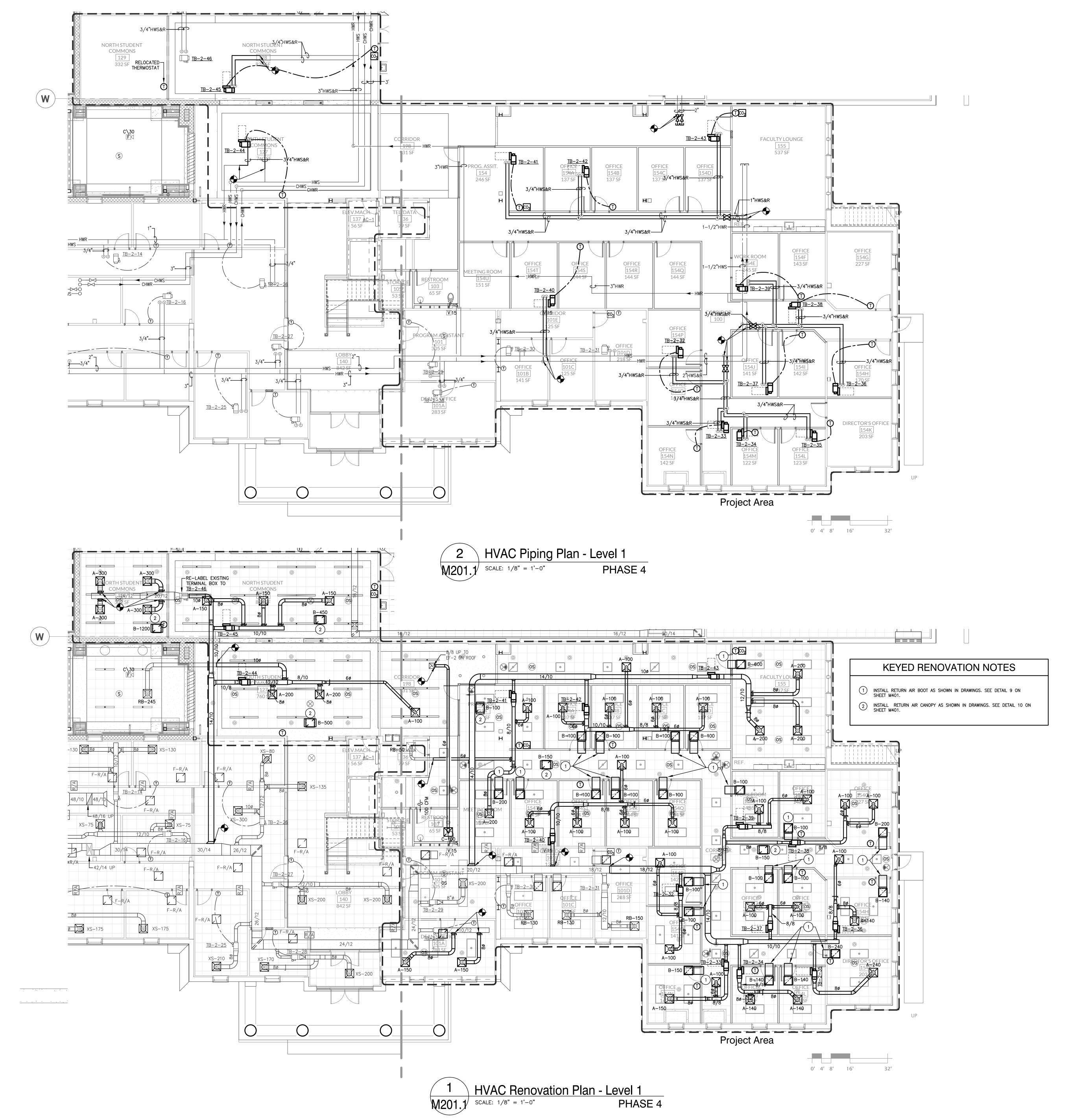
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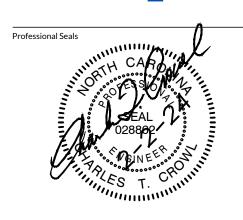


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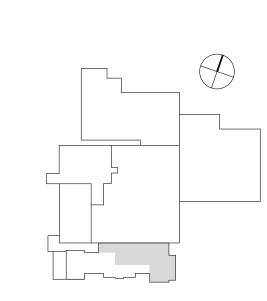
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Francis Center Health Sciences Renovation -Phase 4

762 East Haggard Ave., Elon, NC



Revisions

No. Date Description

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Project Number: 22-010.1

Drawn: RAS

Checked: CTC
Date: 2/2/2024

Sheet Title

Mechanical Renovation Plan
Level 1 - Phase 4

Sheet Number M201.1

THE CONTROL SEQUENCES DESCRIBED BELOW SHALL BE ACCOMPLISHED BY THE EXTENSION OF THE EXISTING BUILDING AUTOMATION SYSTEM (BAS). THE NEW EQUIPMENT INCLUDING INTERFACE TO EXISTING SYSTEMS SHALL OPERATE AND FUNCTION AS ONE COMPLETE SYSTEM INCLUDING ONE DATABASE OF CONTROL POINT OBJECTS AND GLOBAL CONTROL LOGIC CAPABILITIES. THE CONTROL SUBCONTRACTOR SHALL SUPPLY AS REQUIRED, ALL NECESSARY HARDWARE EQUIPMENT AND SOFTWARE PACKAGES TO INTERFACE BETWEEN ANY EXISTING AND NEW SYSTEM NETWORK AREA CONTROLLERS (NAC) AS PART OF THIS CONTRACT. THE CONTROL SYSTEMS SHALL BE DESIGNED SUCH THAT EACH MECHANICAL SYSTEM SHALL OPERATE UNDER STAND-ALONE MODE. IF COMMUNICATION IS LOST WITH THE BAS, THE CONTROLLER WILL OPERATE IN THE OCCUPIED COOLING MODE USING ITS DEFAULT SET POINTS. REFER TO THE CONTROL DIAGRAMS FOR ADDITIONAL INFORMATION. ALL SET POINTS, TIMERS, AND VALUES ARE ADJUSTABLE. THE CONTROLS CONTRACTOR SHALL PROVIDE ALL NECESSARY HARDWARE, DEVICES, CONTROLLERS, ADJUSTMENTS, AND PROGRAMMING NECESSARY TO ACCOMPLISH THE CONTROL SEQUENCES DEFINED BELOW.

SINGLE DUCT AIR TERMINAL UNITS WITH HW HEAT – DUAL MAXIMUM CONTROL

AIR TERMINAL UNIT CONTROLLERS SHALL BE PROVIDED AND FIELD INSTALLED BY THE CONTROLS CONTRACTOR. AIR TERMINAL UNITS SHALL MONITOR SPACE TEMPERATURE AND OPERATE ACCORDING TO THE TIME SCHEDULES OF THE BAS. OCCUPANCY TIME PERIODS SHALL BE USER DEFINED.

OCCUPIED MODE:
THE CONTROLLER WILL RESET THE AIRFLOW SET POINT AND MODULATE THE PRIMARY AIR DAMPER IN RESPONSE TO THE COOLING OR HEATING DEMAND. MINIMUM AND MAXIMUM AIRFLOW SET POINTS ARE LISTED ON THE AIR TERMINAL BOX SCHEDULE. ON A FALL IN SPACE TEMPERATURE, THE PRIMARY AIR DAMPER WILL MODULATE TO THE MINIMUM AIRFLOW SET POINT AND THE HOT WATER CONTROL VALVE WILL MODULATE TO MAINTAIN SPACE TEMPERATURE SET POINT WITH A MAXIMUM SUPPLY AIR TEMPERATURE OF 85 DEG. F. ON A CONTINUED FALL IN SPACE TEMPERATURE WHEN THE SUPPLY AIR TEMPERATURE IS AT 85 DEG. F, AIRFLOW WILL MODULATE BETWEEN THE MINIMUM AND MAXIMUM HEATING AIRFLOW SET POINTS. ON A CONTINUED FALL IN SPACE TEMPERATURE WHEN SUPPLY AIR TEMPERATURE IS 85 DEG. F AND AIRFLOW IS AT MAXIMUM SET POINT, A HIGH SUPPLY AIR TEMPERATURE ALARM SHALL BE INDICATED.

SPACE TEMPERATURE SET POINT WILL BE RESET TO MAXIMUM 85°F AND MINIMUM 60°F. VAV UNIT MINIMUM AIRFLOW SET POINT WILL BE RESET TO ZERO CFM AND CAV UNIT AIRFLOWS WILL REMAIN UNCHANGED. COOLING AND HEATING CONTROL WILL OTHERWISE BE THE SAME AS DURING OCCUPIED MODE. WHEN THE ASSOCIATED AIR HANDLING UNIT IS OFF, THE HEATING HOT WATER CONTROL VALVE WILL CLOSE AND THE PRIMARY AIR DAMPER WILL MODULATE TO 25% OPEN.

OCCUPIED BYPASS MODE: A PUSH BUTTON OVERRIDE ON THE SPACE THERMOSTATS WILL BE USED TO RETURN THE TERMINAL UNIT CONTROLLER TO "OCCUPIED MODE" DURING THE AFTER-HOURS CYCLE. THE OVRERRIDE WILL LAST FOR 2 HOURS. THE OVERRIDE WILL BE CANCELABLE ANYTIME FROM THE THERMOSTAT.

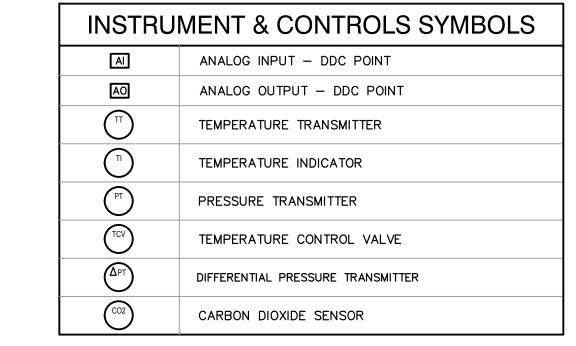
- PROVIDE THE FOLLOWING FOR AIR TERMINAL UNITS: SPACE THERMOSTAT WITH INTEGRAL TEMPERATURE SENSOR, INTEGRAL DISPLAY, LOCAL SET POINT ADJUSTMENT, PUSH BUTTON OVERRRIDE, AND REMOTE COMMUNICATION PORT
- 2. PRESSURE INDEPENDENT AIR VOLUME CONTROL WITH ADJUSTABLE MAXIMUM AND MINIMUM AIRFLOW SET POINTS 3. SUPPLY AIR TEMPERATURE SENSOR DOWNSTREAM OF THE HEATING COIL IN A METAL ENCLOSURE

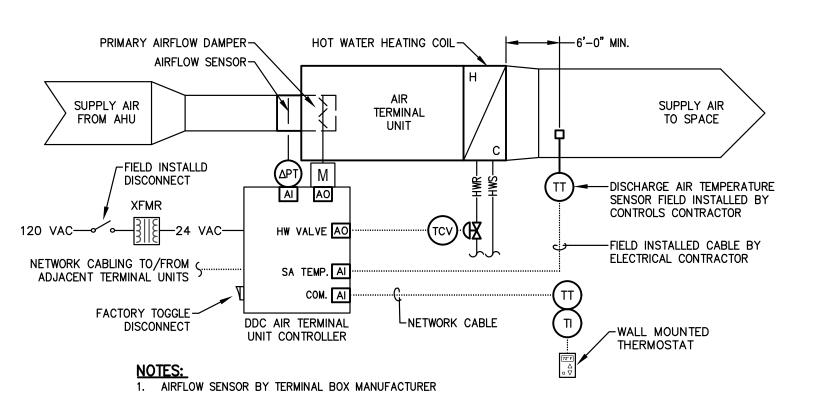
AIR TERMINAL UNITS SHALL BE LINKED WITH ASSOCIATED VAV AHU CONTROLLER TO PERFORM THE FOLLOWING FUNCTIONS:

