

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		BPA NO.	1. CONTRACT ID CODE	PAGE 1	OF 1	PAGES
2. AMENDMENT/MODIFICATION NUMBER 0005		3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NUMBER		5. PROJECT NUMBER (if applicable) 679-22-106	
6. ISSUED BY Department of Veterans Affairs VISN 7 Network Contracting Office TUSCALOOSA VAMC 3701 Loop Road Tuscaloosa AL 35404		CODE 36C247	7. ADMINISTERED BY (If other than Item 6) Department of Veterans Affairs VISN 7 Network Contracting Office TUSCALOOSA VAMC 3701 Loop Road Tuscaloosa AL 35404		CODE 36C247	
8. NAME AND ADDRESS OF CONTRACTOR (Number, street, county, State and ZIP Code) To all Offerors/Bidders			(X)	9A. AMENDMENT OF SOLICITATION NUMBER 36C24725R0031		
			X	9B. DATED (SEE ITEM 11) 04-02-2025		
				10A. MODIFICATION OF CONTRACT/ORDER NUMBER		
				10B. DATED (SEE ITEM 13)		
CODE		FACILITY CODE				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS						
X The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers X is extended, is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified. ** HOUR & DATE for Receipt of Offers is EXTENDED to: 04-17-2025 1:00 pm CDT						
12. ACCOUNTING AND APPROPRIATION DATA (If required)						
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.						
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).					
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:					
	D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor X is not, is required to sign this document and return copies to the issuing office.						
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) This amendment is to post RFI responses, Drawing changes, Appendices, and an updated Wage Determination. The proposal is also extended, and the NAICS is corrected/updated to 238220 - Plumbing, Heating, and Air Conditioning Contractors - with a Small Business Size Standard of \$19 million. This amendment extends the proposal date from 4/10/25 to 4/17/25 at 1:00 PM CST. All other terms and conditions remain in effect. See Attachments to this solicitation amendment, Attachments 0005 A - 0005 H.						
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Joyce Powers VA-VHA-RPOE-2023-0023 Contracting Officer			
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA (Signature of Contracting Officer)		16C. DATE SIGNED	

1. In executing this project, can one superintendent fulfill the supervision, safety, and QA/QC roles?
 - a. VA Response: Yes
2. Are contractors required to issue a contract specific QA/QC Plan?
 - a. VA Response: Yes, contractors are required to submit a QA/QC Plan.
3. Are contractors required to issue a contract specific Safety Plan?
 - a. VA Response: Yes, contractors are required to submit a Site Specific Safety Plan.
4. Is this project tax exempt?
 - a. VA Response: No
5. Can the existing controls accommodate new units?
 - a. A/E Response: Each building had additional equipment on the Building Automation System. Additional control sequences, graphics, and panels should be expected.
6. Please provide contact information for fire and controls.
 - a. VA Response: Johnson Controls Inc.
7. Can the existing chilled/heating water systems accommodate the addition of the new units?
 - a. VA Response: Yes.
8. Where will the lay down area be for both locations?
 - a. VA Response: In the designated contractor laydown area at the back of the campus. See attached pdf document for location.
9. Will temporary facilities be provided for both locations?
 - a. VA Response: The contractor is responsible for temporary facilities.
10. Is the basis of design products listed in the contract documents compliant with the Buy American Act specified in the solicitation documents?
 - a. VA Response: It is the contractor's responsibility to ensure all materials, equipment, and product purchased abides by the Buy American Act.
11. Will the VA pay for the engineering and design submittals, as well as all applicable deposits required by various manufacturers to put equipment into design and/or production?
 - a. VA Response: No, the contractor is responsible for including this in their bid.
12. Is the new VA memorandum on bolts for steam and hot water systems applicable to this project? To our understanding A307 bolts are no longer allowed.
 - a. A/E Response: Yes.
13. Can you please correct the NAICS code to 238220 (mechanical). It is currently under a roofing NAICS code.
 - a. VA Response: The NAICS code for this project is not a roofing code.
14. Can CPARS be used in lieu of PPQs? Many COs that fill out CPARS opt to not fill out PPQs. The Contractor would have no control over this.
 - a. VA Response: CPARS may be used in conjunction PPQs. Offerors for who we do not receive completed PPQs will not be excluded, however, offerors with past performance are expected to complete and submit page 1 of attachment 3 as instructed on page 10 of the solicitation. This will allow our office to contract the POC via phone or e-mail. It is the contractor's responsibility to ensure the

correct contact information is listed on page 1 of attachment 3. If offerors opt to provide CPARS in place of PPQ's, they are at risk of a lower rating due to the items on the PPQ not being addressed, unless the CPARS provides equal information. Where there is no record of past performance, the proposal will be evaluated neither favorably nor unfavorably. Superior performance ratings on relevant projects may be considered more favorably in the evaluation.

15. The Wage Determination in Attachment 5 is for highway projects, not construction. Please provide correct Davis Bacon Wage Determination for Building Construction in Macon County.
 - a. VA Response: Document retrieved. Will upload with amendment for Tuscaloosa County.
16. Section 2.2 SAFETY requires Tuberculosis testing; however, Specification 01 35 26 (1.13) says Tuberculosis screening is not required. Please confirm that tuberculosis testing is not required.
 - a. VA Response: Tuberculosis testing is a requirement.
17. Please confirm the current existing Metasys System/Contractor.
 - a. VA Response: Johnson Controls Inc.
18. What Company manages and services the fire alarm system?
 - a. VA Response: See response for question 6.
19. Asbestos Abatement and Lead Paint Removal is listed in the Specifications. There are no reports provided or asbestos shown on the drawings. Please provide a NESHAP survey.
 - a. VA Response: See attached report provided.
20. Please confirm that Note 4 on A-101 is for the entire ceiling in the Nave and Chancel?
 - a. A/E Response: Yes, between existing wood arches.
21. Please confirm that the Deduct Alternate #2 will remove all the wood ceiling work associated with Note 3 and Note 4 on A-101.
 - a. A/E Response: Bid Item II (Deduct Alternate 1) in specification section 01 00 00 does note to "delete the Building 46 ceiling and roof insulation addition in the Nave."
22. Will the entire new tongue and groove wood plank ceiling get painted as per Note 4 on A-101.
 - a. A/E Response: Yes
23. Spec Section 02 21 13. Will a site survey by a licensed land surveyor be required for this project? Per this spec section a survey including the topo contours and location of all site utilities and structures is required.
 - a. VA Response: No, it is not required.
24. Should there be a spec section on insulation? There are some thicknesses provided on the plans but no spec section is in the spec book.
 - a. A/E Response: Mechanical insulation requirements are noted on the drawings and in specification 23 07 11. See Specifications Section 07 21 19 provided in Project Manual
25. Confirm that Building 46 is to be vacated as noted in section 01 00 00-7.
 - a. VA Response: Yes, Building 46 will be vacant at the time of construction.

26. Can you please provide more information on the existing steam piping that we will tie-in to for 46-AHU-1? Including the size and location, including elevation, of the existing steam and condensate return piping. What is the pressure on the existing steam line that we will tie-in to? Provide the proper information showing size, type, and quantity of any new steam traps required. Is there any new work on the existing hot water to steam heat exchanger required? There is information in the spec book, but no work shown on the plans.
 - a. VA Response: See amended drawing sheets.
27. What type of ceiling is present on the Ground Floor, Building 2, in Credit Union 16, Credit Union 13, Credit Union 13A, and Storage 8C?
 - a. VA Response: All drop ceilings are located in these areas.
28. What are the conditions of the crawl space in Building 2? Is it possible to get pictures? Is the crawl space classified as Confined Space?
 - a. VA Response: The crawl space is classified as a Confined space.
29. What type of ceiling is present on the 1st Floor, Building 46 in TLT 12, TLT 5A, Office 11, Corridor 5, Office 9, Office 8, Office 7 and Multipurpose Room 6?
 - a. VA Response: All drop ceilings are located in these areas except for the main Chapel area.
30. Please confirm that all specified basis of design products, equipment, and materials meet all applicable Buy American Compliance regulations, and that the VA has obtained all necessary paperwork.
 - a. VA Response: It is the contractor's responsibility to ensure all materials, equipment, and product purchased abides by the Buy American Act.
31. Please provide all missing number of days in parenthesis on page 7 of the specifications.
 - a. VA Response: Contract completion time is 365 calendar days.
32. Please confirm that the Submittal Exchange is acceptable equal for this project. The Submittal Exchange is widely used by VA facilities nationwide.
 - a. VA Response: Submittal Exchange is acceptable, but Procore is preferred.
33. Please confirm that the requirements for the CQC System Manager qualifications are 7 years of similar construction experience and the US Corps of Engineers Quality Control Certification.
 - a. VA Response: The CQC System Manager is required to have a minimum of 7 years construction experience on construction similar to the scope of this contract.
34. The solicitation and the specifications are conflicting with the TB skin testing requirements. Please clarify what the TB skin testing requirements are.
 - a. VA Response: TB Skin testing is a requirement per the solicitation.
35. Please provide Hazmat Survey & Abatement Plan identifying locations of ACM and Lead base paint materials to be removed as referenced in the specifications.
 - a. VA Response: See response for question 19.
36. Please confirm there is an Elevator available in Building 2 to deliver materials to the second floor.

- a. A/E Response: Yes. There is a passenger elevator in Building #2 that leads to the 2nd floor.
- 37. Please confirm if any phasing is required between Buildings 2 and 46.
 - a. A/E Response: Building 46 will be unoccupied. Building 2 will require coordination with the occupants. Contractor to minimize the downtime required to install equipment.
- 38. Please provide specifications for the New Storefronts and Sliding doors as per Sheet A-101 Keynote 7 & 8 in Building 46.
 - a. A/E Response: See Specifications Section 08 41 13 and 08 42 29.23 provided in Project Manual
- 39. Please provide a Door and Hardware Schedule to confirm existing and new doors as per sheet A-101 in Building 46.
 - a. VA Response: Existing doors to remain. See amended sheets for additional information on new doors.
- 40. Please provide details for the new window infill system noted on Sheet A-101 Keynote 9 in Building 46.
 - a. VA Response: Contractor is responsible for coordinating details with the manufacturer.
- 41. Please provide details for the New ½" Painted Panel for the HVAC Soffit noted on sheet A-101 Keynote 6 in Building 46.
 - a. A/E Response: Painted plywood panels to be attached to re-used, existing HVAC support system brackets as noted on A-101 Detail 4.
- 42. Please provide details and specifications for the new 1" x 6" Tongue and Groove Wood plank ceiling in Building 46. Also, please provide the material species and grade for the 1" x 6" Tongue and Groove.
 - a. A/E Response: See specification section 06 20 00. Wood ceiling to be attached to Z channels between existing wood arches.
- 43. Please provide As-Built Documents for Building 2 to confirm Wall details to coordinate the new piping scope of work in this area.
 - a. A/E Response: Wall cavity is 9" deep.
- 44. VA to confirm if mold remediation is anticipated or required.
 - a. VA Response: Mold remediation may be needed in Building 46.
- 45. Please confirm the flooring in Building 46 is to remain as existing.
 - a. VA Response: After removal of any existing equipment located on the floor, patch, repair, and replace flooring as needed. New flooring to match existing finishes.
- 46. Please confirm in Building 2 if Room# 113B and Room# 212B will be unoccupied for the duration of the Demolition and Construction within those spaces.
 - a. VA Response: Spaces will not be unoccupied for the entire duration of the project. Contractor to coordinate and schedule occupation of spaces with COR.
- 47. In Building 46, please confirm locations of the temporary construction barriers.
 - a. A/E Response: Building 46 to be vacant. If temporary construction barriers are required by the VA COR, barrier to be installed in Connecting Corridor to Building 1 near Vestibule of Building 46.

48. In Building 46, please provide existing finishes and conditions where patching, resealing and refinishing are to take place after equipment removal.
 - a. VA Response: Coordinate with COR.
49. Per Note D5 on Sheet A-101 on Building 46, please provide which existing lights are to be removed and reused. In addition, Sheet EL-101 indicates the lights are all noted as existing. Please clarify intent.
 - a. A/E Response: Contractor shall remove and reinstall light fixtures as determined necessary by Contractor to facilitate new construction.
50. During the Site visit, we noticed there are some existing metal speakers in the ceiling of Building 2. Please advise if these are in the scope of work and if so, please provide scope of work for the speakers.
 - a. VA Response: There are no speakers in the ceiling of Building 2 but there are speakers in the ceiling of Building 46. Disconnect, remove, and reinstall speakers on the ceiling.
51. Please advise if the Superintendent can be a dual hat to cover the requirements of SSHO.
 - a. VA Response: Yes
52. If no to the question above, will the SSHO need to be full-time for this project?
 - a. VA Response: See response for question 51.
53. Please advise if the Superintendent can be a dual hat to cover the requirements of QA/QC.
 - a. VA Response: See response for question 51.
54. If no to the question above, will the QA/QC need to be full-time for this project?
 - a. VA Response: See response for question 51.
55. Please advise if the Superintendent can be a triple hat to cover both the requirements of SSHO and QA/QC.
 - a. VA Response: See response for question 51.
56. Please confirm if the SSHO and Quality Manager Position can be fulfilled by the qualified superintendent.
 - a. VA Response: See response for question 51.
57. The VFDs for the AHU and pumps in Building 46 are not located on the project documents. Please confirm the location for such.
 - a. VA Response: VFDs are located on the left-hand side when entering the mechanical room.
58. Please confirm if the hours of Operation noted on the Index Sheet for Buildings 2 & 46, G-001, are accurate.
 - a. VA Response: Yes
59. The plans show for IT Room 13A in Building 2 to receive a new Mini Split HVAC System over the door. However, this is a storefront door with a transom in its place. Please confirm the location of the new unit. In addition, the existing FCU unit is mounted under the window. If we are to remove this existing FCU Unit, please confirm details and specifications for the existing conditions for us to seal the opening.

- a. A/E Response: The old fan coil unit shall be removed completely from the space, refer to sheet MD100. Contractor shall in-fill the existing opening with similar, adjacent materials. Paint the entire wall, floor to ceiling, corner to corner. Color match adjacent walls. The new mini-split system shall not be installed on the floor in the location of the removed FCU. The new mini-split system shall be installed on an adjacent wall.
- 60. Please confirm the existing control system vendor in Building 2 and 46.
 - a. VA Response: See response for question 6.
- 61. Please confirm if a new VFD is required for Units AHU-1 and AHU-2 in Building 2.
 - a. VA Response: No, a new VFD is not required.
- 62. Please confirm if Pump 46-P-1 in Building 46 requires a VFD for operation.
 - a. A/E Response: VFD is required for pump.
- 63. In Building 2, in the existing mechanical room on the ground floor, disconnects for AHU 16B are to be replaced and drainage designated into the crawl space below. VA to confirm if the configurations from AHU equipment are to be pneumatic or stacked lines.
 - a. A/E Response: Drainage shall utilize existing drain to crawlspace. Disconnect switches are being replaced.
- 64. Please provide manufacturer of the existing fire alarm system.
 - a. VA Response: See response for question 6.
- 65. We are planning on coming for the walkthrough on Thursday, do we need to register beforehand to be able to participate?
 - a. VA Response: No.
- 66. Our HVAC team was unclear on whether or not we would be running new piping and ductwork or if we are just replacing the mechanical equipment and using the existing pipe and ductwork that's already on site?
 - a. A/E Response: Construction documents indicate the location of new equipment, ductwork and piping.
- 67. Please provide details on the storefront doors. Please provide drawings and more information on the storefront doors and hardware.
 - a. VA Response: See response to question 39.
- 68. Please provide the asbestos survey.
 - a. VA Response: Will be provided as amendment attachment.

APPENDIX B

BUILDING 2

MENTAL HEALTH BUILDING / OFFICES



INCLUDED IN APPENDIX B:

- B-1 – Annual Asbestos Re-inspection Documentation**
- B-2 – Homogeneous Area / Sample Summary Table**
- B-3 – Sample/ACM Location Plans**
- B-4 – PLM Laboratory Reports**
- B-5 – Photographic Documentation**
- B-6 – Estimated Asbestos Abatement Costs**
- B-7 – Additional VAMC Supplied Notes/Information**

APPENDIX B-1
Annual Asbestos Re-inspection
Documentation

BUILDING 2 HOMOGENEOUS AREA LIST

HA 01 = UNKNOWN - PRESUMABLY NAD

HA 02 = 12" X 12" FLOOR TILE (GREY) - REMOVED

HA 03 = 9" X 9" FLOOR TILE (AQUA) - REMOVED

HA 04 = UNKNOWN - PRESUMABLY NAD

HA 05 = 9" X 9" FLOOR TILE (WHITE WITH BLACK) - REMOVED

HA 06 = 9" X 9" FLOOR TILE (BLACK)

HA 07 = 9" X 9" FLOOR TILE (BLACK AND WHITE ALTERNATING) - REMOVED

HA 08 = 12" X 12" FLOOR TILE (LIGHT BROWN) - REMOVED

HA 09 = 12" X 12" FLOOR TILE (GREEN WITH DARK GREEN) - REMOVED

HA 10 = 12" X 12" FLOOR TILE (OFF-WHITE WITH GREEN) - REMOVED

HA 11 = UNKNOWN - PRESUMABLY NAD

HA 12 = 12" X 12" FLOOR TILE (BROWN WITH DARK BROWN)

HA 13 = 12" X 12" FLOOR TILE (OFF-WHITE WITH BROWN)

HA 14 THRU 19 = UNKNOWN - PRESUMABLY NAD

HA 20 = PIPE INSULATION (AIRCELL)

HA 21 THRU 22 = UNKNOWN - PRESUMABLY NAD

HA 23 = PIPE INSULATION (CARD-BOARD LIKE)

HA 24 = PIPE INSULATION (MAGNESIA LIKE)

HA 25 = FLEXIBLE DUCT CONNECTORS

HA 26 = ROOFING TAR (ROOF) - REMOVED

HA 27 = DOWNSPOUT TAR - REMOVED

HA 28 = ACM DEBRIS (CONTAMINATED SOIL / DEBRIS) – REMOVED

HA 29 = 12" X 12" VCT (OFF-WHITE WITH BROWN STREAKS) AND BROWN MASTIC – NAD

HA = HOMOGENEOUS AREA

HA = ASBESTOS CONTAINING MATERIAL

NAD = NO ASBESTOS DETECTED

HA (ITALICIZED) = IDENTIFIED BY SELC DURING 2014 RE-INSPECTION. OTHER HOMOGENEOUS AREAS IDENTIFIED DURING PREVIOUS RE-INSPECTIONS/INSPECTIONS BY OTHER CONSULTANTS.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>02</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 12" x 12" (grey) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Replaced with Centiva flooring in CG3 and CG4. Replaced with carpeting in 219 offices.

2009 Inspection Note: No asbestos detected in 2008. Indicates removed from Rooms 219, 219A, 219B, 219C.

2002 Inspection Note: ACM/ACE with potential for damage. Rooms 219 and 219A (886 sf). Good condition. Indicates that HA 02 removed from CG3, CG4.

1991 Inspection Note: ACM/ACE with potential for damage. Rooms CG3, CG4 (330 sf), Room 219 (950 sf)

Recommendation Response Action (circle applicable actions)

O&M Remove/Enclose/Encapsulate Evacuate/Restrict

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>03</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 9" x 9" (aqua) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Replaced with Centiva flooring in CG2 and carpeting in credit union storage room.

2009 Inspection Note: No comment/information.

2002 Inspection Note: No comment/information.

1991 Inspection Note: ACM/ACE with potential for damage. Corridor CG2 (375 sf)

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>05</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 9" x 9" (white with black) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Removed from Rooms 7, 8 (now 7A-C), 13, 14, 15, 18, 19, 25, 26, 26B, 26C. Rooms now finished with Centiva flooring, carpet, or new vinyl sheet flooring.

2009 Inspection Note: No comment/information.

2002 Inspection Note: Indicates has been removed from Rooms 15, 25, 26, 26A, 26B, 26C. Indicates still present in rooms 18 and 19 (not 18A). No reference to Rooms 7, 8, 13, 14.

1991 Inspection Note: ACM/ACE with potential for damage. Rooms 7, 8, 13-15, 18-19, 25-26, 26A, 26B, 26C (2,115 sf)

Recommendation Response Action (circle applicable actions)

O&M Remove/Enclose/Encapsulate Evacuate/Restrict

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>06</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 9" x 9" (black with white streaks) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☒ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☐ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
<u>2</u>	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Present in Room 20 (fair condition, ~ 180 ft²)
Concrete floor in Room 21.

2009 Inspection Note: ACM/ACE with potential for damage. Referred to as HA 25 in 2008 and 2009 reports. Fair condition.

2002 Inspection Note: Indicates has been removed from Room 21. Still present in Room 20.

1991 Inspection Note: ACM/ACE with potential for damage. Rooms 20 and 21 (205 sf)

Recommendation Response Action (circle applicable actions)

O&M Remove/Enclose/Encapsulate Evacuate/Restrict

Explain: Maintain in place until impacted by renovations or repair.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>07</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 9" x 9" (black and white alternating) & mastic</u>	Inspector: <u>E. Hyde</u>	

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Removed from Rooms 1, 3, 3A, 4, 5, 6. New flooring (Centiva or carpeting) present in these rooms.

2009 Inspection Note: No comment/information.

2002 Inspection Note: Indicates HA 07 still present.

1991 Inspection Note: ACM/ACE with potential for damage. Rooms 1, 3, 3A, 4, 5, 6 (1,060 sf)

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>08</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 12" x 12" (light brown) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: New gray, marbled tile in elevator P-3.

2009 Inspection Note: ACM or ACE with potential for damage. Elevator P3 (poor condition)

2002 Inspection Note: ACM/ACE with potential for damage. Elevator P3 (good condition)

1991 Inspection Note: ACM/ACE with potential for damage. Elevator P3 (61 sf)

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>09</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 12" x 12" (green with dark green) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Removed from Rooms 101-103, 105-109, 114, 117, 119-120, 125, 179.

2009 Inspection Note: No comment/information.

2002 Inspection Note: Indicates removed.

1991 Inspection Note: ACM/ACE with potential for damage. Rooms 101-103, 105-109, 114, 117, 119-120, 125, 179 (6,355 sf)

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>10</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 12" x 12" (white with green) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Removed from Room 113A, now Centiva flooring.

2009 Inspection Note: No comment/information.

2002 Inspection Note: Indicates has been removed from Room 113A.

1991 Inspection Note: ACM/ACE with potential for damage. Room 113A (485 sf)

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>12</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 12" x 12" (brown with dark brown) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☒ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☐ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
<u>2</u>	<u>Good</u>	<u>Potential for Damage</u>
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Present in Room 203 (good condition, ~250 ft²). Removed from 201, 202A, 205, 205A, 205B, 206, 207, 207A, 207B, 211, 212C, 213, 217, 218, 220, and 222. Removed from Rooms 113A, 113D, 113E. Removed from Room 9. Replaced with Centiva flooring, new 12" VCT, or new vinyl sheet flooring since 2009. Room 27 has ceramic tile.

2009 Inspection Note: ACM/ACE with potential for damage. 2008 - Indicated present in rooms 22, 23, 27, 113A, 113D, 113E, 201, 202A, 203, 205, 205A, 205B, 206, 207, 207A, 207B, 211, 212C, 213, 217, 218, 220, and 222 - Good condition. Rooms 9 and 202 - fair condition. 2009-Indicated present in Rooms 113A, 113D, 113E, 201, 202A, 203, 205, 205A, 205B, 206, 207, 207A, 211, 212C, 213, 217, 218, 220, 222 - Good condition. Room 27 - fair condition.

2002 Inspection Note: ACM/ACE with potential for damage. Present in rooms 201, 202, 202A, 203, 205, 206, 207A, 207B, 211, 213, 217, 218, 220, and 222. Good condition.

1991 Inspection Note: ACM/ACE with potential for damage. Rooms 201-203, 203A, 203B, 205-206, 207A, 207B, 217-218, 220, 222 (1,300 sf)

Recommendation Response Action (circle applicable actions)

O&M Remove/Enclose/Encapsulate Evacuate/Restrict

Explain: Maintain in place until impacted by renovations or repair.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>13</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 12" x 12" (off-white with brown) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☒ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☐ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Present (exposed) in Room 203B (good condition, ~ 90 ft²), and below carpet in Room 212B (good condition, ~ 800 ft²). Removed from Rooms 212, 214, 3, 4, 7, 8.

2009 Inspection Note: ACM/ACE with potential for damage. 2008 - Indicated present in Rooms 7, 8, and 214 - good condition. Room 212 has new floor tile. Room 212B - carpet. 2009 - Indicated present in rooms 3, 4, 7, 8, 214 - good condition. Room 212B has carpet over tile.

2002 Inspection Note: ACM/ACE with potential for damage. Present in rooms 212, 212B, 214. Good condition.

1991 Inspection Note: ACM/ACE with potential for damage. Room 214 (155 sf)

Recommendation Response Action (circle applicable actions)

O&M Remove/Enclose/Encapsulate Evacuate/Restrict

Explain: Maintain in place until impacted by renovations or repair.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>20</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Pipe Insulation (aircell like)</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☒ Any remaining friable ACM or ACE
- ☐ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
③	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Per VAMC personnel, HA 20 removed as needed since early 1990s in accessible chases, basement, attic, and crawlspaces as needed. Newer kraft-faced, fiberglass, hard foam, or calcium silicate insulation observed by SELC in accessible chases on all floors, and/or generally above ceiling tiles. Likely still present in wall cavities (inaccessible).

2009 Inspection Note: N/A

2002 Inspection Note: Indicates was removed from crawlspace.

1991 Inspection Note: Damaged or significantly damaged TSI ACM/ACE. In pipe chases on ground floor and in pipe basement (45 lf)

Recommendation Response Action (circle applicable actions)

O&M **Remove/Enclose/Encapsulate** **Evacuate/Restrict**

Explain: Manage known or suspected HA 20 in place until such time as practical to remove. Remove or encapsulate as needed/encountered during renovation/repair activities.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>23</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Pipe Insulation (cardboard-type) on plumbing piping</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☒ Any remaining friable ACM or ACE
- ☐ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
③	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Per VAMC personnel, HA 23 removed as needed since early 1990s in accessible chases, basement, attic, and crawlspaces as needed. Newer kraft-faced, fiberglass or foam insulation, or un-insulated metal piping observed by SELC in attic, accessible chases on all floors, and/or generally above ceiling tiles. Records indicate HA 23 abated in Rooms 4 and 112. Still likely present in wall cavities (inaccessible).

2009 Inspection Note: Indicates no asbestos. 2009 addressed visibly TSI only. Inaccessible TSI non assessed in 2009. All visible TSI abated, but specifically references Room 4 only. If any other TSI is exposed during future maintenance or renovations, it should be addressed (sampled) and abated.

2002 Inspection Note: Any remaining friable ACM or ACE. TSI located within walls and above ceilings within basement and 1st floor. These areas were inaccessible during 2002 survey, and condition could not be confirmed. Previous inspections indicate material to be in fair condition. Should future maintenance or renovations be undertaken within these area, it is recommended that the ACM's be removed. Room 112 abated 2002. O&M, abate if exposed.

1991 Inspection Note: Damaged or significantly damaged TSI ACM/ACE. Plumbing lines in pipe basement (1,415 LF), on ground floor (200 LF), 1st floor (300 LF), 2nd floor (45 LF)

Recommendation Response Action (circle applicable actions)

O&M

Remove/Enclose/Encapsulate

Evacuate/Restrict

Explain: Manage in place. When encountered, manage in place until such time as practical to remove.
Remove or encapsulate as needed/encountered during renovation/repair activities.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>24</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Pipe Insulation (magnesia-type) on steam lines</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☒ Any remaining friable ACM or ACE
- ☐ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
③	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Per VAMC personnel, HA 24 removed as needed since early 1990s in accessible chases, basement, attic, and crawlspaces as needed. Newer kraft-faced, fiberglass, hard foam, or calcium silicate insulation observed by SELC in accessible chases on all floors, and/or generally above ceiling tiles. Records indicate HA 23 abated in Rooms 4 and 112. Still likely present in wall cavities (inaccessible).

2009 Inspection Note: Indicates no asbestos. 2009 addressed visibly TSI only. Inaccessible TSI non assessed in 2009. All visible TSI abated, but specifically references Room 4 only. If any other TSI is exposed during future maintenance or renovations, it should be addressed (sampled) and abated.

2002 Inspection Note: Any remaining friable ACM or ACE. TSI located within walls and above ceilings within basement and 1st floor. These areas were inaccessible during 2002 survey, and condition could not be confirmed. Previous inspections indicate material to be in fair condition. Should future maintenance or renovations be undertaken within these area, it is recommended that the ACM's be removed. Room 112 abated 2002. O&M, abate if exposed.

1991 Inspection Note: Damaged or significantly damaged TSI ACM/ACE. Steam lines in pipe basement (2,000 LF), ground floor (560 LF), 1st floor (560 LF)

Recommendation Response Action (circle applicable actions)

O&M

Remove/Enclose/Encapsulate

Evacuate/Restrict

Explain: Manage in place. When encountered, manage in place until such time as practical to remove.
Remove or encapsulate as needed/encountered during renovation/repair activities.

**Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation**

Building #: <u>2</u>	Homogeneous Area #: <u>25</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Flexible duct connectors</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☒ Any remaining friable ACM or ACE
- ☐ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
<u>3</u>	<u>Good</u>	<u>Significant Potential for Damage</u>
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Present in Pipe Chase 23B. New rubber/vinyl flexible duct connectors in attic.

2009 Inspection Note: ACM or ACE with potential for damage. Refers to this as HA 26. Room 23B – fair condition.

2002 Inspection Note: No reference to ground floor flex duct connector. Drawing indicates still present in attic.

1991 Inspection Note: Any remaining friable ACM or ACE or suspect non-Friable ACM or ACE / removal recommended. Pipe chase on ground floor (2 each), Attic (1 each)

Recommendation Response Action (circle applicable actions)

O&M Remove Enclose/Encapsulate Evacuate/Restrict

Explain: Currently in good to fair condition. Maintain in place until practical/feasible to remove/replace.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>2</u>	Homogeneous Area #: <u>26</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Roofing Tar</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: VAMC personnel indicates HA 26 was removed as part of major roof replacement project at Buildings 1-5, which was recently completed. Pitched roof and elevator roof were replaced.

2009 Inspection Note: No assessed / outside scope of work.

2002 Inspection Note: ACM remains on-site, on parapet wall on roof.

1991 Inspection Note: ACM/ACE with potential for damage – Roof (200 sf)

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

**Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation**

Building #: <u>2</u>	Homogeneous Area #: <u>27</u>	Date: <u>7/23/14</u>
Description: <u>Downspout Tar</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: No HA 27 observed. According to VAMC personnel, HA 27 has been abated/removed from Building 2.

2009 Inspection Note: No assessed / outside scope of work

2002 Inspection Note: ACM/ACE with potential for damage. Good Condition.

1991 Inspection Note: ACM/ACE with potential for damage – Downspout joints (3 each)

Recommendation Response Action (circle applicable actions)

O&M Remove/Enclose/Encapsulate Evacuate/Restrict

Explain: N/A

**Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation**

Building #: <u>2</u>	Homogeneous Area #: <u>28</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Debris (ACM)</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: HA 28 in Crawlspace and Room 209A abated.

2009 Inspection Note: Not accessed / outside SOW

2002 Inspection Note: No specific reference, but drawing indicates pipe basement/crawlspace has been abated.

1991 Inspection Note: Any remaining friable ACM/ACE or suspect non-friable ACM/ACE – removal Debris (contaminated soil) in crawlspace (8,475 sf), and ACM Debris in 2nd floor pipe chase (Room 209A – 25 sf)

Recommendation Response Action (circle applicable actions)

O&M Remove/Enclose/Encapsulate Evacuate/Restrict

Explain: N/A

**Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation**

Building #: <u>2</u>	Homogeneous Area #: <u>29</u>	Date: <u>7/22 & 23/14</u>
Description: <u>Floor tile, 12" x 12" (off-white/brown streams) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: 12" x 12" vinyl composition floor tile (off-white with brown streaks) and brown mastic present in Rooms 103B and 109A. No asbestos detected in sample B2-1.

2009 Inspection Note: N/A

2002 Inspection Note: N/A

1991 Inspection Note: N/A

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

APPENDIX B-2

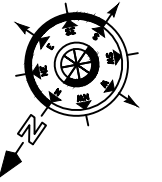
Homogeneous Area / Sample Summary Table

HOMOGENEOUS AREA / SAMPLE SUMMARY TABLE PROJECT: 2014-1108 – BUILDING 2					
HOMG. AREA (HA#)	HOMOGENEOUS AREA (HA) DESCRIPTION & LOCATION	HA TYPE (AHERA) EPA/OSHA CATG. (IF ACM) CONDITION (IF ACM)	SAMPLE NO.	ASBESTOS CONTENT	SAMPLE LOCATION
29	12" x 12" Vinyl composition floor tile (off-white with brown streaks) and brown mastic in Room 103B.	Miscellaneous Material Not ACM	B2-1	None Detected	Room 103B
END OF TABLE					

Notes: 1. ** = Homogeneous area # previously identified by others.

2. If not demarked with an **, this is a new homogeneous area identified by SELC during this re-inspection

APPENDIX B-3
Sample/ACM Location Plans



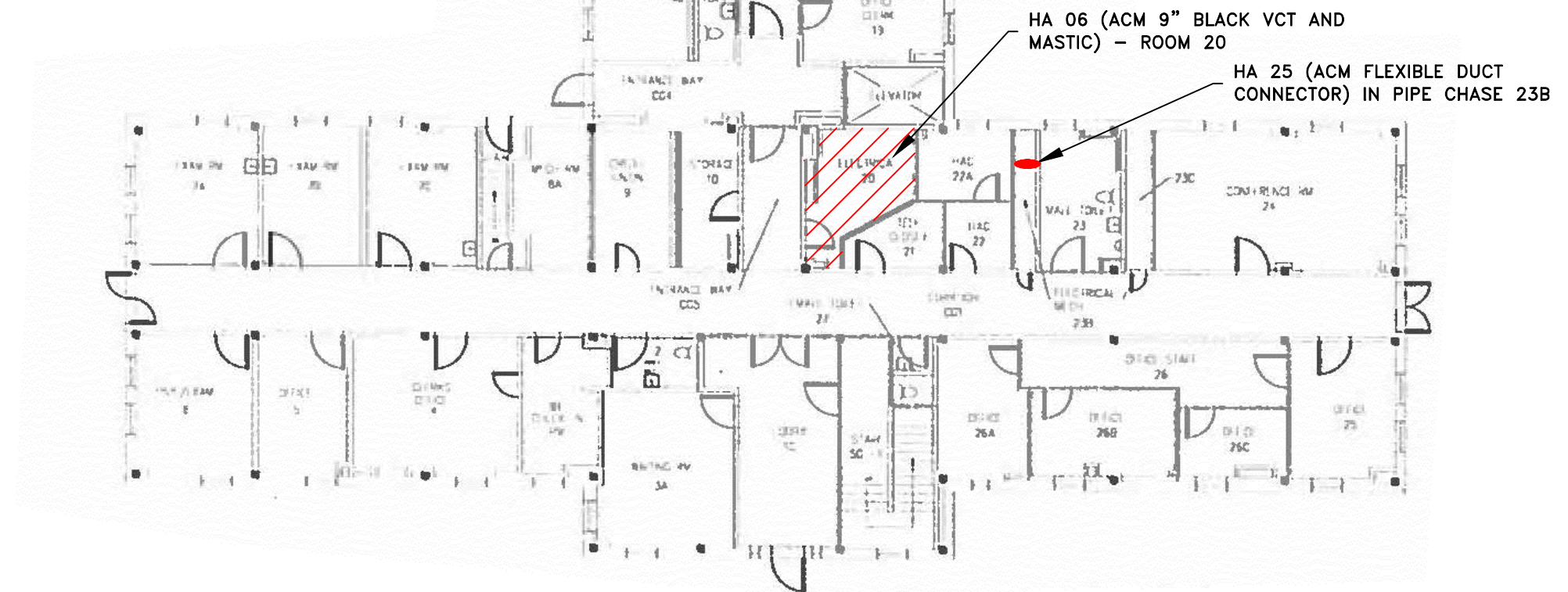
ASBESTOS NOTES:

ACM = ASBESTOS CONTAINING MATERIAL

1. NO SAMPLES COLLECTED ON GROUND LEVEL.

2. HA 20, 23, AND 24 (ACM PIPE INSULATIONS) LIKELY PRESENT IN INACCESSIBLE LOCATIONS, SUCH AS WALL AND CEILING CAVITIES. NONE OBSERVED IN ACCESSIBLE LOCATIONS.

3. HA 25 – ACM FLEXIBLE DUCT CONNECTOR (1) PRESENT IN PIPE CHASE 23B.



NOT TO SCALE

BUILDING 2 – GROUND FLOOR

SHEET 1: BUILDING 2 – GROUND FLOOR



Safety Environmental Laboratories
and Consulting, Inc.

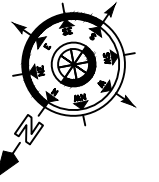
989 Yeager Parkway
Pelham, AL 35124

(205) 823-6200 fax (205) 823-9066

PROJECT

3-YEAR ASBESTOS RE-INSPECTION
VAMC TUSCALOOSA
3701 LOOP ROAD
TUSCALOOSA, ALABAMA 35404
SELC PROJECT NO.: 2014-1108

BUILDING 2
GROUND FLOOR
SHEET 1 OF 3



ASBESTOS NOTES:

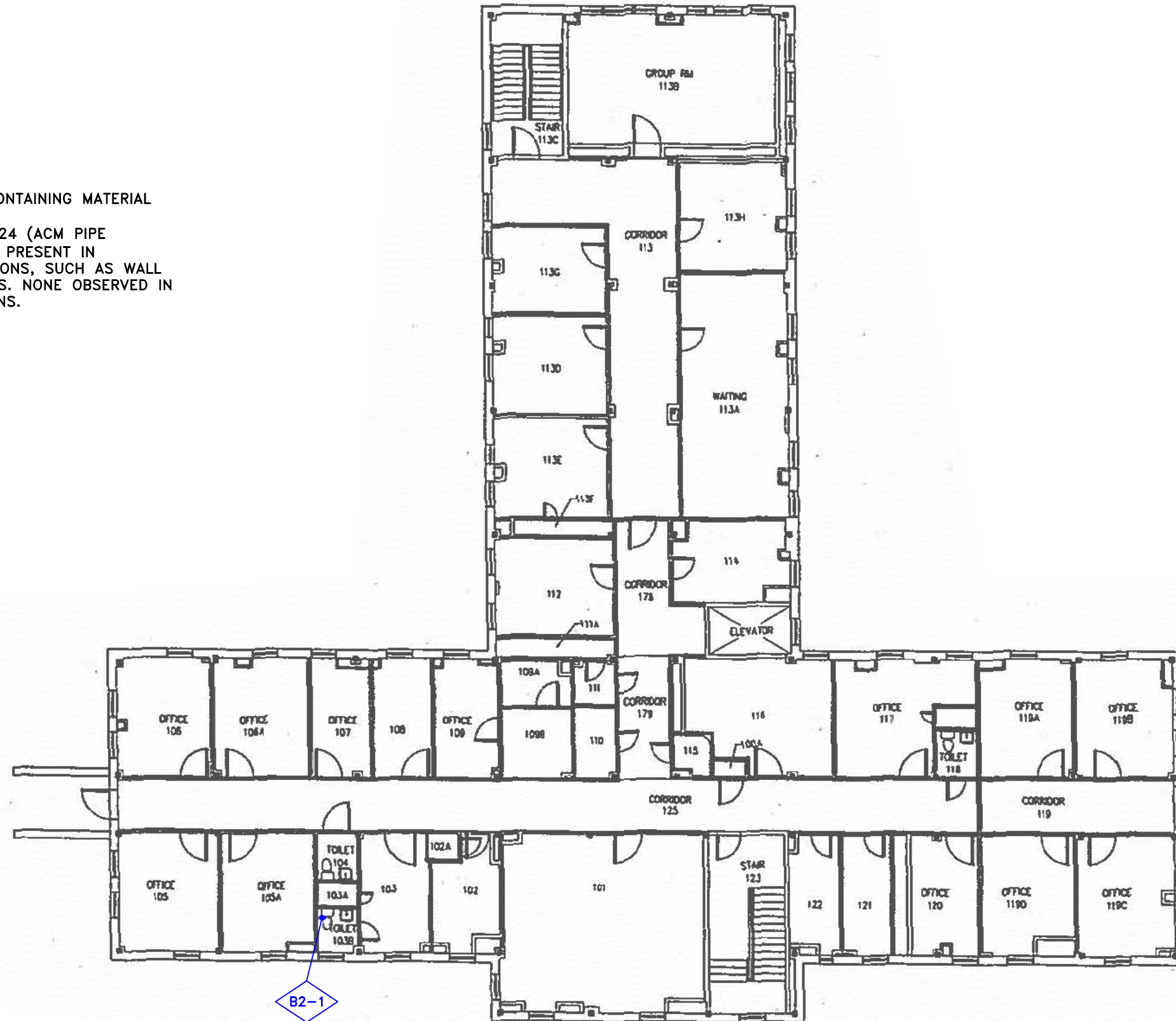
ACM = ASBESTOS CONTAINING MATERIAL

1. HA 20, 23, AND 24 (ACM PIPE INSULATIONS) LIKELY PRESENT IN INACCESSIBLE LOCATIONS, SUCH AS WALL AND CEILING CAVITIES. NONE OBSERVED IN ACCESSIBLE LOCATIONS.

SAMPLE LOCATION LEGEND

 Sample Locations/
No Asbestos Detected in Sample

 Sample Locations/
Asbestos Detected in Sample



NOT TO SCALE

BUILDING 2 – FIRST FLOOR

SHEET 2: BUILDING 2 – FIRST FLOOR



Safety Environmental Laboratories
and Consulting, Inc.

989 Yeager Parkway
Pelham, AL 35124

(205) 823-6200 fax (205) 823-9066

PROJECT

3-YEAR ASBESTOS RE-INSPECTION
VAMC TUSCALOOSA
3701 LOOP ROAD
TUSCALOOSA, ALABAMA 35404
SELC PROJECT NO.: 2014-1108

BUILDING 2
FIRST FLOOR
SHEET 2 OF 3

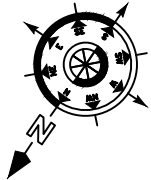
ASBESTOS NOTES:

ACM = ASBESTOS CONTAINING MATERIAL

1. NO SAMPLES COLLECTED ON SECOND FLOOR OR IN ATTIC.

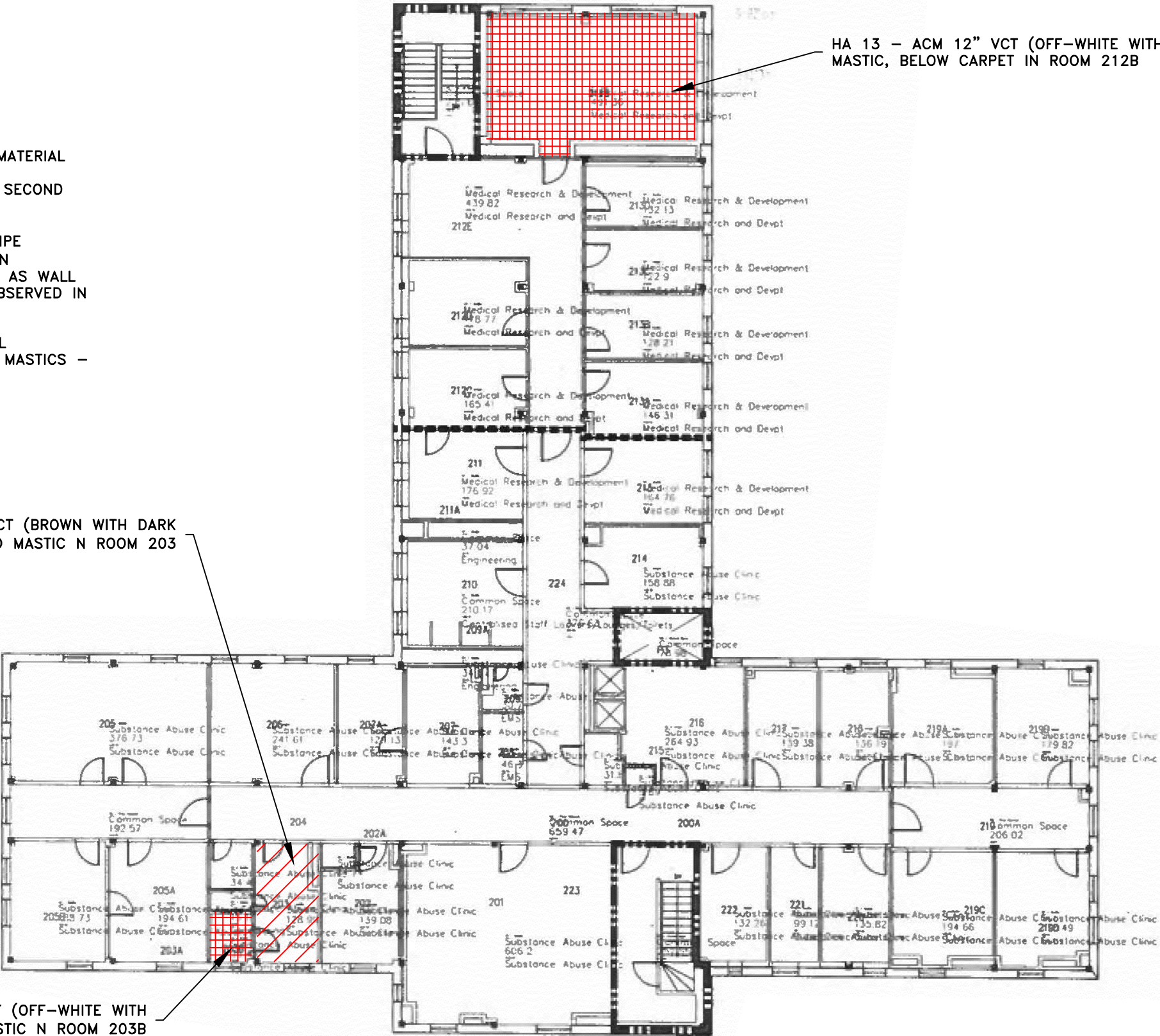
2. HA 20, 23, AND 24 (ACM PIPE INSULATIONS) LIKELY PRESENT IN INACCESSIBLE LOCATIONS, SUCH AS WALL AND CEILING CAVITIES. NONE OBSERVED IN ACCESSIBLE LOCATIONS.

3. HA 12 AND 13 – ACM VINYL COMPOSITION FLOOR TILES AND MASTICS – PRESENT ON SECOND FLOOR.



HA 13 – ACM 12” VCT (BROWN WITH DARK BROWN MARKS) AND MASTIC N ROOM 203

HA 13 – ACM 12” VCT (OFF-WHITE WITH BROWN) AND MASTIC, BELOW CARPET IN ROOM 212B




HA 13 – ACM 12” VCT (OFF-WHITE WITH BROWN) AND MASTIC N ROOM 203B

NOT TO SCALE

BUILDING 2 – SECOND FLOOR

SHEET 3: BUILDING 2 – SECOND FLOOR

Safety Environmental Laboratories
and Consulting, Inc.



989 Yeager Parkway
Pelham, AL 35124

(205) 823-6200 fax (205) 823-9066

PROJECT

3-YEAR ASBESTOS RE-INSPECTION
VAMC TUSCALOOSA
3701 LOOP ROAD
TUSCALOOSA, ALABAMA 35404
SEL PROJECT NO.: 2014-1108

BUILDING 2
SECOND FLOOR
SHEET 3 OF 3

APPENDIX B-4
PLM Laboratory Reports



Safety Environmental Laboratories and Consulting, Inc.



Asbestos Bulk Sample Analysis Report

989 Yeager Pkwy.
Pelham, AL 35124

Phone: (205) 823-6200
Fax: (205) 823-9066

Customer: **Safety Environmental Laboratories and Consulting, Inc.**
989 Yeager Parkway
Pelham, AL 35124

Telephone: **205-823-6200**

Fax: **205-823-9066**

Sample Receipt Date: 08/04/2014

Sample Analysis Date: 08/06/2014

Sample Report Date: 08/07/2014

Project Name: **VAMC Tuscaloosa**
Project Location: **Building 2**

Asbestos Identification in Bulk Materials by Polarized Light Microscopy

EPA/600/R-93/116 July 1993 – Method for the Determination of Asbestos in Bulk Building Materials

Note: See Attached Notes and Descriptions Sheet for Applicable Abbreviations and Notes

SEL Project #: **2014-1108**

Customer Sample No.	Lab Sample No.	Sub-sample No.	Layer No.	Sample Location / Description	Homo-geneous (yes/no)	Asbestos % and Type	% Non-Asbestos Fibers	% Non-Fibrous Material
B2-1	8	N/A		Floor Tile and Mastic – Room 103B				
			1	Floor Tile – Off White, Organically Bound	Y	None Detected	None Detected	100%
			2	Mastic – Brown, Brittle	N	None Detected	5% Cellulose Fibers	95%

☒ This report is **FINAL** ☐ This report is **PRELIMINARY** – pending final QC

Analyst

Carol Findlay – Microscopy Manager

Technical Review

Brian Ray – Asbestos Analyst

Quality Review

Carol Findlay – Microscopy Manager



Safety Environmental Laboratories and Consulting, Inc.

Asbestos Bulk Sample Analysis Report

989 Yeager Pkwy.
Pelham, AL 35124

Phone: (205) 823-6200
Fax: (205) 823-9066



PLM Notes and Descriptions

1. Upper detection limit: 100%. Lower detection limit: <1%.
2. Bulk Samples will be stored for 3 months and will then be disposed of in an approved EPA landfill.
3. Analysis of floor tile or any other resinously bound materials by polarized light microscopy (PLM) using EPA Method 600/R-93/116 dated July 1993 may yield false-negative results because of method limitations in separating closely bound fibers from matrix material and in detecting fibers of small length and/or diameter. When analysis of such materials by the EPA PLM Method yields negative results for the presence of asbestos we recommend utilizing alternative methods of identification such as Gravimetry, XRD or AEM.
4. Samples are not homogenized by SELC prior to analysis. Distinct material layers within a sample are analyzed and reported separately by SELC. When multiple products are submitted by the customer under one sample number, SELC indicates those distinct products as sub-samples. SELC retains all samples numbers but will designate a sample number to those that are not given a sample number by the customer.
5. Percentages given are based on a visual estimated calibration.
6. Safety Environmental Laboratories and Consulting, Inc. is a NVLAP accredited laboratory, Lab Code: 200873-0 (ISO/IEC Standard 17025:2005 Compliant).
7. Results relate only to the samples tested. All tests were performed under the scope of SELC's NVLAP accreditation, unless indicated otherwise.
8. All samples were received in a condition suitable for analysis ("Good"), unless otherwise noted.
9. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.
10. Analytical Instrument: Olympus Polarized Light Microscope Series BH-2 Model BHT-002

Analyst

Carol Findlay – Microscopy Manager

Technical Review

Brian Ray – Asbestos Analyst

Quality Review

Carol Findlay – Microscopy Manager

Signature	Date	Time	Signature	Date	Time
Elizabeth Hyle	8/4/14	12:45pm	Betty Lundberg	8/4/14	1:10pm

APPENDIX B-5
Photographic Documentation

Photographic Documentation – 3 Year Asbestos Re-inspection – Building 2



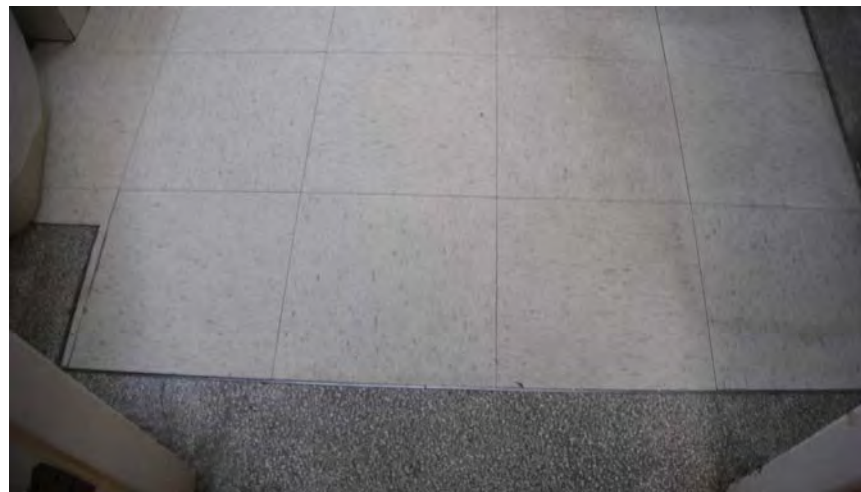
PHOTOGRAPH 1
HA 06 (ACM 9" black VCT and mastic) in
Room 20.



PHOTOGRAPH 3
HA 13 (ACM 12" off-white/brown VCT and
mastic) in Room 203B.



PHOTOGRAPH 2
HA 12 (ACM 12" brown VCT and mastic).
Photograph taken in Room 203.



PHOTOGRAPH 4
HA 29 (non-ACM 12" brown VCT and mastic)
in Room 103B.

Photographic Documentation – 3 Year Asbestos Re-inspection – Building 2



PHOTOGRAPH 5
Example of a newer, vinyl flexible duct connector in attic.



PHOTOGRAPH 7
New roof (pitched and elevator penthouse) of Building 2.



PHOTOGRAPH 6
HA 25 – ACM Flexible duct connector present in Pipe Chase 23B.

NO PHOTOGRAPH

APPENDIX B-6
Estimated Asbestos Abatement Costs

BUILDING 2 ESTIMATED ASBESTOS ABATEMENT COSTS				
HA NUMBER(S)	TYPE OF ACM	FRIABLE/ NON- FRIABLE	APPROXIMATE QUANTITY	ESTIMATED ABATEMENT COSTS
06, 12, 13	Vinyl composition floor tile and mastic	Non-Friable	1,320 square feet	\$66,000
20 (see Note 5)	Air-cell pipe insulation	Friable	NP	NP
22	Flexible duct connectors	Friable	NP	NP
23 (see Note 5)	Pipe insulation ("cardboard" – like)	Friable	NP	NP
24 (see Note 5)	Pipe insulation ("magnesia" type)	Friable	NP	NP
25	Flexible duct connectors	Friable	One observed	\$200

Notes:

1. HA = Homogeneous area
2. ACM = Asbestos containing material
3. NP = Not provided
4. Costs provided are general estimates for information purposes only. A complete and specific cost estimate should be obtained from Alabama accredited asbestos abatement contractors prior to any abatement project.
5. Quantity and cost estimates are provided only for observable ACM/homogeneous area. Cost estimates are not provided for inaccessible portions/quantities of a homogeneous group.

APPENDIX B-7

Additional VAMC Supplied Notes/Information

Hazardous Waste Abatements

Shanny
Lewis
08/16/11

Asbestos Floor Tile Removal

- Building 1- Rooms 307, 307A, 308, 312, 313 & 314
- Building 2, 1st Floor- Rooms 101, 102, 105, 105A, 106, 106A, 107, 108, 109, 109B, Corridor 113, 113A, 113B, 113D, 113E, 113G, 113H, 114, 117, 119A, 119B, 119C, 119D, 120, 122, Corridor 125, Corridor 178 & Corridor 179
- Building 2, 2nd Floor- Corridor 200, Rooms 201, 202, Corridor 204, 205, 205A, 205B, 207, 207A, 212E, 213, 214, 217, 218, Corridor 219, 219A, 219B, 219C, 219D, 220, 222 & Corridor 224
- Building 5, Basement- Corridor 8, Rooms 8A, 8B, 8C & 8D
- Building 5, 1st Floor- Rooms 100, 101, 101A, 106, 107, 108, 109, 110A, 111, 112, 114, 114A, 115, 116, 117, 118, 119, 120, 121, 122, 125, 126, 127, 128, Elevator Lobby 129, Lobby 135, Corridor 140, Corridor 145 & Corridor 150
- Building 5, 2nd Floor- Rooms 200, 201, 202, 202A, 203, 205, 205A, 206, 206A, 207, 207A, 208, 208A, 209, 210, 211, 213, 213A, 214, 215, 216, 217, 218, 219, 221, 221A, 222A, 222, 223, Elevator Lobby 224, 224A & Corridor 235

Lead Based Paint Removal & Encasement

- Building 40, Basement LBP Removal (Door Frames & Hardware Only)
 - Rooms 1, 1A (Telephone Closet), 2 (Large Toddler Room near Elevator), 7, 8, 9, 9A, 9B, 9C, 9D, 10, Stairwell Door, 12, 13, 14, 15, 16, 16A, 17, Door in between Corridor 18 & Corridor 20
- Building 40, Basement Window Encasement
 - Rooms 1, 9, 12, 14, 14A, 14B, 14C, 14D, 16, 16A

→ encapsulated

Room 9 = 2 windows ✓
Room 9C = 3 windows (P) ✓
Room 9D = 2 windows (P) ✓
Room 9B = 1 window (P) ✓

} All green

* 8 total (All green) but... are they really?

potential "hot spots" for ACM



① Bldg 2 electrical room 11/26/12 (Rm 20?)
(near elevator) → w/ FACP (near credit union entrance)
(9" VAT)

Ask Donna Blyden

② Bldg 40 - Day Care (Rm 7) Storage (?)
- walls + pipe flaking off (ACM? or lead pt.?)
(tip via EMS staff)

③ Bldg 40 above drop ceiling - Rm 101 (plates w/ wire mesh)
room on left at entrance lobby
via New Lenny in electric shop

④ Bldg 3 - Rooms 12A - 13C - 13D - 13A - 14
(back bathroom) (men's locker) (women's stairs)
see floorplan/map Jimmy Hyson

⑤ B-17 Plumbing Shop floor tile?

