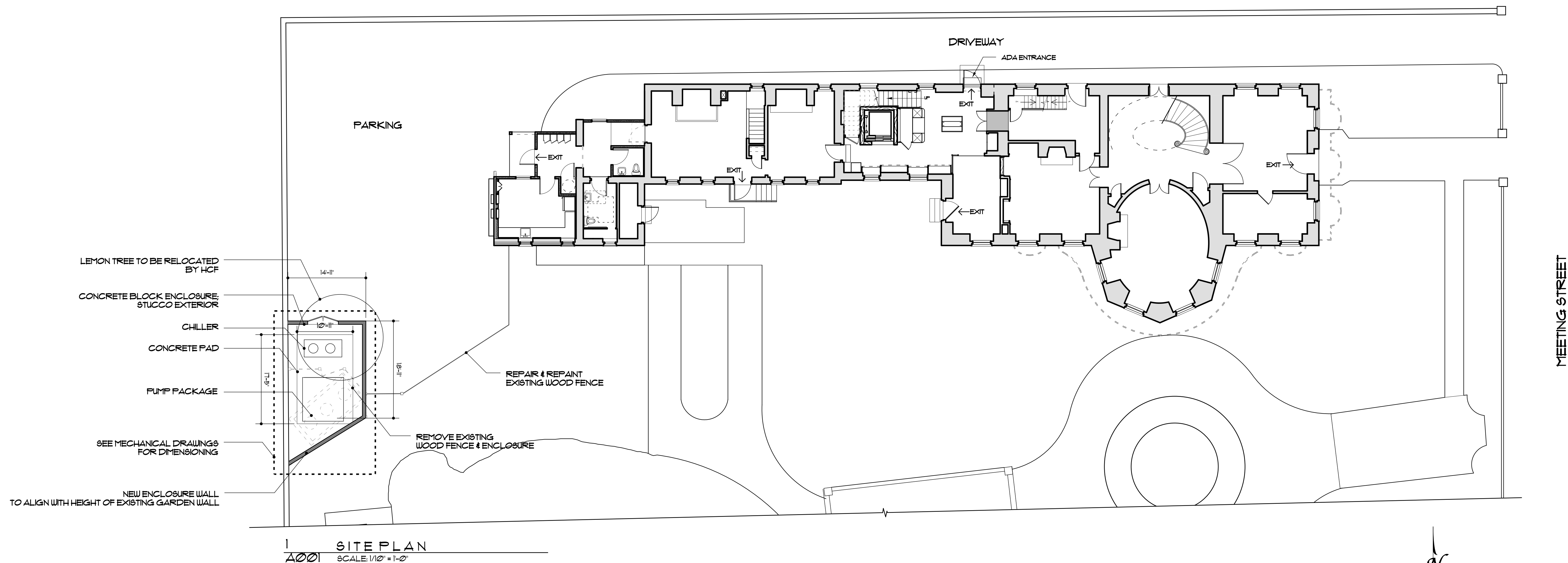




DRAWING LIST

ARCHITECTURAL

- | | |
|------|--|
| A001 | SITE PLAN/ DRAWING LIST |
| D101 | FIRST FLOOR DEMOLITION PLAN |
| D102 | SECOND FLOOR DEMOLITION PLAN |
| A101 | PROPOSED FIRST FLOOR PLAN |
| A102 | PROPOSED SECOND FLOOR PLAN |
| A103 | SHOP FIXTURE PLAN |
| A104 | WEATHERSTRIPPING PLAN |
| A201 | PROPOSED BUILDING ELEVATIONS |
| A301 | BUILDING SECTIONS |
| A401 | INTERIOR ELEVATIONS |
| A402 | INTERIOR ELEVATIONS |
| A403 | INTERIOR ELEVATIONS |
| A404 | INTERIOR ELEVATIONS |
| A405 | INTERIOR ELEVATIONS |
| A501 | DETAILS |
| A502 | DETAILS |
| A601 | FINISH SCHEDULE |
| E101 | DEMOLITION PLAN/NOTES |
| E102 | FIRST & SECOND FLOOR POWER/EMERGENCY LIGHTING PLAN |
| F101 | FIRE ALARM SPECIFICATIONS |
| E103 | FIRST FLOOR ELECTRICAL PLAN |
| E104 | SECOND FLOOR ELECTRICAL PLAN |
| E105 | THIRD FLOOR ELECTRICAL PLAN |

HYAC REPLACEMENT

- | | |
|-----|---|
| E1 | EQUIPMENT YARD & CRAWL SPACE ELECTRICAL PLAN |
| E2 | MAIN HOUSE FIRST & SECOND FLOOR ELECTRICAL PLAN |
| E3 | MAIN HOUSE ATTIC ELECTRICAL PLAN |
| M1 | WING MECHANICAL DEMOLITION PLAN |
| M2 | WING MECHANICAL DEMOLITION PLAN |
| M3 | MAIN HOUSE MECHANICAL DEMOLITION PLAN |
| M4 | MAIN HOUSE MECHANICAL DEMOLITION PLAN |
| M5 | EQUIPMENT PLAN |
| M6 | CRAWL SPACE MECHANICAL PLAN |
| M7 | FIRST FLOOR MAIN HOUSE MECHANICAL PLAN |
| M8 | SECOND FLOOR MECHANICAL PLAN |
| M9 | THIRD/ATTIC MECHANICAL PLAN |
| M10 | SCHEDULES & DETAILS |
| M11 | SEQUENCE OF OPERATION & POINTS LIST |

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NATHANIEL RUSSELL HOUSE

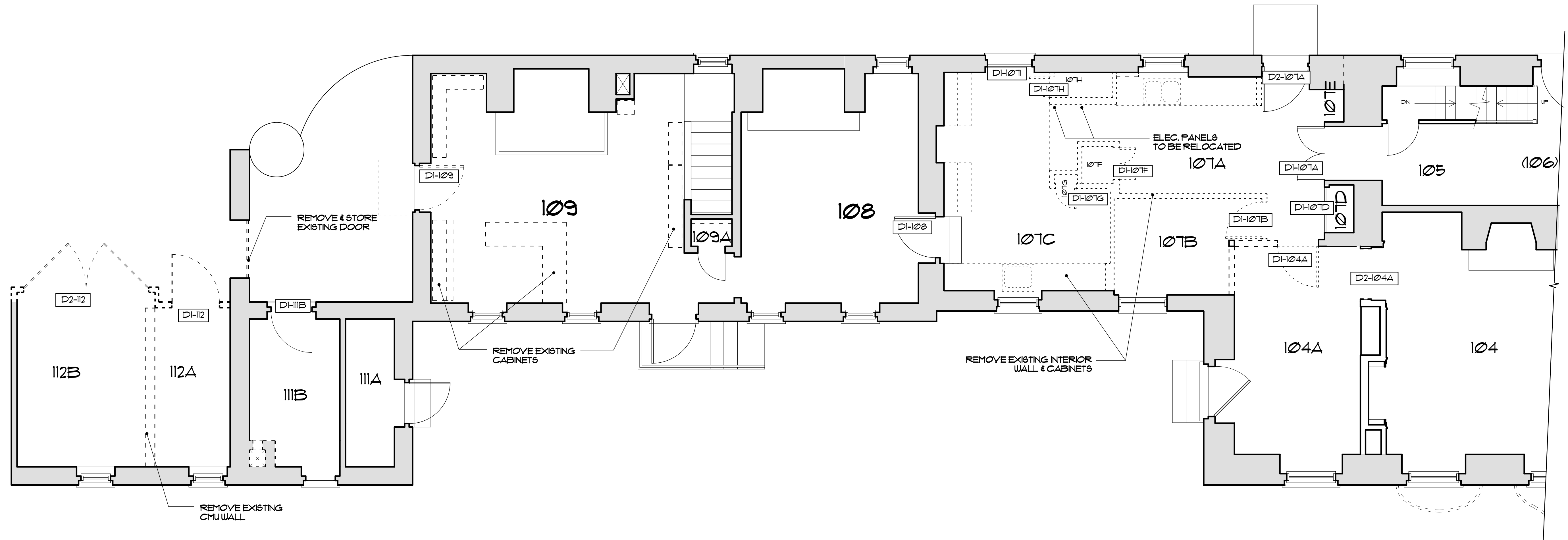
51 Meeting Street
Charleston, South Carolina

HISTORIC CHARLESTON FOUNDATION

SITE PLAN
DRAWING LIST

PROJECT NUMBER	1206
DRAWING DATE	9/5/12
SHEET NUMBER	A001

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NOTE:
SALVAGE DOORS FOR RE-USE BY OWNER

1
D101 FIRST FLOOR DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

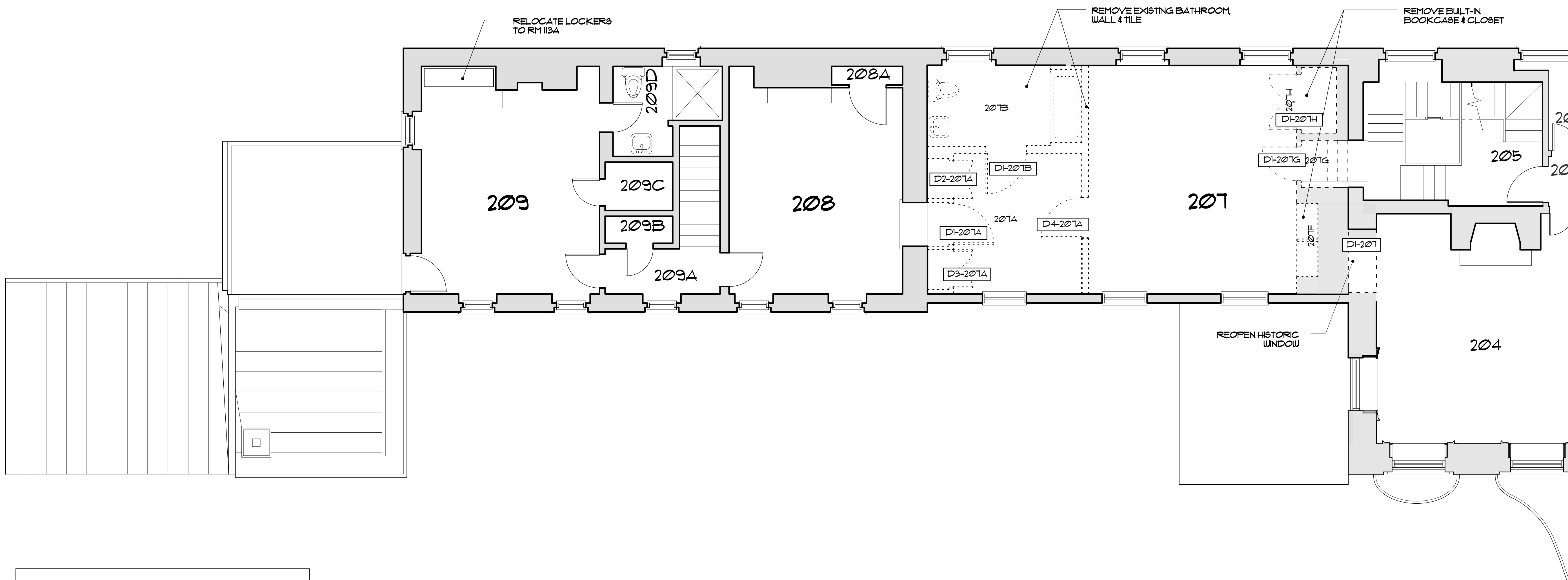
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NATHANIEL RUSSELL HOUSE
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HISTORIC CHARLESTON FOUNDATION

FIRST FLOOR
DEMOLITION PLAN

PROJECT NUMBER
1206
DRAWING DATE
9/5/12
SHEET NUMBER
D101



NOTE:
SALVAGE DOORS FOR RE-USE BY OWNER

1 SECOND FLOOR DEMOLITION PLAN
D102 SCALE: 1/4" = 1'-0"

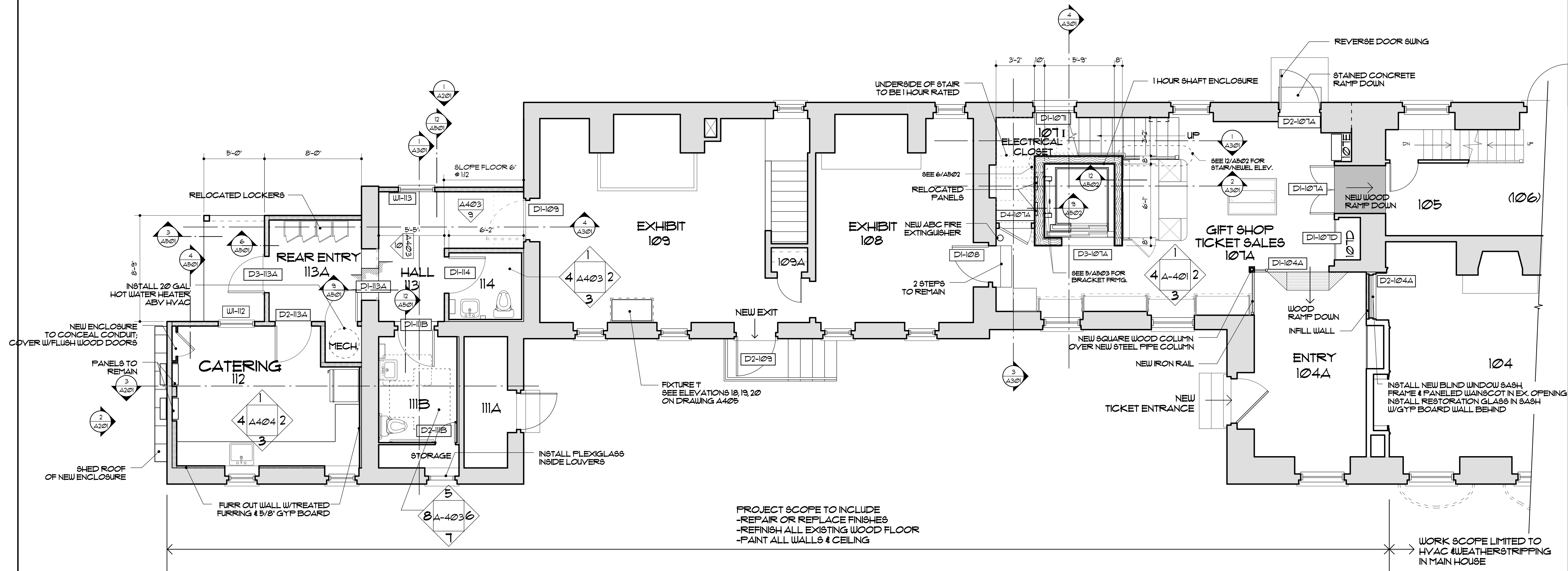
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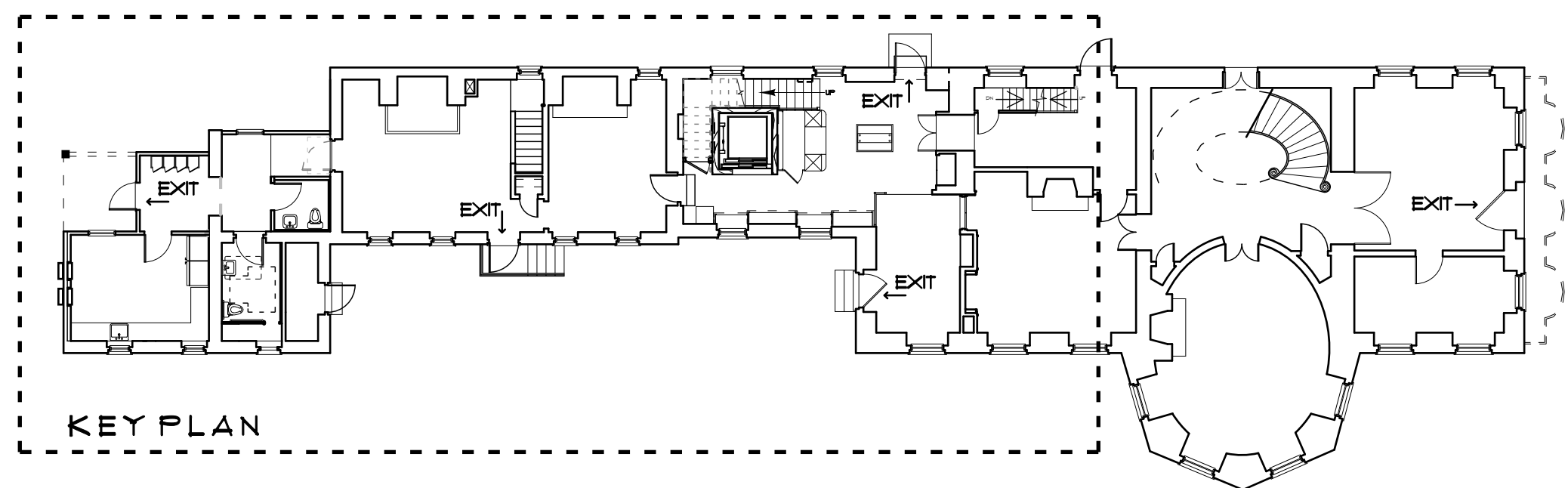
SECOND FLOOR
DEMOLITION PLAN

PROJECT NUMBER
1206
DRAWING DATE
9/5/12
SHEET NUMBER
D102



PROJECT SCOPE TO INCLUDE
-REPAIR OR REPLACE FINISHES
-REFINISH ALL EXISTING WOOD FLOOR
-PAINT ALL WALLS & CEILING

1 FIRST FLOOR PLAN
A101 SCALE: 1/4" = 1'-0"



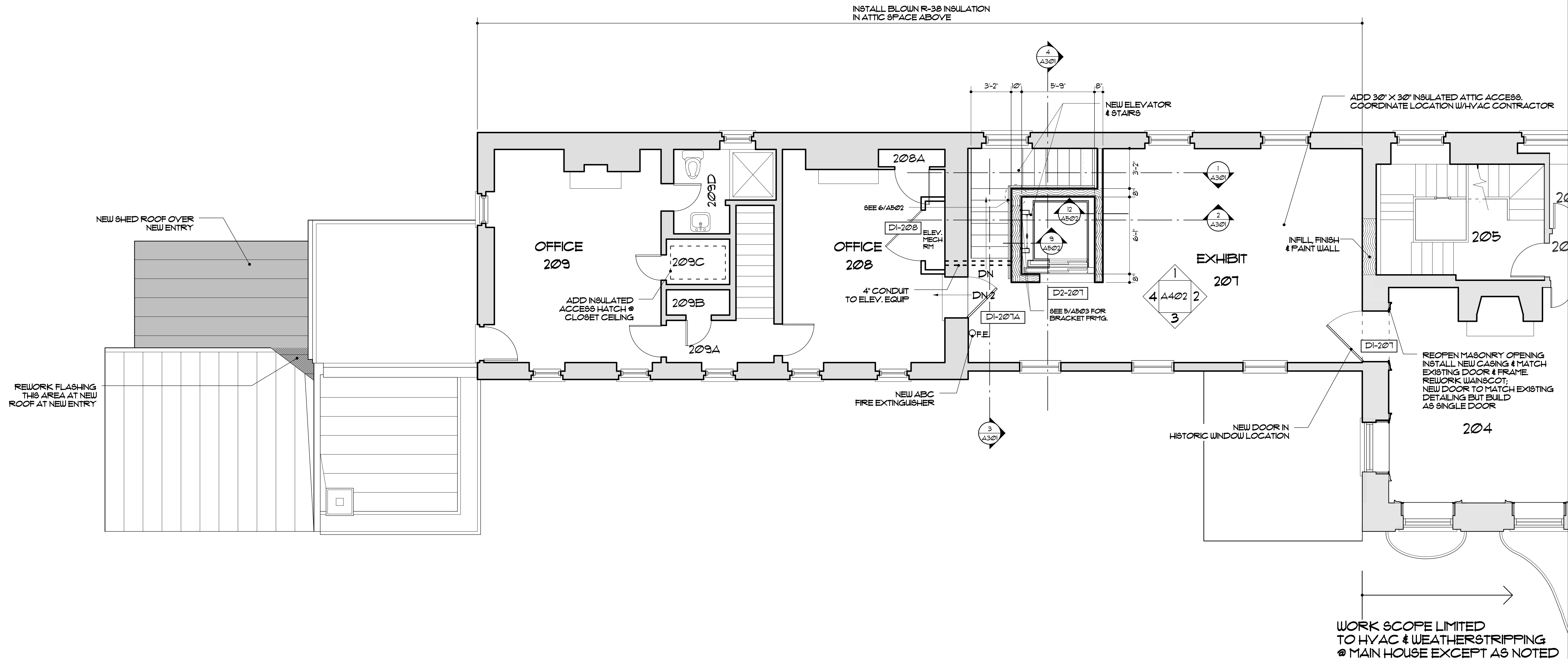
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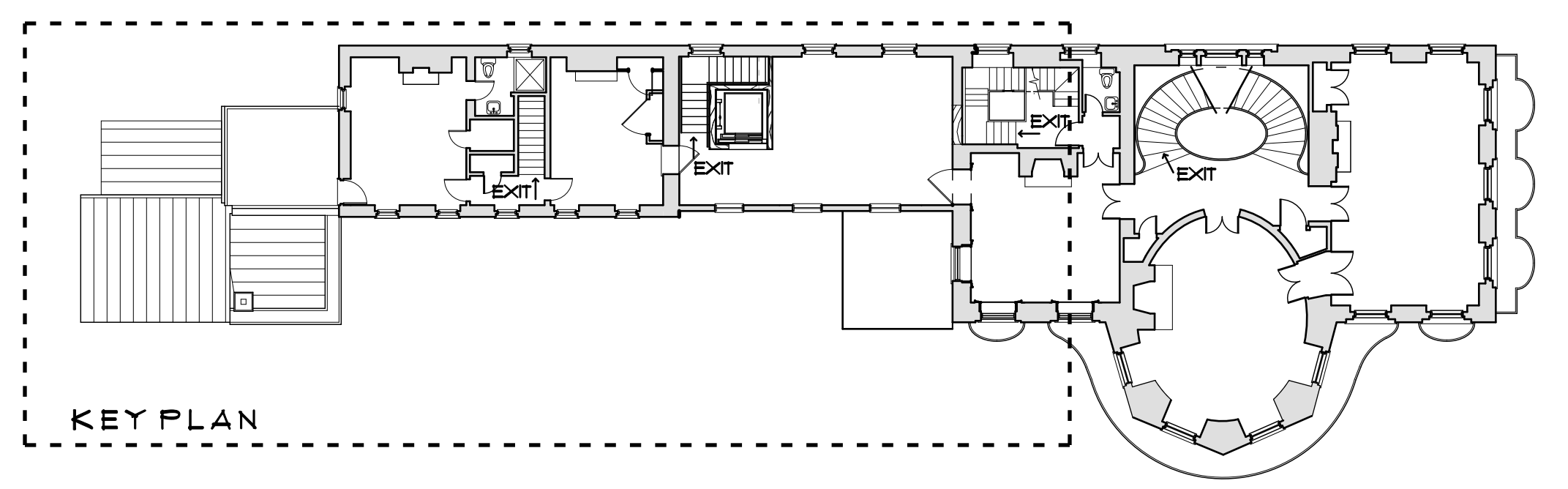
NATHANIEL RUSSELL HOUSE
51 Meeting Street
Charleston, South Carolina
HISTORIC CHARLESTON FOUNDATION

FIRST FLOOR PLAN

PROJECT NUMBER
1206
DRAWING DATE
9/5/12
SHEET NUMBER
A101



1 SECOND FLOOR PLAN
A102 SCALE: 1/4" = 1'-0"



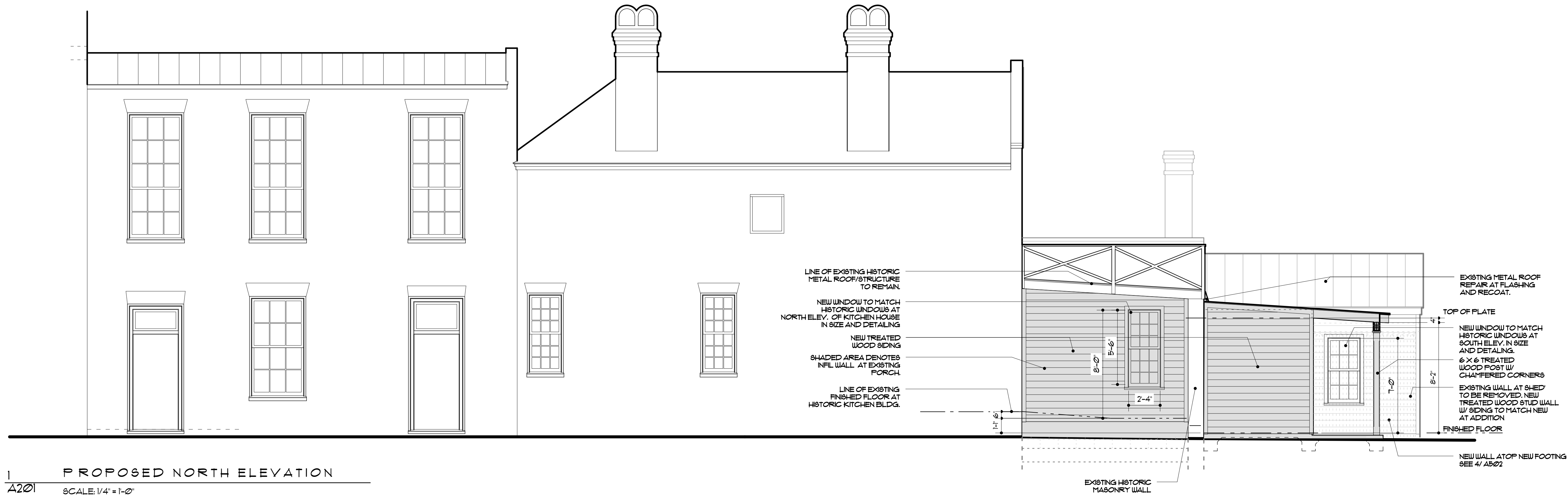
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SECOND FLOOR PLAN

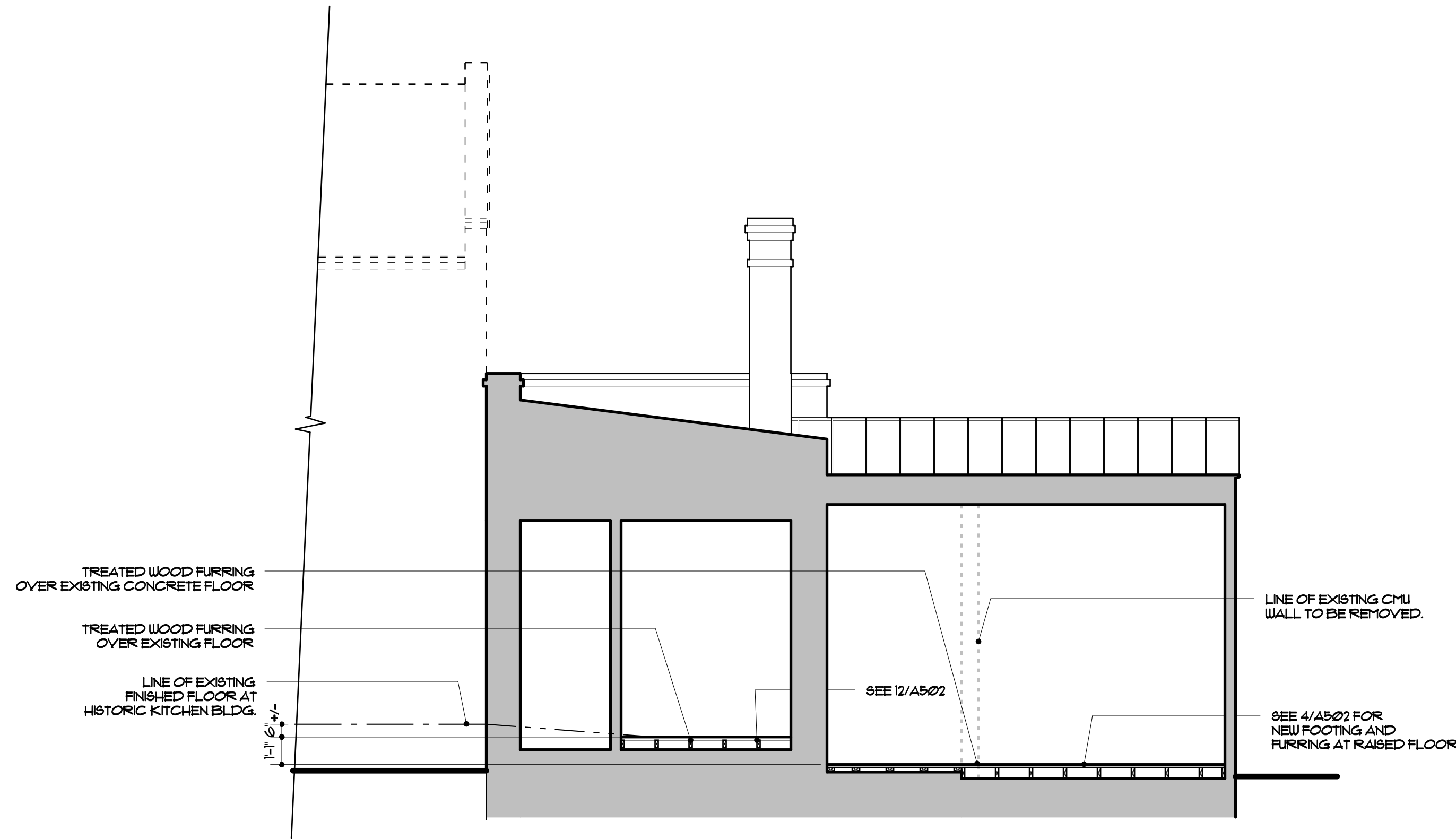
PROJECT NUMBER
1206
DRAWING DATE
9/5/12
SHEET NUMBER
A102



1 PROPOSED NORTH ELEVATION
A201 SCALE: 1/4" = 1'-0"

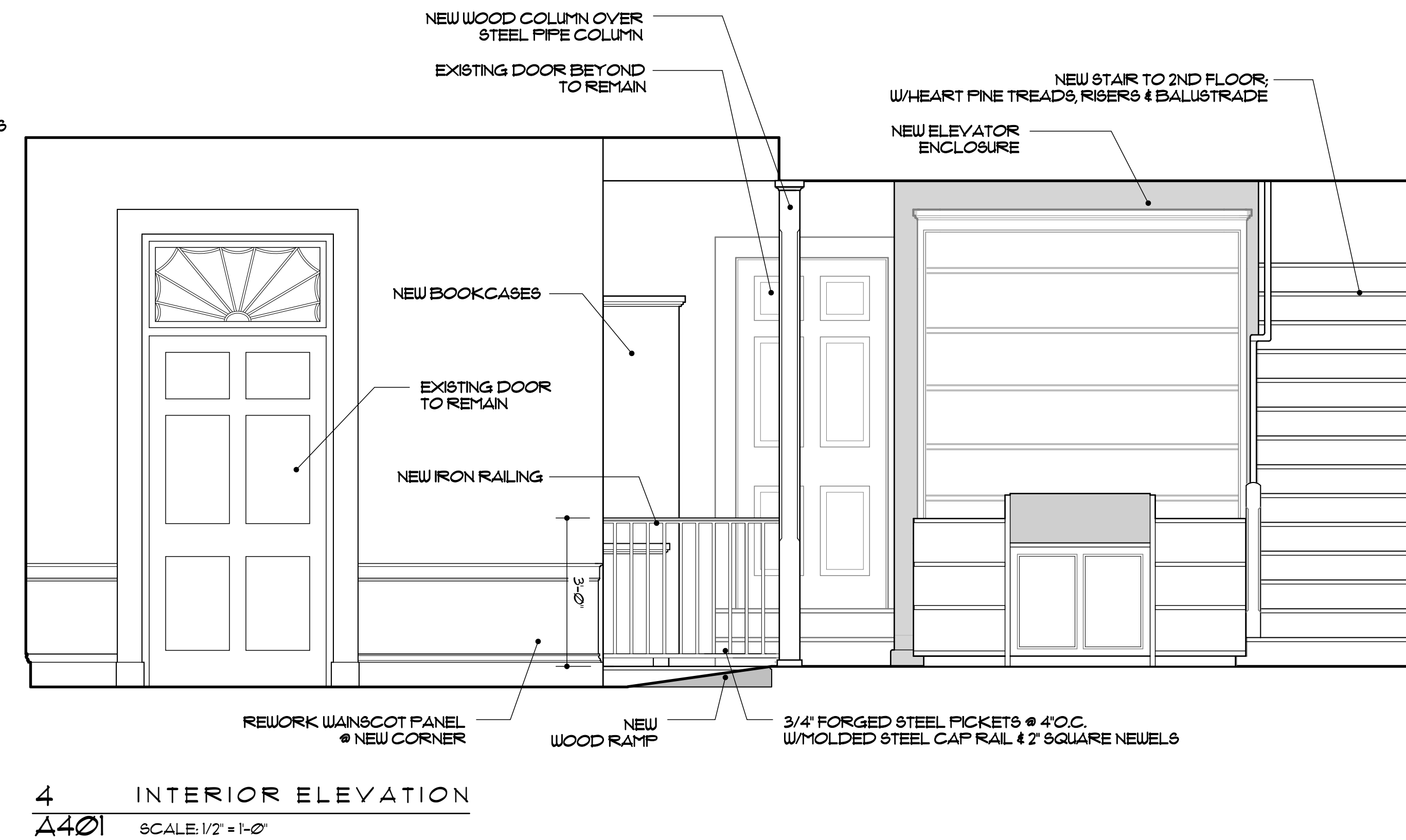
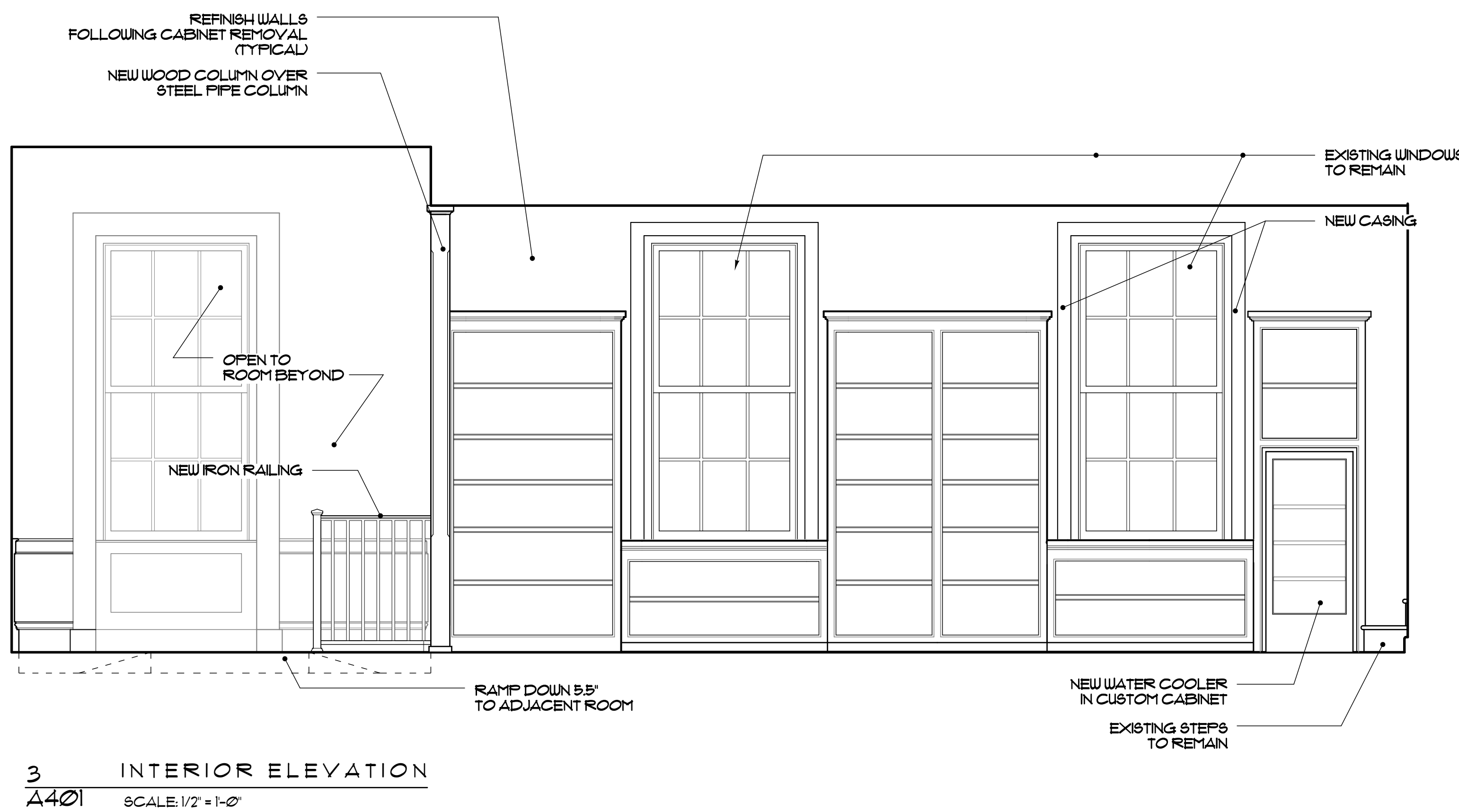
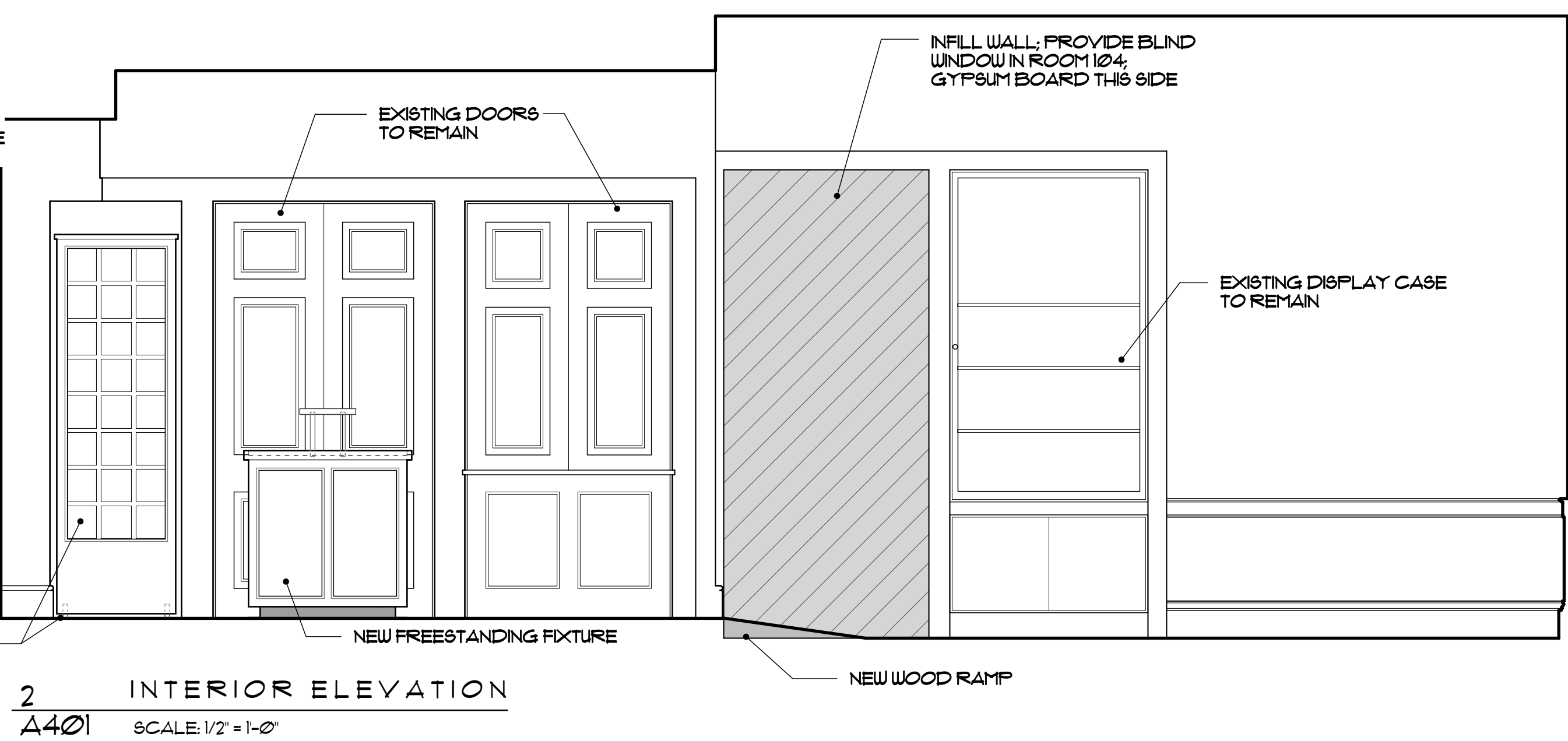
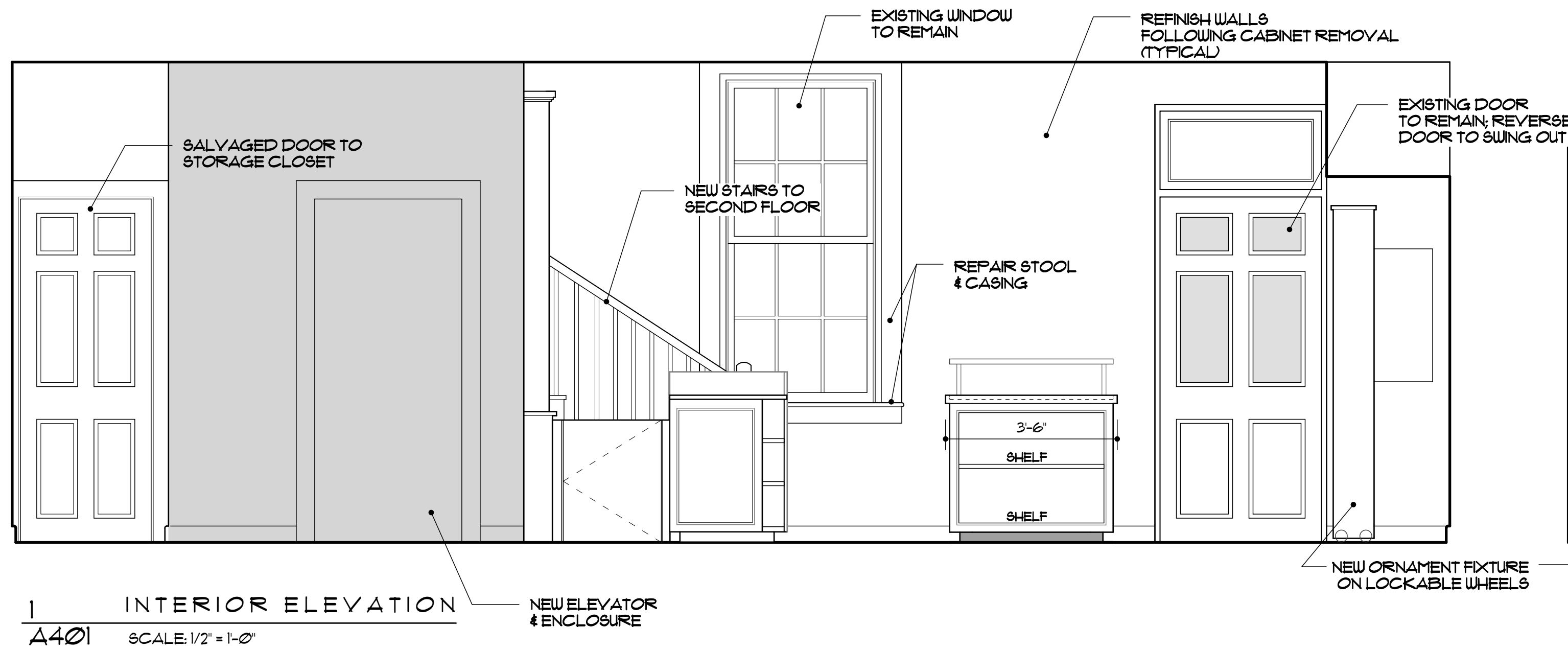


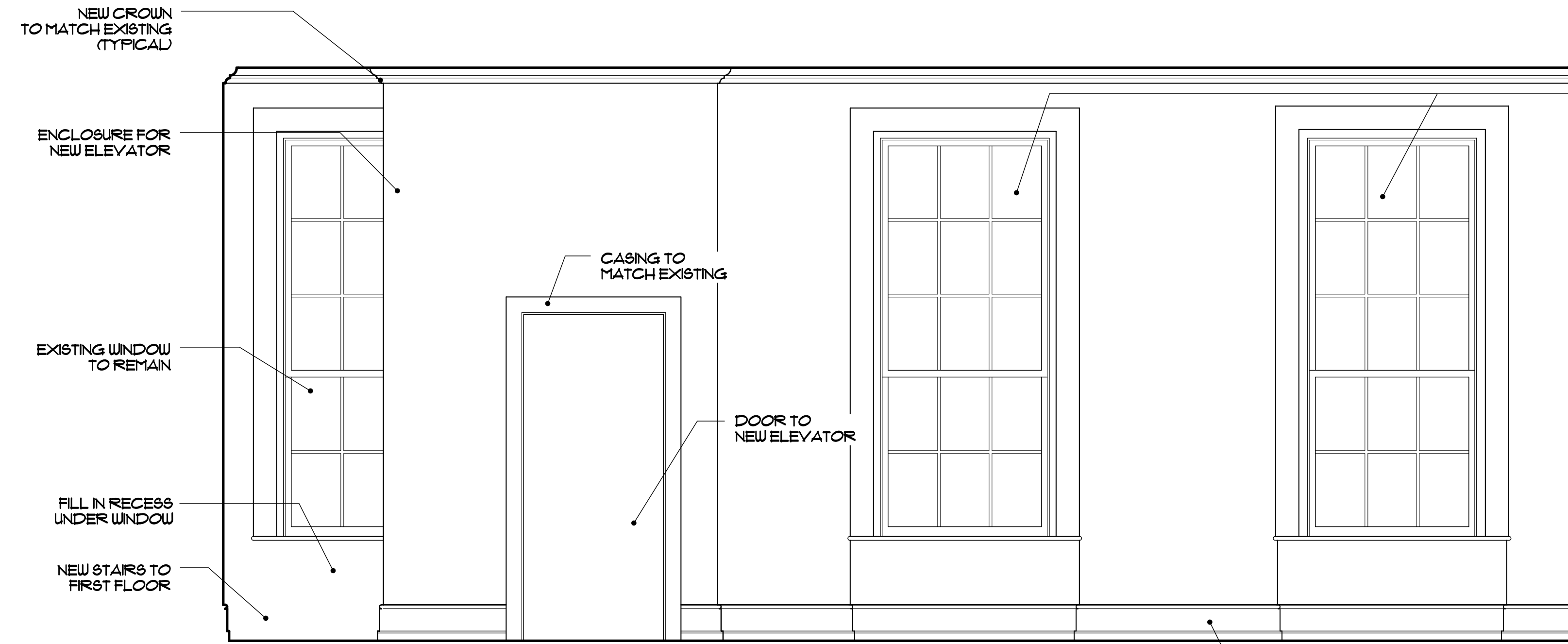
2 WEST ELEVATION
A201 SCALE: 1/4" = 1'-0"