- 1. ZONE OCCUPANCY SCHEDULE (USER DEFINED) SHALL NORMALLY AUTOMATICALLY SELECT THE OCCUPIED OR UNOCCUPIED OPERATING MODE OF THE AIR HANDLING UNIT. ACTIVATION OF TIMED OVERRIDE SWITCH ON ZONE THERMOSTATS SHALL RESET ZONE HEATING AND COOLING SET POINTS TO OCCUPIED VALUES, BUT SHALL NOT AFFECT OTHERWISE SCHEDULED UNOCCUPIED OPERATING MODE OF THE AIR HANDLING UNIT.
- 2. DUCT STATIC PRESSURE RESET 3. DISCHARGE AIR TEMPERATURE RESET

THE FOLLOWING COMMANDS, DISPLAYS AND DATA SHALL BE AVAILABLE AT THE **OPERATORS TERMINAL:**

- 1. SPACE TEMPERATURE
- 2. OCCUPIED / UNOCCUPIED SPACE TEMPERATURE SET POINT . UNIT STATUS
- MINIMUM AND MAXIMUM AIR FLOW SET POINT (CFM) AIR FLOW READING (CFM)
- 6. HIGH / LOW SPACE TEMPERATURE ALARM 7. DISCHARGE AIR TEMPERATURE
- 8. HIGH DISCHARGE AIR TEMPERATURE ALARM 9. HW CONTROL VALVE POSITION

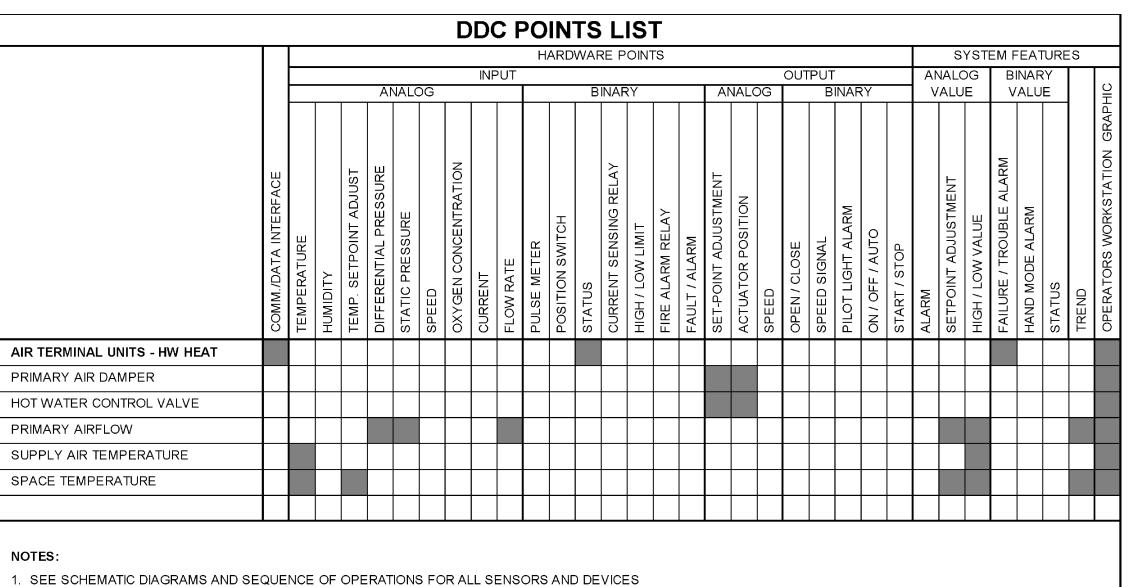


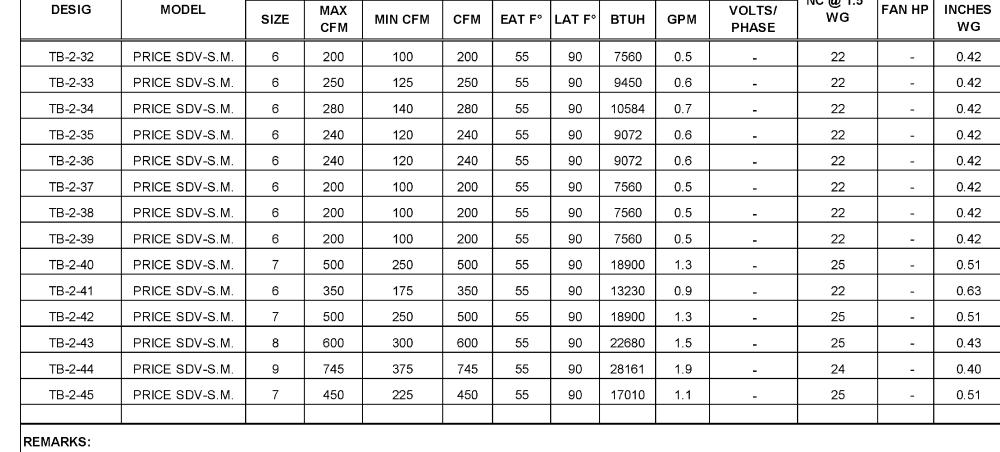


2. DDC CONTROLLER / ACTUATOR SUPPLIED AND FIELD INSTALLED BY CONTROLS CONTRACTOR

- 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.

Air Terminal Unit with HW Heat Controls M301.1 SCALE: NONE **DDC - Pressure Independent**





VARIABLE AIR VOLUME TERMINAL SCHEDULE

HEATING

. AIR TERMINAL UNIT MANUFACTURER BASIS OF DESIGN: PRICE

- 2. NC LEVEL IS DISCHARGE NC FOR SINGLE DUCT AIR TERMINALS
- B. AIR DP IS MAXIMUM ACROSS ASSEMBLY AND INCLUDES 2 ROW HEATING COIL FOR HEATING TERMINALS

PRIMARY AIR

- 4. ENTERING HOT WATER TEMPERATURE = 150 °F, LEAVING HOT WATER TEMPERATURE = 120 °F 5. MAXIMUM WATER PRESSURE DROP IS 5 FEET
- 6. HW COIL IS SIZED FOR 100% AIRFLOW
- 7. PROVIDE SOLID METAL LINER (S.M.)
- 8. MINIMUM TERMINAL SIZE SHALL BE 6"
- 9. PROVIDE FACTORY INSTALLED INSULATED ACCESS DOOR UPSTREAM OF RHC WITH QUARTER TURN LATCHES
- 10. TERMINAL UNITS SHALL BE PRESSURE INDEPENDENT WITH DIRECT DIGITAL CONTROLS
- 11. PROVIDE 120V CONTROL POWER TRANSFORMER WITH DISCONNECT 12. HOT WATER HEATING COILS SHALL BE HEADERED TYPE WITH MINIMUM TWO-ROWS
- 13. PROVIDE REMOVABLE AIRFLOW SENSOR

	AIR DISTRIBUTION SCHEDULE													
DESIG	TYPE	CFM RANGE	NECK SIZE	FACE SIZE	ROUND ADAPTER	MAX NC	MAX TP	FRAME	CONSTRUCTION	MODEL	NOTES			
^	LOUVERED FACE	51 - 110	6x6	24x24	6"Ø	15	0.10	LAY-IN	ALUMINUM	AMDA	1 - 5			
	A SUPPLY DIFFUSER	111 - 240	9x9	24x24	8"Ø	20	0.10	LAT-IIV	ALOMINOM	AIVIDA	1-3			
В	PERFORATED FACE RETURN GRILLE	0 - 600	18x18	24x24	N/A	15	0.02	LAY-IN	ALUMINUM	APDR	1 - 4			
С	LOUVERED FACE EXHAUST DIFFUSER	0 - 100	8x8	24x24	6"Ø	15	0.04	LAY-IN	ALUMINUM	635	1, 5			

1. DIFFUSERS AND GRILLES TO BE BY PRICE OR APPROVED EQUIVALENT

2. B12 WHITE POWDER COAT FINISH

3. DEVICES LOCATED IN ACOUSTICAL TILE CEILINGS SHALL BE PROVIDED WITH FACTORY SHEET METAL PANEL. 4. FRAME TYPE SHALL BE COMPATIBLE WITH MOUNTING SURFACE. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

5. PROVIDE FACTORY ROUND ADAPTOR WITH OPENING CENTERED IN FACE

Doom	Pz	R _p	\mathbf{A}_{z}	R _a	V _{bz}	Ez	\mathbf{V}_{oz}	Ez	V_{oz}
Room	People	(CFM / person)	Area (Ft ²)	(CFM / Ft ²)	(CFM)	(Cooling)	(CFM)	(Heating)	(CFM)
100 - CORRIDOR	0	0	992	0.06	59.5	1	59.5	0.8	74.4
198 - CORRIDOR	0	0	912	0.06	54.7	1	54.7	0.8	68.4
154 - PROG. ASSITANT	1	5	303	0.06	23.2	1	23.2	0.8	29.0
154A - OFFICE	1	5	127	0.06	12.6	1	12.6	0.8	15.8
154B - OFFICE	1	5	127	0.06	12.6	1	12.6	0.8	15.8
154C - OFFICE	1	5	127	0.06	12.6	1	12.6	0.8	15.8
154D - OFFICE	1	5	127	0.06	12.6	1	12.6	0.8	15.8
154E - WORKROOM	2	5	136	0.06	18.2	1	18.2	0.8	22.7
154F - OFFICE	1	5	134	0.06	13.0	1	13.0	0.8	16.3
154G - OFFICE	1	5	218	0.06	18.1	1	18.1	0.8	22.6
154H - OFFICE	1	5	161	0.06	14.7	1	14.7	0.8	18.3
154I - OFFICE	1	5	132	0.06	12.9	1	12.9	0.8	16.2
154J - OFFICE	1	5	132	0.06	12.9	1	12.9	0.8	16.2
154K - DIRECTOR'S OFFICE	1	5	194	0.06	16.6	1	16.6	0.8	20.8
154L - OFFICE	1	5	115	0.06	11.9	1	11.9	0.8	14.9
154M - OFFICE	1	5	114	0.06	11.8	1	11.8	0.8	14.8
154N - OFFICE	1	5	135	0.06	13.1	1	13.1	0.8	16.4
1540 - OFFICE	1	5	132	0.06	12.9	1	12.9	0.8	16.2
154P - OFFICE	1	5	132	0.06	12.9	1	12.9	0.8	16.2
154Q - OFFICE	1	5	134	0.06	13.0	1	13.0	0.8	16.3
154R - OFFICE	1	5	134	0.06	13.0	1	13.0	0.8	16.3
154S - OFFICE	1	5	134	0.06	13.0	1	13.0	0.8	16.3
154T - OFFICE	1	5	134	0.06	13.0	1	13.0	0.8	16.3
154U - MEETING ROOM	3	5	146	0.06	23.8	1	23.8	0.8	29.7
155 - FACULTY LOUNGE	4	5	521	0.06	51.3	1	51.3	0.8	64.1
127 - SOUTH STUDENT COMMONS	0	5	766	0.06	46.0	1	46.0	0.8	57.5
128 - NORTH STUDENT COMMONS	0	5	798	0.06	47.9	1	47.9	0.8	59.9
129 - NORTH STUDENT COMMONS	0	5	332	0.06	19.9	1	19.9	0.8	24.9
101 - PROGRAM ASSITANT	1	5	407	0.06	29.4	1	29.4	0.8	36.8
101A - DEAN'S OFFICE	1	5	271	0.06	21.3	1	21.3	0.8	26.6
101B - OFFICE	1	5	128	0.06	12.7	1	12.7	0.8	15.9
101C - OFFICE	1	5	117	0.06	12.0	1	12.0	0.8	15.0
101D - OFFICE	1	5	207	0.06	17.4	1 1	17.4	0.8	21.8

