

# THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")

1125 EDWARDS RD.  
ELSMERE, KY 41018

## LIST OF DRAWINGS

NO.	SHEET	TITLE	NO.	SHEET	TITLE
1.	COVER		50.	P2-1	ENLARGED FIRST FLOOR PLUMBING PLAN
2.	CD-1	CODA DATA	51.	P2-2	ENLARGED SECOND FLOOR PLUMBING PLAN
3.	FR-1	FIRE RESISTANCE RATINGS	52.	P2-3	ENLARGED UNIT PLUMBING PLANS
4.	FR-2	FIRE RESISTANCE RATINGS	53.	P3-1	PLUMBING FIXTURE SCHEDULE, NOTES & DETAILS
5.	FR-3	FIRE RESISTANCE RATINGS	54.	P3-2	PLUMBING FIRE STOP SYSTEMS
6.	FR-4	FIRE RESISTANCE RATINGS	55.	H1-1	BUILDING FIRST FLOOR HVAC PLAN
7.	FR-5	FIRE RESISTANCE RATINGS	56.	H1-2	BUILDING SECOND FLOOR HVAC PLAN
8.	AS-1	ACCESSIBLE SIGNAGE DETAILS	57.	H1-3	BUILDING THIRD FLOOR HVAC PLAN
9.	AC-1	ACCESSIBLE STANDARDS	58.	H2-1	ENLARGED FIRST FLOOR HVAC PLAN
10.	FH-1	FAIR HOUSING & ANSI A 117.1 DETAILS	59.	H2-2	ENLARGED SECOND FLOOR HVAC PLAN
11.	FH-2	ANSI / FAIR HOUSING (TYPE "B" UNITS)	60.	H2-3	ENLARGED UNIT HVAC PLANS
12.	AF-1	BUILDING FOUNDATION PLAN	61.	H2-4	ENLARGED UNIT HVAC PLANS
13.	AF-2	FOUNDATION DETAILS	62.	H3-1	HVAC EQUIPMENT, NOTES & DETAILS
14.	A1-1	BUILDING FIRST FLOOR PLAN	63.	H3-2	HVAC FIRESTOP SYSTEMS
15.	A1-2	BUILDING SECOND FLOOR PLAN	64.	E1-1	BUILDING FIRST FLOOR ELECTRICAL PLAN
16.	A1-3	BUILDING THIRD FLOOR PLAN	65.	E1-2	BUILDING SECOND FLOOR ELECTRICAL PLAN
17.	A1-4	BUILDING ROOF PLAN	66.	E1-3	BUILDING THIRD FLOOR ELECTRICAL PLAN
18.	A2-1	ENLARGED FIRST FLOOR PLAN	67.	E1-4	BUILDING CABLE & CAMERA PLAN
19.	A2-2	ENLARGED SECOND FLOOR PLAN	68.	E2-1	ENLARGED FIRST FLOOR ELECTRICAL PLAN
20.	A2-3	ENLARGED UNITS PLANS	69.	E2-2	ENLARGED SECOND FLOOR ELECTRICAL PLAN
21.	A3-1	INTERIOR ELEVATIONS	70.	E2-3	ENLARGED UNIT ELECTRICAL PLANS
22.	A3-2	INTERIOR ELEVATIONS	71.	E3-1	ELECTRICAL LIGHT FIXTURE SCHEDULE, NOTES & DETAILS
23.	A3-3	INTERIOR ELEVATIONS	72.	E3-2	ELECTRICAL PANELS
24.	A4-1	BUILDING REFLECTED CEILING PLAN	73.	E3-3	ELECTRICAL FIRESTOP SYSTEMS
25.	A5-1	DOOR, WINDOW & FINISH SCHEDULES	74.	E3-4	ELECTRICAL FIRESTOP SYSTEMS
26.	A6-1	EXTERIOR ELEVATIONS			
27.	A6-2	EXTERIOR ELEVATIONS			
28.	A7-1	TYPICAL WALL SECTIONS & DETAILS			
29.	A7-2	TYPICAL WALL SECTIONS & DETAILS			
30.	A7-3	WALL SECTIONS & DETAILS			
31.	A7-4	ENLARGED STAIR PLANS & SECTIONS			
32.	A7-5	ELEVATOR PLAN & SECTIONS			
33.	A7-6	WALL SECTIONS & DETAILS			
34.	A7-7	WALL & STAIR SECTIONS & DETAILS			
35.	A7-8	BUILDING SECTION			
36.	F1-1	BUILDING SECOND FLOOR FRAMING PLAN			
37.	F1-2	BUILDING THIRD FLOOR FRAMING PLAN			
38.	F1-3	BUILDING ROOF FRAMING PLAN			
39.	F2-1	ENLARGED SECOND FLOOR FRAMING PLAN			
40.	F2-2	ENLARGED SECOND FLOOR FRAMING PLAN			
41.	F2-3	ENLARGED SECOND & THIRD FLOOR FRAMING PLANS			
42.	F3-1	FLOOR PLAN (HOLD DOWNS, SHEAR WALLS & STUD SPACING)			
43.	F3-2	FRAMING DETAILS			
44.	F3-3	STRUCTURAL NOTES & DETAILS			
45.	P1-1	BUILDING FIRST FLOOR PLUMBING PLAN			
46.	P1-2	BUILDING SECOND FLOOR PLUMBING PLAN			
47.	P1-3	BUILDING THIRD FLOOR PLUMBING PLAN			
48.	P1-4	BUILDING WATER SUPPLY PLAN			
49.	P1-5	BUILDING RADON PLANS			

### SPECIAL INSPECTIONS

#### EARTHWORK

- ALL EARTHWORK SHALL BE MONITORED BY A SOILS ENGINEER
- ONCE SITE IS STRIPPED OF TOPSOIL THE SUBGRADE SHALL BE TESTED, PROOFROLLED & APPROVED FOR ADDITION OF COMPACTED FILL.
  - SUPERVISE COMPACTION WORK TESTING, LIFTS AS REQUIRED. ENGINEER SHALL PROVIDE APPROVAL OF FINAL SUBGRADE OF BUILDING PAD & PAVING SUBGRADE.
  - INSPECT ALL FOOTING TRENCHES & PROVIDE TESTING & APPROVAL OF BEARING CAPACITY OF FOOTING BOTTOM.

#### CONCRETE

- INSPECT ALL REINFORCING INSTALLATIONS IN FOOTINGS.
- INSPECT VAPOR BARRIER INSTALLATION ALONG WITH THICKENED SLAB REINFORCING.
- INSPECT ALL FOOTING & SLAB CONCRETE POURS. VERIFY CONCRETE MIX & SLUMP & TAKE CONCRETE CYLINDERS FOR TESTING.
- EXTERIOR CONCRETE DOES NOT NEED SPECIAL INSPECTION.

#### CONCRETE BLOCK

- INSPECT INSTALLATION OF STAIR & ELEVATOR TOWERS. THE SUBCONTRACTOR SHALL INFORM THE INSPECTOR OF THE ANTICIPATED SCHEDULE & ANY ADJUSTMENTS BEING MADE TO ALLOW THE INSPECTOR TO SCHEDULE THE INSPECTIONS.
- INSPECT INSTALLATION OF DOWELS.
- INSPECT REINFORCING, GROUTING & BOND BEAMS. VERIFY THAT PROPER GROUT IS BEING USED & INSTALLED WITH THE PROPER SLUMP.

#### FRAMING

GENERAL FRAMING SHALL BE INSPECTED AS WORK PROGRESSES & AS REQUESTED BY THE CONTRACTOR

- SHEARWALL PLYWOOD & EXTERIOR SHEATHING NAILING SHALL BE INSPECTED.
- INSPECT HOLD-DOWNS AT LOCATIONS SHOWN ON DRAWINGS.
- INSPECT JOIST HANGERS TO VERIFY NAILING & MODEL NUMBER
- INSPECT LEDGER LAG BOLTS & ANCHOR BOLTS FOR COMPLIANCE WITH DRAWINGS.
- EXTERIOR WALL FRAMING AT OUTSIDE CORNERS & "T" WALL INTERSECTIONS WITH INTERIOR PARTITIONS SHALL BE INSPECTED TO INSURE THE FULL WALL INSULATION CAN BE INSTALLED. ANY DEAD SPACES SHALL BE DRILLED & FOAMED FULL OR DISASSEMBLE THE STUDS & REFRAME.

#### INSULATION AND AIR SEALING

- SEE SPECIAL TESTING/ INSPECTIONS FOR INTERNATIONAL ENERGY CODE COMPLIANCE.

#### FREQUENCY

- INSPECT EACH AREA AS WORK PROGRESSES.
- INSPECTIONS AS SOILS ENGINEER DEEMS NECESSARY TO PROVIDE FINAL APPROVAL OF SUBGRADE.
- INSPECT PRIOR TO EACH CONCRETE POUR

- PRIOR TO CONCRETE POUR.
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- EACH CONCRETE POUR.

- PERIODIC
- AT TIME OF CONCRETE POUR.
- PERIODIC AS REQUIRED BASED ON INSTALLATION SCHEDULE. INSPECT BOND BEAM @ EACH FLOOR

- EXTERIOR SHEATHING SHALL BE INSPECTED PRIOR TO HOUSE WIRING INSTALLATION. SHEAR WALLS SHALL BE INSPECTED & APPROVED PRIOR TO DRYWALL.
- INSPECT PRIOR TO INSULATION & DRYWALL.
- AS WORK PROGRESSES, PRIOR TO DRYWALL.
- AS WORK PROGRESSES, PRIOR TO DRYWALL.
- AS WORK PROGRESSES, PRIOR TO DRYWALL.

- INSPECT WHEN NOTIFIED THAT WORK IS COMPLETE PRIOR TO DRYWALL.

### UNIT AREA SUMMARY

UNIT	NET UNIT AREA	GROSS UNIT AREA	1ST FLOOR	2ND FLOOR	3RD FLOOR	TOTAL UNITS	TOTAL NET UNIT AREA	TOTAL GROSS UNIT AREA
A - ONE BEDROOM APT.	613 SQ.FT.	648 SQ.FT.	3	4	4	11	6,743 SQ.FT.	7,128 SQ.FT.
A1 - ONE BEDROOM APT. (504)	650 SQ.FT.	687 SQ.FT.	2			2	1,300 SQ.FT.	1,374 SQ.FT.
A2 - ONE BEDROOM APT.	650 SQ.FT.	687 SQ.FT.		3	3	6	3,900 SQ.FT.	4,122 SQ.FT.
A3 - ONE BEDROOM APT.	650 SQ.FT.	687 SQ.FT.	1	1	1	3	1,950 SQ.FT.	2,061 SQ.FT.
SUB-TOTAL			6	8	8	22	13,893 SQ.FT.	14,685 SQ.FT.
B - TWO BEDROOM APT.	829 SQ.FT.	878 SQ.FT.	1	1	1	3	2,487 SQ.FT.	2,634 SQ.FT.
B - TWO BEDROOM APT. (ALT)	817 SQ.FT.	866 SQ.FT.	1	1	1	3	2,451 SQ.FT.	2,598 SQ.FT.
B1 - TWO BEDROOM APT. (504)	805 SQ.FT.	857 SQ.FT.	1	1		2	1,610 SQ.FT.	1,714 SQ.FT.
B2 - TWO BEDROOM APT.	805 SQ.FT.	857 SQ.FT.		1	1	2	805 SQ.FT.	857 SQ.FT.
B3 - TWO BEDROOM APT.	812 SQ.FT.	858 SQ.FT.	1	1	1	3	2,436 SQ.FT.	2,574 SQ.FT.
B4 - TWO BEDROOM APT.	876 SQ.FT.	923 SQ.FT.		1	1	2	1,752 SQ.FT.	1,846 SQ.FT.
B5 - TWO BEDROOM APT.	807 SQ.FT.	853 SQ.FT.	1	1	1	3	2,421 SQ.FT.	2,559 SQ.FT.
B6 - TWO BEDROOM APT.	807 SQ.FT.	849 SQ.FT.	1	2	2	5	4,035 SQ.FT.	4,245 SQ.FT.
SUB-TOTAL			6	8	8	22	17,997 SQ.FT.	19,027 SQ.FT.
TOTAL			12	16	16	44	31,890 SQ.FT.	33,712 SQ.FT.

### BUILDING GROSS AREA SUMMARY

FIRST FLOOR	14,179 SQ. FT.
SECOND FLOOR	14,179 SQ. FT.
THIRD FLOOR	14,179 SQ. FT.
TOTAL GROSS AREA	42,537 SQ. FT.

### UNIT BREAKDOWN

ONE BEDROOM	19
ONE BEDROOM (504)	2
ONE BEDROOM (SENSORY)	1
TWO BEDROOM	20
TWO BEDROOM (504)	2
TOTAL NUMBER OF UNITS	44

### BUILDING AREA BREAKDOWN

CIRCULATION:	AREA
VESTIBULE	80 SQ. FT.
ELEVATORS - 3 FLOORS	234 SQ. FT.
ELEVATOR LOBBIES	66 SQ. FT.
STAIRS - 3 FLOORS	1,365 SQ. FT.
CORRIDORS:	
1 <sup>ST</sup> FLOOR	1,330 SQ. FT.
2 <sup>ND</sup> FLOOR	1,036 SQ. FT.
3 <sup>RD</sup> FLOOR	1,036 SQ. FT.
TOTAL CIRCULATION	5,147 SQ. FT.

### SUPPORT SPACE:

TRASH ROOM	60 SQ. FT.
STORAGE	144 SQ. FT.
MECHANICAL	250 SQ. FT.
MAINTENANCE	231 SQ. FT.
WATER ROOM	250 SQ. FT.
RENTAL OFFICE	234 SQ. FT.
MAIL	36 SQ. FT.
SOCIAL SERVICE	106 SQ. FT.
OFFICE/STORAGE	145 SQ. FT.
RESTROOMS	99 SQ. FT.
TOTAL SUPPORT	1,664 SQ. FT.

### RESIDENT COMMON AREAS

EXERCISE	350 SQ. FT.
LAUNDRY	279 SQ. FT.
DOG WASH	87 SQ. FT.
COMMUNITY ROOM	681 SQ. FT.
LOUNGE	375 SQ. FT.
ACTIVITY ROOM	242 SQ. FT.
TOTAL COMMON AREAS	2,014 SQ. FT.

### APPLICABLE CODES & STANDARDS

KENTUCKY BUILDING CODE  
FAIR HOUSING OF 1988  
SECTION 504 OF REHABILITATION ACT OF 1973  
AMERICANS WITH DISABILITIES ACT OF 2010  
ANSI A117.1  
2012 IECC  
KENTUCKY HOUSING MINIMUM DESIGN STANDARDS

### BUILDING CODE INFORMATION

- WOOD FRAME SLAB ON GRADE 3 STORIES
- REINFORCED GRADE BEAM FOUNDATION WITH THICKENED SLABS FOR INTERIOR BEARING WALLS.
- USE GROUP R2, CONSTRUCTION TYPE 5A PROTECTED WITH SPRINKLERS, (NFPA 13R)
- OPEN WEB FLOOR TRUSSES AND CONVENTIONAL ROOF TRUSSES, 5/8" FIRE CODE DRYWALL THROUGHOUT WITH RESILIENT CHANNELS ON CEILINGS.
- BUILDING TO HAVE A MANUAL FIRE ALARM SYSTEM PER 2018 KENTUCKY BUILDING CODE & NFPA 72.
- BUILDING SHALL HAVE A NFPA 13R (RESIDENTIAL) SPRINKLER SYSTEM. (SHOP DRAWINGS TO BE A DELAYED SUBMISSION)

### ENRICHED DESIGN QUALITIES (TOTAL OF 5)

- ALL KITCHEN AND VANITY CABINETS PROVIDED WITH LEVER-SHAPED HANDLES OR STANDARD U-SHAPED PULLS. ON ALL DRAWERS AND CABINET DOORS. BATHROOM MEDICINE CABINETS, ABOVE A SINK, ARE NOT INCLUDED.
- EITHER (A) A 30-INCH WIDE COMBINATION RANGE/OVEN APPLIANCE WITH FRONT CONTROLS. THE RANGE MUST BE FLUSH WITH THE COUNTERTOP SO ITEMS BEING PULLED OFF THE RANGE CAN SMOOTHLY TRANSITION TO THE COUNTERTOP. CLEAR SPACE FOR A WHEELCHAIR SIDE/PARALLEL APPROACH CENTERED ON THE RANGE MUST ALSO BE PROVIDED
- BATHROOM LAVATORY WITH REMOVABLE BASE CABINET, PEDESTAL STYLE SINK, OR WALL HUNG SINK THAT ACCOMMODATES A FORWARD SEATED POSITION FROM A WHEELCHAIR. THE FLOOR AND WALL UNDER REMOVABLE CABINETS MUST BE FINISHED PRIOR TO INSTALLATION OF CABINETS. PROTECTION FROM HOT AND ABRASIVE HAZARDS IS REQUIRED FOR ALL LAVATORIES, SINKS, AND UNDER REMOVABLE CABINETS.
- CENTRAL COMMON AREAS THAT CAN BE USED FOR RESIDENT ACTIVITIES TO SUPPORT SOCIAL ENGAGEMENT AND WELLNESS (E.G. FITNESS CLASSES, GROUP MEALS).
- LOBBY TO SUPPORT SOCIAL CONNECTIONS WITH AGE-FRIENDLY SEATING (FIRM SEAT CUSHIONS 18" HIGH AND 18" DEEP, WITH ARMS, BACKS AND WASHABLE FABRIC).



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### SYMBOLS LEGEND

- ◻ CODED NOTE - SEE CODED LIST
- DOOR NUMBER - SEE DOOR SCHEDULE  
○ HEADER/COLUMN NUMBER - SEE FRAMING PLANS  
○ SPECIAL OUTLET - SEE ELECTRICAL PLANS
- ◻ WINDOW NUMBER - SEE WINDOW SCHEDULE
- △ REVISION MARKER
- FOUNDATION DETAIL MARKER - SEE FOUNDATION DETAILS
- WALL TYPE MARKER - SEE CODE DATA SHEET
- ◆ LEVEL MARKER

### INTERIOR ELEVATION MARKER

- ◀ INDICATES DIRECTION
- ◀ INDICATES ELEVATION LETTER
- ◀ INDICATES SHEET NUMBER
- Optional ◀ INDICATES OPPOSITE HAND OR SIMILAR

### DETAIL MARKER

- #1 ◀ INDICATES DETAIL NUMBER
- A-#1 ◀ INDICATES SHEET NUMBER

### SECTION MARKER

- #1 ◀ INDICATES SECTION NUMBER
- A-#1 ◀ INDICATES SHEET NUMBER

### COMMON ROOM TAG - SEE FINISH SCHEDULE

- ROOM NAME ◀ INDICATES ROOM NAME
- ◻ ◀ INDICATES ROOM NUMBER

### UNIT ROOM TAG - SEE FINISH SCHEDULE

- BR ◀ INDICATES NUMBER OF BEDROOMS
- A ◀ INDICATES UNIT TYPE
- ◻ ◀ INDICATES ROOM NUMBER
- (504) ◀ INDICATES (504) OR SENSORY UNIT

### MATCH LINE MARKER

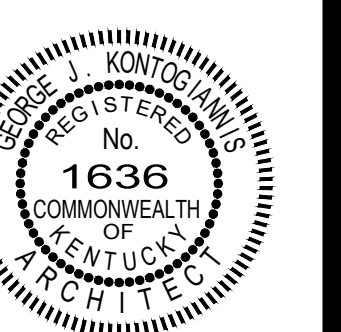
- ◀ INDICATES DIRECTION OF MATCH LINE
- SHEET# ◀ INDICATES SHEET NUMBER

### PARTIAL ELEVATION MARKER

- ELEVATION INDICATOR ◀ INDICATES ELEVATION NUMBER, SHEET NUMBER & DIRECTION OF ELEVATION

DATE: 11/08/2023

REVISED:



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LICENSE #1636  
EXPIRATION DATE 06/30/2024  
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GEORGE J. KONTOGIANNIS  
& ASSOCIATES

- SUBMISSION SET
- PERMIT SET 07/31/2023
- BID SET 11/08/2023
- CONSTRUCTION SET



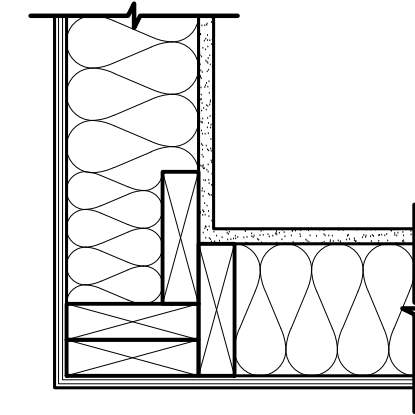
OCCUPANT LOAD:		
RESIDENTIAL	200 SQ. FT. / PERSON GROSS	
COMMUNITY ROOM	15 SQ. FT. / PERSON NET	
LOUNGE / LOBBY	150 SQ. FT. / PERSON GROSS	
BUSINESS	300 SQ. FT. / PERSON GROSS	
STORAGE	50 SQ. FT. / PERSON GROSS	
EXERCISE ROOM	50 SQ. FT. / PERSON NET	
VOCATIONAL ROOM	50 SQ. FT. / PERSON NET	
THIRD FLOOR (RESIDENTIAL) 12,273 SQ. FT. / 200 = 61		
SECOND FLOOR (RESIDENTIAL) 12,273 SQ. FT. / 200 = 61		
FIRST FLOOR (RESIDENTIAL) 9,166 SQ. FT. / 200 = 46		
TOTAL (RESIDENTIAL) = 168		
COMMON AREAS:		
ROOM	RESIDENTS	STAFF
EXERCISE =	318 SQ. FT. / 50 = 7	
ACTIVITY =	207 SQ. FT. / 50 = 4	
COMMUNITY ROOM =	563 SQ. FT. / 15 = 38	
LAUNDRY =	160 SQ. FT. / 100 = 2	
OFFICE =	182 SQ. FT. / 100 = 2	
SOCIAL SERVICES =	93 SQ. FT. / 100 = 1	
DOG WASH =	85 SQ. FT. / 100 = 1	
MAINTENANCE =	230 SQ. FT. / 300 = 1	
TOTAL OCCUPANT LOAD	= 52	4

**EXITS:**  
COMMON AREA OCCUPANCIES EXCEPT FOR OFFICE & MAINTENANCE SHALL BE CONSIDERED NON-SIMULTANEOUS SINCE THE COMMON AREA SPACES ARE RESERVED FOR RESIDENTS ONLY. EXITS ARE BASED ON RESIDENTIAL OCCUPANTS PLUS OFFICE STAFF.

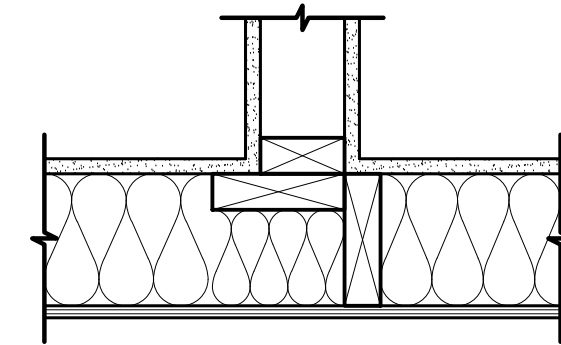
RESIDENTS	= 33,712 SQ.FT. / 200	= 168
OFFICE STAFF & MAINT.	= 4	
TOTAL	= 172	
BUILDING HAS 2 EXITS 172/2	=	86 PER EXIT
EXIT CAPACITY REQUIRED = 86 x 3" = 25.8"		
PROVIDED WIDTH = 3'-8"		

**2012 IECC HVAC REQUIREMENTS**

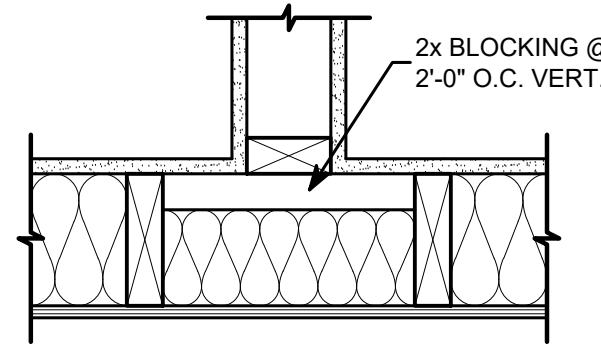
- PROVIDE A PROGRAMMABLE THERMOSTAT FOR EACH UNIT.
- HEAT PUMPS WITH SUPPLEMENT ELECTRIC HEAT SHALL HAVE CONTROLS THAT EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHEN THE HEAT PUMP COMPRESSOR CAN MEET THE HEATING LOAD.
- SUPPLY DUCTS IN ATTICS SHALL BE INSULATED TO (R=8). ALL OTHERS SHALL BE INSULATED TO (R=6) UNLESS DUCTS, OR PORTIONS THEREOF, ARE LOCATED COMPLETELY INSIDE THE THERMAL ENVELOPE.
- DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH CODE. DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER A POST CONSTRUCTION OR ROUGH-IN TEST SHOWING A LEAKAGE OR LESS THAN OR EQUAL TO 4 CFM PER 100 SQ.FT.



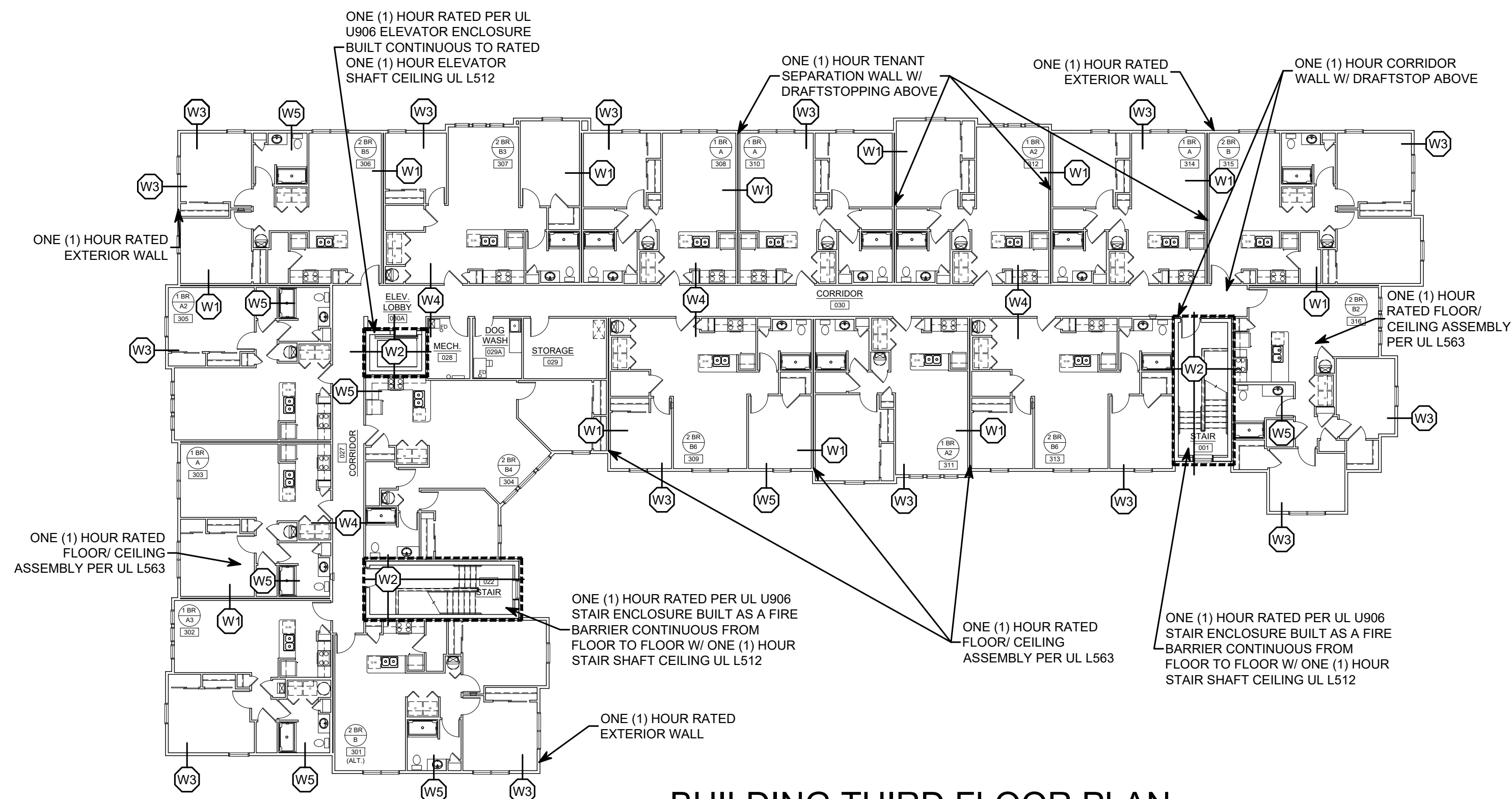
**TYPICAL CORNER DETAIL**  
SCALE: 1 1/2" = 1'-0"



**TYPICAL WALL INTERSECTION DETAIL**  
SCALE: 1 1/2" = 1'-0"



**ALTERNATE WALL INTERSECTION DETAIL**  
SCALE: 1 1/2" = 1'-0"



**BUILDING THIRD FLOOR PLAN**

SCALE: 1/16" = 1'-0" THIRD FLOOR GROSS AREA = 14,179 SQ.FT.

**1. FIRE RATING & SEPARATION REQUIREMENTS**

CONSTRUCTION TYPE	VA WOOD FRAME PROTECTED WITH NFPA-13R SPRINKLER SYSTEM 3 STORIES	CONSTRUCTION TYPE VA USE GROUP R-2 (MULTI-FAMILY APARTMENTS) BUILDING SHALL BE FULLY SPRINKLERED IN ACCORDANCE WITH NFPA-13R (RESIDENTIAL)
FIRE RATING TYPES		
2. EXTERIOR BEARING WALLS	1 HR	UL U356
3. INTERIOR BEARING WALLS	1 HR	UL U305
4. CORRIDOR WALLS (R-2)	1 HR	UL U305
5. TENANT SEPARATION WALLS	1 HR	UL U305
6. ELEVATOR ENCLOSURE	1 HR	UL U906
7. STAIR ENCLOSURES	1 HR	UL U906
8. FLOOR / CEILING ASSEMBLY	1 HR	UL L563
9. FLOOR / CEILING ASSEMBLY (SECOND FLOOR CORRIDORS)	1 HR	UL L512
10. FLOOR / CEILING ASSEMBLY (STAIR & ELEVATOR SHAFT CEILING)	1 HR	UL L512
11. ROOF / CEILING ASSEMBLY	1 HR	UL P522

**ADOPTED BUILDING CODES**

- USE GROUP R-2 APARTMENT UNITS
- 2018 KENTUCKY BUILDING CODE BASED ON 2015 IBC
- 2012 INTERNATIONAL ENERGY CONSERVATION CODE
- 2017 NATIONAL ELECTRIC CODE
- ACCESSIBILITY
- 2010 ADA
- ICC A117.1-2009 ACCESSIBLE & USEABLE BUILDING & FACILITIES
- 504 UNITS (UFAS)
- FAIR HOUSING ACT

**BUILDING & CODE DATA**

**FRONTAGE AREA INCREASE (THE BUILDING HAS 100% OF AREA FACING ON A STREET OR DRIVE OR ACCESSIBLE FROM A STREET OR DRIVE):**  
 $I_f = [F/P - 0.25] W / 30$   
 $I_f = [617/617 - 0.25] 30 / 30$   
 $I_f = [1 - 0.25] x 1$   
 $I_f = .75 x .9 = 67.5\%$   
 AREA PER FLOOR = 14,179  
 ALLOWABLE = 12,000 x 1.657 = 20,100 SQ.FT. - OKAY  
**ALLOWABLE AREA PER 506.2.3**  
 $A_a = [A_f + (NS x I_f)] x S_a$   
 $A_a = [12,000 + (12,000 x .675)] x 3$   
 $A_a = [12,000 + 8,100] x 3$   
 $A_a = [20,100] x 3$   
 $A_a = 60,300$  SQ.FT.  
 ACTUAL AREA = 42,537 SQ.FT. - (OKAY)

**ADOPTED BUILDING CODES**

- 2018 KENTUCKY BUILDING CODE BASED ON 2015 IBC
- 2012 INTERNATIONAL ENERGY CONSERVATION CODE
- 2017 NATIONAL ELECTRIC CODE
- ACCESSIBILITY
- 2010 ADA
- ICC A117.1-2009 ACCESSIBLE & USEABLE BUILDING & FACILITIES
- 504 UNITS (UFAS)
- FAIR HOUSING ACT

**BUILDING AREA:**  
 FIRST FLOOR = 14,179 SQ.FT.  
 SECOND FLOOR = 14,179 SQ.FT.  
 THIRD FLOOR = 14,179 SQ.FT.  
 TOTAL = 42,537 SQ.FT.

**ALLOWABLE BUILDING HEIGHT & NUMBER OF STORIES PER 504.4:**  
 R-2, S13R, VA = 60 FEET & 4 STORIES  
**ACTUAL BUILDING HEIGHT & NUMBER OF STORIES = 35 FEET & 3 STORIES (OKAY)**

**SPECIAL TESTING / INSPECTION**  
**INTERNATIONAL ENERGY CONSERVATION CODE**  
 THIS BUILDING MUST COMPLY WITH THE IECC ESPECIALLY SECTION 400 FOR R-2 MULTI-FAMILY, THREE STORIES OR LESS.

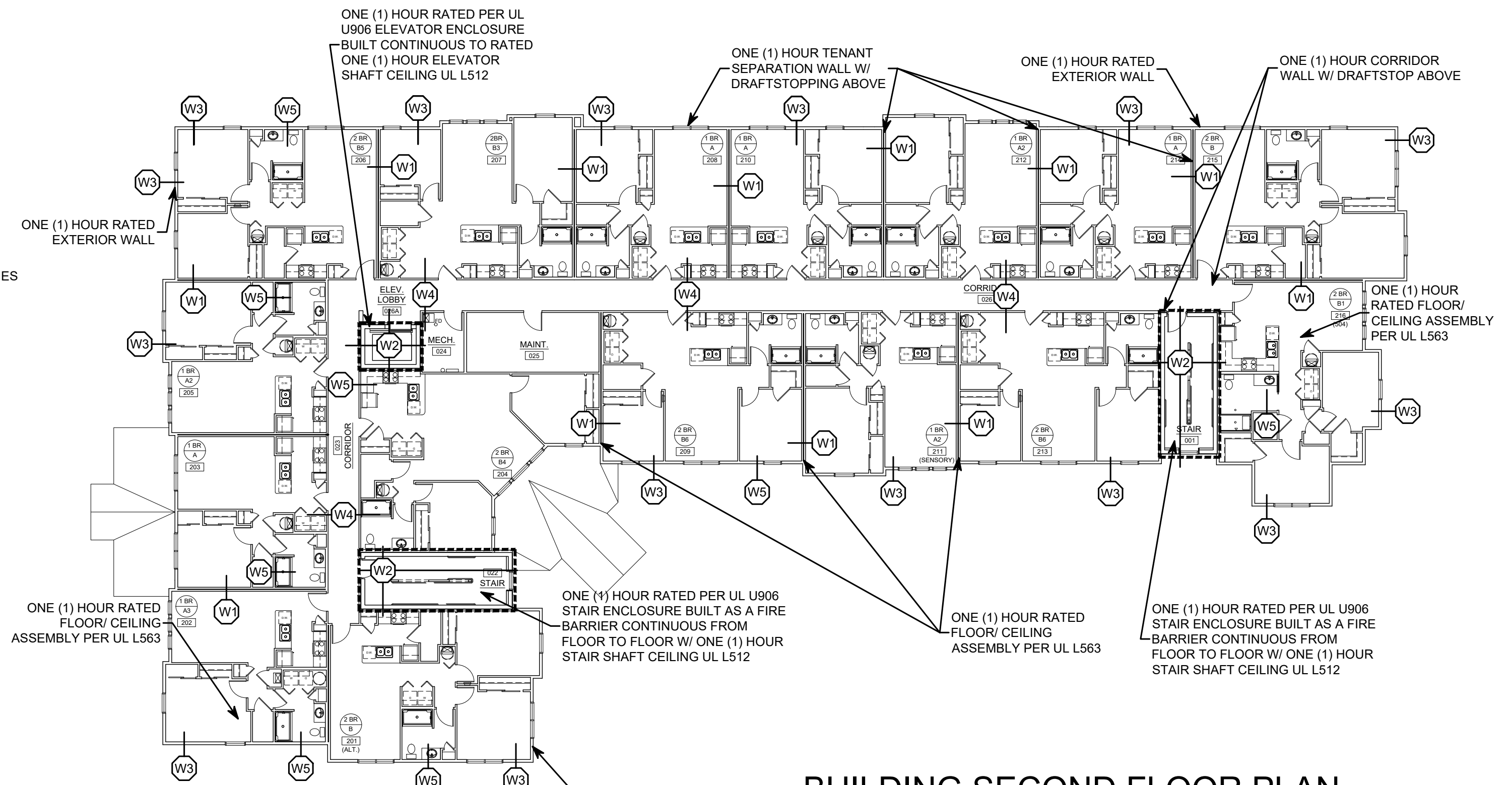
**OF PARTICULAR NOTE ARE:**  
**401.3 CERTIFICATE:** A PERMANENT CERTIFICATE SHALL BE POSTED ON OR IN THE ELECTRICAL DISTRIBUTION PANEL. THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR REGISTERED DESIGN PROFESSIONAL. THE CERTIFICATE SHALL LIST THE PREDOMINANT WALLS OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, BASEMENT WALL, CRAWLSPACE WALL AND/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES. U-FACTORS FOR FENESTRATION AND THE SOLAR HEAT GAIN COEFFICIENT (SHGC) OF FENESTRATION, WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL LIST THE VALUE COVERING THE LARGEST AREA. THE CERTIFICATE SHALL LIST THE TYPES AND EFFICIENCIES OF HEATING, COOLING AND SERVICE WATER HEATING EQUIPMENT, WHERE A GAS-FIRED UNVENTED ROOM HEATER, ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE RESIDENCE, THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER," "ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN EFFICIENCY SHALL NOT BE LISTED FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC FURNACES OR ELECTRIC BASEBOARD HEATERS.  
**402.4 AIR LEAKAGE (MANDATORY):**  
**402.4.1 BUILDING THERMAL ENVELOPE:** THE BUILDING THERMAL ENVELOPE SHALL BE DURABLY SEALED TO LIMIT INFILTRATION. THE SEALING METHODS BETWEEN DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION. SEE TABLE R402.4.1.1 OF THE 2012 IECC FOR AIR BARRIER AND INSULATION INSTALLATION.  
**402.4.2 AIR SEALING AND INSULATION:** BUILDING ENVELOPE AIR TIGHTNESS AND INSULATION INSTALLATION SHALL BE DEMONSTRATED TO COMPLY WITH 2012 IECC & ASHRAE STANDARDS FOR VENTILATION & ACCEPTABLE INDOOR AIR QUALITY. TESTING SHALL VERIFY COMPLIANCE & SHALL BE PROVIDED TO KENTUCKY HOUSING CORPORATION. TESTING SHALL BE PERFORMED PER 2012 IECC R402.4.1.2. THE UNITS SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF 3 AIR CHANGES PER HOUR. TESTING SHALL BE PERFORMED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. A WRITTEN REPORT SHALL BE PROVIDED BY AN APPROVED THIRD PARTY.

**WALL TYPES**

- (W1) DOUBLE 2x4 STUD WALL W/ 1" AIR SPACE W/ 5/8" F.C. DW ON OUTSIDE OF EACH STUD WALLS FOR A ONE (1) HOUR RATING PER UL341.
- (W2) STAIR & ELEVATOR WALLS - 8" CONCRETE BLOCK, GROUTED, FOR A ONE (1) HOUR RATING PER UL U906.
- (W3) EXTERIOR BEARING WALL SUPPORTING RATED FLOOR/ CEILING ASSEMBLY, 2x6 STUD WALL AT 16" O.C. OR 12" O.C. IN LOCATIONS SHOWN ON DWG'S WITH 5/8" FIRE CODE DRYWALL, 7/16" OSB WALL SHEATHING AND SIDING OR BRICK PER UL U356. RATED FOR FIRE FROM INTERIOR SIDE ONLY.
- (W4) CORRIDOR WALLS - 2x4 STUDS @ 12" OR 16" O.C. WITH 5/8" FIRE CODE DRYWALL EACH SIDE FOR A ONE (1) HOUR RATING PER UL U305.
- (W5) STUD WALLS WITHIN 6 FEET OF A WATER SOURCE (BATH, LAV, KITCHEN SINK, WASHER & WATER HEATER) SHALL HAVE 5/8" MOLD / MOISTURE RESISTANT FIRE CODE DRYWALL ON THE SIDE OF THE WATER SOURCE. RATED WALLS WILL BE SIMILAR TO W1 OR W4 WALL TYPES.

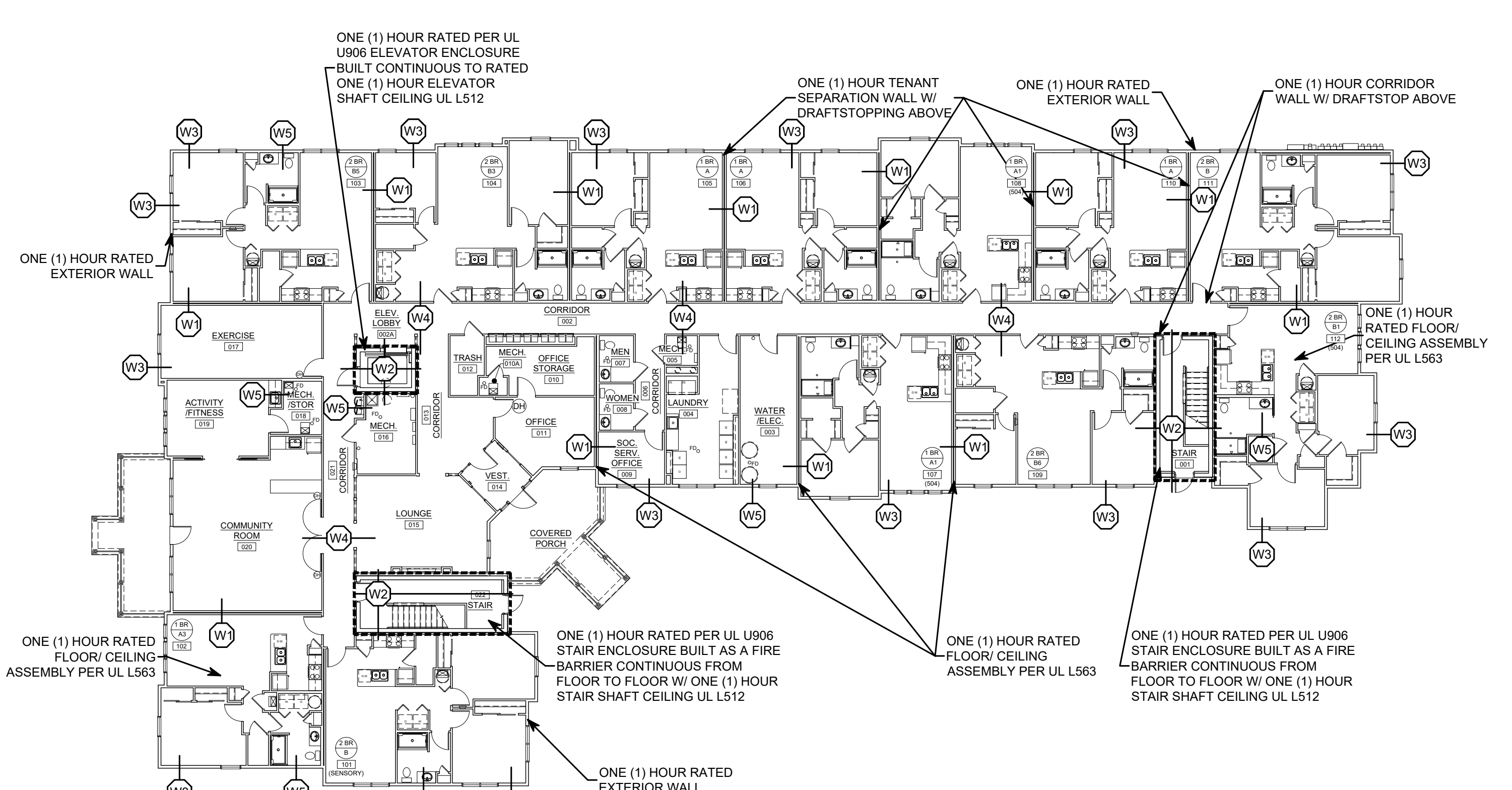
**WALL TYPES**

- SEE SHEET CD-1 FOR ALL WALL TYPES
- WALLS SHADED TO RECEIVE W5 WALL TYPE ON THE WATER SOURCE SIDE ONLY.
- (W5) STUD WALLS WITHIN 6 FEET OF A WATER SOURCE (BATH, LAV, KITCHEN SINK, WASHER & WATER HEATER) SHALL HAVE 5/8" MOLD / MOISTURE RESISTANT FIRE CODE DRYWALL ON THE SIDE OF THE WATER SOURCE.



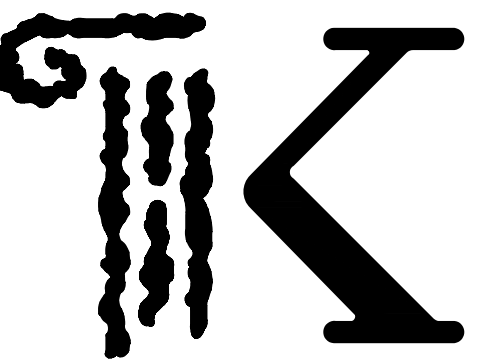
**BUILDING SECOND FLOOR PLAN**

SCALE: 1/16" = 1'-0" SECOND FLOOR GROSS AREA = 14,179 SQ.FT.



**BUILDING FIRST FLOOR PLAN**

SCALE: 1/16" = 1'-0" FIRST FLOOR GROSS AREA = 14,179 SQ.FT.



**KONTOGIANNIS & ASSOCIATES**

**ARCHITECTURE PLANNING DESIGN**

400 SOUTH FIFTH ST  
 SUITE 400  
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 43215-5492

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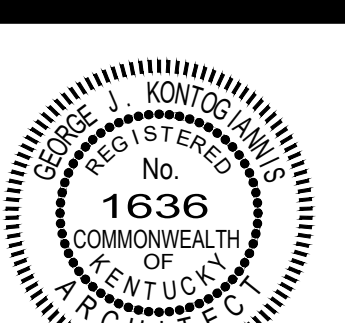
PROJECT:

**THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")**

1125 EDWARDS RD.  
 ELSMERE, KY 41018

DRAWING TITLE:  
**CODE DATA**

DATE: 07/31/2023  
 REVISED:



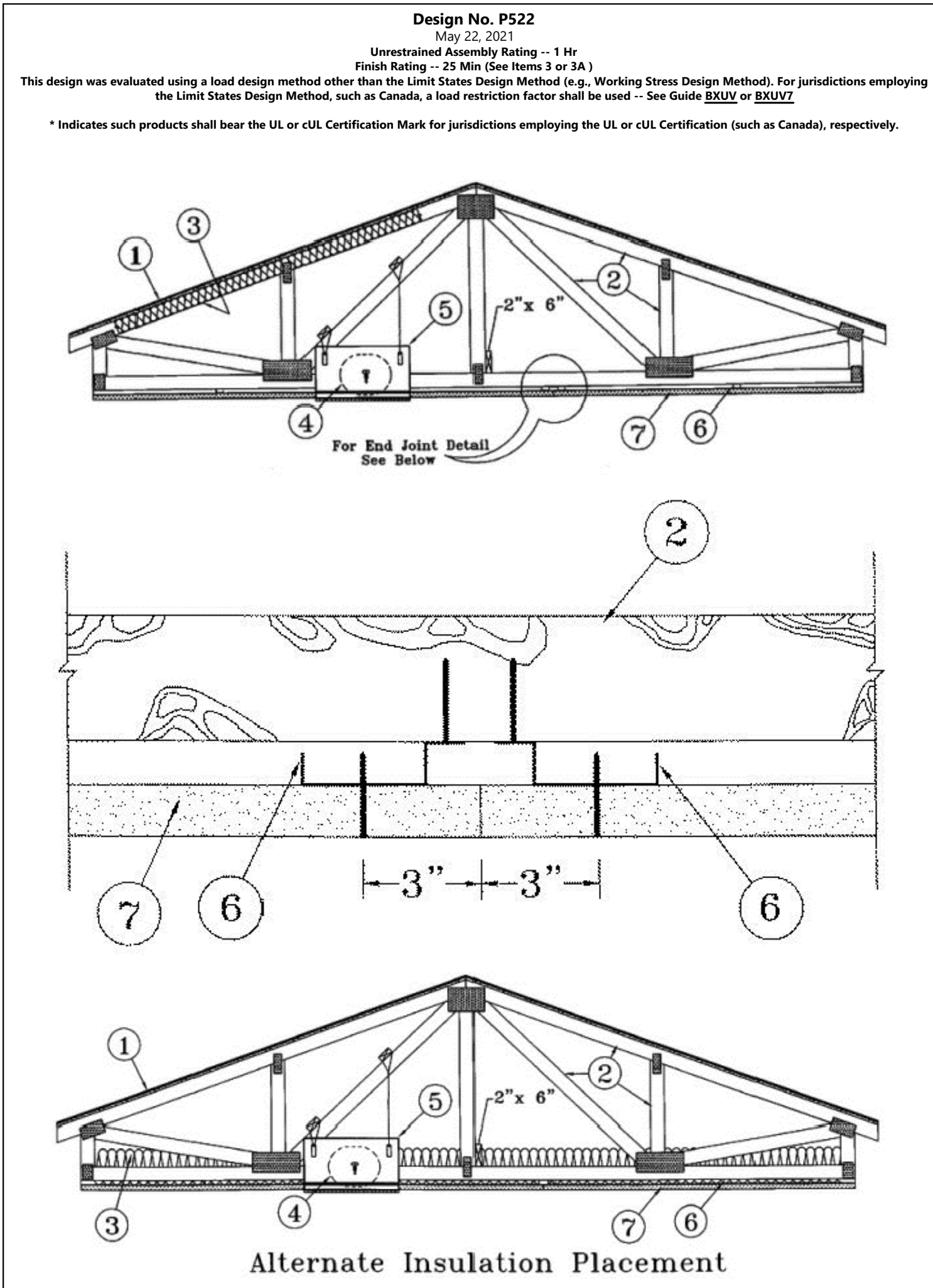
GEORGE J. KONTOGIANNIS, LICENSE #1636  
 EXPIRATION DATE 06/30/2024  
 COPYRIGHT © 2023 BY  
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- SUBMISSION SET
- PERMIT SET 07/31/2023
- BID SET 11/08/2023
- CONSTRUCTION SET

**CD-1**

H:\Projects\Architects\Current\Sanctuary on Edwards - KY Tax Credit - HS Dev\AutoCAD BLDG BCD-1.dwg, 11/08/2023 3:25:11 PM, c:\nlight





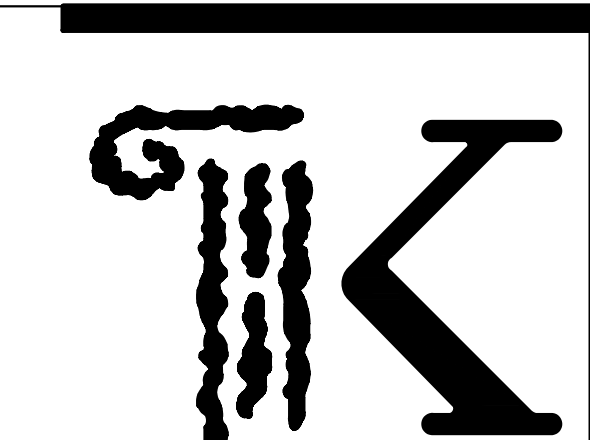
### Alternate Insulation Placement

- Roofing System** -- Any UL Class A or B Roofing System (TGFU) or Prepared Roof Covering (TFWZ) acceptable for use over non 15/32 in. thick wood structural panels, min. grade "C" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive may be used with either.
- Trusses** -- Pitched or parallel chord wood trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together with min. 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Minimum parallel chord truss depth shall be 18 in. Where the truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min. area in the plane of the truss of 21 sq/ft. Where the truss intersects with the interior face of the exterior walls, the truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.
- Batts and Blankets** -- (Optional) -- Required when Item 6B is used -- Glass fiber insulation, secured to the wood structural panels with staples spaced 12 in. OC, or to the trusses with 0.020 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. When **Steel Framing Members** (Item 6B) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6B) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6B). The finished rating has only been determined when the insulation is secured to the decking.
- Fiber Sprayed** -- As an alternate to Item 3 (not evaluated for use with Item 6B) -- Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft<sup>3</sup>, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft<sup>3</sup> over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft<sup>3</sup> behind netting (Item 5) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber.
- US GREENFIBER L.L.C.** -- IN5735, IN5745, IN5750LD, and SANCTUARY for use with wet or dry application. IN5510LD, IN5515LD, IN55414LD, IN5735, IN5675LD, and IN5733LD are to be used for dry application only.
- Foamed Plastic** -- (As an alternate to Item 3 or 3A, Not Shown) -- Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1), spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft<sup>3</sup> density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC, to allow for maximum 3 in. spacing of ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type 5 screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
- SEF FOAM INC.** -- Suracelax
- Cavity Insulation - Batts and Blankets or Fiber, Sprayed** -- (As described above in Items 3 and 3A -- (For Use with Item 7B, Not Shown) -- Min. 3-1/2 in. thick with no lint on max area. Insulation in the concealed space draped over the resilient channel (Item 6B)/gypsum board (Item 7B) ceiling membrane.
- Foamed Plastic** -- (As alternate to Item 3, 3A, or 3B, Not Shown) -- Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft<sup>3</sup> density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type 5 screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
- BA5F CORP.** -- EnerGel® MA, EnerGel® G, FE178®, SprayGel® 178, SprayGel® 81206, WalLite® 200, WalLite® US, WalLite® US-N, and WalLite® HP
- Foamed Plastic** -- (As an alternate to Item 3, 3A, 3B, 3C, or 3D, Not Shown) -- Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft<sup>3</sup> density, while maintaining a minimum 11-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board spaced maximum 3 in. away from gypsum butt joints. Gypsum board to be installed using minimum 1-1/4 in. long Type 5 screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Only for use with item 6 F.
- Carlisle Spray Foam Insulation** -- Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamulate Closed Cell, Foamulate OCX, Foamulate T0, Foamulate T0.
- Air Duct** -- Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.
- Ceiling Damper** -- Max nom area, 324 sq in. Max square size, 18 in. by 18 in. rectangular sizes not to exceed 324 sq in. with a max width of 18 in. Max damper height is 14 in. Installed in accordance with manufacturer's installation instructions provided with the damper. Max damper openings not to exceed 166 sq in. per 100 sq ft of ceiling area.
- CSA AIR PRODUCTS** -- Model CRD-521
- POTTORFF** -- Model CDF-521-HP
- SA Alternate Ceiling Damper** -- Max nom area, 196 sq in. Max square size, 14 in. by 14 in. Rectangular sizes not to exceed 196 sq in. with a max width of 26 in. Max overall damper height is 7 in. Installed in accordance with the manufacturer's installation instructions provided with the damper. Max damper openings not to exceed 98 sq in. per 100 sq ft of ceiling area.
- CSA AIR PRODUCTS** -- Model RD-521-HP
- POTTORFF** -- Model CDF-521-HP
- SA Alternate Ceiling Damper** -- Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
- CSA AIR PRODUCTS** -- Model CDF-521-HP, CDF-521-HP
- POTTORFF** -- Models CDF-521-HP, CDF-521-HP
- SA Alternate Ceiling Damper** -- Ceiling damper & fan assembly. Max nom area shall be 75 sq in. with the length not to exceed 8-9/16 in. and the width not to exceed 8-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 38 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
- DELTA ELECTRONICS INC.** -- Models CRD2, GBR-CRD, ITG-CRD
- SA Alternate Ceiling Damper** -- Ceiling damper & fan. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 45 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.

- installation instructions.
- DELTA ELECTRONICS INC.** -- Model SIG-CRD
- SA Alternate Ceiling Damper** -- Max nom area shall be 144 sq in. with the length not to exceed 14 in. and the width not to exceed 12 in. Max height of damper shall be 17-7/8 in. Aggregate damper openings shall not exceed 74 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
- CSA AIR PRODUCTS** -- Model RD-521-HP, RD-521-HP
- POTTORFF** -- Models CDF-521-HP, CDF-521-HP
- SA Alternate Ceiling Damper** -- Ceiling damper & fan assembly. Max nom area shall be 131 sq in. with the length not to exceed 11-7/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 66 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
- DELTA ELECTRONICS INC.** -- Model CRD-CRD
- SA Alternate Ceiling Damper** -- Ceiling damper & fan assembly. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
- PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA.** -- Model PC-RD20CS
- SA Alternate Ceiling Damper** -- Ceiling damper & fan assembly. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
- BROAN-NUTONE L.L.C.** -- Model RD2HW1
- SA Alternate Ceiling Damper** -- Ceiling damper & fan. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 10 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with the manufacturer's installation instructions provided with the damper. A metallic grille shall be installed in accordance with installation instructions.
- BROAN-NUTONE L.L.C.** -- Models RD21 and RD2H
- SA Alternate Ceiling Damper** -- Ceiling damper & fan assembly. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
- BROAN-NUTONE L.L.C.** -- Model RD2MW1
- SA Alternate Ceiling Damper** -- Ceiling damper & fan assembly. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
- BROAN-NUTONE L.L.C.** -- Model RD2MW2
- Furring Channels** -- Resilient channels formed of 25 MSG thick galv steel. Installed perpendicular to the trusses (Item 2), spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed space, or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane; or when insulation (Item 3B, 3D or 3E) is applied to the underside of the roofing system (Item 1). Two courses of resilient channels formed in min. 6 in. OC at wallboard butt-joints (3 in. from each end of wallboards). Channels oriented opposite at wallboard butt-joints. Channel splices overlapped 4 in. beneath wood trusses. Channels secured to each truss with 1-1/4 in. long Type 5 screws.
- 6A. Steel Framing Members** -- (Not Shown) -- As an alternate to Item 3, furring channels and Steel Framing Members as described below:
- Furring Channels** -- Formed of No. 25 MSG galv steel, 2-9/16 in. x 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to trusses when no insulation (Item 3 or 3A) is fitted in the concealed space or 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane or 24 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane and a second layer of gypsum board is attached as described in Item 7 for steel framing members. Channels secured to trusses as described in Item 6Aa. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.
  - Steel Framing Members** -- Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RS1C-1 and RS1C-1 (2.75) clips secured to alternating trusses with No. 8 by 2-1/2 in. coarse drywall screw through the center grommet. RS1C-V and RS1C-V (2.75) clips secured to alternating trusses with No. 8 by 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RS1C-1 and RS1C-V clips for use with 4-9/16 in. wide furring channels. RS1C-1 (2.75) and RS1C-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item 6Aa. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
- PAC INTERNATIONAL L.L.C.** -- Types RS1C-1, RS1C-V, RS1C-1 (2.75), RS1C-V (2.75).
- 6B. Steel Framing Members** -- (Not Shown) -- As an alternate to Items 6 and 6A.
- Furring Channels** -- Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Bc). Furring channels secured to Cold Rolled Channels at face intersection with a 1/2 in. diam part head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 3. Two layers of gypsum board attached to furring channels as described in Item 7.
  - Cold Rolled Channels** -- 1-1/2 in. by 1-1/2 in. by 1/2 in. formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction fitted into the channel caddy on the Steel Framing Members (Item 6Bd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.
  - Blocking** -- Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Bc) location.
  - Steel Framing Members** -- Hangers spaced 48 in. OC, max along truss, and secured to the Blocking (Item 6Bc) on alternating trusses with a single 5/16 in. by 2 in. eye head lag bolt or four #6 1-1/4 in. drywall screws through mounting holes) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.
- KINETICS NOISE CONTROL INC.** -- Type ICW.
- 6C. Steel Framing Members** -- (Not Shown) -- As an alternate to Items 6, 6A and 6B.
- Furring Channels** -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep installed perpendicular to wood structural members. Channels spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed space or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space. Channels secured to trusses as described in Item 6Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.
  - Steel Framing Members** -- Used to attach furring channels (Item 6Ca) to trusses (Item 2). Clips secured to the bottom chord of each truss (48 in. OC) with one No. 8 by 2-1/2 in. long coarse drywall screw through center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item 6Ca. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
- PLITEQ INC.** -- Type Genie Clip
- 6D. Steel Framing Members** -- (Not Shown) -- As an alternate to Items 6, 6A and 6C.
- Main runners** -- Installed perpendicular to trusses -- Nom 10 or 12 in. long, installed perpendicular to trusses and spaced 16 in. OC perpendicular to trusses when no insulation (Item 3 or 3A) is fitted in the concealed space or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space. Channels secured to trusses as described in Item 6Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.
  - Steel Framing Members** -- Used to attach furring channels (Item 6Ca) to trusses (Item 2). Clips secured to the bottom chord of each truss (48 in. OC) with one No. 8 by 2-1/2 in. long coarse drywall screw through center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item 6Ca. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
- US INTERIORS LLC.** -- Type DGL or RX
- 6E. Alternate Steel Framing Members** -- (Not Shown) -- As an alternate to Items 6, 6A, 6B, and 6C, furring channels and Steel Framing Members as described below.
- Furring Channels** -- Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in. deep, spaced 16 in. OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.
  - Steel Framing Members** -- Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. diam Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
- STUCCO BUILDING SYSTEMS** -- RESILMOUNT Sound Isolation Clips - Type A237 or A237R
- 6F. Steel Framing Members** -- (Not Shown) -- As an alternate to Items 6 through 6E. Not for use with Items 3 or 3A. Max main runners nom 12 in. long, spaced 72 in. OC. Main runners suspended by min 1/2 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 4 in. long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.
- USG INTERIORS LLC.** -- Type DGL or RX
- 6G. Resilient Channels** -- For Use With Item 7B -- Formed from min 25 MSG galv steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type 5 bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 3C is applied over the resilient channel/gypsum panel ceiling membrane.
- 6H. Alternate Steel Framing Members** -- (Not Shown) -- As an alternate to Items 6 through 6G, furring channels and Steel Framing Members as described below.
- Furring Channels** -- Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in. deep, spaced 16 in. OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.
  - Steel Framing Members** -- Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. diam Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
- REGULOP AMERICA** -- Type SonaClip
- 7. Gypsum Board** -- One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to trusses. Attached to the resilient channels using 1 in. long Type 5 bugle-head screws. Screws spaced a max of 12 in. OC along butted end-joints and in the field when no insulation (Item 3 or 3A) is fitted in the concealed space, or a max of 8 in. OC, along butted end-joints and in the field when insulation (Item 3 or 3A) is fitted in the concealed space. When insulation (Item 3B, 3D or 3E) is installed in the concealed space, spray-applied to the underside of the roofing system (Item 1), screws are spaced a max of 8 in. OC along resilient channels, fasteners are increased in length to 1-1/4 in. and gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels.
- When **Steel Framing Members** (Item 6A or 6C) are used, sheets installed with long dimension perpendicular to furring channels and side joints of sheet located beneath trusses. Gypsum board screws are driven through channel spaced 12 in. OC in the field when no insulation (Item 3 or 3A) is fitted in the concealed space, or 8 in. OC in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels. At the gypsum board butt joints, each end of the gypsum board shall be supported by a single length of furring channel equal to the width of the wallboard plus 6 in. on each end. The furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the trusses with one clip at each end of the channel. Screw spacing along the butt joint to attach the gypsum board to the furring channels shall be 8 in. OC. Second (outer) layer of gypsum board required when furring channels (Item 6A, a) are used. When furring channels (Item 6A, a) are used, gypsum board shall be installed in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Outer layer of gypsum board attached to the furring channels using 1-5/8 in. long Type 5 bugle-head steel screws spaced 8 in. OC at butted joints and 12 in. OC in the field. Butted end joints of outer layer to be offset a minimum of 8 in. from base layer end joints. Butted side joints of outer layer to be offset minimum 18 in. from butted side joints of base layer.
- When **Steel Framing Members** (Item 6B) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ba). Base layer attached to the furring channels using 1 in. long Type 5 bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type 5 bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted side joints of base layer.
- When **Steel Framing Members** (Item 6C) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with the nom 5/8 in. long Type 5 bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 72 in. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end, spaced approximately 2 in. in from joint. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Butt joint furring channels shall be attached to the main furring channels (Item 6A, a) using the RESILMOUNT Sound Isolation Clip secured to the underside of every truss that is located over the butt joint. Over all Gypsum Board side joints, approximately 0' in. lengths of furring channel shall be installed parallel to trusses (Item 2) between main furring channels. Side joint furring channels shall be attached to underside of the joint with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of the approximate 20 in. length of channel. Both Gypsum Boards on side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from end edge.
- When **Steel Framing Members** (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with the nom 5/8 in. long Type 5 bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 72 in. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. from the ends but joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.
- When alternate **Steel Framing Members** (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board sheets installed with long dimension (side joints) perpendicular to the 8 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backing strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop cross tee flanges and centered over each butted end joint location. The backing strips are to be secured to the flanges of the cross tees at opposite corners of the backing strip with hold down clips to prevent the backing strips from being uplifted during screw attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall screws spaced 12 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with 1-1/2 in. long Type 5 laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board.
- When **Steel Framing Members** (Item 6H) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with the nom 5/8 in. long Type 5 bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonaClip at every truss involved with the butt joint.
- CGC INC.** -- Types C, IP-X2, IPC-AR
- UNITED STATES GYPSUM CO.** -- Types C, IP-X2, IPC-AR
- USG BORAL DRYWALL SFG LLC.** -- Type C

- USG MEXICO S A DE CV** -- Types C, IP-X2, IPC-AR
- 7A. Gypsum Board** -- For use with Steel Framing Members (Item 6D) when Batts and Blankets (Item 3) are not used -- One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to the main runners. Gypsum board fastened to each cross tee or channel with five wallboard screws, with one screw located at the midpoint of the cross tee or channel, one screw located 12 in. from and on each side of the cross tee or channel mid span and one screw located 1-1/2 in. from each gypsum board side joint. Except at wallboard end joints, wallboard screws shall be located on alternating sides of cross tee flange. At gypsum board end joints, gypsum board screws shall be located 1/2 in. from the joint. Gypsum board fastened to main runners with wallboard screws 1/2 in. from side joints, midway between intersections with cross tees or channels (16 in. OC). End joints of adjacent gypsum board sheets shall be staggered not less than 32 in. Gypsum board sheets screw attached to leg of wall angle with wallboard screws spaced 12 in. OC. Joints treated as described in Item 7. For use with **Steel Framing Members** (Item 6D) when **Batts and Blankets** (Item 3) are used - Ratings limited to 1 Hour - 5/8 in. Thick, 4 ft wide, installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Fastened to cross tees with 1 in. long steel gypsum board screws spaced 8 in. OC in the field and 8 in. OC along end joints. Fastened to main runners with 1 in. long gypsum board screws spaced midway between cross tees. Screws along sides and ends of boards spaced 3/8 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC.
- CGC INC.** -- Type C or IP-X2
- UNITED STATES GYPSUM CO.** -- Type C or IP-X2
- USG BORAL DRYWALL SFG LLC.** -- Type C
- USG MEXICO S A DE CV** -- Type C or IP-X2
- 7B. Gypsum Board** -- For use with Items 3C and 6G. Nom 5/8 in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type 5 bugle head steel screws spaced 8 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Finish rating with this ceiling system is 20 min.
- CGC INC.** -- Type ULX
- UNITED STATES GYPSUM CO.** -- Type ULX
- 7C. Finishing System** -- (Not Shown) -- Vinyl dry or premixed joint compound, applied in two coats to joints and screw-heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nom 3/32 inch thick veneer plaster may be applied to the entire surface of gypsum board. Alternate Ceiling Membrane -- Not Shown.
- Netting** -- Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.
- \* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.
- Last Updated on 2021-05-22

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**KONTOGIANNIS & ASSOCIATES**

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PLANNING  
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E-MAIL: architects@kontogiannis.com

PROJECT:

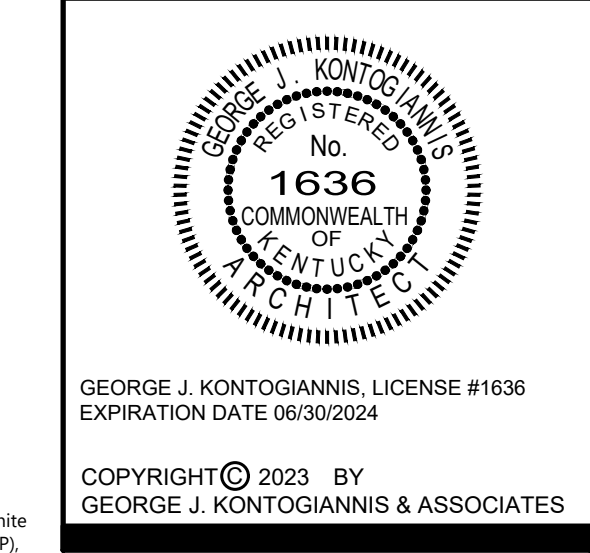
THE  
SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:

FIRE RESISTANCE  
RATINGS

DATE: 07/31/2023  
REVISED:



GEORGE J. KONTOGIANNIS, LICENSE #1636  
EXPIRATION DATE 06/30/2024

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- SUBMISSION SET
- PERMIT SET 07/31/2023
- BID SET 11/08/2023
- CONSTRUCTION SET

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Last Updated on 2021-11-09

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FR-1

FIRE RATING FOR 1 HOUR ROOF/CEILING ASSEMBLY  
U.L. DESIGN NO. P522

FIRE RATING FOR 1 HOUR ROOF/CEILING ASSEMBLY  
U.L. DESIGN NO. P522

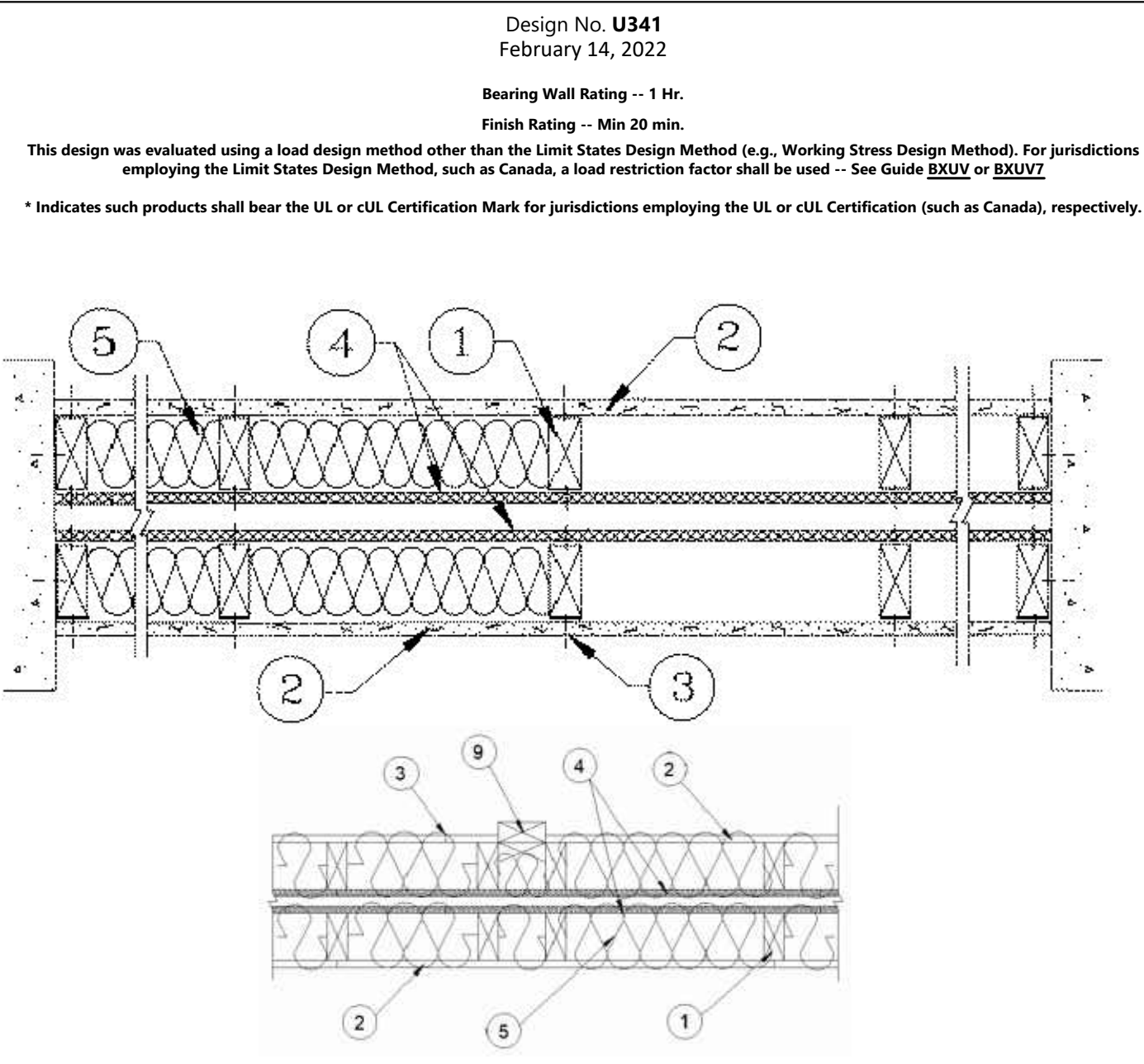
FIRE RATING FOR 1 HOUR ROOF/CEILING ASSEMBLY  
U.L. DESIGN NO. P522

FIRE RATING FOR 2 HOUR BEARING WALL RATING  
U.L. DESIGN NO. U906









**Design No. U341**  
 February 14, 2022

Bearing Wall Rating – 1 Hr.  
 Finish Rating – Min 20 min.

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used – See Guide **BSU1** or **BSU7**.

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

1. **Wood Studs** -- Nom 2 by 4 in., spaced 24 in. OC max. Cross braced at mid-height and effectively firestopped at top and bottom of wall. No min. air space between stud rows except to accommodate attachment of sheathing, where required. See Items 4 and 5.

2. **Gypsum Board** -- Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick 4 ft wide. Gypsum board applied horizontally or vertically, unless specified below, and nailed to studs and bearing plates 7 in. OC with 6d cement coated nails, 1 7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads. As an alternate, No. 6 bugle head drywall screws, 1-7/8 in. long, may be substituted for the 6d cement coated nails. When **Steel Framing Members** (Item 6) or any alternate type is used, wallboard attached to furring channels with 1 in. long Type 5 bugle-head steel screws spaced 12 in. OC.

When used in widths other than 48 in., gypsum board to be installed horizontally.

**AMERICAN GYPSUM CO** [\(View Classification\)](#) -- CNXKR14196

**BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO** [\(View Classification\)](#) -- CNXKR191374

**CABOT MANUFACTURING ULC** [\(View Classification\)](#) -- CNXKR25370

**CERTAINTED GYPSUM INC** [\(View Classification\)](#) -- CNXKR3660

**CGC INC** [\(View Classification\)](#) -- CNXKR19151

**CERTAINTED GYPSUM INC** [\(View Classification\)](#) -- CNXKR18482

**GEORGIA-PACIFIC GYPSUM L L C** [\(View Classification\)](#) -- CNXKR21717

**LOADMASTER SYSTEMS INC** [\(View Classification\)](#) -- CNXKR11809

**NATIONAL GYPSUM CO** [\(View Classification\)](#) -- CNXKR3501

**PARCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** [\(View Classification\)](#) -- CNXKR7094

**PANEL REY S A** [\(View Classification\)](#) -- CNXKR21796

**SIAM GYPSUM INDUSTRY (SARABURI) CO LTD** [\(View Classification\)](#) -- CNXKR19262

**THAI GYPSUM PRODUCTS PCL** [\(View Classification\)](#) -- CNXKR27517

**UNITED STATES GYPSUM CO** [\(View Classification\)](#) -- CNXKR1319

**USG BORAL DRYWALL SFZ LLC** [\(View Classification\)](#) -- CNXKR38438

**USG MEXICO S A DE CV** [\(View Classification\)](#) -- CNXKR16089

2A. **Gypsum Board** -- (As an alternate to Item 2, not shown) -- Nominal 5/8 in. thick, 4 ft wide panels, applied vertically to studs and bearing plates on one side of the assembly with 1-5/8 in. long Type 5 screws spaced 12 in. OC at perimeter of panels and 8 in. OC in the field. Horizontal joints of vertically applied panels need not be backed by studs. Panel joints covered with paper tape and two layers of joint compound. Screwheads covered with two layers of joint compound. Batts and Blankets placed in stud cavity as described in Item SC. Not evaluated for use with Steel Framing Members, Furring Channels or Fiber, Sprayed.

**PARCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** -- Type QuietRock QR-530 (finish rating 23 min.)

2B. **Gypsum Board** -- (As an alternate to Item 2, not shown) -- Any 5/8 in. thick gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified companies listed below in the **Gypsum Board** (CK00) category. Applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally.

**UNITED STATES GYPSUM CO**

**USG BORAL DRYWALL SFZ LLC**

**USG MEXICO S A DE CV**

2C. **Gypsum Board** -- (As an alternate to Item 2, Not Shown) -- 5/8 in. thick gypsum panels applied horizontally or vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally.

**AMERICAN GYPSUM CO** -- Types AGX-1, M-Glass, AG-C, LightRock

**CERTAINTED GYPSUM INC** -- Type C, Type X-1, Type X-2

**NATIONAL GYPSUM CO** -- Types FSX, Type FSX-C, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSW-6, Type FSL

**THAI GYPSUM PRODUCTS PCL** -- Type C or Type X

2D. **Gypsum Board** -- (As an alternate to Items 2A, 2B and 2C) -- 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board or nailed as described in Item 2. When used in widths other than 48 in., gypsum boards are to be installed horizontally.

**GEORGIA-PACIFIC GYPSUM L L C** -- GreenGlass Type X, Type DGG.

2E. **Gypsum Board** -- (As an alternate to Items 2 through 2D) -- 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically only and secured as described in Item 2.

**GEORGIA-PACIFIC GYPSUM L L C** -- Type X ComfortGuard Sound Densading Gypsum Board.

2F. **Gypsum Board** -- (As an alternate to Items 2 through 2E) -- Installed as described in Item 2, 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC. Not for use with Item #6.

**NATIONAL GYPSUM CO** -- Type SBV8

2G. **Gypsum Board** -- (As an alternate to Items 2 through 2F) -- Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2.

**PARCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** -- Types QuietRock ES.

2H. **Gypsum Board** -- (As an alternate to Items 2 through 2G) -- Installed as described in Item 2, 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally fastened to the studs and plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 12 in. OC.

**CERTAINTED GYPSUM INC** -- Type SilentFX

3. **Wall and Partition Facings and Accessories** -- (As an alternate to Items 2 through 2H) -- Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 2.

**PARCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** -- Type QuietRock S27.

4. **Gypsum Board** -- (As an alternate to 5/8 in. Type FSW in Item 2) -- 2 layers, nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal joints on the same side need not be staggered. Inner layer attached with fasteners, as described in Item 2, spaced 24 in. OC. Outer layer attached per Item 2.

**NATIONAL GYPSUM CO** -- Type FSW.

5. **Batts and Blankets** -- (As an alternate to Item 2) -- 5/8 in. thick gypsum panels, with beveled, square or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC, with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

**CERTAINTED GYPSUM INC** -- Type LGFC6A (finish rating 21 min.), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLX1

6. **Joints and Nailheads** -- Gypsum board joints of outer layer covered with tape and joint compound. Nail heads of outer layer covered with joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with joints reinforced with paper tape.

4. **Sheathing** -- (Optional) -- Septum may be sheathed with min 7/16 in. thick wood structural panels min grade "C" D" or "Sheathing" or min 1/2 in. thick **Mineral and Fiber Boards**.

See **Mineral and Fiber Boards** (CER2) category for names of Classified companies.

5. **Batts and Blankets** -- 3-1/2 in. max thickness glass or mineral fiber batt insulation. **Optional** when sheathing (Item 4) is used on both halves of wall. See **Batts and Blankets** (BZ22) category for list of Classified companies.

5A. **Fiber, Sprayed** -- As an alternate to Batts and Blankets (Item 5) -- Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft<sup>3</sup>. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft<sup>3</sup>, in accordance with the application instructions supplied with the product.

**U S GREENFIBER L L C** -- IN5735, IN5745, IN5750LD and SANCTUARY for use with wet or dry application. IN5515LD, IN541LD, IN5735, IN5765LD, and IN573LD are to be used for dry application only.

5B. **Fiber, Sprayed** -- As an alternate to Batts and Blankets (Item 5) when Sheathing (Item 4) is used on both halves of wall - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

**NU-WOOL CO INC** -- Cellulose Insulation

5C. **Batts and Blankets** -- (Required for use with Wall and Partition Facings and Accessories, Item 2A. Use of Sheathing, Item 2A, does not nullify requirement of Item SC for use with Item 2A) -- Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed 50 or less. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC, with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

5D. **Fiber, Sprayed** -- As an alternate to Batts and Blankets (Item 5) and Item 5A when Sheathing (Item 4) is used on both halves of wall - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lb/ft<sup>3</sup>.

**INTERNATIONAL CELLULOSE CORP** -- Celbar-RL

5E. **Fiber, Sprayed** -- As an alternate to Batts and Blankets (Item 5) -- Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thru, woven or non-woven netting may be attached by any means possible to the outer face of the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft<sup>3</sup>.

**APPLIGATE HOLDINGS L L C** -- Appligate Advanced Stabilized Cellulose Insulation

6. **Steel Framing Members** -- (Optional, Not Shown) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-9/16 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 3. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Wallboard attached to furring channels as described in Item 2.

**B. Steel Framing Members** -- Used to attach furring channels (Item 6A) to studs (Item 1). Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. R5C-1 clip for use with 2-9/16 in. wide furring channels. R5C-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

**PAC INTERNATIONAL L L C** -- Types R5C-1, R5C-1 (2.75).

**Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 3. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 6A) to studs (Item 1). Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. R5C-1 clip for use with 2-9/16 in. wide furring channels. R5C-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

**PAC INTERNATIONAL L L C** -- Types R5C-1, R5C-1 (2.75).

**Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, Spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 6B) to studs. Clips spaced 48 in. OC, and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

**STUCCO BUILDING SYSTEMS** -- RESILIMOUNT Sound Isolation Clips -- Type A237R

**Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, Spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 6C. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 6C) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

**REGUPOL AMERICA** -- Type SonusClip

6D. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Resilient channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 2.

**Steel Framing Members** -- Used to attach resilient channels (Item 6D) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

**CLARKDIERICH BUILDING SYSTEMS** -- Type ClarkDierich Sound Clip

7. **Wall and Partition Facings and Accessories** -- (Optional, Not Shown) -- Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

**PAC INTERNATIONAL L L C** -- Type RC-1 Boost

**Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 3. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach resilient channels (Item 6E) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

**CLARKDIERICH BUILDING SYSTEMS** -- Type RC-1 Assurance Clip

6E. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Used as an alternate method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 24 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions.

**PAC INTERNATIONAL L L C** -- Type RC-1 Boost

**Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 3. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach resilient channels (Item 6F) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

**CLARKDIERICH BUILDING SYSTEMS** -- Type RC-1 Assurance Clip

6F. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Used as an alternate method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 24 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions.

**PAC INTERNATIONAL L L C** -- Type RC-1 Boost

**Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 3. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach resilient channels (Item 6G) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

**CLARKDIERICH BUILDING SYSTEMS** -- Type RC-1 Assurance Clip

6G. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Resilient channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 3. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 2.

**Steel Framing Members** -- Used to attach resilient channels (Item 6G) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

**CLARKDIERICH BUILDING SYSTEMS** -- Type RC-1 Assurance Clip

6H. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 6) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, Spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 7A) to studs. Clips spaced 48 in. OC, and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

**KINETICS NOISE CONTROL INC** -- Type Isonax.

7B. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 7) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 7A) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips. R5C-1 clip for use with 2-9/16 in. wide furring channels. R5C-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

**PAC INTERNATIONAL L L C** -- Types R5C-1, R5C-1 (2.75).

7A. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 7) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, Spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Two layers of gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 7A) to interior side of studs. Clips spaced 48 in. OC, and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

**KINETICS NOISE CONTROL INC** -- Type Isonax.

7B. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 7) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 7B) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

**REGUPOL AMERICA** -- Type SonusClip

7C. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 7) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, Spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 7C) to studs. Clips spaced 48 in. OC, and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

**STUCCO BUILDING SYSTEMS** -- RESILIMOUNT Sound Isolation Clips - Type A237R

7D. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 7) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, Spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 7D. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 7D) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

**REGUPOL AMERICA** -- Type SonusClip

7E. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 7) -- Resilient channels and Steel Framing Members as described below:

**A. Resilient Channels** -- Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 2.

**Steel Framing Members** -- Used to attach resilient channels (Item 7E) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.

**KEENE BUILDING PRODUCTS CO INC** -- Type RC-1 Assurance Clip

7F. **Steel Framing Members** -- (Optional, Not Shown. As an alternate to Item 7) -- Furring channels and Steel Framing Members as described below:

**A. Furring Channels** -- Formed of No. 25 MSG galv steel, 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC, perpendicular to studs. Channels secured to studs as described in Item 6. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

**Steel Framing Members** -- Used to attach furring channels (Item 7F) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

**CLARKDIERICH BUILDING SYSTEMS** -- Type ClarkDierich Sound Clip

8. **Non-Bearing Wall Partition Intersection** -- (Optional) -- Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC, vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC, vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC, vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be a minimum equal to the depth of the bearing wall.

**AMERICAN GYPSUM CO** -- Homosote Type 440-32

**2. Non-Bearing Wall Partition Intersection** -- (Optional) -- Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC, vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC, vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC, vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be a minimum equal to the depth of the bearing wall.

**AMERICAN GYPSUM CO** -- Homosote Type 440-32

**10. Glass Fiber Insulation** -- For use with Item 10) -- 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistants, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZ22) categories for names of Classified companies.

10B. **Batts and Blankets** -- (As an alternate to Item 10B, For use with Item 10), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC.

**THERMAFIBER INC** -- Type SAF8, SAF8 F

10C. **Adhesive** -- For use with Item 10) -- Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

10D. **Gypsum Board** -- For use with Item 10) -- 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 10). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min.