Attic flexible conduits

with ACM *

MV
03/25/14

✓ Bldg 2 - Rm 23B

Per
Le Muller

No ACM

✓ Bldg 3 -

Attic

take NO ACM
starts across from rm 213

✓ Bldg 4 -

Attic

+ ductwork replaced

1994
No ACM

✓ Bldg 5

2004

Mech rm 5

X2

+ rm 205 A

+ rm 102 (A)

0000

✓ Bldg 1

Above city / corridor

Near ~~225~~ Rm 120F (ACM?)

cont rm 235 above city (ACM?)

✓ B-46 Chapel - duct flex

"cable connector"

✓ B-40

1st fl + 2nd floor

↑ cabling vs ACM

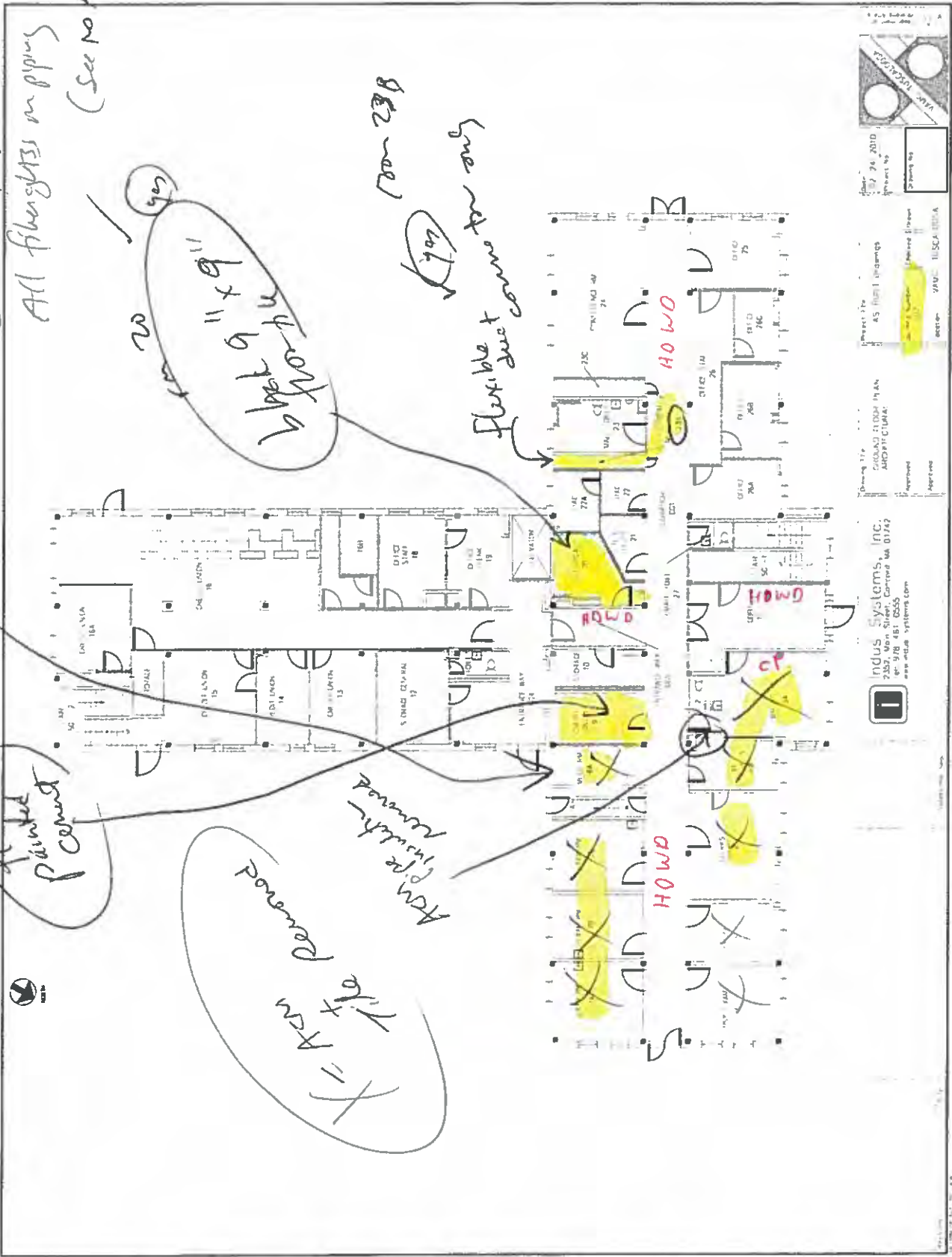
AKHENSATTS on Spind (See no 414 on 415)

$\chi^2 = \chi^2_{\text{Asn}} + \chi^2_{\text{Gln}}$

From
Pipe
mouth
downward

238

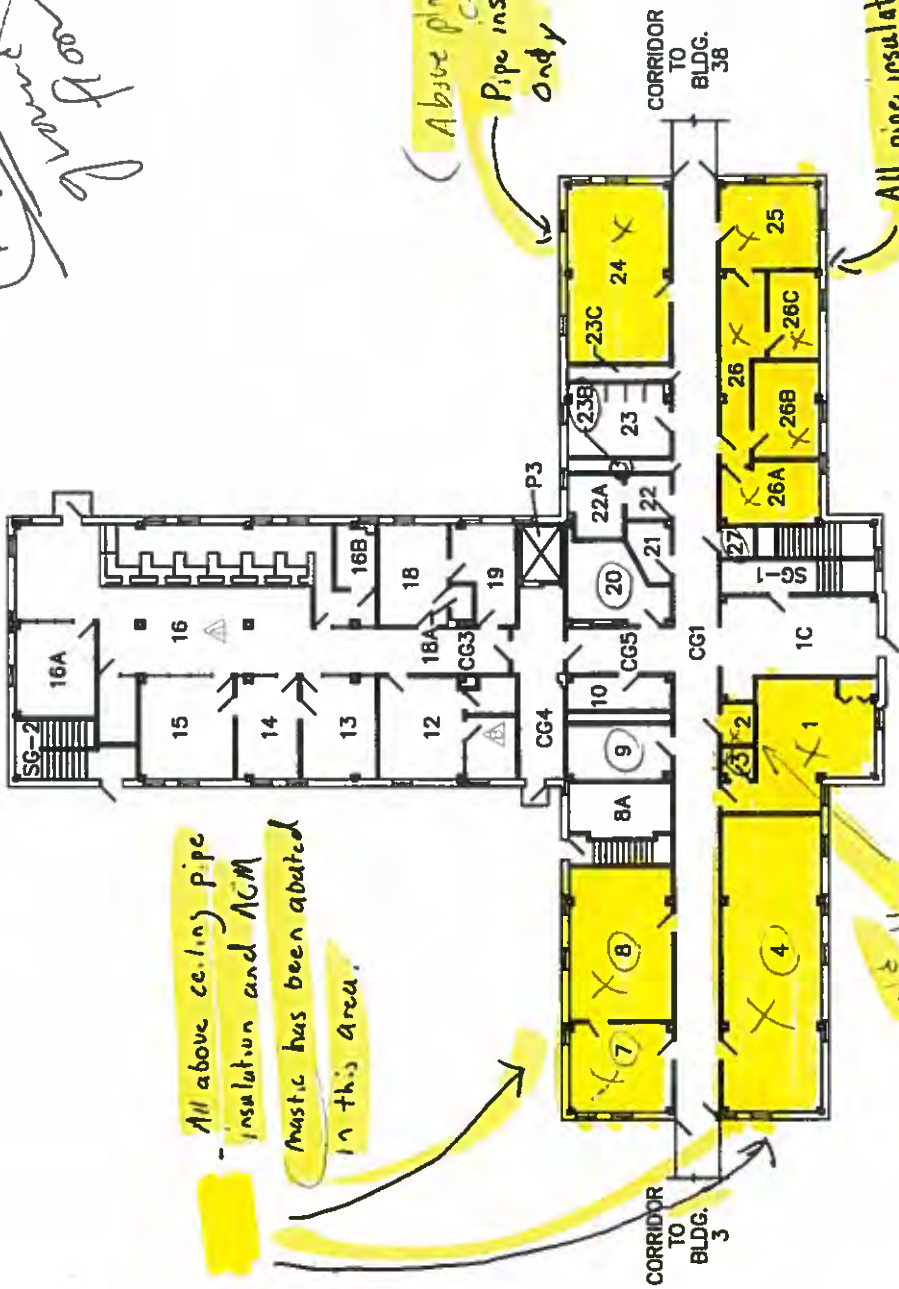
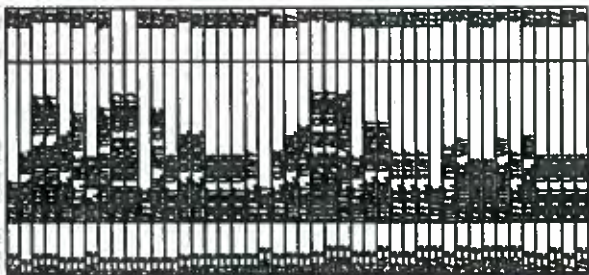
Flexible + cannot come to the
(look)



08/16/11

Redesign

Blg 2
new roof



All above ceiling pipe insulation and ACM mastic has been abraded in this area.

(Above plaster ceiling) Pipe insulation only

All pipe insulation above ceiling (above plaster ceiling) only



GROUND FLOOR PLAN - BUILDING NO. 2

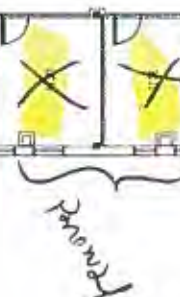
หน้าชั้นล่างอาคาร 2

TS-1000
TS-1000
TS-1000

IMPORTANT NOTE

Scale
1" = 10'
1" = 20'
1" = 40'
1" = 80'

Project No.	2-G
Revision No.	1
Author	
Checker	
Design Engineer	
Approved Design Engineer	
Approved Project Engineer	





1st floor
103/02

Handwritten notes in red ink: 'CP', 'HDWD', and a large 'X'.


		Date: 02-09-2010 Project No.: Drawing No.:	
Project Title: AS-BUILT Drawings		Building Number: 02 Location: VAMC TUSCALOOSA	
Drawing Title: FIRST FLOOR PLAN ARCHITECTURAL		Approved:	
Indus Systems, Inc. 2352 Main Street, Concord, VA 01742 Tel: 978-461-0555 www.indus-systems.com		Professional Seal:	

5/11/20

bagelmann 12x12" tile
situation w/ studs

12/17/2019

Completed & removed

 **Indus Systems, Inc.**
2352 Main Street, Concord, MA 01742
Tel: 978-461-0555
www.indus-systems.com

The 5-BUILT Druggists

SECOND FLOOR PLAN
ARCHITECTURAL

...S, INC.
... 01712



Indus
2352, Main
Tel: 978-46
www.indus-2352.com

1

1

1

QUESTION



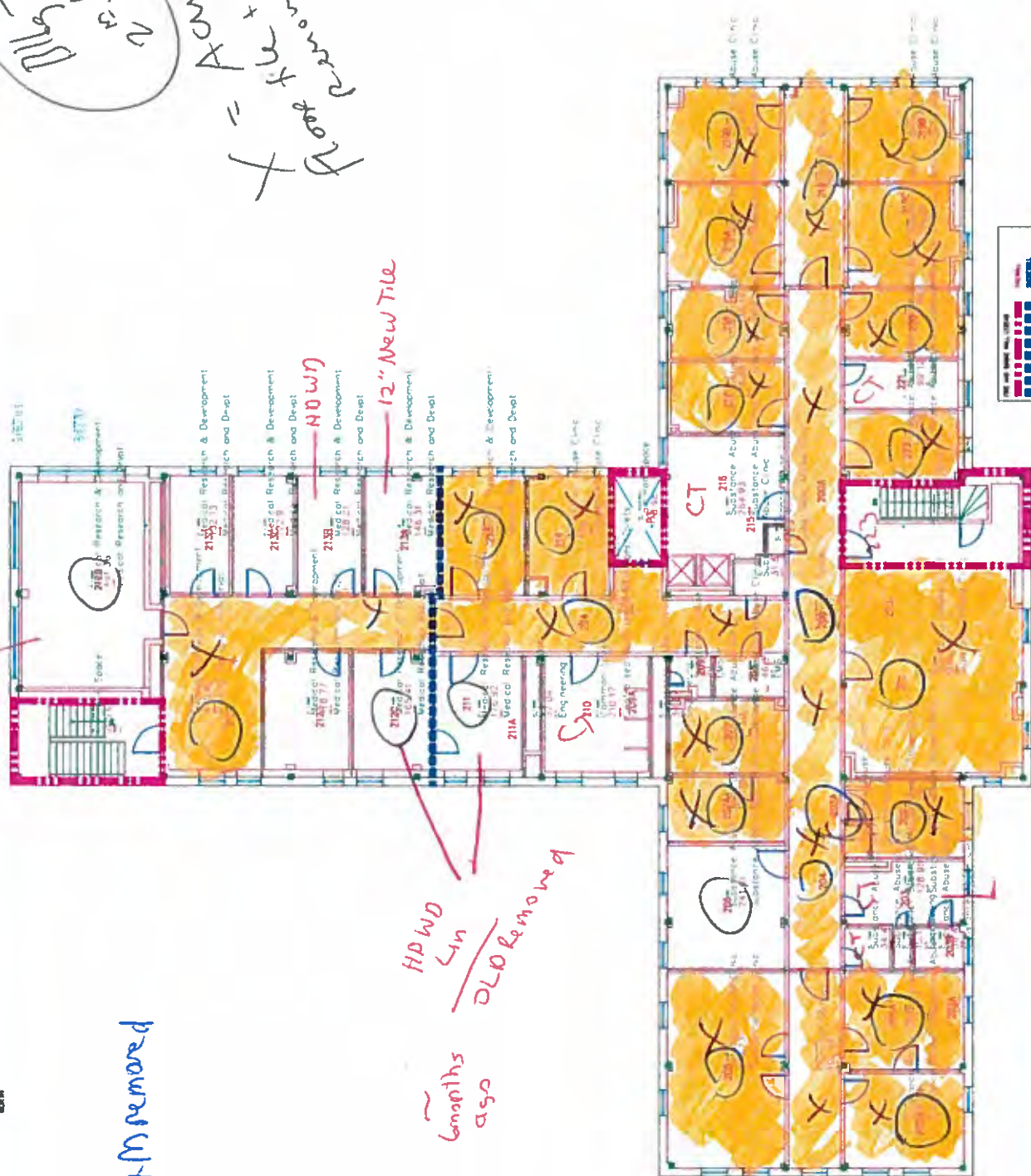
OT + M removed

~ months ago

12" New Tile

—GMAH—

Handwritten notes on a separate sheet of paper, including the word "X" and various symbols and markings.

















 <p>Indus Systems, Inc. 2352, Main Street, Concord MA 01742 Tel: 978-461-0555 www.indus-systems.com</p>	<p>Professional Seal</p>	<p>Drawing Title</p> <p>SECOND FLOOR PLAN ARCHITECTURAL</p>		<p>Project Size</p> <p>AS-BUILT Drawings</p>		<p>Date</p> <p>07-05-2011</p>		<p>Department of</p> <p>VAMC TUSCALOOSA</p>
		<p>Approved</p>		<p>Building Number</p> <p>02</p>		<p>Drawing No.</p>		
		<p>Approved</p>		<p>Location</p> <p>VAMC TUSCALOOSA</p>				<p>Department of</p> <p>VAMC TUSCALOOSA</p>

APPENDIX P
BUILDING 46
CHAPEL



INCLUDED IN APPENDIX P:

- P-1 – Annual Asbestos Re-inspection Documentation**
- P-2 – Homogeneous Area / Sample Summary Table**
- P-3 – Sample/ACM Location Plans**
- P-4 – PLM Laboratory Reports**
- P-5 – Photographic Documentation**
- P-6 – Estimated Asbestos Abatement Costs**
- P-7 – Additional VAMC Supplied Notes/Information**

APPENDIX P-1
Annual Asbestos Re-inspection
Documentation

BUILDING 46 HOMOGENEOUS AREA LIST

HA 01 = 9" FLOOR TILE (BROWN) - REMOVED

HA 02 = 12" FLOOR TILE (GREEN) - REMOVED

HA 03 = 12" FLOOR TILE (GREEN WITH DARK GREEN)

HA 04 = CEILING TILE – 1' X 1' TONGUE AND GROOVE – NAD

HA 05 = CEILING TILE – 2' X 2' GOOVED AND PINHOLE (OLD) – NAD

HA 06 = CEILING TILE – 2' X 2' GOOVED AND PINHOLE (NEW) – NAD

HA 07 = CEILING TILE – 2' X 2' WHITE – NAD

HA 08 = ROOFING SHINGLES – NAD

HA 09 = ROOFING TAR – ROOF - REMOVED

HA 10 = ROOFING FELT – NAD

HA 11 = PIPE FITTING INSULATION (HARD) ON FIBERGLASS RUNS ON DOMESTIC WATER AND STEAM PIPING SYSTEMS = NAD

HA 12 = PIPE INSULATION, BLACK MASTIC – NAD

HA 13 = FLEXIBLE DUCT CONNECTOR - REMOVED

HA 14 = DOWNSPOUT TAR

HA 15 = WHITE/OFF-WHITE MASTIC ON RAW ENDS AND SEAMS OF INSULATED PIPING

HA 16 = GRAY-GREEN MASTIC APPLIED TO SEAMS OF AHU DUCTWORK

HA = HOMOGENEOUS AREA

HA = ASBESTOS CONTAINING MATERIAL

NAD = NO ASBESTOS DETECTED

HA (ITALICIZED) = IDENTIFIED BY SELC DURING 2014 RE-INSPECTION. OTHER HOMOGENEOUS AREAS IDENTIFIED DURING PREVIOUS RE-INSPECTIONS/INSPECTIONS BY OTHER CONSULTANTS.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>46</u>	Homogeneous Area #: <u>01</u>	Date: <u>7/16 & 23/14</u>
Description: <u>9" x 9" Floor tile (brown) and mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Removed. Carpet or Centiva flooring over concrete in Rooms 1, 3, 7-9, and 11. New 12" VCT over concrete in Corridor 5.

2009 Inspection Note: N/A

2002 Inspection Note: N/A

1991 Inspection Note: ACM or ACE with potential for damage. Rooms 1, 3, 5, 7-9 and 11. Rooms 7, 9, 11 under carpet

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>46</u>	Homogeneous Area #: <u>02</u>	Date: <u>7/16 & 23/14</u>
Description: <u>12" x 12" Floor tile (green) and mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Removed. New 12" VCT over concrete in Room 6.

2009 Inspection Note: N/A

2002 Inspection Note: N/A

1991 Inspection Note: ACM or ACE with potential for damage. Room 6 (240 SF)

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>46</u>	Homogeneous Area #: <u>03</u>	Date: <u>7/16/14</u>
Description: <u>12" x 12" Floor tile (green w/ dark green) & mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☒ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☐ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
<u>2</u>	<u>Good</u>	<u>Potential for Damage</u>
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Removed from corridor 5B portion inside sliding glass doors of chapel. However, HA 03 is present in connection corridor to Building 1.

2009 Inspection Note: N/A

2002 Inspection Note: N/A

1991 Inspection Note: ACM or ACE with potential for damage. Connecting corridor 5B (450 SF)

Recommendation Response Action (circle applicable actions)

O&M Remove/Enclose/Encapsulate Evacuate/Restrict

Explain: Manage in place until impacted by planned renovations or repair activities. Abate prior to or as part of planned renovation or repair activities.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>46</u>	Homogeneous Area #: <u>09</u>	Date: <u>7/16/14</u>
Description: <u>Roofing tar</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: According to VAMC personnel, this roof was removed, and HA 09 abated in mid to late 2007s after sustained storm damage.

2009 Inspection Note: N/A

2002 Inspection Note: N/A

1991 Inspection Note: Any remaining friable ACM or friable suspected ACM or ACE. Roof-200 SF.

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>46</u>	Homogeneous Area #: <u>13</u>	Date: <u>7/16/14</u>
Description: <u>Flexible Duct Connector</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Vinyl/rubber flexible duct connectors in mechanical room.

2009 Inspection Note: N/A

2002 Inspection Note: N/A

1991 Inspection Note: Any remaining friable ACM or friable suspected ACM or ACE. Mechanical Room (1 each)

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: 46 Homogeneous Area #: 14 Date: 7/16/14
Description: Downspout tar Inspector: E. Hyde

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
☐ Damaged friable surfacing ACM or ACE
☐ Significantly damaged friable surfacing ACM or ACE
☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
☒ ACM or ACE with potential for damage
☐ ACM or ACE with potential for significant damage
☐ Any remaining friable ACM or ACE
☐ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
②	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Most removed / no tar observed. However, one downspout outside mechanical room has HA 14. Fair condition.

2009 Inspection Note: N/A

2002 Inspection Note: N/A

1991 Inspection Note: Any remaining friable ACM or friable suspected ACM or ACE. Downspout joints (2 each)

Recommendation Response Action (circle applicable actions)

① O&M Remove/Enclose/Encapsulate Evacuate/Restrict

Explain: Manage in place until impacted by planned renovations or repair activities. Abate prior to or as part of planned renovation or repair activities.

Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation

Building #: <u>46</u>	Homogeneous Area #: <u>15</u>	Date: <u>7/16 /14</u>
Description: <u>White/off-white mastic on piping</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACM
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: White/off-white mastic at raw ends and seams of kraft-faced fiberglass steam and chiller piping in mechanical room. Samples B46-1 and B46-2.

2009 Inspection Note: N/A

2002 Inspection Note: N/A

1991 Inspection Note: N/A

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

**Tuscaloosa VA Medical Center
Annual Asbestos Re-Inspection Documentation**

Building #: <u>46</u>	Homogeneous Area #: <u>16</u>	Date: <u>7/16/14</u>
Description: <u>Gray-green AHU Duct Mastic</u>		Inspector: <u>E. Hyde</u>

Physical Assessment (check all that apply)

- ☐ Damaged or significantly damaged TSI, ACM or ACE
- ☐ Damaged friable surfacing ACM or ACE
- ☐ Significantly damaged friable surfacing ACM or ACE
- ☐ Damaged or significantly damaged friable miscellaneous ACM or ACE
- ☐ ACM or ACE with potential for damage
- ☐ ACM or ACE with potential for significant damage
- ☐ Any remaining friable ACM or ACE
- ☒ No asbestos detected

Classification of Hazard Potential (circle one)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low Potential for Damage
3	Good	Significant Potential for Damage
2	Good	Potential for Damage
1	Good	Low Potential for Damage

Current Inspection Comments/Condition if Changed: Gray/green mastic applied at seams of externally un-insulated metal AHU ductwork in mechanical room. On reportedly newer ductwork. Not present on presumably older ductwork. Sample B46-3

2009 Inspection Note: N/A

2002 Inspection Note: N/A

1991 Inspection Note: N/A

Recommendation Response Action (circle applicable actions)

O&M *Remove/Enclose/Encapsulate* *Evacuate/Restrict*

Explain: N/A

APPENDIX P-2

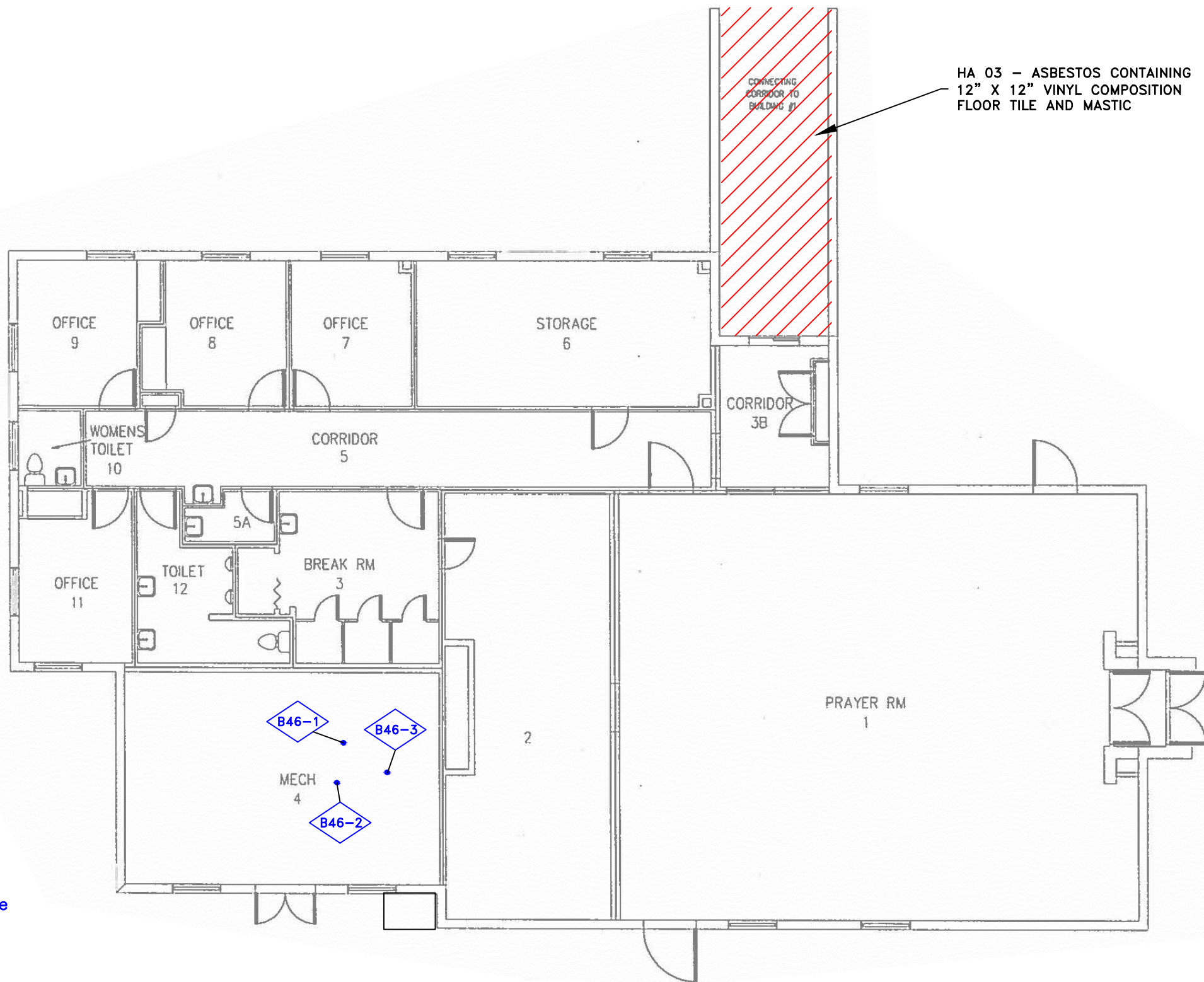
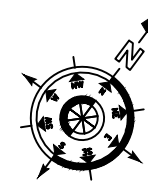
Homogeneous Area / Sample Summary Table

HOMOGENEOUS AREA / SAMPLE SUMMARY TABLE PROJECT: 2014-1108 – BUILDING 46					
HOMG. AREA (HA#)	HOMOGENEOUS AREA (HA) DESCRIPTION & LOCATION	HA TYPE (AHERA) EPA/OSHA CATG. (IF ACM) CONDITION (IF ACM)	SAMPLE NO.	ASBESTOS CONTENT	SAMPLE LOCATION
15	Mastic (white/off-white) applied at seams of kraft-faced fiberglass insulation on, and raw fiberglass ends of steam and chiller piping in the mechanical room.	Miscellaneous Material on TSI Not ACM	B46-1	None Detected	Mechanical Room – Steam Pipe
			B46-2	None Detected	Mechanical Room – Chiller Pipe
16	Mastic (gray/green) applied at seams of externally un-insulated metal AHU ductwork in mechanical room. Ductwork appears to be relatively new. No mastic observed on what appeared to be older ductwork in the mechanical room.	Miscellaneous ACM NESHAP Category 2 Non-Friable ACM OSHA Class II Work Intact	B46-3	None Detected	Mechanical Room
END OF TABLE					

Notes: 1. ** = Homogeneous area # previously identified by others.


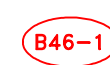
2. If not demarked with an **, this is a new homogeneous area identified by SELC during this re-inspection

APPENDIX P-3
Sample/ACM Location Plans



HA 03 - ASBESTOS CONTAINING
12" X 12" VINYL COMPOSITION
FLOOR TILE AND MASTIC

SAMPLE LOCATION LEGEND

-  Sample Locations/
No Asbestos Detected in Sample
-  Sample Locations/
Asbestos Detected in Sample

NOT TO SCALE

BUILDING 46

SHEET 1: BUILDING 46



Safety Environmental Laboratories
and Consulting, Inc.

989 Yeager Parkway
Pelham, AL 35124

(205) 823-6200 fax (205) 823-9066

PROJECT

3-YEAR ASBESTOS RE-INSPECTION
VAMC TUSCALOOSA
3701 LOOP ROAD
TUSCALOOSA, ALABAMA 35404
SELC PROJECT NO.: 2014-1108

BUILDING 46
GROUND FLOOR
SHEET 1 OF 1

APPENDIX P-4
PLM Laboratory Reports



Safety Environmental Laboratories and Consulting, Inc.



Asbestos Bulk Sample Analysis Report

989 Yeager Pkwy.
Pelham, AL 35124

Phone: (205) 823-6200
Fax: (205) 823-9066

Customer: **Safety Environmental Laboratories and Consulting, Inc.**
989 Yeager Parkway
Pelham, AL 35124

Telephone: **205-823-6200**

Fax: **205-823-9066**

Sample Receipt Date: 08/06/2014

Sample Analysis Date: 08/07/2014

Sample Report Date: 08/07/2014

Project Name: **VAMC Tuscaloosa**
Project Location: **Building 46**

Asbestos Identification in Bulk Materials by Polarized Light Microscopy

EPA/600/R-93/116 July 1993 – Method for the Determination of Asbestos in Bulk Building Materials

Note: See Attached Notes and Descriptions Sheet for Applicable Abbreviations and Notes

SELCL Project #: **2014-1108**

Customer Sample No.	Lab Sample No.	Sub-sample No.	Layer No.	Sample Location / Description	Homo-geneous (yes/no)	Asbestos % and Type	% Non-Asbestos Fibers	% Non-Fibrous Material
B46-1	29	N/A	1	Steam Pipe Mastic – Mechanical Room Pipe Mastic – White, Soft	N	None Detected	None Detected	100%
B46-2	30	N/A	1	Chiller Pipe Mastic – Mechanical Room Pipe Mastic – Tan, Hard	N	None Detected	7% Wollastonite	93%
B46-3	31	N/A	1	Duct Seam Mastic – Mechanical Room Duct Mastic – Gray, Hard	N	None Detected	None Detected	100%

☒ This report is **FINAL** ☐ This report is **PRELIMINARY** – pending final QC

Analyst

Kris Parker – Asbestos Analyst

Technical Review

Brian Ray – Asbestos Analyst

Quality Review

Carol Findlay – Microscopy Manager



Safety Environmental Laboratories and Consulting, Inc.

Asbestos Bulk Sample Analysis Report

989 Yeager Pkwy.
Pelham, AL 35124

Phone: (205) 823-6200
Fax: (205) 823-9066



PLM Notes and Descriptions

1. Upper detection limit: 100%. Lower detection limit: <1%.
2. Bulk Samples will be stored for 3 months and will then be disposed of in an approved EPA landfill.
3. Analysis of floor tile or any other resinously bound materials by polarized light microscopy (PLM) using EPA Method 600/R-93/116 dated July 1993 may yield false-negative results because of method limitations in separating closely bound fibers from matrix material and in detecting fibers of small length and/or diameter. When analysis of such materials by the EPA PLM Method yields negative results for the presence of asbestos we recommend utilizing alternative methods of identification such as Gravimetry, XRD or AEM.
4. Samples are not homogenized by SELC prior to analysis. Distinct material layers within a sample are analyzed and reported separately by SELC. When multiple products are submitted by the customer under one sample number, SELC indicates those distinct products as sub-samples. SELC retains all samples numbers but will designate a sample number to those that are not given a sample number by the customer.
5. Percentages given are based on a visual estimated calibration.
6. Safety Environmental Laboratories and Consulting, Inc. is a NVLAP accredited laboratory, Lab Code: 200873-0 (ISO/IEC Standard 17025:2005 Compliant).
7. Results relate only to the samples tested. All tests were performed under the scope of SELC's NVLAP accreditation, unless indicated otherwise.
8. All samples were received in a condition suitable for analysis ("Good"), unless otherwise noted.
9. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.
10. Analytical Instrument: Olympus Polarized Light Microscope Series BH-2 Model BHT-002

Analyst

Kris Parker – Asbestos Analyst

Technical Review

Brian Ray – Asbestos Analyst

Quality Review

Carol Findlay – Microscopy Manager



Safety Environmental Laboratories and Consulting, Inc.

989 Yeager Pkwy.
Pelham, AL 35124

Phone: (205) 823-6200
Fax: (205) 823-9066

Environmental, Health, and Safety Solutions

Chain of Custody Form

Customer: Safety Environmental Labs and Consulting, Inc.

Project Number: 2014-1108

Address: 989 Yeager Parkway

Project Name: VAMC Tuscaloosa

Pelham, AL 35126

Project Location: Building 46

Phone: 205-823-6200

Fax: 205-823-9066

PO Number:

E-mail:

SEL Proj. #:

Sample Type

- ☐ Air
☒ Bulk
☐ Paint
☐ Soil
☐ Waste
☐ Other:

Asbestos Analysis

- ☐ Asbestos Air - PCM
☐ Asbestos Air - TEM
☒ PLM (EPA 600/R-93/116)
☐ PLM (EPA Point Count)
☐ Other:

Metals Analysis

- ☐ Total Conc. - Lead
☐ Total Conc. - RCRA 8-Metals
☐ TCLP - Lead
☐ TCLP - RCRA 8-Metals
☐ TCLP - Full (w/ organics)
☐ Other:

Turn-Around Time*

- ☐ Rush/Same Day†
☐ 24 Hours
☐ 48 Hours
☒ 3 Business Days
☐ 4 Business Days
☐ Other:

- Field blanks should be submitted with all samples -

* Some TAT not available for all tests. Must schedule rush organics, multi-metals, and weekend tests in advance.

† Same day not available after 2:00 PM

Sample #	Date Sampled	Sample Description (e.g. Employee Name, SSN, Bldg, Material)	Area Wiped (ft²)	Type ‡ A/B/P/E	Time of Sampling		Flow Rate (L/min)		Total Vol. (L)	SEL USE ONLY	
					Start	Stop	Start	Stop		#	Cond
B46-1	7/16/14	Mastic Steam Pipe Mastic - Mech Rm								29	6
B46-2		Chiller Pipe Mastic - Mech Room								30	↓
B46-3		Duct Seam Mastic - Mech. Room								31	↓
B46-4	7/16/14	Excursion									

‡ A - Area, B - Blank, P - Personal, E - Excursion

Relinquished by:

Received By:

Sampled By:

Signature

Elizabeth Hyde

Signature	Date	Time	Signature	Date	Time
Elizabeth Hyde	8/5/14	5:00pm	Betty Lindsey	8/10/14	8:25am

APPENDIX P-5
Photographic Documentation

Photographic Documentation – 3 Year Asbestos Re-inspection – Building 46



PHOTOGRAPH 1
HA 03 – ACM 12" Vinyl composition floor tile
and mastic in connecting corridor to Building 1.



PHOTOGRAPH 3
View of rubber/vinyl flexible duct connector in
mechanical room, and grey/green mastic on
seams of AHU ductwork (HA 16 – NAD).



PHOTOGRAPH 2
HA 03 – ACM 12" Vinyl composition floor tile
and mastic in connecting corridor to Building 1.



PHOTOGRAPH 4
Piping insulated with kraft-faced fiberglass
insulation in mechanical room. Mastic (HA 16 –
NAD) is present at raw ends and seams of this
piping.

APPENDIX P-6
Estimated Asbestos Abatement Costs

BUILDING 46 ESTIMATED ASBESTOS ABATEMENT COSTS				
HA NUMBER(S)	TYPE OF ACM	FRIABLE/ NON- FRIABLE	APPROXIMATE QUANTITY	ESTIMATED ABATEMENT COST
03	Vinyl composition floor tile and mastic	Non- Friable	~ 450 square feet	\$2,250
14	Downspout Tar	Non- Friable	Observed on one down spout by mechanical room.	\$200

Notes:

1. HA = Homogeneous area
2. ACM = Asbestos containing material
3. NP = Not provided
4. Costs provided are general estimates for information purposes only. A complete and specific cost estimate should be obtained from Alabama accredited asbestos abatement contractors prior to any abatement project.
5. Quantity and cost estimates are provided only for observable ACM/homogeneous area. Cost estimates are not provided for inaccessible portions/quantities of a homogeneous group.

APPENDIX P-7

Additional VAMC Supplied Notes/Information

Attic flexible conduits with ACM

MV
03/25/14

- ✓ Bldg 2 - Rm 23B per
Le Muller
NO ACM
- ✓ Bldg 3 - Attic take NO ACM
starts across from rm 213
- ✓ Bldg 4 - Attic + ductwork replaced 1994
NO ACM
- ✓ Bldg 5 - mech rm 5 + rm 205 A
X2 + rm 102 (A)

- ✓ Bldg 1 Above city / corridor
Near ~~rm 205~~ rm 120F (ACM?)
- cont - rm 235 above city (ACM?)

- ✓ B-46 Chapel - duct flex
"Canvas connector"

- ✓ (B-40) 1st fl + 2nd floor ↑ canvas vs ACM

APPENDIX S
BUILDING 46
CHAPEL



INCLUDED IN APPENDIX S:
S-1 – XRF Testing Data Sheets
S-2 – XRF Testing Location Plans
S-3 – Photographic Documentation

APPENDIX S-1
XRF Testing Data Sheets



XRF TESTING DATA
VAMC TUSCALOOSA
BUILDING 46
3701 PELHAM LOOP ROAD EAST
TUSCALOOSA, AL 35404
SELC PROJECT #: 2014-1107

NITON XLP 700-303A
Serial #21385

Reading Number	Date & Time	Component	Substrate	Side	Condition	Color	Location	Room	Building	Inspector	Results	Lead (mg/cm ²)
1	7/2/2014 10:46											1.49*
2	7/2/2014 10:50	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										0.90
3	7/2/2014 10:51	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										1.10
4	7/2/2014 10:51	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										1.20
23	7/2/2014 14:19	Ceiling	Concrete	A	Intact	White	Interior	1	Bldg 46	NP	Negative	0.00
24	7/2/2014 14:22	Wall	CMU	D	Intact	Beige	Interior	1	Bldg 46	NP	Negative	0.04
25	7/2/2014 14:25	Arch	Plaster	D	Intact	Brown	Interior	1	Bldg 46	NP	Negative	0.03
26	7/2/2014 14:25	Arch	Plaster	B	Intact	Brown	Interior	1	Bldg 46	NP	Negative	0.02
27	7/2/2014 14:26	Window Sill	Wood	D	Intact	White	Interior	1	Bldg 46	NP	Negative	0.01
28	7/2/2014 14:28	Wall Panel	Wood	C	Intact	Gray	Interior	1	Bldg 46	NP	Negative	0.01
29	7/2/2014 14:28	Ceiling	Wood	C	Intact	Beige	Interior	1	Bldg 46	NP	Negative	0.01
30	7/2/2014 14:29	Ceiling	Wood	C	Intact	Beige	Interior	1	Bldg 46	NP	Negative	0.01
31	7/2/2014 14:30	Duct Cover	Wood	A	Intact	White	Interior	1	Bldg 46	NP	Negative	0.01
32	7/2/2014 14:30	Duct Cover	Wood	C	Intact	White	Interior	1	Bldg 46	NP	Negative	0.00
33	7/2/2014 14:31	Door	Wood	D	Intact	Brown	Interior	1	Bldg 46	NP	Negative	0.04
34	7/2/2014 14:32	Door Frame	Metal	D	Intact	Brown	Interior	1	Bldg 46	NP	Negative	0.04
35	7/2/2014 14:35	Door Frame	Metal	A	Intact	Cream	Interior	Corridor 5	Bldg 46	NP	Negative	0.00
36	7/2/2014 14:36	Wall	CMU	B	Intact	Cream	Interior	Corridor 5	Bldg 46	NP	Negative	0.50
37	7/2/2014 14:38	Door	Metal	B	Intact	Gray	Interior	Rm 6	Bldg 46	NP	Negative	0.03
38	7/2/2014 14:38	Door Frame	Metal	B	Intact	Gray	Interior	Rm 6	Bldg 46	NP	Negative	0.02
39	7/2/2014 14:41	Window Sill	Wood	D	Intact	White	Interior	Rm 8	Bldg 46	NP	Negative	0.03
40	7/2/2014 14:42	Closet Door	Wood	C	Intact	Gray	Interior	Rm 8	Bldg 46	NP	Negative	0.03
41	7/2/2014 14:42	Closet Door Frame	Metal	C	Intact	Gray	Interior	Rm 8	Bldg 46	NP	Negative	0.03
42	7/2/2014 14:44	Closet Door Frame	Metal	D	Intact	Gray	Interior	Rm 11	Bldg 46	NP	Negative	0.01
43	7/2/2014 14:44	Closet Door	Wood	D	Intact	Gray	Interior	Rm 11	Bldg 46	NP	Negative	0.08
44	7/2/2014 14:45	Wall	CMU	A	Intact	White	Interior	Rm 11	Bldg 46	NP	Negative	-0.21
45	7/2/2014 14:45	Wall	CMU	A	Intact	White	Interior	Rm 11	Bldg 46	NP	Negative	-0.26
46	7/2/2014 14:47	Wall	CMU	C	Intact	White	Interior	Rm 10	Bldg 46	NP	Negative	0.17

ACTION LEVEL = 1.00 mg/cm²



XRF TESTING DATA
VAMC TUSCALOOSA
BUILDING 46
3701 PELHAM LOOP ROAD EAST
TUSCALOOSA, AL 35404
SELC PROJECT #: 2014-1107

NITON XLP 700-303A
Serial #21385

Reading Number	Date & Time	Component	Substrate	Side	Condition	Color	Location	Room	Building	Inspector	Results	Lead (mg/cm ²)
47	7/2/2014 14:48	Floor	Concrete		Intact	Gray	Interior	Rm 10	Bldg 46	NP	Negative	0.03
48	7/2/2014 14:49	Radiator Cover	Metal	C	Intact	White	Interior	Rm 10	Bldg 46	NP	Negative	0.01
49	7/2/2014 14:50	Window Sill	Wood	C	Intact	White	Interior	Rm 9	Bldg 46	NP	Negative	0.07
50	7/2/2014 14:51	Closet Door	Wood	A	Intact	White	Interior	Rm 9	Bldg 46	NP	Negative	0.03
51	7/2/2014 14:52	Closet Door Frame	Metal	A	Intact	White	Interior	Rm 9	Bldg 46	NP	Negative	0.06
52	7/2/2014 14:54	Floor	Concrete	A	Intact	Gray	Interior	Rm 5a	Bldg 46	NP	Negative	0.00
53	7/2/2014 14:55	Floor	Concrete	A	Intact	Gray	Interior	Rm 12	Bldg 46	NP	Negative	0.00
54	7/2/2014 14:59	Wall	Gypsum Board	B	Intact	White	Interior	Rm 3	Bldg 46	NP	Negative	0.00
55	7/2/2014 14:59	Wall	Gypsum Board	B	Intact	White	Interior	Rm 3	Bldg 46	NP	Negative	0.01
56	7/2/2014 15:07	Floor	Concrete	B	Poor	Gray	Interior	Rm 4	Bldg 46	NP	Negative	0.05
57	7/2/2014 15:08	Handrail	Metal	D	Intact	Yellow	Interior	Rm 4	Bldg 46	NP	Positive	7.30
58	7/2/2014 15:09	Handrail	Metal	D	Intact	Yellow	Interior	Rm 4	Bldg 46	NP	Positive	2.40
59	7/2/2014 15:37	Equipment Stand	Concrete	A	Intact	Yellow	Interior	Rm 4	Bldg 46	NP	Negative	0.09
60	7/2/2014 15:37	Equipment Stand	Concrete	A	Intact	Yellow	Interior	Rm 4	Bldg 46	NP	Negative	0.11
61	7/2/2014 15:39	Structural Steel	Metal	A	Intact	Black	Interior	Rm 4	Bldg 46	NP	Negative	0.00
62	7/2/2014 15:39	Structural Steel	Metal	A	Intact	Black	Interior	Rm 4	Bldg 46	NP	Negative	0.00
63	7/2/2014 15:39	Structural Steel	Metal	A	Intact	Black	Interior	Rm 4	Bldg 46	NP	Negative	0.00
64	7/2/2014 15:41	Door	Metal	B	Intact	Gray	Interior	Rm 4	Bldg 46	NP	Negative	0.06
65	7/2/2014 15:41	Door Frame	Metal	B	Intact	Gray	Interior	Rm 4	Bldg 46	NP	Negative	0.01
66	7/2/2014 15:58	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										0.90
67	7/2/2014 16:00	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										1.00
68	7/2/2014 16:01	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										0.90
69	7/3/2014 8:22											1.39*
70	7/3/2014 8:49	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										0.80
71	7/3/2014 8:49	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										1.10
72	7/3/2014 8:50	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										0.90
73	7/3/2014 9:00	Ceiling	Concrete	A	Intact	White	Exterior		Bldg. 46	NP	Null	0.03
74	7/3/2014 9:00	Ceiling	Concrete	A	Intact	White	Exterior		Bldg. 46	NP	Negative	0.02

ACTION LEVEL = 1.00 mg/cm²



**XRF TESTING DATA
VAMC TUSCALOOSA
BUILDING 46
3701 PELHAM LOOP ROAD EAST
TUSCALOOSA, AL 35404
SELC PROJECT #: 2014-1107**

**NITON XLP 700-303A
Serial #21385**

Reading Number	Date & Time	Component	Substrate	Side	Condition	Color	Location	Room	Building	Inspector	Results	Lead (mg/cm ²)
75	7/3/2014 9:04	Sign	Metal	A	Intact	Black	Exterior		Bldg. 46	NP	Positive	1.40
76	7/3/2014 9:11	Decorative Grill	Wood	A	Peeling	White	Exterior		Bldg. 46	NP	Positive	6.60
77	7/3/2014 9:21	Downspout	Factory Coated Aluminum	B	Intact	White	Exterior		Bldg. 46	NP	Negative	0.00
78	7/3/2014 9:22	Downspout Base	Metal	B	Poor	Black	Exterior		Bldg. 46	NP	Positive	1.10
79	7/3/2014 9:30	Door	Metal	B	Poor	White	Exterior		Bldg. 46	NP	Positive	7.40
80	7/3/2014 9:30	Door Frame	Metal	B	Poor	White	Exterior		Bldg. 46	NP	Positive	12.00
81	7/3/2014 9:37	Soffit	Wood	A	Peeling	White	Exterior		Bldg. 46	NP	Positive	16.60
82	7/3/2014 9:37	Fascia	Wood	A	Peeling	White	Exterior		Bldg. 46	NP	Negative	0.02
83	7/3/2014 9:39	Fascia	Wood	A	Peeling	White	Exterior		Bldg. 46	NP	Positive	7.50
84	7/3/2014 9:47	Window Lintel	Metal	A	Peeling	White	Exterior		Bldg. 46	NP	Negative	0.00
85	7/3/2014 9:48	Window Lintel	Metal	A	Peeling	White	Exterior		Bldg. 46	NP	Null	1.10
86	7/3/2014 9:49	Window Lintel	Metal	C	Peeling	Silver	Exterior		Bldg. 46	NP	Positive	2.40
87	7/3/2014 9:55	Door Frame	Metal	D	Poor	White	Exterior		Bldg. 46	NP	Positive	5.40
134	7/3/2014 13:31	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										1.10
135	7/3/2014 13:33	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										1.00
136	7/3/2014 13:35	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573										1.00

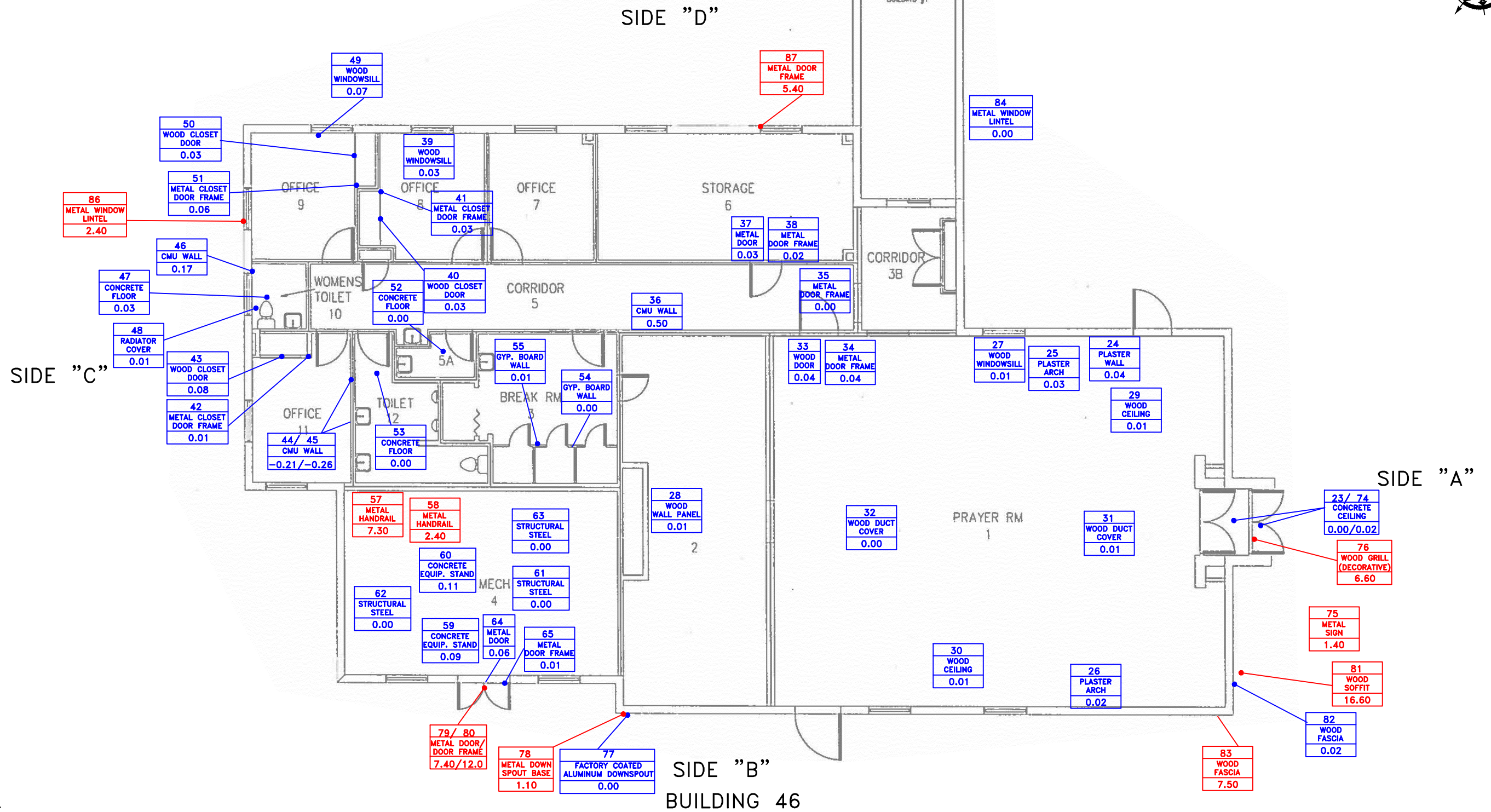
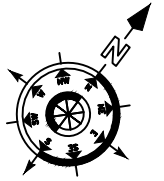
* = Reading numbers 1 and 69 are internal diagnostic readings that do not represent lead content on any items.

Null = Incomplete test due to instrument movement or early trigger release.

Readings 5 -22 from 7/2/14 and 88 - 133 from 7/3/14 apply to Buildings 13, 14, 25, 27, and 28. Please see corresponding building tables for this data.

ACTION LEVEL = 1.00 mg/cm²

APPENDIX S-2
XRF Testing Location Plans



NOT TO SCALE

SIDE "B"
BUILDING 46

XRF #	XRF TEST NUMBER
BUILDING COMPONENT	BUILDING COMPONENT TESTED
LEAD CONTENT (MG/CM ²)	RESULTS / LEAD CONTENT IN PAINT (MG/CM ²)

SHEET 1: BUILDING 46



Safety Environmental Laboratories
and Consulting, Inc.
989 Yeager Parkway
Pelham, AL 35124
(205) 823-6200 fax (205) 823-9066

PROJECT
LEAD BASED PAINT INSPECTION
VAMC TUSCALOOSA
3701 LOOP ROAD
TUSCALOOSA, ALABAMA 35404
SEL PROJECT NO.: 2014-1107

BUILDING 46
GROUND FLOOR
SHEET 1 OF 1

APPENDIX S-3
Photographic Documentation

Building 46

Photographic Documentation



Photograph 1
Damaged LPB on wooden decorative grill.



Photograph 2
Damaged / peeling LPB on wooden decorative grill.



Photograph 3
Damage LBP on metal down spout base – typical.



Photograph 4
Damaged LBP on metal door and frame to Room 4.

Building 46

Photographic Documentation



Photograph 5
Damaged / peeling LPB on wooden soffit and fascia – typical.



Photograph 6
Damaged / peeling LPB on wooden soffit and fascia – typical.



Photograph 7
Damaged / peeling LPB on exterior metal door frame – typical.

NO PHOTOGRAPH

Addendum 1

Date: 03/28/2025

Project Name: VA Tuscaloosa Replace HVAC
679-22-106

Project #: 22017.001

Mechanical Drawing Items:

1. The following sheets are reissued in their entirety:

- A. Sheet M000 (Building 2)
 - 1. Removed Notes
- B. Sheet MD100 (Building 2)
- C. Sheet MD101 (Building 2)
- D. Sheet MD102 (Building 2)
- E. Sheet MH100 (Building 2)
 - 1. Relocated split system in IT room.
- F. Sheet MP100 (Building 2)
- G. Sheet MP101 (Building 2)
- H. Sheet MP102 (Building 2)
- I. Sheet M500 (Building 2)
- J. Sheet M600 (Building 2)
- K. Sheet M000 (Building 46)
 - 1. Removed Notes
- L. Sheet MD101 (Building 46)
- M. Sheet MH101 (Building 46)
- N. Sheet MP101 (Building 46)
- O. Sheet M500 (Building 46)
- P. Sheet M600 (Building 46)
- Q. Sheet M700 (Building 46)

Electrical Drawing Items:

1. The following sheets are reissued in their entirety:

- A. Sheet E000 (Building 2):
 - 1. Removed Equipment Connection Schedule.
- B. Sheet ED100 (Building 2):

1. Edited sheet notes.
- C. Sheet ED101 (Building 2):
 1. Edited sheet notes.
- D. Sheet ED102 (Building 2):
 1. Edited sheet notes.
- E. Sheet EP100 (Building 2):
 1. Edited sheet notes.
 2. Deleted Panel schedule (E) 2-RP-EM-GCC.
 3. Revised Panel schedule (E) 2-RP-EM-GCA-B.
- F. Sheet EP101 (Building 2):
 1. Edited sheet notes.
 2. Revised Panel schedule (E) 2-RP-EM-1CA.
- G. Sheet EP102 (Building 2):
 1. Edited sheet notes.
 2. Revised Panel schedule (E) 2-RP-2CB.
- H. Sheet E700
 1. Added Equipment Connection Schedule.
- I. Sheet E000 (Building 46):
 1. Added Fire Alarm Symbol Legend.
- J. Sheet ED101 (Building 46):
 1. Edited sheet notes.
 2. Corrected text overlapping.
 3. Mechanical Room 4 - Added keynote to remove existing panel 46-PP-TEMP.
 4. Mechanical Room 4 - Included keynotes for pumps: (E) CWP-2 and (E) HWP-2.
- K. Sheet EP101 (Building 46):
 1. Edited sheet notes.
 2. Corrected text overlapping.
 3. Mechanical Room 4 - Added two (2) duct mounted smoke detectors for 46-AHU-1.
 4. Mechanical Room 4 - Deleted panel 46-PP TEMP.
 5. Mechanical Room 4 - Included keynotes for pumps: (E) CWP-2 and (E) HWP-2.
 6. HK 10 Room – Added 46-FCU-8 fan coil unit with keynote.
 7. Edited Equipment Connection Schedule.
 8. Revised Electrical One-Line.