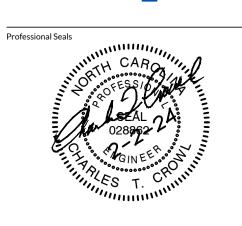
RTU V_{oz} (CFM): Cooling = 690.7 Heating = 863.4

Note: Ventilation rates are based on the NCMC Table 403.3.1.1 & ASHRAE 62.1-2013 Table 6-1 Retail Stores Occupancy Classification



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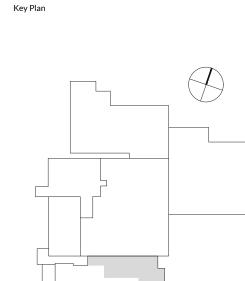
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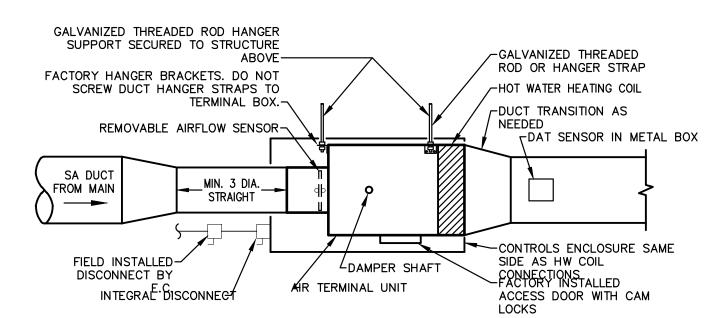
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Project Number: 22-010.1 CTC Checked: 2/2/2024 Date:

Mechanical Schedules and **Sequence of Operations -**Phase 4

Return Air Grille Detail

LENGTH OF NECK VARIES
MINIMUM 12" LONG

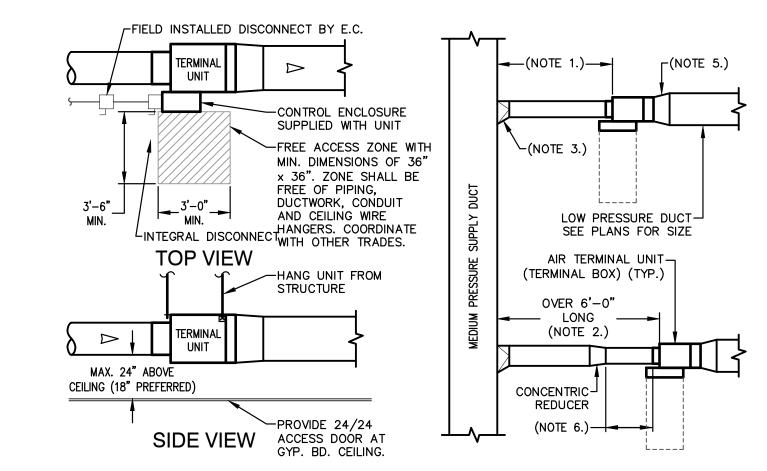


NOTES: 1. PROVIDE COMPLETE PRESSURE INDEPENDENT CONTROLS PACKAGE

DISTRIBUTION SCHEDULE -

- 2. PROVIDE NEC REQUIRED 3'-0" ACCESS CLEARANCE IN FRONT OF CONTROL PANEL. COORDINATE HAND CONFIGURATION OF CONTROL PANEL WITH ALL OTHER TRADES PRIOR TO PROCUREMENT.
- 3. CONTROL PANEL AND HOT WATER PIPING ACCESSORIES SHALL BE ACCESSIBLE WITHIN 24" OF CEILING
- 4. SEE COIL PIPING DETAIL AND VAV TERMINAL BOX SCHEDULE FOR ADDITIONAL REQUIREMENTS
- 5. WHERE HEATING COILS ARE NOT FACTORY INSULATED, FIELD INSTALL INSULATION ON HEATING COIL

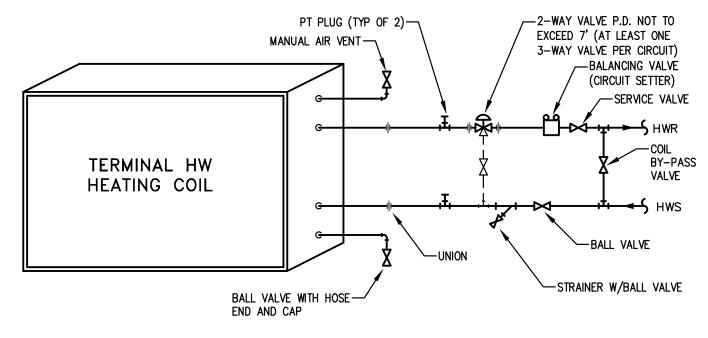




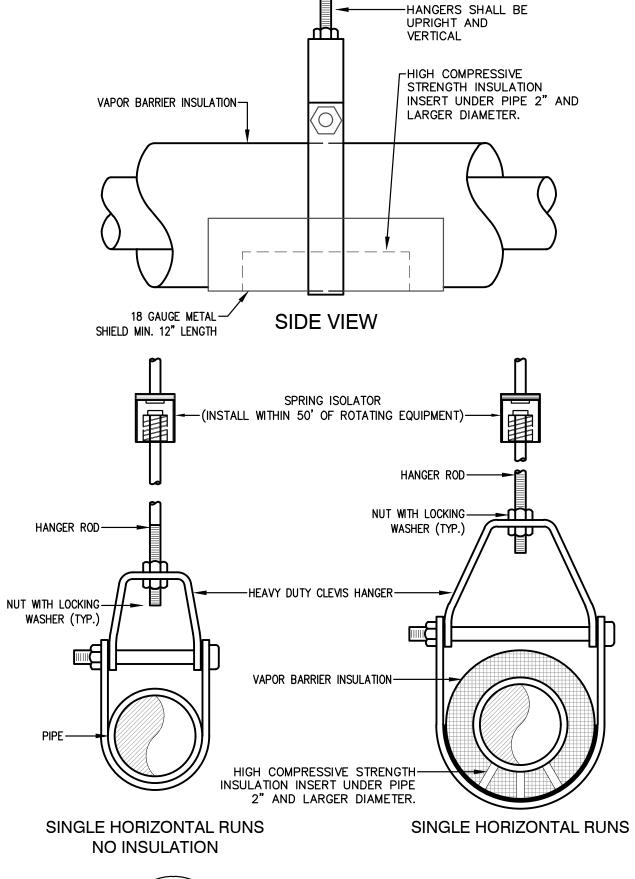
NOTES: 1. PROVIDE 3 DUCT DIAMETERS, MINIMUM 24" LONG, SECTION OF STRAIGHT SHEET METAL DUCT (MAXIMUM LENGTH OF 6') AT THE INLET OF EACH TERMINAL UNIT. SEE TERMINAL UNIT SCHEDULE FOR INLET DUCT SIZE.

- 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

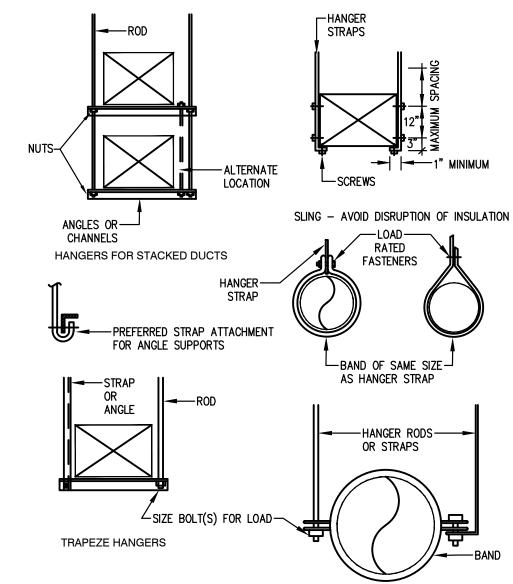
7 Terminal Unit Inlet & Discharge Ductwork M401.1 SCALE: NONE



6 Terminal HW Coil Diagram
M402 SCALE: NONE



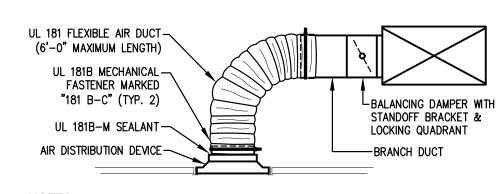




NOTES: 1. REINFORCEMENT MAY BE USED FOR ATTACHMENT IF IT QUALIFIES FOR BOTH DUTIES. DO NOT EXCEED LOAD RATINGS FOR METHOD USED.

- PROVIDE TRAPEZE HANGERS FOR OVAL DUCTS & RECTANGULAR DUCTS 36" & WIDER AND FOR MEDIUM AND HIGH PRESSURE DUCTS
 SUPPORT CHANNEL TRAPEZE HANGERS BY RODS
- 4. HANGER RODS SHALL BE ATTACHED WITH WASHER, THREAD LOCKER, &

4 Typical Duct Hangers M401.1 SCALE: NONE



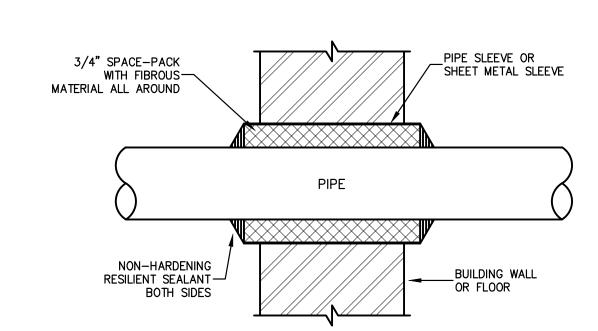
NOTES:

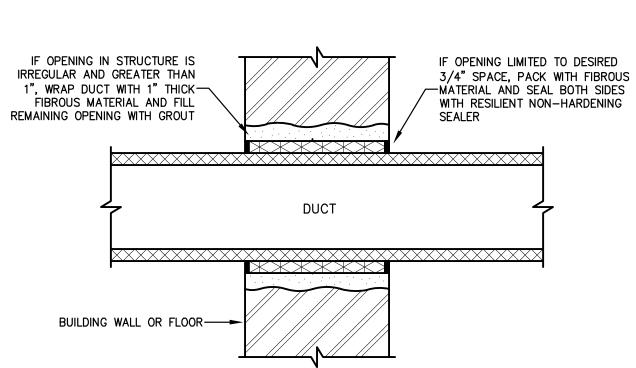
1. FLEXIBLE DUCTS SHALL NOT BE INSTALLED ABOVE HARD CEILINGS, ABOVE INACCESSIBLE CEILINGS, ON HIGH PRESSURE SYSTEMS, AND EXHAUST SYSTEMS

- INACCESSIBLE CEILINGS, ON HIGH PRESSURE SYSTEMS, AND EXHAUST SYSTE

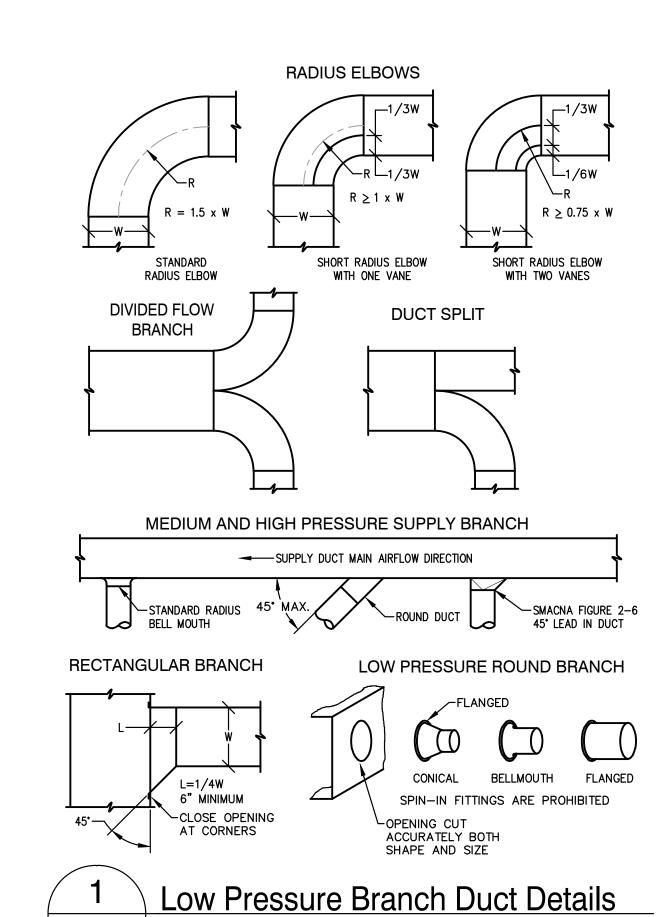
 2. FLEXIBLE DUCTS SHALL BE INSTALLED MIN. 4" ABOVE CEILING
- 3. SUPPORT FLEXIBLE DUCT WITH INTERMEDIATE SUPPORTS TO LIMIT 4" PER FOOT MAXIMUM DEFLECTION
- 4. AIR DISTRIBUTION DEVICE BACKPAN SHALL BE INSULATED
- 5. PROVIDE VELOCITY GRID ON DIFFUSERS WITH LESS THAN TWO STRAIGHT INLET DIAMETERS AT DUCT CONNECTION