**AMERICAN GYPSUM CO** -- Type AG-C

**CERTAINTED GYPSUM INC** -- Type CG

**CERTAINTED GYPSUM INC** -- Type LGFC-C/A

**GEORGIA-PACIFIC GYPSUM L L C** -- Types S, DAPC, TG-C

**NATIONAL GYPSUM CO** -- Types FSX-C, FSW-C

**PARCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** -- Type PG-C

**PANEL REY S A** -- Type PRC

**THAI GYPSUM PRODUCTS PCL** -- Type C or Type X

**UNITED STATES GYPSUM CO** -- Type Types C, IP-X2, IPC-AR

**USG BORAL DRYWALL SFZ LLC** -- Type C, IP-X2, IPC-AR

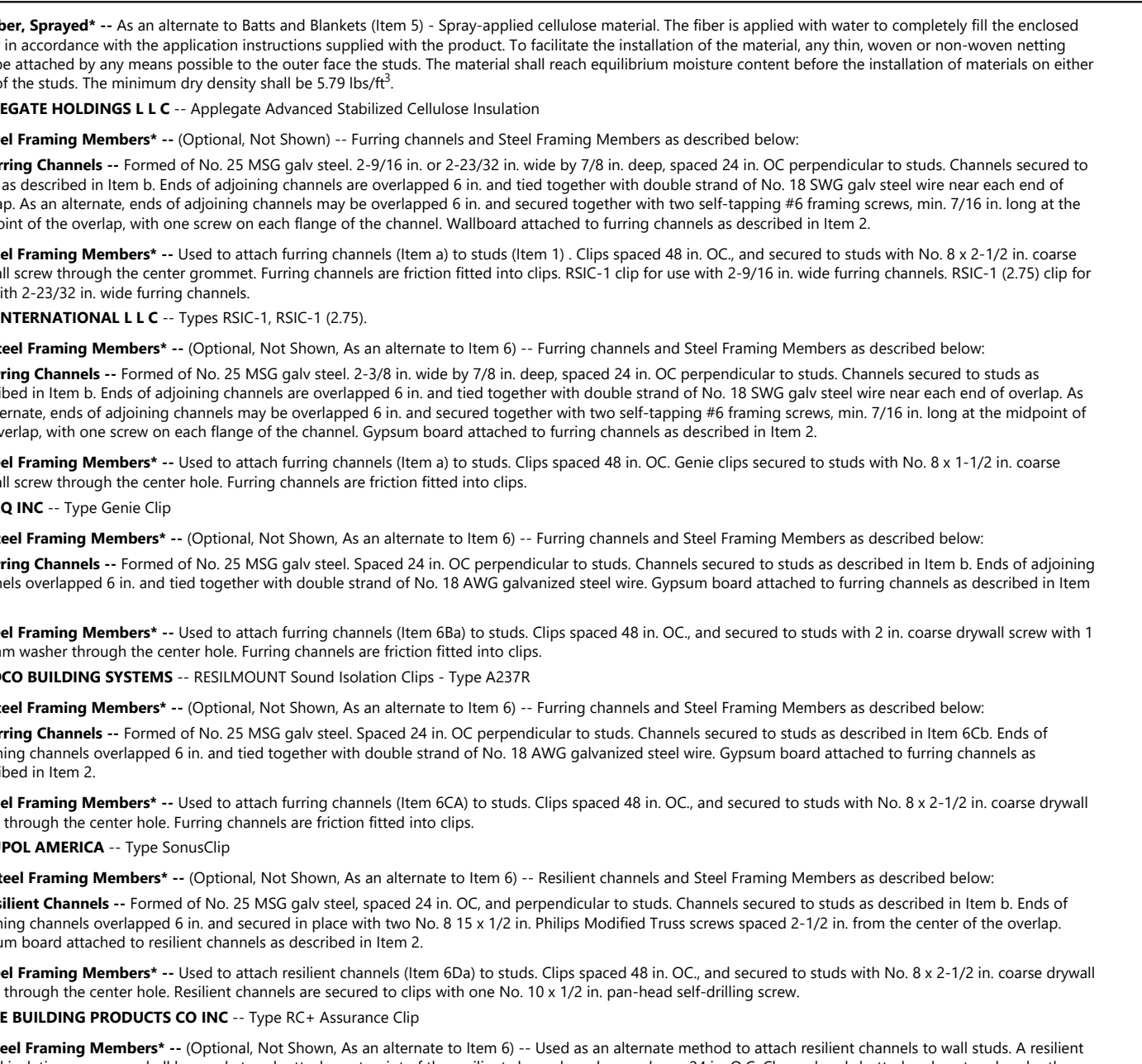
**USG MEXICO S A DE CV** -- Types C, IP-X2, IPC-AR

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

Last updated on 2022-02-14

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**FIRE RATING FOR 1 HOUR BEARING WALL RATING**  
 U.L. DESIGN NO. U341



**Design No. U356**  
 February 14, 2022

Bearing Wall Rating -- 1 Hr Rating Exposed to Fire on Interior Face Only  
 Bearing Wall Rating -- 1 Hr Rating Exposed to Fire on Exterior Face (See Item 6E)  
 Finish Rating -- 23 Min or 25 Min (See Item 2C)

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used – See Guide **BSU1** or **BSU7**.

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

1. **Wood Studs** -- Nom 2 by 4 in., spaced 16 in. OC with two 2 by 4 in. top and one 2 by 4 in. bottom plates. Studs laterally-braced by wood structural panel sheathing (Item 5). When **Mineral and Fiber Boards** (Item 5A) are considered as bracing for the studs, the load is restricted to 76% of allowable axial load. Walls effectively fire stopped at top and bottom of wall.

2. **Gypsum Board** -- Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick, 4 ft wide, applied vertically and nailed to studs and bearing plates 7 in. OC with 6d cement-coated nails, 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads. As an alternate, No. 6 bugle head drywall screws, 1-7/8 in. long, may be substituted for the 6d cement-coated nails. When **Steel Framing Members** (Item 6) or any alternate type is used, wallboard attached to furring channels with 1 in. long Type 5 bugle-head steel screws spaced 12 in. OC.

When used in widths other than 48 in., gypsum board to be installed horizontally.

**AMERICAN GYPSUM CO** [\(View Classification\)](#) -- CNXKR14196

**BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO** [\(View Classification\)](#) -- CNXKR191374

**CABOT MANUFACTURING ULC** [\(View Classification\)](#) -- CNXKR25370

**CERTAINTED GYPSUM INC** [\(View Classification\)](#) -- CNXKR3660

**CGC INC** [\(View Classification\)](#) -- CNXKR19151

**CERTAINTED GYPSUM INC** [\(View Classification\)](#) -- CNXKR18482

**GEORGIA-PACIFIC GYPSUM L L C** [\(View Classification\)](#) -- CNXKR21717

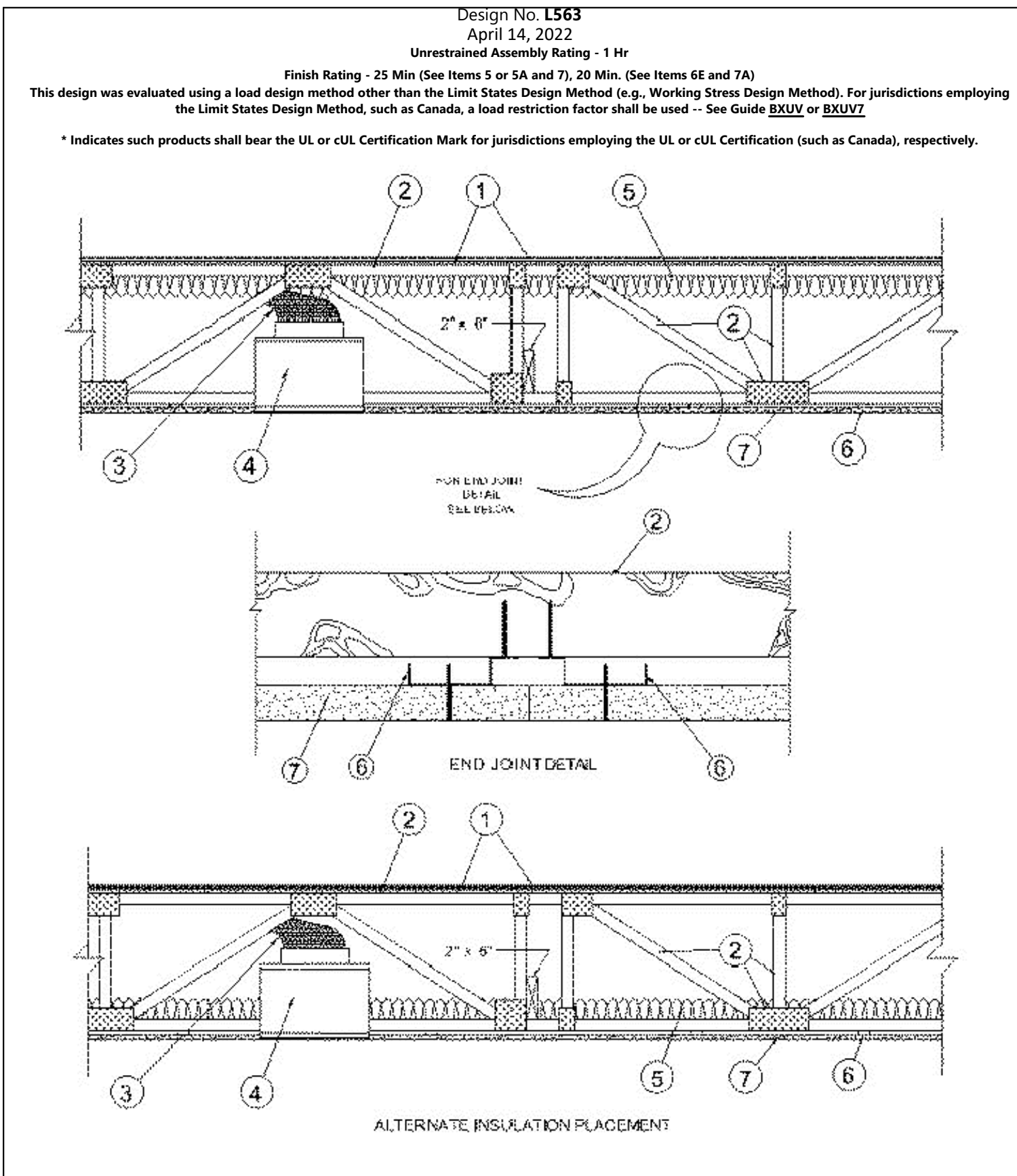
**LOADMASTER SYSTEMS INC** [\(View Classification\)](#) -- CNXKR11809

**NATIONAL GYPSUM CO** [\(View Classification\)](#) -- CNXKR3501

**PARCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM** [\(View Classification\)](#) -- CNXKR7094

**PANEL REY S A** [\(View Classification\)](#) -- CNXKR21796





1. **Flooring System** – The flooring system shall consist of one of the following:

**System No. 1**  
**Subflooring** – Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Nom 0.030 in. thick commercial asphalt saturated felt.  
**Finish Flooring – Floor Topping Mixture** – Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

**System No. 2**  
**Subflooring** – Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Floor Mat Materials\*** (Optional) – Floor mat material No. 5/64 in. (2 mm) thick adhered to subfloor with Hucker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1/4 in. of floor-topping mixture.  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 1/4 in. (6 mm) thick adhered to subfloor with Hucker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1/4 in. (62 mm) of floor-topping mixture.  
**HACKER INDUSTRIES INC** – Type Hacker Sound-Mat II  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19 mm)  
**HACKER INDUSTRIES INC** – FIRM-FILL SCM 125  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25 mm)  
**HACKER INDUSTRIES INC** – Type FIRM-FILL SCM 250, Quiet Quirt 55/025  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm)  
**HACKER INDUSTRIES INC** – FIRM-FILL SCM 400, Quiet Quirt 60/040  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm)  
**HACKER INDUSTRIES INC** – Type FIRM-FILL SCM 750, Quiet Quirt 65/075  
**Metal Lath\*** (Optional) – For use with 3 in. (10 mm) floor mat materials. 3/8 in. expanded steel diamond mesh, 3/4 lbs/yd gal placed over the floor mat material. Hucker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness shall be a minimum of 1-1/4 in. over the floor mat.  
**Finish Flooring – Floor Topping Mixture** – Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.  
**HACKER INDUSTRIES INC** – Firm-Fill Gypsum Cement, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radant

**System No. 3**  
**Subflooring** – Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Finish Floor – Mineral and Fiber Board\*** – Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.  
**HOMASOTE CO** – Type 440-32 Mineral and Fiber Board

**System No. 4**  
**Subflooring** – Min 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Nom 0.010 in. thick commercial asphalt saturated felt.  
**Vapor Barrier – Floor Topping Mixture** – Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.  
**UNITED STATES GYPSUM CO** – Types LTK, HSLRN, CSD  
**LATICRETE SUPERACK L L C** – Types LTK, HSLRN  
**USG MEXICO SA DE CV** – Types LTK, HSLRN, CSD  
**Floor Mat Materials\*** (Optional) – Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.  
**UNITED STATES GYPSUM CO** – Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25  
**Alternate Floor Mat Materials\*** (Optional) – Nom 3/8 in. thick floor mat material loose laid over the subfloor.  
**GRASSWOX L L C** – Type SC50

**System No. 5**  
**Subflooring** – Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Nom 0.030 in. thick commercial asphalt saturated felt.  
**Finish Flooring – Floor Topping Mixture** – Min 1-1/2 in. thickness of floor topping mixture having a minimum compressive strength of 1000 psi and a cast density of 100 lbs or minus 5 pcf. Form concentrate mixed 401 by volume with water and expanded to 100 psi through nozzle. Mixture shall consist of 1.4 cu ft of preformed foam concentrate to 94 lbs of Type I portland cement, 200 lbs of sand with 5-1/2 gal of water.  
**ELASTIZEL CORP OF AMERICA** – Type FF  
**System No. 6**  
 Deleted.

**System No. 7**  
**Subflooring** – Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Nom 0.030 in. thick commercial asphalt saturated felt.  
**Finish Flooring – Floor Topping Mixture** – Min 1-1/2 in. thickness of floor topping mixture having a minimum compressive strength of 1000 psi and a cast density of 100 lbs or minus 5 pcf. Form concentrate mixed 401 by volume with water and expanded to 100 psi through nozzle. Mixture shall consist of 1.2 cu ft of preformed foam concentrate to 94 lbs of Type I portland cement, 300 lbs of sand with 5.5 gal of water.  
**ARBX INDUSTRIES** – Floor-Topping Mixture

**System No. 8**  
**Subflooring** – Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Nom 0.030 in. thick commercial asphalt saturated felt.  
**Finish Flooring – Floor Topping Mixture** – Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1000 psi. Mixture shall consist of 5 to 8 gal of water to 80 lbs of floor topping mixture to 2.1 cu ft of sand.  
**ULTRA QUIET FLOORS** – Types UQ-F, UQF-Super Blend, UQF-Plus 200

**System No. 9**  
**Subflooring** – Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Nom 0.030 in. thick commercial asphalt saturated felt.  
**Finish Flooring – Floor Topping Mixture** – Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.  
**FORMULATED MATERIALS LLC** – Types FR-25, FR-30, and StitMix  
**Floor Mat Materials\*** (Optional) – Floor mat material No. 2 - 9.5 mm thick loose laid over the subfloor. Floor topping shall be a min of 3/4 in.  
**FORMULATED MATERIALS LLC** – Types M1, M2, M3, Elite, Duo, R1, and R2

**System No. 10**  
**Subflooring** – Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior gull, or nonveneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**MAXXON CORP** – Type Maxxon Standard and Maxxon High Strength  
**Floor Mat Materials\*** (Optional) – Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.  
**MAXXON CORP** – Type Encapsulated Sound Mat.  
**Floor Mat Reinforcement\*** (Optional) Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.  
**Metal Lath\*** (Optional) 3/8 in. expanded galvanized steel diamond mesh, 2.5 lbs/yd loose laid over floor mat material.  
**Fiber Glass Reinforcement\*** (Optional) -0.015 in. thick PVC coated non-woven fiberglass mesh, 0.368 lbs/yd, loose laid over the floor mat material.

**System No. 11**  
**Subflooring** – Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior gull, or nonveneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Commercial asphalt saturated felt, 0.030 in. thick.  
**Vapor Barrier (Optional)** – Nom 0.010 in. thick commercial resin-sized building paper.  
**Finish Flooring** – Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as a Fire Resistance. See Floor- and Roof-Topping Mixtures (CCCO) category for names of Classified Companies. Refer to the manufacturer's instructions accompanying the material and/or contact the manufacturer's technical support for specific mix design and minimum thickness recommended for use with eligible floor mats.  
**Floor Mat Materials\*** (Optional) – Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.  
**KEENE BUILDING PRODUCTS CO INC** – Type Quiet Quirt 55/025 and Quiet Quirt 55/025 N  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.  
**KEENE BUILDING PRODUCTS CO INC** – Type Quiet Quirt 60/040 and Quiet Quirt 60/040 N  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.  
**KEENE BUILDING PRODUCTS CO INC** – Quiet Quirt 55/025 MT and Quiet Quirt 55/025 N MT  
**System No. 12**  
**Subflooring** – Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joints with joints staggered.  
**Vapor Barrier (Optional)** – Commercial asphalt saturated felt, 0.030 in. thick.  
**Vapor Barrier (Optional)** – Nom 0.010 in. thick commercial resin-sized building paper.  
**Finish Flooring** – Min 3/4 in. thickness of lightweight insulating concrete with **Perlite Aggregate\*** or **Vermiculite Aggregate\***, or gypsum concrete.  
**See Perlite Aggregate (CFR) and Vermiculite Aggregate (C122) categories for names of manufacturers.**  
**Floor Mat Materials\*** (Optional) – Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.  
**KEENE BUILDING PRODUCTS CO INC** – Type Quiet Quirt 55/025 and Quiet Quirt 55/025 N  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.  
**KEENE BUILDING PRODUCTS CO INC** – Type Quiet Quirt 60/040 and Quiet Quirt 60/040 N  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.  
**KEENE BUILDING PRODUCTS CO INC** – Quiet Quirt 55/025 MT and Quiet Quirt 55/025 N MT

**System No. 13**  
**Subflooring** – Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior gull, or nonveneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Nom 0.030 in. thick commercial asphalt saturated felt.  
**Finish Flooring – Floor Topping Mixture** – Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.  
**FORMULATED MATERIALS LLC** – Types Nodigen, Gen, Prime and Profiber, AccuRadian®, AccuLevel® Types G40, G50 and G30  
**Floor Mat Materials\*** (Optional) – Floor mat material No. 2 - 9.5 mm thick loose laid over the subfloor. Floor topping shall be a minimum of 3/4 in.  
**ARCOSA SPECIALTY MATERIALS** – AccuQuic® Types D1.1, B.18, D25, DX38, EM.125, EM.200, EM2.205, EM.375, EM.375S, EM.3750, and EM.7505.

**System No. 14**  
**Subflooring** – Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior gull, or nonveneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Nom 0.030 in. thick commercial asphalt saturated felt.  
**Finish Flooring – Floor Topping Mixture** – Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.  
**FORMULATED MATERIALS LLC** – GSI, M3.4, GSI, K2.6, GSI, CSD and GSI, RH.  
**Floor Mat Materials\*** (Optional) – Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.  
**KEENE BUILDING PRODUCTS CO INC** – Type Quiet Quirt 55/025 and Quiet Quirt 55/025 N  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.  
**KEENE BUILDING PRODUCTS CO INC** – Type Quiet Quirt 60/040 and Quiet Quirt 60/040 N  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.  
**KEENE BUILDING PRODUCTS CO INC** – Type Quiet Quirt 55/025 MT and Quiet Quirt 55/025 N MT  
**Alternate Floor Mat Materials\*** (Optional) – Floor mat material No. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.  
**KEENE BUILDING PRODUCTS CO INC** – Quiet Quirt 55/025 MT and Quiet Quirt 55/025 N MT

**System No. 15**  
**Subflooring** – Min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to joints with joints staggered. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss.  
**Wall and Partition Facings and Accessories - Sound Barrier (Optional)** – Acoustic Sleeper pads shall be applied to the top of the subfloor, the bottom of the finish floor, or to 5/16 in. thick by 1-1/2 in. wide wood strips and centered over wood trusses. Acoustic Sleeper pads are to be spaced appropriately so that the finish floor panels are fastened through Acoustic Sleeper pads to trusses.  
**ST. ARCHITECTURAL PRODUCTS SYSTEMS L L C DBA ST SOUND CONTROL** – Acoustic Sleeper

**System No. 16**  
**Subflooring** – Min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to joints with joints staggered. But joints panels have the option of being sealed with any UL Classified caulk or sealant found in: Fill, Void or Cavity Materials (OHW), UNITS accompanying the material for specific mix design.  
**System No. 17**  
**Structural Cement-Fiber Units\*** – For use with **UNITED STATES GYPSUM CO** Types C, IP-C, IPC-AR and ULUX gypsum boards only. Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self-countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, created 1/2 in. from the end edges of the panel.  
**UNITED STATES GYPSUM CO** – Types STRUCO-CRETE, LGSPP

**System No. 18**  
**Subflooring** – Nom 23/32 in. thick wood structural panels installed perpendicular to trusses and joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Finish Flooring – Floor Topping Mixture** – Min 1 in. thickness of floor topping mixture having a minimum compressive strength of 4500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.  
**SIKA DEUTSCHLAND GMBH** – Type SCHONOX AP Rapid Plus  
**System No. 19**  
**Subflooring** – Nom 23/32 in. thick wood structural panels installed perpendicular to trusses and joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Commercial asphalt saturated felt, 0.030 in. thick.  
**Finish Flooring – Floor Topping Mixture** – Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as a Fire Resistance. See Floor- and Roof-Topping Mixtures (CCCO) category for names of Classified Companies. Refer to the manufacturer's instructions accompanying the material and/or contact the manufacturer's technical support for specific mix design and minimum thickness recommended for use with eligible floor mats.  
**Floor Mat Materials\*** (Optional, Not Shown) – Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.  
**LOW & BONAR INC** – Enkasonic® By Colbond a member of the Low & Bonar group. Types 125, 250, 250 Plus, 400, 400 Plus, 750 and 750 Plus.  
**Floor Mat Reinforcement\*** (Optional) – Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.  
**Metal Lath\*** (Optional) – Expanded steel diamond mesh, 2.5 lbs/yd loose laid over floor mat material.

**System No. 20**  
**FiberGlass Mesh Reinforcement\*** (Optional) – Coated non-woven glass fiber mesh grid loose laid over floor mat material.  
**System No. 20**  
**Subflooring** – Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Vapor Barrier (Optional)** – Nom 0.030 in. thick commercial asphalt saturated felt.  
**Floor Mat Materials\*** (Optional) – Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.  
**GRASSWOX L L C** – Types FC  
**Finish Flooring** – Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as a Fire Resistance. See Floor- and Roof-Topping Mixtures (CCCO) category for names of Classified Companies. Refer to the manufacturer's instructions accompanying the material and/or contact the manufacturer's technical support for specific mix design and minimum thickness recommended for use with eligible floor mats.  
**Floor Mat Reinforcement\*** (Optional) – Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.  
**Metal Lath\*** (Optional) – Expanded steel diamond mesh, 2.5 lbs/yd loose laid over floor mat material.

**System No. 21**  
**FiberGlass Mesh Reinforcement\*** (Optional) – Coated non-woven glass fiber mesh grid loose laid over floor mat material.  
**System No. 21**  
**Subflooring** – Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.  
**Trusses** – Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. when using 2x10s. All trusses are not used. Min truss depth is 18 in. when Ceiling Damper\* is used. Trusses are secured together with min 0.036 D356 pin, thick galvanized steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made to the same pattern), forming a split tooth type joint. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on opposite 7/8 in. centers with four rows of teeth per inch in plate width.  
**3. Air Duct\*** (Optional) – Any UL Class 0 or Class I flexible air duct installed in accordance with the instructions provided by the damper manufacturer.  
**4. Ceiling Damper\*** (Optional) – To be used with **Air Duct Item 3**. – For use with min 18 in. deep trusses Max plenum box size nom 19 in. long by 19 in. wide and 1-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 128 sq. in. per 100 sq ft of ceiling area. Plenum box installed in accordance with the manufacturer's installation instructions provided with the damper.  
**AIRE TECHNOLOGIES INC** – Models: CRD model 50 w/BOAT, CRD model 50EA w/BOAT, CRD model 55 w/BOAT, CRD model 55 EA w/BOAT.  
**LLOYD INDUSTRIES INC** – Models: CRD 50-EB, CRD 50-FA-EB, CRD 50-FA-ET, CRD 55-EB, CRD 55-FA-EB  
**UNITED ENERTech CORP** – Model C-S/R-WT, L, C-S/R-EA, L, C-S/R-BL, C-S/R-EA-BL  
**46. Alternate Ceiling Damper\*** – For use with min 18 in. deep trusses Max plenum box size nom 13 in. long by 13 in. wide and 1-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 50 sq. in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.  
**LLOYD INDUSTRIES INC** – Model CRD 50-BT-6, CRD 50-FA-BT-6, CRD 55-BT-6, CRD 55-FA-BT-6, CRD50-X-BT-6  
**46. Alternate Ceiling Damper\*** – For use with min 18 in. deep trusses Max size ceiling outlet in plenum box nom 12 in. long by 12 in. wide. Plenum box fabricated from galv steel. Aggregate damper openings shall not exceed 72 sq. in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.  
**LLOYD INDUSTRIES INC** – Models: CRD model 50 w/BOAT, CRD model 50EA w/BOAT, CRD model 55 w/BOAT, CRD model 55 EA w/BOAT.  
**AIRE TECHNOLOGIES INC** – Model CRD 50-BT, CRD 50-FA-BT, CRD 55-BT, CRD 55-FA-BT  
**48. Alternate Ceiling Damper\*** – For use with min 18 in. deep trusses. Max size ceiling outlet in plenum box nom 16 in. long by 16 in. wide. Aggregate damper openings shall not exceed 128 sq. in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.  
**AIRE TECHNOLOGIES INC** – Models: CRD50-FGPB-4.2-CP, -6.0-CP, CRD50-FGPB-4.2-EP, -6.0-EP-CP.  
**CROWN PRODUCTS INC** – Models: CRD50-FGPB-4.2-CP, -6.0-CP, CRD50-FGPB-4.2-EP, -6.0-EP-CP.  
**LLOYD INDUSTRIES INC** – Models: CRD 50-FGPB-4.2, -4.2 NL, -6.0 NL, -6.0 NL; CRD50-EA-FGPB-4.2, -4.2 NL, -6.0 NL, -6.0 NL  
**48. Alternate Ceiling Damper\*** – For use with min 18 in. deep trusses Max plenum box size nom 15 in. long by 15 in. wide and 1-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 72 sq. in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.  
**LLOYD INDUSTRIES INC** – Models 45-CRD-LT-BT and 45-CRD-LTD-BT  
**48. Alternate Ceiling Damper\*** – For use with min 18 in. deep trusses Max size ceiling outlet in plenum box nom 10 in. long by 10 in. wide. Plenum box fabricated from galv steel. Aggregate damper openings shall not exceed 50 sq. in. per 100 sq ft of ceiling area. Installed in accordance with the manufacturer's installation instructions provided with the damper.  
**LLOYD INDUSTRIES INC** – Model 45-LTD-95-BT-4  
**48. Alternate Ceiling Damper\*** – For use with min 18 in. deep trusses Max plenum box size nom 19 in. long by 15 in. wide and 1-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 96 sq. in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.  
**LLOYD INDUSTRIES INC** – Model CRD50-X-BT  
**48. Alternate Ceiling Damper\*** – For use with min 18 in. deep trusses. Max nom area shall be 349 sq. in. Max, overall length and width shall not exceed 18-11/16 in. by 18-11/16 in. with 16 in. by 16 in. register opening. Aggregate damper openings shall not exceed 172 sq. in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper. An aluminum or steel grille (Item 9) shall be installed in accordance with installation instructions.  
**MIAMI TECH INC** – Model Series RxCRD, RxCRD5 or RxCRPD  
**48. Alternate Ceiling Damper\*** – For use with min 18 in. deep trusses Max plenum box size nom 19 in. long by 19 in. wide and 1-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 128 sq. in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.  
**METAL-FAB INC** – Models MSCD-HC and MRCO-HC  
**48. Alternate Ceiling Damper\*** – For use with min 18 in. deep trusses Max plenum box size nom 14 in. long by 16 in. wide and 15 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 112 sq. in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.  
**METAL-FAB INC** – Model MCCD  
**5. Batts and Blankets\*** (Optional) – Glass fiber or mineral wool insulation bearing the UL Classification Marking as Surface Burning Characteristics and/or Fire Resistance. When insulation is installed in the concealed space resilient channels (Item 6) are spaced 24 in. OC. When the resilient channels (Item 6) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring with staples at 12 in. OC, or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses 12 in. OC, or when the resilient channels are spaced 12 in. OC, when the resilient channels are spaced 16 in. OC, there shall be no limit in the overall thickness of insulation, and the insulation shall be secured against the subflooring or held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane. The finished ratings have only been determined when the insulation is secured to the subflooring.  
**5. A Fire Resistant Foil Material\*** (Optional) – An alternate to Item 5, when the resilient channels (Item 6) are spaced a max of 12 in. OC, or when the Steel Framing Members (Item 6A) are spaced a max of 12 in. OC, there shall be no limit in the overall thickness of insulation, and the insulation shall be secured against the subflooring or held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane. The finished ratings have only been determined when the insulation is secured to the subflooring.  
**5. A Fire Resistant Foil Material\*** (Optional) – An alternate to Item 5, when the resilient channels (Item 6) are spaced a max of 12 in. OC, or when the Steel Framing Members (Item 6A) are spaced a max of 12 in. OC, there shall be no limit in the overall thickness of insulation, and the insulation shall be secured against the subflooring or held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane. The finished ratings have only been determined when the insulation is secured to the subflooring.  
**5. A Fire Resistant Foil Material\*** (Optional) – An alternate to Item 5, when the resilient channels (Item 6) are spaced a max of 12 in. OC, or when the Steel Framing Members (Item 6A) are spaced a max of 12 in. OC, there shall be no limit in the overall thickness of insulation, and the insulation shall be secured against the subflooring or held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane. The finished ratings have only been determined when the insulation is secured to the subflooring.  
**5. A Fire Resistant Foil Material\*** (Optional) – An alternate to Item 5, when the resilient channels (Item 6) are spaced a max of 12 in. OC, or when the Steel Framing Members (Item 6A) are spaced a max of 12 in. OC, there shall be no limit in the overall thickness of insulation, and the insulation shall be secured against the subflooring or held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane. The finished ratings have only been determined when the insulation is secured to the subflooring.  
**5. A Fire Resistant Foil Material\*** (Optional) – An alternate to Item 5, when the resilient channels (Item 6) are spaced a max of 12 in. OC, or when the Steel Framing Members (Item 6A) are spaced a max of 12 in. OC, there shall be no limit in the overall thickness of insulation, and the insulation shall be secured against the subflooring or held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane. The finished ratings have only been determined when the insulation is secured to the subflooring.  
**5. A Fire Resistant Foil Material\*** (Optional) – An alternate to Item 5, when the resilient channels (Item 6) are spaced a max of 12 in. OC, or when the Steel Framing Members (Item 6A) are spaced a max of 12 in. OC, there shall be no limit in the overall thickness of insulation, and the insulation shall be secured against the subflooring or held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane. The finished ratings have only been determined when the insulation is secured to the subflooring.  
**5. A Fire Resistant Foil Material\*** (Optional) – An alternate to Item 5, when the resilient channels (Item 6) are spaced a max of 12 in. OC, or when the Steel Framing Members (Item 6A) are spaced a max of 12 in. OC, there shall be no limit in the overall thickness of insulation, and the insulation shall be secured against the subflooring or held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane. The finished ratings have only been determined when the insulation is secured to the subflooring.  
**5. A Fire Resistant Foil Material\*** (Optional) – An alternate to Item 5, when the resilient channels (Item 6) are spaced a max of 12 in. OC, or when the Steel Framing Members (Item 6A) are spaced a max of 12 in. OC, there shall be no limit in the overall thickness of insulation, and the insulation shall be secured against the subflooring or held suspended



**Design No. L512**  
**April 14, 2022**

**Unrestrained Assembly Rating -- 1 Hr.**  
**Finish Rating -- 21 Min. or (16 Min. See Item 5A)**

**This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used -- See Guide [B311](#) or [B312](#).**

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

**1. Flooring Systems** -- The flooring system shall consist of one of the following:

**System No. 1**

**Subflooring** -- Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- Nom 0.010 in. thick commercial rosin-sized building paper.

**Finish Flooring** -- Min 1 by 3 in. T & G and end matched laid perpendicular to joists, or 19/32 in. plywood, min grade "Underlayment". Face grain of plywood to be perpendicular to joists with joints staggered.

**System No. 2**

**Subflooring** -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- (Optional) -- Nom 0.010 in. thick commercial asphalt saturated felt.

**Finish Flooring - Floor Topping Mixture\*** -- Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

**UNITED STATES GYPSUM CO** -- Types LKR, HSLRK, CSD

**USG MEXICO S A DE C V** -- Types LKR, HSLRK, CSD

**Floor Mat Materials\*** -- (Optional) -- Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

**UNITED STATES GYPSUM CO** -- Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

**Alternate Floor Mat Materials\*** -- (Optional) -- Nom 3/8 in. thick floor mat material loose laid over the subfloor. Floor topping thickness shall be as specified under **Floor Topping Mixture**.

**GRASSWORX L L C** -- Type CSC50

**System No. 3**

**Subflooring** -- Min 19/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Floor Mat Materials\*** -- (Optional) -- Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of floor-topping mixture.

**HACKER INDUSTRIES INC** -- Type Hacker Sound-Mat

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material nom 1/4 in. (6 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32 mm) of floor-topping mixture.

**HACKER INDUSTRIES INC** -- Type Hacker Sound-Mat II

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19 mm)

**HACKER INDUSTRIES INC** -- FIRM-FILL SCM 125

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25 mm)

**HACKER INDUSTRIES INC** -- Type FIRM-FILL SCM 250, Quiet Quil 55/025

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm)

**HACKER INDUSTRIES INC** -- FIRM-FILL SCM 400, Quiet Quil 60/040

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm)

**HACKER INDUSTRIES INC** -- Type FIRM-FILL SCM 750, Quiet Quil 65/075

**Metal Lath (Optional)** -- For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness nom. 1-1/4 in. over the floor mat.

**Finish Flooring -- Floor Topping Mixture\*** -- Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

**HACKER INDUSTRIES INC** -- Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

**System No. 4**

**Subflooring** -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- (Optional) -- Nom 0.030 in. thick commercial asphalt saturated felt.

**Finish Flooring -- Floor Topping Mixture\*** -- Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.4 cu ft of preformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5-1/2 gal of water.

**ELASTIZELL CORP OF AMERICA** -- Type FF

**System No. 5**

**Subflooring** -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier (Optional)** -- Nom 0.030 in. thick commercial asphalt saturated felt.

**Finish Flooring -- Floor Topping Mixture\*** -- Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.2 cu feet of preformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5-1/2 gal of water.

**AERIX INDUSTRIES** -- Floor Topping Mixture

**System No. 6**

Deleted.

**System No. 7**

**Subflooring** -- Min 19/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- (Optional) -- Nom 0.030 in. thick commercial asphalt saturated felt.

**Finish Flooring -- Floor Topping Mixture\*** -- Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Mixture shall consist of 5 to 8 gal of water to 80 lbs of floor topping mixture to 2.1 cu ft of sand.

**ULTRA QUIET FLOORS** -- UQF-A, UQF-Super Blend, UQF-Plus 2000

**System No. 8**

**Subflooring** -- Min 15/32 in. wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to joists with joints staggered.

**Vapor Barrier** -- (Optional) -- Nom 0.030 in. thick commercial asphalt saturated felt.

**Finish Flooring -- Floor Topping Mixture\*** -- Min 3/4 thickness of floor topping mixture having a minimum compressive strength of 1500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

**MAXXON CORP** -- Type Maxxon Standard and Maxxon High Strength

**Floor Mat Materials\*** -- (Optional) -- Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

**MAXXON CORP** -- Type Encapsulated Sound Mat.

**Floor Mat Reinforcement** -- (Optional) Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

**Metal Lath (Optional)** -- 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor mat material.

**System No. 9**

**Subflooring** -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- (Optional) Nom 0.030 in. thick commercial asphalt saturated felt.

**Finish Flooring -- Floor Topping Mixture\*** -- Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

**FORMULATED MATERIALS LLC** -- Types FR-25, FR-30, and SteMx

**UNITED STATES GYPSUM CO** -- Levelrock SLC

**Alternate Floor Mat Material\*** -- (Optional) Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

**FORMULATED MATERIALS LLC** -- Types M1, M2, M3, Elite, Duo, R1, and R2

**System No. 10**

**Subflooring** -- Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Finish Floor -- Mineral and Fiber Board\*** -- Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.

**HOMASOTE CO** -- Type 440-32 Mineral and Fiber Board

**System No. 11**

**Subflooring** -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- (Optional) -- Nom 0.030 in. thick commercial asphalt saturated felt.

**Finish Flooring -- Floor Topping Mixture\*** -- Min 3/4 or 1 in. thickness of floor topping mixture for 19/32 or 15/32 in. thick wood structural panels respectively, having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

**ARCOSA SPECIALTY MATERIALS** -- AccuCrete® Types NexGen, Green, Prime and PrePour, AccuRadiant®, AccuLevel® Types G40, G50 and S30

**UNITED STATES GYPSUM CO** -- Levelrock SLC

**Alternate Floor Mat Material\*** -- (Optional) - Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor topping shall be a min of 3/4 in. or 1 in. thickness of floor topping mixture for 19/32 or 15/32 in. thick wood structural panels respectively.

**ARCOSA SPECIALTY MATERIALS** -- AccuQuiet® Types D13, D-18, D25, DX38, EM 125, EM 125S, EM 250, EM 250S, EM 375, EM 375S, EM 750, and EM 750S.

**System No. 12**

**Subflooring** -- 15/32 or 19/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to joists with joints staggered.

**Vapor Barrier** -- (Optional) -- Nom 0.030 in. thick commercial asphalt saturated felt.

**Finish Flooring -- Floor Topping Mixture\*** -- Min 3/4 or 1 in. thickness of floor topping mixture for 19/32 or 15/32 in. thick wood structural panels respectively, having a min compressive strength of 2100 psi. Refer to manufacturer's instructions accompanying the material for specific mix design. Refer to the manufacturer's instructions accompanying the material and/or contact the manufacturer's technical support for specific mix design and minimum thickness recommended for use with eligible floor mats).

**System No. 13**

**Subflooring** -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

**Vapor Barrier** -- (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.

**Finish Flooring\*** -- Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.

**Floor Mat Materials\*** -- (Optional) -- Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Quil 55/025 and Quiet Quil 55/025 N

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Quil 60/040 and Quiet Quil 60/040 N

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Quil 65/075, Quiet Quil 65/075 N

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Quil 52/013 and Quiet Quil 52/013 N

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

**KEENE BUILDING PRODUCTS CO INC** -- Quiet Quil 55/025 MF and Quiet Quil 55/025 N MF

**System No. 14**

**Subflooring** -- Min 23/32 in. thick 18G wood structural panels, min grade "Underlayment" or "Single-Floor" Face grain of plywood or strength axis of panels to be perpendicular to the trusses with end joints staggered 4 ft. Panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

**Gypsum Board\*** -- One layer of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joists. Gypsum board secured with 1 in. long, No. 6 Type W bangle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. The joints of the gypsum board are to be staggered a minimum of 12 inches from the joints of the subfloor.

**GEORGIA-PACIFIC GYPSUM L L C** -- Type DS

**Floor Mat Materials\*** -- (As an alternate to the single layer gypsum board) -- Floor mat material loose laid over the subfloor.

**MAXXON CORP** -- Type Encapsulated Sound Mat.

**Gypsum Board\*** -- (For use when floor mat is used) Two layers of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joists on top of the floor mat material. Gypsum board secured to each other with 1 in. long No. 6 bangle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. The joints of the gypsum board are to be staggered a minimum of 12 inches between layers and from the joists.

**GEORGIA-PACIFIC GYPSUM L L C** -- Type DS

**System No. 15**

**Subflooring** -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- (Optional) -- Nom 0.030 in. thick commercial asphalt saturated felt.

**Finish Flooring -- Floor Topping Mixture\*** -- Min 3/4 or 1 in. thickness of floor topping mixture for 19/32 or 15/32 in. thick wood structural panels respectively, having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

**DEPENDABLE LLC** -- CSL M4, GSL K2 & K4, GSL K5, GSD and GSL RH

**UNITED STATES GYPSUM CO** -- Levelrock SLC

**Floor Mat Materials\*** -- (Optional) -- Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Quil 55/025 and Quiet Quil 55/025 N

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Quil 60/040 and Quiet Quil 60/040 N

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Quil 65/075, Quiet Quil 65/075 N

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

**KEENE BUILDING PRODUCTS CO INC** -- Type Quiet Quil 52/013 and Quiet Quil 52/013 N

**Alternate Floor Mat Materials\*** -- (Optional) -- Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

**KEENE BUILDING PRODUCTS CO INC** -- Quiet Quil 55/025 MF and Quiet Quil 55/025 N MF

**System No. 16**

**Subflooring** -- Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Finish Flooring\*** -- **Floor Topping Materials** -- Min 3/4 in. to 1-1/2 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance with a minimum compressive strength of 1500 psi.

**See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.**

**Floor Mat Materials\*** -- (Optional) -- Floor mat material nom 1/8 in. to 3/4 in. thick. Loose laid over the subfloor. When used, Acousti-flo CSM (crack suppression mat) is loose laid over the floor mat material. Floor topping material thickness is dependent on thickness of floor mat used.

**WALFLOR INDUSTRIES INC** -- Type Acousti-flo, Acousti-flo CSM. Floor topping thickness depends on products used as follows:

Acousti-flo (1/8 in. thick) - Floor topping thickness shall be a minimum of 3/4 in.

Acousti-flo (1/4 in. thick) - Floor topping thickness shall be a minimum of 1 in.

Acousti-flo (3/8 in. thick) - Floor topping thickness shall be a minimum of 1 in.

Acousti-flo (3/4 in. thick) - Floor topping thickness shall be a minimum of 1-1/2 in.

**Metal Lath** -- (Optional) -- Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.

**Fiberglass Mesh Reinforcement** -- (Optional) -- Coated non-woven glass fiber mesh grid loose laid over floor mat material.

**System No. 17**

**Subflooring** -- Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Finish Flooring - Floor Topping Mixture\*** -- Min 1 in. thickness of floor topping mixture having a min compressive strength of 4500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

**SIKA DEUTSCHLAND GMBH** -- Type SCHOXON AP Rapid Plus

**System No. 18**

**Subflooring** -- Min 1 by 6 in. T & G lumber fastened diagonally to joists, or min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

**Vapor Barrier** -- (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.

**Finish Flooring - Floor Topping Mixture\*** -- Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies. Refer to the manufacturer's instructions accompanying the material and/or contact the manufacturer's technical support for specific mix design and minimum thickness recommended for use with eligible floor mats).

**Floor Mat Materials\*** -- (Optional, Not Shown) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

**LOW & BONAR INC** -- EnkaSonic® by Colbond a member of the Low & Bonar group Types 125, 250, 250 Plus, 400, 400 Plus, 750, and 750 Plus.

**Floor Mat Reinforcement** -- (Optional) - Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

**Metal Lath** -- (Optional) -- Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.

**Fiberglass Mesh Reinforcement** -- (Optional) -- Coated non-woven glass fiber mesh grid loose laid over floor mat material.

**System No. 19**

**Subflooring** -- Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

**Vapor Barrier** -- (Optional) -- Nom 0.030 in. thick commercial asphalt saturated felt.

**Floor Mat Materials\*** -- (Optional) -- Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

**GRASSWORX L L C** -- SC Types

**Finish Flooring\*** -- Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.

**Floor Mat Reinforcement** -- (Optional) - Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

**Metal Lath** -- (Optional) -- Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.

**Fiberglass Mesh Reinforcement** -- (Optional) -- Coated non-woven glass fiber mesh grid loose laid over floor mat material.

2. **Wood Joists** -- Min 2 by 10, spaced 16 in. OC and effectively fireblocked in accordance with local codes.

3. **Cross Bridging** -- Min 1 by 3 in. or min 2 by 10 solid blocking.

3A. **Horizontal Bridging** -- Used in lieu of item 3 in same joist bay as ceiling damper (Item 4), when ceiling damper is employed. Wood 2 by 4 in. secured between joists with nails.

4. **Ceiling Damper\*** -- (Optional) -- Max non-area shall be 198 sq in. Max rectangular size shall be 12 in. wide by 16 1/2 in. long. Max height of damper shall be 8-3/4 in. Aggregate damper openings shall not exceed 99 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper. A steel grille (Item 7) shall be installed in accordance with installation instructions.

**AIR BALANCE INC** -- Type 299 (See Item 5A)

**AIR KING VENTILATION PRODUCTS** -- Series FRAS, Series PRAK, Series FRARV

**CENTRAL VENTILATION SYSTEMS CO L L C** -- Models C-S/R-HC(A), C-RD-HC(A)

**GREENHECK FAN CORP** -- Model CRD-1W

**METAL-FAB INC** -- Models MSCDH, MRCDHC

**METAL INDUSTRIES INC** -- Models CD-S/R-HC, CD-S/R-HC-A, CD-RD-HC, CD-RD-HC-A

**NCA MFG INC** -- Models CD-S/R-HC, CD-S/R-HC-A, CD-RD-HC, CD-RD-HC-A

**BRISK MFG INC** -- Model BMI-50-CRD-S/R-WT

**PRICE INDUSTRIES LTD** -- Models CD-S/R-HC, CD-RD-HC

**RUSKIN COMPANY** -- Model CDT7

**UNITED ENERTECH CORP** -- Models C-S/R-HC(A), C-RD-HC(A)

5. **Gypsum Board\*** -- Nom 1/2 or 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joists and secured with 5d and 6d cement coated coated nails, spaced 6 in. OC for the 1/2 in. board and 5/8 in. thick board, respectively. Nails spaced 3/4 and 1/2 in. from side and end joints, respectively.

**AMERICAN GYPSUM CO** -- Types AG-C

**CAROT MANUFACTURING ULC** -- Type C

**CERTAINTED GYPSUM INC** -- Type C

**CGC INC** -- Types C, IP-X2, IPC-AR

**CERTAINTED GYPSUM CO** -- Type LGFC-C/A

**GEORGIA-PACIFIC GYPSUM L L C** -- Types S, DAPC, TG-C

**NATIONAL GYPSUM CO** -- Types EXP-C, FSK-C, FSW-C

**PARCO BUILDING PRODUCTS L L C, DBA PARCO GYPSUM** -- Type C or PG-C

**PANEL REY S A** -- Types PRC, PR2, 5/8 in. Type PRX2

**THAI GYPSUM PRODUCTS PCL** -- Type C

**UNITED STATES GYPSUM CO** -- Types C, IP-X2, IPC-AR

**USG BORAL DRYWALL SFZ LLC** -- Type C

**USG MEXICO S A DE C V** -- Types C, IP-X2, IPC-AR

5A. **Gypsum Board\*** -- (Finish Rating -- 16 min.) Required when Air Balance Inc. Type 299 ceiling damper (Item 4) is installed. Nom 5/8 in. thick, 48 in. wide gypsum board, installed with long dimension perpendicular to joists. Gypsum board secured with 1-7/8 in. long, 6d cement coated nails spaced 6 in. OC with the first nails located 1/2 in. and 3 in. from the board edges.

**UNITED STATES GYPSUM CO** -- Type C

**USG BORAL DRYWALL SFZ LLC** -- Type C

**USG MEXICO S A DE C V** -- Type C

5B. **Gypsum Board\*** -- (As an alternative to Items 5 and 5A) Nom 5/8 in. thick, 48 in. wide gypsum board installed, as described in Items 5 and 5A, with max screw spacing 6 in. OC.

**CGC INC** -- Type ULUX

**UNITED STATES GYPSUM CO** -- ULUX

6. **Finishing System** -- (Not Shown) -- Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board.

7. **Grille** -- Steel grille, installed in accordance with the installation instructions provided with the ceiling damper.

8. **Discrete Products Installed in Air-handling Spaces\*** -- Automatic Balancing Valve/Damper -- (Not Shown - Optional) -- For use with item 4, Ruskin Company's Model CDT7 damper (C48). Ceiling damper to be provided with plenum box per damper manufacturer's instructions with side outlet only. Entire assembly to be installed into any UL Class 0 or Class 1 flexible air duct in accordance with the instructions provided by the automatic balancing valve/damper manufacturer.

**METAL INDUSTRIES INC** -- Model ABV-4, ABV-5, ABV-6

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

Last Updated on 2022-04-14

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**FIRE RATING FOR 1 HOUR FLOOR/CEILING ASSEMBLY**  
**U.L. DESIGN NO. L512**

**PROJECT:**

**THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")**

**1125 EDWARDS RD. ELSMERE, KY 41018**

**DRAWING TITLE:**  
**FIRE RESISTANCE RATINGS**

**DATE:** 07/31/2023  
**REVISED:**

REGISTERED PROFESSIONAL ARCHITECT

GEORGE J. KONTOGIANNIS

No. 1636

COMMONWEALTH OF KENTUCKY

EXPIRATION DATE 06/30/2024

GEORGE J. KONTOGIANNIS, LICENSE #1636

EXPIRATION DATE 06/30/2024

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SUBMISSION SET

PERMIT SET 07/31/2023

BID SET 11/08/2023

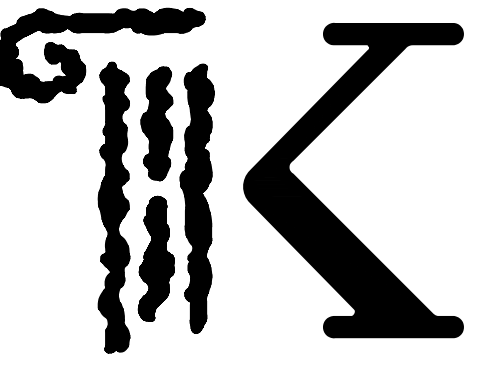
CONSTRUCTION SET

**FR-5**

**FIRE RATING FOR 1 HOUR FLOOR/CEILING ASSEMBLY**  
**U.L. DESIGN NO. L512**

**FIRE RATING FOR 1 HOUR FLOOR/CEILING ASSEMBLY**  
**U.L. DESIGN NO. L512**





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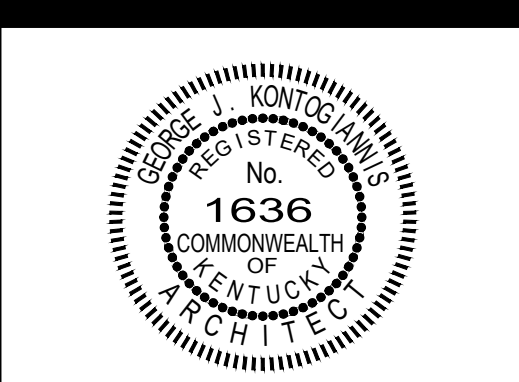
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ACCESSIBLE  
SIGNAGE DETAILS**

DATE: 07/31/2023  
REVISED:



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**AS-1**

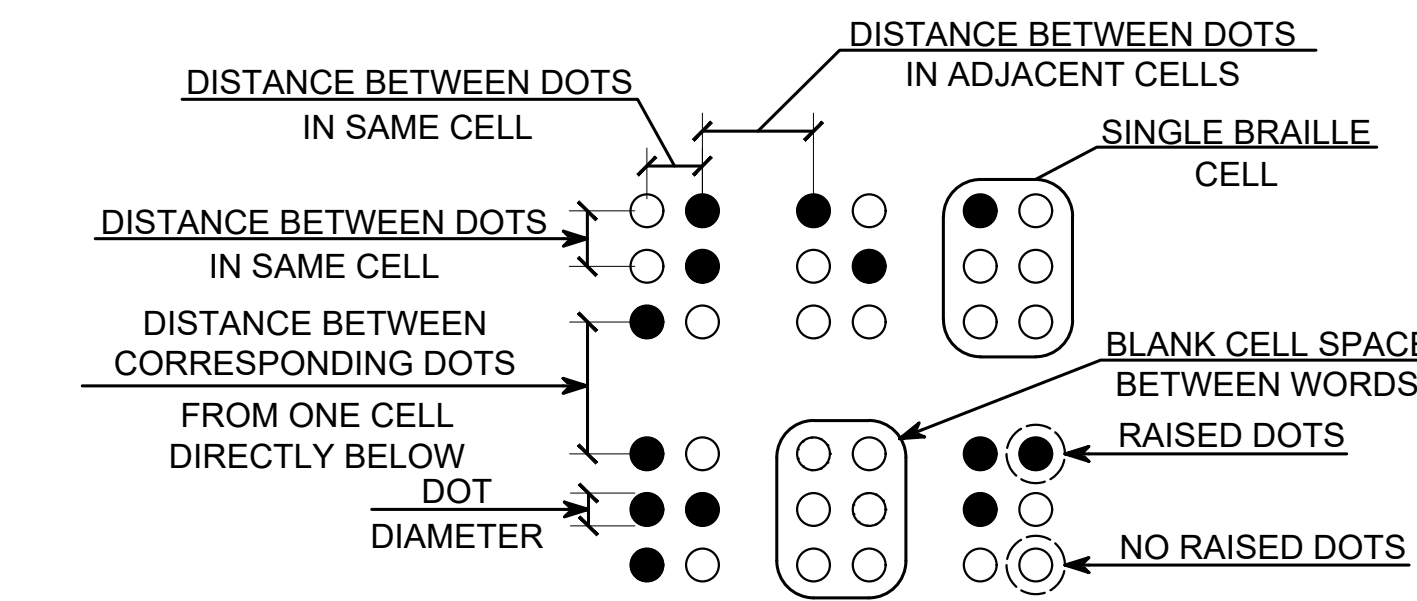
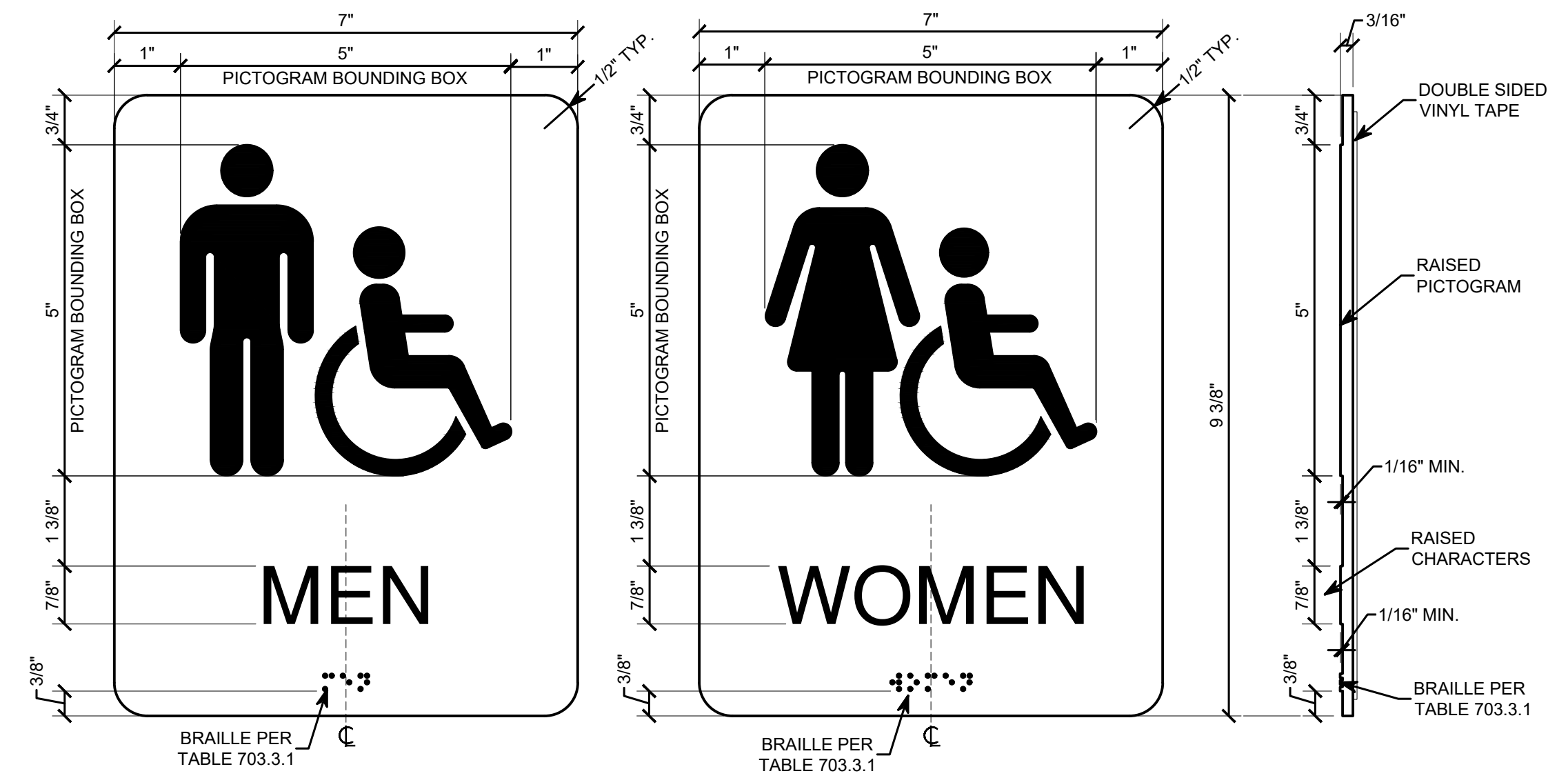


TABLE 703.3.1

MEASUREMENT RANGE	MIN IN INCHES	MAX IN INCHES
DOT BASE DIAMETER	0.059"	0.063"
DISTANCE BETWEEN TWO DOTS IN THE SAME CELL <sup>1</sup>	0.090"	0.100"
DISTANCE BETWEEN CORRESPONDING DOTS IN ADJACENT CELLS <sup>1</sup>	0.241"	0.300"
DOT HEIGHT	0.025"	0.037"
DISTANCE BETWEEN CORRESPONDING DOTS FROM ONE CELL DIRECTLY BELOW <sup>1</sup>	0.395"	0.400"

1. MEASURED FROM CENTER OF DOT



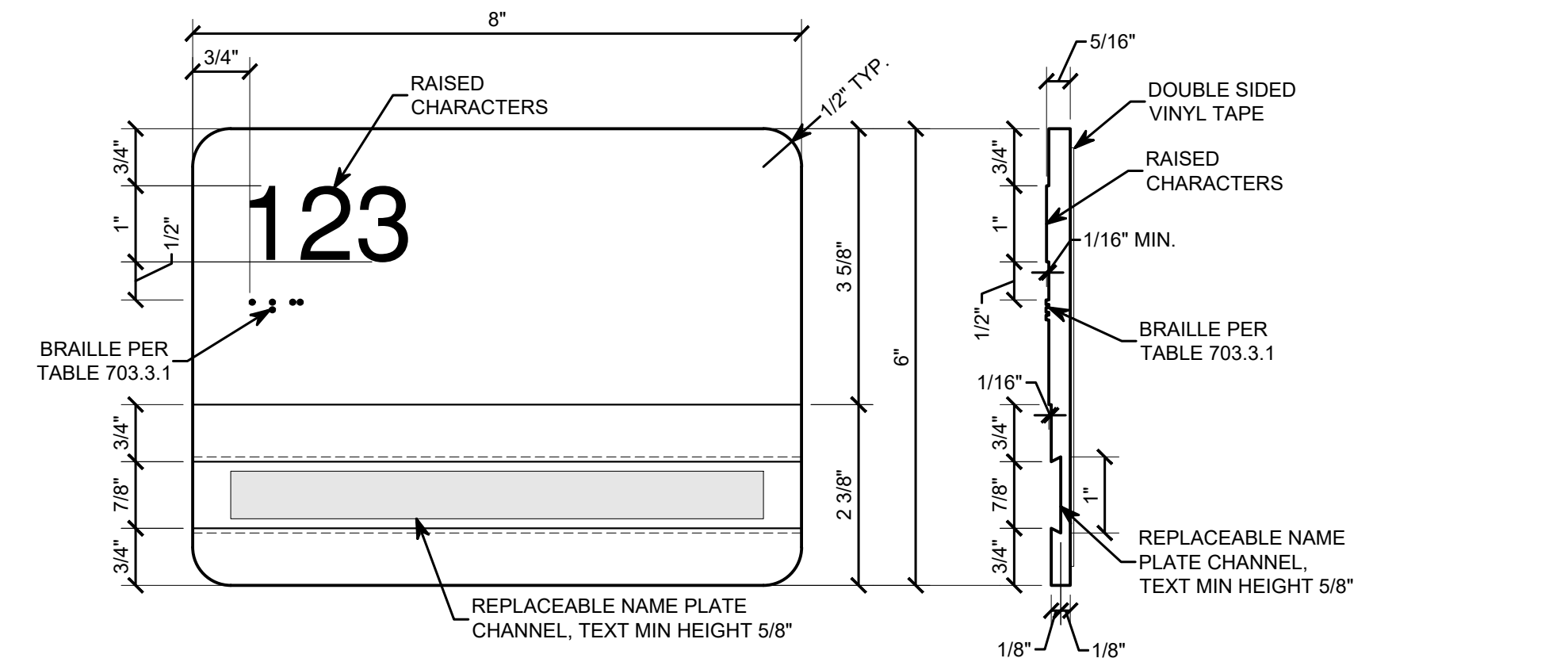
**TYPICAL SIGN W/ PICTOGRAM, CHARACTERS, & BRAILLE**

SCALE: N.T.S.

LOCATIONS THAT NEED SIGNAGE WITH PICTOGRAMS AND/OR THE USE OF INTERNATIONAL SYMBOLS ARE AS FOLLOWS: ENTRANCES, DIRECTION TO ACCESSIBLE ENTRANCE, EXIT PASSAGEWAYS, EXIT STAIRWAYS, EXIT DISCHARGE LOCATION, ELEVATORS, TOILET & BATHING ROOMS, ROOMS WITH TTYs AND ASSISTED LISTENING SYSTEMS.



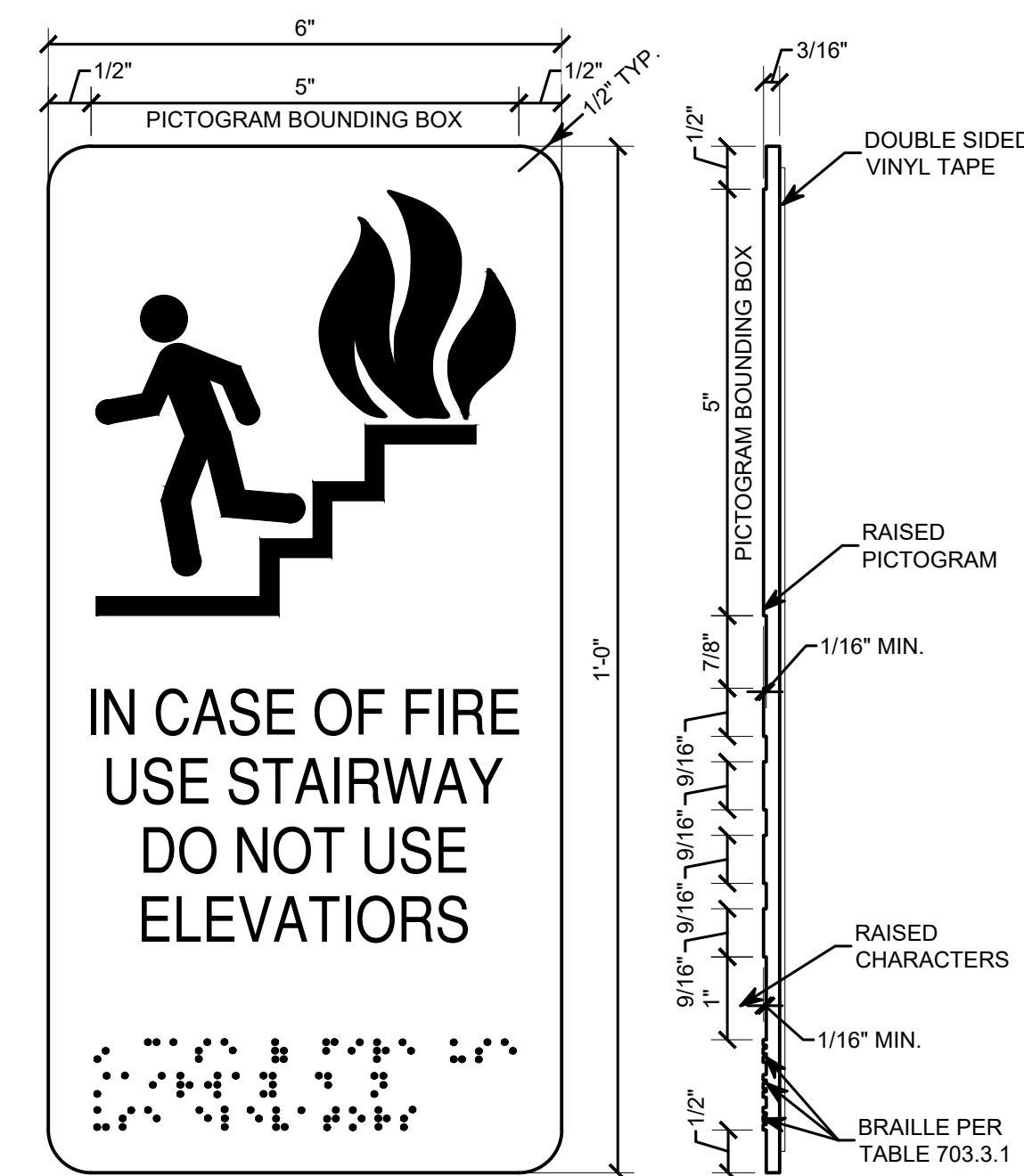
ALL PICTOGRAM SYMBOLS ARE TO FIT IN AN INVISIBLE BOX OF 5" x 5" WITH THE DIMENSION OF SEPARATION BETWEEN OTHER SIGN ELEMENTS AS SHOWN ABOVE. ALL SIGNAGE IS TO HAVE A CONTRASTING BACKGROUND COLOR, I.E. LIGHT SIGN ELEMENTS WITH A DARK BACKGROUND OR DARK SIGN ELEMENTS WITH A LIGHT BACKGROUND. ALL TEXT IS TO BE SANS SERIF FONT (HELVETICA OR ARIAL), WITH THE PROPORTIONS DESCRIBED IN SECTION 703.2.3. OF ADA. NO ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR UNUSUAL FONT FORMS.



**TYPICAL RESIDENT ROOM SIGN**

SCALE: N.T.S.

SEE SIGN LOCATION DETAIL ON SHEET AC-1



**TYPICAL ELEVATOR SIGN**

SCALE: N.T.S.

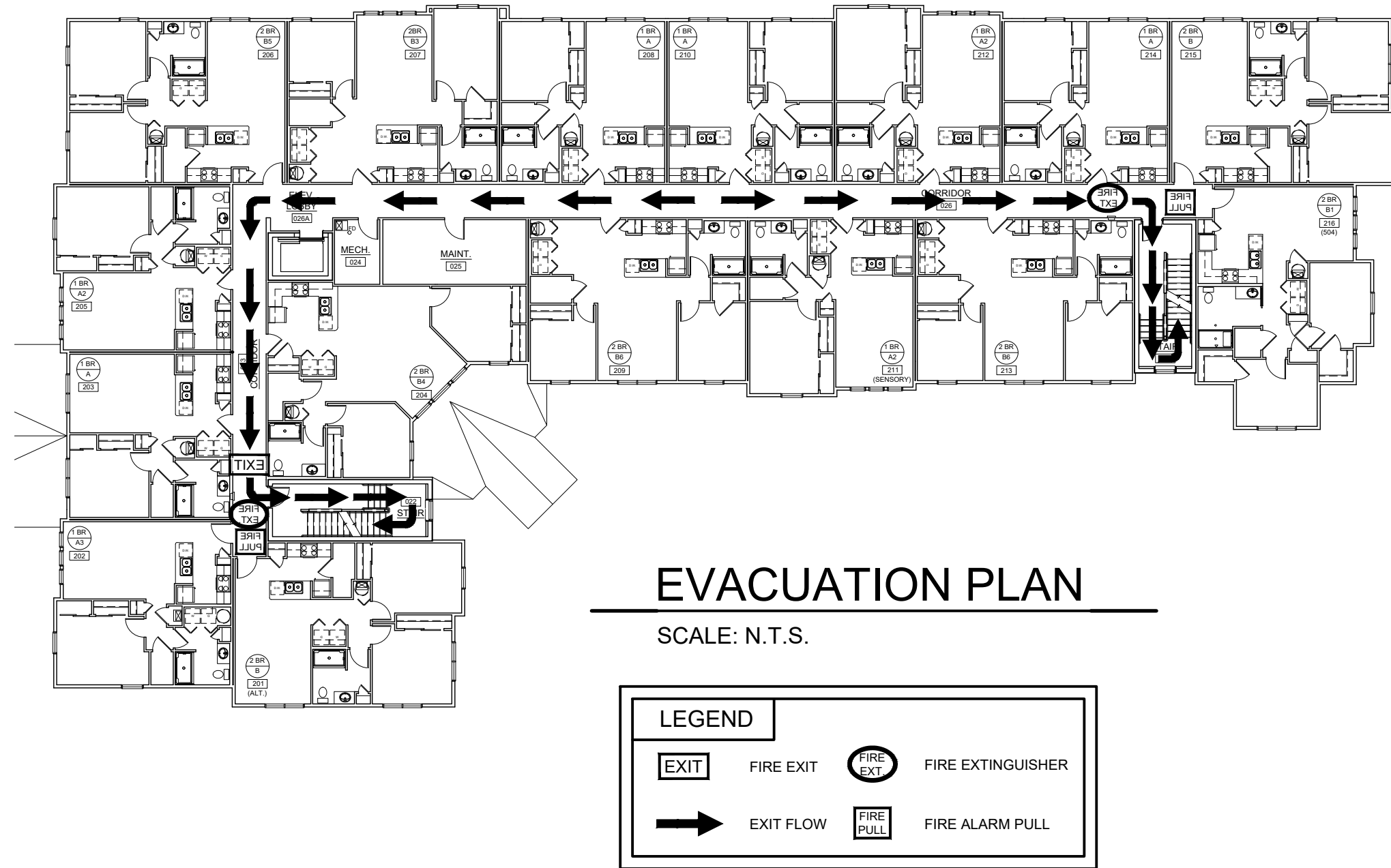


SEE LEED ENVIRONMENTAL TOBACCO SMOKE SECTION INDICATING TO PROVIDE SIGNAGE TO:

- A. PROHIBIT SMOKING IN COMMON AREAS.
- B. PROHIBIT SMOKING WITHIN 25' FEET OF BUILDING ENTRANCE
- C. PROHIBIT SMOKING ON ENTIRE PROPERTY

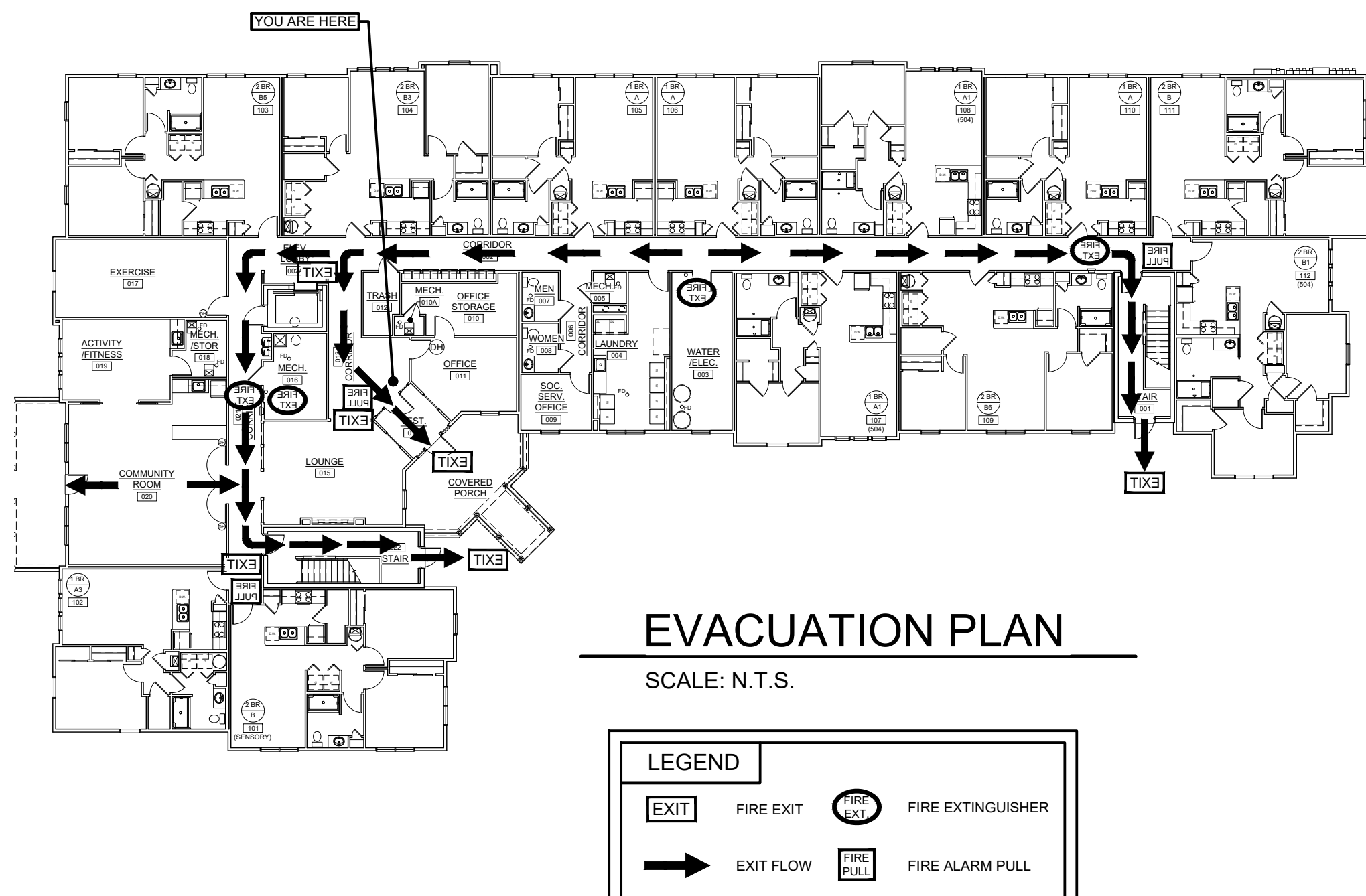
**EVACUATION PLANS:**

PROVIDE EVACUATION PLANS FOR EACH FLOOR AND MOUNT NEAR ELEVATOR IN 8 1/2"x11" FRAME. 2ND & 3RD FLOOR ARE SIMILAR.



**EVACUATION PLAN**

SCALE: N.T.S.



**EVACUATION PLAN**

SCALE: N.T.S.







**MANEUVERABILITY  
& CLEAR FLOOR SPACE**

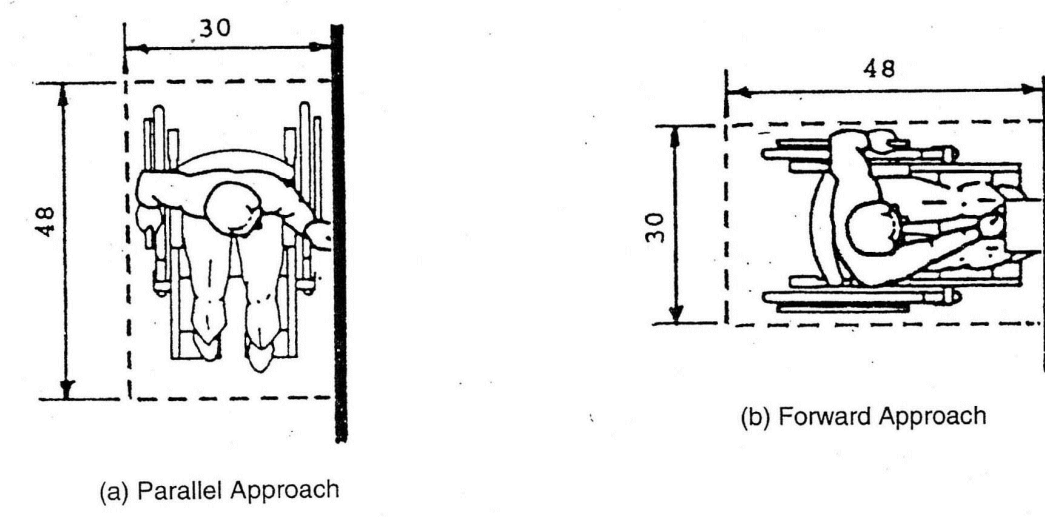
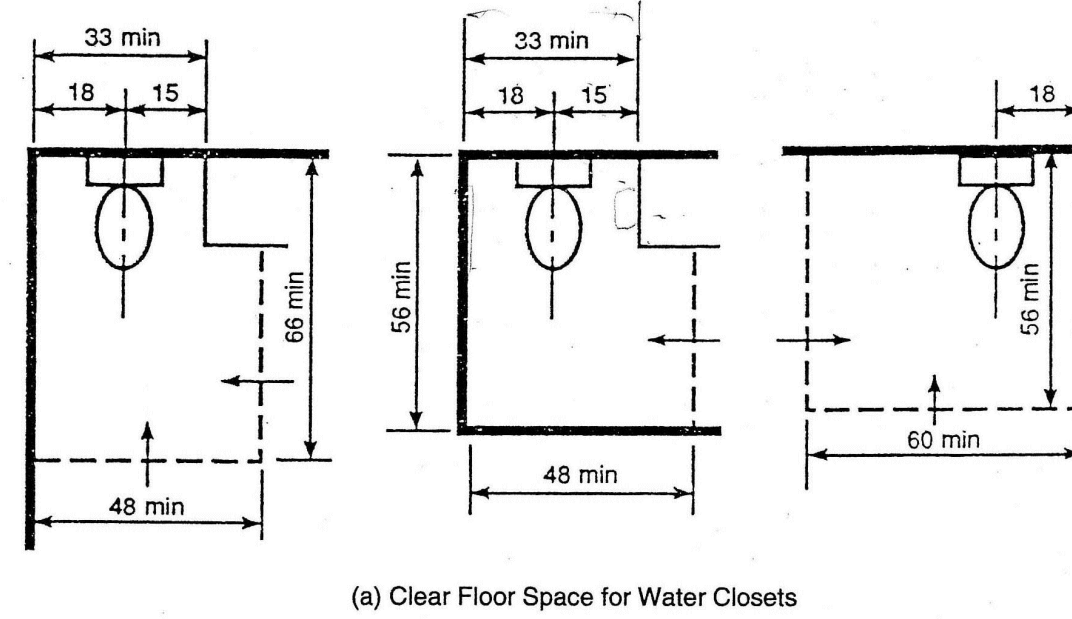
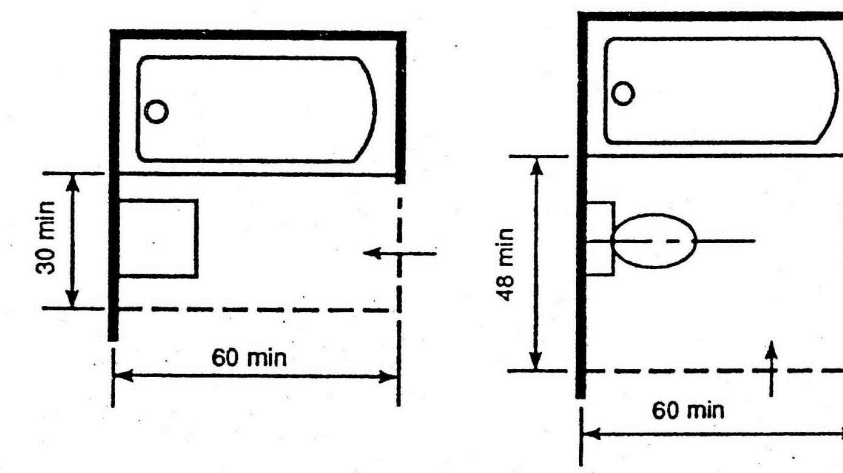


Fig. 6 Minimum Clear Floor Space for Wheelchairs

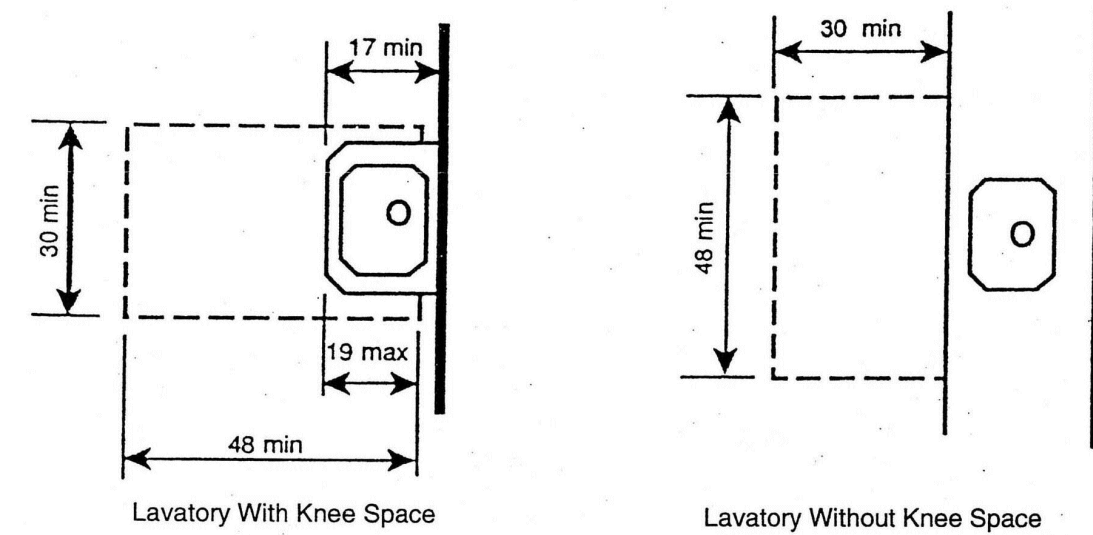


(a) Clear Floor Space for Water Closets

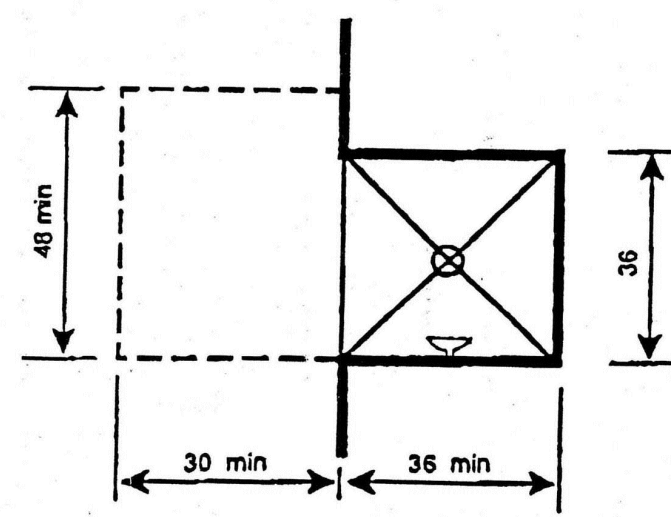


(b) Clear Floor Space at Bathtubs

Fig. 7 Clear Floor Space for Adaptable Bathrooms



(c) Clear Floor Space at Lavatories



(d) Clear Floor Space at Shower

Fig. 7 Clear Floor Space for Adaptable Bathrooms

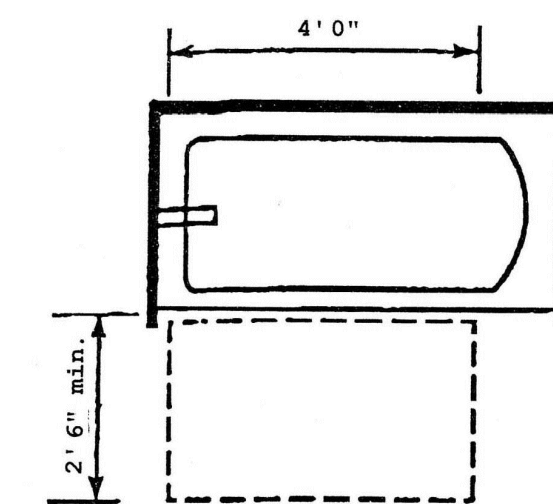


Fig. 8 Alternative Specification - Clear Floor Space at Bathtub

NOTE: Clear floor space beside tub may overlap with clear floor space beneath adjacent fixtures.

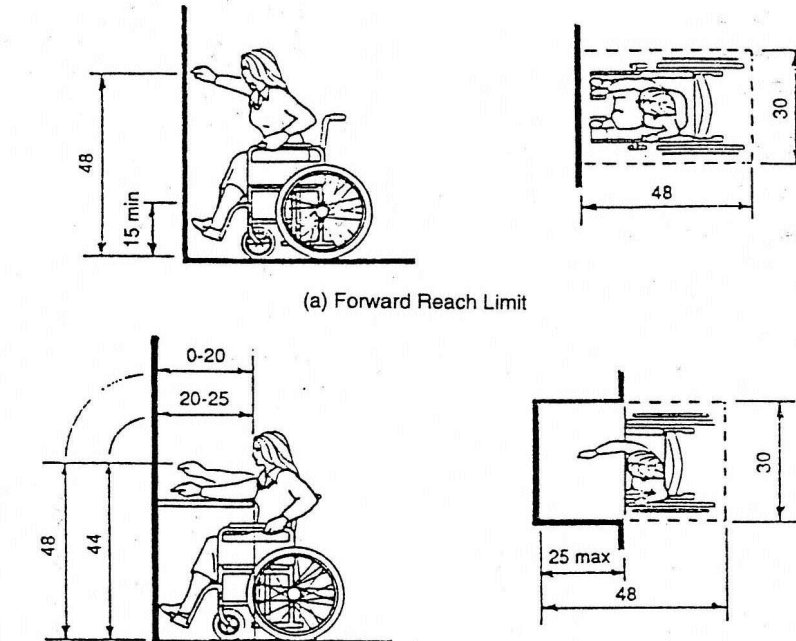
**MOUNTING HEIGHT  
& REACH RANGES**

SWITCHES, OUTLETS AND CONTROLS MOUNTING HEIGHTS

OUTLETS - MOUNT AT A MINIMUM OF 15" A.F.F.  
MOUNT AT A MAXIMUM OF 48" A.F.F. IN KITCHENS  
FOR SIDE REACH OVER COUNTER.

LIGHT SWITCHES - MOUNT AT A MAXIMUM OF 48" A.F.F.

THERMOSTATS - MOUNT AT A MAXIMUM OF 48" A.F.F.



NOTE: Clear knee space should be as deep as the reach distance.