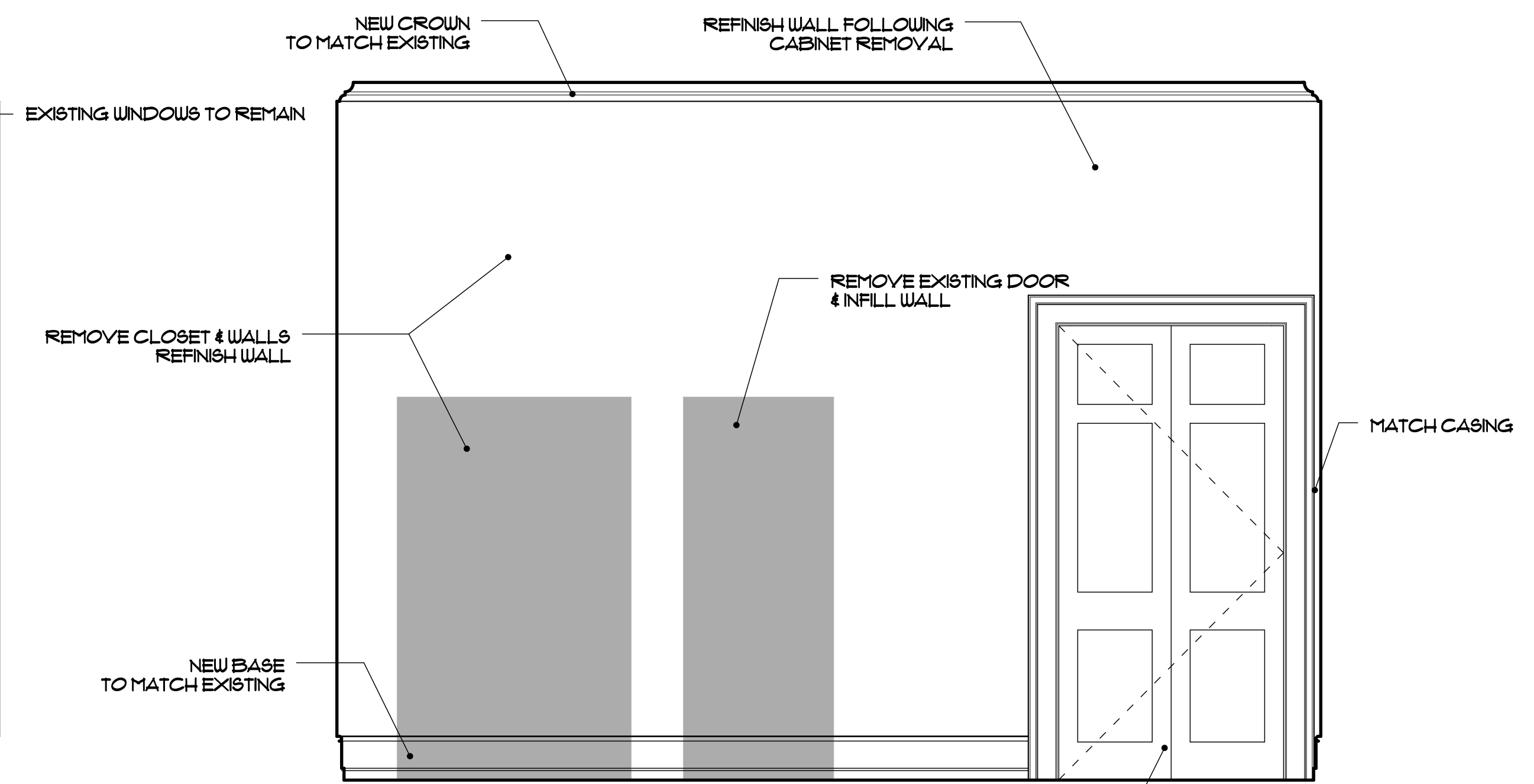
3 SECTION / ELEVATION
A201 SCALE: 1/4" = 1'-0"



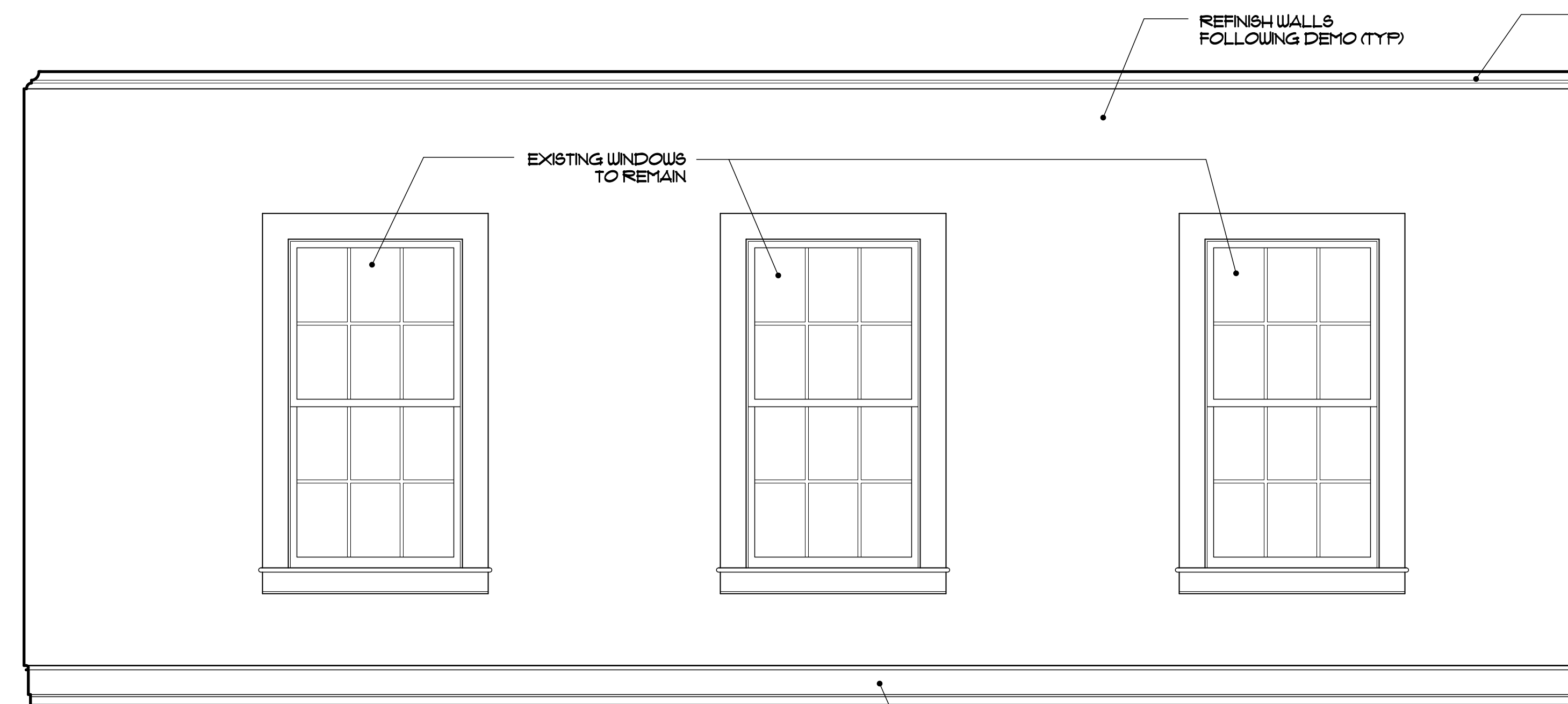




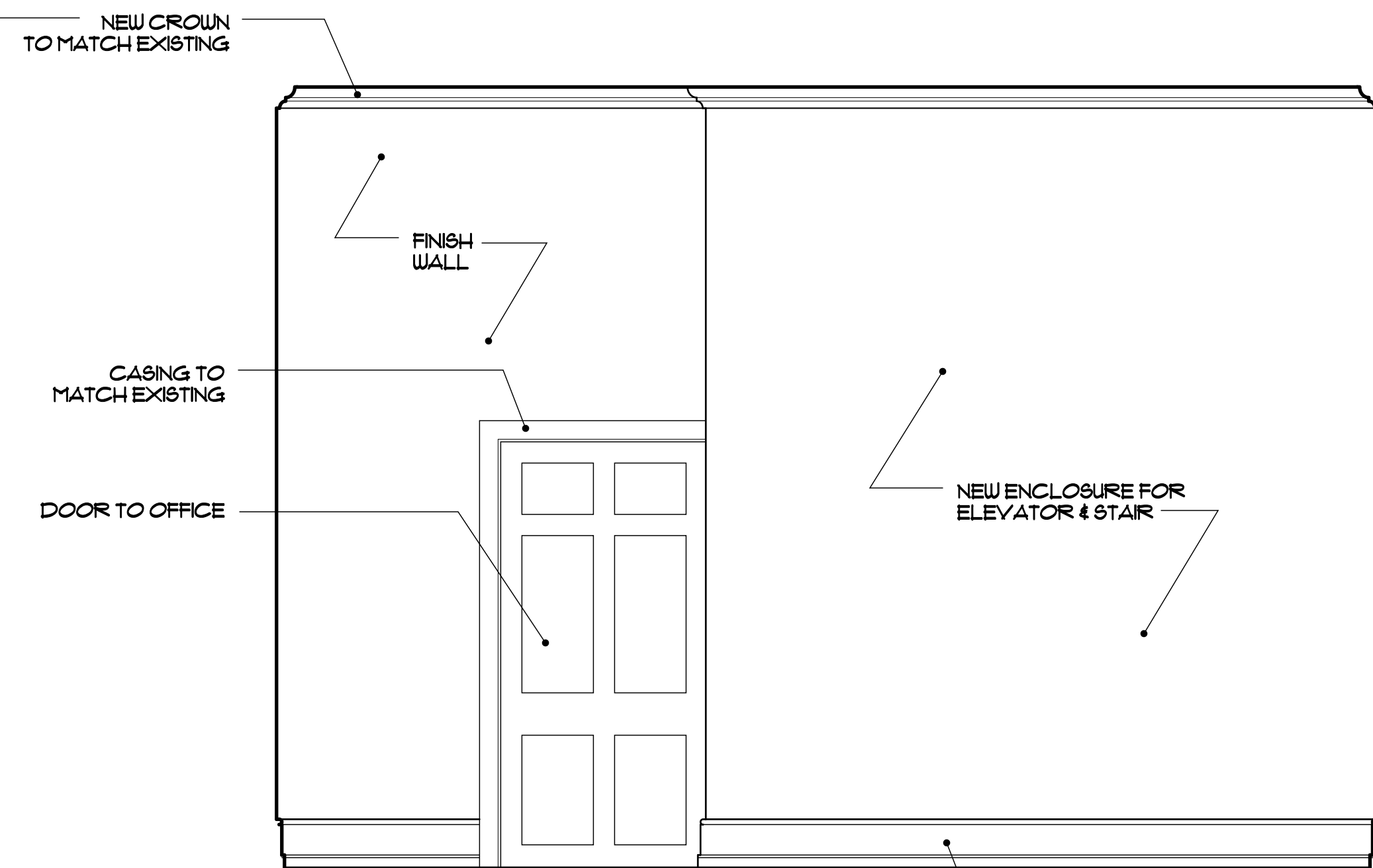
1 INTERIOR ELEVATION
A402 SCALE: 1/2" = 1'-0"



2 INTERIOR ELEVATION
A402 SCALE: 1/2" = 1'-0"



3 INTERIOR ELEVATION
A402 SCALE: 1/2" = 1'-0"



4 INTERIOR ELEVATION
A402 SCALE: 1/2" = 1'-0"

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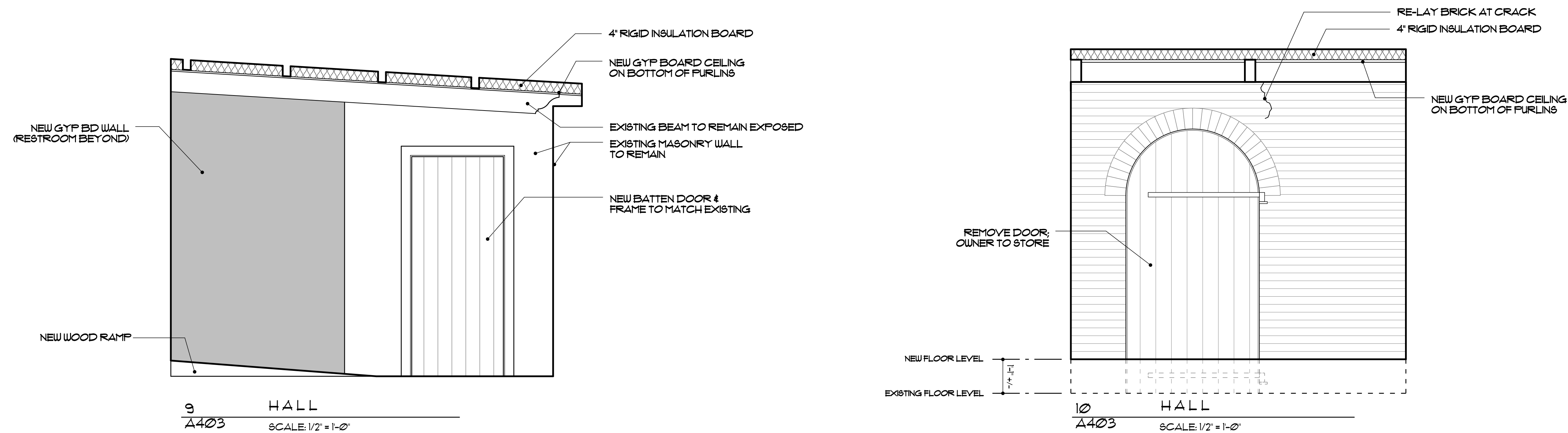
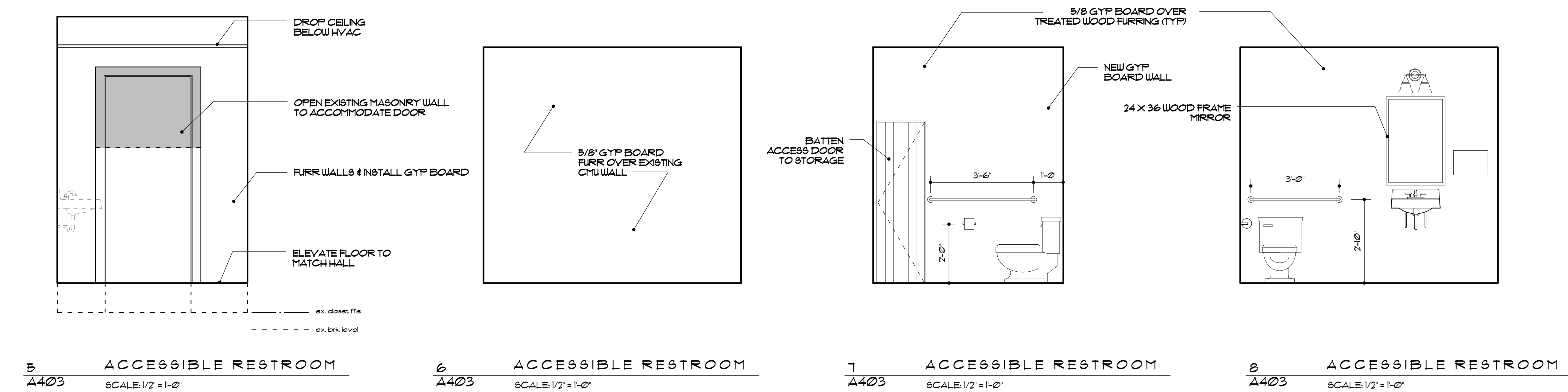
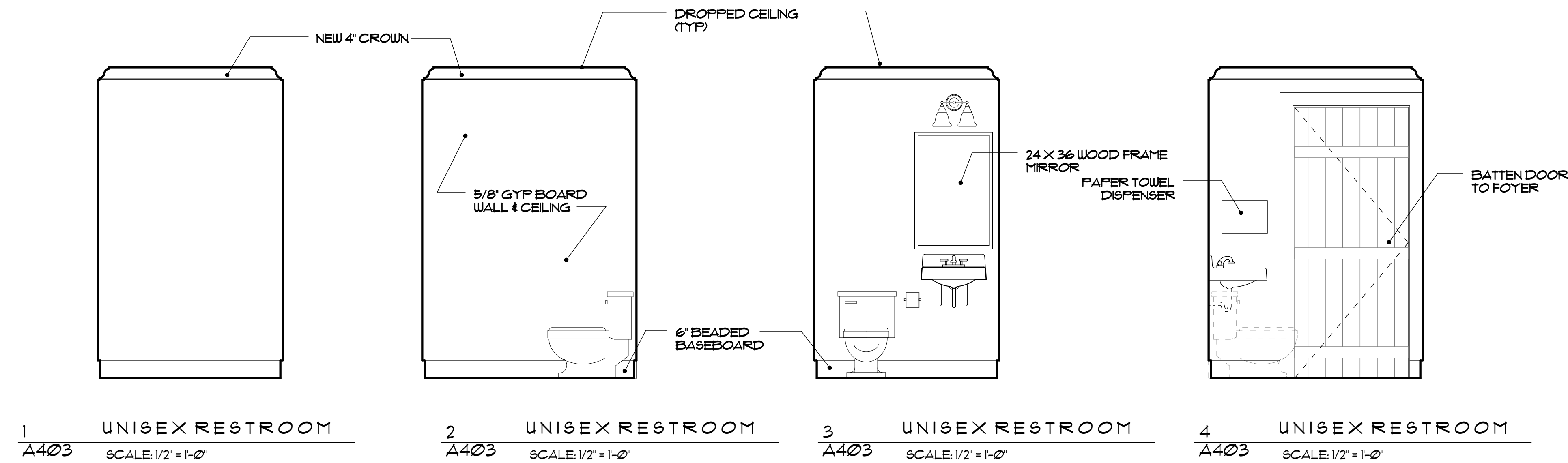
HISTORIC CHARLESTON FOUNDATION

INTERIOR ELEVATIONS--
HY-PHEN

PROJECT NUMBER
1206

DRAWING DATE
9/5/12

SHEET NUMBER
A402



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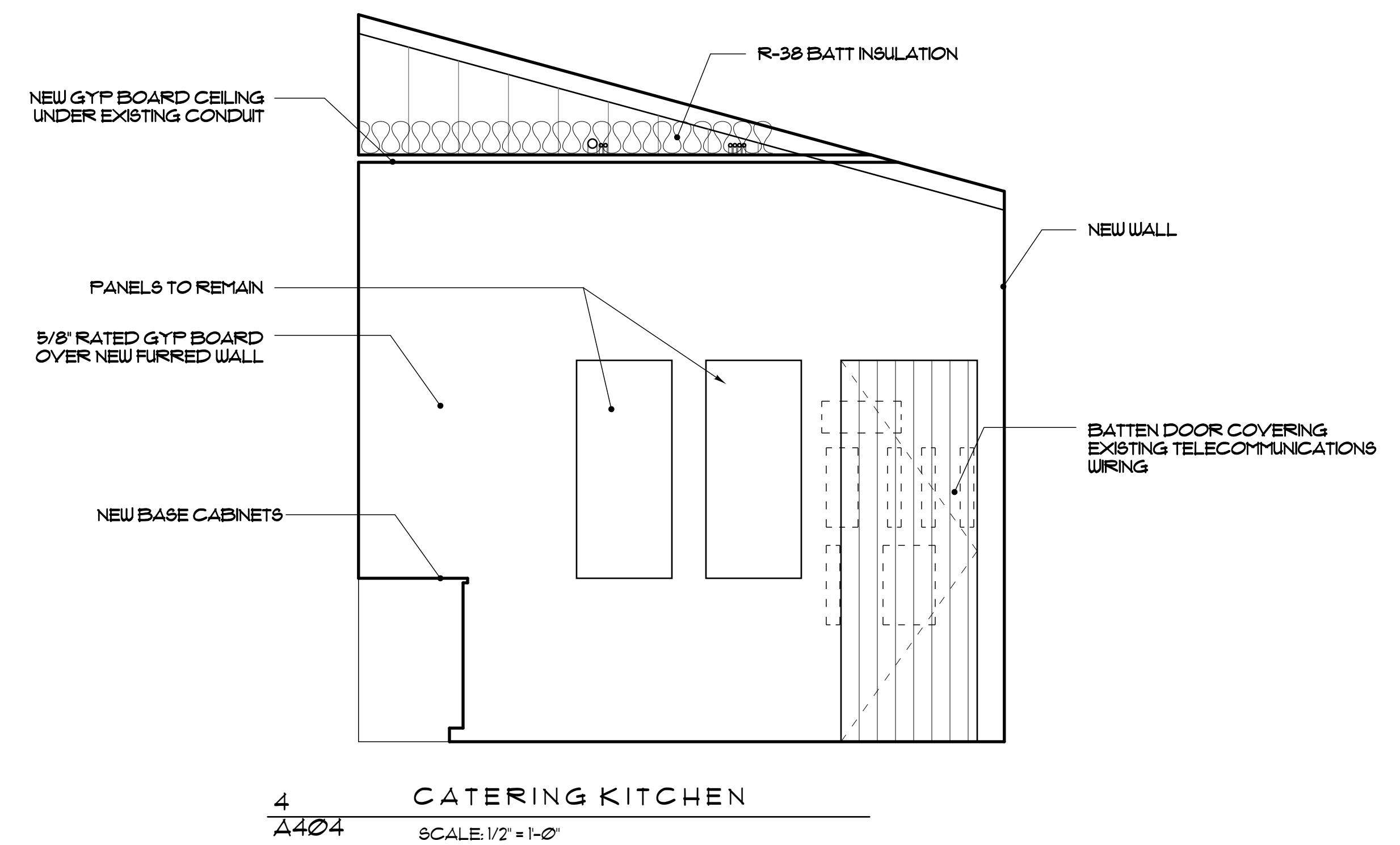
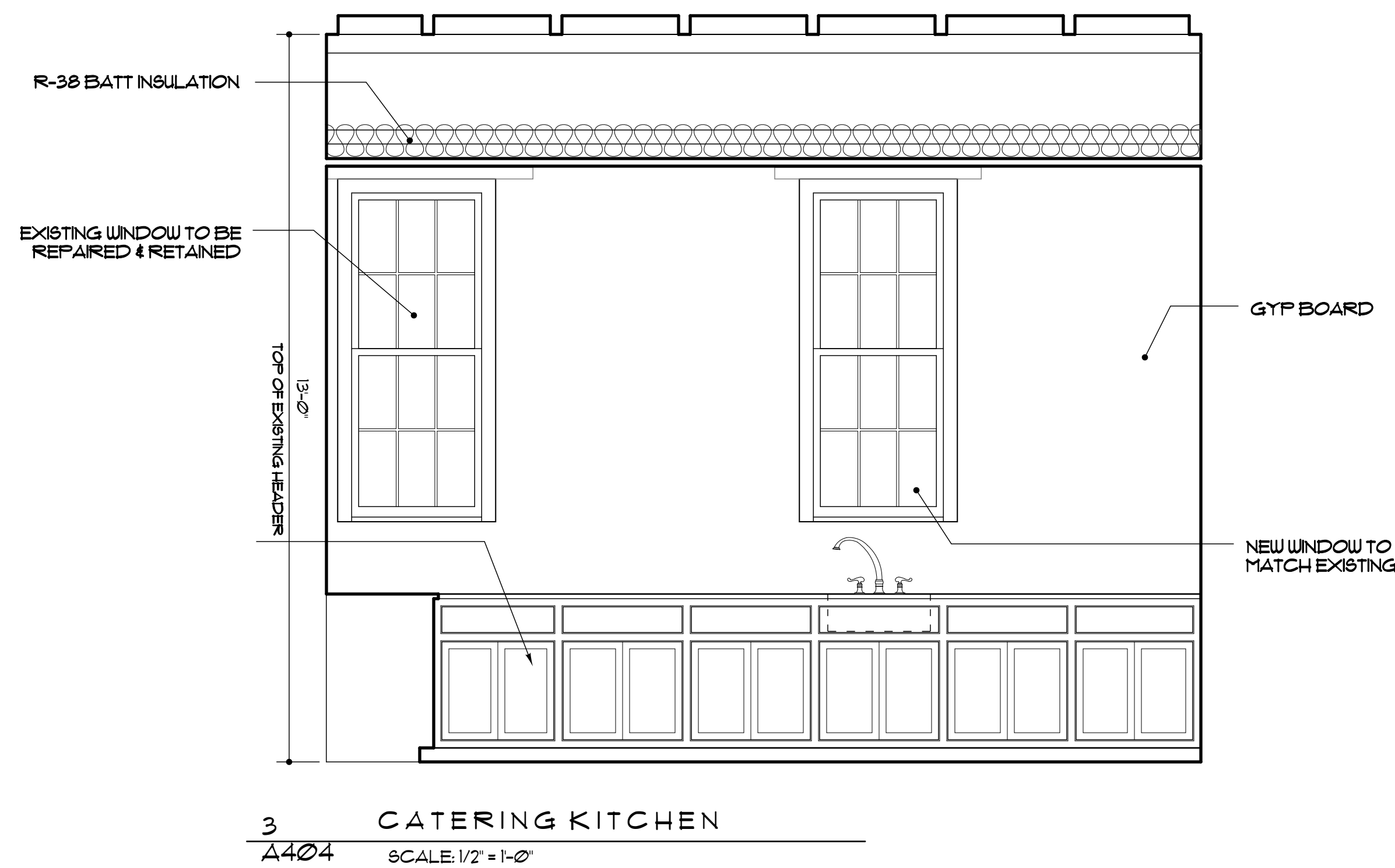
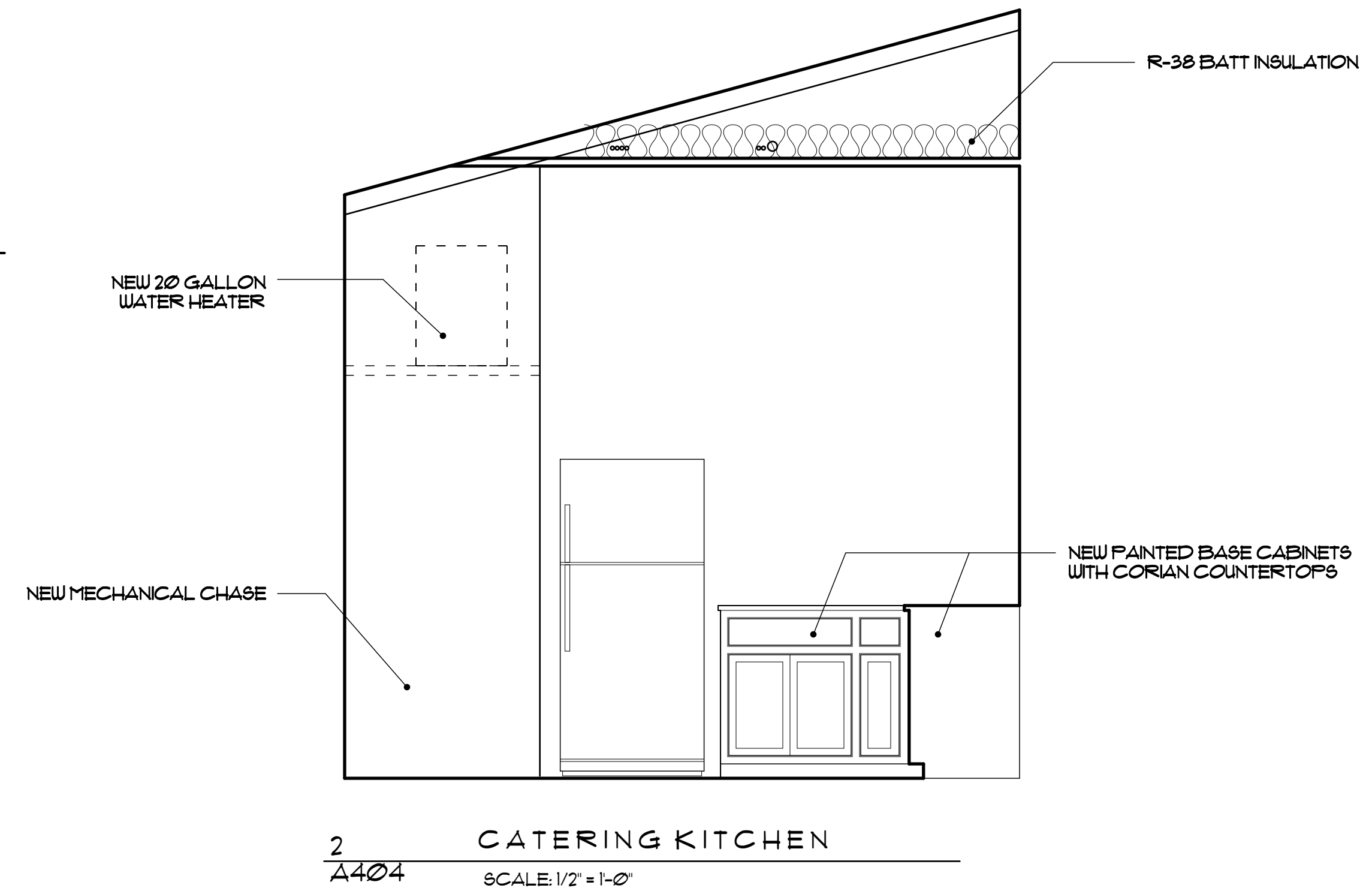
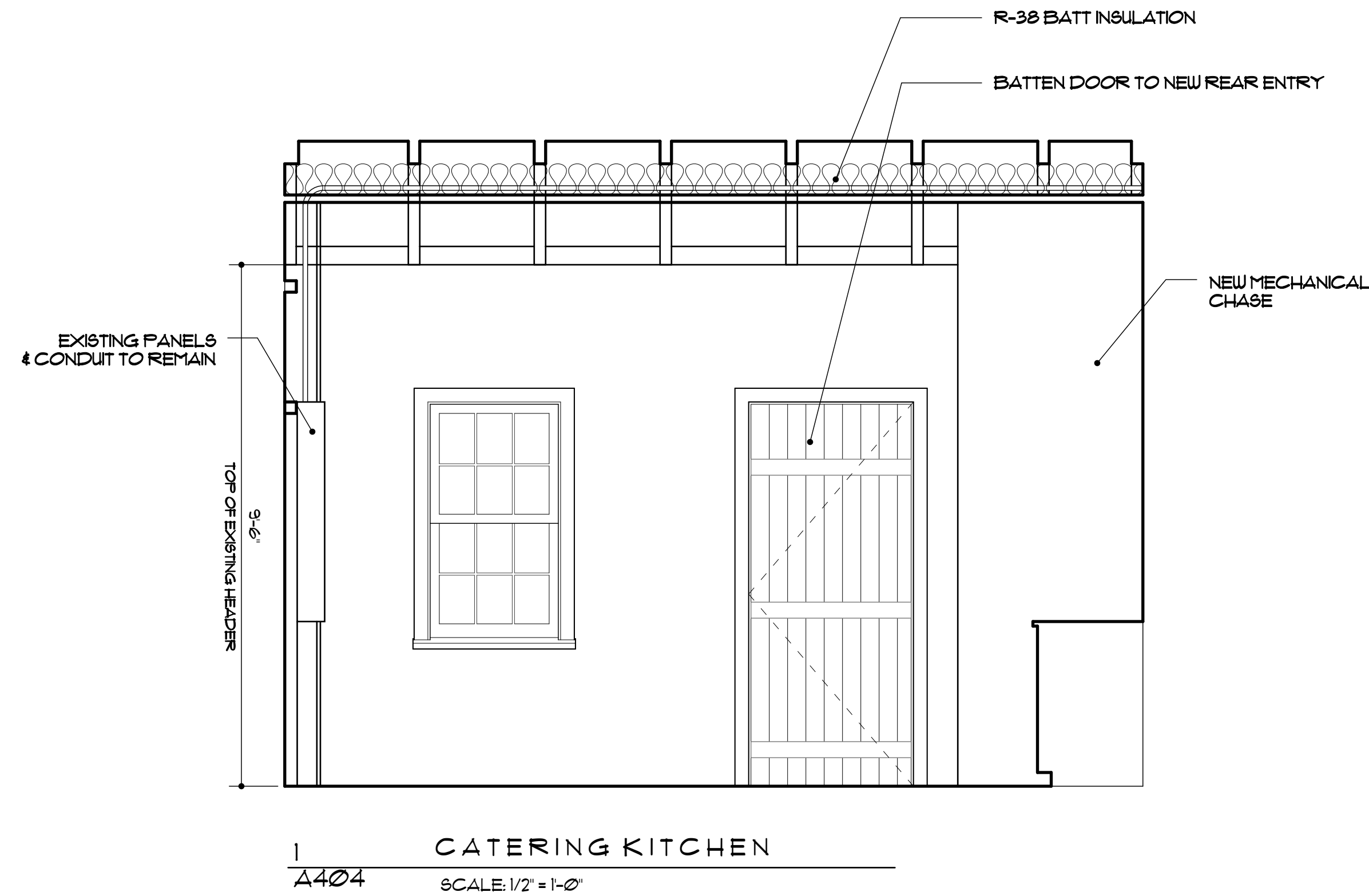
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INTERIOR ELEVATIONS--
KITCHEN HOUSE ADDITION