Architectural Drawing Items:

1. The following sheets are reissued in their entirety:
 - A. Sheet A-101 (Building 46):

1. Changed window shown on plan to existing door in the North East corner of the Chapel Naïve. Door to remain.
 2. Added additional demolition keynotes for existing doors to remain.
 3. Added symbols for existing FCU locations to be demolished and revised Demolition Keynote #6.
 4. Added Demolition Keynote #7.
 5. Added section/detail callouts for new, typical pipe chase.
 6. Revised New Work Keynote #7.
 7. Revised New Work Keynote #8.
 8. Added New Work Keynotes 12 through 14.
 9. Added door hardware notes.
2. The following sheets are added to the construction documents:
- A. Sheet A-501 DETAILS (Building 46):
 1. Added sectional details for typical vertical and horizontal pipe chases.
 - B. Sheet A-102 (Building 2): GROUND FLOOR DEMOLITION AND NEW WORK PLANS.
 - C. Sheet A-103 (Building 2): FIRST FLOOR DEMOLITION AND NEW WORK PLANS.
 - D. Sheet A-104 (Building 2): SECOND FLOOR DEMOLITION AND NEW WORK PLANS.
-

Submitted By: Kline Kelly

APPENDIX B
BUILDING 2
MENTAL HEALTH BUILDING / OFFICES



INCLUDED IN APPENDIX B:
B-1 – XRF Testing Data Sheets
B-2 – XRF Testing Location Plans
B-3 – Photographic Documentation

APPENDIX B-1
XRF Testing Data Sheets



XRF TESTING DATA
VAMC TUSCALOOSA
BUILDING 2
3701 PELHAM LOOP ROAD EAST
TUSCALOOSA, AL 35404
SELIC PROJECT #: 2014-1107

NITON XLP 700-303A
Serial #21385

Reading Number	Date & Time	Component	Substrate	Side	Condition	Color	Location	Floor	Building	Room	Inspector	Results	Lead (mg/cm ²)
1	7/31/2014 10:19												1.51*
2	7/31/2014 10:54	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573											0.90
3	7/31/2014 10:55	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573											0.90
4	7/31/2014 10:57	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573											1.00
5	7/31/2014 11:08	Chair Rail	Wood	C	Intact	White	Interior	Ground	Bldg 2	16	NP	Negative	0.00
6	7/31/2014 11:09	Door	Metal	A	Intact	Brown	Interior	Ground	Bldg 2	16	NP	Negative	0.00
7	7/31/2014 11:10	Door Frame	Metal	A	Intact	Brown	Interior	Ground	Bldg 2	16	NP	Negative	0.00
8	7/31/2014 11:12	Wall	Gypsum Board	B	Intact	White	Interior	Ground	Bldg 2	1c	NP	Negative	0.00
9	7/31/2014 11:13	Door	Metal	D	Intact	Brown	Interior	Ground	Bldg 2	1c	NP	Negative	0.01
10	7/31/2014 11:13	Door Frame	Metal	D	Intact	Brown	Interior	Ground	Bldg 2	1c	NP	Negative	0.00
11	7/31/2014 11:15	Door Frame	Metal	D	Intact	Brown	Interior	Ground	Bldg 2	7b	NP	Null	0.00
12	7/31/2014 11:15	Door Frame	Metal	A	Intact	Brown	Interior	Ground	Bldg 2	7b	NP	Negative	0.01
13	7/31/2014 11:17	Wall	Gypsum Board	C	Intact	White	Interior	Ground	Bldg 2	24	NP	Negative	0.01
14	7/31/2014 11:18	Radiator	Metal	D	Intact	White	Interior	Ground	Bldg 2	24	NP	Positive	1.80
15	7/31/2014 11:22	Wall	Gypsum Board	A	Intact	White	Interior	Ground	Bldg 2	cg4	NP	Negative	0.01
16	7/31/2014 11:24	Fire Ext. Cab. Door	Metal	D	Intact	Red	Interior	Ground	Bldg 2	cg5	NP	Negative	0.01
17	7/31/2014 11:26	Wall	Plaster	A	Intact	White	Interior	Ground	Bldg 2	Stairwell sc-1	NP	Negative	0.13
18	7/31/2014 11:26	Stringer	Metal	B	Intact	White	Interior	Ground	Bldg 2	Stairwell sc-1	NP	Positive	2.90
19	7/31/2014 11:30	Stringer	Metal	C	Intact	White	Interior	First	Bldg 2	Stairwell 123	NP	Positive	4.60
20	7/31/2014 11:31	Door	Metal	C	Intact	White	Interior	First	Bldg 2	Stairwell 123	NP	Negative	0.01
21	7/31/2014 11:32	Door Frame	Metal	C	Intact	White	Interior	First	Bldg 2	Stairwell 123	NP	Negative	0.00
22	7/31/2014 11:32	Wall	Plaster	C	Intact	White	Interior	First	Bldg 2	Stairwell 123	NP	Negative	0.14

ACTION LEVEL = 1.00 mg/cm²



**XRF TESTING DATA
VAMC TUSCALOOSA
BUILDING 2
3701 PELHAM LOOP ROAD EAST
TUSCALOOSA, AL 35404
SELC PROJECT #: 2014-1107**

**NITON XLP 700-303A
Serial #21385**

Reading Number	Date & Time	Component	Substrate	Side	Condition	Color	Location	Floor	Building	Room	Inspector	Results	Lead (mg/cm ²)
23	7/31/2014 11:33	Ceiling	Plaster	C	Cracked	White	Interior	First	Bldg 2	Stairwell 123	NP	Null	0.08
24	7/31/2014 11:33	Ceiling	Plaster	C	Cracked	White	Interior	First	Bldg 2	Stairwell 123	NP	Negative	0.06
25	7/31/2014 11:36	Wall	Plaster	B	Intact	White	Interior	First	Bldg 2	109	NP	Negative	0.40
26	7/31/2014 11:37	Door Frame	Metal	D	Intact	Brown	Interior	First	Bldg 2	109	NP	Negative	0.01
27	7/31/2014 11:39	Door Frame	Metal	B	Intact	Brown	Interior	First	Bldg 2	Corridor 125	NP	Negative	0.00
28	7/31/2014 11:39	Door	Metal	B	Intact	Brown	Interior	First	Bldg 2	Corridor 125	NP	Negative	0.01
29	7/31/2014 11:40	Wall	Plaster	A	Intact	White	Interior	First	Bldg 2	104	NP	Negative	0.07
30	7/31/2014 11:42	Column	Plaster	B	Intact	Beige	Interior	First	Bldg 2	101	NP	Negative	0.10
31	7/31/2014 11:43	Door Frame	Metal	C	Intact	Brown	Interior	First	Bldg 2	101	NP	Negative	0.00
32	7/31/2014 11:46	Wall	Plaster	C	Intact	White	Interior	First	Bldg 2	115	NP	Positive	1.70
33	7/31/2014 11:48	Fire Ext. Cab. Door	Metal	D	Intact	Red	Interior	First	Bldg 2	Corridor 179	NP	Negative	0.04
34	7/31/2014 11:49	Wall	Gypsum Board	B	Intact	Beige	Interior	First	Bldg 2	113c	NP	Negative	0.00
35	7/31/2014 11:50	Wall	Gypsum Board	D	Intact	Beige	Interior	First	Bldg 2	113c	NP	Negative	0.00
36	7/31/2014 11:52	Door Frame	Metal	D	Intact	Brown	Interior	First	Bldg 2	113g	NP	Negative	0.00
37	7/31/2014 11:54	Wall	Gypsum Board	D	Intact	Beige	Interior	First	Bldg 2	113g	NP	Negative	0.00
38	7/31/2014 11:57	Wall	Plaster	B	Intact	White	Interior	First	Bldg 2	Stairwell 113c	NP	Negative	0.12
39	7/31/2014 11:58	Stringer	Metal	B	Intact	Gray	Interior	First	Bldg 2	Stairwell 113c	NP	Positive	3.50
40	7/31/2014 11:59	Door	Metal	A	Intact	White	Interior	First	Bldg 2	Stairwell 113c	NP	Negative	0.06
41	7/31/2014 12:00	Door Frame	Metal	A	Intact	White	Interior	First	Bldg 2	Stairwell 113c	NP	Negative	0.08
42	7/31/2014 12:07	Wall	Plaster	C	Cracked	Beige	Interior	Second	Bldg 2	205	NP	Negative	0.01
43	7/31/2014 12:07	Door Frame	Metal	A	Cracked	Brown	Interior	Second	Bldg 2	205	NP	Negative	0.00
44	7/31/2014 12:08	Door Frame	Metal	C	Intact	Brown	Interior	Second	Bldg 2	204	NP	Negative	0.02

ACTION LEVEL = 1.00 mg/cm²



**XRF TESTING DATA
VAMC TUSCALOOSA
BUILDING 2
3701 PELHAM LOOP ROAD EAST
TUSCALOOSA, AL 35404
SELIC PROJECT #: 2014-1107**

**NITON XLP 700-303A
Serial #21385**

Reading Number	Date & Time	Component	Substrate	Side	Condition	Color	Location	Floor	Building	Room	Inspector	Results	Lead (mg/cm ²)
45	7/31/2014 12:08	Wall	Plaster	A	Intact	White	Interior	Second	Bldg 2	204	NP	Negative	0.14
46	7/31/2014 12:11	Wall	Plaster	D	Intact	Beige	Interior	Second	Bldg 2	Corridor 219	NP	Negative	0.00
47	7/31/2014 12:13	Wall	Gypsum Board	C	Intact	White	Interior	Second	Bldg 2	212b	NP	Negative	0.00
48	7/31/2014 12:14	Door Frame	Metal	A	Intact	Gray	Interior	Second	Bldg 2	212b	NP	Negative	0.01
49	7/31/2014 12:14	Door	Metal	A	Intact	Gray	Interior	Second	Bldg 2	212b	NP	Negative	0.01
50	7/31/2014 12:15	Door	Metal	D	Intact	Brown	Interior	Second	Bldg 2	212d	NP	Negative	0.00
51	7/31/2014 12:17	Wall	Plaster	A	Intact	White	Interior	Second	Bldg 2	213b	NP	Negative	0.00
52	7/31/2014 12:22	Window Sill	Wood	A	Intact	White	Interior	Attic	Bldg 2		NP	Positive	14.70
53	7/31/2014 12:23	Sprinkler Pipe	Metal	B	Intact	Red	Interior	Attic	Bldg 2		NP	Negative	0.04
54	7/31/2014 12:34	Sprinkler Pipe	Metal	A	Intact	Red	Interior	Attic	Bldg 2		NP	Negative	0.00
55	7/31/2014 12:35	Duct	Metal	Central	Intact	Orange	Interior	Attic	Bldg 2		NP	Positive	8.90
56	7/31/2014 12:36	Duct	Metal	Central	Intact	Orange	Interior	Attic	Bldg 2		NP	Positive	10.10
57	7/31/2014 12:36	Pipe	Metal	Central	Poor	Beige	Interior	Attic	Bldg 2		NP	Positive	10.10
58	7/31/2014 12:38	Floor	Concrete	Central	Intact	Gray	Interior	Attic	Bldg 2	Elevator	NP	Negative	0.50
59	7/31/2014 12:39	Floor	Concrete	Central	Intact	Red	Interior	Attic	Bldg 2	Elevator	NP	Negative	0.30
60	7/31/2014 12:39	Ladder	Metal	B	Intact	Gray	Interior	Attic	Bldg 2	Elevator	NP	Positive	7.70
61	7/31/2014 12:39	Door	Metal	B	Intact	Gray	Interior	Attic	Bldg 2	Elevator	NP	Positive	2.10
62	7/31/2014 12:40	Door Frame	Metal	B	Intact	Gray	Interior	Attic	Bldg 2	Elevator	NP	Positive	2.00
63	7/31/2014 12:40	Duct	Metal	C	Intact	Gray	Interior	Attic	Bldg 2	Elevator	NP	Positive	9.70
64	7/31/2014 12:42	Cage	Metal	Central	Intact	Green	Interior	Attic	Bldg 2	Elevator	NP	Negative	0.26
65	7/31/2014 12:45	Motor	Metal	A	Intact	Blue	Interior	Attic	Bldg 2	Elevator	NP	Negative	0.00
66	7/31/2014 13:30	Wall	Brick	A	Intact	White	Interior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.00
67	7/31/2014 13:30	Door	Metal	A	Intact	White	Interior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.00
68	7/31/2014 13:31	Door Frame	Metal	A	Intact	White	Interior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.01

ACTION LEVEL = 1.00 mg/cm²



**XRF TESTING DATA
VAMC TUSCALOOSA
BUILDING 2
3701 PELHAM LOOP ROAD EAST
TUSCALOOSA, AL 35404
SELC PROJECT #: 2014-1107**

**NITON XLP 700-303A
Serial #21385**

Reading Number	Date & Time	Component	Substrate	Side	Condition	Color	Location	Floor	Building	Room	Inspector	Results	Lead (mg/cm ²)
69	7/31/2014 13:32	Wall	Metal	C	Intact	White	Interior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.02
70	7/31/2014 13:33	Door	Metal	C	Intact	White	Interior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.00
71	7/31/2014 13:33	Door Frame	Metal	C	Intact	White	Interior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.00
72	7/31/2014 13:34	Ceiling	Concrete	C	Peeling	White	Interior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.01
73	7/31/2014 13:35	Motor	Metal	C	Intact	Red	Interior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.02
74	7/31/2014 13:35	Motor	Metal	C	Intact	Red	Interior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.00
75	7/31/2014 13:36	Stairs	Metal	B	Intact	Black	Interior	Ground	Bldg 2	Mechanical 8a	NP	Positive	8.40
76	7/31/2014 13:36	Handrail	Metal	B	Intact	Black	Interior	Ground	Bldg 2	Mechanical 8a	NP	Positive	1.60
77	7/31/2014 13:38	Window Frame	Metal	C	Intact	White	Exterior	Ground	Bldg 2	Mechanical 8a	NP	Negative	0.00
78	7/31/2014 13:39	Window Lintel	Metal	C	Intact	White	Exterior	Ground	Bldg 2		NP	Positive	1.20
79	7/31/2014 13:40	Window Lintel	Metal	B	Intact	White	Exterior	Ground	Bldg 2		NP	Negative	0.70
80	7/31/2014 13:41	Crawlspace Vent	Metal	B	Poor	White	Exterior	Ground	Bldg 2		NP	Positive	20.70
142	7/31/2014 15:18	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573											1.00
143	7/31/2014 15:21	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573											1.00
144	7/31/2014 15:22	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573											1.00
145	7/31/2014 15:23	Calibrate Acceptable Range, 0.8 - 1.2, SRM 2573											0.90

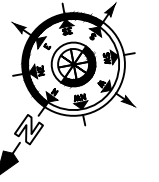
* = Reading number 1 is an internal diagnostic reading that does not represent lead content on any items.

Null = Incomplete test due to instrument movement or early trigger release.

Reading numbers 81 - 141 apply to Building 12, also tested on same date. Please see corresponding building table for this data.

ACTION LEVEL = 1.00 mg/cm²

APPENDIX B-2
XRF Testing Location Plans



NOT TO SCALE

BUILDING 2 – GROUND FLOOR

XRF #	— XRF TEST NUMBER
BUILDING COMPONENT	— BUILDING COMPONENT TESTED
LEAD CONTENT (MG/CM ²)	— RESULTS / LEAD CONTENT IN PAINT (MG/CM ²)

SHEET 1: BUILDING 2 – GROUND FLOOR



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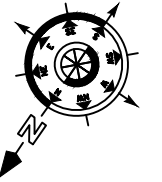
989 Yeager Parkway
Pelham, AL 35124

(205) 823-6200 fax (205) 823-9066

PROJECT

LEAD BASED PAINT INSPECTION
VAMC TUSCALOOSA
3701 LOOP ROAD
TUSCALOOSA, ALABAMA 35404
SEL PROJECT NO.: 2014-1107

BUILDING 2
GROUND FLOOR
SHEET 1 OF 4



NOT TO SCALE

BUILDING 2 – FIRST FLOOR

Safety Environmental Laboratories
and Consulting, Inc.



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Pelham, AL 35124

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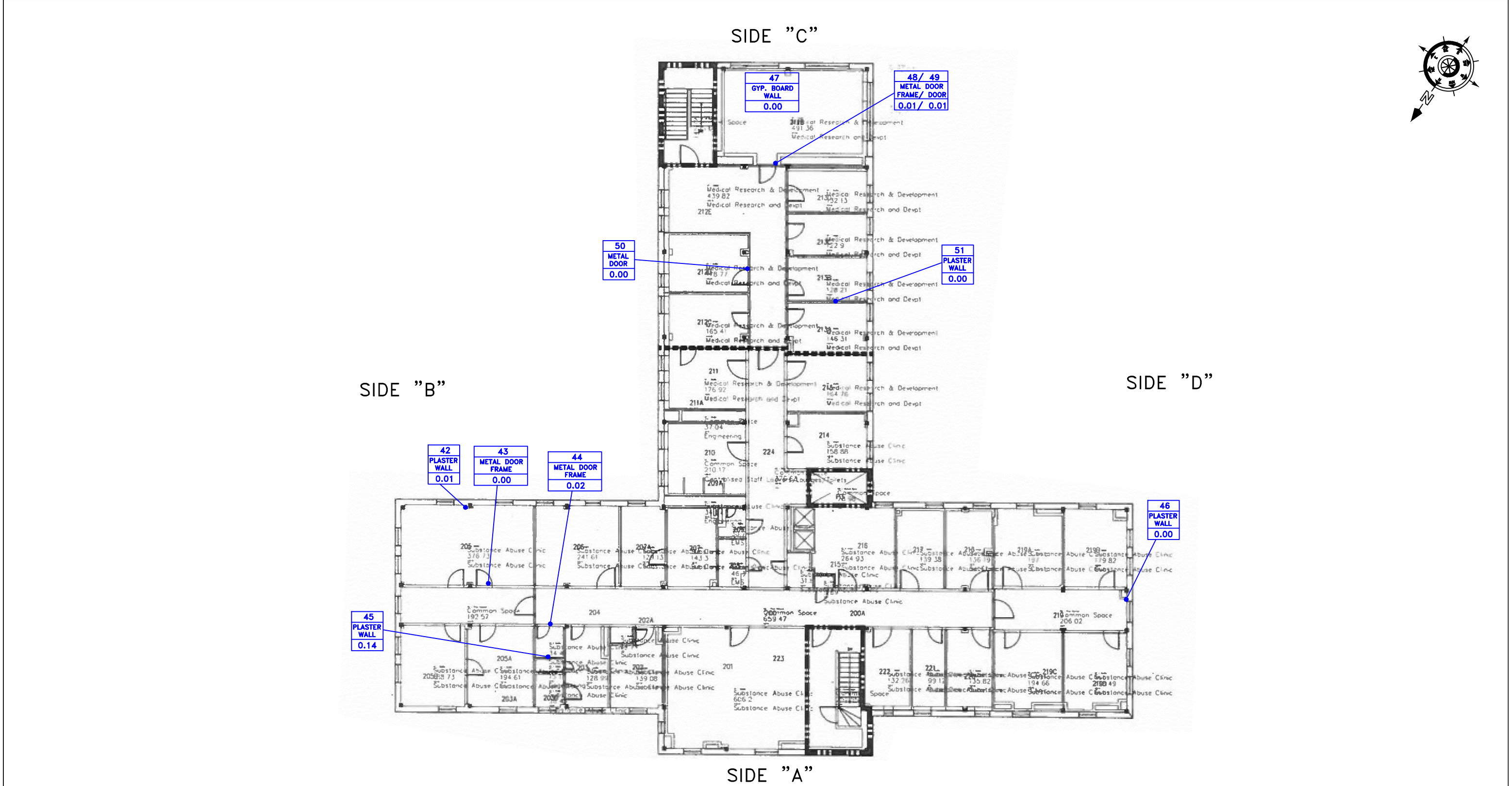
PROJECT

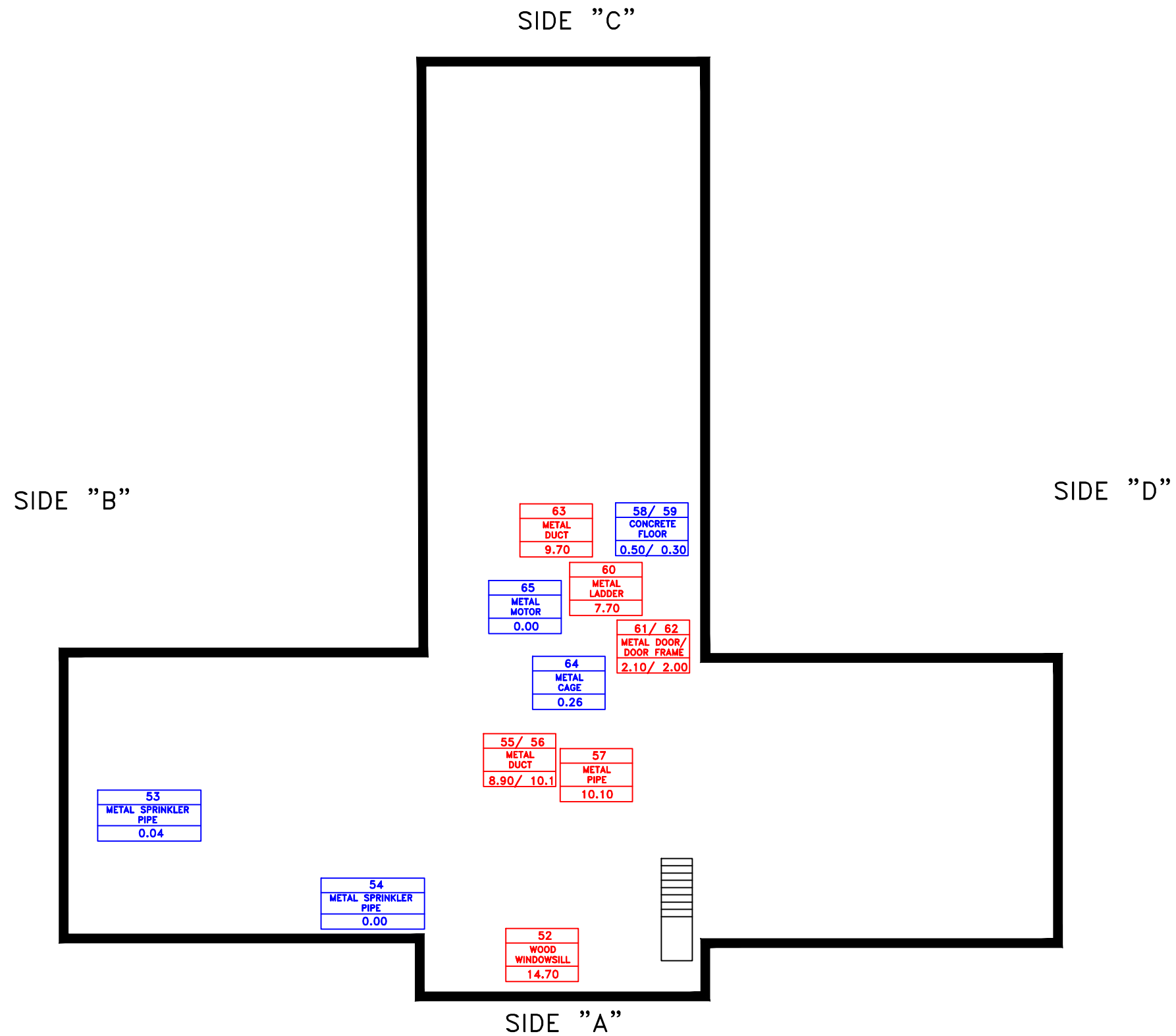
LEAD BASED PAINT INSPECTION
VAMC TUSCALOOSA
3701 LOOP ROAD
TUSCALOOSA, ALABAMA 35404
SEL PROJECT NO.: 2014-1107

BUILDING 2
FIRST FLOOR
SHEET 2 OF 4

XRF #	—	XRF TEST NUMBER
BUILDING COMPONENT	—	BUILDING COMPONENT TESTED
LEAD CONTENT (MG/CM ²)	—	RESULTS / LEAD CONTENT IN PAINT (MG/CM ²)

SHEET 2: BUILDING 2 – FIRST FLOOR





NOT TO SCALE

BUILDING 2 – ATTIC

XRF #	_____	XRF TEST NUMBER
BUILDING COMPONENT	_____	BUILDING COMPONENT TESTED
LEAD CONTENT (MG/CM²)	_____	RESULTS / LEAD CONTENT IN PAINT (MG/CM²)

SHEET 4: BUILDING 2 – ATTIC



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PROJECT

LEAD BASED PAINT INSPECTION
VAMC TUSCALOOSA
3701 LOOP ROAD
TUSCALOOSA, ALABAMA 35404
SELC PROJECT NO.: 2014–1107

BUILDING 2
ATTIC
SHEET 4 OF 4

APPENDIX B-3
Photographic Documentation

Building 2

Photographic Documentation



Photograph 1
Damaged LBP on metal roof drain pipe.



Photograph 2
Damaged/deteriorated LBP on crawlspace vent
on exterior.

NO PHOTOGRAPH

NO PHOTOGRAPH

679-22-106 TUSCALOOSA VA REPLACE HVAC, VARIOUS BUILDINGS

3701 Loop Road, Tuscaloosa, AL 35404

SHEET INDEX - GENERAL AND ARCHITECTURAL

Sheet Number	Sheet Name
B2, A-102	GROUND FLOOR DEMOLITION AND NEW WORK PLANS
B2, A-103	FIRST FLOOR DEMOLITION AND NEW WORK PLANS
B2, A-104	SECOND FLOOR DEMOLITION AND NEW WORK PLANS
B46, A-101	FLOOR PLANS - DEMOLITION AND NEW WORK AND SECTIONS
B46, A-501	DETAILS

SHEET INDEX - ELECTRICAL - BUILDING 02

Sheet Number	Sheet Name
E000	ELECTRICAL SYMBOLS AND ABBREVIATIONS
ED100	00 - GROUND FLOOR - ELECTRICAL - DEMOLITION
ED101	01 - FIRST FLOOR - ELECTRICAL - DEMOLITION
ED102	02 - SECOND FLOOR - ELECTRICAL - DEMOLITION
EP100	00 - GROUND FLOOR - POWER
EP101	01 - FIRST FLOOR - POWER
EP102	02 - SECOND FLOOR - POWER
E700	ELECTRICAL SCHEDULES

SHEET INDEX - MECHANICAL - BUILDING 02

Sheet Number	Sheet Name
M000	MECHANICAL SYMBOLS AND ABBREVIATIONS
MD100	00 - GROUND FLOOR - MECHANICAL - DEMOLITION
MD101	01 - FIRST FLOOR - MECHANICAL - DEMOLITION
MD102	02 - SECOND FLOOR - MECHANICAL - DEMOLITION
MH100	00 - GROUND FLOOR - DUCTWORK
MH101	01 - FIRST FLOOR - DUCTWORK
MH102	02 - SECOND FLOOR - DUCTWORK
MP100	00 - GROUND FLOOR & BASEMENT - PIPING
MP101	01 - FIRST FLOOR - PIPING
MP102	02 - SECOND FLOOR - PIPING
M600	MECHANICAL DETAILS AND CONTROLS
M600	MECHANICAL SCHEDULES

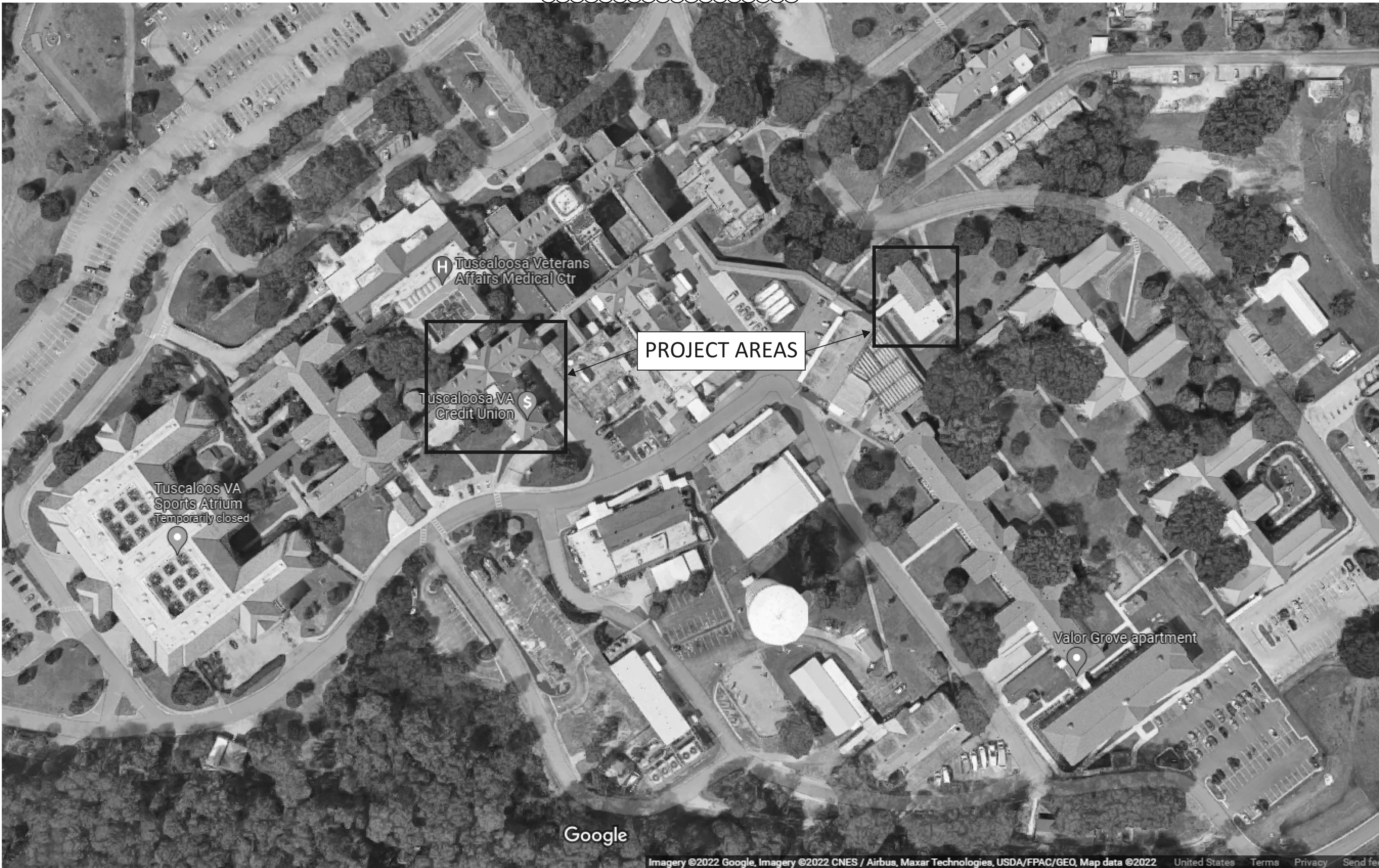
SHEET INDEX - ELECTRICAL - BUILDING 46

Sheet Number	Sheet Name
E000	ELECTRICAL SYMBOLS AND ABBREVIATIONS
EL101	ELECTRICAL DEMOLITION
EP101	FLOOR PLAN - LIGHTING
EP101	FLOOR PLAN - POWER

SHEET INDEX - MECHANICAL - BUILDING 46

Sheet Number	Sheet Name
M000	MECHANICAL SYMBOLS AND ABBREVIATIONS
MD101	01-FIRST FIRST - MECHANICAL - DEMOLITION
MH101	01-FIRST FIRST - DUCTWORK
MP101	01-FIRST FLOOR - PIPING
M600	MECHANICAL DETAILS
M600	MECHANICAL SCHEDULES
M700	MECHANICAL CONTROLS

CHIEF OF ENGINEERING:	MEDICAL CENTER DIRECTOR:	SAFETY MANAGER:	INFECTION CONTROL:	ENERGY ENGINEER:
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GENERAL NOTES:

1. THE GENERAL CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION MEETING WITH THE COR TO IDENTIFY AREAS WHERE AFTER HOURS WORK WILL BE REQUIRED. AREAS INCLUDE, BUT ARE NOT LIMITED TO BUILDING 2. ALL WORK THAT WILL SHUT DOWN PATIENT CARE AREAS OUTSIDE OF THE AREAS BEING ACTIVELY WORKED IN WILL BE REQUIRED TO OCCUR OUTSIDE THE BUILDING HOURS OF OPERATION.
A. BUILDING 2 HOURS OF OPERATION: 7:30AM - 4:00PM, MONDAY - FRIDAY
B. BUILDING 46 HOURS OF OPERATION: UNOCCUPIED
2. INDICATIONS OF PROJECT LIMITS OR LINES OF DEMARCATION ARE SHOWN FOR GENERAL SCOPE DEFINITION AND REFLECT THE UNDERSTANDING OF THE DESIGNERS AS TO THE LIMITATIONS OF THE WORK AREA. ACTUAL CONTRACT LIMITS ARE TO BE DETERMINED BY AGREEMENT BETWEEN THE COR/VA AND THE CONTRACTOR BEFORE THE START OF THE WORK.
3. DRAWINGS ARE PREPARED USING PRODUCT DIMENSIONS AND DETAILS FROM THE BASIS OF DESIGN PRODUCT. PRODUCTS MAY CHANGE IN DIMENSION AND DETAIL BEFORE THEY ARE INCORPORATED INTO WORK. PRODUCTS FROM OTHER MANUFACTURERS ARE ALSO ACCEPTABLE. DIMENSIONS AND DETAILS FOR ALTERNATE PRODUCTS MAY VARY FROM BASIS OF DESIGN. CONTRACTOR SHALL VERIFY INSTALLATION REQUIREMENTS FOR ALL PRODUCTS TO BE INCORPORATED INTO WORK (INCLUDING THICKNESS FOR RECESSES OR SEMI-RECESSED PRODUCTS) AND IS RESPONSIBLE FOR ACCOMMODATING AND COORDINATING CHANGES TO OTHER MATERIALS OR PRODUCTS THAT ARE NECESSARY BECAUSE OF THESE DIFFERENCES.
4. THE DRAWINGS AND SPECIFICATIONS ARE SEPARATED INTO DISCIPLINES FOR CONVENIENCE. THE SEPARATIONS ARE USED ONLY FOR THE PURPOSES OF CONVENIENCE AND REFERENCE AND IN NO WAY DO THEY DEFINE OR LIMIT THE SCOPE OR INTENT OF ANY PART OF THE DRAWINGS AND SPECIFICATIONS AS A WHOLE. THE FACT THAT THE DRAWINGS ARE SEPARATED IN NO WAY SUGGESTS THAT THE WORK IS NOT TO BE CONSTRUCTED AS A COMPLETE, INTEGRATED AND UNIFIED WHOLE.
5. THE DRAWINGS AND SPECIFICATIONS, INCLUDING DRAWINGS PREPARED BY SPECIFIC ENGINEERING DISCIPLINES ARE COMPLEMENTARY. ITEMS SHOWN IN ANY ONE LOCATION IN THE DRAWINGS SHALL BE CONSIDERED TO BE REQUIREMENTS OF THE CONTRACT FOR CONSTRUCTION. IN THE EVENT OF AN INCONSISTENCY BETWEEN THE DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT, THE CONTRACTOR SHALL SEEK CLARIFICATION OR INTERPRETATIONS FROM THE COR/VA PRIOR TO BIDDING. WHERE INCONSISTENCIES ARE NOT CLARIFIED PRIOR TO BIDDING, AND WHERE THE ACTUAL SOLUTION OR INTENT CANNOT BE REASONABLY INFERRED, THE CONTRACTOR SHALL PROVIDE THE BETTER QUALITY OR GREATER QUANTITY OF WORK.
6. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL FIELD CONDITIONS (BOTH EXPOSED AND CONCEALED) AND DIMENSIONS AS THEY RELATE TO THIS PROJECT. FOR EACH PHASE, SHOULD DISCREPANCIES EXIST BETWEEN THE WORK INDICATED AND ACTUAL FIELD CONDITIONS, NOTIFY THE COR/VA PRIOR TO PROCEEDING WITH THE WORK.
7. COORDINATE WORK OF ALL TRADES PRIOR TO STARTING CONSTRUCTION. MECHANICAL DUCTWORK & EQUIPMENT SHALL HAVE PRIORITY OVER OTHER DISCIPLINES FOR INSTALLATIONS & ROUTING. COORDINATE UTILITIES, SO THAT THEY ARE INSTALLED IN AN ORDERLY AND UNIFORM MANNER.
8. COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES.
9. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL CONSTRUCTION PERMITS.
10. CONTRACTOR SHALL PREPARE A PLAN SHOWING LAYDOWN AREA, SECURITY FENCE, DUMPSTER LOCATION, SCAFFOLDING, AND ACCESS FOR COR/VA REVIEW AND APPROVAL.
11. PROVIDE STRUCTURAL SUPPORTS ABOVE CEILING WHERE REQUIRED FOR CEILING HUNG EQUIPMENT.
12. PROVIDE SEALANT AT ALL INTERSECTIONS / JOINTS BETWEEN DIFFERENT MATERIALS.
13. ALL ITEMS AND MATERIALS SHOWN, INDICATED, OR REQUIRED FOR A COMPLETE PROJECT SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR (UNO).
14. DRAWINGS SCALES INDICATED ARE FOR REFERENCE ONLY. WRITTEN DIMENSIONS SHALL GOVERN.
15. PROTECT EXISTING ITEMS, EQUIPMENT, FINISHES, ETC. TO REMAIN. REPAIR / REPLACE / RESTORE. CONDITIONS THAT ARE DAMAGED OR DISTURBED AS A RESULT OF DEMOLITION OR NEW WORK.
16. CONTRACTOR SHALL MINIMIZE DOWNTIME ASSOCIATED WITH SCHEDULED SHUTDOWNS. COORDINATE WITH COR/VA.
17. CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES TO SAFELY PERFORM ROAD CLOSURES, DETOURS, OR OTHER DISRUPTIONS TO VEHICULAR TRAFFIC.
18. CONTRACTOR SHALL SCHEDULE ALL UTILITY INTERRUPTIONS WITH THE PROJECT COR AT LEAST FOUR (4) WEEKS IN ADVANCE. UTILITY INTERRUPTIONS MAY REQUIRE OVERTIME WORK FOR ALL TRADES INVOLVED, AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE VA.

3/28/2025 4:38:10 PM

BM 360 / 22017 / 001 - VA, Tuscaloosa Replace HVAC, Various Building/79.22.106_B02_MEP.rvt

ADDENDUM #1	03-28-2025
Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD



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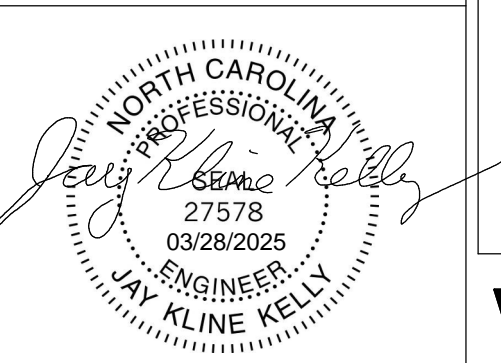


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NC Architectural License No.: 51254

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Office of
Construction
and Facilities
Management



U.S. Department of
Veterans Affairs

Drawing Title

COVER SHEET

Approved:

Phase

CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title

REPLACE HVAC VARIOUS
BUILDINGS

Location

3701 Loop Road, Tuscaloosa, AL 35404

Issue Date

04/26/2023

Checked

AGT

Drawn

PCM

Project Number

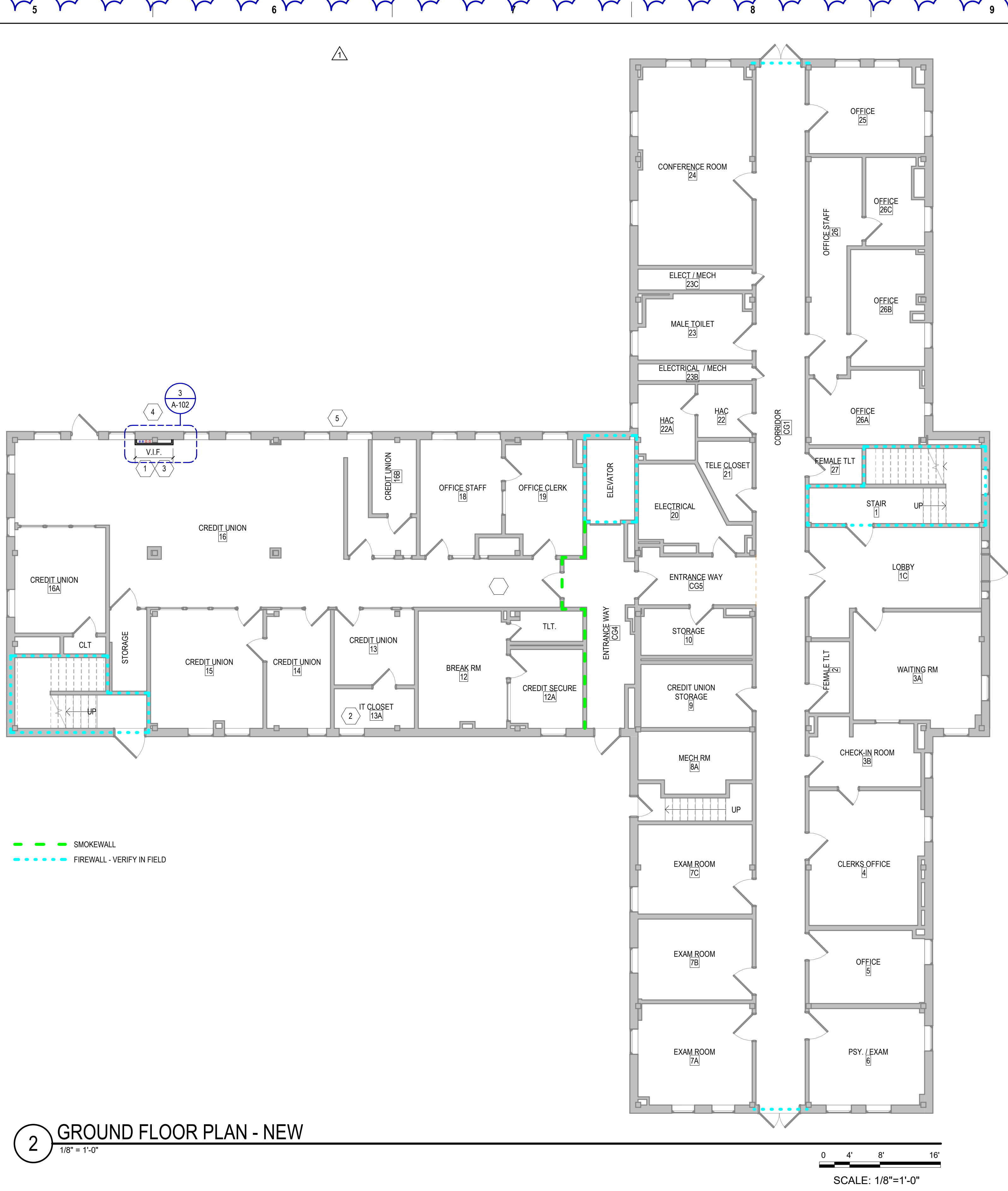
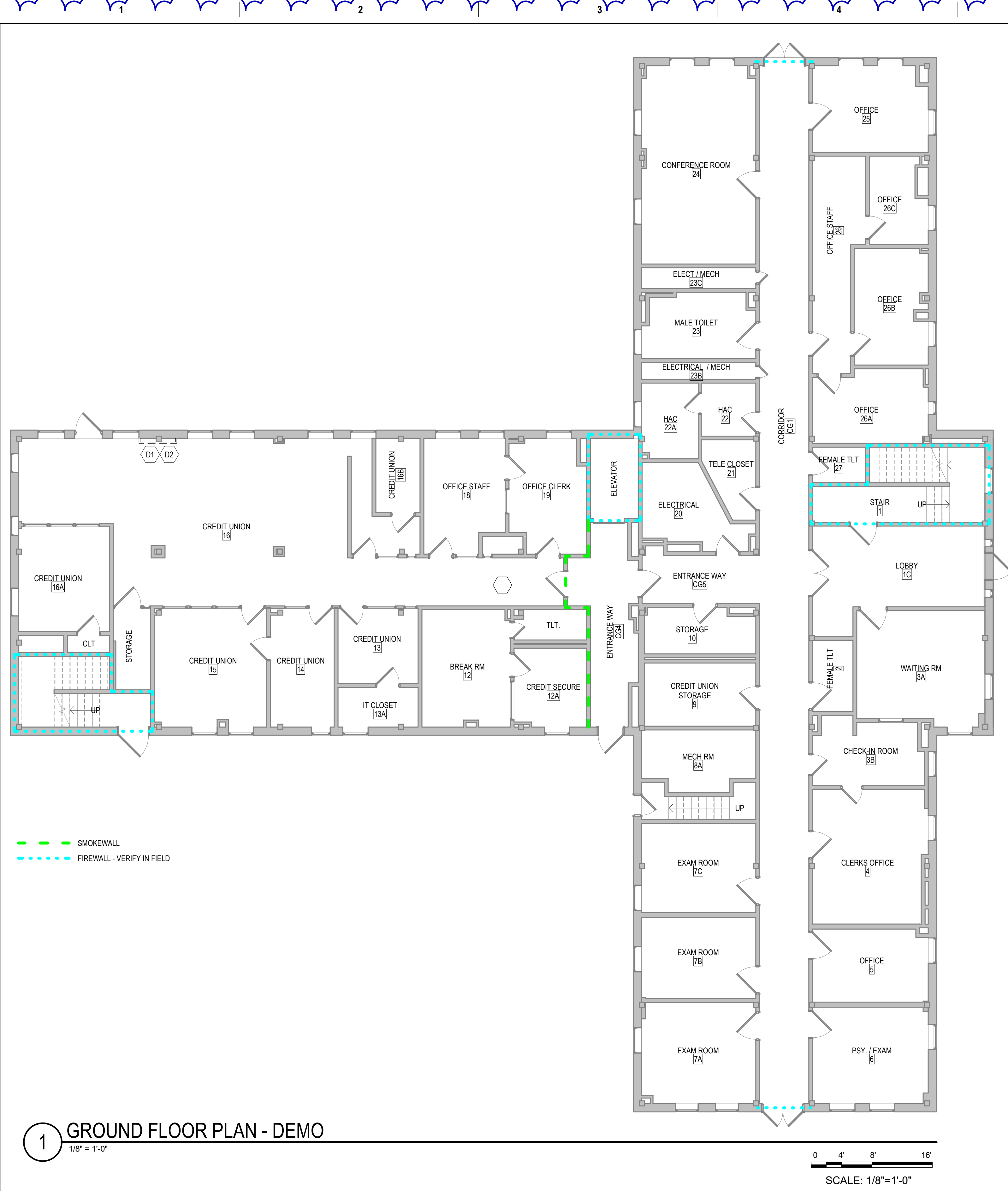
679.22.106

Building Number

02

Drawing Number

G001



NEW WORK LEGEND

EXISTING CONSTRUCTION TO REMAIN

NEW CONSTRUCTION - EXTEND TO UNDERSIDE OF STRUCTURE ABOVE

GENERAL NOTES

1. ALL DIMENSIONS ARE MEASURED FROM FACE OF EXISTING WALL TO THE FACE OF NEW WALL UNLESS NOTED OTHERWISE.

2. ALL NEW WORK TO BE FINISHED TO MATCH EXISTING UNLESS NOTED OTHERWISE.

3. REFERENCE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITION DEMOLITION AND NEW WORK NOTES.

4. CONTRACTOR SHALL ENSURE ALL DOORS WITHIN AREAS OF WORK SWING FREE OVER FLOORING AND TRANSITION STRIPS.

5. ALL PAINT COLORS TO BE SELECTED / APPROVED BY COR OR VA INTERIOR DESIGNER.

6. EXISTING FLOORING MATERIALS TO BE COVERED AND PROTECTED DURING DEMOLITION AND NEW CONSTRUCTION.

ALL NOTES MAY NOT BE APPLICABLE.

DEMOLITION KEYNOTES

D1. CUT AND REMOVE EXISTING VINYL WALL COVERING ON CHASE WALL. DEMOLISH GYPSUM WALL BOARD AND FRAMING OF CHASE WALL AS REQUIRED TO EXPOSE EXISTING HVAC PIPING. REFERENCE MEP DRAWINGS FOR DEMOLITION NOTES.

D2. REMOVE PORTION OF EXISTING ACT CEILING AND GRID AS REQUIRED TO DEMO CHASE WALL.

D3. REMOVE EXISTING WALL MOUNTED FCU. REFERENCE MECHANICAL DRAWINGS. REMOVE PORTION OF GYPSUM WALL BOARD AS REQUIRED TO REMOVE EXISTING HVAC PIPING AND FOR INSTALLATION OF NEW PIPING.

ALL KEYNOTES MAY NOT BE APPLICABLE TO THIS SHEET.

NEW WORK KEYNOTES

1. CONSTRUCT NEW METAL STUD AND GYPSUM BOARD VERTICAL PIPE CHASES. SEE DETAIL ON A-102. CHASE SIZE TO BE DETERMINED IN THE FIELD BASED ON PIPING LOCATION. NEW CHASE TO COVER AREA OF DEMOLISHED CHASE AND EXTEND 8" MIN. ABOVE ACT CEILING GRID. PREP AND FINISH GYPSUM WALL BOARD SURFACE FOR PAINT. PAINT TO BE SELECTED AND APPROVED BY VA INTERIOR DESIGNER. REFERENCE MECHANICAL DRAWINGS FOR NEW PIPING NOTES.

2. PATCH / REPAIR WALLS AS REQUIRED FOR ANY DAMAGE CAUSED DURING DEMOLITION AND INSTALLATION OF FCU AND PIPING. PREP AND FINISH GYPSUM WALL BOARD SURFACE FOR PAINT. PAINT ENTIRE WALL WITH BENJAMIN MOORE SEA REFLECTION 1664.

3. REVISE ACT CEILING GRID AND REPLACE TILES AS NEEDED TO FIT WITH NEW PIPE CHASES. CEILING TILES TO MATCH EXISTING.

4. PATCH AND/OR REPAIR EXISTING EXTERIOR WALL AS REQUIRED IN LOCATIONS OF REMOVED REFRIGERANT PIPING. MATCH EXISTING.

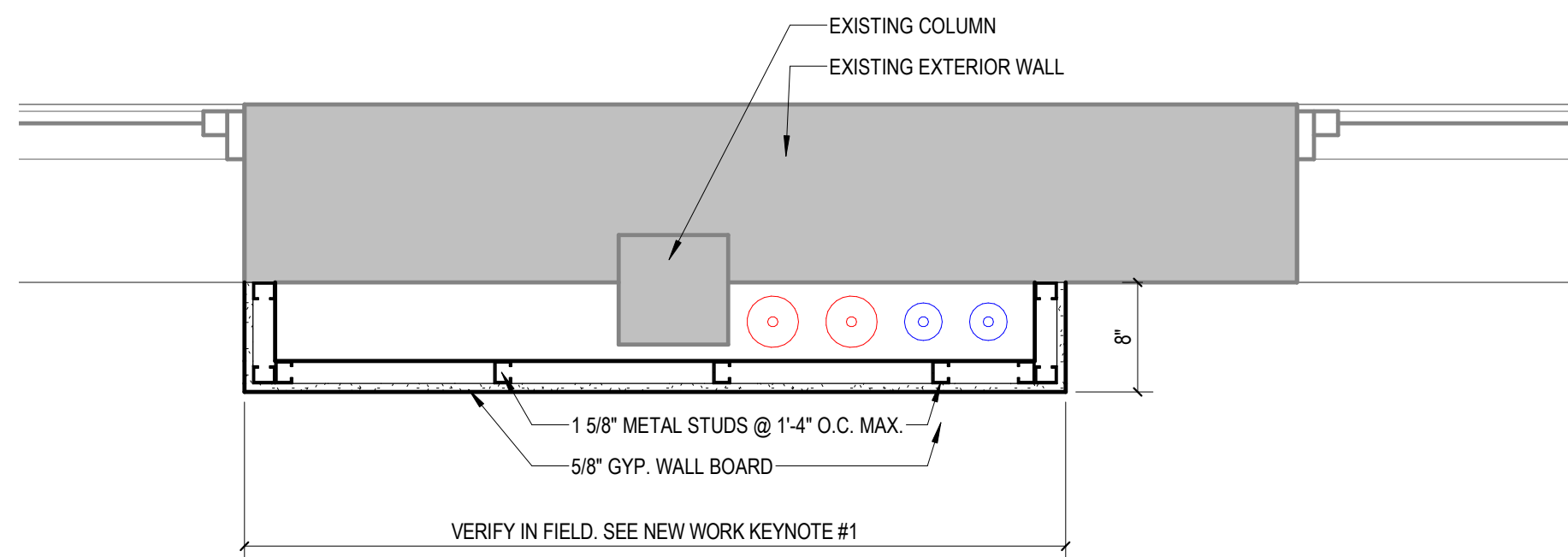
5. PROVIDE AND INSTALL NEW LINE COVERS OVER NEW REFRIGERANT LINES. COORDINATE LOCATION WITH MEP DRWGNS. SEE NOTES AND PHOTO ON THIS SHEET.

ALL KEYNOTES MAY NOT BE APPLICABLE TO THIS SHEET.



- NOTES:**
1. INSTALL LINE SET COVER SIMILAR TO SHOWN AT ALL LOCATIONS WHERE PIPING PROTRUDES FROM BUILDING.
 2. COVER SHOULD BE PLASTIC BY DiversiTech, OR EQUIVALENT.
 3. ANCHOR PER MANUFACTURERS INSTRUCTION.