(a) Forward Reach Limit

(b) Maximum Forward Reach Over an Obstruction

(c) Maximum Side Reach Over Obstruction

Fig. 2 Reach Ranges

**GRAB BAR  
REINFORCEMENT**

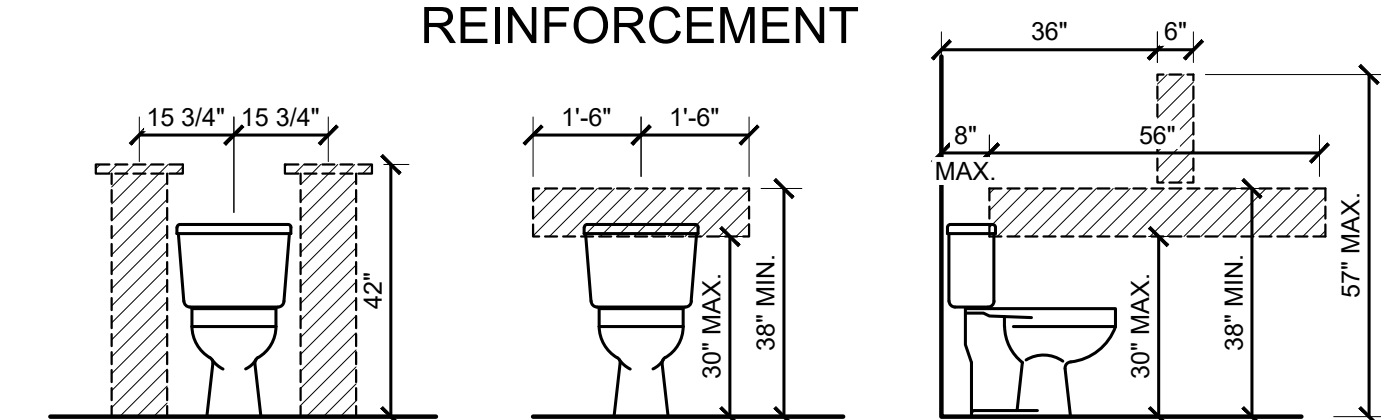


Fig. 3 WATER CLOSETS IN ADAPTABLE BATHROOMS

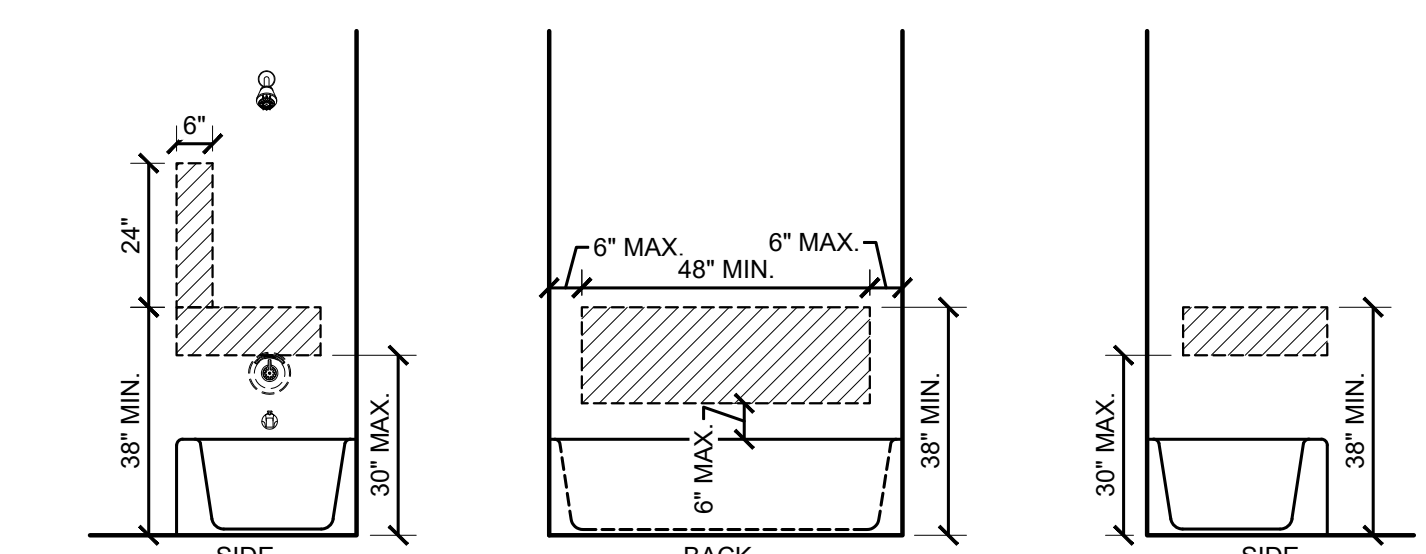


Fig. 4 LOCATION OF GRAB BAR REINFORCEMENTS FOR ADAPTABLE BATHTUBS  
NOTE: THE AREAS OUTLINED IN DASHED LINES REPRESENT LOCATIONS FOR FUTURE INSTALLATION OF GRAB BARS FOR TYPICAL FIXTURE CONFIGURATIONS

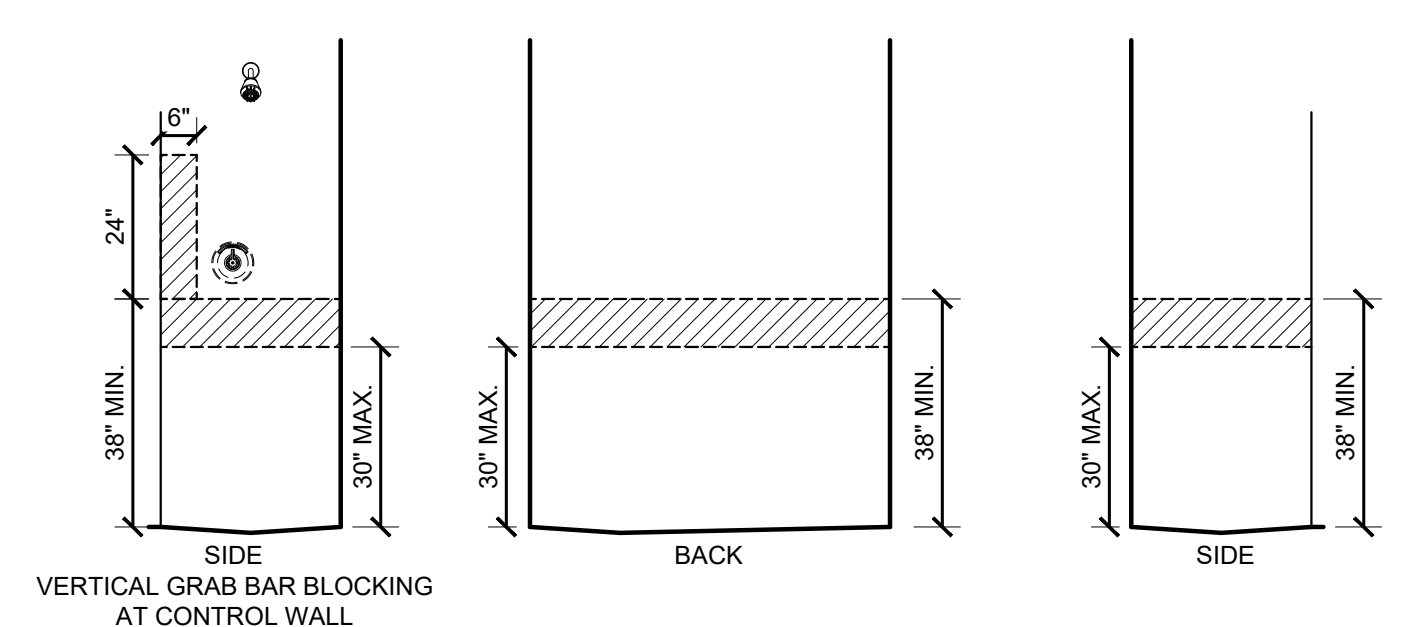
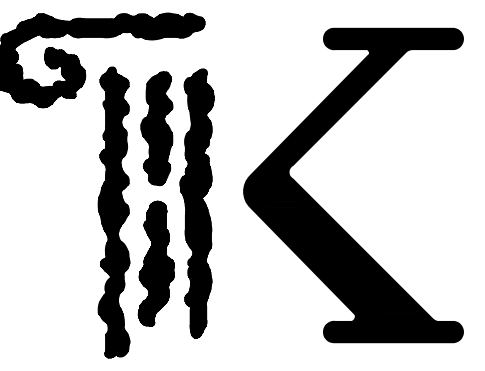


Fig. 5 LOCATION OF GRAB BAR REINFORCEMENTS FOR ADAPTABLE SHOWERS  
NOTE: THE AREAS OUTLINED IN DASHED LINES REPRESENT LOCATIONS FOR FUTURE INSTALLATION OF GRAB BARS



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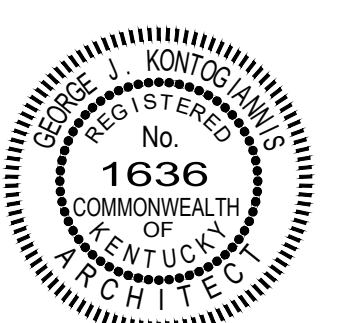
PROJECT:

**THE  
SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**FAIR HOUSING &  
ANSI A 117.1  
DETAILS**

DATE: 07/31/2023  
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EXPIRATION DATE 06/30/2024

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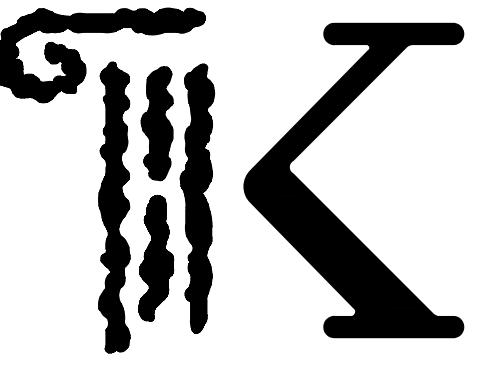
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**FH-1**

**APPLIES TO ALL  
UNITS EXCEPT 504**

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(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ANSI / FAIR  
HOUSING (TYPE "B"  
UNITS)**

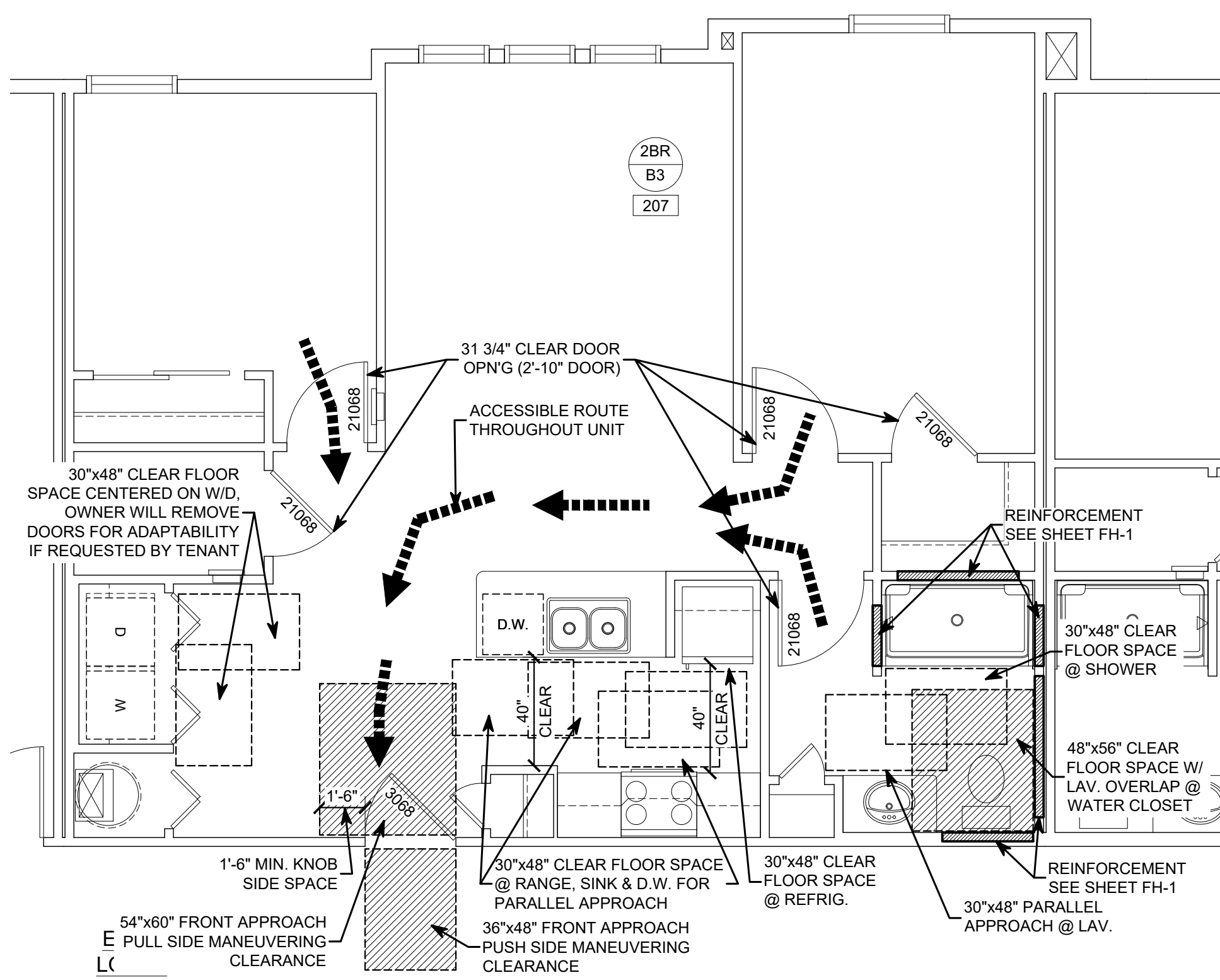
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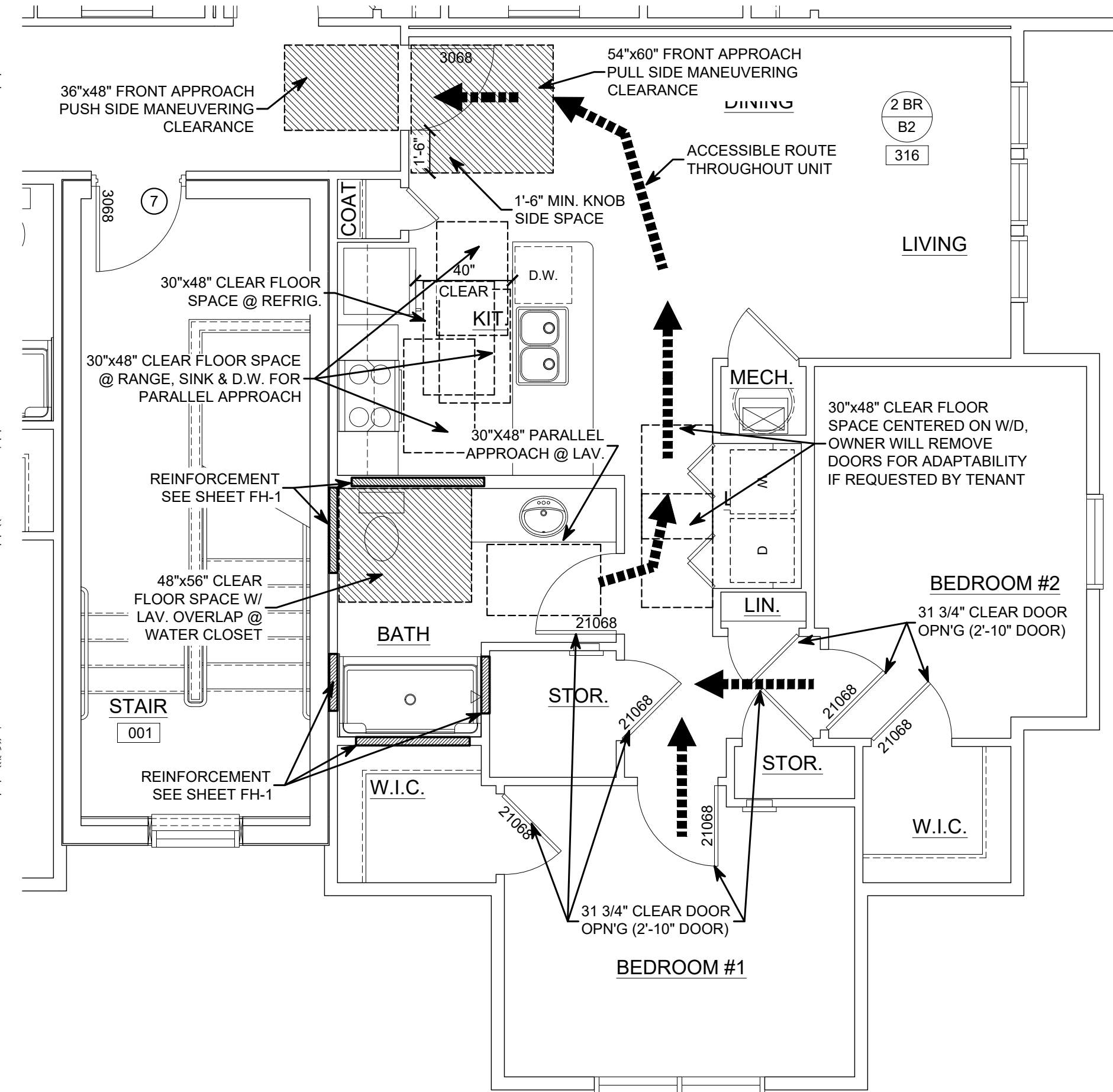
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**FH-2**



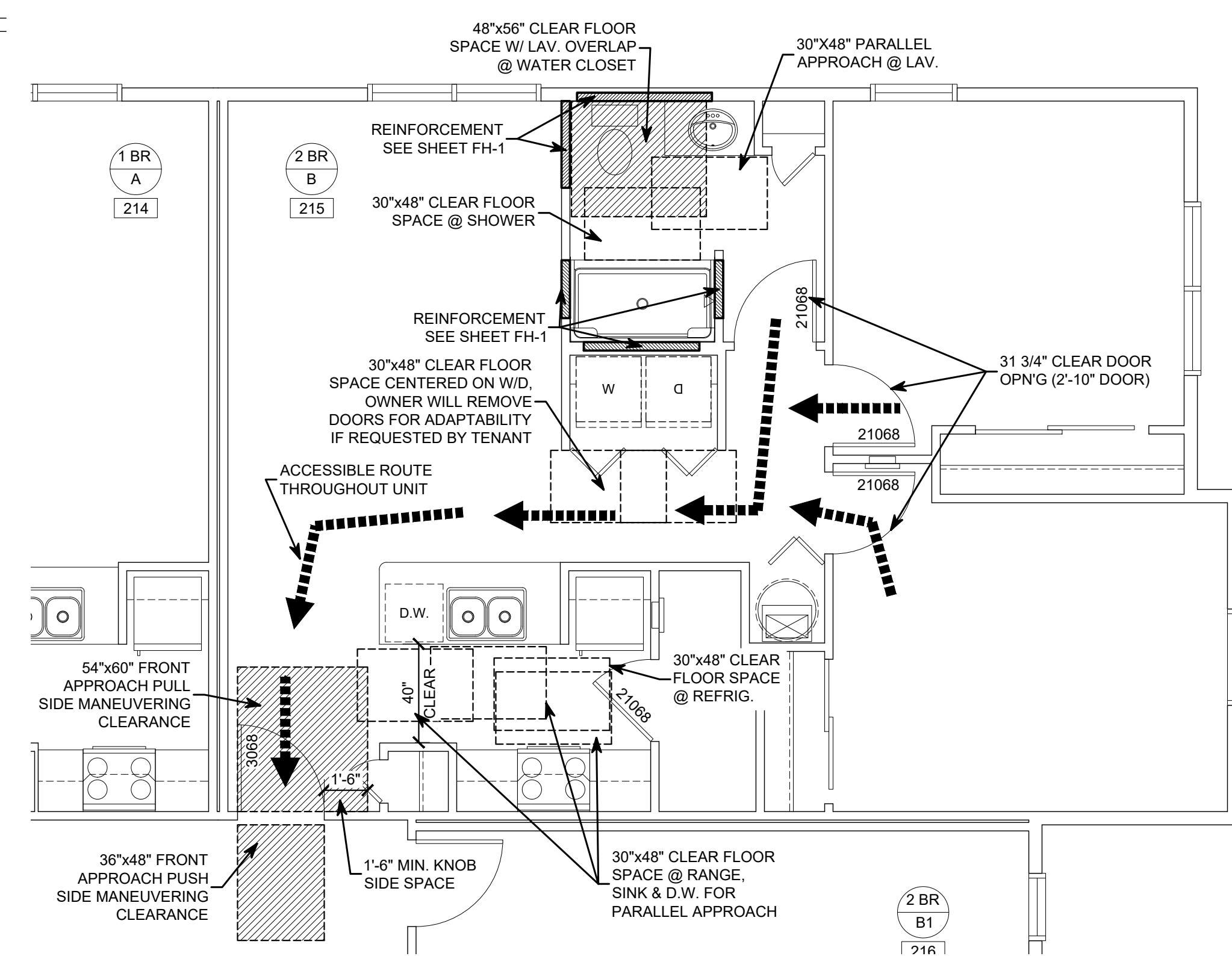
**TWO BEDROOM UNIT "B3"  
(UNIT "B6" SIMILAR)**

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



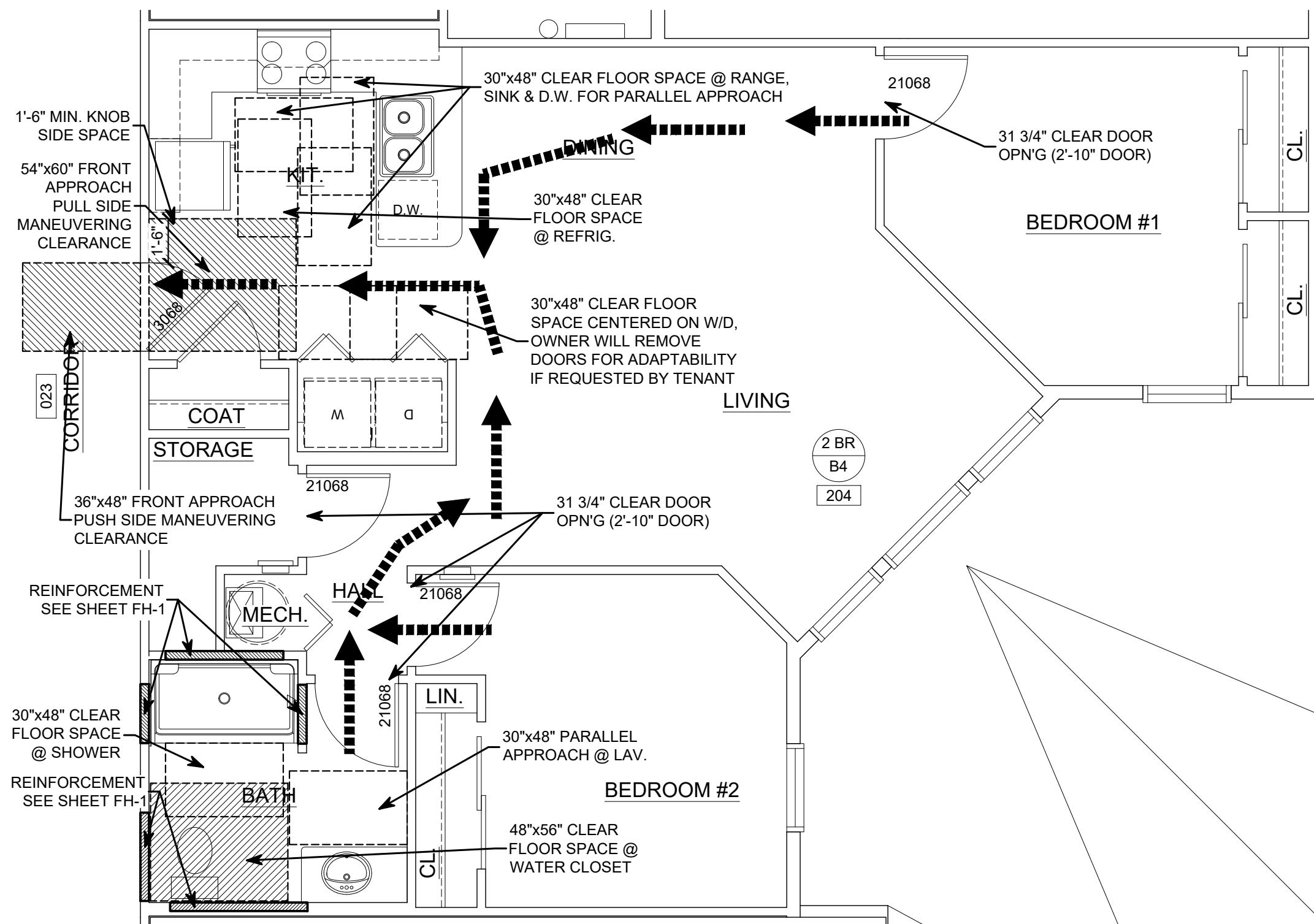
**TWO BEDROOM UNIT "B2"**

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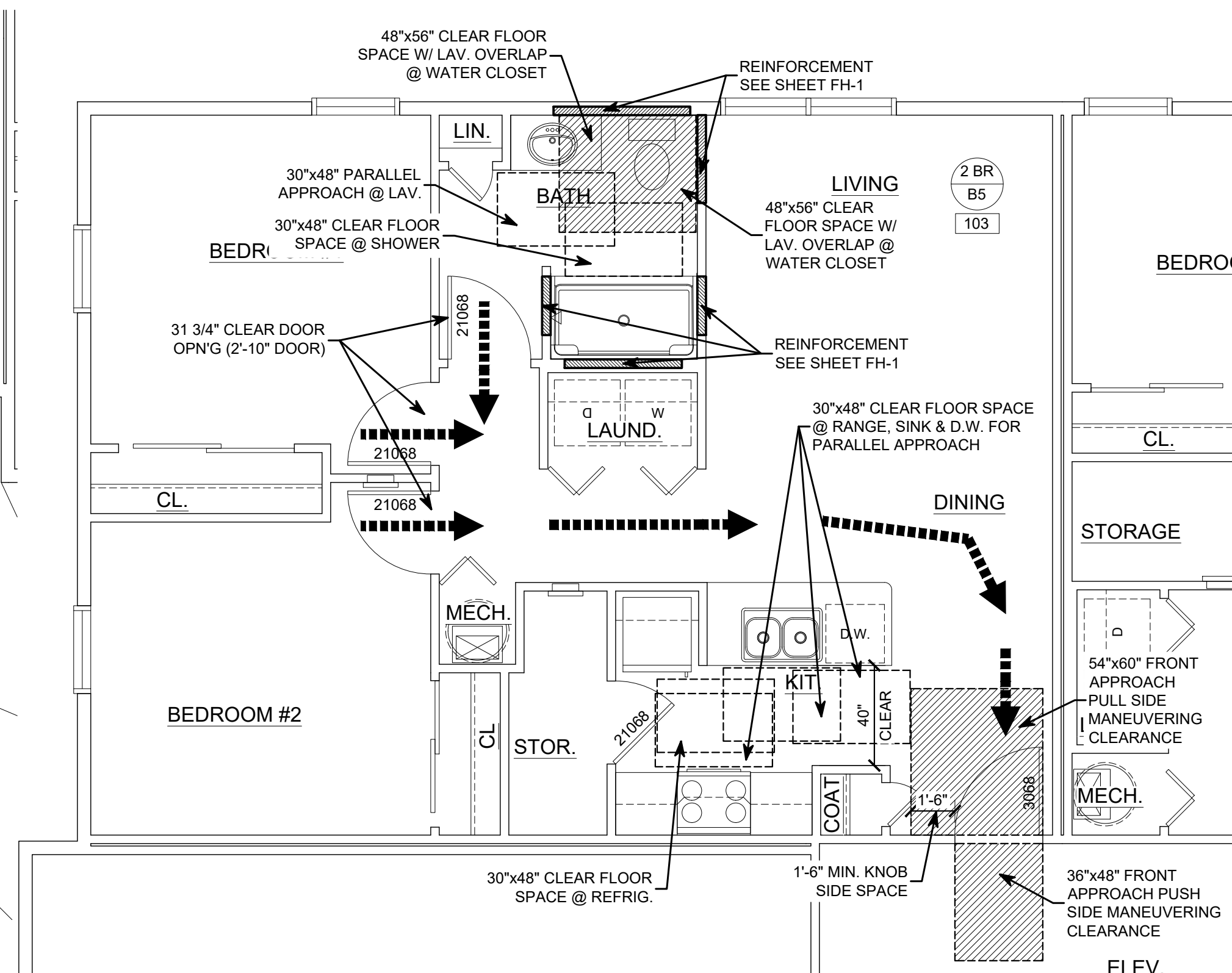
**TWO BEDROOM UNIT "B"**

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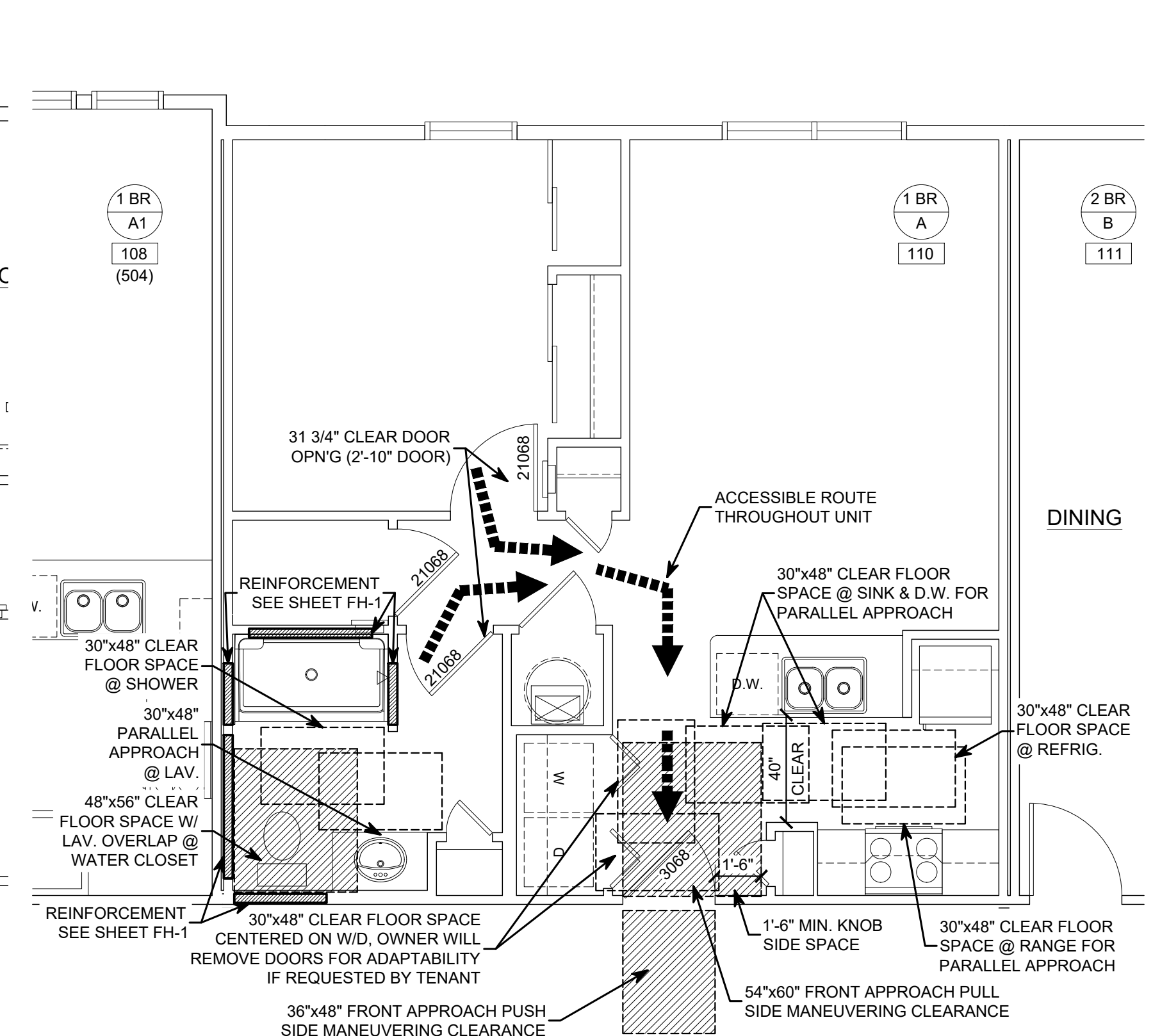
**TWO BEDROOM UNIT "B4"**

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



**TWO BEDROOM UNIT "B5"**

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



**ONE BEDROOM UNIT "A"  
(UNITS "A2", "A3" SIMILAR)**

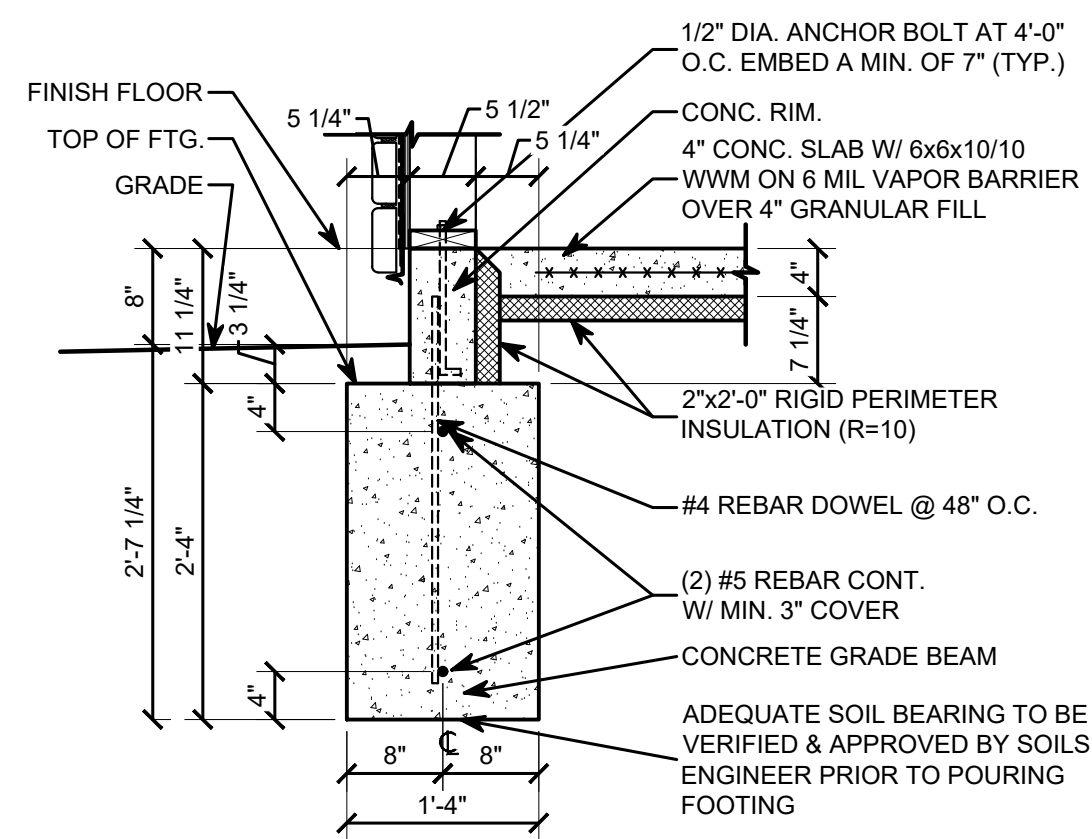
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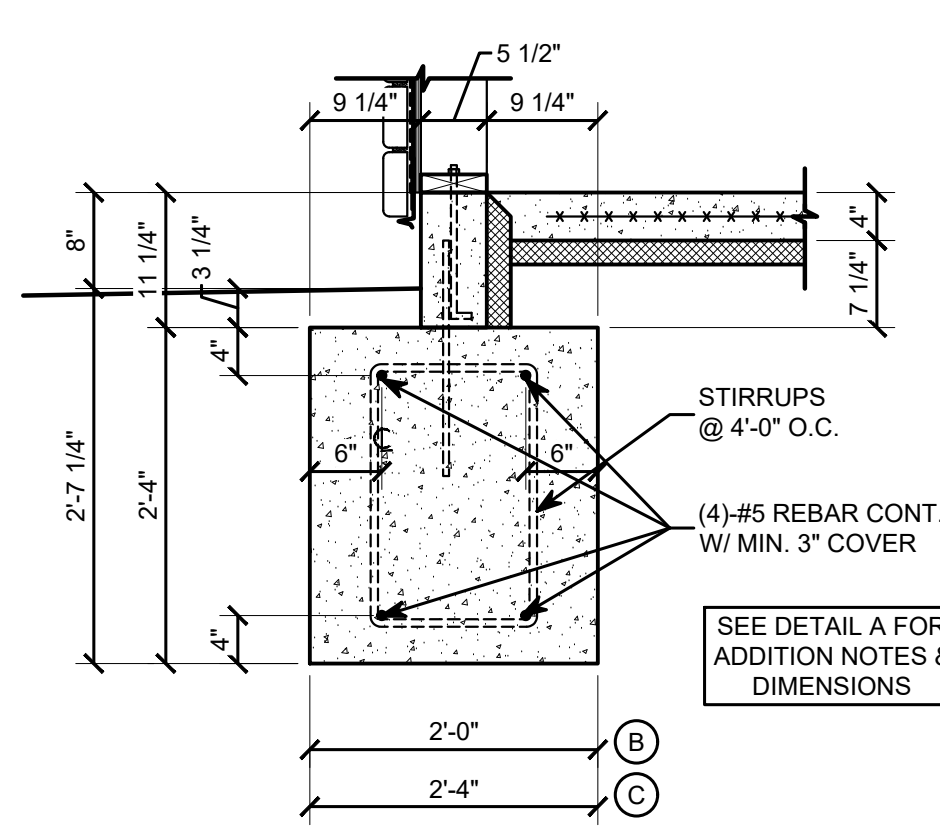






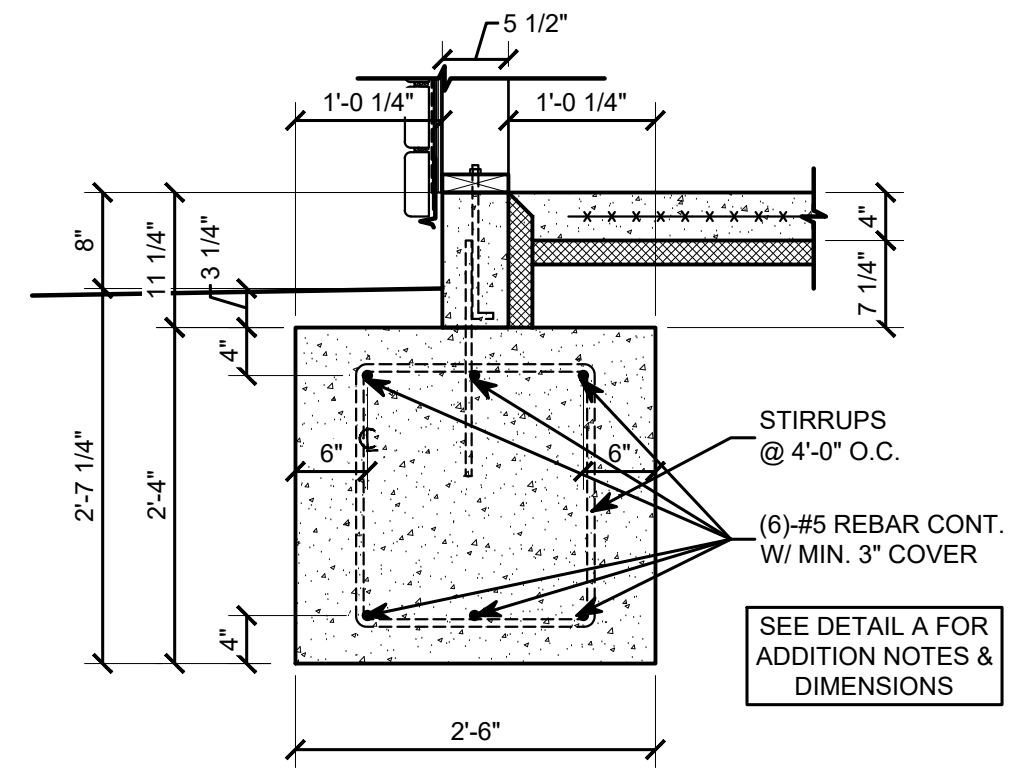
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SCALE: 3/4" = 1'-0"



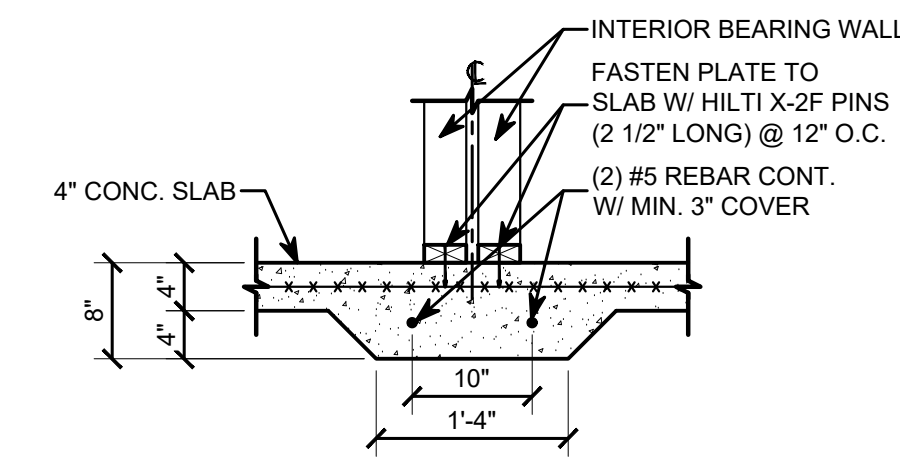
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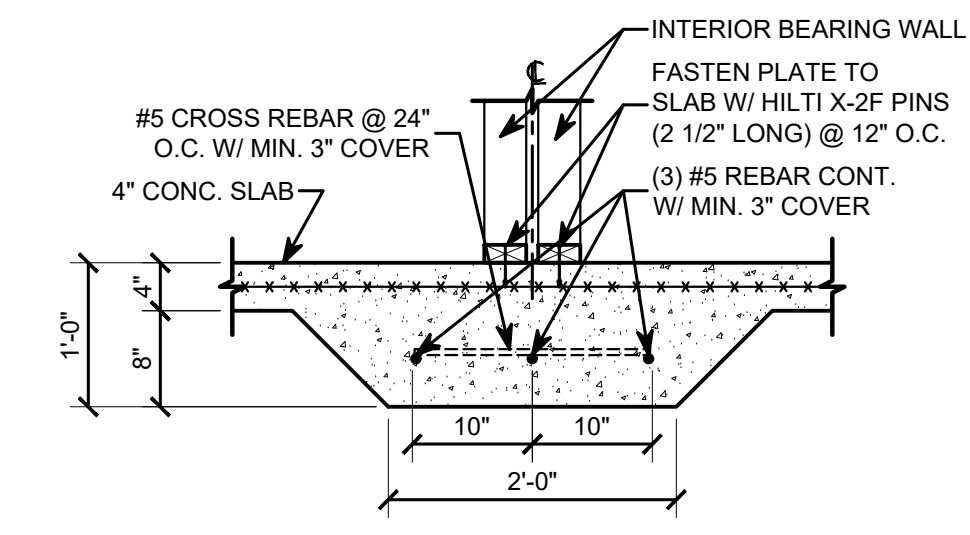
**FOUNDATION DETAIL (C)**

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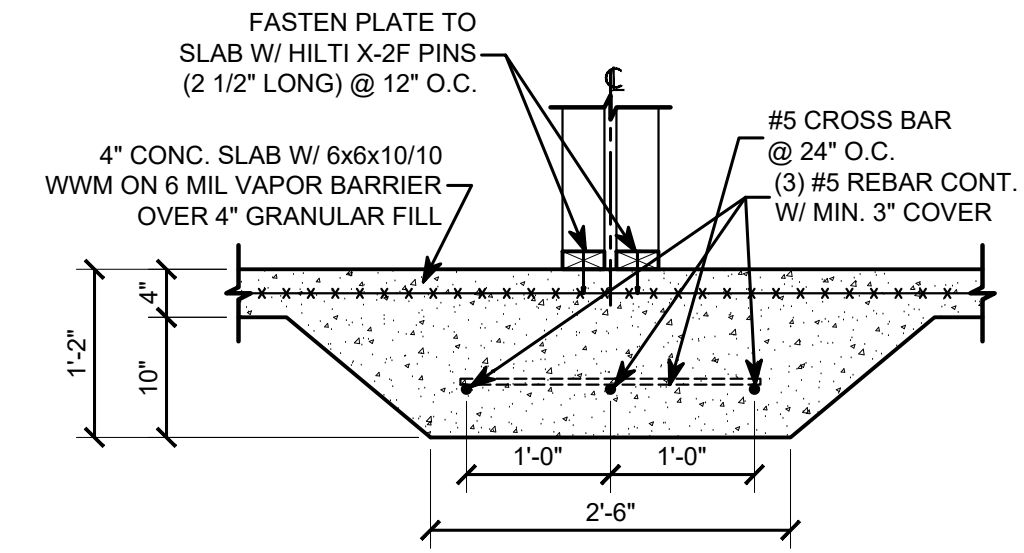
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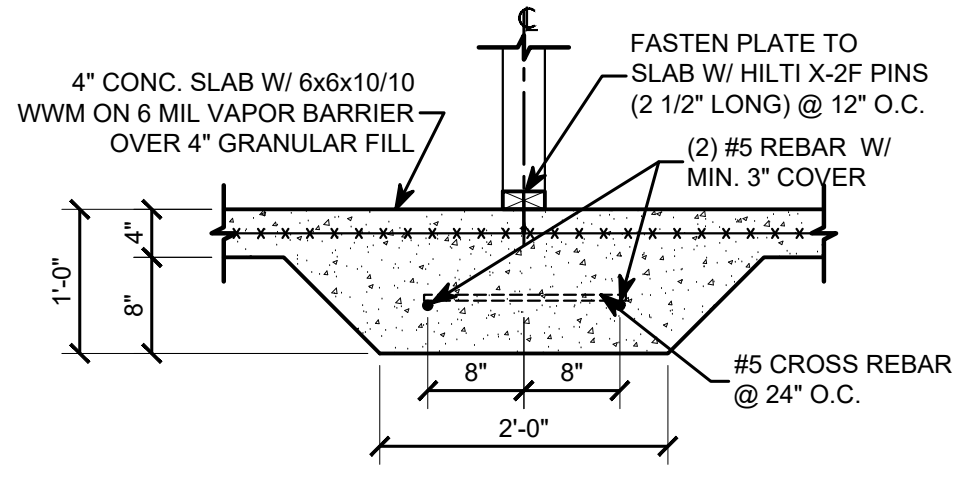
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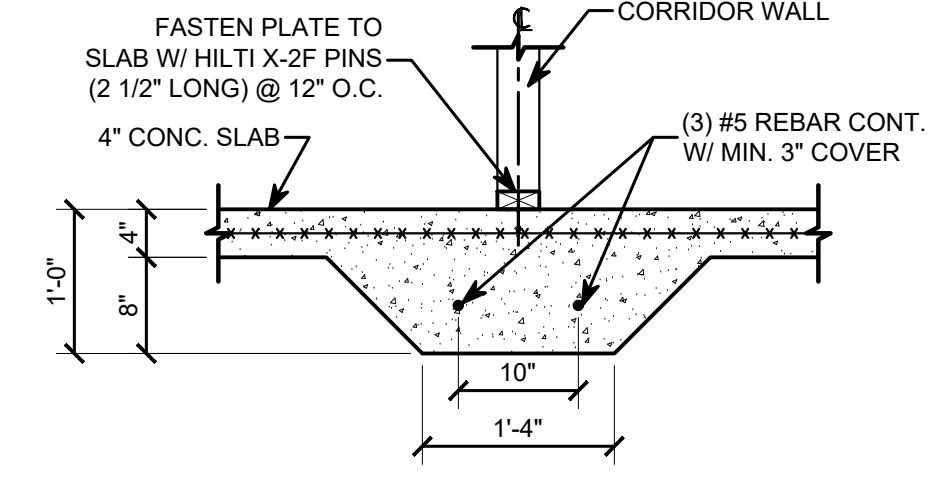
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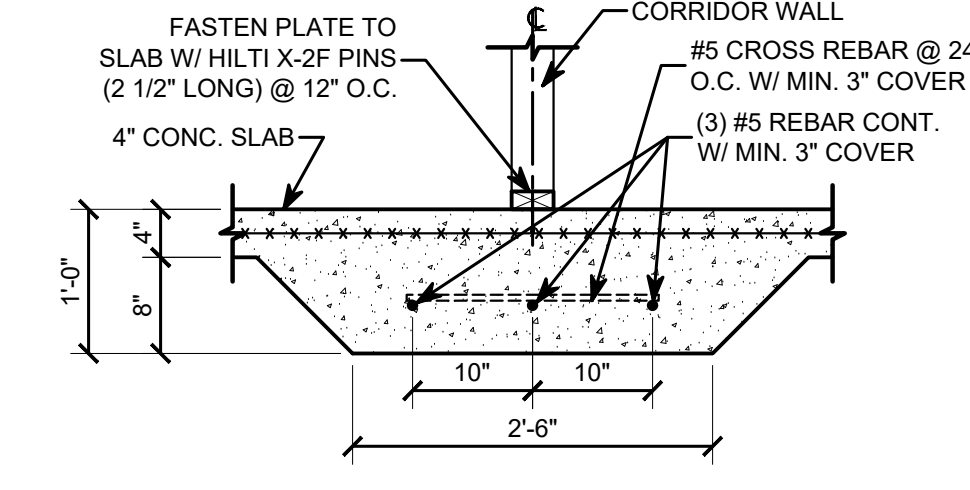
**FOUNDATION DETAIL (G)**

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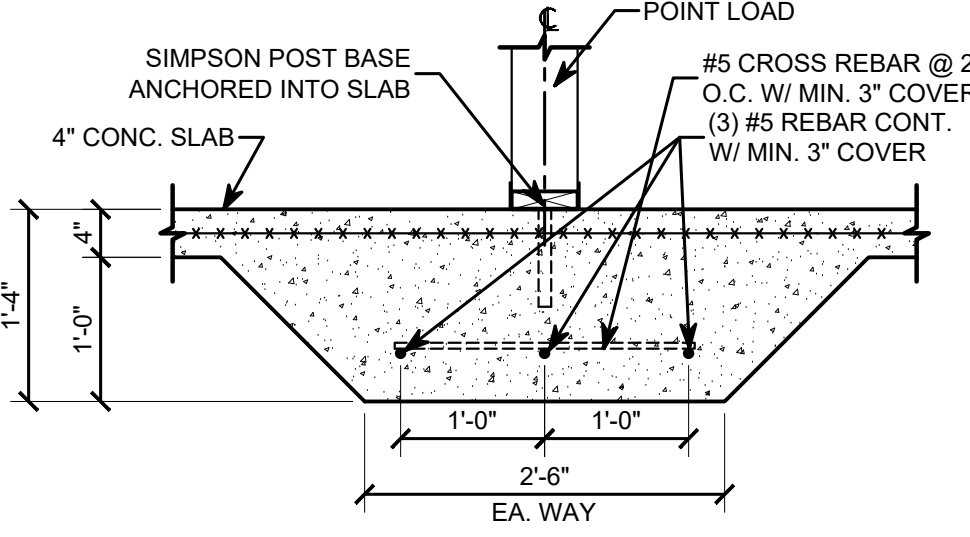
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SCALE: 3/4" = 1'-0"



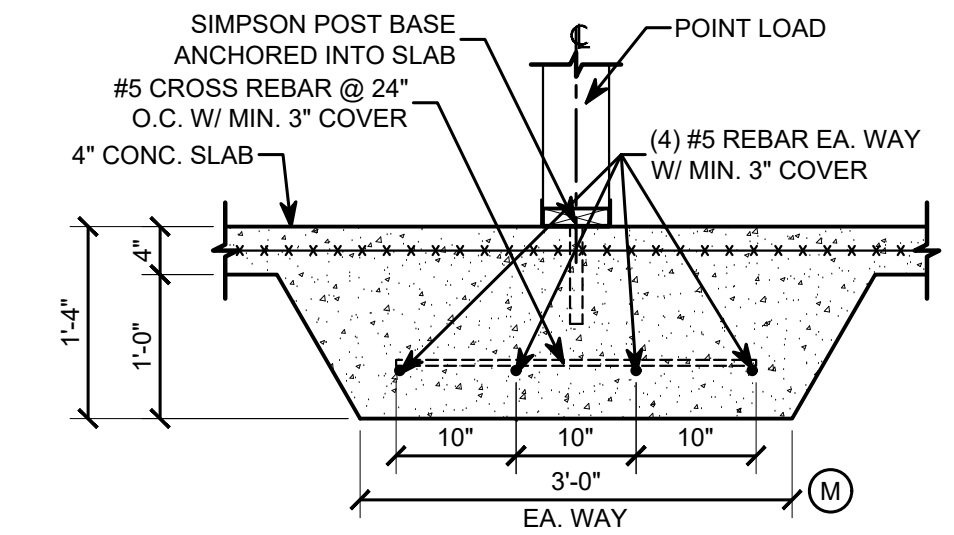
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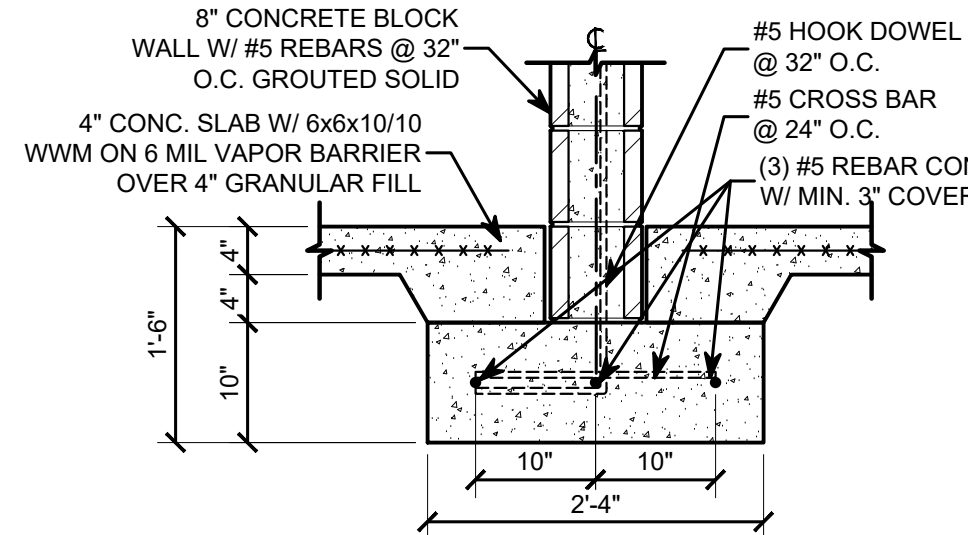
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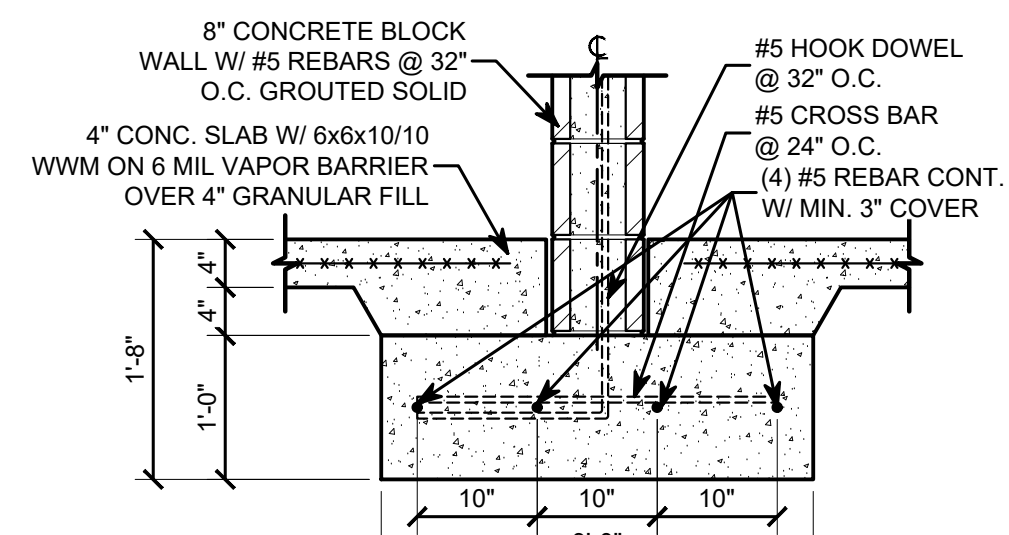
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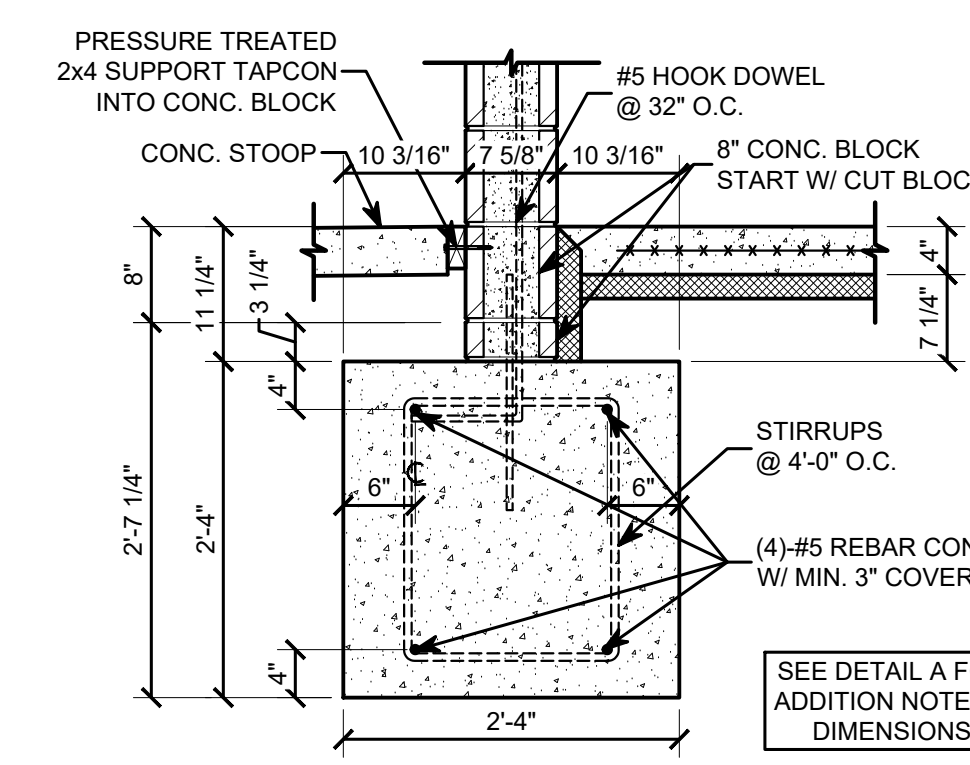
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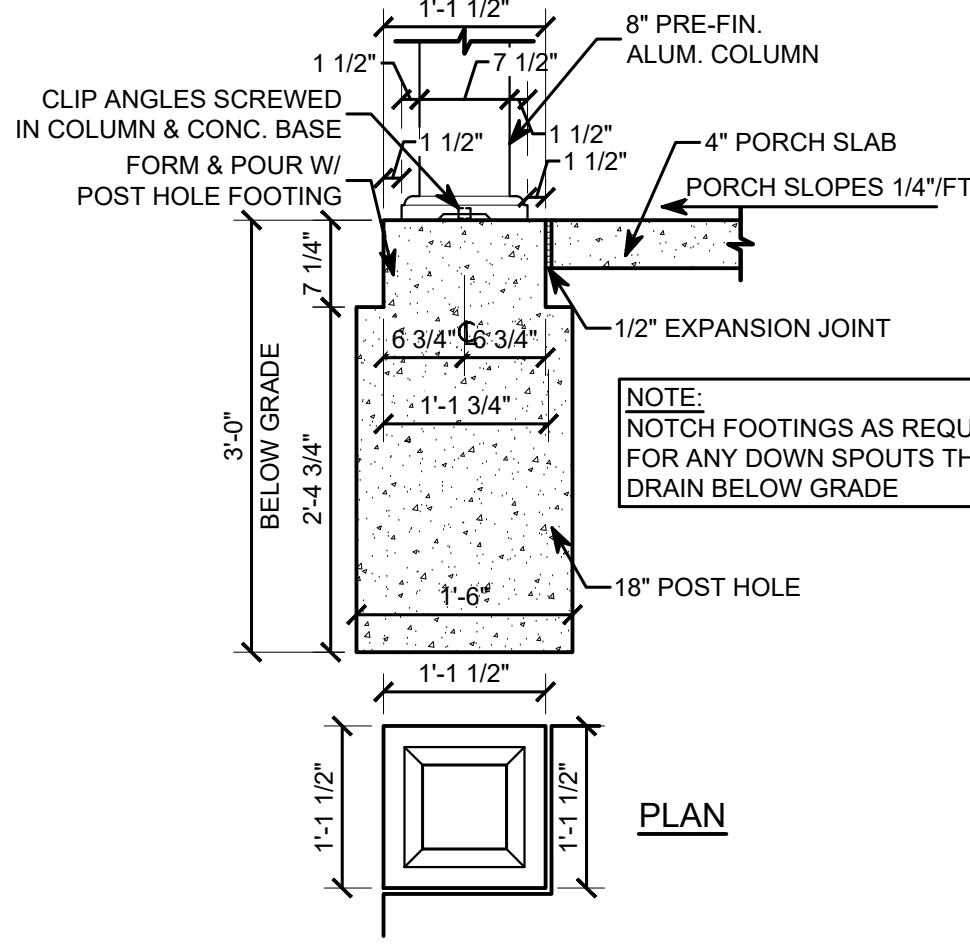
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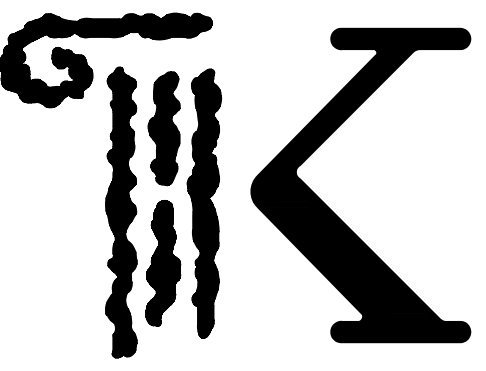
**FOUNDATION DETAIL (N)**

SCALE: 3/4" = 1'-0"



**FOUNDATION DETAIL (O)**

SCALE: 3/4" = 1'-0"



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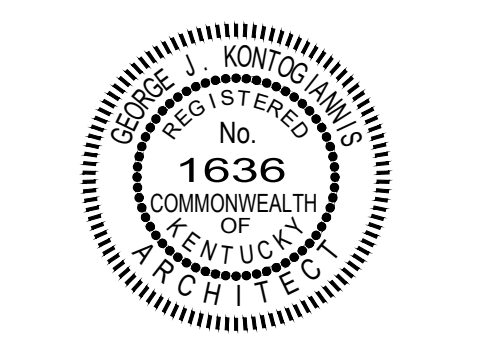
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FAX: 614-224-4736  
E-MAIL: architects@kontogiannis.com

PROJECT:  
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(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
FOUNDATION  
DETAILS

DATE: 07/31/2023  
REVISED:



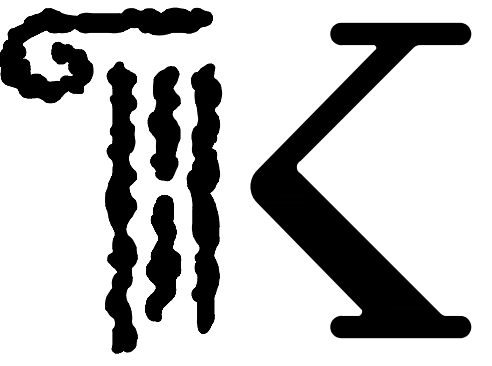
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**AF-2**





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PLANNING  
DESIGN

400 SOUTH FIFTH ST  
SUITE 400  
COLUMBUS, OHIO  
43215-5492

PHONE: 614-224-2083  
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E-MAIL: architects@kontogiannis.com

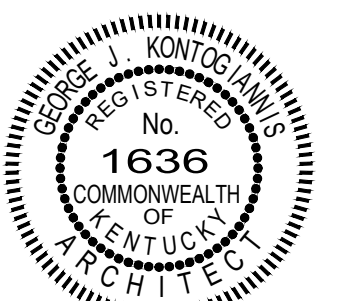
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**BUILDING FIRST  
FLOOR PLAN**

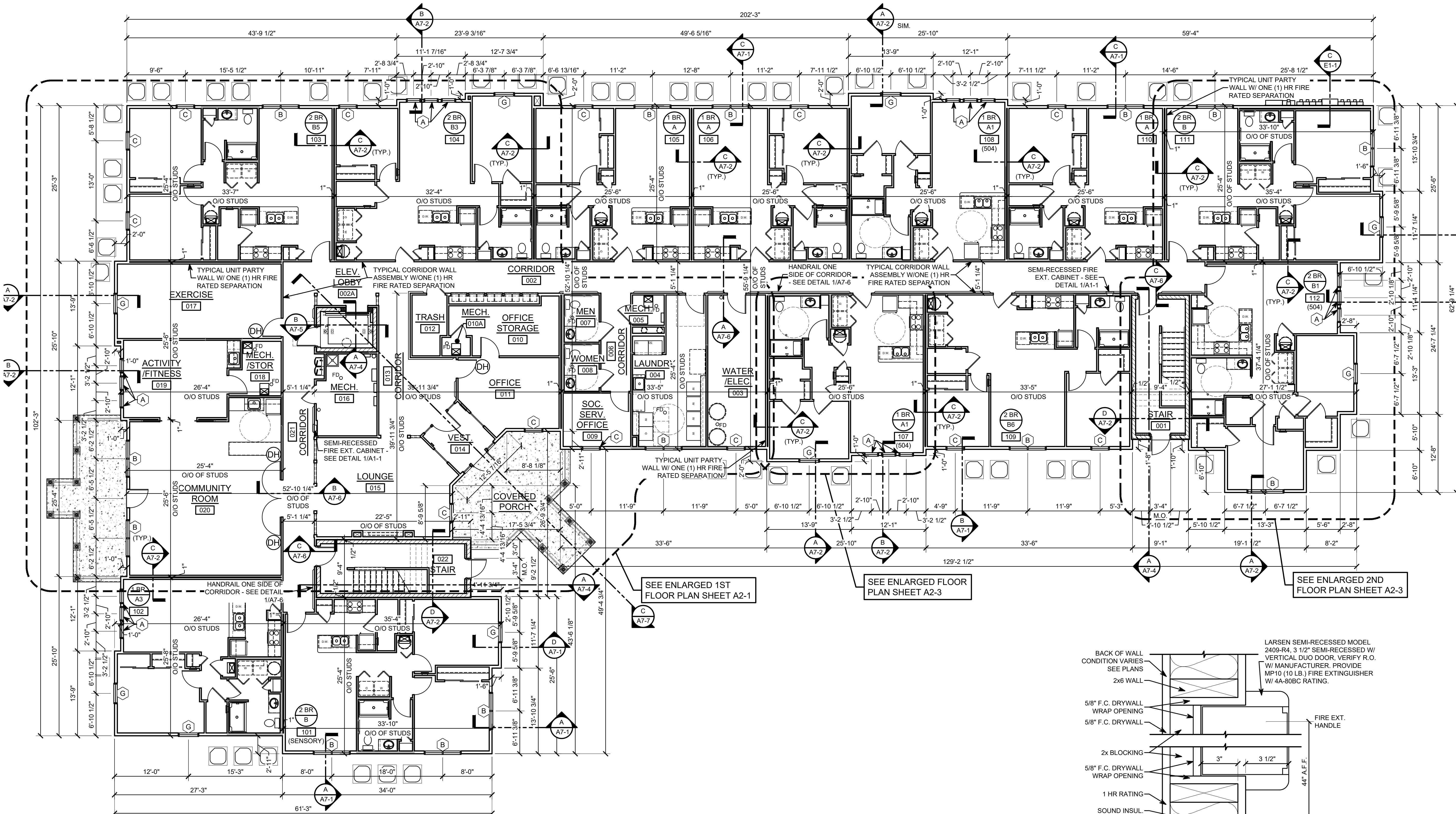
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**A1-1**



SEE SHEET A5-1 FOR  
WINDOW & DOOR SCHEDULE

**BUILDING FIRST FLOOR PLAN**

SCALE: 1/8" = 1'-0" FIRST FLOOR GROSS AREA = 14,179 SQ.FT.

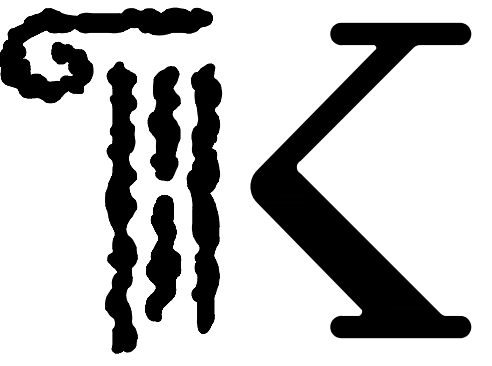
TOTAL GROSS AREA  
FIRST FLOOR = 14,179 SQ.FT.  
SECOND FLOOR = 14,179 SQ.FT.  
THIRD FLOOR = 14,179 SQ.FT.  
TOTAL = 42,537 SQ.FT.

**FIRE EXTINGUISHER  
CABINET SECTION DETAIL**

SCALE: 3" = 1'-0"

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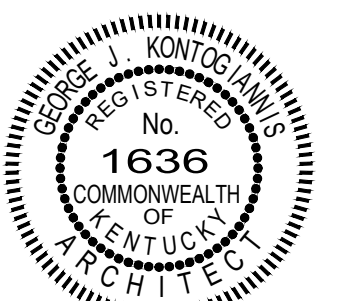
PROJECT:

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SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
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DRAWING TITLE:  
**BUILDING SECOND  
FLOOR PLAN**

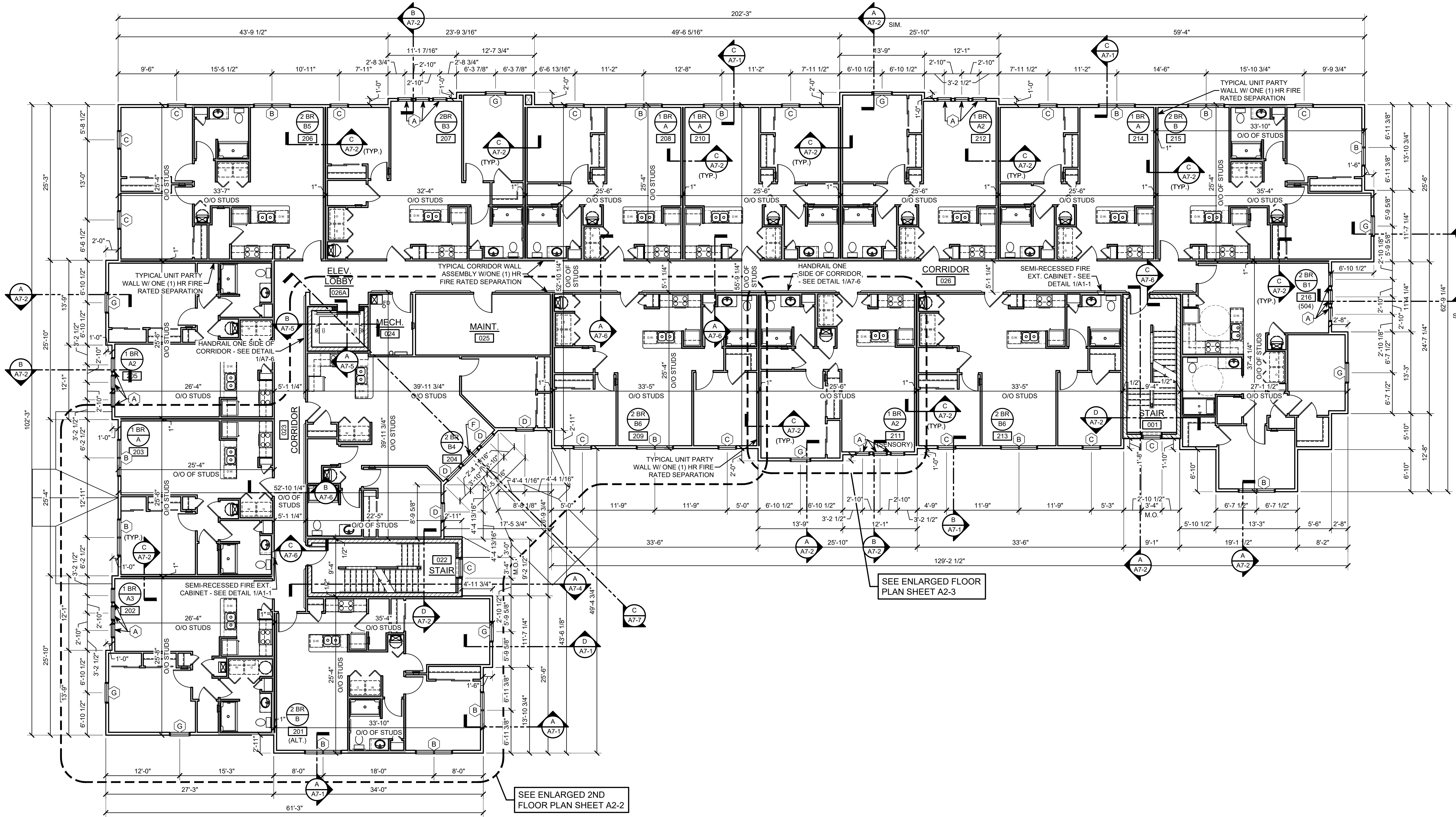
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**A1-2**



SEE ENLARGED 2ND FLOOR PLAN SHEET A2-2

SEE ENLARGED FLOOR PLAN SHEET A2-3

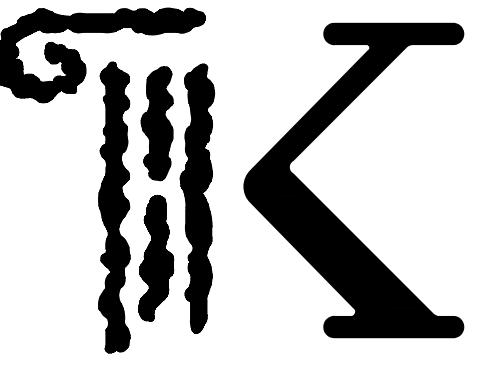
**BUILDING SECOND FLOOR PLAN**

SCALE: 1/8" = 1'-0" SECOND FLOOR GROSS AREA = 14,179 SQ.FT.

SEE SHEET A5-1 FOR  
WINDOW & DOOR SCHEDULE

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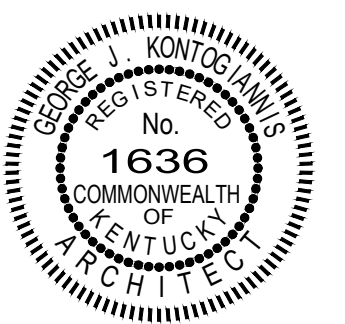
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1125 EDWARDS RD.  
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DRAWING TITLE:  
**BUILDING THIRD  
FLOOR PLAN**

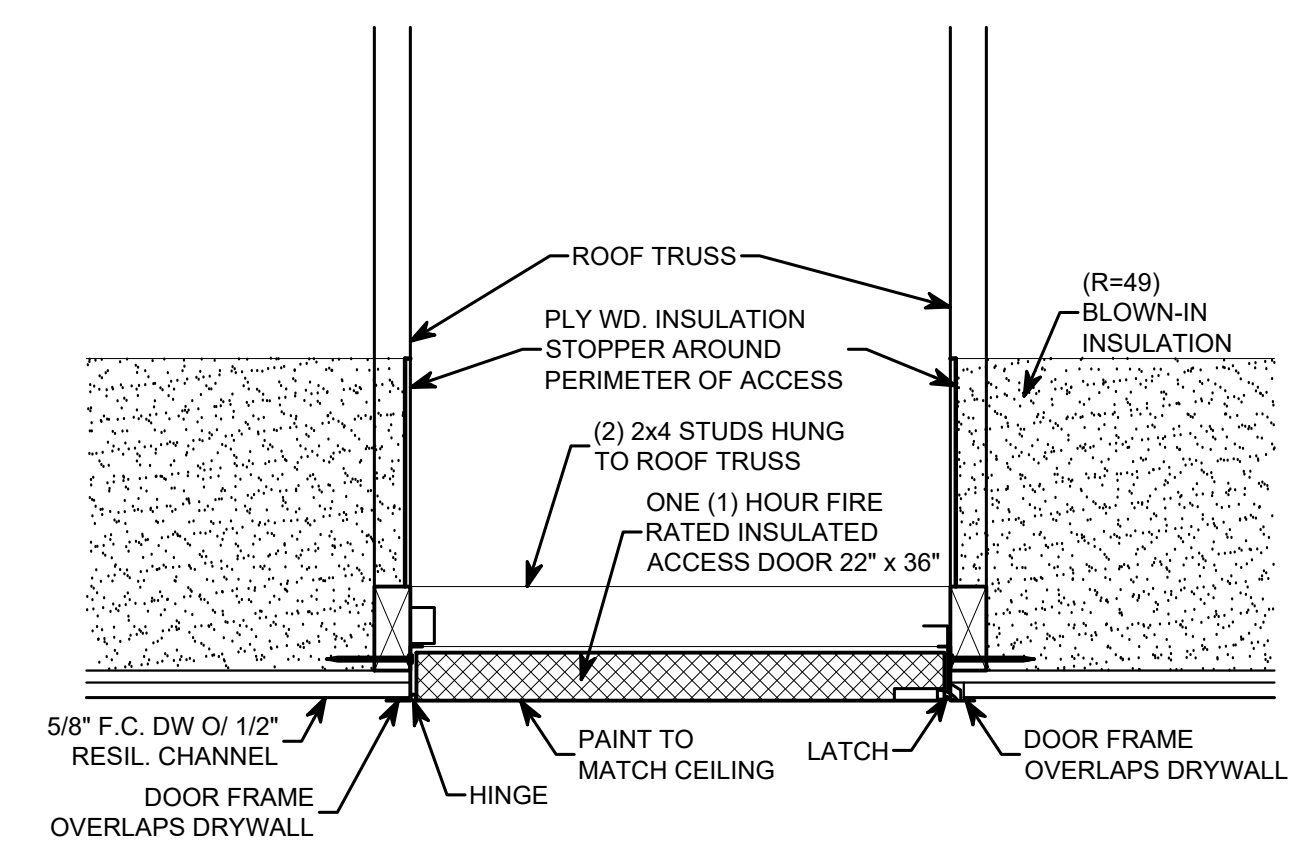
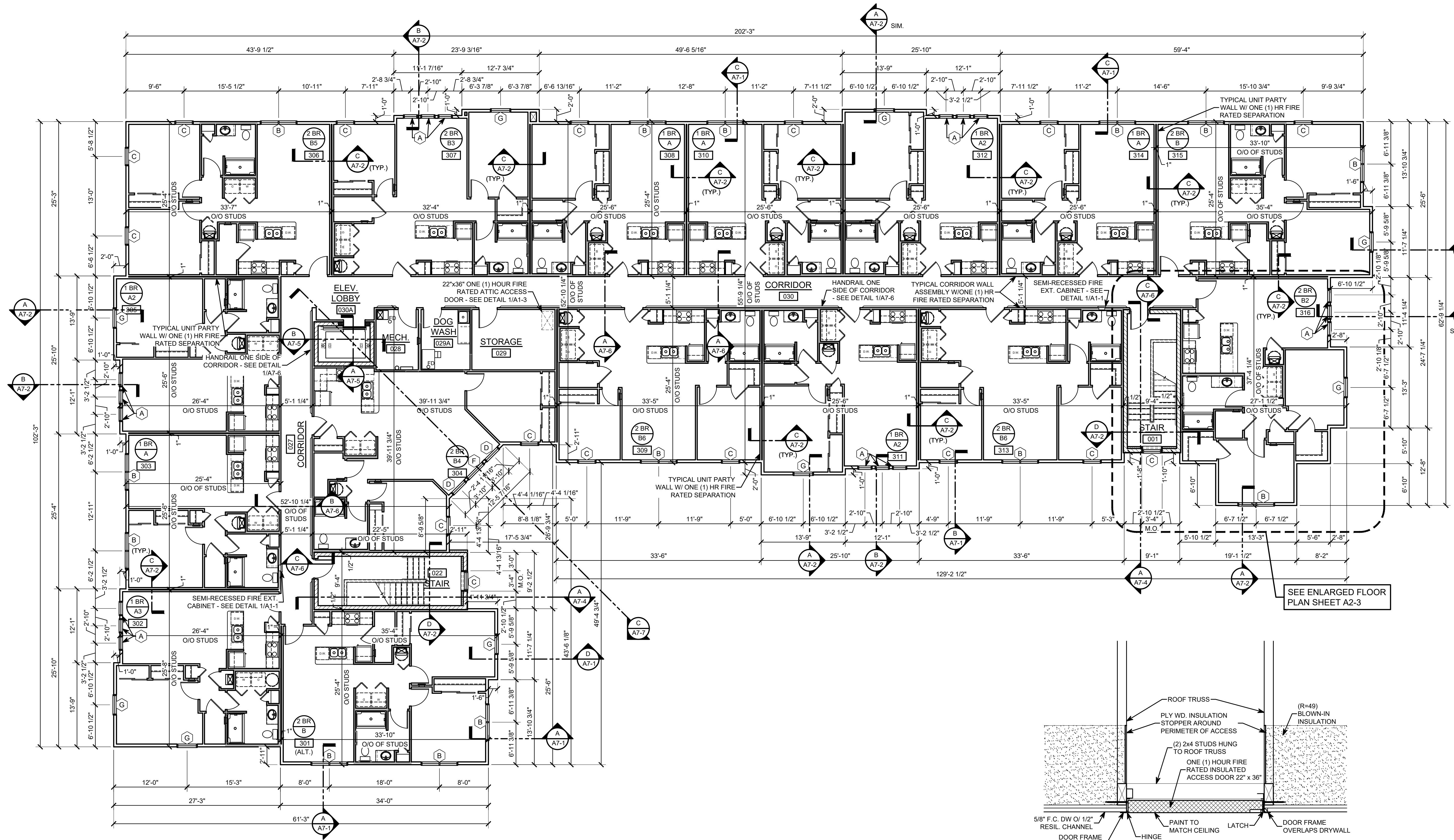
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**A1-3**



**ONE (1) HOUR FIRE RATED  
ATTIC ACCESS DOOR DETAIL 1**

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

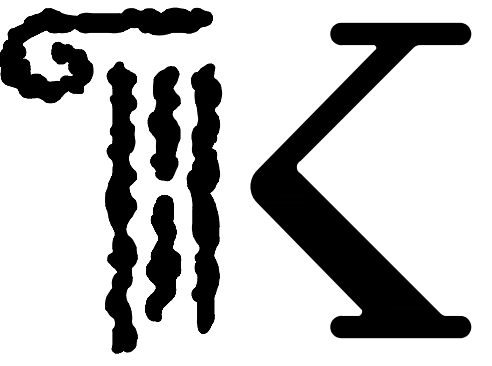
SEE SHEET A5-1 FOR  
WINDOW & DOOR SCHEDULE

**BUILDING THIRD FLOOR PLAN**

SCALE: 1/8" = 1'-0" THIRD FLOOR GROSS AREA = 14,179 SQ. FT.

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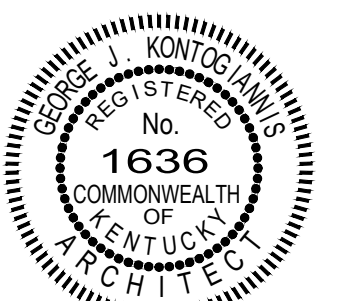
PROJECT:

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SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**BUILDING  
ROOF PLAN**

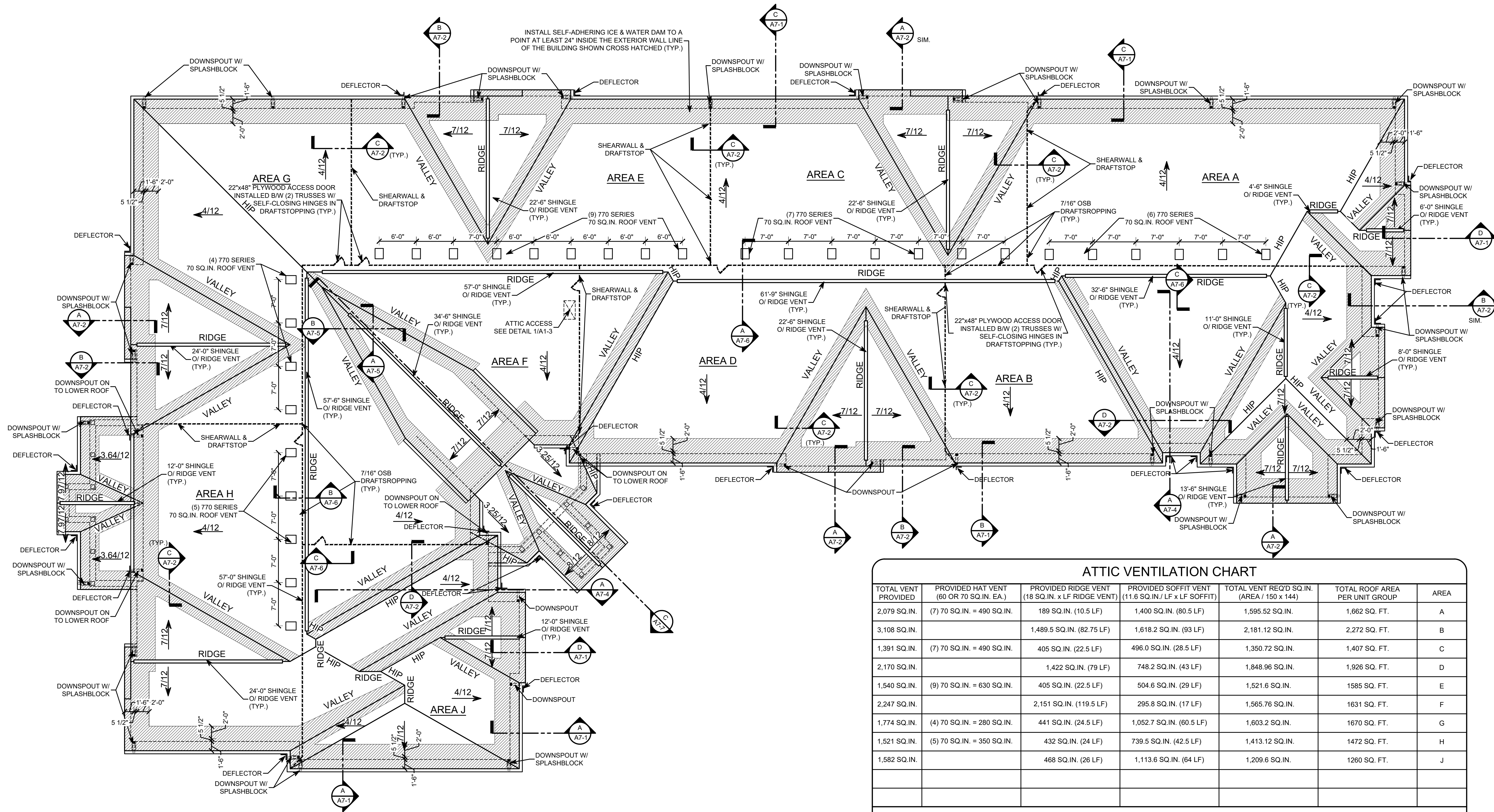
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**A1-4**



**ATTIC VENTILATION CHART**

TOTAL VENT PROVIDED	PROVIDED HAT VENT (60 OR 70 SQ.IN. EA.)	PROVIDED RIDGE VENT (18 SQ.IN. x LF RIDGE VENT)	PROVIDED SOFFIT VENT (11.6 SQ.IN./ LF x LF SOFFIT)	TOTAL VENT REQ'D SQ.IN. (AREA / 150 x 144)	TOTAL ROOF AREA PER UNIT GROUP	AREA
2,079 SQ.IN.	(7) 70 SQ.IN. = 490 SQ.IN.	189 SQ.IN. (10.5 LF)	1,400 SQ.IN. (80.5 LF)	1,595.52 SQ.IN.	1,662 SQ. FT.	A
3,108 SQ.IN.		1,489.5 SQ.IN. (82.75 LF)	1,618.2 SQ.IN. (93 LF)	2,181.12 SQ.IN.	2,272 SQ. FT.	B
1,391 SQ.IN.	(7) 70 SQ.IN. = 490 SQ.IN.	405 SQ.IN. (22.5 LF)	496.0 SQ.IN. (28.5 LF)	1,350.72 SQ.IN.	1,407 SQ. FT.	C
2,170 SQ.IN.		1,422 SQ.IN. (79 LF)	748.2 SQ.IN. (43 LF)	1,848.96 SQ.IN.	1,926 SQ. FT.	D
1,540 SQ.IN.	(9) 70 SQ.IN. = 630 SQ.IN.	405 SQ.IN. (22.5 LF)	504.6 SQ.IN. (29 LF)	1,521.6 SQ.IN.	1,585 SQ. FT.	E
2,247 SQ.IN.		2,151 SQ.IN. (119.5 LF)	295.8 SQ.IN. (17 LF)	1,565.76 SQ.IN.	1,631 SQ. FT.	F
1,774 SQ.IN.	(4) 70 SQ.IN. = 280 SQ.IN.	441 SQ.IN. (24.5 LF)	1,052.7 SQ.IN. (60.5 LF)	1,603.2 SQ.IN.	1,670 SQ. FT.	G
1,521 SQ.IN.	(5) 70 SQ.IN. = 350 SQ.IN.	432 SQ.IN. (24 LF)	739.5 SQ.IN. (42.5 LF)	1,413.12 SQ.IN.	1,472 SQ. FT.	H
1,582 SQ.IN.		468 SQ.IN. (26 LF)	1,113.6 SQ.IN. (64 LF)	1,209.6 SQ.IN.	1,260 SQ. FT.	J

RIDGE VENT - BASED ON GAF COBRA SNOW COUNTRY RIDGE VENT - 18 SQ. IN./LF  
HAT VENT - BASED ON LOMANCO VENTS 770 SERIES - 70 SQ. IN. EA. OR P60 PRO - 60 SQ. IN. EA.  
SOFFIT VENTS - BASED ON ALSIDE HT 12" PRE-FINISHED ALUMINUM T4 AERATED SOFFIT - 11.6 SQ. IN./LF. & SQ.FT.