PROJECT NUMBER
1206
DRAWING DATE
9/5/12
SHEET NUMBER

A403



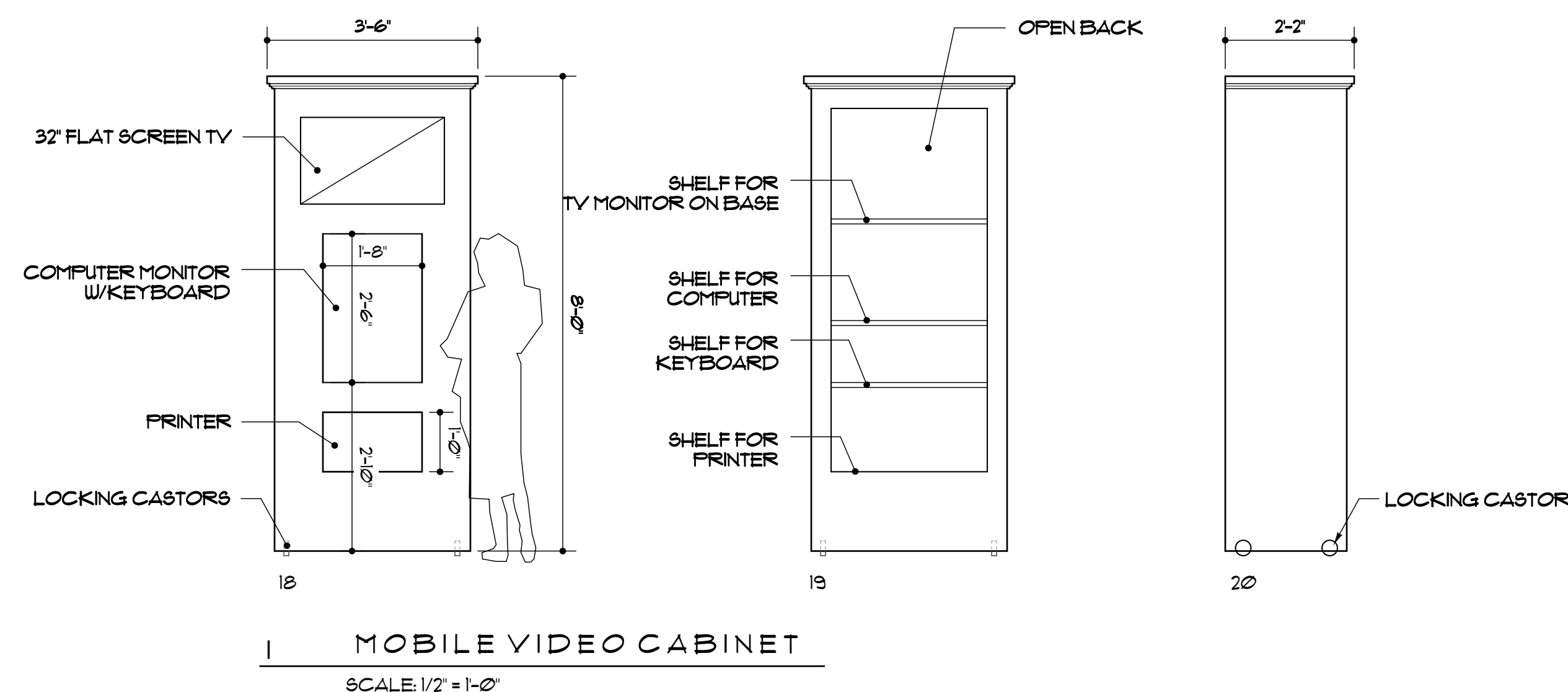
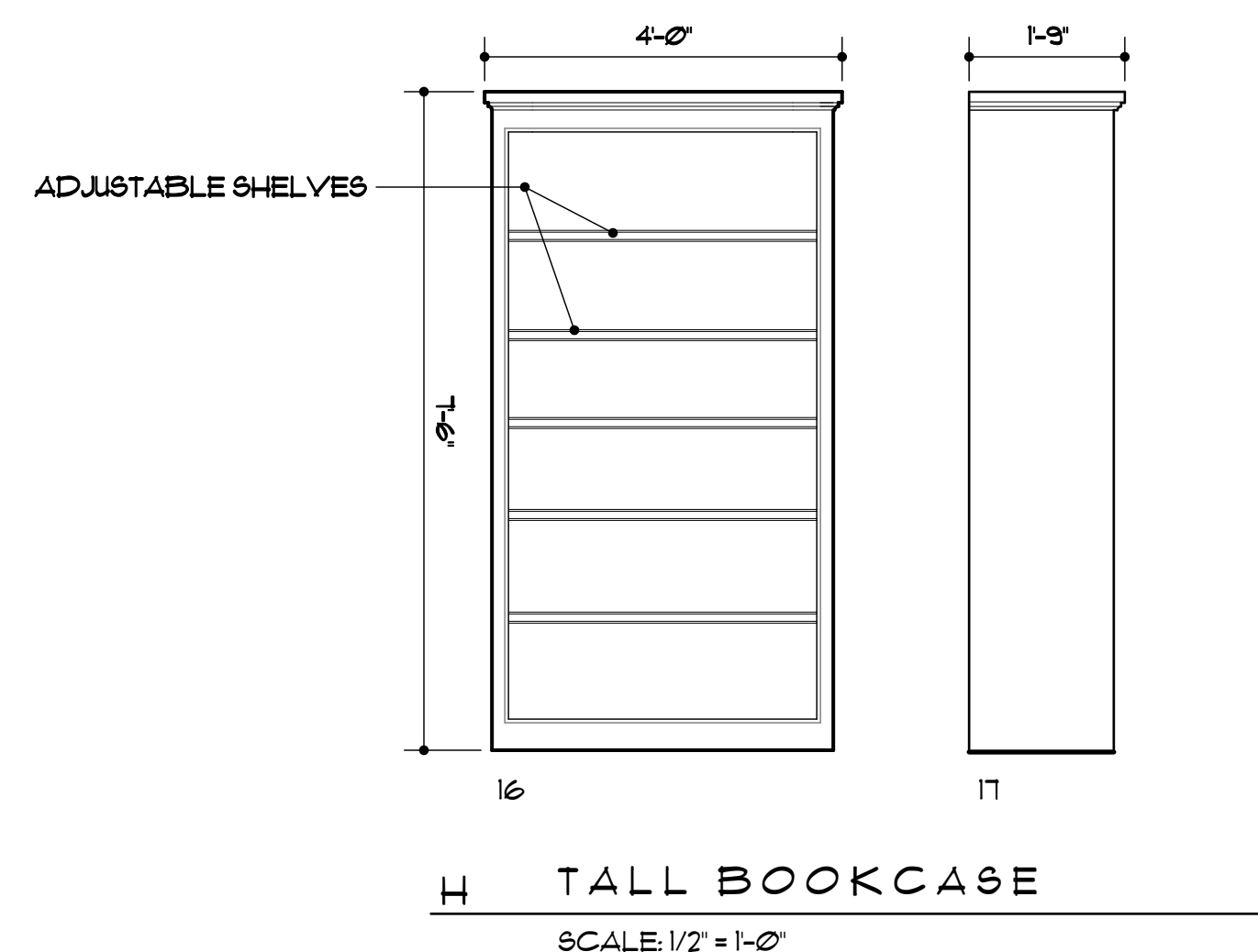
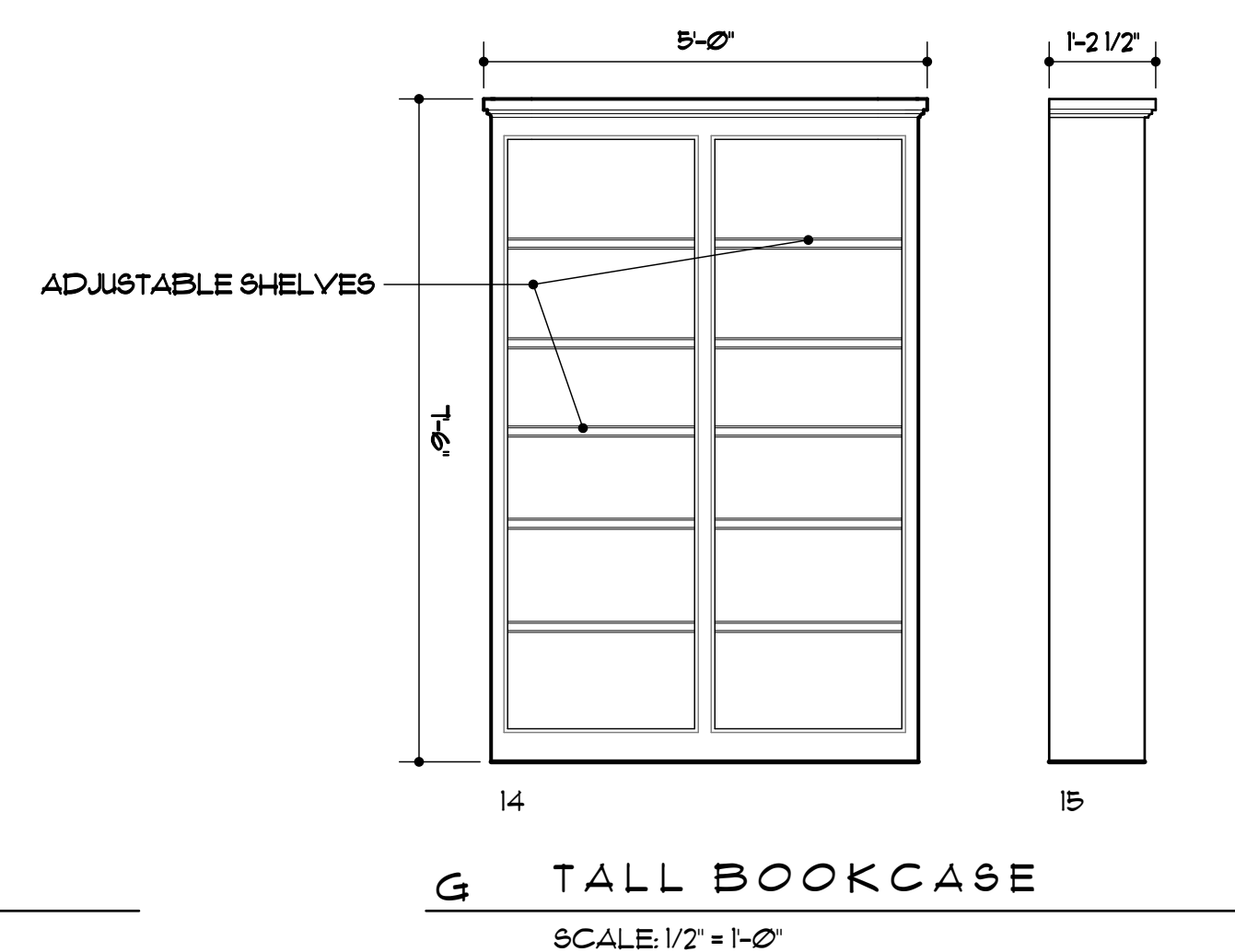
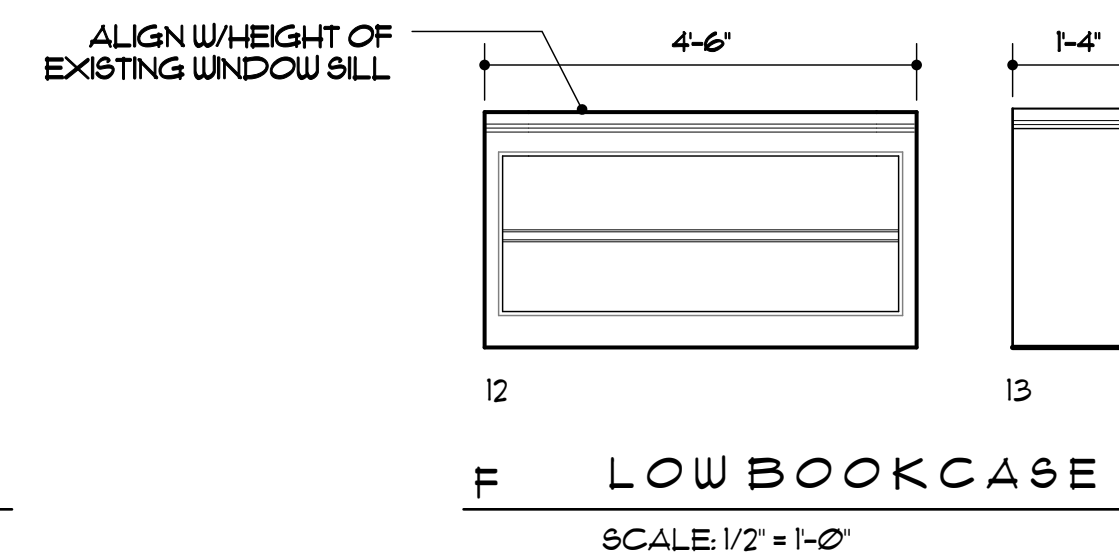
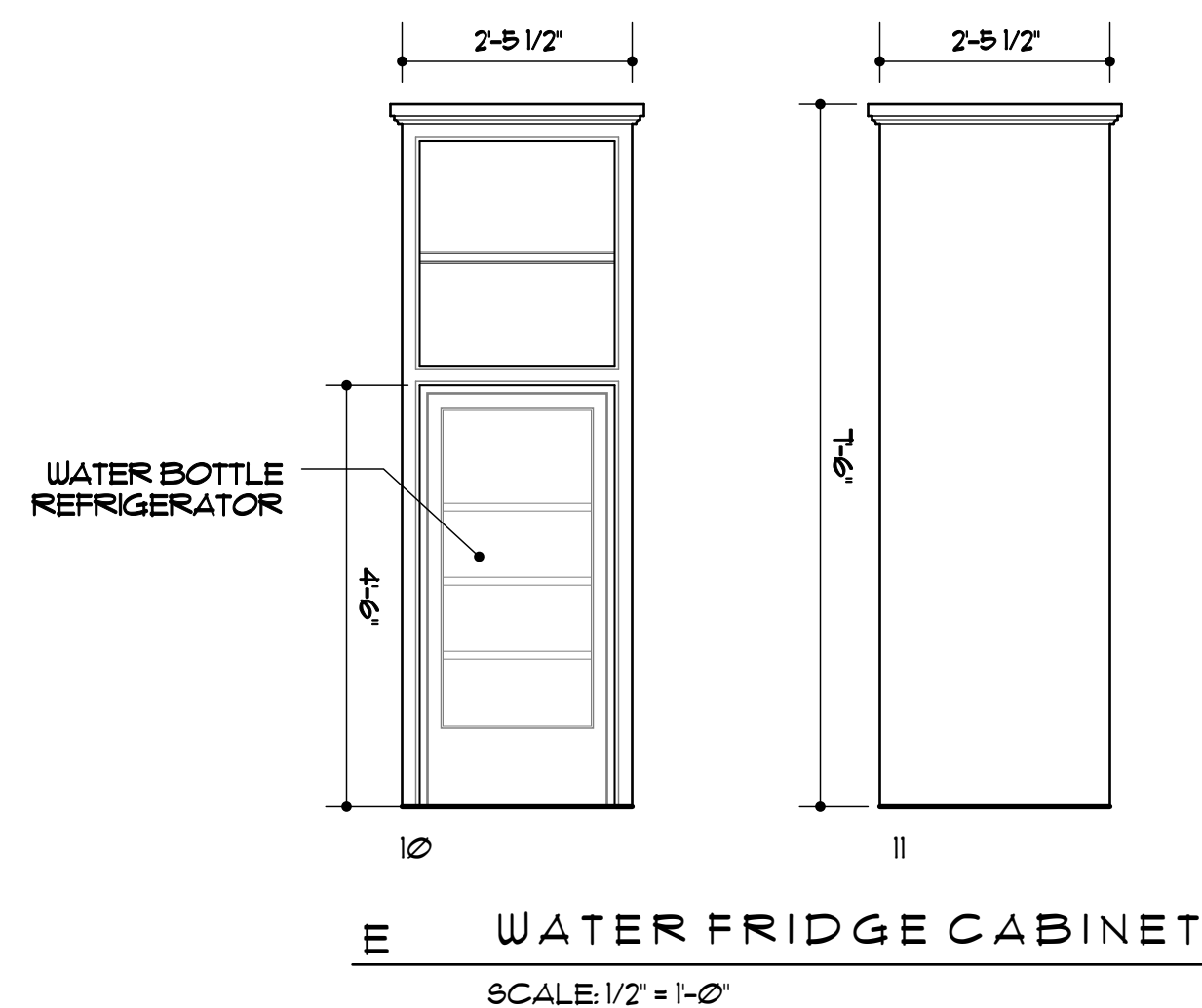
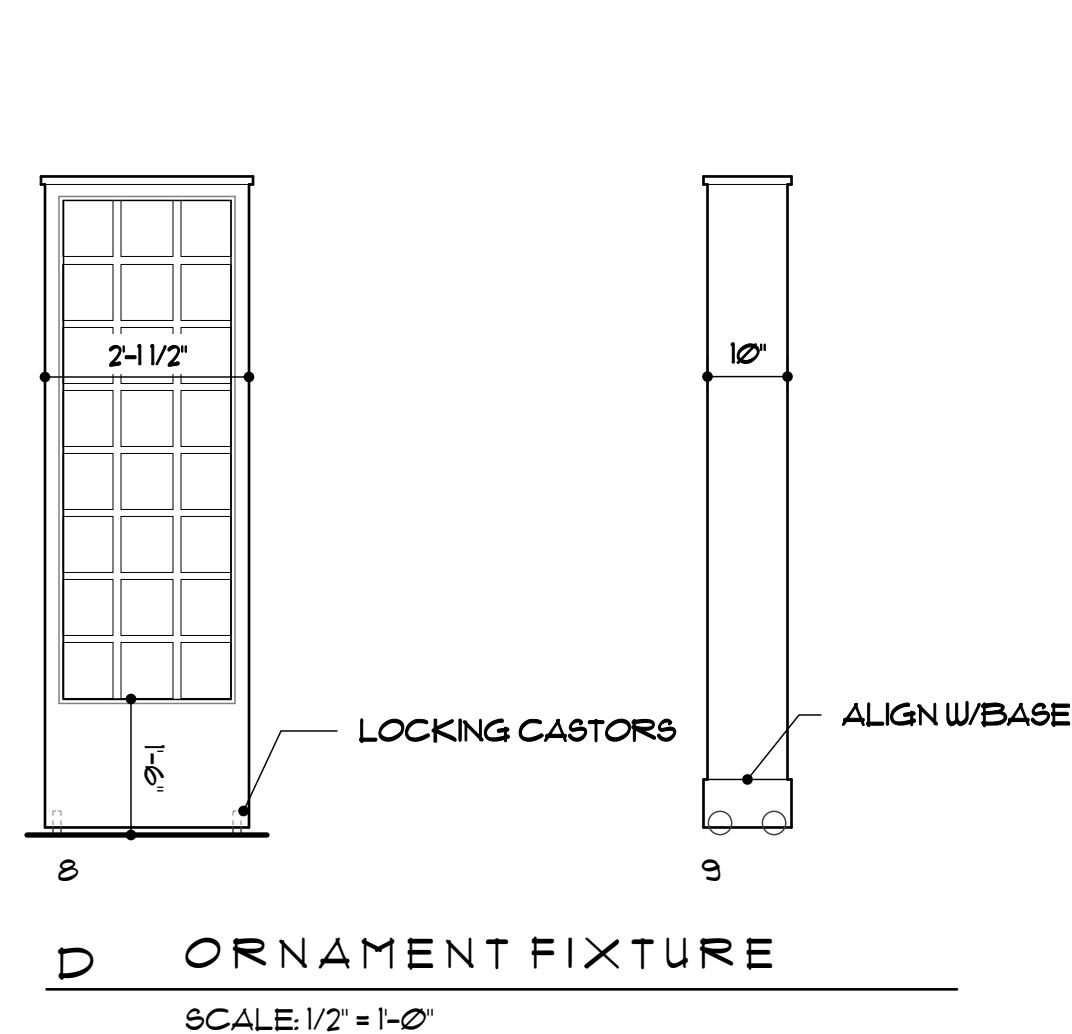
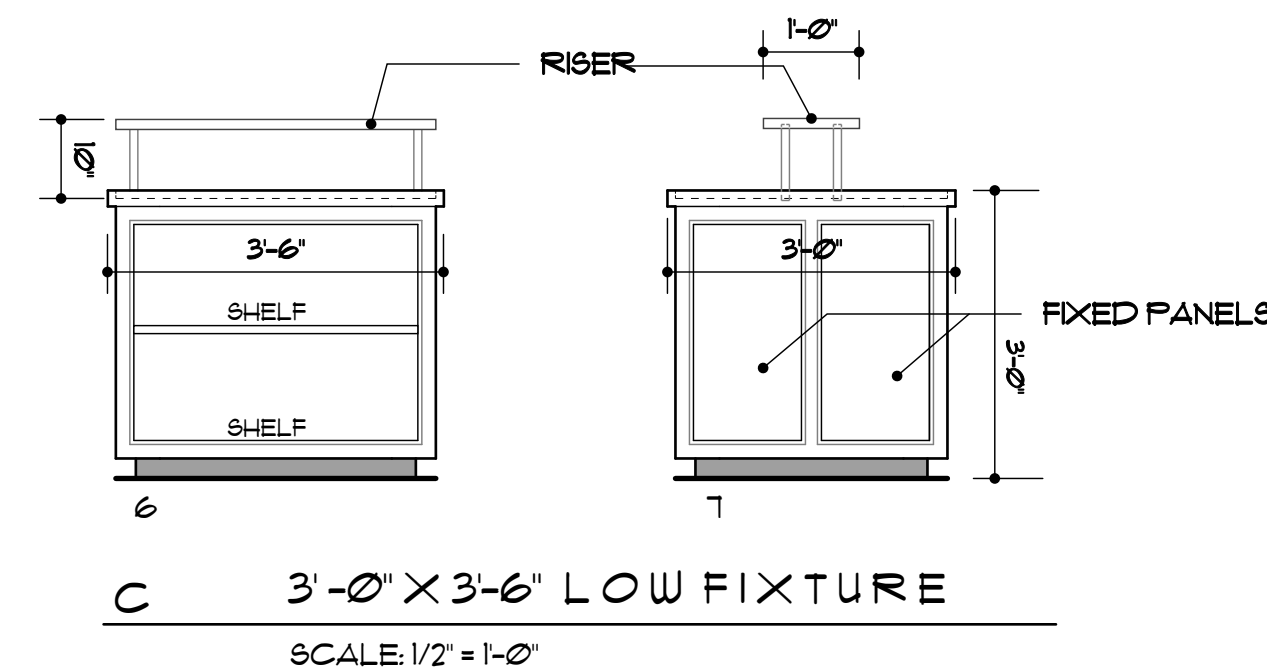
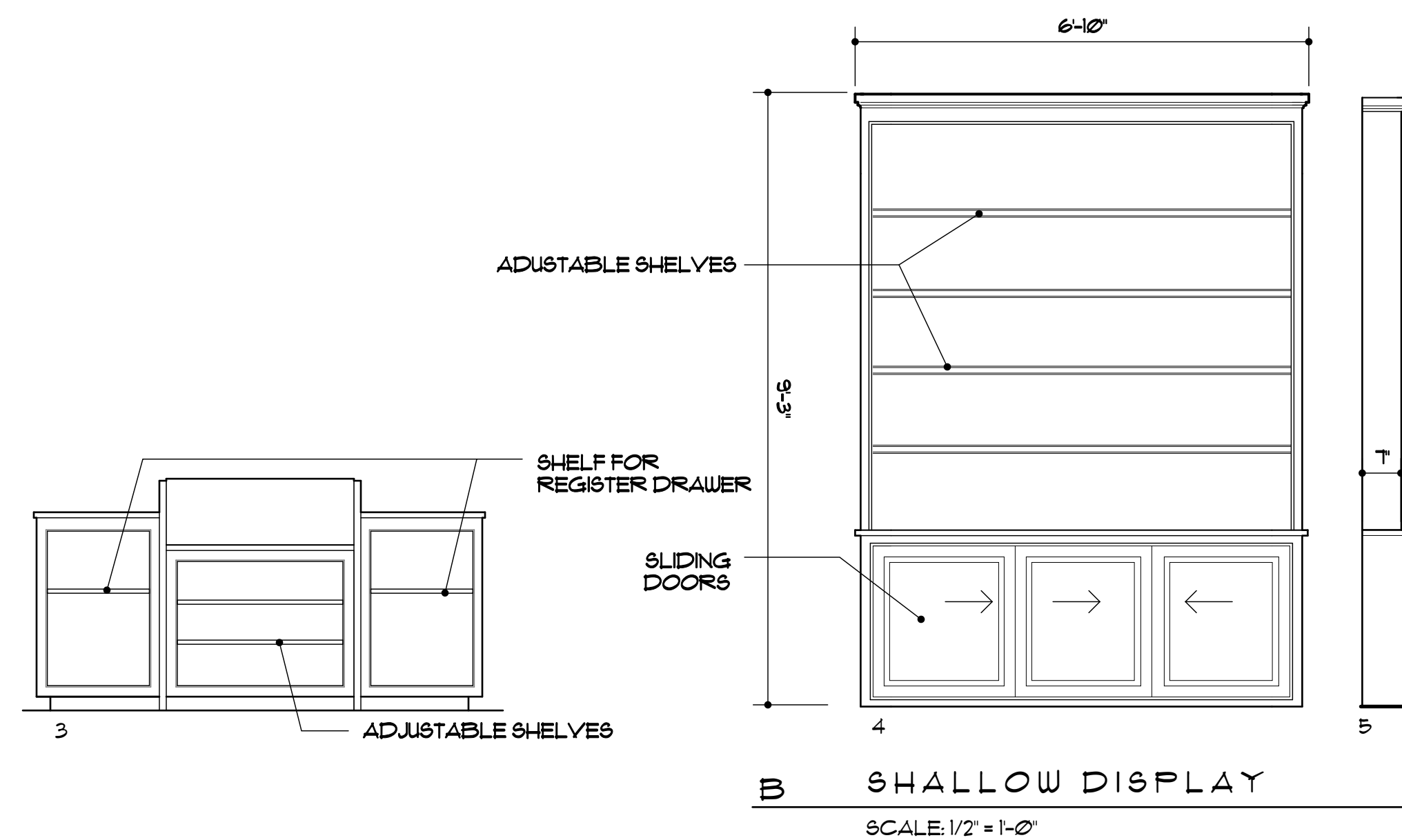
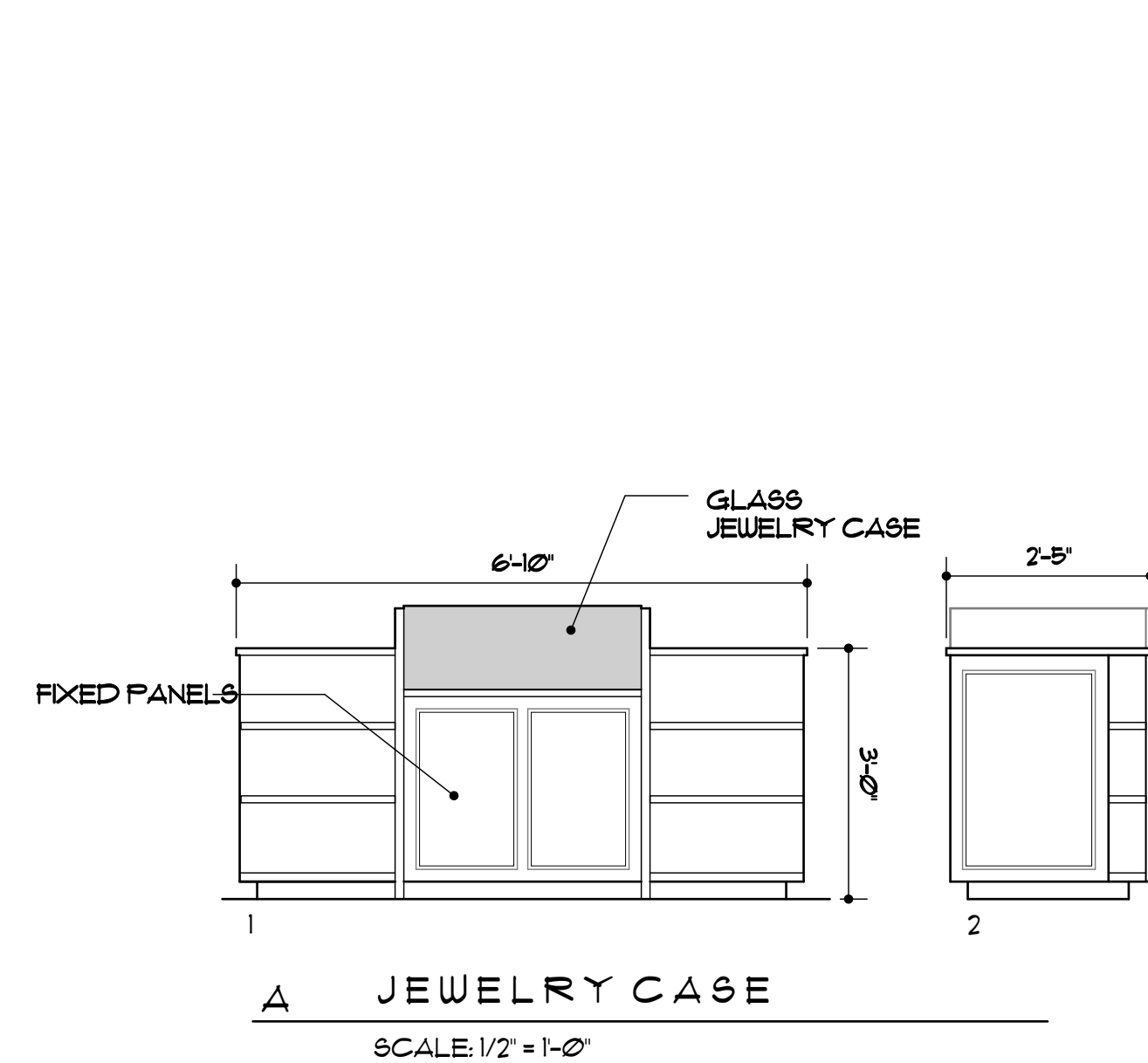
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HISTORIC CHARLESTON FOUNDATION

INTERIOR ELEVATIONS--
KITCHEN HOUSE ADDITION

PROJECT NUMBER
1206
DRAWING DATE
9/5/12
SHEET NUMBER
A404



NOTE: SEE FIXTURE PROTOTYPES AT THE
SHOPS OF HISTORIC CHARLESTON FOUNDATION
AT THE CHARLESTON CITY MARKET
-ALL CABINETS TO BE PAINTED

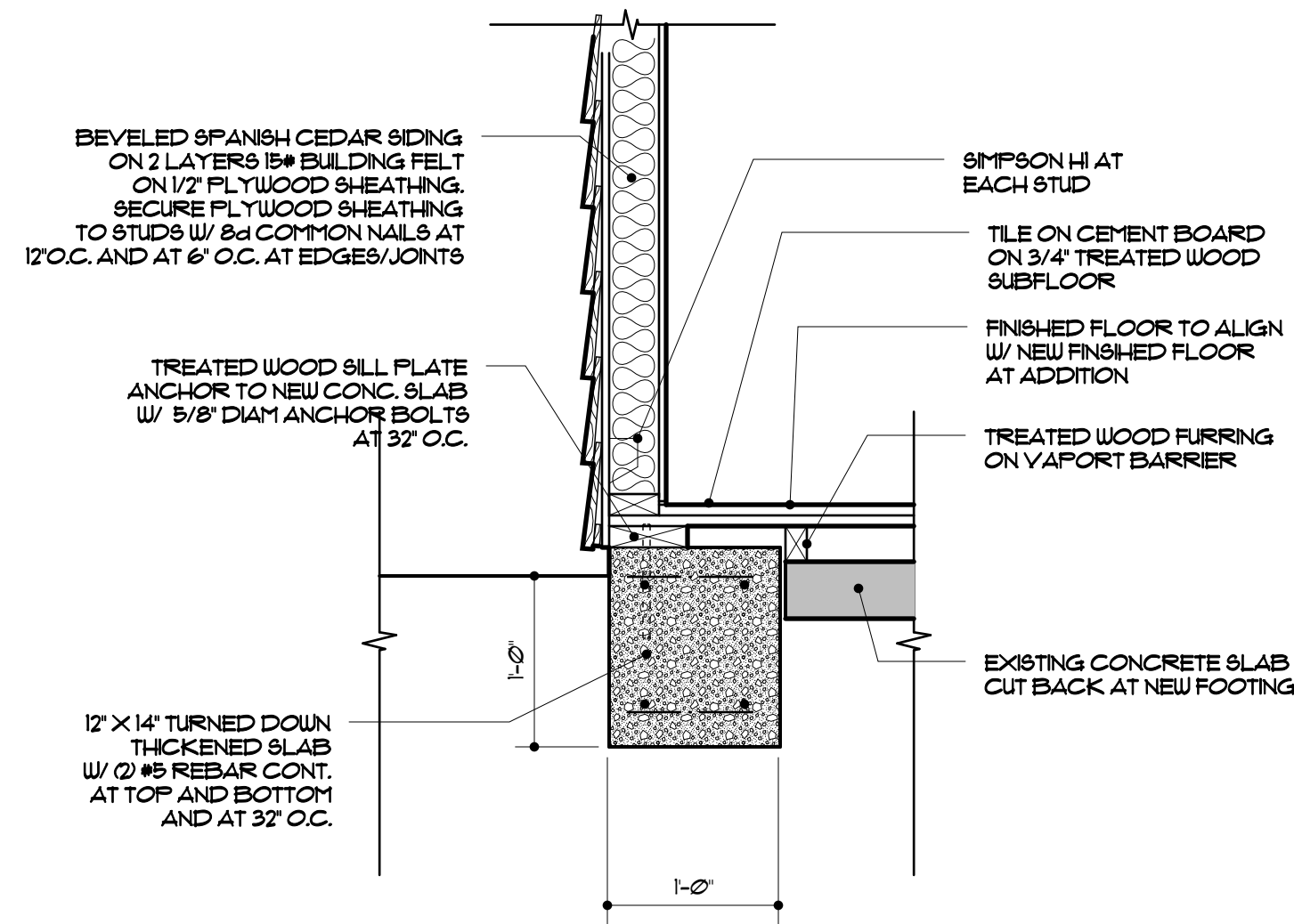
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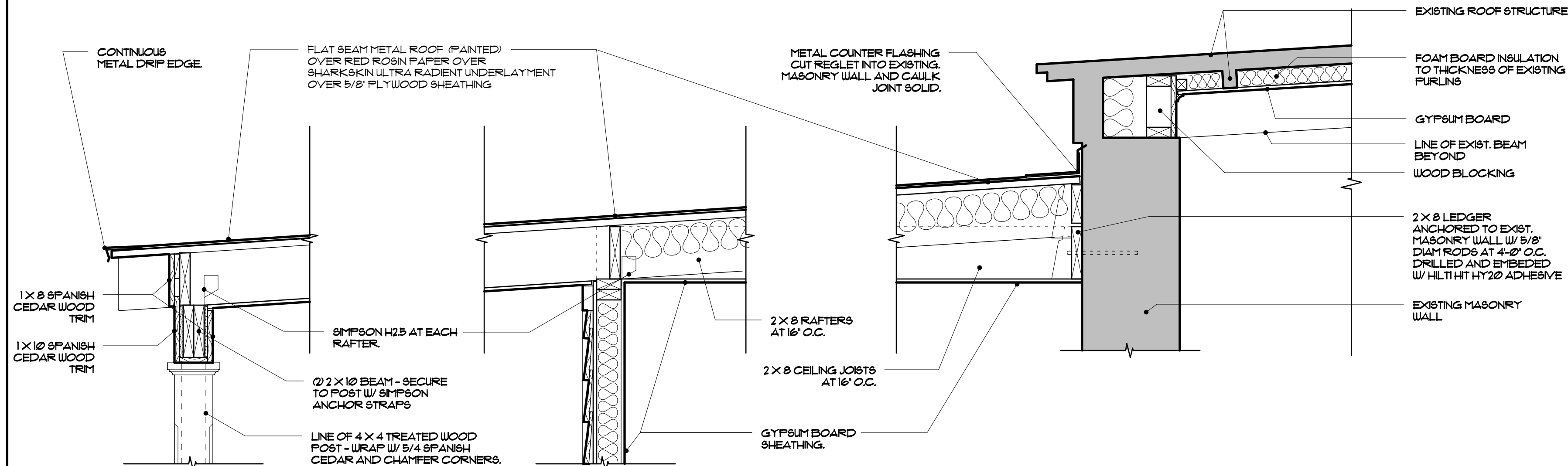
NATHANIEL RUSSELL HOUSE
51 Meeting Street
Charleston, South Carolina
HISTORIC CHARLESTON FOUNDATION

INTERIOR ELEVATIONS--
SHOP FIXTURES

PROJECT NUMBER
1206
DRAWING DATE
9/5/12
SHEET NUMBER
A405



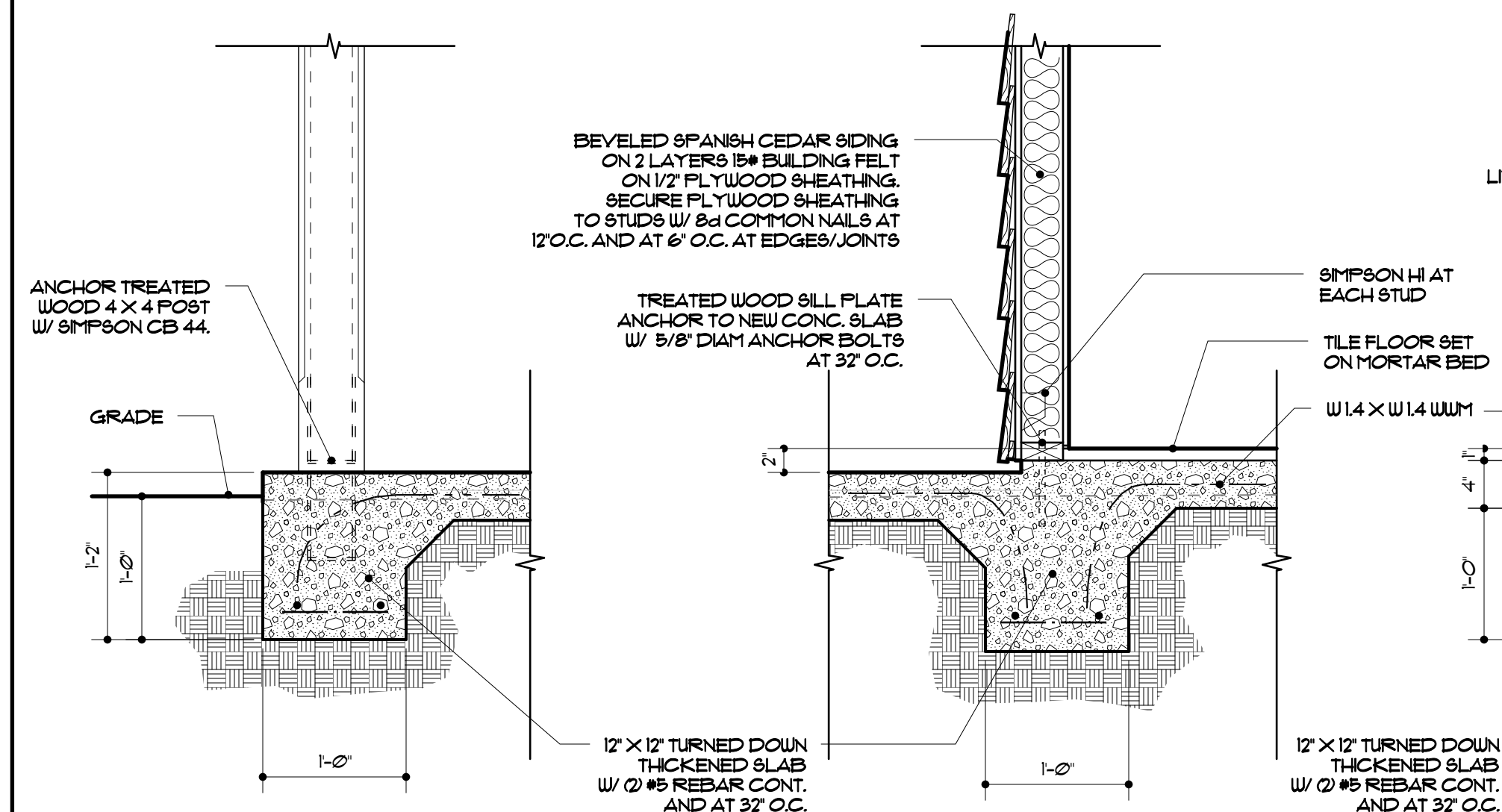
4 DETAIL
A501 SCALE: 1" = 1'-0"



2 DETAIL
A501 SCALE: 1" = 1'-0"

5 DETAIL
A501 SCALE: 1" = 1'-0"

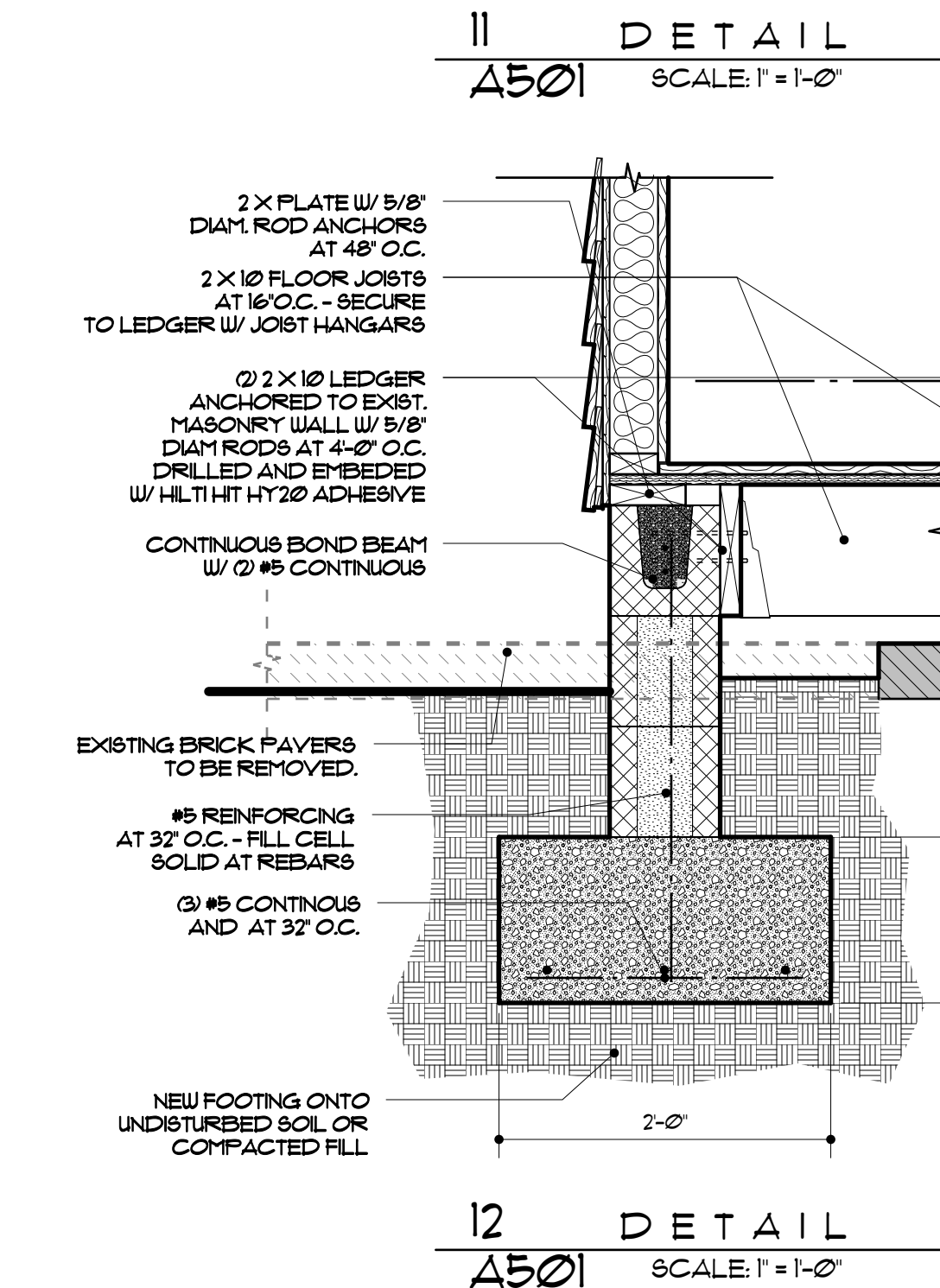
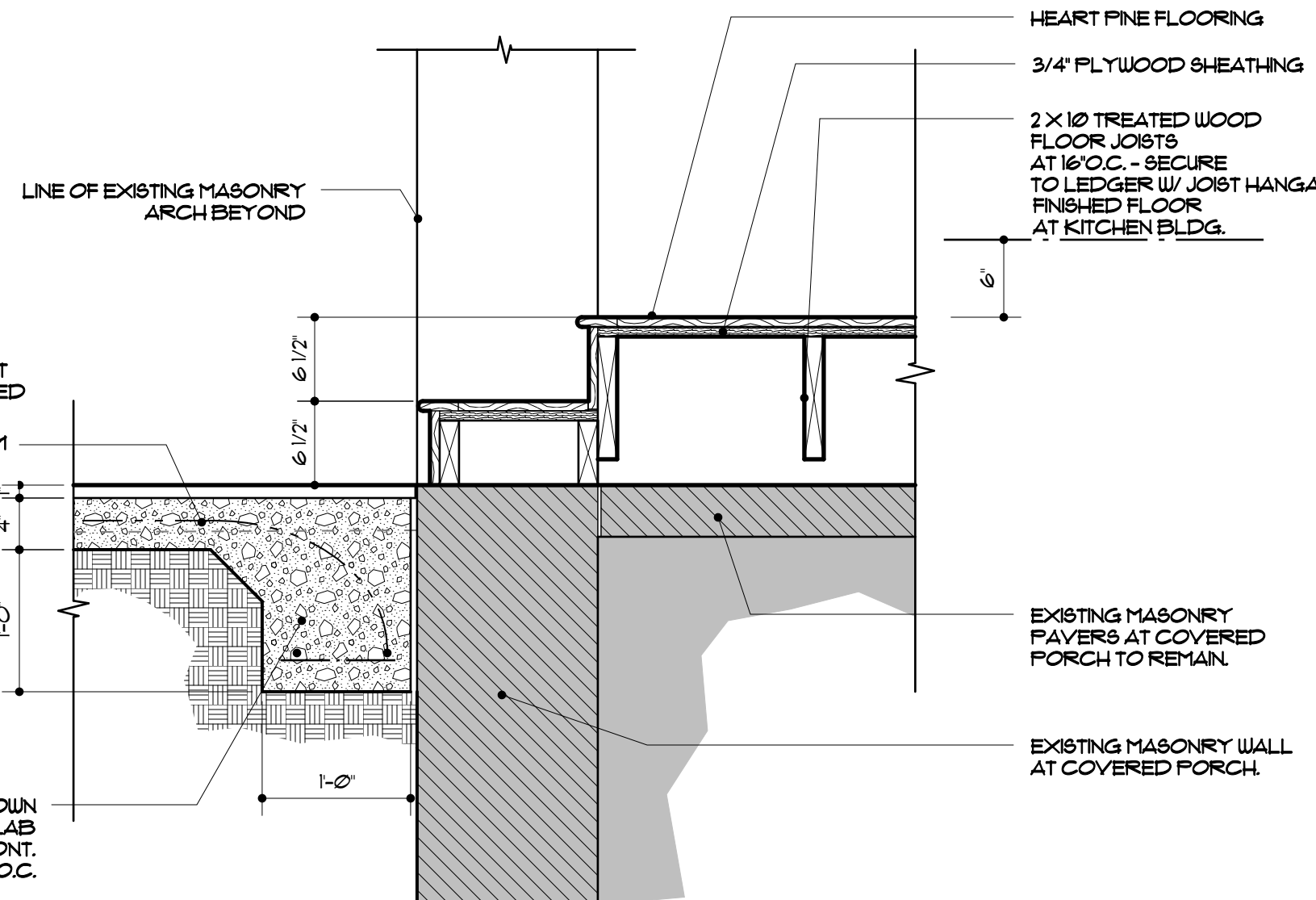
8 DETAIL
A501 SCALE: 1" = 1'-0"



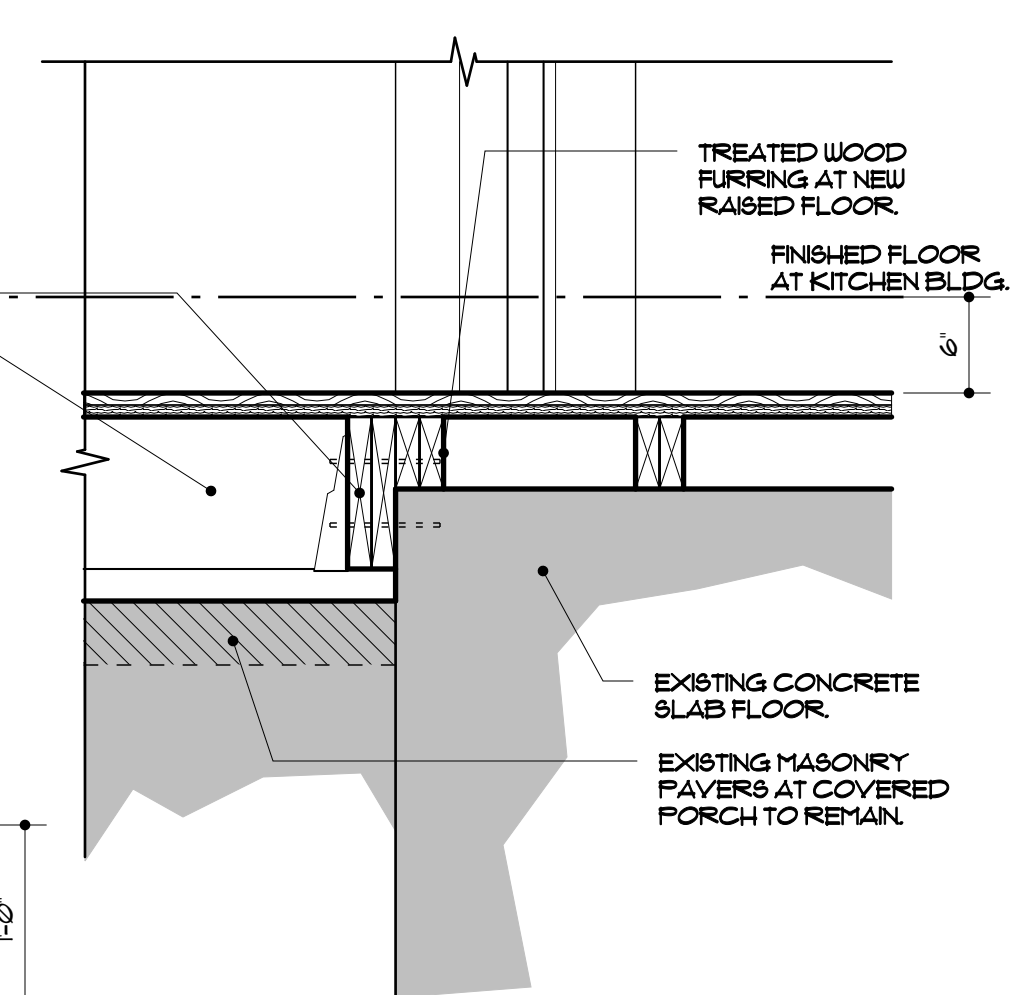
3 DETAIL
A501 SCALE: 1" = 1'-0"