4 LINE SET COVERS
NTS



3 ENLARGED PLAN @ NEW PIPE CHASE
1\"/>

Revision Number	ADDEDUM #1	03/28/2025
1	Revisions:	Date:

ARCHITECT / ENGINEER OF RECORD

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NC Engineering License No.: P-0214
NC Architectural License No.: 51254

STAMP

Professional Engineer
8631
03.28.2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
GROUND FLOOR DEMOLITION AND NEW WORK PLANS

Approved:

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
REPLACE HVAC VARIOUS BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
04/26/2023

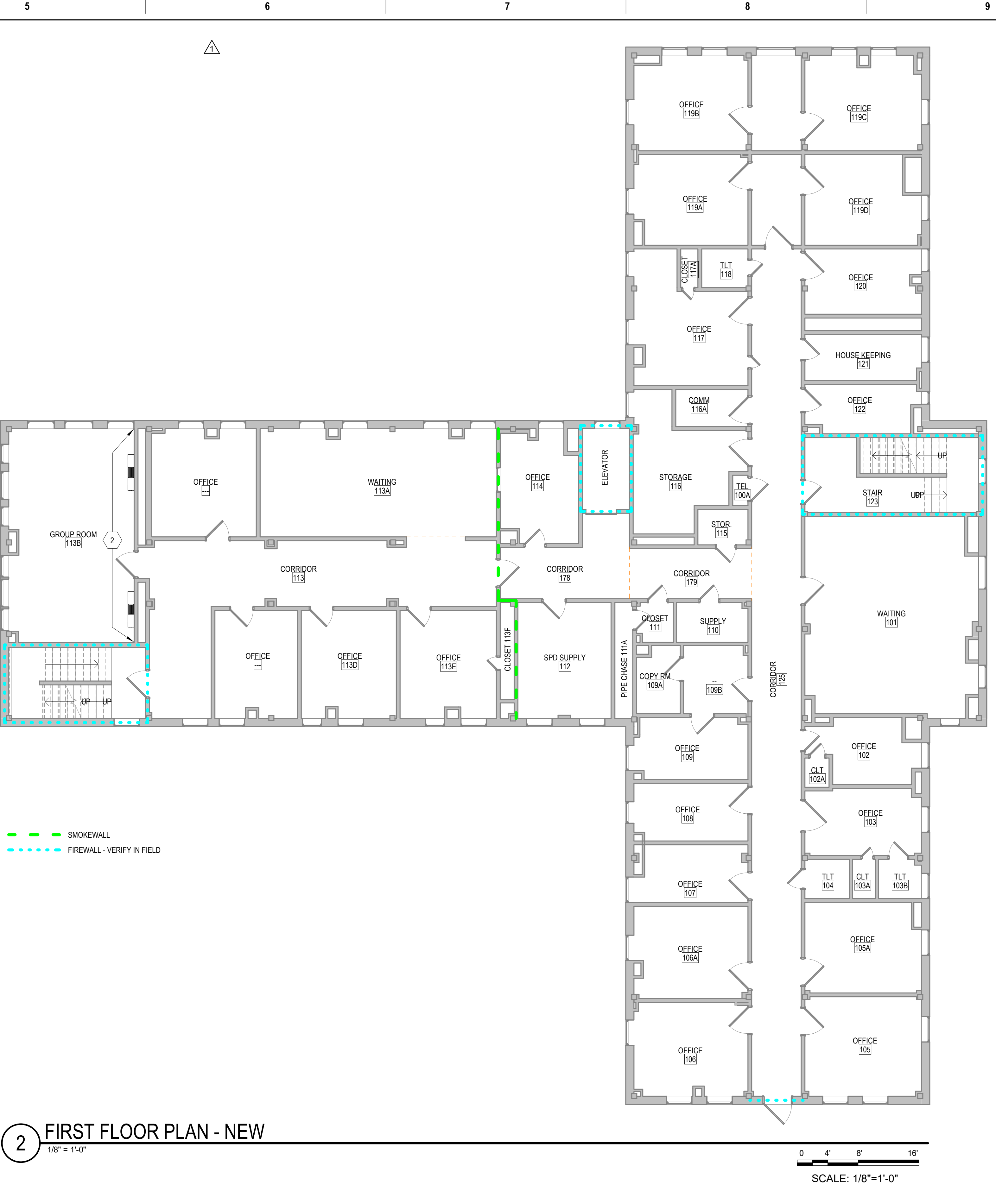
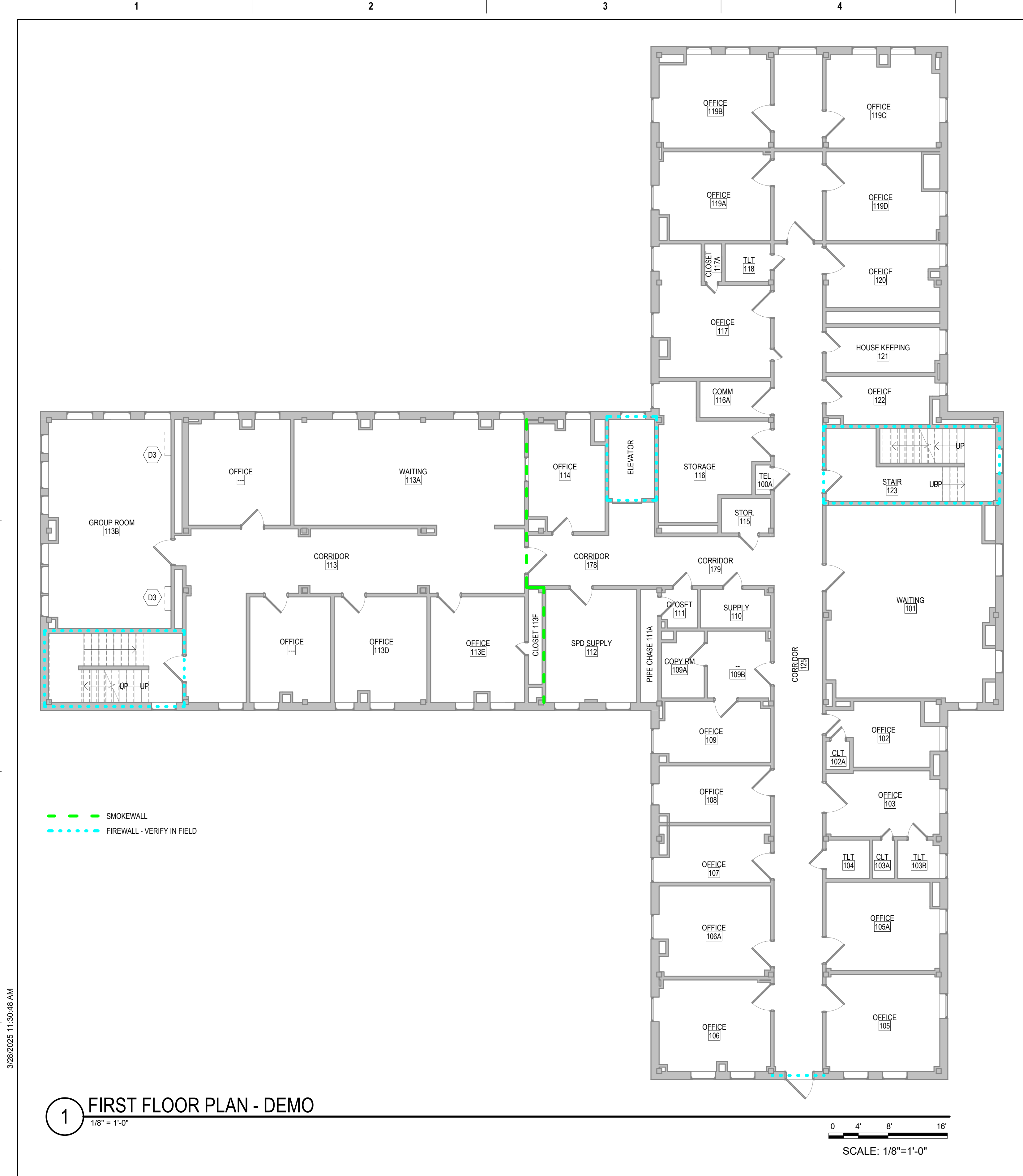
Checked
EHH

Drawn
TLR

Project Number
679.22.106

Building Number
02

Drawing Number
A-102



NEW WORK LEGEND

EXISTING CONSTRUCTION TO REMAIN

NEW CONSTRUCTION - EXTEND TO UNDERSIDE OF STRUCTURE ABOVE

GENERAL NOTES

1. ALL DIMENSIONS ARE MEASURED FROM FACE OF EXISTING WALL TO THE FACE OF NEW WALL UNLESS NOTED OTHERWISE.

2. ALL NEW WORK TO BE FINISHED TO MATCH EXISTING UNLESS NOTED OTHERWISE.

3. REFERENCE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITION DEMOLITION AND NEW WORK NOTES.

4. CONTRACTOR SHALL ENSURE ALL DOORS WITHIN AREAS OF WORK SWING FREE OVER FLOORING AND TRANSITION STRIPS.

5. ALL PAINT COLORS TO BE SELECTED / APPROVED BY COR OR VA INTERIOR DESIGNER.

6. EXISTING FLOORING MATERIALS TO BE COVERED AND PROTECTED DURING DEMOLITION AND NEW CONSTRUCTION.

ALL NOTES MAY NOT BE APPLICABLE.

DEMOLITION KEYNOTES

D1 CUT AND REMOVE EXISTING VINYL WALL COVERING ON CHASE WALL. DEMOLISH GYPSUM WALL BOARD AND FRAMING OF CHASE WALL AS REQUIRED TO EXPOSE EXISTING HVAC PIPING. REFERENCE MEP DRAWINGS FOR DEMOLITION NOTES.

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D3 REMOVE EXISTING WALL MOUNTED FCU. REFERENCE MECHANICAL DRAWINGS. REMOVE PORTION OF GYPSUM WALL BOARD AS REQUIRED TO REMOVE EXISTING HVAC PIPING AND FOR INSTALLATION OF NEW PIPING.

NEW WORK KEYNOTES

1 CONSTRUCT NEW METAL STUD AND GYPSUM BOARD VERTICAL PIPE CHASES. SEE DETAIL ON A-102. CHASE SIZE TO BE DETERMINED IN THE FIELD BASED ON PIPING LOCATION. NEW CHASE TO COVER AREA OF DEMOLISHED CHASE AND EXTEND 6" MIN. ABOVE ACT CEILING GRID. PREP AND FINISH GYPSUM WALL BOARD SURFACE FOR PAINT. PAINT TO BE SELECTED AND APPROVED BY VA INTERIOR DESIGNER. REFERENCE MECHANICAL DRAWINGS FOR NEW PIPING NOTES.

2 PATCH / REPAIR WALLS AS REQUIRED FOR ANY DAMAGE CAUSED DURING DEMOLITION AND INSTALLATION OF FCU AND PIPING. PREP AND FINISH GYPSUM WALL BOARD SURFACE FOR PAINT. PAINT ENTIRE WALL WITH BENJAMIN MOORE SEA REFLECTION 1664.

3 REVISE ACT CEILING GRID AND REPLACE TILES AS NEEDED TO FIT WITH NEW PIPE CHASES. CEILING TILES TO MATCH EXISTING.

4 PATCH AND/OR REPAIR EXISTING EXTERIOR WALL AS REQUIRED IN LOCATION(S) OF REMOVED REFRIGERANT PIPING. MATCH EXISTING.

5 PROVIDE AND INSTALL NEW LINE COVERS OVER NEW REFRIGERANT LINES. COORDINATE LOCATION WITH MEP DRAWINGS. SEE NOTES AND PHOTO ON THIS SHEET.

ALL KEYNOTES MAY NOT BE APPLICABLE TO THIS SHEET.

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Revision Number	ADDEDUM #1	Revisions:	Date:
1			03/28/2025

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Sealed and Approved
Professional Engineer
8631
NORTH CAROLINA
03/28/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
FIRST FLOOR DEMOLITION AND NEW WORK PLANS

Approved:
Approver

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
REPLACE HVAC VARIOUS BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
03/28/2025

Checked
EHH

Drawn
TLR

Project Number
679.22.106

Building Number
02

Drawing Number
A-103



NEW WORK LEGEND

EXISTING CONSTRUCTION TO REMAIN

NEW CONSTRUCTION - EXTEND TO UNDERSIDE OF STRUCTURE ABOVE

GENERAL NOTES

1. ALL DIMENSIONS ARE MEASURED FROM FACE OF EXISTING WALL TO THE FACE OF NEW WALL UNLESS NOTED OTHERWISE.

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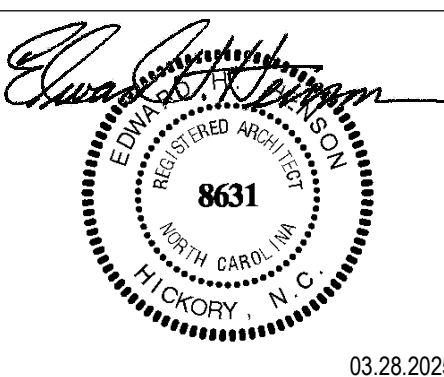

2 PATCH / REPAIR WALLS AS REQUIRED FOR ANY DAMAGE CAUSED DURING DEMOLITION AND INSTALLATION OF FCU AND PIPING. PREP AND FINISH GYPSUM WALL BOARD SURFACE FOR PAINT. PAINT ENTIRE WALL WITH BENJAMIN MOORE SEA REFLECTION 1664.

3 REVISE ACT CEILING GRID AND REPLACE TILES AS NEEDED TO FIT WITH NEW PIPE CHASES. CEILING TILES TO MATCH EXISTING.

4 PATCH AND/OR REPAIR EXISTING EXTERIOR WALL AS REQUIRED IN LOCATION(S) OF REMOVED REFRIGERANT PIPING. MATCH EXISTING.



5 PROVIDE AND INSTALL NEW LINE COVERS OVER NEW REFRIGERANT LINES. COORDINATE LOCATION WITH MEP DRWINGS. SEE NOTES AND PHOTO ON THIS SHEET.

ALL KEYNOTES MAY NOT BE APPLICABLE TO THIS SHEET.

1 SECOND FLOOR PLAN - DEMO 1/8" = 1'-0"			2 SECOND FLOOR PLAN - NEW 1/8" = 1'-0"																				
SCALE: 1/8"=1'-0"			SCALE: 1/8"=1'-0"																				
ARCHITECT / ENGINEER OF RECORD  SPECIALIZED ENGINEERING SOLUTIONS Specialized Engineering Solutions 1300 Baxter Street, Suite 355, Charlotte, NC 28204 T: (704) 348-3097 www.specializedeng.com			CONSULTANT  Atriax GROUP Atriax, pllc 102 3rd Avenue, NE PO Box 1629, Hickory, NC 28603 T: 828.315.9962 F: 828.315.9964 www.atriaxgroup.com NC Engineering License No.: P-0214 NC Architectural License No.: 51254			STAMP  03.28.2025			Office of Construction and Facilities Management  U.S. Department of Veterans Affairs			Drawing Title SECOND FLOOR DEMOLITION AND NEW WORK PLANS Approved:			Phase CONSTRUCTION DOCUMENTS FULLY SPRINKLERED			Project Title REPLACE HVAC VARIOUS BUILDINGS Location 3701 Loop Road, Tuscaloosa, AL 35404 Issue Date 03/28/2025 Checked EHH Drawn TLR			Project Number 679.22.106 Building Number 02 Drawing Number A-104		

FORM 623 - 623

[illegible]



ELECTRICAL EQUIPMENT SYMBOLS	
PLAN SYMBOL	NAME
	PANELBOARD - RECESSED
	PANELBOARD - SURFACE

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- A. BRANCH CIRCUITS WITH A TOTAL LENGTH LONGER THAN 75' SHALL UTILIZE 10% AVG CONDUCTORS RECEPTACLE BRANCH CIRCUITS WITH A TOTAL LENGTH LONGER THAN 150' SHALL UTILIZE 18% AVG CONDUCTORS.
- B. FOR ALL CONDUIT AND OTHER ITEMS PENETRATING A FIRE RATED WALL, PROVIDE UL LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL CONSTRUCTION ASSEMBLY AND MEET THE REQUIREMENTS OF THE NFPA 704 CODE. PROVIDE THE MANUFACTURER'S UL APPROVED DATA. WHERE EXISTING WALLS ARE BEING UPGRADED TO FIRE RATED WALLS OR THE FIRE RATING IS BEING EXCEEDED, PROVIDE UL LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM FOR THE EXISTING WALL. ALL PENETRATIONS REFER TO THE ARCHITECTURAL DRAWINGS.
- C. PROVIDE SAFETY PLANS FOR LOCATIONS OF FIRE RATED WALLS.
- D. ANYTHING BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
- E. NEW WIRING DEVICES AND ASSOCIATED COVERAGE SHALL MATCH EXISTING FINISH OF SIMILAR DEVICES.
- F. THE SELECTED EQUIPMENT RACK RATINGS ARE BASED ON THE IMPEDANCES FOR CONDUCTORS AND TRANSFORMERS USED IN THE CALCULATIONS. IF DIFFERENT EQUIPMENT OR DIFFERENT CONFIGURATIONS ARE USED, THE CONTRACTOR SHALL PROVIDE THE CALCULATIONS TO THE ARCHITECT FOR REVIEW.
- G. PROVIDE THE EQUIPMENT RACK THAT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS AND ADEQUATELY RATED EQUIPMENT THAT MEETS APPLICABLE SELECTIVE COORDINATION GOALS AND PROVIDES SIMILAR INCIDENT ENERGY RISK OF ARC FLASH HAZARDS.
- H. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO INDEPENDENTLY SUPPORT ALL EXISTING TO REMAIN CABLING.

EQUIPMENT CONNECTION SCHEDULE																		
MARK	DESCRIPTION	ROOM NAME	ROOM #	HP	KW	FLA	MCA	MOCP	VOLTS	PHASE	POLES	LOAD [VA]	CONTROL TYPE	DISCONNECT BY	DISCONNECT TYPE	FEEDER	PANEL	CIRCUIT NUMBER
2-AHU-1	AIR HANDLING UNIT	CREDIT UNION	10B			11.2	14	25	208	3	3	4076	DDC, FA STOP	DIV 26	NF 30/3	(2) (20A) 3-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	44,46,48
2-AHU-2	AIR HANDLING UNIT	Spaco	301			4.6	5.8	15	208	3	3	1674	DDC	DIV 26	NF 30/3	(2) (20A) 3-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	50,52,54
2-FCU-1A	FAN COIL UNIT	GROUP ROOM	113B			1.1	2.3	15	208	1	2	219	DDC	MANUFACTURER	INT	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-1CA	44,46
2-FCU-1B	FAN COIL UNIT	GROUP ROOM	113B			1.1	2.3	15	208	1	2	219	DDC	MANUFACTURER	INT	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-EM-1CA	44,46
2-FCU-2A	FAN COIL UNIT	OFFICE	212B			1.1	2.3	15	208	1	2	219	DDC	MANUFACTURER	INT	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-2CB	2,4
2-FCU-2B	FAN COIL UNIT	OFFICE	212B			1.1	2.3	15	208	1	2	219	DDC	MANUFACTURER	INT	(2X) (20A) 2-#12 CU, #12 CU GND - 3/4"C.	(E) 2-RP-2CB	2,4
2-SSAH-13A	DUCTLESS SPLIT SYSTEM INDOOR	IT CLOSET	13A			3	1	30	208	1	2	69	INT	MANUFACTURER	INT	REMARK 1	(E) 2-RP-EM-GCA-B	43,45
2-SSCU-13A	DUCTLESS SPLIT SYSTEM OUTDOOR					27	34	56	208	1	2	4900	REMARK 1	DIV 26	NF 60/2	(4X) (N/A) 2-#8 CU, #10 CU GND - 3/4"C.	(E) 2-RP-EM-GCA-B	43,45

REMARKS: (EQUIPMENT CONNECTION SCHEDULE)
1. CONTROLS BETWEEN INDOOR AND OUTDOOR UNITS - INCLUDE CONTROL WIRING IN CONDUIT BETWEEN INDOOR AND OUTDOOR UNIT PER MANUFACTURER'S REQUIREMENTS.
2. NEW MECHANICAL EQUIPMENT SHALL BE CONTROLLED BY AN EXISTING BMS SYSTEM.

- GENERAL NOTES: (EQUIPMENT CONNECTION SCHEDULE)
- EQUIPMENT LISTED MAY NOT BE UNIQUE. VERIFY QUANTITY WITH FLOOR PLANS. WHERE LOCATIONS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS, REFER TO MECHANICAL SHEETS. REFER TO DEFINITIONS BELOW FOR CLARIFICATIONS OF CONNECTION REQUIREMENTS.
 - PROVIDE WIRING AND EQUIPMENT CONNECTIONS FOR INTERNAL EQUIPMENT COMPONENTS AS REQUIRED. COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR.
 - CONTROL TYPE - PROVIDE CONTROL AND CONNECTIONS.
 - "MT" = CONTROLS ARE MANUFACTURED INTEGRAL TO THE EQUIPMENT (SELF-CONTAINED).
 - "FA STOP" = FANS WITH CFM OF 2000 OR GREATER AND FANS SERVING DUCTS CONTAINING SMOKE DAMPERS.
 - PROVIDE FIRE ALARM SYSTEM DUCT SMOKE DETECTORS AT RETURN-SIDE AND SUPPLY-SIDE OF FAN/UNIT. PROVIDE MULTIPLE DETECTORS IF REQUIRED TO ACCOMMODATE MAIN DUCT TAKE-OFFS WHERE A SINGLE DETECTOR CANNOT BE INSTALLED TO CAPTURE ALL AIRFLOW. FIRE ALARM SYSTEM SHALL SHUTDOWN FAN UPON DETECTION OF SMOKE IN DUCT OR ROOMS SERVED FROM THIS EQUIPMENT. PROVIDE WITH INDIVIDUAL FIRE ALARM SYSTEM ADDRESSABLE CONTROL MODULE AT MOTOR CONTROLLER/STARTER AND CONNECT TO SHUTDOWN FAN.
 - "DDC" = CONTROL SIGNAL FROM TEMPERATURE CONTROL SYSTEM PROVIDED BY MECHANICAL CONTRACTOR OR TEMPERATURE CONTROLS CONTRACTOR.
 - DISCONNECT BY:
 - "MECHANICAL" = DISCONNECT IS FURNISHED BY MECHANICAL CONTRACTOR OR PROVIDED WITH MECHANICAL EQUIPMENT.
 - ELECTRICAL CONTRACTOR SHALL PROVIDE MOUNTING AND ADDITIONAL CONNECTIONS REQUIRED FOR LOOSE DISCONNECTS FURNISHED BY THE MECHANICAL CONTRACTOR.
 - "MANUFACTURER" = DISCONNECT IS FURNISHED BY EQUIPMENT MANUFACTURER. ELECTRICAL CONTRACTOR SHALL PROVIDE MOUNTING AND ADDITIONAL CONNECTIONS REQUIRED FOR LOOSE DISCONNECTS FURNISHED BY EQUIPMENT MANUFACTURER.
 - DISCONNECT TYPE - PROVIDE DISCONNECT/RECEPTACLE AT EQUIPMENT LOCATION AND ASSOCIATED CONNECTION TO EQUIPMENT AND BRANCH CIRCUIT.
 - "VFD" = VARIABLE FREQUENCY DRIVE CONTROLLER. LOCATE VARIABLE FREQUENCY DRIVE CONTROL TO SERVE AS THE MOTOR DISCONNECT.
 - DISCONNECTS OF MOTORS SERVED FROM A VFD SHALL CONTAIN AUXILIARY CONTACTS CONNECTED TO THE VFD TO DISABLE VFD UPON DISCONNECTION.
 - WHERE STARTERS OR VFD'S CONTAIN INTEGRAL DISCONNECTS AND ARE LOCATED PER NEC TO SATISFY AS THE EQUIPMENT DISCONNECT, AN ADDITIONAL EQUIPMENT DISCONNECT IS NOT REQUIRED.
 - FEEDER:
 - PROVIDE CONDUCTORS AND RACEWAY AS INDICATED. TYPICAL FORMAT IS: (FEEDER TAG) (NOMINAL SIZE) CONDUCTORS AND RACEWAY REQUIRED.
 - SCCR - VALUE INDICATED IS AVAILABLE SHORT CIRCUIT CURRENT (SCC) IN KILOAMPS AT THE EQUIPMENT BASED ON PRELIMINARY DESIGN PHASE CALCULATIONS. EQUIPMENT SCOR SHALL BE MINIMUM 120% OF THE AVAILABLE SCC. RATING SHALL BE ADJUSTED IF REQUIRED BASED ON FINAL SCC CALCULATION. EQUIPMENT INDICATED WITH 5 KA MAY BE PROVIDED WITH 5 KA SCCR.

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Revisions:	Date:

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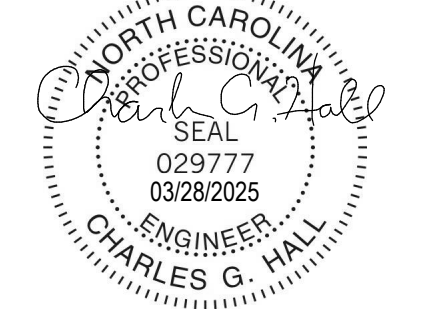
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Drawing Title

ELECTRICAL SCHEDULES

Approved:

SEE G001

Phase

CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title

REPLACE HVAC VARIOUS
BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
04/26/2023

Checked
CGH

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Project Number

679.22.106

Building Number

02

Drawing Number

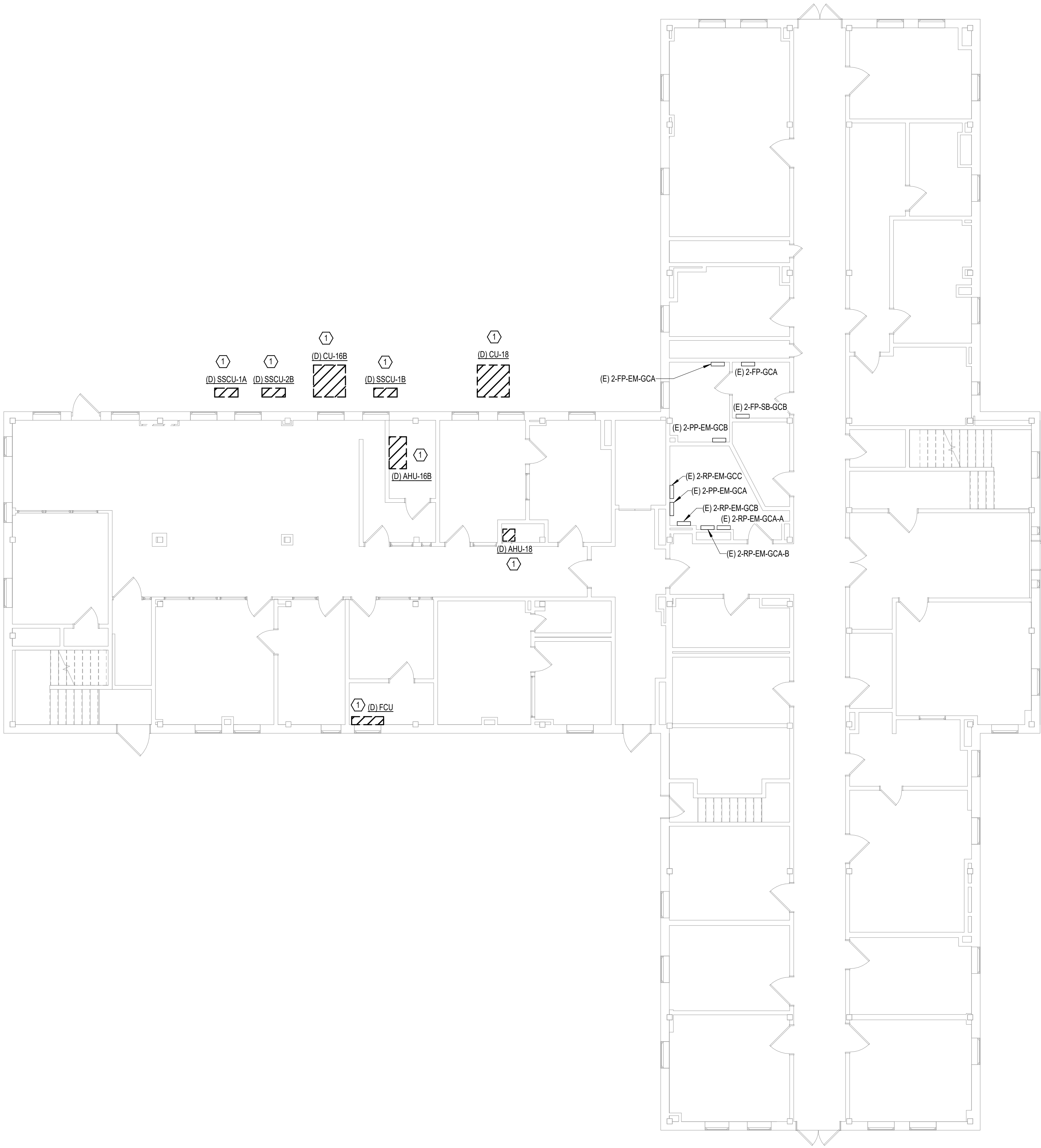
E700

ELECTRICAL DEMOLITION GENERAL NOTES:
(ELECTRICAL DEMOLITION NOTES APPLY TO ALL ELECTRICAL DEMOLITION PLANS AND ALL ELECTRICAL DEMOLITION WORK)

- A. THE INTENT OF THE DEMOLITION DRAWINGS IS TO DEFINE THE SCOPE OF ELECTRICAL DEMOLITION WORK. PROVIDE DEMOLITION FOR ITEMS AS SHOWN.
- B. ITEMS INDICATED WITH A SUBSCRIPT 'E' SHALL BE EXISTING TO REMAIN (E-EXISTING). ITEMS INDICATED WITH A SUBSCRIPT 'D' OR SHOWN DASHED SHALL BE REMOVED (D-DEMOLITION). ITEMS INDICATED WITH A SUBSCRIPT 'R' SHALL BE REMOVED, STORED, AND REINSTALLED PER NEW WORK (R-RELOCATION).
- C. THESE DRAWINGS DO NOT IDENTIFY EACH INDIVIDUAL ITEM TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ITEMS WHICH MUST BE REMOVED TO FACILITATE NEW CONSTRUCTION. SEE ARCHITECTURAL PLANS FOR EXACT LIMITS OF DEMOLITION AND CONSTRUCTION. THESE PLANS ARE BASED ON PAST PROJECT DRAWINGS AND SITE OBSERVATIONS. THE DRAWINGS ARE PROVIDED TO THE CONTRACTOR AS AN AID IN DETERMINING THE EXTENT OF WORK REQUIRED FOR DEMOLITION AND TO PROVIDE GENERAL INFORMATION ABOUT EXISTING SYSTEMS. THESE DRAWINGS MAY NOT BE ACCURATE IN ALL AREAS. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS AND IS ENCOURAGED TO REVIEW FACILITY DRAWINGS PRIOR TO THE BID DATE.
- D. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS TO ALL ITEMS REMOVED. IF OWNER REFUSES SALVAGE, CONTRACTOR IS RESPONSIBLE FOR DISPOSAL.
- E. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL ELECTRICAL DEMOLITION ITEMS. DISCONNECT AND REMOVE ELECTRICAL DEVICES, EQUIPMENT AND ASSOCIATED WIRING AS REQUIRED TO ACCOMMODATE NEW WORK. IF THE CONTRACTOR IS UNCLEAR REGARDING A SPECIFIC ITEM TO REMAIN OR BE REMOVED, THE CONTRACTOR SHALL SEEK CLARIFICATION FROM THE ARCHITECT.
- F. SYSTEMS SERVING ADJACENT AREAS AND ITEMS THAT REMAIN SHALL BE MAINTAINED AT ALL TIMES. MODIFY SYSTEMS AS REQUIRED THROUGHOUT CONSTRUCTION TO MAINTAIN CONTINUITY OF SERVICE. DO NOT INTERRUPT SERVICE WITHOUT OWNER'S PRIOR WRITTEN APPROVAL. LIMIT DURATION OF INTERRUPTION ONLY TO THE TIME NECESSARY FOR DISCONNECTION AND IMMEDIATE RECONNECTION. INTERRUPTION TO SERVICE DEEMED BY OWNER AS ESSENTIAL MAY REQUIRE PREMIUM TIME AND SHALL BE INCLUDED WITH THE BID. EXTREME CARE SHALL BE TAKEN BY THE CONTRACTOR TO IDENTIFY EXISTING SYSTEM COMPONENTS ASSOCIATED WITH THESE SERVICES. APPROPRIATE METHODS OF MARKING THESE SHALL OCCUR TO ELIMINATE THE POSSIBILITY OF ACCIDENTAL INTERRUPTION. FOR CONDUIT AND CABLING THAT CAN REMAIN, PROVIDE SUPPORT AS REQUIRED. RELOCATE EXISTING JUNCTION BOXES THAT BECOME INACCESSIBLE DUE TO NEW WORK.
- G. COORDINATE DEMOLITION WITH THE WORK OF OTHER TRADES. PROVIDE TEMPORARY POWER AND LIGHTING AS REQUIRED TO ALLOW THE WORK OF OTHER TRADES TO PROCEED.
- H. PROTECT EXISTING ELECTRICAL EQUIPMENT THAT REMAINS. IF DAMAGED OR DISTURBED IN THE COURSE OF THE WORK, REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL CAPACITY, QUALITY, AND FUNCTIONALITY.
- I. PATCH AND REPAIR OPENINGS IN EXISTING WALLS AND FLOORS RESULTANT FROM SPECIFIED ELECTRICAL DEMOLITION. PATCH SHALL MATCH EXISTING CONSTRUCTION, FIRE RATING, AND FINISH. SEE ARCHITECTURAL SPECIFICATIONS FOR MEANS AND METHODS.
- J. ALL UNLABELED ELECTRICAL DEVICES WITH CIRCUITRY OR DEVICES MODIFIED DURING CONSTRUCTION SHALL BE CIRCUIT TRACED AS NEEDED WITH A LABEL PROVIDED.

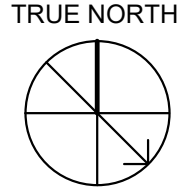
SHEET NOTES:

1. DISCONNECT EXISTING MECHANICAL EQUIPMENT AND REMOVE CONDUIT AND CONDUCTORS TO SOURCE. LABEL EXISTING UNUSED CIRCUIT BREAKER AS SPARE.



1 00 - GROUND FLOOR - ELECTRICAL - DEMOLITION
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"



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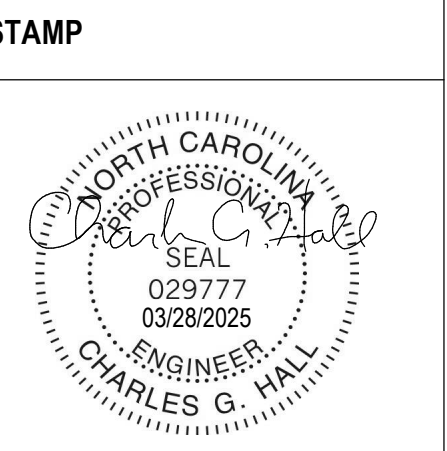
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VA U.S. Department of Veterans Affairs

Drawing Title
00 - GROUND FLOOR - ELECTRICAL - DEMOLITION

Approved:
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Phase
CONSTRUCTION DOCUMENTS

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Project Title
REPLACE HVAC VARIOUS BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
04/26/2023

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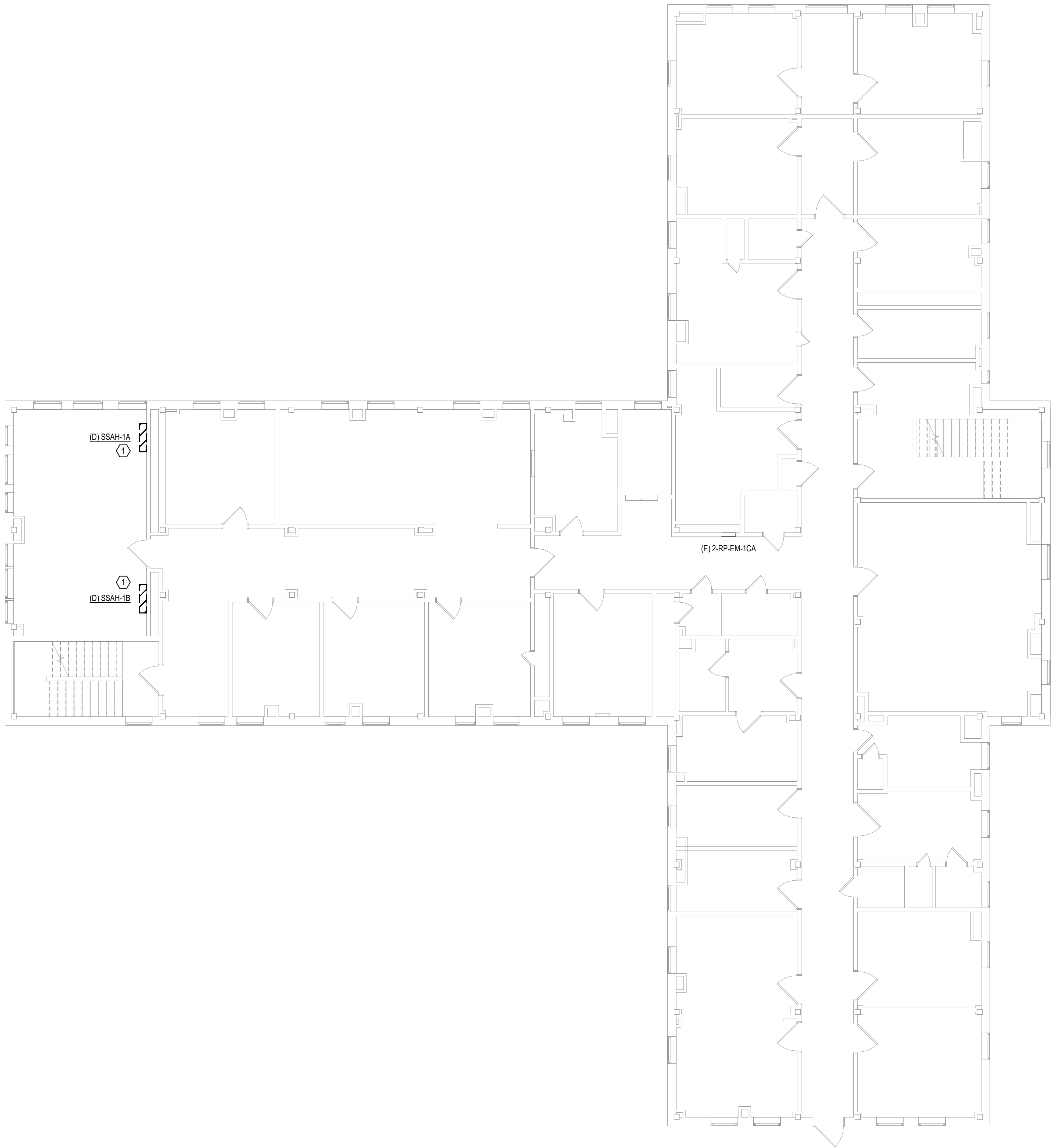
Project Number
679.22.106

Building Number
02

Drawing Number
ED100

SHEET NOTES:

1. DISCONNECT EXISTING MECHANICAL EQUIPMENT. DEMO CONDUCTORS TO SOURCE PANEL. RETAIN CONDUIT FOR REUSE. LABEL EXISTING UNUSED CIRCUIT BREAKERS AS SPARE.



1 01 - FIRST FLOOR - ELECTRICAL - DEMOLITION

1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"



1 2 3 4 5 6 7 8 9 10
A
B
C
D
E
F
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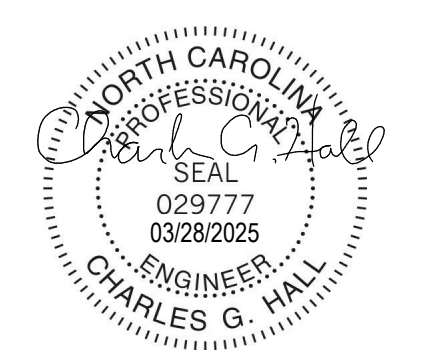
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Drawing Title

01 - FIRST FLOOR - ELECTRICAL -
DEMOLITION

Approved:

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DOCUMENTS

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Project Title

REPLACE HVAC VARIOUS
BUILDINGS

Location

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Issue Date

04/26/2023

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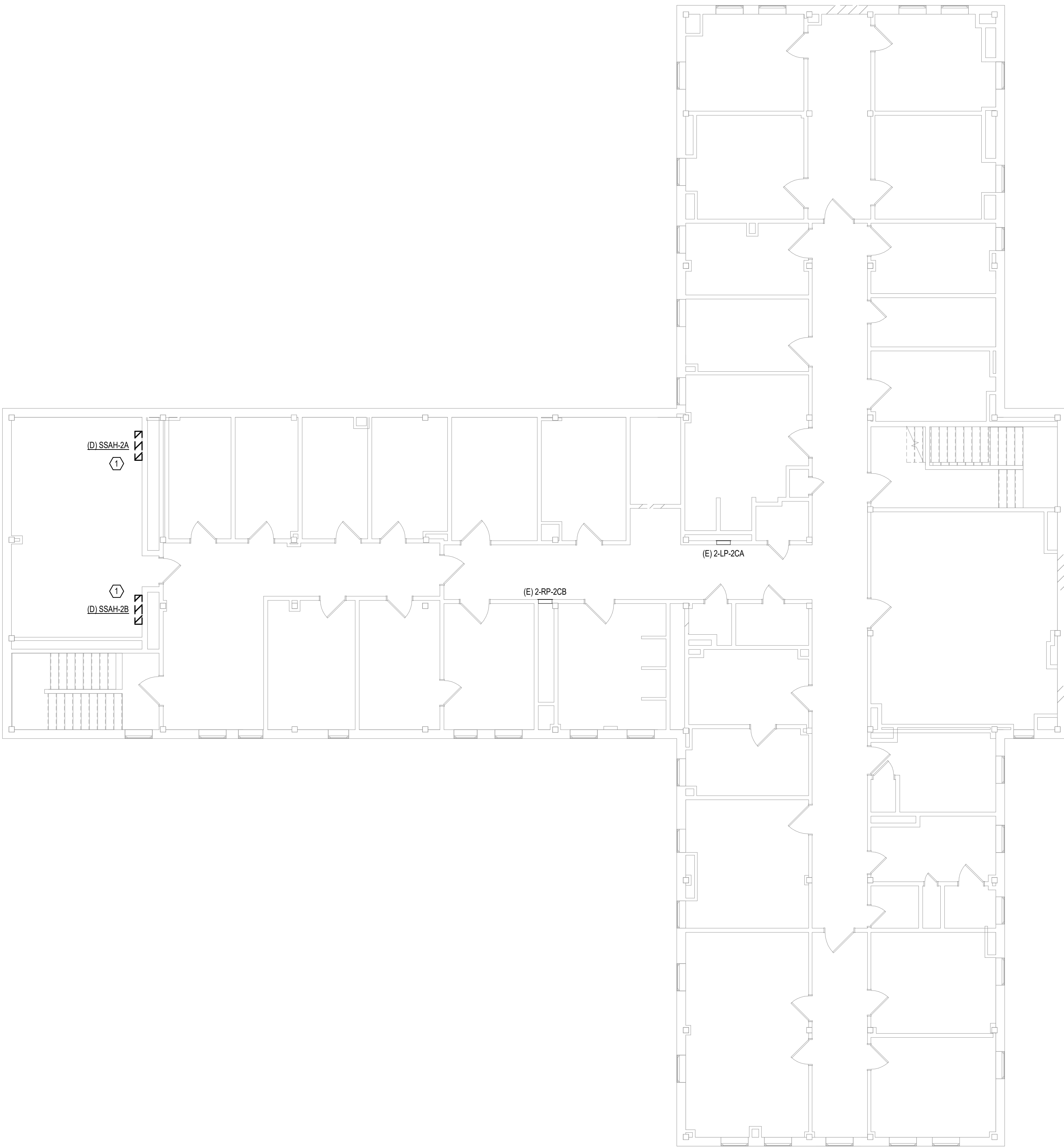
02

Drawing Number

ED101

SHEET NOTES:

1. DISCONNECT EXISTING MECHANICAL EQUIPMENT. DEMO CONDUCTORS TO SOURCE PANEL. RETAIN CONDUIT FOR REUSE. LABEL EXISTING UNUSED CIRCUIT BREAKERS AS SPARE.



1 02 - SECOND FLOOR - ELECTRICAL - DEMOLITION

1/8" = 1'-0"

0 4' 8' 16'

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



1 2 3 4 5 6 7 8 9 10

A

B

C

D

E

F

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BM 360 (2/2017) 001 - VA Tuscaloosa Replace HVAC Various Building/7/9.22_106_B02_MEP.rvt

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Drawing Title

02 - SECOND FLOOR - ELECTRICAL -
DEMOLITION

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CONSTRUCTION
DOCUMENTS

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REPLACE HVAC VARIOUS
BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
04/26/2023

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Project Number

679.22.106

Building Number

02

Drawing Number

ED102

POWER GENERAL NOTES:
(POWER GENERAL NOTES SHALL APPLY TO ALL SHEETS)

- A. ELECTRICAL DEVICE MOUNTING HEIGHTS ARE NOT LOCATIONS ON ELECTRICAL FLOOR PLANS. CONTRACTOR SHALL COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL INTERIOR ELEVATIONS. WHERE DEVICE MOUNTING HEIGHTS ARE NOT INDICATED PER ARCHITECTURAL ELEVATIONS, CONTRACTOR SHALL COORDINATE WITH THE PROJECT ARCHITECT.
- B. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DEVICE ROUGH-IN LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS TO ASSURE COMPATIBILITY WITH FINISHES SPECIFIED ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL BRANCH CIRCUITS AND CONDUITS SPECIFIED TO COORDINATE WITH OTHER TRADES AND TO ALLOW FOR SERVICE AND MAINTENANCE AND TO MINIMIZE THE USE OF ACCESS PANELS. (WHERE ACCESS PANELS ARE NOT AVAILABLE, AIRSPACE WORK TO INSTALL ACCESS PANELS SHALL BE SHOWN ON THE ELECTRICAL DRAWINGS.)
- C. REFER TO DETAILS, SCHEDULES, AND SYMBOL LEGENDS FOR ADDITIONAL REQUIREMENTS.

SHEET NOTES:

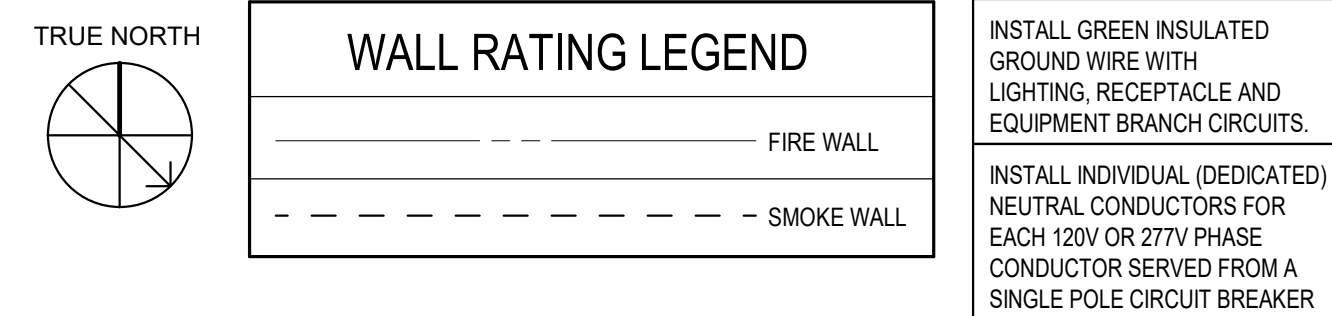
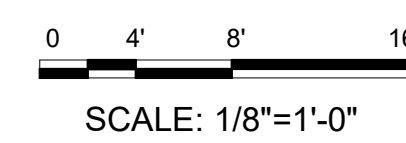
1. CONNECT NEW MECHANICAL EQUIPMENT TO MEW BREAKER AS SHOWN IN PANEL SCHEDULE. PROVIDE NEW CIRCUIT BREAKER FOR NEW MECHANICAL EQUIPMENT IN PANEL 2-RP-EM-GCA-B. REFERENCE PANEL SCHEDULE FOR CIRCUIT BREAKER SIZES.
2. THE NEW DUCT MOUNTED SMOKE DETECTOR TO THE EXISTING FIRE ALARM CONTROL PANEL FOR THE BUILDING. DEVICE TO BE 100% COMPATIBLE WITH THE EXISTING SIMPLEX 4100 SERIES CAMPUS SYSTEM. COORDINATE WITH JCI CONTACT FOR ADDITIONAL INFORMATION.

OPTIONS:
CIRCUIT BREAKER OPTIONS SUFFIX: 'S' OR 'ST'- PROVIDE SHUNT TRIP CIRCUIT BREAKER / 'G' OR 'GFCI'- PROVIDE GFCI CIRCUIT BREAKER / 'GFP'- PROVIDE GFP CIRCUIT BREAKER / 'ERMS'- ENERGY REDUCING MAINTENANCE SWITCH / 'ZSI'- ZONE SELECTIVE INTERLOCKING / 'L'- PROVIDE CIRCUIT BREAKER WITH LOCKING PROVISIONS / 'R'- PROVIDE CIRCUIT BREAKER WITH RED MARKING

GENERAL REMARKS:
A. UPDATE PANEL DIRECTORY UPON COMPLETION.



1 00 - GROUND FLOOR - POWER & LOW VOLTAGE
1/8" = 1'-0"



INSTALL GREEN INSULATED
GROUND WIRE WITH
LIGHTING, RECEPTACLE AND
EQUIPMENT BRANCH CIRCUITS.

INSTALL INDIVIDUAL (DEDICATED)
NEUTRAL CONDUCTORS FOR
EACH 120V OR 277V PHASE
CONDUCTOR SERVED FROM A
SINGLE POLE CIRCUIT BREAKER

Project Number
679.22.106

Building Number
02

Drawing Number
EP100

A

B

C

D

E

F

T

PANEL: (E) 2-RP-EM-1CA

LOCATION: ENTRANCE WAY CG5
SUPPLY FROM: (E) 2-RP-EM-GCA
BRANCH:
SERVICE RATED:
MOUNTING: RECESSED
NEMA ENCLOSURE:
VOLTS: 208/120 WYE
PHASES: 3
WIRES: 4
INTEGRAL SPD:
AVAILABLE SCC (kA):
MAINS TYPE: MLO
MCB/MLO RATING: 225 A
MCB OPTIONS:
SECTIONS: 1
PANEL POLES: 60

CKT	CIRCUIT DESCRIPTION	OPT	RATING	POLES	A	B	C	POLES	RATING	OPT	CIRCUIT DESCRIPTION	CKT	
1	EX. LOAD	--	15 A	1	1000 VA	1000 VA		1	15 A	--	EX. LOAD	2	
3	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	4	
5	EX. LOAD	--	20 A	1			1000 VA	1000 VA	1	20 A	--	EX. LOAD	6
7	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	8	
9	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	10	
11	EX. LOAD	--	20 A	1			1000 VA	1000 VA	1	20 A	--	EX. LOAD	12
13	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	14	
15	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	16	
17	EX. LOAD	--	20 A	1			1000 VA	1000 VA	1	20 A	--	EX. LOAD	18
19	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	20	
21	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	22	
23	EX. LOAD	--	20 A	1			1000 VA	1000 VA	1	20 A	--	EX. LOAD	24
25	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	26	
27	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	28	
29	EX. LOAD	--	20 A	1			1000 VA	1000 VA	1	20 A	--	EX. LOAD	30
31	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	32	
33	EX. LOAD	--	20 A	2		1000 VA	1000 VA	1	20 A	--	EX. LOAD	34	
35	EX. LOAD	--	20 A	1	1000 VA	1000 VA		1	20 A	--	EX. LOAD	36	
37	EX. LOAD	--	20 A	1		1000 VA	1000 VA	1	20 A	--	EX. LOAD	38	
39	EX. LOAD	--	20 A	1			1000 VA	1000 VA	1	20 A	--	EX. LOAD	40
41	EX. LOAD	--	20 A	1			1000 VA	1000 VA	1	20 A	--	EX. LOAD	42
43	EX. LOAD	--	20 A	1	1000 VA	219 VA		2	15 A	NEW	NEW 2-FCU-1A, 2-FCU-1B	44	
45	EX. LOAD	--	20 A	1		1000 VA	219 VA		20 A		SPARE	46	
47	EX. LOAD	--	20 A	1			1000 VA	1000 VA	1	20 A	--	SPARE	48
49	SPACE	--	--	1	--	1000 VA		1	20 A	--	SPARE	50	
51	SPACE	--	--	1				1	--	--	SPACE	52	
53	SPACE	--	--	1				1	--	--	SPACE	54	
55	SPACE	--	--	1	1000 VA	--		1	--	--	SPACE	56	
57	EX. LOAD	--	30 A	3		1000 VA	--	1	--	--	SPACE	58	
59							1000 VA	--	1	--	SPACE	60	

TOTAL LOAD: 17219 VA
TOTAL AMPS: 144 A

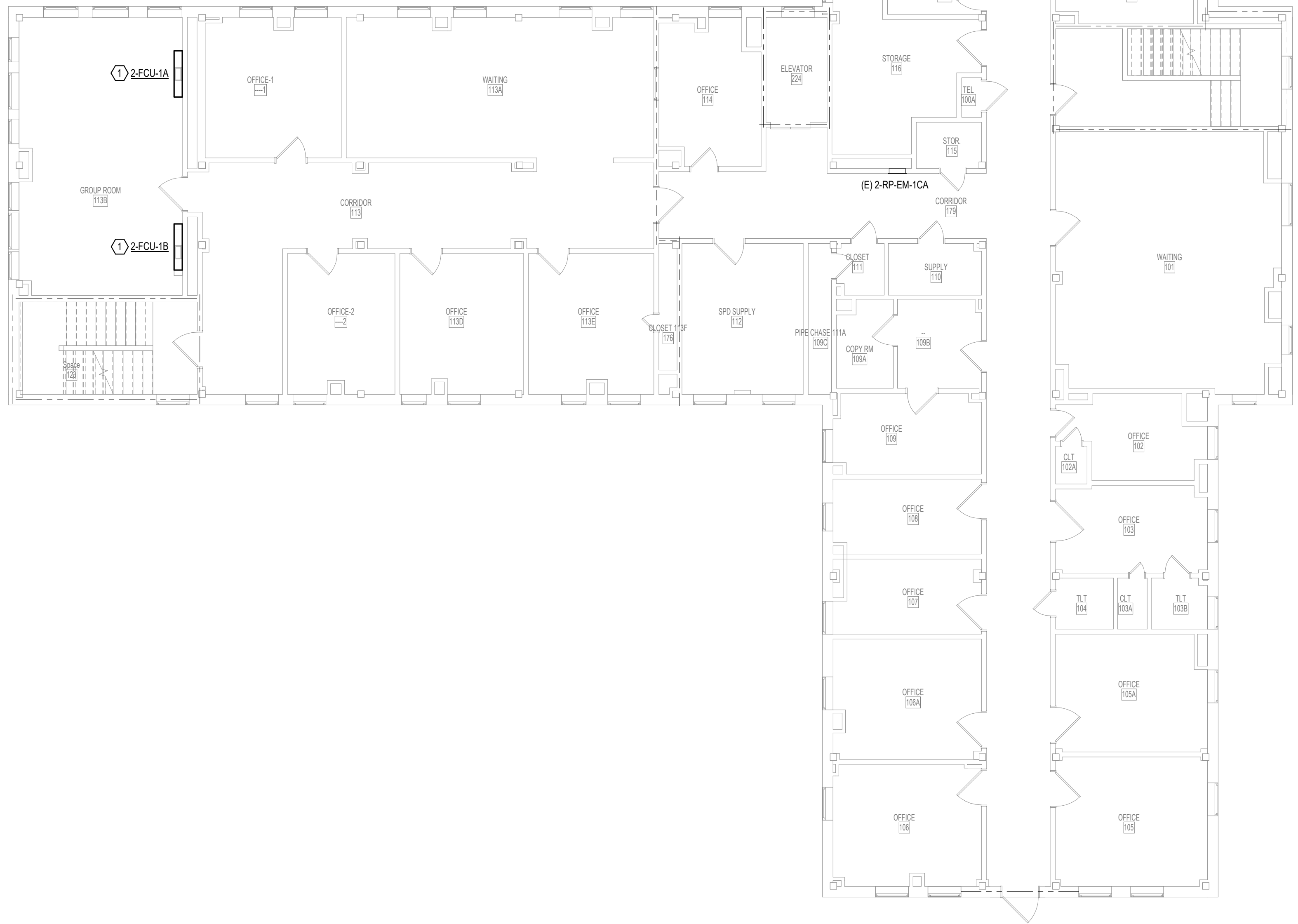
16219 VA
135 A

17000 VA
143 A

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
Other	438 VA	125.00%	548 VA	CONNECTED LOAD: 50438 VA
Spare	50000 VA	100.00%	50000 VA	CONNECTED CURRENT: 140 A
				DEMAND LOAD: 50548 VA
				DEMAND CURRENT: 140 A
				CONSIDER 125% DEMAND: 63184 A
				EQUIPMENT AMPS: 225 A
				FEEDER AVAILABLE:
				SPARE CAPACITY: 37 %
				85 A

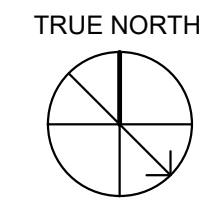
OPTIONS:
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GENERAL REMARKS:
A. UPDATE PANEL DIRECTORY UPON COMPLETION.