**BUILDING ROOF PLAN**

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

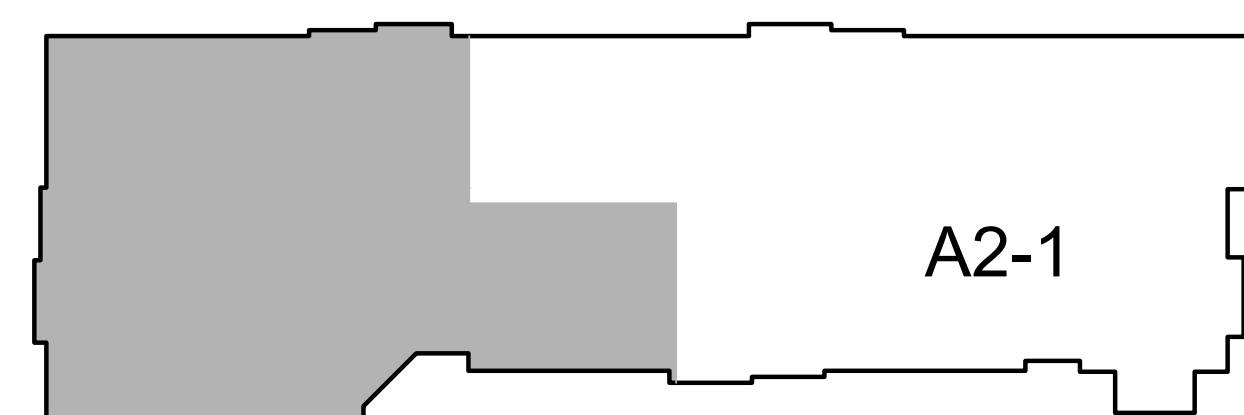
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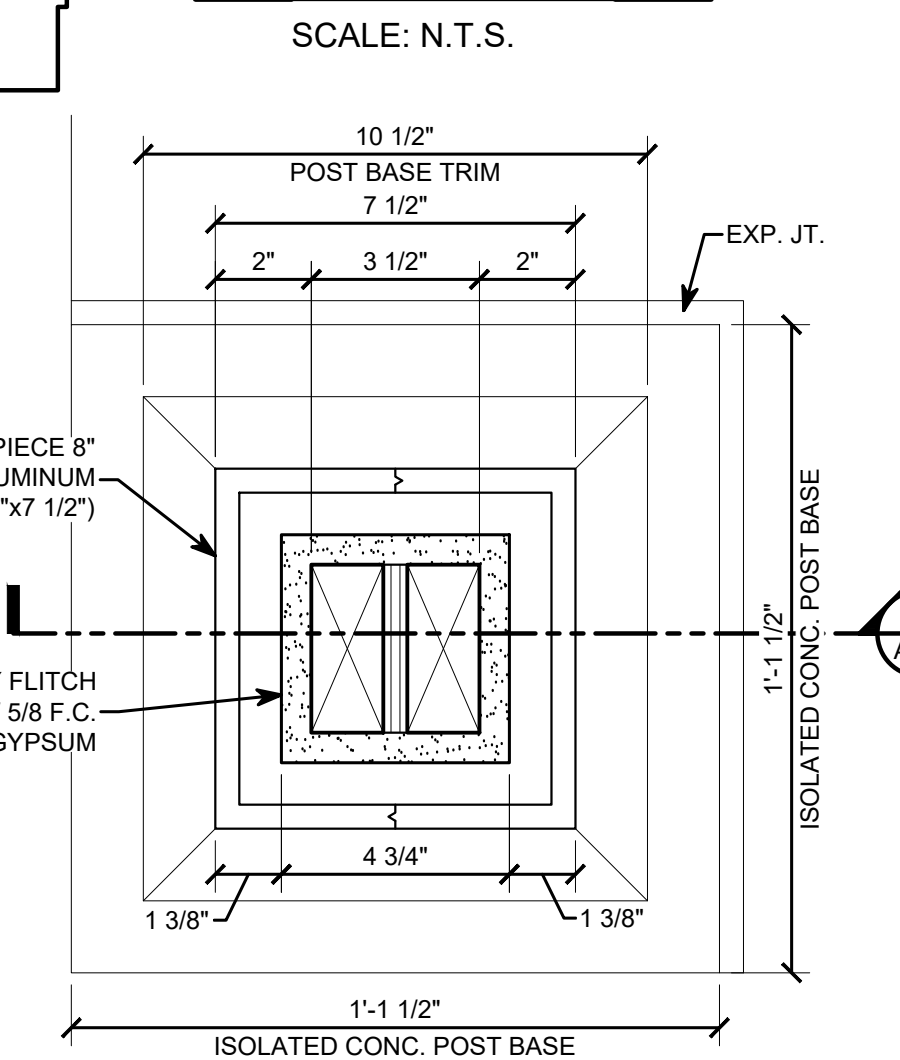
SEE A5-1 FOR DOOR SCHEDULE.

**TWO BEDROOM UNIT (B5)**  
SCALE: 1/4" = 1'-0" NET AREA = 807 SQ.FT.

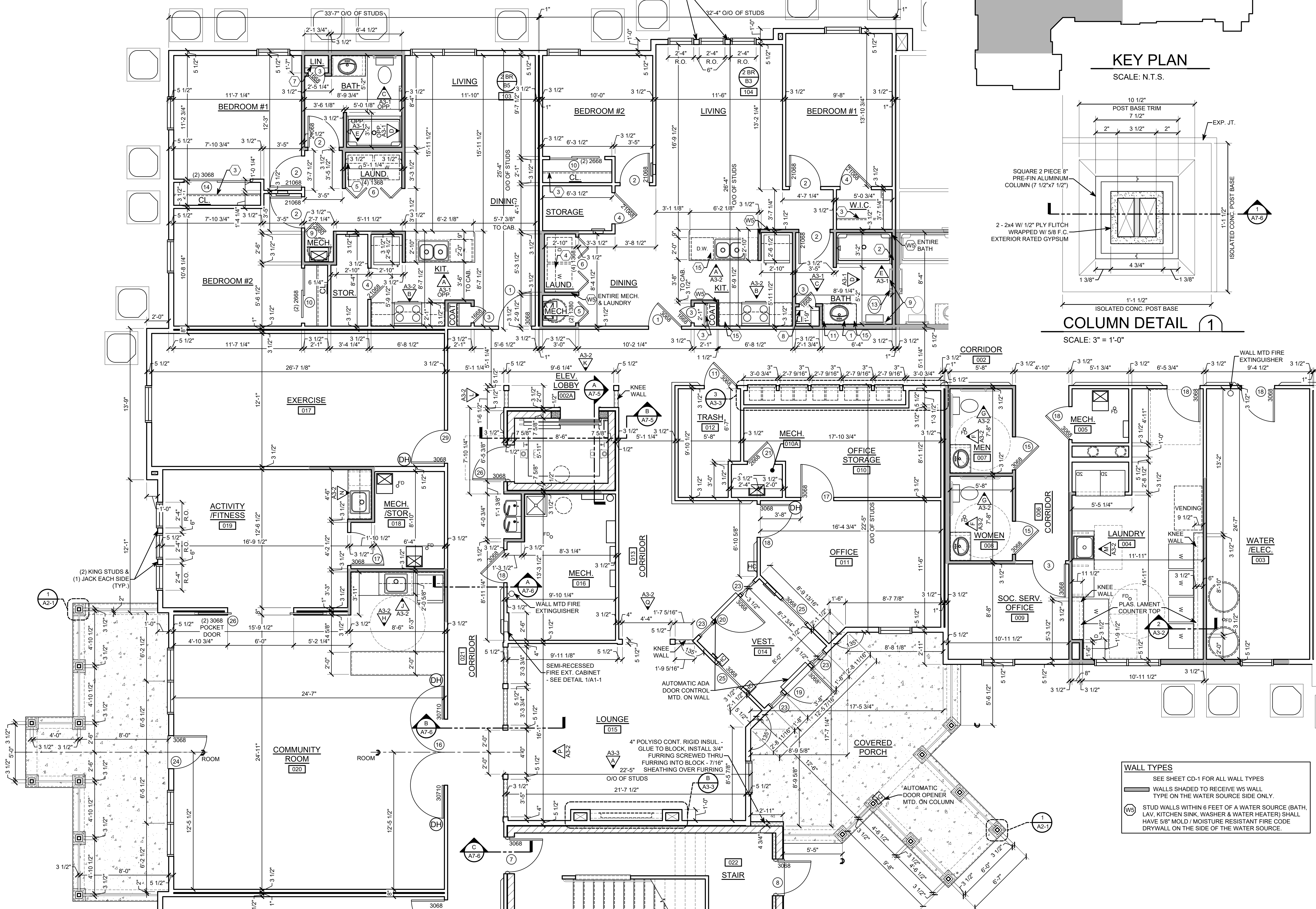
**TWO BEDROOM UNIT (B3)**  
SCALE: 1/4" = 1'-0" NET AREA = 812 SQ.FT.



**KEY PLAN**  
SCALE: N.T.S.

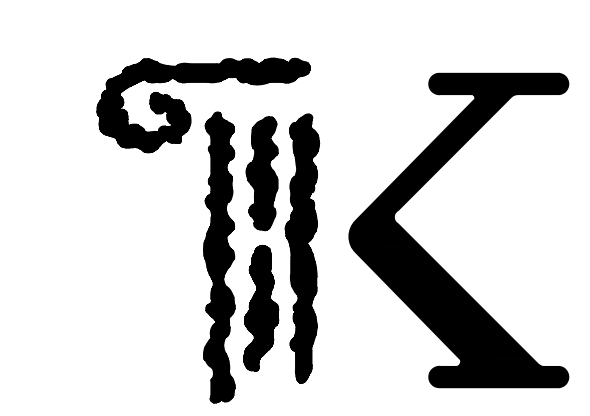


**COLUMN DETAIL 1**  
SCALE: 3" = 1'-0"



**ENLARGED FIRST FLOOR PLAN**

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



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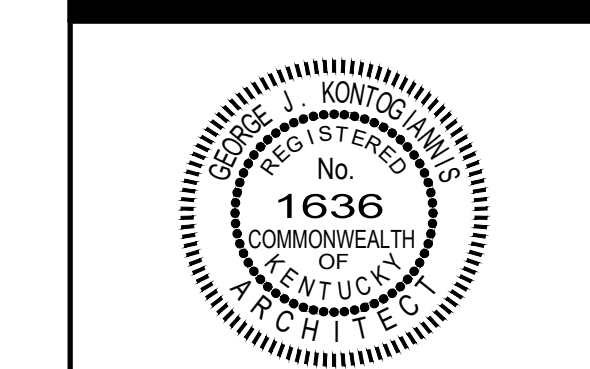
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ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED FIRST  
FLOOR PLAN**

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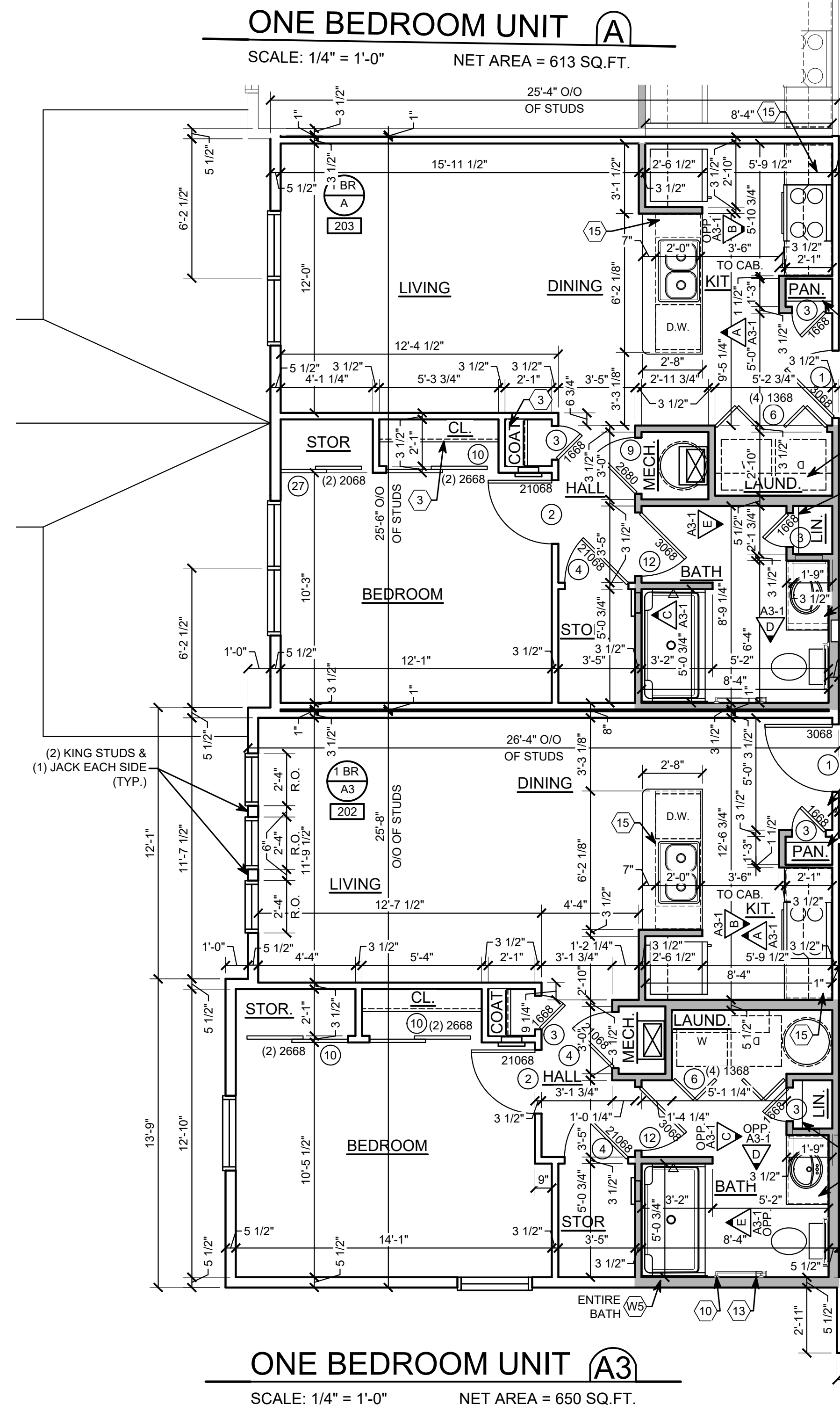
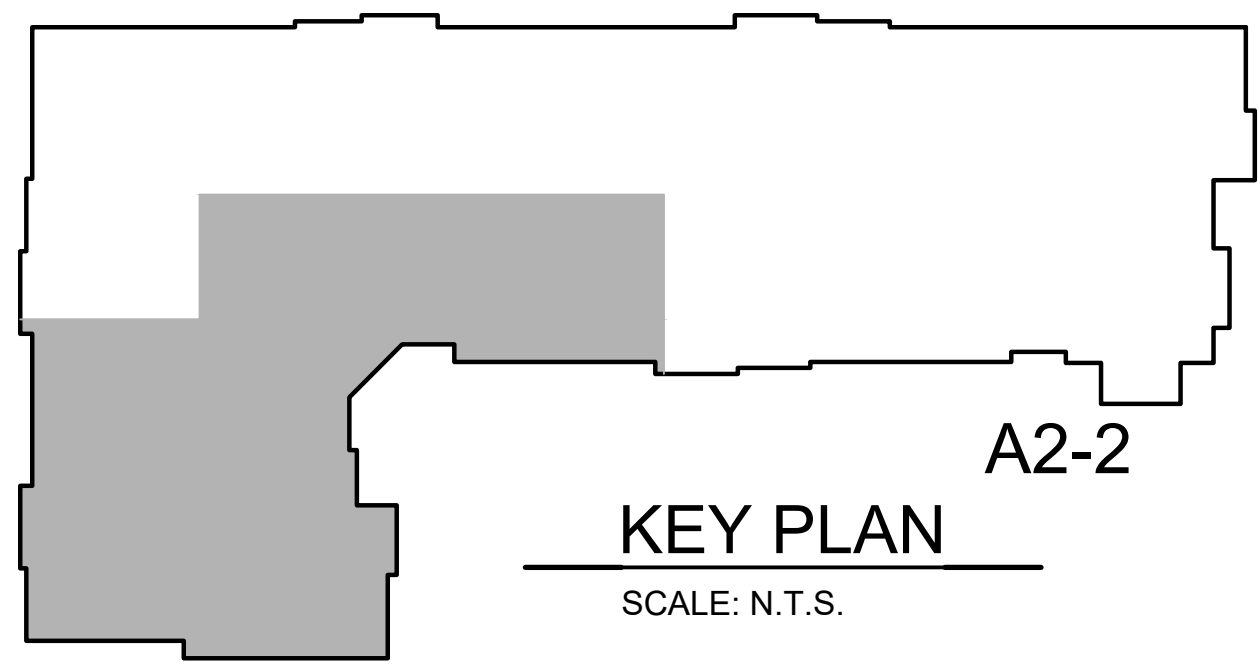
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**A2-1**

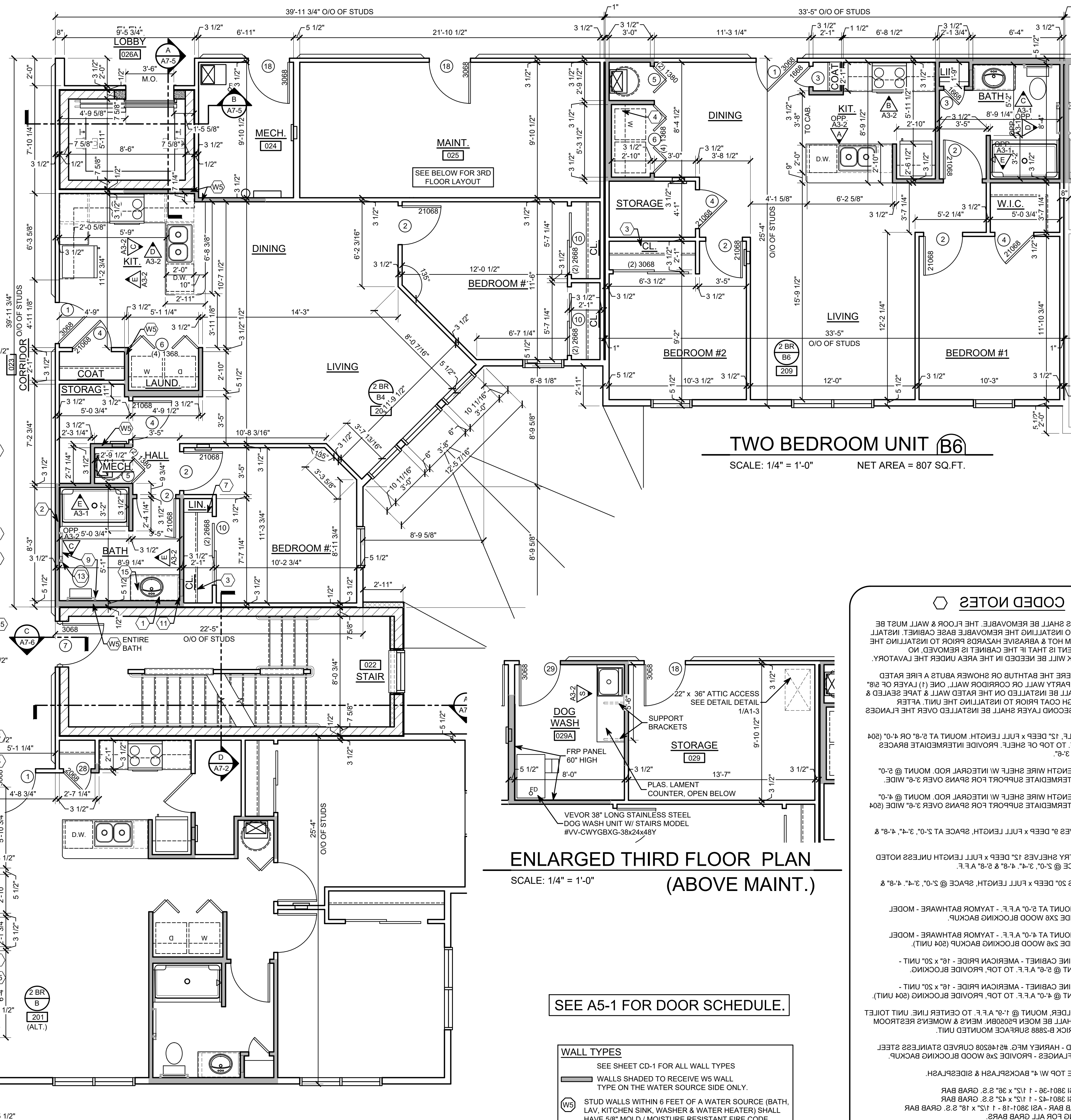
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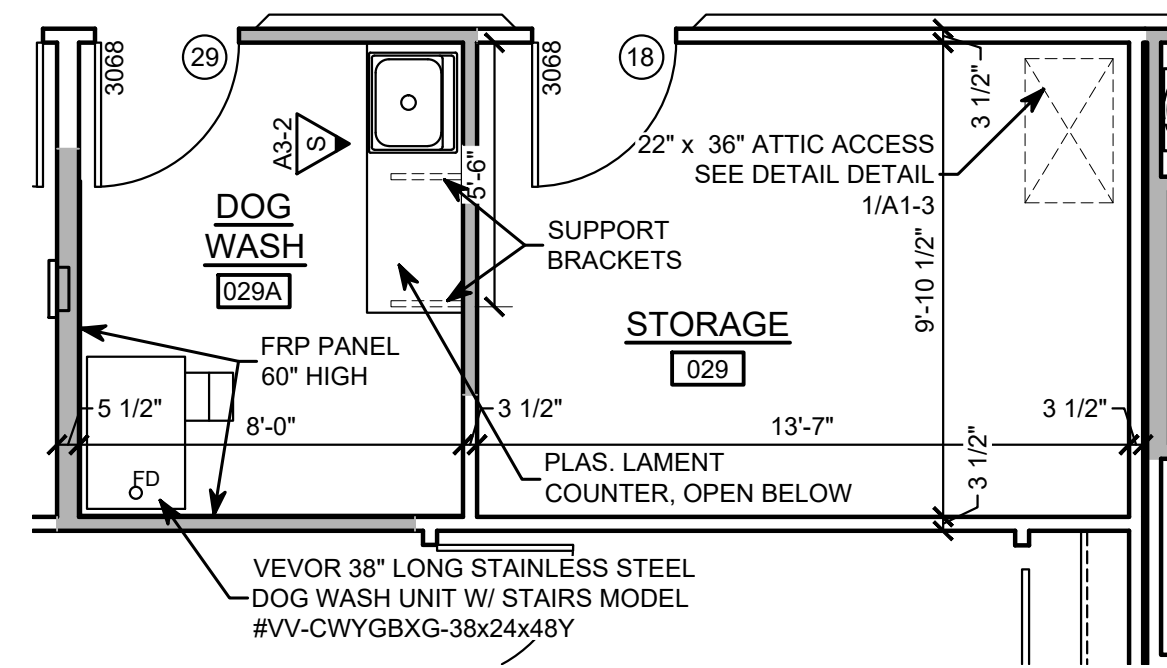


**ONE BEDROOM UNIT A3**  
SCALE: 1/4" = 1'-0" NET AREA = 650 SQ.FT.

**ONE BEDROOM UNIT B4**  
SCALE: 1/4" = 1'-0" NET AREA = 876 SQ.FT.



**TWO BEDROOM UNIT B6**  
SCALE: 1/4" = 1'-0" NET AREA = 807 SQ.FT.



**ENLARGED THIRD FLOOR PLAN**  
SCALE: 1/4" = 1'-0" (ABOVE MAINT.)

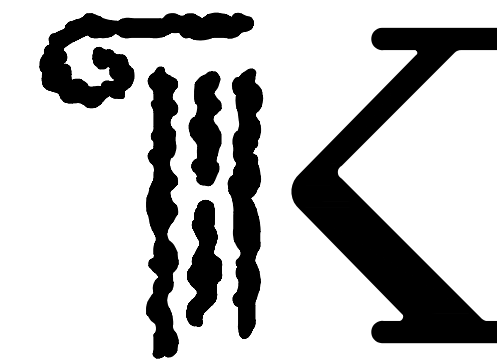
SEE A5-1 FOR DOOR SCHEDULE.

**WALL TYPES**

- SEE SHEET CD-1 FOR ALL WALL TYPES
- WALLS SHADED TO RECEIVE W5 WALL TYPE ON THE WATER SOURCE SIDE ONLY.
- W5 STUD WALLS WITHIN 6 FEET OF A WATER SOURCE (BATH, LAV, KITCHEN SINK, WASHER & WATER HEATER) SHALL HAVE 5/8" MOLD / MOISTURE RESISTANT FIRE CODE DRYWALL ON THE SIDE OF THE WATER SOURCE.

**CODED NOTES**

- ALL BATH VANITIES SHALL BE REMOVABLE. THE FLOOR & WALL MUST BE FINISHED PRIOR TO INSTALLATION OF THE BATH CABINET. PROTECTION FROM HOT & ABRASIVE HAZARDS PRIOR TO INSTALLING THE CABINET. THE UNIT IS REMOVED. ADDITIONAL WORK WILL BE NEEDED IN THE AREA UNDER THE LAVATORY.
- IN LOCATIONS WHERE THE BATHTUB OR SHOWER VALVE IS FIRE RATED, THE BATHTUB OR SHOWER VALVE SHALL BE INSTALLED ON THE FINISHED FLOOR WITH A FIRE RATED PROTECTION FROM HOT & ABRASIVE HAZARDS PRIOR TO INSTALLING THE CABINET. THE UNIT IS REMOVED. ADDITIONAL WORK WILL BE NEEDED IN THE AREA UNDER THE LAVATORY.
- LOCATIONS WHERE THE BATHTUB OR SHOWER VALVE IS FIRE RATED, THE BATHTUB OR SHOWER VALVE SHALL BE INSTALLED ON THE FINISHED FLOOR WITH A FIRE RATED PROTECTION FROM HOT & ABRASIVE HAZARDS PRIOR TO INSTALLING THE CABINET. THE UNIT IS REMOVED. ADDITIONAL WORK WILL BE NEEDED IN THE AREA UNDER THE LAVATORY.
- CLOSED ROD SHELF 12" DEEP x FULL LENGTH MOUNT AT 2'-8" OR 4'-0" (804) UNITS ONLY) A.F.F. TO TOP OF SHELF. PROVIDE INTERMEDIATE BRACES FOR SPANS OVER 3'-8".
- A.F.F. PROVIDE INTERMEDIATE SUPPORT FOR SPANS OVER 3'-8" WIDE @ 2'-0".
- A.F.F. PROVIDE INTERMEDIATE SUPPORT FOR SPANS OVER 3'-8" WIDE (804) UNITS) @ 4'-0".
- A.F.F. PROVIDE INTERMEDIATE SUPPORT FOR SPANS OVER 3'-8" WIDE (804) UNITS) @ 4'-0".
- A.F.F. PROVIDE INTERMEDIATE SUPPORT FOR SPANS OVER 3'-8" WIDE (804) UNITS) @ 4'-0".
- PAINTRY SHELVES 30" DEEP x FULL LENGTH SPACE AT 2'-0", 3'-4", 4'-8" & 5'-8" A.F.F.
- LINE OR PAINTRY SHELVES 12" DEEP x FULL LENGTH UNLESS NOTED OTHERWISE. SPACE @ 2'-0", 3'-4", 4'-8" & 5'-8" A.F.F.
- LINE SHELVES 30" DEEP x FULL LENGTH SPACE @ 2'-0", 3'-4", 4'-8" & 5'-8" A.F.F.
- TOWER BAR MOUNT AT 5'-0" A.F.F. - F. TAYMOR BATHWARE - MODEL #04-SN234 PROVIDE X&G WOOD BLOCKING BACKUP.
- TOWER BAR MOUNT AT 4'-0" A.F.F. - F. TAYMOR BATHWARE - MODEL #04-SN234 PROVIDE X&G WOOD BLOCKING BACKUP (804 UNIT).
- RECESSED MEDICINE CABINET - AMERICAN PRIDE - 16" x 20" UNIT - MOUNT @ 5'-0" A.F.F. TO TOP. PROVIDE BLOCKING (804 UNIT).
- RECESSED MEDICINE CABINET - AMERICAN PRIDE - 16" x 20" UNIT - MOUNT @ 4'-0" A.F.F. TO TOP. PROVIDE BLOCKING (804 UNIT).
- TOILET PAPER HOLDER MOUNT @ 1'-0" A.F.F. TO CENTER LINE UNIT TOILET PAPER HOLDER SHALL BE MOEN PROSPER MEN'S WOMEN'S RESTROOM SHALL HAVE BOBRIK-B-8888 SURFACE MOUNTED UNIT.
- 3 FT. SHOWER ROD - HARNLEY MFG. #482508 CURVED STAINLESS STEEL
- SHOWER ROD W/ FLANGES - PROVIDE X&G WOOD BLOCKING BACKUP.
- PLASTIC LAMINATE TOP W/ 4" BACKLASH & SIDERASH.
- GRAB BAR - A21 3801-38 - 1 1/2" x 36" x 2.25" GRAB BAR
- GRAB BAR - A21 3801-42 - 1 1/2" x 42" x 2.25" GRAB BAR
- RETRACTOR GRAB BAR - A21 3801-18 - 1 1/2" x 18" x 1.875" GRAB BAR
- PROVIDE BLOCKING FOR ALL GRAB BARS
- GRAB BAR BLOCKING SEE SHEET FH-1
- MICROWAVE RANGE HOOD
- UNDER CABINET MICROWAVE



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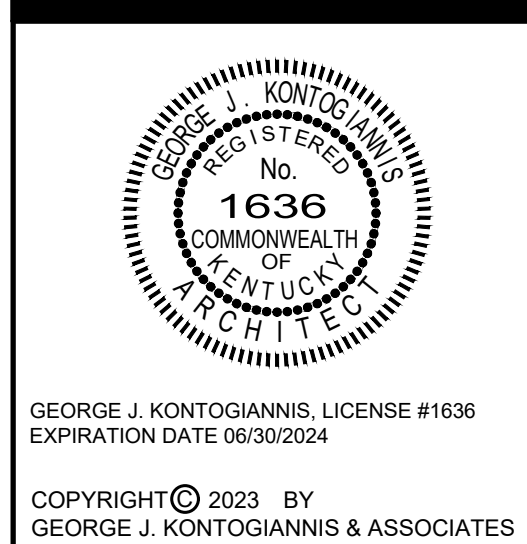
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**ENLARGED SECOND  
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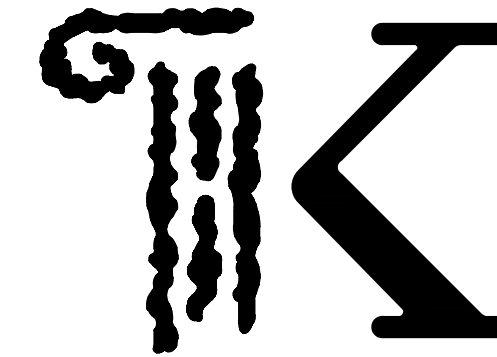


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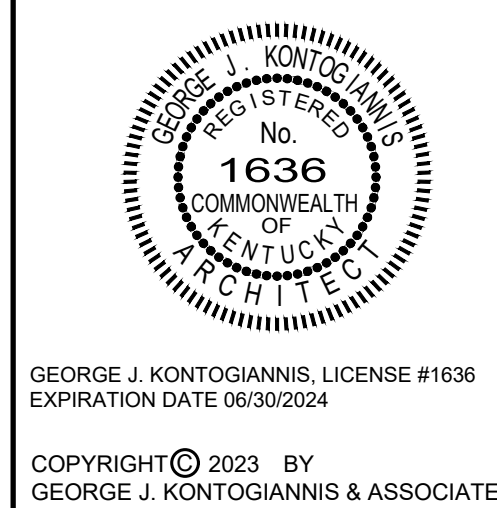
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DRAWING TITLE:  
ENLARGED UNIT  
PLANS

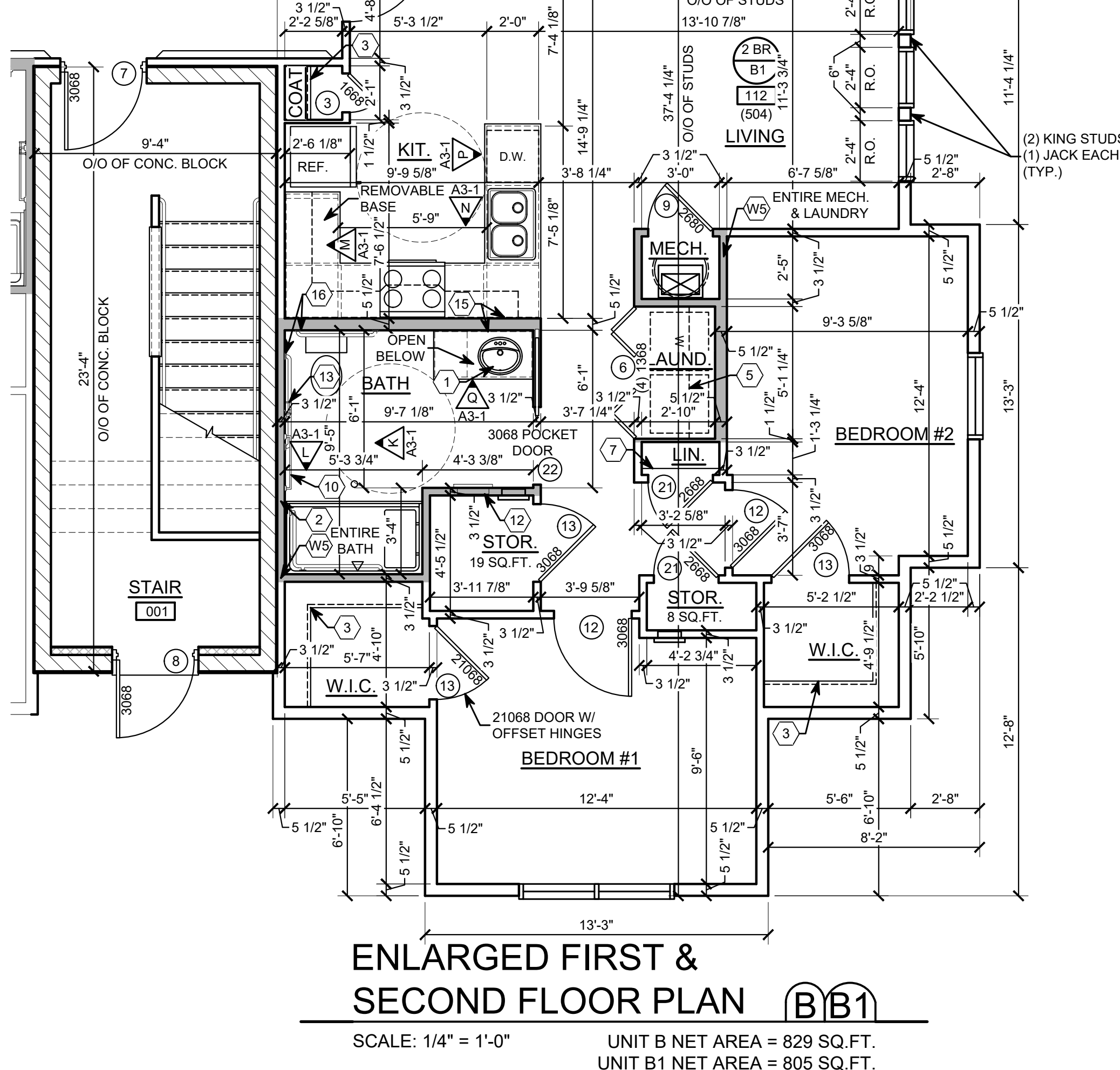
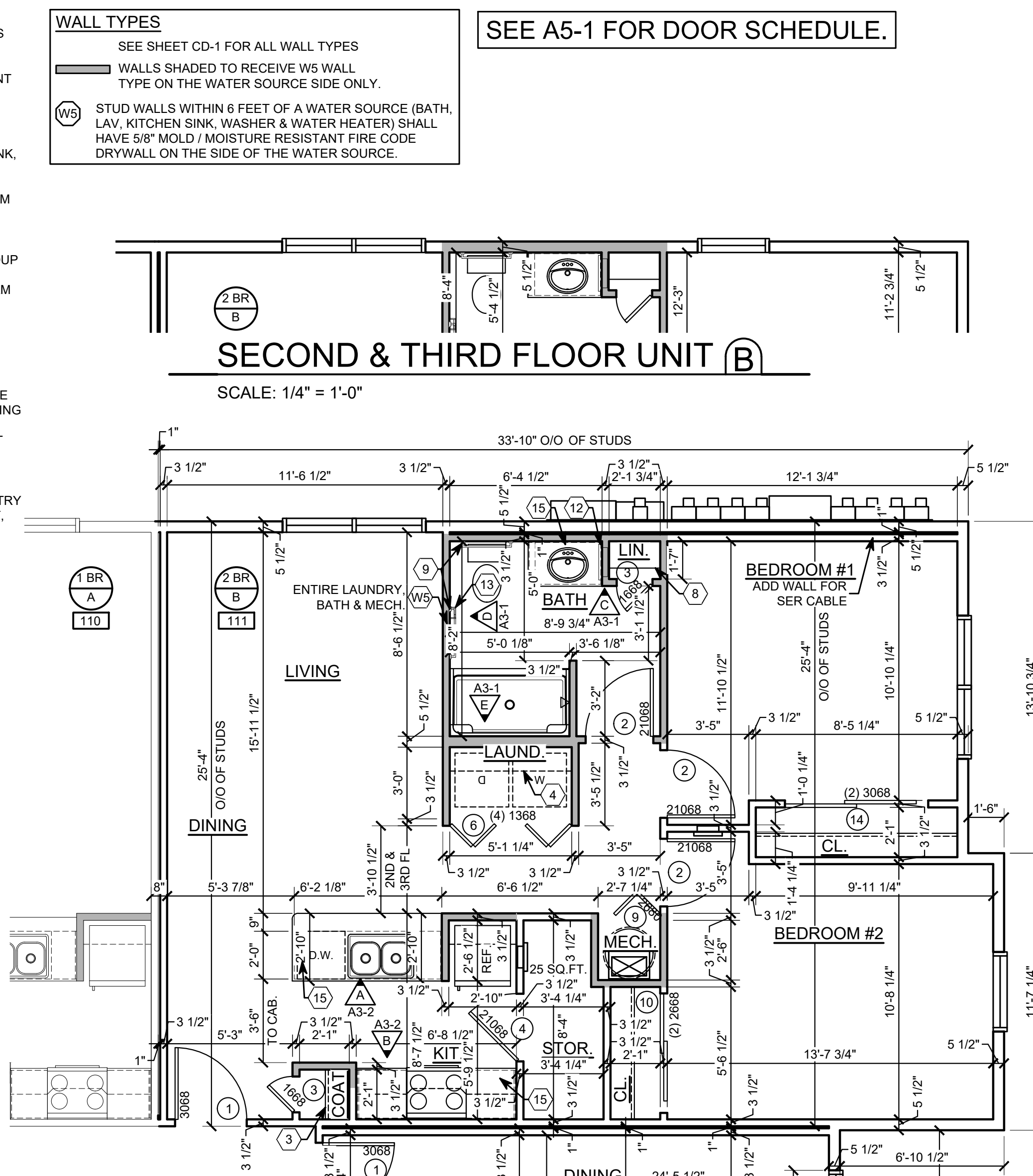
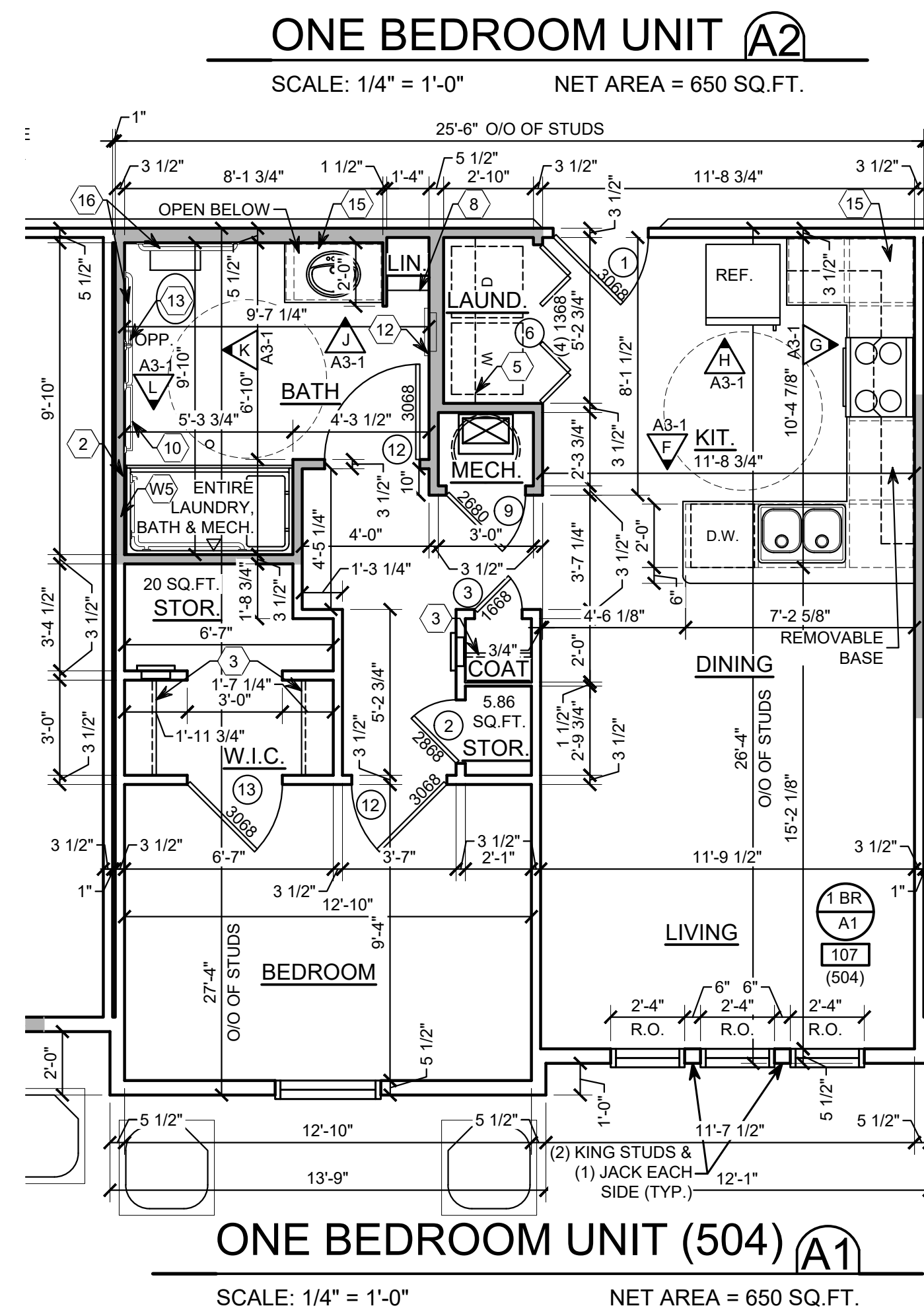
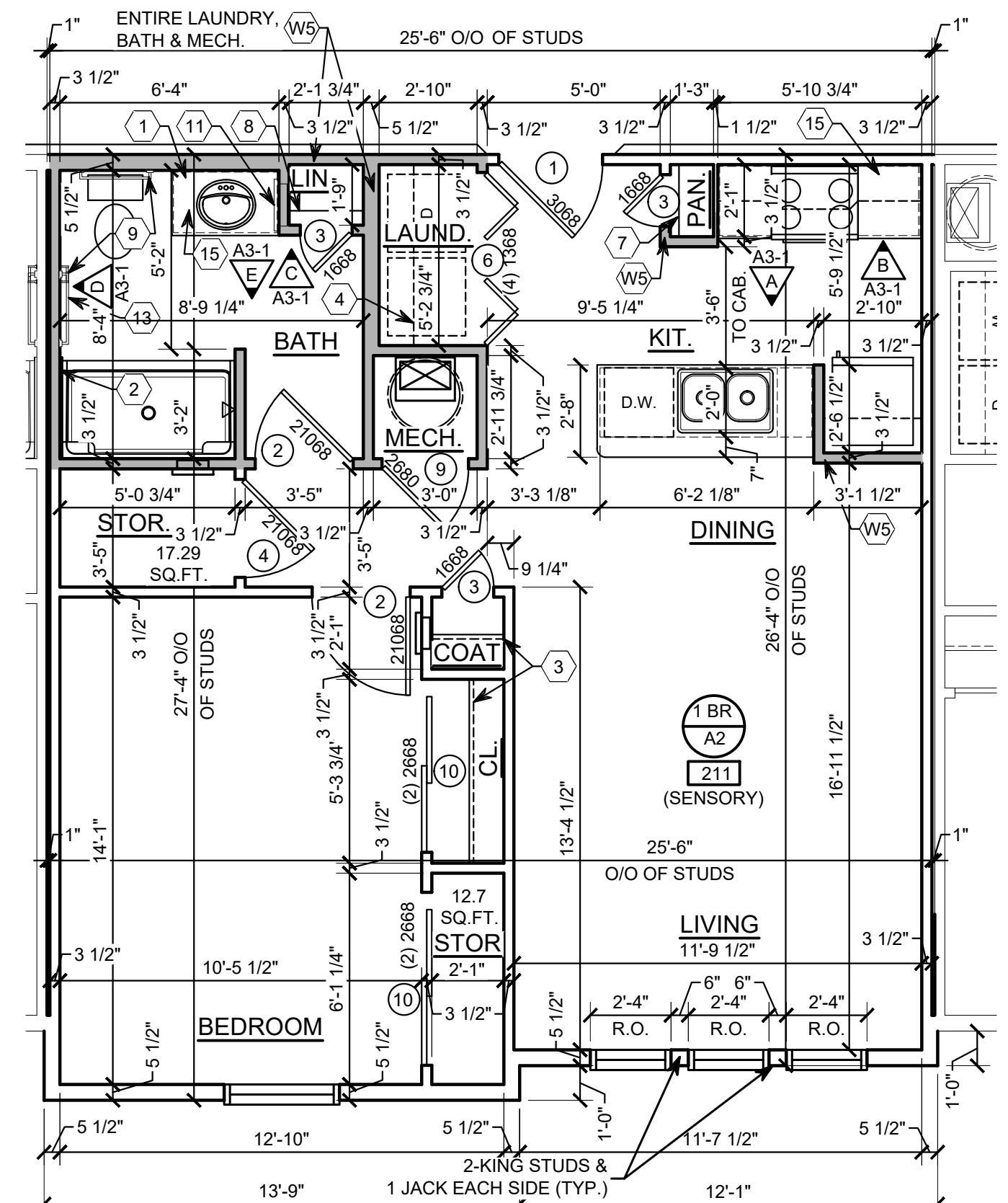
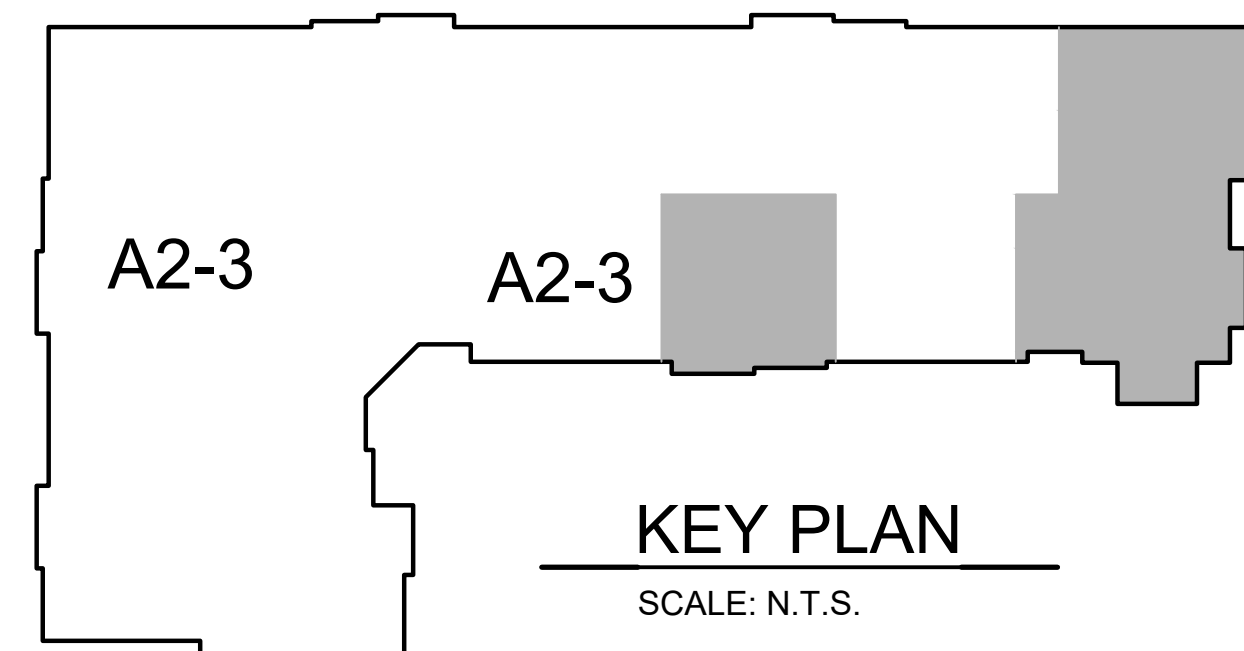
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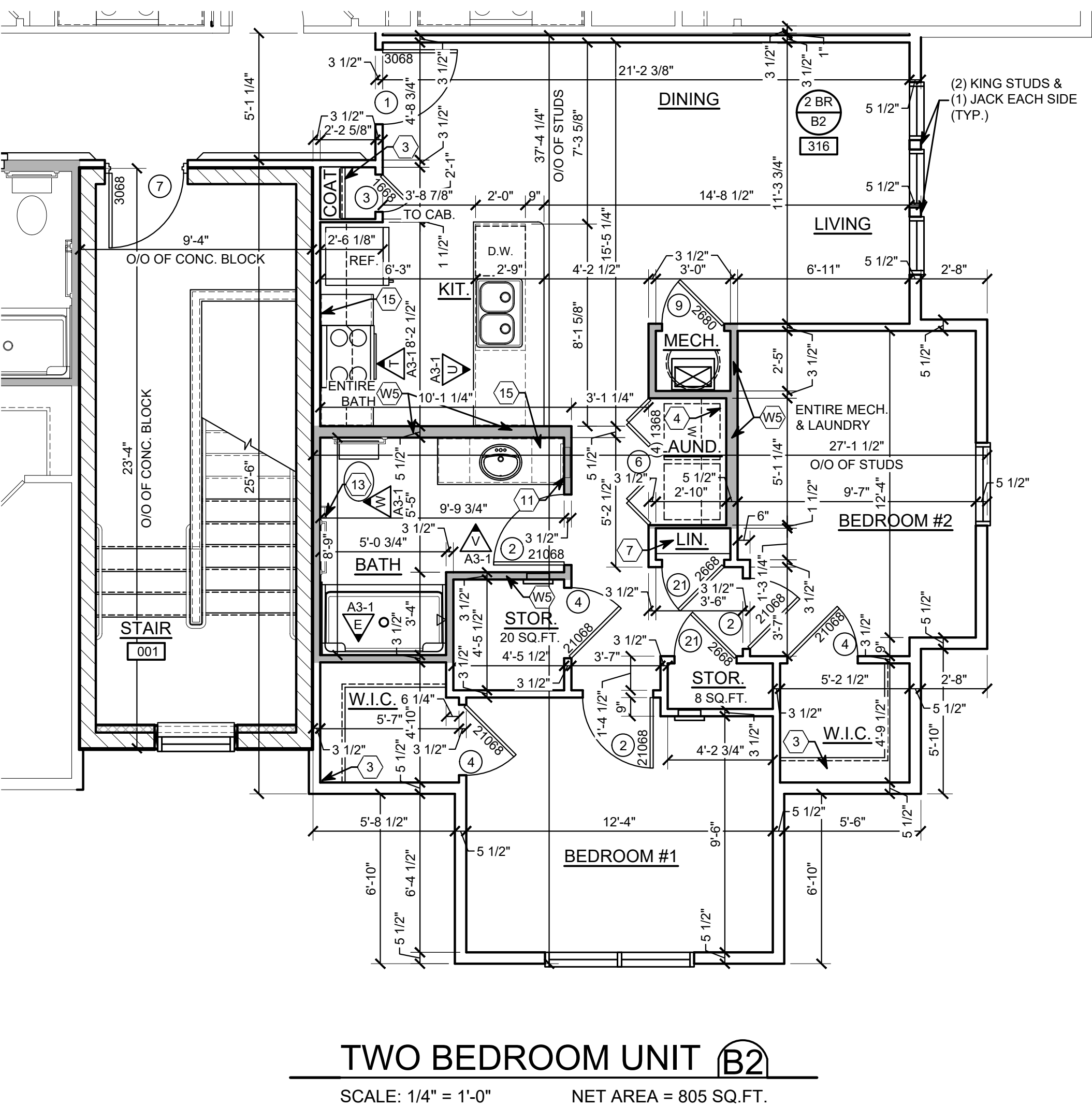
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- CONSTRUCTION SET

**A2-3**



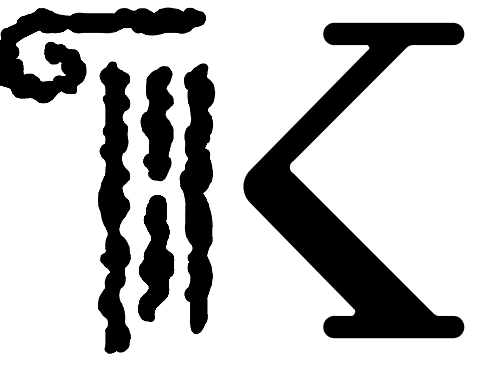
- CODING NOTES**
1. ALL BATH VANITIES SHALL BE REMOVABLE. THE FLOOR & WALL MUST BE FINISHED PRIOR TO INSTALLING THE REMOVABLE BASE CABINET. INSTALL PROTECTION FROM HOT & ABRASIVE HAZARDS PRIOR TO INSTALLING THE CABINET. THE INTENT IS THAT IF THE CABINET IS REMOVED, NO ADDITIONAL WORK WILL BE NEEDED IN THE AREA UNDER THE LAVATORY.
  2. IN LOCATIONS WHERE THE BATHTUB OR SHOWER ABUTS A FIRE RATED CORRIDOR WALL, PARTY WALL, OR CORRIDOR WALL, ONE (1) LAYER OF 5/8" F.C. DRYWALL SHALL BE INSTALLED ON THE RATED WALL & TAPE SEALED & MUDDED ON ROUGH COAT PRIOR TO INSTALLING THE UNIT. AFTER INSTALLATION, A SECOND LAYER SHALL BE INSTALLED OVER THE FLANGES & FINISHED.
  3. CLOSET ROD SHELF, 12" DEEP x FULL LENGTH. MOUNT AT 5'-8" OR 4'-0" (504 UNITS ONLY) A.F.F. TO TOP OF SHELF. PROVIDE INTERMEDIATE BRACES FOR SPANS OVER 3'-6".
  4. 12" DEEP x FULL LENGTH WIRE SHELF W/ INTEGRAL ROD. MOUNT @ 5'-0" A.F.F. PROVIDE INTERMEDIATE SUPPORT FOR SPANS OVER 3'-6" WIDE.
  5. 12" DEEP x FULL LENGTH WIRE SHELF W/ INTEGRAL ROD. MOUNT @ 4'-0" A.F.F. PROVIDE INTERMEDIATE SUPPORT FOR SPANS OVER 3'-6" WIDE (504 UNITS).
  6. (4) PANTRY SHELVES 9" DEEP x FULL LENGTH, SPACE AT 2'-0", 3'-4", 4'-8" & 5'-8" A.F.F.
  7. (4) LINEN OR PANTRY SHELVES 12" DEEP x FULL LENGTH UNLESS NOTED OTHERWISE, SPACE @ 2'-0", 3'-4", 4'-8" & 5'-8" A.F.F.
  8. (4) LINEN SHELVES 20" DEEP x FULL LENGTH, SPACE @ 2'-0", 3'-4", 4'-8" & 5'-8" A.F.F.
  9. 24" TOWEL BAR, MOUNT AT 5'-0" A.F.F. - TAYMOR BATHWARE - MODEL #04-SN6224 PROVIDE 2X6 WOOD BLOCKING BACKUP.
  10. 24" TOWEL BAR, MOUNT AT 4'-0" A.F.F. - TAYMOR BATHWARE - MODEL #04-SN6224 PROVIDE 2X6 WOOD BLOCKING BACKUP (504 UNIT).
  11. RECESSED MEDICINE CABINET - AMERICAN PRIDE - 16" x 20" UNIT - #960M22R1 - MOUNT @ 5'-6" A.F.F. TO TOP, PROVIDE BLOCKING.
  12. RECESSED MEDICINE CABINET - AMERICAN PRIDE - 16" x 20" UNIT - #960M22R1 - MOUNT @ 4'-0" A.F.F. TO TOP, PROVIDE BLOCKING (504 UNIT).
  13. TOILET PAPER HOLDER, MOUNT @ 1'-9" A.F.F. TO CENTER LINE. UNIT TOILET PAPER HOLDER SHALL BE MOEN P5050BN. MEN'S & WOMEN'S RESTROOM SHALL HAVE BOBRICK B-2888 SURFACE MOUNTED UNIT.
  14. 5 FT. SHOWER ROD - HARNEY MFG. #5146208 CURVED STAINLESS STEEL SHOWER ROD W/ FLANGES - PROVIDE 2X6 WOOD BLOCKING BACKUP.
  15. PLASTIC LAMINATE TOP W/ 4" BACKSPLASH & SIDESPLASH.
  16. 36" GRAB BAR - ASI 3801-36 - 1 1/2" x 36" S.S. GRAB BAR  
42" GRAB BAR - ASI 3801-42 - 1 1/2" x 42" S.S. GRAB BAR  
18" VERTICAL GRAB BAR - ASI 3801-18 - 1 1/2" x 18" S.S. GRAB BAR  
PROVIDE BLOCKING FOR ALL GRAB BARS.
  17. GRAB BAR BLOCKING, SEE SHEET FH-1
  18. MICROWAVE RANGE HOOD
  19. UNDER CABINET MICROWAVE

- ENRICHED DESIGN QUALITIES (TOTAL OF 5)**
2. ALL KITCHEN AND VANITY CABINETS PROVIDED WITH LEVER-SHAPED HANDLES OR STANDARD U-SHAPED PULLS, ON ALL DRAWERS AND CABINET DOORS. BATHROOM MEDICINE CABINETS, ABOVE A SINK, ARE NOT INCLUDED.
  3. EITHER (A) A 30-INCH WIDE COMBINATION RANGE/OVEN APPLIANCE WITH FRONT CONTROLS. THE RANGE MUST BE FLUSH WITH THE COUNTERTOP SO ITEMS BEING PULLED OFF THE RANGE CAN SMOOTHLY TRANSITION TO THE COUNTERTOP. CLEAR SPACE FOR A WHEELCHAIR SIDE/PARALLEL APPROACH CENTERED ON THE RANGE MUST ALSO BE PROVIDED.
  5. BATHROOM LAVATORY WITH REMOVABLE BASE CABINET, PEDESTAL STYLE SINK, OR WALL HUNG SINK THAT ACCOMMODATES A FORWARD SEATED POSITION FROM A WHEELCHAIR. THE FLOOR AND WALL UNDER REMOVABLE CABINERY MUST BE FINISHED PRIOR TO INSTALLATION OF CABINERY. PROTECTION FROM HOT AND ABRASIVE HAZARDS IS REQUIRED FOR ALL LAVATORIES, SINKS, AND UNDER REMOVABLE CABINERY.
  6. CENTRAL COMMON AREAS THAT CAN BE USED FOR RESIDENT ACTIVITIES TO SUPPORT SOCIAL ENGAGEMENT AND WELLNESS (E.G. FITNESS CLASSES, GROUP MEALS).
  7. LOBBY TO SUPPORT SOCIAL CONNECTIONS WITH AGE-FRIENDLY SEATING (FIRM SEAT CUSHIONS 18" HIGH AND 18" DEEP, WITH ARMS, BACKS AND WASHABLE FABRIC).
- INNOVATIVE DESIGN FEATURES**
- RESIDENCES AT COURTYARD CROSSING II WILL TARGET LOW INCOME SENIOR (AGE 55+) BLIND AND LOW-VISION HOUSEHOLDS. EACH RESIDENT UNIT WILL BE EQUIPPED WITH, AND/OR FULLY ADAPTABLE TO ACCOMMODATE, THE FOLLOWING UNIT FEATURES: NON-SLIP FLOORING, NATURAL LIGHT, TACTILE SIGNAGE AND STRIPS, SMART HOME SYSTEM (E.G. ALEXA SYSTEM), SMART LIGHTING, SMART LOCKS, TALKING THERMOSTAT, AND TALKING FIRE AND CARBON DIOXIDE DETECTORS. THE COMMON AREA WILL INCLUDE THE FOLLOWING FEATURES: ENLARGED PRINT AND/OR BRAILLE FOR CRITICAL DOCUMENTS AND SIGNAGE, TALKING ELEVATOR, TALKING CROSSWALK (IF APPLICABLE), AUDIO-BASED ENTRY SYSTEM, TACTILE SIGNAGE AND STRIPS, NON-SLIP FLOORING, NATURAL LIGHT, FITNESS CENTER/OCCUPATIONAL REHABILITATION ROOM, DOG PARK, AND ASSISTANCE DOG WASHING/TREATMENT ROOM.
- APPLIANCE SCHEDULE**
- REFRIGERATOR (ALL UNITS) - GE GTE17DTR, 16.6 CU.FT. ADA & ENERGY STAR COMPLIANT (KITCHENETTE UNIT TO BE STAINLESS STEEL)
- RANGE (REGULAR UNITS) - GE JBS460DMB, 30" FREE-STANDING SLIDE-IN W/ FRONT CONTROLS
- DROP-IN RANGE (504 UNITS) - GE JDE30DF, 30" DROP-IN, SELF-CLEANING, CERAMIC COOKTOP, GLASS WINDOW
- OVER-THE-RANGE MICROWAVE (REGULAR UNITS) - GE JVM31600F, 1.6 CU.FT., 1,000 WATTS, DUCTED RANGE HOOD (PROVIDE FIRE STOP EXTINGUISHING UNITS UNDER HOOD)
- UNDER CABINET MICROWAVE (504 UNITS) - GE JEM3072DH, (10 1/8" H x 17 1/4" W x 13" D) 0.7 CU.FT. W/ HANGING KIT
- RANGE HOOD (504 UNITS) - GE JVK5305DJ, 30" RANGE HOOD, DUCTED RANGE HOOD, ENERGY STAR RATED, WIRE SWITCHES TO SKIRT BOARD AT SINK, (PROVIDE FIRE STOP EXTINGUISHING UNITS UNDER HOOD)
- DISHWASHER (REGULAR UNITS) - GE GSD2101V, 24" WIDE, ENERGY STAR RATED
- DISHWASHER (504 UNITS) - GE GDT2255GL, 24" WIDE, ADA & ENERGY STAR COMPLIANT



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**KONTOGIANNIS & ASSOCIATES**

ARCHITECTURE  
PLANNING  
DESIGN

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SUITE 400  
COLUMBUS, OHIO  
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E-MAIL: architects@kontogiannis.com

PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

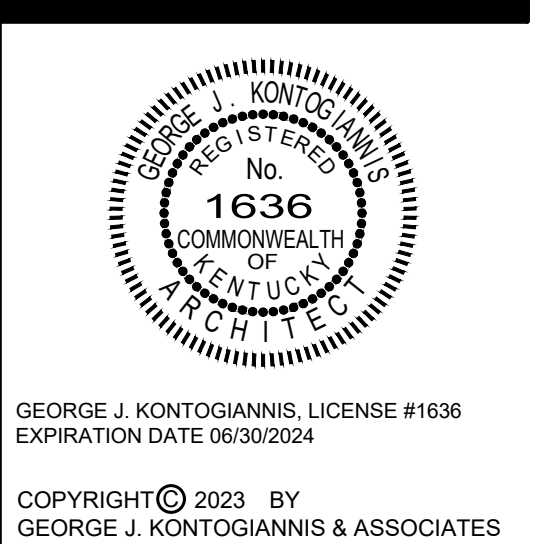
**APPLIANCE SCHEDULE**

- REFRIGERATOR (ALL UNITS) - GE GTE17DTNR, 16.6 CU.FT. ADA & ENERGY STAR COMPLIANT (KITCHENETTE UNIT TO BE STAINLESS STEEL)
- RANGE (REGULAR UNITS) - GE JBS460DMBB, 30" FREE-STANDING SLIDE-IN W/ FRONT CONTROLS
- DROP-IN RANGE (504 UNITS) - GE JDB30DF, 30" DROP-IN, SELF-CLEANING, CERAMIC COOKTOP, GLASS WINDOW
- OVER-THE-RANGE MICROWAVE (REGULAR UNITS) - GE JVM3160DF, 1.6 CU.FT., 1,000 WATTS, DUCTED RANGE HOOD (PROVIDE FIRE STOP EXTINGUISHING UNITS UNDER HOOD)
- UNDER CABINET MICROWAVE (504 UNITS) - GE JEM3072DH, (10 1/8" H x 17 1/4" W x 13" D) 0.7 CU.FT. W/ HANGING KIT
- RANGE HOOD (504 UNITS) - GE JVX5305DJ, 30" RANGE HOOD, DUCTED RANGE HOOD, ENERGY STAR RATED, WIRE SWITCHES TO SKIRT BOARD AT SINK. (PROVIDE FIRE STOP EXTINGUISHING UNITS UNDER HOOD)
- DISHWASHER (REGULAR UNITS) - GE GSD2101V, 24" WIDE, ENERGY STAR RATED
- DISHWASHER (504 UNITS) - GE GDT225SGL, 24" WIDE, ADA & ENERGY STAR COMPLIANT

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**INTERIOR  
ELEVATIONS**

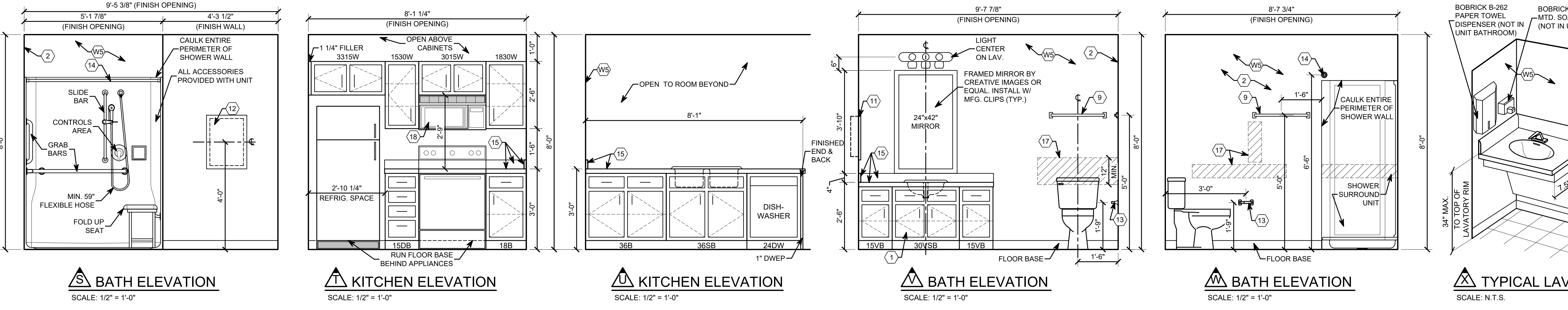
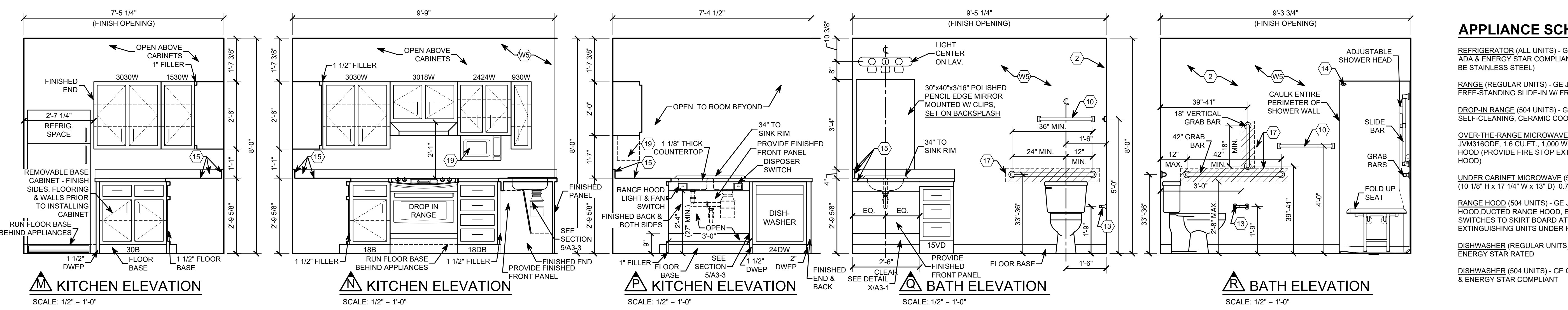
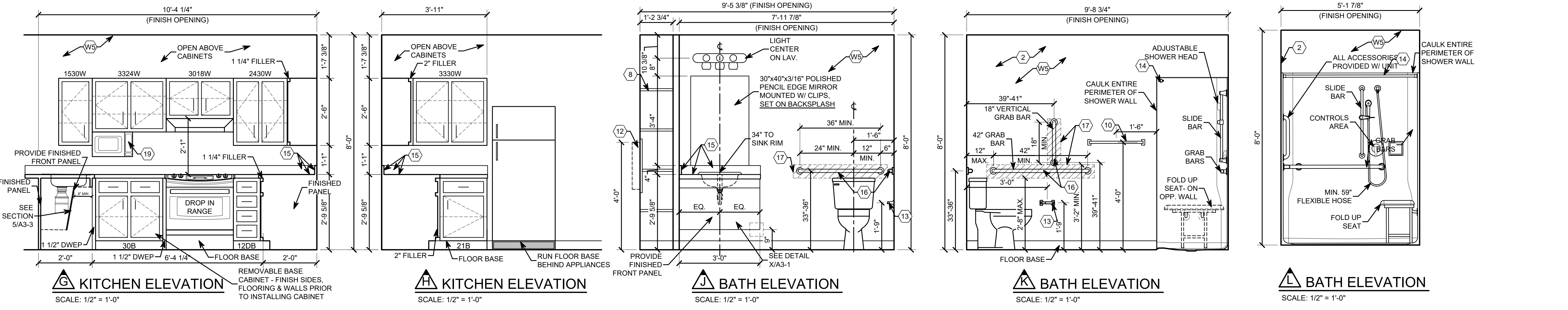
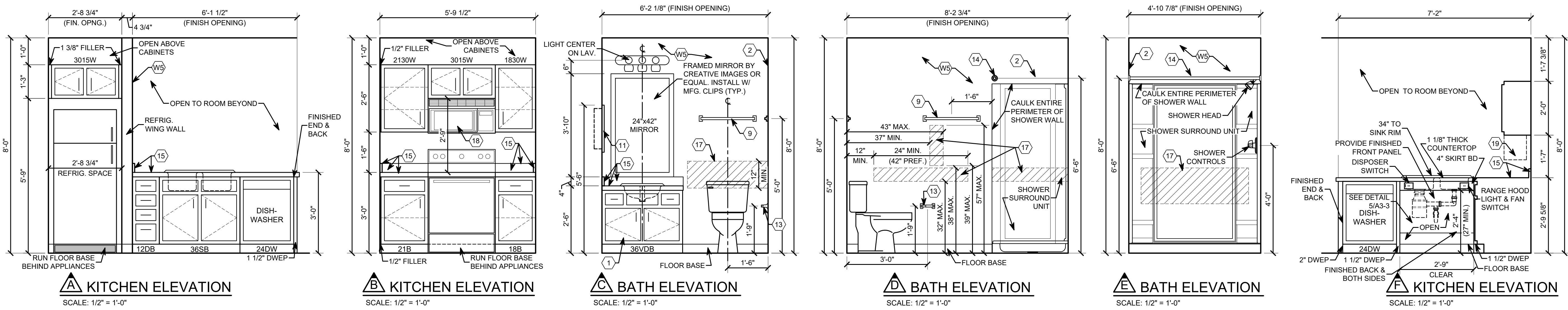
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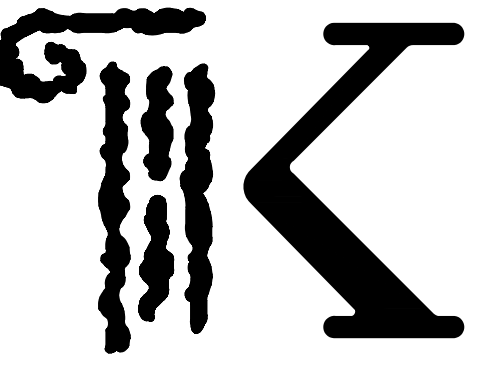
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**A3-1**



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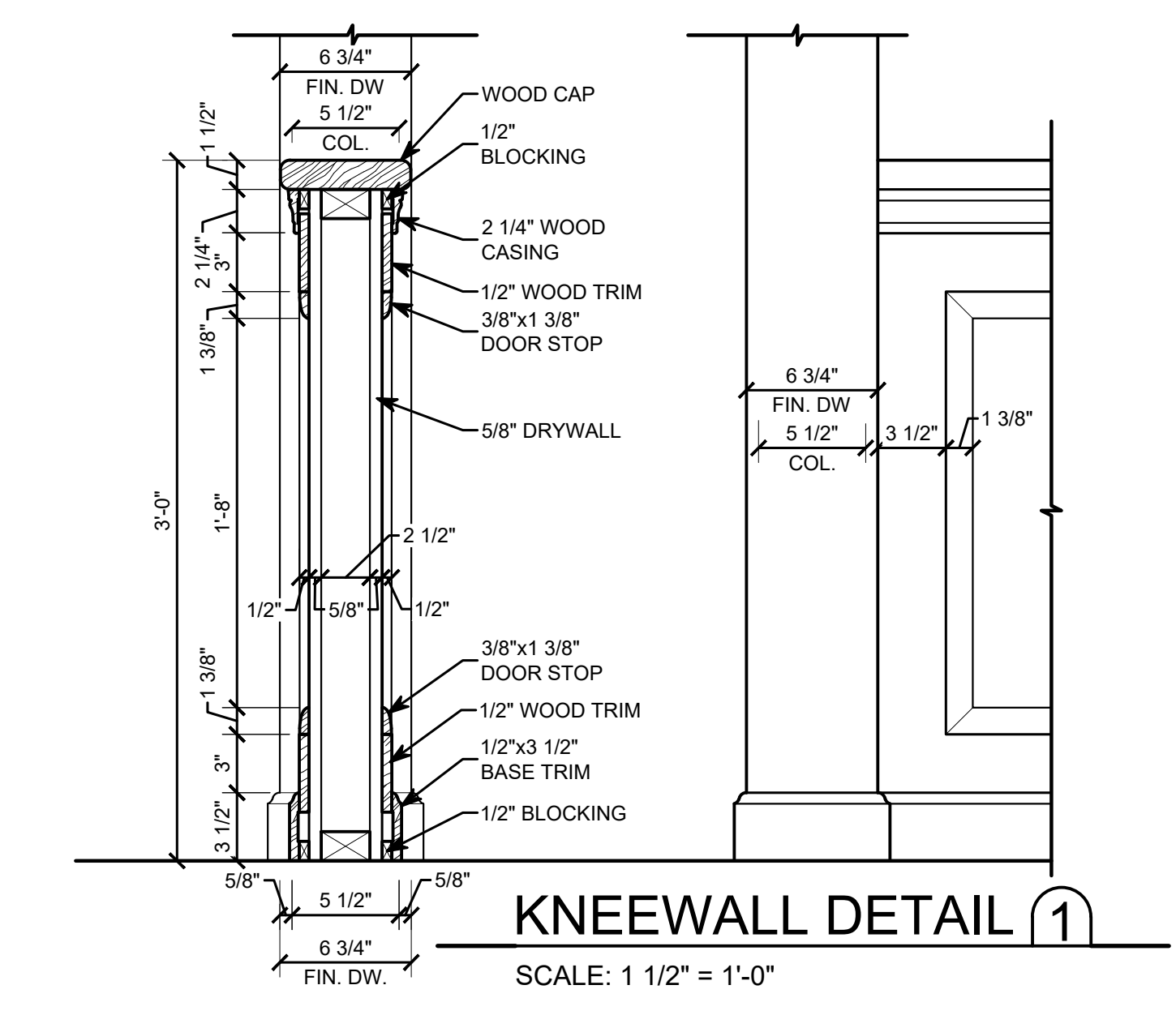
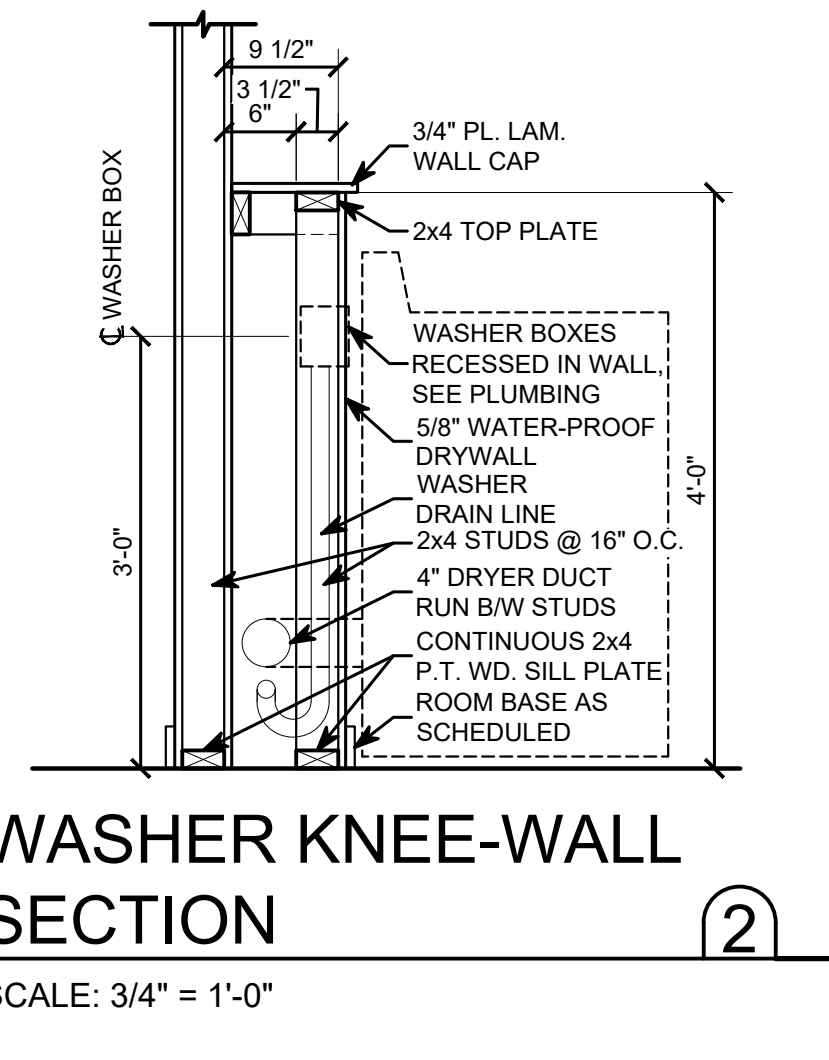
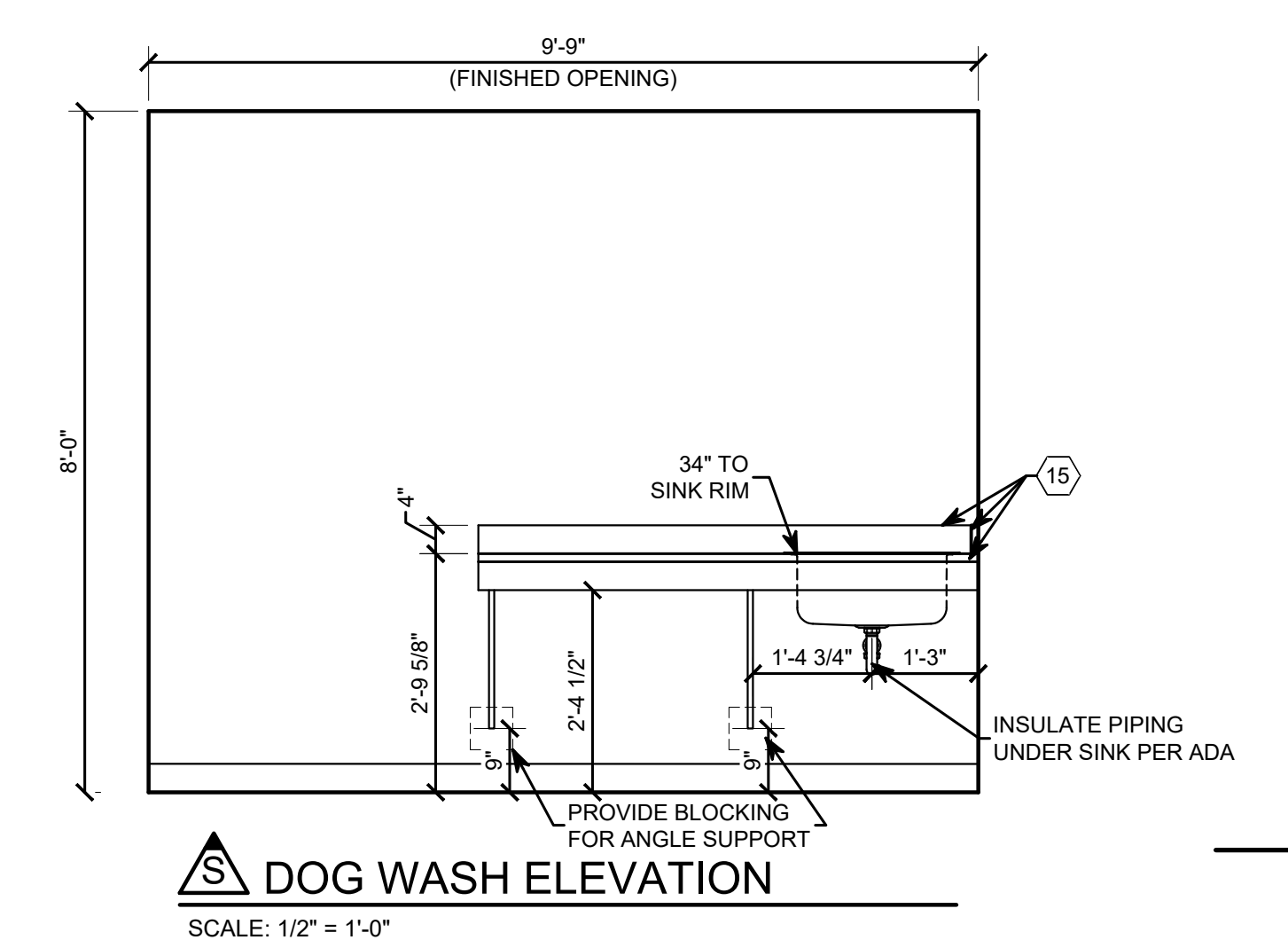
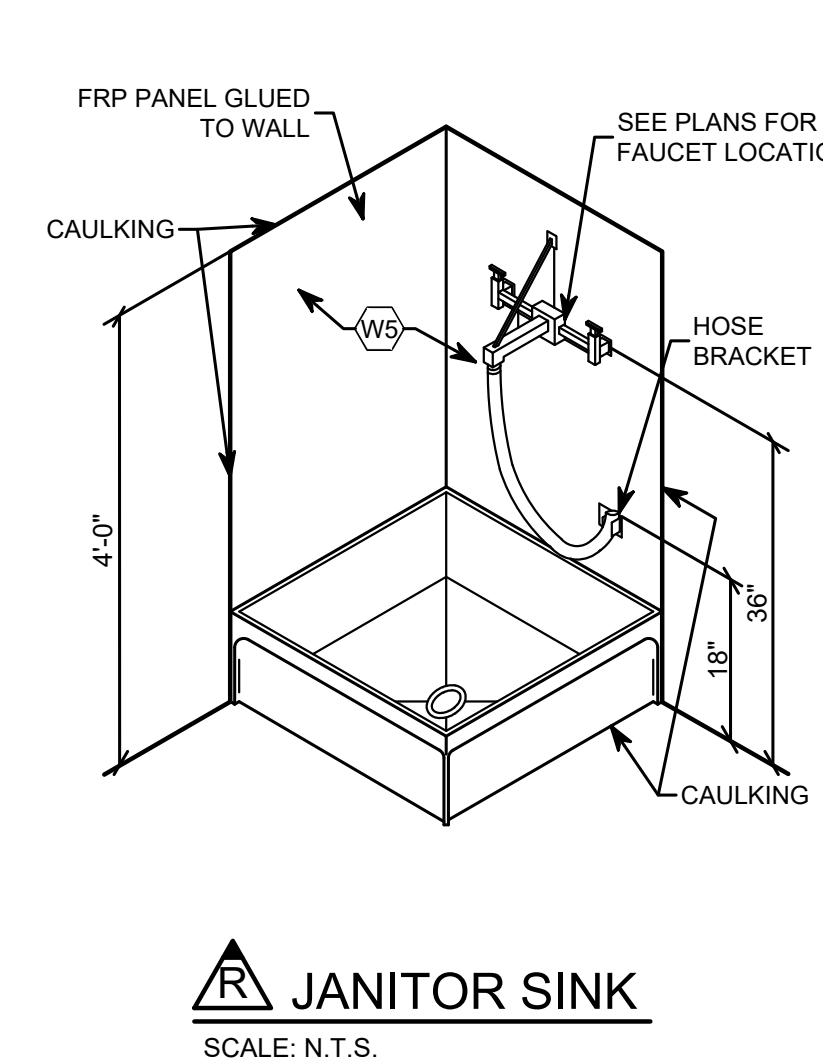
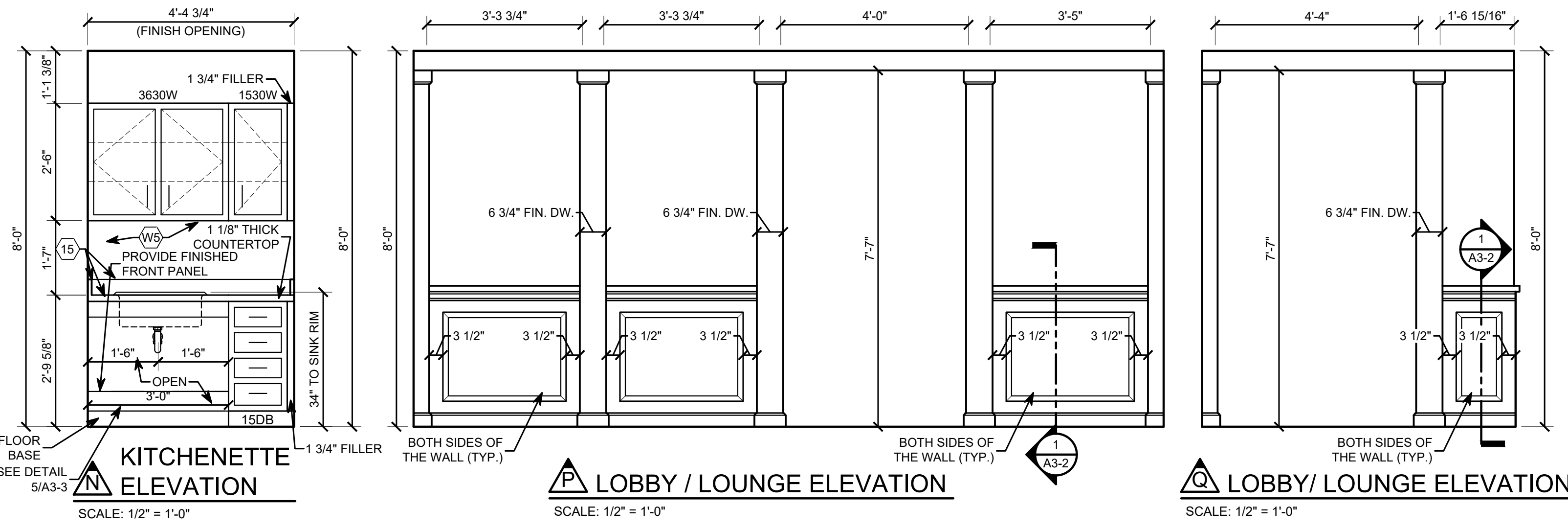
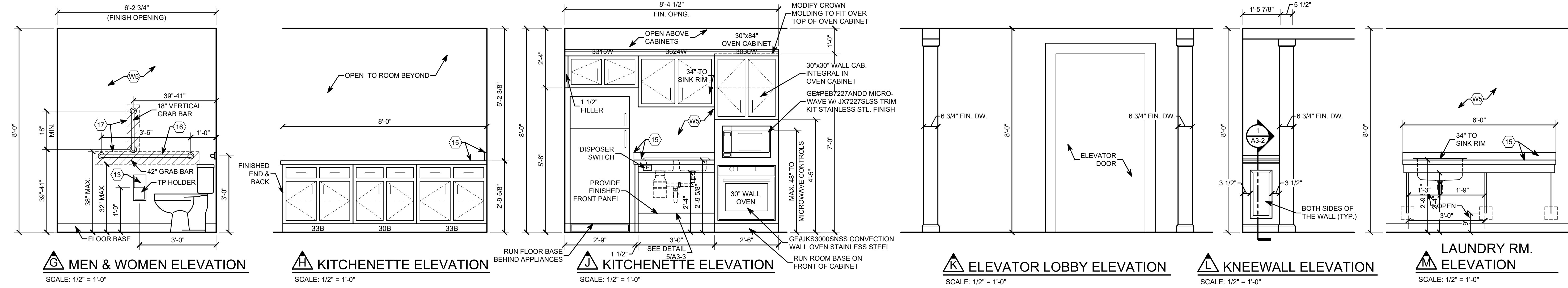
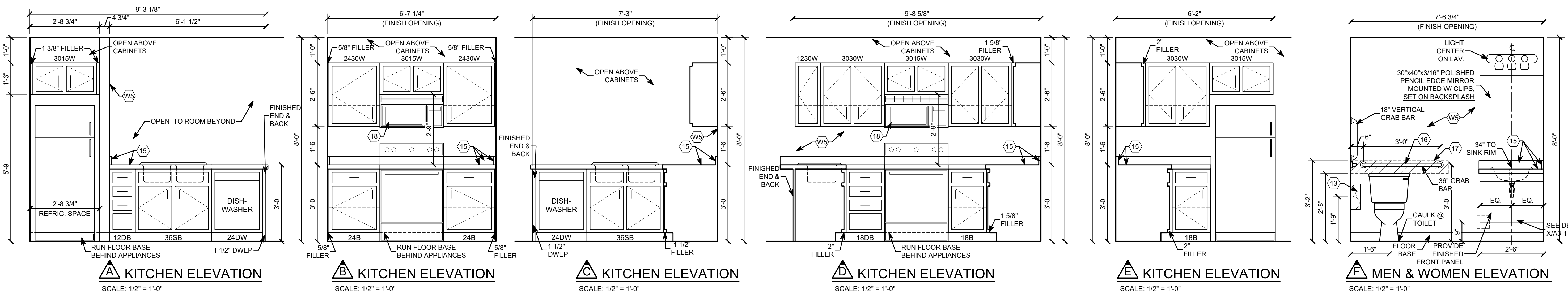
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DESIGN

