

HUBBARD-TOTTEN CHEMISTRY BUILDING

ELEVATOR MODERNIZATION
1801 Fayetteville Street
Durham, NC 27707

OWNER:

NCCU
1801 Fayetteville Street
Durham, NC 27707
T. 919.530.7947
JOSHUA FREY

CONTRACT DOCUMENTS

MAY 15, 2023

NC SCO PROJECT ID NO.: 22-25114-01A

MECHANICAL AND
ELECTRICAL ENGINEER:



ATLANTA • CHARLOTTE • GREENVILLE • RICHMOND
877.4.DEVITA • corp@devitainc.com
DeVita & Associates, Inc. Project : 20200-04
NC Firm License # C-0819

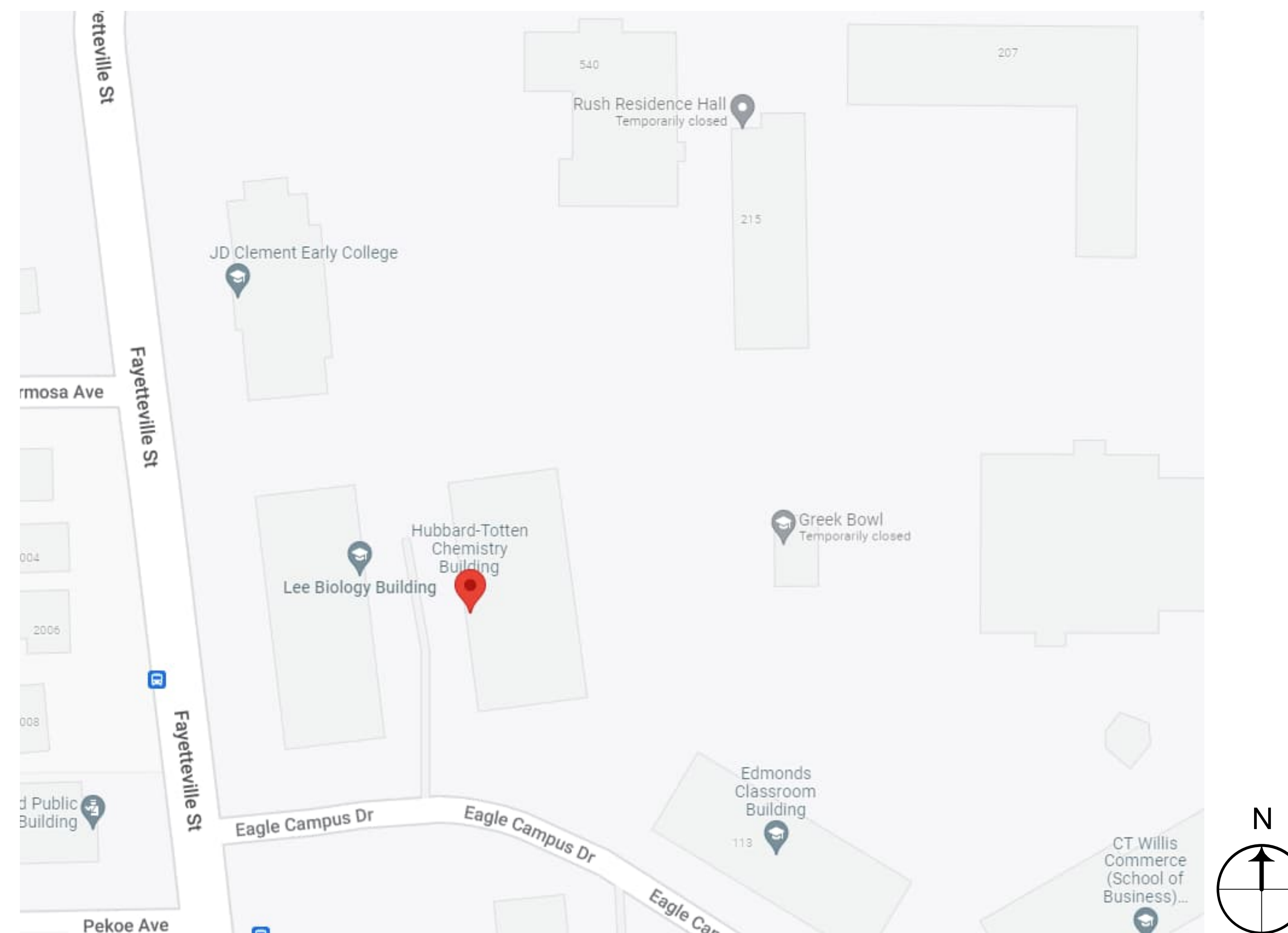
ARCHITECT:



Together, we create.

DRAWING INDEX		REVISIONS:	
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LOCATION MAP



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PROJECT NUMBER: 22048

CONSULTANT:

PROJECT INFORMATION:

ELEVATOR MODERNIZATION - HUBBARD TOTTEN BUILDING

1801 FAYETTEVILLE
STREET
DURHAM, NC 27707

SCO PROJECT NO: 22-25114-01A
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REVISIONS

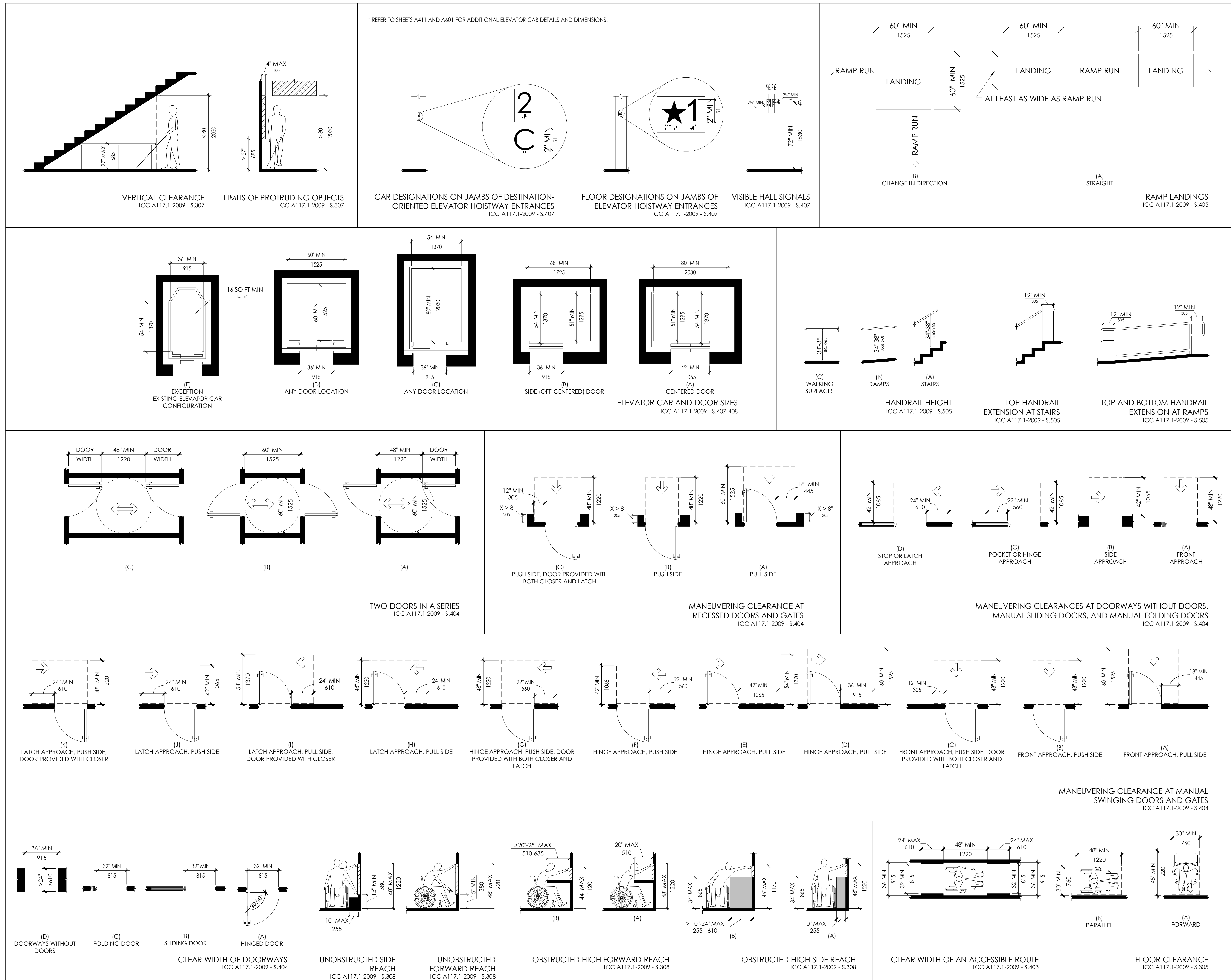
NO.	DATE	DESCRIPTION

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DRAWING NAME
**COVER SHEET AND
DRAWING INDEX**

DRAWING NO.
G000

Drawn By: RHV Checked By: KCW



1 GENERAL ADA INFORMATION
1/4" = 1'-0"

MAWORKS, P.A.
50455
DURHAM, NC

JOHN MILIACI
REGISTERED ARCHITECT
05/15/23
14263
WALFORD, VA

SEALS

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DRAWING NAME
**GENERAL ADA
INFORMATION**

DRAWING NO.
A002
Drawn By: HM Checked By: JMM



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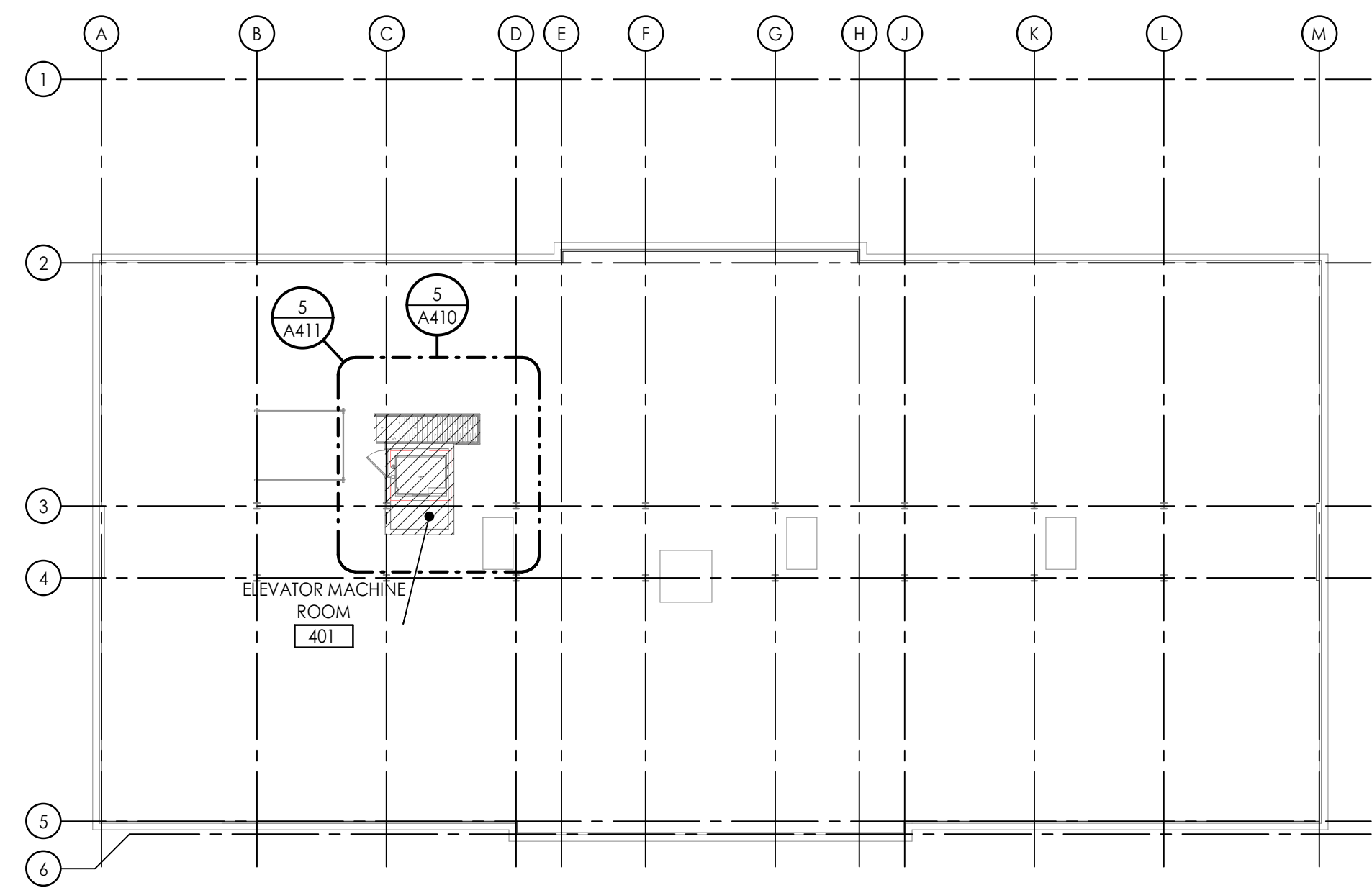
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**DRAWING NAME
OVERALL FLOOR
PLANS**

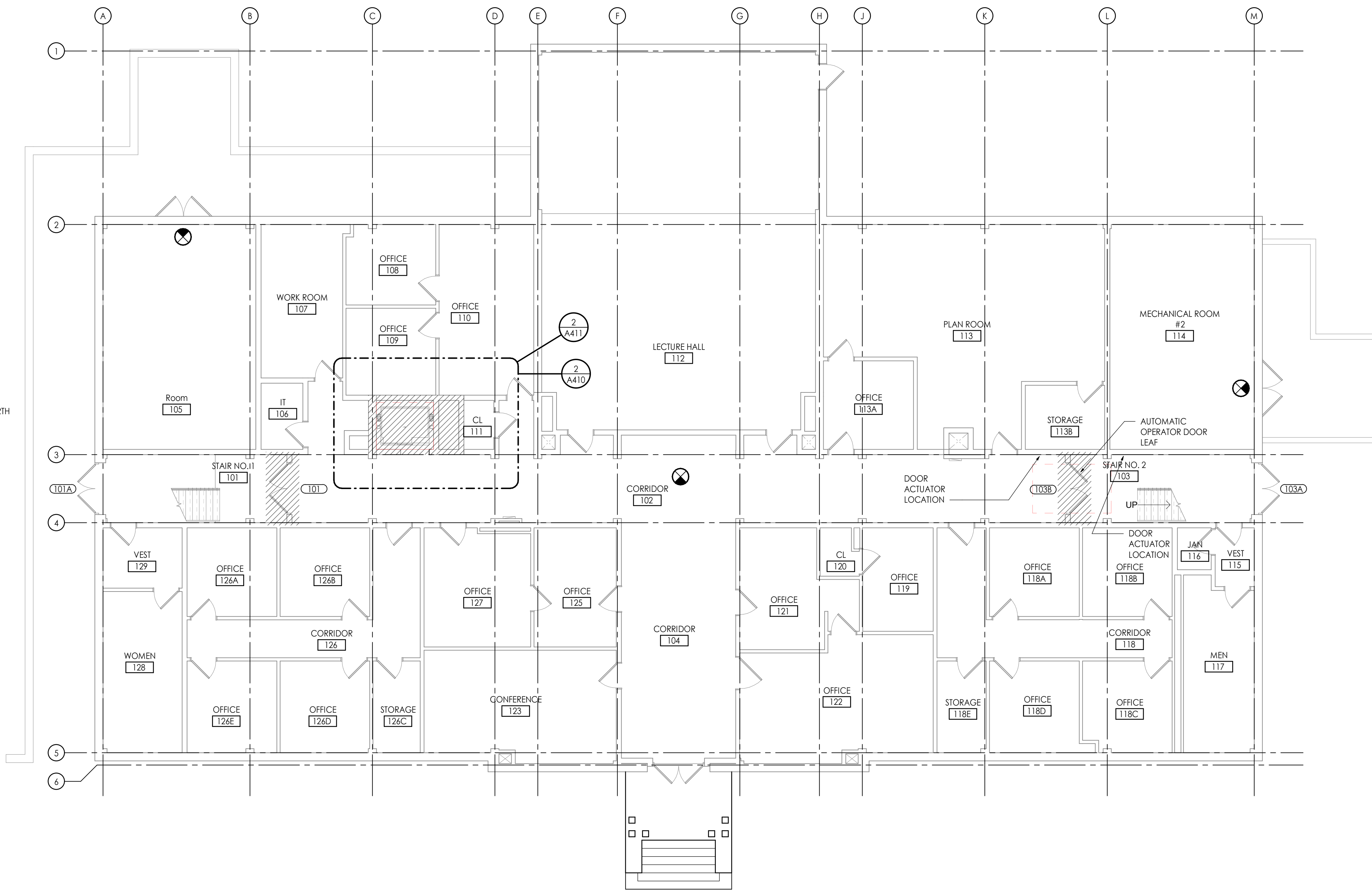
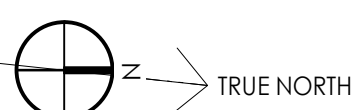
DRAWING NO.
A100

Drawn By: HM Checked By: JMM



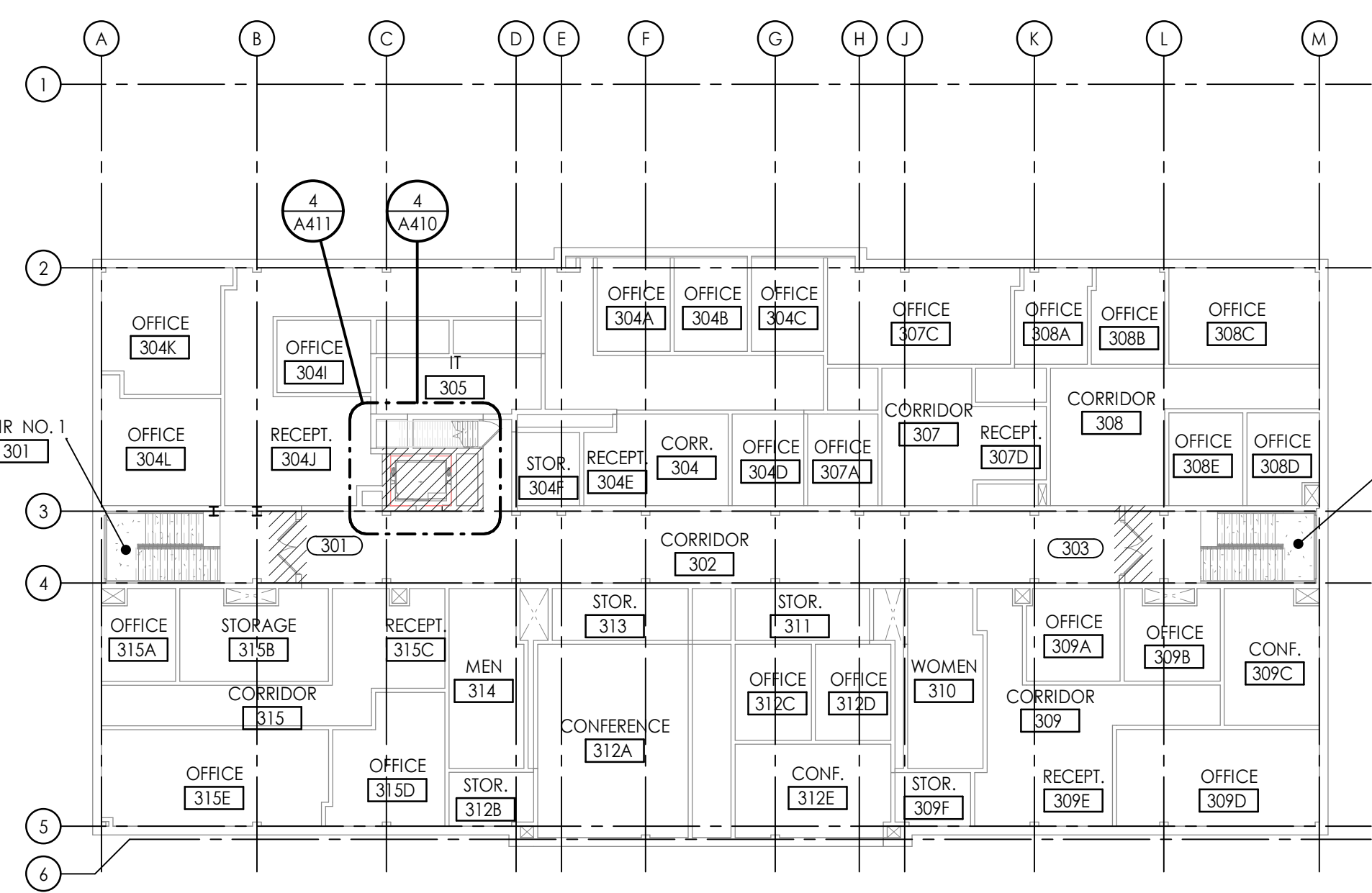
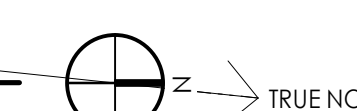
5 ATTIC LEVEL FLOOR PLAN

1/16" = 1'-0"



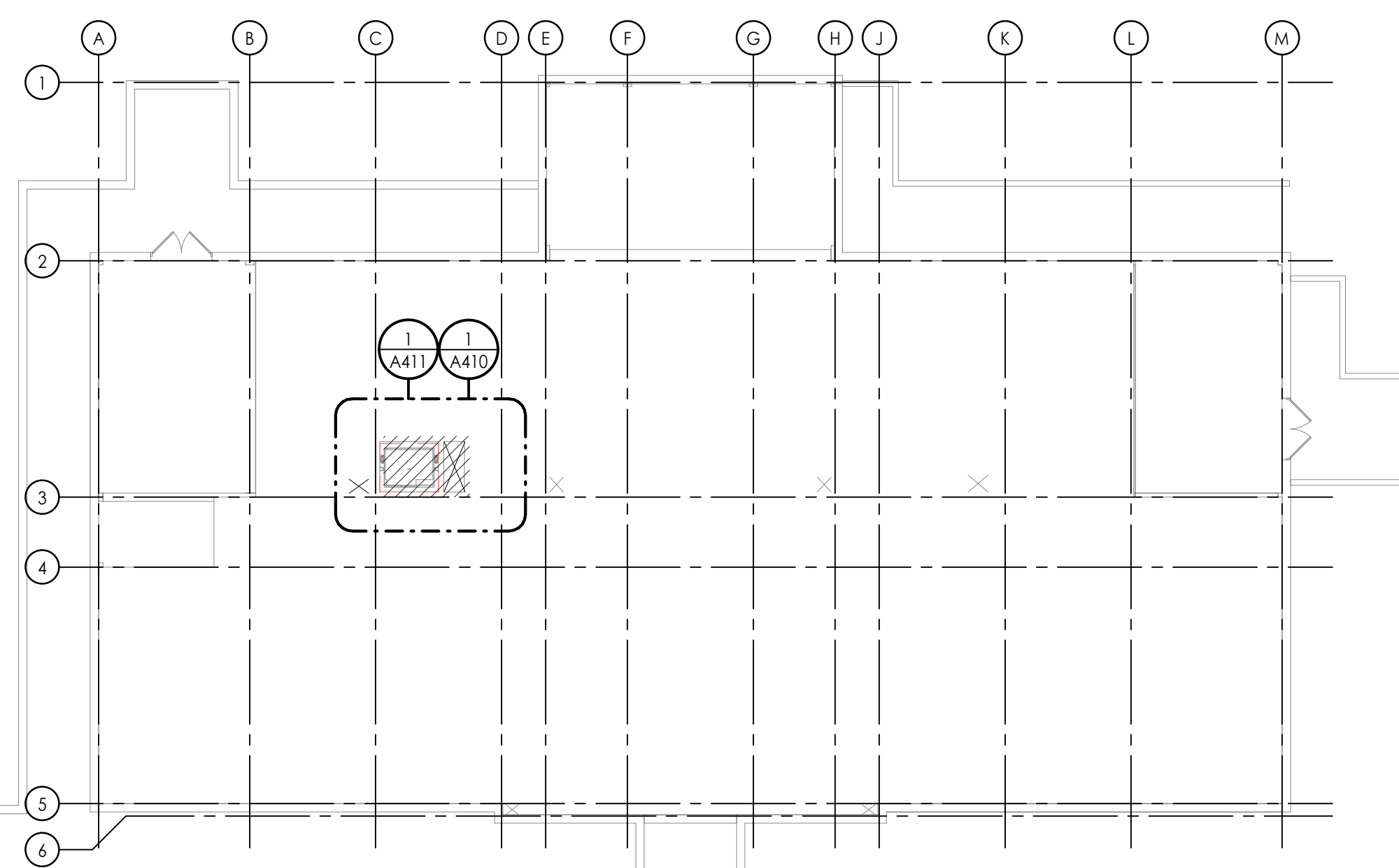
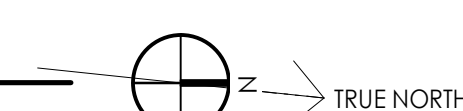
2 LEVEL 1 FLOOR PLAN

1/8" = 1'-0"