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1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"



WALL RATING LEGEND

INSTALL GREEN INSULATED
GROUND WIRE WITH
LIGHTING, RECEPTACLE AND
EQUIPMENT BRANCH CIRCUITS.
INSTALL INDIVIDUAL (DEDICATED)
NEUTRAL CONDUCTORS FOR
EACH 120V OR 277V PHASE
CONDUCTOR SERVED FROM A
SINGLE POLE CIRCUIT BREAKER

ADDENDUM #1	03/28/2025
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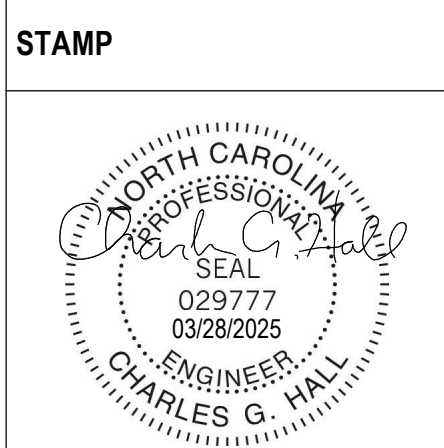
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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
01 - FIRST FLOOR - POWER

Approved:
SEE G001

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
REPLACE HVAC VARIOUS BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
04/26/2023

Checked
CGH

Drawn
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Project Number
679.22.106

Building Number
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EP101

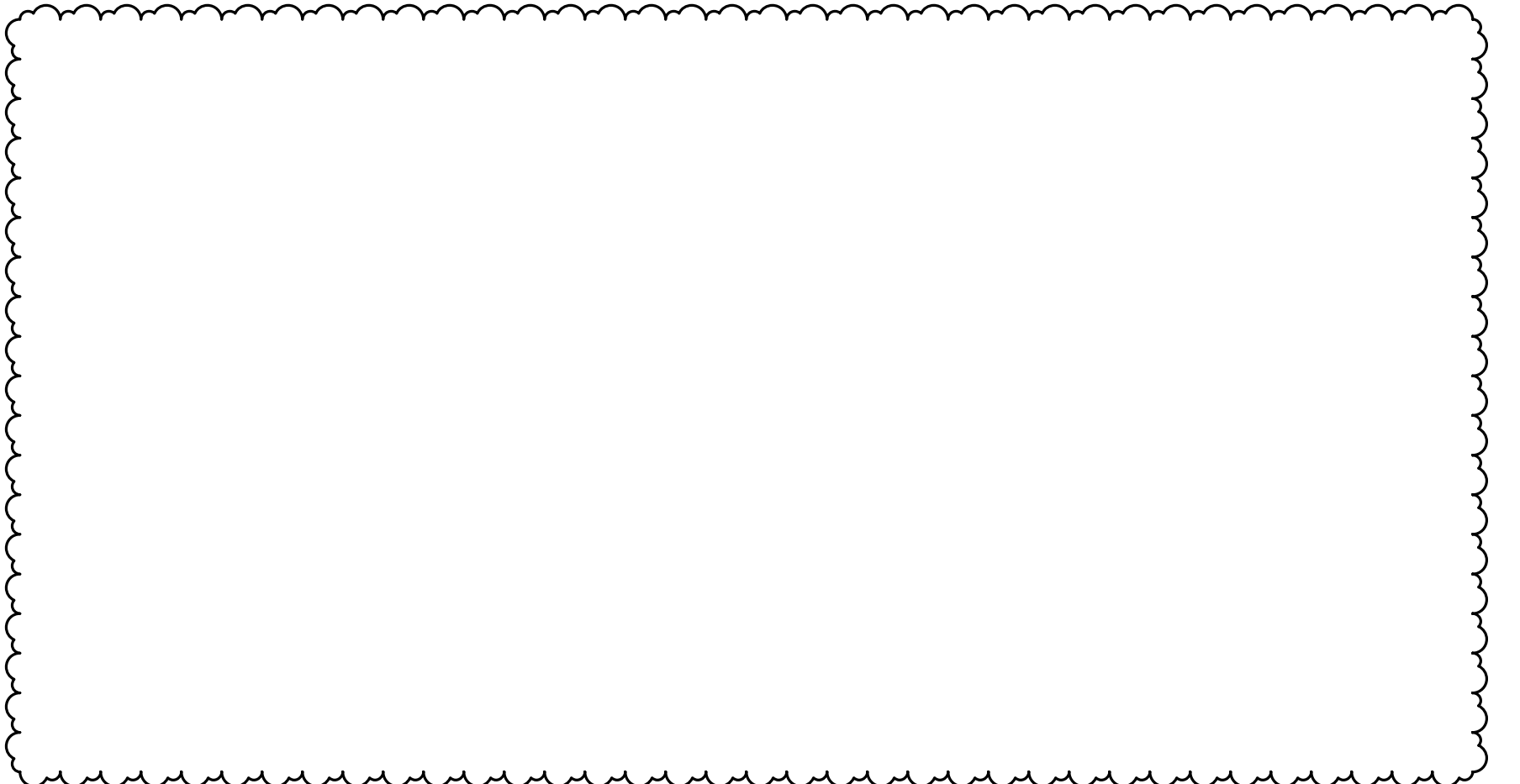
GENERAL MECHANICAL SYMBOLS		
SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
	SHEET NOTE	DENOTES SPECIFIC REQUIREMENT FOR THE SHEET ON WHICH THE NOTE APPEARS AND IS USED TO DESCRIBE WORK THAT IS TOO LENGTHY TO PLACE ON PLANS.
	PIPING - SOLID LINE INDICATES SYSTEM SUPPLY - DASHED LINE INDICATES SYSTEM RETURN	NUMBER INDICATES NOMINAL DIAMETER IN INCHES. LETTER(S) INDICATES SYSTEM. REFER TO ABBREVIATIONS FOR SYSTEM TYPE.
	DIAMETER	
	DENOTES CONNECTION OF NEW WORK TO EXISTING SYSTEM	PROTECT EXISTING SYSTEM FROM ENTRANCE OF FOREIGN DEBRIS DURING WORK.
	ARROW INDICATES DIRECTION OF FLOW IN PIPING	
	ARROW INDICATES DOWNWARD PIPE SLOPE ## INDICATES SLOPE IN INCHES PER FOOT	WHERE PIPING IS NOT MARKED, REFER TO SPECIFICATIONS FOR REQUIREMENTS
	ISOLATION VALVE	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	CHECK VALVE OR BACKWATER VALVE ARROW INDICATES DIRECTION OF NORMAL FLOW	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	PIPE IN SLEEVE	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	AUTOMATIC FLOW CONTROL VALVE # INDICATES FLOW TO BE BALANCED IN GPM	CIRCUIT SETTER, AUTOFLOW, ETC. REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	TEE UP TEE DOWN TEE HORIZONTAL	
	PIPE REDUCER	INDICATES POINT WHERE PIPING CHANGES FROM ONE SIZE TO ANOTHER. SMALL POINT OF ARROW INDICATES SMALLER SIZE SIDE OF TRANSITION.
	UNION	
	Y STRAINER WITH BLOWDOWN	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	Y STRAINER	
	PRESSURE GAUGE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	PRESSURE GAUGE STEAM	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	THERMOMETER - HORIZONTAL PIPE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	THERMOMETER - VERTICAL PIPE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	REQUIRED SERVICE CLEARANCE FOR EQUIPMENT	
	DUCT CONTINUATION	
	AIR VENT	
	BACKFLOW PREVENTER	
	CALIBRATED BALANCING VALVE	
	VALVE - THROTTLING SERVICE	
	VALVE - SHUTOFF SERVICE	
	P/T PORT	
	PIPE CAP	
	PIPE CONTINUATION	
	PRESSURE REDUCING VALVE	
	PUMP	
	RELIEF VALVE	
	SENSOR	
	SUCTION DIFFUSER	
	VACUUM BREAKER	
	STEAM TRAP	

GENERAL ABBREVIATIONS			
NOT ALL ABBREVIATIONS APPLY TO THIS SET OF DOCUMENTS			
ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AD	ACCESS DOOR/PANEL	LF	LINEAR FEET
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AMB	AMBIENT	MC	MECHANICAL CONTRACTOR
BOB	BOTTOM OF BEAM	MFR	MANUFACTURER
CC	CONTROLS CONTRACTOR	MIN	MINIMUM
DIA	DIAMETER	NC	NOT IN CONTRACT
DN	DOWN	NTS	NOT TO SCALE
D	DEMOLISH	PC	PLUMBING CONTRACTOR
E	EXISTING	PSIG	POUNDS PER SQUARE INCH GAUGE
EC	ELECTRICAL CONTRACTOR	RPM	REVOLUTIONS PER MINUTE
EFF	EFFICIENCY	SHT	SHEET
FPM	FEET PER MINUTE	TDB	TOP OF BEAM
FPS	FEET PER SECOND	TOS	TOP OF STEEL
GC	GENERAL CONTRACTOR	VEL	VELOCITY
GPM	GALLONS PER MINUTE	VFD	VARIABLE FREQUENCY DRIVE
L	LENGTH		

TEMPERATURE CONTROL SYMBOLS		
SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
	WALL MOUNTED CONTROL DEVICE # INDICATES TYPE	REFER TO MOUNTING HEIGHTS DETAIL FOR MOUNTING ELEVATION. T = THERMOSTAT, H = HUMIDISTAT, S = SENSOR (CARBON MONOXIDE, ETC.)
	OCCUPANCY SENSOR	REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. WHEN SENSOR IS NOT SHOWN ON ELECTRICAL DRAWINGS IT SHALL BE PROVIDED AND INSTALLED BY THE TEMPERATURE CONTROLS CONTRACTOR.
	DUCT, PIPE, OR CEILING MOUNTED CONTROL SENSOR	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. T = THERMOSTAT, H = HUMIDISTAT, S = SENSOR (CARBON DIOXIDE, ETC.)
	CONTROL VALVE (2-WAY)	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	CONTROL VALVE (2-WAY)	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	PRESSURE/TEMPERATURE TEST PORT	
	FLOW MEASURING STATION	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	FLOW SWITCH	

HVAC SYMBOLS		
SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
	RECTANGULAR DUCTWORK W = DIMENSION IN VIEW (INCHES) H = DIMENSION PERPENDICULAR TO VIEW (INCHES)	REFER TO DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	ROUND DUCTWORK D = DUCT DIAMETER	REFER TO DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	FLAT OVAL DUCTWORK W = DIMENSION IN VIEW (INCHES) H = DIMENSION PERPENDICULAR TO VIEW (INCHES)	REFER TO DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	TURNING VANES	REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	DUCT CROSS SECTION - SUPPLY DUCT CROSS SECTION - RETURN DUCT CROSS SECTION - EXHAUST	CROSS SECTION INDICATES DUCT EXTENDING PERPENDICULAR TO THE PAGE. IN PLAN VIEW THIS INDICATES A DUCT RISE OR DROP TO ANOTHER LEVEL. SOLID FILLED REGION INDICATE EXTENSION UP, NO FILLED REGION INDICATES EXTENSION DOWN.
	MANUAL BALANCE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE MANUAL BALANCE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	CONTROL DAMPER	DAMPER SHALL BE SAME SIZE AS DUCT UNLESS NOTED OTHERWISE. REFER TO SEQUENCES, SCHEMATICS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	FIRE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	SMOKE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	FIRE/SMOKE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	DIFFUSER	
	DIFFUSER BLANK OFF	SHADED AREA INDICATES QUADRANT OF DIFFUSER TO BE PROVIDED WITH BLANK OFF PANEL.
	RETURN GRILLE	
	EXHAUST GRILLE	
	WALL REGISTER / GRILLE	
	DUCT MOUNTED REGISTER / GRILLE	
	LINEAR SLOT	
	TRANSFER AIR ARROW ### = AIRFLOW IN CFM	ARROW INDICATES DIRECTION OF TRANSFER AIR.
	FLOW ARROW	ARROW INDICATES DIRECTION OF AIRFLOW FROM DIFFUSERS WITH ADJUSTABLE THROWS.
	DIFFUSER TAG D = TYPE, # = TYPE NUMBER ### = AIRFLOW IN CFM	REFER TO DIFFUSER SCHEDULE FOR TYPE DESCRIPTIONS AND SIZING. BALANCE TO AIRFLOW LISTED. WHEN TYPE IS NOT GIVEN AND ONLY CFM IS DESIGNATED, PROVIDE D1 FOR SUPPLY OR G1 FOR RETURN/EXHAUST.
	FLEXIBLE DUCT	REFER TO SPECIFICATIONS FOR TYPE. REFER TO DETAILS FOR INSTALLATION REQUIREMENTS. MAXIMUM LENGTH SHALL BE 40 FEET UNLESS NOTED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS.
	FLEXIBLE PIPING	REFER TO SPECIFICATIONS FOR TYPE.
	VARIABLE AIR VOLUME BOX - NO COIL	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VARIABLE AIR VOLUME BOX - HOT WATER COIL	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VARIABLE AIR VOLUME BOX - ELECTRIC COIL	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VARIABLE AIR VOLUME BOX - DUAL DUCT	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VAV BOX TAG # = REFERENCE NUMBER IN SCHEDULE ### = AIRFLOW IN CFM	REFER TO VARIABLE VOLUME BOX SCHEDULE FOR TYPES AND SIZING. AIRFLOW LISTED IS NOMINAL DESIGN CFM AND GPM. FINAL VALUES ARE TO BE DETERMINED BY TESTING AND BALANCING CONTRACTOR AND PROGRAMMED BY CONTROLS CONTRACTOR.
	VAV BOX TAG # = REFERENCE NUMBER IN SCHEDULE ## = WATER FLOW RATE IN GPM	REFER TO VARIABLE VOLUME BOX SCHEDULE FOR TYPES AND SIZING. AIRFLOW LISTED IS NOMINAL DESIGN CFM AND GPM. FINAL VALUES ARE TO BE DETERMINED BY TESTING AND BALANCING CONTRACTOR AND PROGRAMMED BY CONTROLS CONTRACTOR.

HVAC ABBREVIATIONS			
NOT ALL ABBREVIATIONS APPLY TO THIS SET OF DOCUMENTS			
ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AB	AIR BLENDER	HP	HORSEPOWER
AC	AIR CONDITIONING UNIT (SPLIT SYSTEM INDOOR UNIT)	HPC	HIGH PRESSURE STEAM CONDENSATE
AHU	AIR HANDLING UNIT	HPS	HIGH PRESSURE STEAM SUPPLY (80 PSIG AND ABOVE)
BFU	BOILER FEED UNIT	HRC	HEAT RECOVERY CHILLER
BLR	BOILER	HUM	HUMIDIFIER
CAV	CONSTANT AIR VOLUME BOX	HWR	HEATING HOT WATER RETURN
CC	COOLING COIL	HWS	HEATING HOT WATER SUPPLY
CONDENSE	CONDENSATE DRAIN	LPC	LOW PRESSURE STEAM CONDENSATE
CFM	CUBIC FEET PER MINUTE	LPS	LOW PRESSURE STEAM SUPPLY (0-12 PSIG)
CH	CHILLER	LV	LOUVER
CP	CONDENSATE PUMP	LWT	LEAVING WATER TEMPERATURE
CONDENSE	CONDENSATE WATER RETURN	MBH	BTU (1000'S)
CS	CONDENSER WATER SUPPLY	MD	MANUAL DAMPER
CT	COOLING TOWER	MOP	MOTOR OPERATED DAMPER
CU	CONDENSING UNIT	MPC	MEDIUM PRESSURE STEAM CONDENSATE
CUH	CABINET UNIT HEATER	MPS	MEDIUM PRESSURE STEAM SUPPLY (13-85 PSIG)
CWR	CHILLED WATER RETURN	NC	NORMALLY CLOSED, NOISE CRITERIA
CWS	CHILLED WATER SUPPLY	NO	NORMALLY OPEN, NUMBER
D	DIFFUSER	OA	OUTDOOR AIR
DD	DUAL DUCT	P	PUMP
DX	DIRECT EXPANSION	PC	PUMPED CONDENSATE
EA	EXHAUST AIR	PRV	PRESSURE REDUCING VALVE
EAT	ENTERING AIR TEMPERATURE	PSC	PUMPED STEAM CONDENSATE
EF	EXHAUST FAN	R	REGISTER
EFF	EFFICIENCY	RA	RETURN AIR
ERC	ENERGY RECOVERY COIL	REA	RELIEF AIR
ERW	ENERGY RECOVERY WHEEL	REFL	REFRIGERANT OX LIQUID
ET	EXPANSION TANK	REFS	REFRIGERANT DX SUCTION GAS
EWT	ENTERING WATER TEMPERATURE	RF	RETURN FAN
FB	FILTER BANK (CONSISTING OF ONE OR MORE FILTERS)	RTU	RELATIVE HUMIDITY
FAN COIL UNIT	FAN COIL UNIT	SA	ROOF TOP UNIT
FMS	FLOW MEASURING STATION	SA	SUPPLY AIR
FOR	FUEL OIL RETURN	SD	SMOKE DAMPER
FOS	FUEL OIL SUPPLY	SF	SUPPLY FAN
FOV	FUEL OIL VENT	SP	STATIC PRESSURE
FRD	FIRE DAMPER	STM	STEAM
FSD	FIRE SMOKE DAMPER	TEMP	TEMPERATURE
FTR	FINNED TUBE RADIATOR	TR	TRANSFER
G	GRILLE	UH	UNIT HEATER
GCWR	GLYCOL CHILLED WATER RETURN	VAV	VARIABLE AIR VOLUME BOX
GCWS	GLYCOL CHILLED WATER SUPPLY	VTR	VENT THROUGH ROOF
GE	GRAVITY EXHAUST	WB	WET BULB TEMPERATURE
GHR	GLYCOL HEATING HOT WATER RETURN	WC	WATER COLUMN
GHSW	GLYCOL HEATING HOT WATER SUPPLY	WPD	WATER PRESSURE DROP
GI	GRAVITY INTAKE	WSPR	WATER SOURCE HEAT PUMP RETURN
HC	HEATING COIL	WSPS	WATER SOURCE HEAT PUMP SUPPLY



MECHANICAL GENERAL NOTES:

- THESE NOTES APPLY TO ALL SHEETS CONTAINING HVAC, PIPING, AND TEMPERATURE CONTROLS WORK. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. WHERE A DISCREPANCY EXISTS BETWEEN THESE PLANS AND THE PROJECT SPECIFICATIONS, THE SPECIFICATION REQUIREMENTS SHALL TAKE PRECEDENCE OVER THE DRAWINGS.
- VERIFY THE EXISTING CONDITIONS AT THE PROJECT SITE BEFORE SUBMITTING COST PROPOSAL. BE ADVISED THAT LOCATIONS SHOWN ARE APPROXIMATE. AN ATTEMPT HAS BEEN MADE TO SHOW ALL PIPING, DUCTWORK, AND OUTLETS. CONTRACTOR SHALL VISIT THE SITE TO VERIFY COMPONENTS, LOCATIONS AND SIZES SHOWN OR NOT SHOWN. ALL COMPONENTS NEED TO BE REMOVED IN THE DEMOLITION AREA UNLESS NOTED ON THE DRAWINGS. IF DEVIATION BETWEEN EXISTING CONDITIONS AND NEW WORK IS FOUND, CONTRACTOR SHALL NOTIFY ENGINEER. IT IS MANDATORY THAT THE EXISTING BUILDING REMAIN IN CONTINUOUS AND NON-INTERRUPTED OPERATION DURING THE CONSTRUCTION OF THE ADDITIONS AND REMODELING/ALTERATION OF THE EXISTING BUILDING. SERVICES TO THE EXISTING BUILDING SHALL BE KEPT ON CONTINUOUS OPERATION EXCEPT DURING SCHEDULED SHUTDOWNS FOR EXTENSION OR MODIFICATION. PLAN TO COMPLETE SHUTDOWNS DURING OFF HOURS TO MINIMIZE IMPACT TO THE OWNER. COORDINATE SHUTDOWNS WITH THE OWNER A MINIMUM OF 14 DAYS PRIOR TO WORK. PROVIDE TEMPORARY SERVICES WHERE NECESSARY TO ACCOMPLISH ANY SHUTDOWN. THIS INCLUDES BUT IS NOT LIMITED TO STAFFING AND EQUIPMENT FOR FIRE WATCHES, PROVISIONS FOR BOTTLED WATER, AND TEMPORARY HEATING OR COOLING EQUIPMENT. TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL THE PERMANENT SYSTEMS ARE OPERATIONAL AND HAVE PASSED ALL REQUIRED TESTING.
- REFER TO THE SPECIFICATIONS AND ARCHITECTURAL PLANS FOR PHASING REQUIREMENTS. DURING EACH PHASE THE CONTRACTOR SHALL COMPLETE ALL WORK LOCATED WITHIN THE BOUNDARY OF THAT PHASE. ANY WORK AND THAT MUST BE COMPLETED IN THE AREA AFTER THAT AREA HAS BEEN TURNED OVER TO THE OWNER SHALL BE IDENTIFIED AT THE BEGINNING OF THE PHASE FOR EVALUATION AND ACCEPTANCE OF THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN DEMOLITION, REMOVAL, CAPPING, STORING, ABANDONING, DISCONNECTING, RELOCATING AND RECONNECTION OF EXISTING EQUIPMENT AND MATERIAL. ALL CUTTING, PATCHING, REPAIRING, REPLACEMENT AND REFINISHING SHALL MATCH THE EXISTING CONSTRUCTION AS NEARLY AS POSSIBLE.
- EXCEPT WHERE OTHERWISE SHOWN OR NOTED ON THE DRAWINGS AS TO BE RETAINED, RELOCATED, ALL EXISTING EQUIPMENT AND MATERIAL IN AREAS TO BE REMODELED/ALTERED SHALL BE REMOVED WHERE THEY INTERFERE WITH PROPOSED NEW CONSTRUCTION AND/OR WITH PROPOSED USAGE OF SPACE BY OWNER AS FOLLOWS:
 - REMOVE ANY PIPING PROTRUDING FROM FINISHED FLOOR OR THROUGH WALL AND CAP WITHIN 3 PIPE DIAMETERS OF NEAREST ACTIVE MAIN WITH MATERIAL TO MATCH EXISTING.
 - REMOVE ALL FIXTURES, CARRIERS, SUPPLY AND WASTE AND VENT PIPING, STEAM, HEATING HOT WATER, HVAC SUPPLY, RETURN AND EXHAUST AS NOTED. CAP NEAREST ACTIVE MAIN. SUPPLY AND RETURN MAINS ON PIPING SYSTEMS CONVEYING WATER OR GASES SHALL BE VALVED AND CAPPED.
 - IN REMODELED/ALTERED AREAS, ANY PIPING OR DUCTWORK PASSING THROUGH THE REMODELED AREAS TO SERVE (OR BEING SERVED FROM) EXISTING ADJACENT, REMOTE, OR SURROUNDING AREAS THAT ARE TO REMAIN SHALL BE RETAINED AND KEPT OPERATIONAL, AND SHALL BE REROUTED IN ALL CASES WHERE THEY INTERFERE WITH ANY NEW WORK OR USAGES TO BE ACCOMPLISHED IN THE REMODELED AREA.
 - REMOVE UNUSED OR ABANDONED HANGERS AND PATCH ABANDONED PENETRATIONS TO MATCH EXISTING.
 - PENETRATIONS THROUGH EXISTING WALLS AND FLOORS FORMERLY OCCUPIED BY REMOVED PIPING OR DUCTWORK SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION.
 - RE-SUPPORT ANY PIPING AND DUCTWORK THAT WAS SUPPORTED FROM BUILDING ELEMENTS REMOVED AS PART OF THE WORK.
 - MAINTAIN CONTROL WIRING OR PNEUMATIC TUBING REQUIRED FOR THE CONTINUED PROPER OPERATION OF THE BUILDING AUTOMATION SYSTEM.
- ALL EXISTING EQUIPMENT BEING REMOVED WILL BE HANDED OVER TO OWNER FOR FIRST RIGHT OF SALVAGE. IF OWNER REFUSES SALVAGE ITEMS, REMOVING CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL.
- CONTRACTOR SHALL REFER TO THE DRAWINGS OF ALL TRADES TO FAMILIARIZE THEMSELVES WITH EXTENT OF WORK INCLUDING BUT NOT LIMITED TO WHERE NEW PARTITIONING IS BEING INSTALLED, WHERE EXISTING PARTITIONING IS BEING REMOVED, WHERE CEILINGS ARE BEING REMOVED AND/OR REPLACED, ETC.
- THESE DRAWINGS ARE NECESSARILY DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL INCLUDE ALL FITTINGS, OFFSETS, VENTS, DRAINS, AND DEVICES REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.
- PERFORM AIR AND FLUID LEAKAGE PRE-TEST ON ALL DISTRIBUTION EQUIPMENT AND ALL AIR OUTLETS IN THE AREA PRIOR TO COMMENCING WORK. SUBMIT PRE-TEST INFORMATION TO OWNER/ENGINEER.
- PROVIDE ACCESS DOORS IN DUCTWORK AND/OR ARCHITECTURAL ELEMENTS WHERE REQUIRED TO ACCESS ALL EQUIPMENT REQUIRING MAINTENANCE AND ADJUSTMENT. THIS EQUIPMENT INCLUDES BUT IS NOT LIMITED TO SENSORS, DAMPERS, ACTUATORS, CONTROL DEVICES, VALVES, ETC. ACCESS DOORS SHALL BE SIZED TO PROVIDE APPROPRIATE ACCESS BASED ON HEIGHT OF ACCESS REQUIRED AND ACTIVITY. INSTALL SUCH THAT ACCESS DOOR IS FULLY OPERABLE WITHOUT THE REMOVAL OF ARCHITECTURAL ELEMENTS SUCH AS CEILING RUNNERS, SUPPORTS, ETC. INSTALL IN A LOCATION SUCH THAT STEPPING OR LEANING OVER PERMANENT EQUIPMENT OR FURNITURE IS NOT REQUIRED. WHERE ACCESS DOORS ARE REQUIRED IN ARCHITECTURAL ELEMENTS THAT PROVIDE A FIRE AND/OR SMOKE RATING, ACCESS DOOR SHALL MAINTAIN THE REQUIRED RATING.
- SEAL ALL WALL PENETRATIONS (DUCTWORK, PIPING, CONTROLS, CONDUITS, ETC.) WITH NON-COMBUSTIBLE MATERIAL. SEAL PENETRATIONS INTO ROOMS THAT REQUIRE PRESSURE CONTROL OR SOUND ISOLATION, WITH NON-COMBUSTIBLE MATERIAL AND CAULK.
- PIPING AND DUCTWORK SHALL NOT BE ROUTED OVER ELECTRICAL AND TELECOM ROOMS. WHERE ROUTING OVER SUCH ROOMS IS UNAVOIDABLE, CONTRACTOR SHALL COORDINATE WITH OWNER, DESIGN TEAM, A/E, AND OTHER TRADES REGARDING LOCATION OF PANELS AND UTILITY ROUTING AND SHALL PROVIDE PROTECTIVE PANELS UNDER ALL UTILITIES WITH MOISTURE SENSORS OR DRAIN PIPING AS REQUIRED BY THE SPECIFICATIONS.
- REMOVAL AND REINSTALLATION OF CEILINGS REQUIRED FOR THE COMPLETION OF WORK IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR OR REPLACE ALL DAMAGED CEILING COMPONENTS TO MATCH EXISTING. WHERE AN IDENTICAL MATCH IS NO LONGER AVAILABLE, CONTRACTOR SHALL PROVIDE A SIMILAR REPLACEMENT UPON APPROVAL FROM THE OWNER.
- FLEXIBLE DUCTWORK SHALL HAVE A MAXIMUM LENGTH OF 40' REGARDLESS OF LENGTH SHOWN ON DRAWINGS. FLEX DUCT INSTALLATION SHALL BE AT TERMINAL ENDS ONLY. CONNECTIONS AT VAV BOX INLETS SHALL BE SOLID HARD DUCT. THE DUCTWORK AT ANY FIRE AND/OR FIRE SMOKE DAMPER SHALL BE HARD DUCT.
- LOCATE PIPING AND DUCTWORK IN EXTERIOR BUILDING WALLS ON THE WARM SIDE OF THE BUILDING AND VAPOR BARRIER. COORDINATE INSTALLATION OF BUILDING INSULATION TO RUN CONTINUOUS BETWEEN PIPING AND BUILDING WALL.
- SUPPORT ALL DUCTWORK, PIPING AND EQUIPMENT FROM BUILDING STRUCTURE MEMBERS. ROUTE DUCT MAINS TIGHT TO STRUCTURE UNLESS NOTED OTHERWISE. HOLD PIPING TIGHT TO BOTTOM OF STRUCTURAL MEMBERS OR RUN THROUGH JOIST WEBS IF POSSIBLE. DO NOT USE WIRE OR PERFORATED METAL TO SUPPORT PIPING. DO NOT SUPPORT PIPING FROM OTHER PIPING, DUCTWORK, AND/OR ELECTRICAL CONDUITS. DO NOT SUPPORT FROM WOOD TONGUE AND GROOVE ROOF DECK. SUPPORT FROM BOTTOM CHORD OF BAR JOISTS ONLY AT PANEL POINTS. ALL COMPONENTS REQUIRING MAINTENANCE SHALL BE SUPPORTED IN SUCH A MANNER AS TO BE READILY ACCESSIBLE WITHOUT REMOVAL OF THE CEILING SYSTEM AND TO ALLOW FOR REMOVAL FROM THE SYSTEM WHEN SUCH REMOVAL IS REQUIRED FOR MAINTENANCE.
- PROVIDE CONSTRUCTION FILTERS ON AIR MOVING EQUIPMENT SERVING THE CONSTRUCTION AREA AS WELL AS ALL RETURN/EXHAUST DUCT PENETRATIONS COMING FROM THE CONSTRUCTION AREA. AT THE COMPLETION OF WORK, REMOVE ALL TEMPORARY AND CONSTRUCTION FILTERS AND PROVIDE NEW FILTERS FOR ALL AIR MOVING EQUIPMENT.
- PROTECT ALL DUCTWORK AND PIPING DURING CONSTRUCTION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. AT A MINIMUM, DUCTWORK AND PIPING ENDS SHALL BE COVERED AND SEALED TO PREVENT THE COLLECTION OF DUST AND DEBRIS. CLEAN ALL INTERIOR SURFACES PRIOR TO INSTALLATION AND PROTECT ONCE INSTALLED.
- AT THE COMPLETION OF WORK, CLEAN ALL STRAINERS PROVIDED AS A PART OF THE WORK AS WELL AS PRIMARY SYSTEM STRAINERS LOCATED AT PUMPS WHERE THE SYSTEMS WERE EXTENDED. ON EXISTING EQUIPMENT, COORDINATE WORK WITH OWNER.
- PROVIDE INTERMEDIATE TESTING AND BALANCING AT THE COMPLETION OF EACH PHASE AND AS REQUIRED TO MAINTAIN PROPER OPERATION OF SYSTEMS SERVING AREAS OF THE FACILITY IN USE INCLUDING BUT NOT LIMITED TO OCCUPIED AREAS, STORAGE AREAS, AND OTHER AREAS DEEMED CRITICAL BY THE OWNER OR A/E.
- UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED. REFER TO DETAIL SHEETS FOR GENERAL CONSTRUCTION DETAILS.
- REFER TO SCHEDULES FOR SIZES OF FINAL RUNOUTS TO EQUIPMENT, FIXTURES, DIFFUSERS, GRILLES, AND TERMINAL DEVICES. FINAL RUNOUT SIZES LISTED SHALL BE USED TO WITHIN 10 EQUIVALENT DIAMETERS OF FINAL CONNECTION POINT. FINAL PIPING CONNECTION TO EQUIPMENT SHALL MATCH EQUIPMENT CONNECTION SIZE. EQUIPMENT TRANSITIONS AS REQUIRED, REFER TO DETAILS, DIAGRAMS AND SCHEMATICS FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS. REFER TO SCHEDULE SHEETS FOR PROVIDED SCHEDULES.
- FOR DUCTWORK PENETRATING A ONE HOUR FIRE RATED WALL WHERE A FIRE DAMPER IS NOT SHOWN, PROVIDE U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL CONSTRUCTION ASSEMBLY AND COMPLIANT WITH ASTM E814. THE SYSTEM SHALL BE FIRE TESTED PER ASTM E119 AND COMPLY WITH EXCEPTION 1 OF 2019 BC PART 717.2. INSTALL SYSTEM IN STRICT COMPLIANCE WITH THE FIRE STOPPING MANUFACTURER'S U.L. APPROVED DETAIL. WHERE EXISTING WALLS ARE BEING UPGRADED TO A ONE HOUR FIRE RATED WALL, PROVIDE U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM FOR ALL NEW AND EXISTING PENETRATIONS. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR LOCATIONS OF FIRE RATED WALLS. ALL DUCTWORK PENETRATIONS SHALL BE INSPECTED BY AN APPROVED THIRD PARTY INSPECTION AGENCY IN ACCORDANCE WITH ASTM E2174. THE INSPECTION AGENCY SHALL BE PROVIDED BY THE CONTRACTOR. DOCUMENTATION OF APPROVED INSPECTION SHALL BE INCLUDED WITH PROJECT CLOSEOUT DOCUMENTATION.
- FIRE ALARM CONTRACTOR SHALL PROVIDE A DUCT SMOKE DETECTOR FOR EACH SMOKE OR FIRE/SMOKE DAMPER AS REQUIRED BY CODE. MECHANICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF EACH DUCT SMOKE DETECTOR AND SHALL INSTALL THEM IN THE DUCT.
- FOR ALL PIPING, CONDUIT, AND GERT/TEBS PENETRATING A FIRE RATED WALL, PROVIDE U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL CONSTRUCTION ASSEMBLY AND COMPLIANT WITH ASTM E814. INSTALL SYSTEM IN STRICT COMPLIANCE WITH THE FIRE STOPPING MANUFACTURER'S U.L. APPROVED DETAIL. WHERE EXISTING WALLS ARE BEING UPGRADED TO FIRE RATED WALLS OR THE PENETRATING IS BEING MODIFIED, PROVIDE U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM FOR ALL NEW AND EXISTING PENETRATIONS. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR LOCATIONS OF FIRE RATED WALLS.

ADDENDUM #1	03/28/2025
Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD



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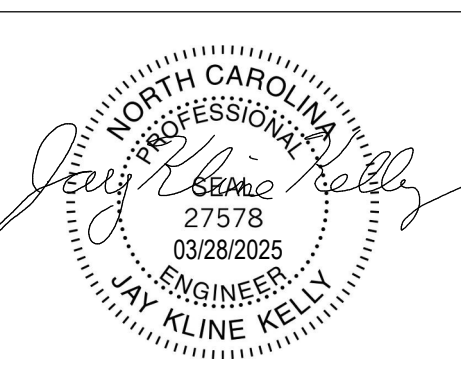
CONSULTANT



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Office of
Construction
and Facilities
Management



U.S. Department of
Veterans Affairs

Drawing Title

**MECHANICAL SYMBOLS AND
ABBREVIATIONS**

Approved:

SEE G001

Phase

**CONSTRUCTION
DOCUMENTS**

FULLY SPRINKLERED

Project Title

**REPLACE HVAC VARIOUS
BUILDINGS**

Location

3701 Loop Road, Tuscaloosa, AL 35404

Issue Date

04/26/2023

Checked

AGT

Drawn

PCM

Project Number

679.22.106

Building Number

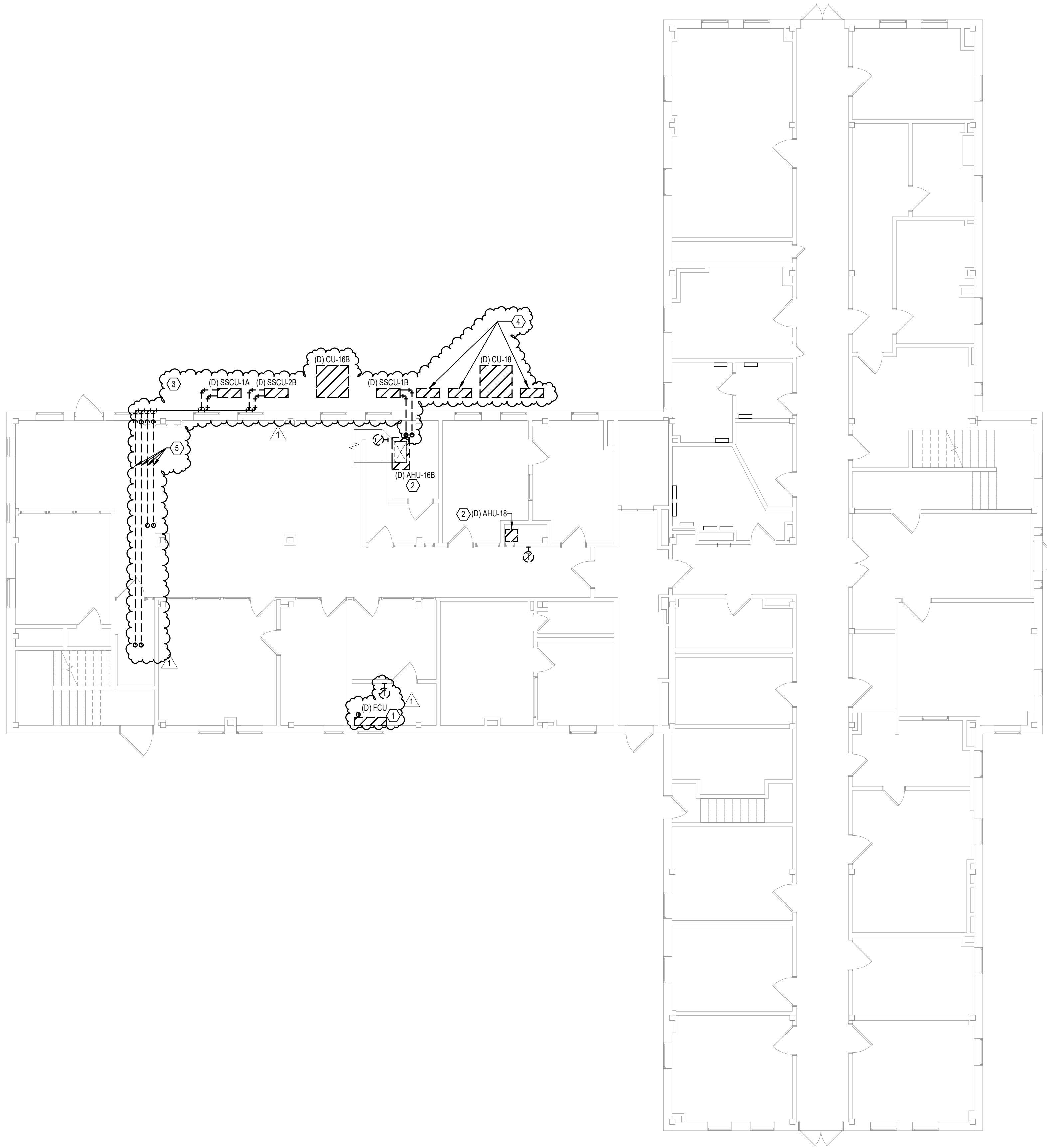
02

GENERAL NOTES:

- A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.
- B. ON DEMOLITION PLANS, EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.
- C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.
- D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

SHEET NOTES:

1. DEMOLISH EXISTING FAN COIL UNIT. DEMOLISH HEATING HOT WATER PIPING, AND CHILLED WATER PIPING BACK TO MAIN IN CRAWL SPACE AND CAP. PROVIDE INSULATED END CAP. INSULATION SHALL MATCH EXISTING. CONDENSATE DRAIN THROUGH WALL SHALL REMAIN FOR NEW HVAC UNIT IN ROOM.
2. DEMOLISH EXISTING AHU AND ASSOCIATED CONDENSING UNIT. DEMOLISH ALL REFRIGERANT PIPING INCLUDING PIPING IN CRAWL SPACE. DEMOLISH STEAM PIPING AND CONDENSATE PIPING BACK TO MAIN IN CRAWL SPACE AND CAP. PROVIDE INSULATED END CAP. INSULATION SHALL MATCH EXISTING. DEMOLISH ASSOCIATED CONTROLS. KEEP SUPPLY DUCT, RETURN GRILLE, AND SMOKE DETECTOR FOR CONNECTION TO NEW HVAC UNIT. REMOVE ASSOCIATED THERMOSTAT.
3. CONDENSING UNIT 2A HAS ALREADY BEEN REMOVED.
4. EXISTING CONDENSING UNITS TO REMAIN.
5. SPLIT SYSTEM REFRIGERANT PIPING TO BE REMOVED WITH DEMOLITION.



1 00 - GROUND FLOOR - MECHANICAL - DEMOLITION

1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"



ADDENDUM #1	03/28/2025
Revisions:	Date:

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27578
03/28/2025
JAY KLINE KELLY
ENGINEER

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Management

VA U.S. Department of
Veterans Affairs

Drawing Title
00 - GROUND FLOOR - MECHANICAL -
DEMOLITION

Approved:
SEE G001

Phase
CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title
REPLACE HVAC VARIOUS
BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
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Drawn
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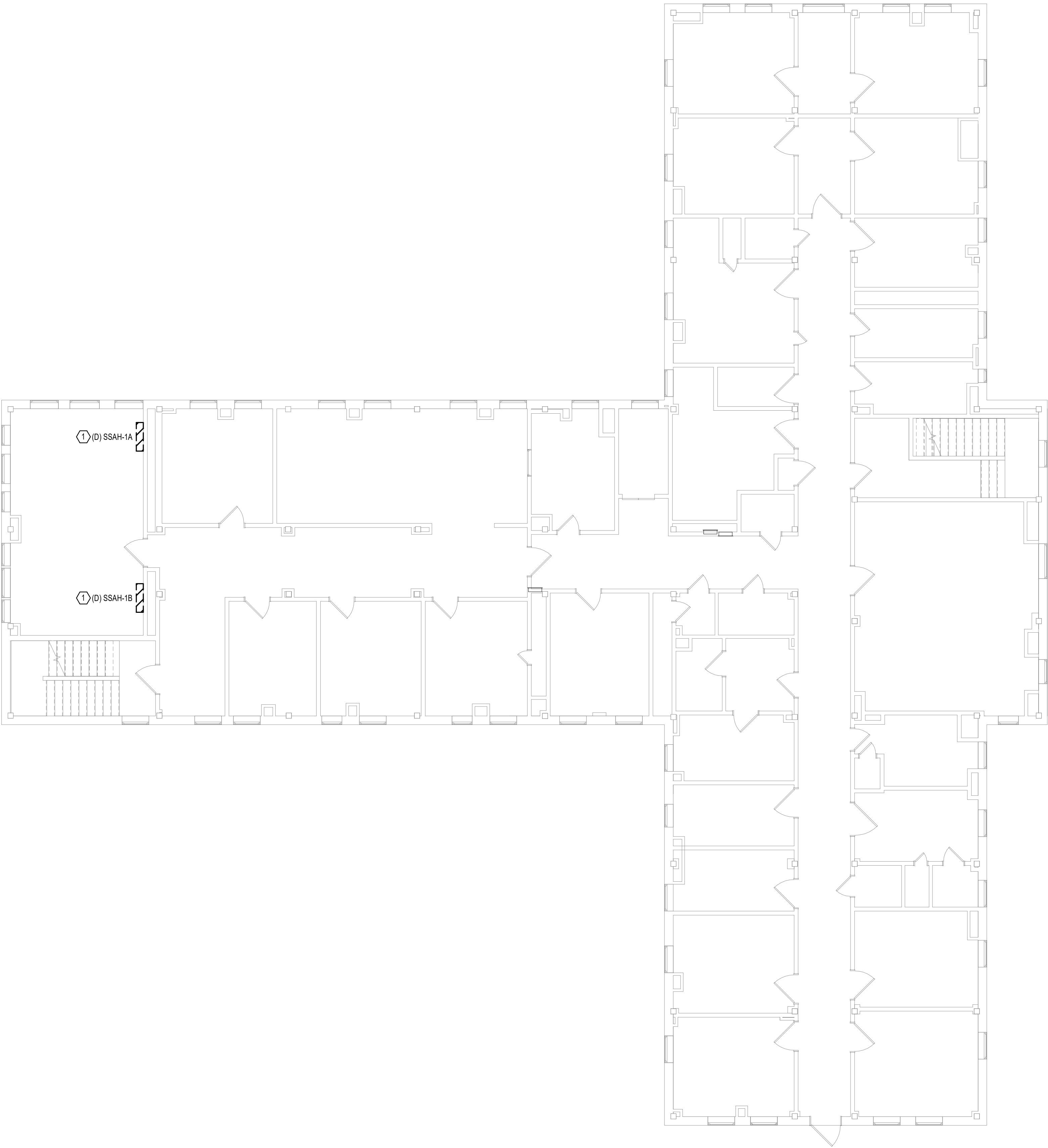
Project Number
679.22.106

Building Number
02

Drawing Number
MD100

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- SHEET NOTES:**
- 1. DEMOLISH EXISTING SPLIT SYSTEM UNIT MOUNTED HIGH ON WALL AND ASSOCIATED CONDENSING UNIT. DEMOLISH REFRIGERANT PIPING. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDENSATE DRAIN PIPING, ROUTING AND SIZE. CONDENSATE DRAIN PIPING SHALL REMAIN IN PLACE FOR REUSE.



1 01 - FIRST FLOOR - MECHANICAL - DEMOLITION

0 4' 8' 16'
SCALE: 1/8"=1'-0"



ADDENDUM #1	03/28/2025
Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD



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Office of
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Drawing Title

01 - FIRST FLOOR - MECHANICAL -
DEMOLITION

Approved:

SEE G001

Phase

CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title

REPLACE HVAC VARIOUS
BUILDINGS

Location

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Issue Date

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PCM

Project Number

679.22.106

Building Number

02

Drawing Number

MD101

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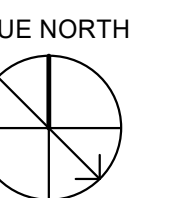
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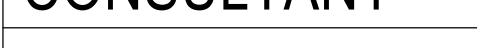

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

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0 4' 8' 16'

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



		ARCHITECT/ENGINEER OF RECORD		CONSULTANT		STAMP		Office of Construction and Facilities Management		Drawing Title 02 - SECOND FLOOR - MECHANICAL - DEMOLITION		Phase CONSTRUCTION DOCUMENTS		Project Title REPLACE HVAC VARIOUS BUILDINGS		Project Number 679.22.106			
		 SPECIALIZED ENGINEERING SOLUTIONS Specialized Engineering Solutions 1300 Baxter Street, Suite 230, Charlotte, NC 28204 T: (704) 348-3097 www.specializedeng.com		 Atriax, pllc 102 3rd Avenue, NE PO Box 1629, Hickory, NC 28603 T: 828.315.9962 F: 828.315.9964 www.atriaxgroup.com				Approved: SEE G001		VA U.S. Department of Veterans Affairs		FULLY SPRINKLERED		Location 3701 Loop Road, Tuscaloosa, AL 35404		Drawing Number			
Issue Date 04/26/2023														Checked AGT		Drawn PCM		MD102	
ADDENDUM #1 Revisions:														03/28/2025 Date:					

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SHEET NOTES:

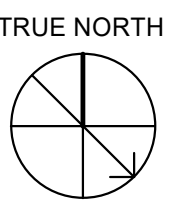
1. CONTRACTOR SHALL CONNECT EXISTING SUPPLY DUCT AND RETURN DUCT INLET TO NEW AHU.
2. EXISTING SMOKE DUCT DETECTOR SHALL BE INTERLOCKED WITH NEW AHU.
3. CONTRACTOR SHALL PROVIDE CUSTOM PLENUM BOX AND UNIT STAND. PLENUM BOX SHALL CONNECT TO EXISTING RETURN AIR GRILLE MOUNTED IN WALL.



1 00 - GROUND FLOOR - DUCTWORK

1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"



WALL RATING LEGEND

- FIRE WALL
- SMOKE WALL

ADDENDUM #1	03/28/2025
Revisions:	Date:

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NORTH CAROLINA
PROFESSIONAL
ENGINEER
JAY KLINE KELLY
27578
03/28/2025

Office of
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VA U.S. Department of
Veterans Affairs

Drawing Title
00 - GROUND FLOOR - DUCTWORK

Approved:
SEE G001

Phase
CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title
REPLACE HVAC VARIOUS
BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
04/26/2023

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AGT

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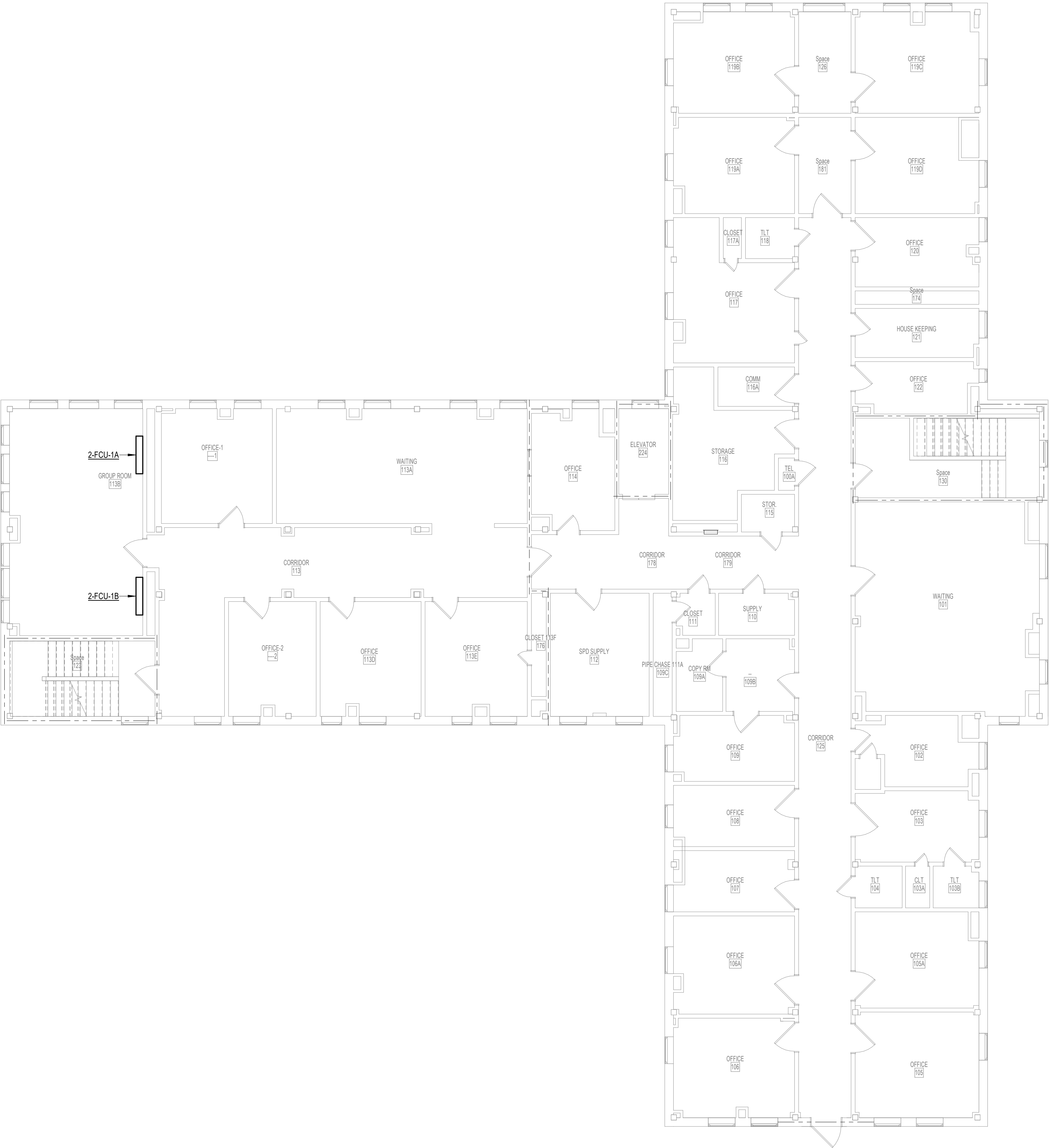
Project Number
679.22.106

Building Number
02

Drawing Number
MH100

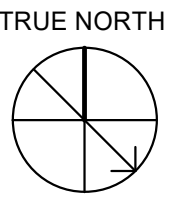
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1 01 - FIRST FLOOR - DUCTWORK
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"



WALL RATING LEGEND

- FIRE WALL
- SMOKE WALL

Revisions:	Date:

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SEAL
27578
03/26/2025
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ENGINEER

Office of
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VA U.S. Department of
Veterans Affairs

Drawing Title
01 - FIRST FLOOR - DUCTWORK

Approved:
SEE G001

Phase
CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title
REPLACE HVAC VARIOUS
BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
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AGT

Drawn
PCM

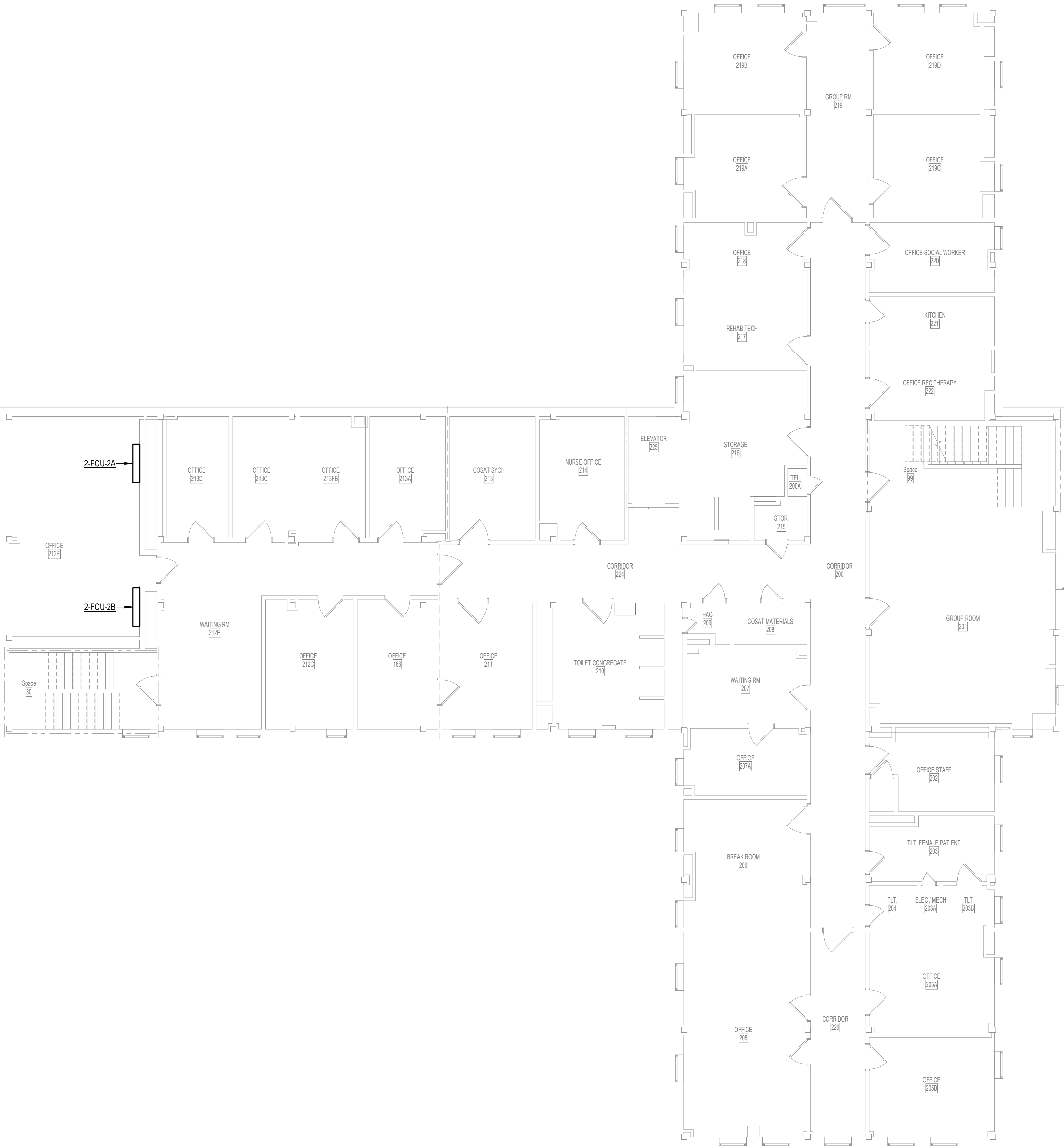
Project Number
679.22.106

Building Number
02

Drawing Number
MH101

GENERAL NOTES:

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1 02 - SECOND FLOOR - DUCTWORK

1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"

TRUE NORTH

WALL RATING LEGEND

--- FIRE WALL
--- SMOKE WALL

Revisions:	Date:

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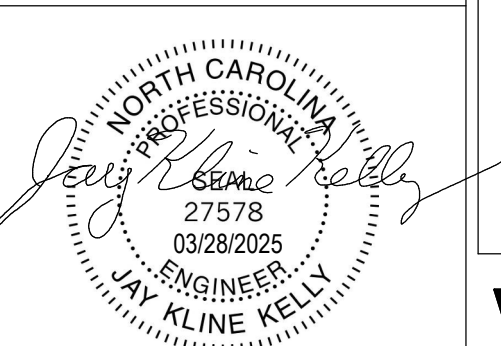


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Management



U.S. Department of
Veterans Affairs

Drawing Title

02 - SECOND FLOOR - DUCTWORK

Approved:

SEE G001

Phase

CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

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REPLACE HVAC VARIOUS
BUILDINGS

Location

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PCM

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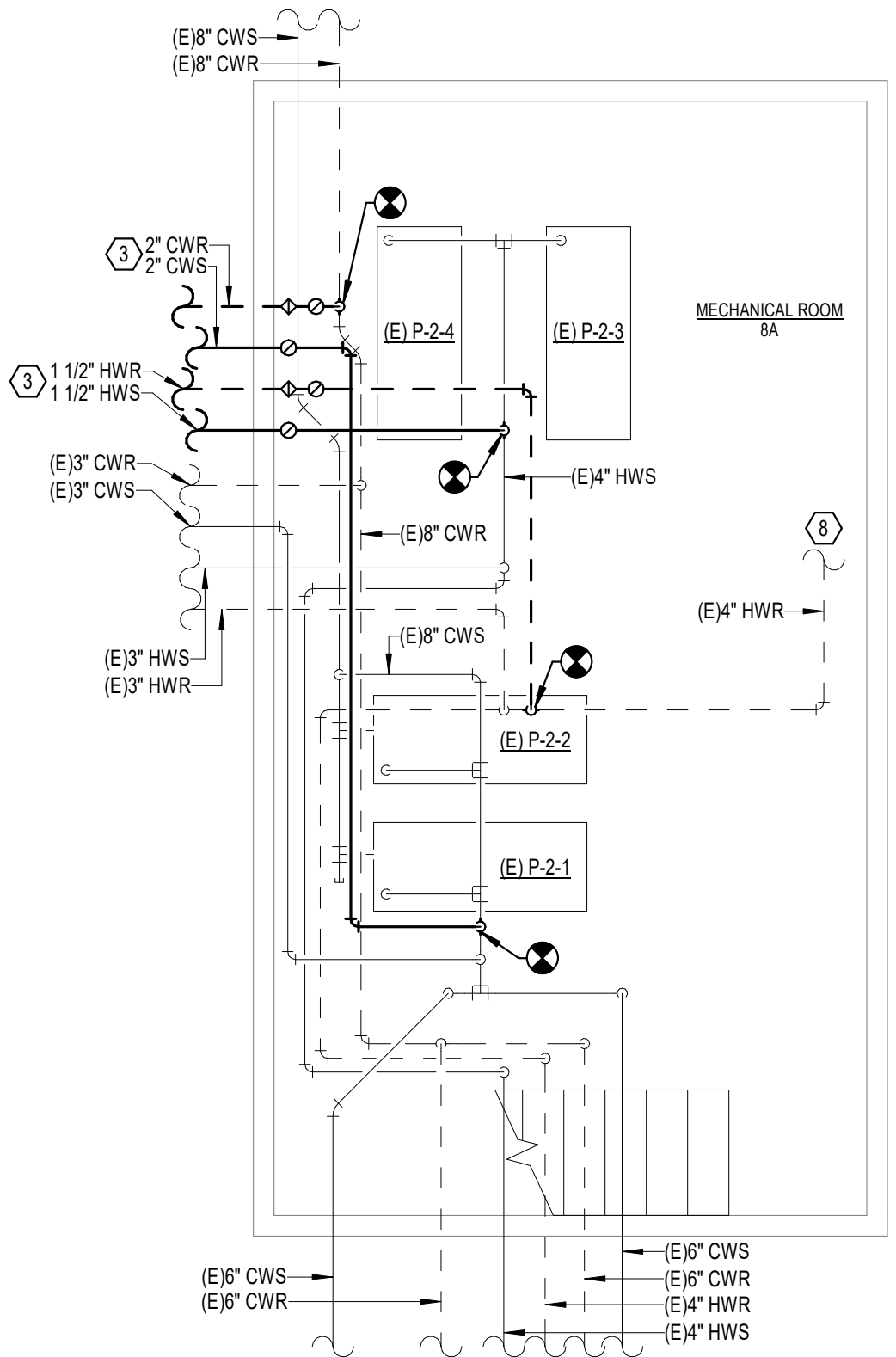
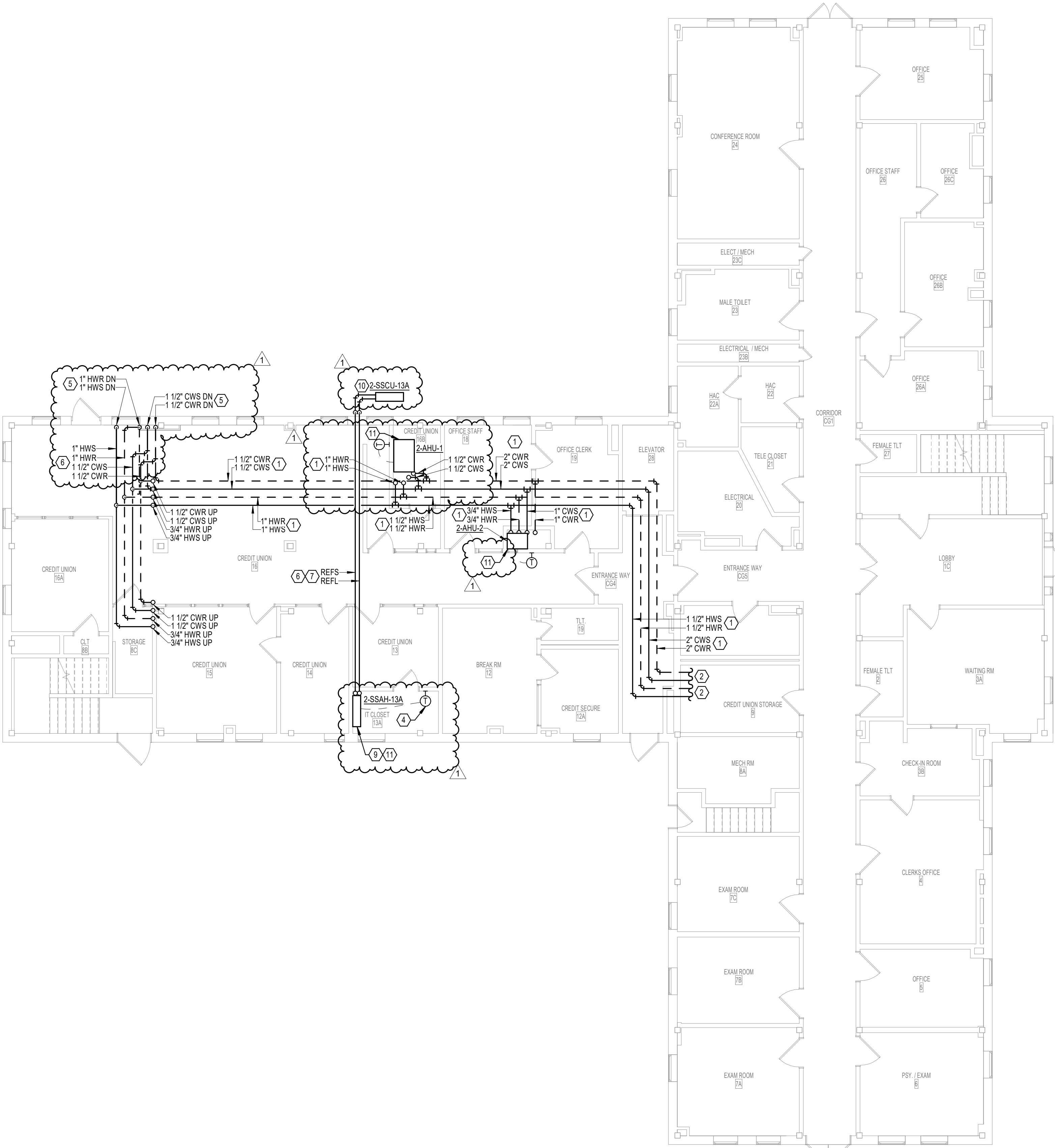
MH102

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SHEET NOTES:

1. PIPING SHALL BE ROUTED IN CRAWLSPACE BELOW.
2. SEE CONTINUATION OF CRAWLSPACE PIPING IN BASEMENT MECHANICAL ROOM 8A.
3. SEE CONTINUATION OF BASEMENT MECHANICAL ROOM 8A PIPING IN CRAWLSPACE BELOW GROUND LEVEL.
4. SPACE THERMOSTAT SHALL TIE INTO EXISTING METASYS SYSTEM, TYPICALLY 1/2" AFF.
5. ROUTE HEATING AND CHILLED WATER PIPING IN CHASE FROM CRAWLSPACE BELOW TO ABOVE CEILING.
6. INSTALL PIPING ABOVE CEILING.
7. INSTALL REFRIGERANT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8. (E) 4" HWR TO EXISTING HEAT EXCHANGERS.
9. INSTALL INDOOR UNIT ON WALL AT APPROXIMATELY 80" AFF.
10. INSTALL CONDENSING UNIT ON EXISTING CONCRETE PAD.
11. CONNECT CONDENSATE DRAIN TO EXISTING DRAIN PIPE FROM PREVIOUS HVAC UNIT.