6 DETAIL
A501 SCALE: 1" = 1'-0"

9 DETAIL
A501 SCALE: 1" = 1'-0"



12 DETAIL
A501 SCALE: 1" = 1'-0"



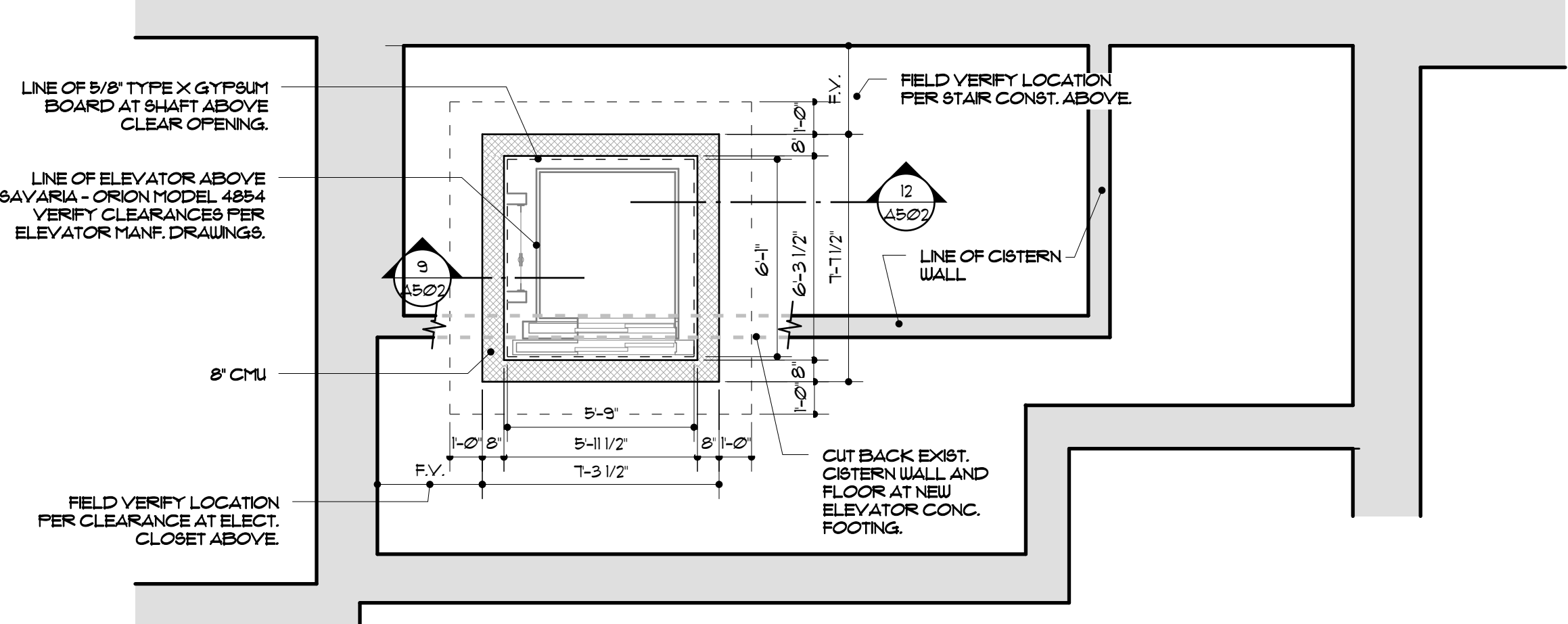
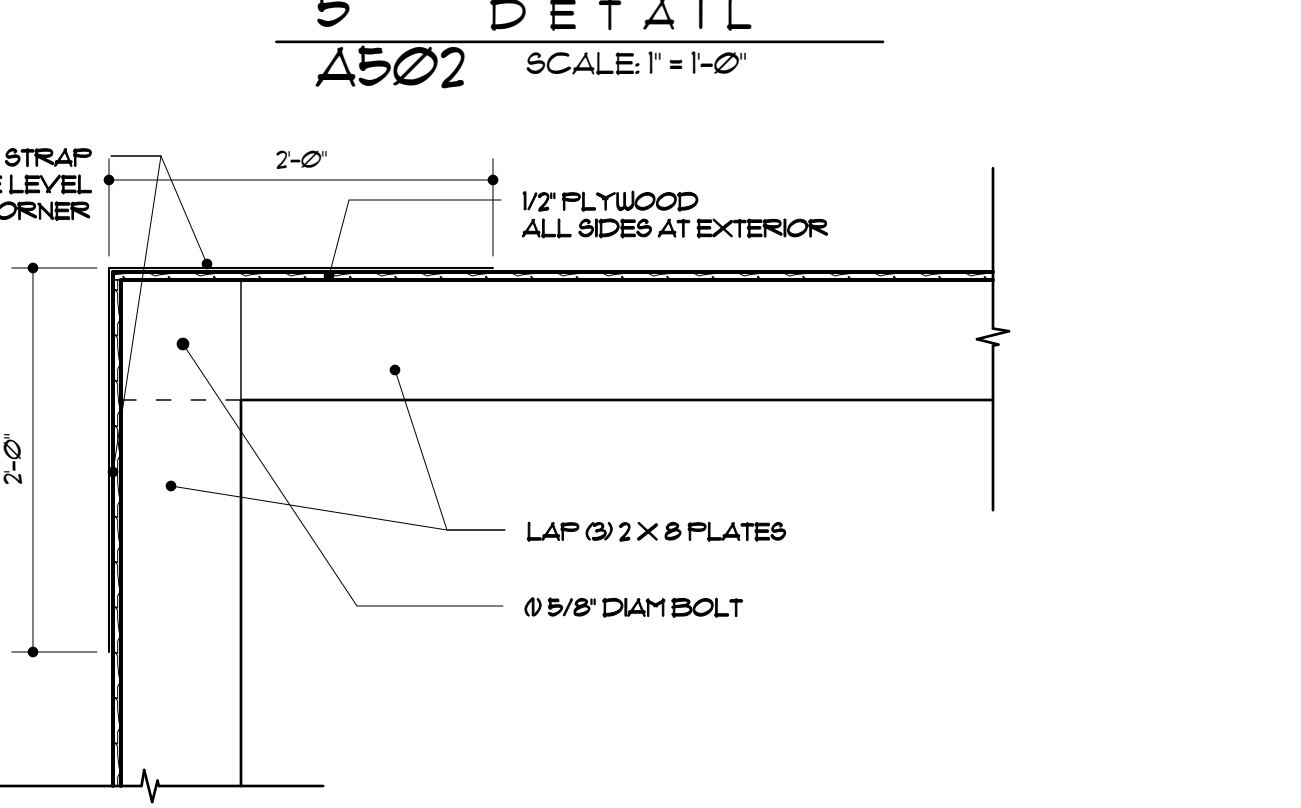
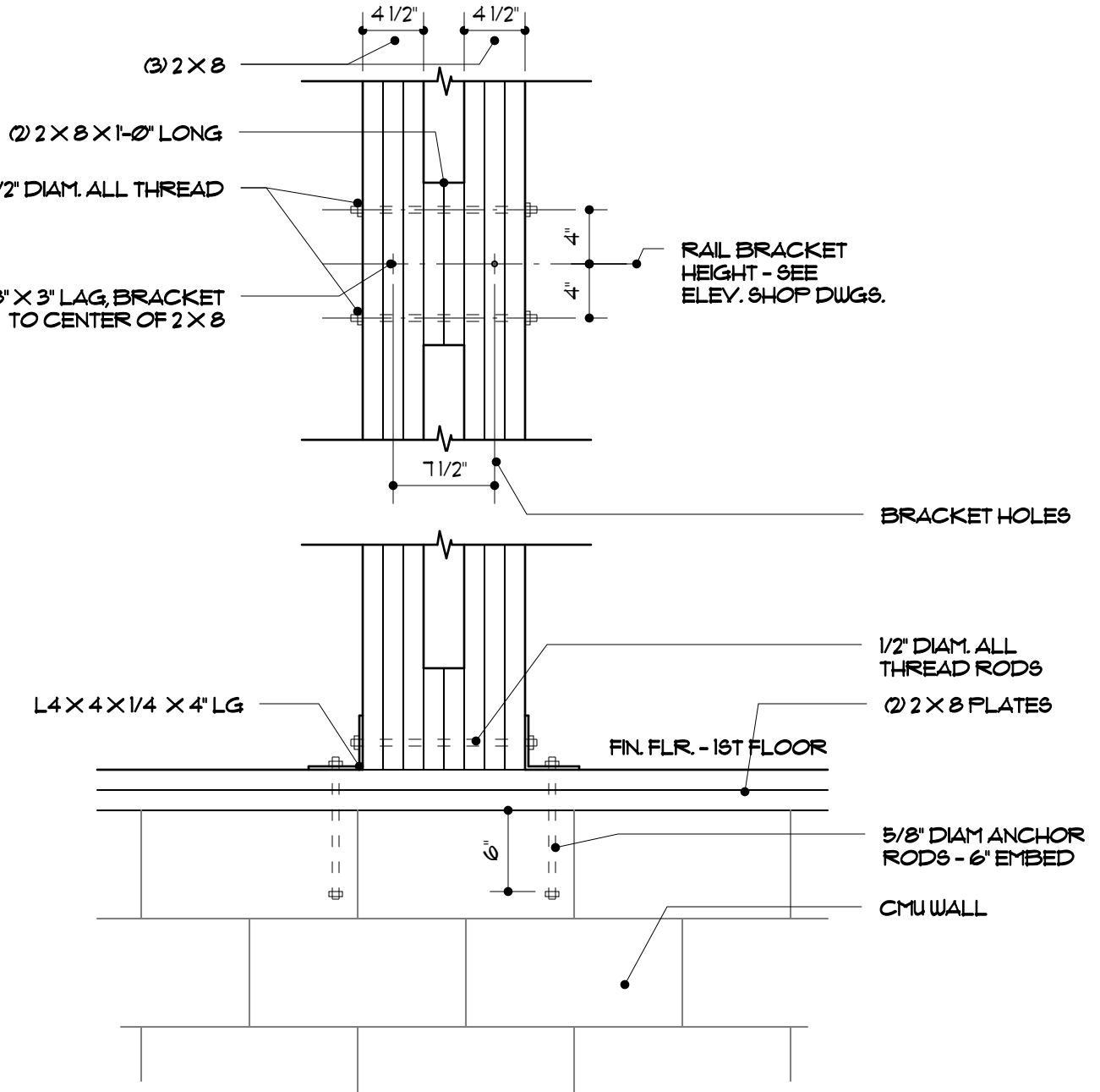
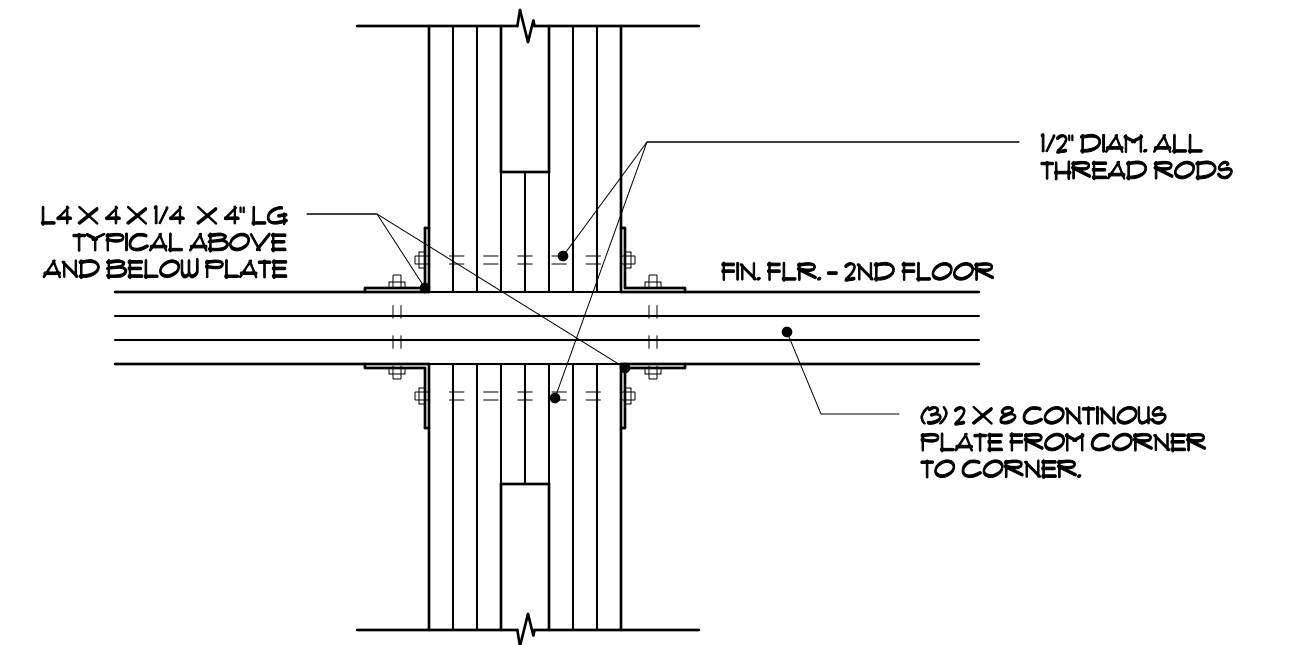
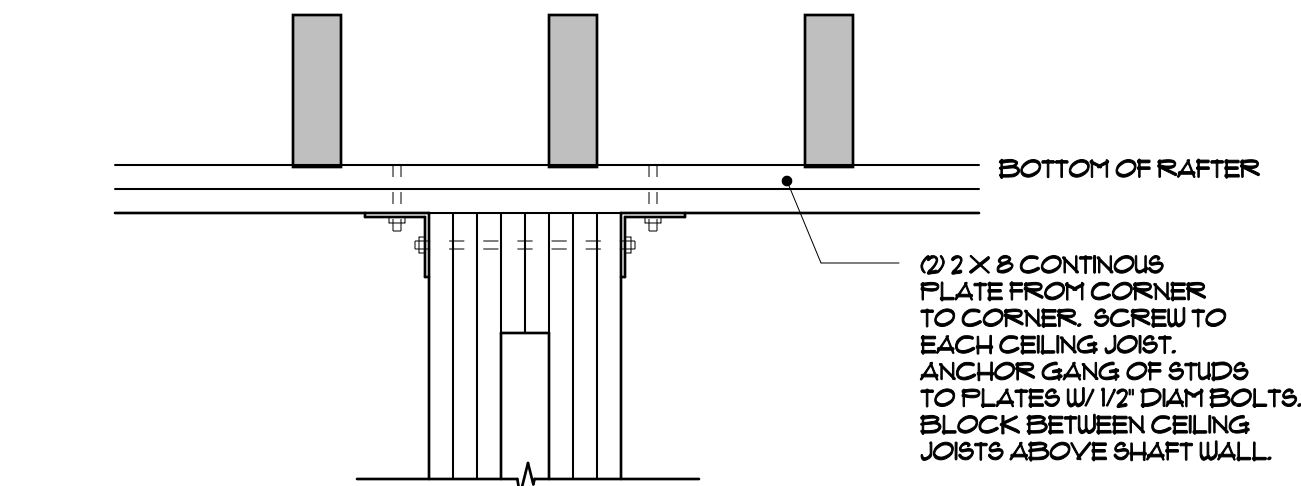
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HISTORIC CHARLESTON FOUNDATION

DETAILS

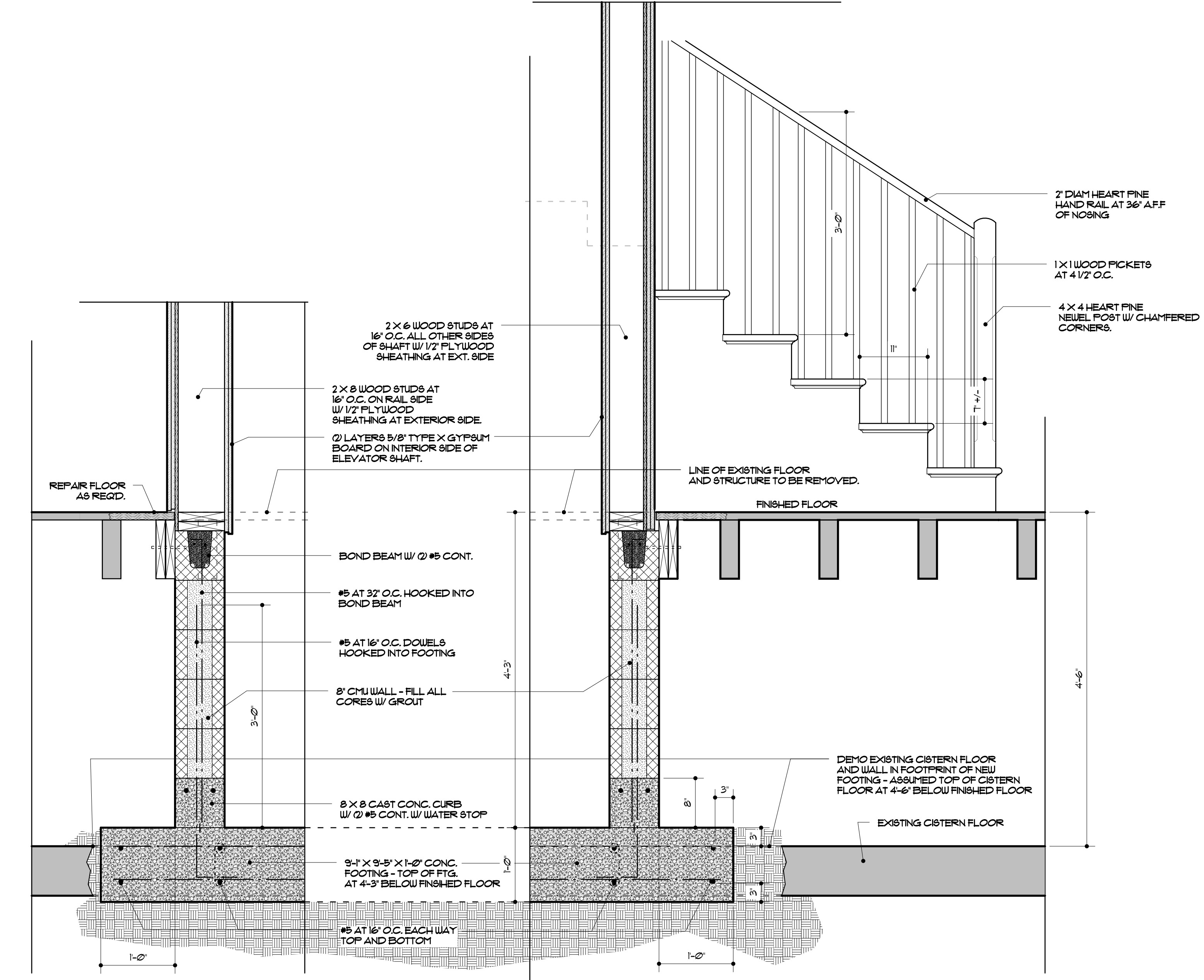
PROJECT NUMBER
1206
DRAWING DATE
9-5-12
SHEET NUMBER
A501



7

DETAIL

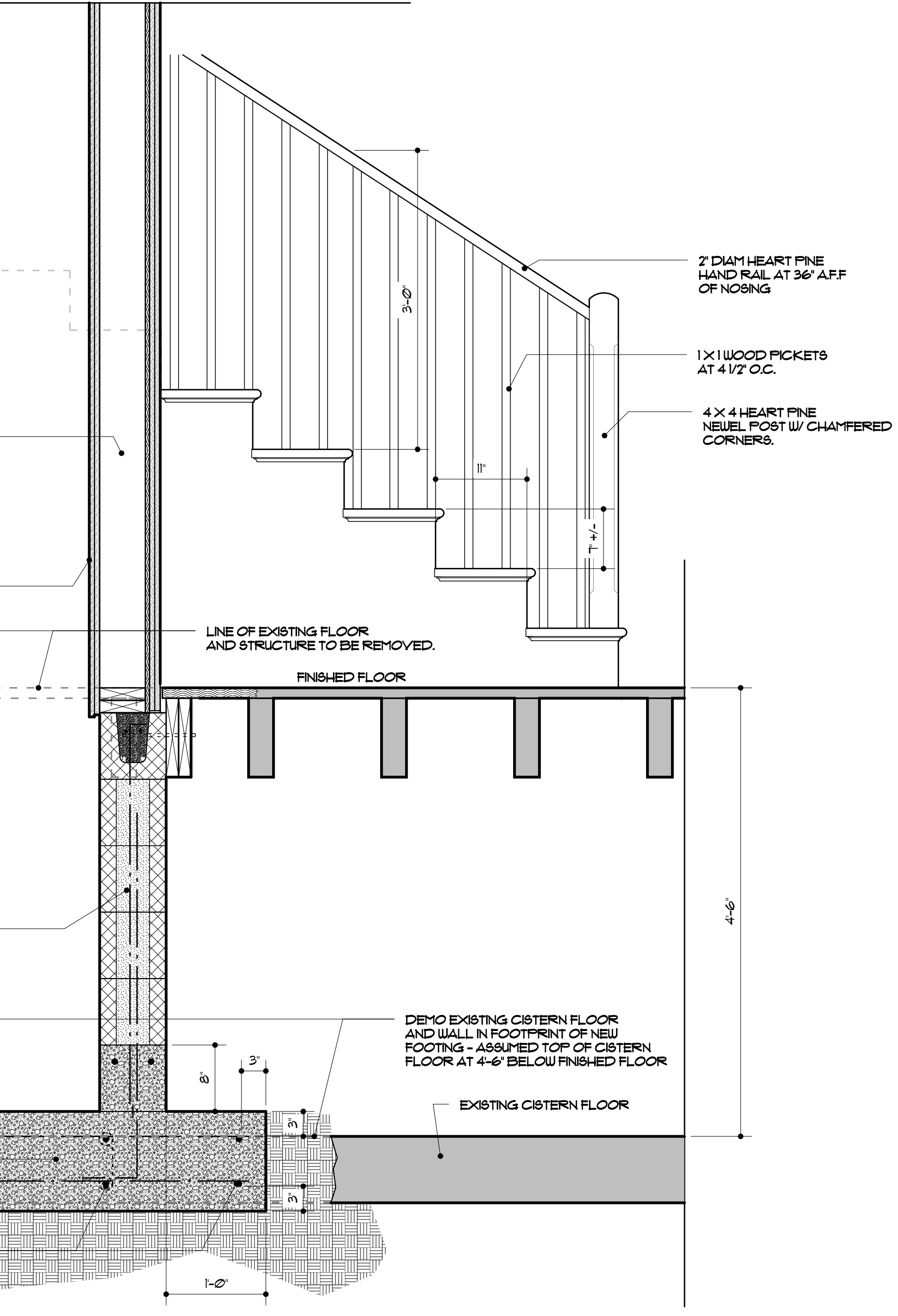
A502 SCALE: 1" = 1'-0"



9

DETAIL

A502 SCALE: 1" = 1'-0"



12

DETAIL

A502 SCALE: 1" = 1'-0"

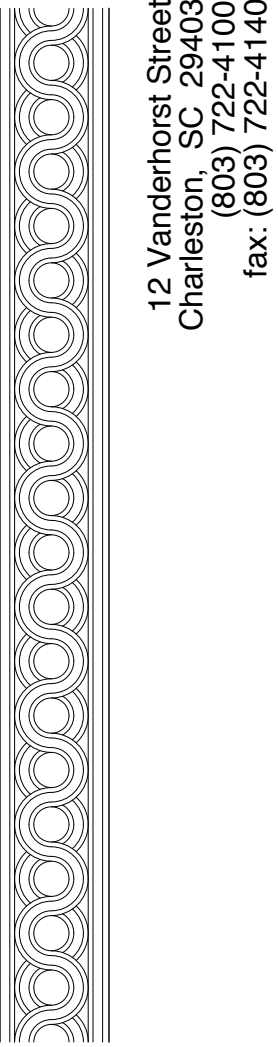
FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR		WALL									CEILING				REMARKS
				BASE			WALL			CROWN							
		MATERIAL	FINISH	MAT.	FINISH	COLOR	MAT.	FINISH	COLOR	MAT.	FINISH	COLOR	MAT.	FINISH	COLOR	HEIGHT	
104A	ENTRY	EX WOOD	OIL	WOOD	PAINT	TBD	GYP BD	PAINT	TBD	WOOD	PAINT	TBD	EXISTING TO REMAIN				REPAIR & REPAINT WALLS, CEILING & FLOOR
107A	GIFT SHOP	NEW WOOD	STAIN & OIL	WOOD	PAINT	TBD	GYP BD	PAINT	TBD	WOOD	PAINT	TBD	EXISTING TO REMAIN				NEW HEART PINE FLOORS TO MATCH 104A; REPAIR & REPAINT WALLS & CEILING
107I	STORAGE	NEW WOOD	STAIN & OIL	WOOD	PAINT	TBD	5/8" TYP X GYP BD	PAINT	TBD	N/A	N/A	N/A	5/8" TYP X GYP BD	PAINT	TBD	(EX)	NEW PINE FLOORS
108	EXHIBIT	EX WOOD	OIL	WOOD	PAINT	TBD	GYP BD	PAINT	TBD	WOOD	PAINT	TBD	EXISTING TO REMAIN				PAINT WALLS & CEILING, REFINISH FLOORS
109	EXHIBIT	EX WOOD	OIL	WOOD	PAINT	TBD	GYP BD	PAINT	TBD	WOOD	PAINT	TBD	EXISTING TO REMAIN				PAINT WALLS & CEILING, REFINISH FLOORS
111A	GARDEN SHED	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NO WORK THIS AREA
111B	ADA RESTROOM	TILE	N/A	WOOD	PAINT	TBD	GYP BD	PAINT	TBD	WOOD	PAINT	TBD	GYP BD	PAINT	TBD	TBD	DROP CELING BELOW EXISTING PIPING
112	CATERING/BREAK RM	TILE	N/A	WOOD	PAINT	N/A	GYP BD	PAINT	TBD	N/A	N/A	N/A	GYP BD	PAINT	TBD	10'-6'	DROP CEILING @ TOP OF LOUVER HEADER
113	HALL	TILE	N/A	WOOD	PAINT	TBD	GYP BD	PAINT	N/A	WOOD	PAINT	TBD	GYP BD	PAINT	TBD	VARIES	
114	RESTROOM	TILE	N/A	WOOD	PAINT	TBD	GYP BD	PAINT	TBD	WOOD	PAINT	TBD	GYP BD	PAINT	TBD	VARIES	FOLLOW SLOPE OF ROOF PURLINS
207	EXHIBIT	EX WOOD	OIL	ALL ELSE EXISTING TO REMAIN													PAINT WALLS & CEILING, REPAIR & REFINISH WOOD FLOOR
208	OFFICE	EX WOOD	OIL	ALL ELSE EXISTING TO REMAIN													PAINT WALLS & CEILING, REPAIR & REFINISH WOOD FLOOR
209	OFFICE	EX WOOD	OIL	ALL ELSE EXISTING TO REMAIN													PAINT WALLS & CEILING, REPAIR & REFINISH WOOD FLOOR

DOOR SCHEDULE

DOOR	EX/NEW	SIZE	LOCATION	TYPE	HARDWARE SET	TRIM	NOTES
D1-104A	E	7'-6" X 3'-0"	GIFT SHOP		-		REMOVE DOOR & SALVAGE FOR OWNER
D2-104A	E	7'-6" X 3'-0"	ENTRY	CASED OPENING	-		CLOSE UP CASED OPENING
D1-107A	E	(PR) 7'-6" X 3'-0"	GIFT SHOP	3 PANEL	-		EXISTING TO REMAIN
D2-107A	E	3'-4" X 7'-6"	GIFT SHOP	6 PANEL WITH TRANSOM	1		REVERSE DOOR TO SWING OUT; ADD PANIC HARDWARE & CLOSER
D3-107A	N		ELEVATOR @ GIFT SHOP		-		BY ELEVATOR COMPANY
D4-1107A	N	3'-0" X 7'-6"	STORAGE BEHIND ELEVATOR	6 PANEL	2		RELOCATED FROM D1-107B
D1-107D	E	(PR) 2'-0" X 4'-6"	BUILT-IN CABINET	2 PANEL	-		EXISTING TO REMAIN
D1-107I	E	3'-2" X 7'-6"	STORAGE BEHIND ELEVATOR	4 PANEL WITH TRANSOM	-		FIX IN PLACE
D1-108	E	3'-0" X 7'-6"	EXHIBIT 108	6 PANEL	-		EXISTING TO REMAIN
D1-109	E	3'-0" X 7'-6"	EXHIBIT 109	2 PANEL WITH TRANSOM	-		REMOVE DOOR, TRANSOM TO REMAIN; SALVAGE DOOR FOR OWNER
D2-109	E	3'-3" X 7'-0"	EXHIBIT 109	9 LITE W/LOWER PANEL & TRANSOM	1		ADD PANIC DEVICE & DOOR CLOSER
D1-111B	N	3'-0" X 7'-0"	ADA RESTROOM	BATTEN DOOR	3		MATCH EXISTING BATTEN DOOR
D2-111B	N	1'-8" X 5'-6"	STORAGE IN ADA RESTROOM	BATTEN DOOR	4		MATCH EXISTING BATTEN DOOR
D1-112	N	3'-0" X 7'-0"	CATERING KITCHEN	BATTEN DOOR	-		REMOVE EXISTING
D2-112	E	(PR) 4'-6" X 6'-8"	CATERING KITCHEN	BATTEN DOOR	-		REMOVE EXISTING
D1-113A	E	3'-0" X 7'-0"	REAR ENTRY	ARCHED BATTEN DOOR			REMOVE EXISTING; SALVAGE DOOR FOR OWNER
D2-113A	N	3'-0" X 7'-0"	REAR ENTRY	BATTEN DOOR	2		MATCH EXISTING BATTEN DOOR
D3-113A	N	3'-0" X 7'-0"	REAR ENTRY	FULL GLASS WOOD DOOR	1		
D1-114	N	3'-0" X 7'-0"	NEW BATHROOM	BATTEN DOOR	3		MATCH EXISTING BATTEN DOOR
D1-207	N	TBD	2ND FLOOR EXHIBIT	PANELED	5		MATCH DOUBLE DOORS IN 204. BUILD AS A SINGLE DOOR
D2-207	N		ELEVATOR @ 2ND FLR EXHIBIT				BY ELEVATOR COMPANY
D1-207A	E	3'-2" X 7'-0"	EXHIBIT 207	4 PANEL			EXISTING TO REMAIN
D1-208	N	4'-0" X 6'-8"	ELEV. MECHANICAL ROOM	1 HOUR RATED 6 PANEL DOOR	6		

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HISTORIC CHARLESTON FOUNDATION

FINISH SCHEDULE
DOOR SCHEDULE

PROJECT NUMBER
1206

DRAWING DATE
9/5/12

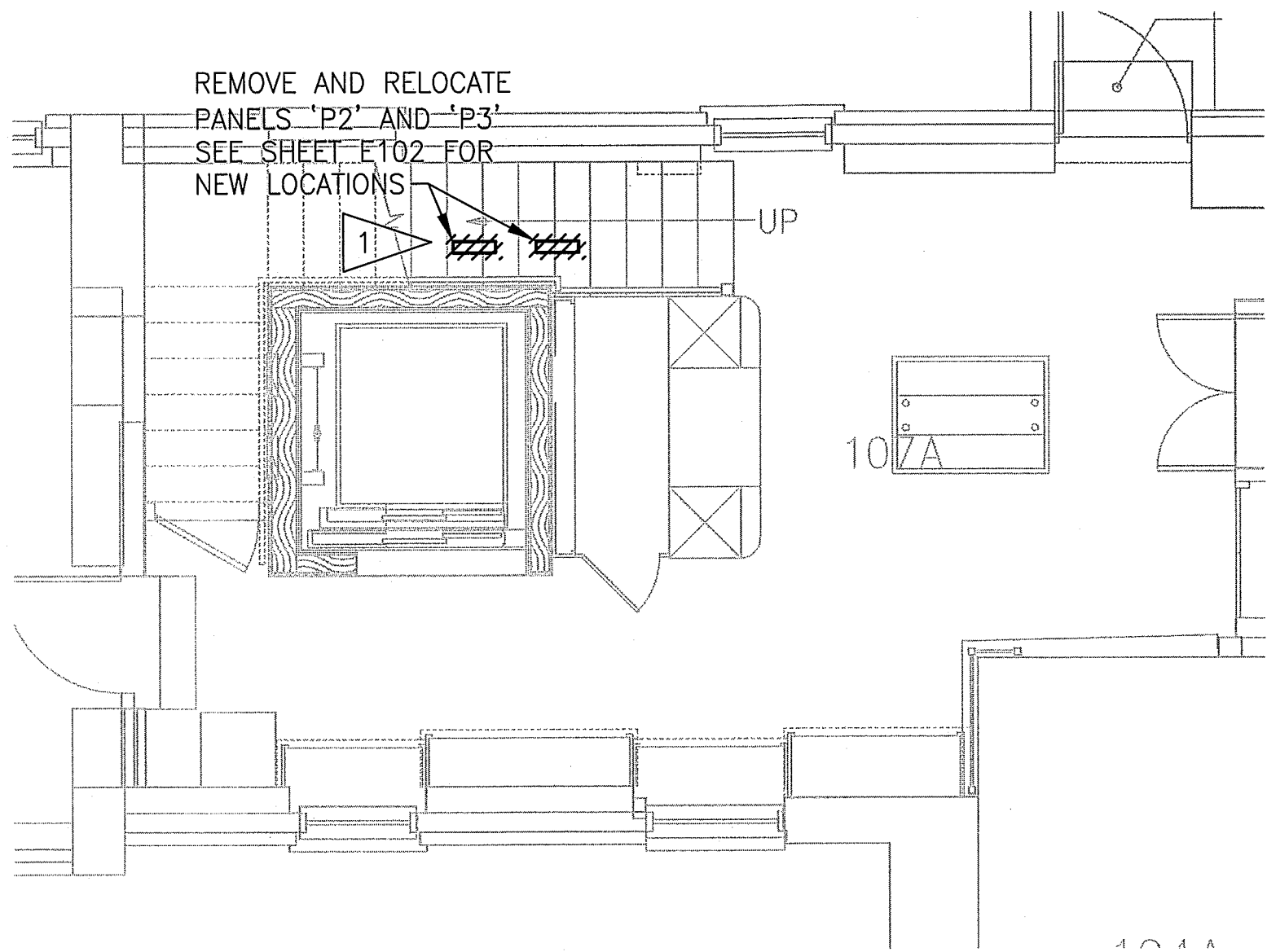
SHEET NUMBER
A601

D

C

B

A



FIRST FLOOR ELECTRICAL DEMO PLAN
1/4" = 1'-0"

ELECTRICAL GENERAL NOTES:

1. POWER DISTRIBUTION: IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO AS-BUILT EXISTING POWER PANELS AND MARK-UP THE PANEL SCHEDULES TO REFLECT MODIFICATIONS MADE AS PART OF THIS PROJECT.
2. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE LOCAL AND STATE CODES AND WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
3. PROVIDE ADDITIONAL SUPPORT FOR SWITCHES, STARTERS, FIXTURES, RACEWAYS AND OTHER ELECTRICAL EQUIPMENT WHEREVER THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING.
4. DO NOT INSTALL MATERIALS OTHER THAN SPECIFIED. SEE TENANT REQUIREMENTS. ALL EQUIPMENT SHALL BE MANUFACTURED BY GENERAL ELECTRIC, SQUARE D OR EATON. ALL PANEL BOARDS SHALL BE FULLY RATED. SERIES RATING IS NOT ACCEPTABLE.
5. FIRESTOP, DRAFT STOP AND/OR PROTECT THE ANNULAR SPACE AROUND ALL PIPE, TUBE, CONDUIT, WIRE, CABLE, VENT AND DUCT PENETRATION THROUGH WALLS, PARTITIONS, FLOORS, CEILINGS AND ROOFS IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND UL LISTING REQUIREMENTS. ALL OPENINGS SHALL BE SEALED TO MATCH FIRE OR SMOKE RATING OF WALL PENETRATIONS.
6. VERIFY CEILING SUSPENSION SYSTEMS IN THE VARIOUS AREAS AND PROVIDE THE PROPER MOUNTING ACCESSORIES, TRIMS, ETC., TO SUIT THE PARTICULAR AREA.
7. SYMBOLS IN THE LEGENDS ARE APPLICABLE GENERALLY. FOR EXACT REQUIREMENTS REFER TO THE SCHEDULES, LAYOUTS, DETAILS AND TO THE SPECIFICATIONS SINCE THE APPEARANCE OF A PARTICULAR SYMBOL IN THE LEGEND DOES NOT NECESSARILY IMPLY THAT THE ITEM IS INCLUDED IN THE CONTRACT.
8. EXCEPT WHERE NOTED OTHERWISE, LIMIT LIGHTING AND RECEPTACLE BRANCH CIRCUIT HOMERUNS TO 7 CONDUCTORS. 3 PHASE WIRES, 3 NEUTRAL AND 1 GROUND.
9. PROVIDE INDEPENDENT NEUTRALS FOR ALL NEW LIGHTING AND RECEPTACLE CIRCUITS.
10. ALL POWER CIRCUITS SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR (GREEN COLOR INSULATION) ROUTED IN CONDUIT AND SIZED AS INDICATED ON DRAWINGS (MINIMUM SIZE - #12AWG).
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
12. ROUTE CONDUITS CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE ON PLANS. INSTALL ALL DEVICES RECESSED FLUSH IN WALL, UNLESS NOTED OTHERWISE ON PLANS.
13. PROVIDE EXPANSION JOINT FITTINGS FOR ALL RACEWAYS CROSSING EXPANSION JOINTS.
14. FOR ALL RECEPTACLES: PROVIDE AN EQUIPMENT BONDING JUMPER FROM THE GROUNDING TERMINAL OF THE RECEPTACLE TO THE METAL BOX.
15. DO NOT INSTALL DEVICE OUTLET BOXES BACK-TO-BACK IN COMMON WALL. OFFSET 6". ALTERNATE CIRCUITS TO ADJACENT DEVICES IN MULTI-OUTLET RACEWAY.
16. LABEL ALL RECEPTACLE FACEPLATES WITH PANEL NAME AND CIRCUIT NUMBER FEEDING THAT RECEPTACLE.
17. COORDINATE ALL WORK AND POWER OUTAGES WITH OWNER.
18. PROVIDE STRIPING ON THE FLOOR AROUND ELECTRICAL PANELS TO IDENTIFY THE CODE REQUIRED WORKING CLEARANCE.
19. PHASE IDENTIFICATION FOR CIRCUITS SHALL BE ACCOMPLISHED BY COLOR CODE AS FOLLOWS:

CIRCUITS RATED (240/120V): PHASE "A" = BLACK
PHASE "B" = RED
NEUTRAL = WHITE

ELECTRICAL CONSTRUCTION NOTES:

1. EXISTING PANELS "P2" AND "P3" ARE EACH 30 POLE, 125A MLO, 1 PHASE, 3 WIRE, 120/240V. CONTRACTOR SHALL RELOCATE EXISTING PANELS TO LOCATION SHOWN ON PLANS TO ALLOW FOR WALL DEMOLITION. A NEW WALL WILL BE CONSTRUCTED IN FRONT OF THE EXISTING WALL AS SHOWN. EXISTING FEEDER AND BRANCH CIRCUIT WIRING IS TO REMAIN AND BE RECONNECTED TO PANEL "P2" AND "P3" IN THEIR NEW LOCATION. CONTRACTOR SHALL INSTALL TWO TERMINATION PANELS (MIN 12" X 10" X 5" DEEP) IN NEW WALL AS CLOSE AS POSSIBLE TO EXISTING PANEL LOCATIONS. CONTRACTOR SHALL ENSURE EXISTING WIRING IS OF SUFFICIENT LENGTH TO ENTER INTO TERMINATION PANELS. INSTALL NEW FEEDER AND BRANCH CIRCUIT WIRING FROM NEW PANEL LOCATION TO TERMINATION PANELS. SPLICE NEW WIRING TO EXISTING WIRING IN TERMINATION PANELS USING UL LISTED WIRE NUTS AND TAPE TO SECURE. IDENTIFY EACH WIRE WITH SLEEVE INDICATING CIRCUIT NUMBER. PROVIDE PHENOLIC NAMEPLATE FOR TERMINATION PANELS. TERMINATION BOXES ARE REVERSED FROM EXISTING PANEL ORIENTATION SO THE TERMINATION BOXES WILL OPEN INTO THE ELECTRICAL CLOSET UNDER THE STAIRS. COORDINATE EXACT LOCATION OF TERMINATION BOXES WITH STAIR AND ELEVATOR CONSTRUCTION. MAINTAIN 3'-0" CLEAR IN FRONT OF TERMINATION BOXES AND PANELS. EXISTING BRANCH CIRCUITS ARE NM CABLE. PROVIDE GROUND BUS IN EACH TERMINATION PANEL.

ELECTRICAL LEGEND:

- DISCONNECT SWITCH. REFER TO PLANS FOR ADDITIONAL INFORMATION.
30A/2P/1 "30A" INDICATES AMPACITY, "2P" INDICATES PHASES, "1" INDICATES NEMA CLASSIFICATION.
- 1' x 4' FLUORESCENT FIXTURE.
'a' INDICATES SWITCHING SCHEME.
'*' INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE.
- SELF-LUMINOUS EXIT SIGN, GREEN FACE, WHITE PLASTIC HOUSING, 20-YEAR LIFE. DUAL-LITE CAT. NO. SLP-S-G-W-20; OR APPROVED SUBSTITUTE.
- WALL-MOUNTED FIXTURE. "*" INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE FOR MORE INFORMATION.
- EMERGENCY LIGHTING UNIT WITH BATTERY PACK AND NUMBER OF HEADS INDICATED. DUAL-LITE CAT. NO. CV3; OR APPROVED SUBSTITUTE. CONNECT TO EXISTING UNSWITCHED ROOM LIGHTING CIRCUIT.
- TOGGLE TYPE LIGHT SWITCH, 120V/20A. MOUNTED 48" A.F.F., SINGLE-POLE, SINGLE-THROW, UNLESS NOTED OTHERWISE.
- 120V/20A DUPLEX RECEPTACLE. MOUNTED 18" A.F.F. (UNLESS NOTED OTHERWISE). "GF" INDICATES GROUND FAULT CIRCUIT INTERRUPTER TYPE.
- COMBINATION TELEPHONE/DATA OUTLET MOUNTED 18" A.F.F. PROVIDE AND INSTALL 4"x4"x1 1/2" BOX WITH SINGLE GANG EXTENSION RING AND 3/4" EMPTY CONDUIT WITH PULL STRING TO ACCESSIBLE LOCATION ABOVE CEILING OR DIRECTLY TO TELEPHONE BACKBOARD.
- BRANCH CIRCUIT WIRING OR RACEWAY - CONCEALED IN WALL OR CEILING
- P1 POWER PANEL "P1"
- FACU FIRE ALARM CONTROL UNIT
- S FIRE ALARM SMOKE DETECTOR

TYPICAL DEVICE MOUNTING HEIGHT:

RECEPTACLES _____ 18" AFF
LIGHT SWITCHES _____ 48" AFF

NOTE: DIMENSIONS ARE TO DEVICE CENTERLINE UNLESS NOTED OTHERWISE.

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NO. 3886
STATE OF SOUTH CAROLINA
CERTIFICATE OF AUTHORIZATION

NO. 16944
STATE OF SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
RICHARD L. OWEN
4/5/12

CLIENT:

GLENN KEYES
ARCHITECTS

REVISION INFORMATION		ISSUED FOR CONSTRUCTION	
REV.	DATE	REV. BY	RLO
0	09/05/12		

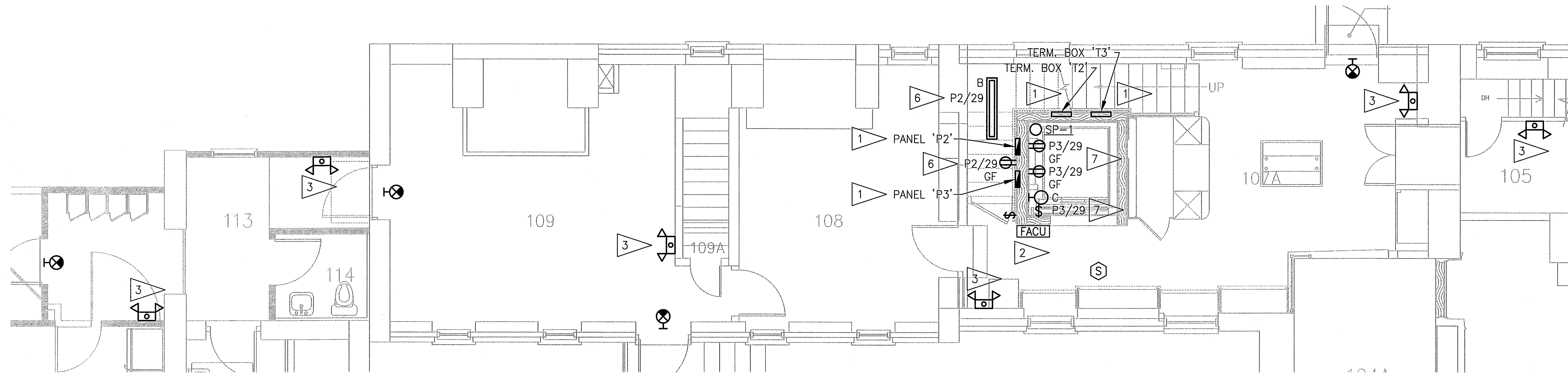
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NATHANIEL RUSSELL HOUSE
FIRST FLOOR
ELEVATOR POWER AND
EMERGENCY LIGHTING
DEMOLITION PLAN
& GENERAL NOTES

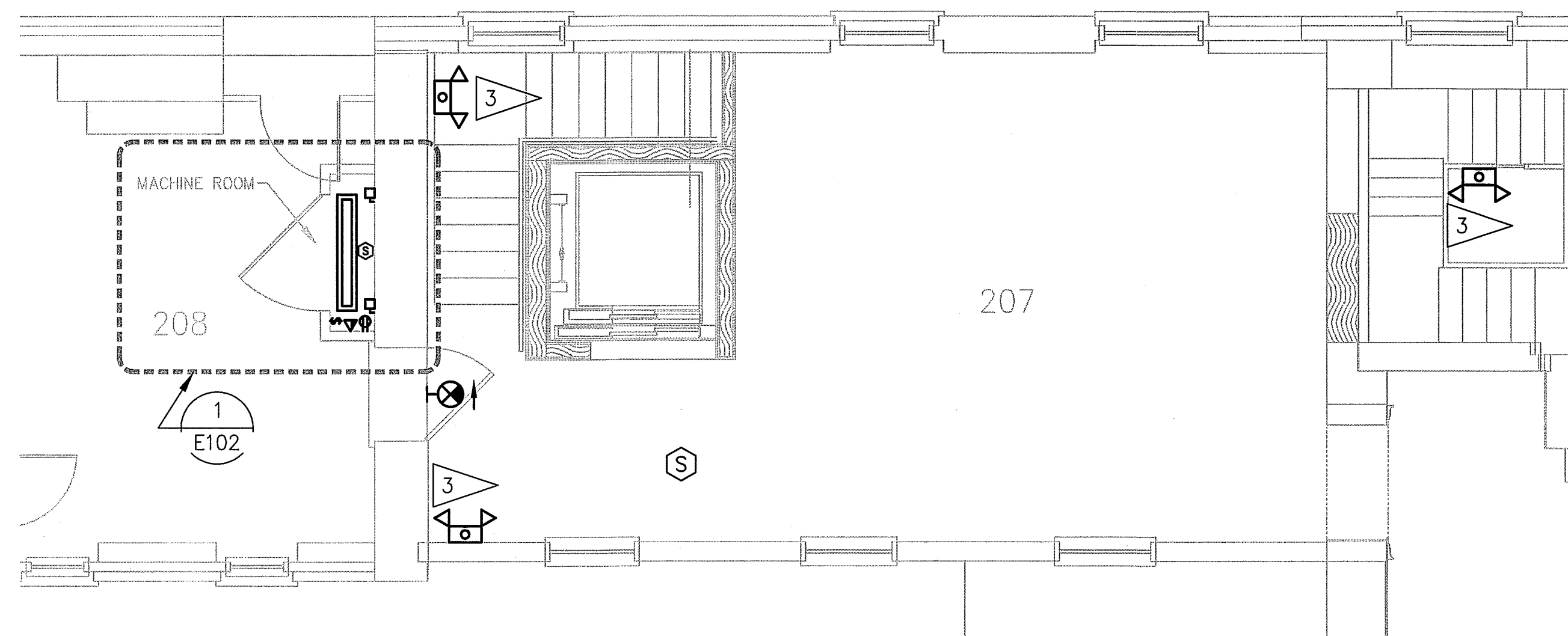
PRINCIPAL: RLO
DESIGNED BY: RLO
DRAWN BY: SCF
APPROVED BY: RLO
SCALE: AS SHOWN
PROJECT NUMBER: 20120111
CAD FILE: E101

DRAWING NUMBER:

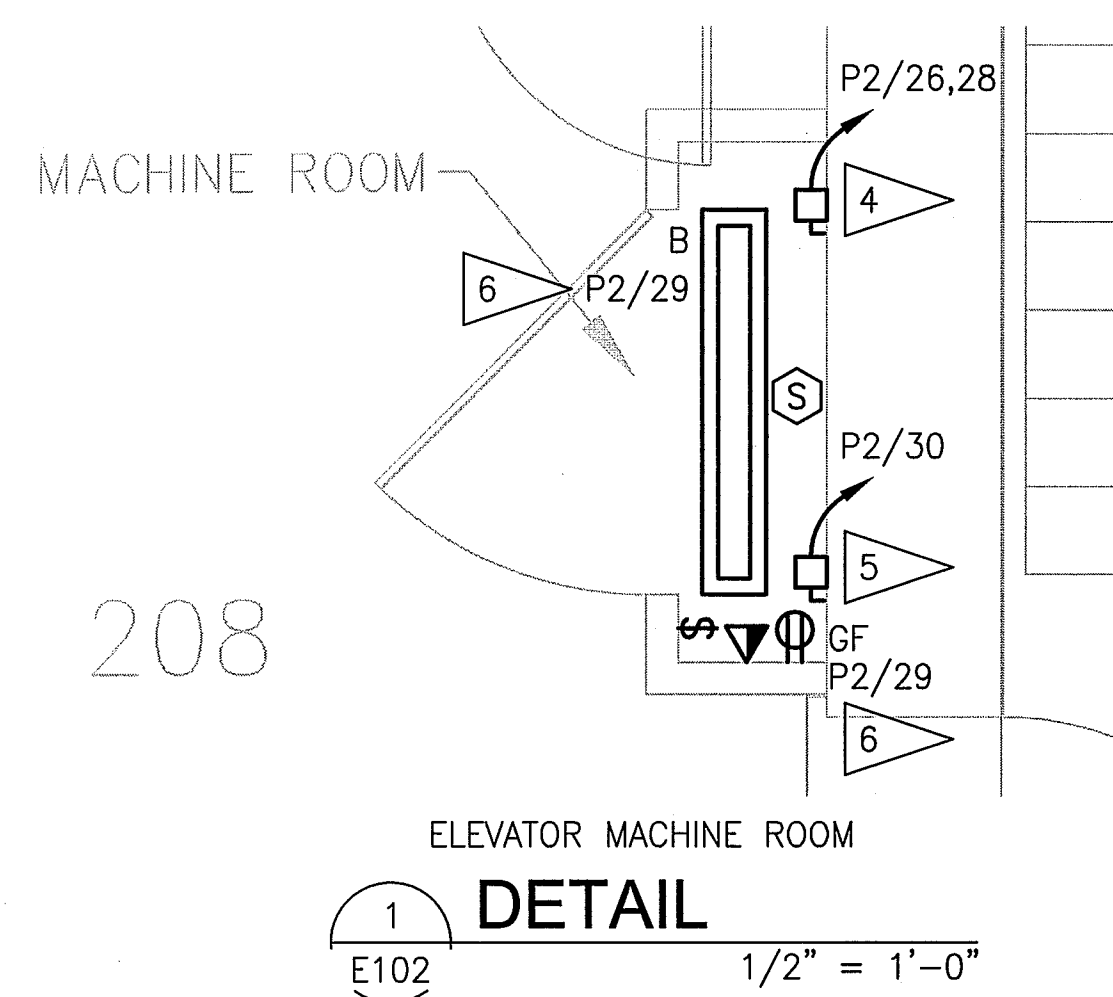
E101



FIRST FLOOR ELECTRICAL PLAN
1/4" = 1'-0"



SECOND FLOOR ELECTRICAL PLAN
1/4" = 1'-0"



DETAIL

1/2" = 1'-0"

ELECTRICAL CONSTRUCTION NOTES:

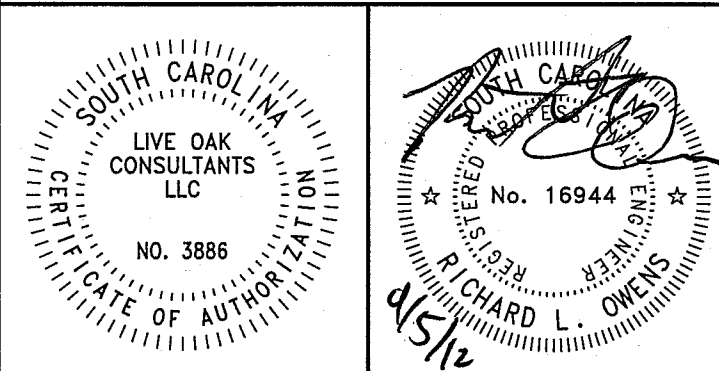
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- INSTALL FIRE ALARM CONTROL UNIT IN NORMALLY OCCUPIED LOCATION.
- INSTALL EMERGENCY LIGHT FIXTURE WHERE INDICATED AND CONNECT TO UNSWITCHED ROOM LIGHTING CIRCUIT.
- FOR ELEVATOR POWER, PROVIDE AND INSTALL 240V/2P/40A CIRCUIT BREAKER IN PANEL P2/26,28 AND ROUTE 2#8, #10G TO ELEVATOR DISCONNECT SWITCH 240V/2P/60A, FUSED AT 40A. SWITCH MUST BE LOCKABLE IN THE OPEN POSITION AND HAVE AN AUXILIARY NORMALLY OPEN INTERLOCK SWITCH, SQUARE D EK-300-Z OR APPROVED SUBSTITUTE.
- FOR ELEVATOR LIGHTING, PROVIDE AND INSTALL 120V/1P/15A CIRCUIT BREAKER IN PANEL P2/30 AND ROUTE 2#12, #12G TO ELEVATOR LIGHTING DISCONNECT SWITCH 120V/1P/30A, FUSED AT 15A. SWITCH MUST BE LOCKABLE IN THE OPEN POSITION.
- NEW CIRCUITS P2/29 AND P2/30 SHALL BE 2#12, #12G ROUTED FROM NEW 120V/20A/1P CIRCUIT BREAKER TO LOADS SHOWN.
- NEW CIRCUIT P3/29 SHALL BE 2#12, #12G ROUTED FROM EXISTING SPARE 120V/20A/1P CIRCUIT BREAKER TO LOADS SHOWN.