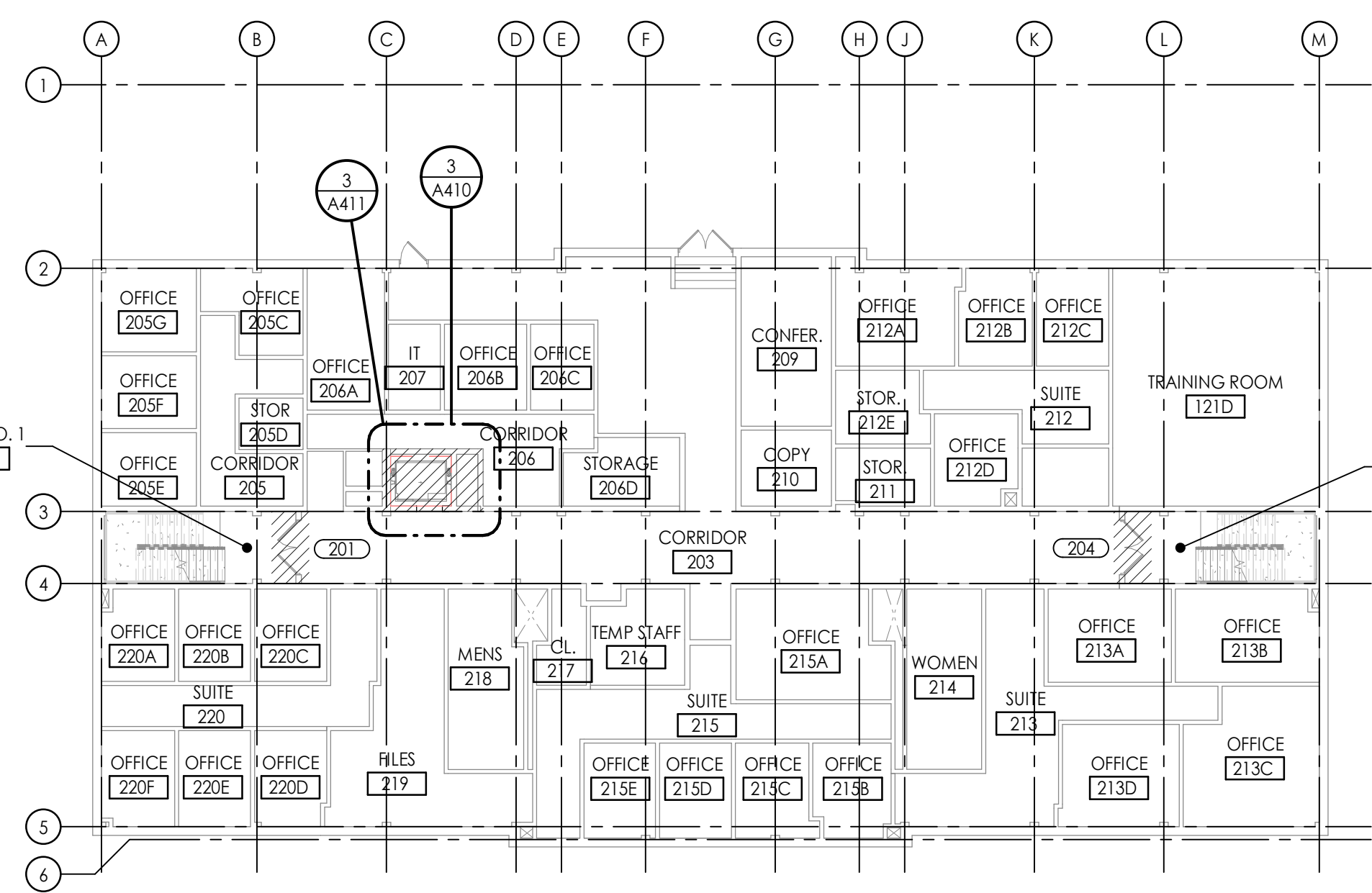
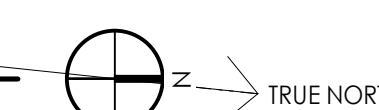
4 THIRD LEVEL FLOOR PLAN

1/16" = 1'-0"



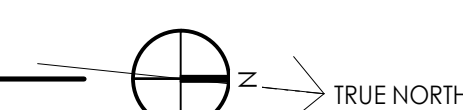
1 CRAWL SPACE/ ELEVATOR PIT LEVEL

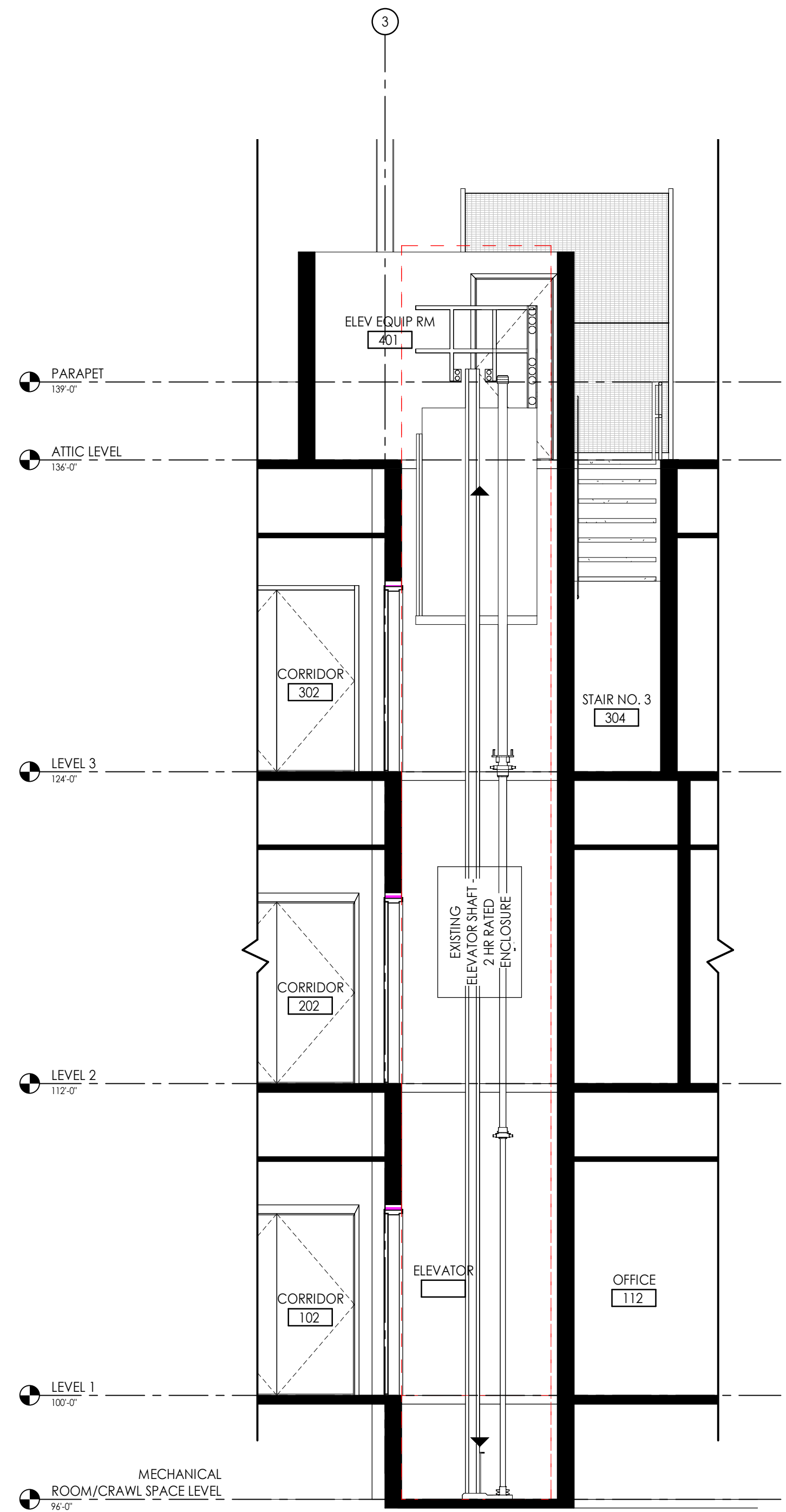
1/16" = 1'-0"



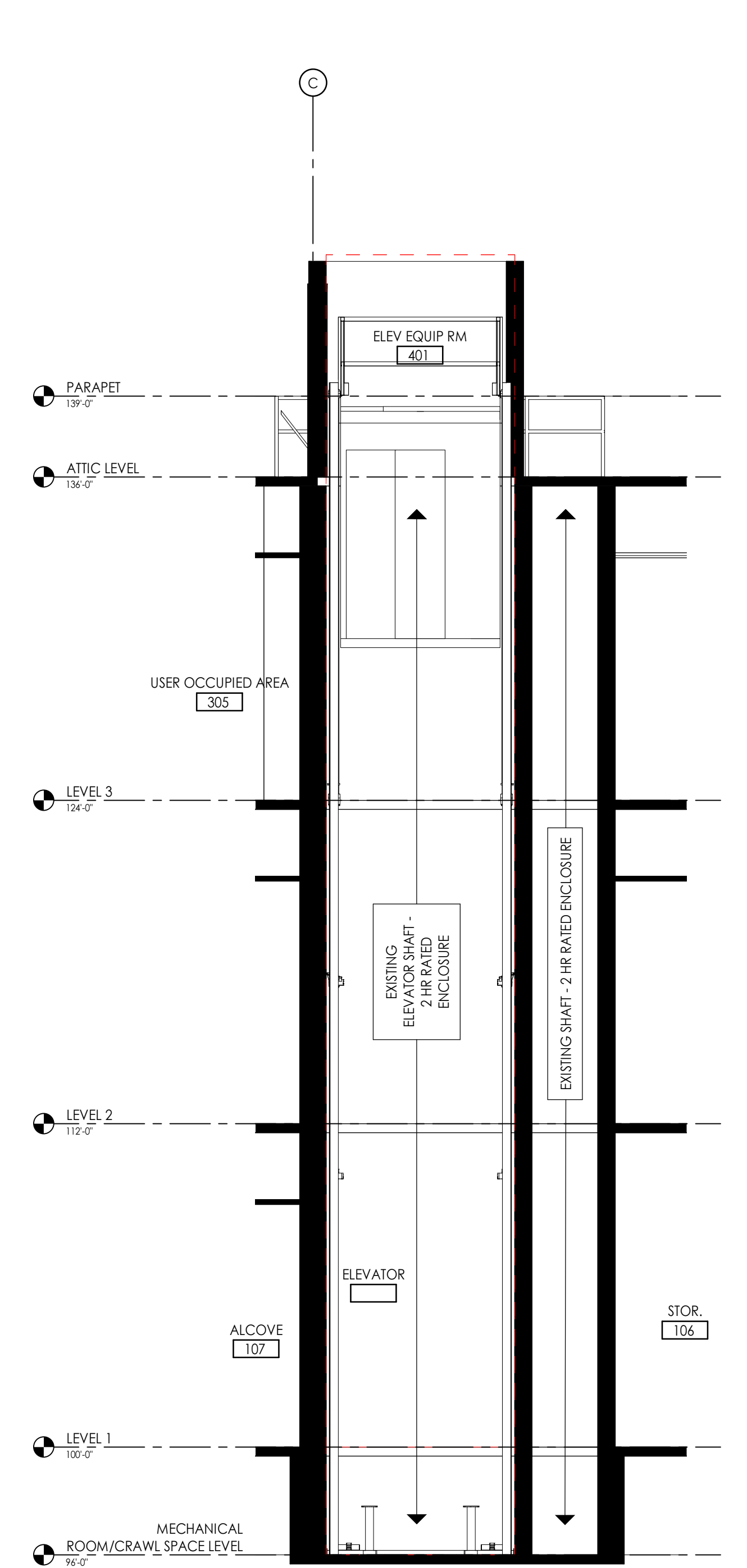
3 SECOND LEVEL FLOOR PLAN

1/16" = 1'-0"

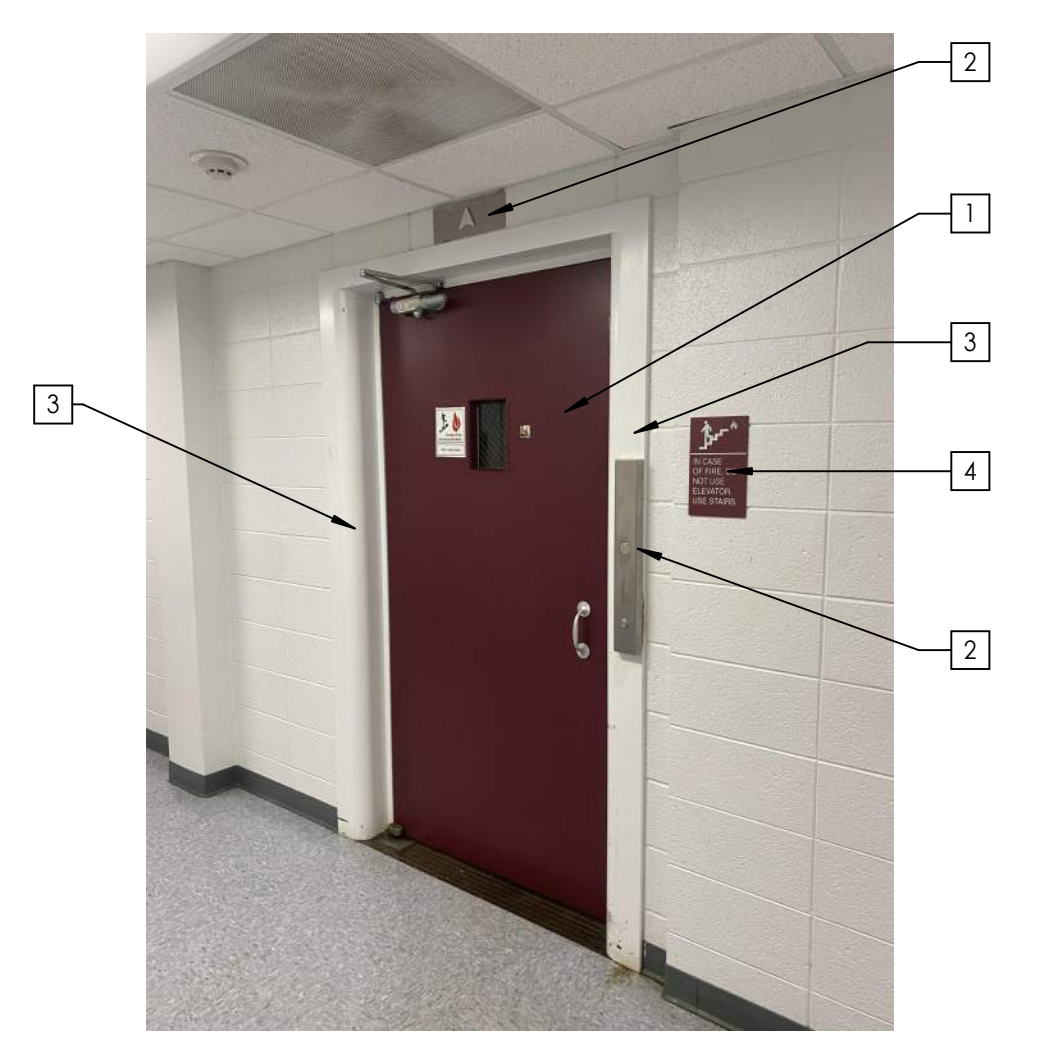




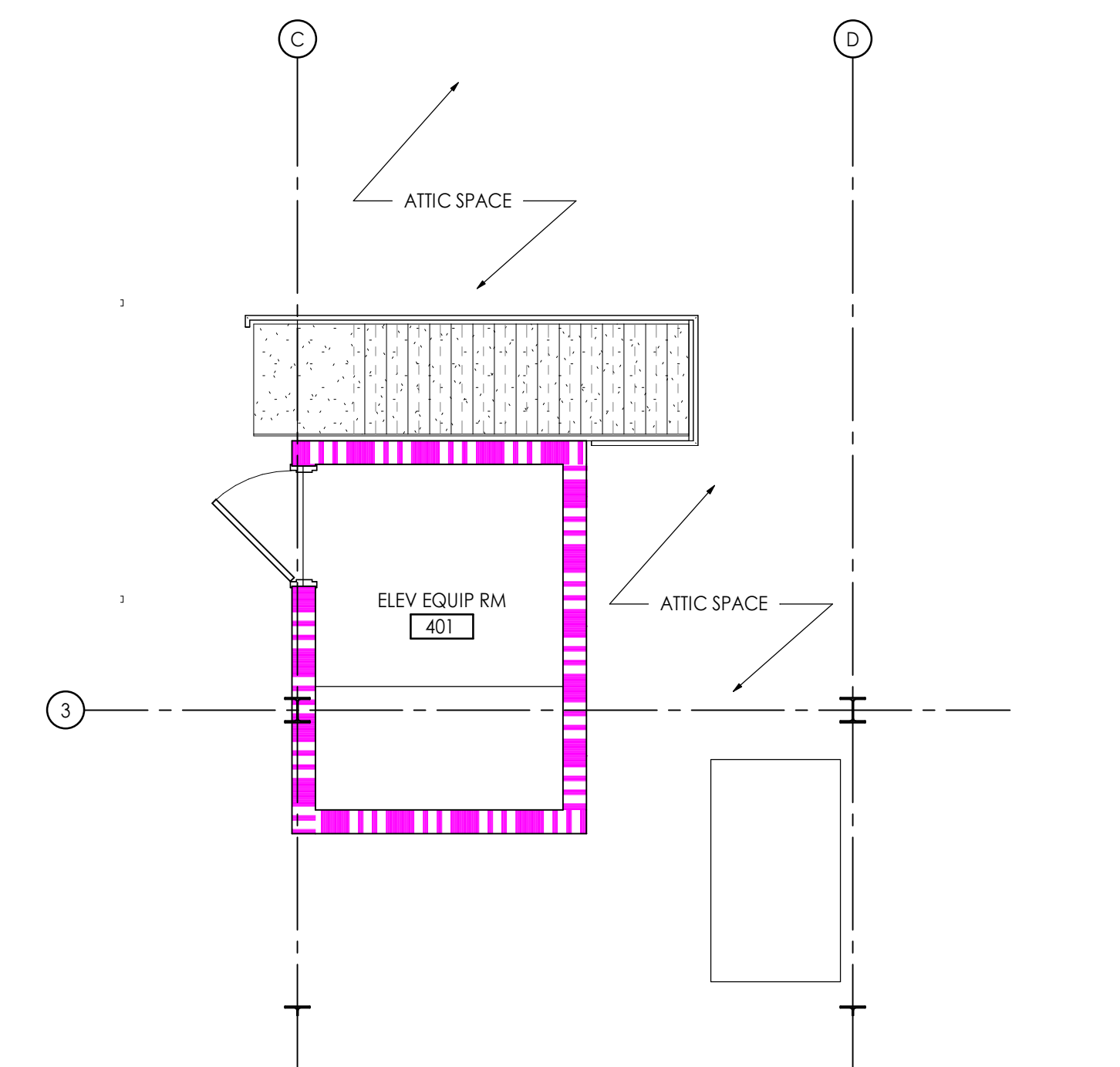
8 HOISTWAY TRANSVERSE SECTION
A410 1/4" = 1'-0"



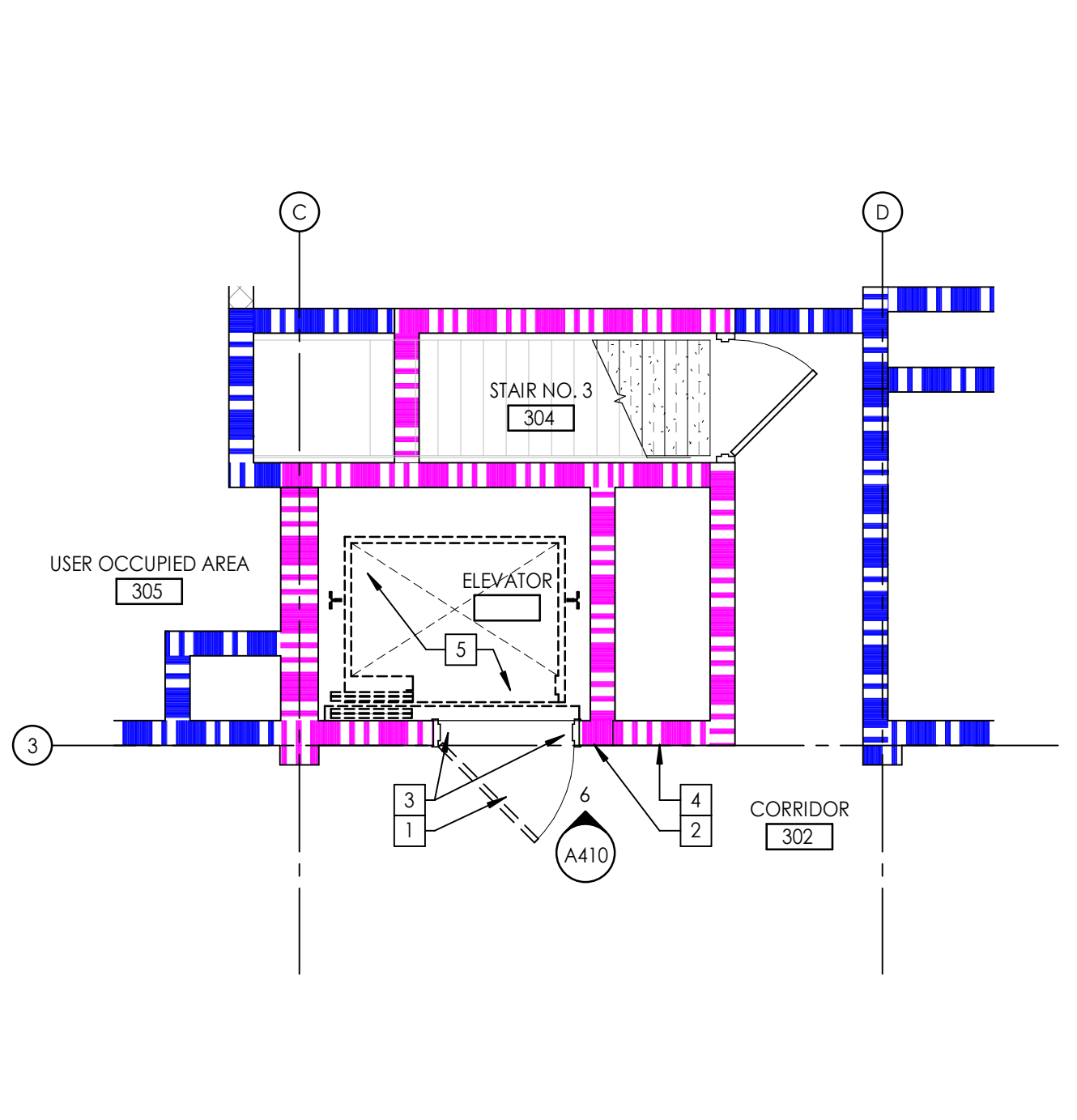
7 HOISTWAY LONGITUDINAL SECTION
A410 1/4" = 1'-0"



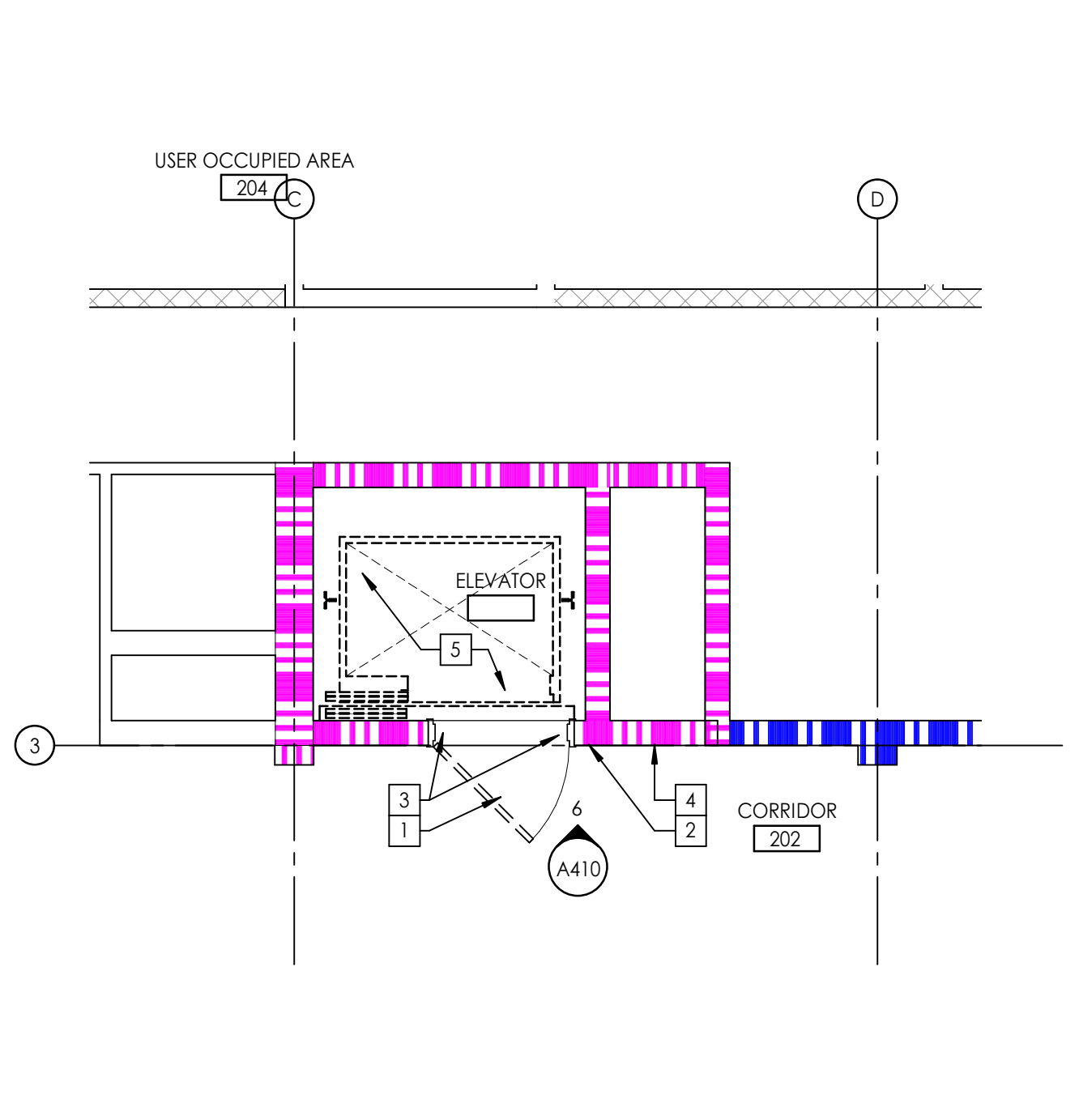
6 EXISTING ELEVATOR IMAGE (ALL FLOORS)
A100 A410 3" = 1'-0"