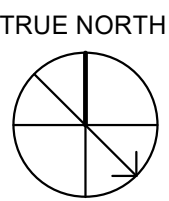


2 BB - BASEMENT - PIPING

1 00 - GROUND FLOOR - PIPING

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"



WALL RATING LEGEND

- FIRE WALL
- SMOKE WALL

ADDENDUM #1	03/28/2025
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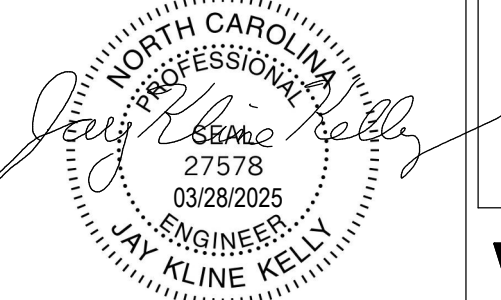


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U.S. Department of
Veterans Affairs

Drawing Title

00 - GROUND FLOOR & BASEMENT -
PIPING

Approved:

SEE G001

Phase

CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title

REPLACE HVAC VARIOUS
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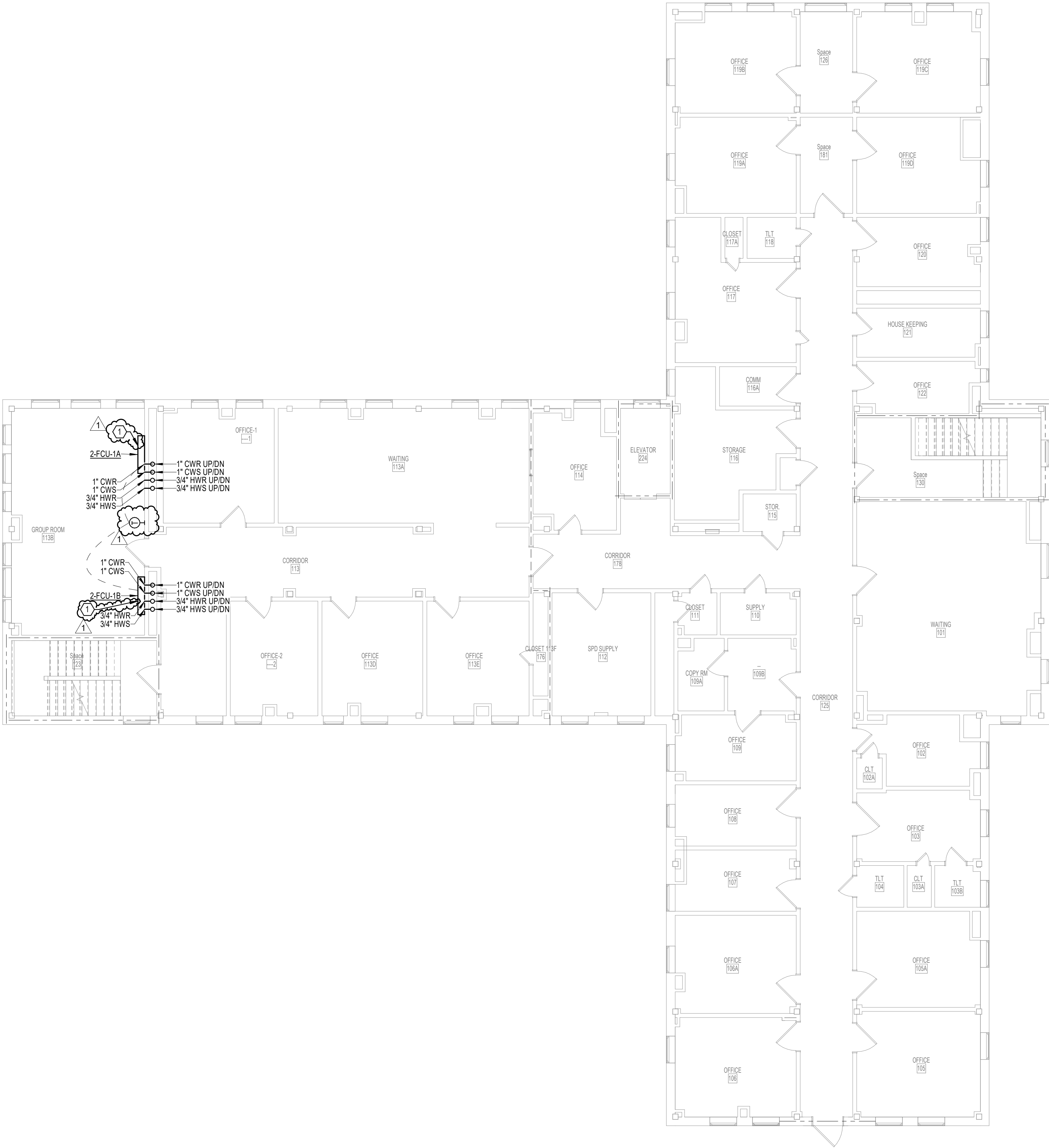
MP100

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SHEET NOTES:

1. INSTALL FAN COIL UNIT ON FLOOR. CONNECT UTILITY PIPING. CONNECT CONDENSATE DRAIN TO EXISTING DRAIN PIPE FROM PREVIOUS HVAC UNIT.



1 01 - FIRST FLOOR - PIPING
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"



WALL RATING LEGEND

- FIRE WALL
--- SMOKE WALL

ADDENDUM #1	03/28/2025
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VA U.S. Department of
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Drawing Title
01 - FIRST FLOOR - PIPING

Approved:
SEE G001

Phase
CONSTRUCTION
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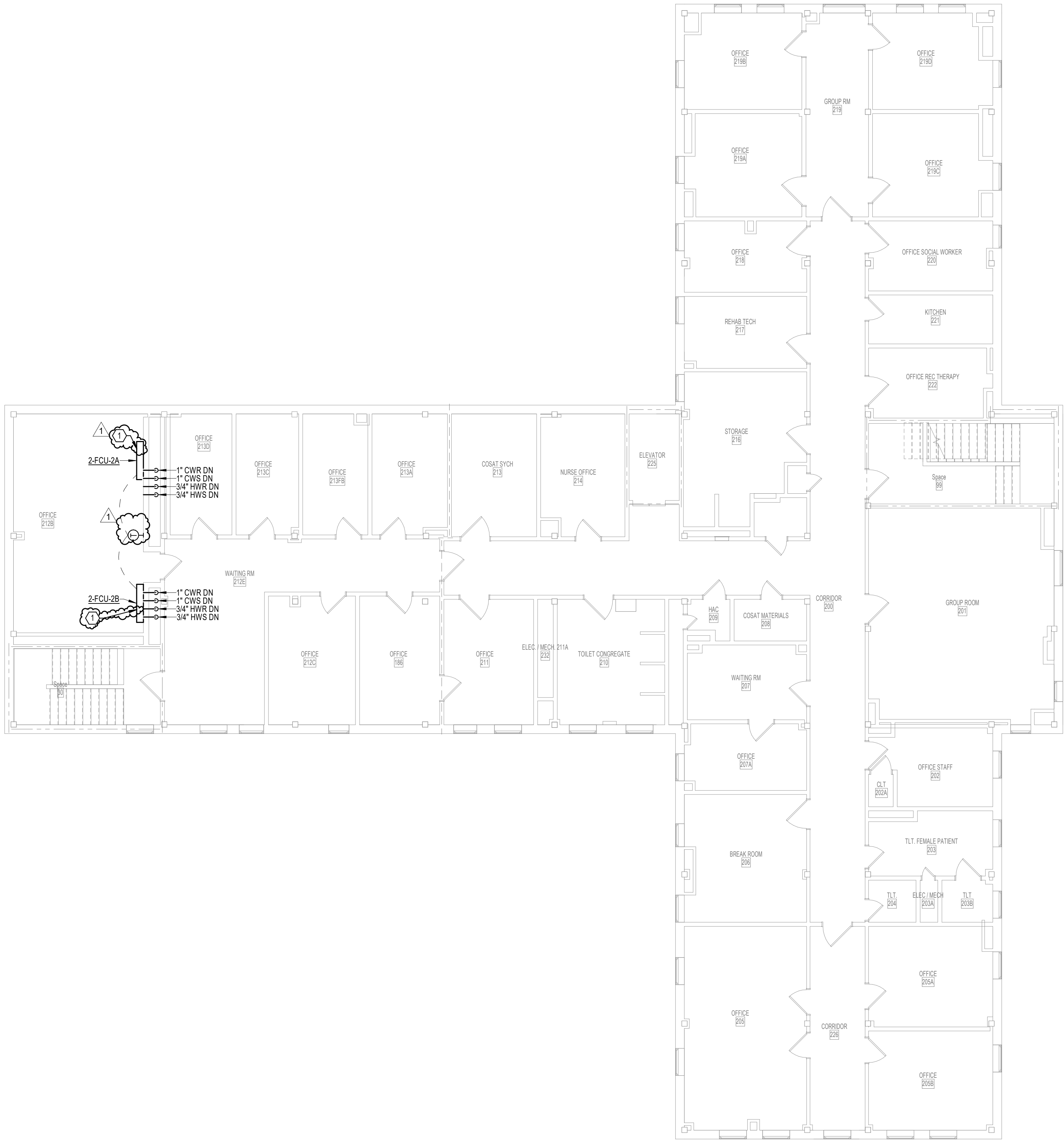
Drawn
PCM

GENERAL NOTES:

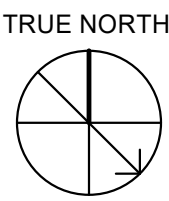
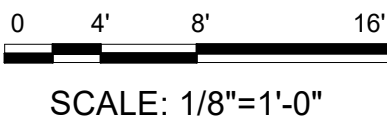
- A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.
- B. ON DEMOLITION PLANS: EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED. EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.
- C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.
- D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.
- E. CONTRACTOR SHALL PATCH DRYWALL, FLOORS, AND CEILINGS AS REQUIRED. REFER TO ARCHITECTURAL SPECIFICATIONS.

SHEET NOTES:

1. INSTALL FAN COIL UNIT ON FLOOR. CONNECT UTILITY PIPING. CONNECT CONDENSATE DRAIN TO EXISTING DRAIN PIPE FROM PREVIOUS HVAC UNIT.



02 - SECOND FLOOR - PIPING



WALL RATING LEGEND

- FIRE WALL
- SMOKE WALL

ADDENDUM #1	03/28/2025
Revisions:	Date:

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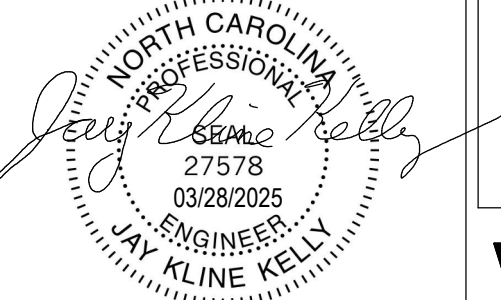


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U.S. Department of
Veterans Affairs

Drawing Title

02 - SECOND FLOOR - PIPING

Approved:

SEE G001

Phase

CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title

REPLACE HVAC VARIOUS
BUILDINGS

Location

3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
04/26/2023

Checked
AGT

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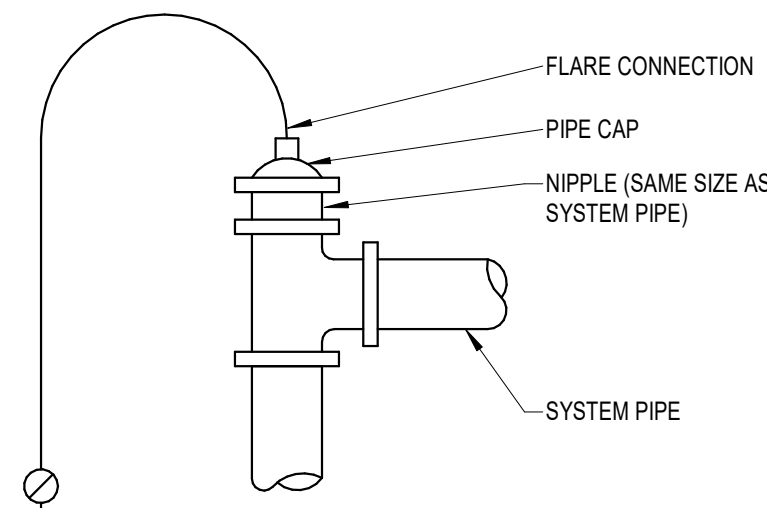
Project Number

679.22.106

Building Number
02

Drawing Number

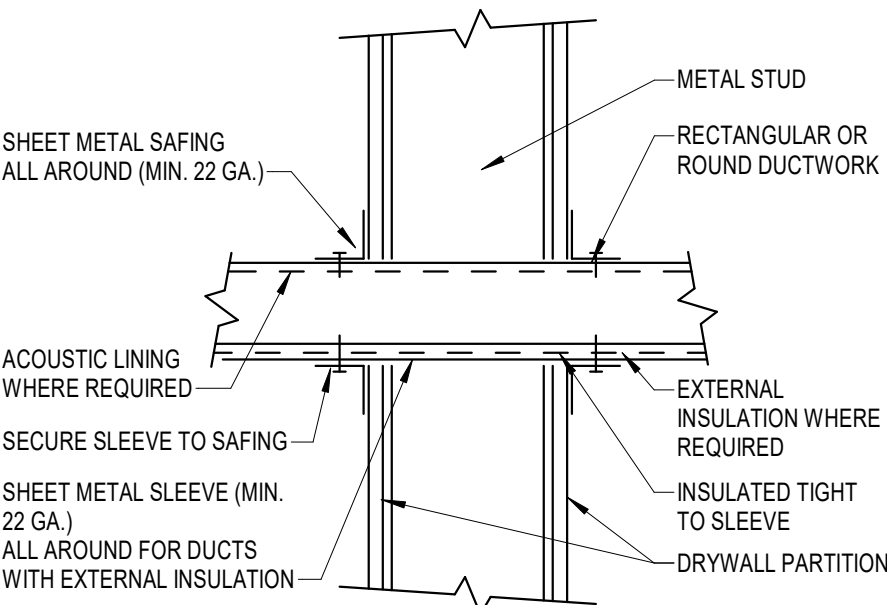
MP102



NOTES:
1. VALVE MANUAL AIR VENT. EXTEND VENT LINE TO WITHIN 6" ABOVE CEILING WHERE PIPING IS ABOVE CONCEALED ABOVE CEILING. WHERE PIPING IS EXPOSED, VALVE IS TO BE LOCATED WITHIN 5'-0" OF FLOOR.

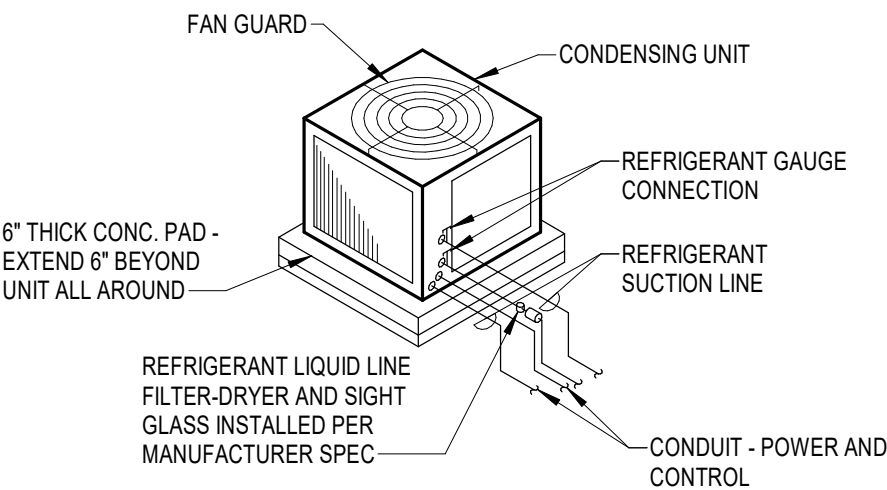
8 MANUAL AIR VENT

NO SCALE



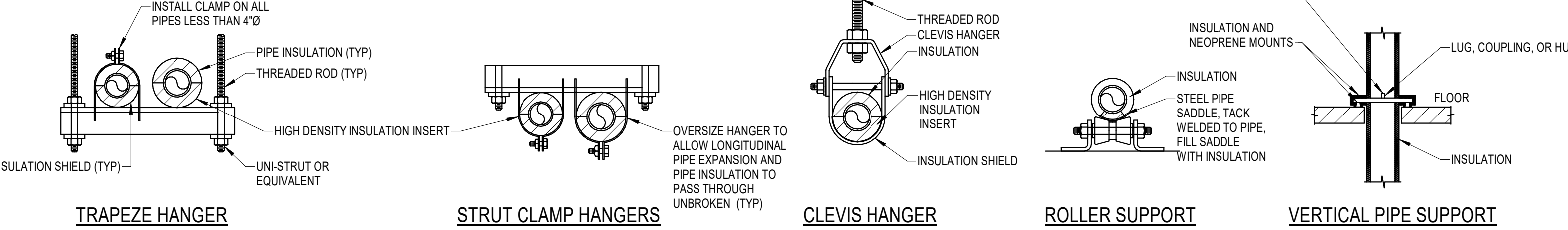
7 DUCT PENETRATIONS - THROUGH NON-FIRE RATED WALL

NO SCALE



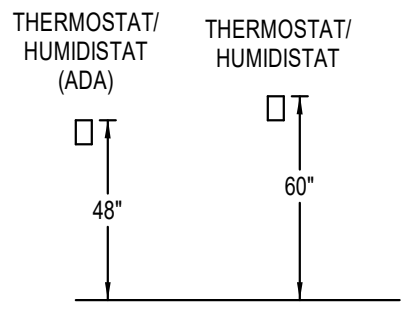
6 AIR-COOLED CONDENSING UNIT - SLAB MOUNTED AT GRADE

NO SCALE



2 PIPE SUPPORT - TYPICAL FOR ALL PIPING

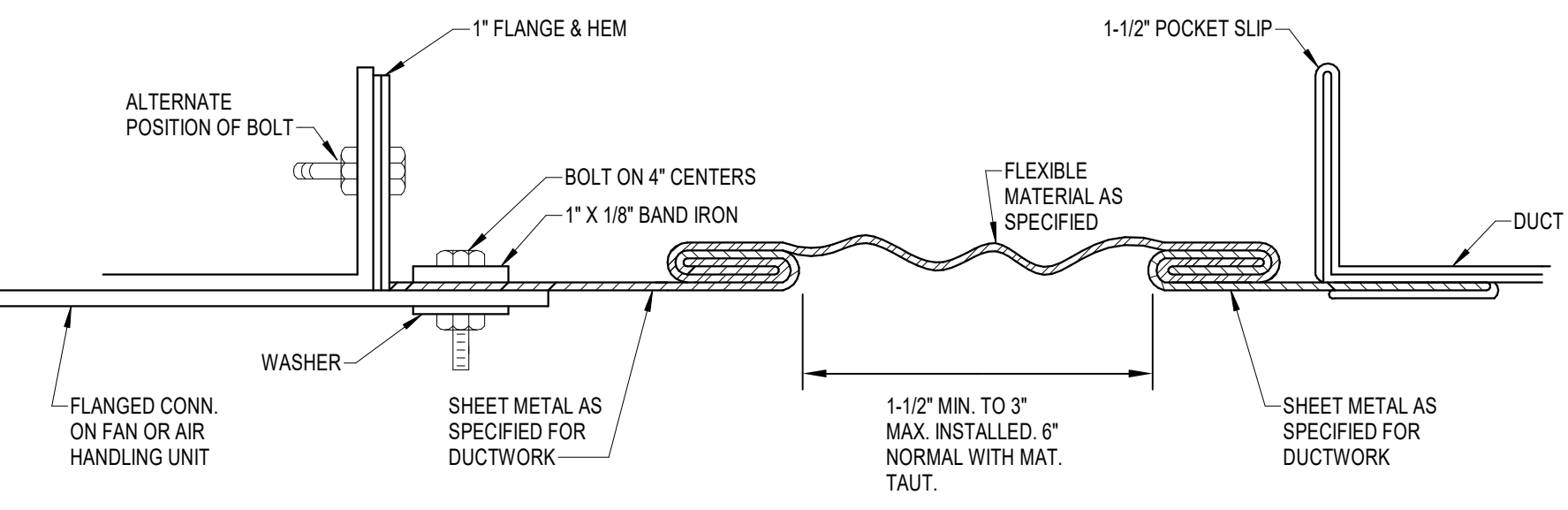
NO SCALE



- A. COORDINATE ELEVATION OF DEVICES WITH ALL ADJACENT DEVICES INCLUDING THOSE WITH OTHER TRADES. ALL DEVICES WHICH HAVE ADA AND NON-ADA HEIGHTS LISTED SHALL BE MOUNTED TO COMPLY WITH ADA EXCEPT WHERE NOTED ON THE PLANS AS NON-ADA.
- B. GROUP DEVICES IN AN ORGANIZED AND UNIFORM MANNER.
- C. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL REQUIREMENTS. WHERE THESE REQUIREMENTS DIFFER FROM THE ARCHITECTURAL PLANS, THE ARCHITECTURAL PLANS SHALL TAKE PRECEDENCE. WHERE DEVICES OR EQUIPMENT ARE SHOWN ON WALLS WHERE THE ARCHITECTURAL ELEVATION INDICATES A SURFACE OTHER THAN THE BASE PAINT FOR THE PROJECT, REQUEST CLARIFICATION ON THE MOUNTING LOCATION OF THE DEVICE OR EQUIPMENT. DEVICES AND EQUIPMENT SHALL NOT BE MOUNTED TO FEATURE WALLS AND WALLS CONSTRUCTED OF MATERIALS OTHER THAN DRYWALL WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
- D. ALL DEVICES SHALL BE COORDINATED SO AS NOT TO INTERRUPT A BACK SPLASH OR MATERIAL TRANSITIONS. REFER TO ARCHITECTURAL ELEVATION TO CONFIRM DEVICE IS NOT LOCATED WITHIN TRANSITION AREA.
- E. PROVIDE BACKING IN WALLS WHERE WALL MOUNTED DEVICES OR EQUIPMENT ARE INSTALLED. REFER TO ARCHITECTURAL SPECIFICATIONS.

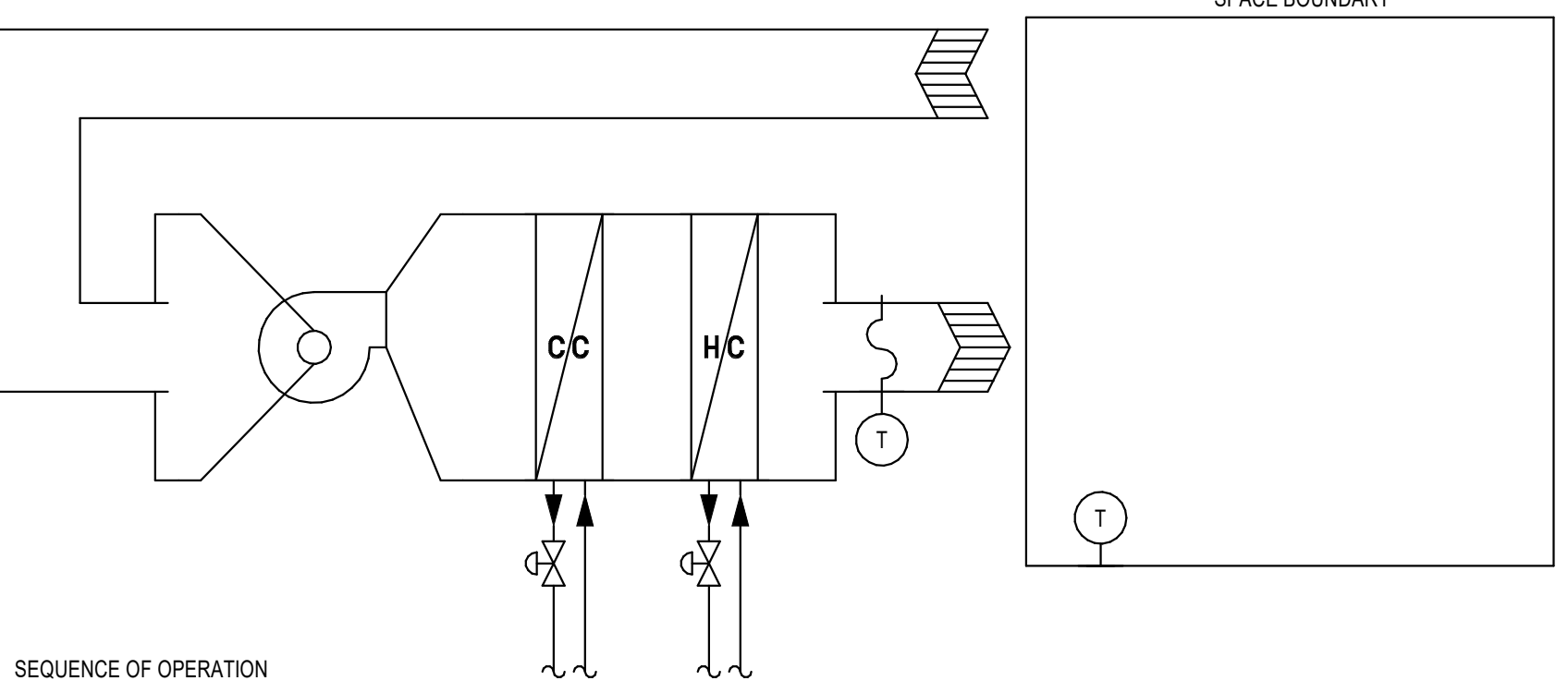
1 MECHANICAL EQUIPMENT MOUNTING HEIGHTS

NO SCALE



5 RECTANGULAR FLEXIBLE CONNECTION

NO SCALE



SEQUENCE OF OPERATION
EACH ZONE HAS A FAN COIL UNIT WITH A HOT WATER HEATING COIL, HEATING COIL CONTROL VALVE, CHILLED WATER COOLING COIL, COOLING COIL CONTROL VALVE, AND DIRECT DIGITAL CONTROLLER. INSTALL A WALL MOUNTED THERMOSTAT TO MAINTAIN A SPACE TEMPERATURE OF 72°F (ADJUSTABLE). SEE DRAWINGS FOR SENSOR REQUIREMENTS.

THE FAN SHALL CYCLE WITH DEMAND. IF THE CURRENT STATUS SWITCH DOES NOT PROVE OPERATION, SEND AN ALARM TO THE OPERATOR INTERFACE.

ON A CALL FOR COOLING, THE COOLING COIL CONTROL VALVE SHALL MODULATE OPEN AND FAN SHALL CYCLE WITH DEMAND UNTIL SETPOINT IS MAINTAINED. THE HEATING COIL CONTROL VALVE SHALL BE CLOSED.

ON A CALL FOR HEATING, THE HEATING COIL CONTROL VALVE SHALL MODULATE OPEN AND FAN SHALL CYCLE WITH DEMAND UNTIL SETPOINT IS MAINTAINED. THE COOLING COIL CONTROL VALVE SHALL BE CLOSED.

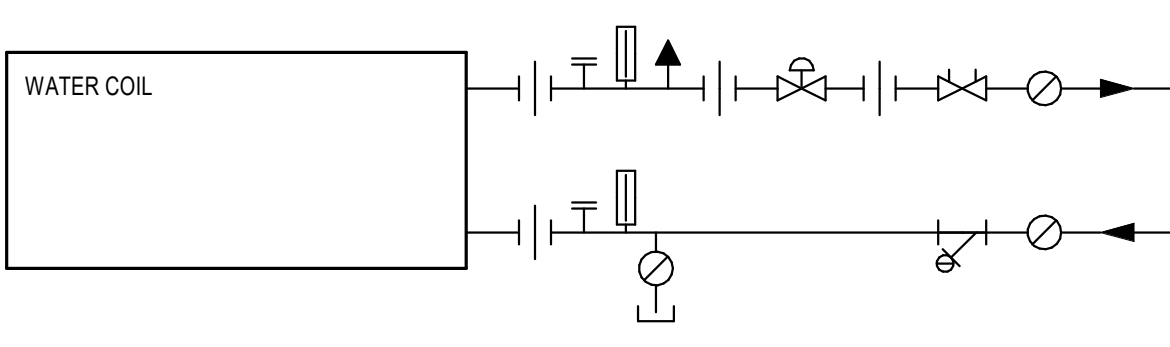
IF SPACE TEMPERATURE FALLS BELOW 55°F (ADJUSTABLE), SEND ALARM TO THE OPERATOR INTERFACE.

GENERAL NOTES

1. FAN COIL UNIT CONTROLLER SHALL HAVE A MINIMUM SERVICE CLEARANCE OF 24 INCHES.
2. MOUNT ALL ROOM SENSORS AT 48" ABOVE FINISHED FLOOR. COORDINATE LOCATION WITH NEARBY DEVICES SUCH AS LIGHT SWITCHES.

4 FAN COIL UNIT CONTROLS

NO SCALE



3 HEATING/CHILLED WATER COIL

NO SCALE

ADDENDUM #1	03/28/2025
Revisions:	Date:

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NOTARY PUBLIC
JAY KLINE KELLY
27578
03/28/2025

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title
MECHANICAL DETAILS AND CONTROLS

Approved:
SEE G001

Phase
CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
REPLACE HVAC VARIOUS BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
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Drawn
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Project Number
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Building Number
02

Drawing Number
M500

SPLIT SYSTEM SCHEDULE																								
MARK	SERVES	NOMINAL CAPACITY [TONS]	TOTAL COOLING CAPACITY [MBH]	INDOOR UNIT				EAT (DB / WB) [°F]	OUTDOOR UNIT				WINTER AMBIENT AIR [°F]	OPERATING WEIGHT [LBS]	ELECTRICAL DATA						MANUFACTURER	MODEL	REMARKS	
				DIMENSIONS [IN]			LENGTH		WIDTH	HEIGHT	DIMENSIONS [IN]				SUMMER AMBIENT AIR [°F]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY				
				LENGTH	WIDTH	HEIGHT					LENGTH	WIDTH												HEIGHT
2-SSAH-13A	13A	3.0	36	46 11/16"	11 5/8"	14 3/8"	80/67	41 5/16"	13"	52 11/16"	95/75	20	46	208 V	1	34	56	DIV 26	5	TRANE	TPK036	(1)(3)		
2-SSCU-13A	SSAH-13A	3.0	36											208 V						TRANE	TRU1A036	(1)(2)(3)		

REMARKS:
1. PERFORMANCE BASED ON CONDITIONS INDICATED IN THIS SCHEDULE.
2. PROVIDE THE FOLLOWING ACCESSORIES: SINGLE POINT POWER CONNECTION, DISCONNECT, HAIL GUARDS, WIND BAFFLES.
3. THIS UNIT SHALL BE A HEAT PUMP SYSTEM.

FAN COIL UNIT SCHEDULE																						
MARK	DIMENSION S (LxWxH) [IN]	AIRFLOW [CFM]	SENSIBLE COOLING CAPACITY [MBH]	TOTAL COOLING CAPACITY	COOLING				HEATING				ELECTRICAL						MIN. SCCR	MANUFACTURER	MODEL	REMARKS
					COOLING FLOW [GPM]	EWT [°F]	LWT [°F]	WPD [FT]	HEATING [MBH]	HEATING FLOW [GPM]	EWT [°F]	LWT [°F]	WPD [FT]	VOLTAGE	PHASE	MCA	MOCP	DISCONNECT BY				
2-AHU-1	31x46x67	3000	86.7	131.4	22.8	42	54	5.7	192	6.8	180	150	1.0	208 V	3	14	25	ELECTRICAL	5	TRANE	BCVE090 (1)(2)(3)(4)(5)(6)(7)(8)(9)	
2-AHU-2	23x30x50	1200	27.9	37	6.5	42	54	2.5	45.4	2.9	180	150	2.5	208 V	3	5.75	15	DIV 26	5	TRANE	BCVE036 (1)(2)(3)(4)(5)(6)(7)(8)(9)	
2-FCU-1A	56x10x25	800	19.3	26.4	4.4	42	54	8.1	11.0	1.1	180	160	0.4	208 V	1	2.25	15	DIV 26	5	TRANE	FCB8080 (1)(5)(6)(7)(8)(9)	
2-FCU-1B	56x10x25	800	19.3	26.4	4.4	42	54	8.1	11.0	1.1	180	160	0.4	208 V	1	2.25	15	DIV 26	5	TRANE	FCB8080 (1)(5)(6)(7)(8)(9)	
2-FCU-2A	56x10x25	800	19.3	26.4	4.4	42	54	8.1	11.0	1.1	180	160	0.4	208 V	1	2.25	15	DIV 26	5	TRANE	FCB8080 (1)(5)(6)(7)(8)(9)	
2-FCU-2B	56x10x25	800	19.3	26.4	4.4	42	54	8.1	11.0	1.1	180	160	0.4	208 V	1	2.25	15	DIV 26	5	TRANE	FCB8080 (1)(5)(6)(7)(8)(9)	

REMARKS:
1. PROVIDE WITH INTEGRAL DISCONNECT.
2. PROVIDE VIBRATION ISOLATION.
3. PROVIDE AUXILIARY DRAIN PAN.
4. PROVIDE CONDENSATE HIGH LIMIT SWITCH.
5. COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.
6. PROVIDE INTEGRAL CONTROL VALVE.
7. PROVIDE WITH POWER SUPPLY. COORDINATE MOUNTING INSIDE ARCHITECTURAL ENCLOSURE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR ACCESS TO ALL COMPONENTS REQUIRING MAINTENANCE.
8. PROVIDE BACKET INTERFACE. UNIT CONTROLS SHALL TIE INTO AND BE CONTROLLED BY EXISTING METASYS SYSTEM.

HVAC PIPING INSULATION SCHEDULE										
PIPING SYSTEM FLUID	TEMP. RANGE DEG. F.	THICKNESS IN INCHES FOR PIPE SIZES THROUGH SIZE LISTED					TYPE	JACKET TYPE (2)	NCIS PLATE NUMBER (1)	REMARKS
		<1	1 - 1.25	1.5 - 3	4 - 6	>= 8				
INDOOR HOT WATER	141-200	1.5	1.5	2	2	2	MF	ASJ-SSL	1-100	(3)
INDOOR HOT WATER	105-140	1	1	1.5	1.5	1.5	MF	ASJ-SSL	1-100	(3)
INDOOR COLD WATER	40-60	0.5	0.5	1	1	1	MF, E	ASJ-SSL	1-100, 1-200	
INDOOR COLD WATER	<40	0.5	1	1	1	1.5	MF, E	ASJ-SSL	1-100, 1-200	
REFRIGERANT	ANY	0.5	1	1	1	NA	E		1-200	(4)
INDOOR CONDENSATE AND EQUIPMENT DRAINS	BELOW 60	0.5	0.5	0.5	0.5	0.5	MF, E	ASJ-SSL	1-100, 1-200	(5)

ABBREVIATIONS: MF = MINERAL FIBER(FIBERGLASS), E = ELASTOMERIC, CG = CELLULAR GLASS

REMARKS:
1. NCIS (NATIONAL COMMERCIAL AND INDUSTRIAL INSULATION STANDARD) PLATE NUMBER REFERENCED ARE PROVIDED TO CLARIFY THE SCOPE OF INSTALLATION. INSTALL INSULATION AND ACCESSORY COMPONENTS PER APPLICABLE NCIS AND MANUFACTURERS RECOMMENDATIONS.
2. "JACKET TYPE" IS FOR INSULATION ONLY. REFER TO SPECIFICATIONS FOR INSTALLATIONS REQUIRING ADDITIONAL FIELD APPLIED JACKETING SUCH AS METAL OR PVC.
3. HOT WATER SYSTEM TEMPERATURES EXCEEDING 200 DEG F TO BE TREATED FOR APPROPRIATE TEMPERATURE RANGE AS LISTED UNDER LPS OR HPS.
4. UNDERGROUND REFRIGERANT PIPING SHALL BE INSULATED AS SPECIFIED FOR ABOVEGROUND PIPING AND INSTALLED IN PVC CONDUIT.
5. INCLUDES AIR CONDITIONING CONDENSATE, P-TRAPS FOR FLOOR DRAINS/SINKS RECEIVING AIR CONDITIONING CONDENSATE OR ICE MAKER DRAIN PIPING, AND SANITARY DRAINAGE PIPING FROM ELECTRIC WATER COOLERS TO MAIN.

DUCT AND PLENUM INSULATION SCHEDULE					
DUCT SYSTEM TYPE	INSULATION		JACKET TYPE (2)	NCIS PLATE NUMBER (1)	REMARKS
	TYPE	INSTALLED R VALUE	MINIMUM DENSITY LBS/FT		
SUPPLY AIR (CONCEALED)	MF BLANKET	6	0.75	FSK	3-100 (3)(4)
RETURN AIR (CONCEALED)	MF BLANKET	6	0.75	FSK	3-100 (3)(4)
SUPPLY AIR RECTANGULAR (EXPOSED)	MF BOARD	6	3.0	FSK	3-120 (3)(4)

ABBREVIATIONS: MF=MINERAL FIBER(FIBERGLASS), E= ELASTOMERIC, PI = POLYISOCYANURATE

REMARKS:
1. NCIS (NATIONAL COMMERCIAL AND INDUSTRIAL INSULATION STANDARD) PLATE NUMBER REFERENCED ARE PROVIDED TO CLARIFY THE SCOPE OF INSTALLATION. INSTALL INSULATION AND ACCESSORY COMPONENTS PER APPLICABLE NCIS AND MANUFACTURERS RECOMMENDATIONS.
2. "JACKET TYPE" IS FOR INSULATION ONLY. REFER TO SPECIFICATIONS FOR INSTALLATIONS REQUIRING ADDITIONAL FIELD APPLIED JACKETING SUCH AS METAL OR PVC.
3. INSULATE FIRE DAMPERS, SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS AS RECOMMENDED BY THE SMACNA FIRE, SMOKE AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC.
4. REFER TO NCIS PLATE 3-600 FOR INSULATION OF TRAPEZE OR ANGLE IRON DUCT SUPPORTS.

COORDINATION OF WORK SCHEDULE				
ITEM	SUPPLIER	INSTALLER	POWER	CONTROL (4)
MOTORS	MC	MC (3)	EC	CC
EQUIPMENT MOUNTED ELECTRICAL COMPONENTS	MC	MC	EC	CC
LOOSE MOUNTED ELECTRICAL COMPONENTS	EC	EC	EC	CC
CONTROL RELAYS, TRANSFORMERS, POWER	MC	EC	EC (4)	CC
120V THERMOSTATS	MC	MC	MC	CC (1)
TEMPERATURE CONTROL SENSORS	MC	MC	CC	CC
TEMPERATURE CONTROL PANELS	MC	CC	EC (4)	CC
VARIABLE SPEED DRIVES	MC	MC	EC	CC
TERMINAL BOX CONTROLS	MC	MC	EC (4)	CC
PEEP SWITCHES, SOLENOID VALVES, ACTUATORS	CC	CC	EC (4)	CC
PUSHBUTTON STATIONS	EC	EC	EC (4)	EC
TIME CLOCKS	EC	EC	EC	EC
FAN COIL UNITS	MC	MC	EC	CC (1)
DX CONDENSING UNITS AND CONDENSERS	MC	MC	EC	CC (1)
SMOKE DAMPERS	MC	MC	EC	EC

REMARKS:
1. IF NO CC IN CONTRACT, MC TO WIRE CONTROLS AND EC TO PIPE CONDUIT.
2. ALL LOW VOLTAGE WIRING OF PANELS TO BE COVERED IN MC BID, WIRING CONTRACTOR TO BE SUBCONTRACTOR TO MC.
3. INSTALLING CONTRACTOR IS RESPONSIBLE FOR FIELD ALIGNMENT SERVICES WHEN REQUIRED BY COMMON MOTOR REQUIREMENTS SPECIFICATION OR BY INDIVIDUAL EQUIPMENT SPECIFICATIONS.
4. ALL HARDWARE, SOFTWARE, EQUIPMENT, ACCESSORIES, WIRING (POWER AND SENSOR), PIPING, RELAYS, SENSORS, POWER SUPPLIES, TRANSFORMERS, AND INSTRUMENTATION REQUIRED FOR A COMPLETE AND OPERATIONAL DDC SYSTEM, BUT NOT SHOWN ON THE ELECTRICAL DRAWINGS, ARE THE RESPONSIBILITY OF THE CC.

ADDENDUM #1	03/28/2025
Revisions:	Date:

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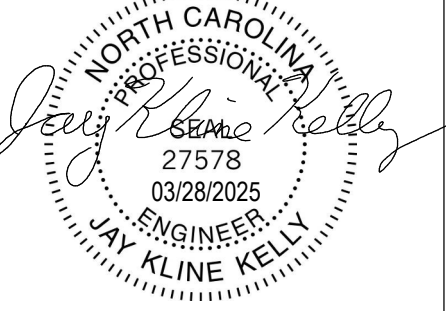
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Drawing Title

MECHANICAL SCHEDULES

Approved:

SEE G001

Phase

CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title

REPLACE HVAC VARIOUS
BUILDINGS

Location
3701 Loop Road, Tuscaloosa, AL 35404

Issue Date
04/26/2023

Checked
AGT

Drawn
PCM

Project Number
679.22.106

Building Number
02

Drawing Number
M600

A-101

A

B

C

D

E

F

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BM 360 (2/2017.001) - VA Tuscaloosa Replace HVAC Various Building 646.dwg ARCH_ATRIAX_521.rvt

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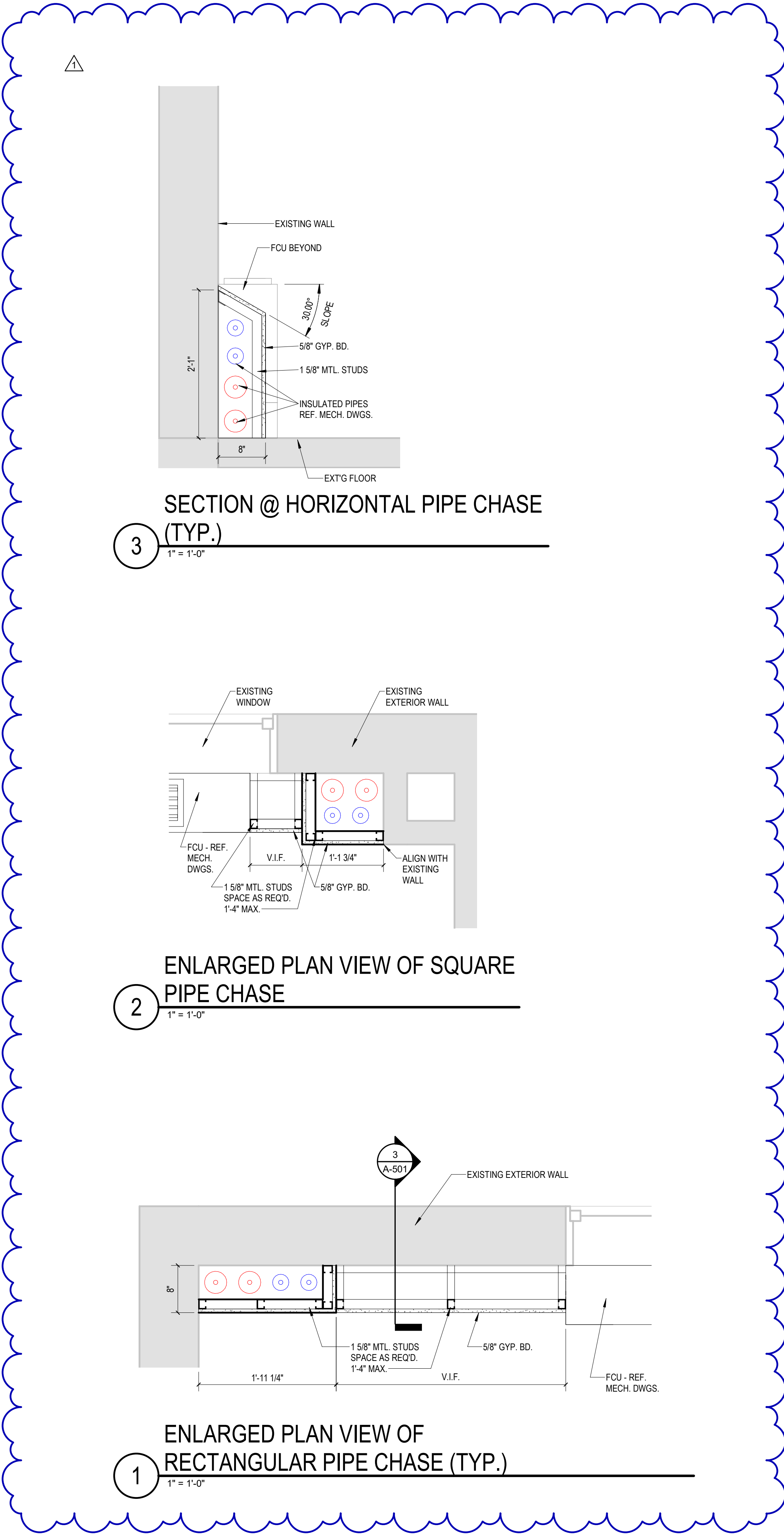
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1	ADDENDUM #1	3/28/2025
#	Revisions:	Date:

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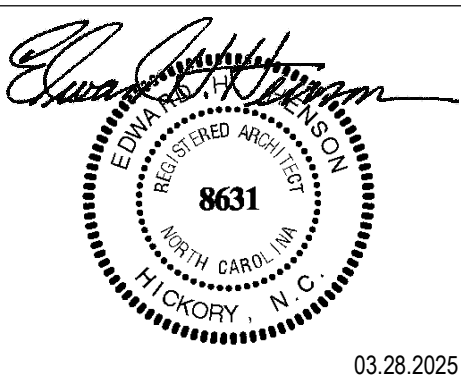


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Drawing Title

DETAILS

Approved:

Approver

Phase

CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title

VA TUSCALOOSA REPLACE
HVAC, VARIOUS BUILDINGS

Location

3701 Loop Road East, Tuscaloosa, AL 35404

Issue Date

04/26/2023

Checked

EHH

Drawn

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Project Number

679.22.106





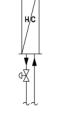

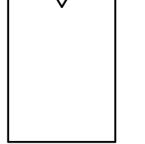
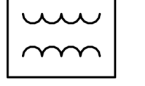
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







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
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
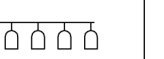

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ELECTRICAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
#*	MOUNTING HEIGHT TO CENTERLINE (ABOVE FINISHED FLOOR)
A	AMPERE
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
AT	AMPERE TRIP
C	CEILING
CB	CIRCUIT BREAKER
CCT	CORRELATED COLOR TEMPERATURE
CU	COPPER
D	DATA (WHEN APPLIED TO COMMUNICATIONS OUTLET)
D	DEMO (WHEN APPLIED TO EXISTING/DEMO ITEMS)
E	EXISTING
EO	ELECTRICALLY OPERATED
ERMS	ENERGY REDUCING MAINTENANCE SWITCH
F	FUSE
FLA	FULL LOAD AMPS
G, GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFA	GROUND FAULT ALARM
GFP	GROUND FAULT PROTECTION
HP	HORSEPOWER
KAIC	KILOAMPERE INTERRUPTING CAPACITY
KVA	KILOVOLT AMPERE
KW	KILOWATT
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MO	MANUALLY OPERATED
NC	NORMALLY CLOSED
NF	NON-FUSED
NC	NOT IN CONTRACT
NO	NORMALLY OPEN
P	POLES
PART	PARTIAL
R	RELOCATE
SCCR	SHORT CIRCUIT CURRENT RATING
SPD	SURGE PROTECTIVE DEVICE
ST	SHUNT TRIP
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOICE
W	WALL PHONE
W	WIRE
WR	WEATHER RESISTANT
XFMR	TRANSFORMER
ZSI	ZONE SELECTIVE INTERLOCKING
REFER TO OTHER SCHEDULES AND NOTES FOR ADDITIONAL ABBREVIATIONS.	