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTAGE	LAMPS	BALLASTS	FIXTURE WATTAGE	NOTES
B	1' x 4' FLUORESCENT	LITHONIA	LB-1-32-120	120V	1-32W	ELECTRONIC BALLAST, INSTANT START	32W	SURFACE MOUNT WRAP-AROUND, ACRYLIC PRISMATIC LENS
C	INDUSTRIAL WALL SCONCE	STONCO	VK-1GC	120V	1-100W	-	100W	PROVIDE WITH GLASS AND GUARD. PROVIDE MODEL SPECIFIED OR APPROVED SUBSTITUTE.

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CLIENT:

REV.	DATE	REV. BY	REVISION INFORMATION
0	09/05/12	RLO	ISSUED FOR CONSTRUCTION

DRAWING TITLE:
NATHANIEL RUSSELL HOUSE

FIRST & SECOND FLOOR
ELEVATOR POWER AND
EMERGENCY LIGHTING PLANS

PRINCIPAL: RLO
DESIGNED BY: RLO
DRAWN BY: SGF
APPROVED BY: RLO
SCALE: AS SHOWN
PROJECT NUMBER: 20120111
CAD FILE: E102

DRAWING NUMBER:
E102

FIRE ALARM SYSTEM SPECIFICATIONS

PART 1 GENERAL

1.1 REFERENCES:

NFPA 72–National Fire Alarm Code

2006 International Building Code

NFPA 90A Standard for the Installation of Air Conditioning and Ventilating Systems

1.2 QUALIFICATIONS OF INSTALLER: Individual with three or more years recent experience in the installation of smoke detection and fire alarm systems. Installer shall be UL certified. Fire alarm system shall be UL certificated.

1.3 SUBMITTALS:

1.3.1 Make submittals under provisions of this section.

1.3.2 Submittals are required for:

- a. Fire alarm and smoke detection system
- b. Manufacturer's statement of compliance
- c. Authorized distributor and service facility
- d. Manufacturer's certification
- e. Operating and maintenance manual

1.3.3 Provide product data sheets which show equipment ratings, features, dimensions, and finishes.

1.3.4 Provide shop drawings which show system layout and device interconnections.

1.3.5 Provide updated battery calculation showing that battery has the capacity to operate system in standby and in alarm modes for times specified. Add cells as necessary.

1.3.6 Submit manufacturer's statement of compliance that integrated system meets or exceeds specified requirements and code requirements.

1.3.7 Submit name, address and telephone number of authorized distributor and service facility.

1.4 EXTRA MATERIALS: Provide three keys of each type.

1.5 GENERAL: Devices shown on plans indicate general requirements only – Contractor to ensure system meets Code and AHJ requirements.

PART 2 PRODUCTS

2.1 MANUFACTURERS:

- a. EST
- b. Notifier
- c. Simplex
- d. Secutron
- e. Gamewell – FCI

2.2 SUPPLIER: Authorized distributor of manufacturer with service facilities within 100 miles of project site.

2.3 SYSTEM DESCRIPTION:

2.3.1 Fire Alarm System: NFPA 72; automatic intelligent addressable fire alarm system. Integrated system shall be UL listed.

2.3.2 System Supervision: Provide electrically–supervised system, with supervised alarm initiating and alarm signaling circuits. Occurrence of single ground or open condition in initiating or signaling circuit places circuit in TROUBLE mode. Component or power supply failure places system in TROUBLE mode.

2.3.3 Trouble Sequence of Operation: System trouble, including grounding or open circuit of supervised circuits, or power or system failure causes system to enter TROUBLE mode, which includes the following operations:

- a. Visual and audible trouble alarm at control panel.
- b. Manual ACKNOWLEDGE function at control panel silences audible trouble alarm; visual alarm is displayed until initiating trouble is cleared.
- c. Transmit trouble signal to remote station.

2.3.4 Alarm Sequence of Operation: Actuation of manual fire alarm station or automatic initiating device causes system to enter ALARM, which includes the following operations:

- a. Sound and display local fire alarm notification appliances with non–coded signal.
- b. Transmit non–coded signal to remote station equipment.
- c. Indicate location of alarm on fire alarm control panel and on remote annunciator panel.
- d. Transmit signal to building mechanical systems to initiate shutdown of fans and damper operation.

2.3.5 Drill Sequence of Operation: Manual DRILL function causes ALARM mode operation to:

- a. Sound and display local fire alarm signaling devices.
- b. Indicate location of alarm on fire alarm control panel and on remote annunciator panel.

2.3.6 Alarm Reset: Key–accessible RESET function resets alarm system out of ALARM if alarm initiating circuits have cleared.

2.4 FIRE ALARM CONTROL UNIT:

2.4.1 Control Unit: Modular construction. System shall include provisions for detecting and reporting failures of microprocessor circuits, memory, or software.

2.4.2 Power Supply: Shall be adequate to power all fire alarm system devices including control panel modules, remote detectors, remote annunciators, door holders, relays, and alarm signaling devices. Include battery–operated emergency power supply with capacity for operating system in standby mode for 24 hours followed by alarm mode for 5 minutes.

2.4.3 Provide TROUBLE ACKNOWLEDGE, DRILL, and ALARM SILENCE switches.

2.4.4 Annunciator: Provide supervised annunciator including audible and visual indication of fire alarm and audible and visual indication of system trouble.

2.5 INITIATING DEVICES: Each intelligent device shall have its own address. Information stored in the address shall include device type (smoke sensor, pull station, etc.), and the room number of the space in which it is located.

2.5.1 Manual Station: Semi–recessed mounted, double action manual station.

2.5.2 Ceiling Mounted Smoke Detector: NFPA 72; photoelectric type, 900 square foot coverage minimum, plug–in base, visual indication that detector is operational, suitable for mounting on 4 inch outlet box.

2.5.3 Heat Detector: NFPA 72; fixed temperature type with nominal rating of 135 degrees F, 900 square foot coverage minimum, plug–in base, replaceable and interchangeable fusible element, suitable for mounting on a 4–inch outlet box. Coordinate temperature rating with sprinkler heads in elevator shaft and equipment rooms.

2.5.4 Duct Type Smoke Detector: NFPA 72, photoelectric type, visual indication that detector is operational, suitable for mounting on ducts provided under Division 15. Provide remote alarm indicator with detector. Remote indicator shall have alarm LED and key test switch. Detector is furnished by Division 16, installed by Division 15, and wired by Division 16. Remote indicator is furnished, installed and wired by Division 16.

2.6 NOTIFICATION APPLIANCES:

2.6.1 Alarm Horn: NFPA 72; surface type fire alarm horn. Sound Rating: meet NFPA 72 requirements. Provide integral strobe lamp and flasher with red lettered FIRE on white lens to meet ADA requirements.

2.6.2 Strobe Flasher: NFPA 72; surface type fire alarm strobe flasher with red lettered FIRE on white lens to meet ADA requirements.

2.6.3 Remote Annunciator: Provide supervised remote annunciator including audible and visual indication of fire alarm by zone, and audible and visual indication of system trouble. Install in flush wall–mounted enclosure.

2.6.4 Synchronization of Flashers: All strobe flashers shall be synchronized.

2.7 FIRE ALARM WIRE AND CABLE:

2.7.1 Fire Alarm Power Branch Circuits: Building wire in conduit as specified in electrical drawings.

2.7.2 Initiating and Notification Circuits: Building wire in conduit as specified in electrical drawings.

PART 3 EXECUTION

3.1 INSTALLATION:

3.1.1 Install system in accordance with NFPA 72 and manufacturer's instructions. All fire alarm system devices and circuits shall be powered and supervised by the Fire Alarm Control Panel.

3.1.2 Install manual station with operating handle 48 inches above floor. Install audible and visual signal devices 12 inches below ceiling but no higher than 80 inches above finished floor, or as shown on drawings.

3.1.3 Use #16 AWG minimum size conductors for fire alarm detection and signal circuit conductors. Install wiring in conduit.

3.1.3.1 Install fire alarm circuit conductors with color coded insulation, or use color coded tape at each conductor termination and in each junction box as follows:

- a. Power Branch Circuit Conductors: Black, red, white
- b. Initiating Device Circuit: Black, red
- c. Signal Device Circuit: Blue (positive), white (negative)

3.1.4 Initiation Device Installation: Initiation devices (i.e. manual stations, smoke detectors and heat detectors) shall be connected in a manner that ensures electrical supervision to the device. Smoke detector bases shall be connected into the circuit in a way which assures that removal of the detector head will cause the circuit to open.

3.1.4.1 Automatic Detector Installation: NFPA 72 and NFPA 90A. Adjust detector locations to avoid conflicts with light fixtures, diffusers, etc. and to comply with NFPA and state requirements.

a. Ceiling mounted detectors shall not be located in a direct air flow or closer than 3 feet from an air supply diffuser.

3.1.4.2 Install remote indicator for duct type smoke detector in readily accessible location near associated detector. (See NFPA 70 for definition of readily accessible. Ceilings not higher than 10 feet in finished spaces will be considered readily accessible).

3.1.4.3 Connect FACU to HVAC equipment for remote shut down as required.

3.1.4.4 Connect FACU to elevator equipment for recall and/or shut down as required and for operation of elevator shunt trip breaker as required.

3.2 FIELD QUALITY CONTROL: Test each device and test integrated system in accordance with NFPA 72 and local fire department requirements. These tests shall be conducted by a technician certified by the manufacturer.

3.3 MANUFACTURER'S FIELD SERVICES:

3.3.1 Provide manufacturer's field services to include services of a technician certified by the manufacturer to supervise installation, adjustments, and final connections, and to conduct system and device testing as required in paragraph 3.2.

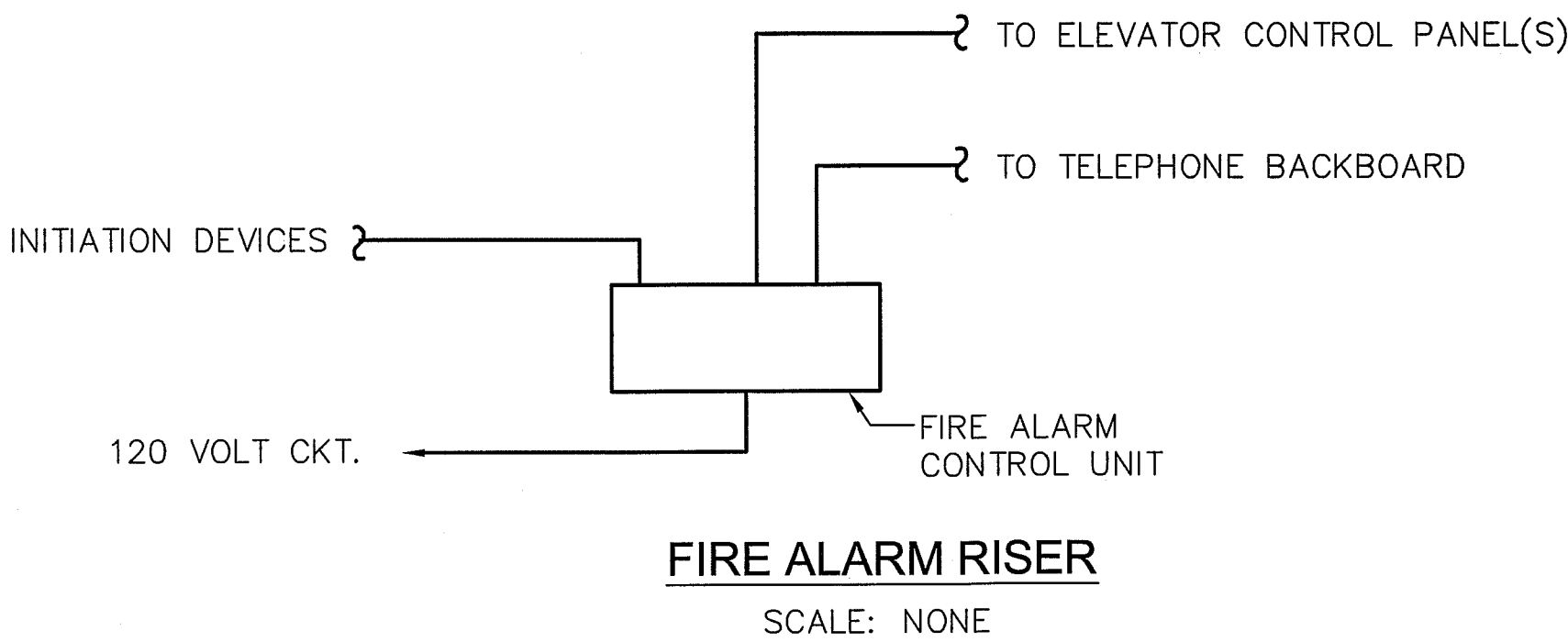
3.3.2 Provide manufacturer's certification that the installed system has been fully tested as specified, meets or exceeds specifications and code requirements, and is operating properly.

3.4 OPERATING AND MAINTENANCE MANUAL:

3.4.1 Provide two (2) bound operating and maintenance manuals at project completion. Manuals shall contain:

- a. Name, address, and telephone number of authorized distributor and service facility
- b. Shop drawings
- c. Product data
- d. Operating and maintenance instructions
- e. Manufacturer's warranties
- f. Manufacturer's certifications
- g. As–built record drawings (show end of line devices)

END OF SECTION

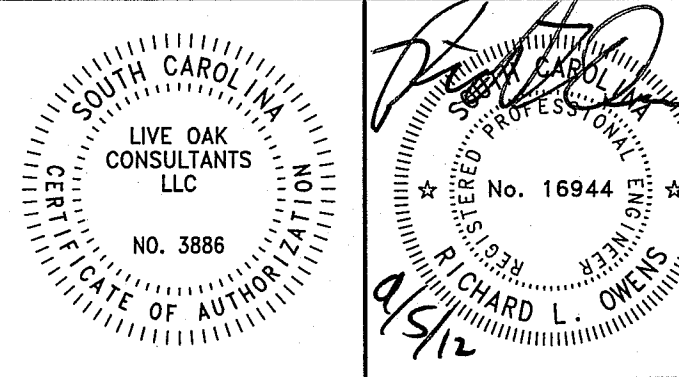


NOTES:

1. PROVIDE DEDICATED FUNCTION FIRE ALARM CONTROL UNIT FOR ELEVATOR RECALL PER NFPA 72. LOCATED FIRE ALARM CONTROL UNIT IN NORMALLY OCCUPIED LOCATION AND PROVIDE WITH AUDIBLE AND VISIBLE INDICATORS TO ANNOUNCE SUPERVISORY AND TROUBLE CONDITIONS.
2. SYSTEM SHALL BE DESIGNATED AS AN "ELEVATOR RECALL CONTROL AND SUPERVISORY CONTROL UNIT" PER NFPA 72.
3. SEE FLOOR PLANS FOR NUMBER AND TYPE OF INITIATION DEVICES (I.E. SMOKE DETECTORS).

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GLENN KEYES
ARCHITECTS

CLIENT:

REVISION INFORMATION

ISSUED FOR CONSTRUCTION

REV. DATE

REV. BY

RLO

09/05/12

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DRAWING TITLE:

NATHANIEL RUSSELL HOUSE

FIRE ALARM
SPECIFICATIONS

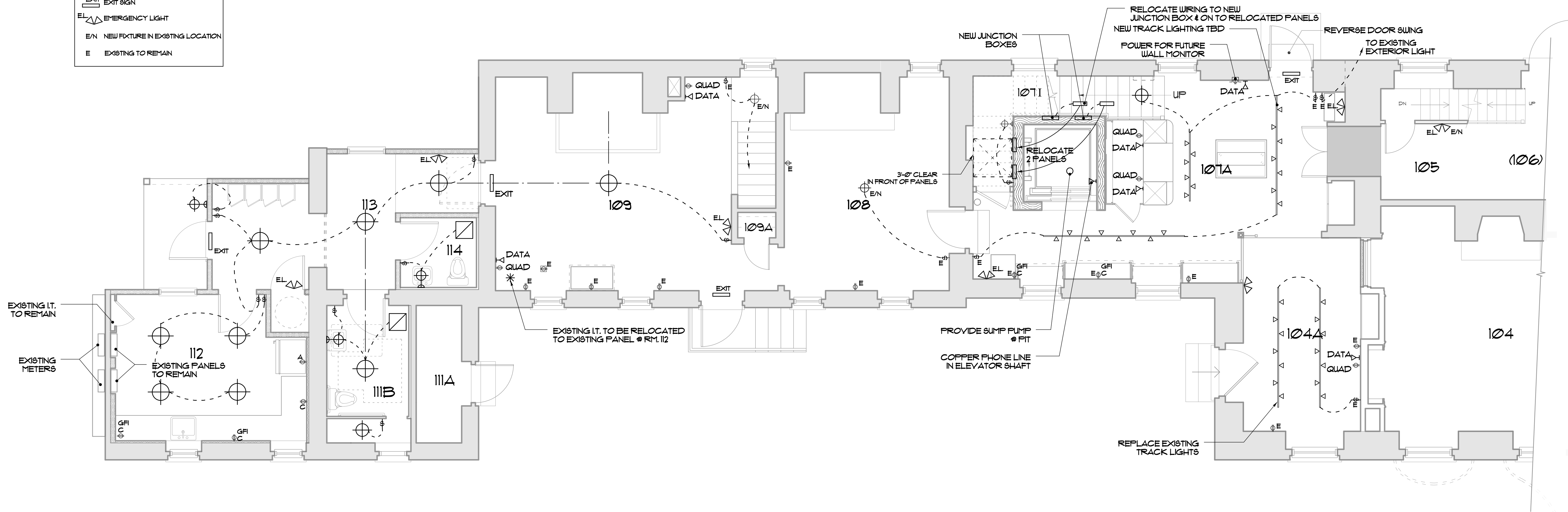
PRINCIPAL: RLO
DESIGNED BY: RLO
DRAWN BY: SGF
APPROVED BY: RLO
SCALE: AS SHOWN
PROJECT NUMBER: 20120111
CAD FILE: F101

DRAWING NUMBER:

F101

ELECTRICAL SYMBOLS

- SWITCH
- RECESSED FIXTURE
- SURFACE MTD. FIXTURE
- WALL SCONCE
- UNDERCOUNTER LIGHTS
- OUTLET (APPLIANCE)
- BASEBOARD OUTLET
- NEW SERVICE INTO EXISTING LOCATION
- FUR. RECESSED OUTLET
- WALL RECESSED OUTLET
- EXHAUST FAN - MOUNT ABV. BASEBOARD UNLESS OTHERWISE NOTED
- COMPUTER
- PHONE (IN BASEBOARD UNLESS OTHERWISE NOTED)
- EXIT SIGN
- EMERGENCY LIGHT
- NEW FIXTURE IN EXISTING LOCATION
- EXISTING TO REMAIN



1 FIRST FLOOR LIGHTING & POWER PLAN
E103 SCALE: 1/4" = 1'-0"

Glenn Keyes
Architects

12 Vanderhorst Street
Charleston, SC 29403
(803) 722-4100
fax: (803) 722-4140

NATHANIEL RUSSELL HOUSE
51 Meeting Street
Charleston, South Carolina
HISTORIC CHARLESTON FOUNDATION

FIRST FLOOR
LIGHTING & POWER PLAN

PROJECT NUMBER	1206
DRAWING DATE	9/5/12
SHEET NUMBER	E103

ELECTRICAL SYMBOLS

⌀

SWITCH

⊞

RECESSED FIXTURE

⊕

SURFACE MTD. FIXTURE

⊕

WALL SCONCE

—

UNDERCOUNTER LIGHTS

⊕

OUTLET (APPLIANCE)

⊕

BASEBOARD OUTLET

EN

NEW SERVICE INTO EXISTING LOCATION

⊕

PLR. RECESSED OUTLET

⊞

EXHAUST FAN - MOUNT ABV. BASEBOARD UNLESS OTHERWISE NOTED

⊞

COMPUTER

▽

PHONE IN BASEBOARD UNLESS OTHERWISE NOTED

EXIT

EXIT SIGN

EL

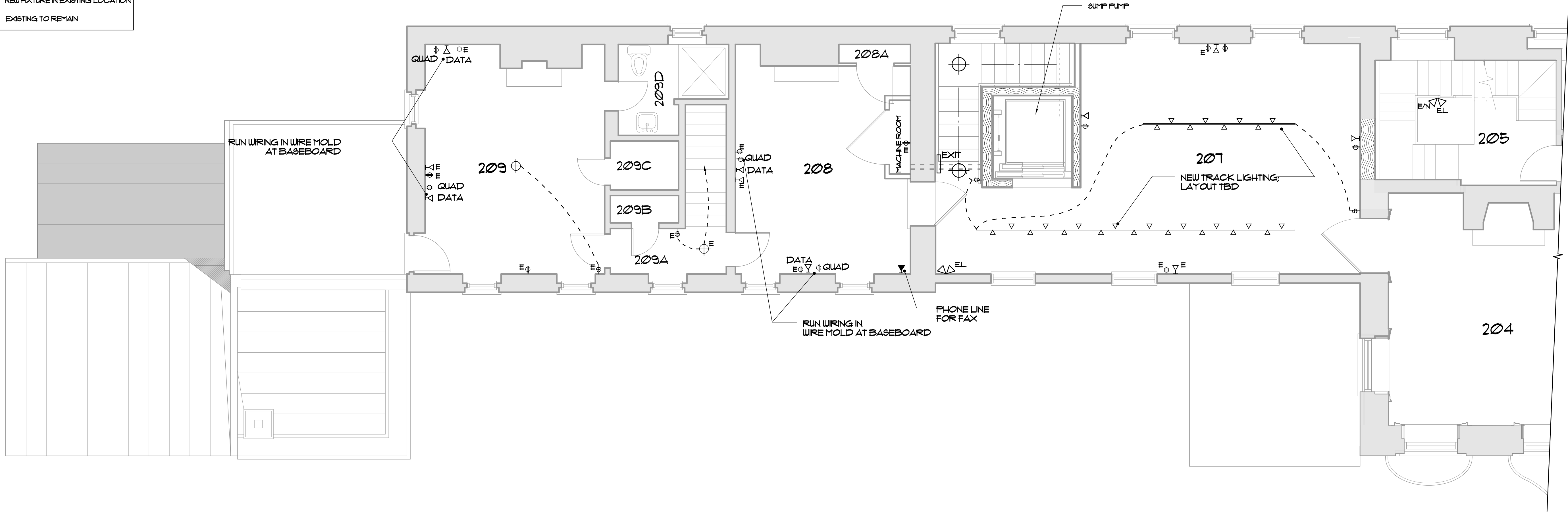
EMERGENCY LIGHT

E/N

NEW FIXTURE IN EXISTING LOCATION

E

EXISTING TO REMAIN



1 SECOND FLOOR LIGHTING & POWER PLAN
E104 SCALE: 1/4" = 1'-0"

Glenn Keyes
Architects

12 Vanderhorst Street
Charleston, SC 29403
(803) 722-4100
fax: (803) 722-4140

NATHANIEL RUSSELL HOUSE

51 Meeting Street
Charleston, South Carolina

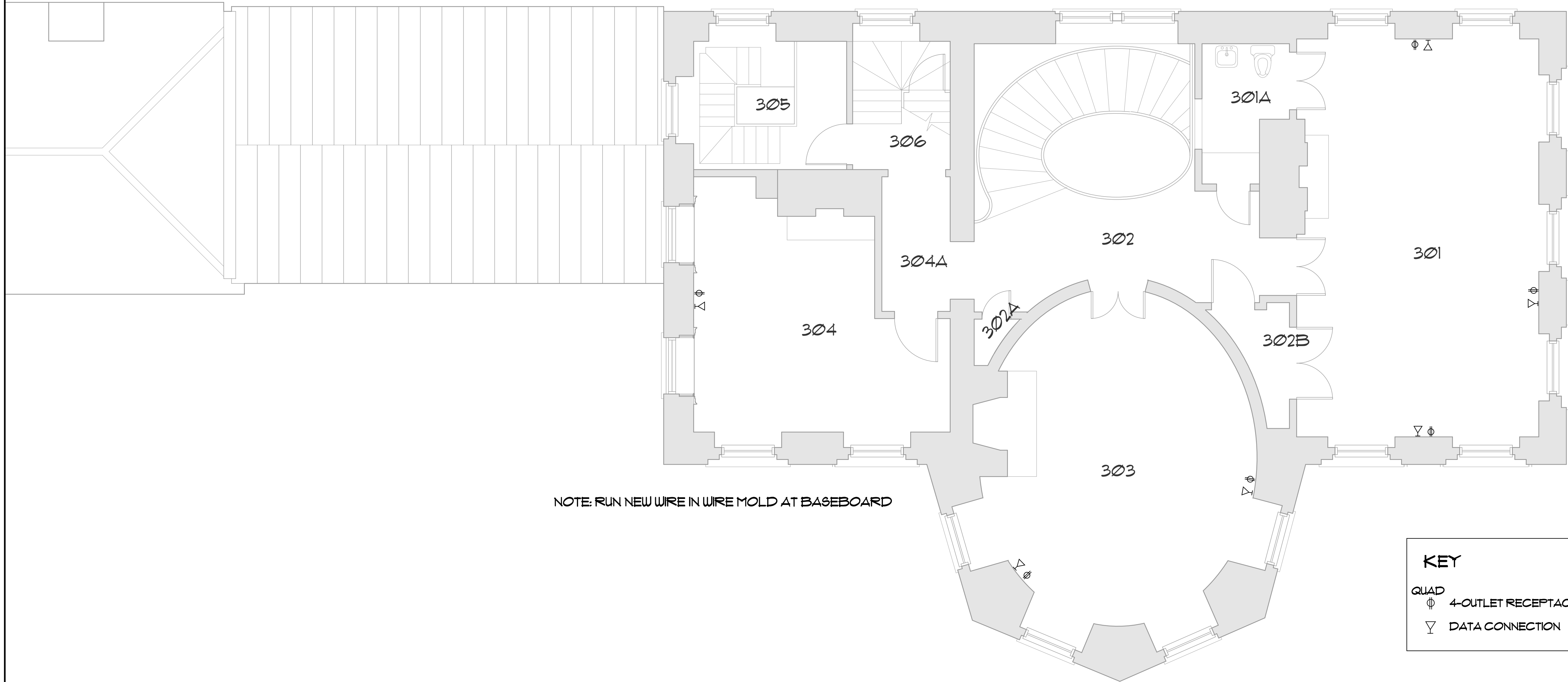
HISTORIC CHARLESTON FOUNDATION

SECOND FLOOR
LIGHTING & POWER PLAN

PROJECT NUMBER
1206

DRAWING DATE
9/5/12

SHEET NUMBER
E104



NOTE: RUN NEW WIRE IN WIRE MOLD AT BASEBOARD

KEY

- QUAD
4-OUTLET RECEPTACLE
DATA CONNECTION

1 THIRD FLOOR ELECTRICAL PLAN
E105 SCALE: 1/4" = 1'-0"

Glenn Keyes
Architects

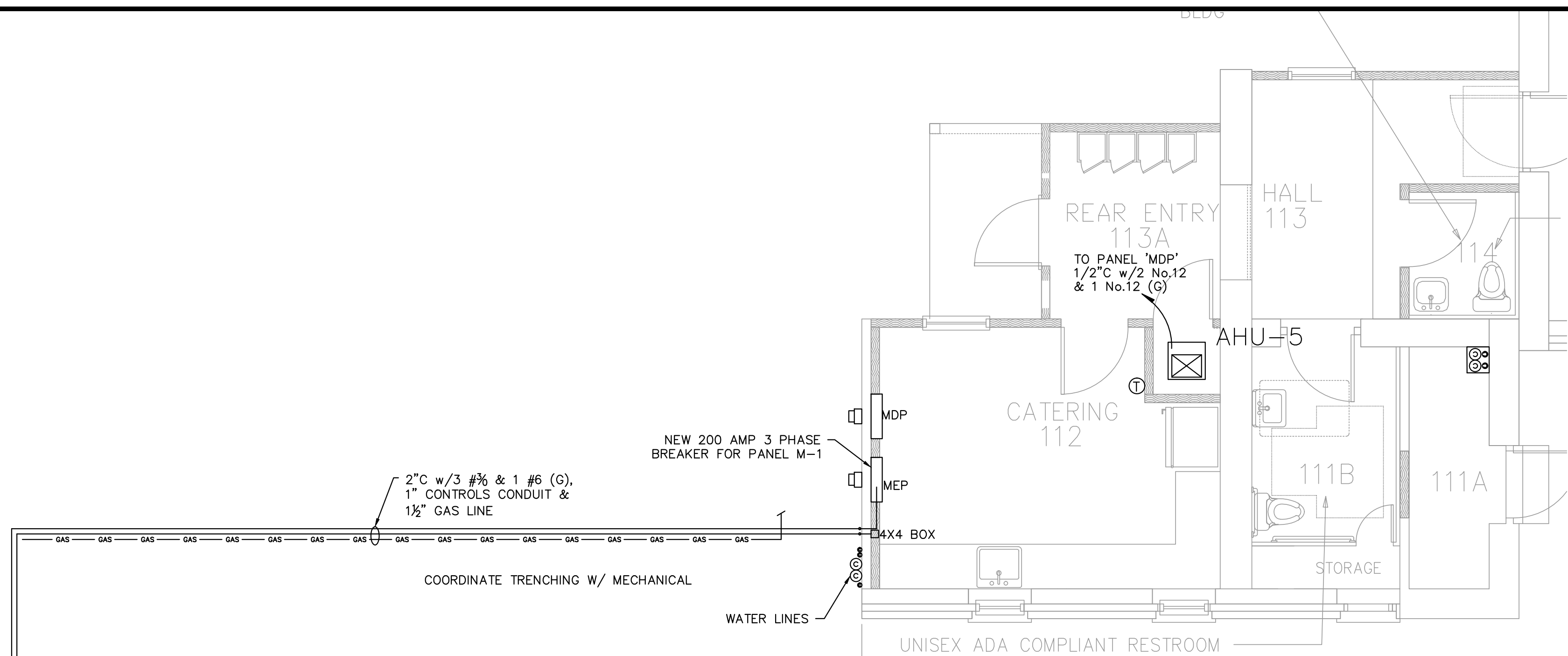
12 Vanderhorst Street
Charleston, SC 29403
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fax: (803) 722-4140

NATHANIEL RUSSELL HOUSE
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HISTORIC CHARLESTON FOUNDATION

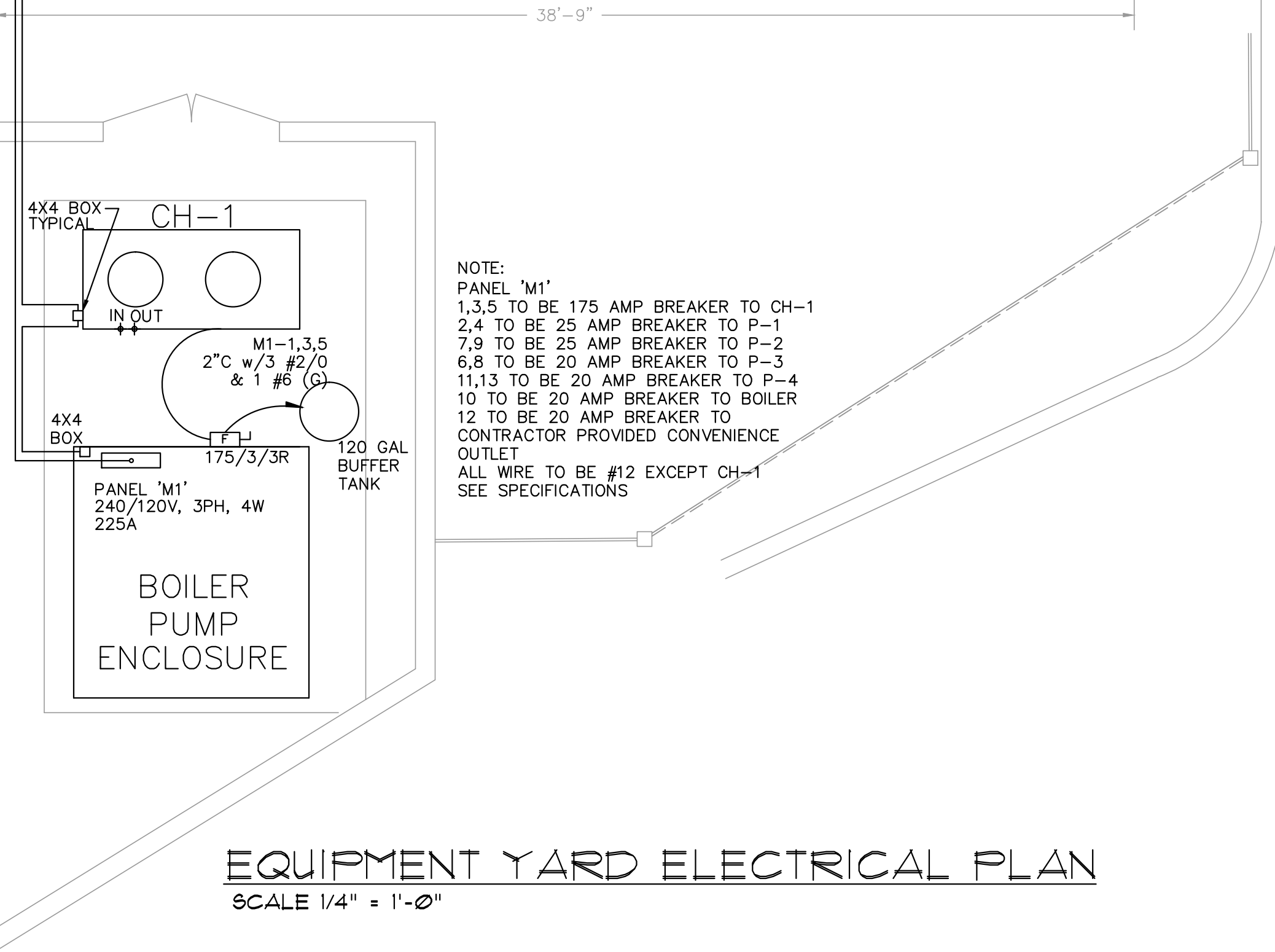
THIRD FLOOR ELECTRICAL PLAN

PROJECT NUMBER
1206
DRAWING DATE
9/5/12
SHEET NUMBER

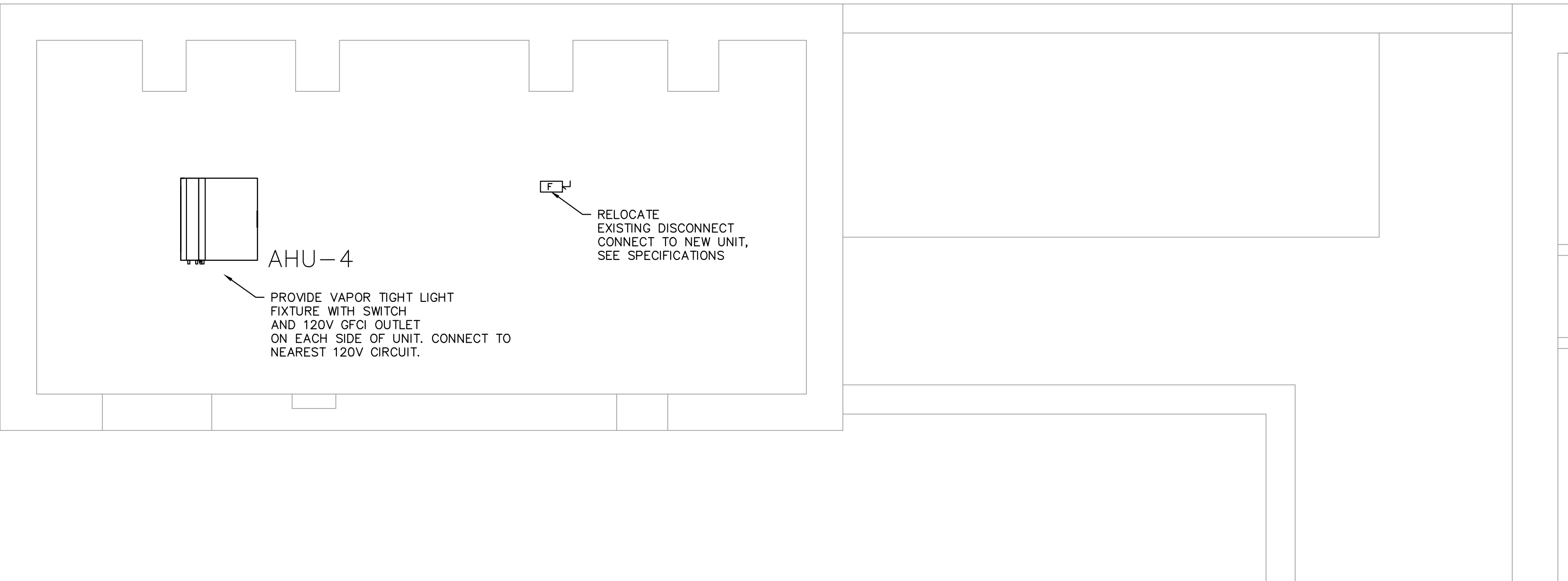
E105



CATERING ELECTRICAL PLAN
SCALE 1/4" = 1'-0"



EQUIPMENT YARD ELECTRICAL PLAN
SCALE 1/4" = 1'-0"

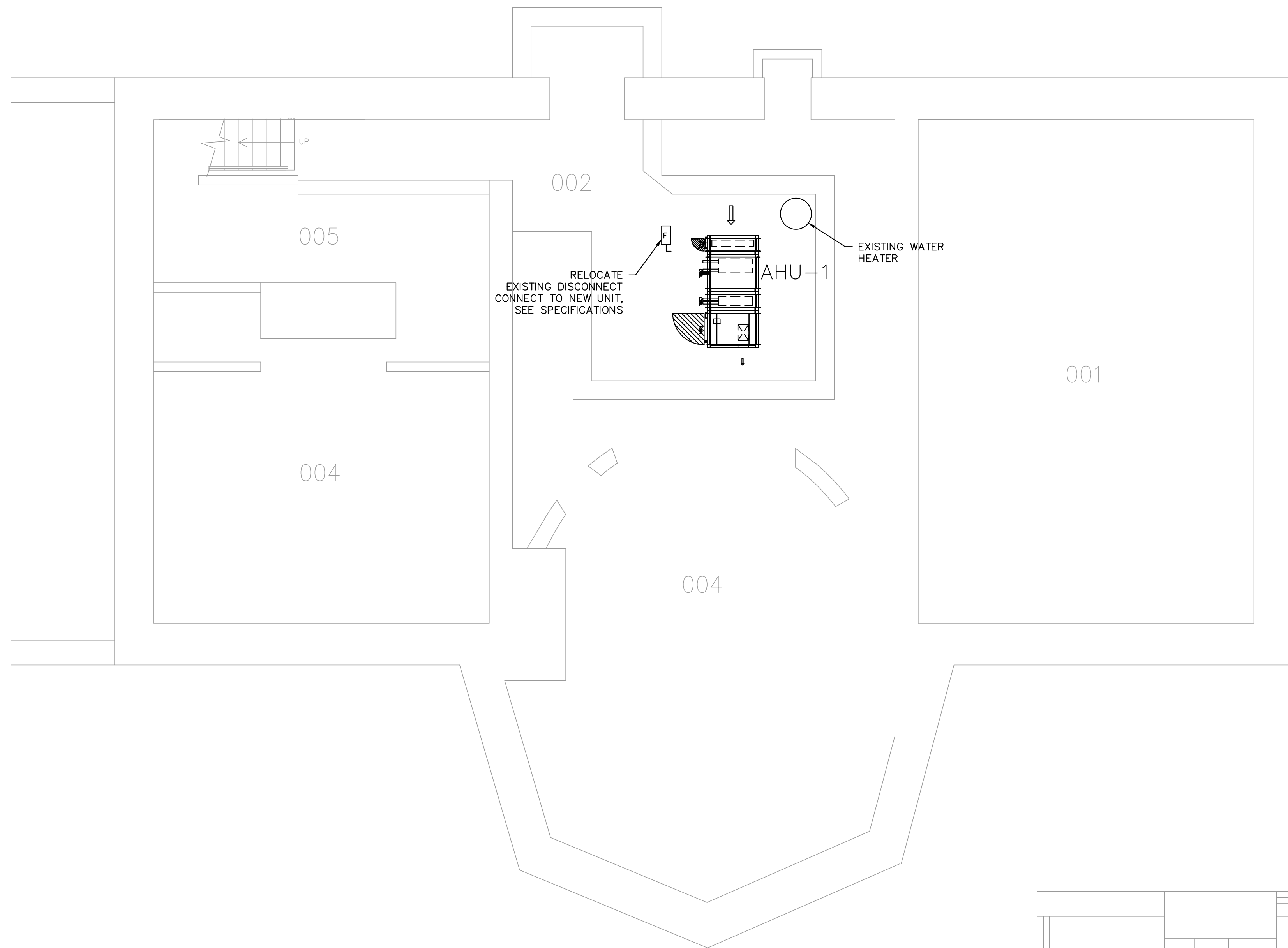


CRAWL SPACE WING - ELECTRICAL PLAN
SCALE 1/4" = 1'-0"

- ELECTRICAL NOTES:
- 1) ALL WORK SHALL BE PER LOCAL AND NATIONAL CODES. INCLUDE COST OF PERMITS AND INSPECTIONS IN QUOTE.
 - 2) INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
 - 3) SEE SPECIFICATIONS.