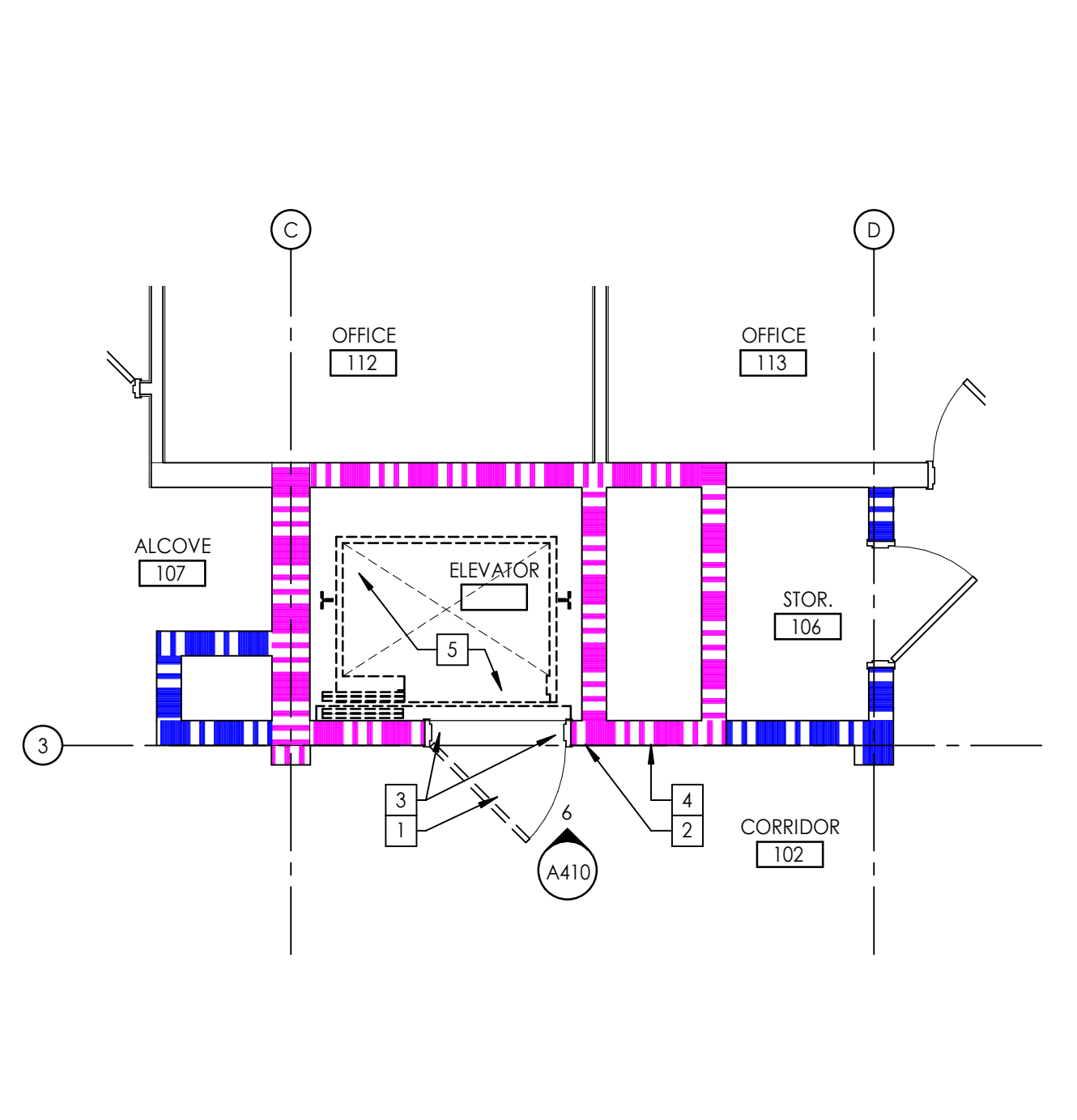
5 DEMOLITION PLAN - ATTIC
A100 A410 1/4" = 1'-0"



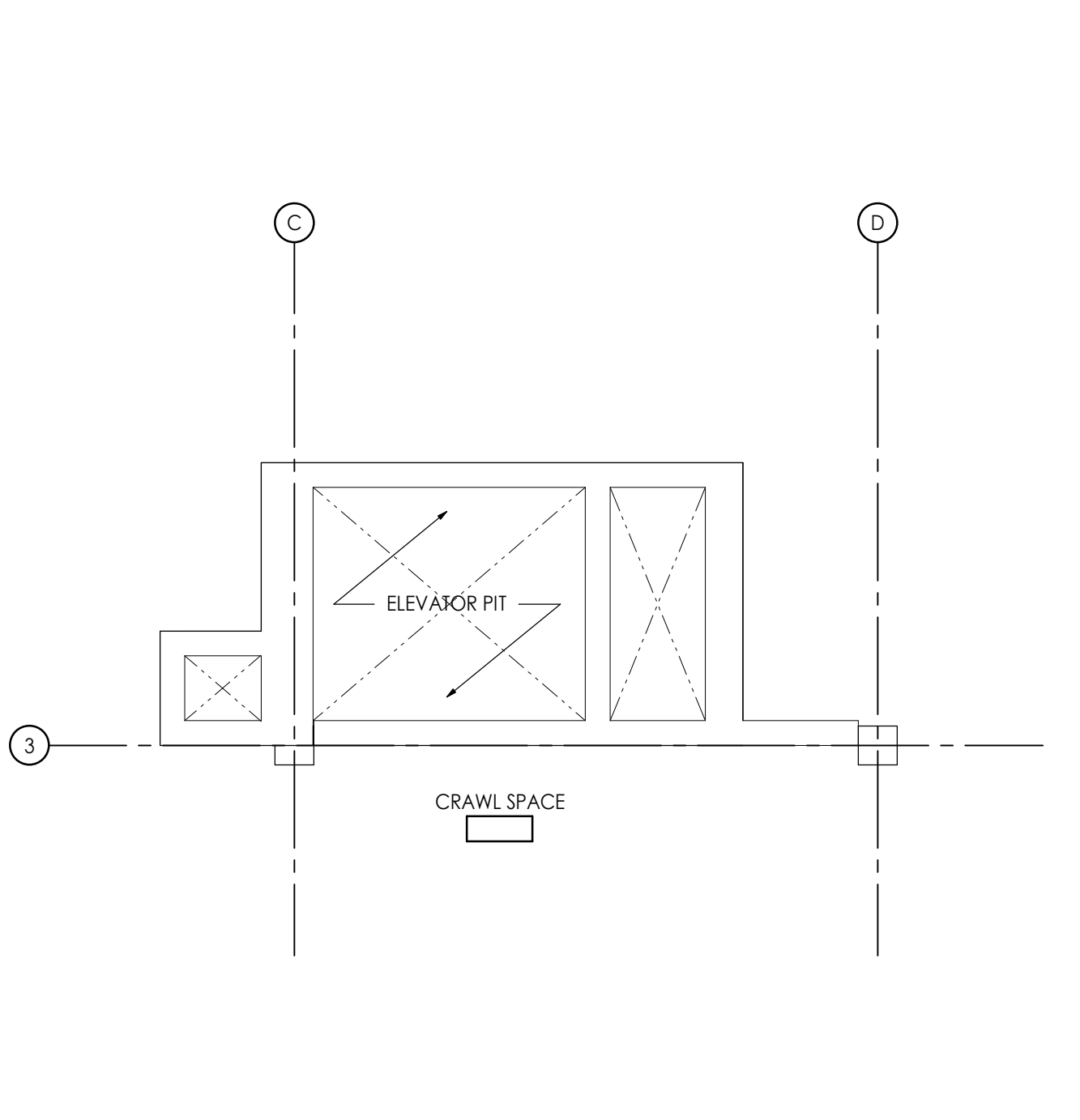
4 DEMOLITION PLAN - LEVEL 3
A100 A410 1/4" = 1'-0"



3 DEMOLITION PLAN - LEVEL 2
A100 A410 1/4" = 1'-0"



2 DEMOLITION PLAN - LEVEL 1
A100 A410 1/4" = 1'-0"



1 DEMOLITION PLAN - PIT
A100 A410 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

- ALL NCCU STANDARD PRACTICES SHALL BE STRICTLY ADHERED TO BY THE G.C.
- FIELD VERIFY ALL EXISTING CONDITIONS AND FINISHES PRIOR TO SUBMITTING A BID AND START OF ANY WORK. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND OWNER FOR EVALUATION BEFORE SUBMITTING A BID OR CONTINUING WITH WORK.
- FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE START OF WORK. CONDITIONS THAT PROHIBIT THE WORK FROM BEING PERFORMED AS SHOWN SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER FOR EVALUATION BEFORE CONTINUING WORK.
- VERIFY WITH THE OWNER PRIOR TO THE START OF WORK THE EXTENT OF DEMOLITION ITEMS TO BE SALVAGED. ALL DEMOLITION IS TO BE LIMITED TO THE EXTENT REQUIRED FOR NEW WORK. ALL UNUSED ITEMS SHALL BE DEMOLISHED AND REMOVED RATHER THAN ABANDONED IN PLACE. PROTECT ALL ITEMS AND EXISTING SURFACES TO REMAIN FROM DAMAGE AS REQUIRED.
- CONTRACTOR SHALL OFFER OWNER FIRST RIGHT OF REFUSAL FOR ALL SALVAGEABLE ITEMS NOT SCHEDULED FOR REUSE.
- ITEMS NOT BEING SALVAGED SHALL BE TRANSPORTED AND DISPOSED OF IN A LEGAL MANNER IN ACCORDANCE WITH ALL APPLICABLE CODES. CONTRACTORS SHALL RETAIN ALL DISPOSAL RECORDS.
- REFER TO SPECIFICATIONS FOR DEMOLITION REQUIREMENTS, UTILITY DISRUPTIONS, AND WORK HOURS.
- G.C. SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING ITEMS TO REMAIN AS REQUIRED FOR THE DURATION OF CONSTRUCTION.
- CLEAN AND PREPARE EXISTING SURFACES/SUBSTRATES TO REMAIN AS REQUIRED FOR PROPER INSTALLATION OF NEW FINISHES PER MANUFACTURER'S RECOMMENDATIONS AND CONTRACT DOCUMENTS.
- PERFORM DEMOLITION WORK IN A MANNER SO AS TO MINIMIZE DAMAGE TO EXISTING SURROUNDING ITEMS TO REMAIN. ANY ADJACENT SURFACE THAT IS DISTURBED BY NEW CONSTRUCTION SHALL BE PATCHED, REPAIRED, PRIMED, PAINTED, ETC. TO MATCH EXISTING ADJACENT SURFACES. ALL GYPSUM BOARD FINISH SURFACES SHALL HAVE A MINIMUM OF LEVEL 4 FINISH.
- SEAL ALL PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES AS REQUIRED BY THE CURRENT NC BUILDING CODE. USE UL DETAILS INCLUDED IN THE CONTRACT DOCUMENTS. SHOULD THE G.C. DISCOVER CONCEALED CONDITIONS WHICH ARE NOT CORRECTLY ADDRESSED, THOSE ITEMS SHALL BE DOCUMENTED AND SEALED USING A UL LISTED METHOD APPROPRIATE TO THE RATING.
- SELECTED DEMOLITION IS TO INCLUDE (BUT NOT LIMITED TO) ITEMS DASHED ON DEMOLITION DRAWINGS AND AS NOTED IN KEYED DEMOLITION NOTES.
- CONTRACTORS ARE TO VERIFY THAT NEW OPENINGS, PENETRATIONS AND DEMOLITION DO NOT CONFLICT WITH EXISTING STRUCTURES TO REMAIN. NOTIFY ARCHITECT IMMEDIATELY OF ANY POTENTIAL CONFLICTS PRIOR TO COMMENCING DEMOLITION. ADJUST LOCATIONS OF NEW PENETRATIONS AND DEMOLITION AS AGREED UPON WITH ARCHITECT.
- RECENT PRIOR RENOVATIONS TO THE BUILDING INCLUDED ABATEMENT OF HAZARDOUS MATERIALS. IT IS ASSUMED THAT THERE WILL BE NO HAZARDOUS MATERIALS TO CONFLICT WITH FOR THIS PROJECT. SHOULD THE G.C. ENCOUNTER A CONCEALED OR HIDDEN CONDITION THAT REQUIRES TESTING AND ABATEMENT, THE G.C. SHALL STOP WORK WITHIN THE AFFECTED AREA AND NOTIFY THE ARCHITECT AND OWNER IMMEDIATELY. SUCH CONCEALED OR HIDDEN CONDITIONS FOUND DURING CONSTRUCTION THAT REQUIRE TESTING AND ABATEMENT WILL BE THE RESPONSIBILITY OF THE G.C.

DEMOLITION KEYNOTES:

- DEMOLISH EXISTING DOOR AND FRAME.
- REMOVE EXISTING ELEVATOR PANELS, SIGNALS AND BUTTONS.
- REMOVE EXISTING FRAME, PREP WALL TO RECEIVE NEW TRIM.
- REMOVE EXISTING ELEVATOR SIGNS.
- REMOVE EXISTING ELEVATOR IN ITS ENTIRETY. PREP SHAFT TO RECEIVE THE NEW ELEVATOR.

MA WORKS, P.A.
50455
DURHAM, NC

JOHN MILLIACCA
REGISTERED ARCHITECT
05/15/23
14263
WALEIGH, NC

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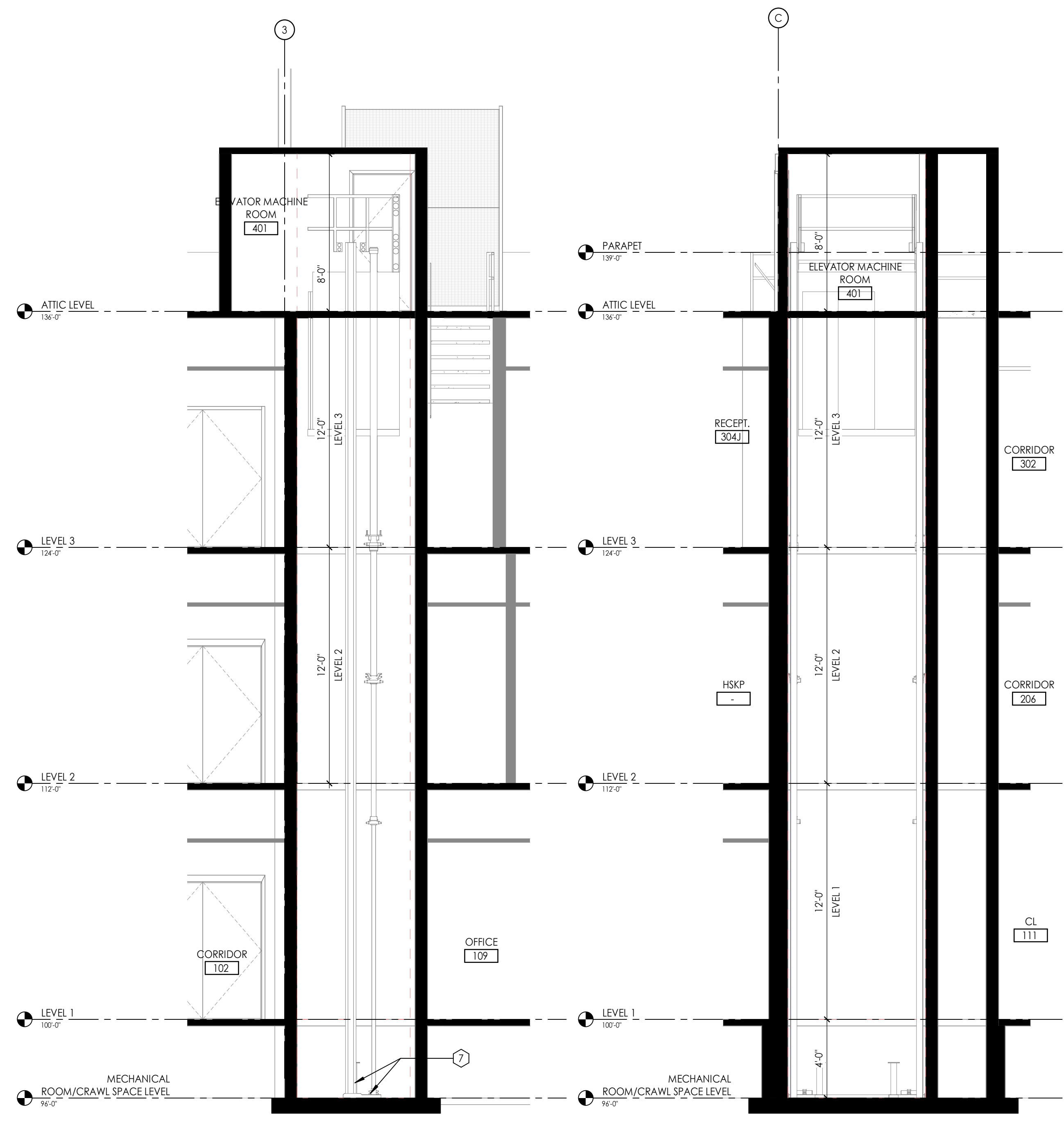
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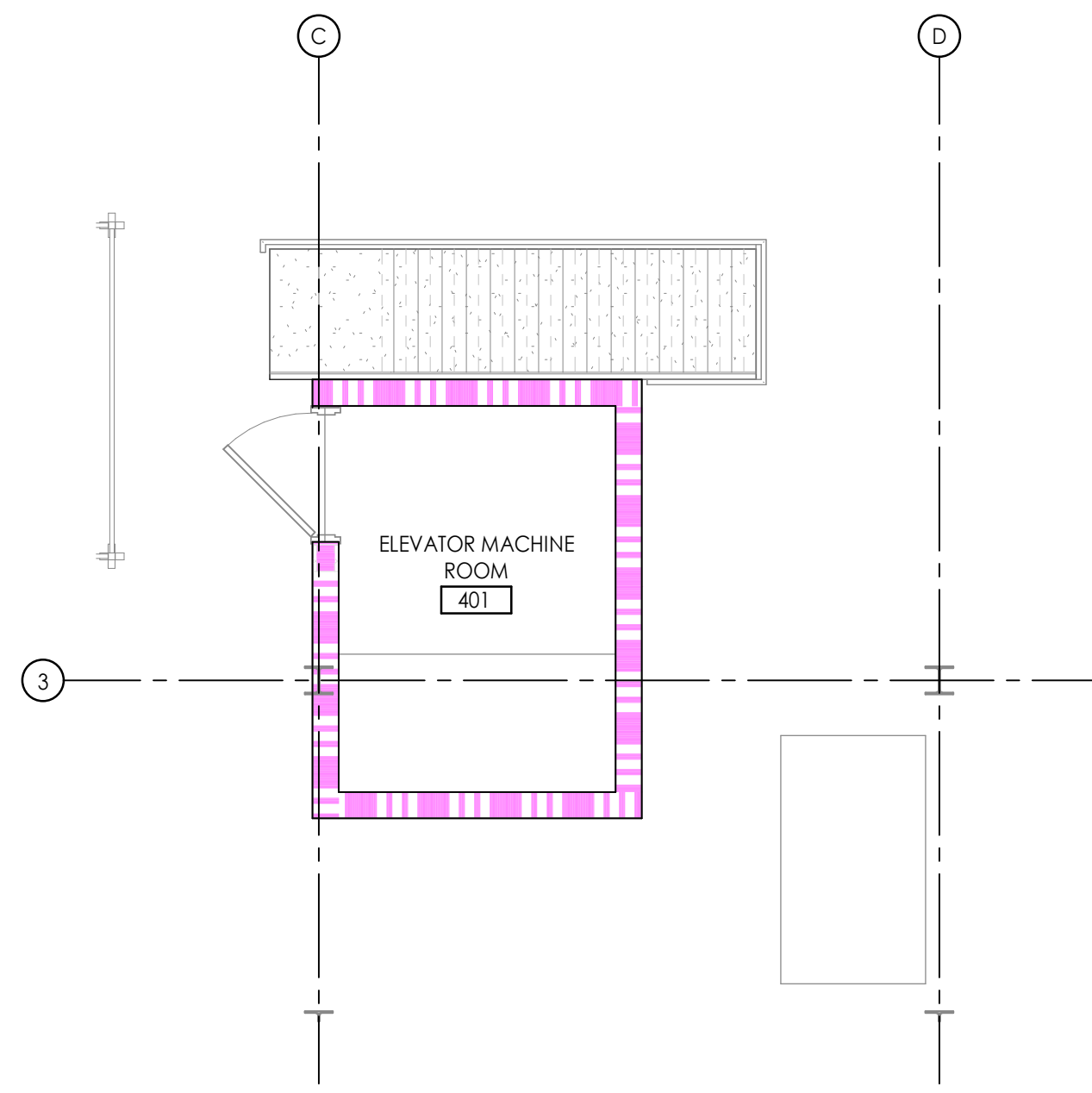
DRAWING NAME
**ENLARGED PLANS -
DEMOLITION**

DRAWING NO.
A410
Drawn By: HM Checked By: JMM

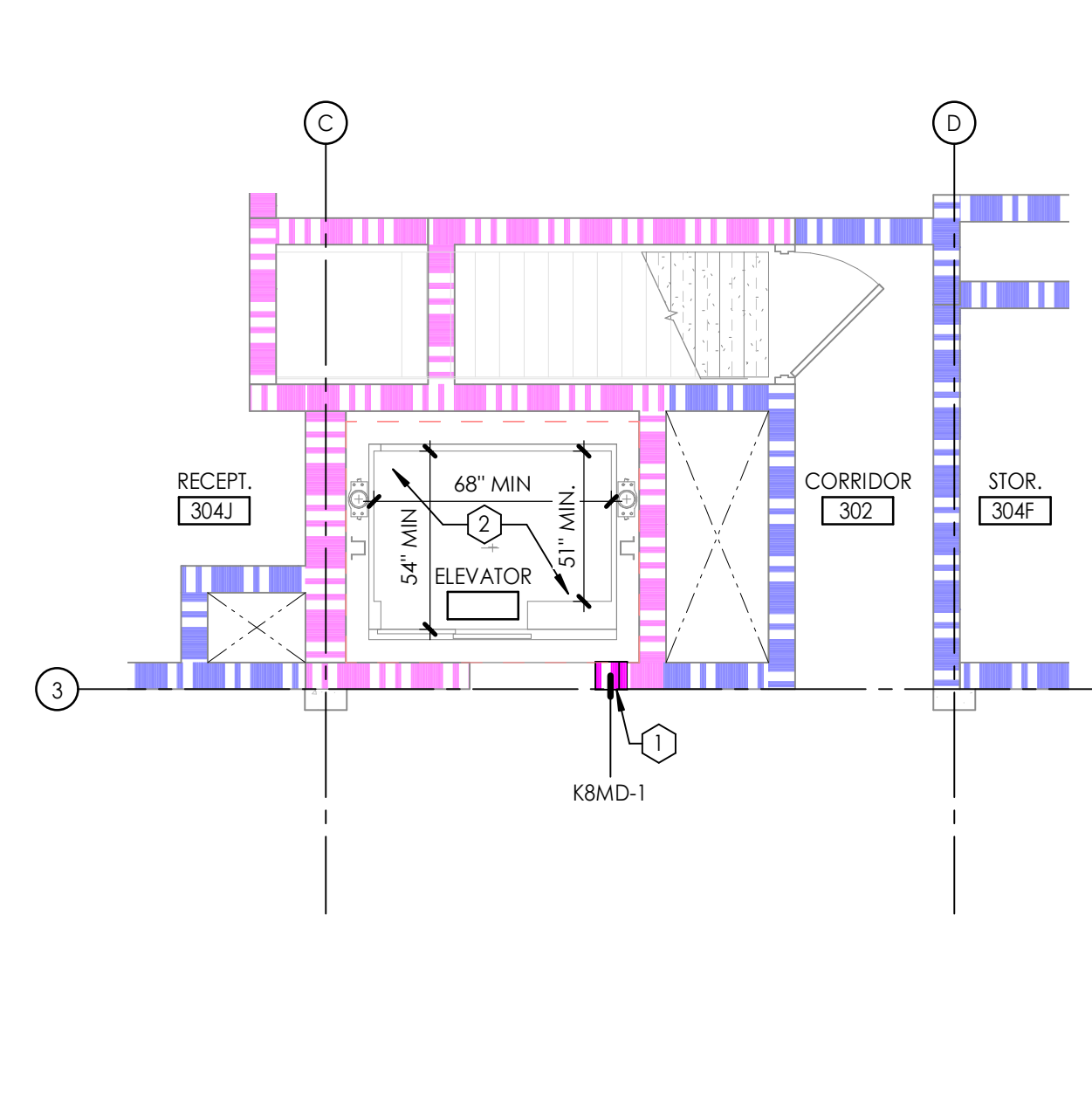


7 HOISTWAY TRANSVERSE SECTION
A411 1/4" = 1'-0"

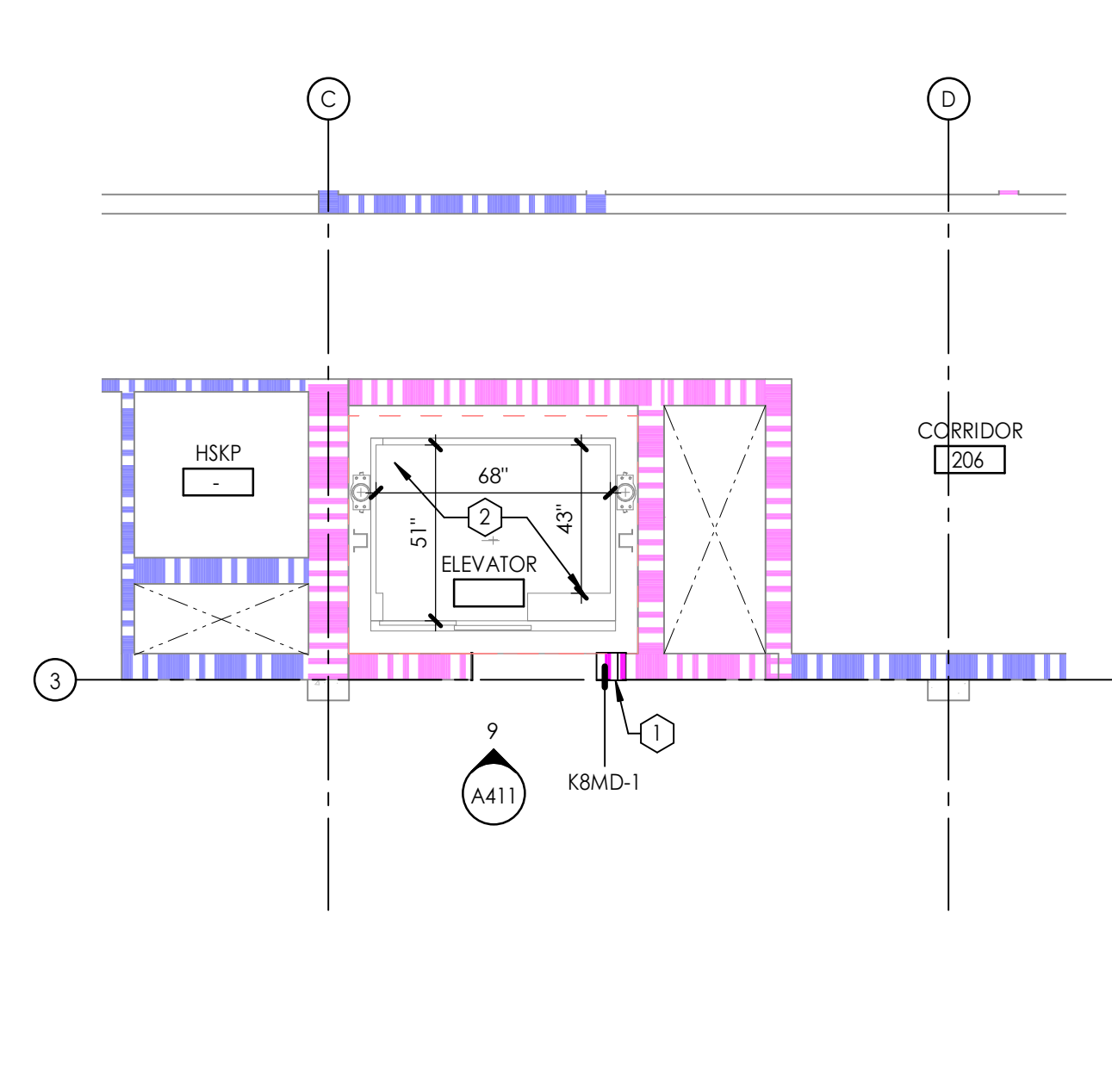
6 HOISTWAY LONGITUDINAL SECTION
A411 1/4" = 1'-0"