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PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

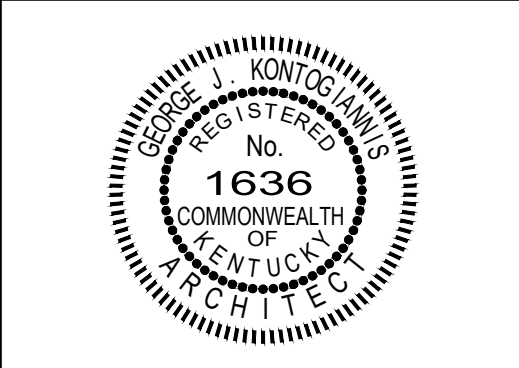


- CODED NOTES**
- ALL BATH VANITIES SHALL BE REMOVABLE. THE FLOOR & WALL MUST BE FINISHED PRIOR TO INSTALLING THE REMOVABLE BASE CABINET. INSTALL PROTECTION FROM HOT & ABRASIVE HAZARDS PRIOR TO INSTALLING THE CABINET. THE INTENT IS THAT IF THE CABINET IS REMOVED, NO ADDITIONAL WORK WILL BE NEEDED IN THE AREA UNDER THE LAVATORY.
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  - 12" DEEP x FULL LENGTH WIRE SHELF W/ INTEGRAL ROD. MOUNT @ 5'-0" A.F.F. PROVIDE INTERMEDIATE SUPPORT FOR SPANS OVER 3'-6" WIDE.
  - 12" DEEP x FULL LENGTH WIRE SHELF W/ INTEGRAL ROD. MOUNT @ 4'-0" A.F.F. PROVIDE INTERMEDIATE SUPPORT FOR SPANS OVER 3'-6" WIDE (504 UNITS).
  - (4) PANTRY SHELVES 9" DEEP x FULL LENGTH. SPACE AT 2'-0", 3'-4", 4'-8" & 5'-8" A.F.F.
  - (4) LINEN OR PANTRY SHELVES 12" DEEP x FULL LENGTH UNLESS NOTED OTHERWISE. SPACE @ 2'-0", 3'-4", 4'-8" & 5'-8" A.F.F.
  - (4) LINEN SHELVES 20" DEEP x FULL LENGTH. SPACE @ 2'-0", 3'-4", 4'-8" & 5'-8" A.F.F.
  - 24" TOWEL BAR, MOUNT AT 5'-0" A.F.F. - TAYMOR BATHWARE - MODEL #04-SN6224 PROVIDE 2x6 WOOD BLOCKING BACKUP.
  - 24" TOWEL BAR, MOUNT AT 4'-0" A.F.F. - TAYMOR BATHWARE - MODEL #04-SN6224 PROVIDE 2x6 WOOD BLOCKING BACKUP (504 UNIT).
  - RECESSED MEDICINE CABINET - AMERICAN PRIDE - 16" x 20" UNIT - #960M2R1 - MOUNT @ 5'-6" A.F.F. TO TOP, PROVIDE BLOCKING.
  - RECESSED MEDICINE CABINET - AMERICAN PRIDE - 16" x 20" UNIT - #960M2R1 - MOUNT @ 4'-0" A.F.F. TO TOP, PROVIDE BLOCKING (504 UNIT).
  - TOILET PAPER HOLDER, MOUNT @ 1'-9" A.F.F. TO CENTER LINE. UNIT TOILET PAPER HOLDER SHALL BE MOEN P5050BN. MEN'S & WOMEN'S RESTROOM SHALL HAVE BOBRICK B-2888 SURFACE MOUNTED UNIT.
  - 5 FT. SHOWER ROD - HARNEY MFG. #5146208 CURVED STAINLESS STEEL SHOWER ROD W/ FLANGES - PROVIDE 2x6 WOOD BLOCKING BACKUP.
  - PLASTIC LAMINATE TOP W/ 4" BACKSPLASH & SIDESPLASH.
  - 36" GRAB BAR - ASI 3801-36 - 1 1/2" x 36" S.S. GRAB BAR
  - 42" GRAB BAR - ASI 3801-42 - 1 1/2" x 42" S.S. GRAB BAR
  - 18" VERTICAL GRAB BAR - ASI 3801-18 - 1 1/2" x 18" S.S. GRAB BAR PROVIDE BLOCKING FOR ALL GRAB BARS.
  - GRAB BAR BLOCKING, SEE SHEET FH-1
  - MICROWAVE RANGE HOOD
  - UNDER CABINET MICROWAVE

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ELSMERE, KY 41018

DRAWING TITLE:  
**INTERIOR  
ELEVATIONS**

DATE: 07/31/2023  
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EXPIRATION DATE 06/30/2024

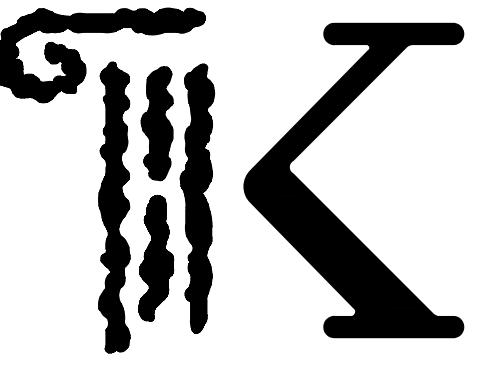
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**A3-2**

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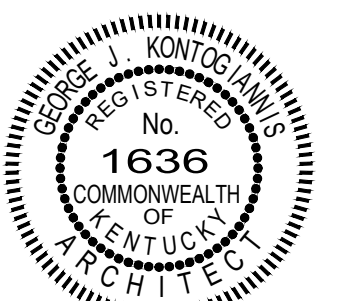
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**INTERIOR  
ELEVATIONS**

DATE: 07/31/2023  
REVISED:

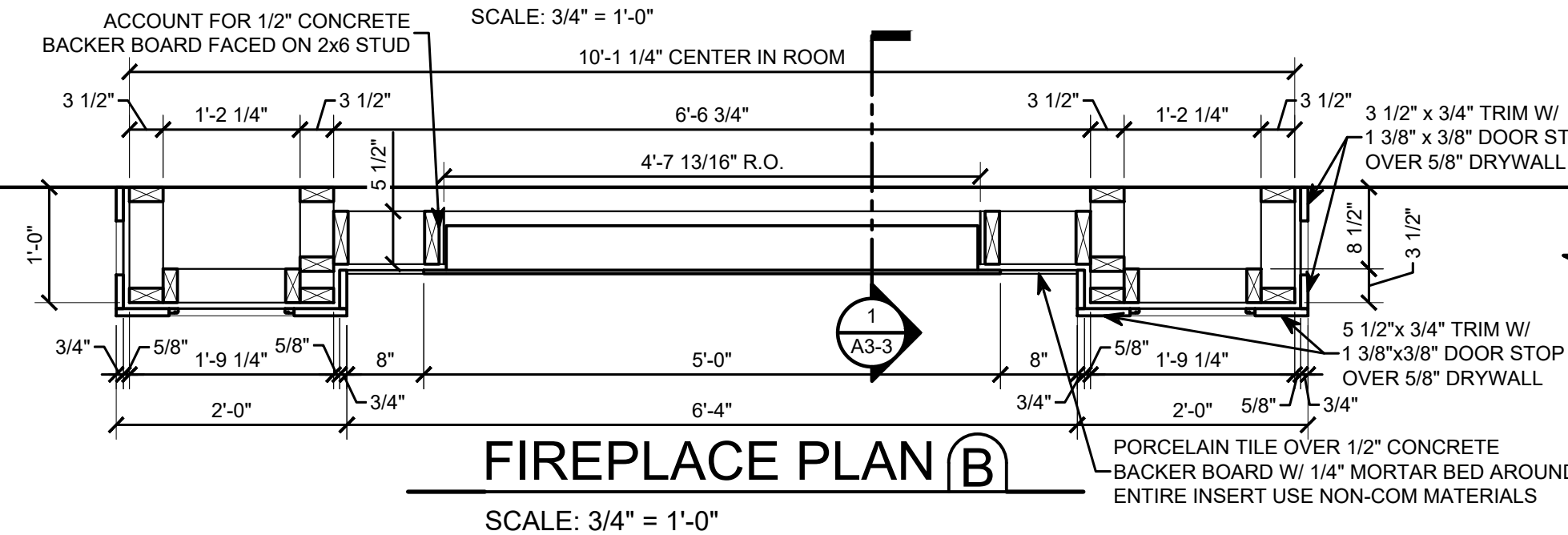
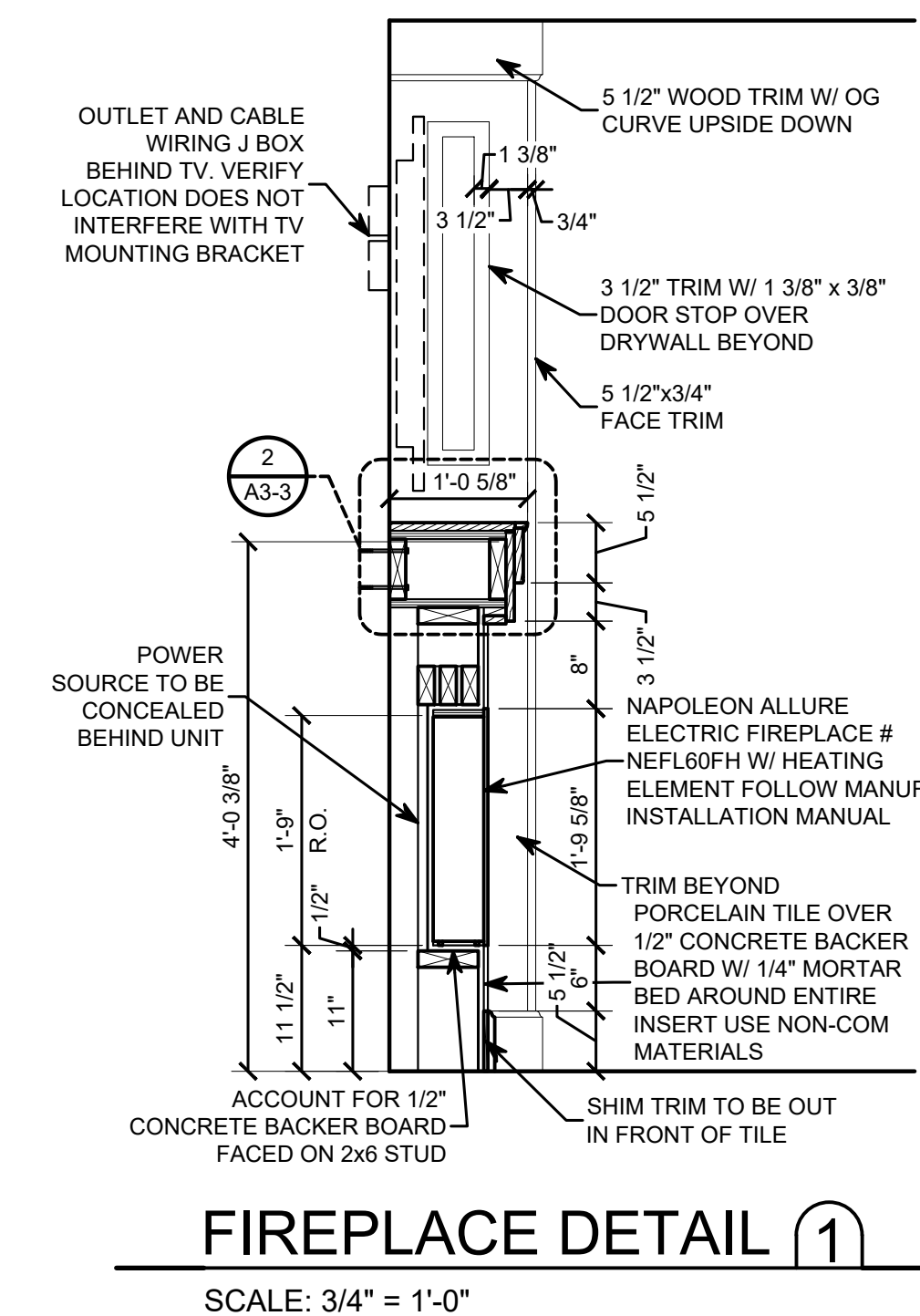
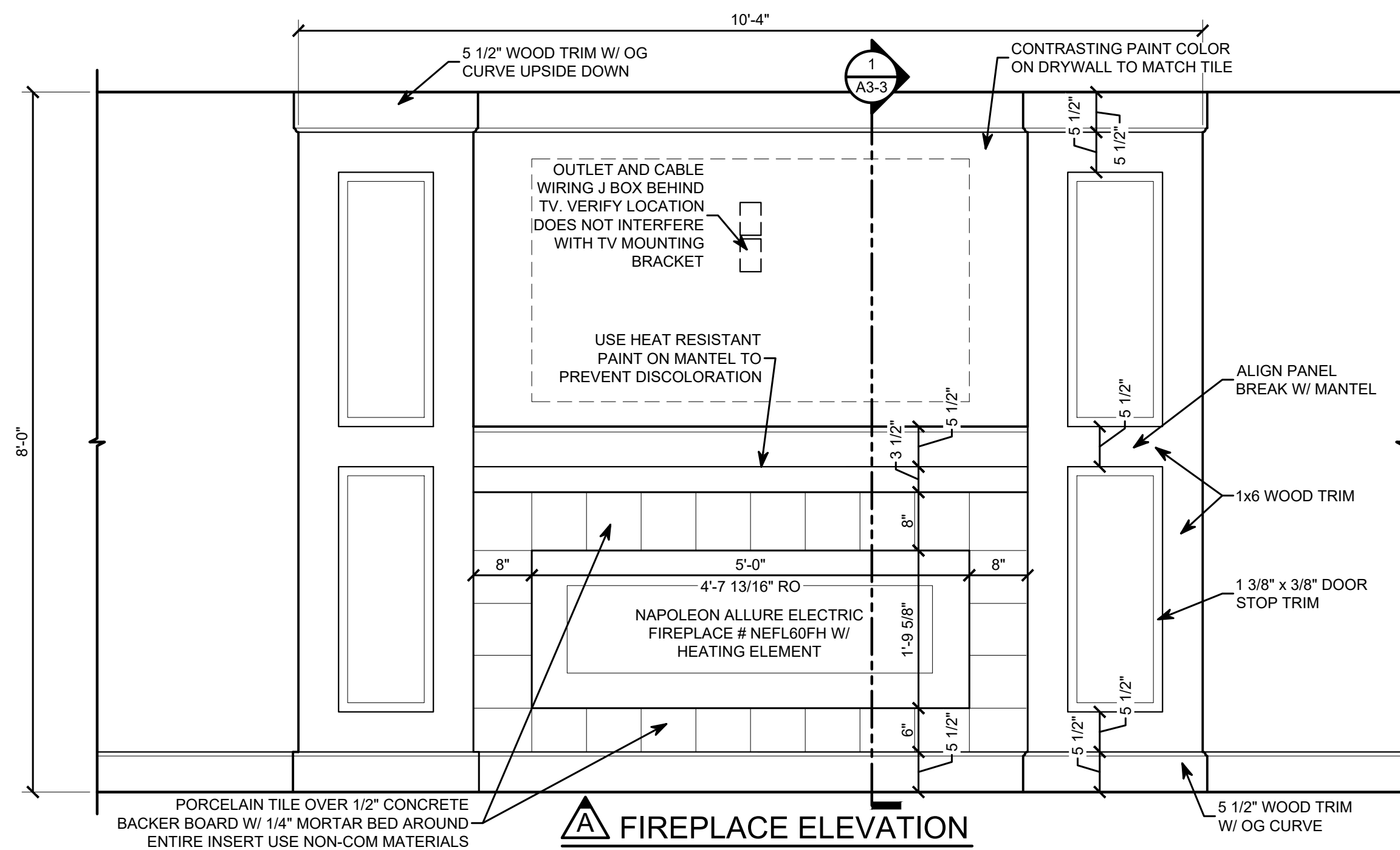
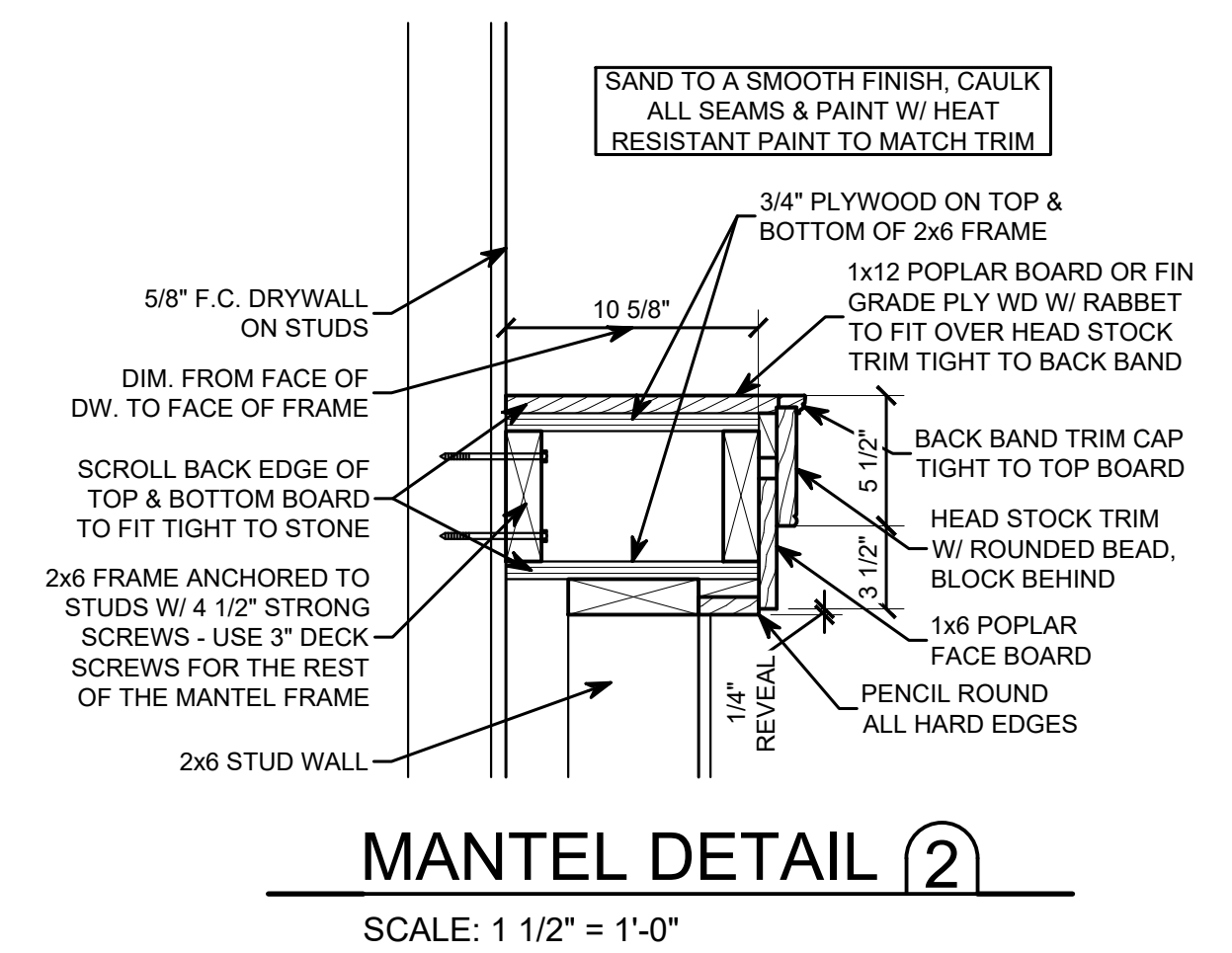
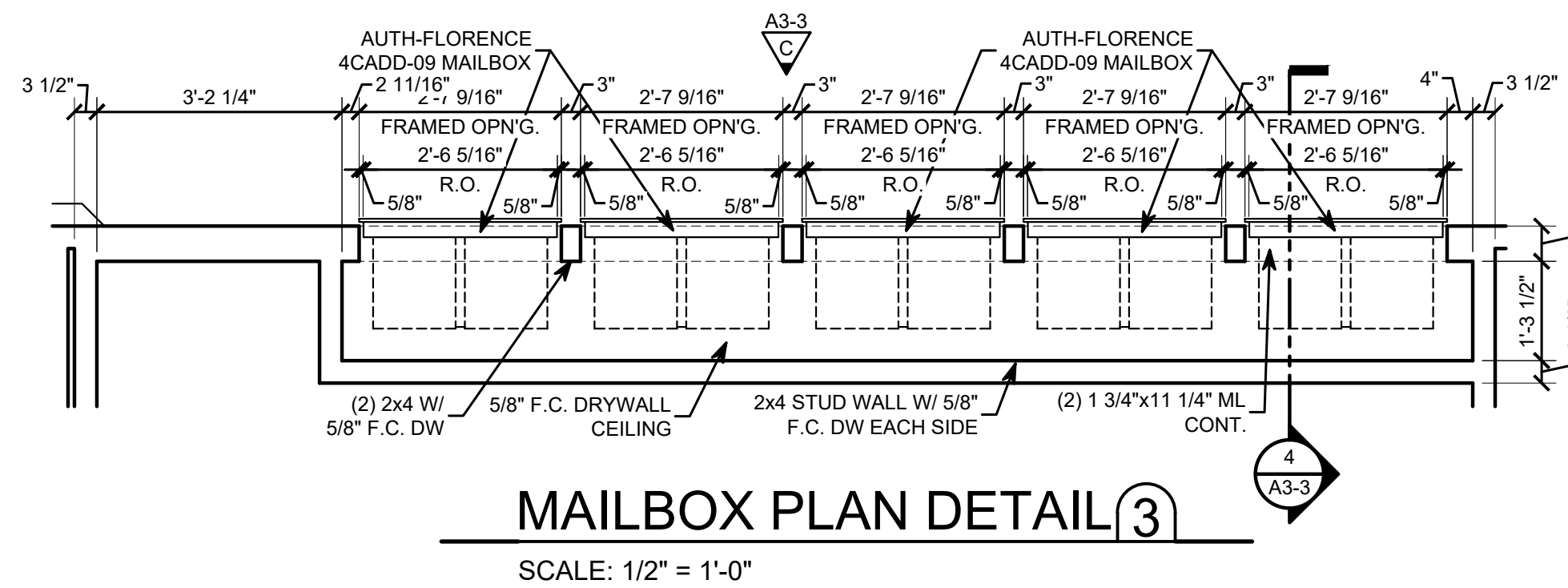
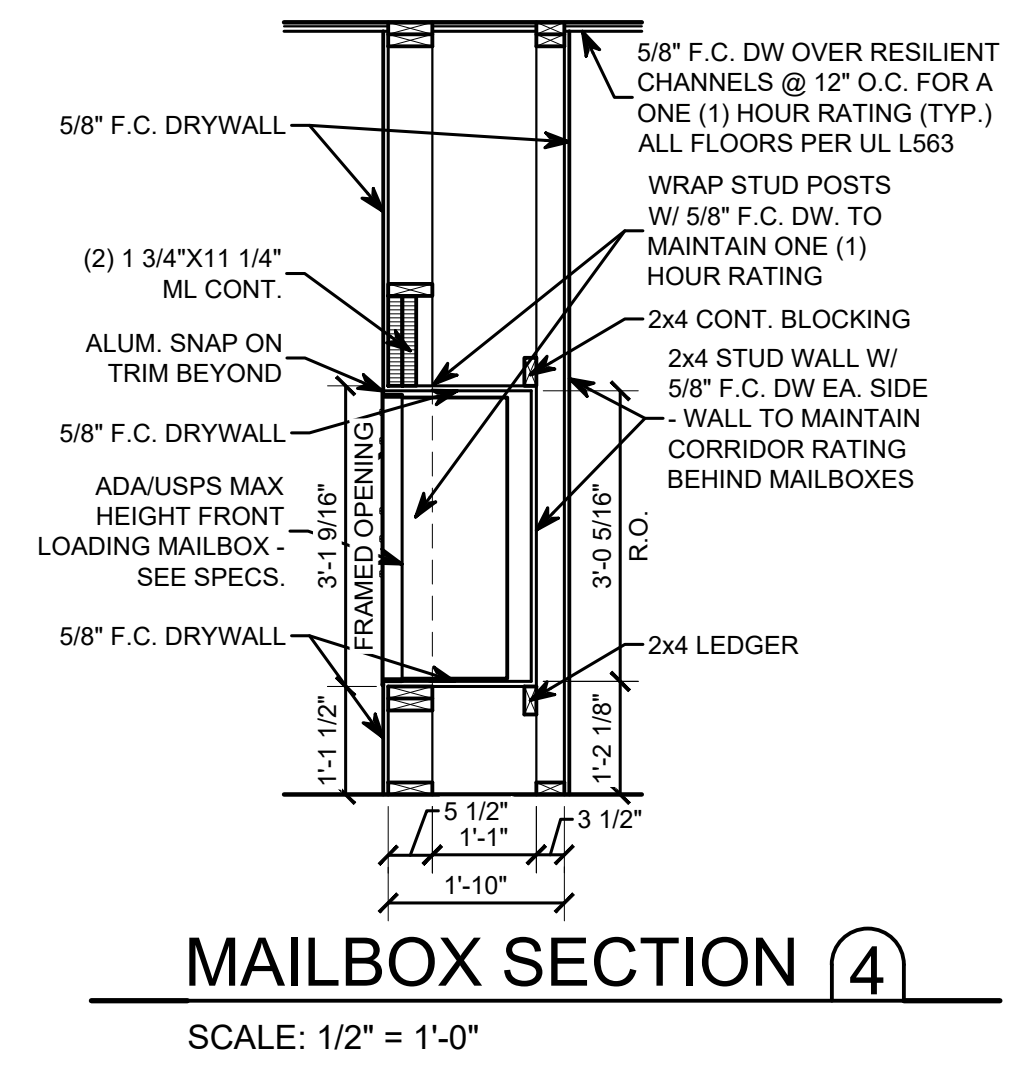
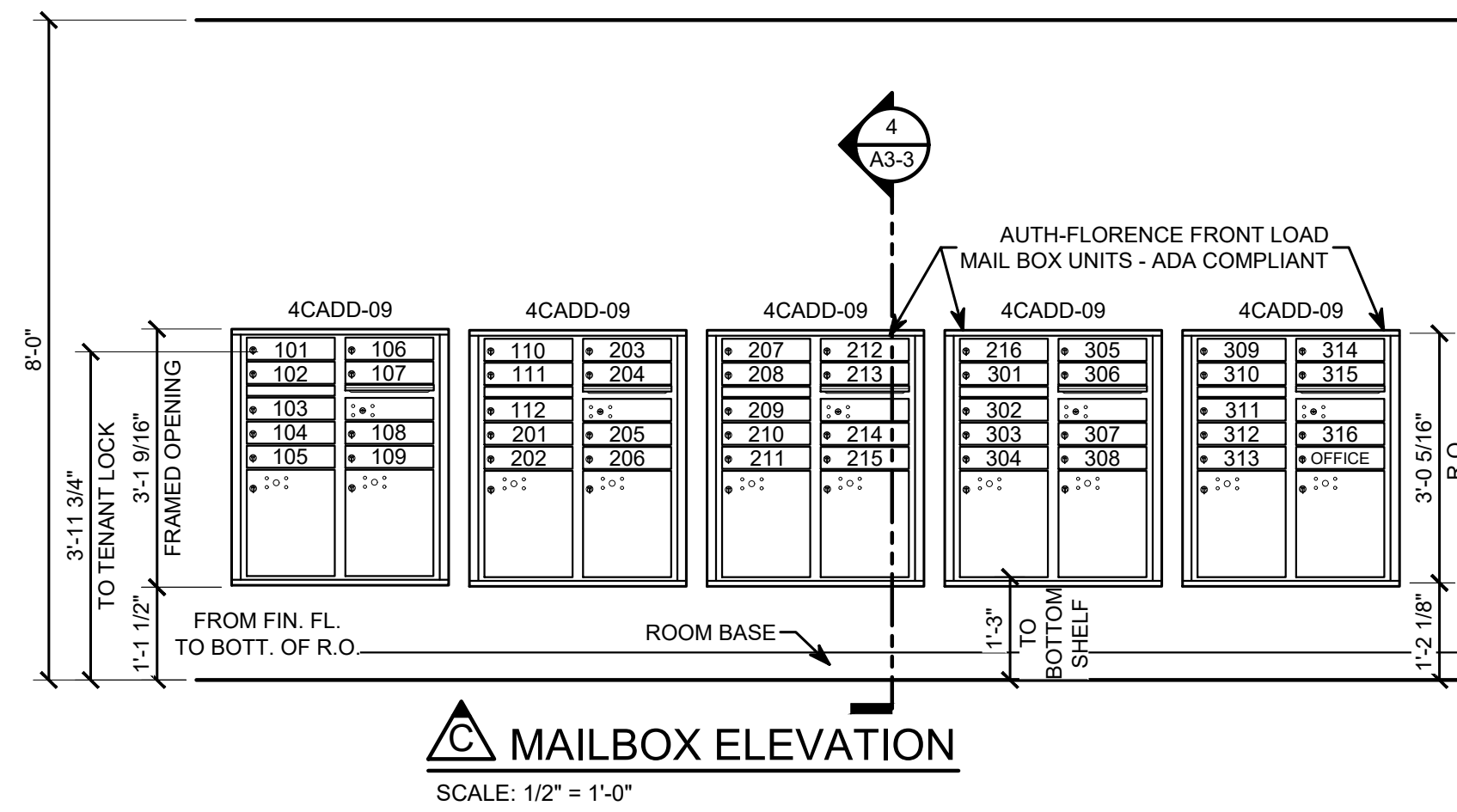
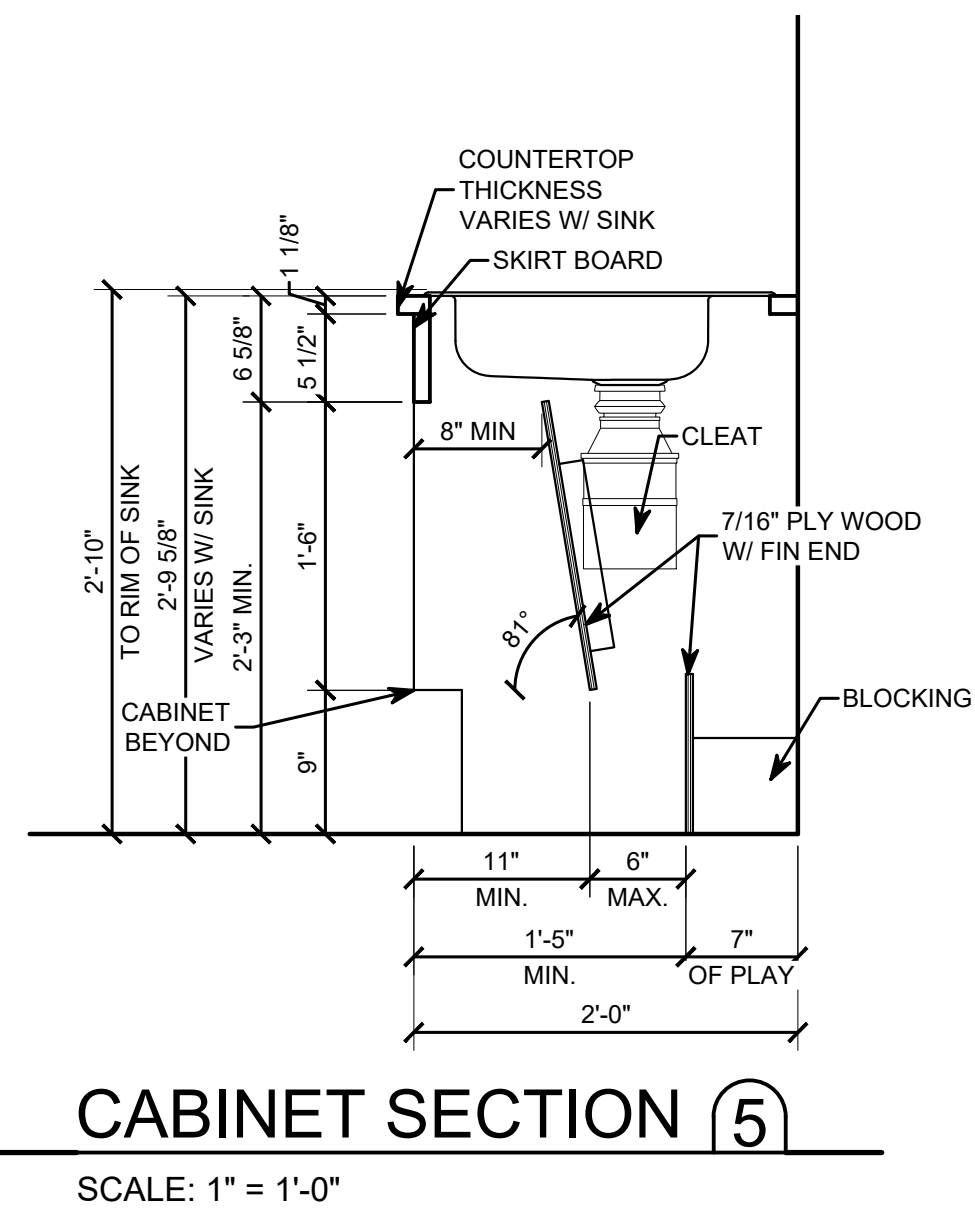


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EXPIRATION DATE 06/30/2024

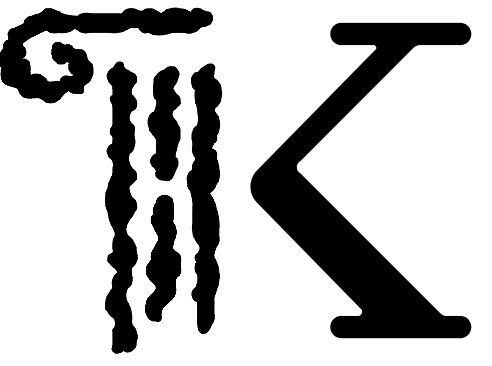
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**A3-3**



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**KONTOGIANNIS & ASSOCIATES**

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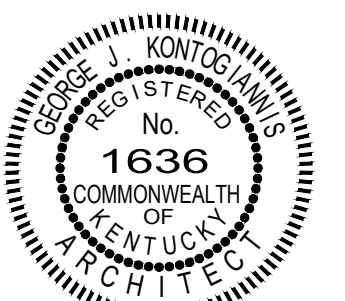
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**BUILDING  
REFLECTED  
CEILING PLAN**

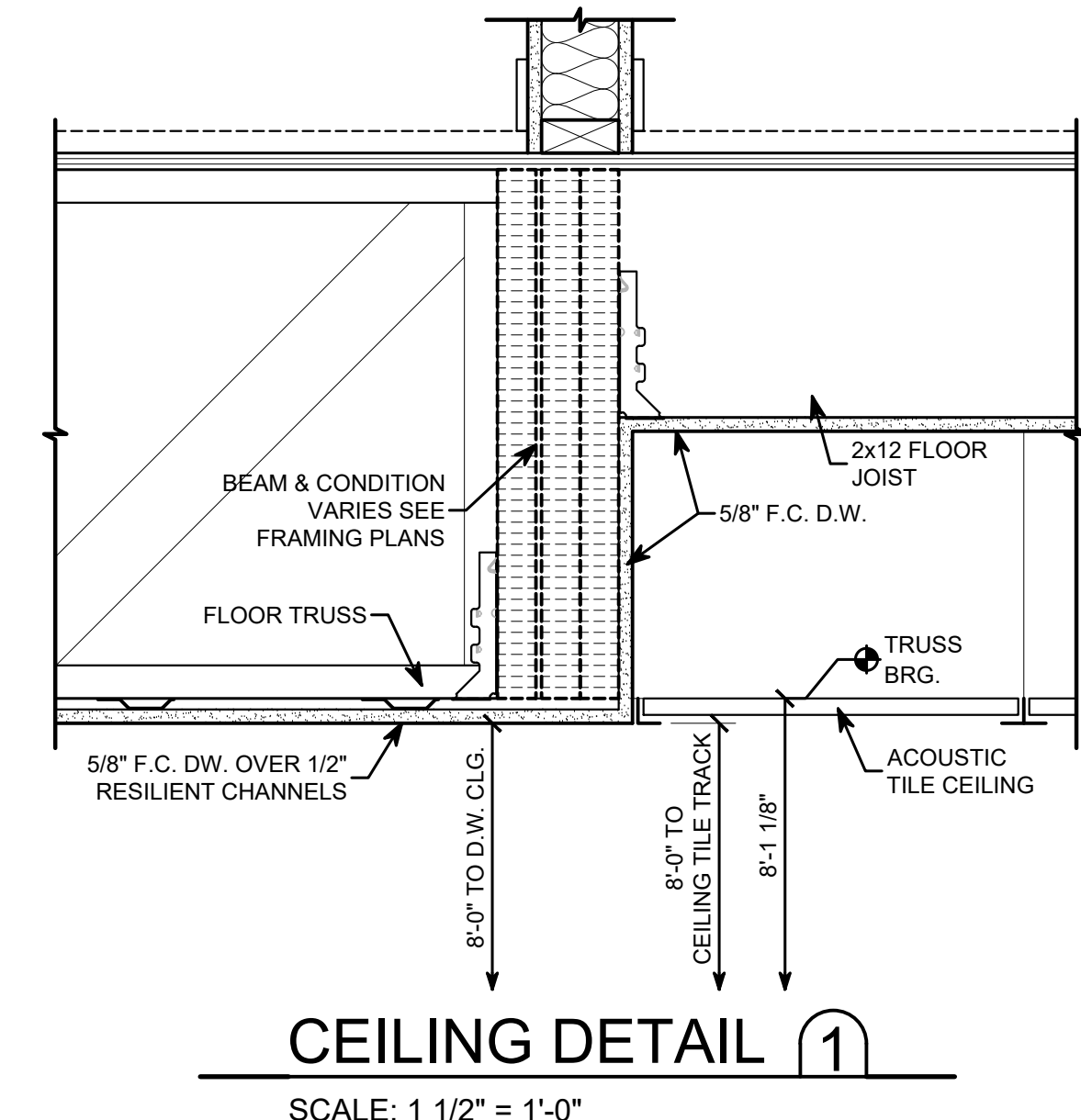
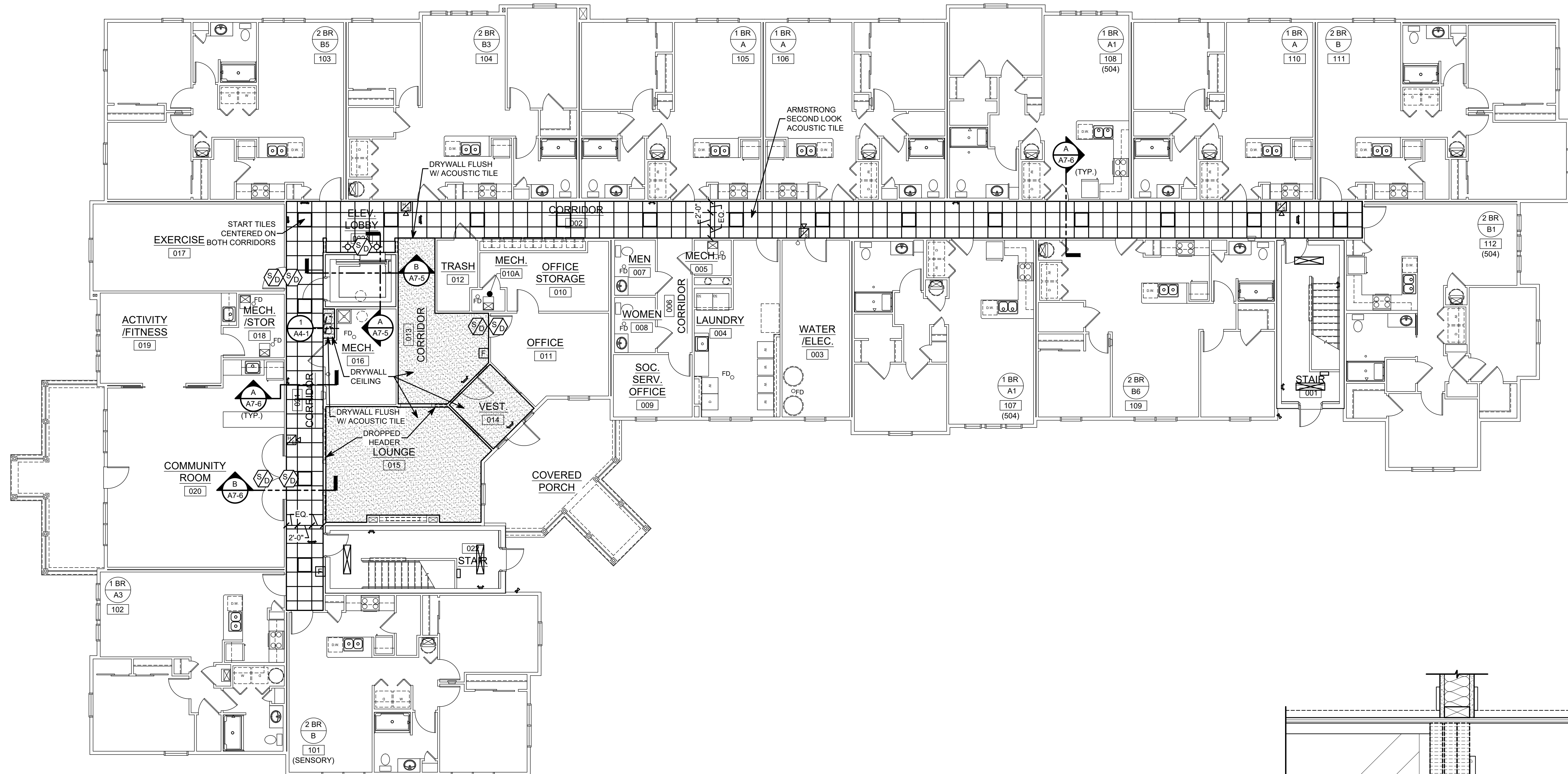
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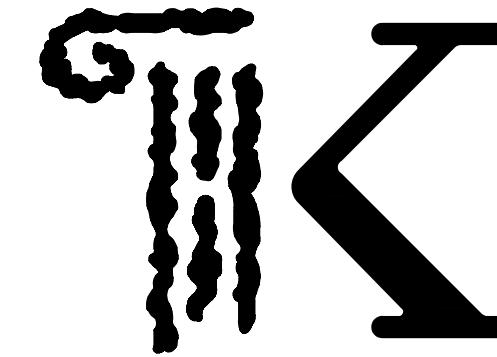
**A4-1**



**BUILDING REFLECTED CEILING PLAN**  
SCALE: 1/8" = 1'-0"

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KONTOGIANNIS & ASSOCIATES

ARCHITECTURE PLANNING DESIGN

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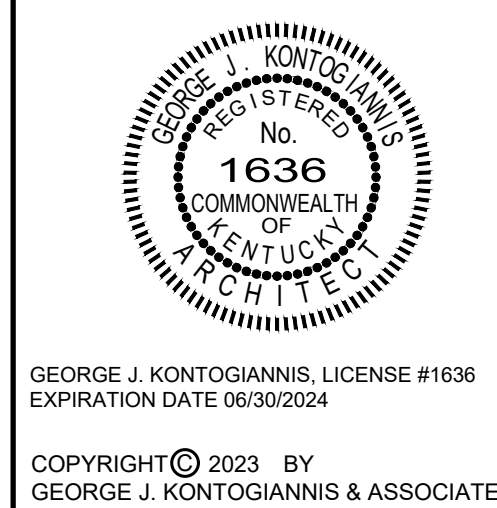
PROJECT:

THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")

1125 EDWARDS RD. ELSMERE, KY 41018

DRAWING TITLE: DOOR, WINDOW & FINISH SCHEDULES

DATE: 07/31/2023 REVISED:



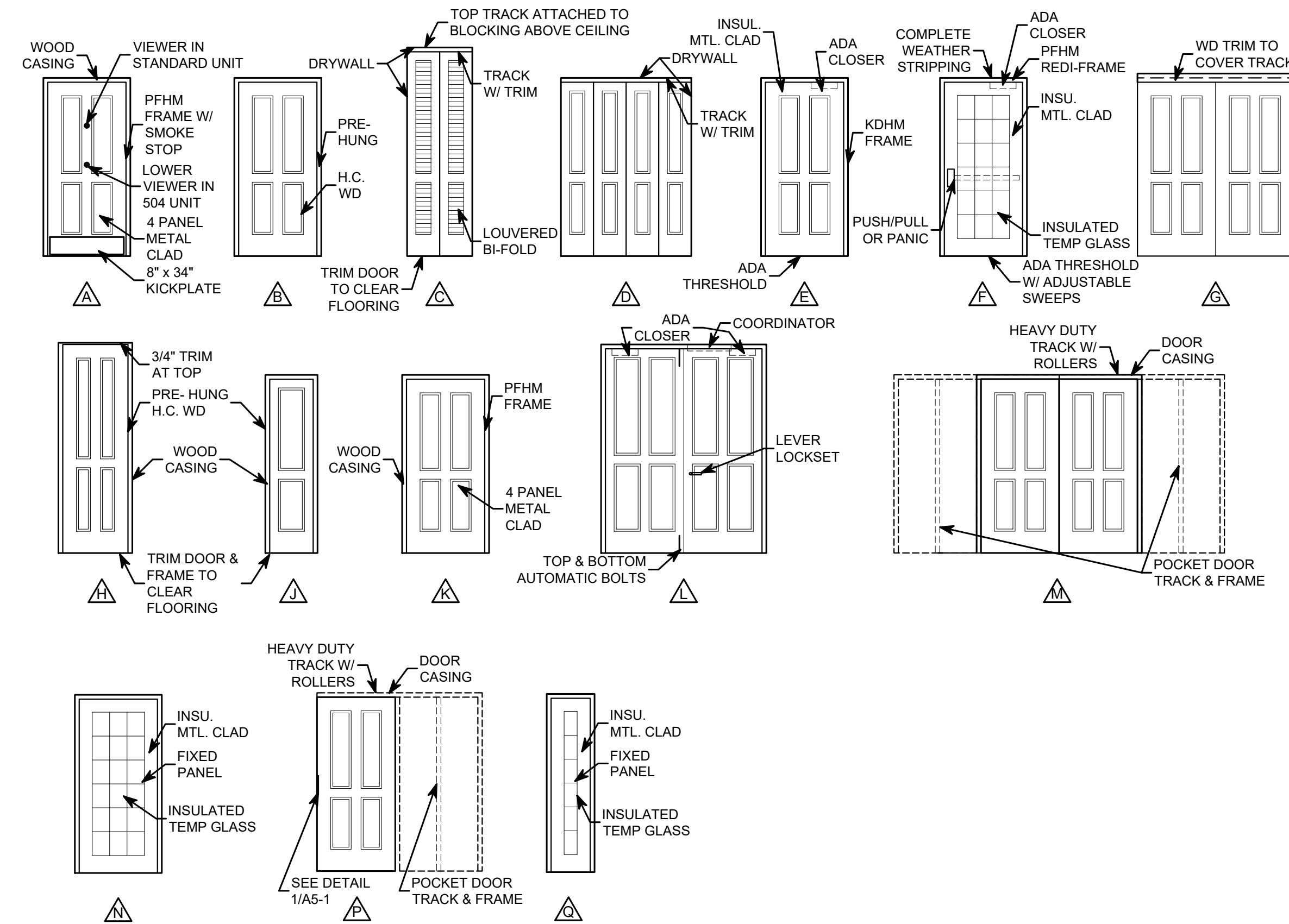
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A5-1

DOOR SCHEDULE

Table with columns: MARK, DOOR TYPE, WIDTH, HEIGHT, THICKNESS, CORE MATERIAL, FINISH, DOOR GLAZING, FIRE RATING, FRAME MATERIAL, FRAME SIZE, SEE DETAILS ON SHEET (HEAD, JAMB, SILL), ELEVATION, REMARKS, HINGES, LOCKSET, PANIC, CLOSER, THRESHOLD.

- \*GENERAL NOTE: 1. ALL ENERGY STAR PRODUCTS TO CONTAIN A LABEL... 2. ALL INTERIOR DOORS SHALL RECEIVE ONE COAT OF PRIMER & TWO COATS OF SATIN FINISH... 3. ALL HANDLES, PULLS ETC. SHALL BE LEVER HANDLE.



HARDWARE CODED NOTES

- 1 SPRING TYPE WALL STOP 2 SURFACE MOUNTED PULLS - SEE DETAIL 1/A5-1 3 MANUFACTURER TOP TRACK W/ ROLLER BRACKETS & 2 1/8" FINGER PULLS (US28D) 4 MOUNT CLOSER ON ROOM SIDE OF DOOR 5 PUSH/PULL PLATES 6 TOP & BOTTOM AUTOMATIC BOLTS ON INACTIVE LEAF - HEAD MOUNTED COORDINATOR 7 COMPLETE WEATHERSTRIPPING PACKAGE 8 FIRE ALARM DOOR HOLD OPEN 9 COMPLETE TRACK & HARDWARE PACKAGE BY MANUFACTURER PROVIDE MINIMUM 1 1/2" US2D PULLS 10 STANLEY MAGIC ACCESS ADA DOOR OPENER/CLOSER 11 ELECTRIC STRIKE CONTROLLED BY INTERCOM 12 SURFACE MOUNTED TOP AND BOTTOM BOLTS 13 RIGID WALL STOP 14 AUGUST SMART LOCK 15 PROVIDE 8" x 34" KICKPLATE ON CORRIDOR SIDE OF ENTRY DOORS

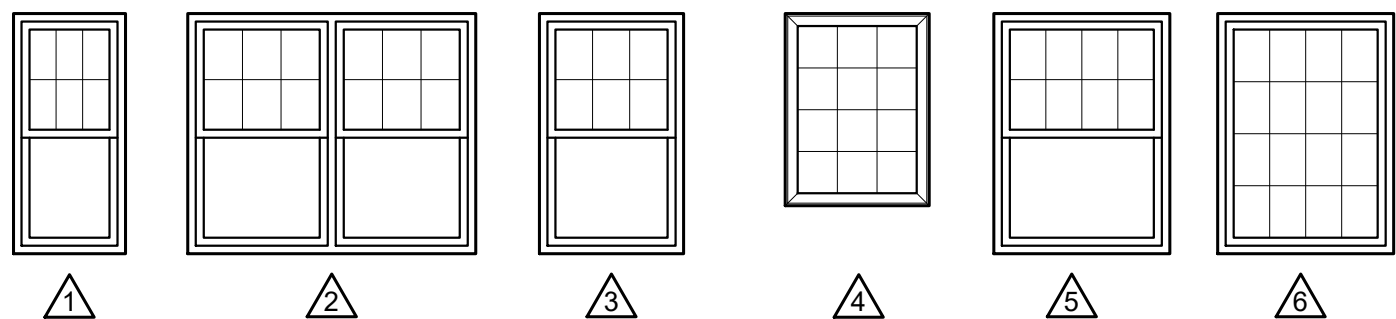
ABBREVIATIONS

- HC - HOLLOW CORE SC - SOLID CORE PFC - POLYURETHANE FOAM CORE PF - PRE-FINISHED WOOD DOOR - COLOR BY ARCHITECT FROM MFR. SAMPLES PL - PLASTIC LAMINATE FACED SOLID CORE WOOD DOOR - COLOR BY ARCHITECT FROM MFR. SAMPLES PTD - PRIME PAINTED - FINISH COAT BY PAINTER HM - HOLLOW METAL KDHM - KNOCK DOWN HOLLOW METAL PFHM - PREFINISHED HOLLOW METAL FRAME (REDI-FLEX 2 PCE (WOOD CASING) INSUL - INSULATED TEMP. - TEMPERED OR LAMINATED APPROVED SAFETY GLASS AS REQUIRED BY CODE

WINDOW SCHEDULE

Table with columns: MARK, SIZE/NOMINAL, TYPE, MANUF., MODEL, (W x H), ACTUAL DIMENSION, ROUGH OPENING, THICKNESS, LITES, VENT AREA (SQ. FT.), ELEVATION, COMMENTS.

- \*GENERAL NOTE: 1. ALL ENERGY STAR PRODUCTS TO CONTAIN A LABEL... 2. PROVIDE WINDOW CONTROLS ON ALL 2ND & 3RD FLOOR WINDOWS

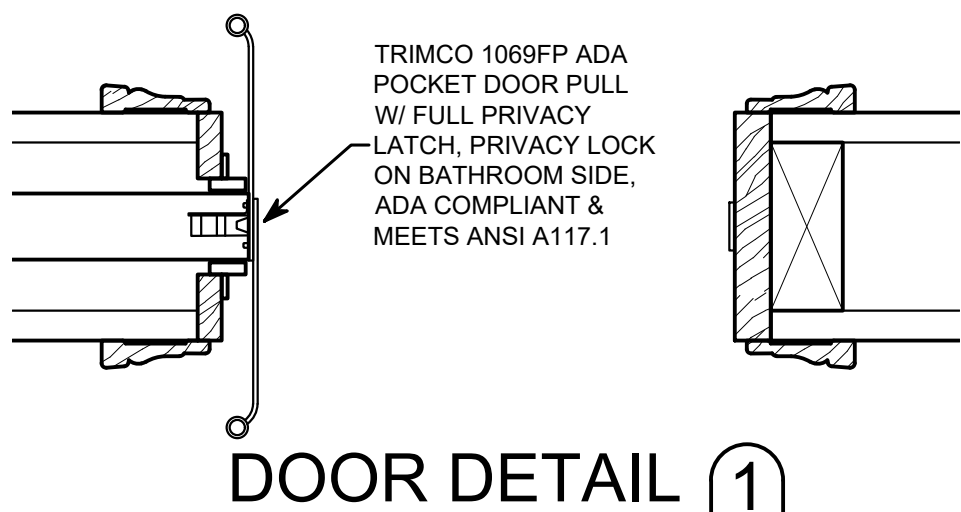


FINISH SCHEDULE

Table with columns: NO., NAME, FLOOR, BASE, WALL, CLG., CLG. HT., REMARKS. Includes sections for COMMON AREAS and TYPICAL UNITS.

DOOR DETAIL 1

SCALE: 3" = 1'-0"



FLOOR FINISHES

Table with columns: SYM., MATERIAL, SPECIFICATION. Lists finishes like carpet, sheet vinyl, and vinyl plank.

BASE FINISHES

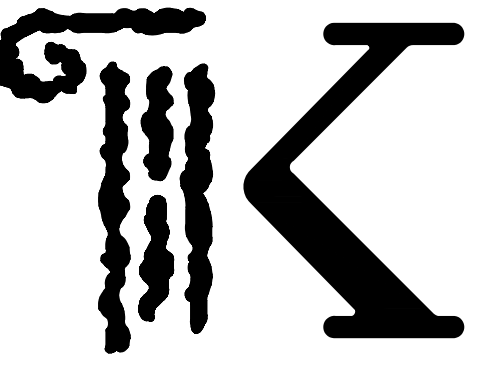
Table with columns: SYM., MATERIAL, SPECIFICATION. Lists base finishes like vinyl base and primed wood.

WALL FINISHES

Table with columns: SYM., MATERIAL, SPECIFICATION. Lists wall finishes like drywall and painted eggshell.

CEILING FINISHES

Table with columns: SYM., MATERIAL, SPECIFICATION. Lists ceiling finishes like drywall and acoustic tile.



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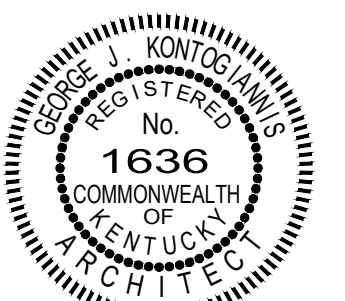
PROJECT:

**THE  
SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

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ELSMERE, KY 41018

DRAWING TITLE:  
**EXTERIOR  
ELEVATIONS**

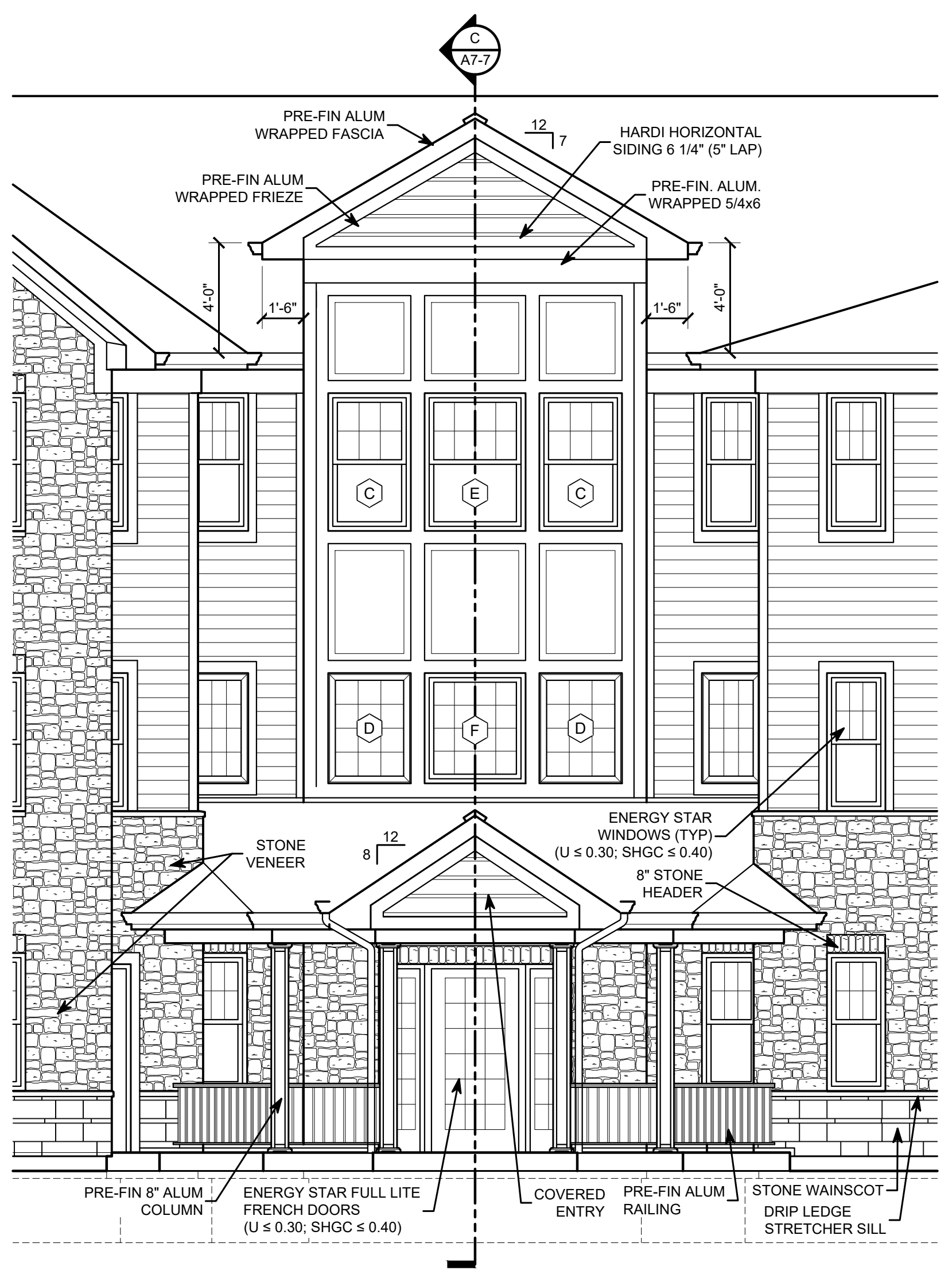
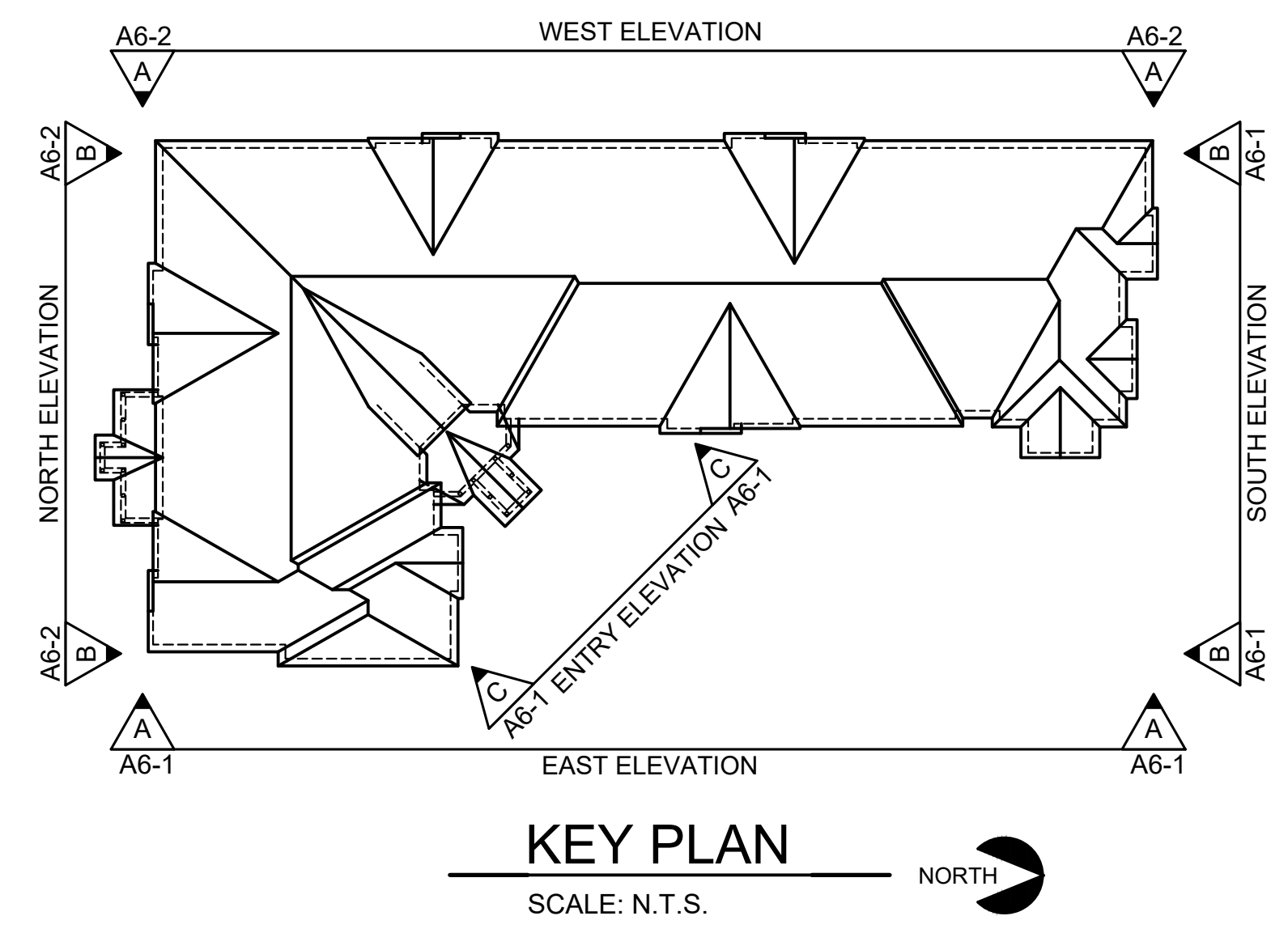
DATE: 07/31/2023  
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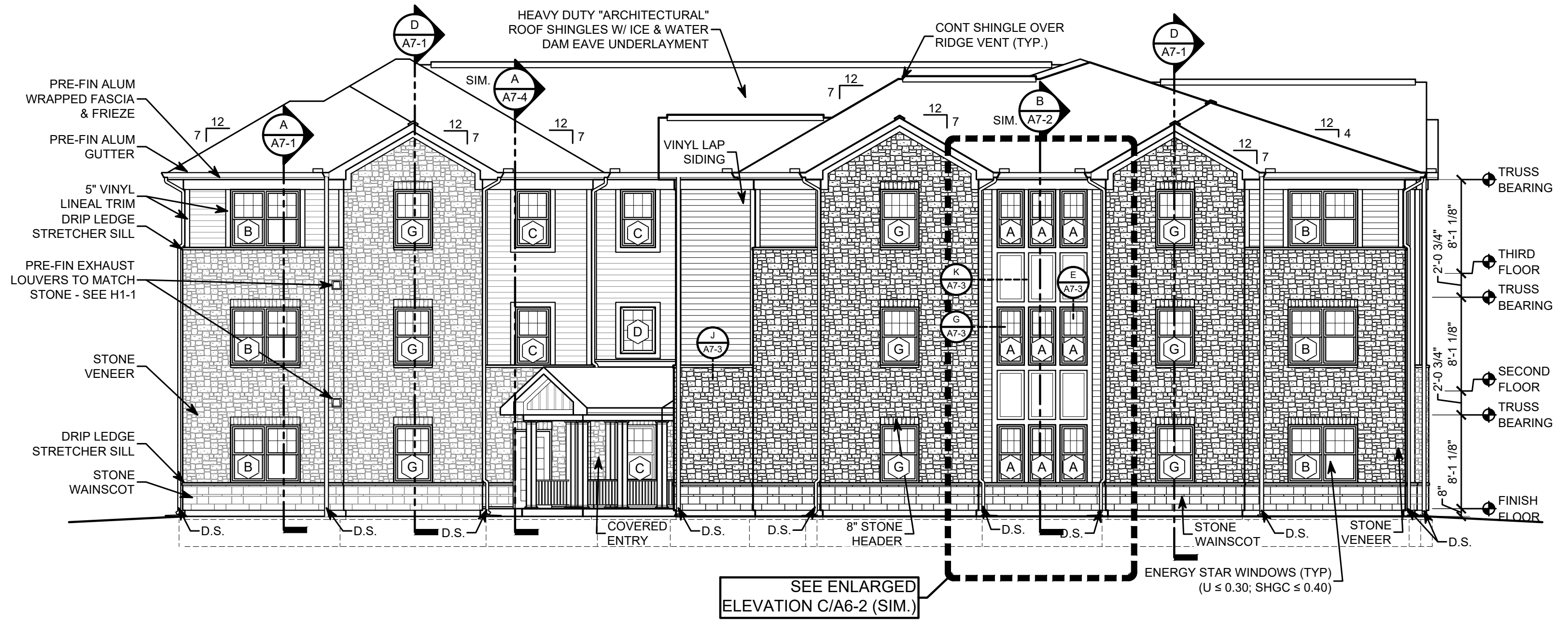
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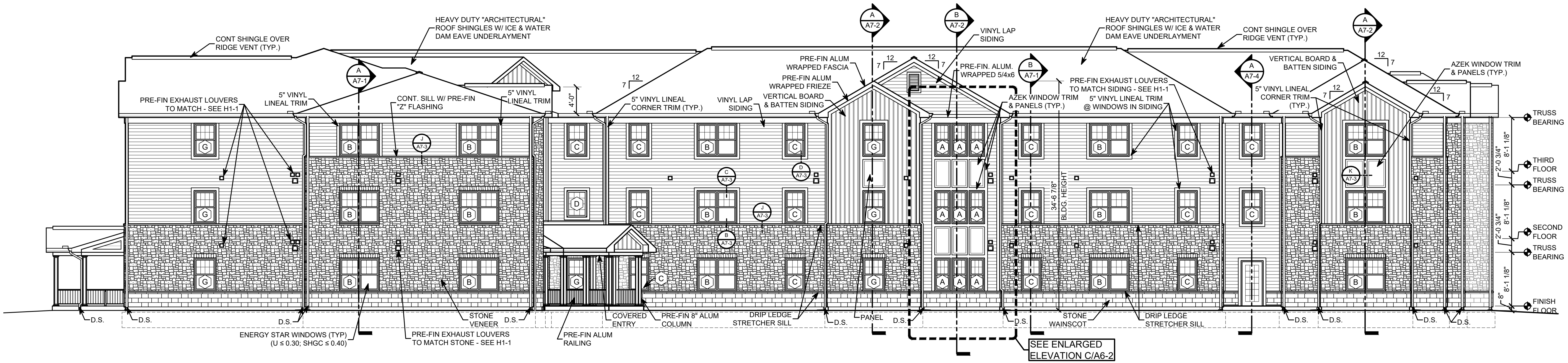
**A6-1**



**ENTRY ELEVATION (C)**  
SCALE: 1/4" = 1'-0"



**SOUTH ELEVATION (B)**  
SCALE: 1/8" = 1'-0"



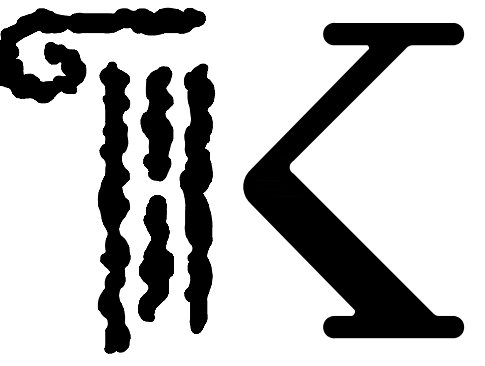
**EAST ELEVATION (A)**  
SCALE: 1/8" = 1'-0"

54.06% OF ALL BLDG. SIDING IS STONE VENEER MASONRY  
TOTAL HARDIE SIDING & TRIM = 7,627 SQ.FT. (45.94%)  
TOTAL STONE VENEER = 8,976 SQ.FT. (54.06%)  
TOTAL SIDING = 16,603 SQ.FT.

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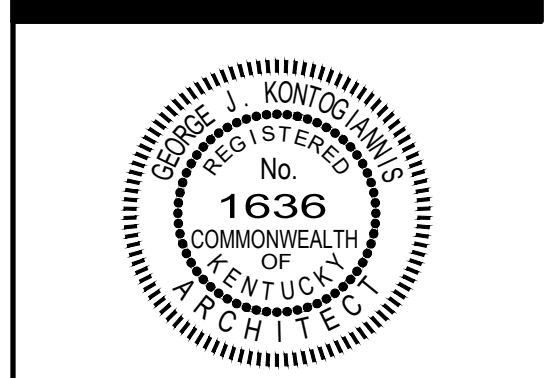
PROJECT:

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DRAWING TITLE:  
**TYPICAL WALL  
SECTIONS & DETAILS**

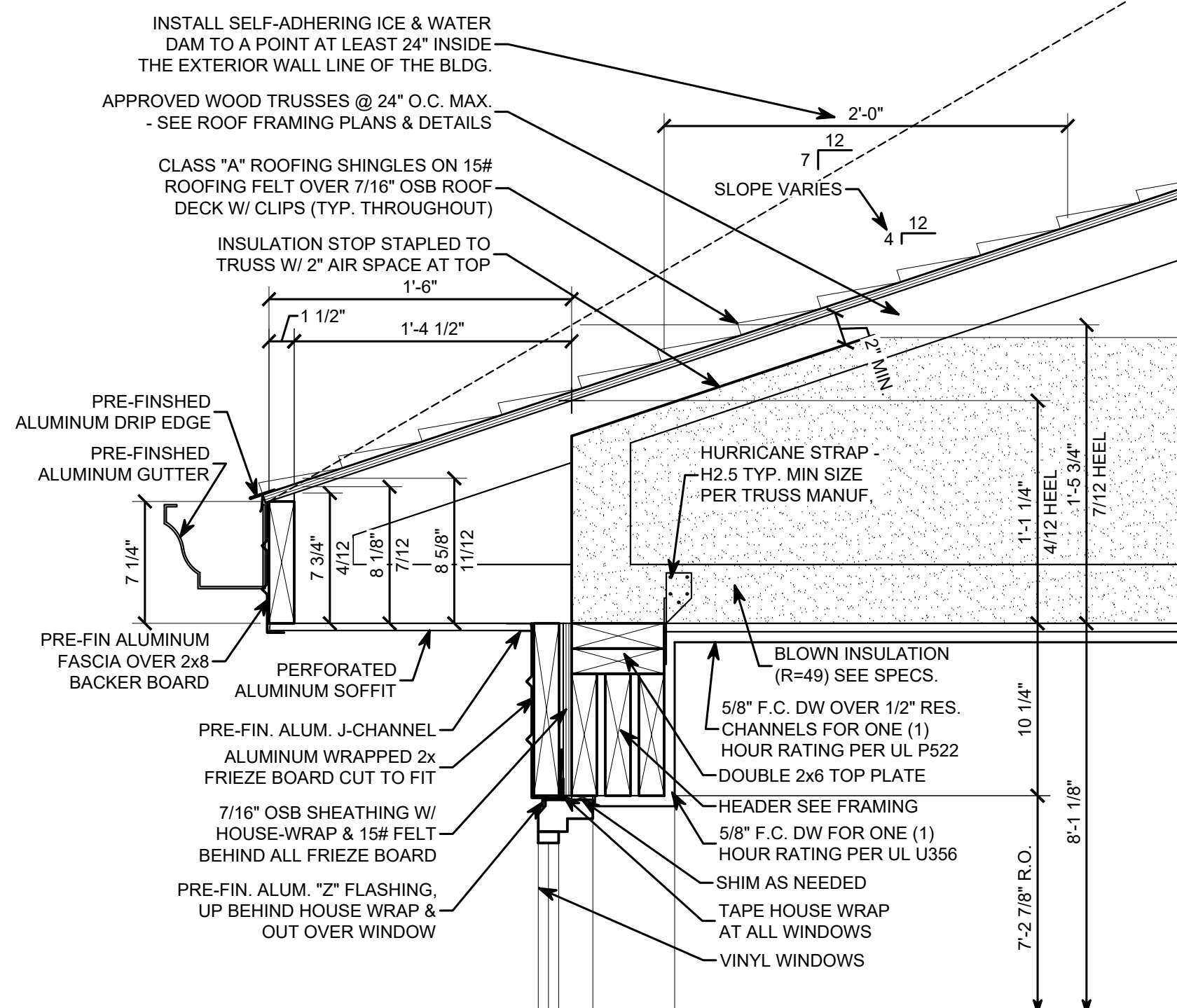
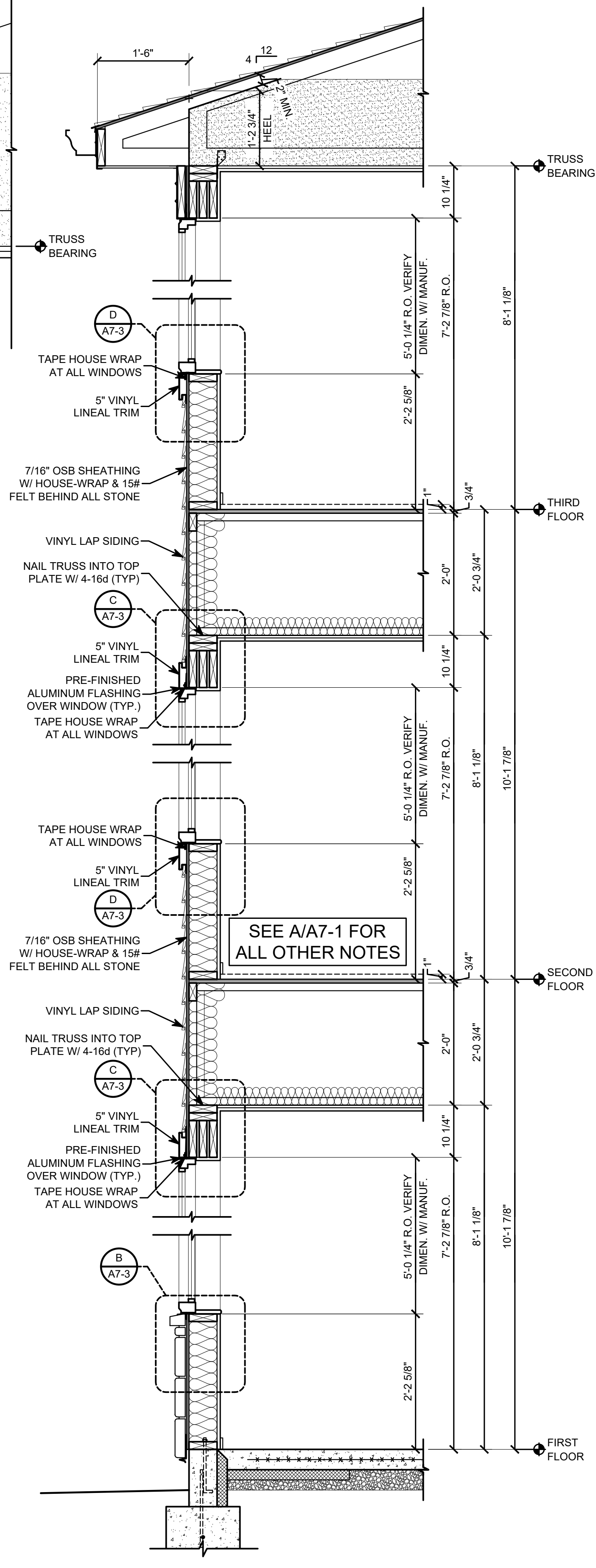
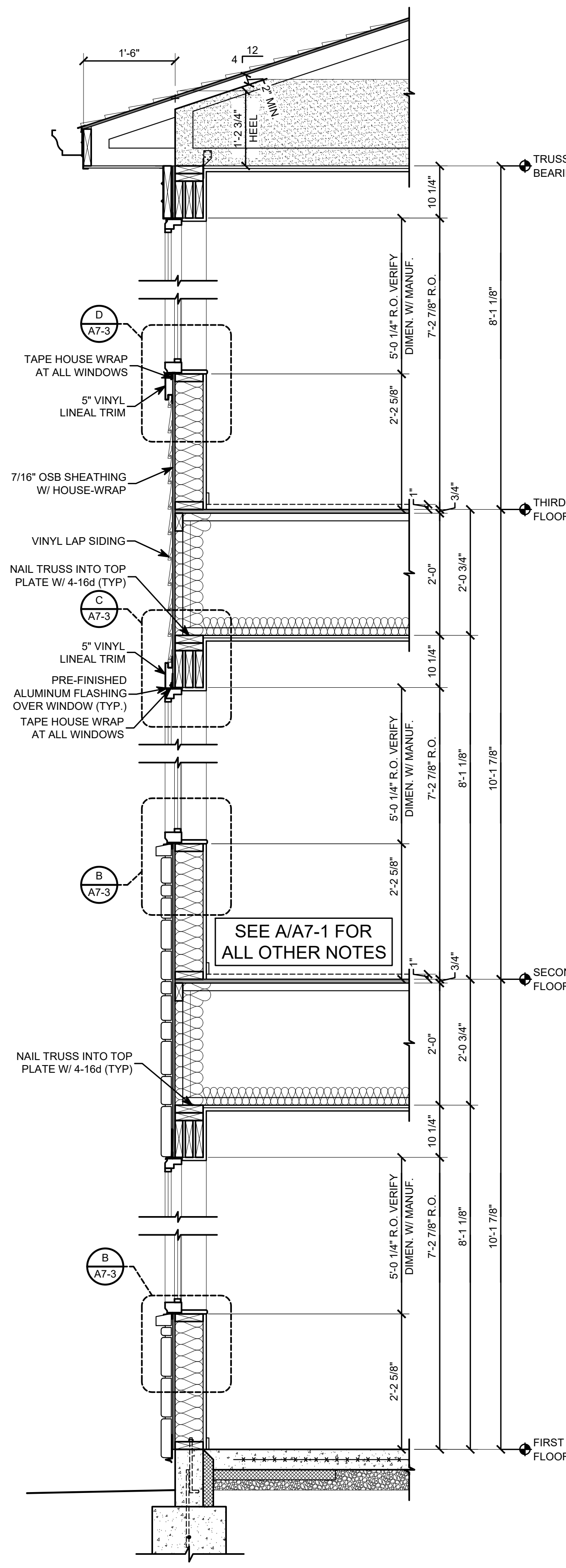
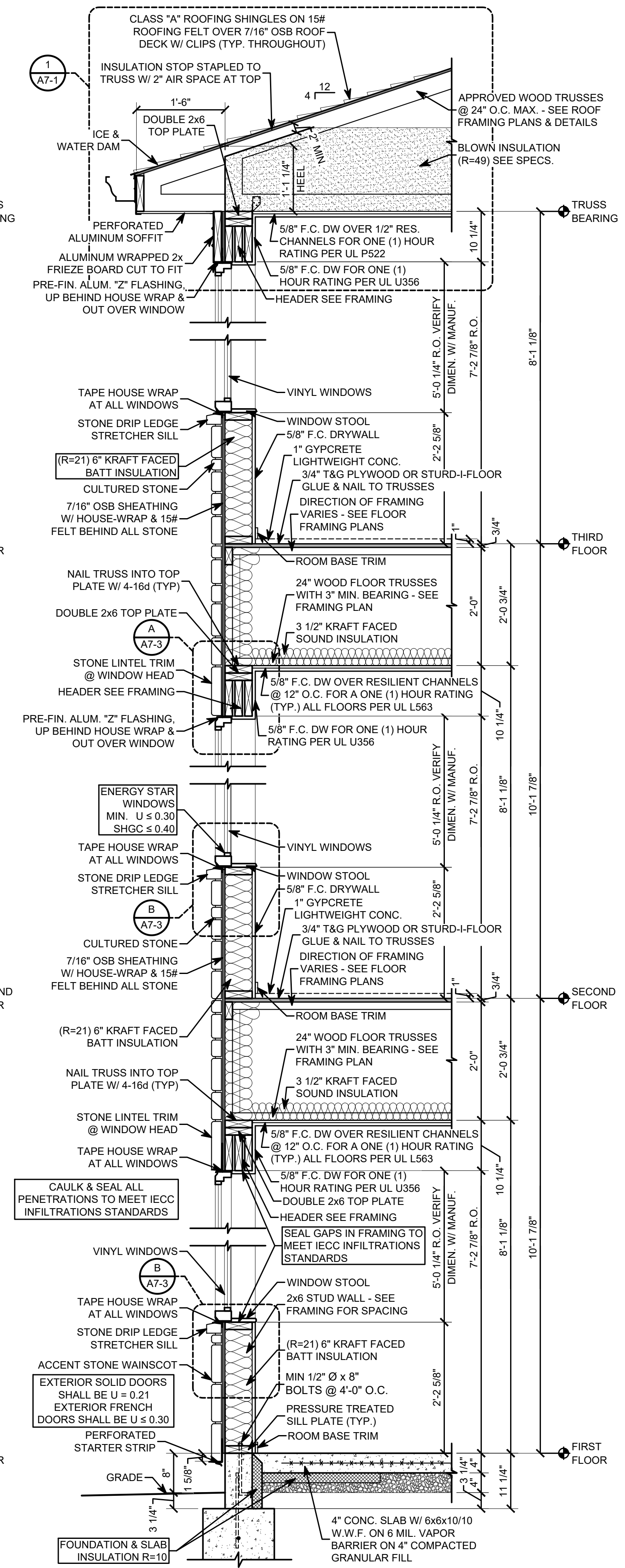
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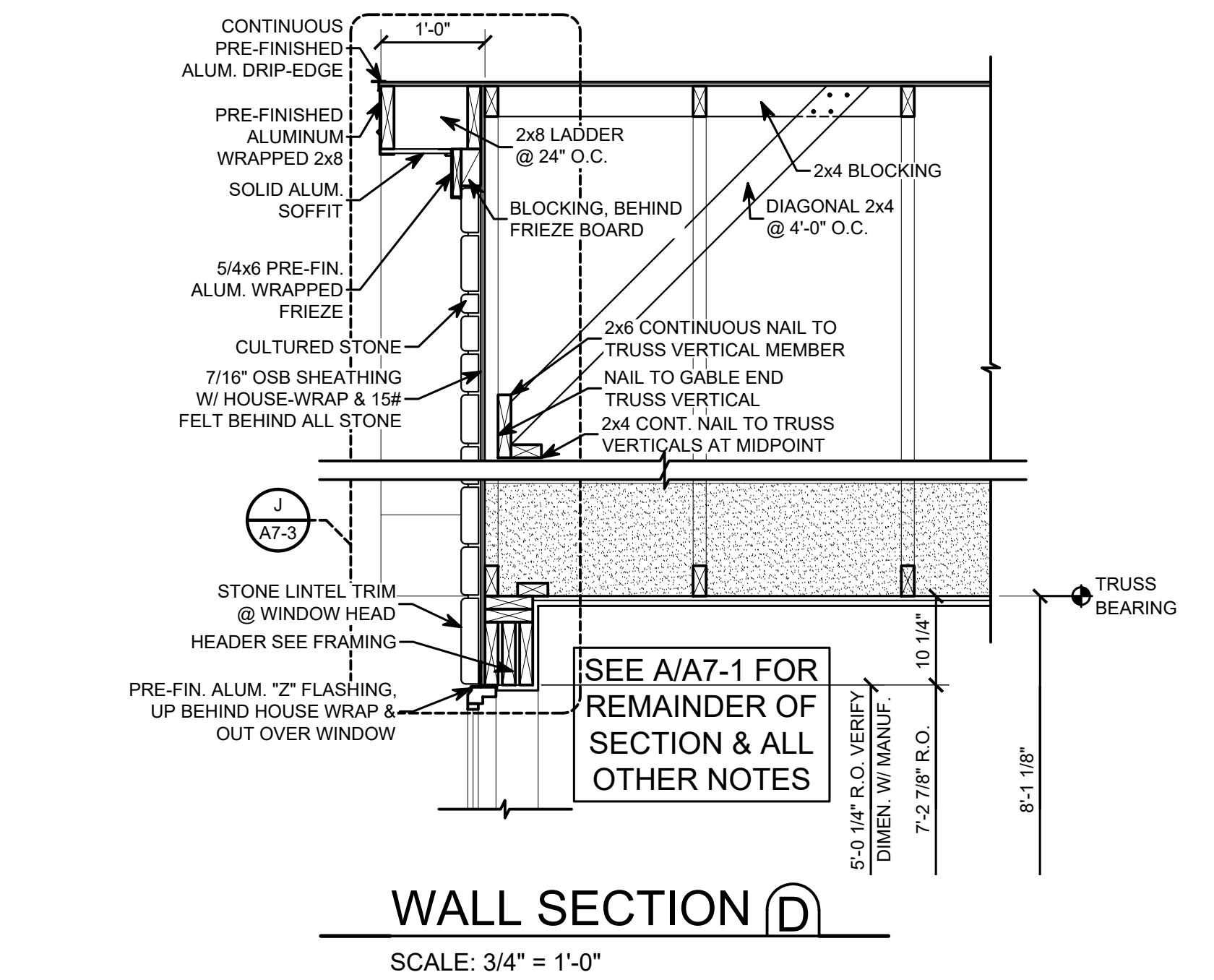
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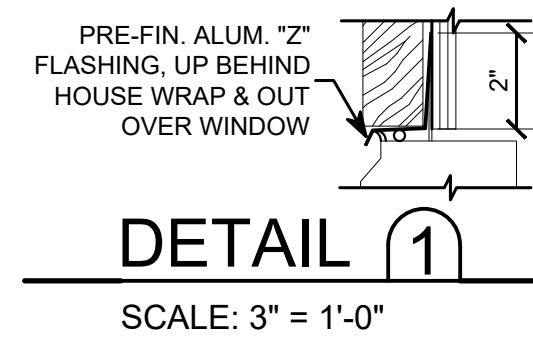
**A7-1**