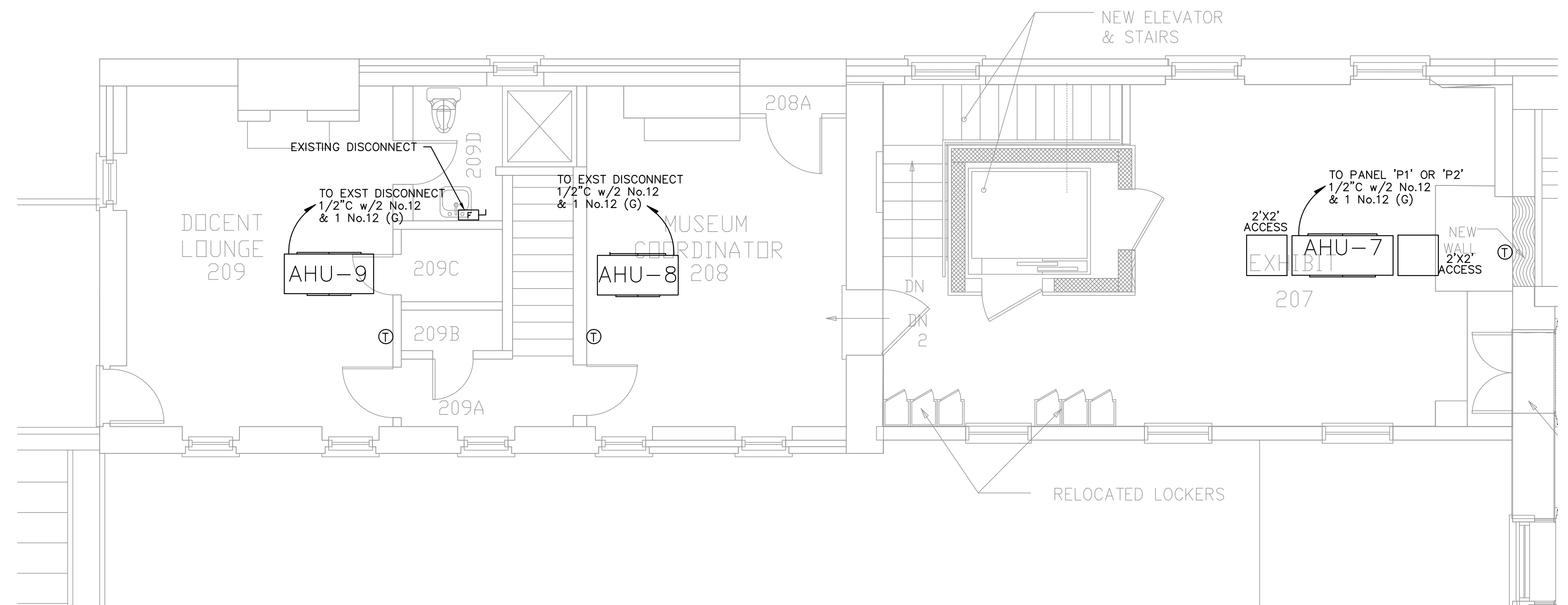
	NATHANIEL RUSSEL HOUSE 51 MEETING STREET CHARLESTON, SOUTH CAROLINA	
	WHOLE BUILDING SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingsystems.com	
JOB NO: 12018001 BY: SAM CHECKED BY: MDK		DATE: 5 SEPT 2012 DRAWING: OF

E1



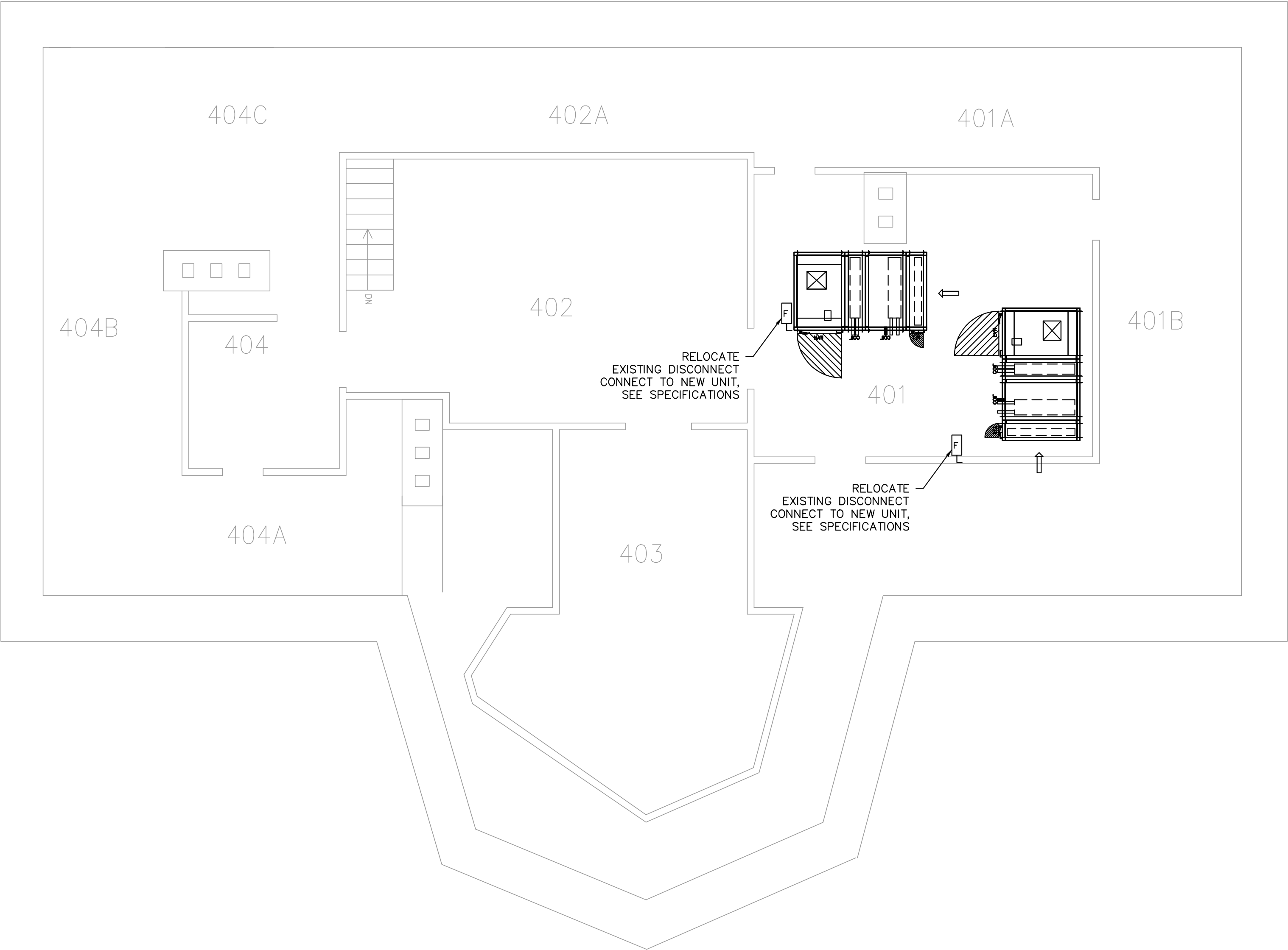
CRAWL SPACE MAIN HOUSE - ELECTRICAL PLAN
SCALE 1/4" = 1'-0"

- ELECTRICAL NOTES:**
- 1) ALL WORK SHALL BE PER LOCAL AND NATIONAL CODES. INCLUDE COST OF PERMITS AND INSPECTIONS IN QUOTE.
 - 2) INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
 - 3) SEE SPECIFICATIONS.



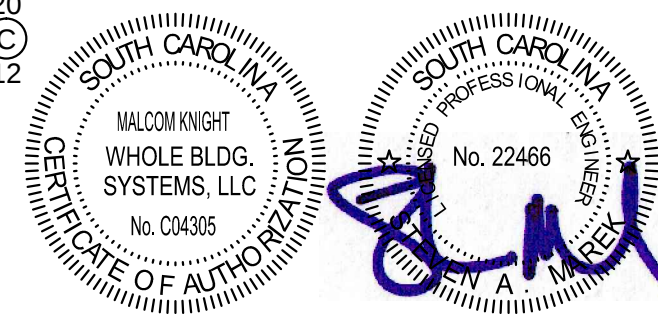
SECOND FLOOR WING - ELECTRICAL PLAN
SCALE 1/4" = 1'-0"

		NATHANIEL RUSSEL HOUSE 51 MEETING STREET CHARLESTON, SOUTH CAROLINA	
		WHOLE BUILDING SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingsystems.com	
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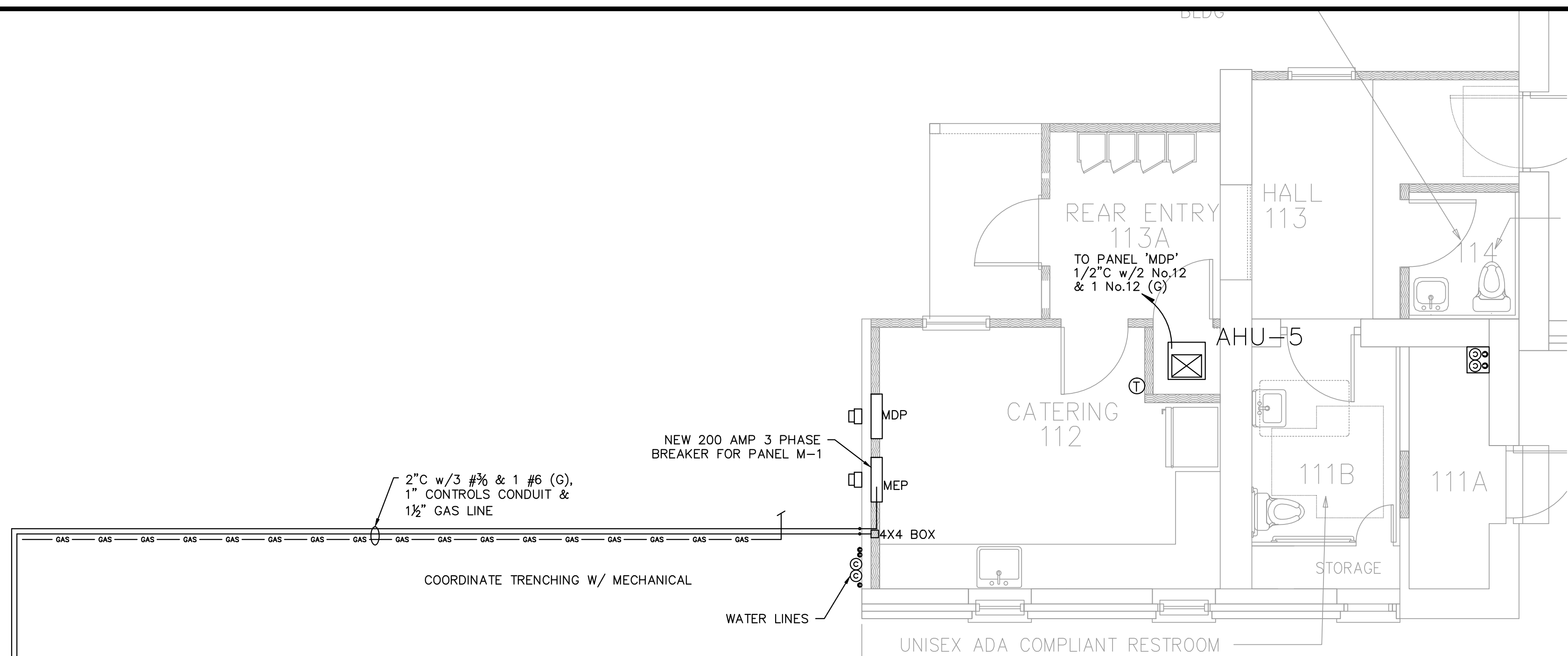


- ELECTRICAL NOTES:**
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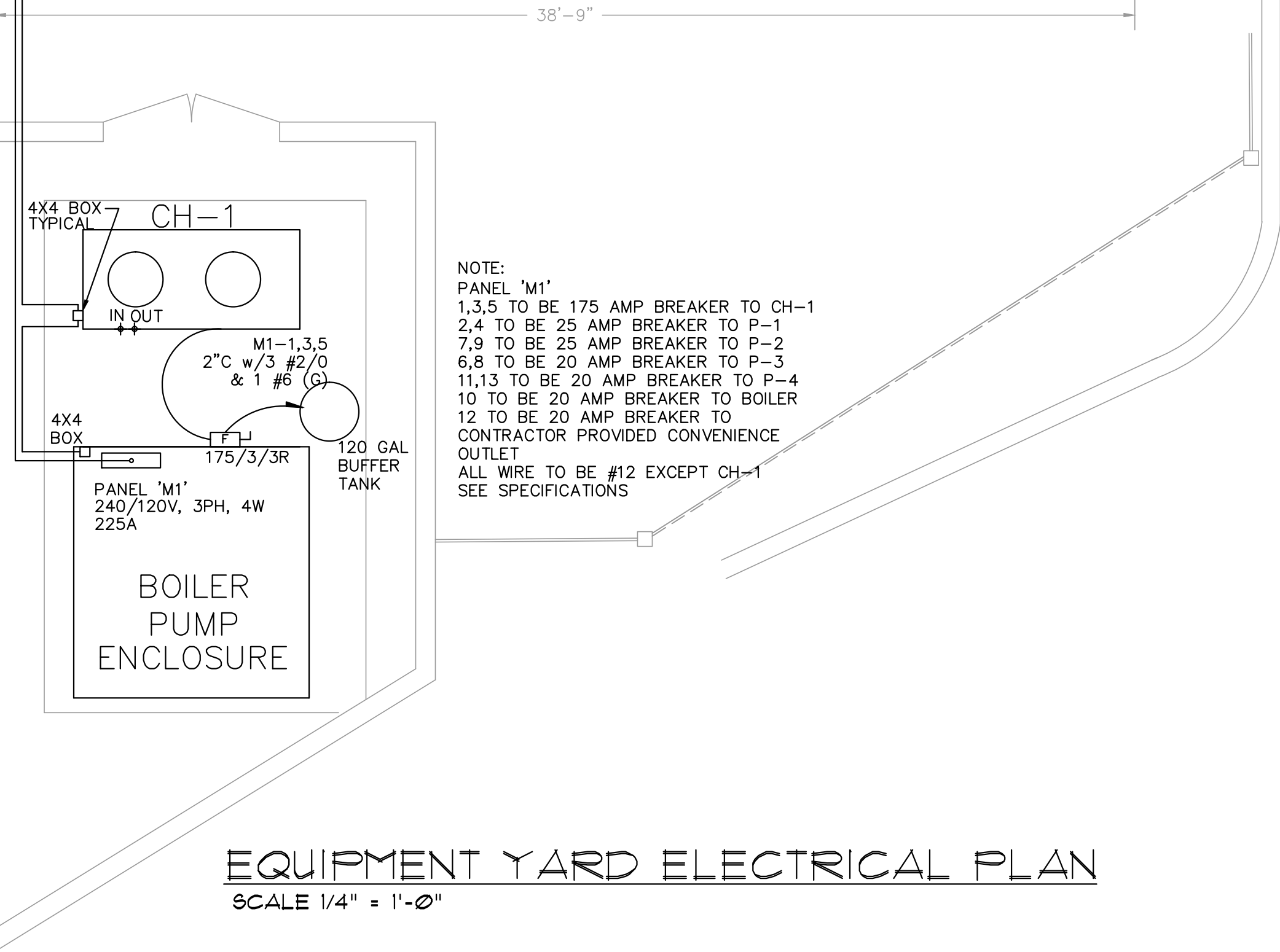
ATTIC MAIN HOUSE - ELECTRICAL PLAN
SCALE 1/4" = 1'-0"

	NATHANIEL RUSSEL HOUSE 51 MEETING STREET CHARLESTON, SOUTH CAROLINA	
	WHOLE BUILDING SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingsystems.com	
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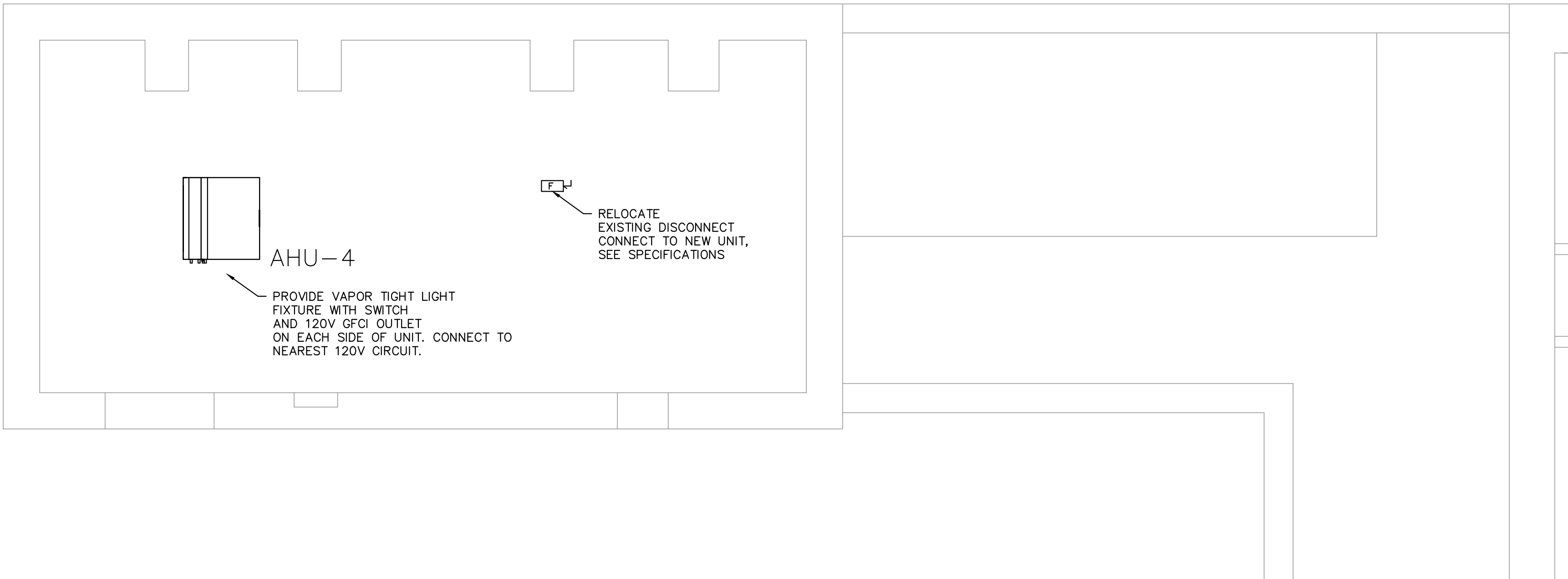
E3



CATERING ELECTRICAL PLAN
SCALE 1/4" = 1'-0"



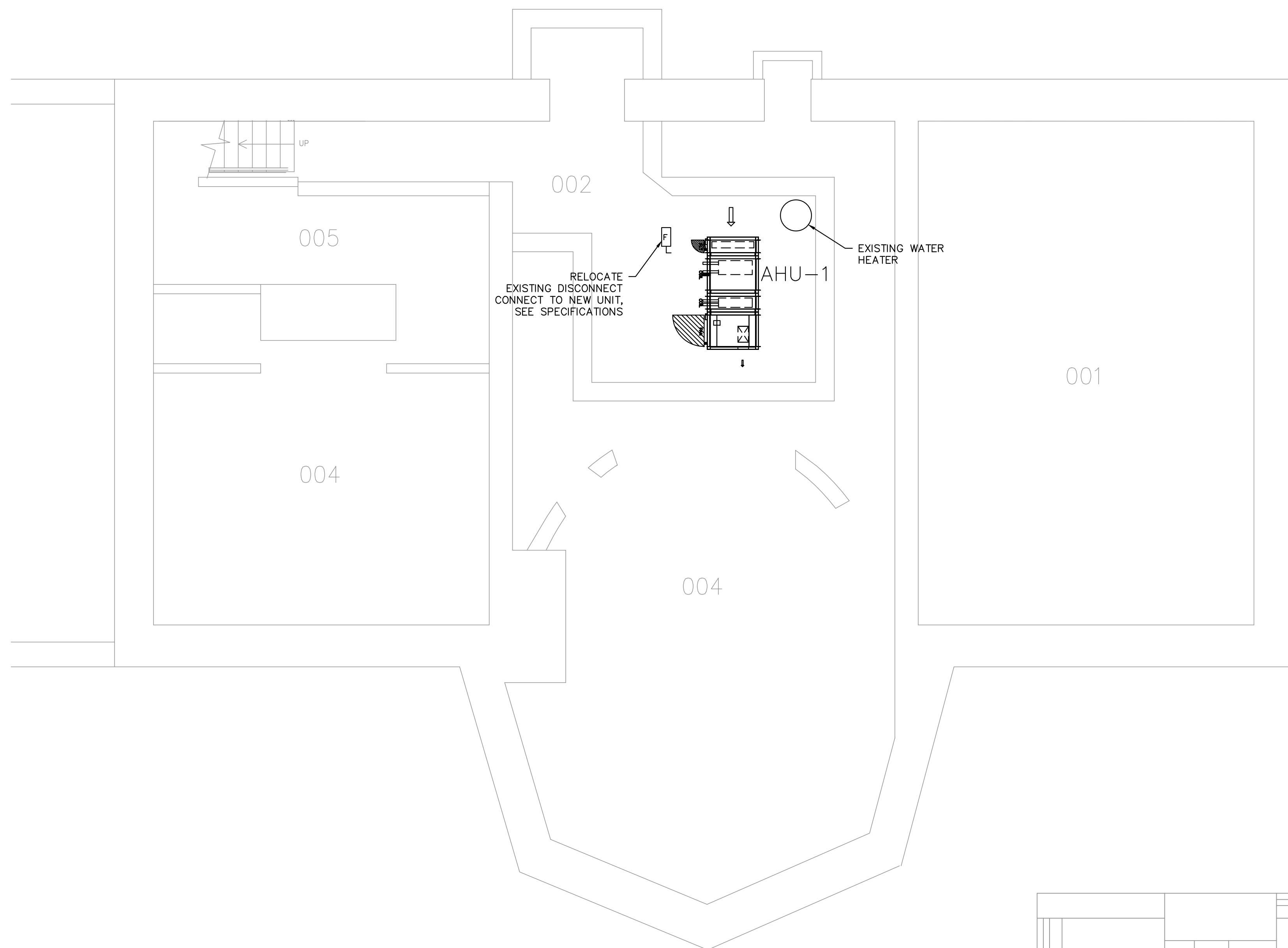
EQUIPMENT YARD ELECTRICAL PLAN
SCALE 1/4" = 1'-0"



CRAWL SPACE WING - ELECTRICAL PLAN
SCALE 1/4" = 1'-0"

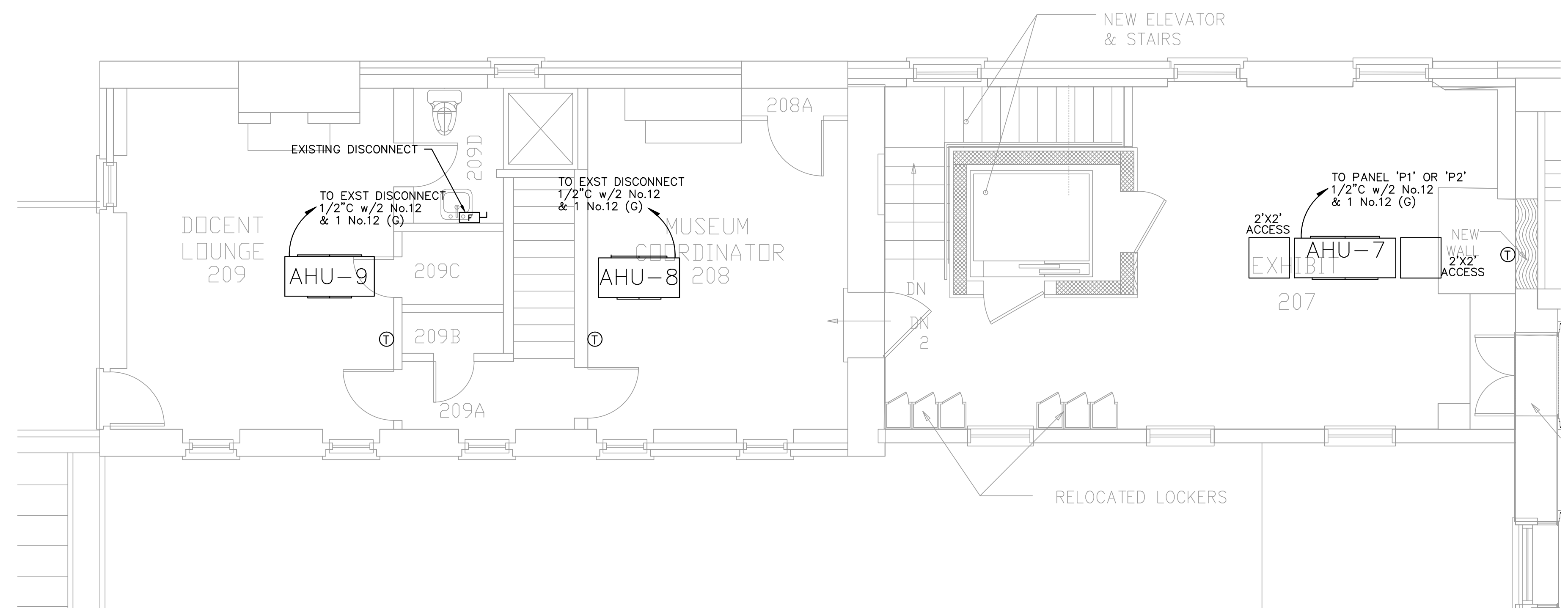
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		NATHANIEL RUSSEL HOUSE 51 MEETING STREET CHARLESTON, SOUTH CAROLINA	
WHOLE BLDG. SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingsystems.com		E1	
JOB NO: 12018001 BY: SAM CHECKED BY: MDK		DATE: 5 SEPT 2012 DRAWING: OF	



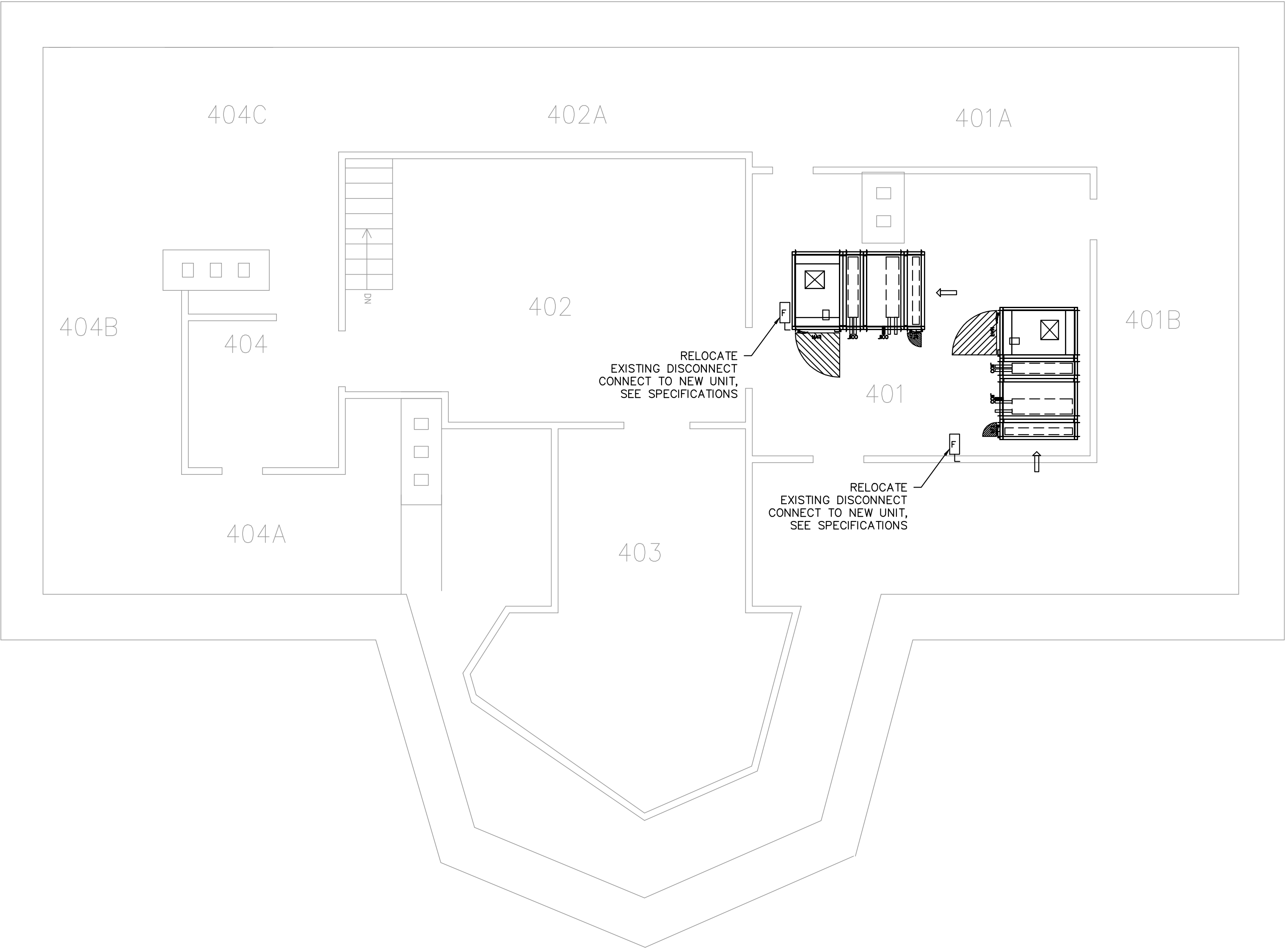
CRAWL SPACE MAIN HOUSE - ELECTRICAL PLAN
 SCALE 1/4" = 1'-0"

- ELECTRICAL NOTES:**
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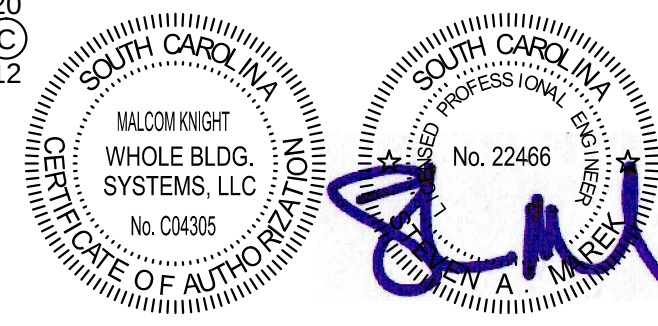
SECOND FLOOR WING - ELECTRICAL PLAN
 SCALE 1/4" = 1'-0"

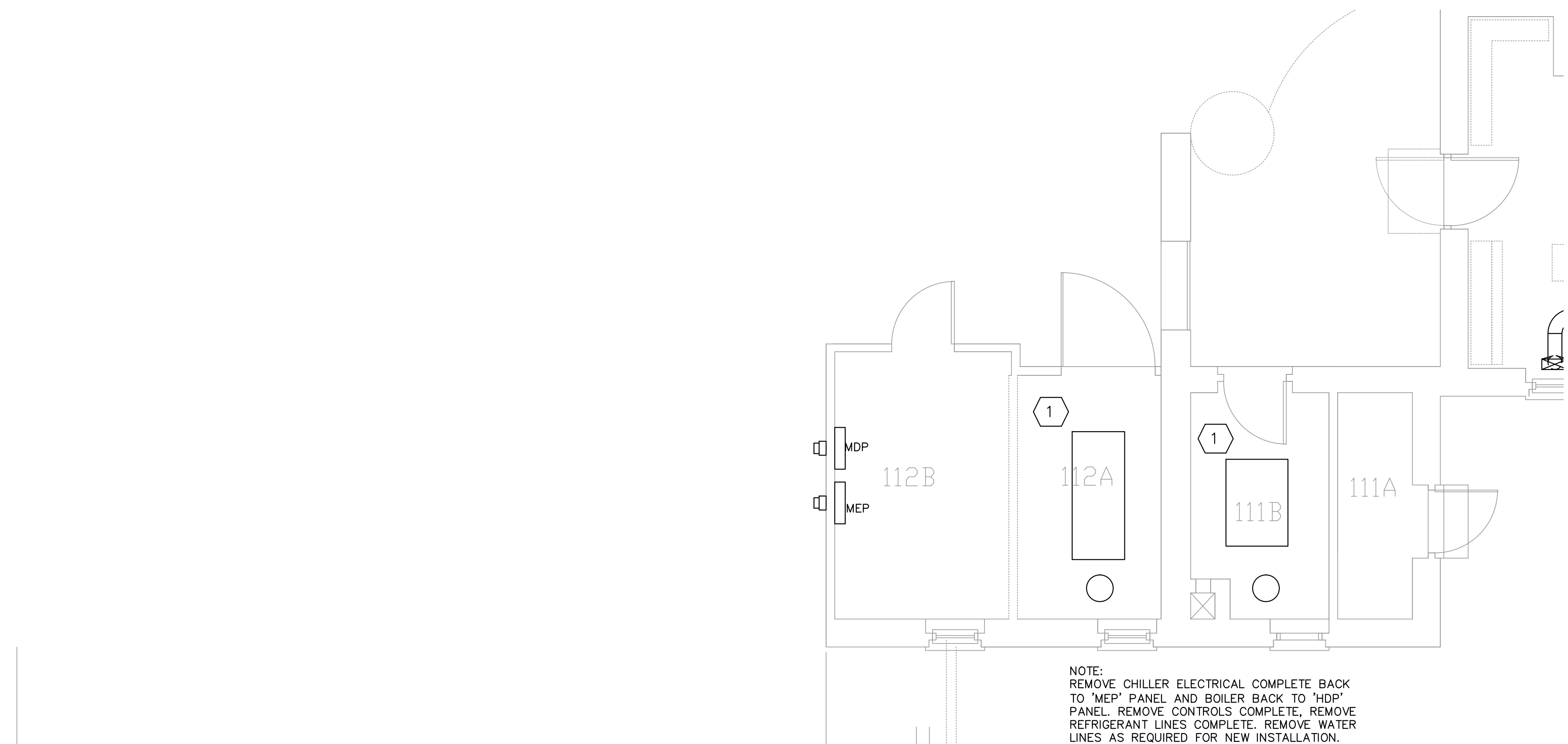
		NATHANIEL RUSSEL HOUSE 51 MEETING STREET CHARLESTON, SOUTH CAROLINA	
WHOLE BLDG. SYSTEMS, LLC No. 024305		WHOLE BUILDING SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingsystems.com	
JOB NO: 12018001 BY: SAM CHECKED BY: MDK		DATE: 5 SEPT 2012 DRAWING: OF	



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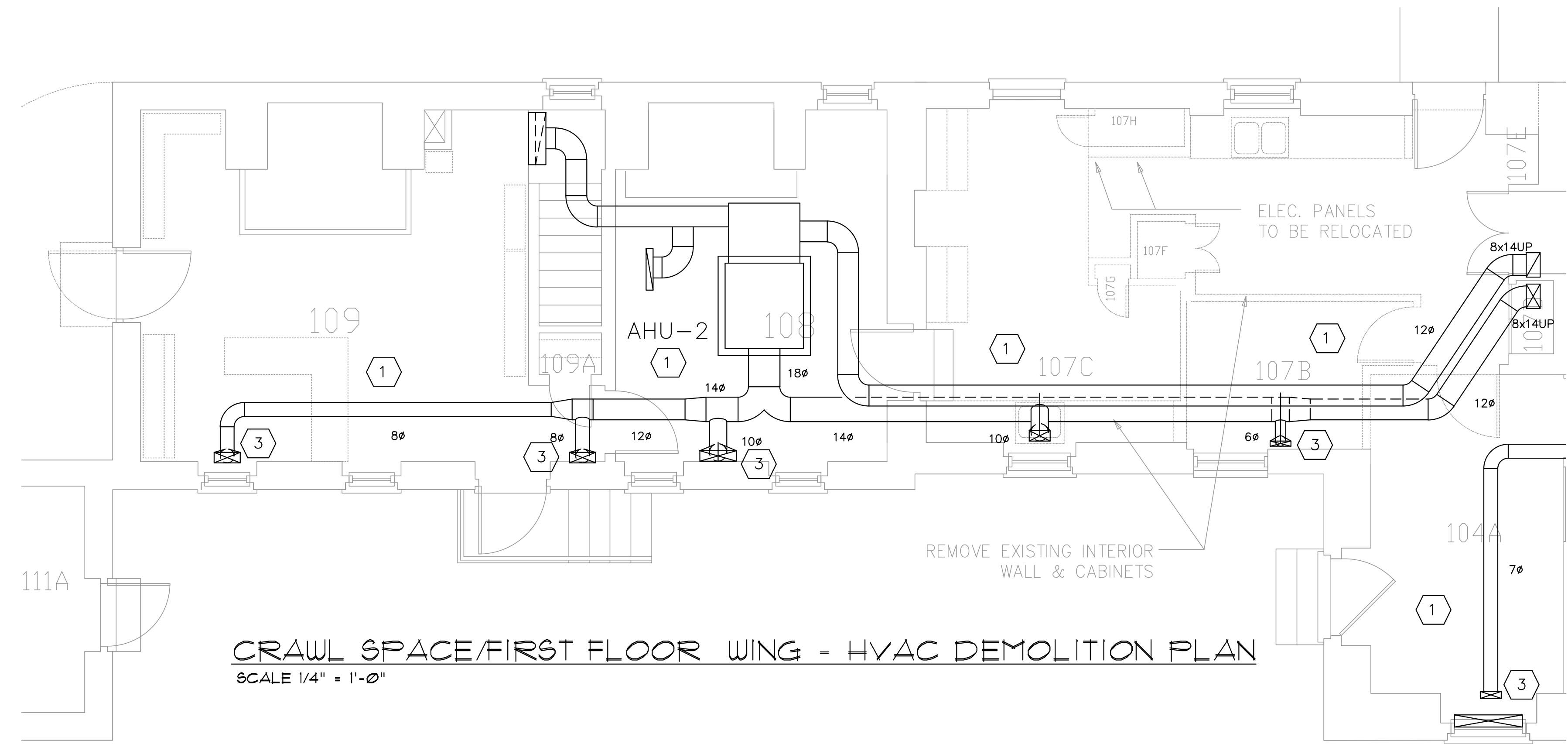
ATTIC MAIN HOUSE - ELECTRICAL PLAN
SCALE 1/4" = 1'-0"

	NATHANIEL RUSSEL HOUSE 51 MEETING STREET CHARLESTON, SOUTH CAROLINA	
	WHOLE BUILDING SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingsystems.com	
JOB NO: 12018001 BY: SAM CHECKED BY: MDK		DATE: 5 SEPT 2012 DRAWING: OF



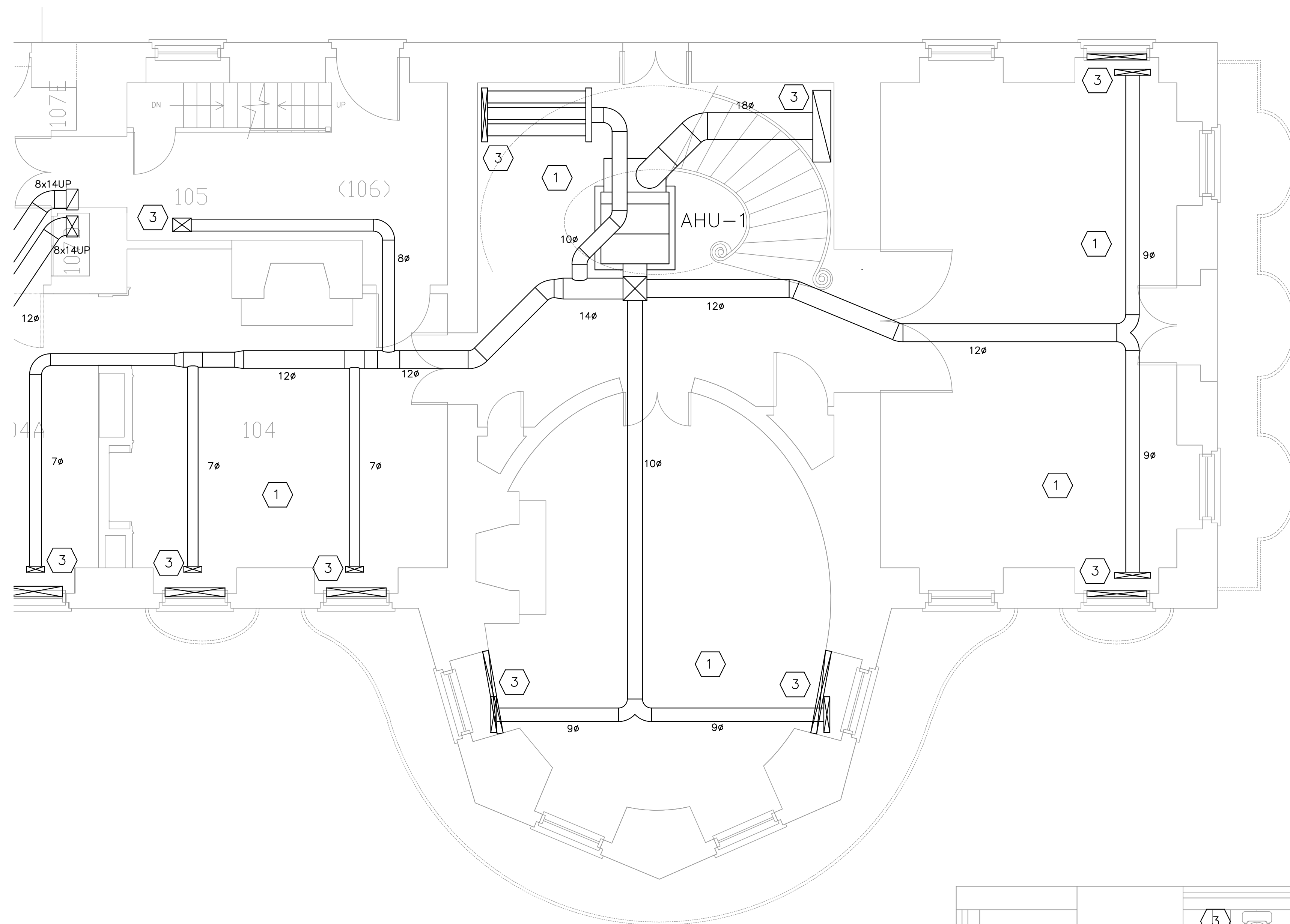
CHILLER DEMOLITION PLAN
SCALE 1/4" = 1'-0"

- MECHANICAL GENERAL NOTES:**
- A. COORDINATE ALL WORK WITH ALL TRADES AND EXISTING CONDITIONS.
 - B. VERIFY ALL DIMENSIONS PRIOR TO DEMOLITION, PURCHASING NEW EQUIPMENT, OR FABRICATING AND INSTALLING ANY NEW WORK.
 - C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR AND UNITS ARE IN INCHES.
- MECHANICAL DEMOLITION KEY NOTES:**
- 1. REMOVE HVAC SYSTEMS COMPLETE INCLUDING, BUT NOT LIMITED TO AIR HANDLING UNITS (AHU's), DUCTWORK, CHILLED WATER PIPING, HOT WATER PIPING, VALVES, CONDENSATE DRAIN PIPING, AUXILIARY DRAIN PANS, CONTROLS, SUPPORTS, ACCESSORIES AND APPURTENANCES.
 - 2. COORDINATE CONTROL SYSTEM DEMOLITION AND SALVAGE WITH CONTROL MANAGEMENT, INC (CMI)
 - 3. REMOVE AIR DISTRIBUTION DEVICE AND SALVAGE FOR REINSTALLATION.
 - 4. REMOVE AIR DISTRIBUTION DEVICE.
- EX 200** EXISTING AIR DISTRIBUTION DEVICE AND CFM.



CRAWL SPACE/FIRST FLOOR WING - HVAC DEMOLITION PLAN
SCALE 1/4" = 1'-0"

	NATHANIEL RUSSEL HOUSE 51 MEETING STREET CHARLESTON, SOUTH CAROLINA	
	WHOLE BUILDING SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingystems.com	
	M1	
	JOB NO: 12018001 DATE: 5 SEPT 2012 BY: SAM CHECKED BY: MDK DRAWING: OF	



CRAWL SPACE MAIN HOUSE - HVAC DEMOLITION PLAN
SCALE 1/4" = 1'-0"

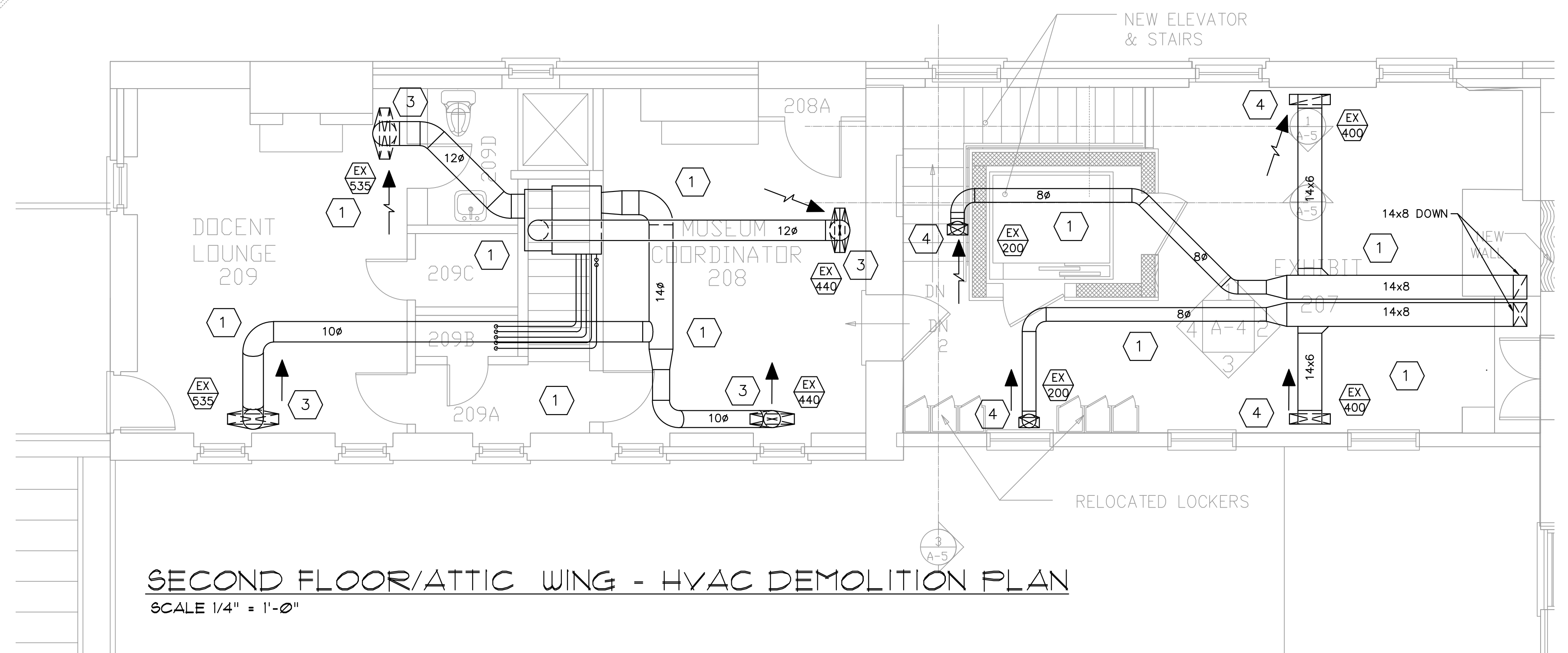
MECHANICAL GENERAL NOTES:

- COORDINATE ALL WORK WITH ALL TRADES AND EXISTING CONDITIONS.
- VERIFY ALL DIMENSIONS PRIOR TO DEMOLITION, PURCHASING NEW EQUIPMENT, OR FABRICATING AND INSTALLING ANY NEW WORK.
- DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR AND UNITS ARE IN INCHES.