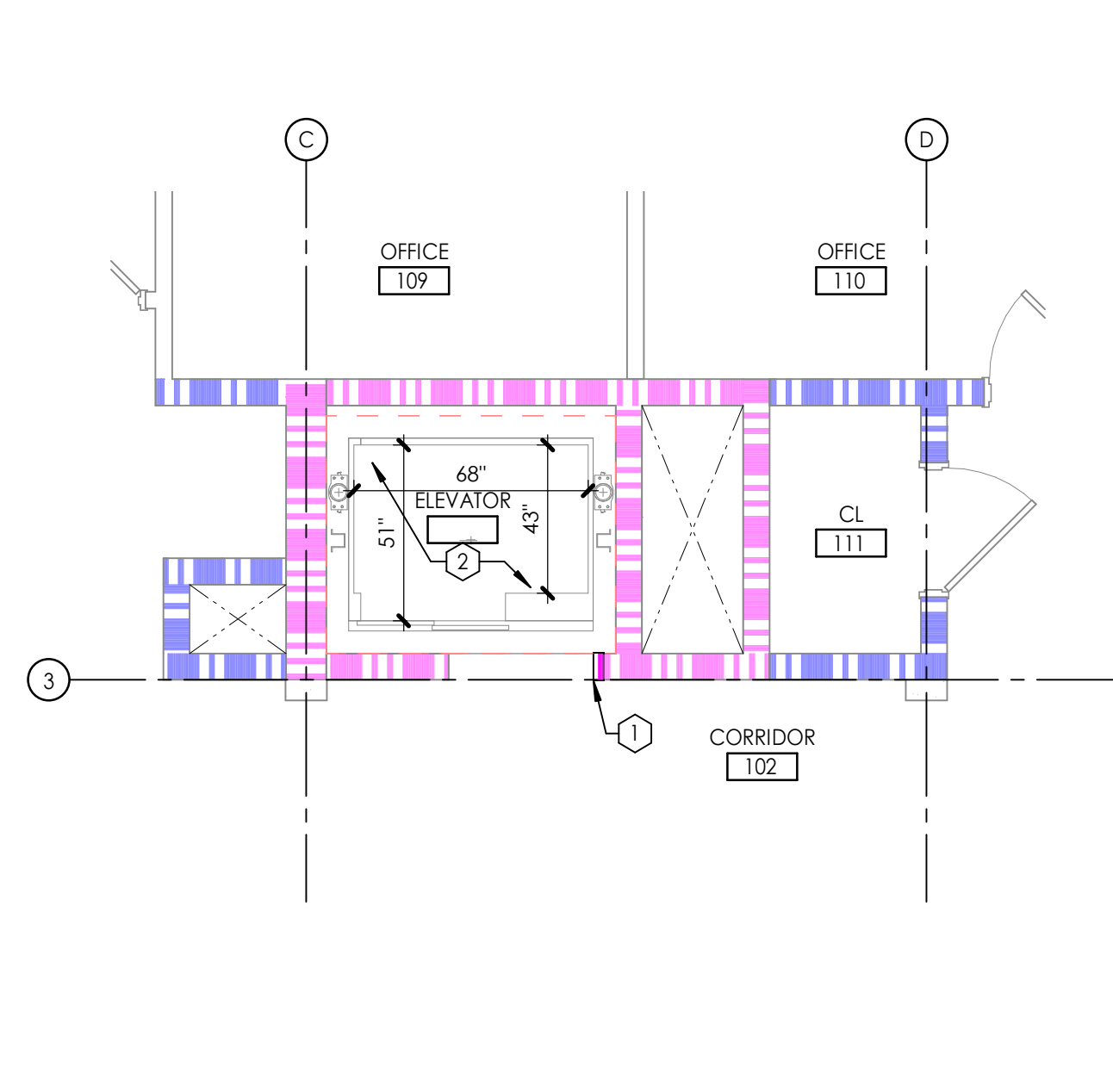
5 ENLARGED FLOOR PLAN - ATTIC
A100 A411 1/4" = 1'-0"



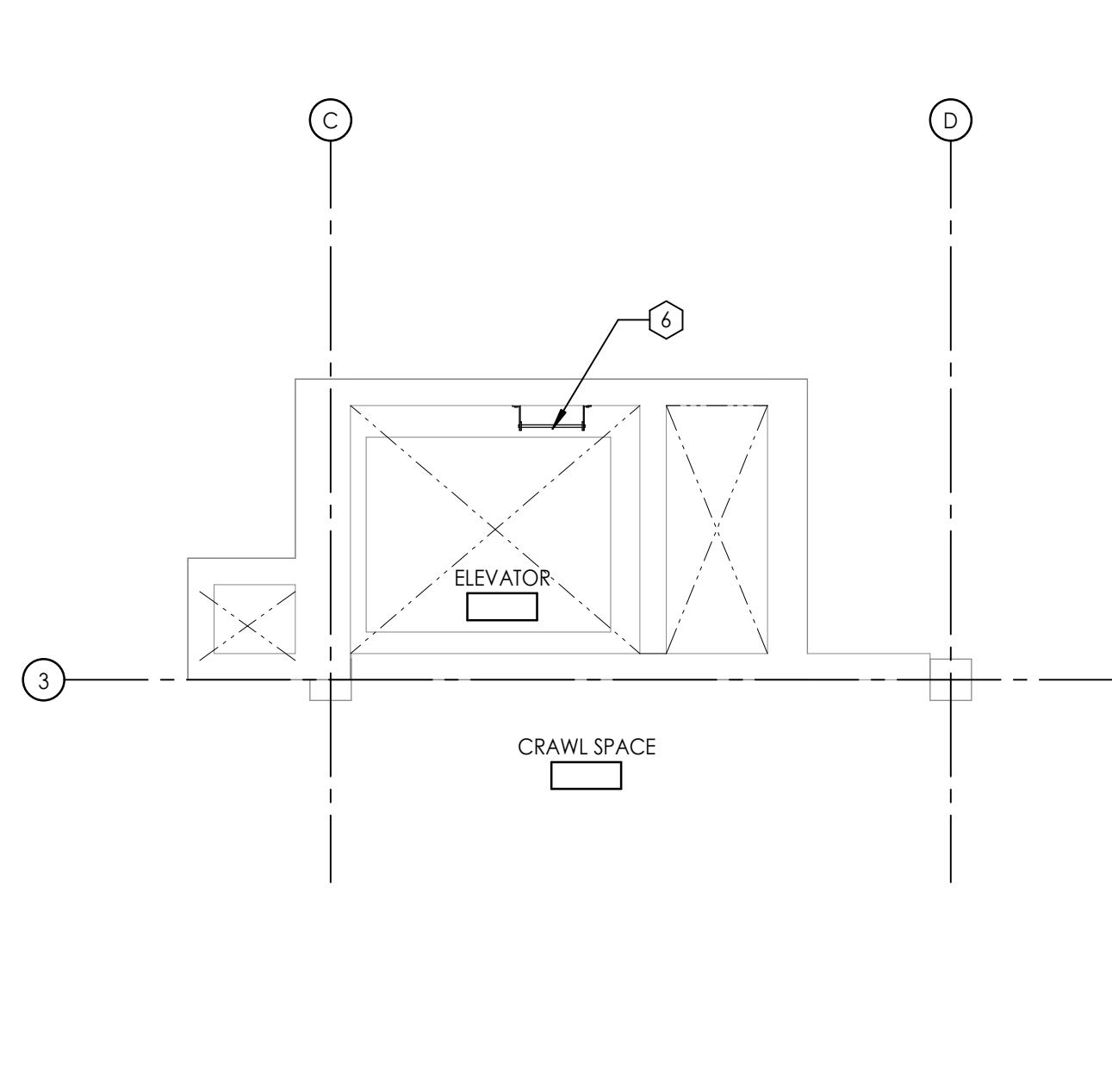
4 ENLARGED FLOOR PLAN - LEVEL 3
A100 A411 1/4" = 1'-0"



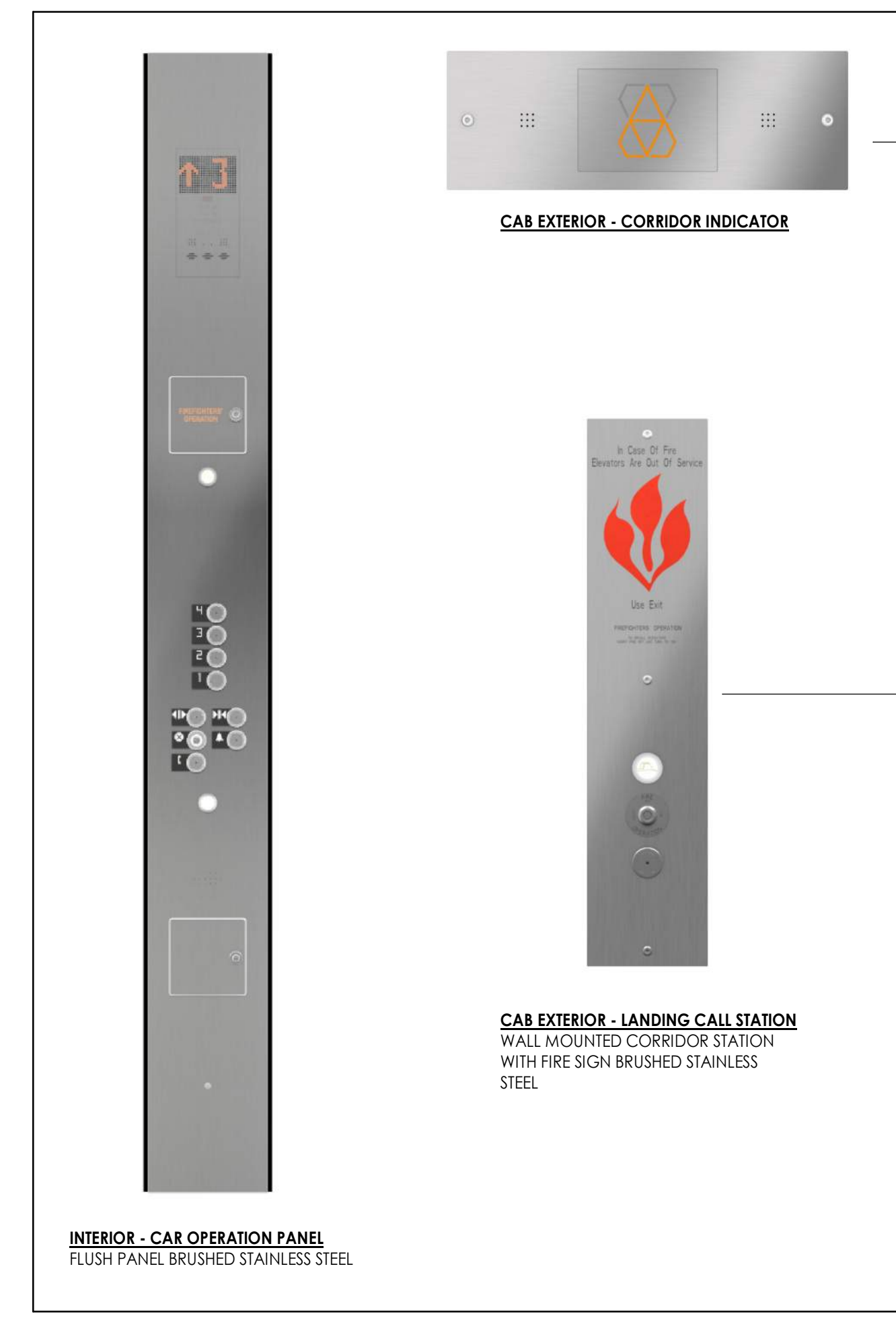
3 ENLARGED FLOOR PLAN - LEVEL 2
A100 A411 1/4" = 1'-0"



2 ENLARGED FLOOR PLAN - LEVEL 1
A100 A411 1/4" = 1'-0"



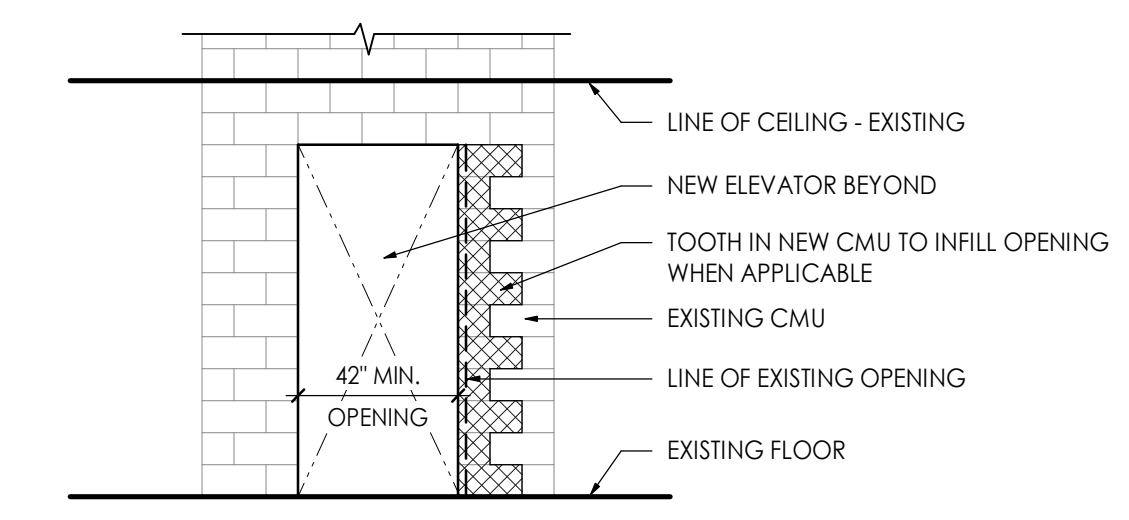
1 ENLARGED FLOOR PLAN - PIT
A100 A411 1/4" = 1'-0"



* REFER TO SHEETS A002 AND A601 FOR ADDITIONAL ELEVATOR CAB DETAILS AND DIMENSIONS.



9 ELEVATOR ELEVATION 1
A411 A411 1/2" = 1'-0"



10 TOOTH IN MASONRY
A411 1/4" = 1'-0"

FLOOR PLAN GENERAL NOTES

- SEE PLUMBING, MECHANICAL, ELECTRICAL, FIRE PROTECTION, CIVIL AND STRUCTURAL DRAWINGS FOR RELATED WORK AND ADDITIONAL REQUIREMENTS.
- DIMENSIONS ARE TO STRUCTURAL CENTERLINE, FACE OF CONCRETE OR MASONRY CONSTRUCTION, OR FACE OF METAL STUD, UNLESS NOTED OTHERWISE. G.C. RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO STARTING WORK. G.C. TO NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE FOUND BETWEEN CONTRACT DOCUMENTS AND FIELD CONDITIONS.
- VERIFY ALL DIMENSIONS, INCLUDING DIMENSIONS ON STRUCTURAL DRAWINGS AND OTHER ARCHITECTURAL DRAWINGS. IMMEDIATELY NOTIFY ARCHITECT OF ANY DISCREPANCIES.
- COORDINATE EQUIPMENT WORK WITH MANUFACTURERS AND SUPPLIERS TO ENSURE PROPER ROUGH-IN CLEARANCES FOR INSTALLATION, USE, AND MAINTENANCE.
- G.C. TO PATCH/REPAIR EXISTING ELEVATOR SHAFT WALLS TO MEET UL DETAIL LISTED IN CODE SUMMARY.
- ALL EXISTING AND NEW PENETRATIONS THROUGH SHAFT WALL AND ABOVE/FLOOR SHALL HAVE AIR TIGHT FIRE STOPPING AND FIRE SEALANT INSTALLED BY G.C.
- ALL EXISTING FIRE RATED ASSEMBLIES ARE TO BE PROTECTED AND MAINTAINED.
- ALL EXISTING FIRE PROTECTION SYSTEMS ARE ASSUMED TO BE INTACT AND IN COMPLIANCE WITH CURRENT CODE STANDARDS. PRE-EXISTING CONDITIONS FOUND WITHIN THE WORK AREA THAT ARE NOT IN COMPLIANCE SHALL BE DOCUMENTED AND BROUGHT TO THE ATTENTION OF THE ARCHITECT AND OWNER PRIOR TO PROCEEDING WITH WORK.
- ALL TRANSITIONS BETWEEN FIRE-RATED ASSEMBLIES SHALL BE CONTINUOUS AND MAINTAIN ALL REQUIRED RATINGS PER APPLICABLE UL DETAILS.
- REFER TO SHEETS A002 AND A601 FOR ADDITIONAL ELEVATOR CAB DETAILS AND DIMENSIONS.

WALL RATING LEGEND

PARTITION TYPE TAG - REFER TO SHEET A003 FOR PARTITION SCHEDULE.

- 3A2N-1 UNRATED WALL
- SMOKE PARTITION
- 1/2 - HOUR FIRE BARRIER
- 1 - HOUR FIRE BARRIER
- 2 - HOUR FIRE BARRIER

NEW WORK KEYNOTES:

- INFILL PORTION OF WALL TO MATCH EXISTING PARTITION AND FIRE BARRIER REQUIREMENTS. FRAME OPENING, PAINT TO MATCH EXISTING FINISHES. REFER TO SHEETS A001 AND G007 FOR PARTITION INFORMATION.
- NEW ELEVATOR, ELEVATOR CAB AND FINISHES. REFER TO SPECIFICATIONS SECTION 14 2400 - HYDRAULIC ELEVATOR MODERNIZATION FOR ADDITIONAL INFORMATION.
- NEW ELEVATOR CONTROL PANEL AND SIGNALS.
- NEW ELEVATOR SIGN.
- PREPARE WALL TO RECEIVE NEW FINISHES, TRIM AND PAINT TO MATCH EXISTING FINISHES.
- ELEVATOR PIT LADDER.
- NEW JACK ASSEMBLY. REFER TO ELEVATOR SPECIFICATIONS.

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DRAWING NAME
ENLARGED PLANS - NEW WORK

DRAWING NO. **A411**
Drawn By: HM Checked By: JMM



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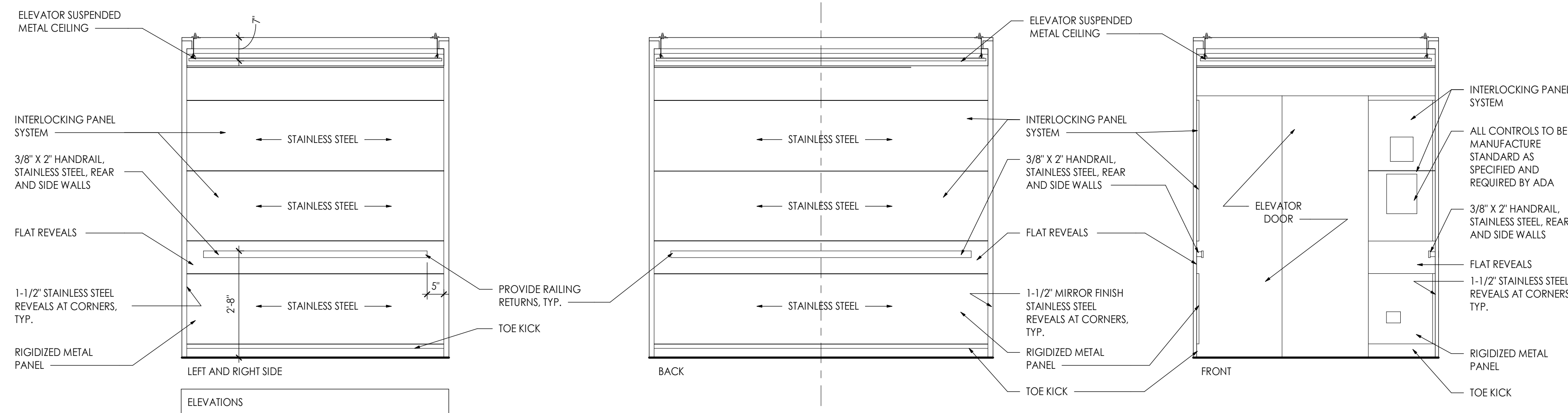
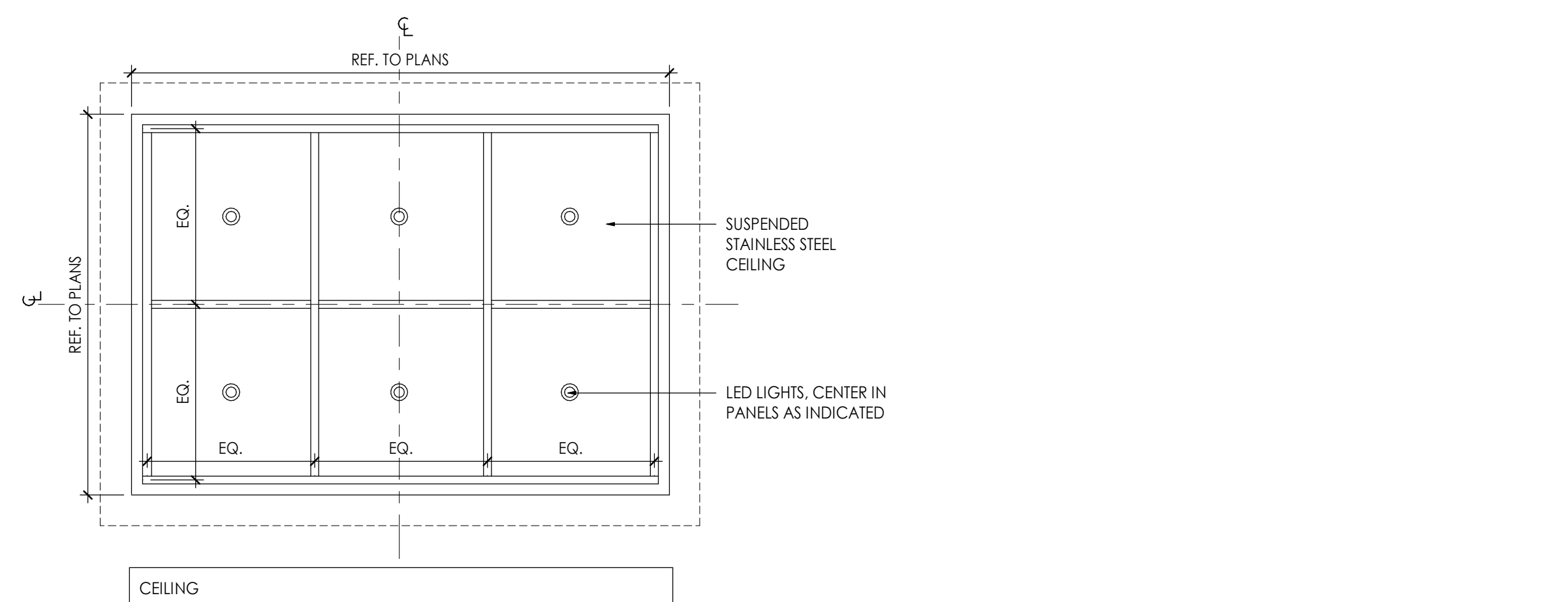
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1	10/17/22	SCO REVISIONS