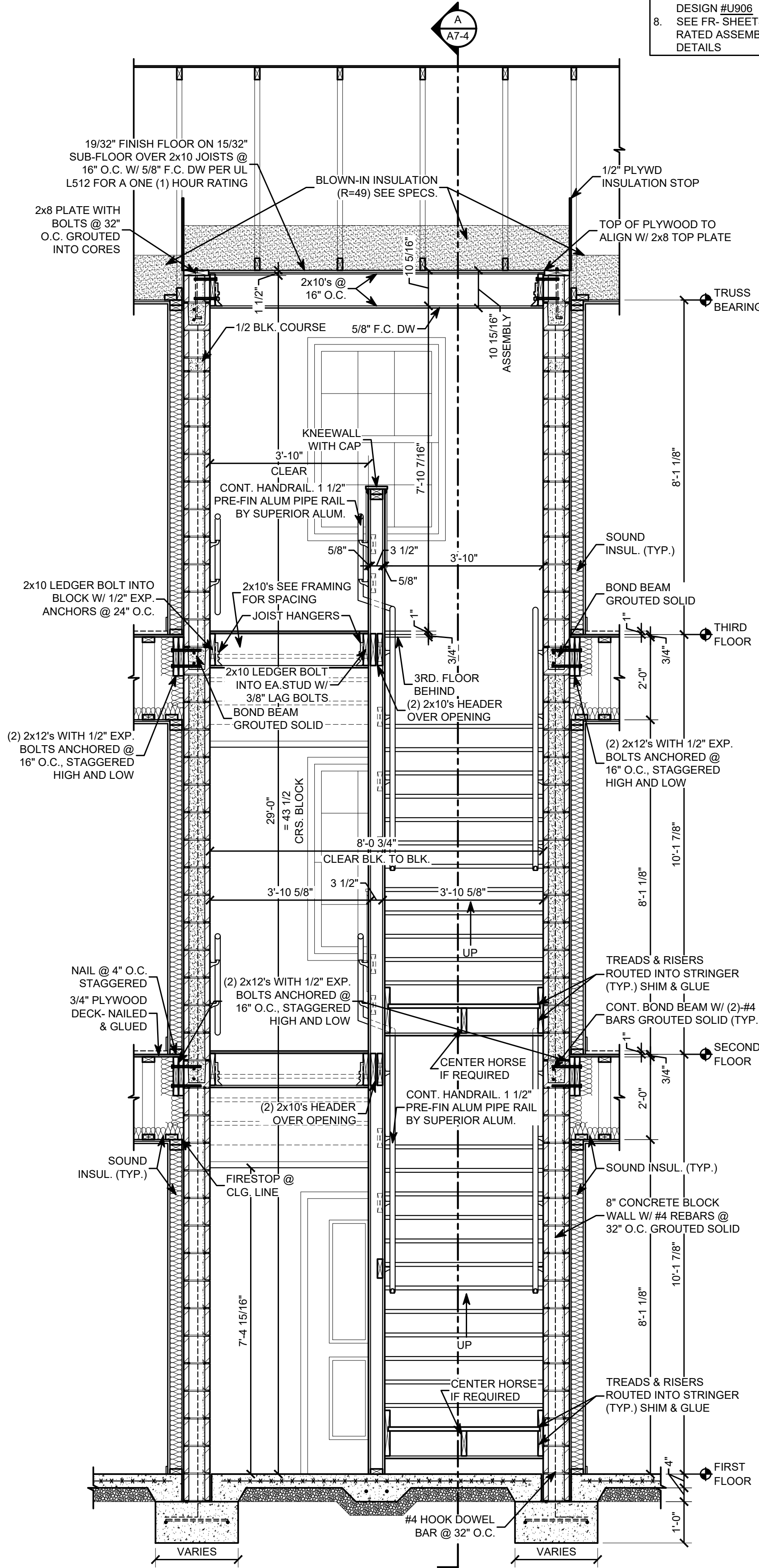
- NOTES:**
- EXTERIOR WALL SYSTEMS ARE BASED ON UL DESIGN #U356
  - FIRE SEPARATION WALL SYSTEM IS BASED ON UL DESIGN #U347
  - FLOOR / CEILING SYSTEMS ARE BASED ON UL DESIGN #U563
  - 2ND FL CORRIDOR, STAIRWELL, & ELEVATOR CEILING/FLOOR ASSEMBLIES ARE BASED ON UL DESIGN #U512
  - TENANT SEPARATION WALL ARE BASED ON UL DESIGN #U305
  - ROOF / CEILING SYSTEMS ARE BASED ON UL DESIGN #R522
  - STAIR & ELEVATOR ENCLOSURES BASED ON UL DESIGN #U906
  - SEE FR. SHEETS FOR FIRE RATED ASSEMBLY INSTALLATION DETAILS





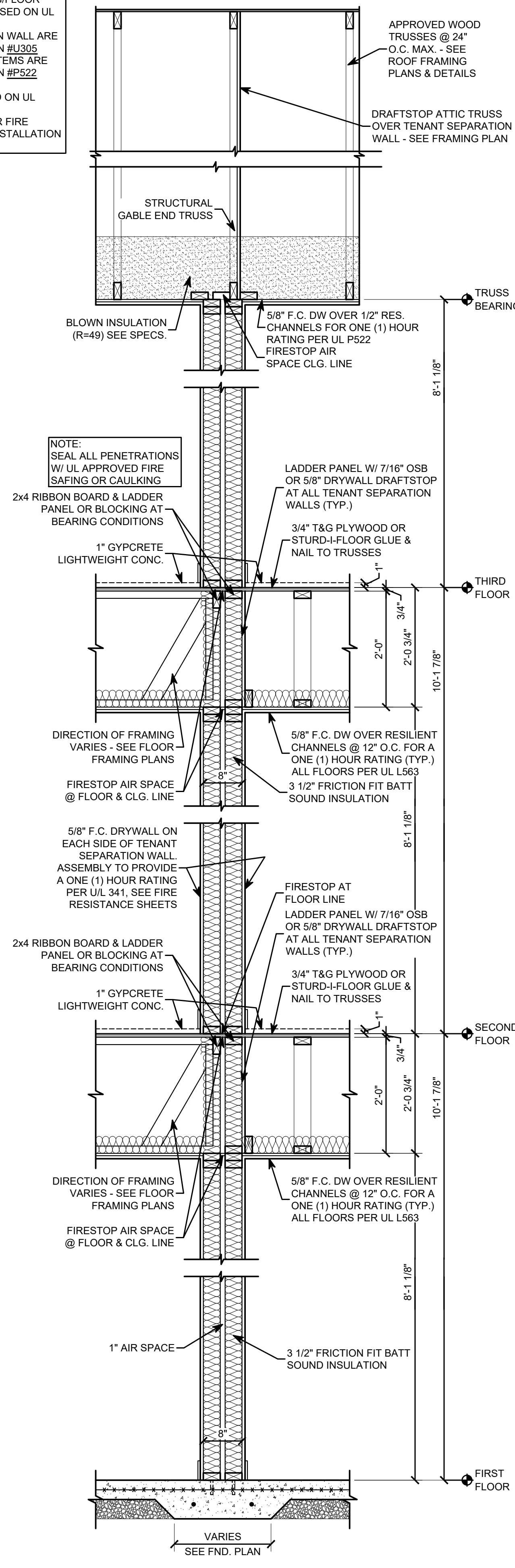


- NOTES:**
1. EXTERIOR WALL SYSTEMS ARE BASED ON UL DESIGN #U356
  2. FIRE SEPARATION WALL SYSTEM IS BASED ON UL DESIGN #U347
  3. FLOOR / CEILING SYSTEMS ARE BASED ON UL DESIGN #L563
  4. 2ND FL CORRIDOR, STAIRWELL, & ELEVATOR CEILING/FLOOR ASSEMBLIES ARE BASED ON UL DESIGN #L512
  5. TENANT SEPARATION WALL ARE BASED ON UL DESIGN #U305
  6. ROOF / CEILING SYSTEMS ARE BASED ON UL DESIGN #P522
  7. STAIR & ELEVATOR ENCLOSURES BASED ON UL DESIGN #U806
  8. SEE FR. SHEETS FOR FIRE RATED ASSEMBLY INSTALLATION DETAILS



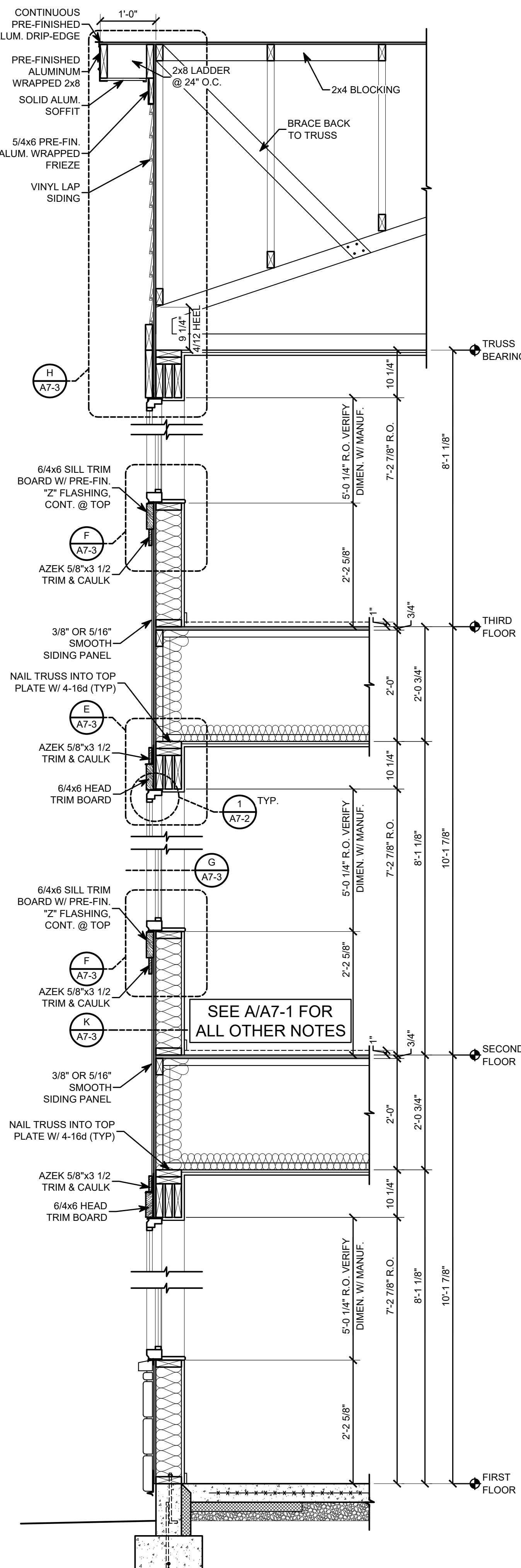
**STAIR SECTION (D)**

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



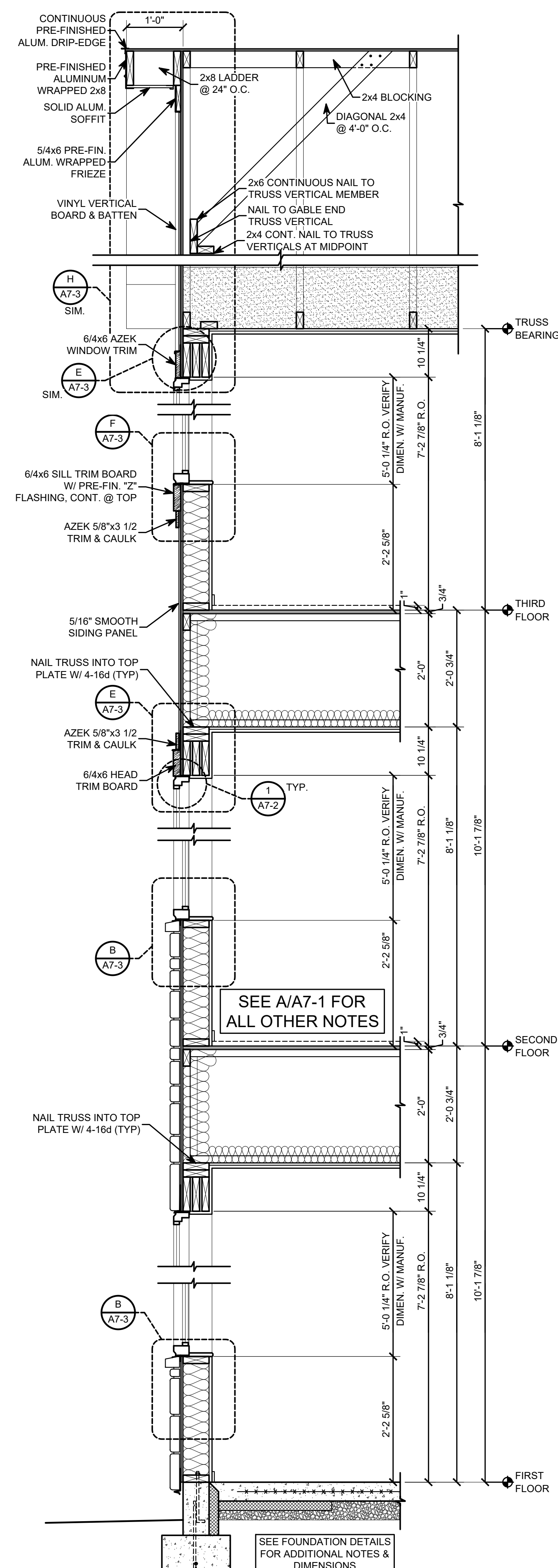
**PARTY WALL SECTION (C)**

SCALE: 3/4" = 1'-0"



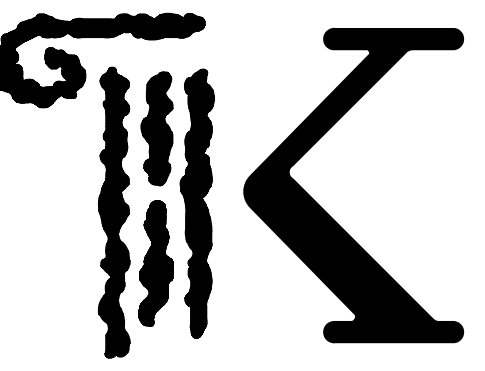
**WALL SECTION (B)**

SCALE: 3/4" = 1'-0"



**WALL SECTION (A)**

SCALE: 3/4" = 1'-0"



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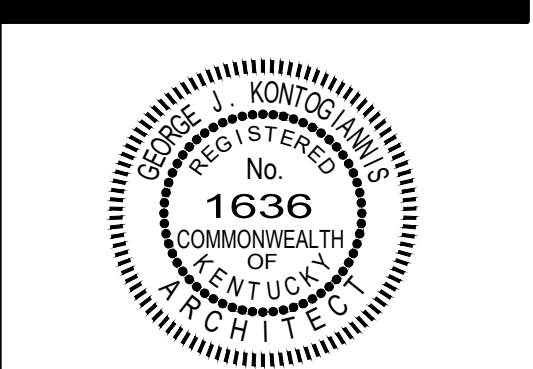
PROJECT:

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DRAWING TITLE:  
**TYPICAL WALL  
SECTIONS & DETAILS**

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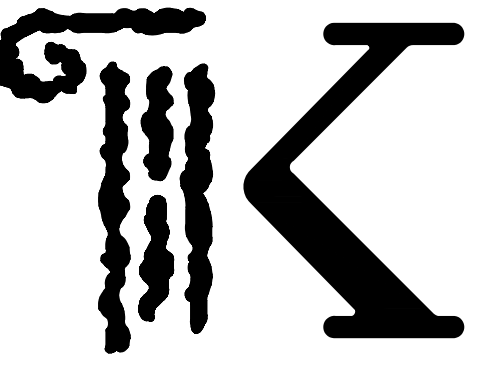


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**A7-2**

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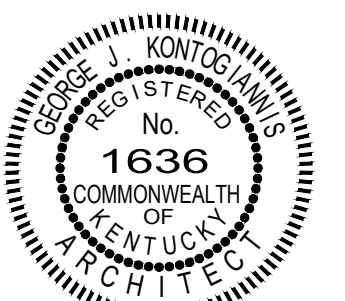
PROJECT:

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DRAWING TITLE:  
WALL SECTIONS &  
DETAILS

DATE: 07/31/2023  
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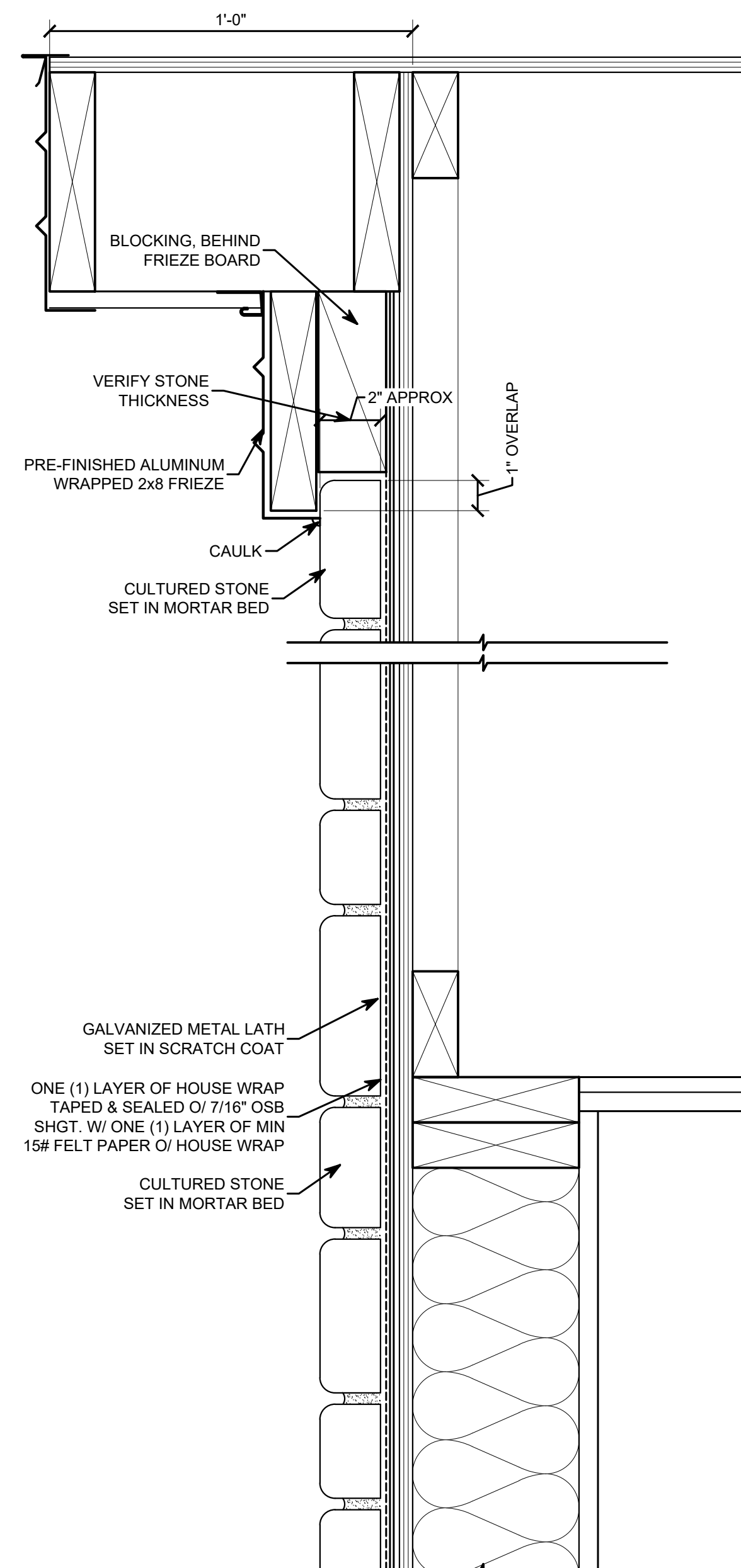


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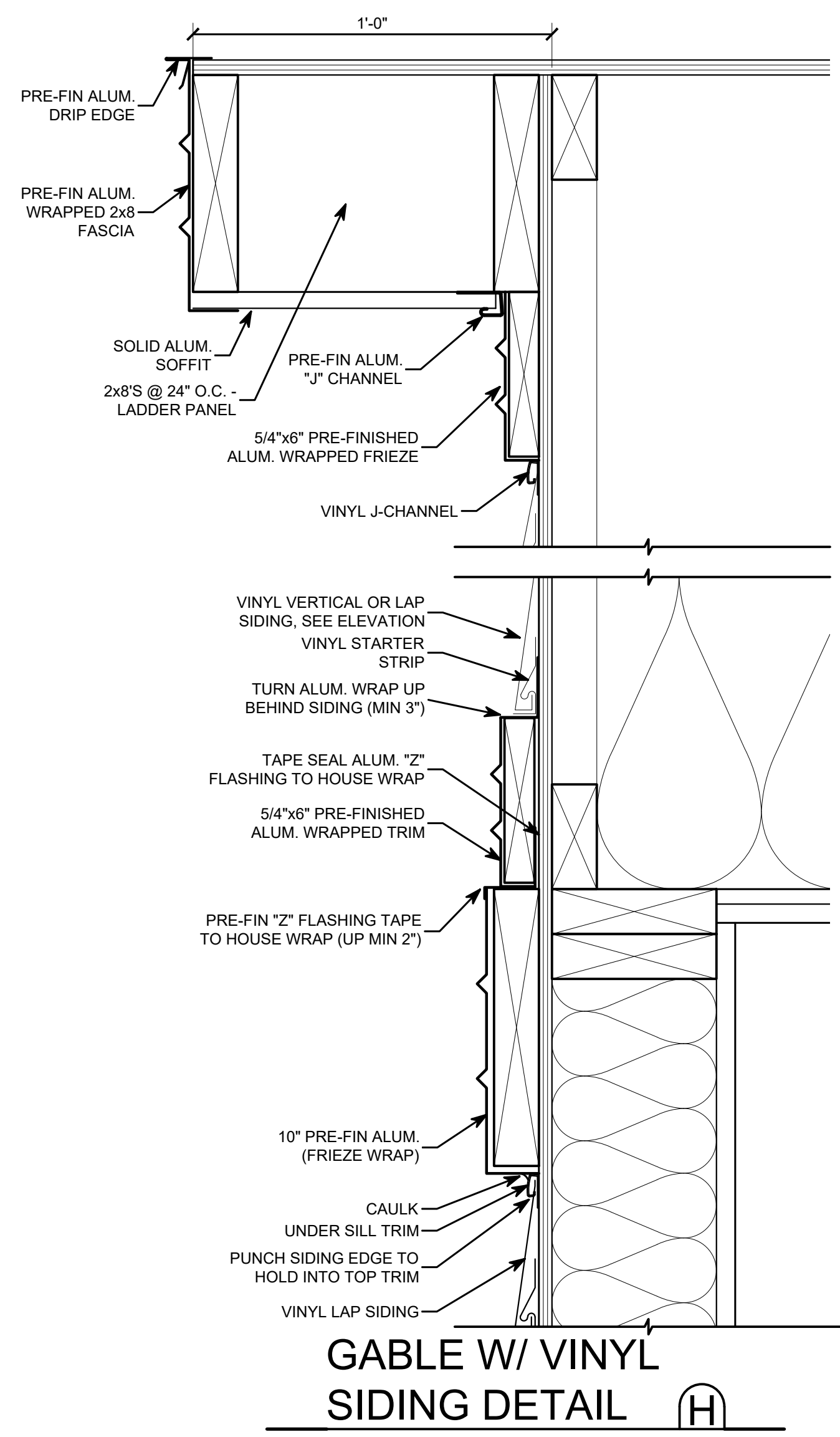
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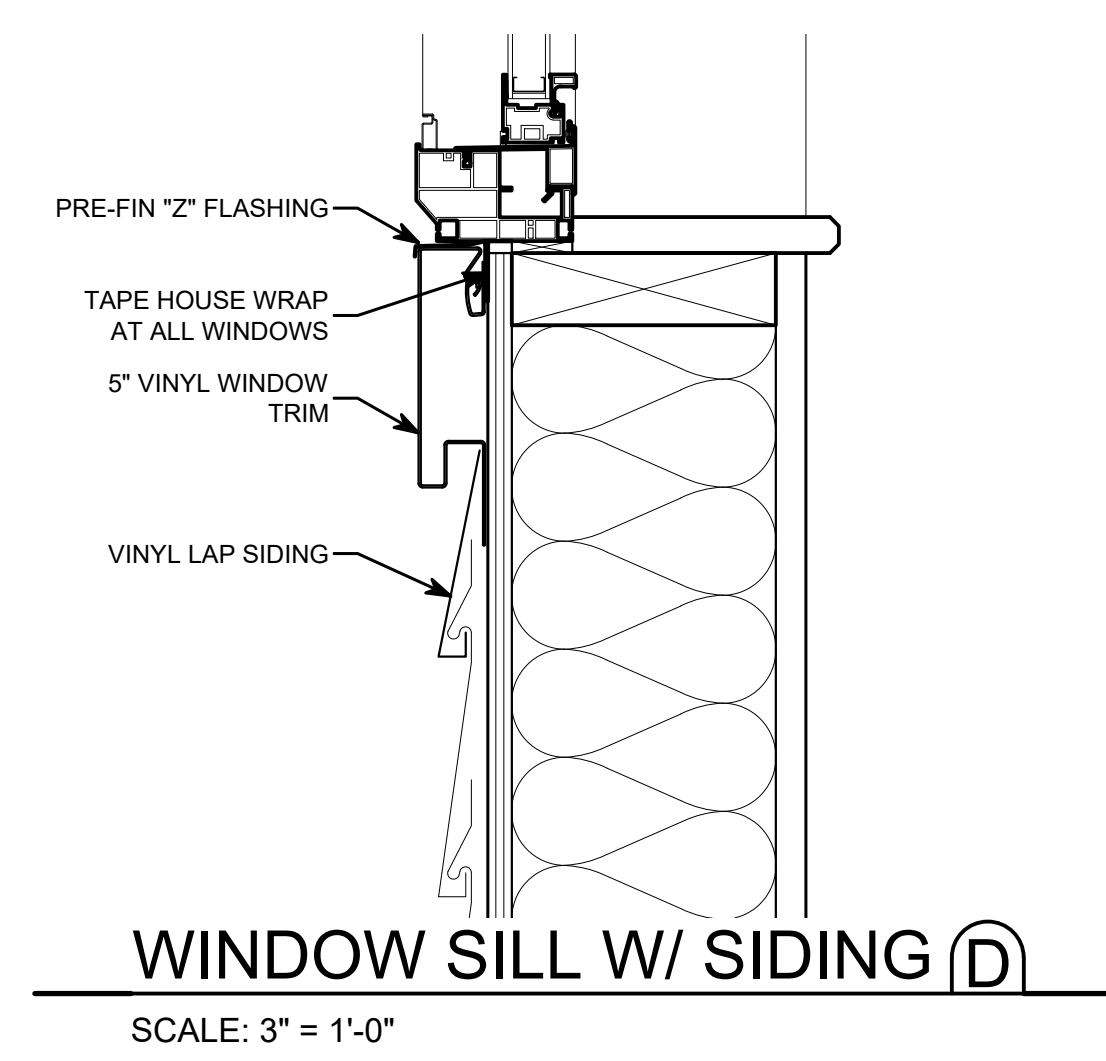
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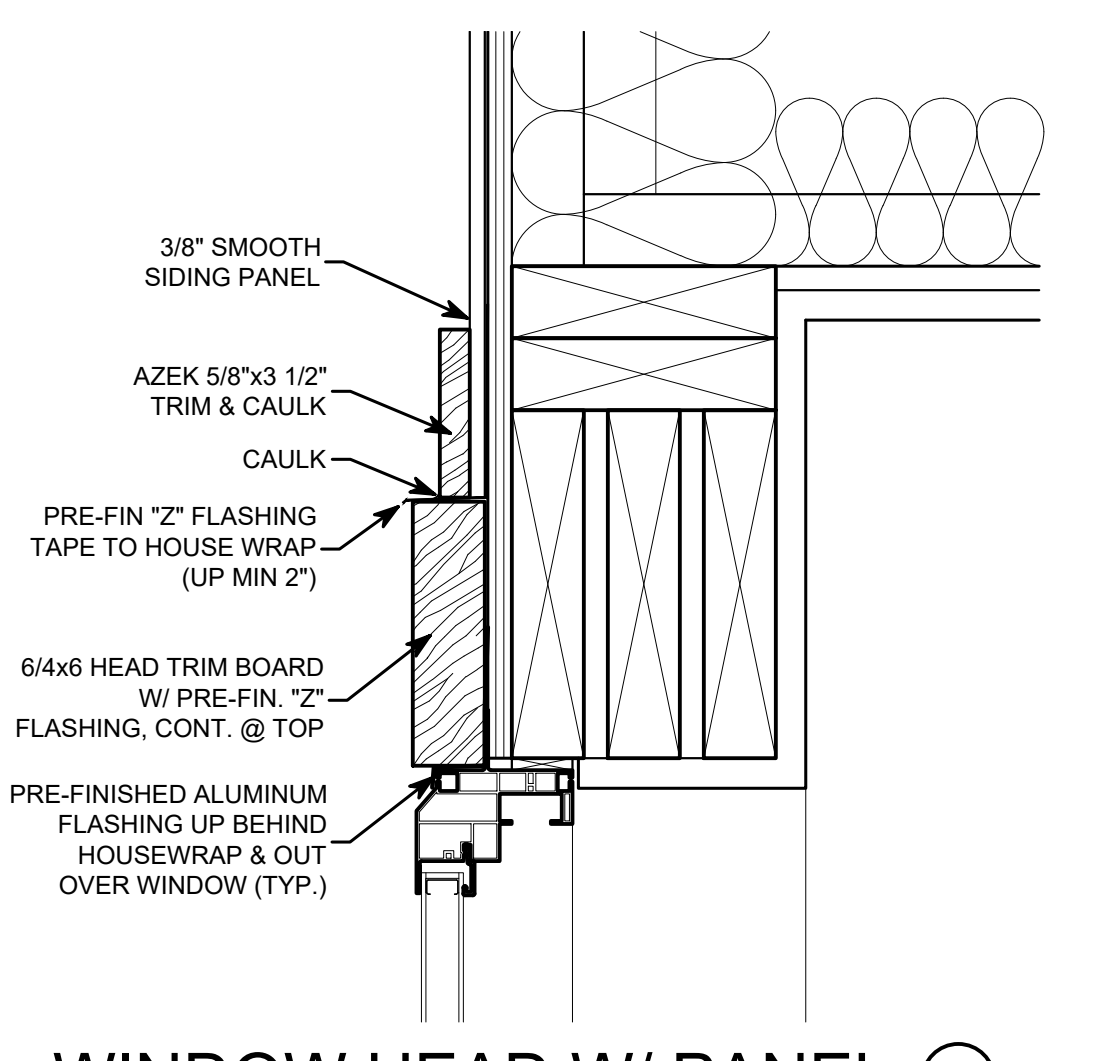
**STONE @ GABLE DETAIL L**  
SCALE: 3" = 1'-0"



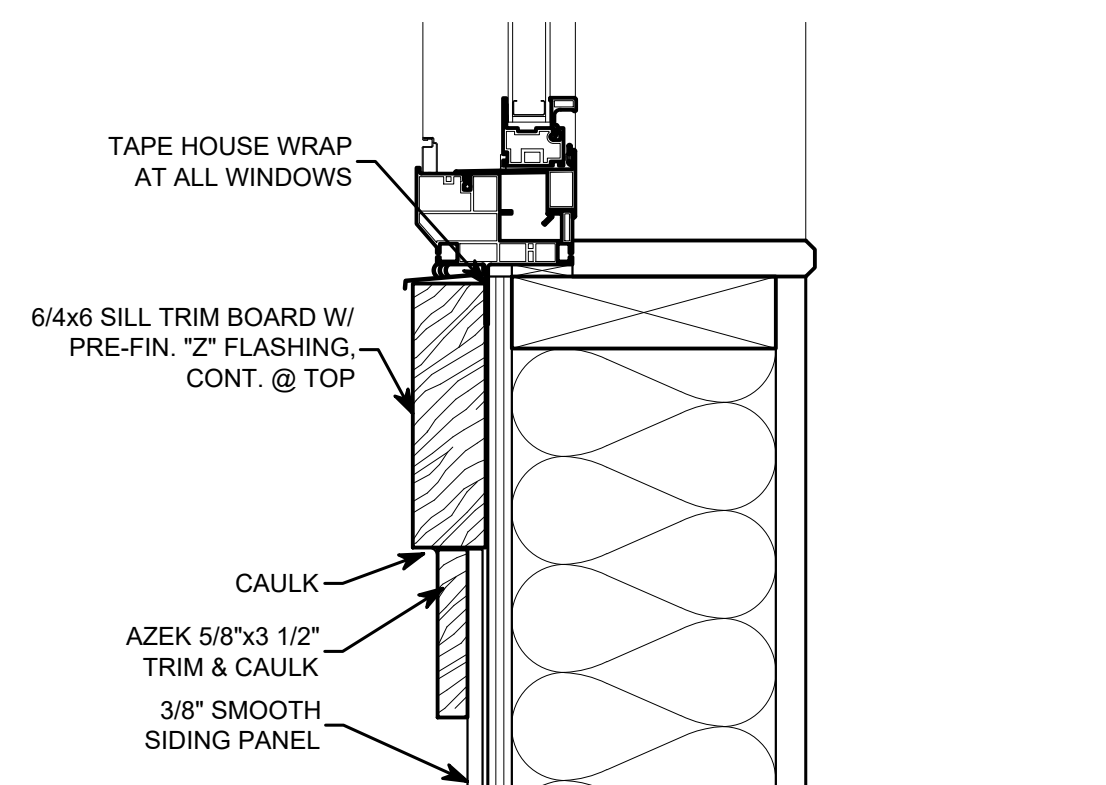
**GABLE W/ VINYL SIDING DETAIL H**  
SCALE: 3" = 1'-0"



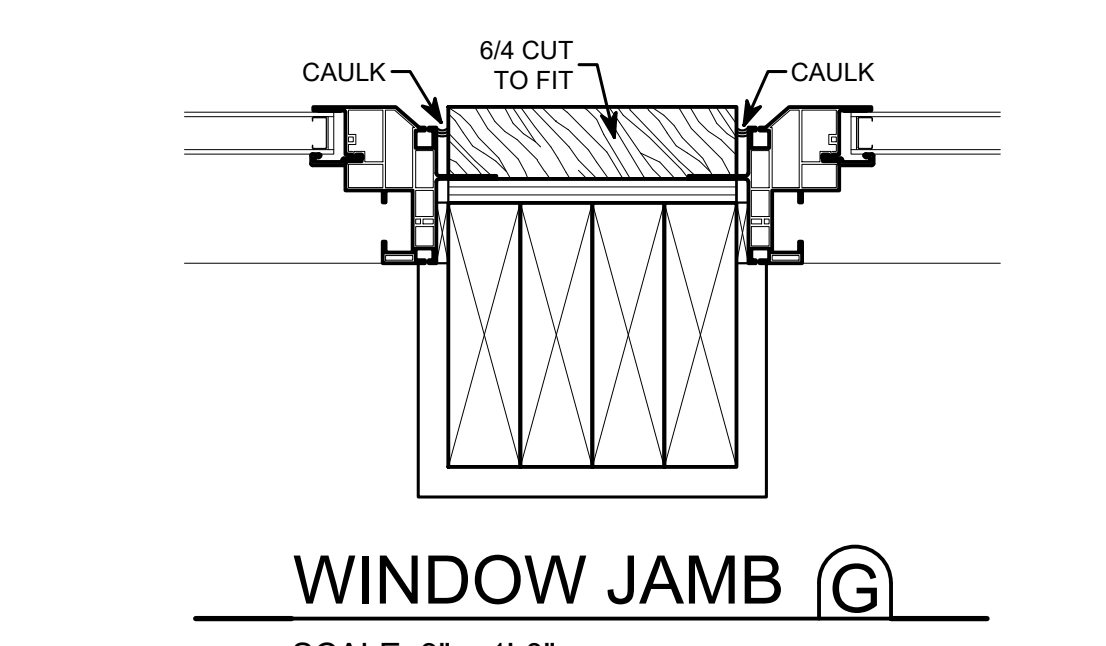
**WINDOW SILL W/ SIDING D**  
SCALE: 3" = 1'-0"



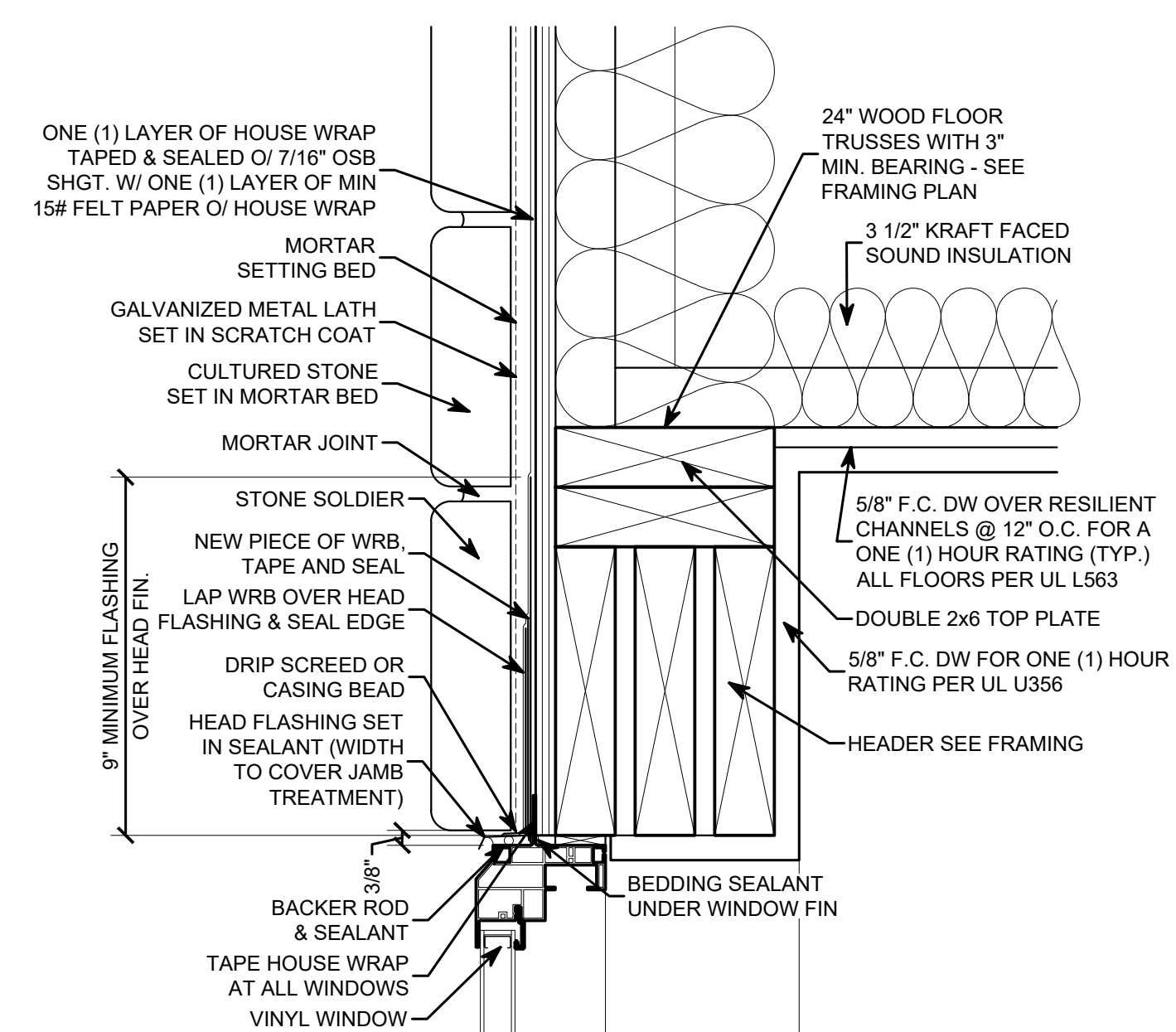
**WINDOW HEAD W/ PANEL E**  
SCALE: 3" = 1'-0"



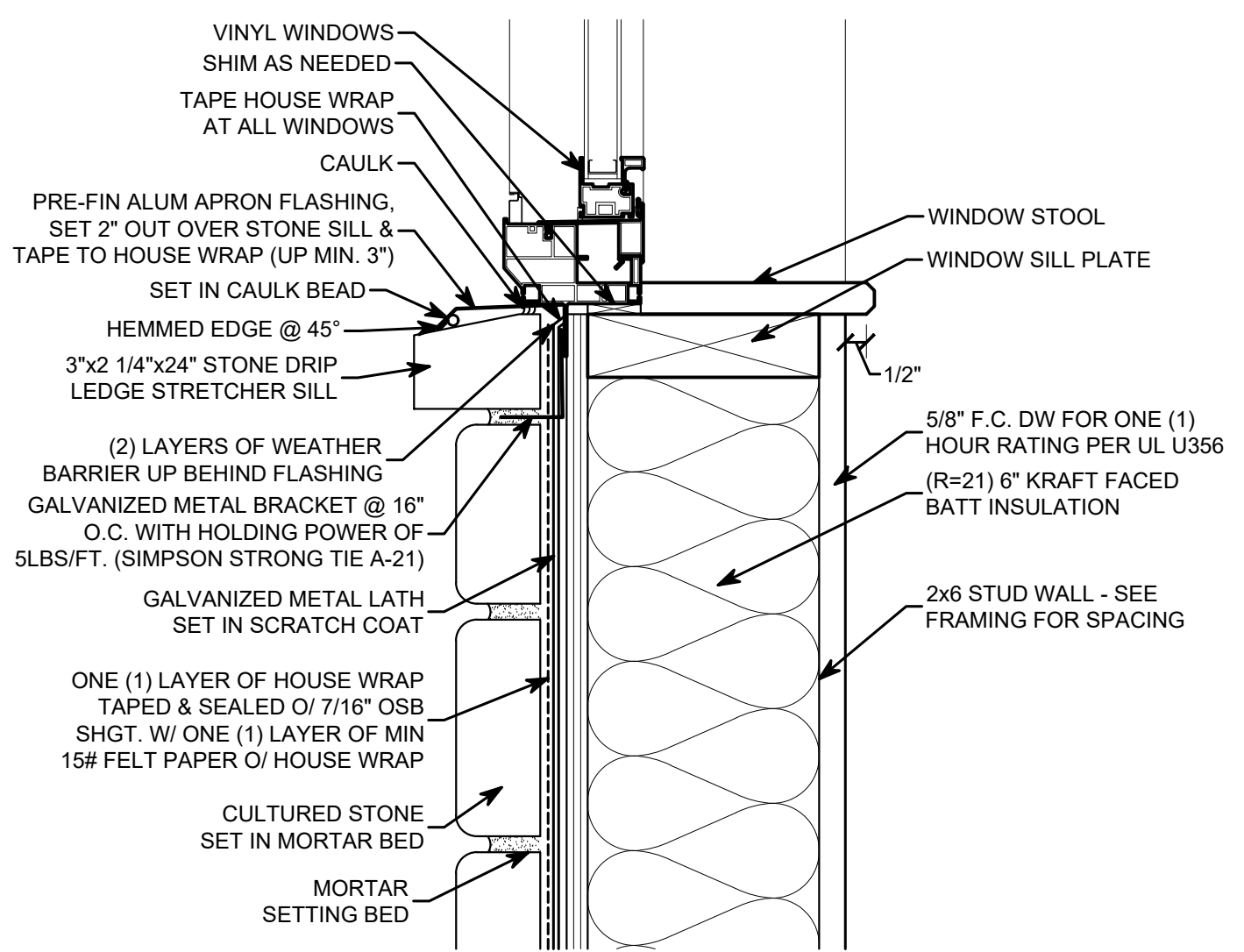
**WINDOW SILL W/ PANEL F**  
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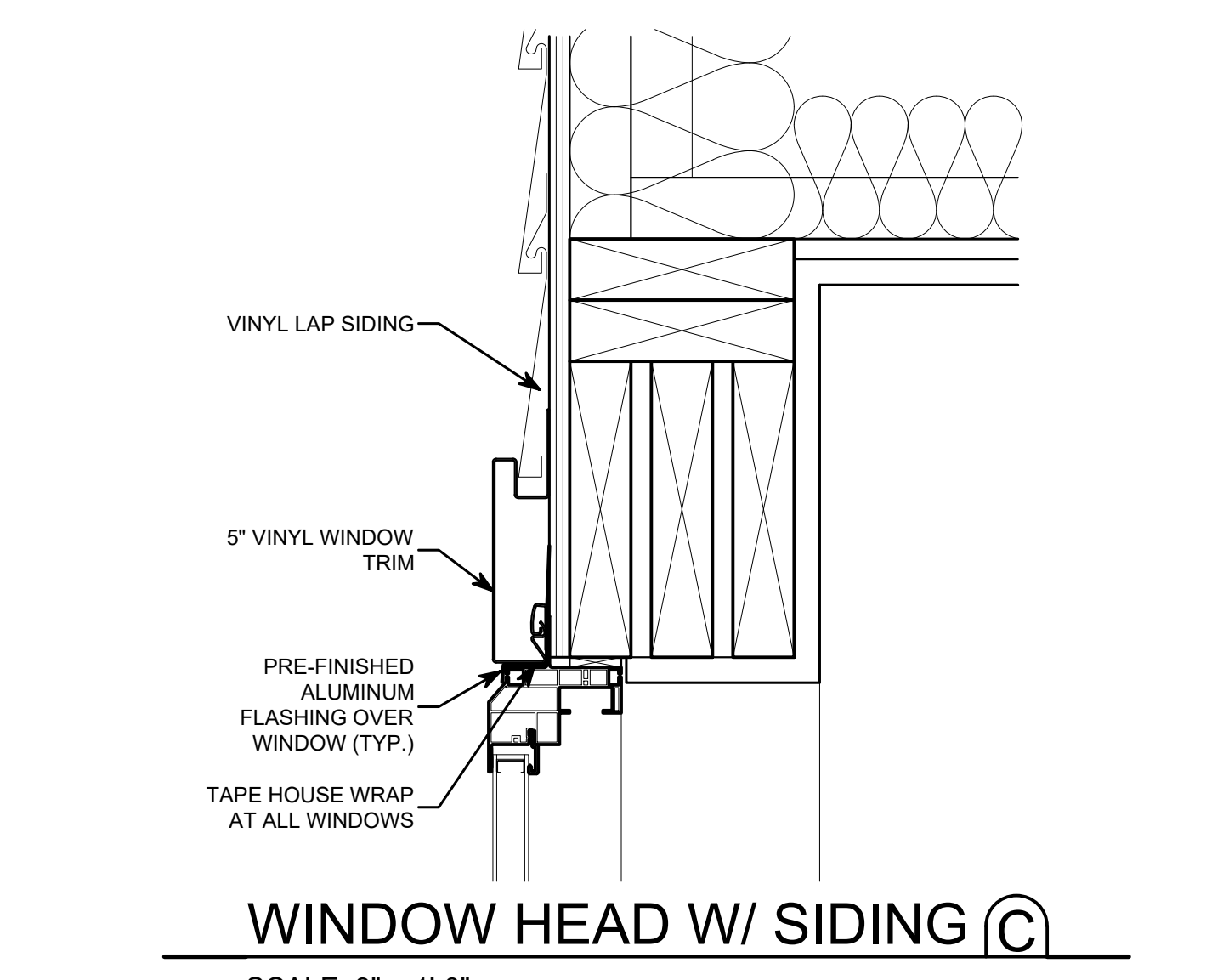
**WINDOW JAMB G**  
SCALE: 3" = 1'-0"



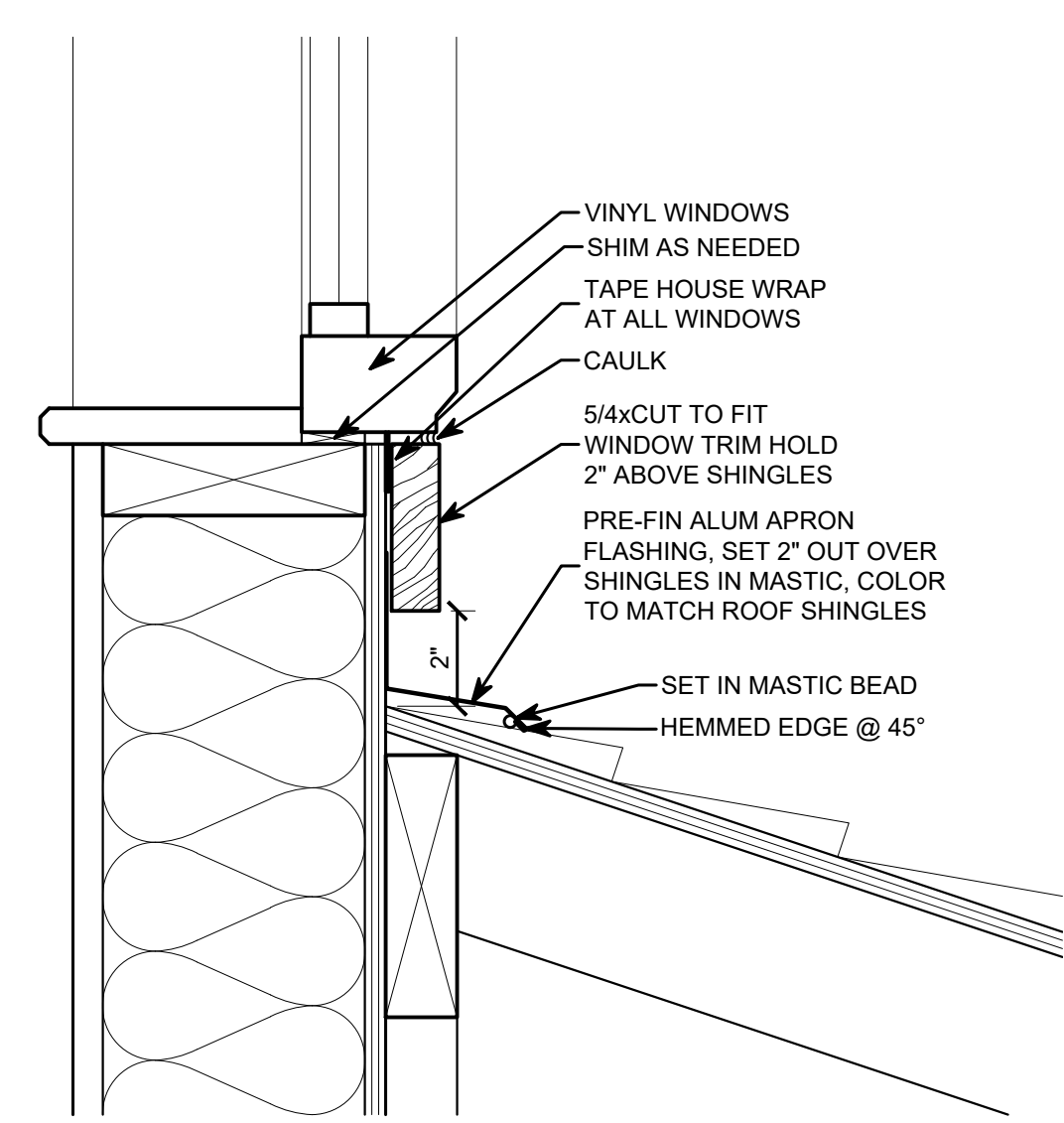
**WINDOW HEAD W/ STONE A**  
SCALE: 3" = 1'-0"



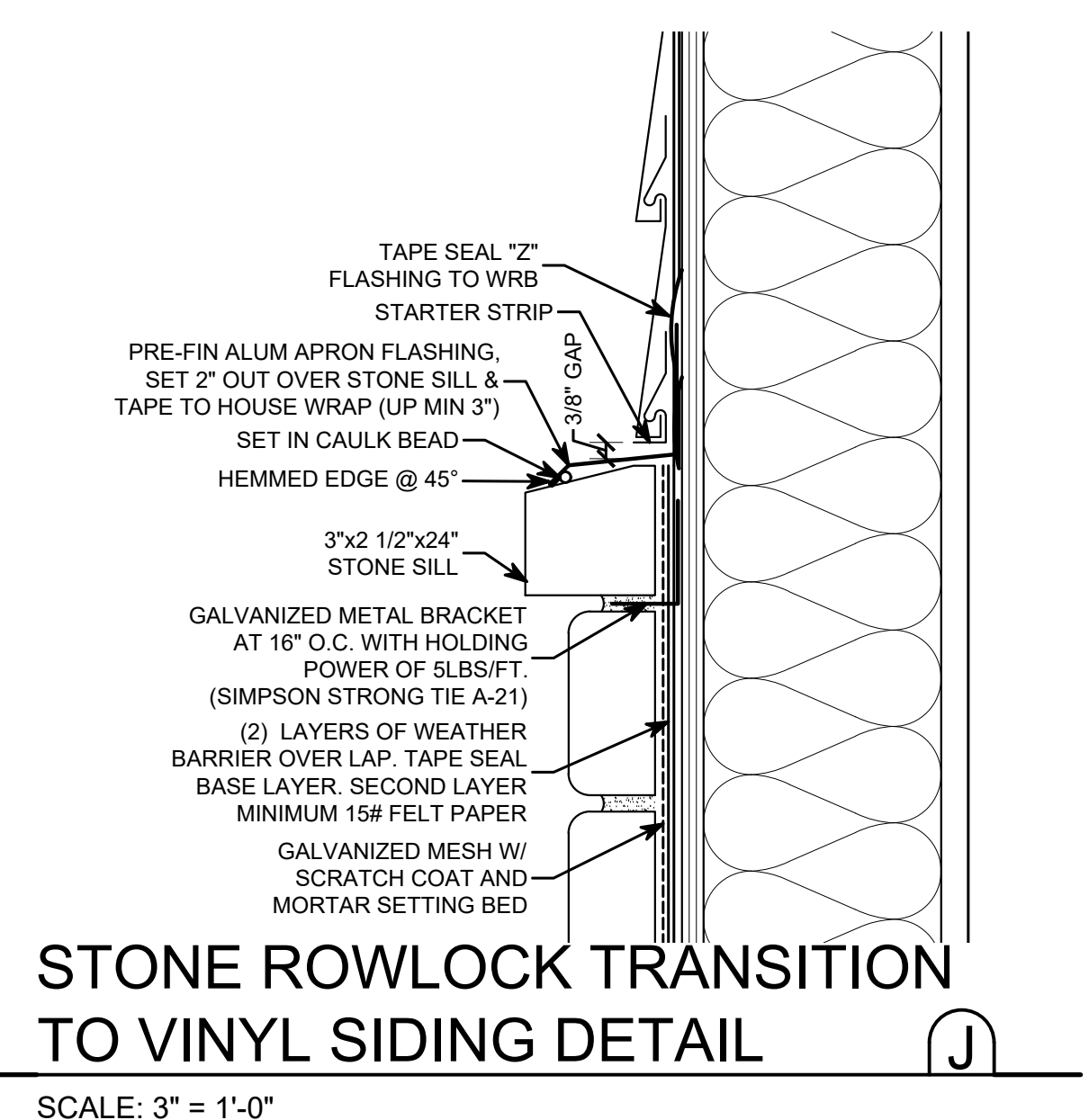
**WINDOW SILL W/ STONE B**  
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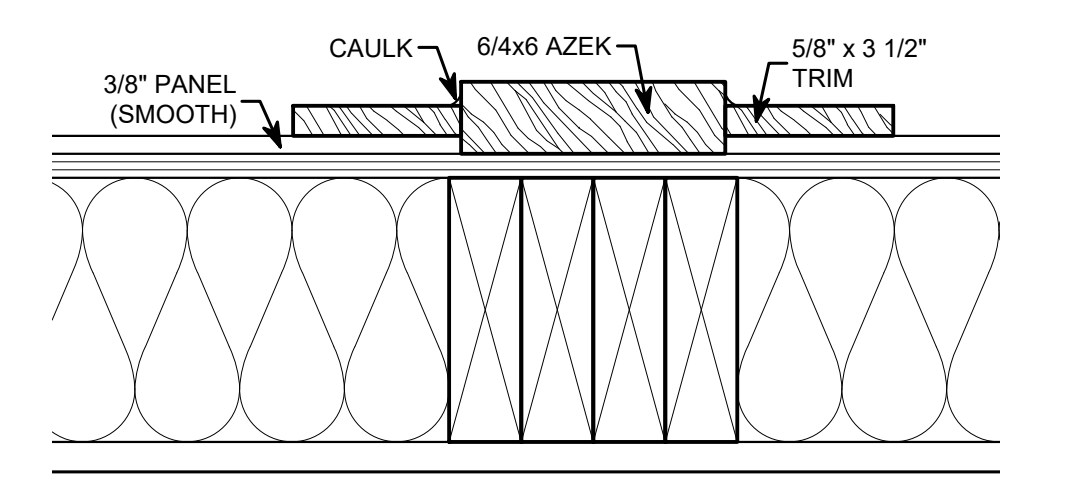
**WINDOW HEAD W/ SIDING C**  
SCALE: 3" = 1'-0"



**TRIM @ ROOF DETAIL M**  
SCALE: 3" = 1'-0"



**STONE ROWLOCK TRANSITION TO VINYL SIDING DETAIL J**  
SCALE: 3" = 1'-0"



**TRIM DETAIL K**  
SCALE: 3" = 1'-0"

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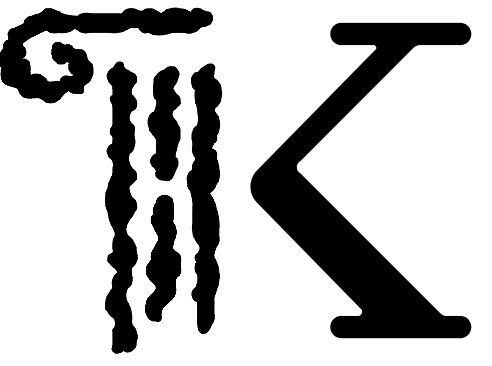












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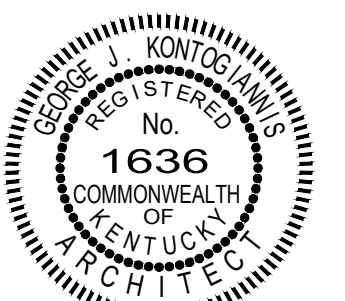
PROJECT:

**THE SANCTUARY  
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DRAWING TITLE:  
**BUILDING SECOND  
FLOOR FRAMING  
PLAN**

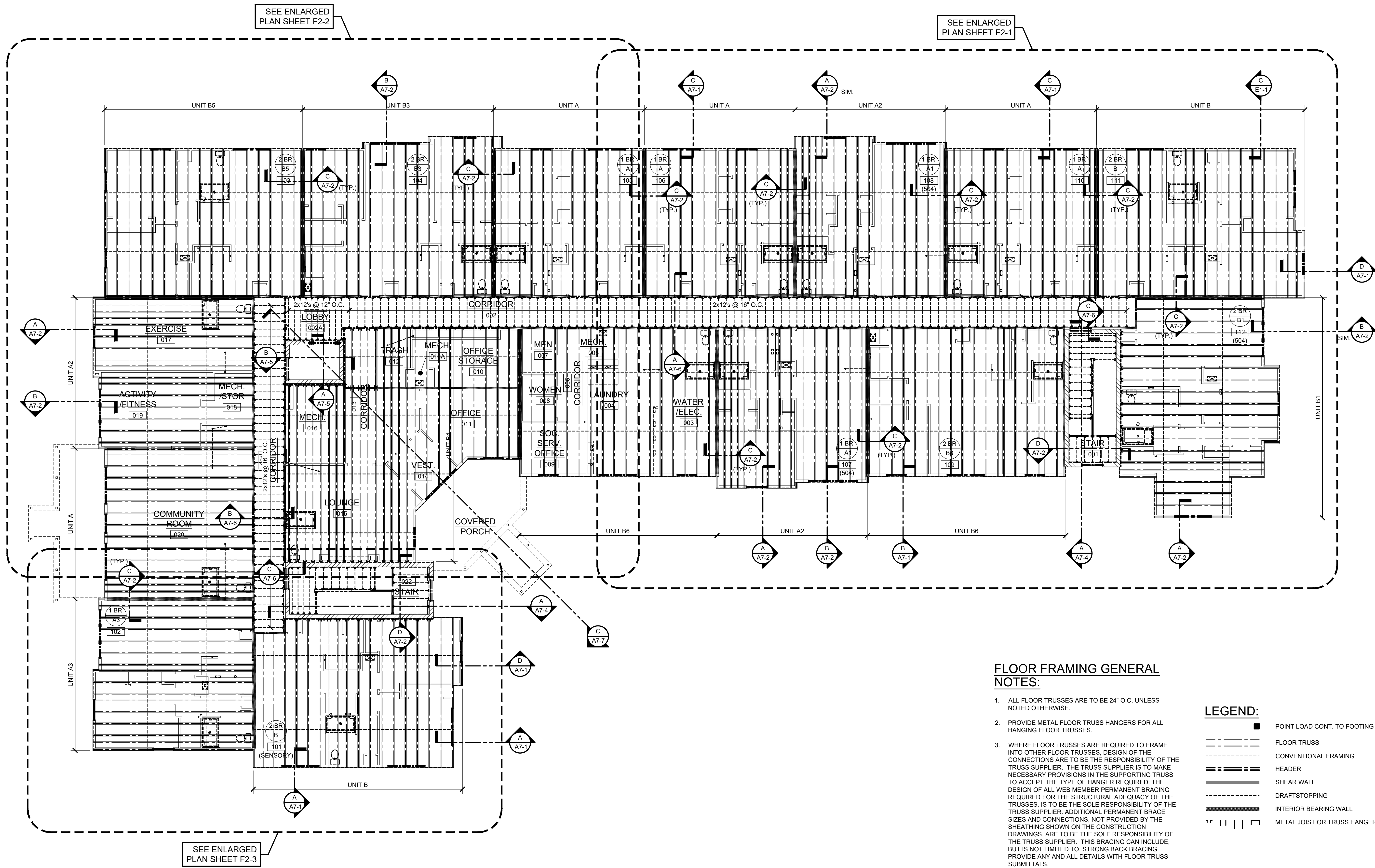
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**F1-1**



**FLOOR FRAMING GENERAL NOTES:**

1. ALL FLOOR TRUSSES ARE TO BE 24" O.C. UNLESS NOTED OTHERWISE.
2. PROVIDE METAL FLOOR TRUSS HANGERS FOR ALL HANGING FLOOR TRUSSES.
3. WHERE FLOOR TRUSSES ARE REQUIRED TO FRAME INTO OTHER FLOOR TRUSSES, DESIGN OF THE CONNECTIONS ARE TO BE THE RESPONSIBILITY OF THE TRUSS SUPPLIER. THE TRUSS SUPPLIER IS TO MAKE NECESSARY PROVISIONS IN THE SUPPORTING TRUSS TO ACCEPT THE TYPE OF HANGER REQUIRED. THE DESIGN OF ALL WEB MEMBER PERMANENT BRACING REQUIRED FOR THE STRUCTURAL ADEQUACY OF THE TRUSSES, IS TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. ADDITIONAL PERMANENT BRACE SIZES AND CONNECTIONS, NOT PROVIDED BY THE SHEATHING SHOWN ON THE CONSTRUCTION DRAWINGS, ARE TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. THIS BRACING CAN INCLUDE, BUT IS NOT LIMITED TO, STRONG BACK BRACING. PROVIDE ANY AND ALL DETAILS WITH FLOOR TRUSS SUBMITTALS.

**LEGEND:**

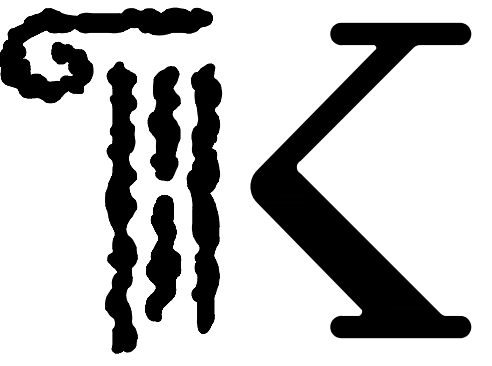
- POINT LOAD CONT. TO FOOTING
- FLOOR TRUSS
- CONVENTIONAL FRAMING
- HEADER
- SHEAR WALL
- DRAFTSTOPPING
- INTERIOR BEARING WALL
- METAL JOIST OR TRUSS HANGERS

**BUILDING SECOND FLOOR FRAMING PLAN**

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

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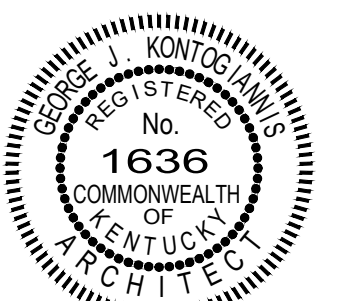
PROJECT:

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ELSMERE, KY 41018

DRAWING TITLE:  
**BUILDING THIRD  
FLOOR FRAMING  
PLAN**

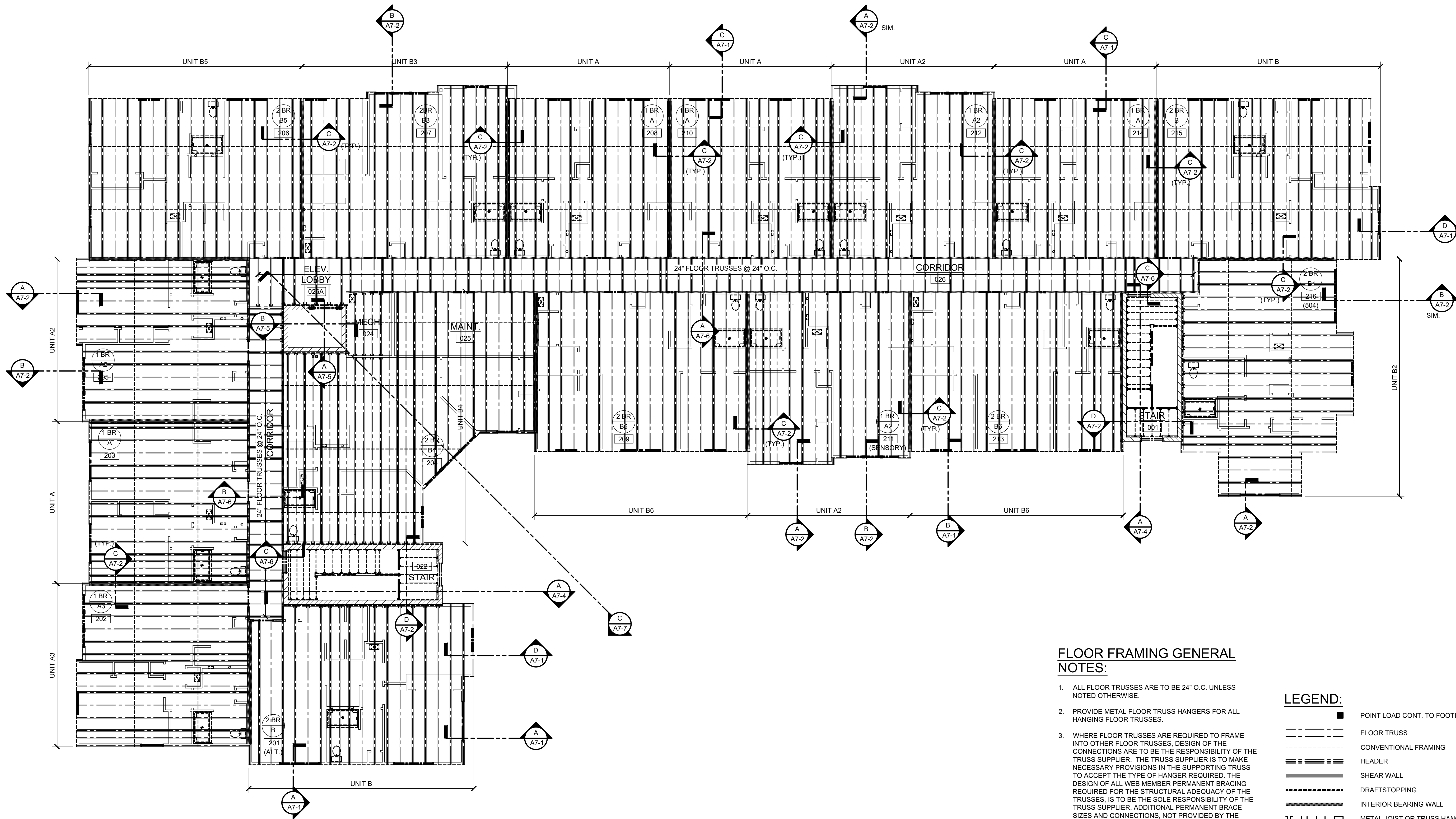
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**F1-2**



**FLOOR FRAMING GENERAL NOTES:**

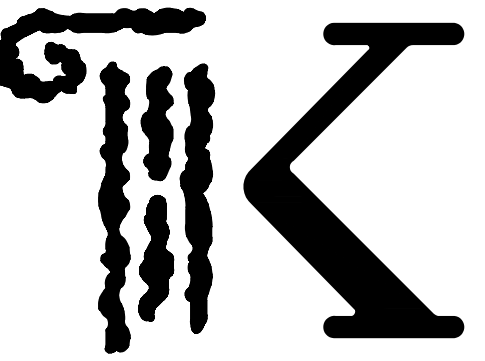
1. ALL FLOOR TRUSSES ARE TO BE 24" O.C. UNLESS NOTED OTHERWISE.
2. PROVIDE METAL FLOOR TRUSS HANGERS FOR ALL HANGING FLOOR TRUSSES.
3. WHERE FLOOR TRUSSES ARE REQUIRED TO FRAME INTO OTHER FLOOR TRUSSES, DESIGN OF THE CONNECTIONS ARE TO BE THE RESPONSIBILITY OF THE TRUSS SUPPLIER. THE TRUSS SUPPLIER IS TO MAKE NECESSARY PROVISIONS IN THE SUPPORTING TRUSS TO ACCEPT THE TYPE OF HANGER REQUIRED. THE DESIGN OF ALL WEB MEMBER PERMANENT BRACING REQUIRED FOR THE STRUCTURAL ADEQUACY OF THE TRUSSES, IS TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. ADDITIONAL PERMANENT BRACE SIZES AND CONNECTIONS, NOT PROVIDED BY THE SHEATHING SHOWN ON THE CONSTRUCTION DRAWINGS, ARE TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. THIS BRACING CAN INCLUDE, BUT IS NOT LIMITED TO, STRONG BACK BRACING. PROVIDE ANY AND ALL DETAILS WITH FLOOR TRUSS SUBMITTALS.

**LEGEND:**

- POINT LOAD CONT. TO FOOTING
- FLOOR TRUSS
- CONVENTIONAL FRAMING
- HEADER
- SHEAR WALL
- DRAFTSTOPPING
- INTERIOR BEARING WALL
- METAL JOIST OR TRUSS HANGERS

**BUILDING THIRD FLOOR FRAMING PLAN**

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



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PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

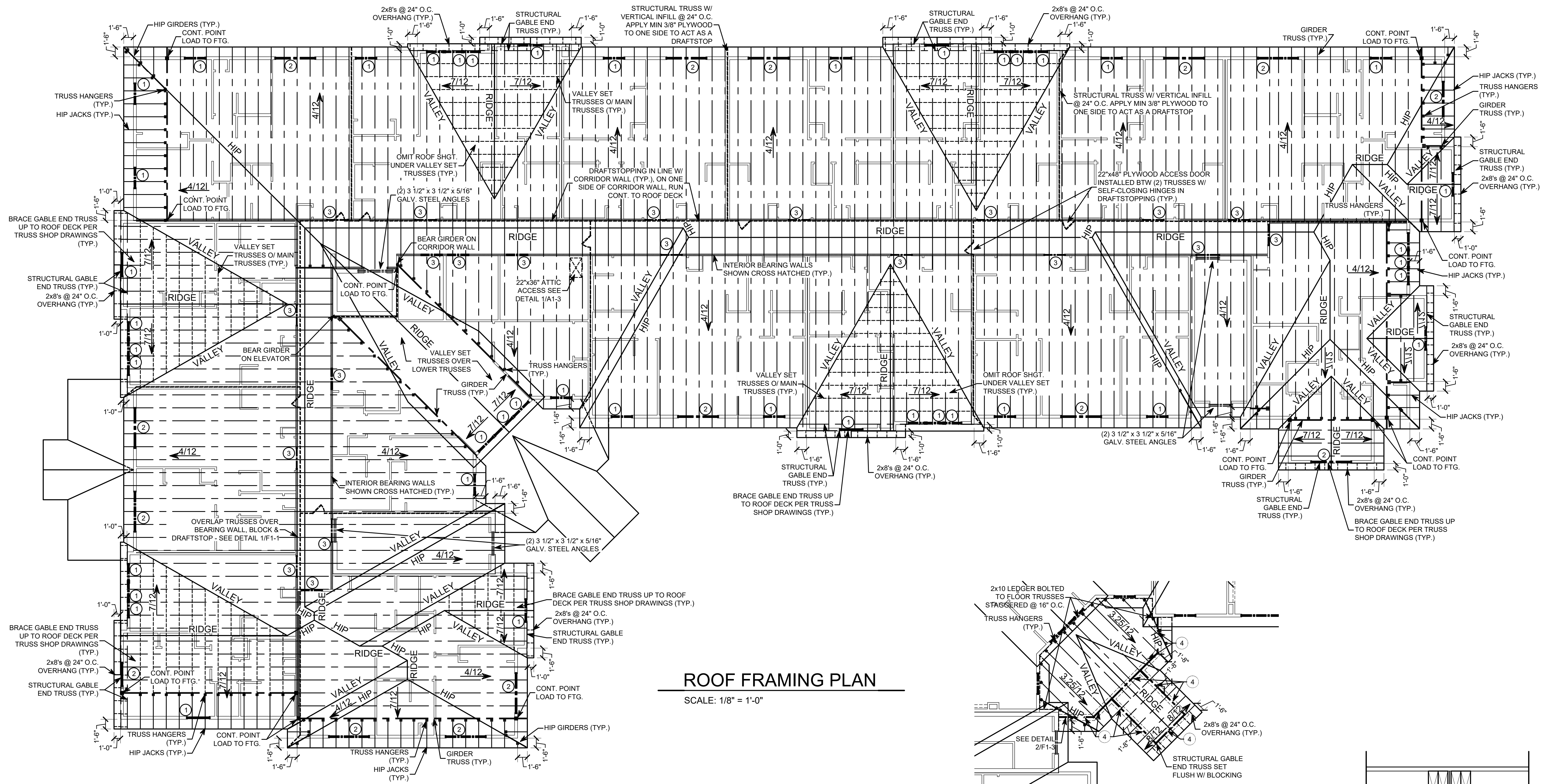
DRAWING TITLE:  
**BUILDING ROOF  
FRAMING PLAN**

DATE: 07/31/2023  
REVISED:



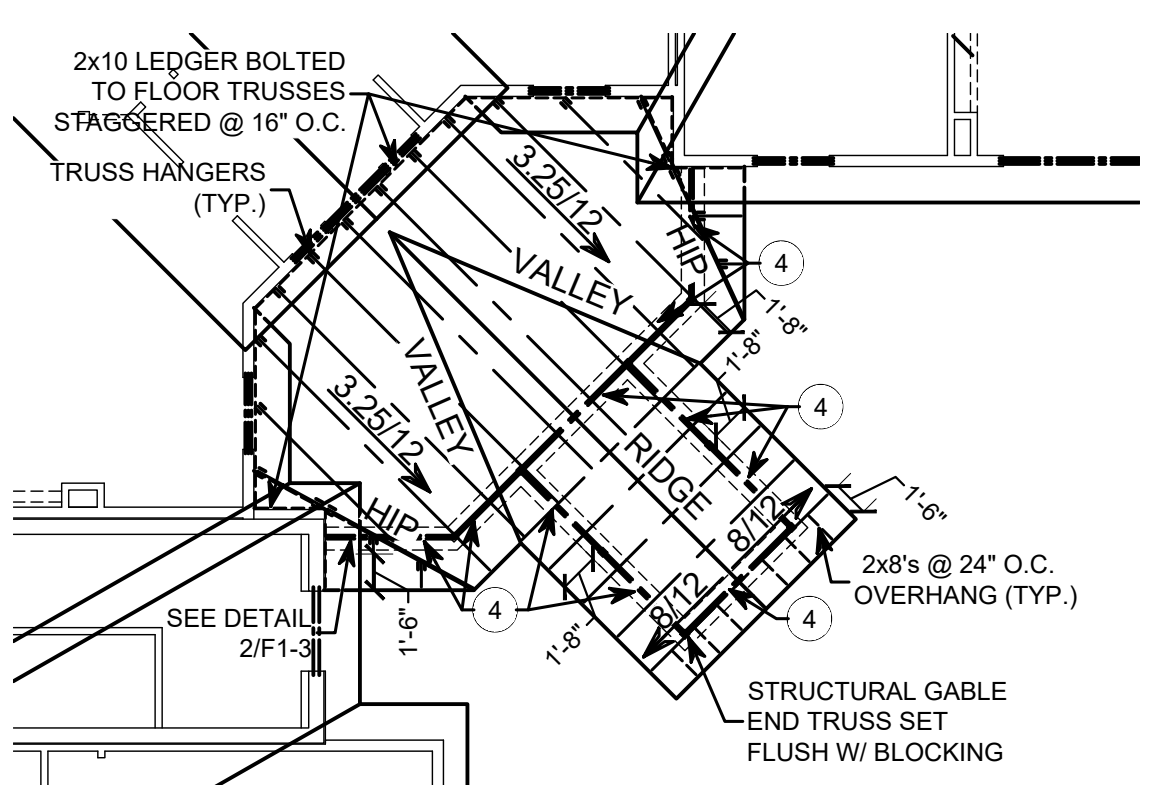
□ SUBMISSION SET  
□ PERMIT SET 07/31/2023  
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□ CONSTRUCTION SET

**F1-3**



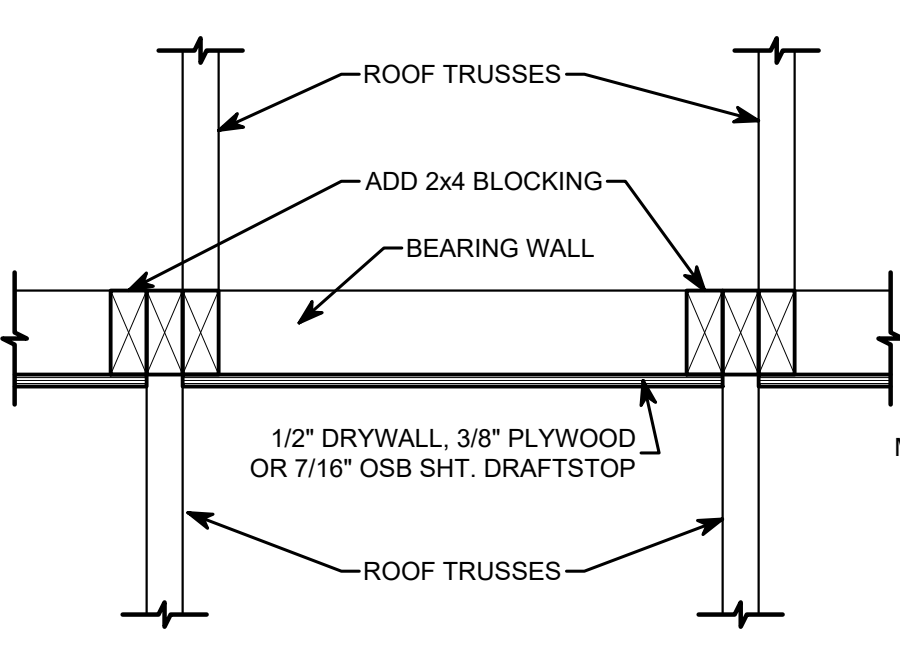
**ROOF FRAMING PLAN**

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



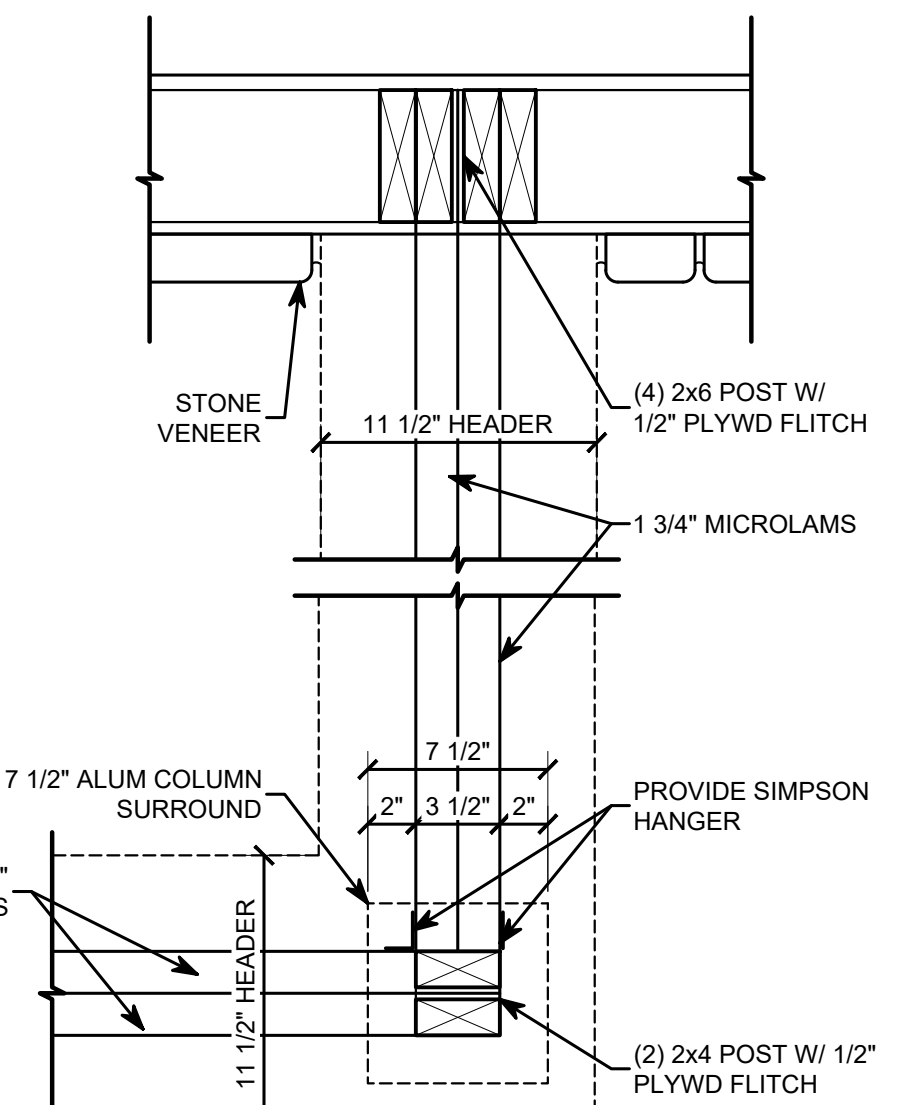
**FIRST FLOOR PORCH  
ROOF FRAMING PLAN**

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



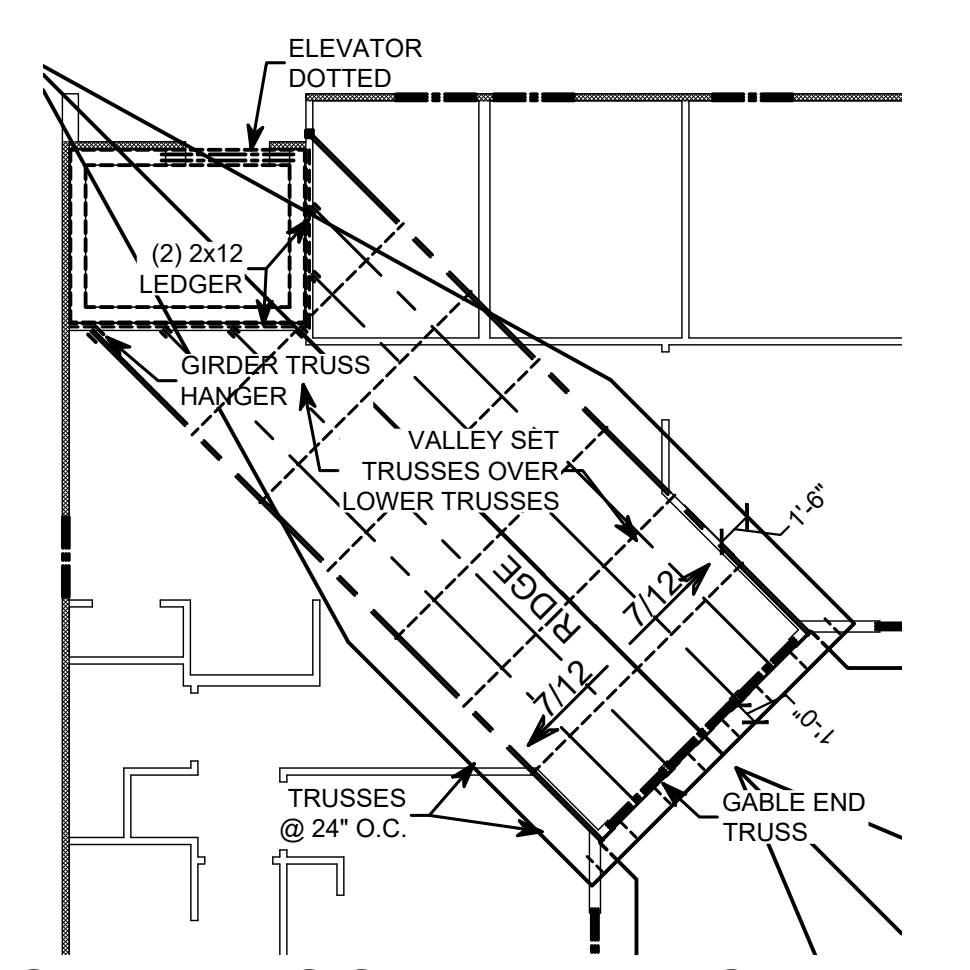
**DRAFTSTOPPING  
PLAN DETAIL**

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



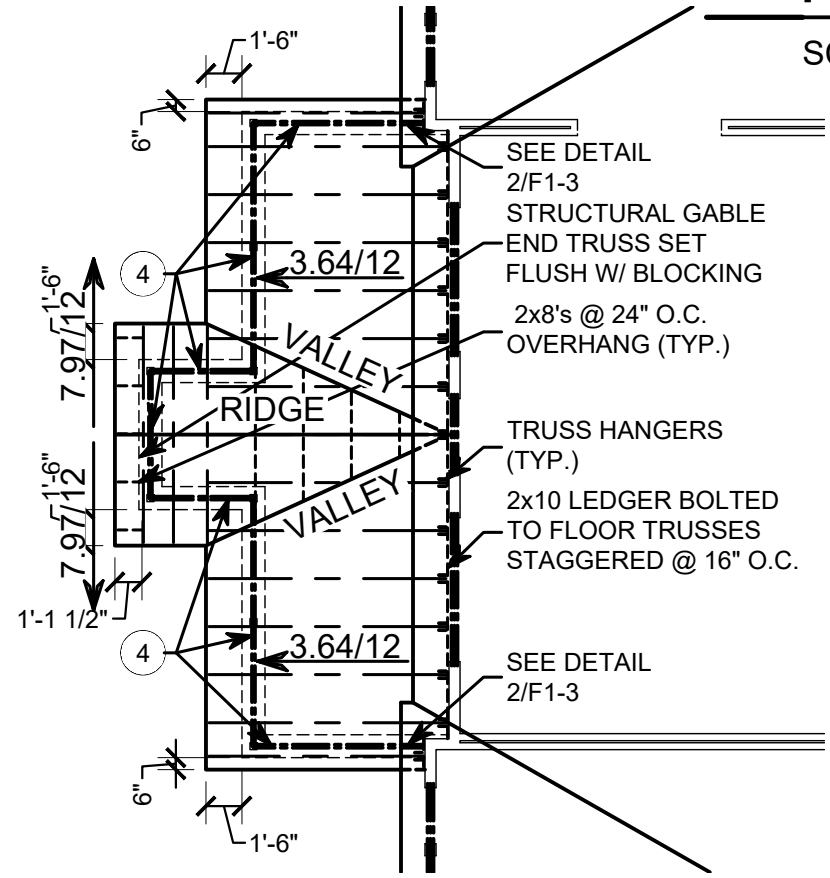
**FIRST FLOOR ROOF  
FRAMING PLAN**

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



**TOWER ROOF FRAMING PLAN**

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



**FIRST FLOOR ROOF  
FRAMING PLAN**

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

**ROOF FRAMING GENERAL NOTES:**

- ALL MAIN TRUSSES ARE TO BE HALF TRUSSES WITH EXTENDED TOP CHORDS TO MEET AT PEAK & BEAR ON BOTH WALLS WITH 2x6 BOTTOM CHORDS ADDED OVER CORRIDOR.
- CONVENTIONAL FRAMING OR VALLEY SET TRUSSES OVER MAIN TRUSSES TO FORM GABLES & CRICKETS @ 24" O.C. OMIT SHEATHING UNDER VALLEY SET TRUSSES
- ALL TRUSSES ARE TO BE 24" O.C. UNLESS NOTED OTHERWISE.
- PROVIDE METAL TRUSS HANGERS FOR ALL HANGING TRUSSES INCLUDING HIP JACKS.
- ONLY TRUSSES ARE SHOWN. WHERE TRUSSES ARE REQUIRED TO FRAME INTO OTHER TRUSSES, DESIGN OF THE CONNECTIONS ARE TO BE THE RESPONSIBILITY OF THE TRUSS SUPPLIER. THE TRUSS SUPPLIER IS TO MAKE NECESSARY PROVISIONS IN THE SUPPORTING TRUSS TO ACCEPT THE TYPE OF HANGER REQUIRED. THE DESIGN OF ALL WEB MEMBER PERMANENT BRACING REQUIRED FOR THE STRUCTURAL ADEQUACY OF THE TRUSSES, IS TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. ADDITIONAL PERMANENT BRACE SIZES AND CONNECTIONS, NOT PROVIDED BY THE SHEATHING SHOWN ON THE CONSTRUCTION DRAWINGS, ARE TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. THIS BRACING CAN INCLUDE, BUT IS NOT LIMITED TO, TOP CHORD BRACING FOR TRUSSES WITH PIGGY-BACKS, AND INTERMEDIATE BRACES FOR GABLE TRUSS WEB MEMBERS.