Air Device Connection Detail
M401.1 SCALE: NONE









M401.1 SCALE: NONE



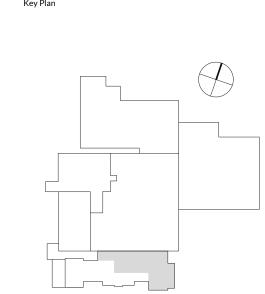
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Francis Center Health Sciences Renovation -Phase 4

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Drawn: RAS

Checked: CTC

Date: 2/2/2024

Mechanical Schedules and Sequence of Operations - Phase 4

M401_1

FIRE ALARM RENOVATION GENERAL NOTES:

OUTSIDE

- 1. FIRE ALARM CONTRACTOR TO REVISE EXISTING ADDRESSABLE SILENT KNIGHT FIRE ALARM SYSTEM. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING RACEWAY, BOXES AND POWER TO ALL PERIPHERAL FIRE ALARM EQUIPMENT FOR A COMPLETE TURN KEY SYSTEM. REFER TO THE RENOVATION PLANS FOR QUANTITY AND LOCATION OF NEW DEVICES.
- 2. INSTALL NEW FIRE ALARM NOTIFICATION DEVICES. ADD BATTERIES OR BOOSTER PANEL(S) AS REQUIRED. 3. INSTALLATION OF ALL NEW FIRE ALARM DEVICES MUST COMPLY WITH NFPA 72 (2013) AND 2018 NC
- BUILDING CODE. 4. FIRE ALARM WIRING MAY BE RUN AS OPEN CABLE ABOVE LAY-IN CEILINGS. WIRING FROM FIRE ALARM DEVICES TO ABOVE CEILING SHALL BE RUN IN CONDUIT CONCEALED IN WALLS WITH WALL CONDUIT STUBBED OUT TO NEAREST ACCESSIBLE CEILING. CABLING SHALL BE PLENUM RATED. ALL CABLING WHERE EXPOSED OR ROUTED IN INACCESSIBLE SPACES SHALL BE IN
- 5. FIRE ALARM CIRCUITS EXPOSED IN UNFINISHED MECHANICAL SPACES SHALL BE IN CONDUIT
- 6. ALL WIRING CONNECTIONS TO BE AT PANELS, DEVICES OR TERMINAL CABINET. NO JOINTS OR 'T'-TAPS
- 7. FIRE ALARM CONTRACTOR TO VERIFY CAPACITY OF ANY MODIFIED EXISTING NOTIFICATION CIRCUITS AND ADD CIRCUITS AND/OR BATTERY POWER AS REQUIRED. PERFORM BATTERY AND VOLTAGE DROP CALCULATIONS AS PART OF VERIFICATION.
- 8. FIRE ALARM CONTRACTOR TO PROVIDE 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, WIRING DIAGRAM AND CALCULATIONS. WIRING DIAGRAMS SHALL BE BASED ON THE PROJECT FLOOR PLANS WITH DEVICES AND PROPOSED CONDUIT
- 9. PROVIDE UPDATED ZONE MAPS TO REFLECT SYSTEM MODIFICATIONS AND NEW ROOM NUMBERS AND IDENTIFICATION. CONFIRM FINAL ROOM NAMING SCHEME PRIOR TO PROGRAMMING AND ZONE MAP PREP.
- 10. MAINTAIN A MINIMUM OF 3' DISTANCE FROM ALL HVAC SUPPLY AND RETURN GRILLES WHEN INSTALLING NEW SMOKE DETECTORS. FIELD COORDINATE WITH MECHANICAL CONTRACTOR AND AS BUILT CONDITIONS.
- 11. ALL NOTIFICATION DEVICES WITH A STROBE COMPONENT MUST BE SYNCHRONIZED THROUGHOUT RENOVATION/ADDITION AREA.
- 12. ONCE POINTS ARE PROGRAMMED IN THE FIRE ALARM CONTROL PANEL, THESE POINTS ARE TO ALSO BE PROGRAMMED BY THE FIRE ALARM CONTRACTOR IN THE MICROKEY APPLICATION THAT INTERFACES WITH SUR-GARD SYSTEM 1 CENTRAL STATION RECEIVER AT THE ELON SECURITY

	FIRE ALARM SYMBOLS		ELECTRICAL SYMBOLS
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
S	SMOKE DETECTOR	•	LAY-IN TROFFER (REFER TO SCHEDULE FOR TYPE)
Ю	HEAT DETECTOR		EMERGENCY LIGHT ON TRANSFER SWITCH (REFER TO DETAIL 1/E400)
Ē	MANUAL PULL STATION	8	EXIT LIGHT (REFER TO SCHEDULE FOR TYPE)
∨ #	VISUAL ONLY NOTIFICATION DEVICE (# INDICATES CANDELA)	\$	LIGHT CONTROL SWITCH (3 OR 4-WAY OR KEYED AS INDICATED)
E1 #	HORN AND STROBE NOTIFICATION DEVICE (# INDICATES CANDELA)	\$,	LIGHT CONTROL SWITCH WITH INTEGRAL TIMER. WATTSTOPPER TS-400. PROGRAM FOR AUDIBLE AND VISUAL WARNING.
FACP	FIRE ALARM CONTROL PANEL	Φos	DIMMER SWITCH WITH INTEGRAL OCCUPANCY SENSOR
©	SMOKE DAMPER		NEW HOMERUN (EX. PANEL 'A', CIRCUIT 15)
DD	DUCT-MOUNTED SMOKE DETECTOR		NEW UNSWITCHED LIGHTING CIRCUIT
TS	TAMPER SWITCH		NEW POWER OR LIGHTING CIRCUIT
FS	FLOW SWITCH	**	DUPLEX RECEPTACLE. 'C' DENOTES CEILING MOUNTED.
LT	LOW TEMP SENSOR	→	QUAD RECEPTACLE
		₩	240VAC RECEPTACLE
		₩C	ELECTRIC WATER COOLER RECEPTACLE
		₩USB	RECEPTACLE WITH INTEGRAL USB TYPE A AND TYPE C
		₩P USB	DUPLEX RECEPTACLE WITH (1) USB-C AND (1) USB-A WEATHER RESISTANT CHARGING PORT WITH A WEATHERPROOF WHILE-IN-USE COVER
		•	SPECIFIC NEMA PLUG - REFER TO PLANS FOR TYPE
		FB	CAST IN PLACE ON-GRADE FLOOR BOX. RFB4-CI-NA OR EQUAL. ONE DUPLEX RECEPTACLE AND TWO DATA PORTS
		-	DISCONNECT SWITCH - REFER TO DISCONNECT SCHEDULE FOR DETAILS
			POWER PANEL - SEE PLANS AND SCHEDULES FOR DETAILS
		(POWER SYSTEM JUNCTION BOX
			WIREMOLD SYSTEM - LEGRAND 4000 SERIES DIVIDED RACEWAY
		\neg	TELECOM OUTLET
		\neg	TELEPHONE OUTLET
		<u>©</u>	LOW VOLTAGE EXTENDED RANGE DUAL TECHNOLOGY OCCUPANCY SENSOR
		ELTS	EMERGENCY LIGHTING TRANSFER DEVICE
		→ AV	AV BOX AT LECTERN 6"x6". SEE DETAIL 5/E400.
		G	GROUND FAULT CIRCUIT INTERRUPTER
		AC	DEVICE MOUNTED ABOVE COUNTER BACKSPLACE
		RE	DEVICE TO BE RELOCATED