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DRAWING NAME
**ELEVATOR PLANS,
SECTIONS & DETAILS**

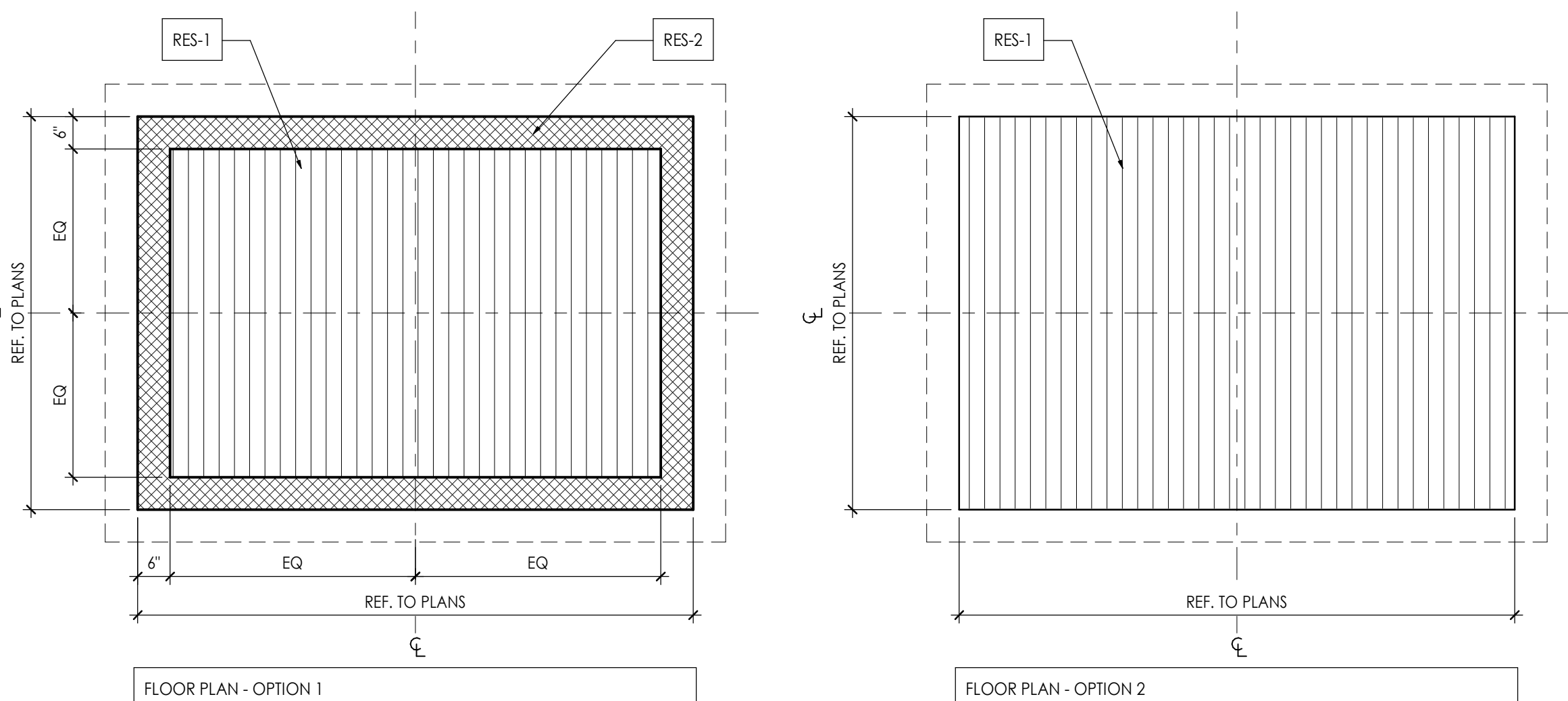
DRAWING NO.
A601

Drawn By: HM Checked By: JMM

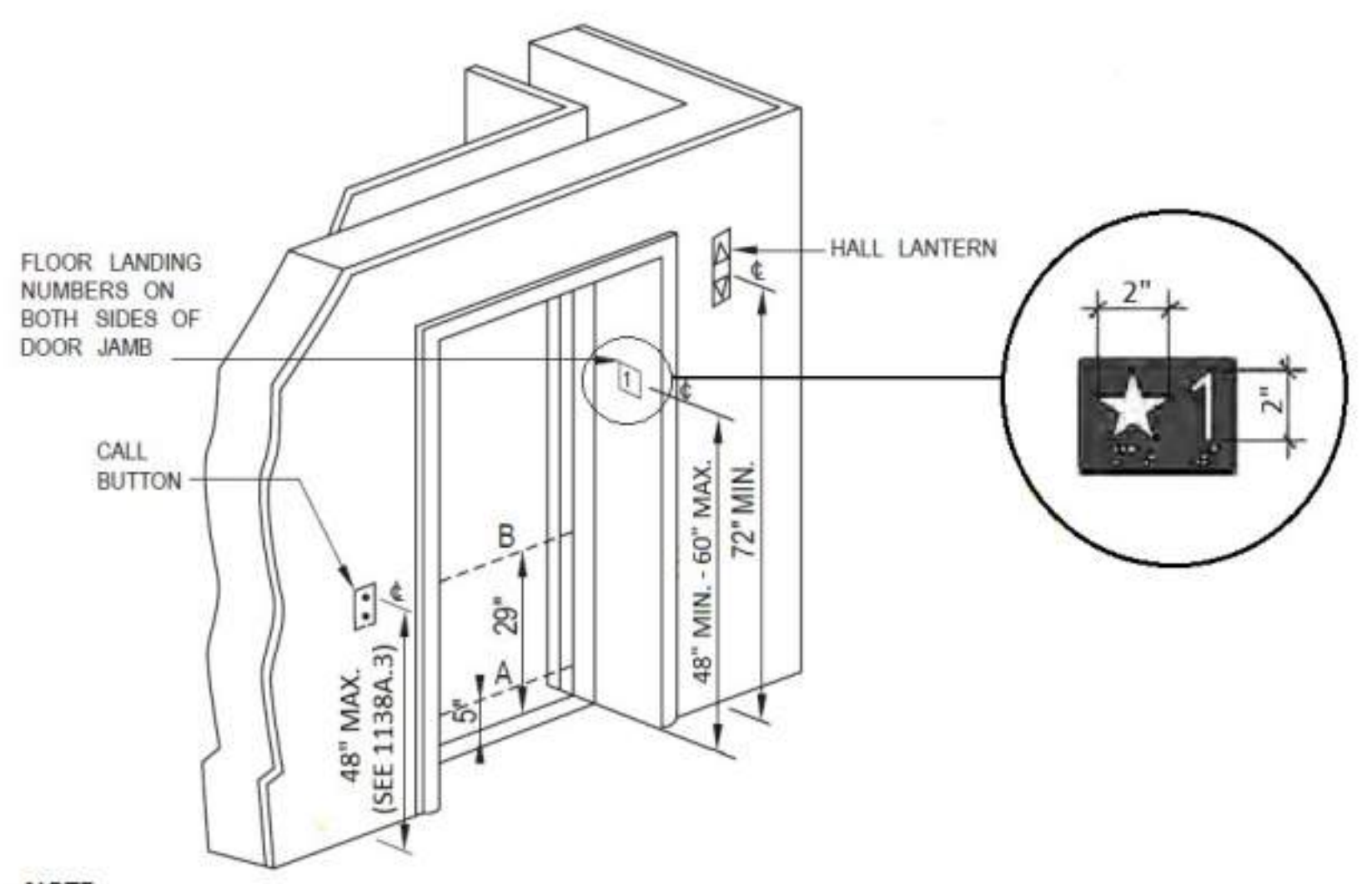


ELEVATOR FINISHES	
CEILING:	SIX LED DOWNLIGHTS WITH BRUSHED STAINLESS PANELS AND CONCEALED ACCESS PANEL.
WALLS:	STAINLESS STEEL
FLOOR:	RES-1, RES-2 RESILIENT FLOORING, COLORS (MOUNTAIN AIR 4526) AND (VACATION 4502)
BASE:	STAINLESS STEEL RAIL TYPE BASE SLOPED 2" FROM WALL TO FLOOR.
HANDRAILS:	2" WIDE ALUMINUM EXTRUDED HANDRAIL AND GUARDRAILS. SEE ELEVATIONS.

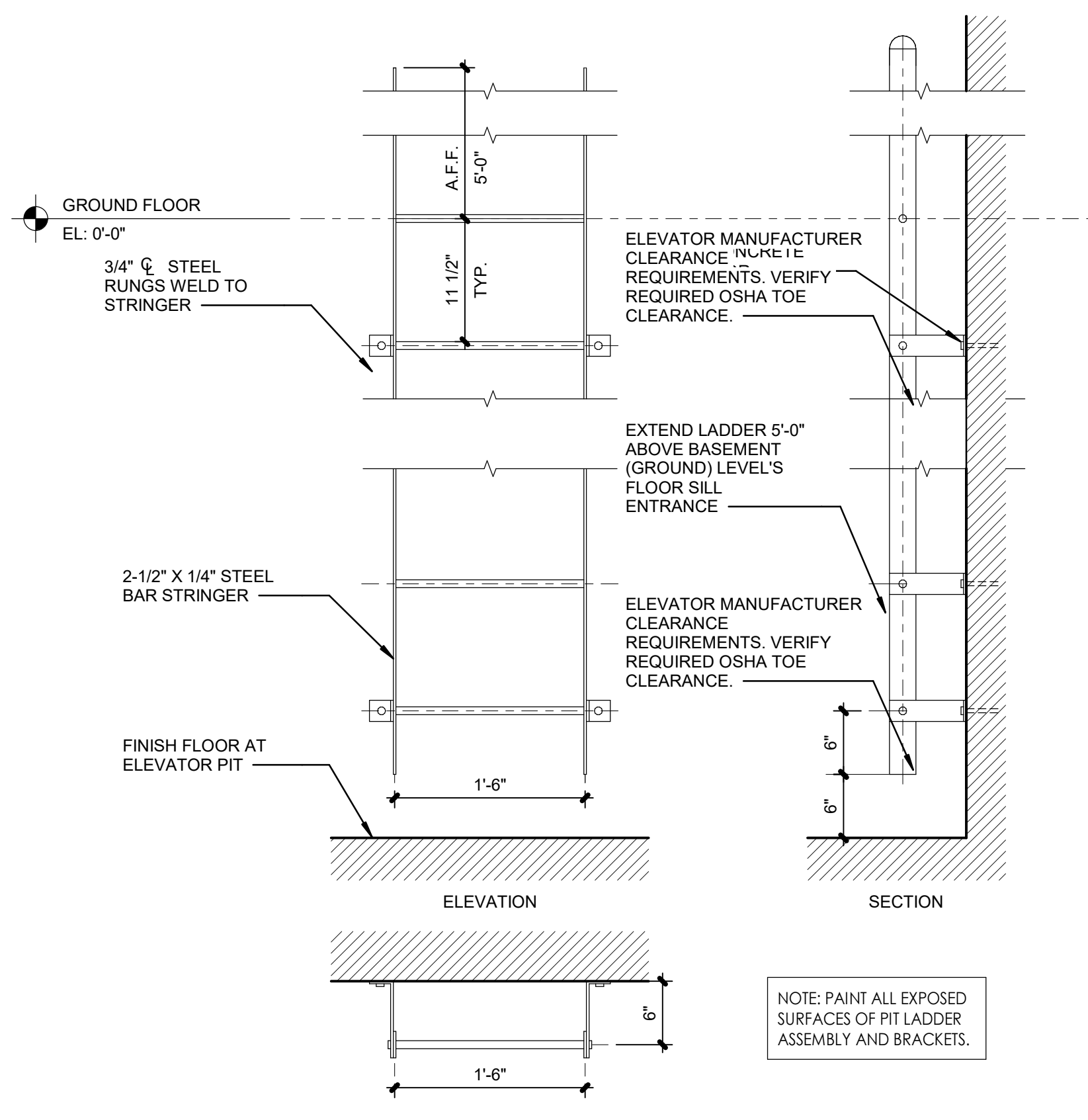
* REFER TO SHEETS A002 AND A411 FOR ADDITIONAL ELEVATOR CAB DETAILS AND DIMENSIONS.



2 ELEVATOR DETAIL
1/2" = 1'-0"

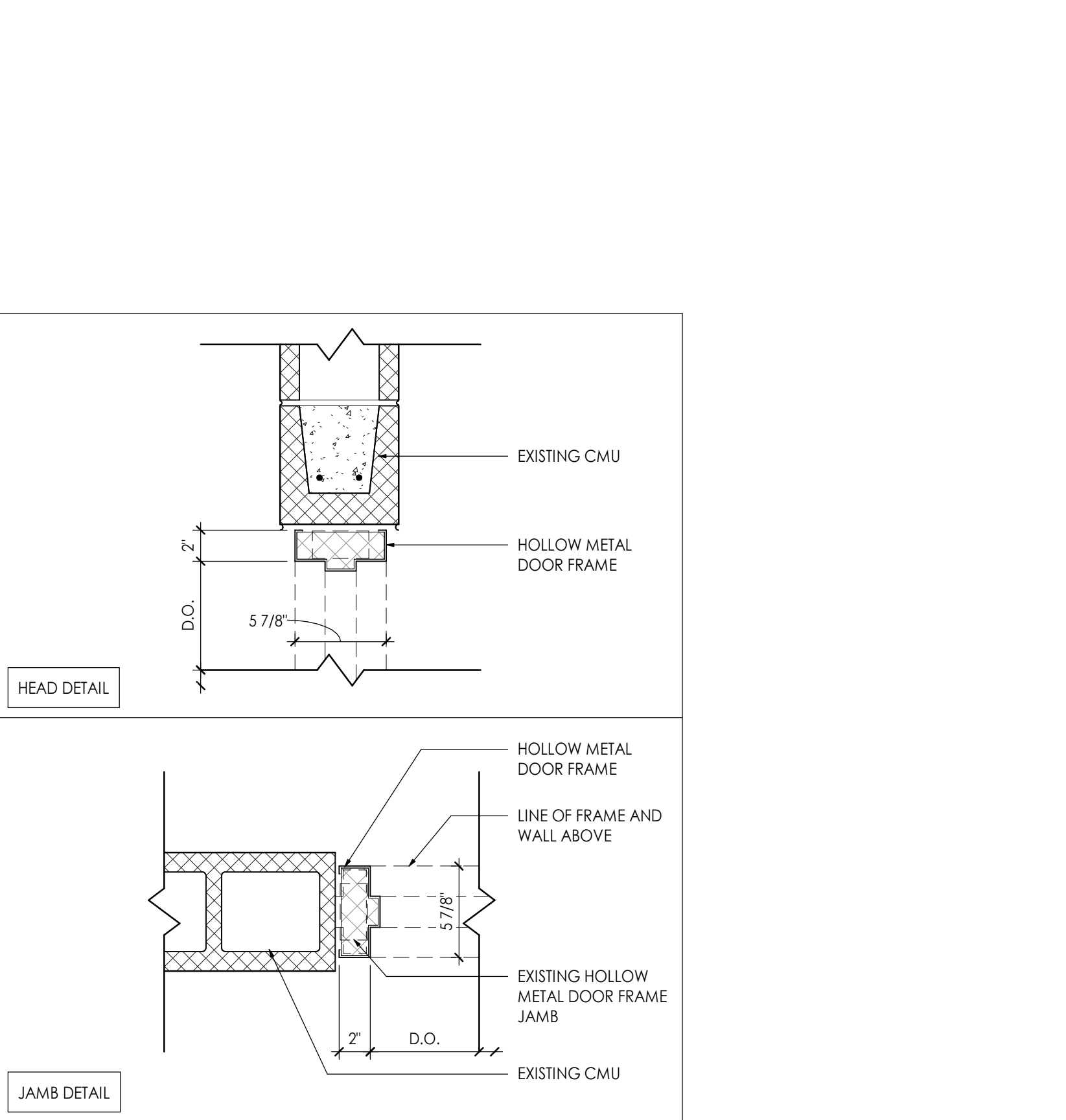


NOTE:
THE AUTOMATIC DOOR REOPENING DEVICE IS ACTIVATED IF AN OBJECT PASSES THROUGH EITHER LINE A OR LINE B. LINE A AND LINE B REPRESENT THE VERTICAL LOCATION OF THE DOOR REOPENING DEVICE NOT REQUIRING CONTACT.



NOTE: PAINT ALL EXPOSED SURFACES OF PIT LADDER ASSEMBLY AND BRACKETS.

3 LADDER DETAIL
1" = 1'-0"



CMU HOLLOW METAL DOOR DETAILS
1/2" = 1'-0"

1 ELEVATOR CAR ENCLOSURE DETAILS
1/2" = 1'-0"

DOOR AND FRAME SCHEDULE ABBREVIATIONS		DOOR AND FRAME SCHEDULE GENERAL NOTES	
EXIST.	EXISTING	1.	REFER TO SHEET ##### FOR DOOR AND HARDWARE SPECIFICATIONS AND MANUFACTURE INFORMATION.
HCWD	HOLLOW CORE FLUSH WOOD	2.	OPENINGS NOT SCHEDULED ARE EXISTING TO REMAIN.
PFN	PREFINISHED BY MANUFACTURER	3.	DOORS ARE 1-3/4" THICK UNLESS OTHERWISE NOTED.
PTD	PAINTED	4.	AN ASTERISK (*) CALLS ATTENTION TO THE REMARKS COLUMN OF THE SCHEDULE.
SCWD	SOLID CORE FLUSH WOOD		
HM	HOLLOW METAL		

U.L. LABEL DESIGNATIONS
U.L.** MINIMUM OPENING PROTECTION ASSEMBLY
20 1 HOUR FIRE-RESISTANCE RATING

** ALL FIRE-RESISTANCE RATED DOORS SHALL BE SMOKE AND DRAFT CONTROL LABELED IN ADDITION TO U.L. LABELS INDICATED.
FIRE DOOR ASSEMBLIES REQUIRED TO HAVE A MINIMUM FIRE PROTECTION RATING OF 20 MINUTES WHERE LOCATED IN 1 HOUR FIRE PARTITION ASSEMBLY.

Hardware Sets

Set: 1.0

Doors: 103
Description: Existing Door, Frame & Hardware - EAC Conversion & Added Low Energy Operator

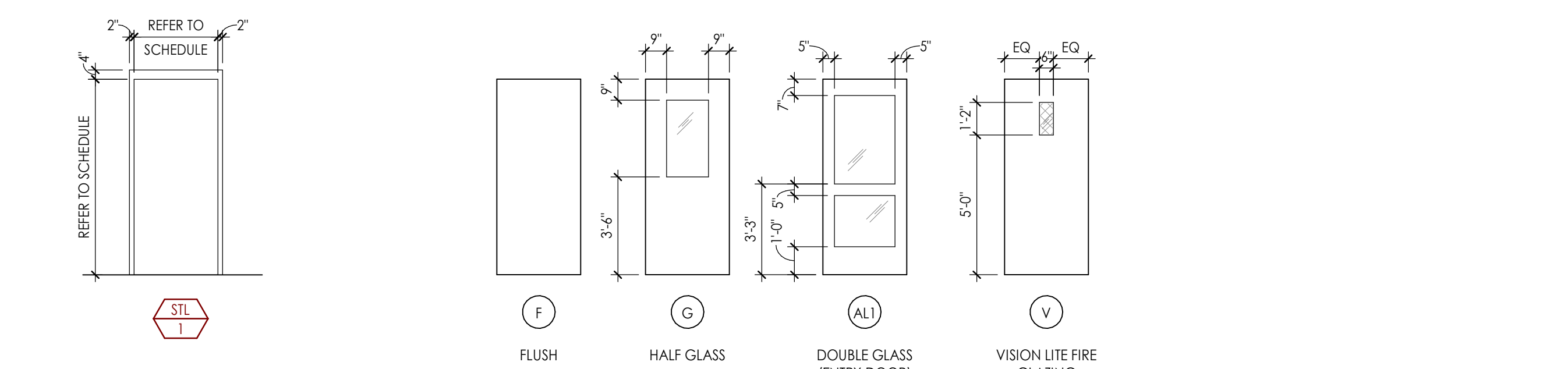
Item	Description	Quantity	Part No.	Material	Unit
1	Electric Latch Retraction Rail	68-3299	Match Rail Size	US32D	SA
1	Mortise Cylinder	21	41 GMK	US15	SA
1	Automatic Opener	6061		689	NO
2	Wall Switch	700			NO
1	Keyswitch	MK			SU
1	Door Cord	TSB-C			SU

Notes: Replace existing mechanical rail with new electric latch-retraction rail.
Prep door and hinge jamb for electronic device.
Device is powered by 1-Amp output from automatic opener.
OPERATION: Touchless handicap actuator switch either side temporarily retract latchbolt at active leaf and cycle operator.
Key switch toggles outside actuator on & off to secure opening.
Inside pushbar always allows egress mechanically. Electronic replacement rail is fail secure with inside RX switch.

NO.	OPENING		DOOR		FRAME				DETAILS			U.L. LABEL	HARDWARE	REMARKS	
	WIDTH	HEIGHT	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	JAMB	HEAD	THRESH.				
LEVEL 1															
101	6'-0"	7'-0"	V	STL	EXISTING	STL-1	STL	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
101A	6'-0"	7'-0"	G	STL	EXISTING	STL-1	STL	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
103A	6'-0"	7'-0"	ALI	STL	EXISTING	STL-1	STL	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
103B	6'-0"	7'-0"	V	STL	EXISTING	STL-1	STL	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
LEVEL 2															
201	6'-0"	7'-0"	G	STL	EXISTING	STL-1	STL	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
204	6'-0"	7'-0"	G	STL	EXISTING	STL-1	STL	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
LEVEL 3															
301	6'-0"	7'-0"	G	STL	EXISTING	STL-1	STL	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	
303	6'-0"	7'-0"	G	STL	EXISTING	STL-1	STL	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	

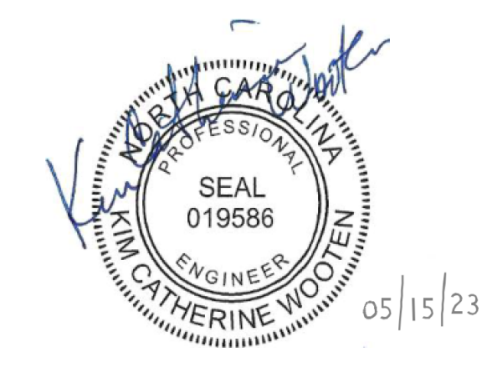
NOTE: DOOR ANNOTATION TAGS ARE LOCATED ON SHEET A100 - OVERALL FLOOR PLANS, DETAIL NUMBERS: 2-4.

HARDWARE SET 1: ADD AUTOMATIC DOOR OPENER AND ACTUATORS. BALANCE OF EXISTING HARDWARE TO REMAIN.

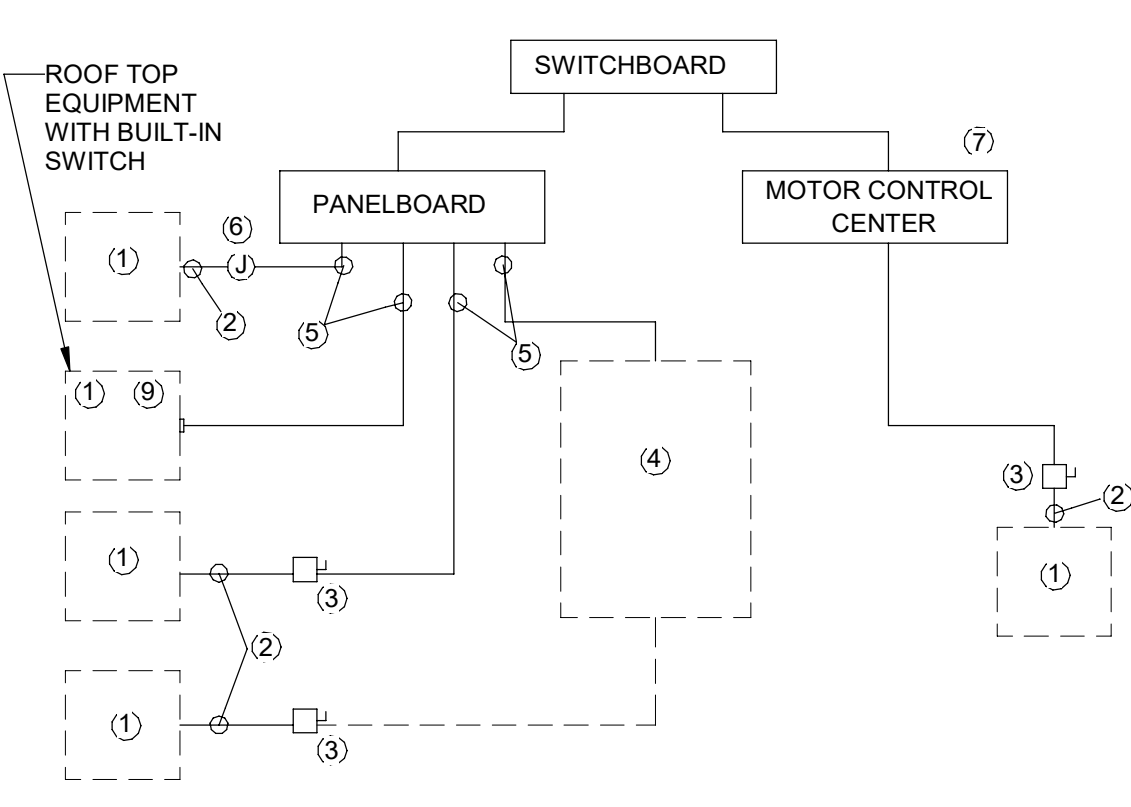


STEEL FRAME TYPES
1/4" = 1'-0"

DOOR PANEL TYPES
1/4" = 1'-0"



- ELECTRICAL NOTES**
- ① EQUIPMENT OF TRADES OTHER THAN ELECTRICAL
 - ② CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR, OR OTHER TRADES.
 - ③ IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
 - ④ A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATE ADJACENT TO EQUIPMENT.
 - ⑤ FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
 - ⑥ JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
 - ⑦ PROJECT UTILIZING ANY MCC, THE STARTER, CN, OR VFD IN THE MCC ARE PROVIDED BY THE ELECTRICAL CONTRACTOR.
 - ⑧ IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.
 - ⑨ IN THE ROOF TOP FAN IN NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.
 - ⑩ IN A SINGLE CONTRACT, IT IS THE RESPONSIBILITY OF THE PRIME CONTRACTOR TO COORDINATE BETWEEN THE ELECTRICAL AND THE OTHER TRADES.



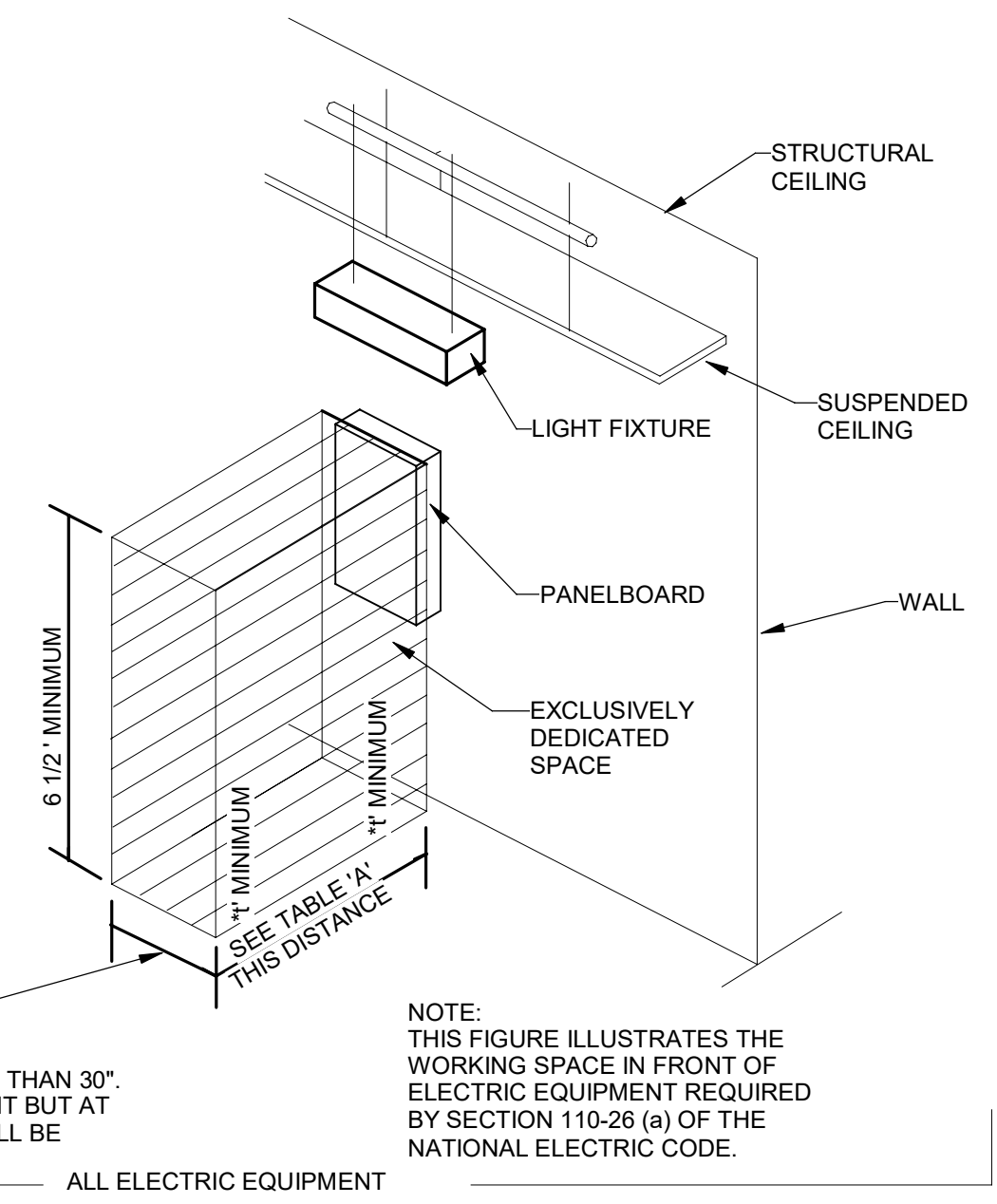
1 SEPARATION OF WORK DETAIL
E002 / NOT TO SCALE

VOLTAGE TO GROUND, NOMINAL	CONDITION: 1 2 3			
	MIN. CLEAR DISTANCE (FT)			
0-150	3	3	3	3
151-600	3	3 1/2	4	

WHERE THE CONDITIONS ARE AS FOLLOWS:

1. EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS. INSULATED WIRE OR INSULATED BUSBARS OPERATING AT NOT OVER 300 VOLTS SHALL NOT BE CONSIDERED LIVE PARTS.
2. EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE.
3. EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

NOTE: THIS INCLUDES BUT IS NOT LIMITED TO PANELBOARDS, SAFETY SWITCHES, MOTOR STARTERS, JUNCTION BOXES AND OTHER ELECTRIC EQUIPMENT.