**LEGEND:**

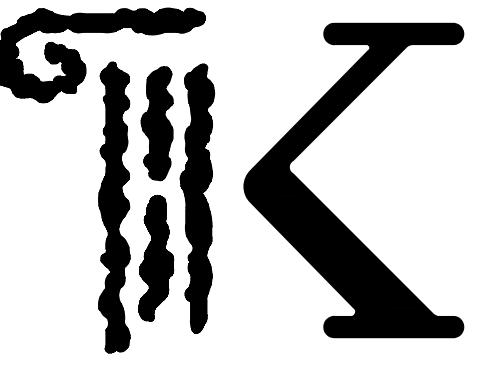
- POINT LOAD CONT. TO FOOTING
- ROOF LINE
- - - ROOF TRUSS
- - - VALLEY SET TRUSSES
- ===== HEADER
- ===== SHEAR WALL
- - - DRAFTSTOPPING
- ===== INTERIOR BEARING WALL
- ||||| METAL JOIST OR TRUSS HANGERS

**HEADER & BEAM SCHEDULE**

- EXTERIOR WALL - 3'-0" & 3'-4" OPENING - (3) - 2x8's W/ (2) - 1/2" PLYWOOD CONT. FLITCH PLATES (SOLID HEADER)
- EXTERIOR WALL - 6'-0" & 8'-0" OPENING - (3) - 1 3/4"x7 1/4" ML's W/ (1) - 1/4" PLYWOOD CONT. FLITCH PLATE (SOLID HEADER)
- CORRIDOR & INTERIOR OPENING - 3'-2" OPENING - (2) - 2x10's W/ (1) - 1/2" PLYWOOD CONT. FLITCH PLATE (SOLID HEADER)
- PORCH BEAMS - (2) - 1 3/4" x 5 1/2" ML's
- EXTERIOR WALL - 6'-0" & 8'-0" OPENING - NOT CARRYING LOAD (3) - 2x8's W/ (2) - 1/2" PLYWOOD CONT. FLITCH PLATES (SOLID HEADER)

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PROJECT:

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SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED SECOND  
FLOOR FRAMING  
PLAN**

DATE: 07/31/2023  
REVISED:



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**F2-1**

**HEADER & BEAM SCHEDULE**

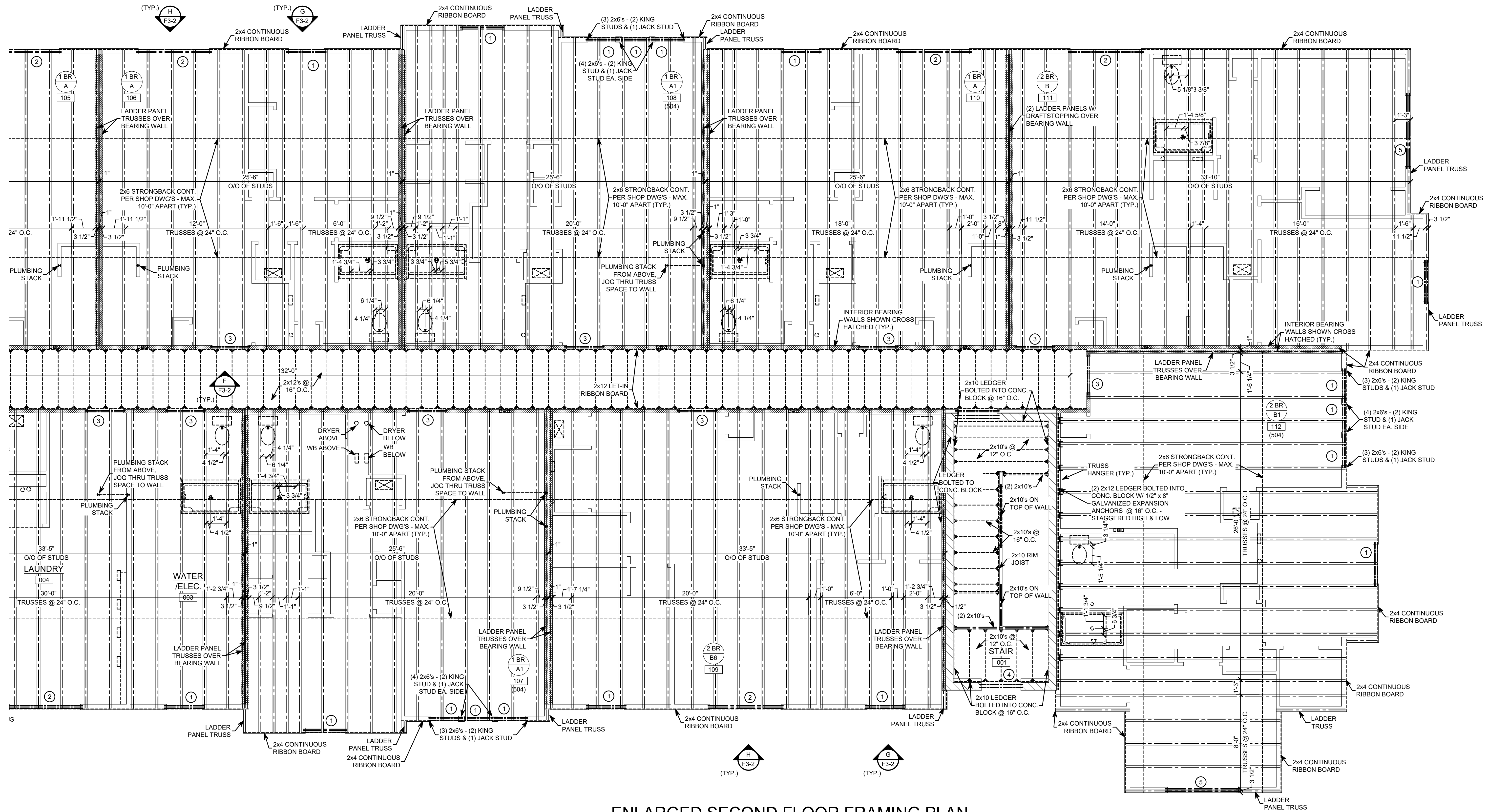
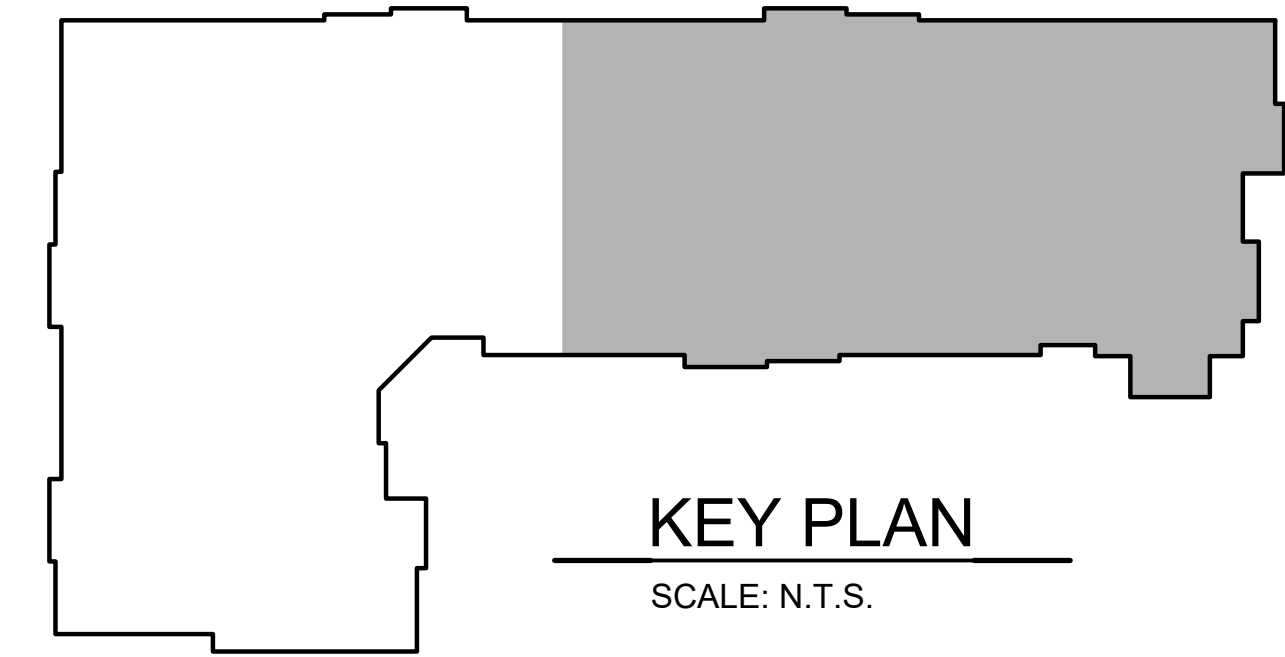
- 1 EXTERIOR WALL - 3'-0" & 3'-4" OPENING - (3) - 2x8's W/ (2) - 1/2" PLYWOOD CONT. FLITCH PLATES (SOLID HEADER)
- 2 EXTERIOR WALL - 6'-0" & 8'-0" OPENING - (3) - 1 3/4"x7 1/4" ML'S W/ (1) - 1/4" PLYWOOD CONT. FLITCH PLATE (SOLID HEADER)
- 3 CORRIDOR & INTERIOR OPENING - 3'-2" OPENING - (2) - 2x10's W/ (1) - 1/2" PLYWOOD CONT. FLITCH PLATE (SOLID HEADER)
- 4 PORCH BEAMS - (2) - 1 3/4" x 5 1/2" ML'S
- 5 EXTERIOR WALL - 6'-0" & 8'-0" OPENING - NOT CARRYING LOAD (3) - 2x8's W/ (2) - 1/2" PLYWOOD CONT. FLITCH PLATES (SOLID HEADER)

**FLOOR FRAMING GENERAL NOTES:**

1. ALL FLOOR TRUSSES ARE TO BE 24" O.C. UNLESS NOTED OTHERWISE.
2. PROVIDE METAL FLOOR TRUSS HANGERS FOR ALL HANGING FLOOR TRUSSES.
3. WHERE FLOOR TRUSSES ARE REQUIRED TO FRAME INTO OTHER FLOOR TRUSSES, DESIGN OF THE CONNECTIONS ARE TO BE THE RESPONSIBILITY OF THE TRUSS SUPPLIER. THE TRUSS SUPPLIER IS TO MAKE NECESSARY PROVISIONS IN THE SUPPORTING TRUSS TO ACCEPT THE TYPE OF HANGER REQUIRED. THE DESIGN OF ALL WEB MEMBER PERMANENT BRACING REQUIRED FOR THE STRUCTURAL ADEQUACY OF THE TRUSSES IS TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. ADDITIONAL PERMANENT BRACE SIZES AND CONNECTIONS, NOT PROVIDED BY THE SHEATHING SHOWN ON THE CONSTRUCTION DRAWINGS, ARE TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. THIS BRACING CAN INCLUDE, BUT IS NOT LIMITED TO, STRONG BACK BRACINGS. PROVIDE ANY AND ALL DETAILS WITH FLOOR TRUSS SUBMITTALS.

**LEGEND:**

- POINT LOAD CONT. TO FOOTING
- FLOOR TRUSS
- CONVENTIONAL FRAMING
- HEADER
- SHEAR WALL
- DRAFTSTOPPING
- INTERIOR BEARING WALL
- METAL JOIST OR TRUSS HANGERS



**ENLARGED SECOND FLOOR FRAMING PLAN**

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

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**FLOOR FRAMING GENERAL NOTES:**

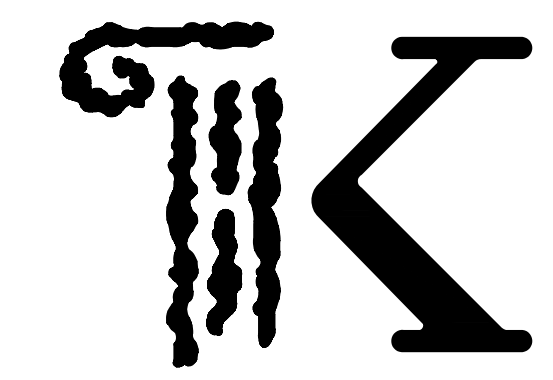
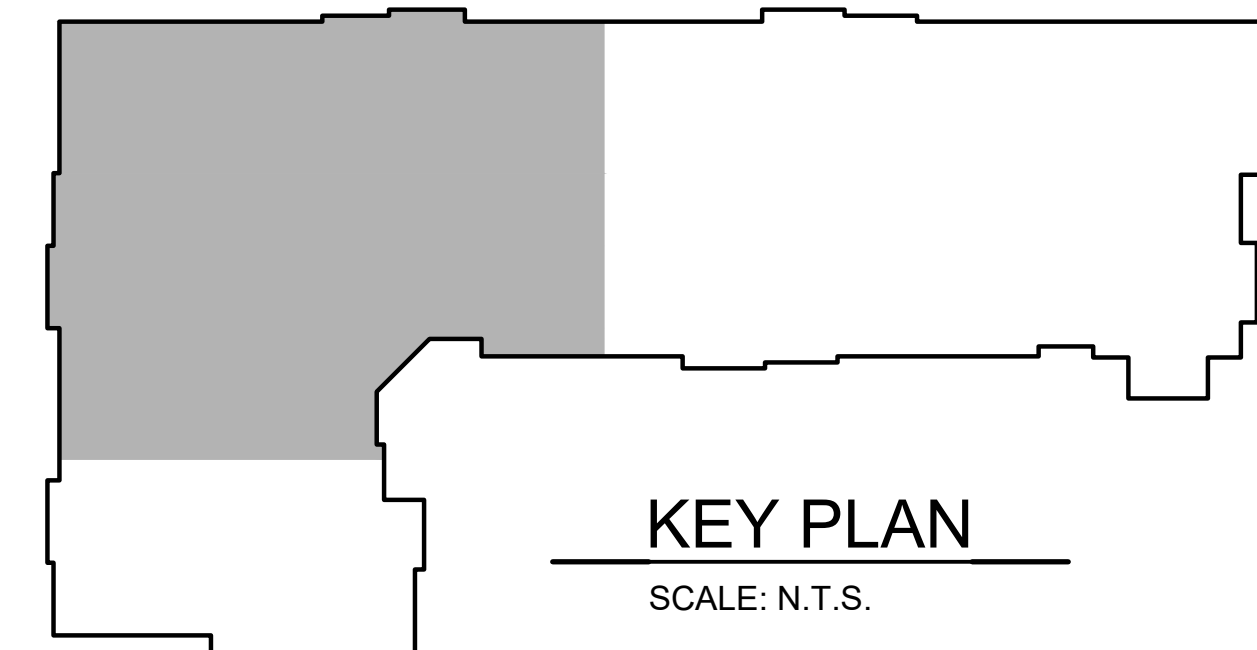
- ALL FLOOR TRUSSES ARE TO BE 24" O.C. UNLESS NOTED OTHERWISE.
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**HEADER & BEAM SCHEDULE**

- ① EXTERIOR WALL - 3'-0" & 3'-4" OPENING - (3) - 2x8's W/ (2) - 1/2" PLYWOOD CONT. FLITCH PLATES (SOLID HEADER)
- ② EXTERIOR WALL - 6'-0" & 8'-0" OPENING - (3) - 1 3/4"x7 1/4" ML's W/ (1) - 1/4" PLYWOOD CONT. FLITCH PLATE (SOLID HEADER)
- ③ CORRIDOR & INTERIOR OPENING - 3'-2" OPENING - (2) - 2x10's W/ (1) - 1/2" PLYWOOD CONT. FLITCH PLATE (SOLID HEADER)
- ④ PORCH BEAMS - (2) - 1 3/4" x 5 1/2" ML's
- ⑤ EXTERIOR WALL - 6'-0" & 8'-0" OPENING - NOT CARRYING LOAD (3) - 2x8's W/ (2) - 1/2" PLYWOOD CONT. FLITCH PLATES (SOLID HEADER)

**LEGEND:**

- POINT LOAD CONT. TO FOOTING
- FLOOR TRUSS
- CONVENTIONAL FRAMING
- === HEADER
- SHEAR WALL
- DRAFTSTOPPING
- INTERIOR BEARING WALL
- METAL JOIST OR TRUSS HANGERS



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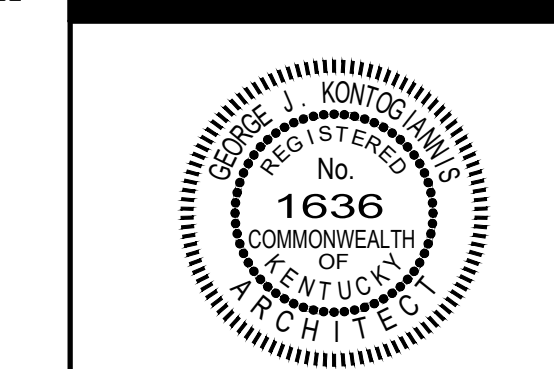
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED SECOND  
FLOOR FRAMING  
PLAN**

DATE: 07/31/2023  
REVISED:

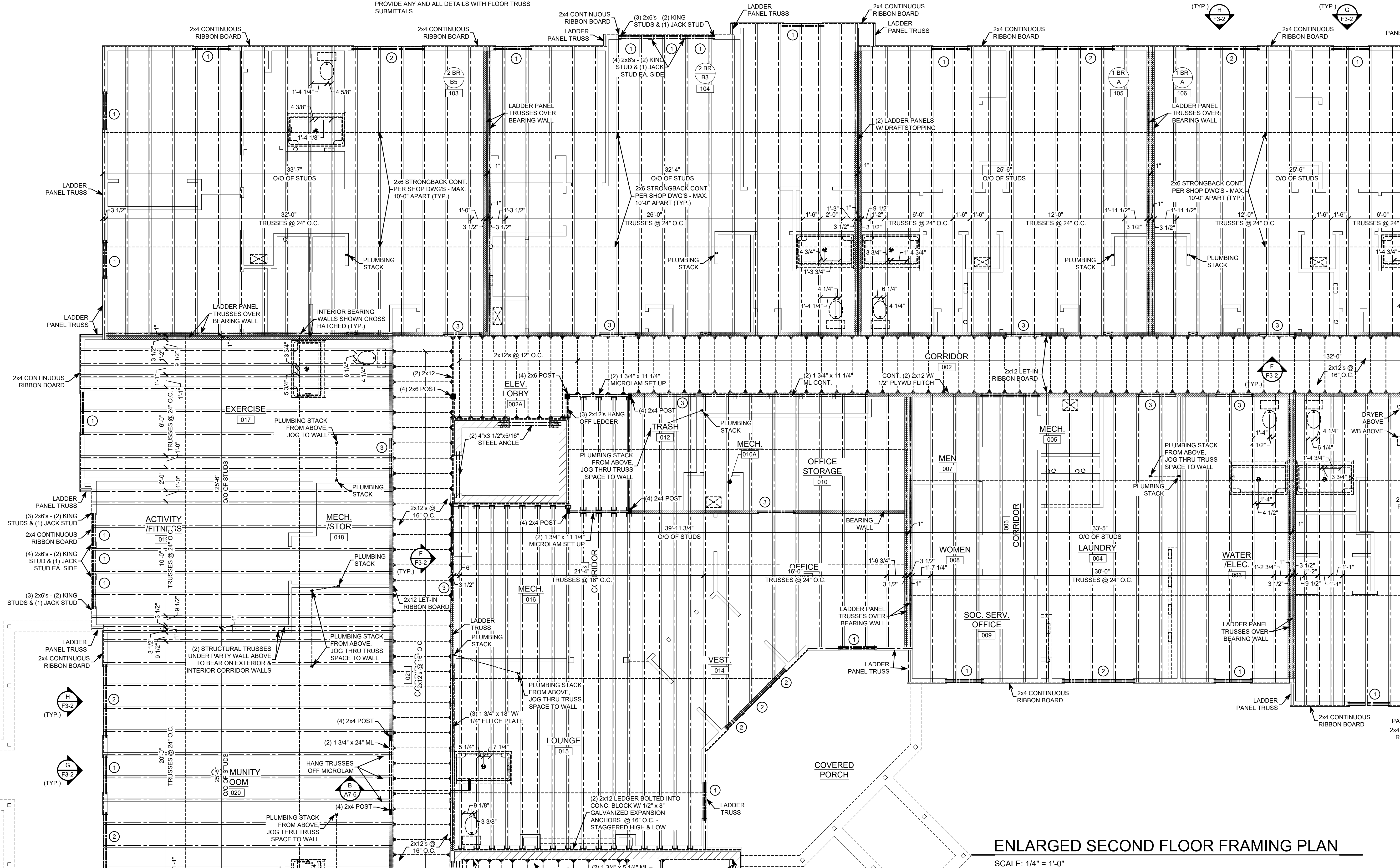


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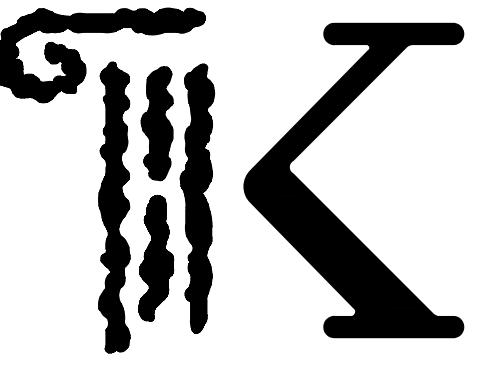
**F2-2**



**ENLARGED SECOND FLOOR FRAMING PLAN**  
SCALE: 1/4" = 1'-0"

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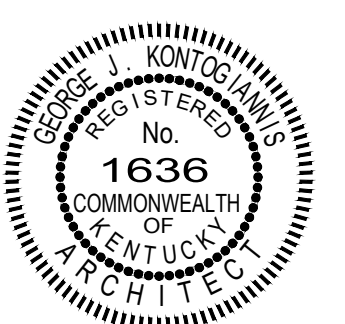
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED SECOND & THIRD FLOOR  
FRAMING PLANS**

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**F2-3**

**FLOOR FRAMING GENERAL NOTES:**

- ALL FLOOR TRUSSES ARE TO BE 24" O.C. UNLESS NOTED OTHERWISE.
- PROVIDE METAL FLOOR TRUSS HANGERS FOR ALL HANGING FLOOR TRUSSES.
- WHERE FLOOR TRUSSES ARE REQUIRED TO FRAME INTO OTHER FLOOR TRUSSES, DESIGN OF THE CONNECTIONS ARE TO BE THE RESPONSIBILITY OF THE TRUSS SUPPLIER. THE TRUSS SUPPLIER IS TO MAKE NECESSARY PROVISIONS IN THE SUPPORTING TRUSS TO ACCEPT THE TYPE OF HANGER REQUIRED. THE DESIGN OF ALL WEB MEMBER PERMANENT BRACING REQUIRED FOR THE STRUCTURAL ADEQUACY OF THE TRUSSES, IS TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. ADDITIONAL PERMANENT BRACE SIZES AND CONNECTIONS, NOT PROVIDED BY THE SHEATHING SHOWN ON THE CONSTRUCTION DRAWINGS, ARE TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER. THIS BRACING CAN INCLUDE, BUT IS NOT LIMITED TO, STRONG BACK BRACING. PROVIDE ANY AND ALL DETAILS WITH FLOOR TRUSS SUBMITTALS.

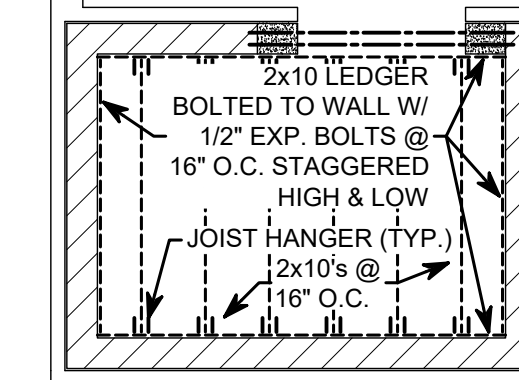
**HEADER & BEAM SCHEDULE**

- EXTERIOR WALL - 3'-0" & 3'-4" OPENING - (3) - 2x8's W/ (2) - 1/2" PLYWOOD CONT. FLITCH PLATES (SOLID HEADER)
- EXTERIOR WALL - 6'-0" & 8'-0" OPENING - (3) - 1-3/4"x7-1/4" ML's W/ (1) - 1/4" PLYWOOD CONT. FLITCH PLATE (SOLID HEADER)
- CORRIDOR & INTERIOR OPENING - 3'-2" OPENING - (2) - 2x10's W/ (1) - 1/2" PLYWOOD CONT. FLITCH PLATE (SOLID HEADER)
- PORCH BEAMS - (2) - 1-3/4" x 5-1/2" ML's
- EXTERIOR WALL - 6'-0" & 8'-0" OPENING - NOT CARRYING LOAD (3) - 2x8's W/ (2) - 1/2" PLYWOOD CONT. FLITCH PLATES (SOLID HEADER)

**LEGEND:**

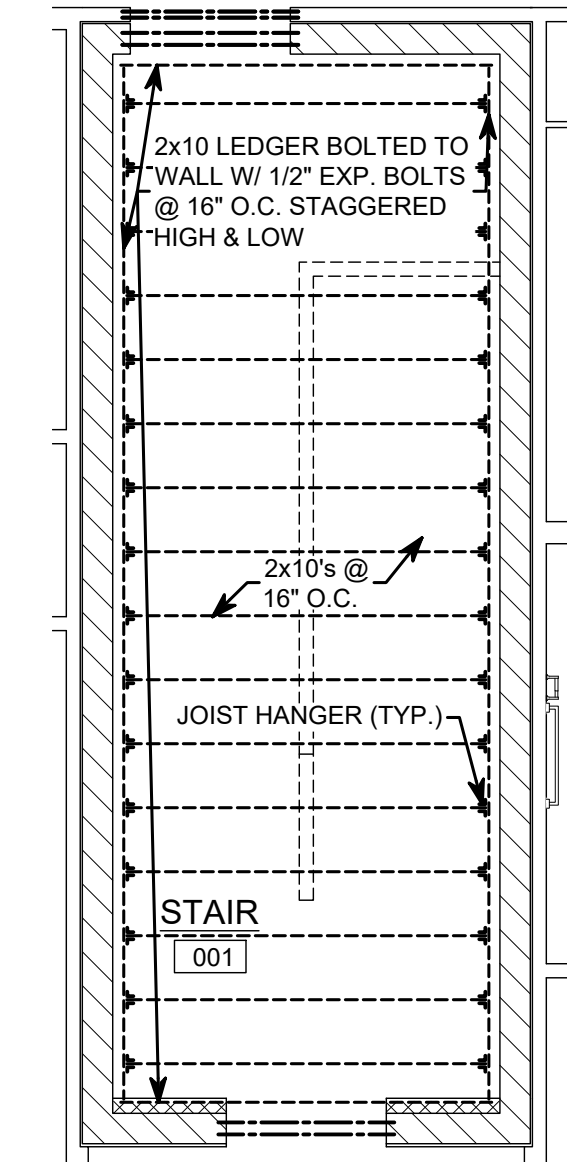
- POINT LOAD CONT. TO FOOTING
- FLOOR TRUSS
- CONVENTIONAL FRAMING
- HEADER
- SHEAR WALL
- DRAFTSTOPPING
- INTERIOR BEARING WALL
- METAL JOIST OR TRUSS HANGERS

SEE 1/4" PLANS ON SHEETS F2-1, F2-2 AND F2-3 FOR HEADER SIZES AT FRAMING AT TOPS OF ELEVATOR AND STAIRS



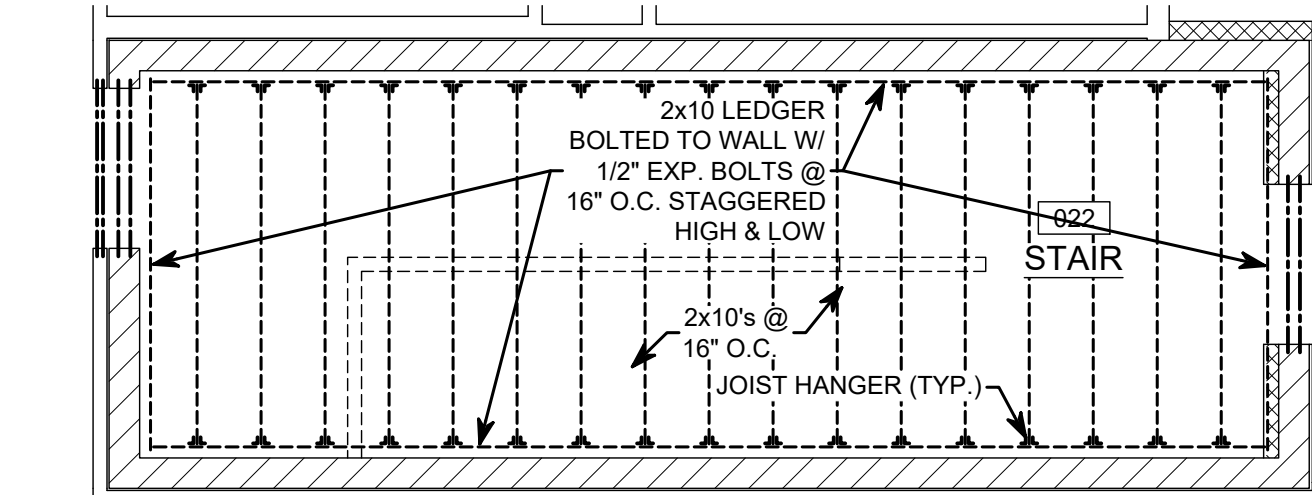
**FRAMING AT TOP OF ELEVATOR**

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



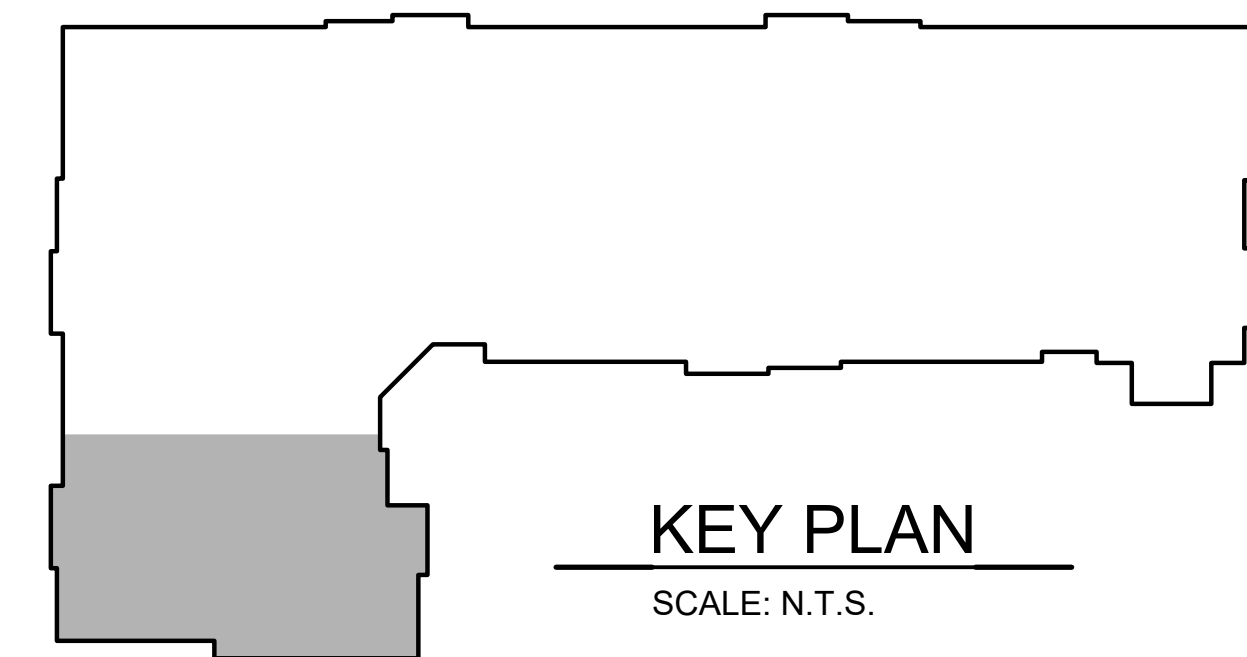
**FRAMING AT TOP OF STAIR 1**

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



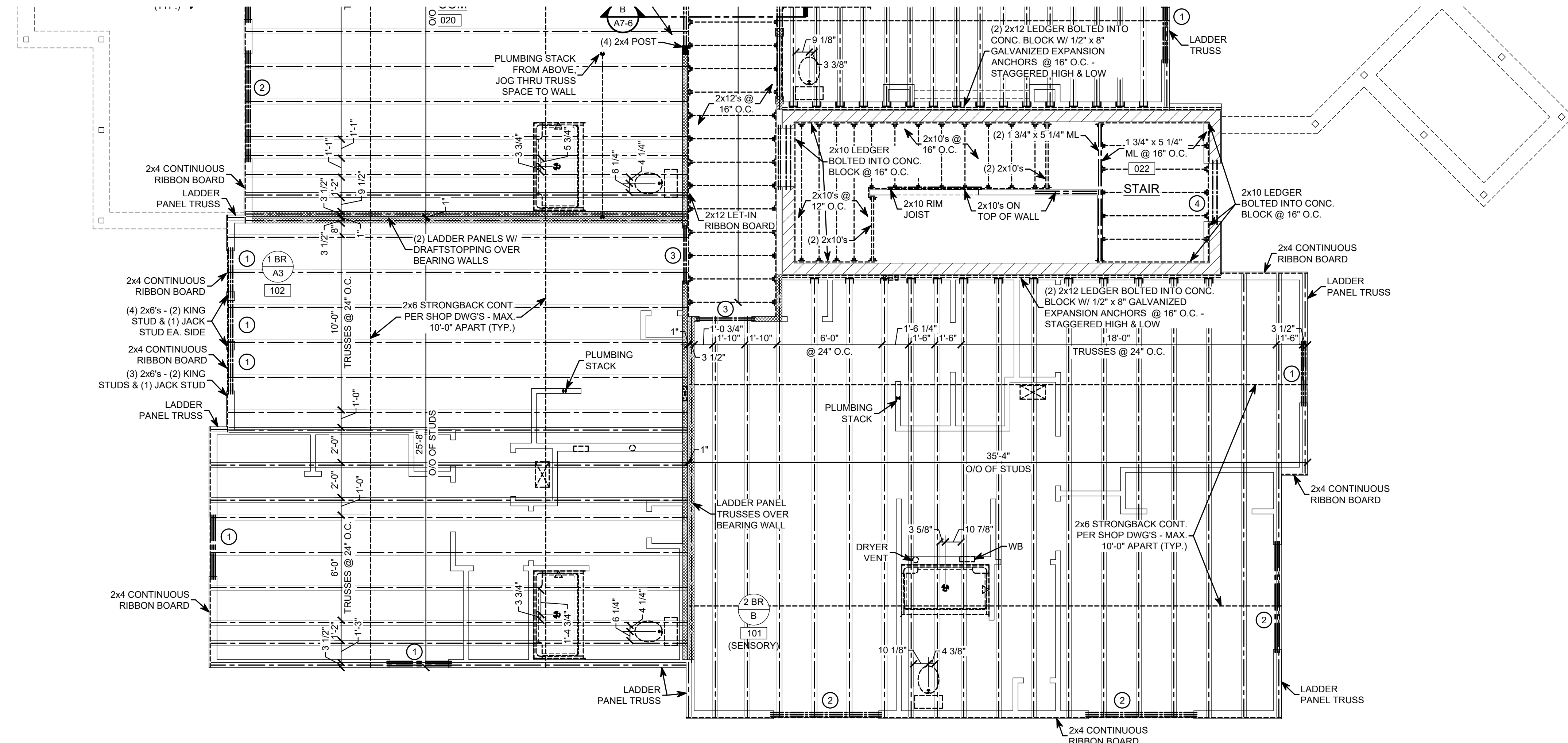
**FRAMING AT TOP OF STAIR 2**

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



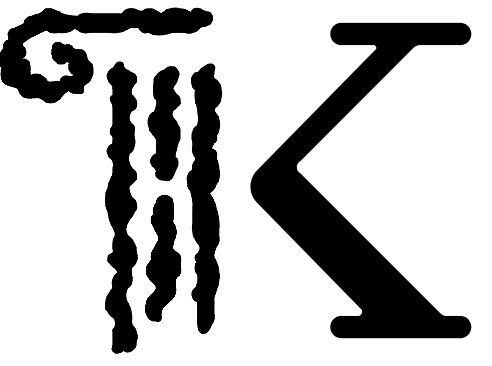
**KEY PLAN**

SCALE: N.T.S.



**ENLARGED SECOND FLOOR FRAMING PLAN**

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



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PROJECT:

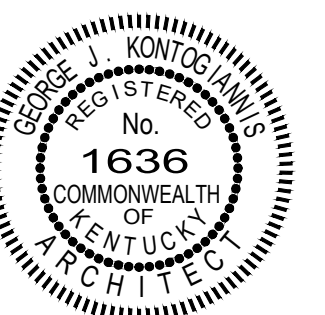
**THE  
SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:

**FLOOR PLAN (HOLD  
DOWNS, SHEAR  
WALLS & STUD  
SPACING)**

DATE: 07/31/2023  
REVISED:

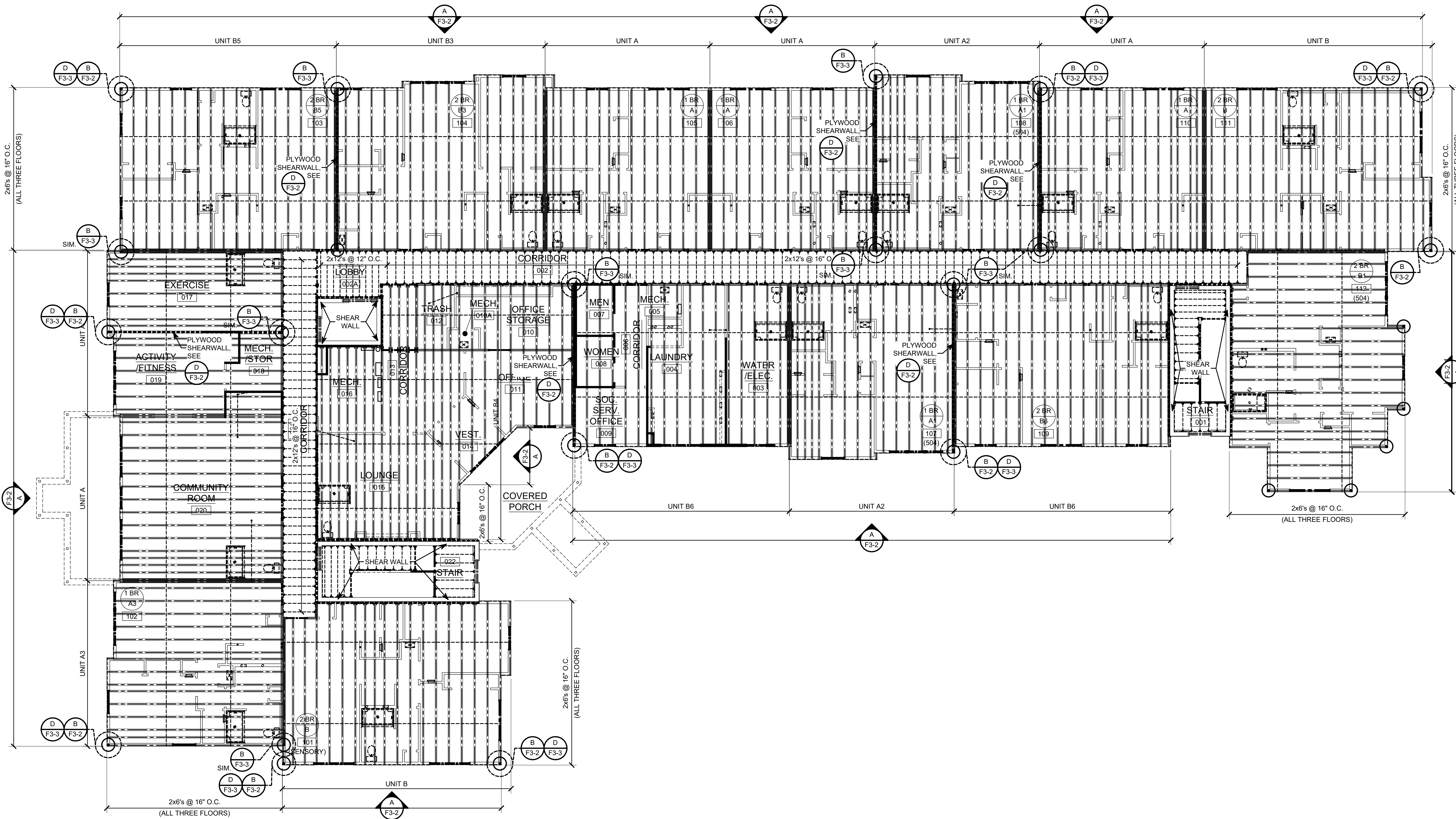


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**F3-1**

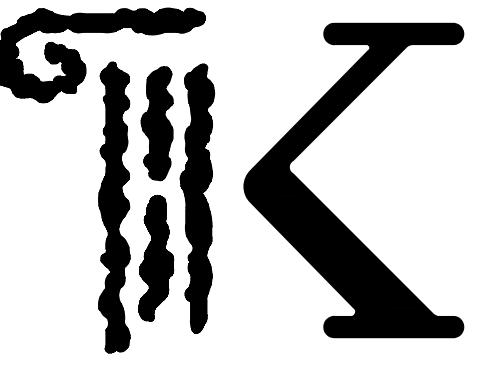


**FLOOR PLAN (HOLD DOWNS, SHEAR WALLS & STUD SPACING)**

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

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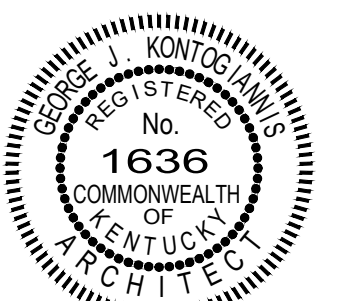
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**FRAMING DETAILS**

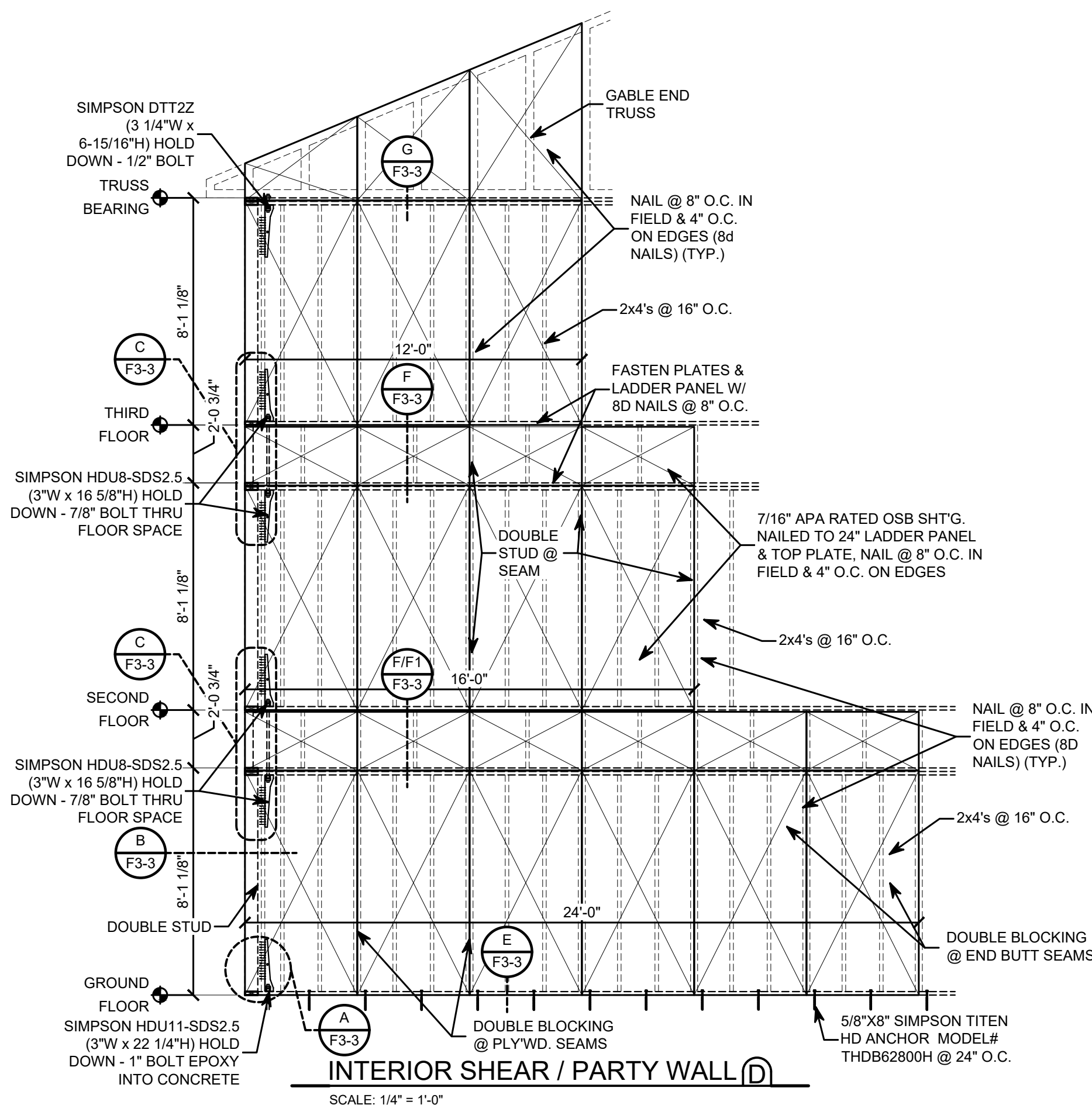
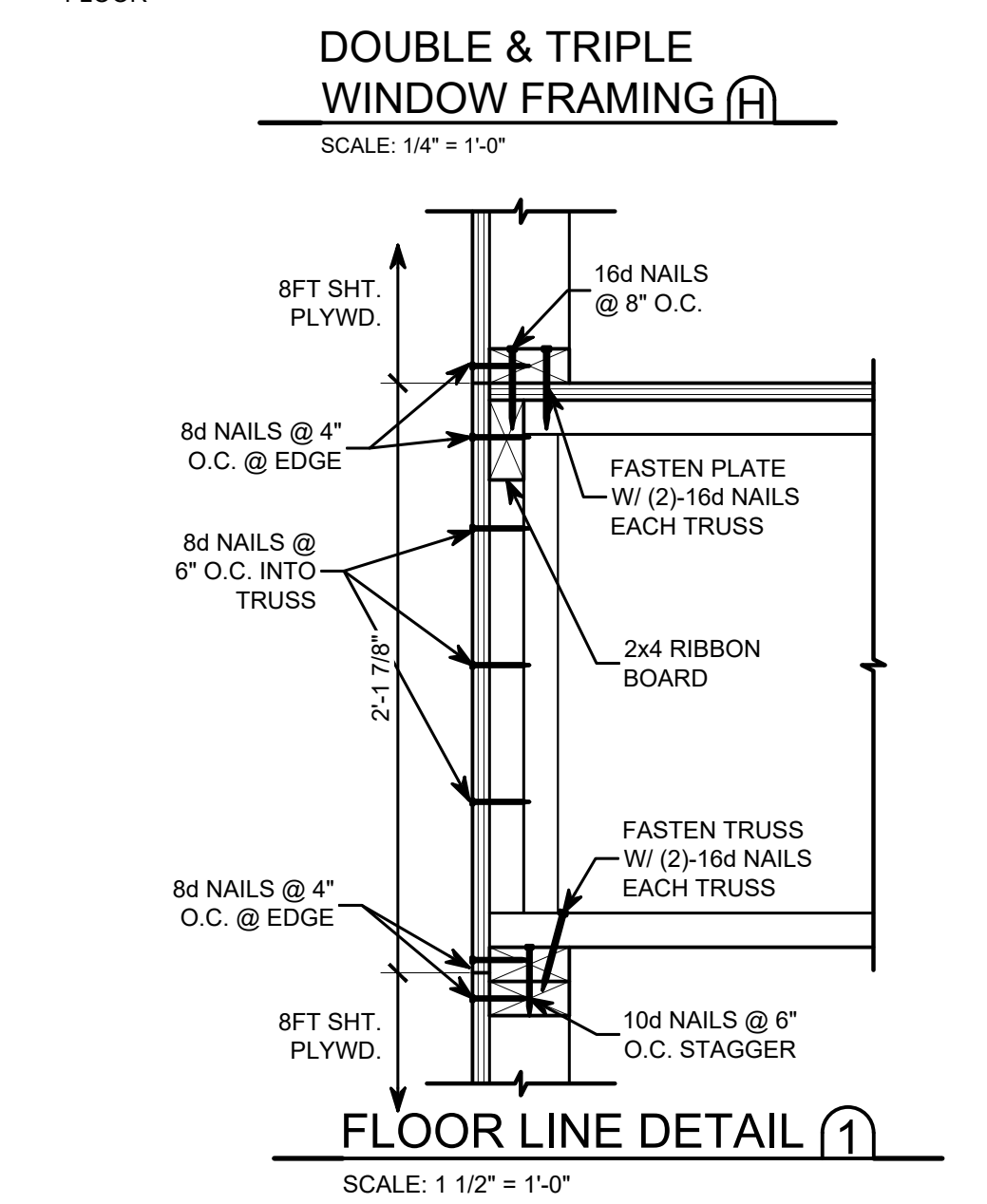
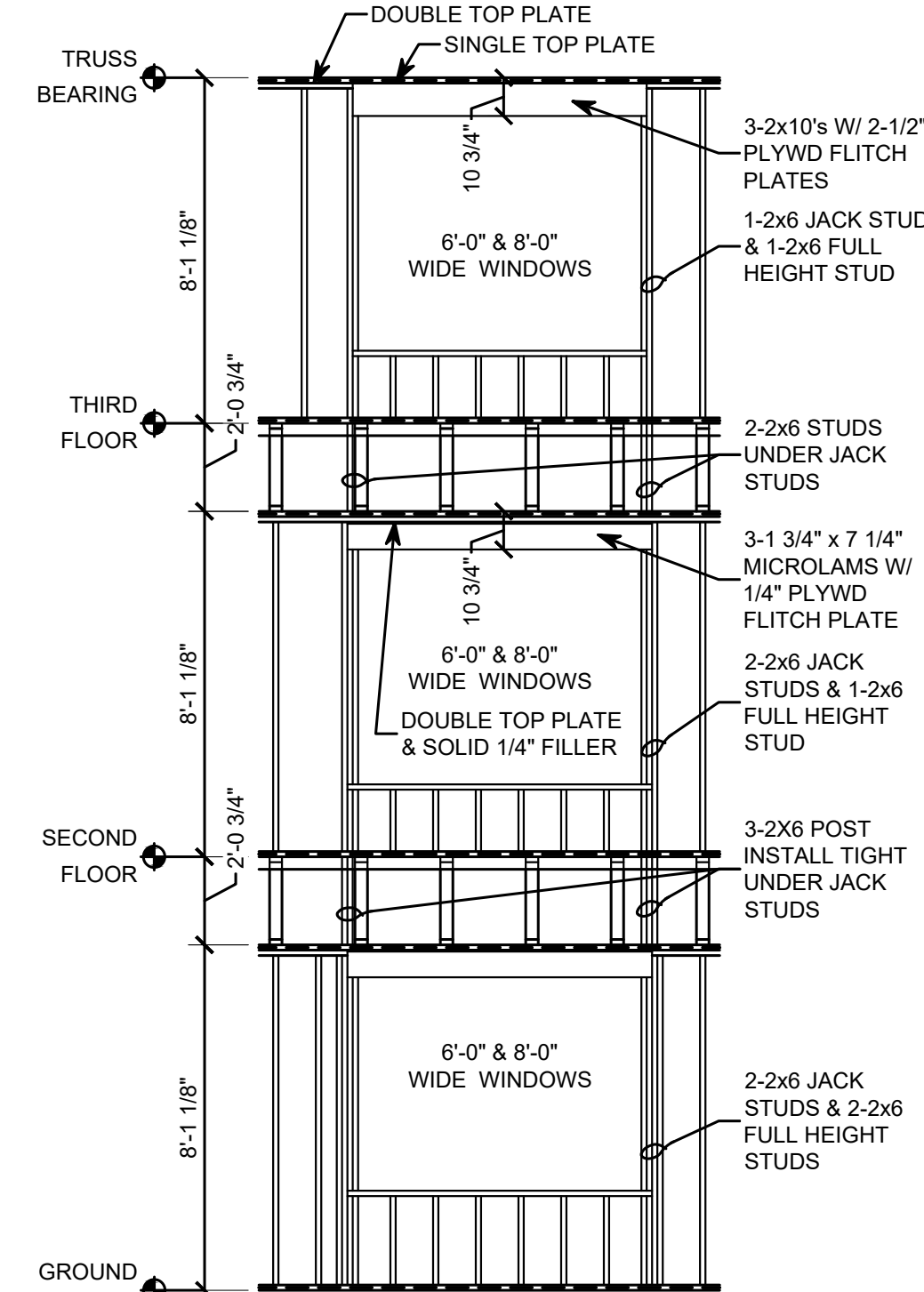
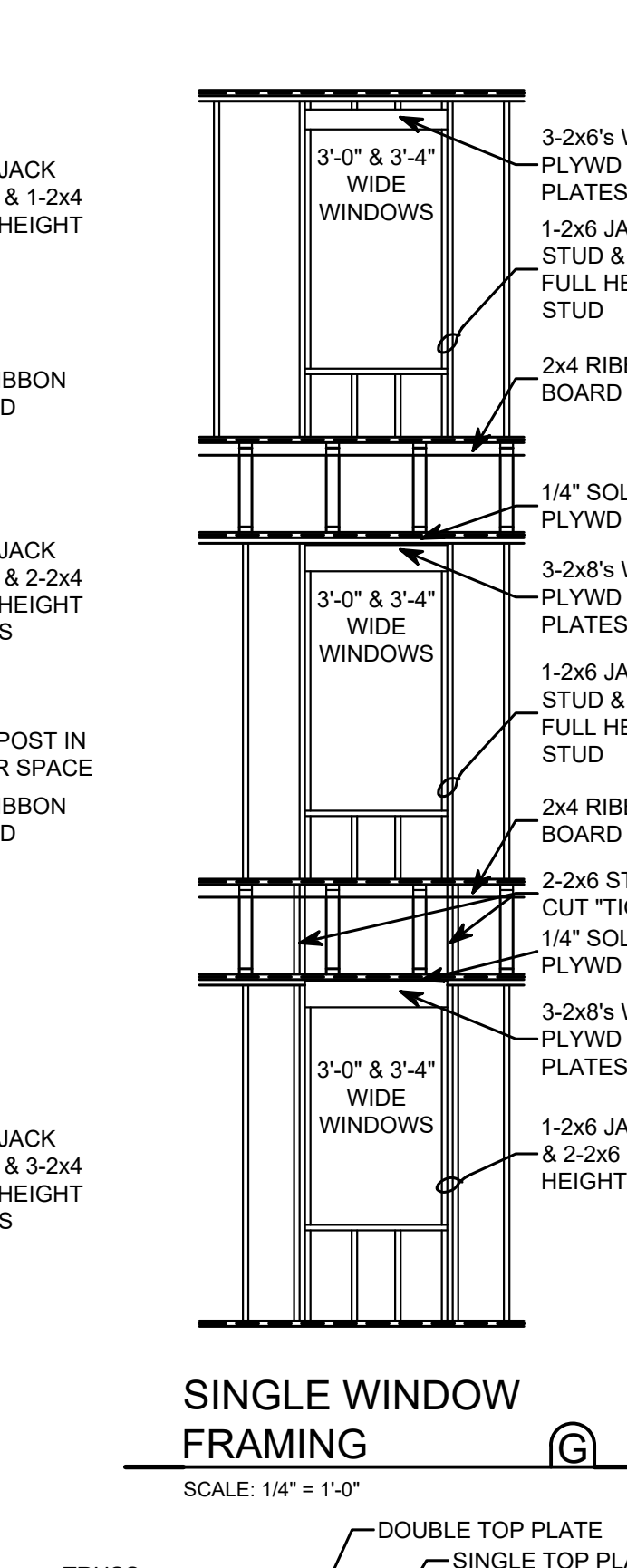
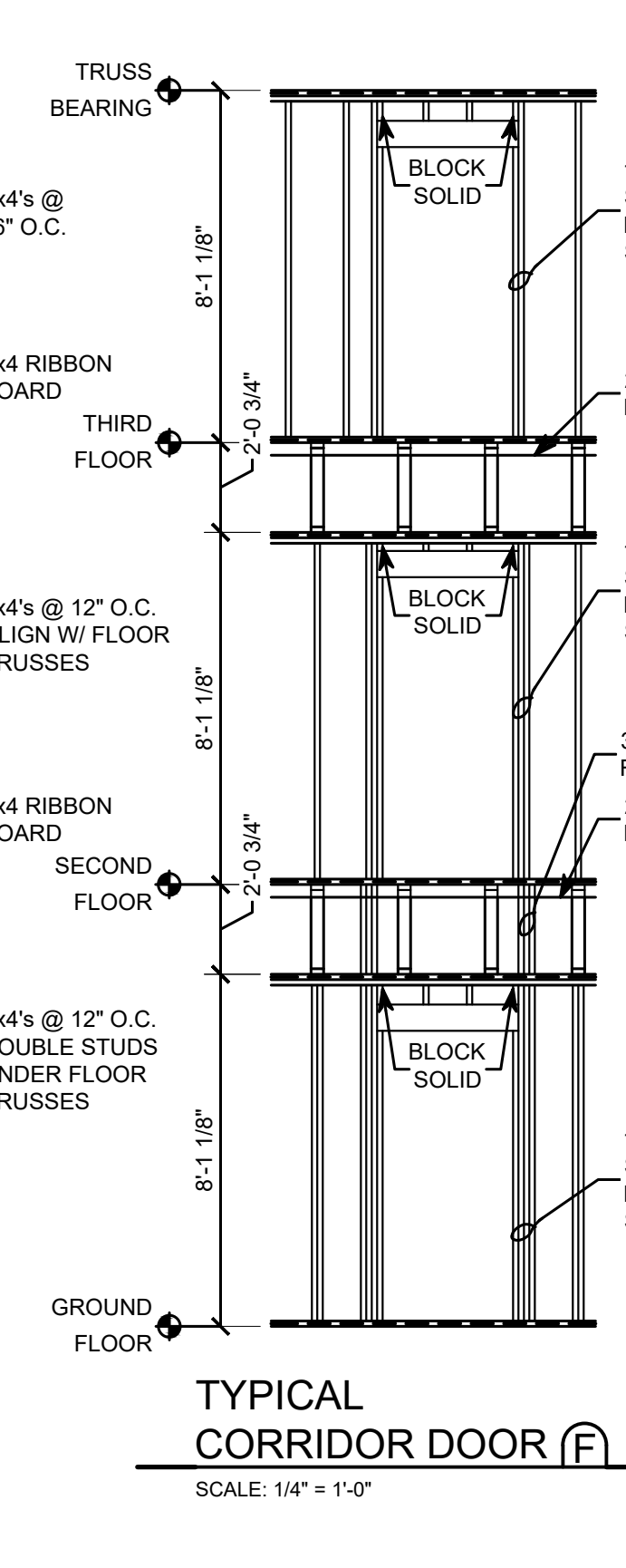
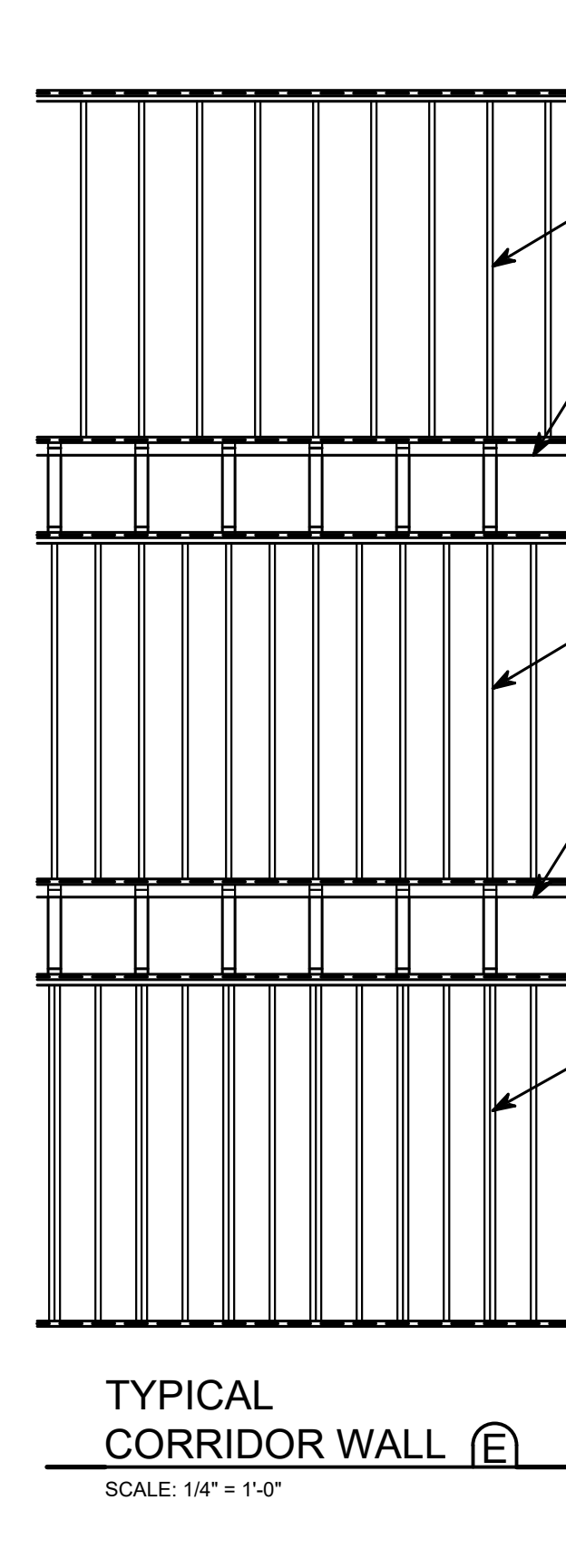
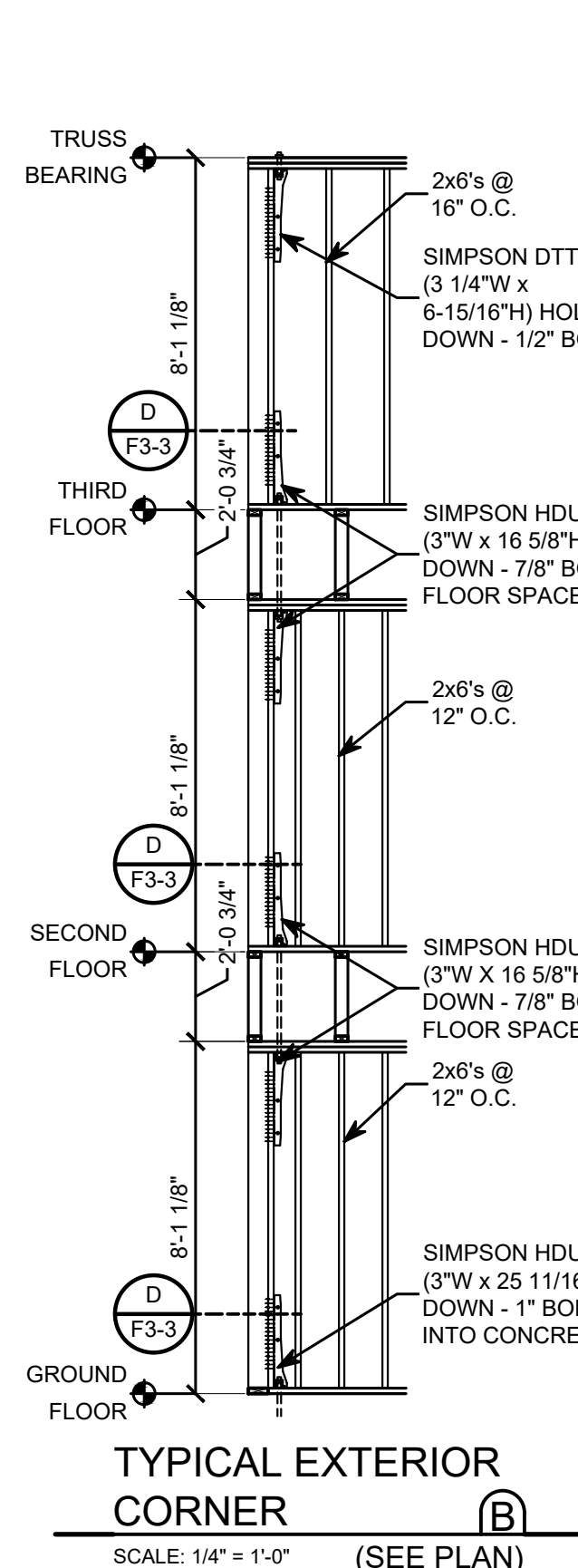
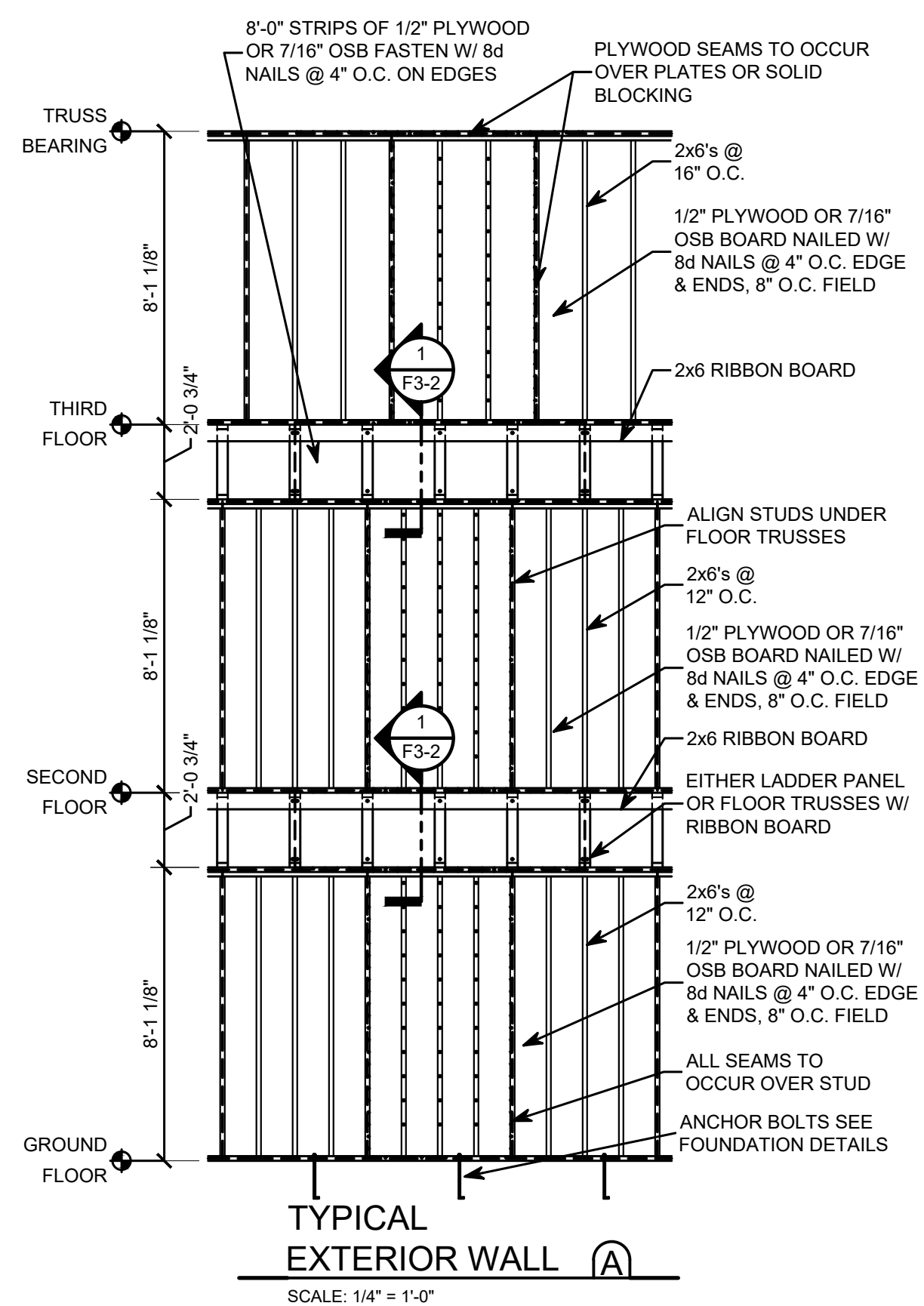
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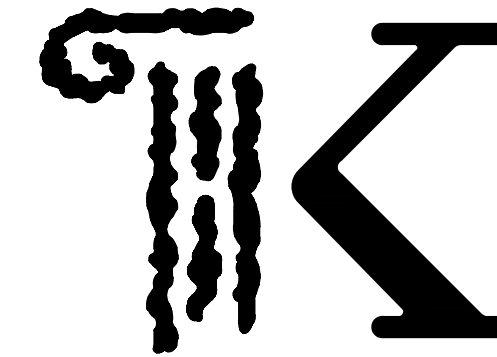
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**F3-2**



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400 SOUTH FIFTH ST SUITE 400 COLUMBUS, OHIO 43215-5492

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PROJECT:

THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")

1125 EDWARDS RD. ELSMERE, KY 41018

DRAWING TITLE: STRUCTURAL NOTES & DETAILS

DATE: 07/31/2023 REVISED:



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F3-3

GENERAL FRAMING NOTES

- WOOD: SEE ALL FRAMING DETAILS, TRUSS DIAGRAMS AND WALL SECTIONS. CONCENTRATED BEAM AND LINTEL LOADS SHALL HAVE SOLID 2X STUDS UNDER COMPLETE BEAR SURFACE AND SHALL CONTINUE DOWN THRU WALL TO FOUNDATION.

- EXTERIOR & INTERIOR BEARING WALL STUD SPACING SHALL BE: a. EXTERIOR BEARING WALLS i. FIRST FLOOR: 2X6 STUDS @ 16" O.C. - ALIGN UNDER FLOOR TRUSSES.

- STEEL: STEEL ANGLE LINTELS LISTED SHALL BE PROVIDED FOR EACH 4" OF MASONRY WALL THICKNESS A SHALL HAVE A MINIMUM OF 6" OF BEARING AT EACH END.

Table with 2 columns: OPENING, STEEL SIZE. Rows include 1'-6" OR LESS, 1'-7" - 3'-6", 5'-1" - 6'-0", 6'-1" - 7'-0", 3'-7" - 5'-0".

GENERAL STRUCTURAL NOTES

- GOVERNING CODE: KENTUCKY BUILDING CODE BUILDING RISK CATEGORY: II DESIGN LOADS:

Table with 4 columns: COMPONENTS, LIVE LOAD, DEAD LOAD, TOTAL LOAD. Rows include APARTMENTS, PUBLIC AREA & CORRIDORS, ROOFS.

- SNOW LOADS: GROUND SNOW LOAD (PG), EXPOSURE FACTOR (CE), IMPORTANCE FACTOR (I), FLAT ROOF SNOW LOAD (PF), THERMAL FACTOR (CT), WIND LOADS: BASIC WIND SPEED (VULT), IMPORTANCE FACTORY (IW), EXPOSURE CATEGORY, INTERNAL PRESSURE COEFFICIENT (GCP1), COMPONENTS & CLADDING DESIGN WIND PRESSURE

COMPONENTS AND CLADDING ULTIMATE WIND PRESSURES

WALL ELEMENTS

Table with 4 columns: TRIBUTARY AREA, POSITIVE PRESSURE (PSF), NEGATIVE PRESSURE (PSF), PRESSURE WITHIN 10 FT OF CORNERS (PSF). Rows include 10 SQ.FT., 25 SQ.FT., 50 SQ.FT., 100 SQ.FT., 200 SQ.FT., >= 500 SQ.FT.

ROOF ELEMENTS

Table with 4 columns: TRIBUTARY AREA, UPLIFT PRESSURE (PSF), UPLIFT WITHIN 10 FT OF EDGES (PSF), UPLIFT WITHIN 10 FT OF CORNERS (PSF). Rows include 10 SQ.FT., 25 SQ.FT., 50 SQ.FT., >= 100 SQ.FT.

PARAPETS OR SCREEN WALL ELEMENTS

Table with 4 columns: TRIBUTARY AREA, EDGE PRESSURE (PSF), PRESSURE WITHIN 10 FT OF CORNERS (PSF). Rows include 10 SQ.FT., 25 SQ.FT., 50 SQ.FT., >= 100 SQ.FT.

C. & C. PRESSURE SCHEDULE NOTES: LINEAR INTERPOLATION IS ACCEPTABLE FOR TRIBUTARY AREAS BETWEEN THOSE SHOWN. LOADS GIVEN ARE ULTIMATE LOADS OBTAINED FROM ASCE 7-10. MULTIPLY VALUES BY 0.6 TO OBTAIN SERVICE-LEVEL LOADS.

SEISMIC DESIGN CRITERIA:

Table with 2 columns: RISK CATEGORY, SEISMIC IMPORTANCE FACTOR (IE), SITE CLASS, SS, S1, SDS, SD1, SEISMIC DESIGN CATEGORY, SEISMIC FORCE RESISTING SYSTEM, DESIGN BASE SHEAR, CS, R, ANALYSIS PROCEDURE, FOUNDATION DESIGN CRITERIA: GEOTECHNICAL ENGINEER, REFERENCE REPORT P.N., REPORT DATE, ALLOWABLE BEARING PRESSURE, FOUNDATION TYPE, STRUCTURAL LUMBER

- MATERIALS: A. STRUCTURAL LUMBER: ALL DESIGN VALUES PER 2015 NFPA NATIONAL DESIGN SPECIFICATION. A SUBSTITUTIONS ARE TO MEET MINIMUM DESIGN VALUES OF ABOVE MEMBERS. UNLESS NOTED OTHERWISE FRAMING MATERIALS SHALL BE: 1) BEAMS, HEADERS, JOISTS, AND RAFTERS - SPRUCE-PINE-FIR NO. 1/NO 2 AS GRADED BY NLGA

- DECKING AND SHEATHING (OSB OR PLYWOOD): FLOORS: 3/4" NOMINAL APA RATED STURD-I-FLOOR, 48/24, EXP. 1, TONGUE AND GROOVE ROOFS: 19/32 (5/8" NOMINAL) APA RATED SHEATHING, 32/16, EXP. 1 WALL SHEATHING: 7/16" APA RATED SHEATHING, WALL-24, EXPOSURE 1

SPECIFICATIONS:

- NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. U.S. PRODUCT STANDARD PS-1 FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD. APA SP-2-18, PERFORMANCE STANDARD FOR WOOD STRUCTURAL PLYWOOD. APA DESIGN/CONSTRUCTION GUIDE - RESIDENTIAL AND COMMERCIAL.

CONNECTIONS:

- FOR WOOD MEMBERS SHALL BE MINIMALLY FASTENED AS PRESCRIBED IN TABLE 2304.10.1 OF THE REFERENCED BUILDING CODE UNLESS DETAILED OTHERWISE. ALL NAILS ARE TO BE COMMON WIRE NAILS, UNLESS SPECIFICALLY NOTED OTHERWISE. FOUNDATION PLATES ON CONCRETE OR MASONRY WALLS SHALL BE PRESSURE TREATED LUMBER, SYP #2 GRADE MINIMUM. SILLS SHALL BE ANCHORED TO CONCRETE OR MASONRY WITH 1/2" DIAMETER X 12" LONG ANCHOR RODS SPACED AT 48" O.C. MAXIMUM, UNLESS NOTED OTHERWISE.

MISCELLANEOUS:

- PROVIDE ONE LINE OF SOLID BLOCKING OR CROSS BRIDGING AT 8'-0" O/C MAX. FOR ALL FLOOR JOISTS. USE SOLID BLOCKING AT ALL JOIST AND RAFTER BEARINGS. PROVIDE SOLID BLOCKING AT MID-HEIGHT OF WALLS FOR EACH OF THE FOLLOWING CONDITIONS: EXTERIOR STUD WALLS, INTERIOR BEARING PARTITIONS, AND ALL WALL FRAMING WHICH IS NOT SHEATHED ON EACH SIDE WITH GYPSUM OR WOOD SHEATHING.

ENGINEERED WOOD TRUSSES

- MATERIALS: A. LUMBER: AS REQUIRED BY THE TRUSS MANUFACTURER. MINIMUM GRADE TO BE SYP NO. 2 KD 15 PERCENT MC, EXCEPT FOR WEBS, WHICH MAY BE MINIMUM GRADE OF SYP NO. 3, KD 15 PERCENT MC. CONNECTIONS: ALL INTERNAL TRUSS CONNECTIONS ARE TO BE DESIGNED BY THE TRUSS MANUFACTURER. CONNECTORS ARE TO BE DEFORMED PLATE TYPE, OF MINIMUM 20 GAUGE GALVANIZED STEEL SHEET. ALL JOINTS ARE TO BE DESIGNED USING METHODS AS SET FORTH IN TPI STANDARDS.

DESIGN:

- ALL TRUSSES ARE TO BE DESIGNED BY THE TRUSS MANUFACTURER FOR THE FOLLOWING LOADS: ROOFS: - TOP CHORD DEAD LOAD: 15 PSF - TOP CHORD LIVE LOAD: 20 PSF - BOTTOM CHORD DEAD LOAD: 10 PSF - BOTTOM CHORD LIVE LOAD: 0 PSF - LIVE LOAD DEFLECTION LIMIT: L/360

FLOORS:

- TOP CHORD DEAD LOAD: 15 PSF + PARTITION LOADING - TOP CHORD LIVE LOAD: 40 PSF - BOTTOM CHORD DEAD LOAD: 10 PSF - BOTTOM CHORD LIVE LOAD: 0 PSF - LIVE LOAD DEFLECTION LIMIT: L/480

ADDITIONAL DEAD LOADS:

- TRUSS DESIGNER SHALL INCLUDE ADDITIONAL WEIGHT OF DEAD LOADS APPLIED TO TRUSSES FROM OVER-FRAMED AREAS INDICATED ON PLANS. WHERE TRUSSES ARE INDICATED TO SUPPORT BRICK VENEER, LIMIT TRUSS DEFLECTION TO L/600.

SNOW LOADS:

- IN ACCORDANCE WITH ASCE 7-10 USING THE CRITERIA DEFINED IN THE "DESIGN LOADS" SECTION OF THE GENERAL STRUCTURAL NOTES. SNOW LOADS ARE TO INCLUDE THE EFFECTS OF "UNBALANCED SNOW LOADS FOR HIP AND GABLE ROOFS".

WIND LOADS:

- IN ACCORDANCE WITH ASCE 7-10 USING THE CRITERIA DEFINED IN THE "DESIGN LOADS" SECTION OF THE GENERAL STRUCTURAL NOTES. TRUSSES ARE TO BE DESIGNED FOR "COMPONENTS AND CLADDING" WIND LOADS UNLESS NOTED OTHERWISE.

SPECIAL LOADS:

SEE PLANS AND ELEVATIONS FOR ADDITIONAL LOADS TO BE CONSIDERED IN THE TRUSS DESIGN.

- WHERE TRUSSES ARE REQUIRED TO FRAME INTO OTHER TRUSSES, DESIGN OF THE CONNECTIONS ARE TO BE THE RESPONSIBILITY OF THE TRUSS SUPPLIER. THE TRUSS SUPPLIER IS TO MAKE NECESSARY PROVISIONS IN THE SUPPORTING TRUSS TO ACCEPT THE TYPE OF HANGER REQUIRED. THE DESIGN OF ALL WEB MEMBER PERMANENT BRACING REQUIRED FOR THE STRUCTURAL ADEQUACY OF THE TRUSSES, IS TO BE THE SOLE RESPONSIBILITY OF THE TRUSS SUPPLIER.