NEW NOTIFICATION CIRCUIT AS

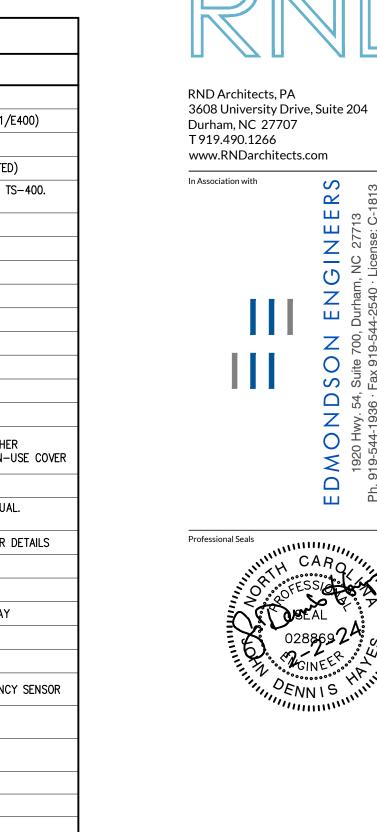
V FK V FK V REQUIRED

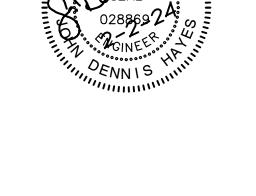
BOOSTER

EXISTING NOTIFICATION CIRCUIT

EX. 120V

EXISTING SILENT KNIGHT

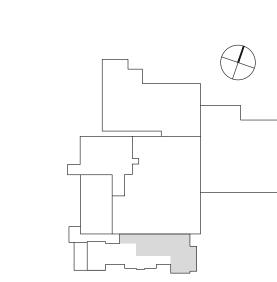






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LEVEL 1

BASEMENT MECH. ROOM

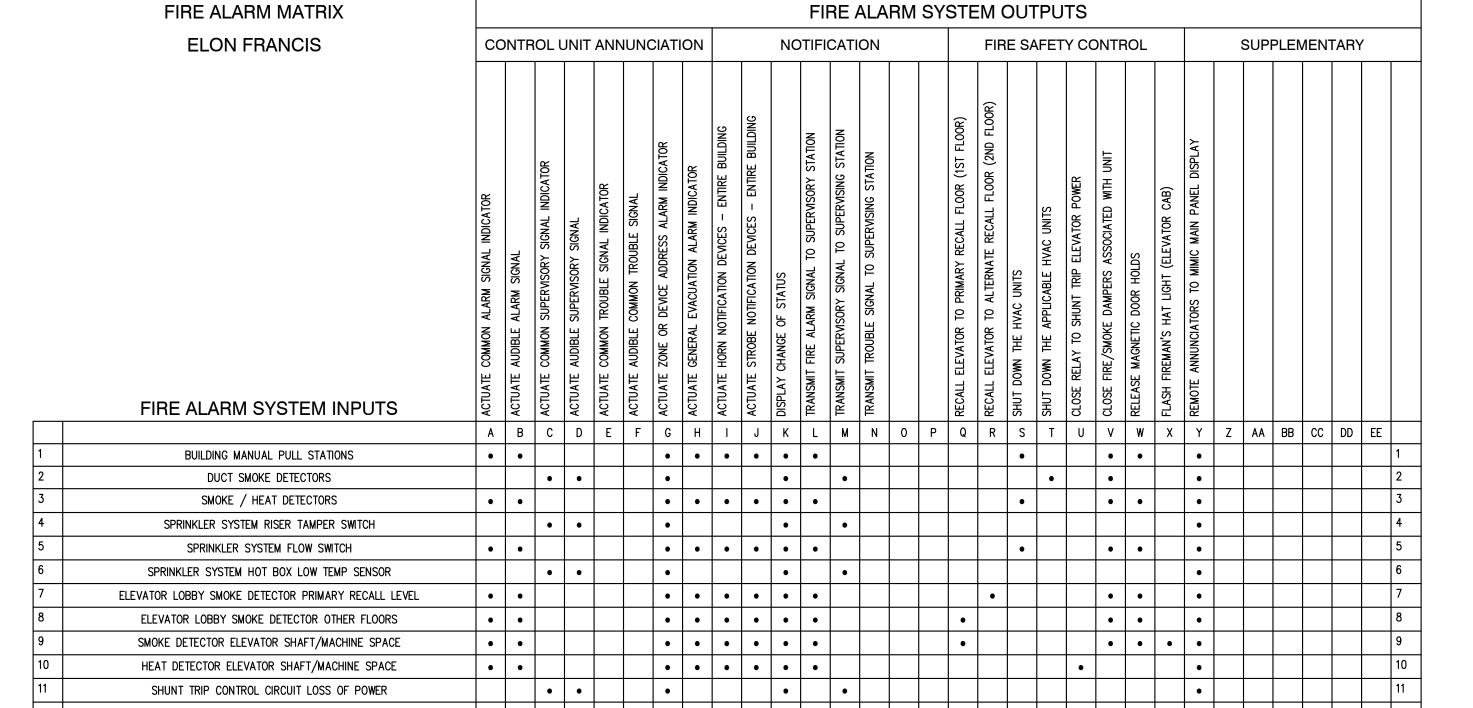
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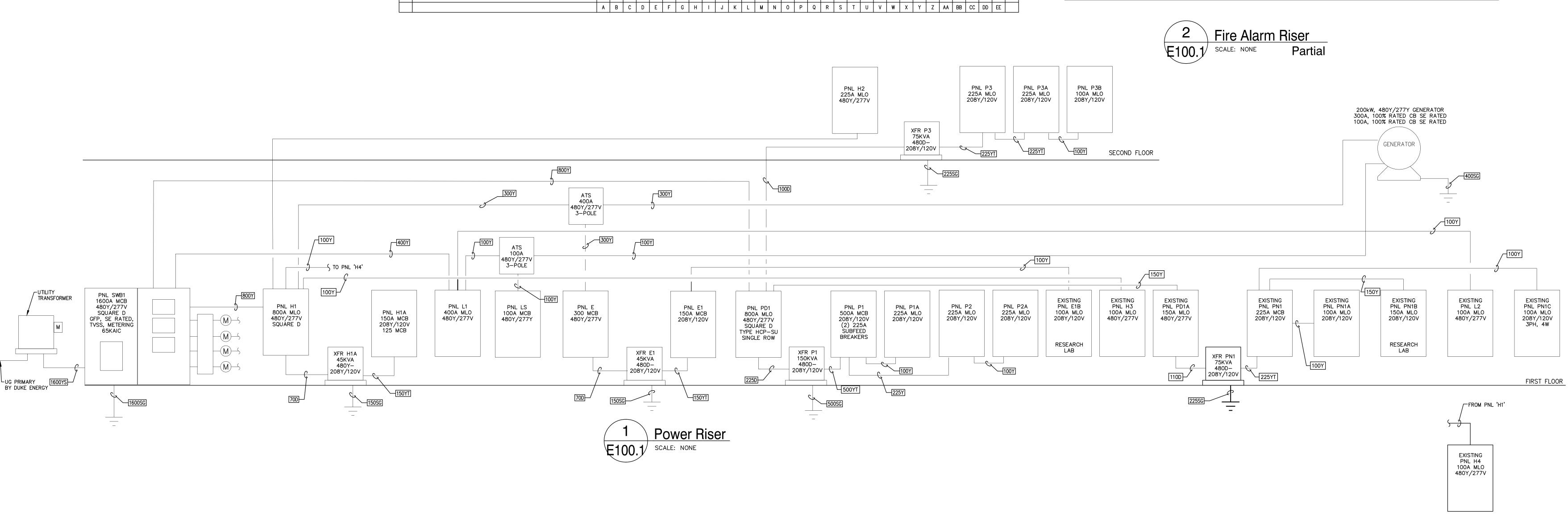
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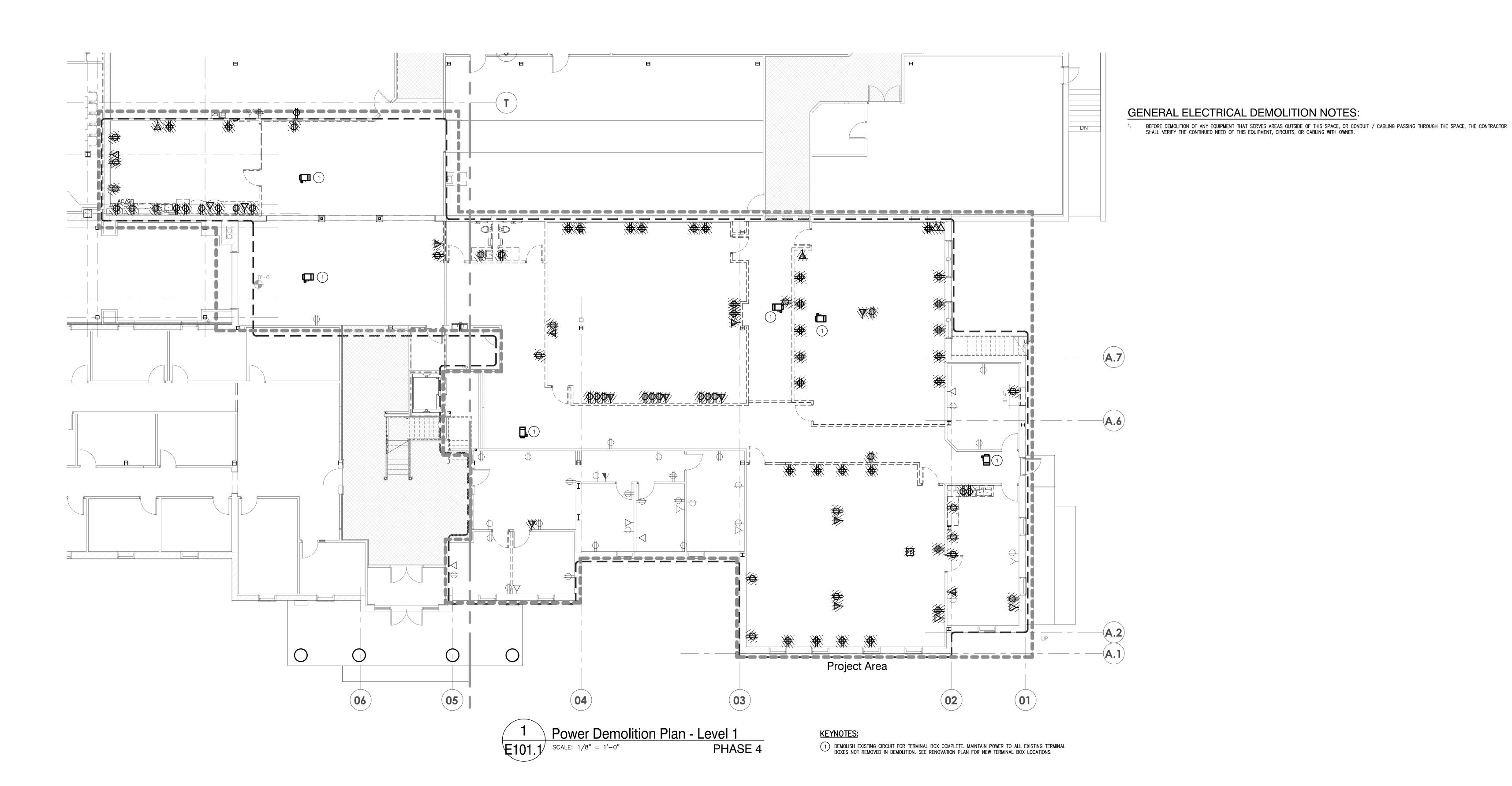
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Sheet Title
Electrical Demolition Plan Level 1 - Phase 4

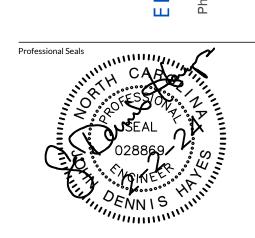
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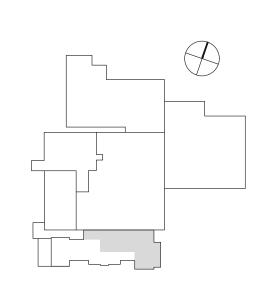




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Key Plan

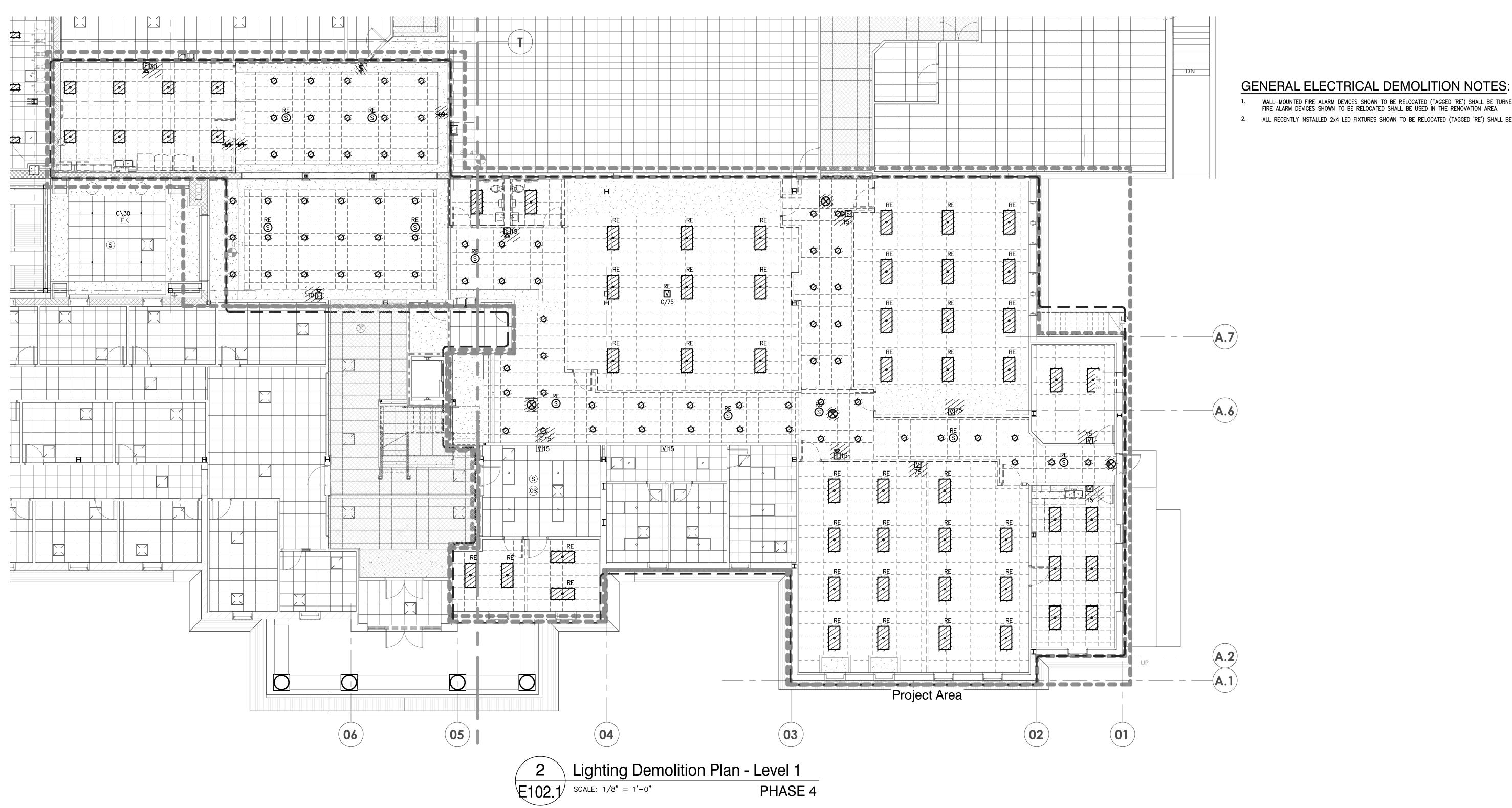


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Date: Sheet Title
Electrical Demolition Plan Level 1 - Phase 4



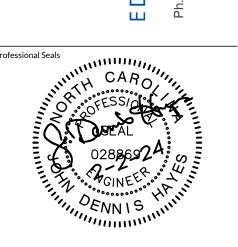


WALL-MOUNTED FIRE ALARM DEVICES SHOWN TO BE RELOCATED (TAGGED 'RE') SHALL BE TURNED OVER TO OWNER FOR USE AS SPARE PARTS. CEILING MOUNTED FIRE ALARM DEVICES SHOWN TO BE RELOCATED SHALL BE USED IN THE RENOVATION AREA.