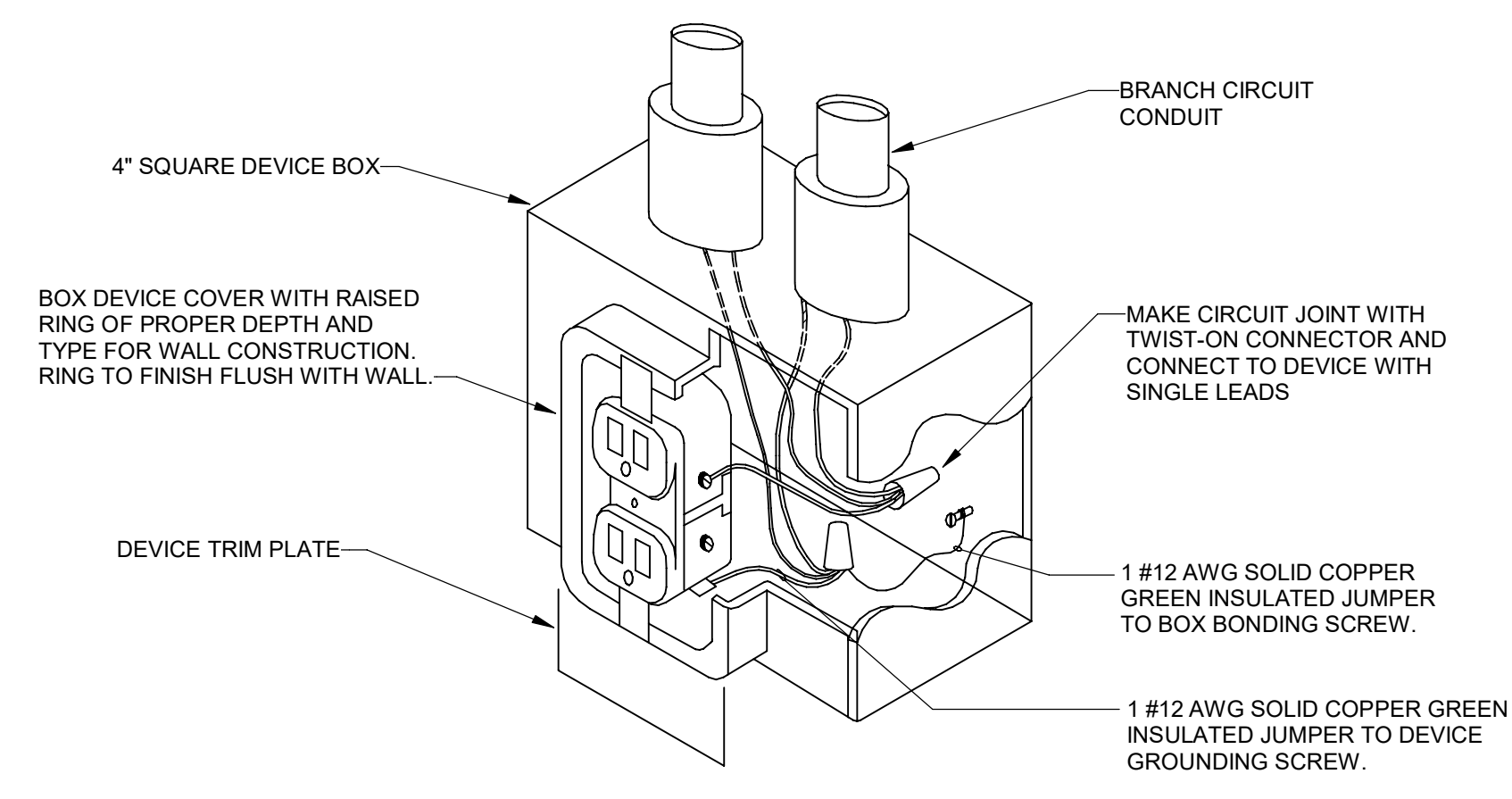


30" OR WIDTH OF EQUIPMENT IF EQUIPMENT IS WIDER THAN 30". DOES NOT HAVE TO BE CENTERED ON THE EQUIPMENT BUT AT LEAST EVEN WITH ONE EDGE. EQUIPMENT DOOR SHALL BE ABLE TO OPEN AT LEAST 90 DEG.

NOTE: THIS FIGURE ILLUSTRATES THE ADDITIONAL EXCLUSIVELY DEDICATED SPACE REQUIRED OVER AND UNDER PANELBOARDS FOR CABLES, RACEWAYS, ETC. TO AND FROM PANELBOARDS REQUIRED BY SECTION 110-26 (f) OF THE NATIONAL ELECTRICAL CODE.

NOTE: NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH THE DEDICATED SPACES SHOWN ABOVE.

2 DEDICATED WORKING SPACE REQUIREMENTS FOR ELECTRICAL EQUIPMENT
E002 / NOT TO SCALE



3 RECEPTACLE GROUNDING DETAIL
E002 / NOT TO SCALE

LIGHTING FIXTURE SCHEDULE

FIXTURE MARK	FIXTURE DESCRIPTION	LAMP # TYPE AND WATTAGE	VOLTAGE	FIXTURE WATTS	MOUNTING METHOD AND HEIGHT	ACCEPTABLE MANUFACTURERS	REMARKS
AE	LENSED LED STRIP LIGHT W/ 90 MIN BATTERY BACK UP	LED 4000°K	120	30	CEILING MOUNTED	MANUF: LITHONIA LIGHTING PART # 2L10 L48 3000LM FSST MVOLT 40K ETW, OR EQUIVALENT WITH COOPER BRANDS OR SIGNIFY	
B	4' STRIP VAPOR TIGHT FIXTURE	LED 4000°K	120	42	SURFACE MOUNTED	MANUF: LITHONIA LIGHTING PART # CSVT L48 3000LM MVOLT 40K 80CRI, OR EQUIVALENT WITH COOPER BRANDS OR SIGNIFY	

- LIGHTING FIXTURE SCHEDULE GENERAL NOTES:**
- A. FINISHES SHALL BE CONFIRMED BY ARCHITECT OR OWNER PRIOR TO ORDERING.
 - B. LED DRIVERS SHALL CONFORM TO IEEE P1789 STANDARDS. ALTERNATIVELY, MANUFACTURERS MUST DEMONSTRATE CONFORMANCE WITH PRODUCT LITERATURE AND TESTING WHICH DEMONSTRATES THIS PERFORMANCE. SYSTEMS THAT DO NOT MEET IEEE P1789 WILL NOT BE CONSIDERED.
 - C. LED DRIVERS SHALL BE MULTI-VOLT. IF MULTI-VOLT DRIVERS ARE NOT AVAILABLE, THEN REQUIRED VOLTAGE SHALL BE VERIFIED WITH ENGINEER PRIOR TO ORDERING.
 - D. CONTRACTOR SHALL ENSURE THAT LIGHTING CONTROL DEVICES ARE COMPATIBLE WITH FIXTURES AND LAMPS.
 - E. CONTRACTOR SHALL PROVIDE ALL REQUIRED HARDWARE FOR PENDANT MOUNTED FIXTURES. VERIFY TYPE REQUIRED WITH ARCHITECT.
 - F. CONTRACTOR SHALL PROVIDE MOUNTING KITS AND/OR ACCESSORIES REQUIRED FOR INSTALLING FIXTURES IN VARIOUS CEILING TYPES. VERIFY CEILING TYPES WITH ARCHITECTURAL DRAWINGS.

MECHANICAL EQUIPMENT SCHEDULE

TAG	VOLTAGE	PHASE	LOAD			CONDUCTORS & CONDUIT	DISCONNECT	CIRCUIT		REMARKS
			KW	HP	FLA			PANEL	NO.	
AHU-1	208	1		43		2#12, 1#12G; 3/4" C	30A/2P/20AF/NEMA-1	B	16, 18	
CU-1	208	1		6.8		2#12, 1#12G; 3/4" C	30A/2P/20AF/NEMA-3R	B	12, 14	

PROJECT NUMBER: 22048
CONSULTANT

PROJECT INFORMATION:

**ELEVATOR
MODERNIZATION -
HUBBARD TOTTEN
BUILDING**
1801 FAYETTEVILLE
STREET
DURHAM, NC 27707

SCO PROJECT NO: 22-25114-01A
ISSUE DATE: 05/15/23
PHASE: BID SET

REVISIONS

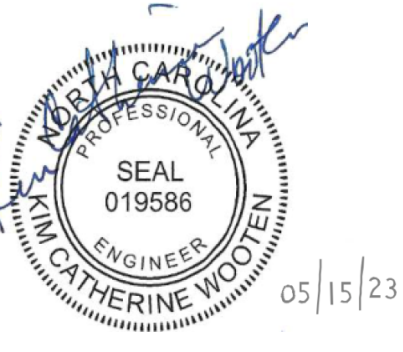
NO.	DATE	DESCRIPTION

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DRAWING NAME
**ELECTRICAL DETAILS
AND SCHEDULES**

DRAWING NO.
E002

Drawn By: RHV Checked By: KCW



**ELEVATOR
MODERNIZATION -
HUBBARD TOTTEN
BUILDING**
1801 FAYETTEVILLE
STREET
DURHAM, NC 27707

REVISIONS		
NO.	DATE	DESCRIPTION
1	10/17/22	SCO REVISIONS

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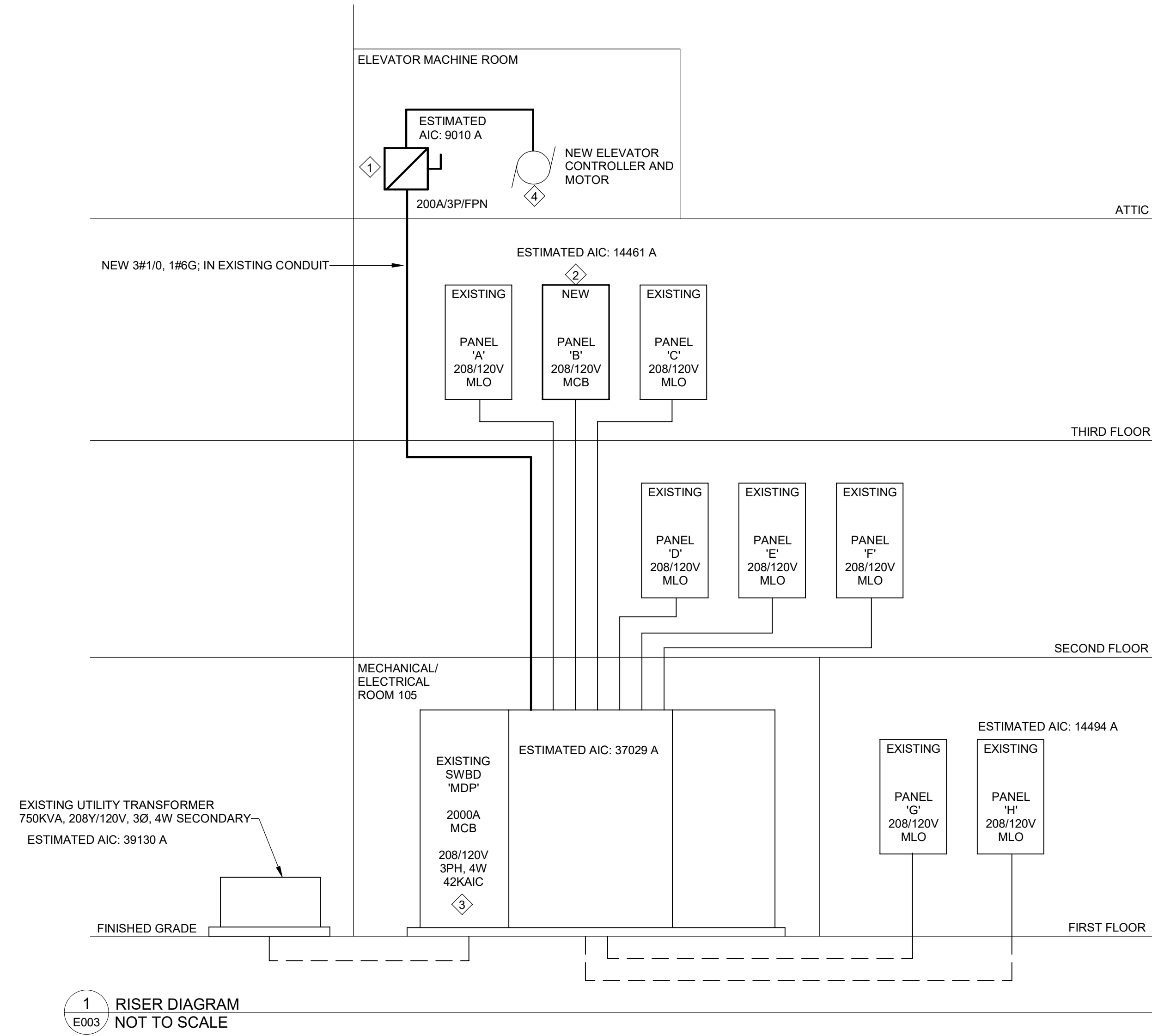
DRAWING NAME
**ELECTRICAL PANELS
AND RISER DIAGRAM**

Panel: MDP									
Location: Space 45			Volts: 120/208 Wye			A.I.C. Rating: 42K			
Supply From: FLOOR			Phases: 3			Mains Type: MCB			
Mounting: FLOOR			Wires: 4			Mains Rating: 2000 A			
Enclosure: EXISTING						MCB Rating: 2000 A			
CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	A	B	C	Remarks	
1	CHILLER	3	--	700 A	58000 VA	58000 VA	58000 VA	EXISTING LOAD	
2	CHILLED WATER PUMP	3	--	125 A	7128 VA	7128 VA	7128 VA	EXISTING LOAD	
3	COOLING TOWER	3	--	125 A	7128 VA	7128 VA	7128 VA	EXISTING LOAD	
4	PANEL PPC	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
5	PANEL PPB	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
6	SPACE	--	--	--	0 VA			--	
7	SPACE	--	--	--	0 VA			--	
8	PANEL E	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
9	PANEL H	3	--	150 A	6000 VA	6000 VA	6000 VA	EXISTING LOAD	
10	PANEL A	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
11	PANEL B	3	--	200 A	8709 VA	5280 VA	11005 VA	REPLACEMENT PANELBOARD	
12	PANEL C	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
13	PANEL D	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
14	AIR COMPRESSOR	3	--	30 A	1500 VA	1500 VA	1500 VA	EXISTING LOAD	
15	CHILLER PUMP 1	3	--	50 A	2900 VA	2900 VA	2900 VA	SEE NOTE 3 ON RISER DIAGRAM	
16	SPACE	--	--	--	0 VA			--	
17	PANEL PPD	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
18	PANEL F	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
19	PANEL PPA	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
20	PANEL G	3	--	200 A	9000 VA	9000 VA	9000 VA	EXISTING LOAD	
21	AC #2	3	--	70 A	5600 VA	5600 VA	5600 VA	EXISTING LOAD	
22	CHILLED WATER PUMP	3	--	125 A	7128 VA	7128 VA	7128 VA	EXISTING LOAD	
23	SPACE	--	--	--	0 VA			--	
24	SPACE	--	--	--	0 VA			--	
25	AC #3	3	--	125 A	7128 VA	7128 VA	7128 VA	EXISTING LOAD	
26	STILL 3P	3	--	125 A	7128 VA	7128 VA	7128 VA	EXISTING LOAD	
27	ELEVATOR	3	--	150 A	9000 VA	9000 VA	9000 VA	REPLACEMENT ELEVATOR	
Total Conn. Load:					217349 VA	213920 VA	219645 VA		
Load Classification		Connected Load	Demand Factor	Estimated Demand		Panel Totals			
Spare		650914 VA	100.00%	650914 VA					
Total Conn. Load:						650914 VA			
Total Est. Demand:						650914 VA			
Total Conn.:						1807 A			
Total Est. Demand:						1807 A			

Panel: B										
Voltage: 120/208 Wye			Min SCCR: 22K			Remarks:				
Phases: 3			Mounting: RECESSED			NEW PANELBOARD TO REPLACE EXISTING PANELBOARD. PATCH AND PAINT WALL TO MATCH. PROVIDE DOOR IN DOOR CONSTRUCTION.				
Wires: 4			MCB Rating: 200 A							
Enclosure: TYPE 1			Bus Rating: 225 A			Type: MCB				
BRKR	Notes	Circuit Description	CKT	A (VA)	B (VA)	C (VA)	CKT	Circuit Description	Notes	BRKR
20 A 1	1	REC 311, 313	1	720	500		2	ELEVATOR CAB LIGHTS/CONTROLS		1 20 A
20 A 1	3	REC 312A	3		720	180	4	REC ROOF		1 20 A
20 A 1	5	REC 312A, 312B, 315D, 315E	5				6	REC MACHINE ROOM		1 20 A
20 A 1	7	REC 314, 315C, 315D	7	720	0		8	AC UNIT RM 306		2 20 A
20 A 1	9	REC 315C, 315B, 315A	9		720	0	10			1 20 A
20 A 1	11	REC 315A, 315, 315E	11			720	705	12		2 20 A
20 A 1	13	SPARE	13	0	705		14	CU-1		2 20 A
20 A 1	15	SPARE	15		0	45	16	AHU-1		2 20 A
50 A 3	17	SPARE	17	0	84		18	LTG ELEVATOR SHAFT/PIT		1 20 A
	19		19		0	60	20	LTG ELEVATOR MACHINE ROOM		1 20 A
	21		21				22	CAV 3-1		2 20 A
50 A 3	23	SPARE	23	0	1400		24	CAV 3-4		2 20 A
	25		25		0	1400	26			2 20 A
	27		27				28	REC ELEVATOR PIT		1 20 A
30 A 2	29	VAV 3-1	29	2200	180		30	AUTOMATIC DOOR OPENER		1 20 A
20 A 1	31	SPARE	31		0	180	32	SPARE		1 20 A
	33		33				34	SPARE		1 20 A
30 A 2	35	VAV 3-3	35	2200	0		36	SPARE		3 60 A
	37		37				38			
30 A 2	39	VAV 3-2	39		2200	0	40	SPARE		
	41		41				42			
				8709 VA	5460 VA	2200 VA	11005 VA			
Connected Load		Lighting	HVAC	Motors	Receptacle	Refrig	Kitchen	Misc	PANEL TOTALS:	
Spare		324 VA	1413 VA	540 VA	540 VA			22400 VA	Total Conn. Load: 25174 VA	
Demand Factor		125.00%	100.00%	NEC				22400 VA	Total Est. Demand: 25155 VA	
Demand Load		405 VA	1413 VA	540 VA					Total Conn. Current: 70 A	
										Total Est. Demand: 70 A

EXISTING LOADS ARE BASED ON SITE SURVEY AND EXISTING DRAWINGS AND ARE TO THE BEST OF THE DESIGNER'S KNOWLEDGE.

TOTAL LOAD ADDED TO PANEL B: 2864 VA



PANEL NOTES:

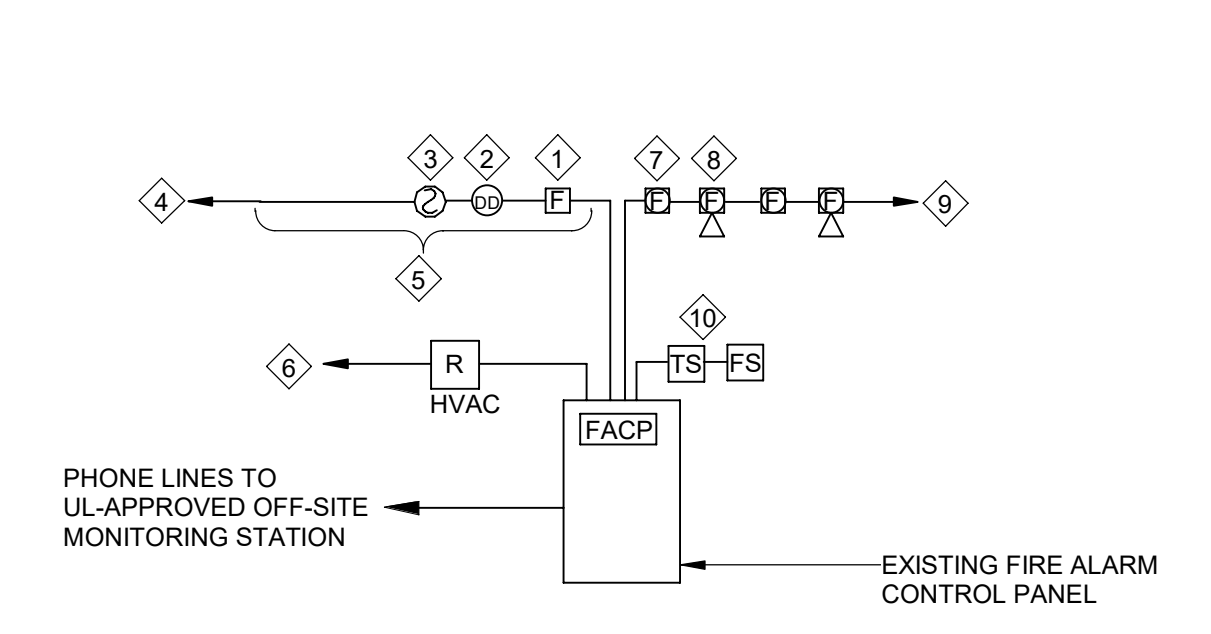
- A - AFCI BREAKER
- G - GFI CIRCUIT BREAKER
- IG - ISOLATED GROUND CIRCUIT
- C# - ROUTE CIRCUIT HOMERUN VIA CONTACTOR INDICATED
- LF - PROVIDE PAD-LOCK ATTACHMENT FOR MAINTENANCE LOCK-OUT OF CIRCUIT BREAKER
- LO - PROVIDE LOCK-ON DEVICE FOR CIRCUIT BREAKER
- P - PRE-WIRED INTERNAL CIRCUIT BY SWITCHGEAR MANUFACTURER
- ST - SHUNT TRIP CIRCUIT BREAKER
- SUB - SUB-FEED CIRCUIT BREAKER
- E - EXISTING LOAD, RECONNECT TO NEW PANEL.
- N - NEW BREAKER INSTALLED IN EXISTING PANEL. REMOVE EXISTING SPARE BREAKER.
- R - REUSE EXISTING BREAKER IN EXISTING PANEL WITH NEW LOAD

GENERAL NOTES:

- A. ALL EQUIPMENT IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

RISER NOTES:

1. NEW LOCKABLE FUSIBLE DISCONNECT. PROVIDE FUSE FOR 25HP MOTOR. VERIFY FUSE SIZE FOR DISCONNECT PER ELEVATOR MOTOR NAMEPLATE. CONNECT TO EXISTING 150A/3P CIRCUIT BREAKER FEEDING ELEVATOR.
2. REFER TO FLOOR PLANS FOR DIRECTION REGARDING DEMO OF EXISTING PANEL 'B' AND INSTALLATION OF NEW PANEL 'B'.
3. REFER TO FLOOR PLANS FOR DIRECTION REGARDING DEMO AND REPLACEMENT OF EXISTING 50A, 3 POLE CIRCUIT BREAKER FEEDING CHILLER PUMP 1.
4. ELEVATOR CONTROLLER TO BE RATED AT LEAST 10KAIC.



- FIRE ALARM RISER DIAGRAM NOTES:**
- MANUAL PULL STATION
 - DUCT DETECTOR
 - PHOTOELECTRIC SMOKE DETECTOR.
 - COMMUNICATIONS WIRING LOOP. RETURN TO FACP (CLASS 'A' CIRCUIT).
 - TYPICAL SYSTEM INITIATION DEVICE. REFER TO PLANS FOR EXACT TYPES AND QUANTITIES.
 - HVAC SHUT DOWN CIRCUIT. ROUTE TO SHUTDOWN RELAYS AT EACH UNIT.
 - STROBE UNIT, TYPICAL. MOUNTED AT 80" AFF TO MEET ADA REQUIREMENTS.
 - COMBINATION HORN/STROBE UNIT, TYPICAL. MOUNTED AT 80" AFF TO MEET ADA REQUIREMENTS.
 - TO ADDITIONAL HORN/STROBE UNITS NOT INDICATED. RETURN TO FACP (CLASS 'A' CIRCUIT).
 - TAMPER AND FLOW SWITCH CONNECTION AT EXTERIOR STANDPIPE.