MECHANICAL DEMOLITION KEY NOTES: (X)

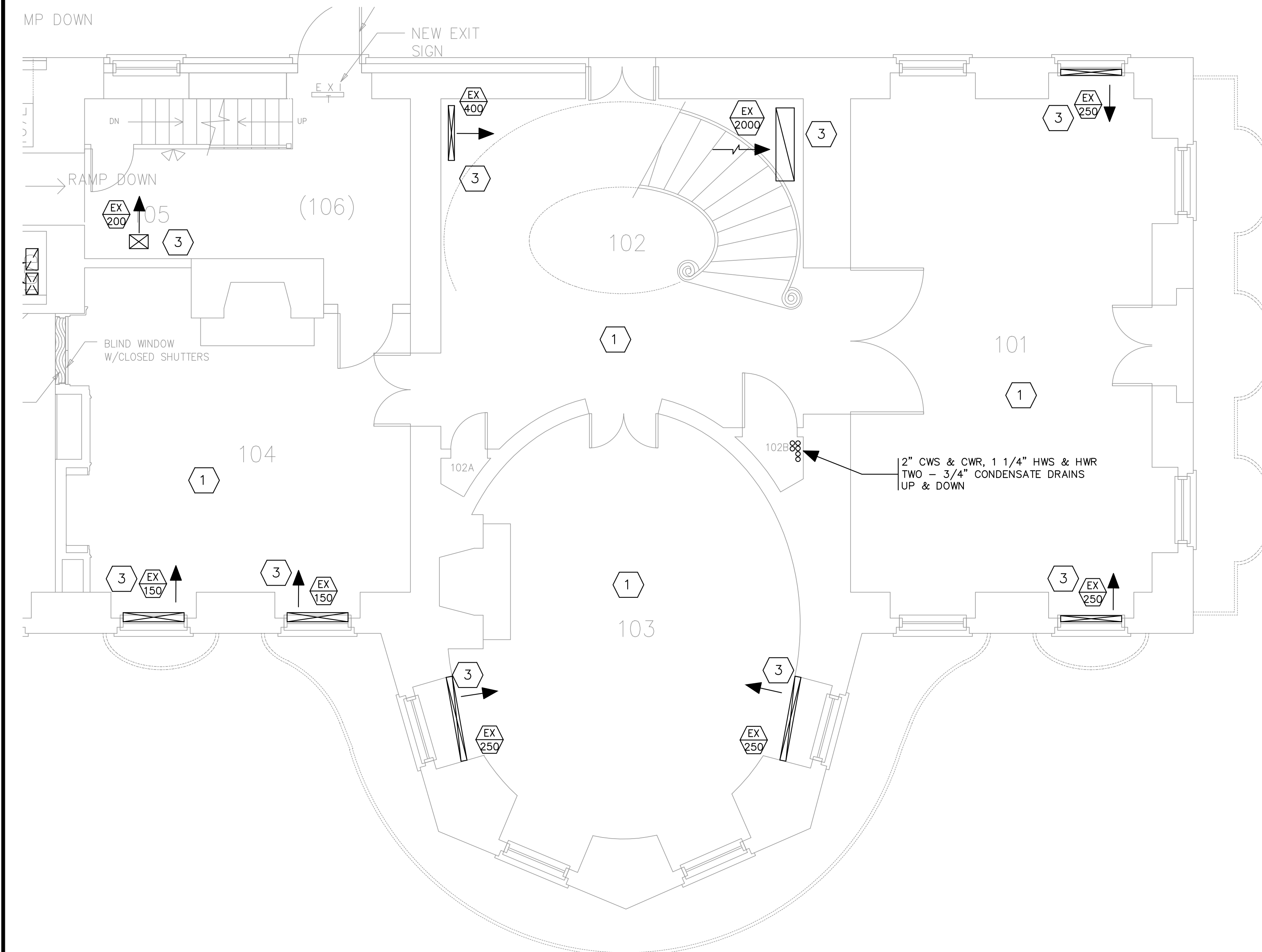
- REMOVE HVAC SYSTEMS COMPLETE INCLUDING, BUT NOT LIMITED TO AIR HANDLING UNITS (AHU's), DUCTWORK, CHILLED WATER PIPING, HOT WATER PIPING, VALVES, CONDENSATE DRAIN PIPING, AUXILIARY DRAIN PANS, CONTROLS, SUPPORTS, ACCESSORIES AND APPURTENANCES.
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- REMOVE AIR DISTRIBUTION DEVICE.

(EX 200) EXISTING AIR DISTRIBUTION DEVICE AND CFM.

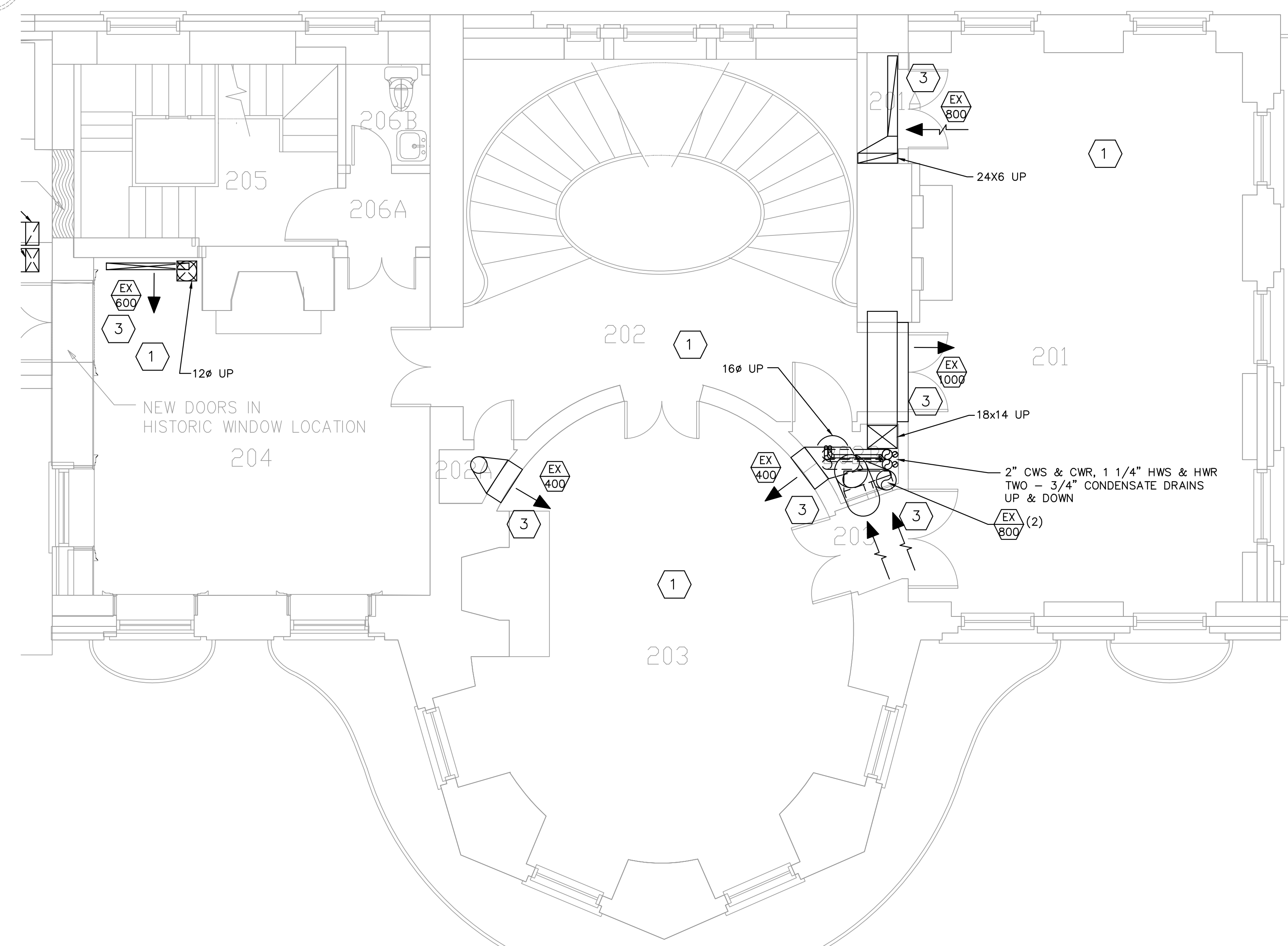


SECOND FLOOR/ATTIC WING - HVAC DEMOLITION PLAN
SCALE 1/4" = 1'-0"

	NATHANIEL RUSSEL HOUSE 51 MEETING STREET CHARLESTON, SOUTH CAROLINA	
	WHOLE BUILDING SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingystems.com	
	JOB NO: 12018001 BY: SAM CHECKED BY: MDK	DATE: 5 SEPT 2012 DRAWING: OF
	M2	



FIRST FLOOR MAIN HOUSE - HVAC DEMOLITION PLAN
SCALE 1/4" = 1'-0"



SECOND FLOOR MAIN HOUSE - HVAC DEMOLITION PLAN
SCALE 1/4" = 1'-0"

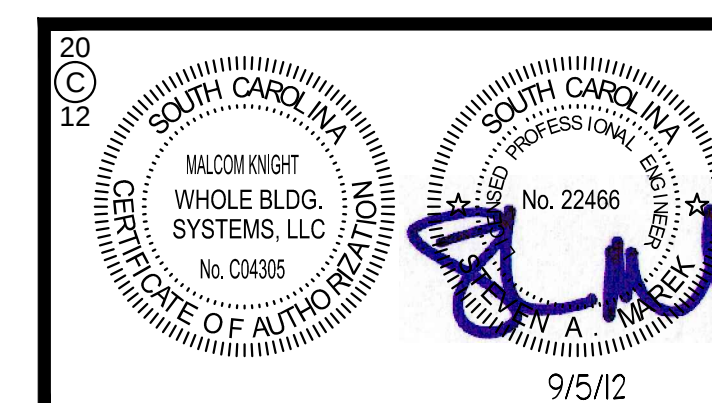
MECHANICAL GENERAL NOTES:

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MECHANICAL DEMOLITION KEY NOTES: (X)

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(EX 200) EXISTING AIR DISTRIBUTION DEVICE AND CFM.



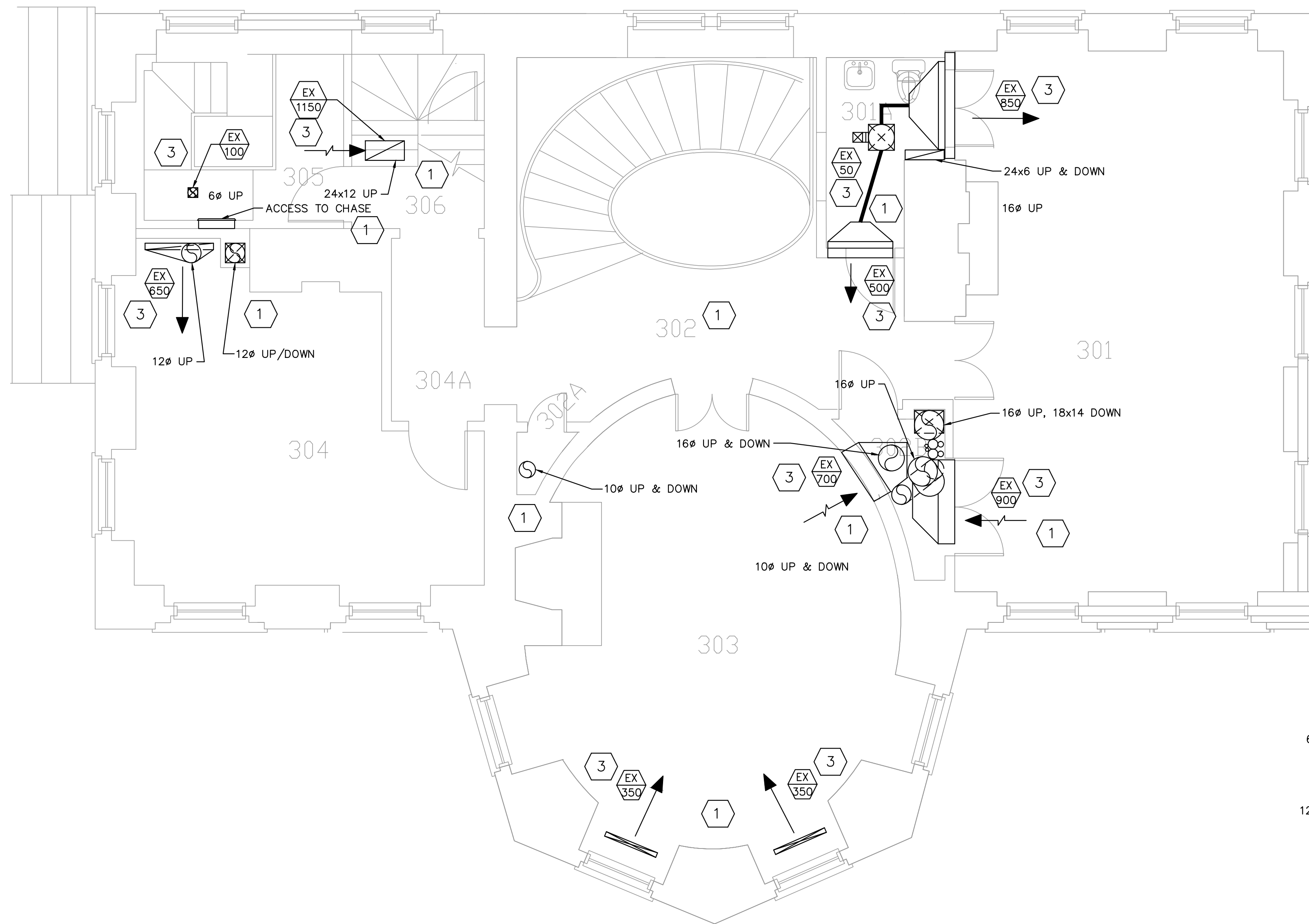
NATHANIEL RUSSEL HOUSE
51 MEETING STREET
CHARLESTON, SOUTH CAROLINA

WHOLE BUILDING SYSTEMS, LLC
78 ALEXANDER STREET, SUITE C
CHARLESTON, SOUTH CAROLINA 29403
PH: (843) 437-3647
wholebuildingsystems.com

JOB NO: 12018001
BY: SAM
CHECKED BY: MDK

DATE: 5 SEPT 2012
DRAWING: OF

M3



THIRD FLOOR MAIN HOUSE - HVAC DEMOLITION PLAN
SCALE 1/4" = 1'-0"

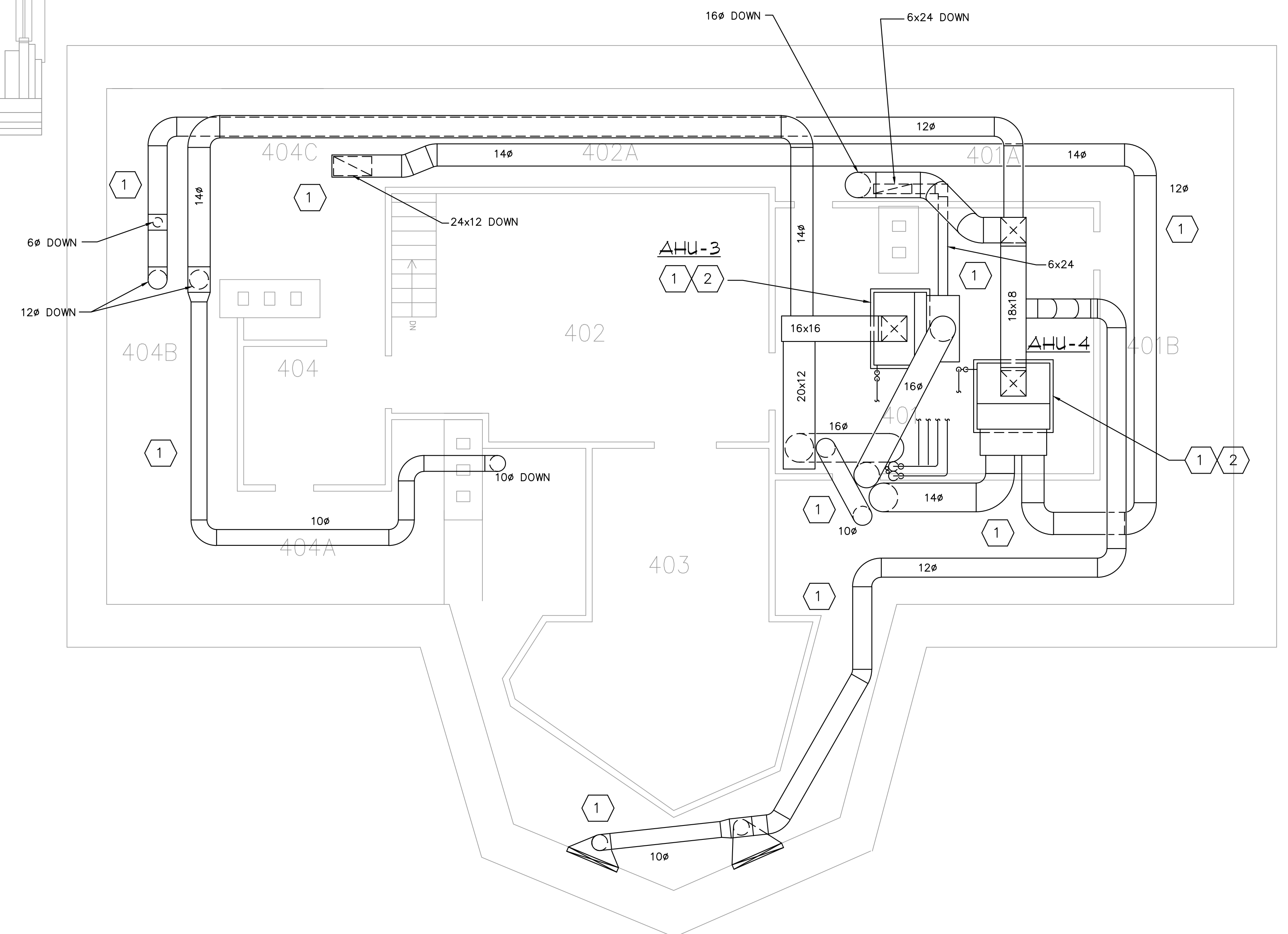
MECHANICAL GENERAL NOTES:

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(EX 200) EXISTING AIR DISTRIBUTION DEVICE AND CFM.



ATTIC MAIN HOUSE - HVAC DEMOLITION PLAN
SCALE 1/4" = 1'-0"

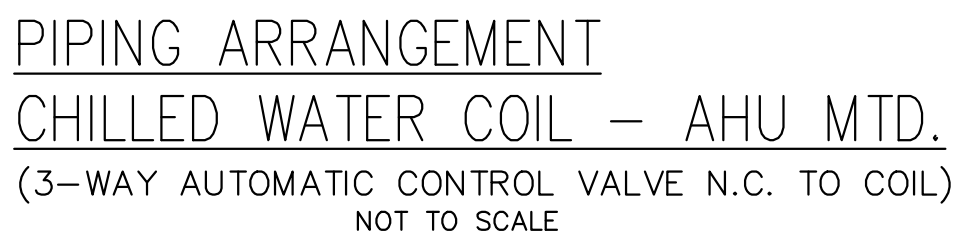
		NATHANIEL RUSSEL HOUSE 51 MEETING STREET CHARLESTON, SOUTH CAROLINA	
WHOLE BUILDING SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingystems.com		M4	
JOB NO: 12018001 BY: SAM CHECKED BY: MDK		DATE: 5 SEPT 2012 DRAWING: OF	

DESIGNATION	AHU-1	AHU-2	AHU-3	AHU-4	AHU-5	AHU-6	AHU-7	AHU-8	
AREA SERVED									
TOTAL CFM	1800	2100	2230	1300	600	575	285	450	
OUTSIDE AIR CFM	195	220	250	0	0	0	0	0	
SUPPLY FAN	VERTICAL DISCHARGE	VERTICAL DISCHARGE	VERTICAL DISCHARGE	HORIZONTAL DISCHARGE	VERTICAL DISCHARGE	HORIZONTAL DISCHARGE	HORIZONTAL DISCHARGE	HORIZONTAL DISCHARGE	
EXTERNAL SP.	0.5"	0.5"	0.5"	0.5"	0.2"	0.2"	0.2"	0.2"	
TOTAL SP.	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	AS REQUIRED	
MINIMUM HP	3.0 *	1.5 *	1.5 *	1.0 *	1.3FLA	1.3FLA	0.69FLA	0.69FLA	
ELECTRICAL	230-3-60	230-3-60	230-3-60	230-3-60	120-1-60	120-1-60	230-1-60	230-1-60	
MCA\MOCP	9.7\15	5.2\15	5.2\15	3.9\15	0.69FLA	1.3FLA	0.69FLA	0.69FLA	
COOLING COIL									
MAX. FACE VELOCITY FPM	525	525	525	525	525	525	525	525	
E.A.D.B.\E.A.W.B. °F	75.9/62.4	75.0/63.0	75.0/63.0	75.0/63.0	75.0/63.0	75.0/63.0	75.0/63.0	75.0/63.0	
L.A.D.B.\L.A.W.B. °F	49.6/49.3	49.5/49.2	50.0/49.6	51.6/50.6	51.3/49.8	51.6/50.2	51.3/49.8	51.3/49.8	
TOTAL - BTUH	65,400	75,380	71,830	35,230	7941	15,388	7941	11,743	
SENSIBLE - BTUH	51,830	60,240	61,820	32,510	7064	14,067	7064	10,832	
GPM @ 42°F EWT	13.1	15.1	14.4	7.6	3.1	3.1	1.6	2.3	
MAX. PD-FT H ₂ O	3.5	5.2	1.3	3.4	8.7	6.3	8.7	3.1	
ROWS	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	
HEATING COIL									
MAX. FACE VELOCITY FPM	525	525	525	525	525	525	525	525	
E.A.D.B. °F	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	
L.A.D.B. °F	95.0	98.7	97.9	88.4	86.6	87.3	86.6	86.6	
GTH - BTUH	60,700	77,270	80,330	33,580	6722	14,053	6722	10,815	
GPM @ 140°F EWT	6.0	7.7	8.0	4.0	1.4	1.4	0.7	1.1	
MAX. PD-FT H ₂ O	0.5	0.2	0.3	0.9	0.3	1.8	0.3	0.9	
ROWS	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	AS REQ'D	
MANUFACTURER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	
MODEL	SEE SPECS	SEE SPECS	SEE SPECS	SEE SPECS	42SGA06	42CG06	42CG04	42CG04	
PRE-EFFICIENCY	30%	30%	30%	30%	30%	30%	30%	30%	
REMARKS	1,2,5,7,8,12	1,2,4,6,8,12	1,2,4,6,8,12	1,2,5,7,9	1,3,5,7,10,11	1,3,5,7,9,11	1,3,5,7,10,11	1,3,5,7,10,11	

1. COOLING COIL ENTERING WATER TEMP 42° - 52° LEAVING.
2. HEATING COIL ENTERING WATER TEMP 140° - 120° LEAVING.
3. COORDINATE COIL WATER CONNECTION LOCATIONS W/ DRAWINGS.
4. SEE SPECIFICATIONS

REMARKS:

1. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE FILTERS. SELECT UNIT WITH FILTER ALLOWANCE INCLUDED IN TOTAL STATIC PRESSURE OF UNIT.
2. PROVIDE VARIABLE FREQUENCY DRIVE ~ 230/1 PHASE MOTORS ARE 3 PHASE
3. PROVIDE THREE-SPEED FAN MOTOR OR VARIABLE SPEED DRIVE
4. PROVIDE MODULATING THREE-WAY CHILLED WATER CONTROL VALVE
5. PROVIDE MODULATING TWO-WAY HOT WATER CONTROL VALVE
6. PROVIDE MODULATING THREE-WAY HOT WATER CONTROL VALVE
7. PROVIDE MODULATING TWO-WAY HOT WATER CONTROL VALVE
8. PROVIDE W/ 4" FILTER RACK
9. PROVIDE W/ 2" FILTER RACK
10. PROVIDE W/ 1" FILTER RACK
11. PROVIDE W/ FACTORY INSTALLED VALVES AND SERVICE SWITCH
12. PROVIDE SMOKE DETECTOR IN RETURN DUCT, TO DEACTIVATE UNIT



SCALE N.T.S.

DESIGNATION	CWP-1	CWP-2	HWP-1	HWP-2
SERVICE	CIRCULATE	CIRCULATE	CIRCULATE	CIRCULATE
TYPE	IN LINE	IN LINE	IN LINE	IN LINE
SIZE	1½x1½x8.5	1½x1½x8.5	1½x1½x7B	1½x1½x7B
GPM	63	63	35	35
TDH FT H ₂ O	70	70	50	50
NPSH	----	----	----	----
TEMPERATURE	65°	65°	65°	65°
CASING WORKING PRESS	175	175	175	175
MIN MOTOR HP	3 *	3 *	1.5 *	1.5 *
VOLTAGE/PHASE	230/3	230/3	230/3	230/3
RPM	1750	1750	1800	1800
POWER TYPE	NORMAL	NORMAL	NORMAL	NORMAL
MANUFACTURER	B&G	B&G	B&G	B&G
NOTES:	1	1	1	1

REMARKS:

1. * INDICATES TEFC ENERGY EFFICIENCY MOTOR
2. REFER TO DETAILS AND SPECIFICATIONS FOR ACCESSORIES.
3. ALL PUMPS TO BE IN HOUSING W/ BOILER, SEE SPECIFICATIONS

NOTES:

1. ALL PUMPS TO BE PROVIDE WITH VFD
- 2.
- 3.

SYMBOL	MFGR.	MODEL	FUEL	INPUT MBH	OUTPUT MBH	NET I-B-R	NOTES
B-1	LOCHINVAR	KBN400	NG	80-399	373	324	1,2,3

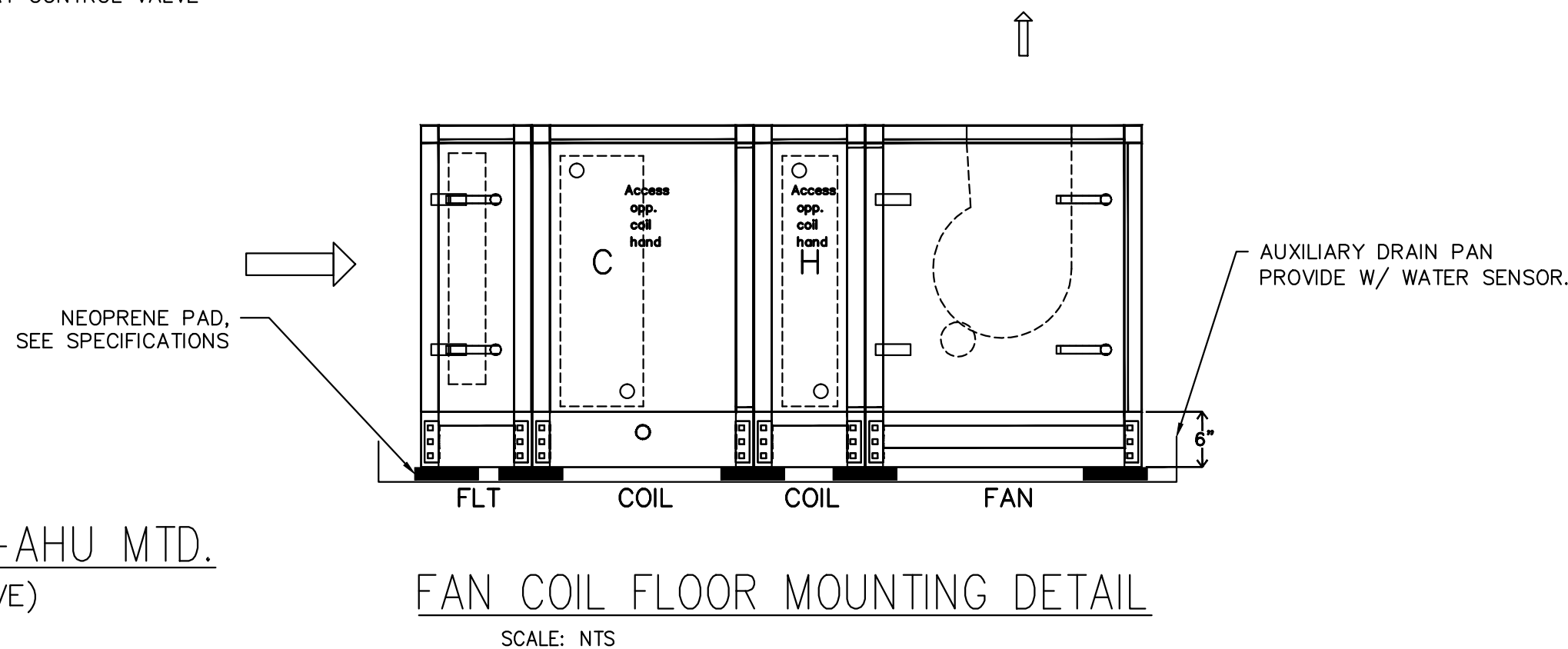
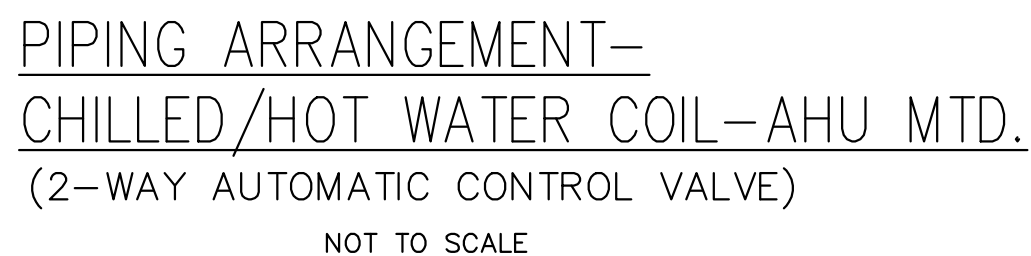
NOTES:

1. PROVIDE AND INSTALL DIRECT VENT
2. SEE SPECIFICATIONS FOR CONTROLS AND ACCESSORIES
3. BOILER TO BE INCLUDED IN HOUSING W/ PUMPS, SEE SPECIFICATIONS

SYMBOL	CFM	UNIT TYPE	MANUFAC	MODEL NO.	SP in. WATER	WATTS	HP	VOLT/ø/MCA	NOTES
EF-1	76	CEILING EXHAUST FAN	GREENHECK	SP-B80	0.15	54	—	120/1/—	1,2

- 1.) INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS, INCLUDE ROOF CURB FLASHED WATER TIGHT, DISCONNECT SWITCH, OVERLOAD PROTECTION AND ALL STANDARD ACCESSORIES FOR A COMPLETE INSTALLATION.
- 2.) MANUFACTURER SHOWN FOR DESIGN PURPOSES ONLY. SIMILAR COOK OR BREIDERT AIR VENTILATOR EQUIPMENT CONSIDERED TO BE EQUAL.
- 3.) PROVIDE VIBRATION ISOLATION KIT, TIME DELAY SWITCH, MOTOR W/ THERMAL OVERLOADS, DESIGNER GRILLE AND A NEMA-1 SWITCH.
- 4.) PROVIDE WITH GRILLE MOUNTED MOTION DETECTOR.
- 5.) PROVIDE WITH 8" WALL CAP W/ BIRD SCREEN.

- 1.) PROVIDE VIBRATION ISOLATION KIT, TIME DELAY SWITCH, MOTOR W/ THERMAL OVERLOADS, DESIGNER GRILLE AND A NEMA-1 SWITCH.
- 2.) PROVIDE WITH GRILLE MOUNTED MOTION DETECTOR.
- 3.) PROVIDE WITH 8" WALL CAP W/ BIRD SCREEN.



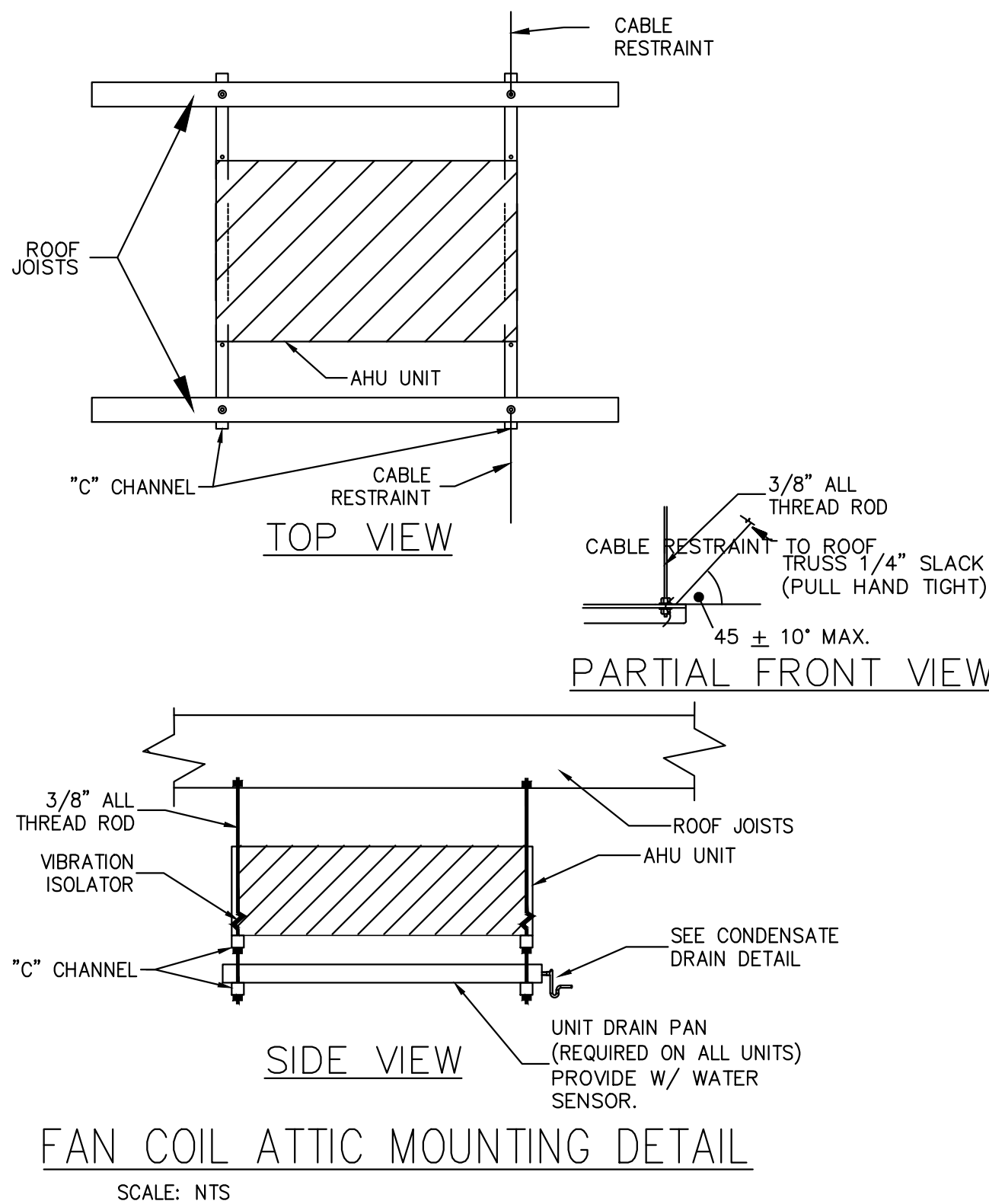
DESIGNATION	CH-1	
CAPACITY-TONS	26.5	
CONDENSER TEMP	95°F	
LOW AMBIENT TEMP	35°F	
COOLER		
GPM	63.4	
EWI °F	52'	
LWT °F	42'	
NO. OF CIRCUITS	2	
FOULING FACTOR	0.00010	
MAX PD (FT)	19.2	

NO. OF COMPRESSORS	1
STAGES	1
UNIT ELECTRICAL	208-230/3
MCA	137.6
MAX FUSE	175
WIRE SIZE AMPS	200
PART WINDING STARTER	YES
POWER	NORMAL
MANUFACTURER	CARRIER
MODEL	30RAP030
REMARKS: REFER TO SPECIFICATIONS	

SYMBOL	TYPE	CFM (NOMINAL)	THROW	SIZE	MFG.	MODEL #	REMARKS
A	SUPPLY	150-250	1-WAY	17"x5"	KRUEGER	1850-175-N-15-N-00-00-00-0-44	1,2
B	SUPPLY	25-100	1-WAY	6"x6"	KRUEGER	5800-H-6X6-F22-NONE-01-00-044	1
C	RETURN	—	1-WAY	10"x10"	KRUEGER	S580-H-10X10-F22-NONE-03-00-04-44	3
D	SUPPLY	275-400	2-WAY	12"x6"	KRUEGER	S580-H-12X6-F22-NONE-01-00-00-044	1
E	RETURN	—	1-WAY	20"x20"	KRUEGER	S580-H-20X20-F22-NONE-03-00-04-44	3
EX	RETURN/SUPPLY						4

- 1) COORDINATE REGISTER AND GRILLE FINISHES WITH OWNER.
- 2) CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS WITH OWNER.

- 1) PROVIDE INSULATED BOOT TAKE OFF.
- 2) COORDINATE FRAME TYPE W/ FLOOR FINISH
- 3) PROVIDE W/ HINGED FILTER DOOR
- 4) EXISTING GRILLE, REMOVE, CLEAN AND PAINT, COORDINATE COLORS W/ ARCHITECT



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BY: SAM
CHECKED BY: MDK

DATE: 5 SEPT 2012
DRAWING: OF

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NRH Building Automation System (BAS) and HVAC System Sequence of Operation
System General Setup

The HVAC system controls shall be enabled 24 hours per day, 7 days per week, and 365 days per year.

Occupied Hours: Monday through Saturday: 9:30 AM till 5:30 PM; Sunday: 1:30 PM till 5:30 PM

Unoccupied Hours: All hours except occupied hours; in addition, all day Thanksgiving Day, Christmas Eve and Christmas Day annually.

All setpoints, schedules and override times shall be adjustable.

All space temperature and humidity sensors shall have an override pushbutton located on the device. When the system served by the sensor is operating in the unoccupied mode the pushbutton shall be programmed in the BAS to provide a 2 hour override to place the Chilled Water and Heating Water systems and the Air Handling Unit or Fan Coil Unit controlled by the sensor into the occupied mode.

Occupied Hours Space Temperature and Humidity Setpoints:

Cooling: 74 Degrees F Dry Bulb, 55% Relative Humidity

Heating: 68 Degrees F Dry Bulb

Unoccupied Hours Space Temperature and Humidity Setpoints:

Cooling: 78 Degrees F Dry Bulb, 60% Relative Humidity

Heating: 65 Degrees F Dry Bulb

Chilled Water System:

On a call for cooling or dehumidification from any AHU or FCU the lead chilled water pump shall soft start. Pumps shall switch from lead to lag on a weekly schedule.

The lead chilled water pump shall vary chilled water flow based on the chilled water piping system differential pressure sensor setpoint.

If a failure in the lead chilled water pump is sensed, the lag chilled water pump shall soft start and an alarm shall be sent to the BAS and emails and text messages indicating the alarm condition shall be sent to the Owner's designated representatives. The BAS shall re-broadcast the alarm emails and text messages every 30 minutes until the system is logged into and the alarm acknowledged.

Once minimum flow is established through the chiller, the chiller shall start and the chiller manufacturer's factory installed digital controls shall maintain a chilled water supply temperature of 45 Degrees F.

Chilled water temperature reset: On a call for dehumidification from any space humidity sensor the chilled water supply temperature shall be reset to 42 Degrees F setpoint.

The chilled water pump shall continue to operate a minimum of 15 minutes after all AHU and FCU calls for cooling or dehumidification have been satisfied.

On a drop in outdoor air temperature to 40 degrees F the lead chilled water pump shall soft start and operate at minimum speed.

Heating Water System:

AHU Numbers 3 & 4 have three-way modulating chilled water and heating water control valves to maintain minimum flows though the chiller and boiler. All other AHU's have two-way modulating chilled water and heating water control valves.

On a call for heating from any AHU or FCU the lead heating water pump shall soft start. Pumps shall switch from lead to lag on a weekly schedule.

The lead heating water pump shall vary heating water flow based on the heating water piping system differential pressure sensor setpoint.

If a failure in the lead heating water pump is sensed, the lag heating water pump shall soft start and an alarm shall be sent to the BAS and emails and text messages indicating the alarm condition shall be sent to the Owner's designated representatives. The BAS shall re-broadcast the alarm emails and text messages every 30 minutes until the system is logged into and the alarm acknowledged.

Once minimum flow is established through the condensing boiler, the boiler shall start and the boiler manufacturer's factory installed digital controls shall maintain the heating water supply temperature setpoint.

Heating water temperature reset: Whenever outside air dry bulb temperature is below 45 Degrees F the heating water supply temperature setpoint shall be 140 Degrees F. Whenever outside air dry bulb temperature is above 60 Degrees F the heating water supply temperature shall be 120 Degrees F. Between outside air dry bulb temperatures of 45 Degrees F and 60 Degrees F the heating water temperature shall be reset following a linear reset schedule.

The heating water pump shall continue to operate a minimum of 15 minutes after all AHU and FCU calls for heating or reheat have been satisfied.

On a drop in outdoor air temperature to 40 degrees F the lead heating water pump shall soft start and operate at minimum speed.

Air Handling Units (AHU's)

Each AHU shall be controlled by a space temperature and humidity sensor with override pushbutton.

Setpoints during occupied and unoccupied hours shall be as indicated above.

Heating water coils shall be located in the reheat position.

Accumulation of condensate in a condensate in any auxiliary drain pan shall generate an alarm at the BAS. Emails and text messages shall be sent as indicated for failure of chilled water or heating water systems.

Cooling

On a call for cooling the AHU fan motor shall soft start and the fan motor VFD shall go to its minimum motor speed setpoint (30% of maximum design airflow).

The chilled water control valve shall modulate to maintain space cooling temperature setpoint.

Once the chilled water valve is fully open, if the space temperature setpoint is not satisfied (continued rise), the VFD shall modulate the fan motor to increase the fan speed from its minimum airflow up to its maximum design cooling airflow. On a fall in space temperature the reverse sequence shall occur.

Heating

On a call for heating the AHU fan motor shall soft start and the fan motor VFD shall go to its minimum motor speed setpoint (30% of maximum design airflow).

The heating water control valve shall modulate to maintain space heating temperature setpoint. Once the heating water valve is fully open, if the space temperature setpoint is not satisfied, the VFD shall modulate the fan motor to increase the fan speed from its minimum airflow up to its maximum design cooling airflow. On a rise in space temperature the reverse sequence shall occur.

Dehumidification

On a call for space dehumidification (rise in space humidity above setpoint) the AHU fan motor shall soft start (if not running already) and the fan motor VFD shall go to its minimum motor speed setpoint (30% of maximum design airflow). The chilled water control valve shall go to full open. Once the chilled water valve is fully open, if the space temperature drops below 72 Degrees F setpoint and space humidity is not satisfied, the heating water control valve shall modulate to maintain a minimum space temperature of 72 Degrees F in the dehumidification mode of operation. On a fall in space humidity the reverse sequence shall occur.

Fan Coil Units (FCU's)

All FCU's have two-way modulating chilled water and heating water control valves.

Heating water coils shall be located in the reheat position.

Fan coil units shall have the same sequence as for the AHU's except fan speed shall be controlled by a three-speed fan switch and shall switch from low, medium and high speed in lieu of the fan motor VFD on the AHU's.

Trends and Reports

Setup trends on the following points at a recording interval of every 15 minutes:

Chilled water supply and return temperatures

Chiller starts and stops

Chiller compressor run time

Chilled water pump run time

Heating water flow

Boiler run time

Heating water pump run time

AHU and FCU fan speed (% or low, medium or high)

Space temperature and humidity at each AHU and FCU space sensor

Outside air temperature and humidity

Cubic feet of natural gas consumed for current day, previous day, previous month and year to date

Maximum kW, date and time of day for the current day, previous day, previous month and year to date

Peak natural gas consumption rate, date and time of day in cubic feet for current day, previous day,

previous month and year to date

Chilled water flow

Chiller compressor starts and stops

Chilled water pump starts and stops

Heating water supply and return temperatures

Boiler starts and stops

Heating water pump starts and stops

AHU and FCU starts and stops

kWh energy consumption for the current day, previous day, previous month and year to date

Chilled water and hot water valve position (% open)

SEQUENCE OF OPERATION AND POINTS LIST
SCALE N.T.S.

System graphical user interface shall be capable of displaying trend data in both alphanumeric format and in time dependent graphical charts.

Store a minimum of one year of continuous trend data either on the system server or as exported files. Trends shall be capable

of being exported into a delimited file format with headers that indicate the point being trended, time and date of data collection

and the trended data in common units for use in Microsoft Excel and Microsoft Word and other common third party analysis and reporting software.