ALL RECENTLY INSTALLED 2x4 LED FIXTURES SHOWN TO BE RELOCATED (TAGGED 'RE') SHALL BE REINSTALLED IN THE RENOVATED PROJECT AREA.



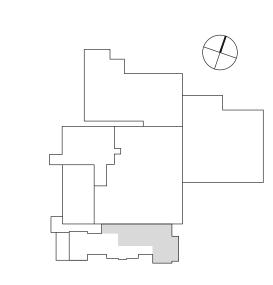
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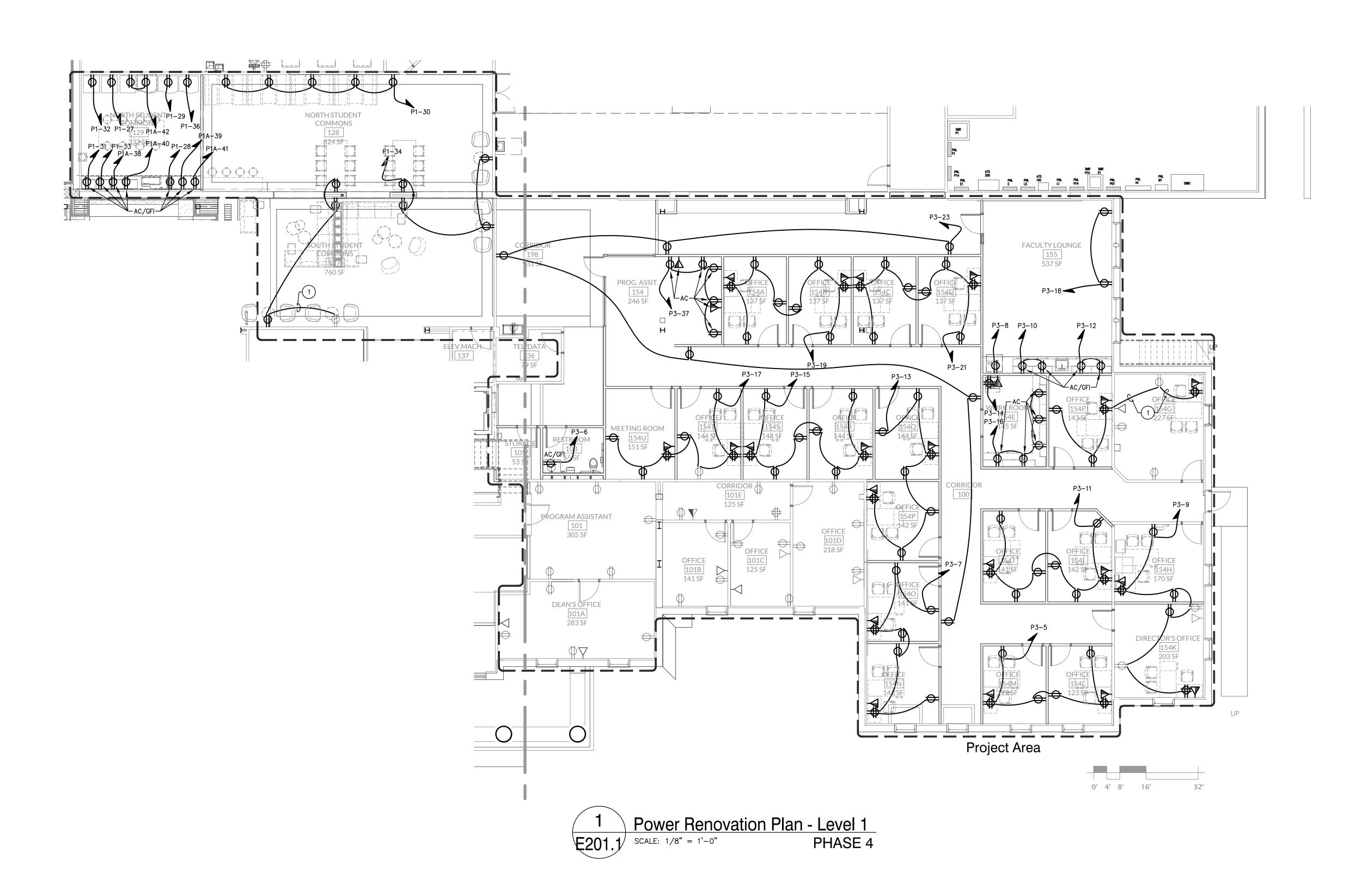


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Electrical Demolition Plan Level 1 - Phase 4



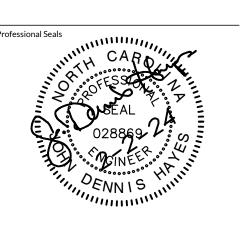
KEYNOTES:

1) EXTEND AND REWORK EXISTING ROOM RECEPTACLE CIRCUIT TO ADD NEW RECEPTACLES AS SHOWN. TRACE CIRCUIT AND IDENTIFY ON DEVICE COVER PLATES.



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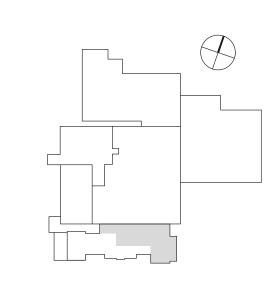






Francis Center **Health Sciences Renovation** -Phase 4

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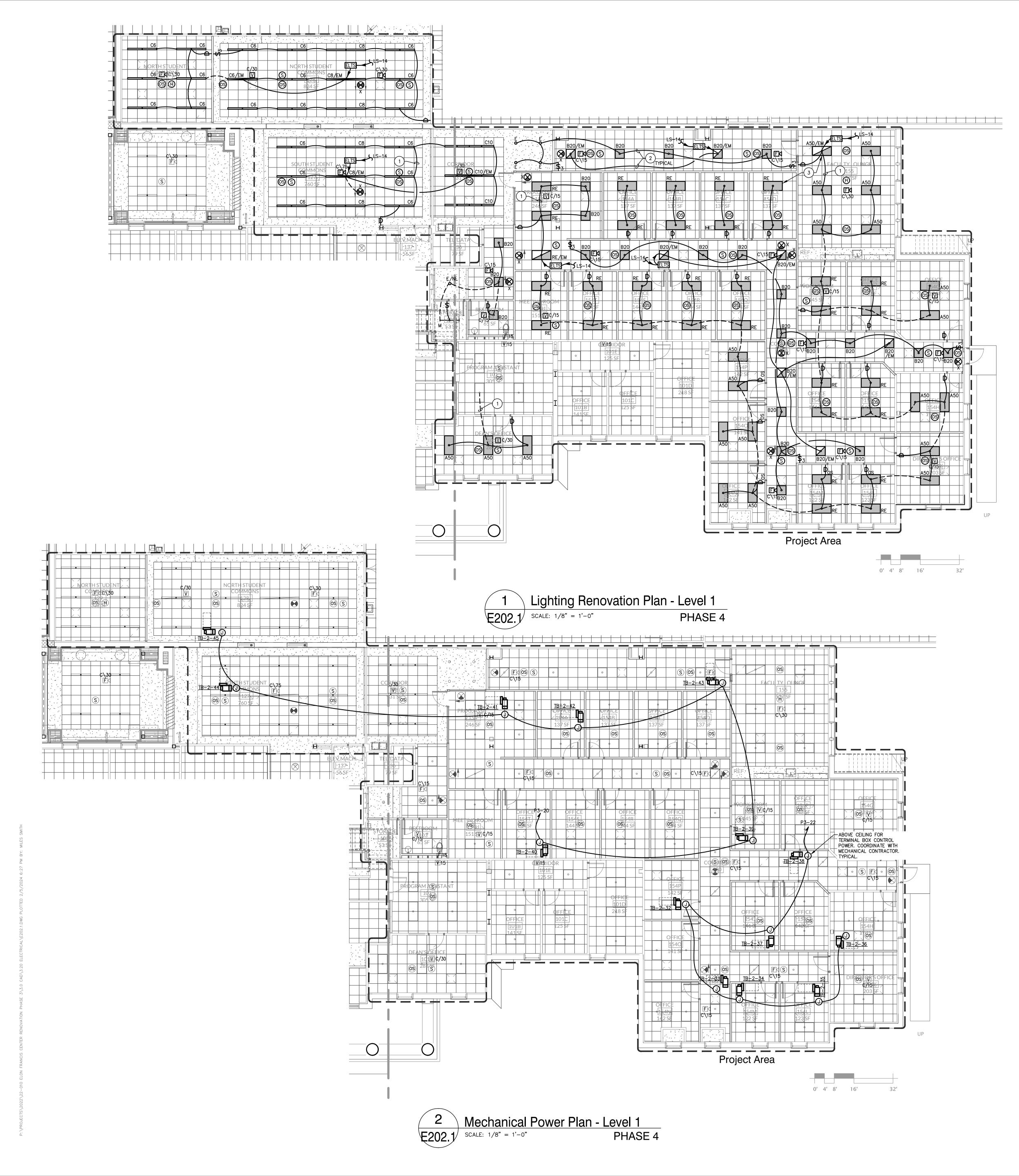


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Sheet Title
Electrical Renovation Plan Level 1 - Phase 4





<u>NOTES:</u>

1. '/EM' INDICATES FIXTURE IS FED FROM GENERATOR LIFE SAFETY CIRCUIT.

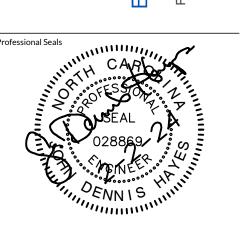
KEYNOTES:

- (1) CONNECT TO EXISTING AREA LIGHTING CIRCUIT.
- 2) SEE DETAIL 1/E400.1 FOR CORRIDOR LIGHTING CONTROL WIRING.
- 3 OFFICE 2X4 LED FIXTURES TO BE REUSED FROM DEMO PROJECT AREA. TYPICAL ALL FIXTURES LABELED 'RE'.