1 EXISTING FIRE ALARM RISER
 E004 NOT TO SCALE

ACTION	BUILDING SYSTEM OUTPUTS																CENTRAL COMM					
	ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE AUDIBLE ALARM SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	ACTIVATE AUDIBLE TROUBLE SIGNAL INDICATOR	ACTIVATE GENERAL EVACUATION SIGNAL	DISPLAY CHANGE OF STATUS	ACTIVATE EXTERNAL HORN / STROBE	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	RETURN ELEVATOR TO 2ND FLOOR	RETURN ELEVATOR TO 1ST FLOOR	SHUNT TRIP AFTER ELEVATOR REACHES APPROPRIATE FLOOR	SHUT DOWN RESPECTIVE AIR HANDLER	DISCONNECT POWER TO FIRE DOOR AUTOMATIC DOOR OPENER	SHOW CHANGE OF STATUS ON ELEVATOR CONTROL PANEL	CHANGE OF STATUS ON CENTRAL STATION	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION
MANUAL FIRE ALARM PULL BOXES	X	X					X	X	X	X							X	X	X	X		
BUILDING SMOKE DETECTOR	X	X					X	X	X	X							X	X	X	X		
DUCT SMOKE DETECTOR			X	X			X			X						X		X	X	X		
FIRE ALARM A/C POWER FAILURE					X	X	X					X						X	X			X
FIRE ALARM SYSTEM LOW BATTERY					X	X	X					X						X	X			X
OPEN CIRCUIT					X	X	X					X						X	X			X
GROUND FAULT					X	X	X					X						X	X			X
NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X	X					X						X	X			X
STANDPIPE WATER FLOW	X	X					X	X	X	X								X	X	X		
STANDPIPE TAMPER			X	X			X											X	X			X
ELEV EQ RM/1ST FLR ELEV LOBBY SMOKE DETECTORS	X	X					X	X	X	X			X				X	X	X	X		
UPPER FLOORS ELEV LOBBY SMOKE DETECTORS	X	X					X	X	X	X			X				X	X	X	X		

SEQUENCE OF OPERATION:

- ALARM DETECTION: WHEN A FIRE ALARM CONDITION IS DETECTED BY ONE OF THE SYSTEM INITIATING DEVICES, THE FOLLOWING FUNCTIONS SHALL IMMEDIATELY OCCUR:
 - SYSTEM ALARM INDICATOR SHALL FLASH CONTINUOUSLY.
 - A LOCAL SOUNDING DEVICE IN THE PANEL SHALL BE ACTIVATED.
 - CONTROL PANEL DISPLAY SHALL INDICATE ALL PERTINENT INFORMATION ASSOCIATED WITH THE ALARM AND ITS LOCATION IN THE ALARM MESSAGE QUEUE.
 - APPROPRIATE STATUS CHANGE MESSAGE SHALL BE DISPLAYED ON ALL PRINTERS SO PROGRAMMED.
 - ALL AUTOMATIC PROGRAMS ASSIGNED TO THE ALARM POINT SHALL BE EXECUTED AND THE ASSOCIATED NOTIFICATION APPLIANCE CIRCUITS AND CONTROL RELAYS ADDRESSED AND ACTIVATED.
- TROUBLE DETECTION: WHEN A TROUBLE CONDITION IS DETECTED BY ONE OF THE SYSTEM INITIATING DEVICES, THE FOLLOWING FUNCTIONS SHALL IMMEDIATELY OCCUR:
 - SYSTEM TROUBLE INDICATOR SHALL FLASH.
 - A LOCAL SOUNDING DEVICE IN THE PANEL SHALL SOUND.
 - CONTROL PANEL SHALL INDICATE ALL PERTINENT INFORMATION ASSOCIATED WITH THE TROUBLE CONDITION AND ITS LOCATION.
 - UNACKNOWLEDGED ALARM MESSAGES SHALL HAVE PRIORITY OVER TROUBLE MESSAGES, AND IF SUCH AN ALARM MUST ALSO BE DISPLAYED, THE TROUBLE MESSAGE WILL NOT BE DISPLAYED UNTIL THE OPERATOR HAS ACKNOWLEDGED ALL ALARM MESSAGES.
- ALARM SIGNALING: WHEN THE DETECTION OF SMOKE IN ANY ELEVATOR LOBBY THE FOLLOWING FUNCTIONS SHALL IMMEDIATELY OCCUR:
 - THE FACP WILL SIGNAL THE ELEVATOR CONTROLLER TO ENTER PHASE 1 EMERGENCY RECALL.
 - THE ELEVATOR CONTROLLER WILL RETURN THE CAR TO THE APPROPRIATE PRIMARY OR SECONDARY RECALL FLOOR, OPEN THE DOORS AND DEACTIVATE ELEVATOR.
- RE-ACTIVATING THE ELEVATOR: FIRE AND RESCUE PERSONNEL MAY RE-ACTIVATE THE ELEVATOR FOR EMERGENCY USE AND IF SMOKE IS DETECTED IN THE ELEVATOR SHAFT OR MACHINE ROOM THE FOLLOWING SHALL OCCUR:
 - THE FACP SIGNALS THE ELEVATOR TO GO INTO PHASE 2 RECALL AND ILLUMINATE THE FIREMAN'S HAT.
 - PHASE 1 AND PHASE 2 OPERATES BEFORE THE ACTIVATION OF THE HEAT DETECTORS CAUSES THE FACP TO DIRECTLY SHUNT-TRIP THE ELEVATOR POWER.

ANNUNCIATION:

- BUILDING SMOKE DETECTORS SHALL CAUSE AN ALARM TO THE FIRE ALARM SYSTEM.
- ALL VISUAL NOTIFICATION DEVICES SHALL BE SYNCHRONIZED.
- ALL AUDIBLE NOTIFICATION DEVICES SHALL ALARM WITH THE STANDARD THREE-PULSE TEMPORAL PATTERN WHEN BUILDING EVACUATION IS REQUIRED.
- ALL FIRE ALARM NOTIFICATION CIRCUITS SHALL BE ROUTED IN CONDUIT AND MEET NFPA REQUIREMENTS FOR SURVIVABILITY.

SYSTEM DEVICES:

- PROVIDE ADDRESSABLE DEVICES ONLY IN CONDITIONED SPACES. NO ADDRESSABLE DEVICES ARE ALLOWED IN UNCONDITIONED SPACES.

PROJECT NUMBER: 22048
 CONSULTANT

PROJECT INFORMATION:

**ELEVATOR
 MODERNIZATION -
 HUBBARD TOTTEN
 BUILDING**
 1801 FAYETTEVILLE
 STREET
 DURHAM, NC 27707

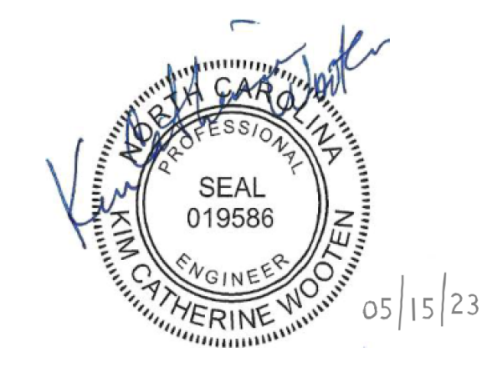
SCO PROJECT NO: 22-25114-01A
 ISSUE DATE: 05/15/23
 PHASE: BID SET

REVISIONS		
NO.	DATE	DESCRIPTION

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DRAWING NAME
**FIRE ALARM RISER
 AND NOTES**

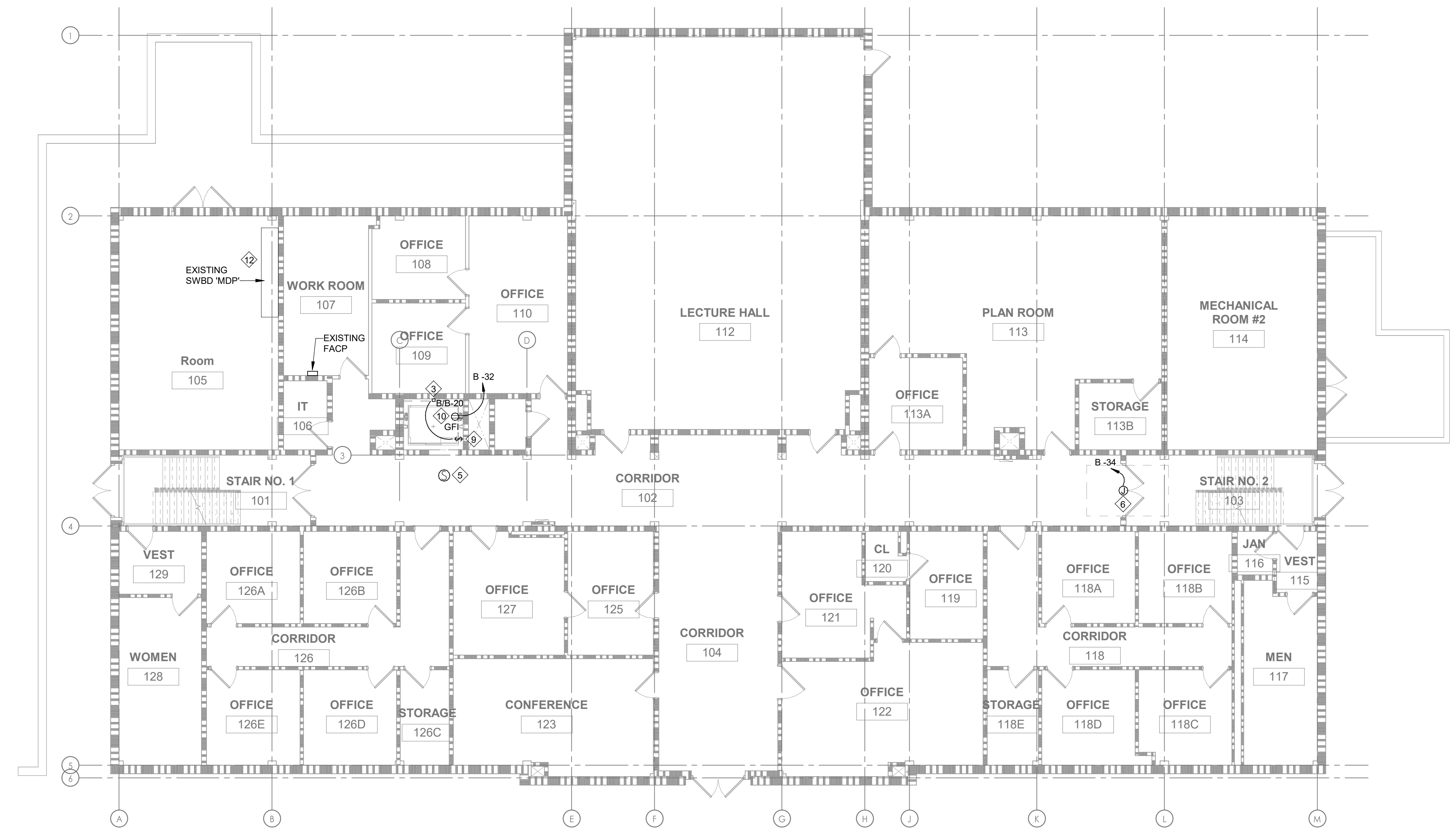
DRAWING NO.
E004
 Drawn By: RHV Checked By: KCW



WALL RATING LEGEND	
	UNRATED WALL
	SMOKE PARTITION
	1/2 - HOUR FIRE BARRIER
	1 - HOUR FIRE BARRIER
	2 - HOUR FIRE BARRIER

- GENERAL NOTES:**
- PROVIDE WORKING CLEARANCE AT ALL ELECTRICAL PANELS PER NEC.
 - COORDINATE WITH LOW-VOLTAGE VENDOR FOR EXACT LOCATIONS AND REQUIREMENTS REGARDING ALL POS, SECURITY, IT, AND OTHER LOW-VOLTAGE ITEMS.
 - EMERGENCY LIGHTS/EXIT SIGNS SHALL BE CONNECTED TO UNSWITCHED HOT CONDUCTOR OF CIRCUIT INDICATED.
 - REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND HEIGHTS OF ALL FIXTURES.
 - REFER TO SHEET E002 FOR LIGHTING FIXTURE SCHEDULE.

- PLAN NOTES:**
- REMOVE EXISTING PANEL 'B'. PROVIDE AND INSTALL NEW PANELBOARD AND CIRCUIT BREAKERS RATED FOR CALCULATED SHORT CIRCUIT CURRENT SHOWN ON RISER DIAGRAM. SEE PANELBOARD SCHEDULES FOR MORE INFORMATION. RECONNECT EXISTING CIRCUITS. PANELBOARD SWITCH OVER SHALL OCCUR OVER WEEKEND. SEVEN DAY ADVANCE NOTICE SHALL BE GIVEN TO OWNER PRIOR TO SWITCH OVER.
 - PROVIDE NEW LOCKABLE 30A/2P/20AF/1 DISCONNECT FOR ELEVATOR CAB LIGHTS AND CONTROLS.
 - PROVIDE VAPOR TIGHT LED LIGHT FIXTURE. CONNECT TO CIRCUIT INDICATED USING 2#12, 1#12G, 3/4"C.
 - REMOVE EXISTING CEILING MOUNTED LIGHTS AND ALL ASSOCIATED WIRING. PROVIDE NEW LED LIGHT FIXTURES AND CONNECT TO CIRCUIT INDICATED. PROVIDE NEW 2#12, 1#12G WIRING FOR CONNECTION. REUSE EXISTING CONDUIT IF POSSIBLE.
 - REMOVE EXISTING CEILING MOUNTED SMOKE DETECTOR AND PROVIDE NEW SMOKE DETECTOR INTERLOCKED WITH ELEVATOR EQUIPMENT FOR ELEVATOR RECALL.
 - POWER TO AUTOMATIC DOOR OPENER. INTERLOCK WITH FIRE ALARM SYSTEM TO DISCONNECT POWER TO AUTOMATIC DOOR OPENER IN THE EVENT OF A FIRE.
 - JBOX FOR ELEVATOR COMMUNICATION AND CCTV SYSTEMS. PROVIDE 1-1/4"C TO NEAREST IT CLOSET. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ROUGH-IN. COORDINATE WITH NCCU IT DEPARTMENT AND ELEVATOR CONTRACTOR.
 - DEMO EXISTING RECEPTACLE AND ALL ASSOCIATED WIRING BACK TO NEAREST SOURCE. PROVIDE AND INSTALL NEW 5-20R RECEPTACLE AND CONNECT TO CIRCUIT INDICATED. PROVIDE 2#12, 1#12G, 3/4"C FOR CONNECTION. REUSE CONDUIT IF POSSIBLE.
 - PROVIDE NEW LIGHT SWITCH AT TOP OF PIT LADDER FOR CONTROL OF ELEVATOR SHAFT AND PIT LIGHTS.
 - PROVIDE AND INSTALL NEW 5-20R RECEPTACLE IN ELEVATOR PIT AND CONNECT TO CIRCUIT INDICATED. PROVIDE 2#12, 1#12G, 3/4"C FOR CONNECTION.
 - REMOVE EXISTING ELEVATOR DISCONNECT. REMOVE ALL ASSOCIATED WIRING BACK TO EXISTING SWITCHBOARD MDP. PROVIDE NEW LOCKABLE FUSIBLE DISCONNECT. SEE RISER DIAGRAM FOR DISCONNECT AND FUSE SIZE.
 - REMOVE EXISTING 50A, 3 POLE CIRCUIT BREAKER FEEDING CHILLER PUMP 1. PROVIDE AND INSTALL NEW 50A, 3 POLE CIRCUIT BREAKER RATED FOR CALCULATED SHORT CIRCUIT CURRENT SHOWN ON RISER DIAGRAM. MATCH EXISTING FRAME SIZE. SEE PANELBOARD SCHEDULE FOR MORE INFORMATION. RECONNECT EXISTING CIRCUIT. CIRCUIT BREAKER SWITCH OVER SHALL OCCUR OVER WEEKEND. SEVEN DAY ADVANCE NOTICE SHALL BE GIVEN TO OWNER PRIOR TO SWITCH OVER.
 - REFER TO MECHANICAL EQUIPMENT SCHEDULE ON SHEET E002 FOR MORE INFORMATION.



1 FIRST FLOOR POWER AND FIRE ALARM PLAN
1/8" = 1'-0"
E100

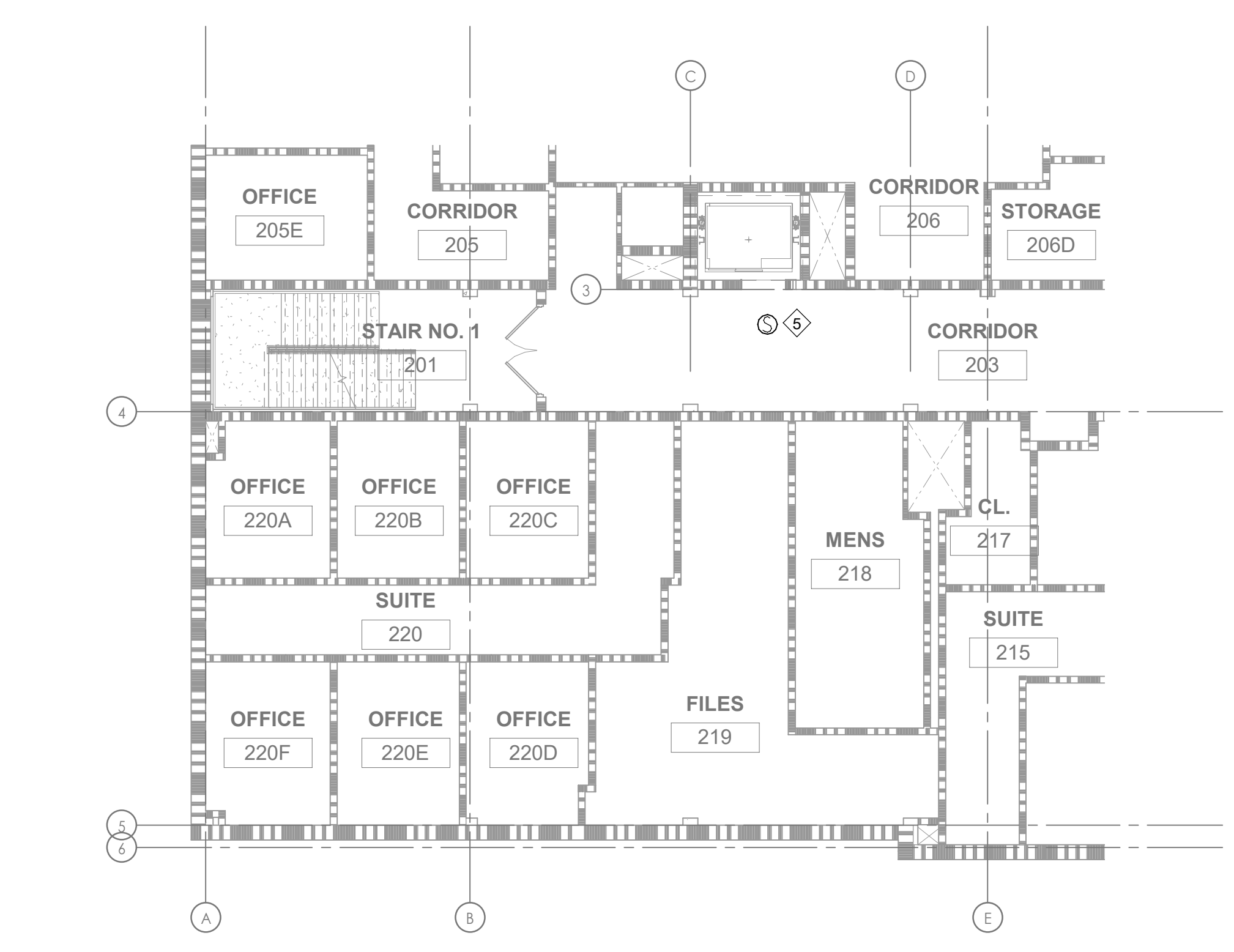
PROJECT NUMBER: 22048
CONSULTANT:

PROJECT INFORMATION:

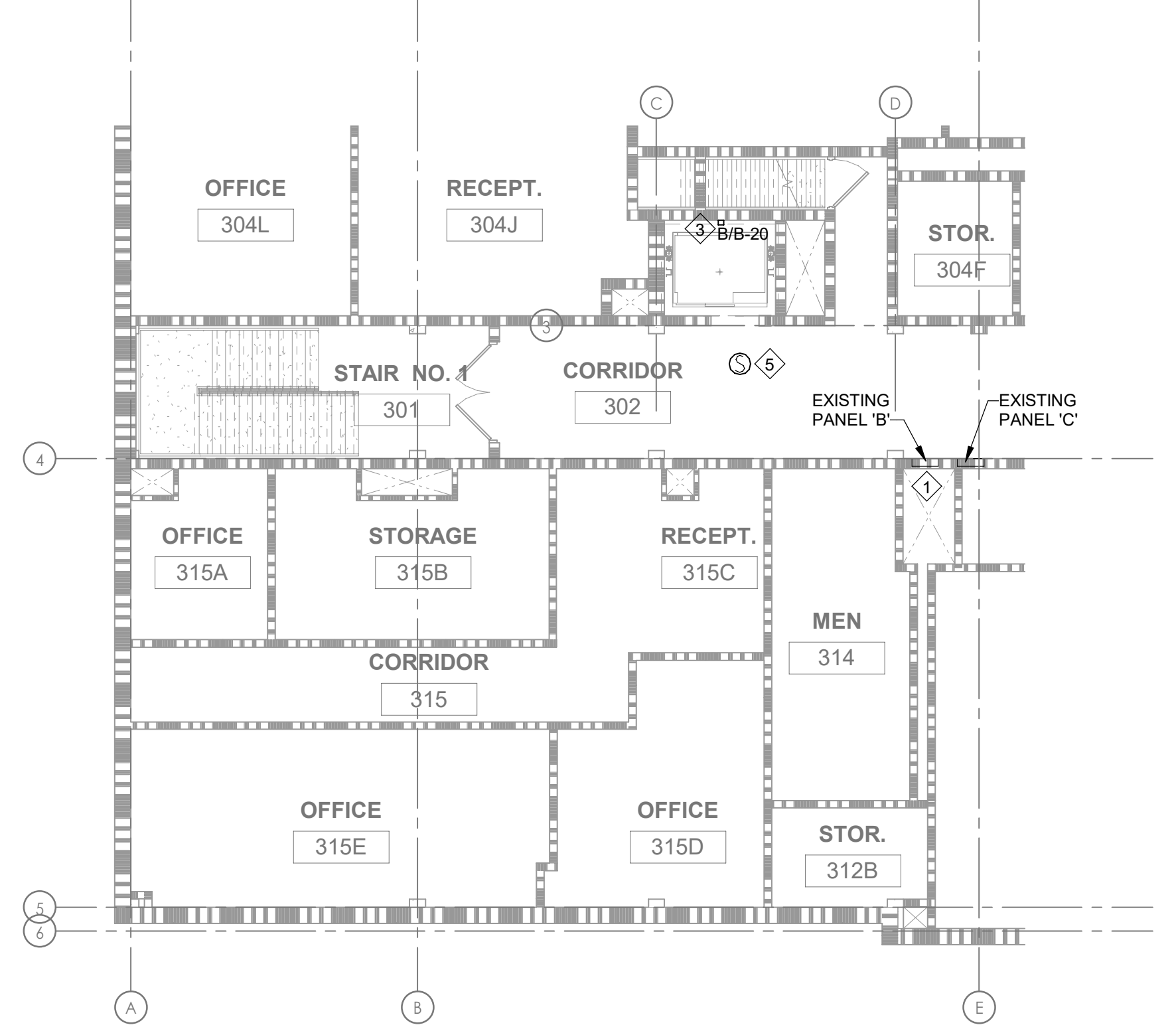
**ELEVATOR
MODERNIZATION -
HUBBARD TOTTEN
BUILDING**
1801 FAYETTEVILLE
STREET
DURHAM, NC 27707

SCO PROJECT NO: 22-25114-01A
ISSUE DATE: 05/15/23
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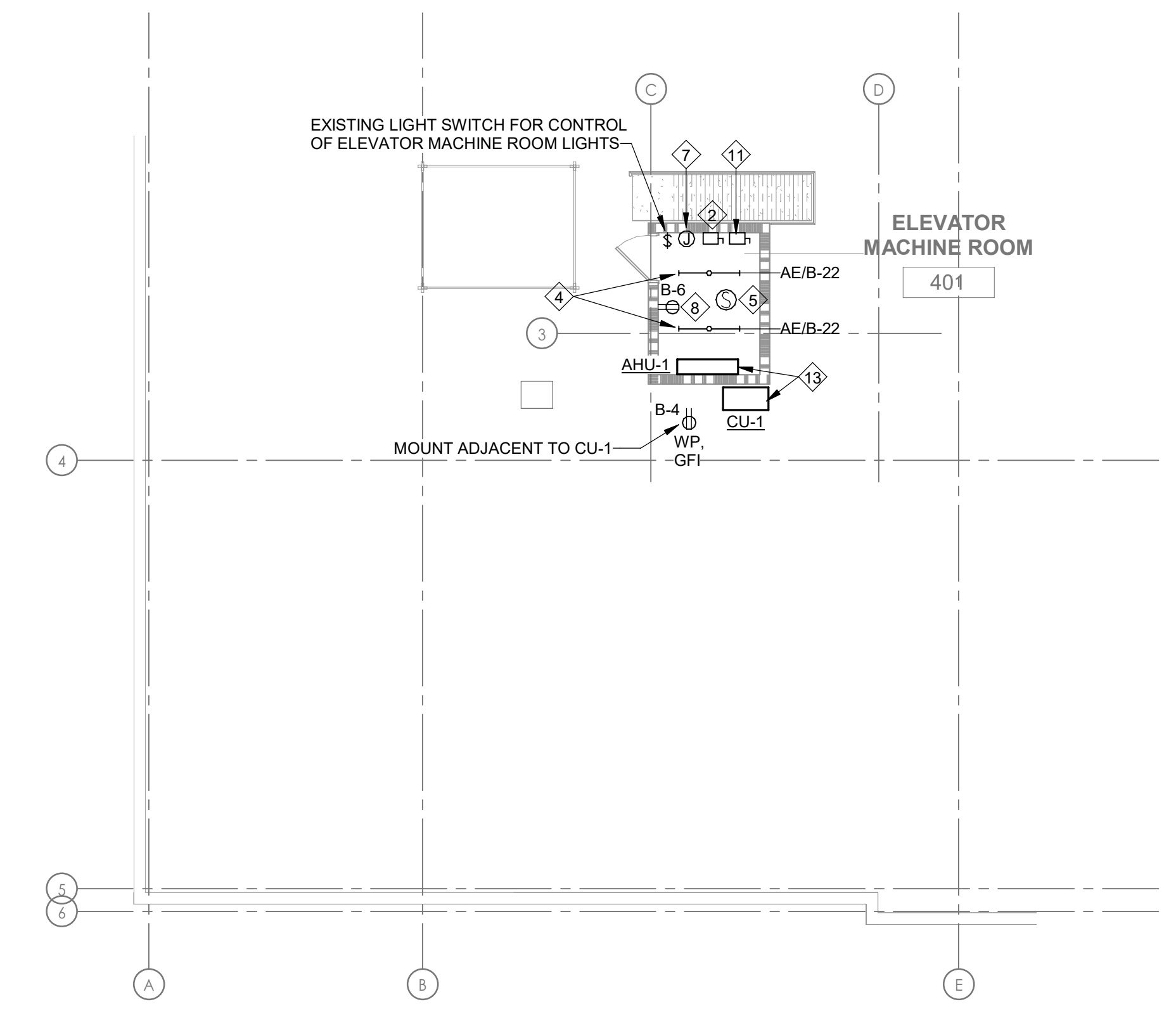
REVISIONS		
NO.	DATE	DESCRIPTION
1	10/17/22	SCO REVISIONS