I/O POINTS LIST

PAGE 1 OF 1

PROJECT: Nathaniel Russell House														LOCATION: Charleston, SC														
System:																												
	OUTPUT										INPUT								FUNCTION									
	DIGITAL				ANALOG						DIGITAL				ANALOG													
	Relay	Contact	Speed	Pulse Width Mod.	Voltage	Current 4-20mA	Contact Closure	Confirmation	Fault	Flow	Pressure	Temperature	Relative Humidity	Setpoint Adjustment	Time-Of-Day Schedule	Optimum Start Stop	Alarm C-Critical N-Noncritical	Reset	Other									
POINT DESCRIPTION																												
AHUs and FCU's (typical)																												
Supply Fan Start Stop and status	X						X								X			O										
Supply Fan VFD (AHU's only)	X				X				X						X			O										
Hot Water Valve					X																							
Chilled Water Valve					X																							
Room Temperature and Setpoint												X		X					O									
Room Humidity													X						O									
Supply Air Temperature												X																
Chilled Water Coil Temperature												X		X														
Chilled Water System																												
Chiller Start/Stop	X																		O									
Chiller Fault							X		X										O									
Chiller % Load					X																							
CHW Pumps VFD's	X				X				X										O									
Chilled Water Sup/Ret Temps & Setpoint										X		X		X					O									
Chilled Water Flow																												
Chilled w ater system diferential pressure					X						X			X														
Heating Water System																												
Boiler Start/Stop	X																		O									
Boiler Alarm							X												O									
HW Pumps VFD's	X				X				X										O									
Heating Water Sup/Ret Temps & Setpoint												X		X					O									
Heating Water Flow										X																		
Heating w ater system differential pressure					X						X			X														
Misc																												
OA Temperature												X																
OA Humidity													X															
Power Demand, kW & kWh (Qty 2)					X																							
Gas Consumption (Cubic Feet)					X																							

20

12

SOUTH CAROLINA

WALCON KNIGHT

WHOLE BLDG. SYSTEMS, LLC

No. 004305

CERTIFICATE OF AUTORIZATION

SOUTH CAROLINA

No. 22466

9/5/12

NATHANIEL RUSSEL

51 MEETING STREET

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WHOLE BUILDING SYSTEMS, LLC

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JOB NO: 12018001

BY: SAM

CHECKED BY: MDK

DATE: 5 S

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SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
MALCOLM KNIGHT
WHOLE BLDG.
SYSTEMS, LLC
No. C24325

DATE OF AUTHORIZATION

20
C
12

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 22466

DATE OF AUTHORIZATION

9/5/12

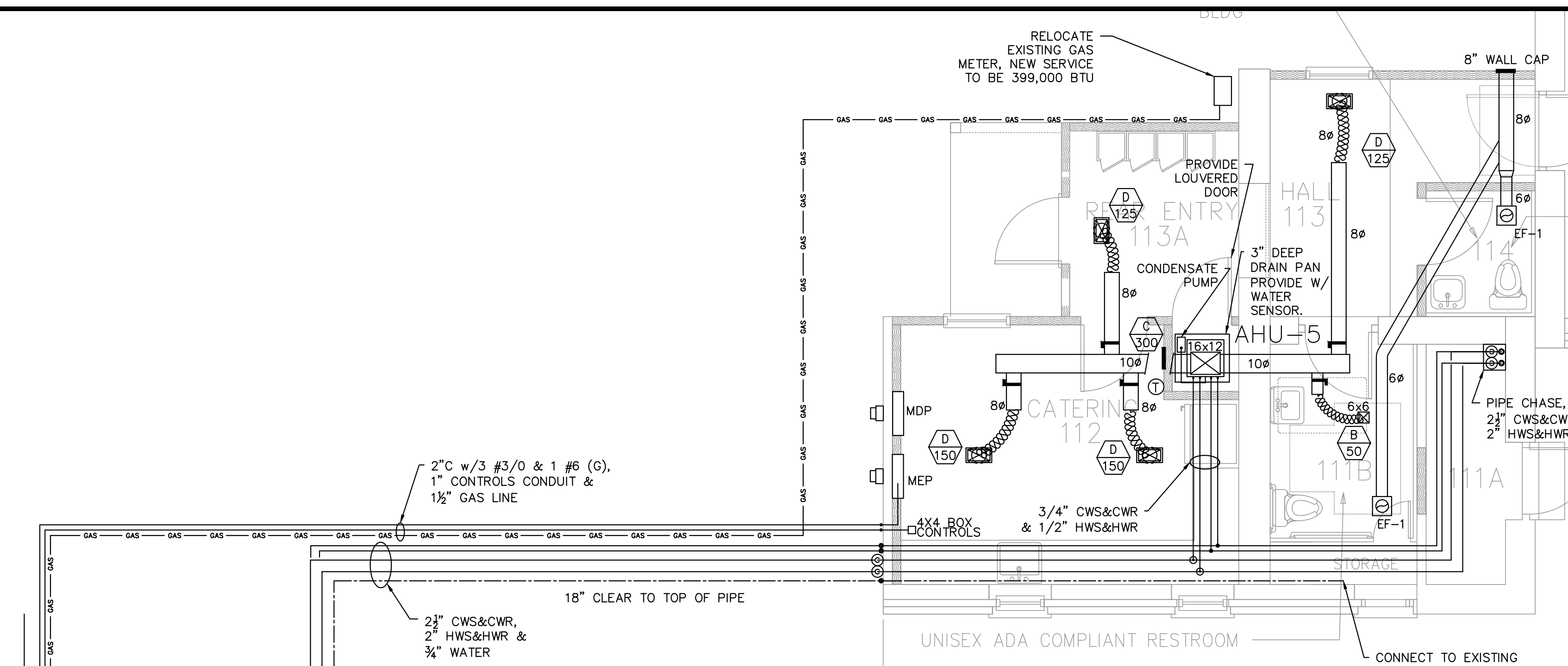
NATHANIEL RUSSEL HOUSE
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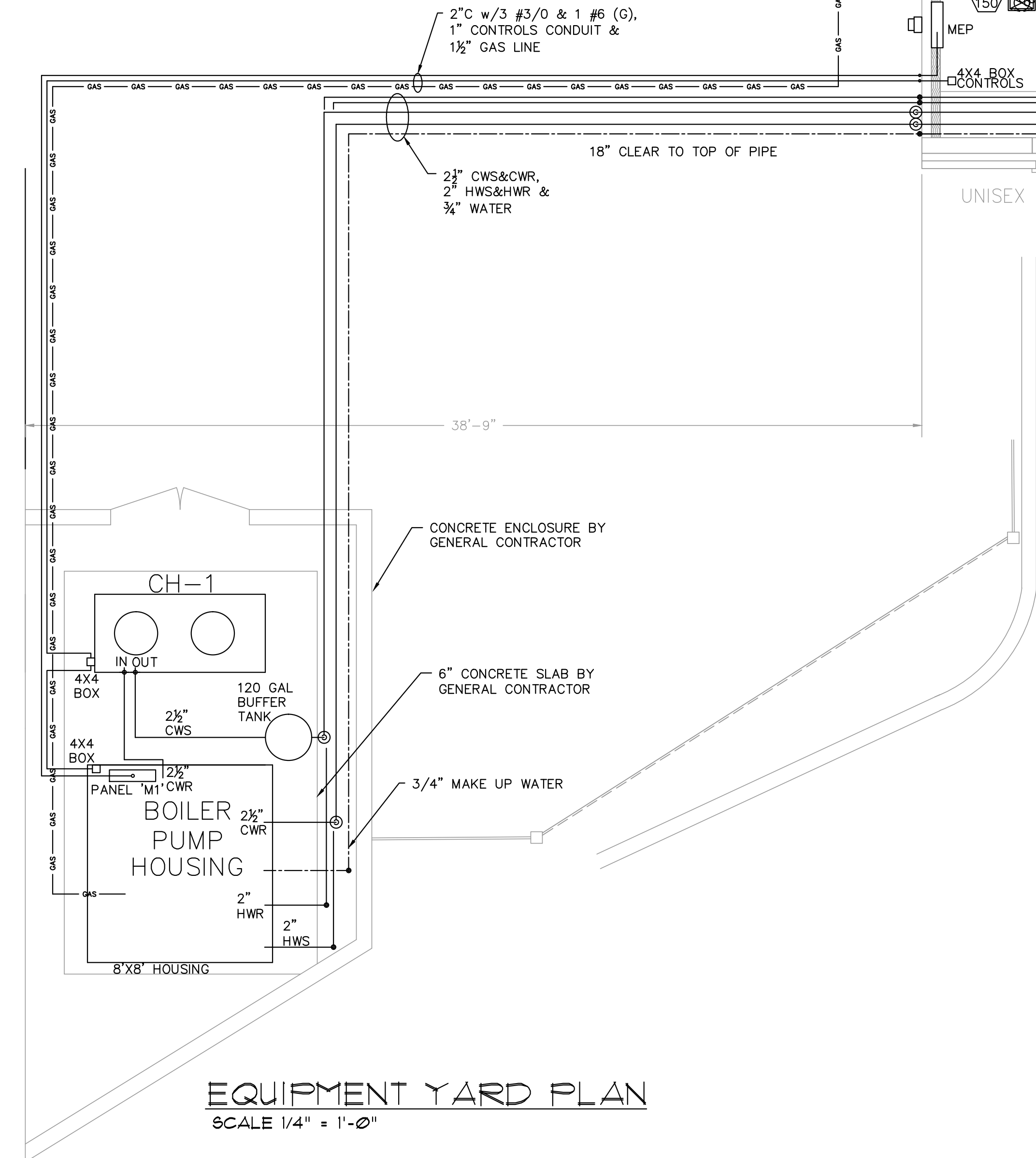
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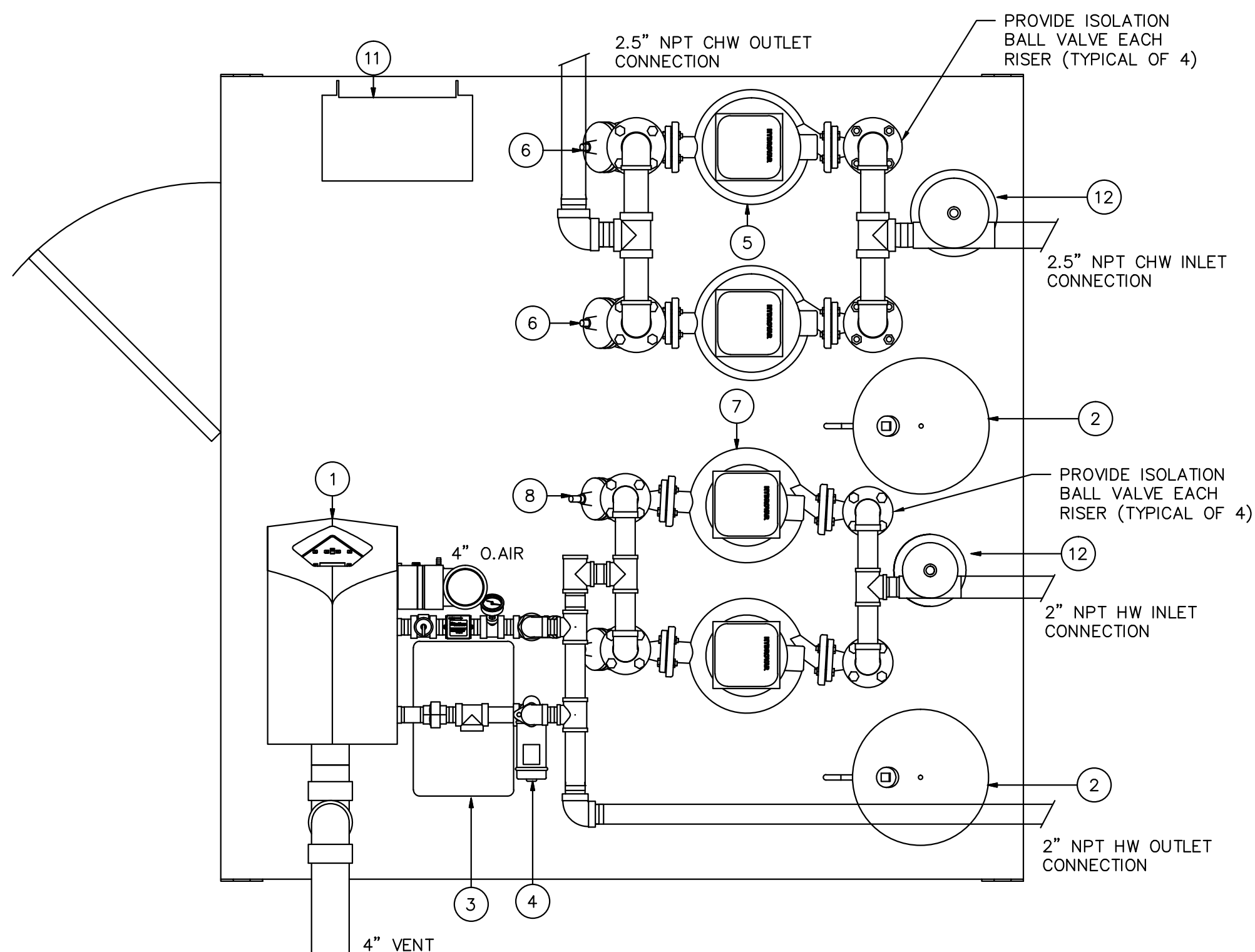
M11



CATERING HYAC PLAN
SCALE 1/4" = 1'-0"



EQUIPMENT YARD PLAN
SCALE 1/4" = 1'-0"



BOILER/PUMP HOUSING DETAIL - HYAC PLAN
SCALE 1/8" = 1'-0"

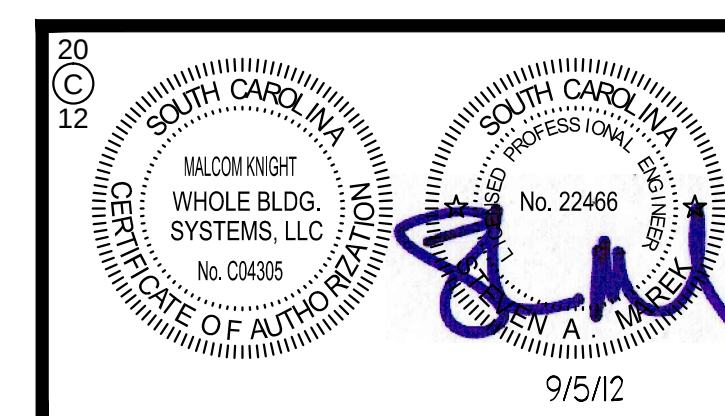
MECHANICAL LEGEND

- DIFFUSER/GRILLE SPECIFICATION
"A"=DIFFUSER TYPE
=CFM
(SEE SCHEDULE)
- ① SENSOR/TEMPERATURE/HUMIDITY
MOUNT AT 54" AFF OR IN RETURN DUC
- └─┘ MANUAL VOLUME DAMPER
IN ADDITION TO EACH GRILLE
- ☒ SUPPLY GRILLE
- ☒ RETURN GRILLE
- ⊞ EXHAUST FAN
- EF-1
- OA OUTSIDE AIR
- AHU AIR HANDLING UNIT
- GAS — GAS LINE
- COLD WATER LINE

MECHANICAL NOTES:

- 1) ALL WORK SHALL BE PER LOCAL AND NATIONAL CODES. INCLUDE COST OF PERMITS AND INSPECTIONS IN QUOTE.
- 2) INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
- 3) DUCT WORK DIMENSIONS ARE INSIDE CLEAR, UNITS ARE INCHES
- 4) SEE SPECIFICATIONS.
- 5) COORDINATE ALL WORK WITH ALL TRADES AND EXISTING CONDI
- 6) VERIFY ALL DIMENSIONS PRIOR TO DEMOLITION, PURCHASING NI EQUIPMENT, OR FABRICATING AND INSTALLING ANY NEW WORK.

PARTS LIST		
ITEM	QTY	DESCRIPTION
1	1	LOCHINVAR MODEL KBN400 KNIGHT BOILER
2	2	B&G D40V VERTICAL EXPANSION TANK
3	1	CONDENSATE NEUTRALIZATION KIT
4	1	PL-55 1 1/2IN CAST IRON PUMP
5	2	SERIES 80 1.5x1.5x9.5 184 FRAME 5HP
6	2	2.5" CHECK VALVE
7	2	SERIES 80 1.5x1.5x9.5 143 FRAME 1HP
8	2	2" CHECK VALVE
9	2	Goulds HYDROVAR PUMP MOUNTED VARIABLE SPEED CONTROLLER, 3 HP, 230/1/60
10	2	Goulds HYDROVAR PUMP MOUNTED VARIABLE SPEED CONTROLLER, 2 HP, 230/1/60
11	1	240/120V, 3PH, 4W 225 AMP PANEL
12	2	AIR SEPARATOR



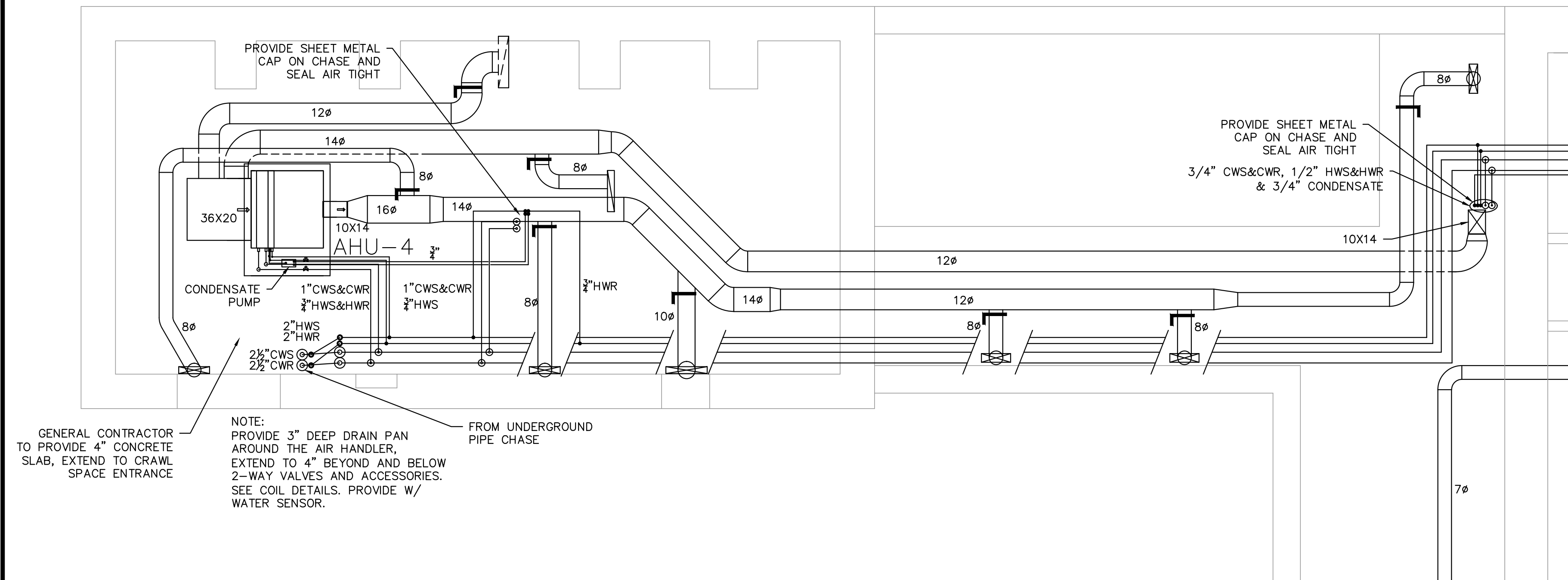
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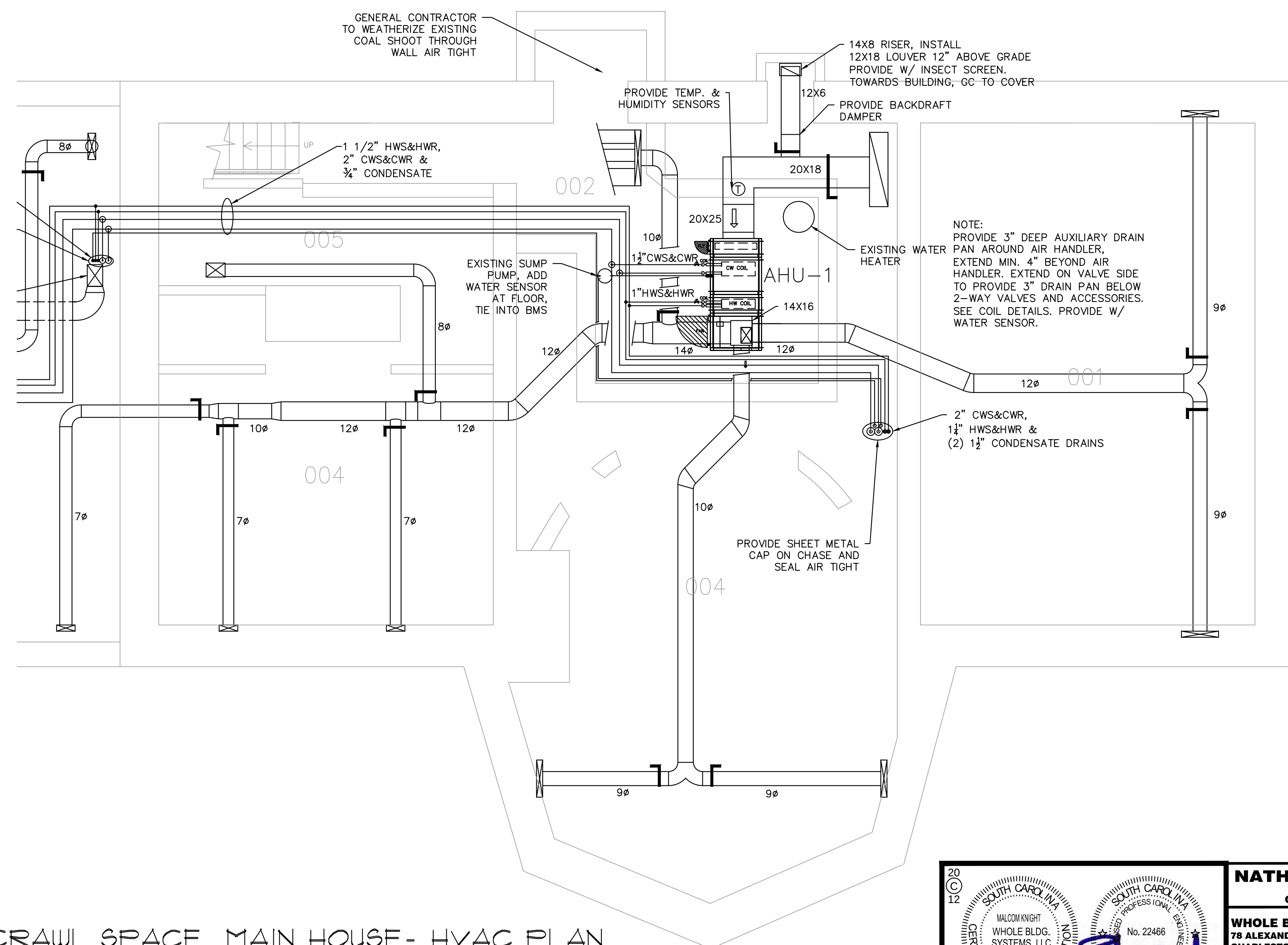
CRAWL SPACE WING - HVAC PLAN
SCALE 1/4" = 1'-0"

MECHANICAL LEGEND

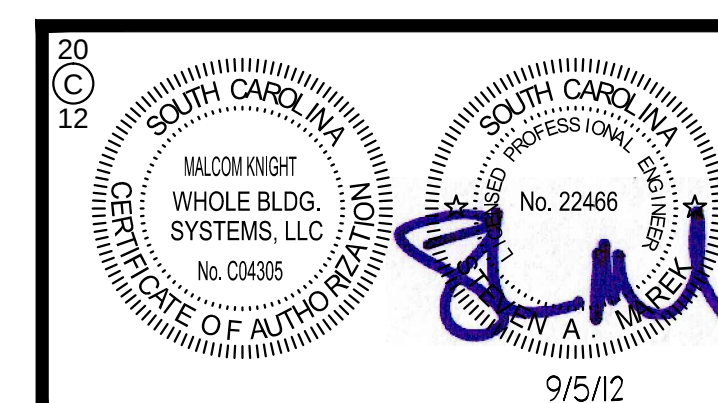
	DIFFUSER/GRILLE SPECIFICATION
"A" =	DIFFUSER TYPE
"#" =	CFM (SEE SCHEDULE)
	SENSOR/TEMPERATURE/HUMIDITY MOUNT AT 54" AFF OR IN RETURN DUCT
	MANUAL VOLUME DAMPER IN ADDITION TO EACH GRILLE
	SUPPLY GRILLE
	RETURN GRILLE
	EXHAUST FAN
OA	OUTSIDE AIR
AHU	AIR HANDLING UNIT
— GAS —	GAS LINE
— COLD WATER LINE —	COLD WATER LINE

MECHANICAL NOTES:

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- COORDINATE ALL WORK WITH ALL TRADES AND EXISTING CONDITIONS
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CRAWL SPACE MAIN HOUSE- HVAC PLAN
SCALE 1/4" = 1'-0"

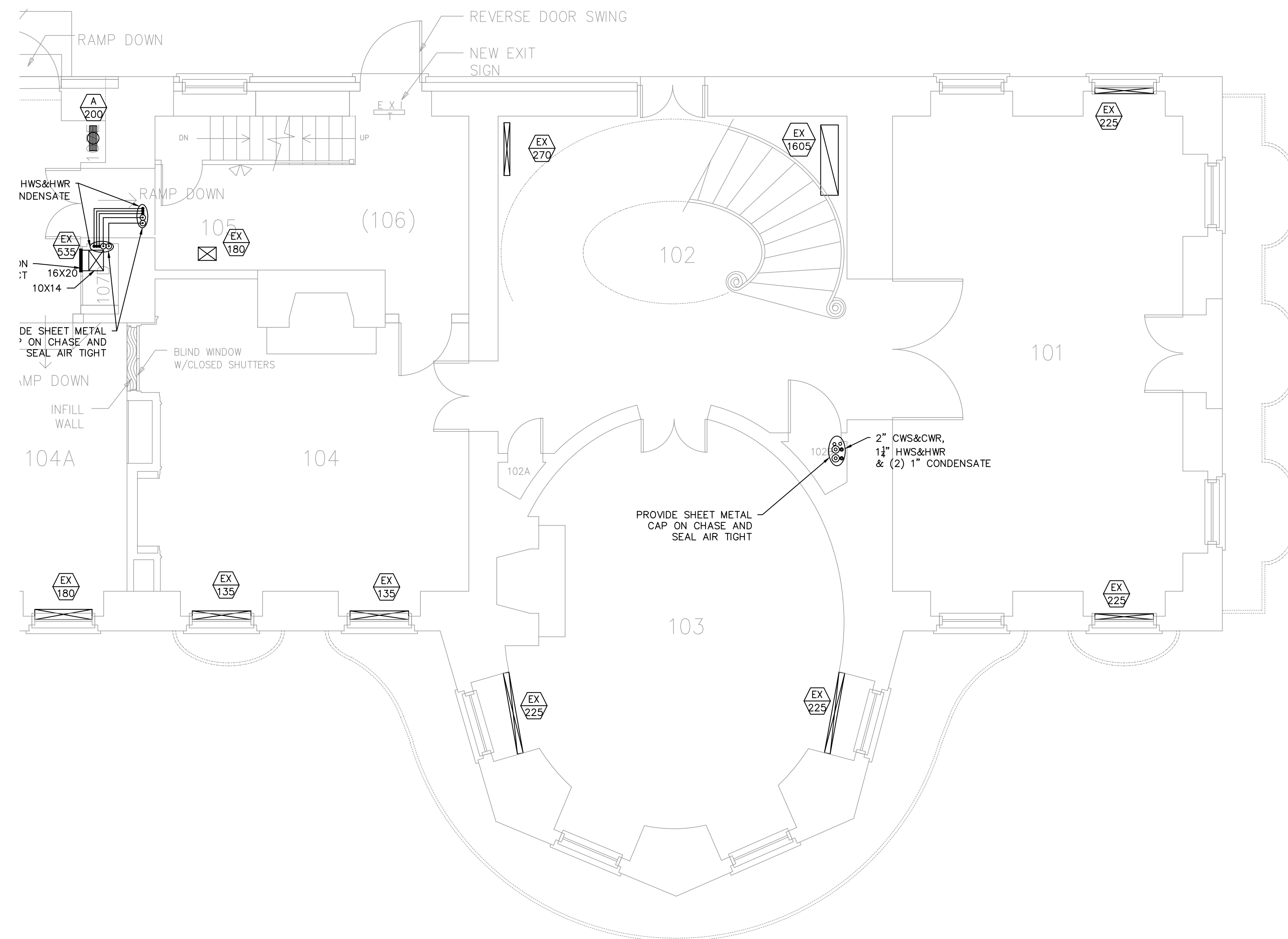


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FIRST FLOOR MAIN HOUSE- HVAC PLAN
SCALE 1/4" = 1'-0"

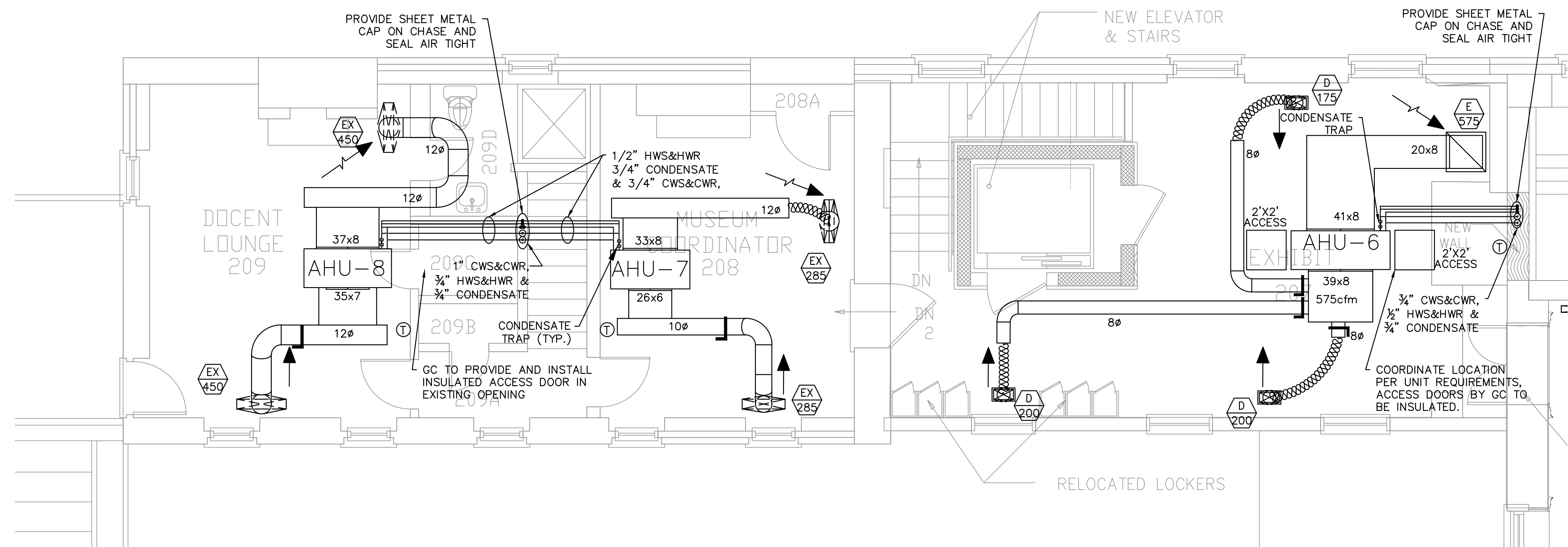
MECHANICAL LEGEND

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	MANUAL VOLUME DAMPER IN ADDITION TO EACH GRILLE
	SUPPLY GRILLE
	RETURN GRILLE
	EXHAUST FAN
	EF-1 OUTSIDE AIR
	AHU AIR HANDLING UNIT
	GAS LINE
	COLD WATER LINE

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		WHOLE BUILDING SYSTEMS, LLC 78 ALEXANDER STREET, SUITE C CHARLESTON, SOUTH CAROLINA 29403 PH: (843) 437-3647 wholebuildingsystems.com	
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MECHANICAL LEGEND

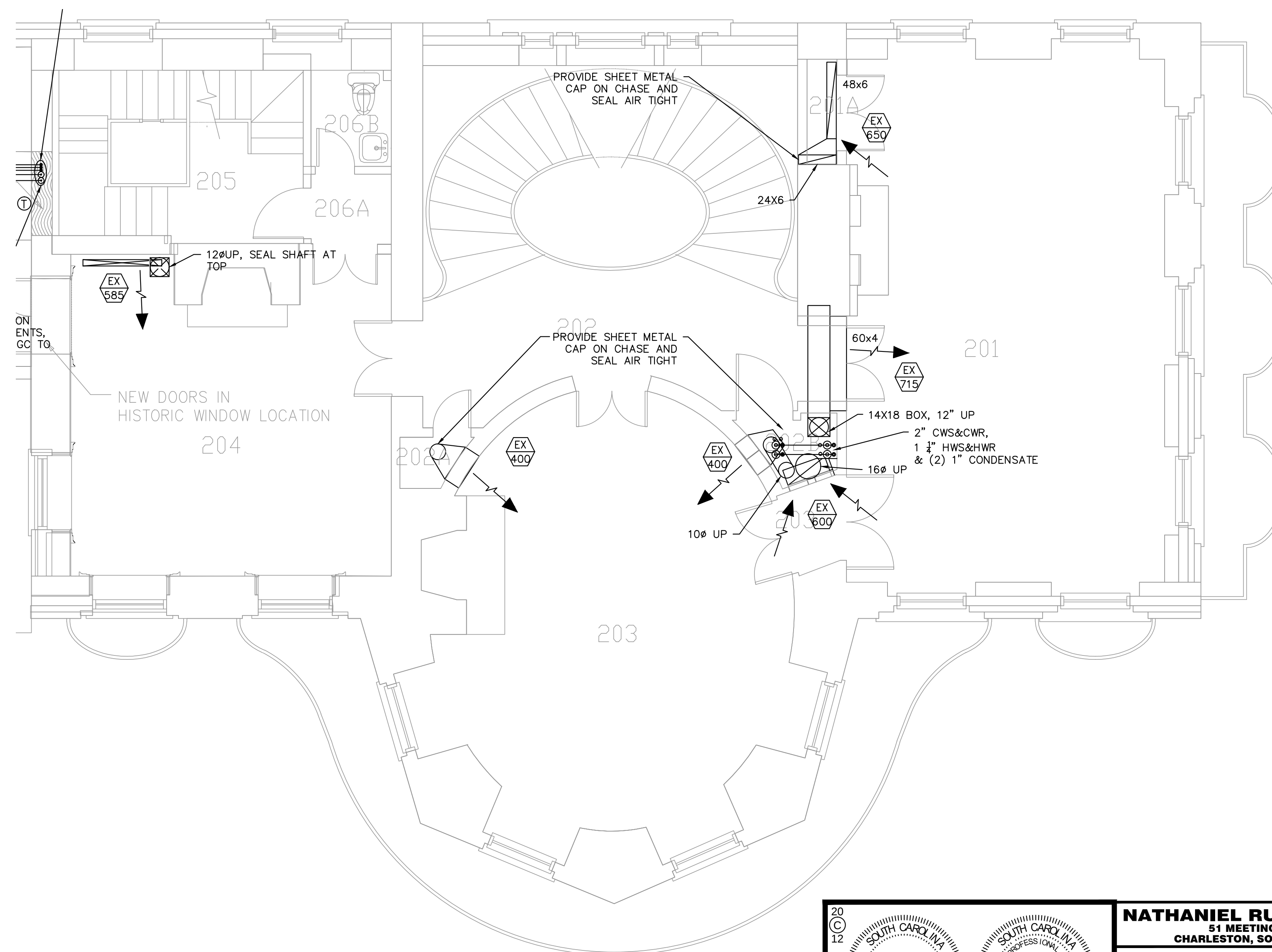
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- 5) COORDINATE ALL WORK WITH ALL TRADES AND EXISTING CONDITIC
- 6) VERIFY ALL DIMENSIONS PRIOR TO DEMOLITION, PURCHASING NEW EQUIPMENT OR FABRICATING AND INSTALLING ANY NEW WORK

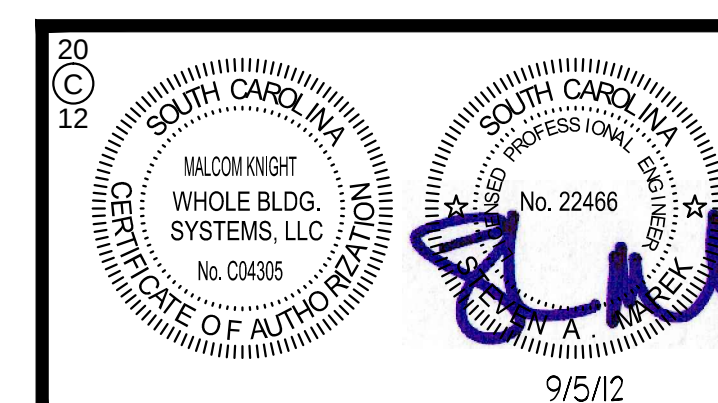
SECOND FLOOR/ATTIC WING - HVAC PLAN

SCALE 1/4" = 1'-0"



SECOND FLOOR MAIN HOUSE - HVAC PLAN

SCALE 1/4" = 1'-0"

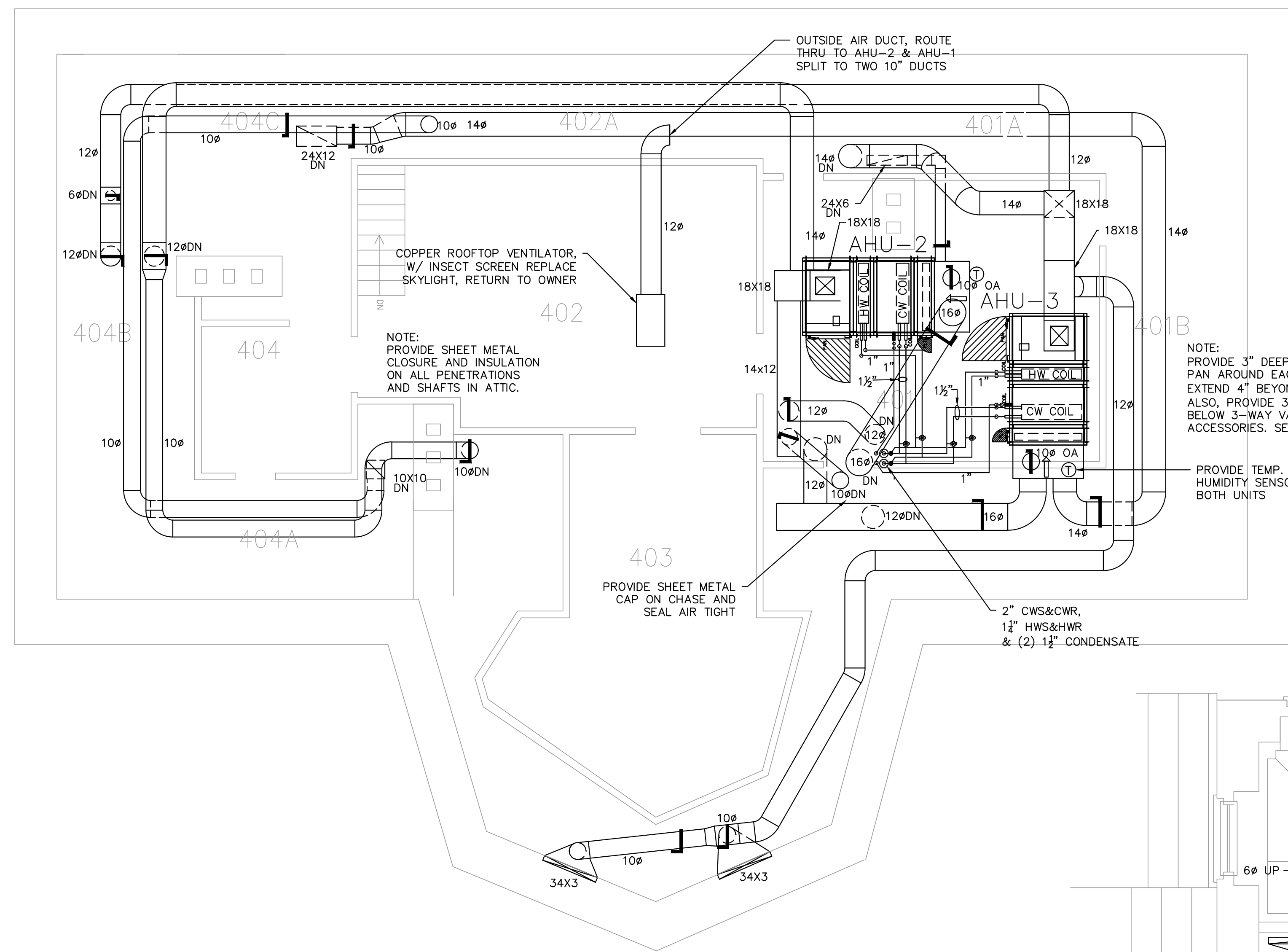


NATHANIEL RUSSEL HOUSE
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DATE: 5 SEPT 2012
DRAWING: OF

M8



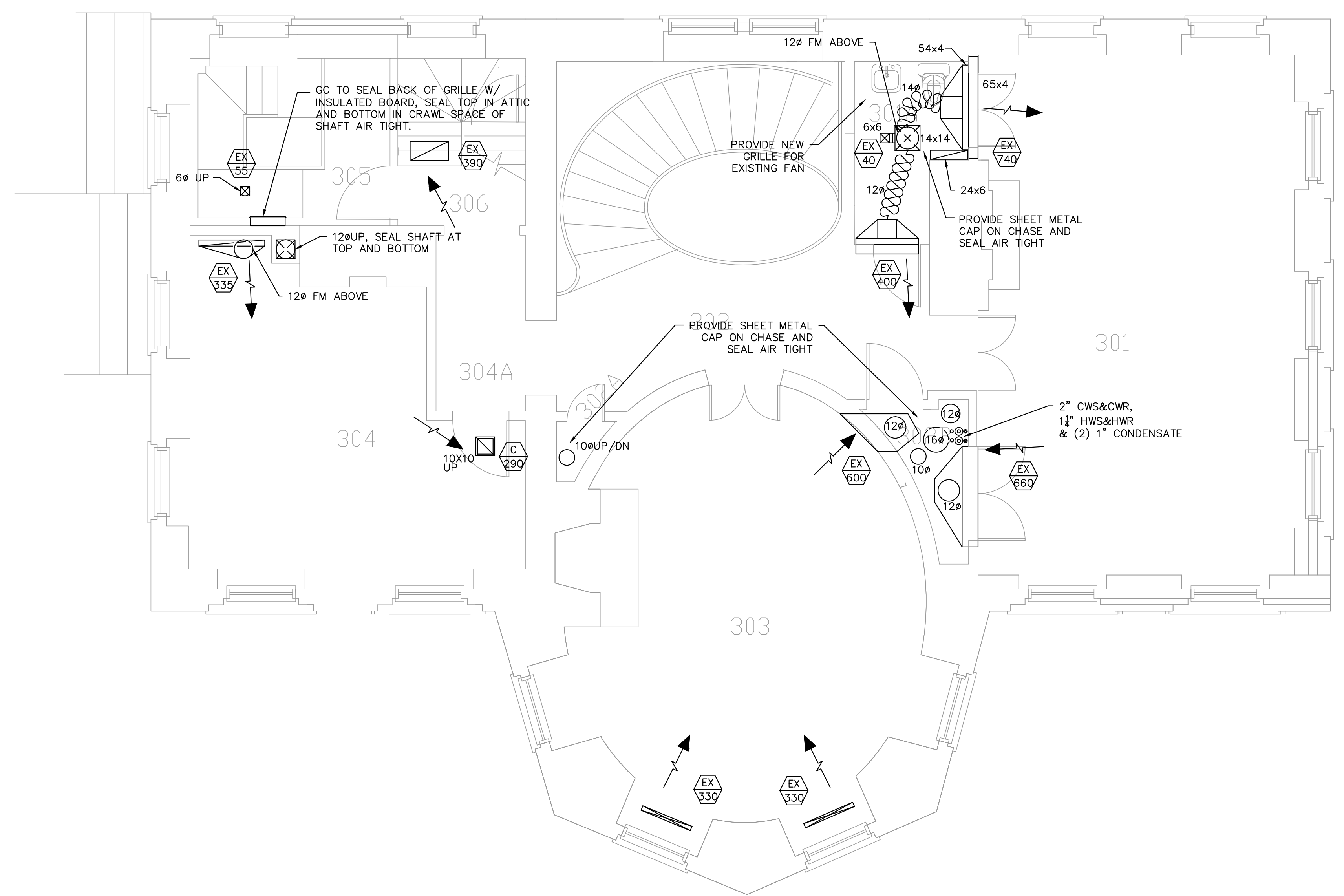
MECHANICAL LEGEND

- DIFFUSER/GRILLE SPECIFICATION
"A"=DIFFUSER TYPE
"#" =CFM
(SEE SCHEDULE)
- SENSOR/TEMPERATURE/HUMIDITY MOUNT AT 54" AFF OR IN RETURN DUCT
- MANUAL VOLUME DAMPER IN ADDITION TO EACH GRILLE
- SUPPLY GRILLE
- RETURN GRILLE
- EXHAUST FAN
- EF-1
- OA OUTSIDE AIR
- AHU AIR HANDLING UNIT
- GAS LINE
- COLD WATER LINE

MECHANICAL NOTES:

- ALL WORK SHALL BE PER LOCAL AND NATIONAL CODES. INCLUDE COST OF PERMITS AND INSPECTIONS IN QUOTE.
- INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
- DUCT WORK DIMENSIONS ARE INSIDE CLEAR, UNITS ARE INCHES.
- SEE SPECIFICATIONS.
- COORDINATE ALL WORK WITH ALL TRADES AND EXISTING CONDITIC
- VERIFY ALL DIMENSIONS PRIOR TO DEMOLITION, PURCHASING NEW EQUIPMENT OR FABRICATING AND INSTALLING ANY NEW WORK

ATTIC MAIN HOUSE- HVAC PLAN
SCALE 1/4" = 1'-0"



THIRD FLOOR MAIN HOUSE- HVAC PLAN
SCALE 1/4" = 1'-0"

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