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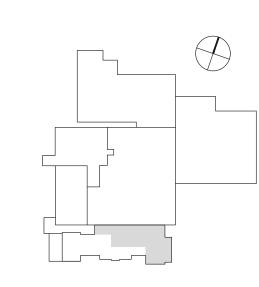
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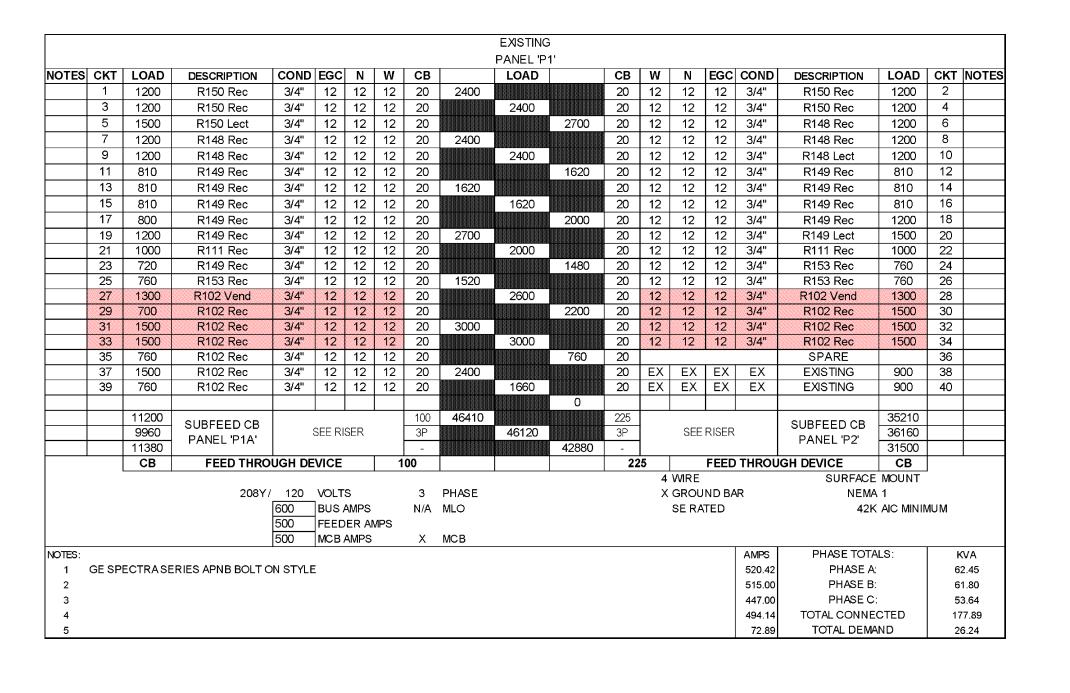
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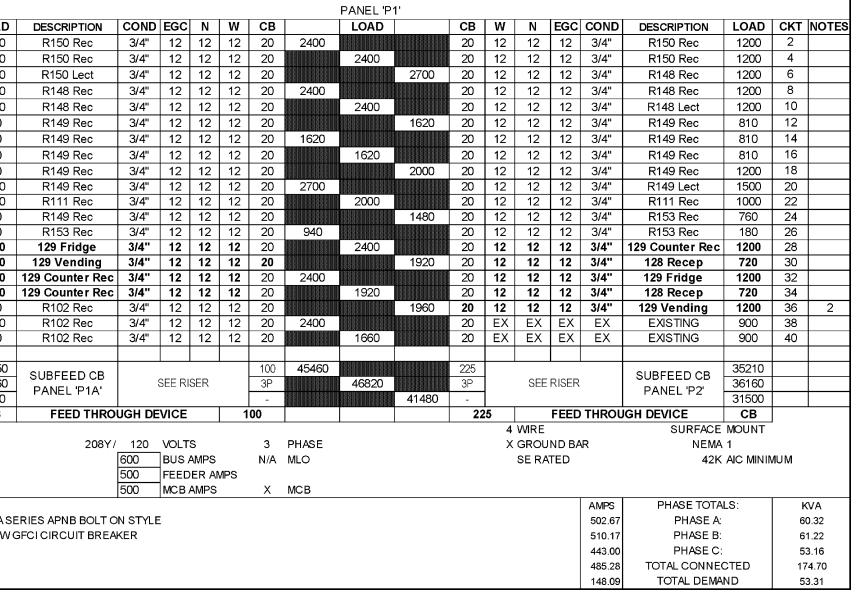
Original drawing is 30" x 42". Do not scale contents of this drawing.

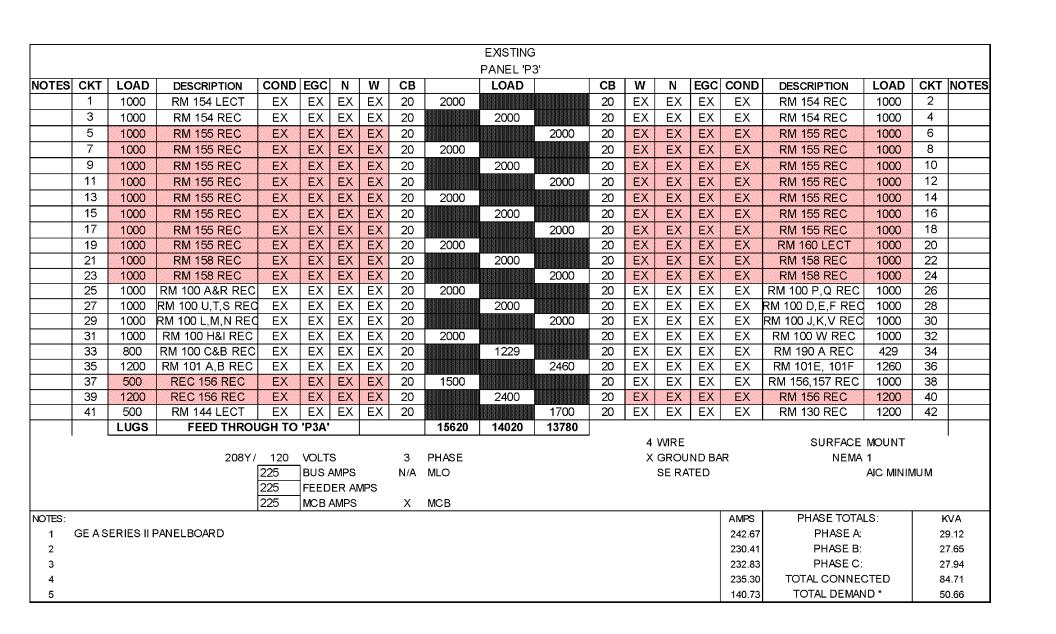
Project Number: 22-010.1
Drawn: MS3
Checked: LDH
Date: 2/2/2024

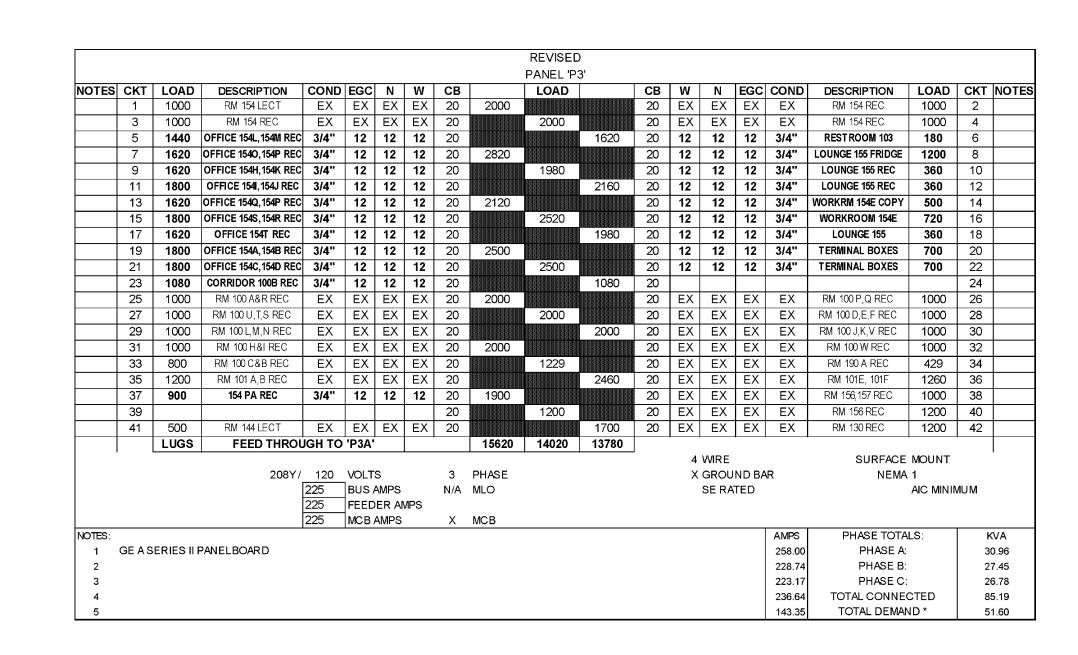
Sheet Title
Electrical Renovation Plan
Level 1 - Phase 4