ONE LINE SYMBOL	
PLAN SYMBOL	NAME
	CIRCUIT BREAKER
	CONTINUATION
	GROUND BAR
	GROUNDING ELECTRODE
	HEATING COIL WITH TWO-WAY CONTROL VALVE
	MOTOR STARTER
	PANEL BOARD
	TRANSFORMER

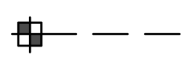
ELECTRICAL MISC SYMBOLS	
PLAN SYMBOL	NAME
	BRANCH CIRCUIT CONCEALED IN CEILING OR WALL
	BRANCH CIRCUIT CONCEALED IN FLOOR OR BELOW GRADE
	CLEARANCE SPACE
	CONDUIT BREAK
	CONDUIT DOWN
	CONDUIT STUB-OUT
	CONDUIT UP
	HOME RUN TO PANEL G = GFCI CIRCUIT (PART) = PARTIAL CIRCUIT
	SWITCHED RECEPTACLE

LIGHTING DEVICE SYMBOLS	
PLAN SYMBOL	NAME
	SWITCH - 3 WAY

LIGHTING FIXTURE SYMBOLS	
PLAN SYMBOL	NAME
	EMERGENCY HATCH
	EXIT SIGN - WALL
	PENDANT - SMALL CONE
	TRACK LIGHTING
	WALL SCONCE FIXTURE

ELECTRICAL GENERAL NOTES:


- (GENERAL NOTES SHALL APPLY TO ALL SHEETS)
- A. BRANCH CIRCUITS WITH A TOTAL LENGTH LONGER THAN 75' SHALL UTILIZE #10 AWG CONDUCTORS. RECEPTACLE BRANCH CIRCUITS WITH A TOTAL LENGTH LONGER THAN 150' SHALL UTILIZE #8 AWG CONDUCTORS.
- B. FOR ALL CONDUIT AND OTHER ITEMS PENETRATING A FIRE RATED WALL, PROVIDE UL LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL CONSTRUCTION ASSEMBLY AND COMPLIANT WITH ASTM E814. INSTALL SYSTEM IN STRICT COMPLIANCE WITH THE FIRE STOPPING MANUFACTURER'S U.L. APPROVED DETAIL. WHERE EXISTING WALLS ARE BEING UPGRADED TO FIRE RATED WALLS OR THE FIRE RATING IS BEING MODIFIED, PROVIDE U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM FOR ALL NEW AND EXISTING PENETRATIONS. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR LOCATIONS OF FIRE RATED WALLS.
- C. ANY ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
- D. NEW WIRING DEVICES AND ASSOCIATED COVERPLATES SHALL MATCH EXISTING FINISH OF SIMILAR INSTALLED DEVICES.
- E. THE SELECTED EQUIPMENT AIC RATINGS ARE BASED ON THE IMPEDANCES FOR CONDUCTORS AND TRANSFORMERS USED IN THE CALCULATIONS. IF DIFFERENT EQUIPMENT OR DIFFERENT CONFIGURATIONS ARE SELECTED FOR INSTALLATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATELY RATED EQUIPMENT THAT MEETS APPLICABLE SELECTIVE COORDINATION GOALS AND PROVIDES SIMILAR INCIDENT ENERGY RISK OF ARC FLASH HAZARDS.
- F. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO INDEPENDENTLY SUPPORT ALL EXISTING TO REMAIN CABLING.

FIRE ALARM SYMBOL LEGEND		
PLAN SYMBOL	NAME	DESCRIPTION
	DETECTOR - SYSTEM DUCT SMOKE DETECTOR	PROVIDE SYSTEM DUCT SMOKE DETECTOR IN ACCESSIBLE LOCATION. PROVIDE REMOTE STATUS INDICATOR AND TEST STATION AND COORDINATE ASSOCIATED MOUNTING LOCATION WITH OWNER.

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ADDENDUM #1	03/28/2025
Revisions:	Date:


ARCHITECT/ENGINEER OF RECORD



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Office of
Construction
and Facilities
Management

 U.S. Department of
Veterans Affairs

Drawing Title

ELECTRICAL SYMBOLS AND
ABBREVIATIONS

Approved:
SEE G001

Phase

CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title

REPLACE HVAC VARIOUS
BUILDINGS

Location
3701 Loop Road East
Tuscaloosa, AL 35404-5099
Issue Date
04/26/2023

Checked
CGH

Drawn
SUB

Project Number

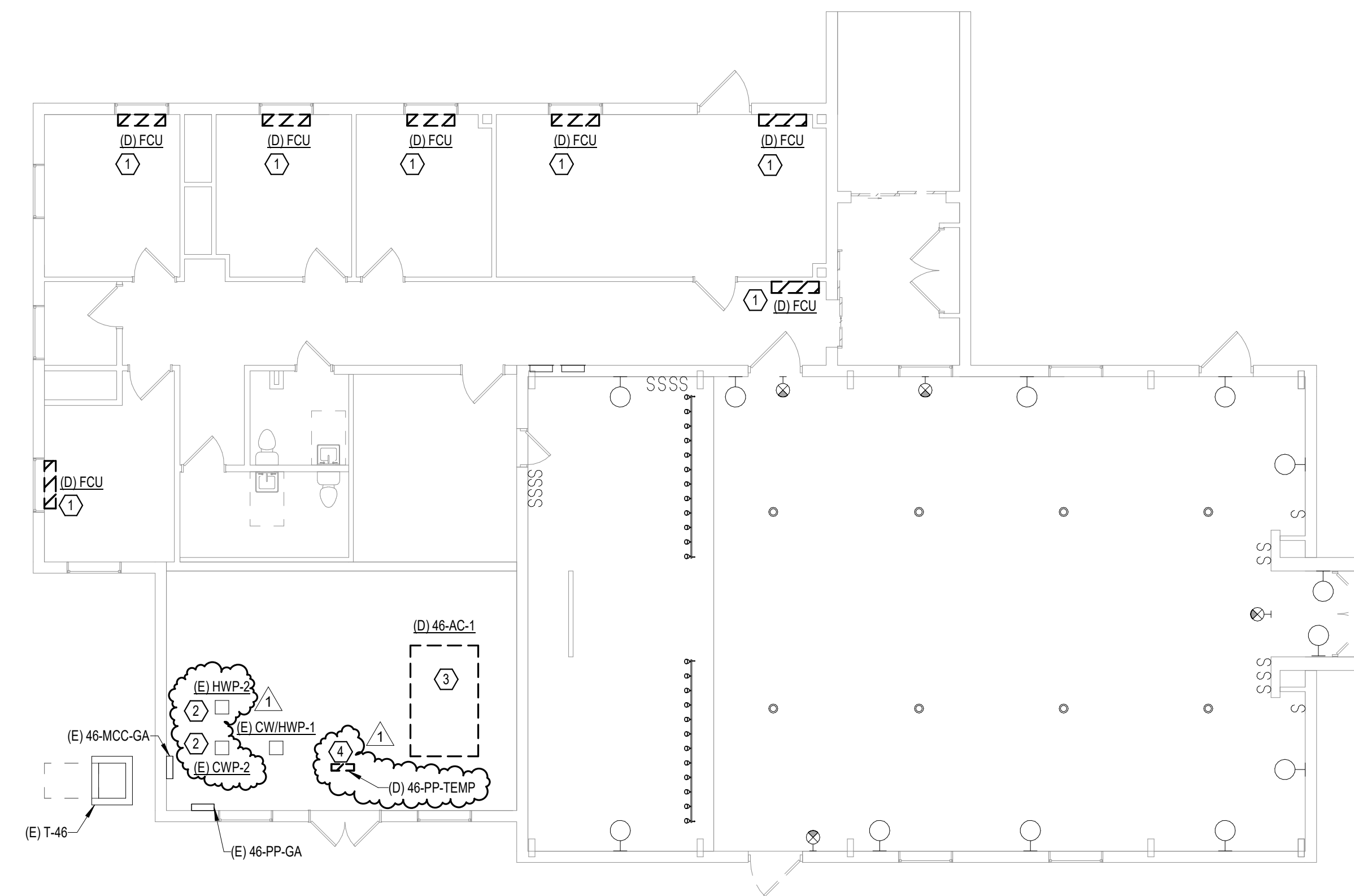
679-22-106

Building Number
46

Drawing Number
E000

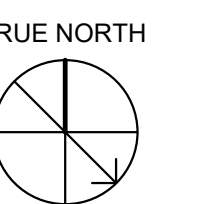
FOR OFFICIAL USE ONLY (FOUO)

1. EXISTING FAN COIL UNIT (FCU) TO BE REPLACED. DISCONNECT FAN COIL UNIT AND DEMO CONDUCTORS BACK TO SOURCE PANEL. RETAIN EXISTING CONDUIT FROM FAN COIL TO SOURCE PANEL FOR REUSE.
2. EXISTING PUMPS TO BE CONNECTED TO NEW BREAKERS IN PANEL (E) 46-MCC-9A PRIOR TO DEMO OF EXISTING PANEL 46-PP-TEMP.
3. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT BACK TO SOURCE. LABEL EXISTING CIRCUIT BREAKER PREVIOUSLY SERVING THIS UNIT AS SPARE.
4. DEMO ELECTRICAL EQUIPMENT FEEDER FROM PANEL BACK TO EXISTING PAD MOUNTED UTILITY TRANSFORMER. REFER TO ONE LINE DIAGRAM ZEP101.



0 4' 8' 12'

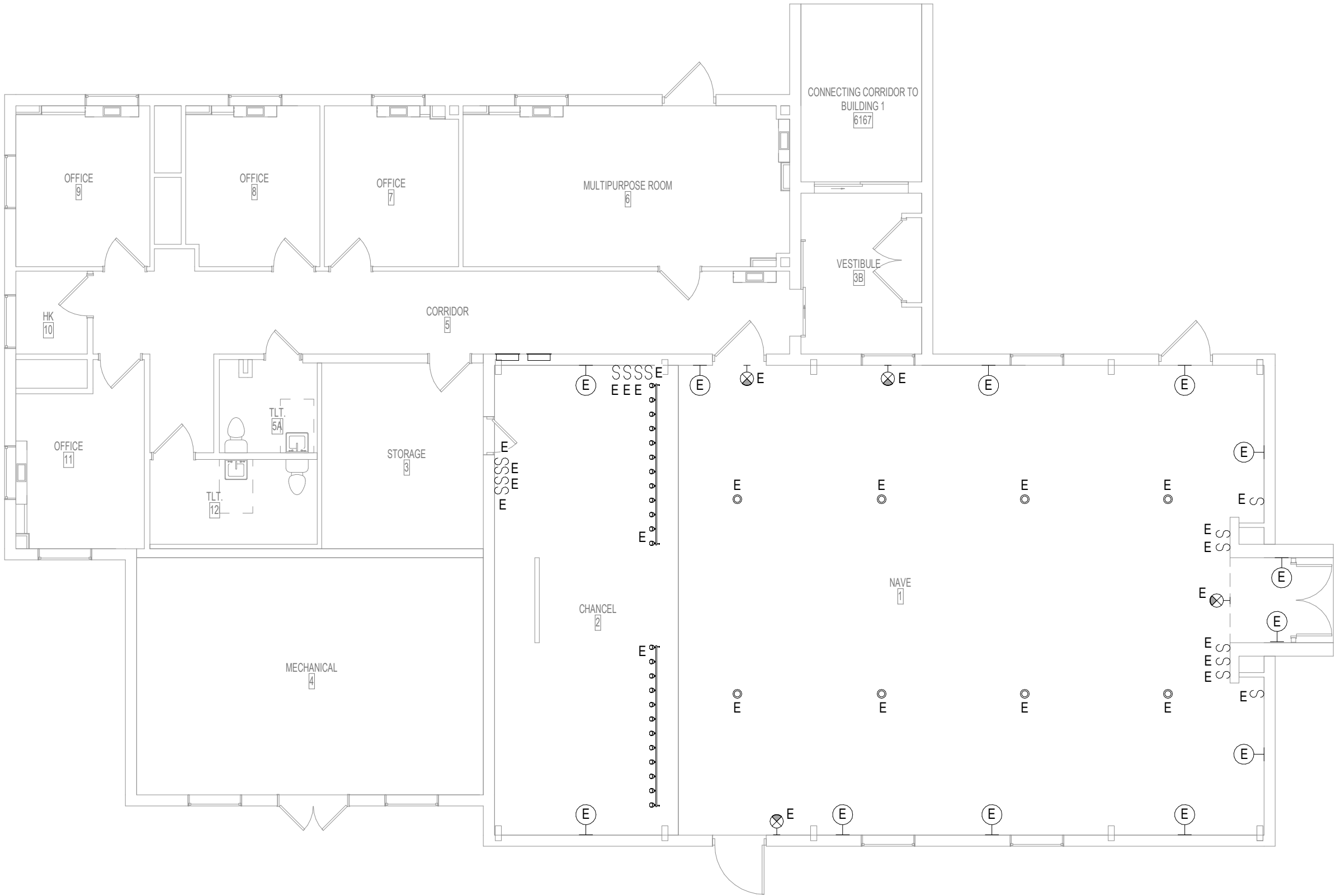
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Project Title REPLACE HVAC VARIOUS BUILDINGS				Project Number 679-22-106	
Location 3701 Loop Road East Tuscaloosa, AL 35404-5099				Building Number 46	
				Drawing Number	
Issue Date 04/26/2023		Checked CGH	Drawn SUB	ED101	

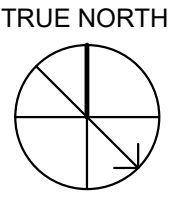
LIGHTING GENERAL NOTES:
(LIGHTING GENERAL NOTES SHALL APPLY TO ALL SHEETS)
A. LIGHTING CONTROL DEVICES ARE INDICATED WITHOUT CONNECTION TO FIXTURE(S) BEING CONTROLLED. WITHIN EACH AREA, CONNECT CONTROL DEVICE TO SERVE LIGHT FIXTURE(S) LOCATED WITHIN SAME AREA. WHERE LIGHT FIXTURES ARE INDICATED WITH A SUBSCRIPT LETTER IDENTIFYING INDIVIDUAL LIGHTING CONTROL ZONES, CONTROL DEVICE SERVING AREA WITH MATCHING SUBSCRIPT SHALL CONTROL CORRESPONDING LIGHT FIXTURES.
B. SWITCHES SERVING UNDERCABINET TASK LIGHTING SHALL MATCH RECEPTACLE HEIGHT ABOVE COUNTER.
C. LIGHTING CONTROL DEVICE MOUNTING HEIGHTS ARE NOT INDICATED ON ELECTRICAL FLOOR PLANS. CONTRACTOR SHALL COORDINATE EXACT DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL INTERIOR ELEVATIONS. WHERE DEVICE MOUNTING HEIGHTS ARE NOT INDICATED PER ARCHITECT, MOUNT DEVICES AT HEIGHT INDICATED IN ELECTRICAL PROJECT SPECIFICATIONS.
D. CONTRACTOR SHALL COORDINATE ALL LIGHTING CONTROL DEVICE ROUGH-IN LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS TO ASSURE COMPATIBILITY WITH FINISHES SPECIFIED ON THE ARCHITECTURAL DRAWINGS. COORDINATE ROUTING OF ALL ELECTRICAL BRANCH CIRCUITS AND CONDUIT WITH OTHER TRADES TO ALLOW FOR SERVICE AND MAINTENANCE AND TO MINIMIZE THE USE OF ACCESS PANELS. WHERE ACCESS PANELS CANNOT BE AVOIDED, WORK TO INSTALL PANELS IN LOCATIONS ACCEPTABLE TO ARCHITECT.
E. FIXTURES DESIGNATED [24V] [LS]1 AND EXIT LIGHTS SHALL BE SERVED FROM A [COMMON] 20A [120V] [277V] LIFE SAFETY BRANCH CIRCUIT (WITHIN PANEL [CENTRAL BATTERY INVERTER BRANCH CIRCUIT]) [FIXTURES DESIGNATED '24' AND EXIT LIGHTS SHALL BE ILLUMINATED 24 HOURS. FIXTURES DESIGNATED 'LS' SHALL BE SWITCHED BY CONTROLS INDICATED. PROVIDE EMERGENCY LIGHTING CONTROL RELAYS PER SPECIFICATIONS FOR EMERGENCY LIGHTING OVERRIDE. REFER TO MANUFACTURER'S WIRING DIAGRAMS FOR INSTALLATION INSTRUCTIONS.] [BRANCH CIRCUITS SHALL BE DISTRIBUTED AS FOLLOWS:
• FLOOR A, AREA A (LIFE SAFETY PANEL CIRCUIT NUMBER)
• REPEAT AS NEEDED)
F. REFER TO DETAILS, SCHEDULES, AND SYMBOL LEGENDS FOR ADDITIONAL REQUIREMENTS.

SHEET NOTES:
1. XXX



1 01-FIRST FLOOR - LIGHTING
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0"



WALL RATING LEGEND	
---	FIRE WALL
- - - - -	SMOKE WALL

INSTALL GREEN INSULATED GROUND WIRE WITH LIGHTING RECEPTACLE AND EQUIPMENT BRANCH CIRCUITS.
INSTALL INDIVIDUAL (DEDICATED) NEUTRAL CONDUCTORS FOR EACH 120V OR 277V PHASE CONDUCTOR SERVED FROM A SINGLE POLE CIRCUIT BREAKER

Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD



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NC Architectural License No.: 51254

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Office of Construction and Facilities Management

 U.S. Department of Veterans Affairs

Drawing Title

FLOOR PLAN - LIGHTING

Approved:

SEE G001

Phase

CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title

REPLACE HVAC VARIOUS BUILDINGS

Location

3701 Loop Road East
Tuscaloosa, AL 35404-5099

Issue Date

04/26/2023

Checked

CSH

Drawn

SUB

Project Number

679-22-106

Building Number

46

Drawing Number

EL101

GENERAL MECHANICAL SYMBOLS		
SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
	SHEET NOTE	DENOTES SPECIFIC REQUIREMENT FOR THE SHEET ON WHICH THE NOTE APPEARS AND IS USED TO DESCRIBE WORK THAT IS TOO LENGTHY TO PLACE ON PLAN.
	PIPING - SOLID LINE INDICATES SYSTEM SUPPLY - DASHED LINE INDICATES SYSTEM RETURN	NUMBER INDICATES NOMINAL DIAMETER IN INCHES. LETTERS INDICATES SYSTEM. REFER TO ABBREVIATIONS FOR SYSTEM TYPE.
	DIAMETER	
	DENOTES CONNECTION OF NEW WORK TO EXISTING SYSTEM	PROTECT EXISTING SYSTEM FROM ENTRANCE OF FOREIGN DEBRIS DURING WORK.
	ARROW INDICATES DIRECTION OF FLOW IN PIPING	
	ARROW INDICATES DOWNWARD PIPE SLOPE ## INDICATES SLOPE IN INCHES PER FOOT	WHERE PIPING IS NOT MARKED, REFER TO SPECIFICATIONS FOR REQUIREMENTS
	ISOLATION VALVE	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	CHECK VALVE OR BACKWATER VALVE ARROW INDICATES DIRECTION OF NORMAL FLOW	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	PIPE IN SLEEVE	REFER TO SPECIFICATIONS FOR TYPE BASED ON SIZE AND SYSTEM
	AUTOMATIC FLOW CONTROL VALVE # INDICATES FLOW TO BE BALANCED IN GPM	REF. TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	ELBOW UP ELBOW DOWN	
	TEE UP TEE DOWN TEE HORIZONTAL	
	PIPE REDUCER	INDICATES POINT WHERE PIPING CHANGES FROM ONE SIZE TO ANOTHER. SMALL POINT OF ARROW INDICATES SMALLER SIZE SIDE OF TRANSITION.
	UNION	
	Y STRAINER WITH BLOWDOWN	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	Y STRAINER	
	PRESSURE GAUGE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	PRESSURE GAUGE STEAM	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	THERMOMETER - HORIZONTAL PIPE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	THERMOMETER - VERTICAL PIPE	REFER TO SPECIFICATIONS FOR TYPE AND ACCESSORIES
	REQUIRED SERVICE CLEARANCE FOR EQUIPMENT	
	DUCT CONTINUATION	
	AIR VENT	
	BACKFLOW PREVENTER	
	CALIBRATED BALANCING VALVE	
	VALVE - THROTTLING SERVICE	
	VALVE - SHUTOFF SERVICE	
	PIT PORT	
	PIPE CAP	
	PIPE CONTINUATION	
	PRESSURE REDUCING VALVE	
	PUMP	
	RELIEF VALVE	
	SENSOR	
	SUCTION DIFFUSER	
	VACUUM BREAKER	
	STEAM TRAP	

GENERAL ABBREVIATIONS			
NOT ALL ABBREVIATIONS APPLY TO THIS SET OF DOCUMENTS			
ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AD	ACCESS DOOR/PANEL	LF	LINEAR FEET
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AMB	AMBIENT	MC	MECHANICAL CONTRACTOR
BOB	BOTTOM OF BEAM	MFR	MANUFACTURER
CC	CONTROLS CONTRACTOR	MIN	MINIMUM
DA	DIAMETER	NIC	NOT IN CONTRACT
DN	DOWN	NTS	NOT TO SCALE
D	DEMOLISH	PC	PLUMBING CONTRACTOR
E	EXISTING	PSIG	POUNDS PER SQUARE INCH GAUGE
EC	ELECTRICAL CONTRACTOR	RPM	REVOLUTIONS PER MINUTE
EFF	EFFICIENCY	SHT	SHEET
FFM	FEET PER MINUTE	TOB	TOP OF BEAM
FPS	FEET PER SECOND	TOS	TOP OF STEEL
GC	GENERAL CONTRACTOR	VEL	VELOCITY
GPM	GALLONS PER MINUTE	VFD	VARIABLE FREQUENCY DRIVE
L	LENGTH		

TEMPERATURE CONTROL SYMBOLS		
SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
	WALL MOUNTED CONTROL DEVICE # INDICATES TYPE	REFER TO MOUNTING HEIGHTS DETAIL FOR MOUNTING ELEVATION. T = THERMOSTAT H = HUMIDISTAT S = SENSOR (CARBON MONOXIDE, ETC.)
	OCCUPANCY SENSOR	REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION. WHEN SENSOR IS NOT SHOWN ON ELECTRICAL DRAWINGS IT SHALL BE PROVIDED AND INSTALLED BY THE TEMPERATURE CONTROLS CONTRACTOR.
	DUCT, PIPE, OR CEILING MOUNTED CONTROL SENSOR	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. T = THERMOSTAT H = HUMIDISTAT S = SENSOR (CARBON DIOXIDE, ETC.)
	CONTROL VALVE (3-WAY)	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	CONTROL VALVE (2-WAY)	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	PRESSURE/TEMPERATURE TEST PORT	
	FLOW MEASURING STATION	REFER TO SPECIFICATIONS FOR TYPE. REFER TO SEQUENCES AND SCHEMATICS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	FLOW SWITCH	

HVAC SYMBOLS		
SYMBOL	DESCRIPTION	ADDITIONAL REMARKS
	RECTANGULAR DUCTWORK W = DIMENSION IN VIEW (INCHES) H = DIMENSION PERPENDICULAR TO VIEW (INCHES)	REFER TO DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	ROUND DUCTWORK D = DUCT DIAMETER	REFER TO DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	FLAT OVAL DUCTWORK W = DIMENSION IN VIEW (INCHES) H = DIMENSION PERPENDICULAR TO VIEW (INCHES)	REFER TO DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	TURNING VANES	REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	DUCT CROSS SECTION - SUPPLY DUCT CROSS SECTION - RETURN DUCT CROSS SECTION - EXHAUST	CROSS SECTION INDICATES DUCT EXTENDING PERPENDICULAR TO THE PAGE. IN PLAN VIEW THIS INDICATES A DUCT RISE OR DROP TO ANOTHER LEVEL. SOLID FILLED REGION INDICATE EXTENSION UP. NO FILLED REGION INDICATES EXTENSION DOWN.
	MANUAL BALANCE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE MANUAL BALANCE DAMPERS IN AN ACCESSIBLE LOCATION AND AS CLOSE TO THE MAIN DUCT AS POSSIBLE.
	CONTROL DAMPER	DAMPER SHALL BE SAME SIZE AS DUCT UNLESS NOTED OTHERWISE. REFER TO SEQUENCES, SCHEMATICS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
	FIRE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	SMOKE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	FIRE/SMOKE DAMPER	REFER TO SPECIFICATIONS FOR TYPE. LOCATE DAMPERS IN AN ACCESSIBLE LOCATION AND PROVIDE ACCESS DOORS/PANELS IN DUCT AND CEILING/WALL.
	DIFFUSER	
	DIFFUSER BLANK OFF	SHADED AREA INDICATES QUADRANT OF DIFFUSER TO BE PROVIDED WITH BLANK OFF PANEL.
	RETURN GRILLE	
	EXHAUST GRILLE	
	WALL REGISTER / GRILLE	
	DUCT MOUNTED REGISTER / GRILLE	
	LINEAR SLOT	
	TRANSFER AIR ARROW ### = AIRFLOW IN CFM	ARROW INDICATES DIRECTION OF TRANSFER AIR.
	FLOW ARROW	ARROW INDICATES DIRECTION OF AIRFLOW FROM DIFFUSERS WITH ADJUSTABLE THROWS.
	DIFFUSER TAG D = TYPE # = TYPE NUMBER ### = AIRFLOW IN CFM	REFER TO DIFFUSER SCHEDULE FOR TYPE DESCRIPTIONS AND SIZING. BALANCE TO AIRFLOW LISTED. WHEN TYPE IS NOT GIVEN AND ONLY CFM IS DESIGNATED, PROVIDE D1 FOR SUPPLY OR G1 FOR RETURN/EXHAUST.
	FLEXIBLE DUCT	REFER TO SPECIFICATIONS FOR TYPE. REFER TO DETAILS FOR INSTALLATION REQUIREMENTS. MAXIMUM LENGTH SHALL BE 48 INCHES UNLESS NOTED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS.
	FLEXIBLE PIPING	REFER TO SPECIFICATIONS FOR TYPE.
	VARIABLE AIR VOLUME BOX - NO COIL	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VARIABLE AIR VOLUME BOX - HOT WATER COIL	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VARIABLE AIR VOLUME BOX - ELECTRIC COIL	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VARIABLE AIR VOLUME BOX - DUAL DUCT	REFER TO SCHEDULE, DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.
	VAV BOX TAG # = REFERENCE NUMBER IN SCHEDULE ### = AIRFLOW IN CFM	REFER TO VARIABLE VOLUME BOX SCHEDULE FOR TYPES AND SIZING. AIRFLOW LISTED IS NOMINAL DESIGN CFM AND GPM. FINAL VALUES ARE TO BE DETERMINED BY TESTING AND BALANCING CONTRACTOR AND PROGRAMMED BY CONTROLS CONTRACTOR.
	VAV BOX TAG # = REFERENCE NUMBER IN SCHEDULE ## = WATER FLOW RATE IN GPM	REFER TO VARIABLE VOLUME BOX SCHEDULE FOR TYPES AND SIZING. AIRFLOW LISTED IS NOMINAL DESIGN CFM AND GPM. FINAL VALUES ARE TO BE DETERMINED BY TESTING AND BALANCING CONTRACTOR AND PROGRAMMED BY CONTROLS CONTRACTOR.

HVAC ABBREVIATIONS			
NOT ALL ABBREVIATIONS APPLY TO THIS SET OF DOCUMENTS			
ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AB	AIR BLENDER	HP	HORSEPOWER
AC	AIR CONDITIONING UNIT (SPLIT SYSTEM INDOOR UNIT)	HPC	HIGH PRESSURE STEAM CONDENSATE
AHU	AIR HANDLING UNIT	HPS	HIGH PRESSURE STEAM SUPPLY (66 PSIG AND ABOVE)
BFU	BOILER FEED UNIT	HRC	HEAT RECOVERY CHILLER
BLR	BOILER	HUM	HUMIDIFIER
CAV	CONSTANT AIR VOLUME BOX	HWR	HEATING HOT WATER RETURN
CH	CHILLING COIL	HWS	HEATING HOT WATER SUPPLY
CD	CONDENSATE DRAIN	LPC	LOW PRESSURE STEAM CONDENSATE
CFM	CUBIC FEET PER MINUTE	LPS	LOW PRESSURE STEAM SUPPLY (0-12 PSIG)
CH	CHILLER	LVT	LOUVER
CP	CONDENSATE PUMP	LW	LEAVING WATER TEMPERATURE
CR	CONDENSER WATER RETURN	MBH	BTU (1000'S)
CS	CONDENSER WATER SUPPLY	MD	MANUAL DAMPER
CT	COOLING TOWER	MOD	MOTOR OPERATED DAMPER
CU	CONDENSING UNIT	MPC	MEDIUM PRESSURE STEAM CONDENSATE
CJH	CABINET UNIT HEATER	MPS	MEDIUM PRESSURE STEAM SUPPLY (15-85 PSIG)
CWR	CHILLED WATER RETURN	NC	NORMALLY CLOSED, NOISE CRITERIA
CWS	CHILLED WATER SUPPLY	NO	NORMALLY OPEN, NUMBER
DF	DIFFUSER	OA	OUTDOOR AIR
D	DUAL DUCT	P	PUMP
DX	DIRECT EXPANSION	PC	PUMPED CONDENSATE
EA	EXHAUST AIR	PRV	PRESSURE REDUCING VALVE
EAT	ENTERING AIR TEMPERATURE	PSV	PUMPED STEAM CONDENSATE
EF	EXHAUST FAN	R	REGISTER
EFF	EFFICIENCY	RA	RETURN AIR
ERC	ENERGY RECOVERY COIL	REL	RELIEF AIR
ERW	ENERGY RECOVERY WHEEL	REFL	REFRIGERANT DX LIQUID
ET	EXPANSION TANK	REFS	REFRIGERANT DX SUCTION GAS
EWI	ENTERING WATER TEMPERATURE	RF	RETURN FAN
FB	FILTER BANK (CONSISTING OF ONE OR MORE FILTERS)	RH	RELATIVE HUMIDITY
FCU	FAN COIL UNIT	RU	ROOF TOP UNIT
FMS	FLOW MEASURING STATION	SA	SUPPLY AIR
FOR	FUEL OIL RETURN	SD	SMOKE DAMPER
FOS	FUEL OIL SUPPLY	ST	SUPPLY FAN
FOV	FUEL OIL VENT	SP	STATIC PRESSURE
FRD	FIRE DAMPER	STEM	STEAM
FSD	FIRE SMOKE DAMPER	TEMP	TEMPERATURE
FTR	FINNED TUBE RADIATOR	TR	TRANSFER
G	GRILLE	UH	UNIT HEATER
GCWR	GLYCOL CHILLED WATER RETURN	UV	VARIABLE AIR VOLUME BOX
GCHWS	GLYCOL CHILLED WATER SUPPLY	VTR	VENT THROUGH ROOF
GE	GRAVITY EXHAUST	WB	WET BULB TEMPERATURE
GHW	GLYCOL HEATING HOT WATER RETURN	WC	WATER COLUMN
GHW	GLYCOL HEATING HOT WATER SUPPLY	WPD	WATER PRESSURE DROP
GI	GRAVITY INTAKE	WSHR	WATER SOURCE HEAT PUMP RETURN
HC	HEATING COIL	WSHS	WATER SOURCE HEAT PUMP SUPPLY

MECHANICAL GENERAL NOTES:

- THESE NOTES APPLY TO ALL SHEETS CONTAINING HVAC, PIPING, AND TEMPERATURE CONTROLS WORK. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. WHERE A DISCREPANCY EXISTS BETWEEN THESE PLANS AND THE PROJECT SPECIFICATIONS, THE SPECIFICATION REQUIREMENTS SHALL TAKE PRECEDENCE OVER THE DRAWINGS.
- VERIFY THE EXISTING CONDITIONS AT THE PROJECT SITE BEFORE SUBMITTING COST PROPOSAL. BE ADVISED THAT LOCATIONS SHOWN ARE APPROXIMATE. AN ATTEMPT HAS BEEN MADE TO SHOW ALL PIPING, FIXTURES, DUCTWORK, AND OUTLETS. CONTRACTOR SHALL VISIT THE SITE TO VERIFY COMPONENTS, LOCATIONS AND SIZES SHOWN OR NOT SHOWN. ALL COMPONENTS NEED TO BE REMOVED IN THE DEMOLITION AREA UNLESS NOTED ON THE DRAWINGS. IF DEVIATION BETWEEN EXISTING CONDITIONS AND NEW WORK IS FOUND, CONTRACTOR SHALL NOTIFY ENGINEER.
- IT IS MANDATORY THAT THE EXISTING BUILDING REMAIN IN CONTINUOUS AND NON-INTERRUPTED OPERATION DURING THE CONSTRUCTION OF THE ADDITIONS AND REMODELING/ALTERATION OF THE EXISTING BUILDING. SERVICES TO THE EXISTING BUILDING SHALL BE KEPT ON CONTINUOUS OPERATION EXCEPT DURING SCHEDULED SHUTDOWNS FOR EXTENSION OR MODIFICATION. PLAN TO COMPLETE SHUTDOWNS DURING OFF HOURS TO MINIMIZE IMPACT TO THE OWNER. COORDINATE SHUTDOWNS WITH THE OWNER A MINIMUM OF 14 DAYS PRIOR TO WORK. PROVIDE TEMPORARY SERVICES WHERE NECESSARY TO ACCOMPLISH ANY SHUTDOWN. THIS INCLUDES BUT IS NOT LIMITED TO STAFFING AND EQUIPMENT FOR FIRE WATCHES, PROVISIONS FOR BOTTLED WATER, AND TEMPORARY HEATING OR COOLING EQUIPMENT. TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL THE PERMANENT SYSTEMS ARE OPERATIONAL AND HAVE PASSED ALL REQUIRED TESTING.
- REFER TO THE SPECIFICATIONS AND ARCHITECTURAL PLANS FOR PHASING REQUIREMENTS. DURING EACH PHASE THE CONTRACTOR SHALL COMPLETE ALL WORK LOCATED WITHIN THE BOUNDARY OF THAT PHASE. ANY WORK AND THAT MUST BE COMPLETED IN THE AREA AFTER THAT AREA HAS BEEN TURNED OVER TO THE OWNER SHALL BE IDENTIFIED AT THE BEGINNING OF THE PHASE FOR EVALUATION AND ACCEPTANCE OF THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN DEMOLITION, REMOVAL, CAPPING, STORING, ABANDONING, DISCONNECTING, RELOCATING AND RECONNECTION OF EXISTING EQUIPMENT AND MATERIAL. ALL CUTTING, PATCHING, REPAIRING, REPLACEMENT AND REFINISHING SHALL MATCH THE EXISTING CONSTRUCTION AS NEARLY AS POSSIBLE.
- EXCEPT WHERE OTHERWISE SHOWN OR NOTED ON THE DRAWINGS AS "TO BE RETAINED, RELOCATED", ALL EXISTING EQUIPMENT AND MATERIAL IN AREAS TO BE REMODELED/ALTERED SHALL BE REMOVED WHERE THEY INTERFERE WITH PROPOSED NEW CONSTRUCTION AND/OR WITH PROPOSED USAGE OF SPACE BY OWNER AS FOLLOWS:
 - REMOVE ANY PIPING PROTRUDING ABOVE FINISHED FLOOR OR THROUGH WALL AND CAP WITHIN 3 PIPE DIAMETERS OF NEAREST ACTIVE MAIN WITH MATERIAL TO MATCH EXISTING.
 - REMOVE ALL FIXTURES, CARRIERS, SUPPLY AND WASTE VENT PIPING, STEAM, HEATING HOT WATER, HVAC SUPPLY, RETURN AND EXHAUST AS NOTED. CAP WITHIN 3 PIPE DIAMETERS OF NEAREST ACTIVE MAIN. SUPPLY AND RETURN MAINS ON PIPING SYSTEMS CONVEYING WATER OR GASES SHALL BE VALVED AND CAPPED.
 - IN REMODELED/ALTERED AREAS, ANY PIPING OR DUCTWORK PASSING THROUGH THE REMODELED AREAS TO SERVE (OR BEING SERVED FROM EXISTING ADJACENT) REMOTE, OR SURROUNDING AREAS THAT ARE TO REMAIN SHALL BE RETAINED AND KEPT OPERATIONAL AND SHALL BE REROUTED IN ALL CASES WHERE THEY INTERFERE WITH ANY NEW WORK OR USAGE TO BE ACCOMPLISHED IN THE REMODELED AREA.
 - REMOVE UNUSED OR ABANDONED HANGERS AND PATCH ABANDONED PENETRATIONS TO MATCH EXISTING.
 - PENETRATIONS THROUGH EXISTING WALLS AND FLOORS FORMERLY OCCUPIED BY REMOVED PIPING OR DUCTWORK SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION.
 - RE-SUPPORT ANY PIPING AND DUCTWORK THAT WAS SUPPORTED FROM BUILDING ELEMENTS REMOVED AS PART OF THE WORK.
 - MAINTAIN CONTROL WIRING OR PNEUMATIC TUBING REQUIRED FOR THE CONTINUED PROPER OPERATION OF THE BUILDING AUTOMATION SYSTEM.
- ALL EXISTING EQUIPMENT BEING REMOVED WILL BE HANDLED OVER TO OWNER FOR FIRST RIGHT OF SALVAGE. IF OWNER REFUSES SALVAGE ITEMS, REMOVING CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL.
- CONTRACTOR SHALL REFER TO THE DRAWINGS OF ALL TRADES TO FAMILIARIZE THEMSELVES WITH EXTENT OF WORK INCLUDING BUT NOT LIMITED TO WHERE NEW PARTITIONING IS BEING INSTALLED, WHERE EXISTING PARTITIONING IS BEING REMOVED, WHERE CEILINGS ARE BEING REMOVED AND/OR REPLACED, ETC.
- THESE DRAWINGS ARE NECESSARILY DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL INCLUDE ALL FITTINGS, OFFSETS, VENTS, DRAINS, AND DEVICES REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.
- PERFORM AIR AND FLUID BALANCE PRE-TEST ON ALL DISTRIBUTION EQUIPMENT AND ALL AIR OUTLETS IN THE AREA PRIOR TO COMMENCING WORK. SUBMIT PRE-TEST INFORMATION TO OWNER/ENGINEER.
- PROVIDE ACCESS DOORS IN DUCTWORK AND/OR ARCHITECTURAL ELEMENTS WHERE REQUIRED TO ACCESS ALL EQUIPMENT REQUIRING MAINTENANCE AND ADJUSTMENT. THIS EQUIPMENT INCLUDES BUT IS NOT LIMITED TO SENSORS, DAMPERS, ACTUATORS, CONTROL DEVICES, VALVES, ETC. ACCESS DOORS SHALL BE SIZED TO PROVIDE APPROPRIATE ACCESS BASED ON HEIGHT OF ACCESS REQUIRED AND ACTIVITY. INSTALL SUCH THAT ACCESS DOOR IS FULLY OPERABLE WITHOUT THE REMOVAL OF ARCHITECTURAL ELEMENTS SUCH AS CEILING RUNNERS, SUPPORTS, ETC. INSTALL IN A LOCATION SUCH THAT STEPPING OR LEAVING OVER PERMANENT EQUIPMENT OR FURNITURE IS NOT REQUIRED. WHERE ACCESS DOORS ARE REQUIRED IN ARCHITECTURAL ELEMENTS THAT PROVIDE A FIRE AND/OR SMOKE RATING, ACCESS DOOR SHALL MAINTAIN THE REQUIRED RATING.
- SEAL ALL WALL PENETRATIONS (DUCTWORK, PIPING, CONTROLS, CONDUITS, ETC.) WITH NON-COMBUSTIBLE MATERIAL. SEAL PENETRATIONS INTO ROOMS THAT REQUIRE SOLIDURE CONTROL, OR SOUND ISOLATION, WITH NON-COMBUSTIBLE MATERIAL AND CAULK.
- PIPING AND DUCTWORK SHALL NOT BE ROUTED OVER ELECTRICAL AND TELECOM ROOMS. WHERE ROUTING OVER SUCH ROOMS IS UNAVOIDABLE, CONTRACTOR SHALL COORDINATE WITH OWNER, DESIGN TEAM, A/E, AND OTHER TRADES REGARDING LOCATION OF PANELS AND UTILITY ROUTING AND SHALL PROVIDE DRIP PANS UNDER ALL UTILITIES WITH MOISTURE SENSORS OR DRAIN PIPING AS REQUIRED BY THE SPECIFICATIONS.
- REMOVAL AND REINSTALLATION OF CEILINGS REQUIRED FOR THE COMPLETION OF WORK IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR OR REPLACE ALL DAMAGED CEILING COMPONENTS TO MATCH EXISTING, WHERE AN IDENTICAL MATCH IS NO LONGER AVAILABLE, CONTRACTOR SHALL PROVIDE A SIMILAR REPLACEMENT UPON APPROVAL FROM THE OWNER.
- FLEXIBLE DUCTWORK SHALL HAVE A MAXIMUM LENGTH OF 48" REGARDLESS OF LENGTH SHOWN ON DRAWINGS. FLEX DUCT INSTALLATION SHALL BE AT TERMINAL ENDS ONLY. CONNECTIONS AT VAV BOX NEETS SHALL BE SOLID HARD DUCT. THE DUCTWORK AT ANY FIRE AND/OR FIRE SMOKE DAMPER SHALL BE HARD DUCT.
- LOCATE PIPING AND DUCTWORK IN EXTERIOR BUILDING WALLS ON THE WARM SIDE OF THE BUILDING AND VAPOR BARRIER. COORDINATE INSTALLATION OF BUILDING INSULATION TO RUN CONTINUOUS BETWEEN PIPING AND BUILDING WALL.
- INSTALLATION OF PIPING AND EQUIPMENT FROM BUILDING STRUCTURE MEMBERS. ROUTE DUCT MAINS TIGHT TO STRUCTURE UNLESS NOTED OTHERWISE. HOLD PIPING TIGHT TO BOTTOM OF STRUCTURAL MEMBERS OR RUN THROUGH JOIST WEBS IF POSSIBLE. DO NOT USE WIRE OR PERFORATED METAL TO SUPPORT PIPING. DO NOT SUPPORT PIPING FROM OTHER PIPING, DUCTWORK, AND/OR ELECTRICAL CONDUITS. DO NOT SUPPORT FROM WOOD TONGUE AND GROOVE ROOF DECK. SUPPORT FROM BOTTOM CHORD OF BAR JOISTS ONLY AT PANEL POINTS. ALL COMPONENTS REQUIRING MAINTENANCE SHALL BE SUPPORTED IN SUCH A MANNER AS TO BE READILY ACCESSIBLE WITHOUT REMOVAL OF THE CEILING SYSTEM AND TO ALLOW FOR REMOVAL FROM THE SYSTEM WHEN SUCH REMOVAL IS REQUIRED FOR MAINTENANCE.
- PROVIDE CONSTRUCTION FILTERS ON AIR MOVING EQUIPMENT SERVING THE CONSTRUCTION AREA AS WELL AS ALL RETURN/EXHAUST DUCT PENETRATIONS COMING FROM THE CONSTRUCTION AREA. AT THE COMPLETION OF WORK, REMOVE ALL TEMPORARY AND CONSTRUCTION FILTERS AND PROVIDE NEW FILTERS FOR ALL AIR MOVING EQUIPMENT.
- PROTECT ALL DUCTWORK AND PIPING DURING CONSTRUCTION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. AT A MINIMUM, DUCTWORK AND PIPING ENDS SHALL BE COVERED AND SEALED TO PREVENT THE COLLECTION OF DUST AND DEBRIS. CLEAN ALL INTERIOR SURFACES PRIOR TO INSTALLATION AND PROTECT ONCE INSTALLED.
- AT THE COMPLETION OF WORK, CLEAN ALL STRAINERS PROVIDED AS A PART OF THE WORK AS WELL AS PRIMARY SYSTEM STRAINERS LOCATED AT PUMPS WHERE SYSTEMS WERE EXTENDED. ON EXISTING EQUIPMENT, COORDINATE WORK WITH OWNER.
- PROVIDE INTERMEDIATE TESTING AND BALANCING AT THE COMPLETION OF EACH PHASE AND AS REQUIRED TO MAINTAIN PROPER OPERATION OF SYSTEMS SERVING AREAS OF THE FACILITY IN USE INCLUDING BUT NOT LIMITED TO OCCUPIED AREAS, STORAGE AREAS, AND OTHER AREAS (DEEMED CRITICAL BY THE OWNER OR A/E).
- UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED. REFER TO DETAIL SHEETS FOR GENERAL CONSTRUCTION DETAILS.
- REFER TO SCHEDULES FOR SIZES OF FINAL RUNOUTS TO EQUIPMENT, FIXTURES, DIFFUSERS, GRILLES, AND TERMINAL DEVICES. FINAL RUNOUT SIZES LISTED SHALL BE USED TO WITHIN 1/2 EQUIVALENT DIAMETERS OF FINAL CONNECTION POINT. FINAL PIPING CONNECTION TO EQUIPMENT SHALL MATCH EQUIPMENT CONNECTION SIZE. PROVIDE TRANSITIONS AS REQUIRED. REFER TO DETAILS, DIAGRAMS AND SCHEMATICS FOR ADDITIONAL, FINAL, CONNECTION REQUIREMENTS. REFER TO SCHEDULE SHEETS FOR PROVIDED SCHEDULES.
- FOR DUCTWORK PENETRATING A ONE HOUR FIRE RATED WALL WHERE A FIRE DAMPER IS NOT SHOWN, PROVIDE ULL LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL CONSTRUCTION ASSEMBLY AND COMPLIANT WITH ASTM E814. THE SYSTEM SHALL BE FIRE RATED IN COMPLIANCE WITH EXCEPTION 1 OF 2016 IBC PART 717.5.2. INSTALL SYSTEM IN STRICT COMPLIANCE WITH THE FIRE STOPPING MANUFACTURER'S U.L. APPROVED DETAIL, WHERE EXISTING WALLS ARE BEING UPGRADED TO A ONE HOUR FIRE RATED WALL, PROVIDE ULL LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM FOR ALL NEW AND EXISTING PENETRATIONS. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR LOCATIONS OF FIRE RATED WALLS. ALL DUCTWORK PENETRATIONS SHALL BE INSPECTED BY AN APPROVED THIRD PARTY INSPECTION AGENCY IN ACCORDANCE WITH ASTM E1714. THE INSPECTION AGENCY SHALL BE PROCURED BY THE CONTRACTOR. DOCUMENTATION OF APPROVED INSPECTION SHALL BE INCLUDED WITH PROJECT CLOSEOUT DOCUMENTATION.
- FIRE ALARM CONTRACTOR SHALL PROVIDE A DUCT SMOKE DETECTOR FOR EACH SMOKE OR FIRE/SMOKE DAMPER AS REQUIRED BY CODE. MECHANICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF EACH DUCT SMOKE DETECTOR AND SHALL INSTALL THEM IN THE DUCT.
- FOR ALL PIPING, CONDUIT, AND OTHER ITEMS PENETRATING A FIRE RATED WALL, PROVIDE ULL LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL CONSTRUCTION ASSEMBLY AND COMPLIANT WITH ASTM E814. INSTALL SYSTEM IN STRICT COMPLIANCE WITH THE FIRE STOPPING MANUFACTURER'S U.L. APPROVED DETAIL. WHERE EXISTING WALLS ARE BEING UPGRADED TO FIRE RATED WALLS OR THE FIRE RATING IS BEING MODIFIED, PROVIDE ULL LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM FOR ALL NEW AND EXISTING PENETRATIONS. REFER TO THE ARCHITECTURAL LIFE SAFETY PLANS FOR LOCATIONS OF FIRE RATED WALLS.

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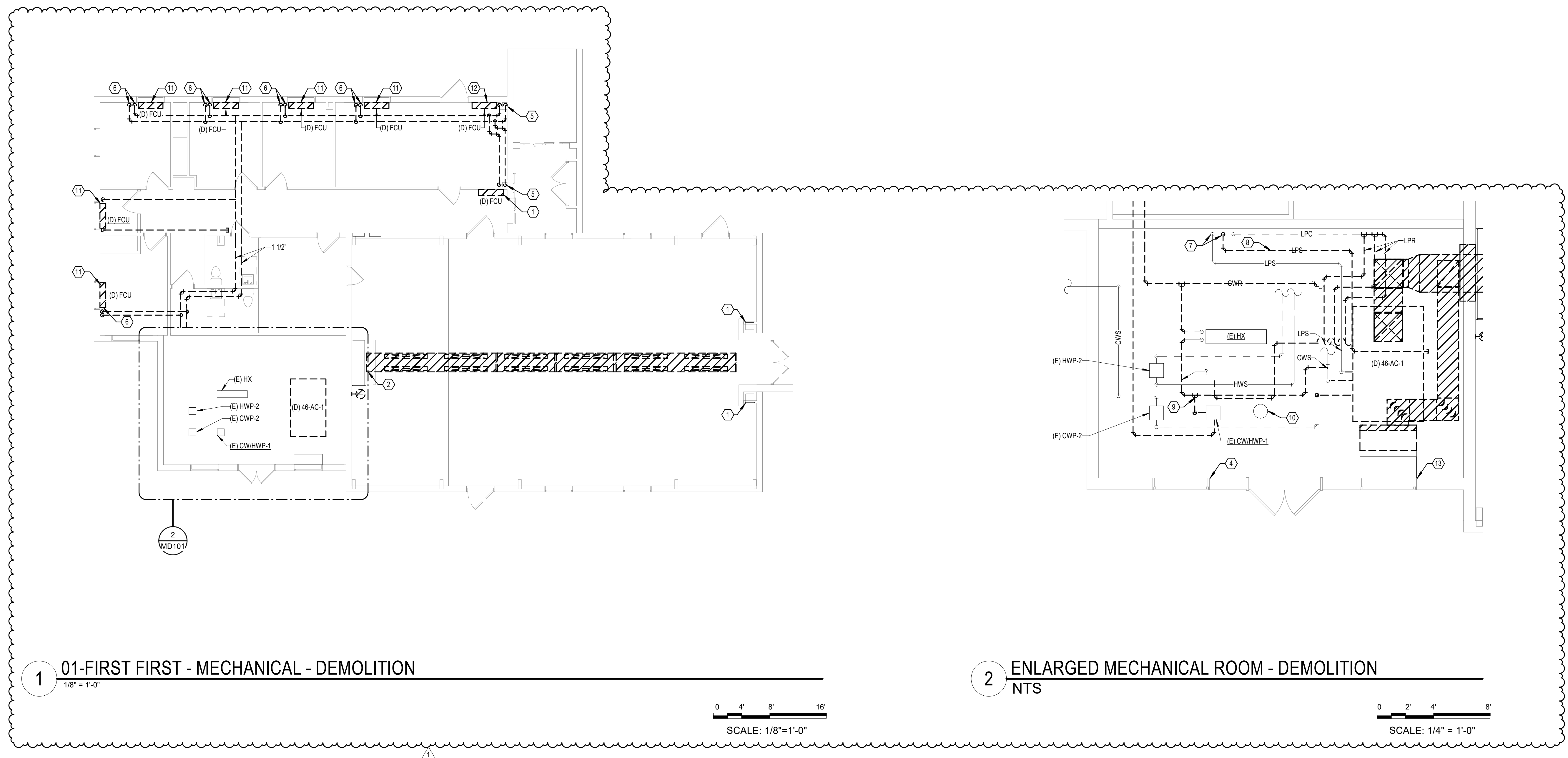
A. COVER SHEET GENERAL NOTES APPLY TO ALL SHEETS.

B. ON DEMOLITION PLANS, EXISTING MECHANICAL SYSTEMS TO BE REMOVED ARE SHOWN HATCHED AND/OR DASHED, EXISTING MECHANICAL SYSTEMS TO REMAIN ARE SHOWN LIGHT LINE WEIGHT. ON ALL OTHER PLANS, NEW MECHANICAL SYSTEMS ARE INDICATED WITH HEAVY LINE WEIGHTS.

C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.

D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

1. CONDENSATE DRAIN SHALL REMAIN FOR NEW FCU.
2. EXISTING EXHAUST GRILLE AND DUCTWORK SHALL REMAIN. EXISTING EXHAUST FAN IS NOT OPERABLE AND IS NOT EXPECTED TO BE OPERABLE.
3. EXISTING RETURN GRILLE AND DUCTWORK WITHIN THE CHAPEL SHALL REMAIN. DEMOLISH RETURN AIR DUCTWORK WITHIN THE MECHANICAL ROOM.
4. REMOVE DAMPER ACTUATOR ON EXISTING OUTSIDE AIR LOUVER. KEEP DAMPER FOR NEW ACTUATOR.
5. REMOVE AS MUCH PIPE FROM THE CMU CHASE AS POSSIBLE. CHASE WILL NOT BE OPENED.
6. REMOVE PIPE COVERINGS ON WALL ALONG WITH PIPING.
7. ADD ISOLATION VALVE IN VERTICAL PIPE FROM PRV ASSEMBLY.
8. REMOVE ABANDONED STEAM PIPE THAT ORIGINALLY SERVED A HUMIDIFIER.
9. REMOVE 3-WAY CONTROL VALVE.
10. EXPANSION TANK SHALL BE REMOVED FOR A LIMITED TIME FOR THE REMOVAL OF 48-ACF AND THE INSTALLATION OF NEW 46-ACF-1. EXPANSION TANK SHALL BE REINSTALLED AFTER NEW 46-ACF-1 IS INSTALLED.
11. REMOVE EXISTING FAN COIL UNIT. CONDENSATE DRAIN THROUGH WALL SHALL REMAIN FOR NEW FCU. OUTSIDE AIR LOUVER AND AIR PATH SHALL REMAIN FOR NEW FCU.
12. REMOVE EXISTING FAN COIL UNIT. CONDENSATE DRAIN AND OUTSIDE AIR LOUVER SHALL BE REMOVED AND EXTERIOR WALL PATCHED.
13. EXISTING OUTSIDE AIR LOUVER, DUCTWORK AND CONTROL DAMPER SHALL REMAIN.



ADDENDUM #1	03/28/2025
Revisions:	Date:



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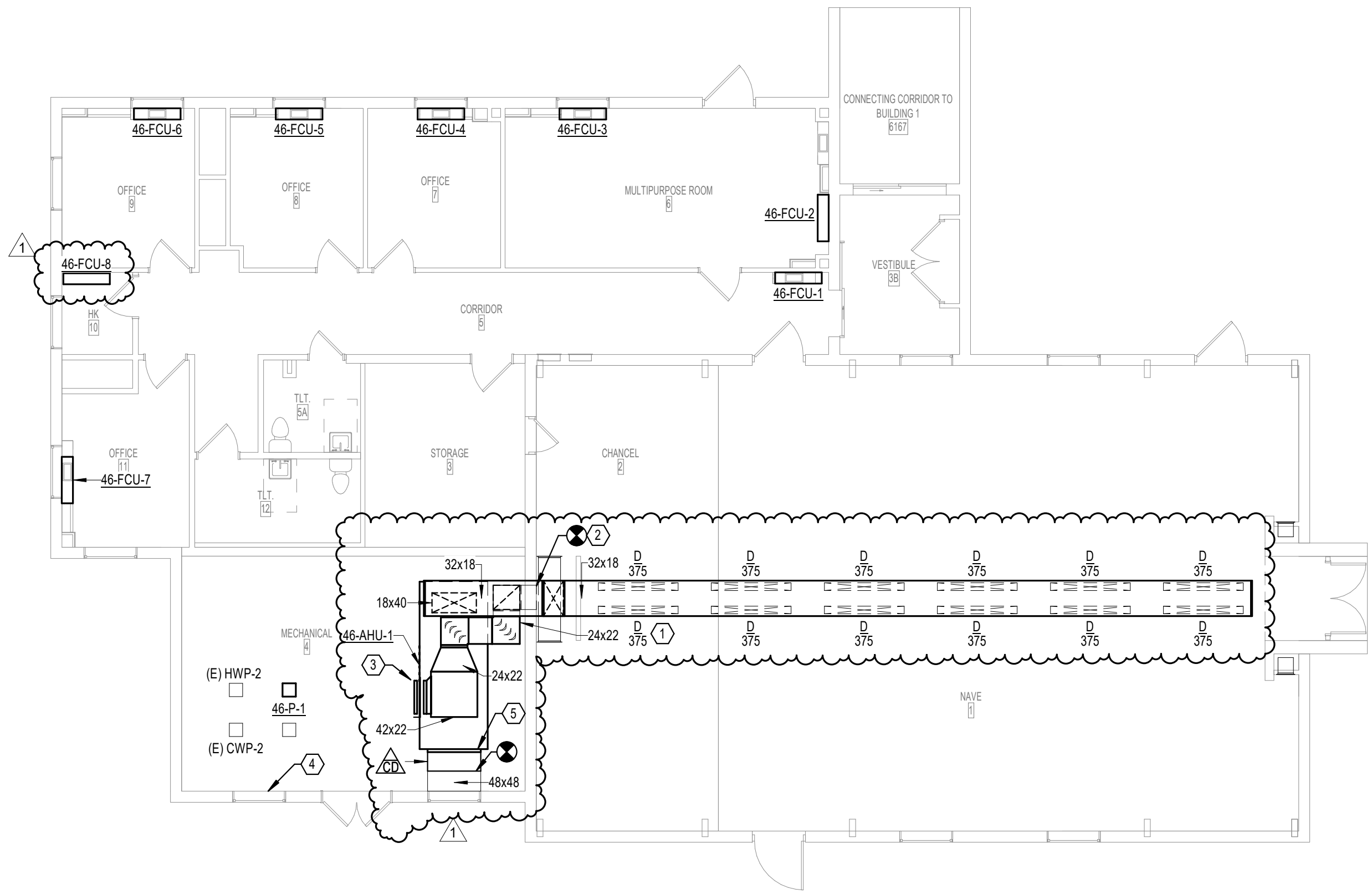
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PCM

MD101

- GENERAL NOTES:**
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- SHEET NOTES:**
1. INSTALL DIFFUSERS IN ARCHITECTURAL SOFFIT, TYPICAL. REFER TO ARCHITECTURAL.
 2. CONNECT NEW RETURN DUCT TO EXISTING RETURN PLENUM AND RETURN GRILLES.
 3. MODULATING CONTROL DAMPER. REFER TO M/00 FOR ADDITIONAL INFORMATION.
 4. INSTALL NEW CONTROL ACTUATOR ON EXISTING OUTSIDE AIR DAMPER.
 5. CONNECT RETURN DUCT TO AHU MIXING BOX.