2 SECOND FLOOR POWER AND FIRE ALARM PLAN
1/8" = 1'-0"
E100



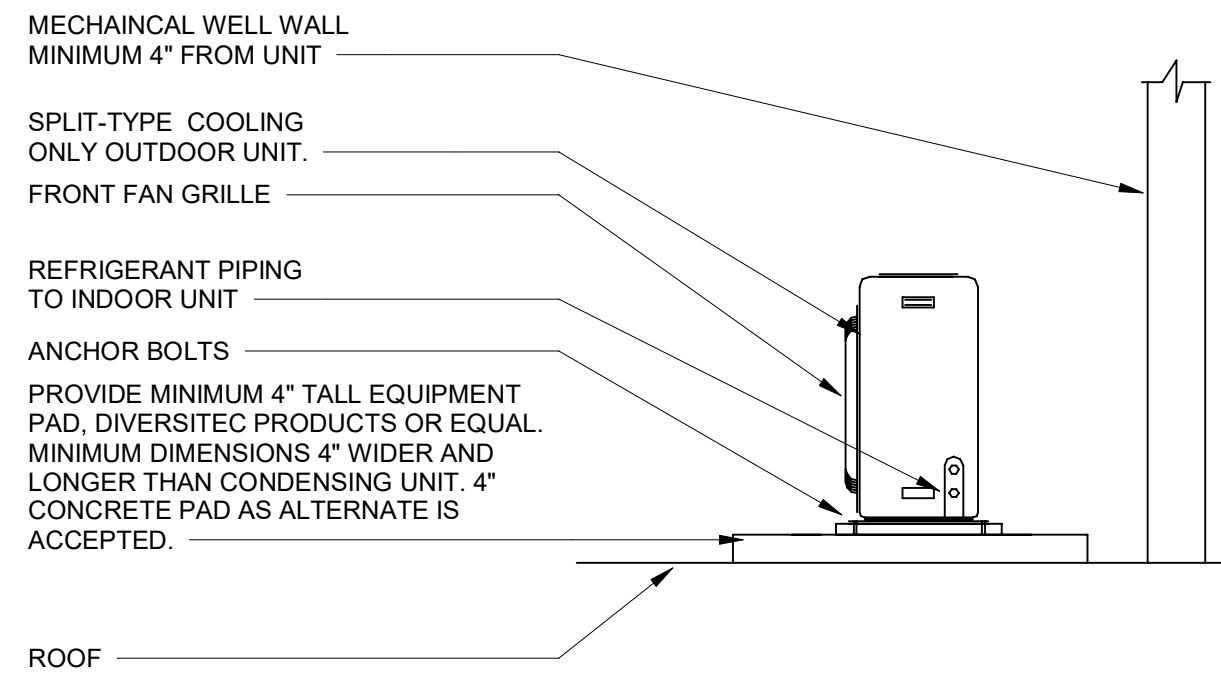
3 THIRD FLOOR POWER AND FIRE ALARM PLAN
1/8" = 1'-0"
E100



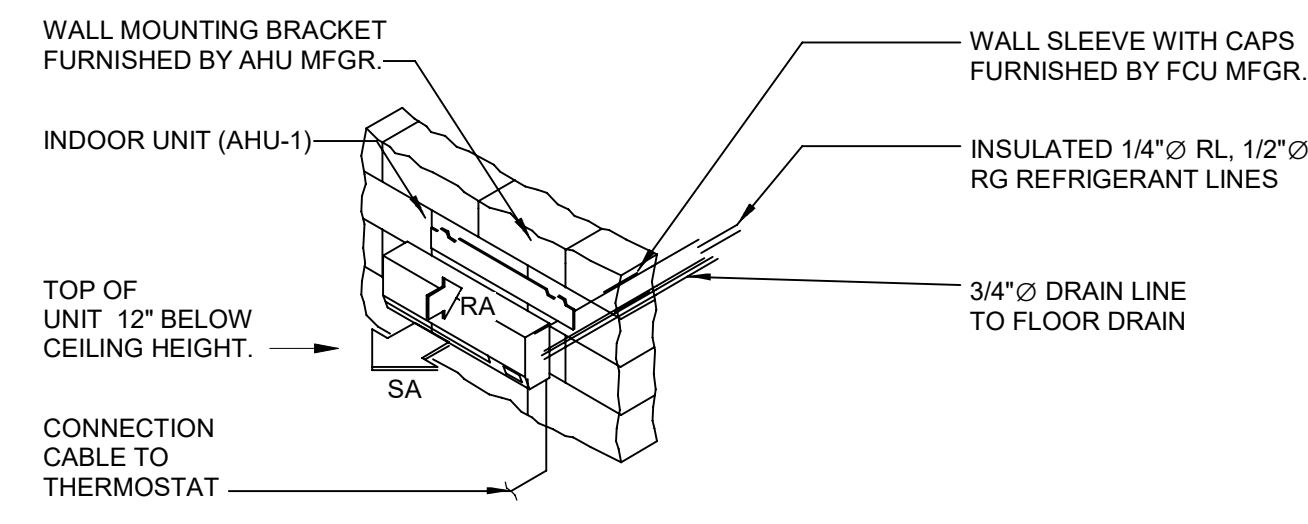
4 ATTIC FLOOR POWER AND FIRE ALARM PLAN
1/8" = 1'-0"
E100

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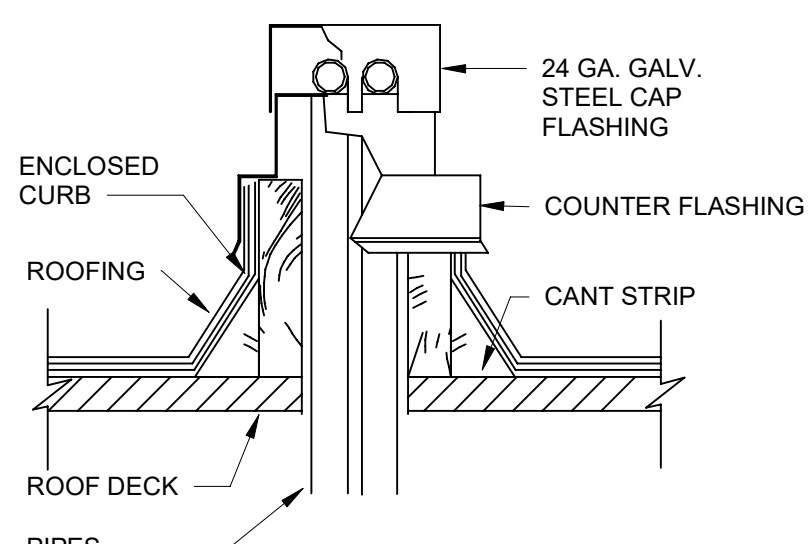
**DRAWING NAME
ELECTRICAL FLOOR
PLANS**



1 MINI SPLIT DETAIL
NOT TO SCALE



2 WALL MOUNTED UNIT
NOT TO SCALE



3 REFRIGERANT WALL PENETRATION
NOT TO SCALE

AIR HANDLING UNIT SCHEDULE						
No.	MANUFACTURER/MODEL No.	FAN SELECTION			ELECTRICAL	NOTES
		DESIGN CFM	OUTSIDE AIR (CFM)	ESP IN. WG		
AHU-1	DAIKIN FTK18NMVJU	579	N/A	N/A	SEE ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS	ALL

NOTES:
 1. UNIT SHALL BE U.L. LISTED AND ARI CERTIFIED UNIT.
 2. PROVIDE SET POINT THERMOSTAT.
 3. INSTALL PER MANUFACTURER RECOMMENDATIONS
 4. COOLING CAPACITY AT 95/75 °F DBWB
 5. UNIT SHALL HAVE BUILT IN CONDENSATE PUMP BY MANUFACTURER DAIKIN DACA-CP-1 OR EQUIVALENT
 6. CONNECT TO BUILDING BMS, COORDINATE WITH UNIVERSITY MAINTENANCE STAFF AND PROVIDE ALL NECESSARY COMPONENTS

CONDENSING UNIT SCHEDULE									
TAG	MANUFACTURER MODEL NO.	UNIT SERVED	NOMINAL TONNAGE	MBH TOTAL	MBH SENSIBLE	SEER	ELECTRICAL	WEIGHT LBS.	NOTES
CU-1	DAIKIN RK18NMVJU	AHU-1	1.5	18.0	13.5	18.0	SEE ELECTRICAL	115	ALL

NOTES:
 1. MANUFACTURER PROVIDED WALL MOUNTING BRACKET.
 2. MAINTAIN FACTORY SPECIFIED CLEARANCES ON ALL SIDES OF UNIT.
 3. UNIT SHALL BE U.L. LISTED AND ARI CERTIFIED.
 4. PROVIDE CONDENSING UNIT BY SAME MANUFACTURER AS INDOOR AIR HANDLING UNIT.
 5. DISCONNECT SWITCH SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.
 6. COOLING CAPACITY AT 95/75 °F DBWB
 7. CONNECT TO BUILDING BMS, COORDINATE WITH UNIVERSITY MAINTENANCE STAFF AND PROVIDE ALL NECESSARY COMPONENTS

GENERAL MECHANICAL NOTES

- WORK SHALL CONFORM WITH THE 2018 NORTH CAROLINA MECHANICAL CODE, 2018 NORTH CAROLINA PLUMBING CODE, AND THE 2018 NORTH CAROLINA BUILDING CODE AND ALL OTHER APPLICABLE STATE AND LOCAL CODES.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE THAT SHALL WARRANT ALL WORKMANSHIP AND MATERIALS FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY THE OWNER. ANY BREAKDOWN OCCURRING IN THE FIRST YEAR SHALL BE AT NO EXPENSE TO THE OWNER. ALL REFRIGERATION COMPRESSORS SHALL HAVE A FIVE YEAR (PARTS ONLY) WARRANTY, AND ALL NATURAL GAS HEAT EXCHANGERS SHALL HAVE A TEN YEAR (PARTS ONLY) WARRANTY.
- DRAWINGS ARE SCHEMATIC. NOT ALL RISES AND DROPS ARE SHOWN. TRADES ARE TO COORDINATE THEIR WORK WITH ALL OTHER TRADES TO AVOID CONFLICTS. GENERALLY, DUCTWORK SHALL BE KEPT AS HIGH AS POSSIBLE.
- CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL DRAWINGS PRIOR TO ORDERING EQUIPMENT OR SUBMITTING SHOP DRAWINGS AND SHALL FURNISH EQUIPMENT WIRED FOR VOLTAGES SHOWN THEREIN.
- CONTRACTOR SHALL COORDINATE THE INSTALLATION OF MECHANICAL EQUIPMENT, ETC. TO FIT WITHIN THE SPACE ALLOWED BY THE ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING ANY STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER OF RECORD.
- CONTRACTOR SHALL KEEP A SET OF MARKED UP PRINTS WITH ANY FIELD CHANGES MADE DURING CONSTRUCTION TO CREATE AN "AS-BUILT" SET OF PRINTS TO BE TURNED OVER TO THE OWNER AT THE COMPLETION OF THE PROJECT.
- PROVIDE ACCESS PANELS IN CEILINGS AND WALLS TO ALLOW ACCESS TO VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. MINIMUM ACCESS SIZE - 12"x12", UNLESS LIMITED BY PHYSICAL CONSTRAINTS
- MECHANICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ANY ADDITIONAL/SUPPLEMENTAL STEEL MEMBERS REQUIRED TO SUPPORT EQUIPMENT FROM MAIN STRUCTURE SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
- ALL CONDENSATE DRAIN PIPING SHALL BE TYPE L HARD DRAWN COPPER, ASTM B-88, WITH TYPE DWV FITTINGS, ASME B16.23, OR SCHEDULE 40 PVC, ASTM D1785, WITH TYPE DWV FITTINGS, ASTM D2672. COPPER DRAIN PIPE AND FITTINGS SHALL BE JOINED USING 95-5 SILVER SOLDER, AND PVC PIPE AND FITTINGS SHALL BE JOINED USING SOLVENT CEMENT. PROVIDE TRAP WITH CLEANOUT AND UNIONS. SLOPE CONDENSATE DRAIN LINES A MINIMUM OF 1/8" PER FOOT AWAY FROM THE MECHANICAL EQUIPMENT.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE THERMOSTATS AND CONTROLS WIRING FOR ALL MECHANICAL SYSTEMS. THERMOSTAT SHALL BE EQUAL TO HONEYWELL TH110D2009.
- INSTALL THERMOSTATS AT 4'-0" A.F.F. UNLESS NOTED OTHERWISE. THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH FINAL LOCATIONS OF WALL-MOUNTED ARCHITECTURAL AND ELECTRICAL EQUIPMENT. FINAL LOCATIONS MUST BE APPROVED BY THE ARCHITECT AND OWNER. THERMOSTATS SHALL NOT BE INSTALLED ON EXTERIOR WALLS IF INTERIOR WALLS ARE AVAILABLE WITHIN SPACE SERVED BY THERMOSTAT. SHOULD THE THERMOSTAT REQUIRE INSTALLATION ON AN EXTERIOR WALL AN INSULATED BACKING PLATE MUST BE PROVIDED TO PREVENT FALSE READINGS BY THE THERMOSTAT.

REFRIGERANT PIPING NOTES	
1.	REFRIGERANT PIPING SHALL BE RIGID HARD DRAWN COPPER PIPE, TYPE L, ASTM B88, OR TYPE ACR, ASTM B280. FITTINGS SHALL BE WROUGHT COPPER SOLDER JOINT, ASTM B16.22.
2.	SOLDER MATERIAL SHALL BE 95-5 TIN-ANTIMONY.
3.	PROVIDE REFRIGERANT SPECIALTY COMPONENTS SUCH AS FILTER-DRYER AND/OR SIGHT GLASS AS REQUIRED BY UNIT MANUFACTURER.
4.	REFRIGERANT PIPING SHALL BE SIZED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, TAKING INTO ACCOUNT ALL PRESSURE LOSSES FROM FITTINGS, ELEVATION CHANGES, ETC.
5.	REAM PIPE ENDS AND REMOVE BURRS. APPLY FLUX TO JOINTS PRIOR TO APPLYING SOLDER.
6.	PURGE AND PRESSURE TEST REFRIGERANT PIPING SYSTEM. REPAIR LEAKS AS REQUIRED. CHARGE SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7.	PROVIDE PIPE SLEEVES AT ALL WALL AND FLOOR PENETRATIONS. FILL SLEEVE WITH A U.L. LISTED THROUGH PENETRATION FIRE STOP SYSTEM AT RATED WALLS AND/OR FLOORS. FILL SLEEVE WITH A WATER PROOF SEALER AT EXTERIOR WALLS OR SLAB.
8.	PROVIDE PIPE SUPPORTS IN ACCORDANCE WITH MSS-SP-69, AND SPACED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE.
9.	INSULATE REFRIGERANT SUCTION LINES WITH 3/4" FLEXIBLE ELASTOMERIC INSULATION WITH SELF SEALING LONGITUDINAL SEAMS. TRANSVERSE (BUTT) SEAMS SHALL BE SEALED WITH AN APPROVED SEALER. INSULATION INSTALLED OUTDOORS SHALL BE COVERED WITH AN ALUMINUM COVER, SECURED WITH METAL WIRE WRAP.

System No. C-AJ-8178
F Rating — 2 Hr
T Ratings — 1/4, 1/2, 1 and 1-3/4 Hr (See Item 2)

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units*. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 4 in. (102 mm).
 See Concrete Blocks (CAZT) and Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

2. Metallic Penetrants — A max of two pipes, conduits or tubing to be installed within the opening. Of the two pipes, conduits or tubing, only one of the pipes, conduit or tubing shall have a nom diam greater than 1/2 in. (13 mm). The annular space between metallic pipes, conduits or tubing and the periphery of the opening shall be min 1/2 in. (13 mm) to max 1 in. (25 mm). The annular space between metallic penetrating items and the other penetrants shall be min 0 in. (point contact) to max 1 in. (25 mm). Pipes, conduits or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
 A. Steel Pipe — Nom 1 in. (25 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 B. Iron Pipe — Nom 1 in. (25 mm) diam (or smaller) cast or ductile iron pipe.
 C. Conduit — Nom 1/2 in. (13 mm) diam (or smaller) steel electrical metallic tubing or nom 1/2 in. (13 mm) diam (or smaller) steel conduit.
 D. Copper Tubing — Nom 1 in. (25 mm) diam (or smaller) Type L (or heavier) copper tubing.
 E. Copper Pipe — Nom 1 in. (25 mm) diam (or smaller) Regular (or heavier) copper pipe.
 The T Rating is 1/4 hr when metallic penetrant is used.

3. Tube Insulation - Plastics* — Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The tube insulation shall be installed on metallic through penetrants exceeding nom 1/2 in. (13 mm) diam. The annular space between insulated penetrating item and periphery of opening shall be min 0 in. (point contact) to max 1 in. (25 mm). The annular space between insulated penetrating item and the other penetrants shall be a min 0 in. (point contact) to a max 1 in. (25 mm).
 See Plastics* (DMFZZ) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-0V/A may be used.
 The T Rating is 1 hr when insulated metallic pipe or tubing is used.

4. Cables — Max one, 4 pair No. 18 AWG (or smaller) thermostat cable with polyvinyl chloride (PVC) insulation and jacket materials. Cable to be spaced a min 0 in. (point contact) to max 1 in. (25 mm) from the other penetrants. The annular space between the cable and the periphery of the opening shall be a min 1/2 in. (13 mm) to max 1 in. (25 mm). Cable to be rigidly supported on both sides of wall assembly.
 The T Rating is 1/2 hr when cable is used.

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Hilti Firestop Systems

System No. C-AJ-8178

5. Nonmetallic Penetrant — A max of one nonmetallic pipe to be installed within the opening. The annular space between pipe and periphery of the opening shall be min 0 in. (point contact) to max 1 in. (25 mm). The annular space between nonmetallic penetrating item and the other penetrants shall be min 0 in. (point contact) to max 1 in. (25 mm). Pipes, conduits or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
 A. Polyvinyl Chloride (PVC) Pipe — Nom 1-1/4 in. (32 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in vented (drain, waste or vent) or closed (process or supply) piping systems.
 B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 1-1/4 in. (32 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

The T Rating is 1-3/4 hr when nonmetallic pipe is used.

6. Firestop System — The firestop system shall consist of the following:
 A. Fill, Void or Cavity Material* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with bottom surface of concrete floor or both surfaces of wall assembly. Fill material to be forced into interstices of through penetrants to max extent possible. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.
 B. Firestop Device* - Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installer instructions. Collar to be installed and latched around the cable bundle and secured to underside of floor or both sides of wall using the anchor hooks provided with the collar. (Minimum 2 anchor hooks for 1-1/2 and 2 in. (38 and 51 mm) devices and 3 anchor hooks for 3 and 4 in. (76 and 102 mm) devices.) The anchor hooks are to be secured with 1/4 in. (6 mm) diam by 1-3/4 in. (44 mm) long steel expansion type masonry fasteners, 1-1/4 in. (32 mm) long concrete screw anchors, 0.145 in. (3.7 mm) diam by 1-1/4 in. (32 mm) long powder actuated fasteners utilizing a nom 15 mm (9/16 in.) diam steel washer, Hilti 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long KWIK-CON II+ concrete screw anchor, Hilti 1/4 in. (6 mm) diam by 1-3/4 in. (44 mm) long KWIK-BOLT 3 steel expansion anchor or Hilti X-DNI 27 P8 S15 powder actuated floor pin with integral nom 9/16 in. (15 mm) diam washer. One fastener shall be located in each anchor hook. See Table below for size of device required for the opening.

4 (102)	CP 643 110/4"N
3 (76)	CP 643 90/3"N
2 (51)	CP 643 63/2"N
1-1/2 (38)	CP 643 50/1.5"N

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

*Bearing the UL Recognized Component Mark

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Hilti Firestop Systems

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 Engineering Great Ideas
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 DeVita & Associates, Inc. Project : 20200-09
 NC Firm License No. C-0819

PROJECT NUMBER: 22048
 CONSULTANT:

PROJECT INFORMATION:

**ELEVATOR
 MODERNIZATION -
 HUBBARD TOTTEN
 BUILDING**

1801 FAYETTEVILLE
 STREET
 DURHAM, NC 27707

SCO PROJECT NO: 22-25114-01A
 ISSUE DATE: 05/15/23
 PHASE: BID SET

REVISIONS		
NO.	DATE	DESCRIPTION

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DRAWING NAME
**MECHANICAL LEGEND,
 NOTES, AND DETAILS**

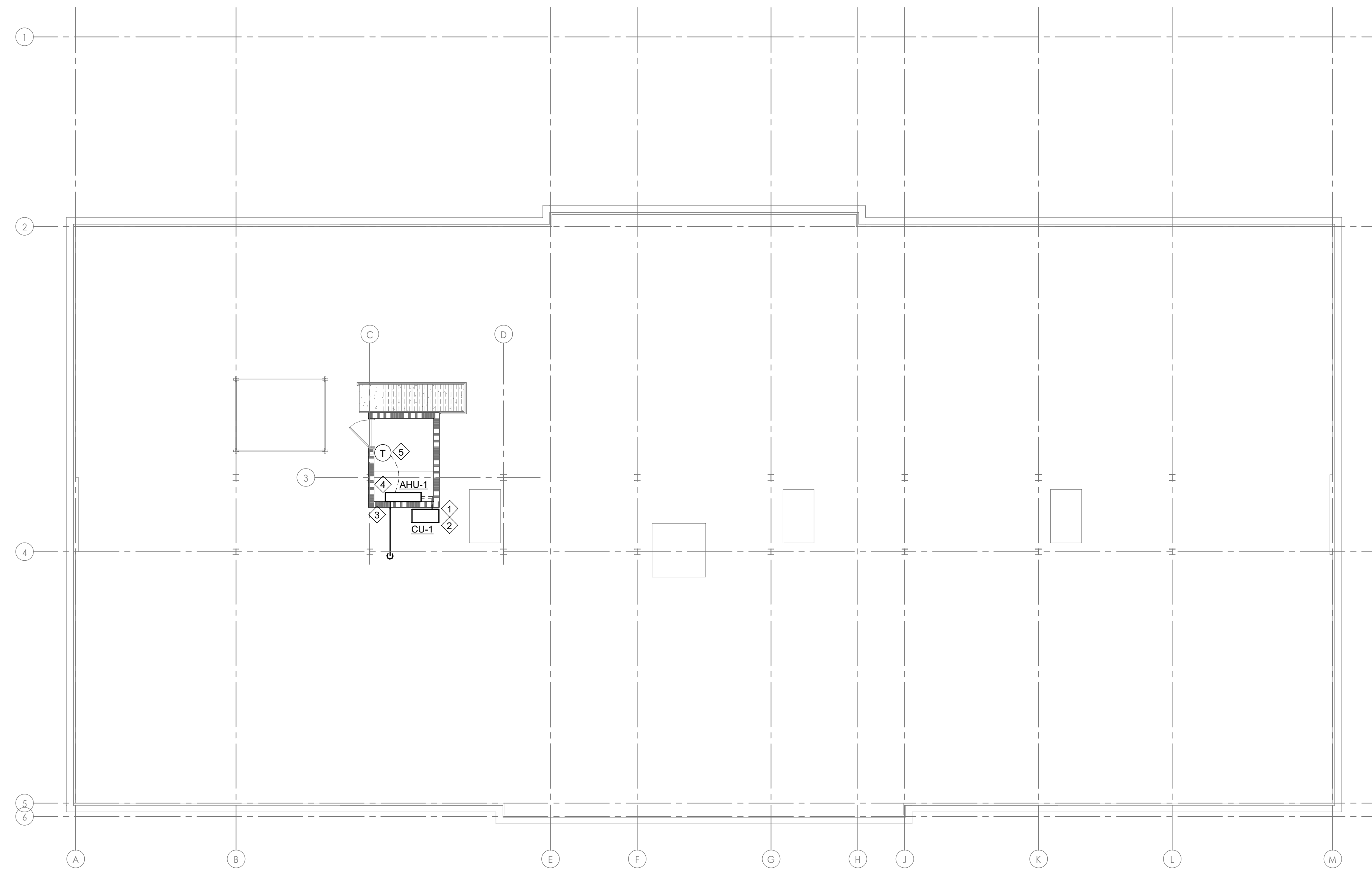
DRAWING NO.
M001
 Drawn By: DAI Checked By: DAI

KEY NOTES:

1. MOUNT CONDENSING UNIT TO ON RAILS IN MECHANICAL WELL OF ROOF.
2. ROUTE REFRIGERANT PIPING THROUGH ROOF TO ELEVATOR EQUIPMENT ROOM.
3. ROUTE FULL SIZE CONDENSATE DRAIN LINE UP AND OVER TO NEAREST FLOOR DRAIN. MAXIMUM LIFT REQUIRED SHALL BE 20".
4. MOUNT AHU-1 WITH TOP 12" BELOW CEILING PER MANUFACTURER RECOMMENDATIONS.
5. MOUNT THERMOSTAT AT 48" AFF.

WALL RATING LEGEND

	UNRATED WALL
	SMOKE PARTITION
	1/2 - HOUR FIRE BARRIER
	1 - HOUR FIRE BARRIER
	2 - HOUR FIRE BARRIER



2 ATTIC FLOOR MECHANICAL PLAN
M100
1/8" = 1'-0"
0 8 16 24



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NC Firm License No. C-0819

PROJECT NUMBER: 22048
CONSULTANT

PROJECT INFORMATION:

ELEVATOR
MODERNIZATION -
HUBBARD TOTTEN
BUILDING

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STREET
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DRAWING NAME
**MECHANICAL FLOOR
PLAN**

DRAWING NO.
M100

Drawn By: DAI Checked By: DAI