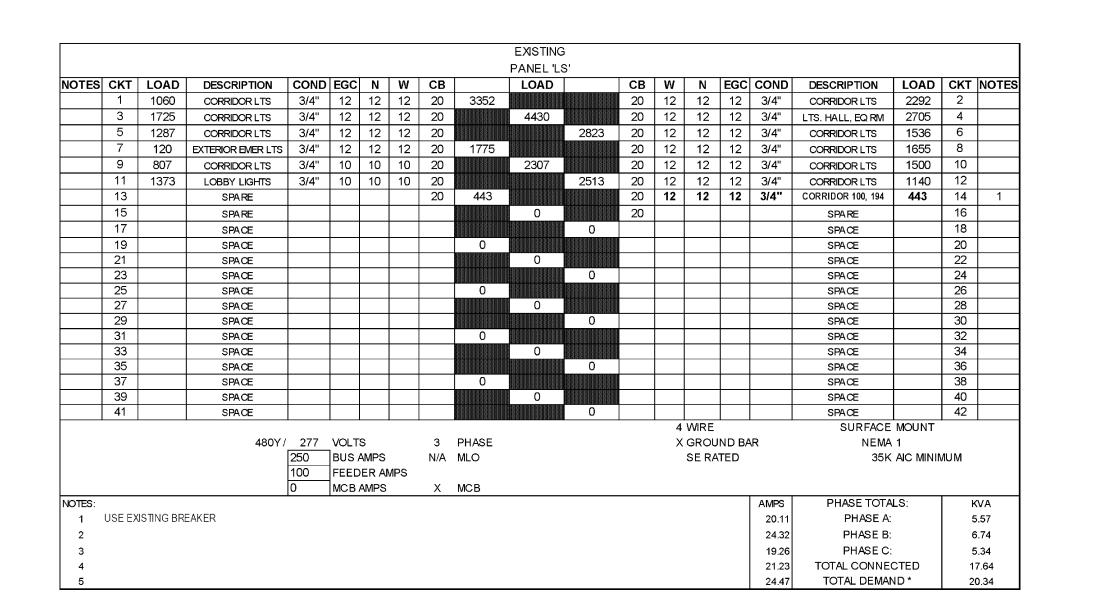


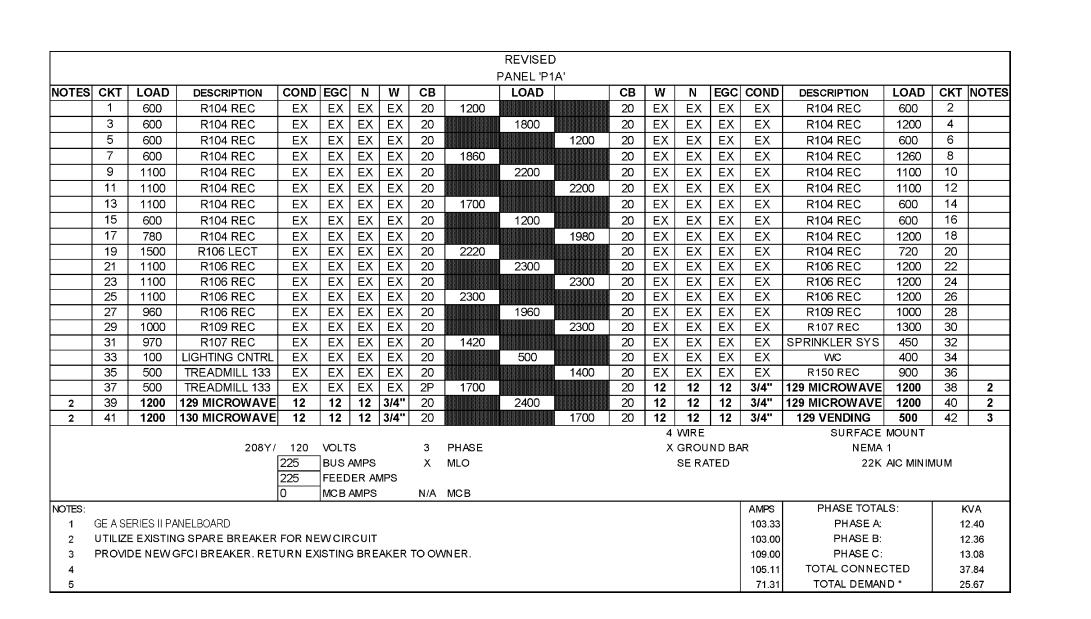
										RENOVAT										
									_	PANEL 'P	1'									
NOTES	CKT	LOAD	DESCRIPTION	COND			W	СВ		LOAD		СВ	W	N		COND	DESCRIPTION	LOAD		NOTE
	1	1200	R150 Rec	3/4"	12	12	12	20	2400			20	12	12	12	3/4"	R150 Rec	1200	2	
	3	1200	R150 Rec	3/4"	12	12	12	20		2400		20	12	12	12	3/4"	R150 Rec	1200	4	
	5	1500	R150 Lect	3/4"	12	12	12	20			2700	20	12	12	12	3/4"	R148 Rec	1200	6	
	7	1200	R148 Rec	3/4"	12	12	12	20	2400			20	12	12	12	3/4"	R148 Rec	1200	8	
	9	1200	R148 Rec	3/4"	12	12	12	20		2400		20	12	12	12	3/4"	R148 Lect	1200	10	
	11	810	R149 Rec	3/4"	12	12	12	20			1620	20	12	12	12	3/4"	R149 Rec	810	12	
	13	810	R149 Rec	3/4"	12	12	12	20	1620			20	12	12	12	3/4"	R149 Rec	810	14	
	15	810	R149 Rec	3/4"	12	12	12	20		1620		20	12	12	12	3/4"	R149 Rec	810	16	
	17	800	R149 Rec	3/4"	12	12	12	20			2000	20	12	12	12	3/4"	R149 Rec	1200	18	
	19	1200	R149 Rec	3/4"	12	12	12	20	2700			20	12	12	12	3/4"	R149 Lect	1500	20	
	21	1000	R111 Rec	3/4"	12	12	12	20		2000		20	12	12	12	3/4"	R111 Rec	1000	22	
	23	720	R149 Rec	3/4"	12	12	12	20			1480	20	12	12	12	3/4"	R153 Rec	760	24	
	25	760	R153 Rec	3/4"	12	12	12	20	940			20	12	12	12	3/4"	R153 Rec	180	26	
	27	1200	129 Fridge	3/4"	12	12	12	20		2400		20	12	12	12	3/4"	129 Counter Rec	1200	28	
2	29	1200	129 Vending	3/4"	12	12	12	20			1920	20	12	12	12	3/4"	128 Recep	720	30	
	31	1200	129 Counter Rec	3/4"	12	12	12	20	2400			20	12	12	12	3/4"	129 Fridge	1200	32	
	33	1200	129 Counter Rec		12	12	12	20		1920		20	12	12	12	3/4"	128 Recep	720	34	
	35	760	R102 Rec	3/4"	12	12	12	20			1960	20	12	12	12	3/4"	129 Vending	1200	36	2
	37	1500	R102 Rec	3/4"	12	12	12	20	2400			20	EX	EX	EX	EX	EXISTING	900	38	
	39	760	R102 Rec	3/4"	12	12	12	20		1660		20	EX	EX	EX	EX	EXISTING	900	40	
		40050						400	45.400			005						05040		
		10250	SUBFEED CB		CEE DI	CED		100	45460	40000		225	1	CEE	DICED		SUBFEED CB	35210		
		10660	PANEL 'P1A'		SEE RI	SER		3P		46820	44.400	3P	1	SEE	RISER		PANEL 'P2'	36160		
		9980	FEED TUDO		3/105			-			41480	-					OU DEV# OF	31500		
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3		J_ 14_00 C	S. S. SINOSII BINEA													443.00	PHASE C:		1	3.16
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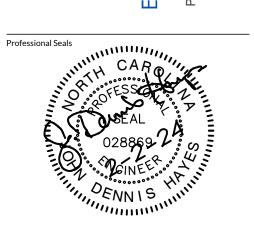








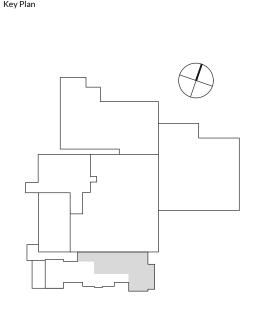






Francis Center Health Sciences Renovation -Phase 4

762 East Haggard Ave., Elon, NC

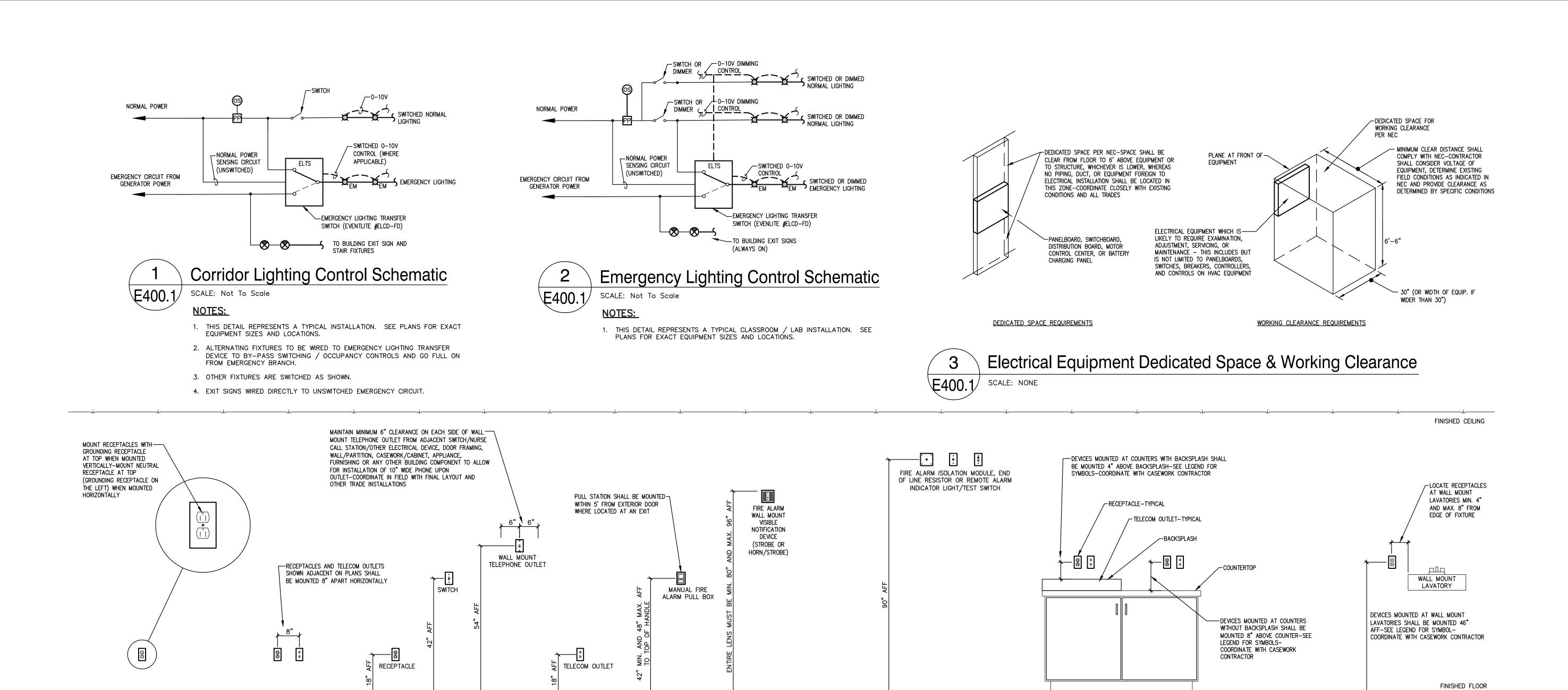


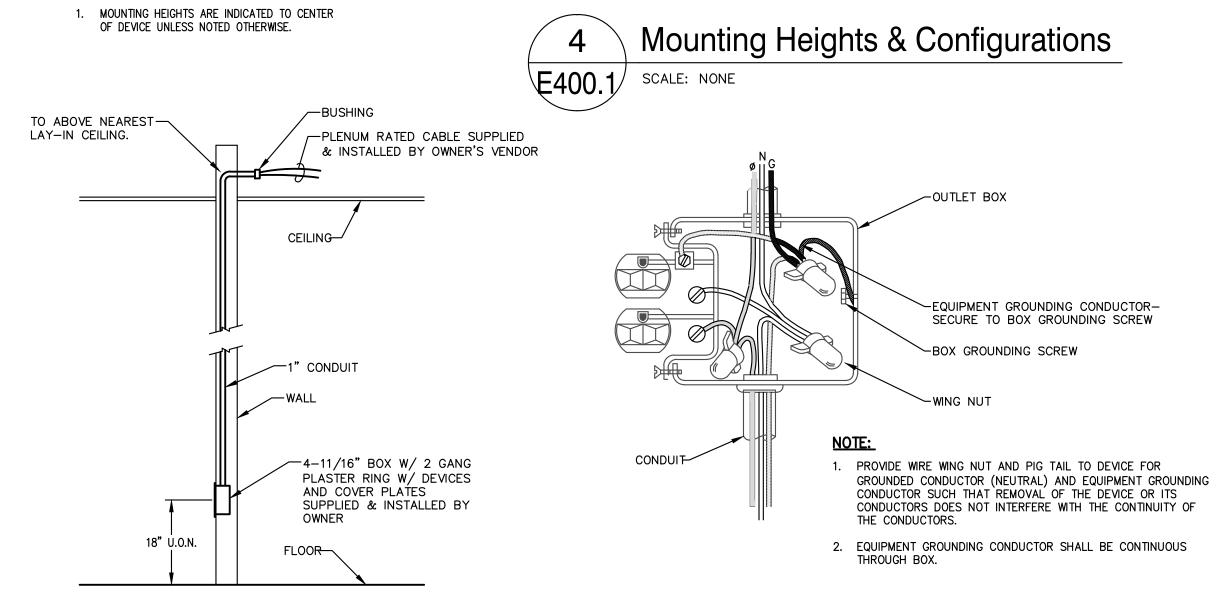
Revisions No. Date Description

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Project Number: 22-010.1 MS3 Drawn: JDH Checked: 2/2/2024 Date:

Sheet Title **Electrical Panel** Schedules - Phase 4





Typical Data/Communications Outlet Installation

E400.1 SCALE: NONE



RNC

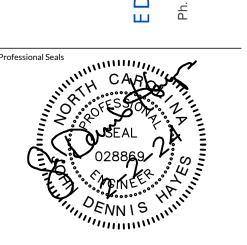
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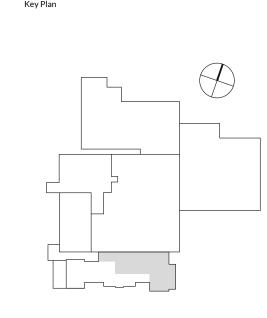
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Sheet Title
Electrical Details Phase 4