1 01-FIRST FIRST - DUCTWORK

0 4' 8' 16'
SCALE: 1/8"=1'-0"



WALL RATING LEGEND

- FIRE WALL
- SMOKE WALL

ADDENDUM #1	03/28/2025
Revisions:	Date:

ARCHITECT/ENGINEER OF RECORD

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27578

Office of
Construction
and Facilities
Management

VA U.S. Department of
Veterans Affairs

Drawing Title
01-FIRST FIRST - DUCTWORK

Approved:
SEE G001

Phase
CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

Project Title
REPLACE HVAC VARIOUS
BUILDINGS

Location
3701 Loop Road East
Tuscaloosa, AL 35404-5099

Issue Date
04/26/2023

Checked
AGT

Drawn
PCM

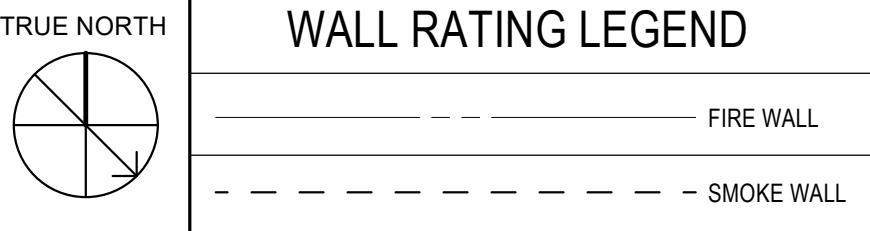
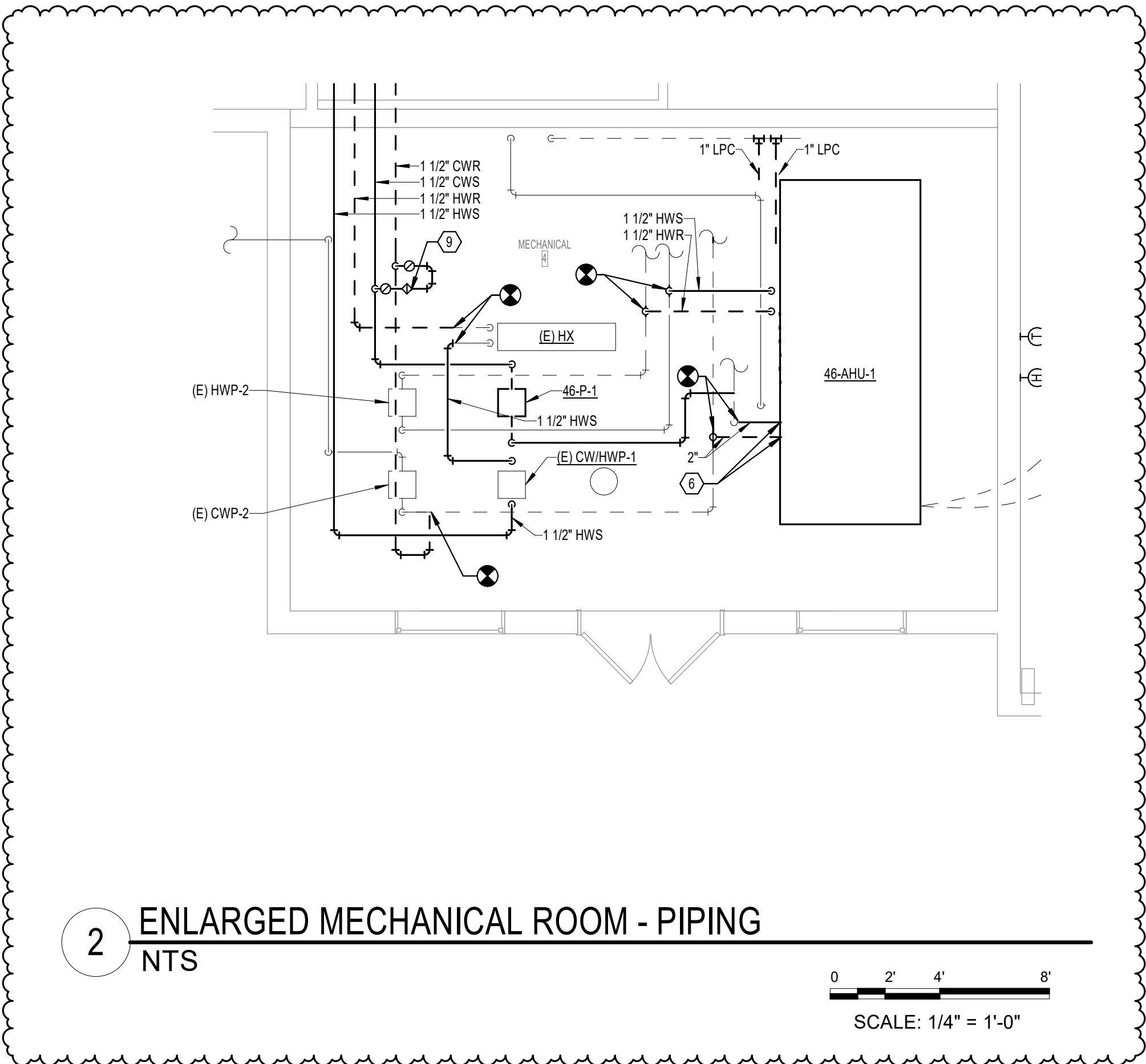
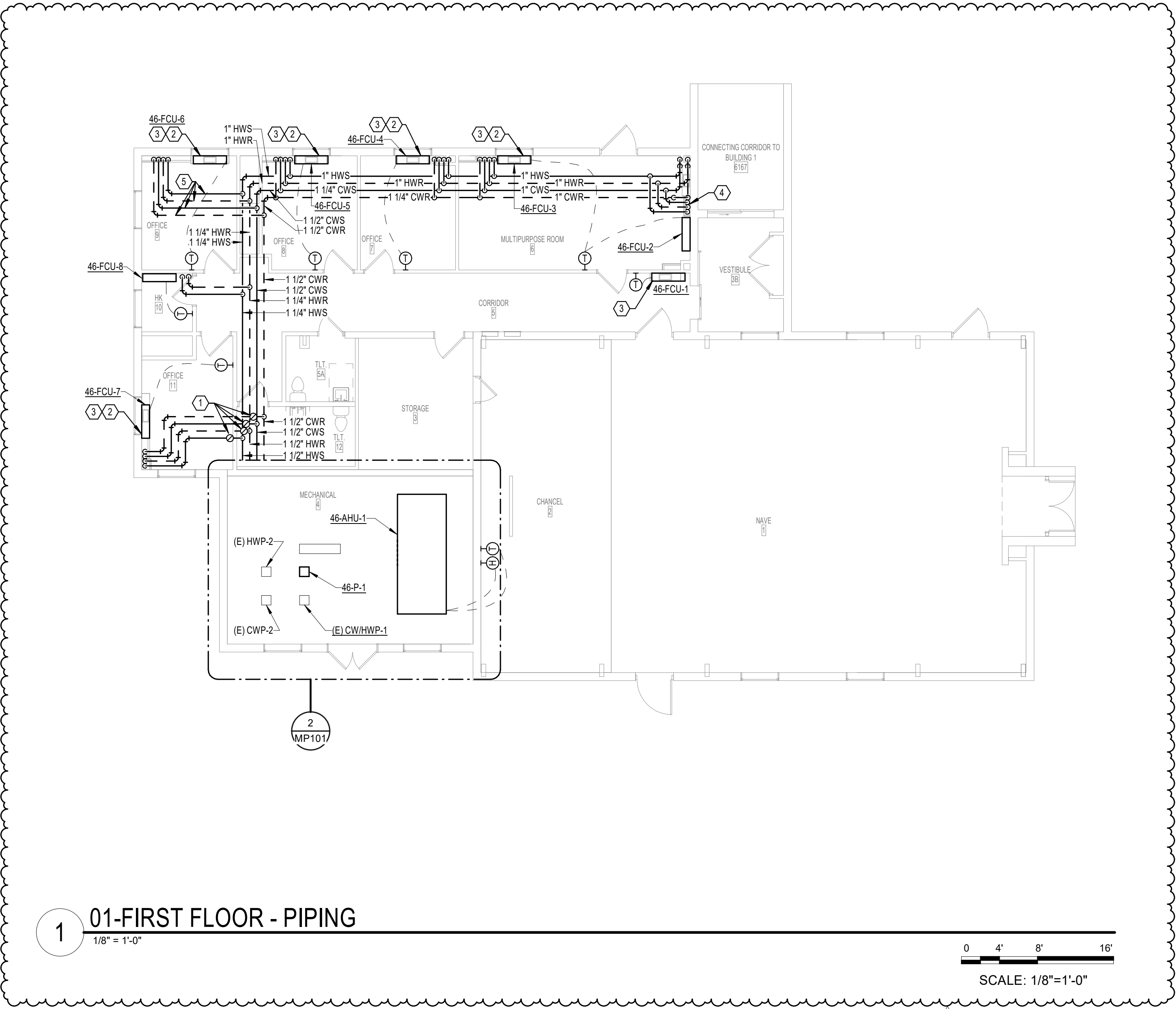
Project Number
679-22-106

Building Number
46

Drawing Number
MH101

- GENERAL NOTES:**
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 - C. UNLESS NOTED OTHERWISE, DETAILS SHOWN WITHIN THESE DOCUMENTS ARE APPLICABLE FOR ALL PIPING, EQUIPMENT AND DUCTWORK INSTALLATIONS WHETHER OR NOT SPECIFICALLY NOTED.
 - D. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR FOR THE MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM THIS WORK.

- SHEET NOTES:**
- 1. PROVIDE ISOLATION BALL VALVES AT MAIN FOR ALL TAKEOFFS TO FAN COIL UNITS AND AIR HANDLING UNITS. COMBINATION BALANCING BALL VALVES SHALL NOT BE USED AS ISOLATION VALVES. TYPICAL OF ALL FCU'S.
 - 2. CONNECT EXISTING OUTSIDE AIR PATH TO FCU. CLEAN OUTSIDE AIR PATH PRIOR TO CONNECTION.
 - 3. CONNECT FCU CONDENSATE DRAIN TO EXISTING DRAIN FROM PREVIOUS FCU.
 - 4. ROUTE NEW CONDENSATE DRAIN PIPE TO EXTERIOR WALL TERMINATION.
 - 5. 3/4" HEATING AND CHILLED WATER PIPES TO FCU'S. TYPICAL OF ALL FCU'S.
 - 6. CONNECT NEW 2" CHILLED WATER PIPES TO EXISTING HEADER AND ROUTE TO AHU COOLING COILS. PROVIDE DEDICATED ISOLATION VALVES.
 - 7. CONNECT NEW 3/4" HEATING WATER PIPES TO EXISTING HEADER AND ROUTE TO AHU. PROVIDE DEDICATED ISOLATION VALVES.
 - 8. CONNECT (2) 1" LOW PRESSURE STEAM CONDENSATE LINES TO EXISTING HEADER AND ROUTE FOR END OF LINE STEAM TRAP AND STEAM COIL.
 - 9. 1-1/4 PUMP MINIMUM FLOW BYPASS WITH AUTOMATIC BALANCING VALVE. BALANCE TO 10 GPM.



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Veterans Affairs

Drawing Title
01-FIRST FLOOR - PIPING

Approved:
SEE G001

Phase
CONSTRUCTION
DOCUMENTS

FULLY SPRINKLERED

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REPLACE HVAC VARIOUS
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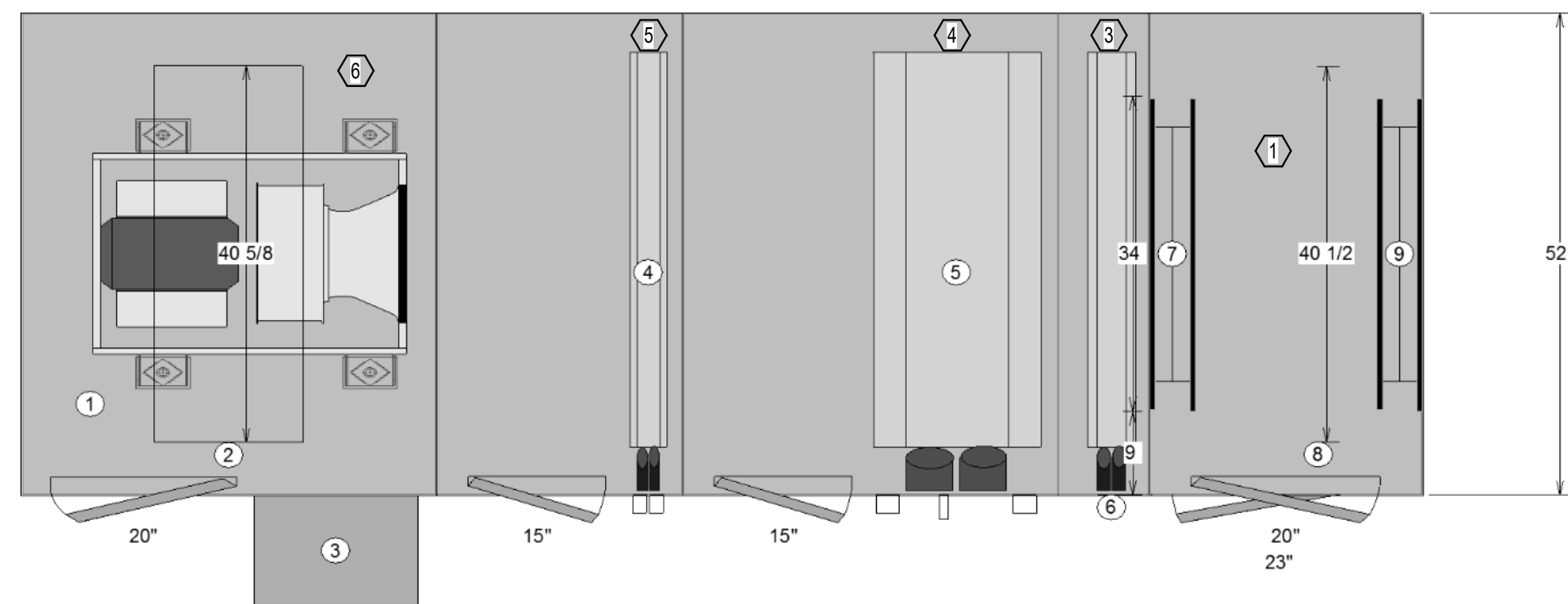
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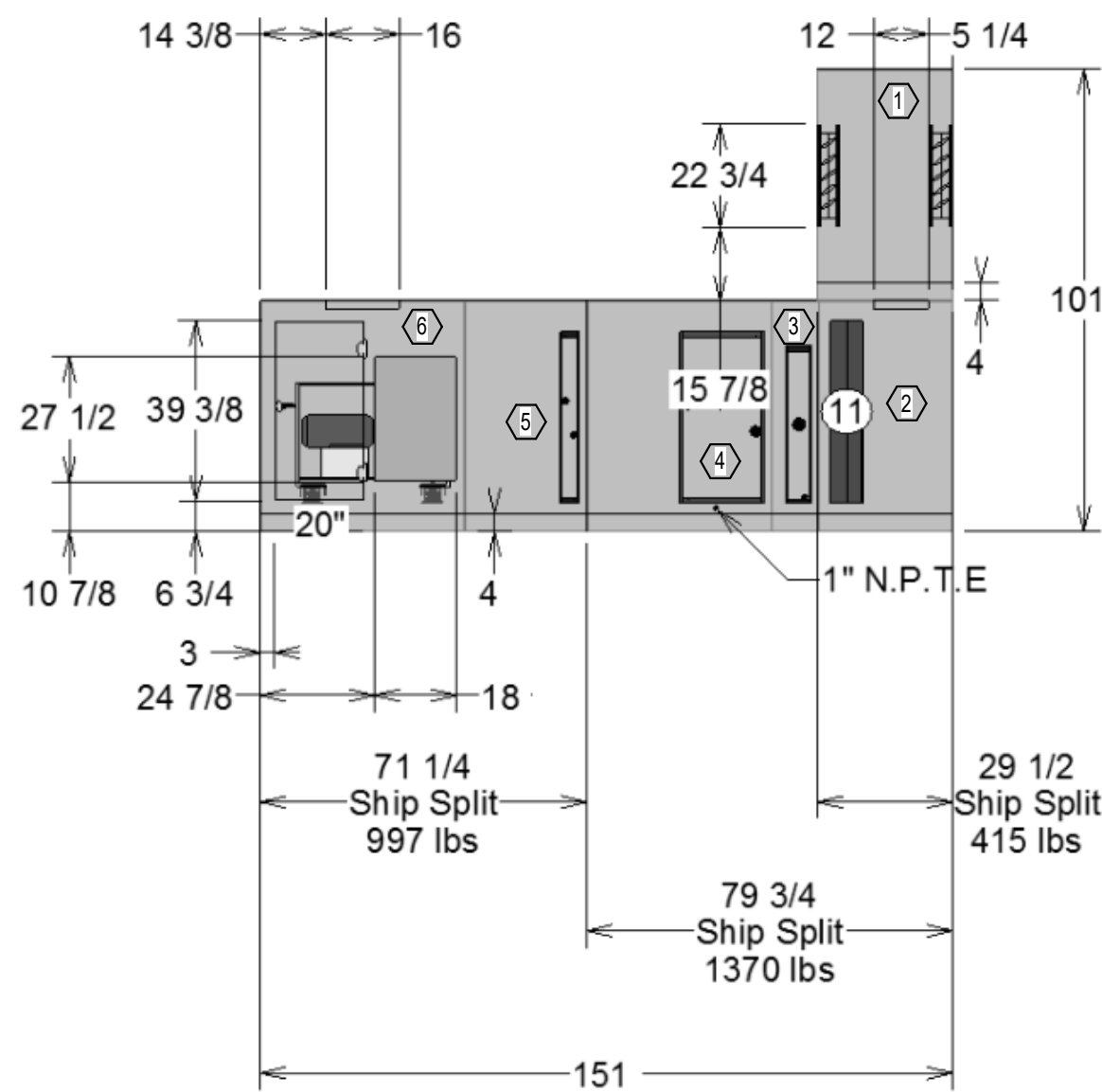
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PLAN VIEW

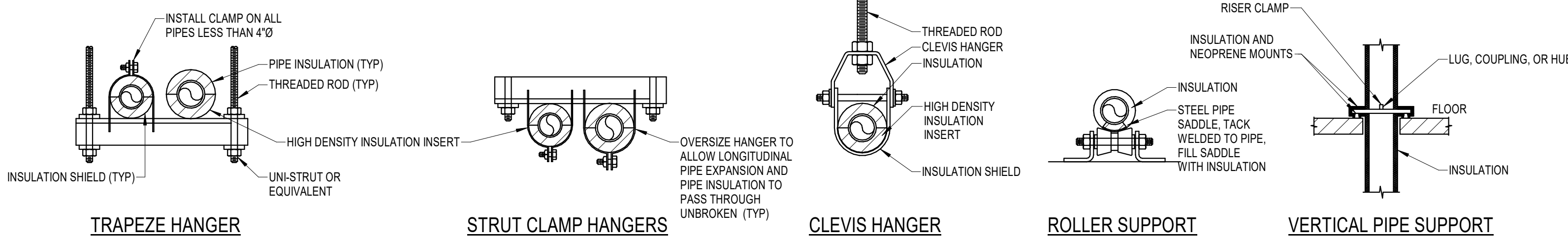


SECTION VIEW

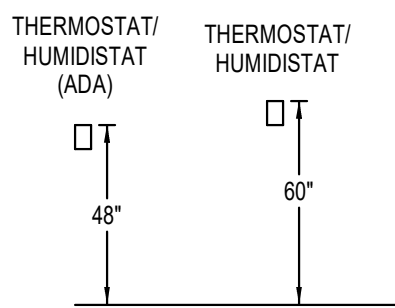
- NOTES:
1. AIR MIXING SECTION
 2. FILTER SECTION
 3. PRE-HEAT COIL SECTION
 4. COOLING COIL SECTION
 5. RE-HEAT COIL SECTION
 6. FAN SECTION

11 46-AHU-1 PLAN AND SECTION DETAILS

1/8" = 1'-0"

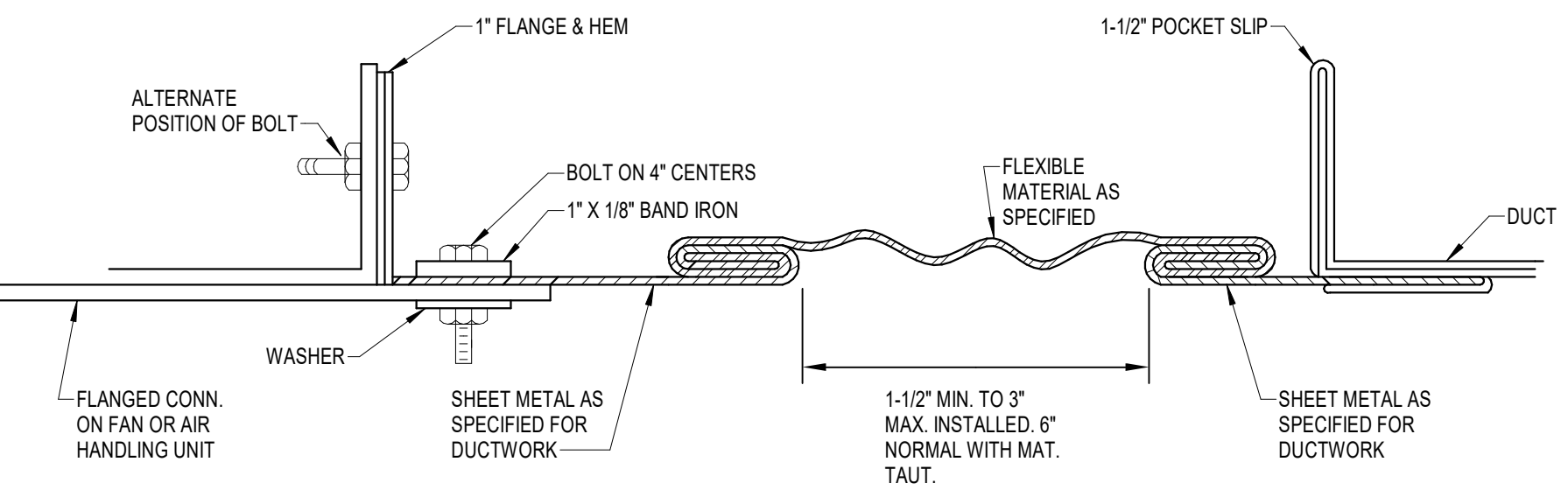


8 PIPE SUPPORT - TYPICAL FOR ALL PIPING



- A. COORDINATE ELEVATION OF DEVICES WITH ALL ADJACENT DEVICES INCLUDING THOSE WITH OTHER TRADES. ALL DEVICES WHICH HAVE ADA AND NON-ADA HEIGHTS LISTED SHALL BE MOUNTED TO COMPLY WITH ADA EXCEPT WHERE NOTED ON THE PLANS AS NON-ADA.
- B. GROUP DEVICES IN AN ORGANIZED AND UNIFORM MANNER.
- C. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL REQUIREMENTS. WHERE THESE REQUIREMENTS DIFFER FROM THE ARCHITECTURAL PLANS, THE ARCHITECTURAL PLANS SHALL TAKE PRECEDENCE. WHERE DEVICES OR EQUIPMENT ARE SHOWN ON WALLS WHERE THE ARCHITECTURAL ELEVATION INDICATES A SURFACE OTHER THAN THE BASE PAINT FOR THE PROJECT, REQUEST CLARIFICATION ON THE MOUNTING LOCATION OF THE DEVICE OR EQUIPMENT. DEVICES AND EQUIPMENT SHALL NOT BE MOUNTED TO FEATURE WALLS AND WALLS CONSTRUCTED OF MATERIALS OTHER THAN DRYWALL WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
- D. ALL DEVICES SHALL BE COORDINATED SO AS NOT TO INTERRUPT A BACK SPLASH OR MATERIAL TRANSITIONS. REFER TO ARCHITECTURAL ELEVATION TO CONFIRM DEVICE IS NOT LOCATED WITHIN TRANSITION AREA.
- E. PROVIDE BACKING IN WALLS WHERE WALL MOUNTED DEVICES OR EQUIPMENT ARE INSTALLED. REFER TO ARCHITECTURAL SPECIFICATIONS.

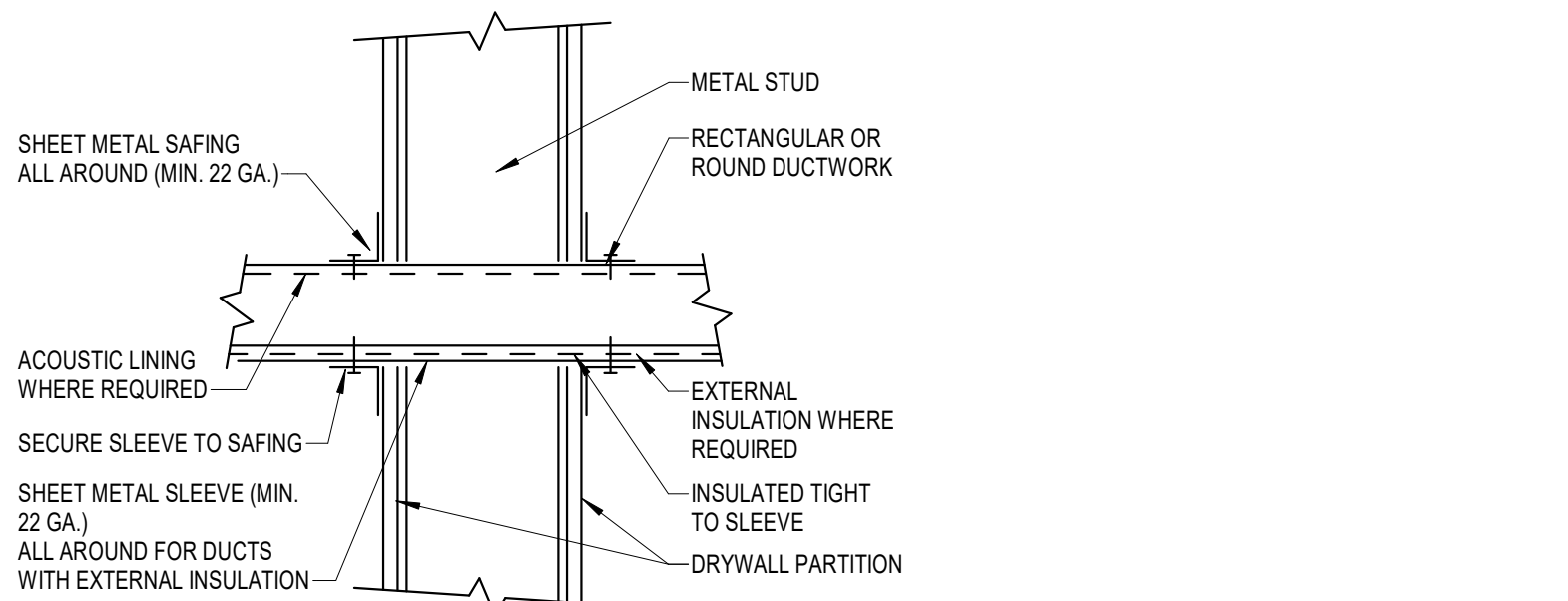
7 MECHANICAL EQUIPMENT MOUNTING HEIGHTS



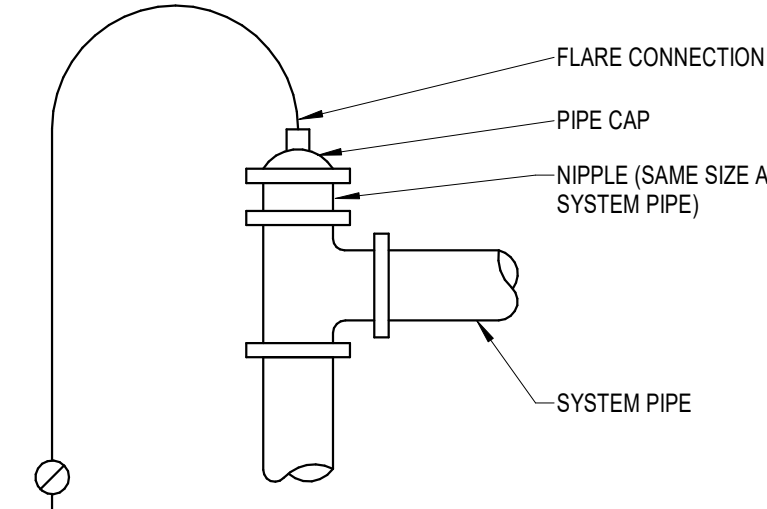
10 RECTANGULAR FLEXIBLE CONNECTION

2 HEATING/CHILLED WATER COIL

- NOTES:
1. ALL UNITS SHALL USE 3-WAY VALVES EXCEPT FOR THOSE SERVING 46-AHU-1 AND THE COOLING COILS SERVING FCU-1, 2, & 3.

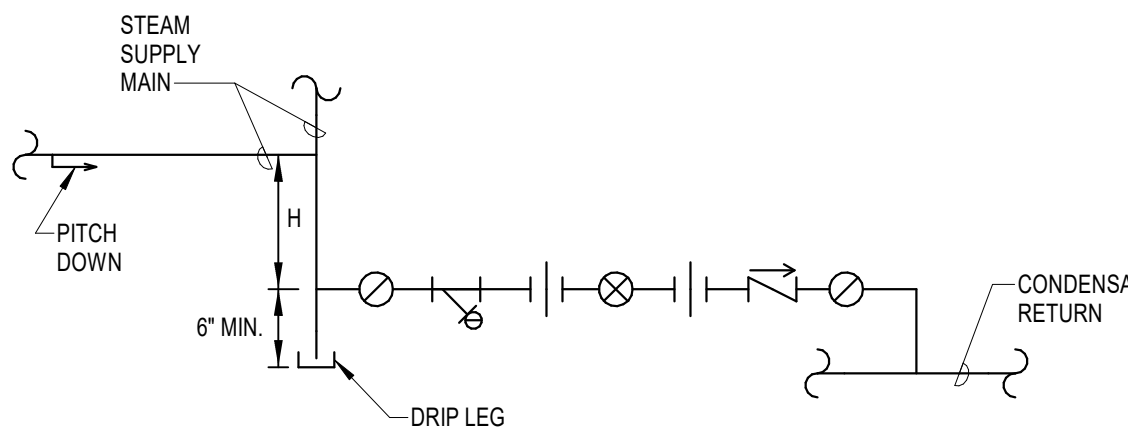


6 DUCT PENETRATIONS - THROUGH NON-FIRE RATED WALL



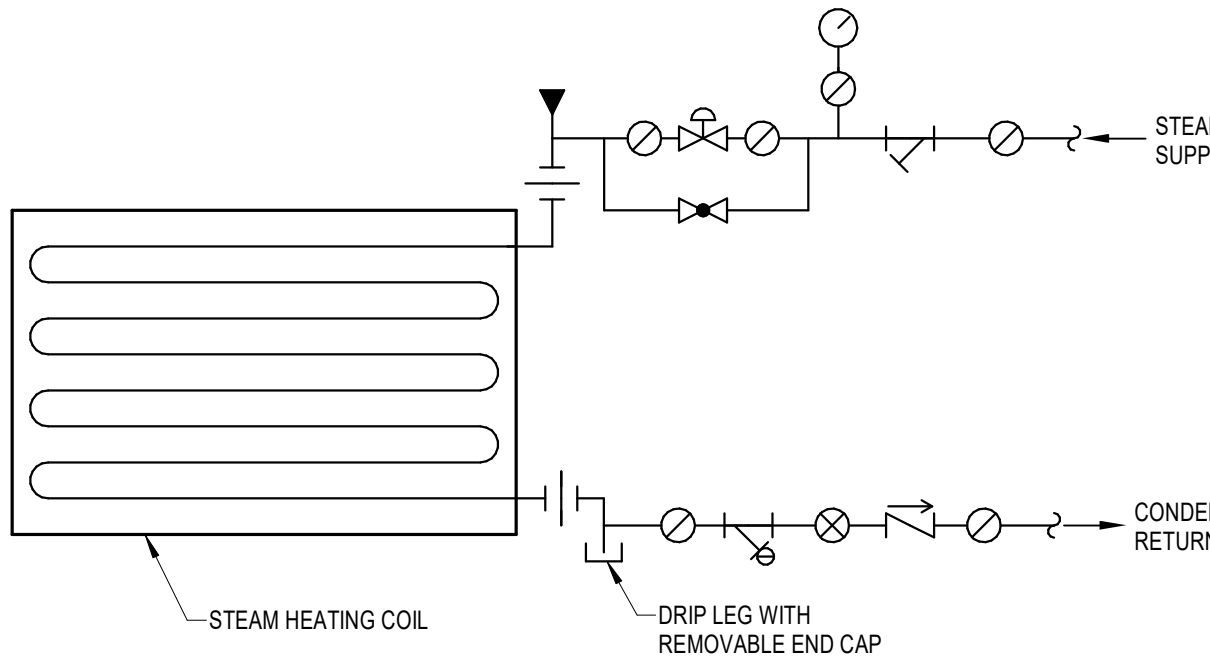
- NOTES:
1. VALVE MANUAL AIR VENT. EXTEND VENT LINE TO WITHIN 6" ABOVE CEILING WHERE PIPING IS ABOVE CONCEALED ABOVE CEILING. WHERE PIPING IS EXPOSED, VALVE IS TO BE LOCATED WITHIN 5'-0" OF FLOOR.

5 MANUAL AIR VENT

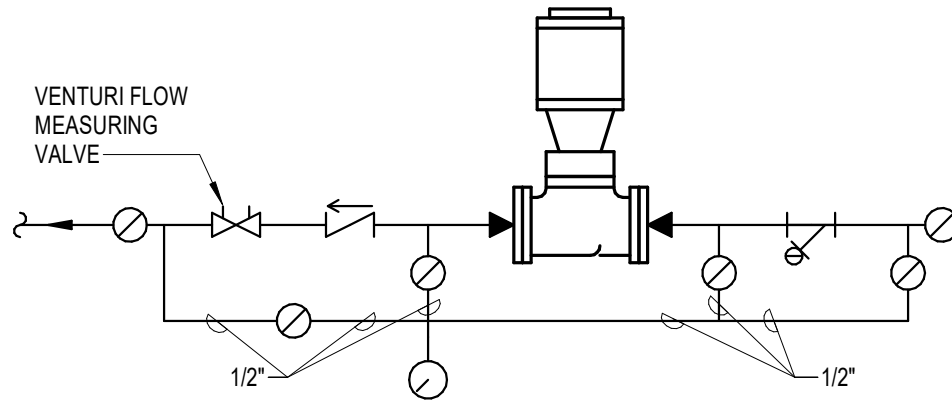


- NOTES:
1. ELEVATED RETURN MAINS ON LOW PRESSURE SYSTEMS SHALL NOT BE PERMITTED.
 2. H = 1.5 x PIPE DIAMETER, BUT NOT LESS THAN 12 IN.

4 END OF STEAM MAIN TRAP



3 STEAM COIL PIPING



1 IN-LINE PUMP

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Drawing Title
MECHANICAL DETAILS

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Phase
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FULLY SPRINKLERED

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Building Number
46

Drawing Number
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PUMP SCHEDULE													
MARK	FLOW [GPM]	TOTAL HEAD [FT]	SHUT-OFF HEAD [FT]	TYPE OF FLUID	RPM	SUCTION / DISCHARGE SIZE [IN]	IMPELLER DIAMETER [IN]	ELECTRICAL DATA				MANUFACTURER	MODEL
								HP	VOLTAGE	PHASE	DISCONNECT BY		
46-P-1	30	32	70	WATER	2481	1.5 / 1.5	4.1	2	208 V	3	DIV 26	B&G	E-60

REMARKS:
1. PERFORMANCE BASED ON FLUID AND CONDITIONS INDICATED ON SCHEDULE.
2. PROVIDE WITH THE FOLLOWING ACCESSORIES: DISCONNECT, SUCTION DIFFUSER, CHECK VALVE, VENTURI FLOW MEASURING DEVICE, UNIONS, AND TEMPERATURE AND PRESSURE GAUGES ON EACH CONNECTION.
3. PROVIDE BACNET INTERFACE AND TIE INTO EXISTING METASYS SYSTEM. PUMP SHALL HAVE START AND STOP FUNCTION CONTROLLED BY EXISTING METASYS SYSTEM.

DIFFUSER, REGISTER, AND GRILLE SCHEDULE									
MARK	IMAGE	DESCRIPTION	MAX S.P.	MATERIAL	FINISH	FACE SIZE			REMARKS
						LENGTH	WIDTH	NECK SIZE	
D		LINEAR BAR SLOT STYLE SUPPLY DIFFUSER	0.10 inwg	ALUMINUM	PAINT, WHITE	12"	6"	-	(1)(2)(3)(4)(5)

REMARKS:
1. PROVIDE WITH FRAME FOR SURFACE MOUNTING.
2. PROVIDE REMOTE DAMPER ACTUATION IN HARD CEILINGS.
3. COORDINATE LOCATION OF GRILLES WITH ARCHITECTURAL CEILING PLANS AND ELEVATIONS.
4. THE BLADES FOR THESE GRILLES SHALL BE SUCH THAT THE FRONT BLADES ARE PARALLEL TO THE LONG DIMENSION OF THE GRILLE.
5. 3 SLOT, 1" SLOT WIDTH. ADJUST THROW ANGLE OF SLOTS SO THE PLAN SOUTH DIFFUSERS THROW AIR TO PLAN SOUTH, AND THE NORTH DIFFUSERS THROW AIR PLAN NORTH.

HVAC PIPING INSULATION SCHEDULE									
PIPING SYSTEM FLUID	TEMP. RANGE DEG. F	THICKNESS IN INCHES FOR PIPE SIZES THROUGH SIZE LISTED					TYPE	JACKET TYPE (2)	NCIIS PLATE NUMBER (1)
		<1	1 - 1.25	1.5 - 3	4 - 6	>= 8			
HPS AND MPS (STEAM PRESSURES UP TO 120 PSIG INCLUDING CONDENSATE)	251 - 350	3	4	4.5	4.5	4.5	MF	ASJ-SSL	1-100
LPS (STEAM PRESSURES UP TO 15 PSIG INCLUDING CONDENSATE AND DOLER FEEDWATER)	0 - 250	2.5	2.5	2.5	3	3	MF	ASJ-SSL	1-100
INDOOR HOT WATER	141 - 200	1.5	1.5	2	2	2	MF	ASJ-SSL	1-100 (3)
INDOOR HOT WATER	105 - 140	1	1	1.5	1.5	1.5	MF	ASJ-SSL	1-100 (3)
INDOOR COLD WATER	40 - 60	0.5	0.5	1	1	1	MF, E	ASJ-SSL	1-100, 1-200
INDOOR CONDENSATE AND EQUIPMENT DRAINS	BELOW 60	0.5	0.5	0.5	0.5	0.5	MF, E	ASJ-SSL	1-100, 1-200 (4)

ABBREVIATIONS: MF = MINERAL FIBER/FIBERGLASS, E = ELASTOMERIC, CG = CELLULAR GLASS

REMARKS:
1. NCIIS (NATIONAL COMMERCIAL AND INDUSTRIAL INSULATION STANDARD) PLATE NUMBER REFERENCED ARE PROVIDED TO CLARIFY THE SCOPE OF INSTALLATION. INSTALL INSULATION AND ACCESSORY COMPONENTS PER APPLICABLE NCIIS AND MANUFACTURERS RECOMMENDATIONS.
2. "JACKET TYPE" IS FOR INSULATION ONLY. REFER TO SPECIFICATIONS FOR INSTALLATIONS REQUIRING ADDITIONAL FIELD APPLIED JACKETING SUCH AS METAL OR PVC.
3. HOT WATER SYSTEM TEMPERATURES EXCEEDING 200 DEG F TO BE TREATED FOR APPROPRIATE TEMPERATURE RANGE AS LISTED UNDER LPS OR HPS.
4. INCLUDES AIR CONDITIONING CONDENSATE, P-TRAPS FOR FLOOR DRAINS/SINKS RECEIVING AIR CONDITIONING CONDENSATE OR ICE MAKER DRAIN PIPING, AND SANITARY DRAINAGE PIPING FROM ELECTRIC WATER COOLERS TO MAIN.

DUCT AND PLENUM INSULATION SCHEDULE					
DUCT SYSTEM TYPE	INSULATION			JACKET TYPE (2)	REMARKS
	TYPE	INSTALLED R VALUE	MINIMUM DENSITY LB/CF		
SUPPLY AIR (CONCEALED)	MF BLANKET	6	0.75	FSK	3-100 (5)(6)
RETURN AIR (CONCEALED)	MF BLANKET	6	0.75	FSK	3-100 (5)(6)
SUPPLY AIR RECTANGULAR (EXPOSED)	MF BOARD	6	3.0	FSK	3-120 (5)(6)
SUPPLY AIR ROUND OR FLAT OVAL (EXPOSED)	MF BLANKET	6	0.75	FSK	3-100 (5)(6)
OUTSIDE AIR RECTANGULAR	MF BOARD	6	3.0	FSK	3-120 (3)(5)(6)
RELIEF/EXHAUST AIR (NON HEAT RECOVER APPLICATIONS) (EXPOSED)	MF BOARD	6	3.0	FSK	3-100 (4)(5)(6)

ABBREVIATIONS: MF=MINERAL FIBER(FIBERGLASS), E= ELASTOMERIC, PI= POLYISOCYANURATE

REMARKS:
1. NCIIS (NATIONAL COMMERCIAL AND INDUSTRIAL INSULATION STANDARD) PLATE NUMBER REFERENCED ARE PROVIDED TO CLARIFY THE SCOPE OF INSTALLATION. INSTALL INSULATION AND ACCESSORY COMPONENTS PER APPLICABLE NCIIS AND MANUFACTURERS RECOMMENDATIONS.
2. "JACKET TYPE" IS FOR INSULATION ONLY. REFER TO SPECIFICATIONS FOR INSTALLATIONS REQUIRING ADDITIONAL FIELD APPLIED JACKETING SUCH AS METAL OR PVC.
3. FOR OUTSIDE AIR DUCTWORK DOWNSTREAM OF AN AIR HANDLING UNIT THAT HEATS OR COOLS THE OUTSIDE AIR, INSULATE AS SPECIFIED FOR SUPPLY AIR.
4. INSULATE FROM EXTERIOR LOUVER OR OPENING TO 20 FEET AWAY OR TO 5 FEET PAST CONTROL OR BACKDRAFT DAMPER, WHICHEVER IS LESS.
5. INSULATE FIRE DAMPERS, SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS AS RECOMMENDED BY THE SMACNA FIRE, SMOKE AND RADIATION DAMPER INSTALLATION GUIDE FOR HVAC.
6. REFER TO NCIIS PLATE 3-600 FOR INSULATION OF TRAPEZE OR ANGLE IRON DUCT SUPPORTS.

COORDINATION OF WORK SCHEDULE				
ITEM	SUPPLIER	INSTALLER	POWER	CONTROL (4)
MOTORS	MC	MC (3)	EC	CC
EQUIPMENT MOUNTED ELECTRICAL COMPONENTS	MC	MC	EC	CC
LOOSE MOUNTED ELECTRICAL COMPONENTS	EC	EC	EC	CC
CONTROL RELAYS, TRANSFORMERS, POWER	MC	EC	EC (4)	CC
120V THERMOSTATS	MC	MC	MC	CC (1)
TEMPERATURE CONTROL SENSORS	MC	MC	CC	CC
TEMPERATURE CONTROL PANELS	MC	CC	EC (4)	CC
VARIABLE SPEED DRIVES	MC	MC	EC	CC
RELIEF SWITCHES, SOLENOID VALVES, ACTUATORS	CC	CC	EC (4)	CC
PUSHBUTTON STATIONS	EC	EC	EC (4)	EC
TIME CLOCKS	EC	EC	EC	EC
FAN COIL UNITS	MC	MC	EC	CC (1)

REMARKS:
1. IF NO CC IN CONTRACT, MC TO WIRE CONTROLS AND EC TO PIPE CONDUIT.
2. ALL LOW VOLTAGE WIRING OF PANELS TO BE COVERED IN MC BID, WIRING CONTRACTOR TO BE SUBCONTRACTOR TO MC.
3. INSTALLING CONTRACTOR IS RESPONSIBLE FOR FIELD ALIGNMENT SERVICES WHEN REQUIRED BY COMMON MOTOR REQUIREMENTS SPECIFICATION OR BY INDIVIDUAL EQUIPMENT SPECIFICATIONS.
4. ALL HARDWARE, SOFTWARE, EQUIPMENT, ACCESSORIES, WIRING (POWER AND SENSOR), PIPING, RELAYS, SENSORS, POWER SUPPLIES, TRANSFORMERS, AND INSTRUMENTATION REQUIRED FOR A COMPLETE AND OPERATIONAL DDC SYSTEM, BUT NOT SHOWN ON THE ELECTRICAL DRAWINGS, ARE THE RESPONSIBILITY OF THE CC.

FAN COIL UNIT SCHEDULE																				
MARK	MAX SIZE (LxWxH) [IN]	AIRFLOW [CFM]	COOLING			HEATING			ELECTRICAL DATA				MANUFACTURER	MODEL	REMARKS					
			COOLING [MBH]	COOLING FLOW [GPM]	EWT [°F]	LWT [°F]	WPD [FT]	HEATING [MBH]	HEATING FLOW [GPM]	EWT [°F]	LWT [°F]	WPD [FT]				VOLTAGE	PHASE	MCA	MOCp	DISCONNECT BY
46-FCU-1	38.5x10x25	420	16.86	3.0	42	53	16.9	9.34	62	180	150	.09	208 V	1	1.75	15	DIV 26	TRANE	FCB8040	(1)(2)(3)(4)(5)(6)(7)
46-FCU-2	38.5x10x25	500	13.21	3.0	42	50	13.34	8.03	54	180	150	.07	208 V	1	1.75	15	DIV 26	TRANE	FCB8040	(1)(2)(3)(4)(5)(6)(7)
46-FCU-3	38.5x10x25	440	15.91	3.0	42	54	13.29	9.53	63	180	150	.1	208 V	1	1.75	15	DIV 26	TRANE	FCB8040	(1)(2)(3)(4)(5)(6)(7)
46-FCU-4	38.5x10x25	350	14.30	3.0	42	52	13.32	8.62	57	180	150	.08	208 V	1	1.75	15	DIV 26	TRANE	FCB8040	(1)(2)(3)(4)(5)(6)(7)
46-FCU-5	38.5x10x25	350	14.30	3.0	42	52	13.32	8.62	57	180	150	.08	208 V	1	1.75	15	DIV 26	TRANE	FCB8040	(1)(2)(3)(4)(5)(6)(7)
46-FCU-6	48x10x25	540	18.20	3.3	42	55	4.36	14.34	96	180	150	.26	208 V	1	2.25	15	DIV 26	TRANE	FCB8060	(1)(2)(3)(4)(5)(6)(7)
46-FCU-7	55.5x10x25	460	17.64	3.0	42	54	4.06	15.99	107	180	150	0.37	208 V	1	2.25	15	DIV 26	TRANE	FCB8060	(1)(2)(3)(4)(5)(6)(7)
46-FCU-8	33.5x10x25	200						14.93	75	180	140	2.71	208 V	1	1.75	15	DIV 26	TRANE	FFB8020	(1)(2)(3)(4)(5)(6)(7)

REMARKS:
1. PROVIDE WITH INTEGRAL DISCONNECT.
2. COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS.
3. PROVIDE INTEGRAL CONTROL VALVE.
4. PROVIDE CONDENSATE PUMP. CONDENSATE PUMP SHALL BE LITTLE GIANT MODEL VGMX OR APPROVED EQUAL. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
5. PROVIDE WITH POWER SUPPLY. COORDINATE MOUNTING INSIDE ARCHITECTURAL ENCLOSURE.
6. PROVIDE ACCESS DOORS WHERE REQUIRED FOR ACCESS TO ALL COMPONENTS REQUIRING MAINTENANCE.
7. PROVIDE WITH DEHUMIDIFICATION CONTROL SEQUENCE PROGRAM.
8. PROVIDE BACNET INTERFACE. UNIT CONTROLS SHALL TIE INTO AND BE CONTROLLED BY EXISTING METASYS SYSTEM.

AIR HANDLING UNIT SCHEDULE														
MARK	LOCATION	OVERALL SIZE [LxWxH]	MINIMUM OUTSIDE AIR [CFM]	SUPPLY FAN MARK	COOLING COIL MARK	HEATING COIL REMARK	FILTER MARK	ELECTRICAL DATA				MANUFACTURER	MODEL	REMARKS
								FLA	VOLTAGE	PHASE	MCA	MFS	DISCONNECT BY	
46-AHU-1	MECHANICAL RM 4	14'x6'2"x42"	1,000	SF-1	CC-1	HC-1, HC-2	FIL-1, FIL-2	22	208 V	3	27.5	45	DIV 26	TRANE CSAAG10 (1)(2)(3)(4)(5)(6)(7)

REMARKS:
1. PROVIDE WITH INTEGRAL VFD WITH SINGLE POINT POWER CONNECTION.
2. MOUNT ON 4" HOUSEKEEPING PAD.
3. EQUIPMENT SHORT CIRCUIT CURRENT RATING SHALL BE MINIMUM 120% OF THE AVAILABLE SHORT CIRCUIT CURRENT. REVIEW SHORT CIRCUIT CURRENT RATING WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
4. PROVIDE BACNET INTERFACE. UNIT CONTROLS SHALL TIE INTO AND BE CONTROLLED BY EXISTING METASYS SYSTEM.

HYDRONIC COIL SCHEDULE															
MARK	SERVES	FLUID TYPE	AIRFLOW [CFM]	MIN ROWS	MAX FINS PER FOOT	MAX VELOCITY [FPM]	MAX AIR P.D. [IN W.C.]	ENTERING DB / WB [°F]	LEAVING DB / WB [°F]	TOTAL CAPACITY [MBH]	SENS. CAPACITY [MBH]	FLUID DATA			REMARKS
												FLOW	EWT / LWT [°F]	MAX P.D. [FT]	
CC-1	46-AHU-1	WATER	4,500	10	124	450	1.1	79.68	48/48	266.6	149.2	35.42	42/57	3.89	(2/3)(4/5)
HC-1	46-AHU-1	STEAM	4,500	1	46	491	.083	45	85	206	-	-	-	3.04	(1)(2)(4)
HC-2	46-AHU-1	HEATING WATER	4,500	1	80	450	.056	48	76	137	-	14	180/160	.48	(1)(2)(4)

REMARKS:
1. STEAM PRESSURE INDICATED IS THE PRESSURE AVAILABLE UPSTREAM OF THE CONTROL VALVE.
2. MAINTAIN COIL PULL SPACE ON INSTALLATION.
3. PROVIDE DOUBLE SLOPED DRAIN PAN.
4. CONTRACTOR TO PIPE UNIT AS INDICATED FROM FACTORY, COUNTERFLOW.

FAN SCHEDULE										
MARK	TYPE	AIRFLOW [CFM]	TOTAL S.P. [IN W.C.]	EXTERNAL S.P. [IN W.C.]	DESIGN RPM	MAX FAN BHP	ELECTRICAL DATA			REMARKS
							HP	VOLTAGE	PHASE	
SF-1	DD PLENUM	4,500	4.3	1.5	2235	4.7	5	208 V	3	(1)(2)(3)


REMARKS:
1. FAN SHALL BE SINGLE WIDTH, SINGLE INLET, MULTIBLADE-TYPE DIRECT DRIVE PLENUM FAN. PROVIDE WITH L-10 250,000 BALL BEARINGS.
2. PROVIDE VIBRATION ISOLATION.

FILTER SCHEDULE							
MARK	ASSOCIATED EQUIPMENT	FUNCTION	TYPE	DEPTH [IN]	MAX FACE VELOCITY [FPM]	MERV RATING	REMARKS
FIL-1	46-AHU-1	PREFILTER	PLEATED	2	463	8	0.6 (1)
FIL-2	46-AHU-1	FILTER	CARTRIDGE	4	463	13	0.6 (1)(2)

REMARKS:
1. PROVIDE MAGNETIC GAUGE ACROSS HOUSING FILTER.
2. PROVIDE UNIT WITH BANK FOR FIL-2 FOR FUTURE USE. FILTER DOES NOT NEED TO BE INSTALLED OR PROVIDED.

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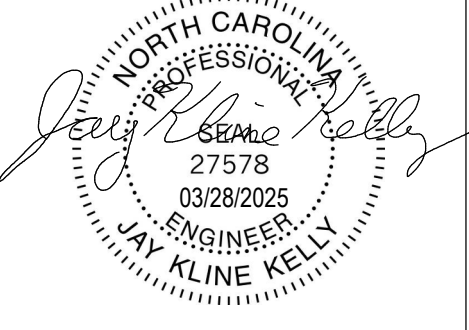
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Drawing Title

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Approved:

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Phase

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FULLY SPRINKLERED

Project Title

REPLACE HVAC VARIOUS BUILDINGS

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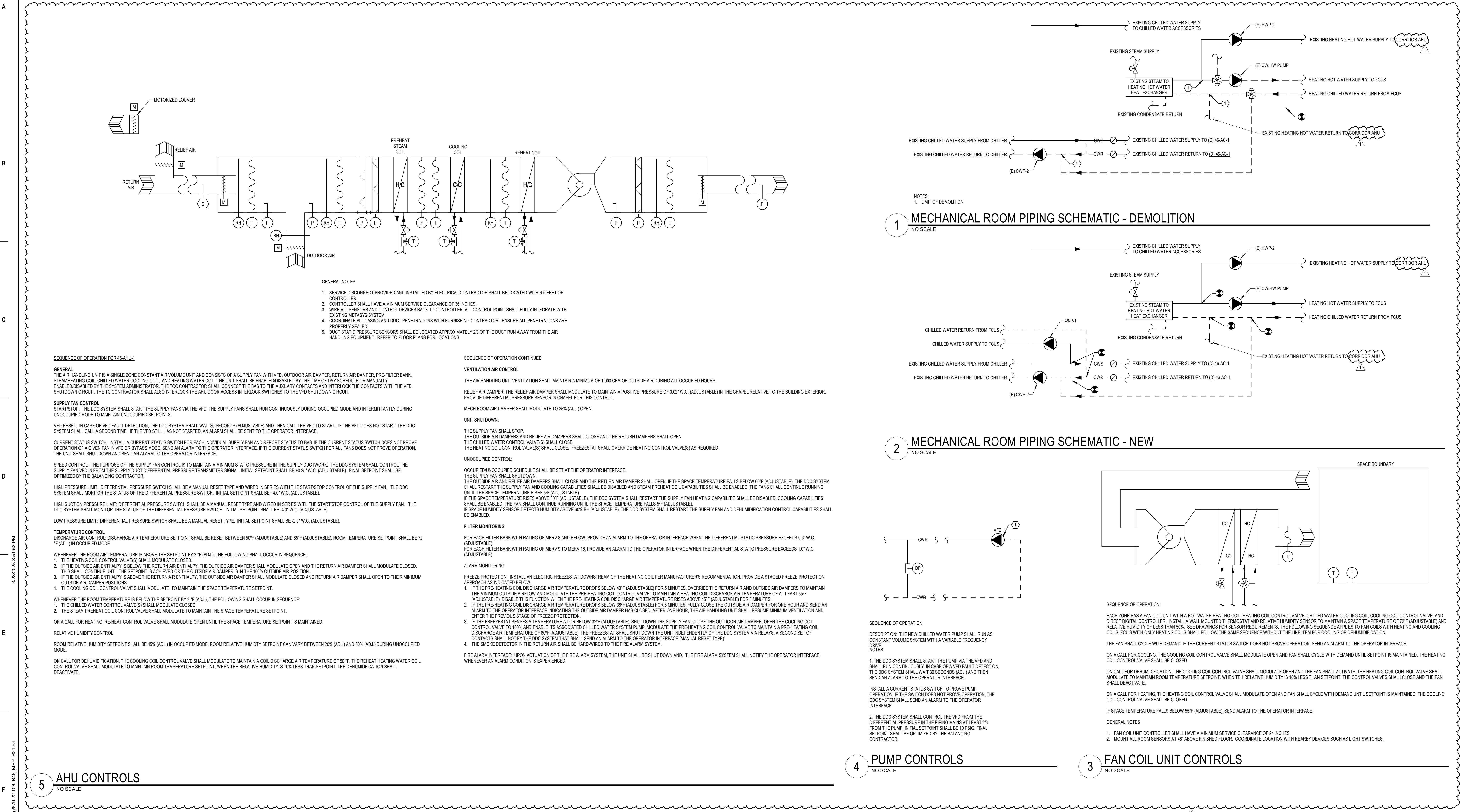
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