POST-INSTALLED ANCHOR SYSTEMS

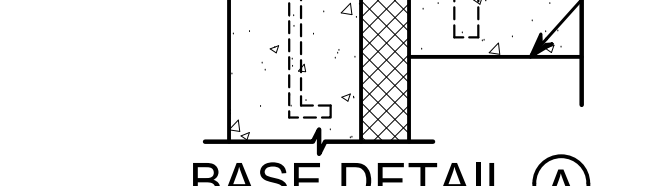
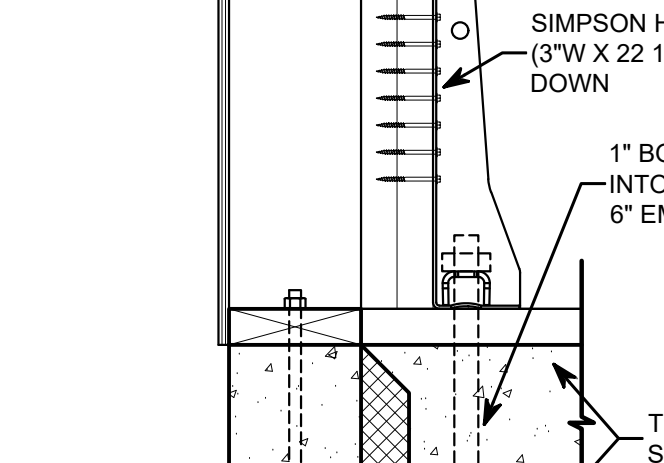
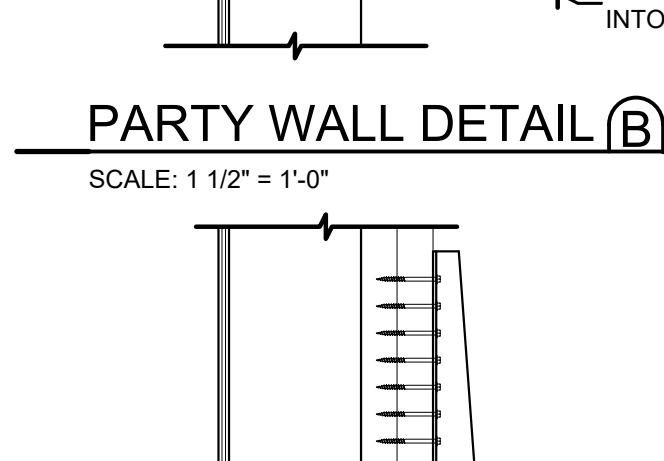
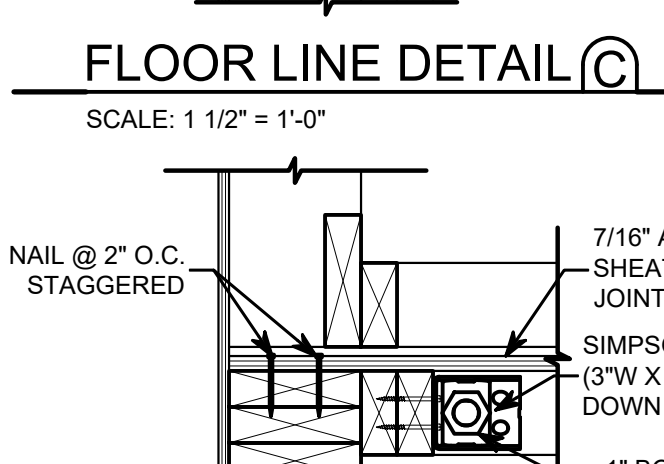
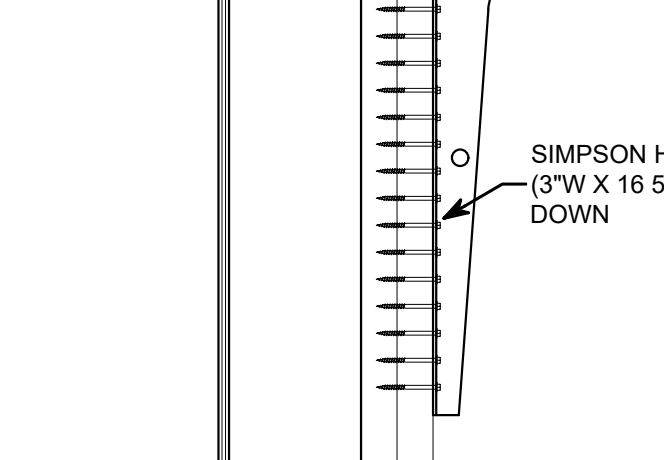
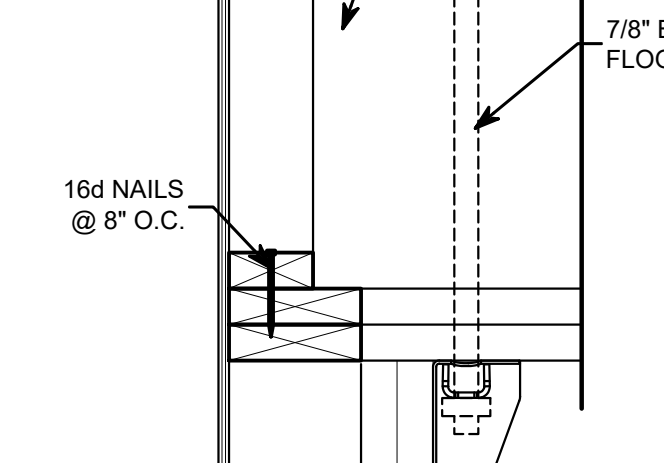
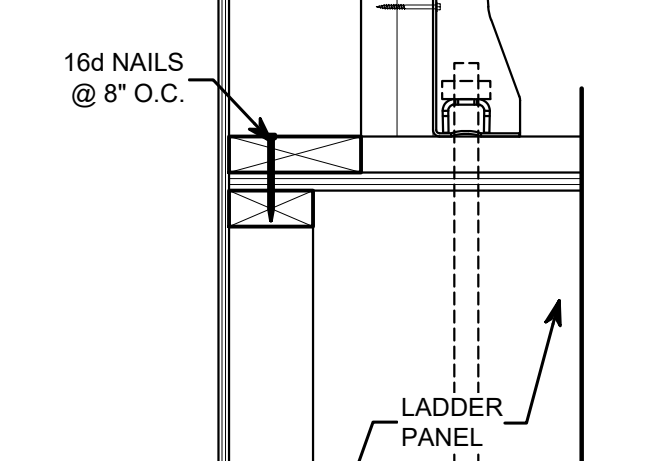
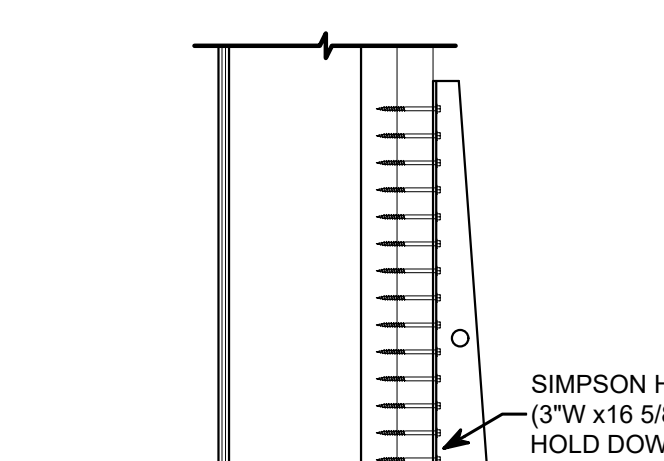
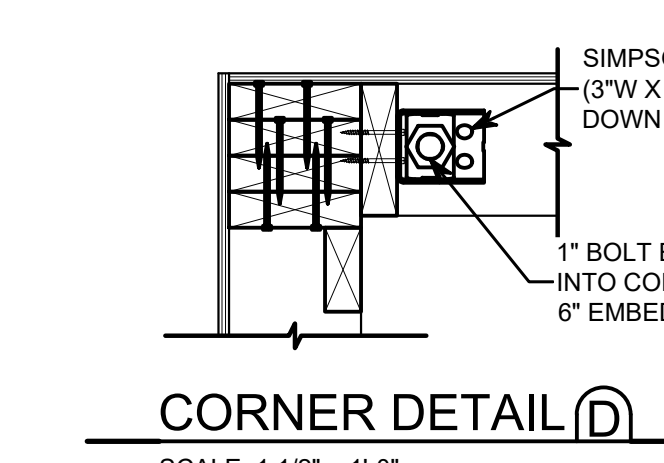
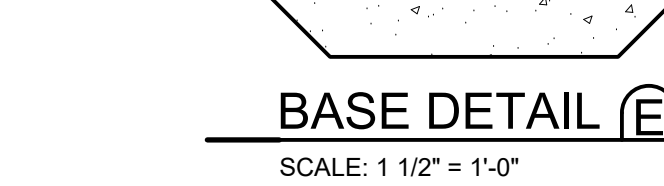
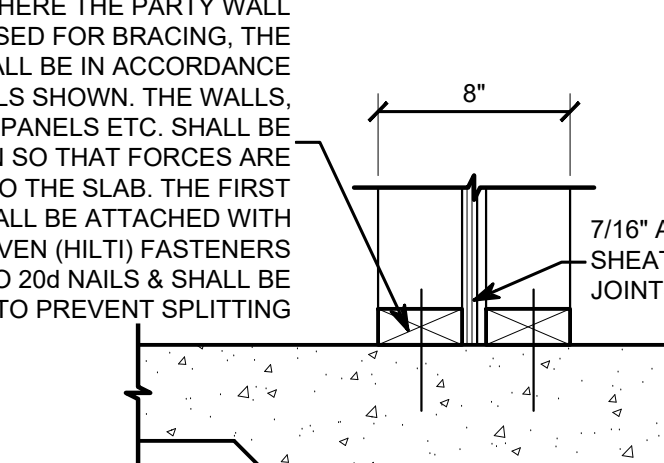
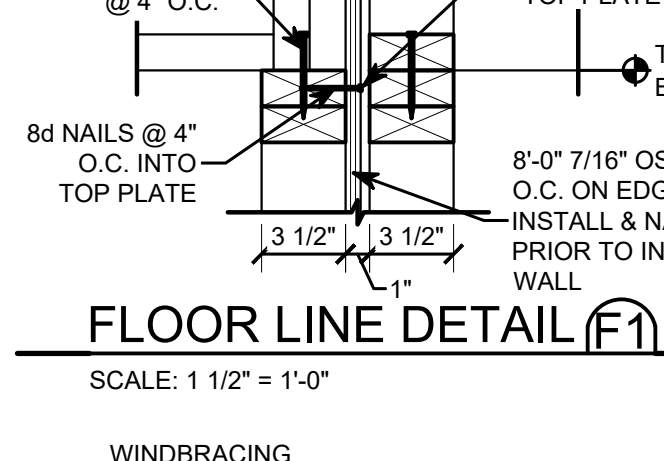
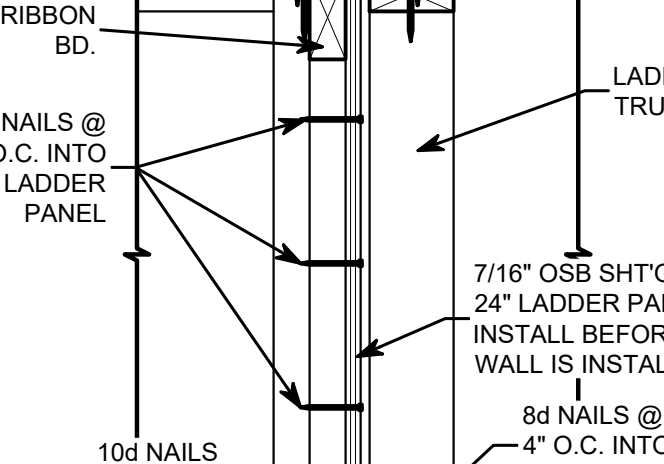
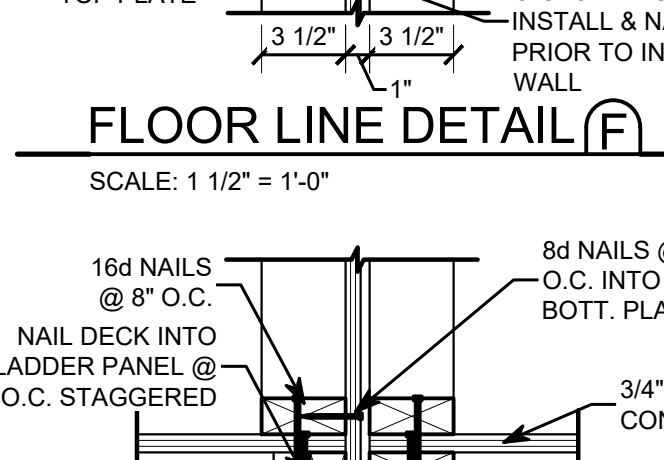
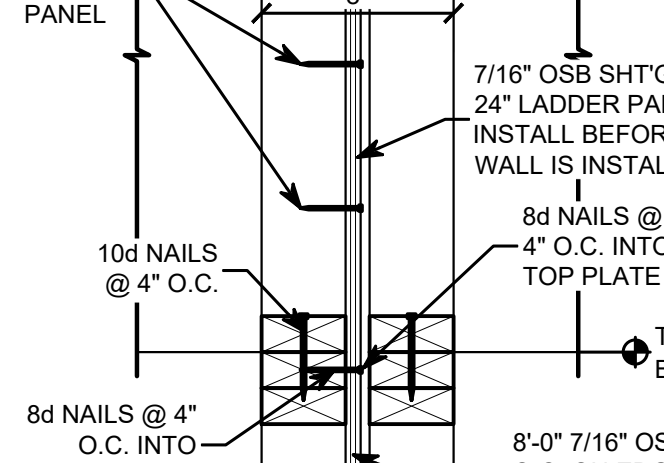
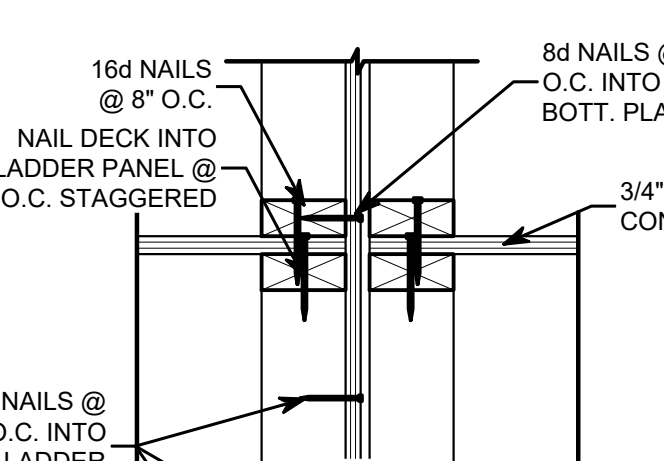
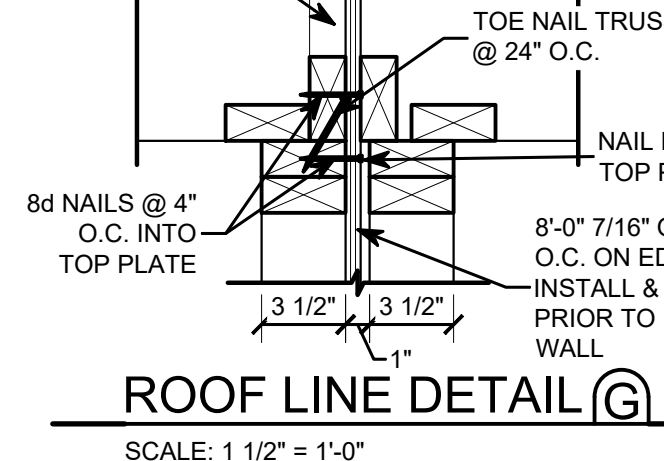
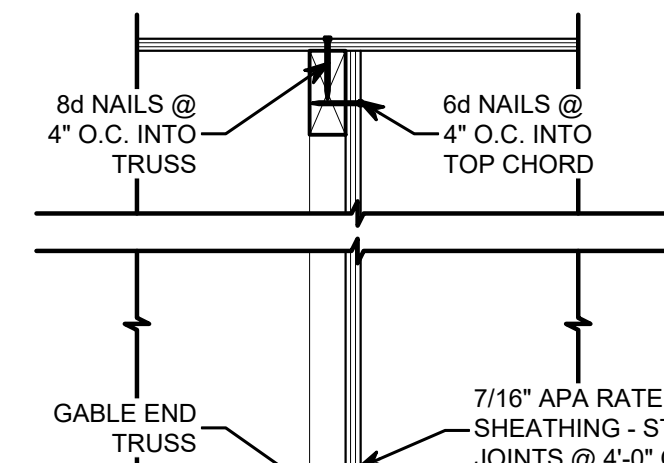
- GENERAL: A. LISTED ANCHOR PRODUCTS PROVIDED BELOW ARE NOT TO BE USED AS INTERCHANGEABLE PRODUCTS. EACH ANCHOR HAS DEFINED CAPACITIES BASED UPON TESTED PERFORMANCE WITH APPLICABLE SAFETY FACTORS AND WILL VARY ACROSS MANUFACTURERS. TYPES OF ANCHORS INDICATED THROUGHOUT THE DESIGN DOCUMENTS ARE DETAILED FOR THEIR SPECIFIC PURPOSE AND CAPACITY. SUBSTITUTION OF ANCHORS FROM THOSE SPECIFIED ARE ONLY ALLOWED AFTER ENGINEER REVIEW AND APPROVAL OR AMENDMENT FROM WRITTEN REQUEST BY THE CONTRACTOR.

- ANCHORAGE TO CONCRETE: A. ACCEPTABLE MECHANICAL EXPANSION ANCHORAGE SYSTEMS: 1. DEWALT POWER STUD +SDI WEDGE EXPANSION ANCHOR 2. HILTI KWIK BOLT 3 EXPANSION ANCHOR 3. HILTI KWIK BOLT T2 EXPANSION ANCHOR 4. SIMPSON STRONG-BOLT 2 WEDGE EXPANSION ANCHOR

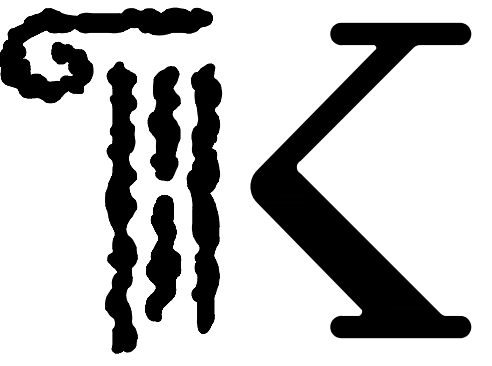
- ANCHORAGE TO CONCRETE MASONRY OR BRICK MASONRY AS INDICATED: A. FOLLOW ALL MANUFACTURERS INSTALLATION INSTRUCTIONS IN REGARD TO LOCATION OF ANCHORS AWAY FROM HEAD JOINTS, MINIMUM EDGE DISTANCES, AND MINIMUM ANCHOR SPACING.

- MATERIALS: A. LUMBER: AS REQUIRED BY THE TRUSS MANUFACTURER. MINIMUM GRADE TO BE SYP NO. 2 KD 15 PERCENT MC, EXCEPT FOR WEBS, WHICH MAY BE MINIMUM GRADE OF SYP NO. 3, KD 15 PERCENT MC. CONNECTIONS: ALL INTERNAL TRUSS CONNECTIONS ARE TO BE DESIGNED BY THE TRUSS MANUFACTURER. CONNECTORS ARE TO BE DEFORMED PLATE TYPE, OF MINIMUM 20 GAUGE GALVANIZED STEEL SHEET. ALL JOINTS ARE TO BE DESIGNED USING METHODS AS SET FORTH IN TPI STANDARDS.

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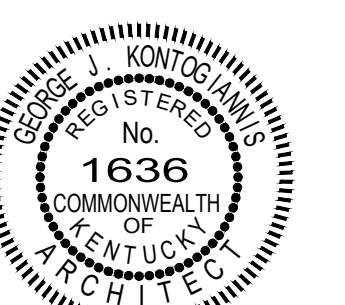
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**BUILDING FIRST  
FLOOR PLUMBING  
PLAN**

DATE: 07/31/2023  
REVISED:

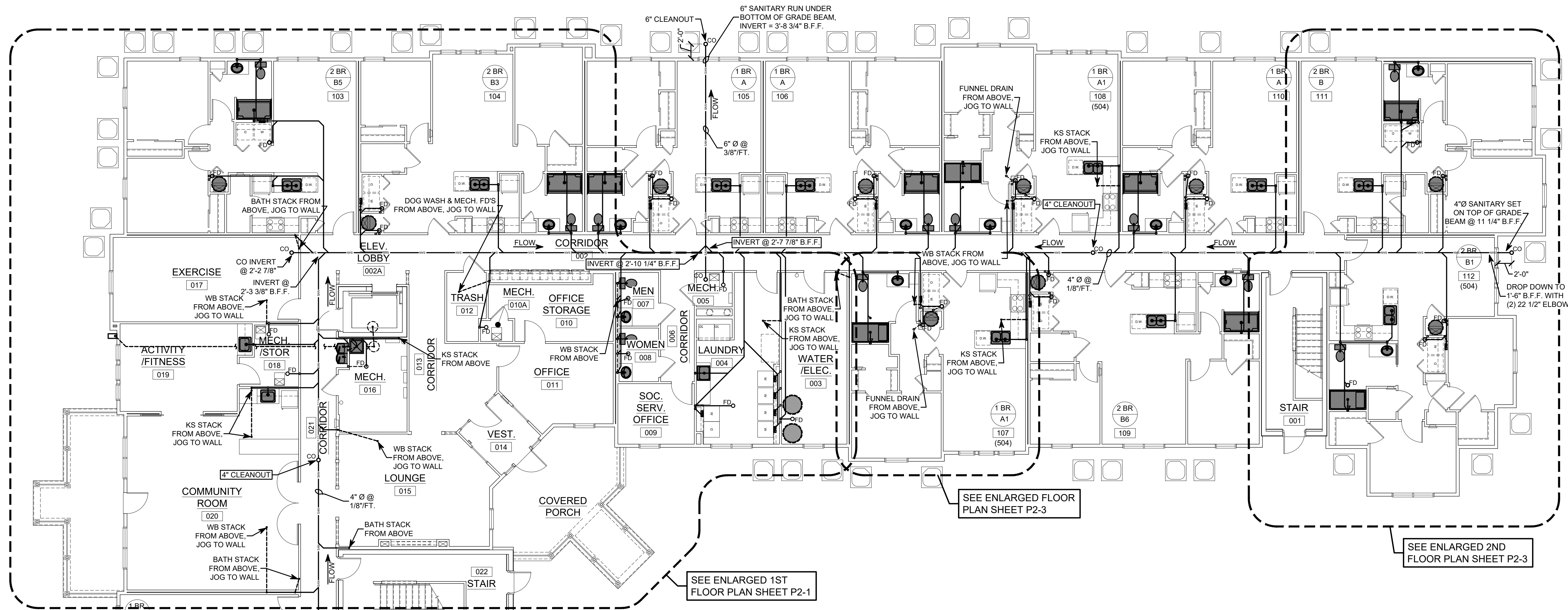


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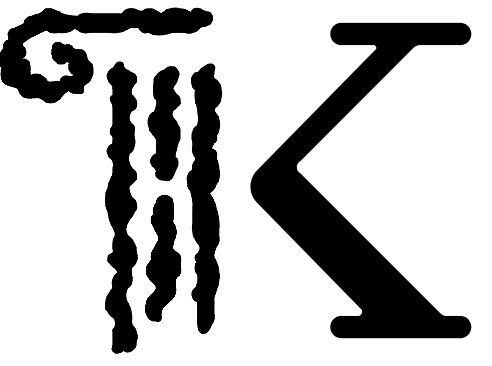


SANITARY FIXTURE UNITS			
QTY.	FIXTURE TYPE	FIXTURE UNIT	TOTAL
50	AUTOMATIC CLOTHS WASHER	2	100
0	BATHUB	1 1/2	0
44	DISHWASHER	1 1/2	66
44	DISPOSAL UNIT	1 1/2	66
1	DRINKING FOUNTAIN	1	1
44	FLOOR DRAIN IN RESIDENTIAL LAUNDRY ROOM	2	88
6	FLOOR DRAIN IN TOILET ROOM	3	18
54	FLOOR DRAIN IN UTILITY ROOM	3	162
44	KITCHEN SINK UNIT	1 1/2	66
46	LAVATORIES	1	46
44	SHOWER STALL	1 1/2	66
44	SINK: KITCHEN, RESIDENCE	1 1/2	66
1	SINK: SERVICE	3	3
4	SINK: SERVICE WALL TYPE	3	12
46	WATER CLOSET: 1.8 GALLONS PER FLUSH OR LESS	4	46
TOTAL BUILDING FIXTURE UNITS			806
REQUIRED BUILDING SERVICE SIZE			8"

**BUILDING FIRST FLOOR PLUMBING PLAN**

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

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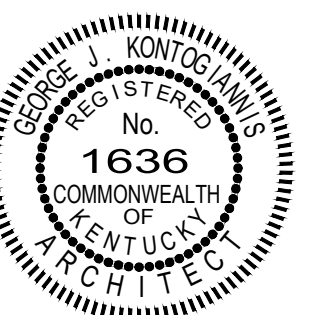
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1125 EDWARDS RD.  
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DRAWING TITLE:  
**BUILDING SECOND  
FLOOR PLUMBING  
PLAN**

DATE: 07/31/2023  
REVISED:

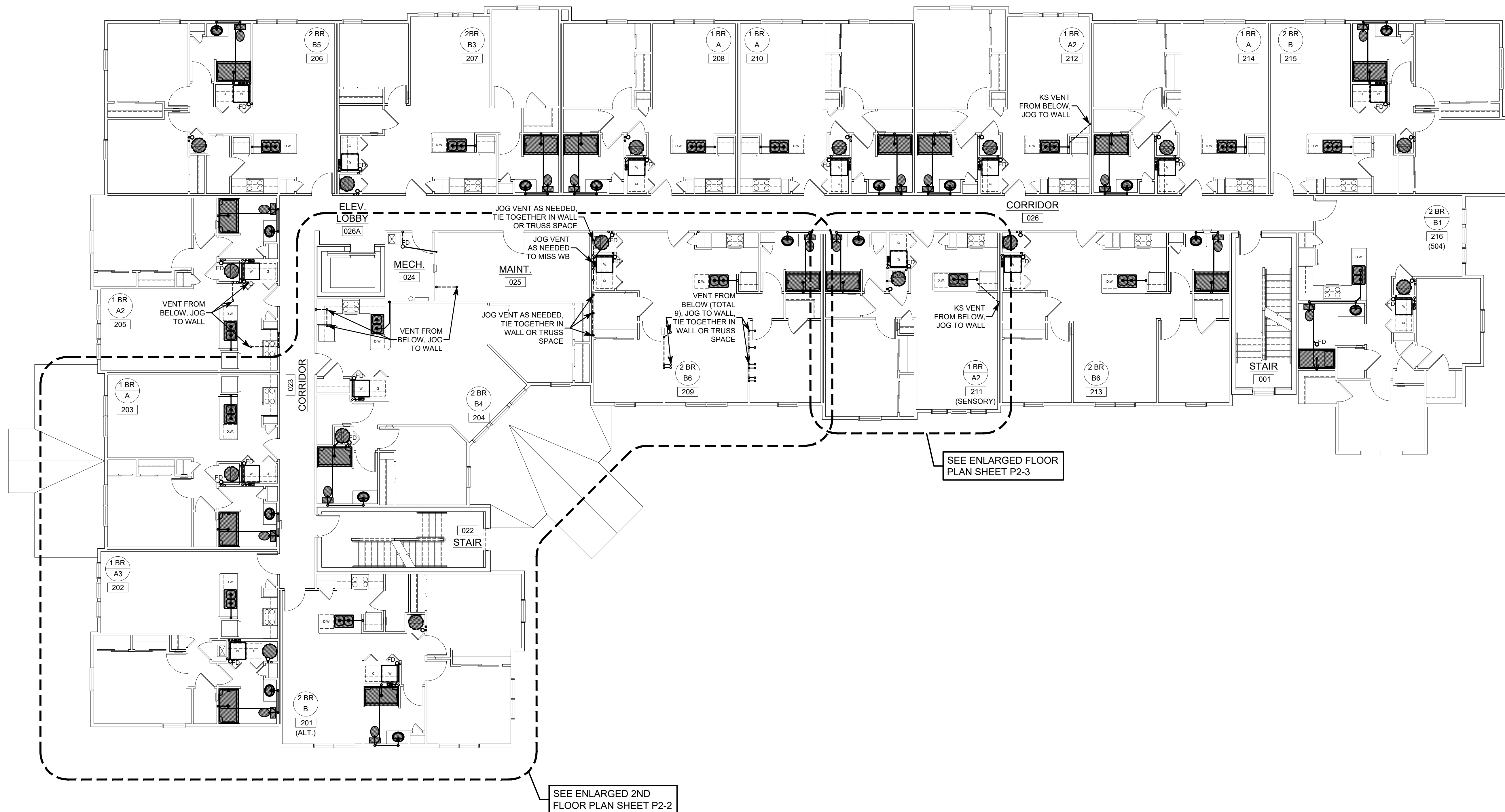


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**P1-2**

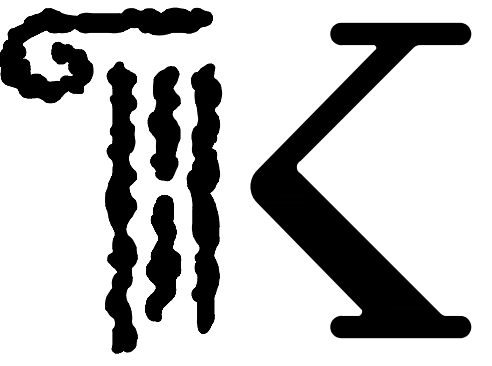


**BUILDING SECOND FLOOR PLUMBING PLAN**

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

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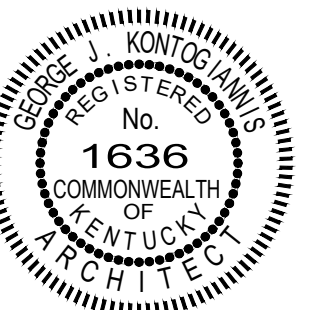
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

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DRAWING TITLE:  
**BUILDING THIRD  
FLOOR PLUMBING  
PLAN**

DATE: 07/31/2023  
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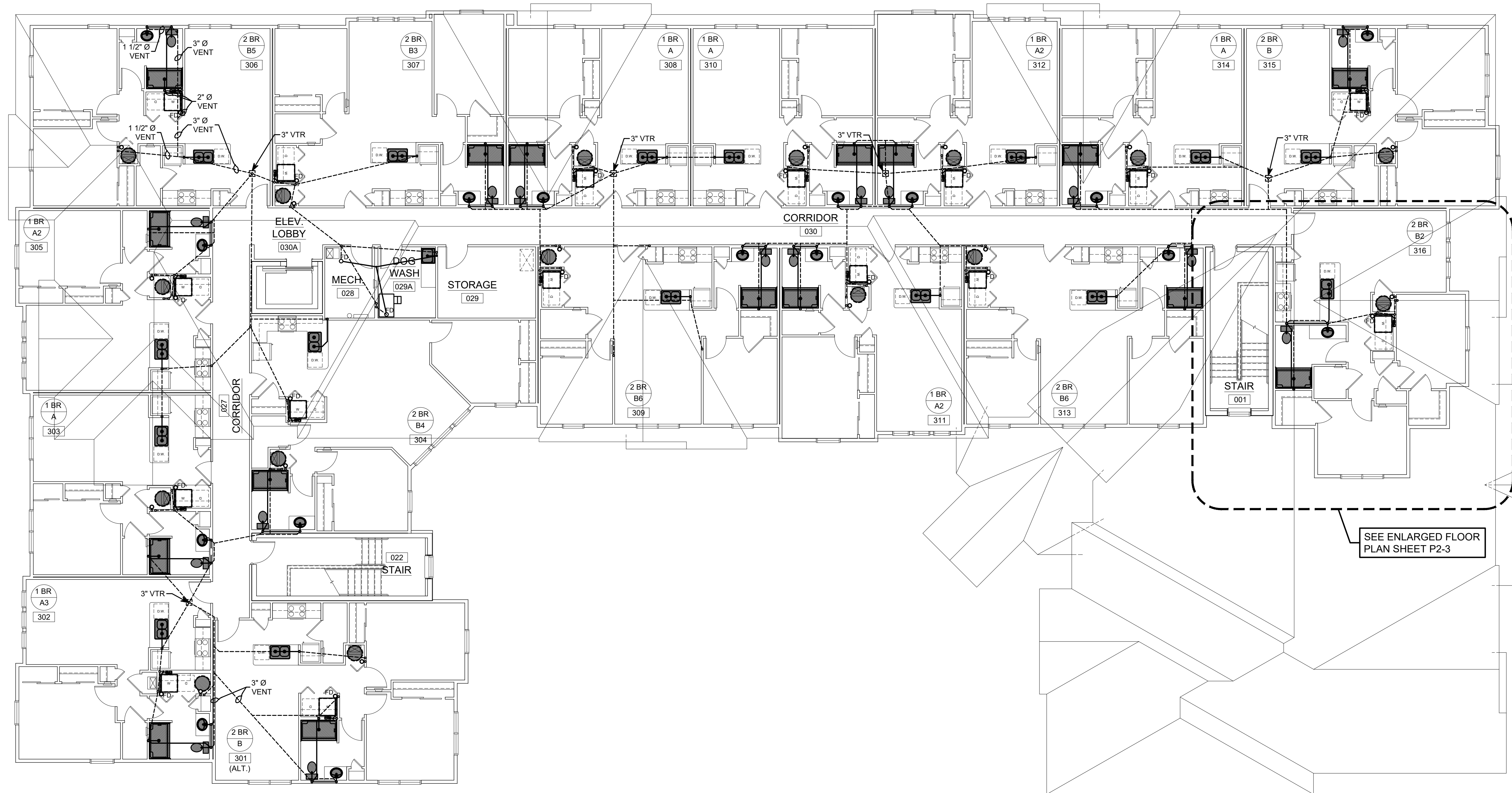


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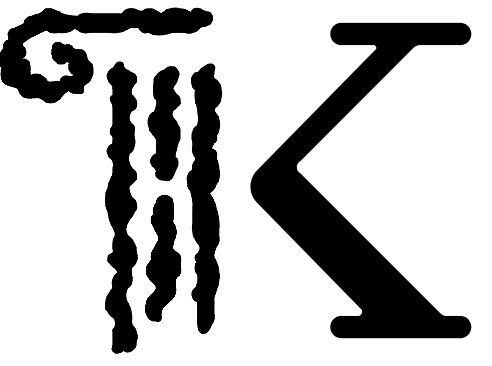
**P1-3**



**BUILDING THIRD FLOOR PLUMBING PLAN**

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

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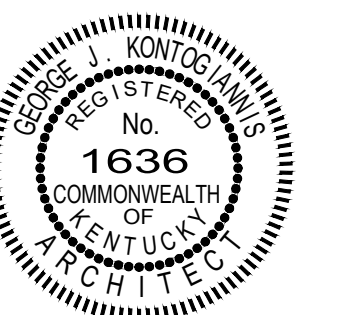
PROJECT:

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(BUILDING "B")**

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DRAWING TITLE:  
**BUILDING WATER  
SUPPLY PLAN**

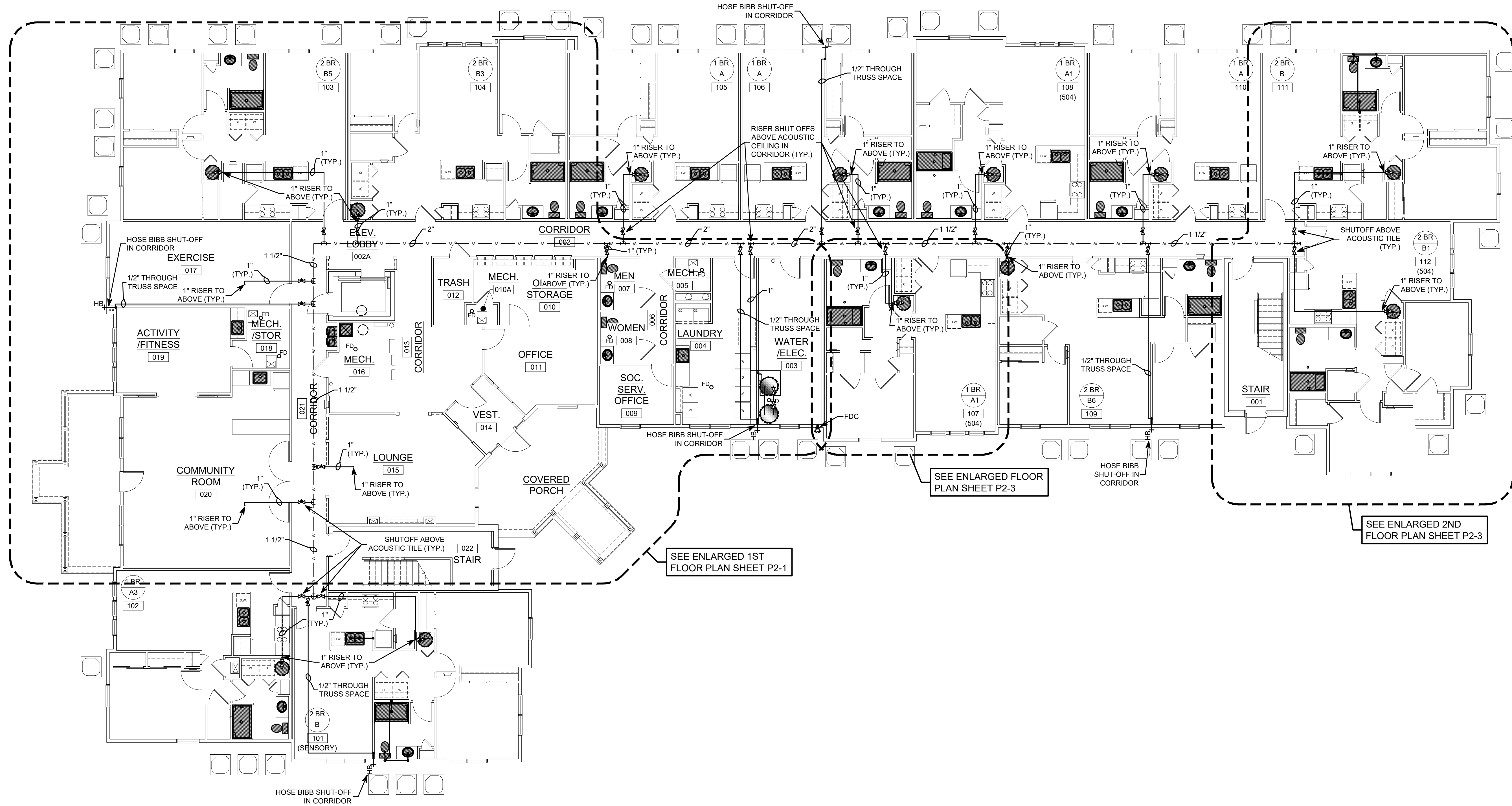
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**P1-4**



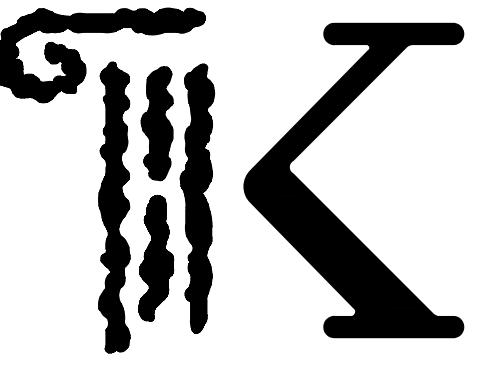
SEE SHEETS P2-2 & P2-3 FOR  
ENLARGED UNITS PLANS

**BUILDING WATER PLAN**

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

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**KONTOGIANNIS & ASSOCIATES**

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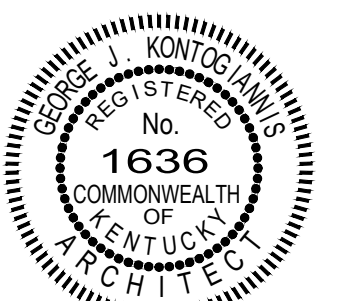
PROJECT:

**THE  
SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**BUILDING RADON  
PLANS**

DATE: 07/31/2023  
REVISED:

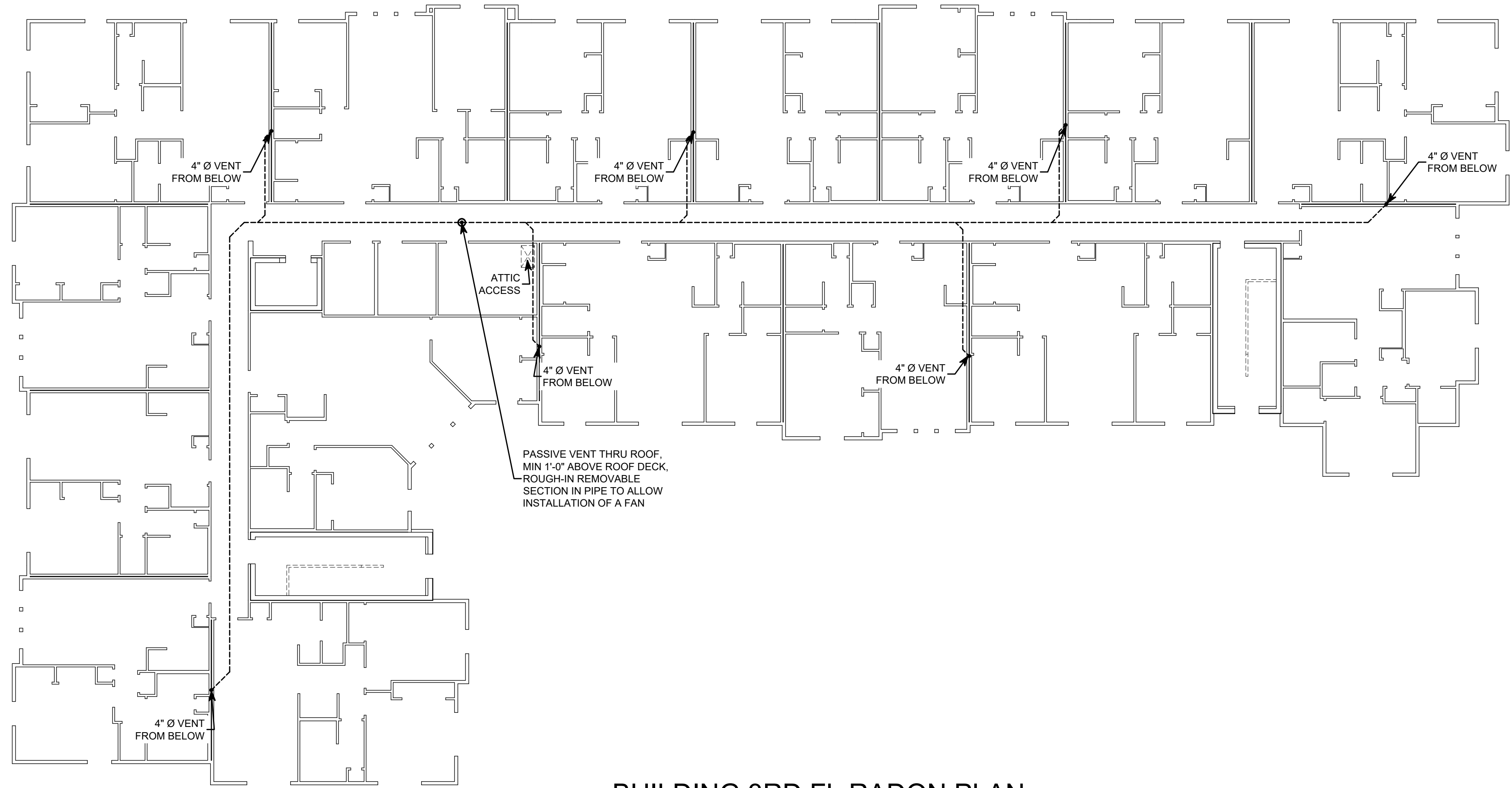


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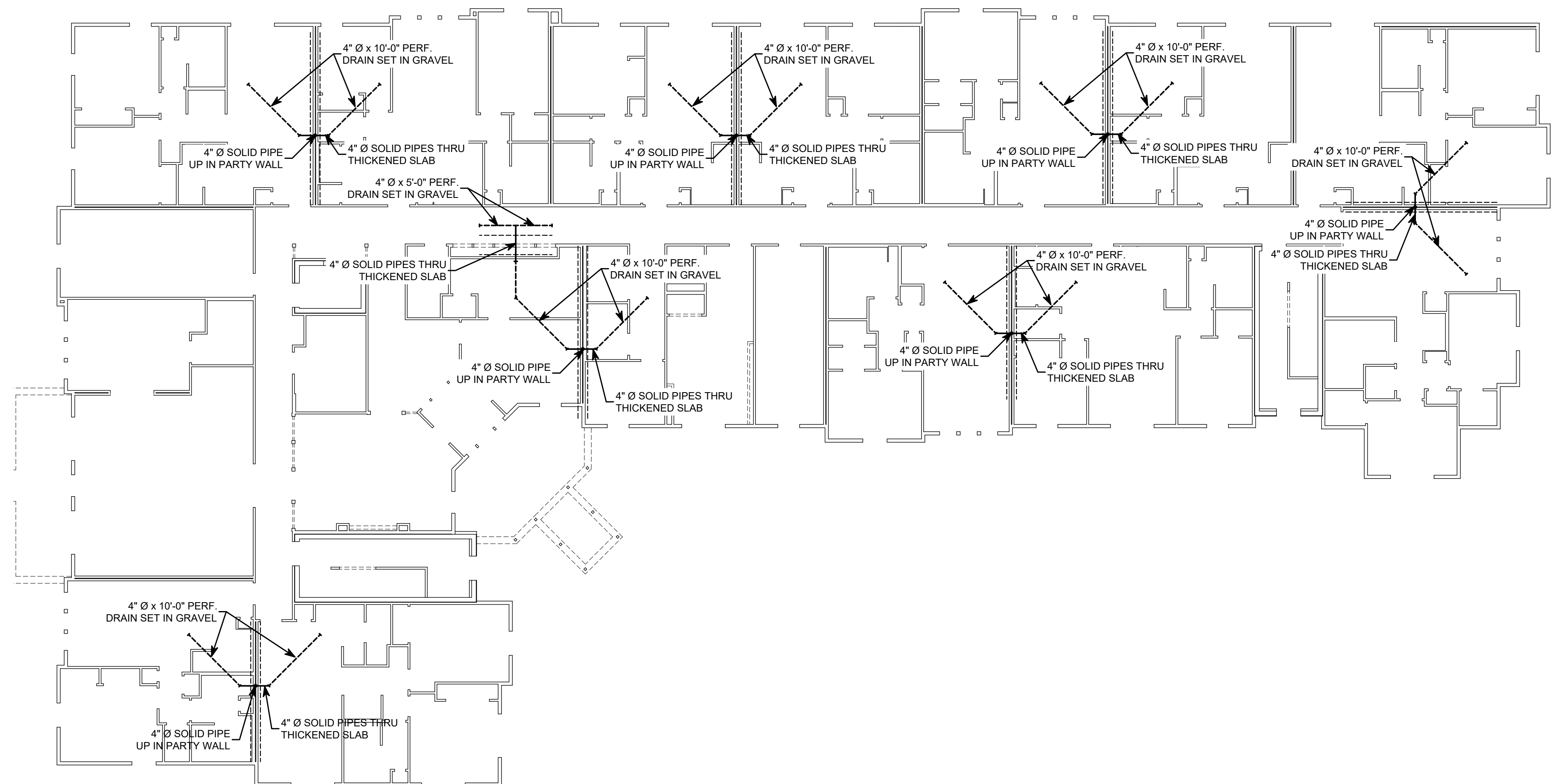
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**P1-5**



**BUILDING 3RD FL RADON PLAN**

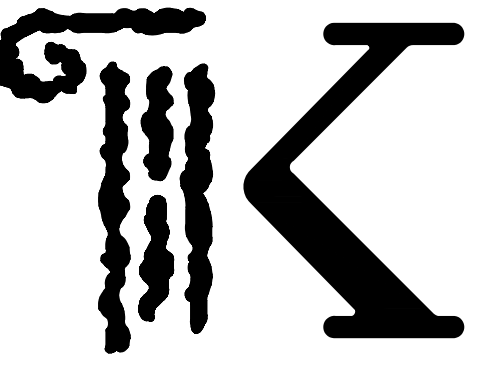
SCALE: 3/32" = 1'-0"



**BUILDING 1ST FL RADON PLAN**

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

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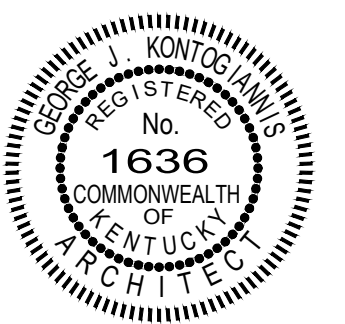
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED FIRST  
FLOOR PLUMBING  
PLAN**

DATE: 07/31/2023  
REVISED:

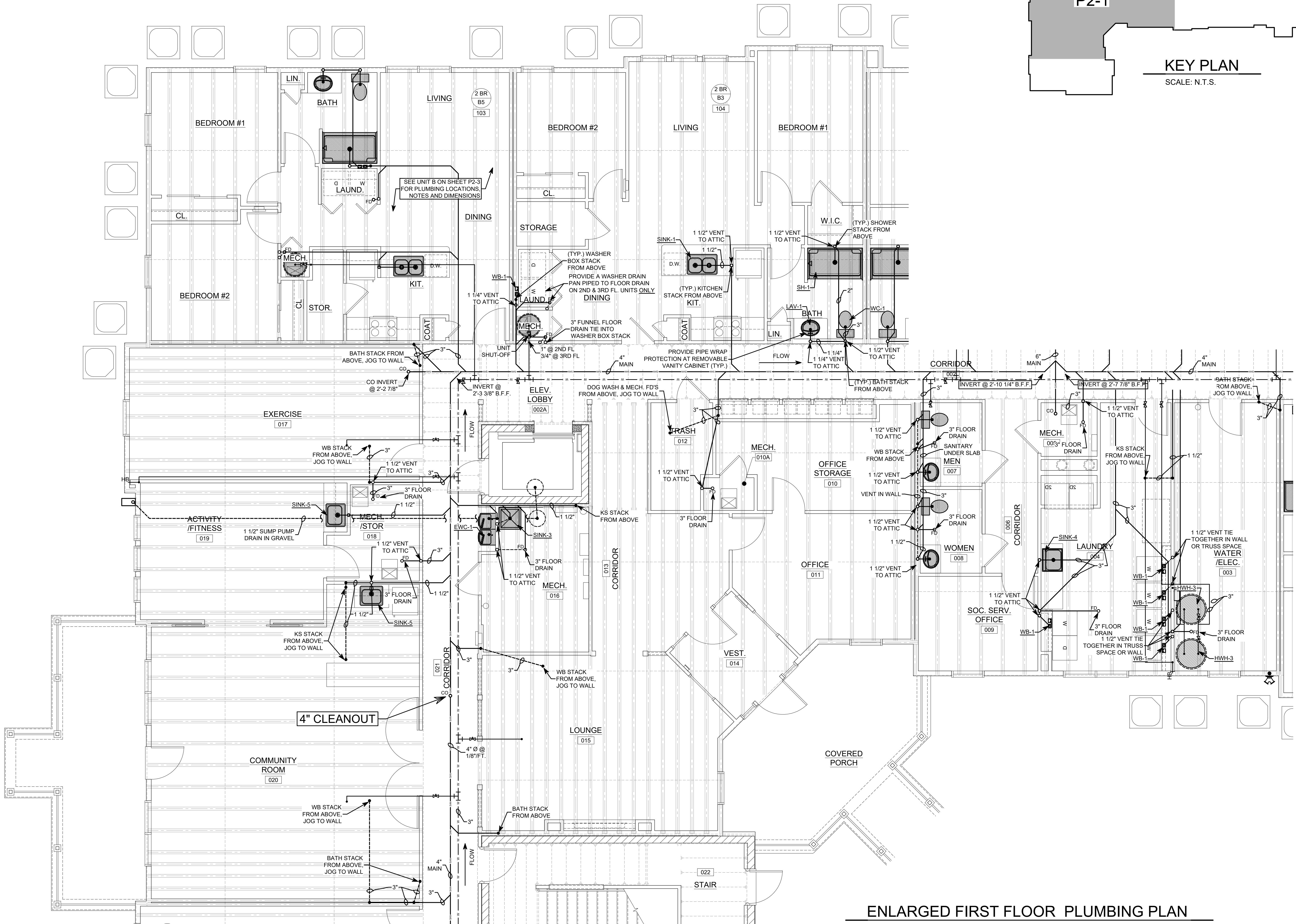
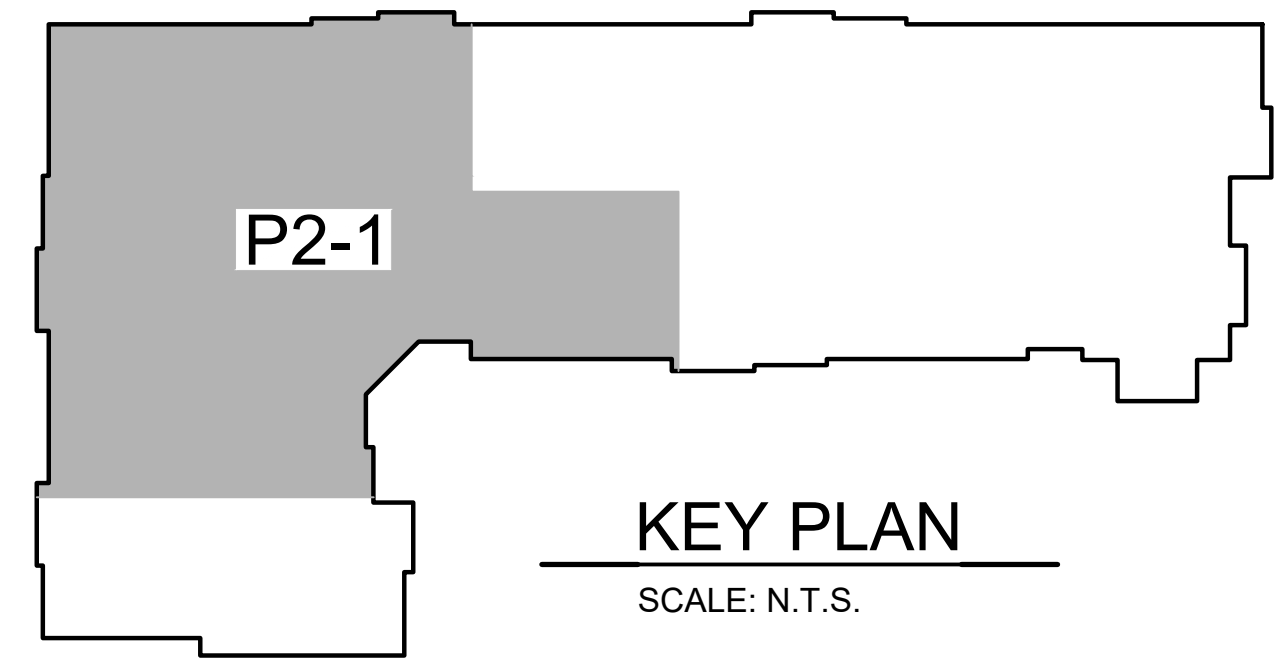


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**P2-1**



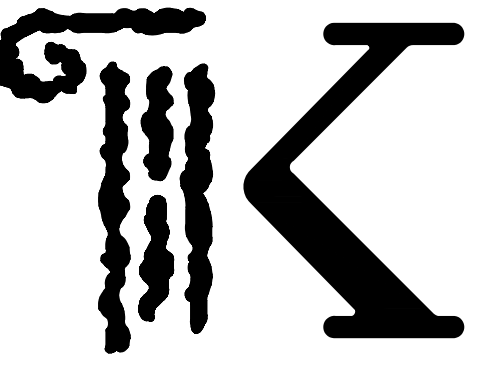
**ENLARGED FIRST FLOOR PLUMBING PLAN**

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

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PLANNING  
DESIGN

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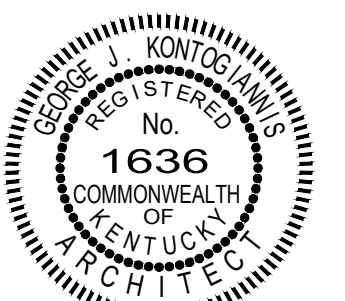
PROJECT:

**THE SANCTUARY  
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SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED UNIT  
PLUMBING PLANS**

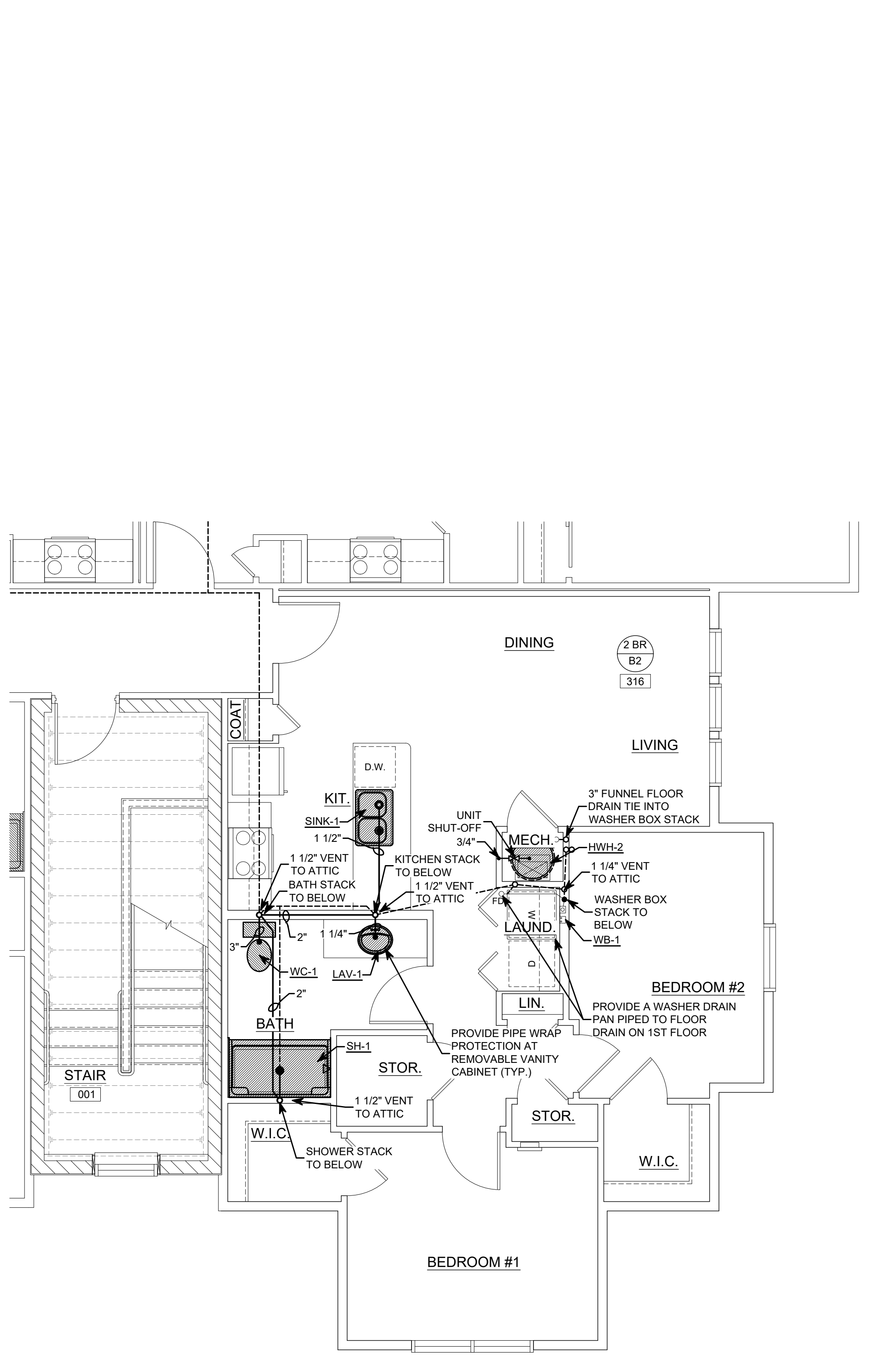
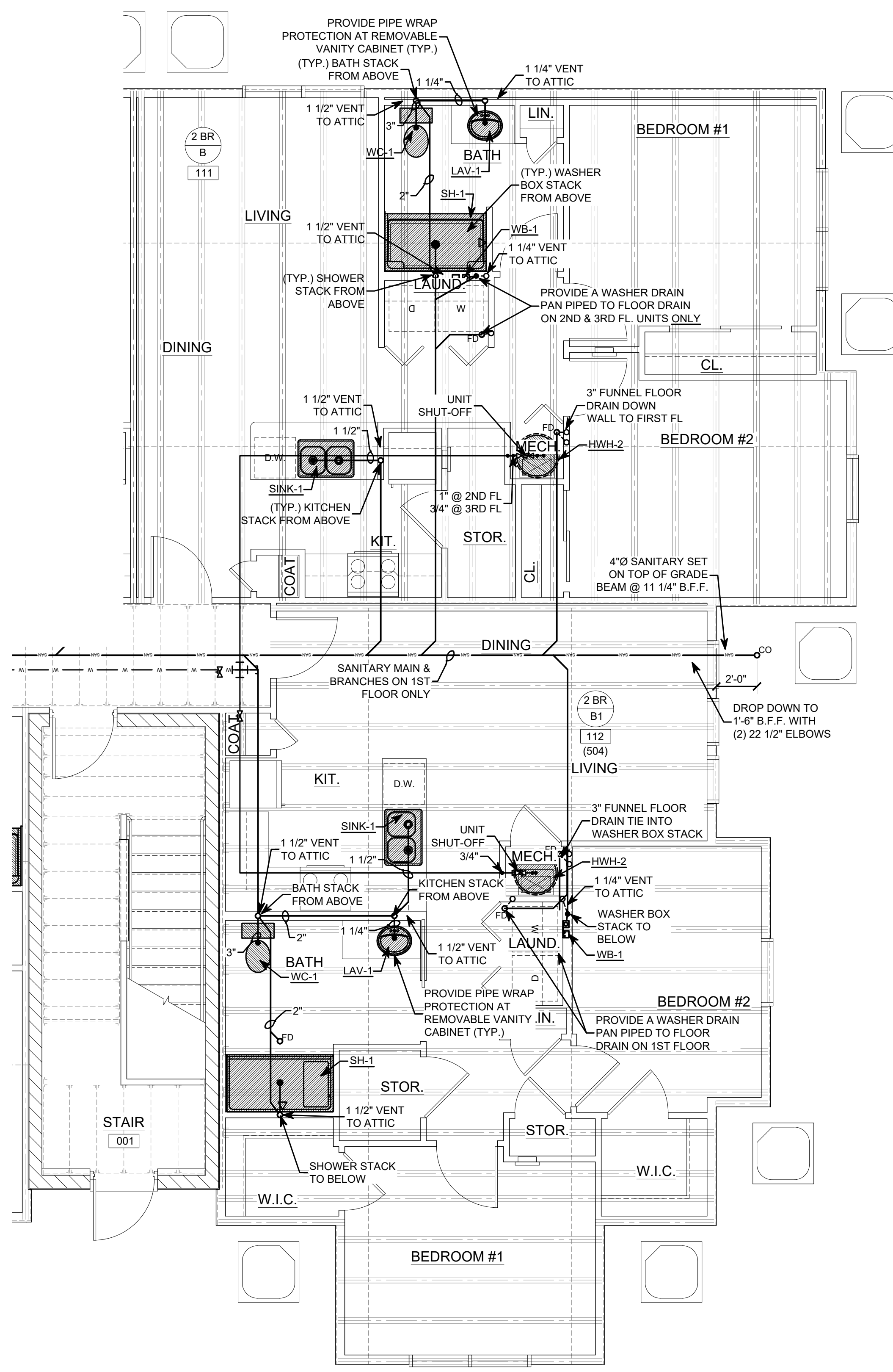
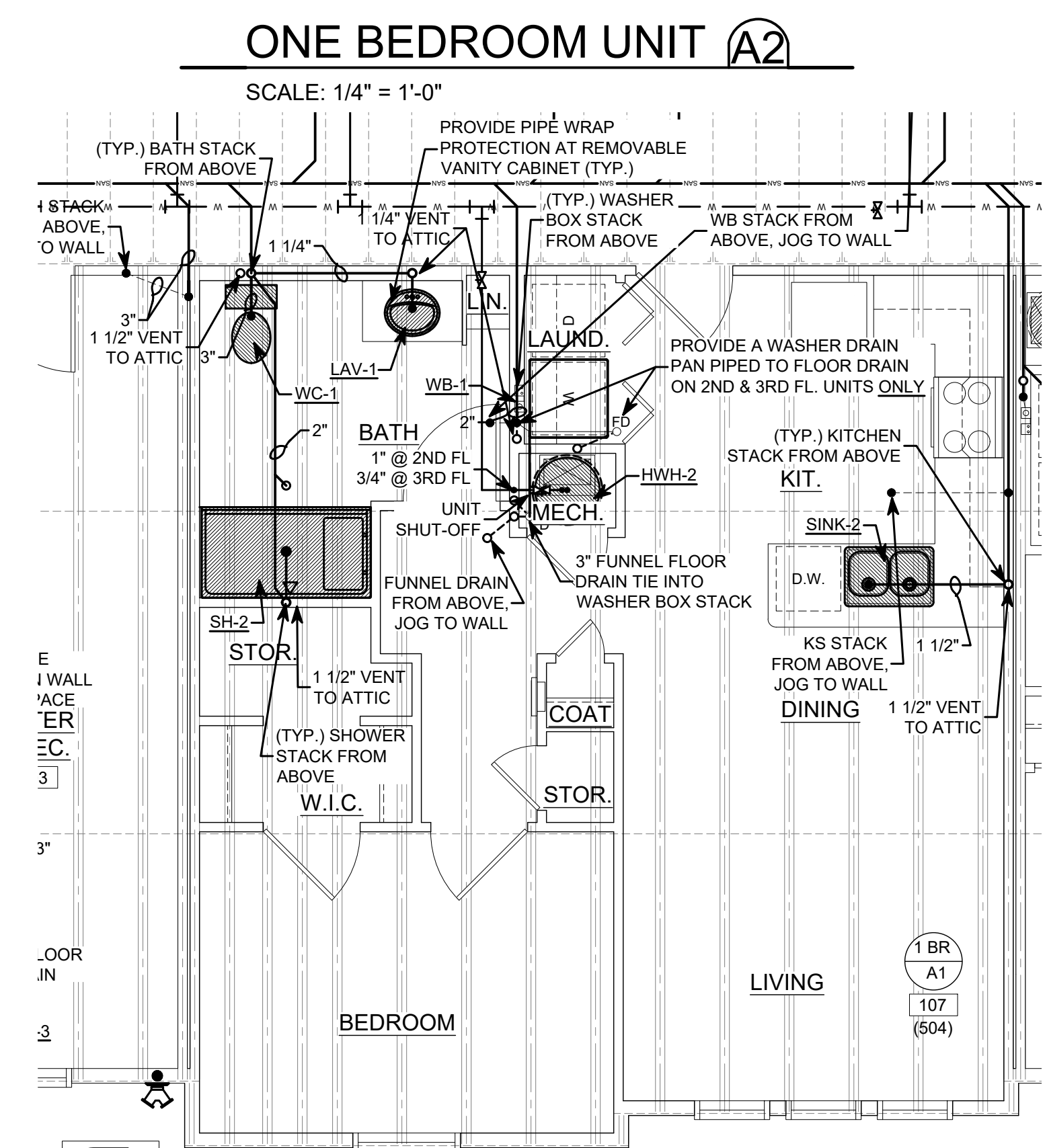
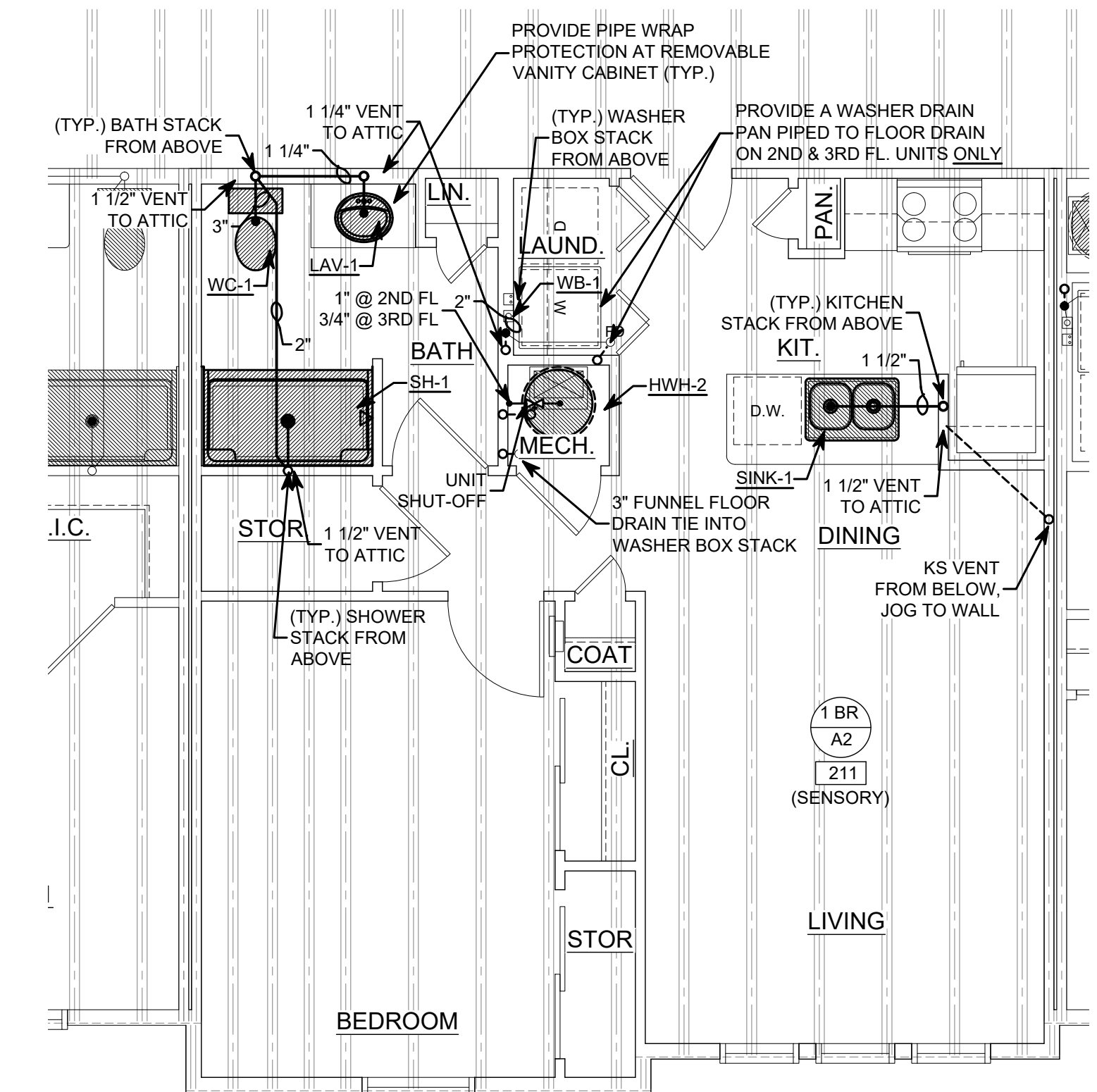
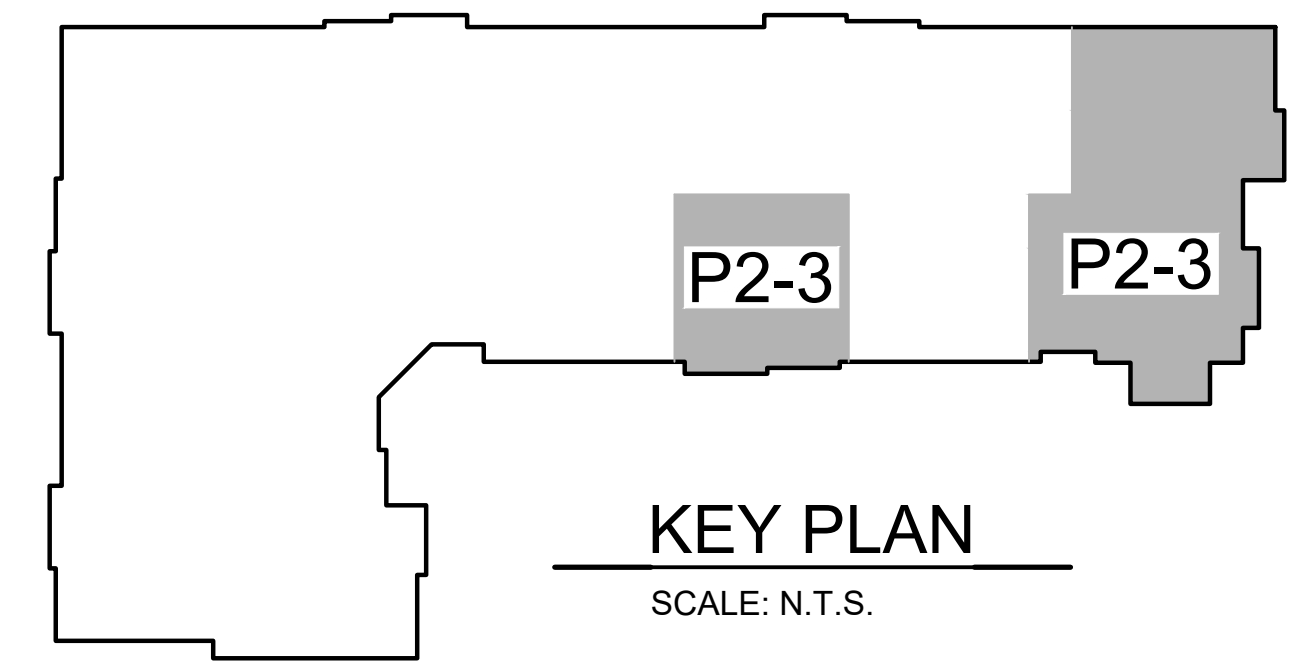
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**P2-3**



**TWO BEDROOM UNIT (B2)**

**ENLARGED FIRST & SECOND FLOOR PLAN (BB1)**

**ONE BEDROOM UNIT (504) (A1)**

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

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

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

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## PLUMBING NOTES

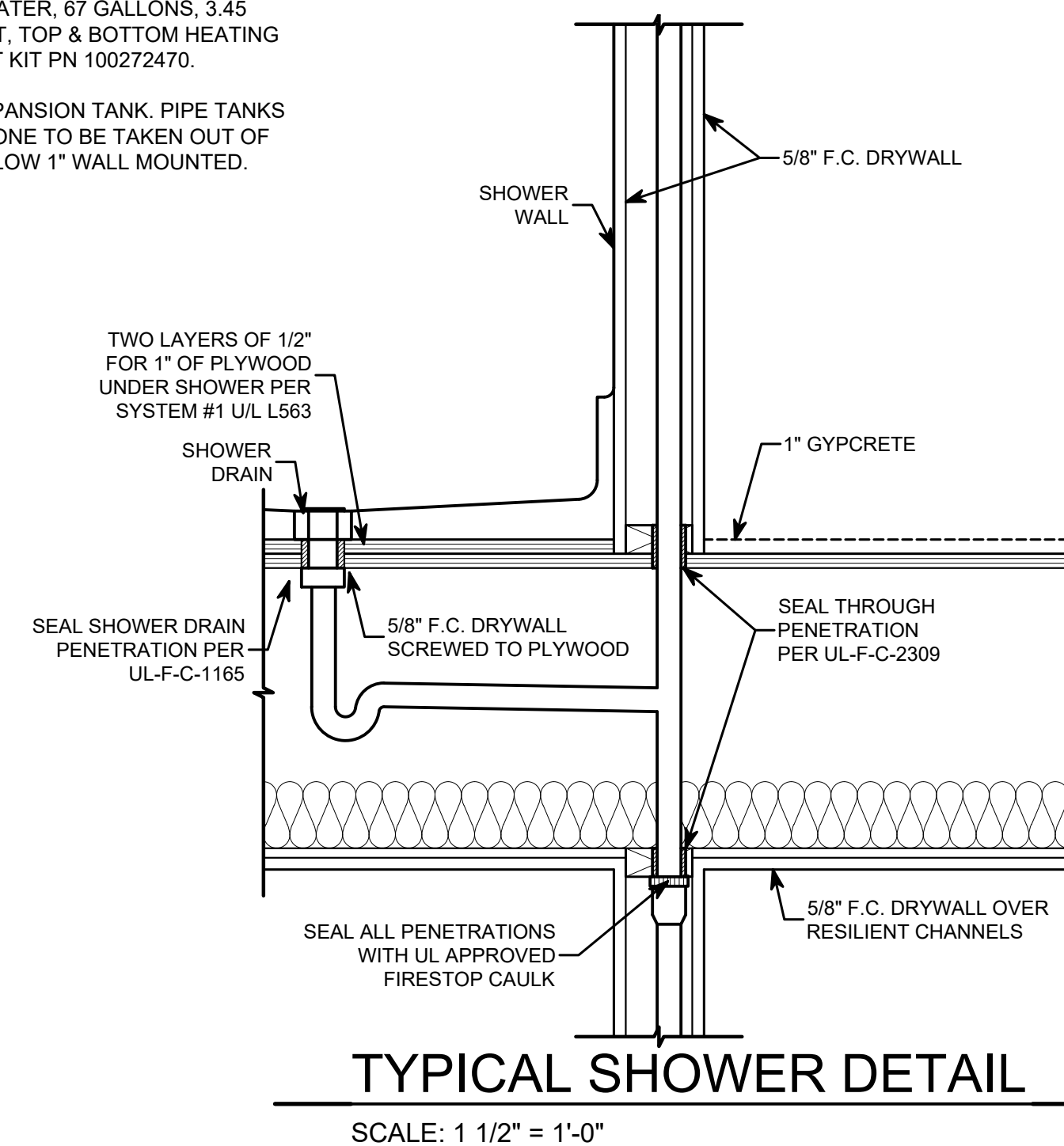
- PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL PIPING, EQUIPMENT, VALVES, ETC. IN ACCORDANCE WITH CURRENT PLUMBING CODE, CITY, COUNTY CODES, OR THE STATE BOARD OF HEALTH REGULATIONS.
- PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF A DOMESTIC COLD WATER SERVICE AND SANITARY BUILDING SEWER AS SHOWN ON THE DRAWINGS OR HEREIN DESCRIBED.
- PLUMBING CONTRACTOR SHALL INSTALL NON-FREEZE VACUUM BREAKER SILLCOCKS WHERE SHOWN ON BUILDING PLAN. EACH BRANCH LINE SUPPLY TO SILLCOCK SHALL BE 3/4" AND SHALL HAVE AN INTERIOR SHUTOFF VALVE.
- PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR RUNNING ALL PIPING CONCEALED IN APARTMENT UNITS. IF ANY FLOOR JOIST, TRUSSES, OR BEARING WALLS ARE CUT, PRIOR APPROVAL MUST BE GIVEN BY THE ARCHITECT.
- PLUMBING CONTRACTOR SHALL PROTECT UNDERGROUND WATER LINES FROM CROSS-CONTAMINATION WITH SANITARY SEWERS IN ACCORDANCE WITH ACCEPTED INSTALLATION PRACTICES FOR SEPARATION AS RECOMMENDED BY THE KENTUCKY BOARD OF HEALTH AND COUNTY AND CITY STANDARDS.
- ALL UNDERGROUND WATER LINES SHALL BE CPVC WITH NO FITTINGS BELOW SLAB. BRING LINES UP THROUGH SLAB AT HOT WATER HEATER. INSTALL UNIT TAKES-OFFS.
- ALL WATER PIPING ABOVE SLAB SHALL BE CPVC.
- PROVIDE MASTER SHUT-OFF FOR WATER SUPPLY TO EACH UNIT. SHUT-OFF SHALL BE LOCATED AS SHOWN AND SHALL SHUT-OFF WATER TO ALL UNIT PIPING.
- DISHWASHER DISCHARGE SHALL BE PIPED THROUGH THE DISPOSAL OR THROUGH A DISHWASHER TAILPIECE "TEE".
- PROVIDE DIELECTRIC UNION ON ALL HOT WATER HEATER CONNECTIONS. FINAL CONNECTIONS TO FAUCETS SHALL BE WITH A UNION OR COMPRESSION FITTING. ALL FIXTURES SHALL BE PROVIDED WITH A STOP PER CODE.
- COORDINATE PIPING WITH CARPENTER. BE PARTICULARLY AWARE OF SECOND FLOOR SHOWER AND WATER CLOSET ROUGH-INS. THOSE SHALL BE COORDINATED WITH THE CARPENTER AND ERRORS IN FRAMING SHALL BE CORRECTED. WATER CLOSETS MAY NOT BE MOVED FROM LOCATIONS SHOWN.
- PROVIDE LAUNDRY BOXES FOR ALL WASHER LOCATIONS. LAUNDRY BOX SHALL CONTAIN SHUT-OFF WITH THREADED HOSE CONNECTION FOR HOT AND COLD WATER (NO ELECTRICAL OUTLETS).
- WATER PIPING SHALL BE SECURED TIGHTLY IN ALL LOCATIONS TO PREVENT ANY RATTLING. IF PRESSURE IS EXCESSIVE, PROVIDE DEAD END AIR CHAMBERS ABOVE SECOND FLOOR FIXTURE TO ACT AS AN AIR HAMMER.
- PROVIDE TRAP PRIMERS IF REQUIRED BY CODE OR LOCAL GOVERNING AUTHORITY.
- THE PLUMBING CONTRACTOR SHALL LEVEL ALL HOT WATER HEATERS.
- THE PLUMBING CONTRACTOR SHALL REVIEW THE HEATING AND ELECTRICAL DRAWINGS TO VERIFY ANY AREAS OF CONFLICT WITH THESE TRADES. ALL AREAS OF CONFLICT SHALL BE WORKED OUT BEFORE INSTALLATION BEGINS. IF THIS CONTRACTOR INSTALLS HIS WORK WITHOUT COORDINATION, THE GENERAL CONTRACTOR MAY HAVE IT REMOVED IF THE G.C. FEELS THAT THE SITUATION IS UNWORKABLE FOR OTHER TRADES.
- REVIEW ALL ITEMS OF EQUIPMENT SUPPLIED BY OTHERS TO DETERMINE EXACTLY WHAT IS BEING SUPPLIED AND WHAT HOOK-UPS AND ACCESSORIES ARE REQUIRED. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBER TO PROVIDE ALL LABOR AND ACCESSORIES (I.E. VACUUM BREAKERS, BACKFLOW PREVENTERS, PRESSURE REDUCERS, UNIONS, STOPS, TRAPS, ETC.) NEEDED FOR A COMPLETE INSTALLATION, BUT NOT SUPPLIED WITH THE EQUIPMENT. ANY AREAS IN QUESTION SHALL BE REVIEWED WITH THE GENERAL CONTRACTOR FOR CLARIFICATION.
- ALL FLOOR DRAINS SHALL BE SET 3/4" BELOW SLAB LEVEL. CONCRETE SUBCONTRACTOR SHALL SLOPE FLOOR TO DRAINS.
- PROVIDE DRAIN PANS UNDER ALL WATER WATER HEATERS. DRAIN LINE FROM PAN SHALL BE TIED INTO 2ND FLOOR FUNNEL DRAIN LINE IN JOIST SPACE BELOW. ALL FIRST FLOOR DRAIN PANS SHALL PIPE TO FLOOR DRAIN.
- SHOWERS ON SECOND & THIRD FLOOR GARDEN UNITS SHALL BE SET ON 1" PLYWOOD. WATER CLOSET ROUGH-IN SHALL BE SET UP 1" & SECURED TO ALLOW FOR 3/4" FLOOR FILL
- PROVIDE R=3 INSULATION ON ALL HOT WATER PIPING.

## PLUMBING FIXTURE SCHEDULE

ITEM	DESCRIPTION	ROUGH IN				MANUF.	MODEL	MTG.	MAT.	COLOR	FAUCET/ FLUSH VALVE	SUPPLIES & STOPS	ACCESSORIES	COMMENTS
		DRAIN	VENT	HOT	COLD									
WC-1	WATER CLOSET	3"	1 1/2"		1/2"	AMERICAN STANDARD	CADET PRO RIGHT-HEIGHT, MODEL 215AA 104.020	FLOOR	VIT. CHINA	WHITE	4" NON-ADJ PISTON ACTION ACCELERATOR	1/4 TURN STOP	1.28 GPF WC - BEMIS 170 CLOSED FRONT SEAT W/ COVER	ADA COMPLIANT
WC-2	WATER CLOSET	3"	1 1/2"		1/2"	AMERICAN STANDARD	CADET PRO RIGHT-HEIGHT, MODEL 215AA 104.020	FLOOR	VIT. CHINA	WHITE	4" NON-ADJ PISTON ACTION ACCELERATOR	1/4 TURN STOP	1.28 GPF WC - BEMIS 1955 SPLIT SEAT NO COVER	ADA COMPLIANT
LAV-1	LAVATORY	1 1/4"	1 1/4"	3/8" OD	3/8" OD	MANSFIELD	ALTO 251-4	COUNT. TOP	VIT. CHINA	WHITE	MOEN-CHATEAU L4621 WITH POP-UP	1/4 TURN STOP W/ BRAIDED S.S. SUPPLY	DEARBORN 9702 P-TRAP	
SINK-1	KITCHEN SINK DOUBLE BOWL	1 1/2"	1 1/2"	3/8" OD	3/8" OD	DAYTON	DAYTON DSE23322	SELF RIMMING	STAIN STEEL		MOEN-CHATEAU 7425 LEVER HANDLE	1/4 TURN STOP W/ BRAIDED S.S. SUPPLY	BASKET STRAINER, DECK GASKET DEARBORN 9702 & 9108, DISPOSAL - INSINKERATOR - BADGER 5	PROVIDE CORD W/ PLUG FOR DISPOSAL, (8" DEEP)
SINK-2	KITCHEN SINK DOUBLE BOWL	1 1/2"	1 1/2"	3/8" OD	3/8" OD	DAYTON	DAYTON GE23322	SELF RIMMING	STAIN STEEL		MOEN-CHATEAU 7425 LEVER HANDLE	1/4 TURN STOP W/ BRAIDED S.S. SUPPLY	BASKET STRAINER, DECK GASKET DEARBORN 9702 & 9108, DISPOSAL - INSINKERATOR - BADGER 5	PROVIDE CORD W/ PLUG FOR DISPOSAL, (5 3/8" DEEP) W/ REAR DRAINS
SINK-3	JANITOR'S SINK	3"	1 1/2"	1/2"	1/2"	FIAT	MSB 2424	FLOOR	MOLDED STONE	WHITE	FIAT 830-AA (WALL MOUNTED)	1/4 TURN STOP W/ BRAIDED S.S. SUPPLY	HOSE BRACKET & HOSE 832-AA STRAINER 1453-BB	
SINK-4	LAUNDRY SINK	2"	1 1/2"	1/2"	1/2"	DAYTON	DAYTON DPC1202010	SELF RIMMING	STAIN STEEL		MOEN-COMMERCIAL TWO-HANDLE 8938			DROP-IN STAINLESS STEEL W/ FAUCET W/ TWO-HANDLES
SINK-5	KITCHEN SINK SINGLE BOWL	1 1/2"	1 1/2"	3/8" OD	3/8" OD	DAYTON	DAYTON GE12521	SELF RIMMING	STAIN STEEL		MOEN-CHATEAU 7425 LEVER HANDLE	1/4 TURN STOP W/ BRAIDED S.S. SUPPLY	BASKET STRAINER, DECK GASKET DEARBORN 9702 & 9108, DISPOSAL - INSINKERATOR - BADGER 5	PROVIDE CORD W/ PLUG FOR DISPOSAL - CENTER REAR DRAIN LOCATION
SH-1	SHOWER 60" W/ AIP BACKERBOARDS	2"	1 1/2"	1/2"	1/2"	STERLING	STORE+ 72330106	FLOOR	FIBER GLASS	WHITE	MOEN POSI-TEMP CHATEAU L2352		POSI-TEMP VALVE W/ STOPS AND #TL-182 TRIM	PROVIDE SHOWER WITH AGE-IN-PLACE BACKERBOARDS - SEE SPECS FOR SHOWER DOOR
SH-2	SHOWER 63" W/ SEAT	2"	1 1/2"	1/2"	1/2"	CLARION	MP6333BF34	FLOOR	FIBER GLASS	WHITE	MOEN POSI-TEMP CHATEAU L2352		PROVIDE ACCESSORIES TO MEET ADA REQUIREMENTS	
HWH-1	HOT WATER HEATER					A. O. SMITH	EMT-6 POINT-OF-USE						SHUT-OFF W/ UNIONS	6 GAL., ELECTRIC, POINT-OF-USE 98% EFF, 1,440 WATTS
HWH-2	HOT WATER HEATER					A. O. SMITH	ENJ-40 LOWBOY						SHUT-OFF W/ UNIONS	PROVIDE W/ WATTS TEMP., PRESSURE RELIEF VALVE, DRAIN PAN, EXPANSION TANK & SIDE CONNECTION
HWH-3	HOT WATER HEATER													SEE BELOW
HWH-4	HOT WATER HEATER					A. O. SMITH	ENT-30						SHUT-OFF W/ UNIONS	PROVIDE W/ WATTS TEMP., PRESSURE RELIEF VALVE, DRAIN PAN, EXPANSION TANK & SIDE CONNECTION
EW-1	ELECTRIC WATER COOLER	2"	1 1/2"		1/2"	ELKAY	LZSTL8LC	WALL						
WB-1	WASHER BOX	2"	1 1/4"	1/2" IPS	1/2" IPS	SILOUX CHIEF	696-2303CF	WALL	PLASTIC	WHITE				
HB	HOSE BIB					WOODFORD	MODEL 19	WALL						SL-19 STEM LOCK FOR EACH HOSE BIB

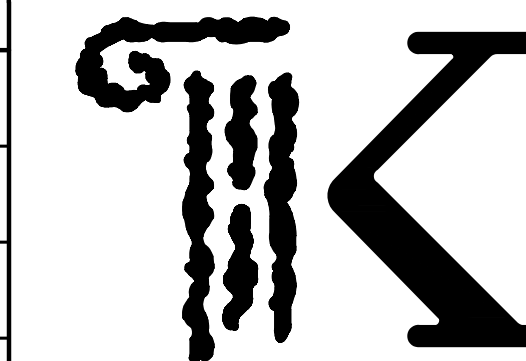
**HWH-3** A.O. SMITH (2) HPTU-66CTA ENERGY STAR HEAT PUMP WATER HEATER, 67 GALLONS, 3.45 UNIFORM ENERGY FACTOR (UEF), ENERGY STAR, 4500W, 208 VOLT, TOP & BOTTOM HEATING ELEMENTS WIRED TO 30/2 BREAKERS. PROVIDE OUTLET AIR DUCT KIT PN 100272470.

PROVIDE WATTS TEMP/PRESSURE RELIEF VALVE, DRAIN PAN, EXPANSION TANK, PIPE TANKS TOGETHER WITH SHUT -OFF VALVES FOR EACH TANK TO ALLOW ONE TO BE TAKEN OUT OF SERVICE. INSTALL LEONARD THERMOSTAT MIXING VALVE, LOW FLOW 1" WALL MOUNTED.



## PLUMBING SYMBOLS

— SAN —	SANITARY WASTE PIPING
--- SAN ---	SANITARY VENT PIPING
— STM —	STORM WATER PIPING
— DCW —	DOMESTIC COLD WATER
— DHW —	DOMESTIC HOT WATER
— DHR —	DOMESTIC HOT WATER RETURN
— GAS —	GAS
⊗	GATE VALVE
⊙	GLOBE VALVE
⊕	CHECK VALVE
⊖	SHUT-OFF VALVE
— U —	UNION
⊖	THERMOMETER
⊖	BALANCING VALVE
⊖	PRESSURE GAUGE
⊖	CAP ON END OF PIPE
⊖	PRESSURE-TEMP. RELIEF VALVE
⊖	RISER DOWN
⊖	RISER UP
— FP —	MAIN SUPPLY - FIRE PROTECTION
⊖	SPRINKLER HEAD (PENDANT)
⊖	SPRINKLER HEAD (UPRIGHT IN ATTIC)
⊖	SPRINKLER HEAD (WALL MTD.)
⊖	CLEANOUT (FLOOR)
⊖	CLEANOUT (WALL)
⊖	FLOOR DRAIN
⊖	ROOF DRAIN
⊖	FROST PROOF HOSE BIBB



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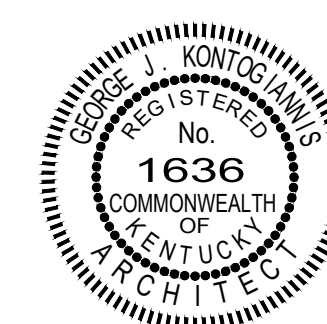
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DRAWING TITLE:  
**PLUMBING FIXTURE  
SCHEDULE, NOTES  
& DETAILS**

DATE: 07/31/2023  
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**P3-1**



**System No. F-C-2095**  
April 08, 2008  
F Rating -- 1 Hr  
T Ratings -- 3/4 and 1 Hr (See Item 4)

**1. Floor-Ceiling Assembly** -- The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as summarized below:

A. **Flooring System** -- Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture\*** as specified in the individual Floor-Ceiling Design. Max diam of opening is dependent on the pipe size. See Item 4.

B. **Wood Joists** -- Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members** with bridging as required and with ends firestopped.

C. **Gypsum Board** -- Min 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Gypsum board nailed to wood joists.

**2. Chase Wall** -- The through penetrants (Item 3) are routed through a fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the material and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** -- Nom 2 by 6 in. (51 by 152 mm) or double 2 by 4 in. (51 by 102 mm) lumber studs.

B. **Sole Plate** -- Nom 2 by 6 in. (51 by 152 mm) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening is dependent on the pipe size. See Item 4.

C. **Top Plate** -- The double top plate shall consist of two 2 by 6 in. (51 by 152 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening is dependent on the pipe size. See Item 4.

D. **Gypsum Board** -- Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

**3. Nonmetallic Pipe** -- One nonmetallic vent pipe provided with sanitary tee and branch drain pipe with toilet flange to be centered within the firestop system. Pipe or conduit to be rigidly supported on both sides of floor assembly. The following types and sizes of nonmetallic pipes, fittings and flanges may be used:

A. **Polyvinyl Chloride (PVC) Pipe** -- Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in vented drain, waste or vent piping system.

B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** -- Nom 4 in. (102 mm) diam (or smaller) SDR17 CPVC pipe for use in vented (drain, waste or vent) piping systems.

C. **Acrylonitrile Butadiene Styrene (ABS) Pipe** -- Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core ABS pipe for use in vented (drain, waste or vent) piping systems.

**4. Firestop System** -- The firestop system shall consist of the following:

A. **Fill, Void or Cavity Materials - Wrap Strip** -- Nom 1/8 in. (3.2 mm) thick intumescent material supplied in 2 in. (51 mm) wide strips. The number of layers of wrap strips is dependent on the size of the pipe, as shown in the table below. The layers of wrap strip are individually wrapped tightly around penetrant with the ends butted and held in place with aluminum foil tape. Butted ends of successive layers may be staggered or aligned. Layers of wrap strip to be recessed into opening with the bottom surface of wrap strips extending 1/2 to 1 in. (13 to 25 mm) below bottom of lower top plate.

Nom Pipe Size (in. (mm))	Pipe	Diam of Opening (in. (mm))	Number or Wrap Strip Layers	T Rating
3 (76)	PVC, CPVC, ABS	4-1/2 (114)	4	1
4 (102)	PVC, CPVC	5-1/2 (141)	5	3/4

B. **Water Closet** -- Floor mounted vitreous china water closet.

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

Last Updated on 2008-04-08

**FLOOR PENETRATION U.L. SYSTEM NO. F-C-2095**

**System No. F-C-2351**  
January 12, 2009  
F Rating -- 1 Hr  
T Rating -- 1 Hr

**1. Floor-Ceiling Assembly** -- The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Designs in the UL Fire Resistance Directory, as summarized below:

A. **Flooring System** -- Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture\*** as specified in the individual Floor-Ceiling Design. Max diam of opening is 6 in. (152 mm).

B. **Wood Joists** -- Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members** with bridging as required and with ends firestopped.

C. **Gypsum Board** -- Thickness, type, number of layers and fasteners as required in the individual Floor-Ceiling Design.

**2. Plastic Plumbing Fixtures - Shower Base Receptor** -- One-piece molded nonmetallic shower base receptor with stainless steel drain plate. Shower base receptor to be installed in accordance with the manufacturer's instructions.

**TILE-REDI USA L L C** -- Model 3360L, 3360R, 37NEO, 3737, 4837, 4837ADA, 4837MB or 4848

**3. Tile** -- (Not Shown) - Ceramic or stone tile applied to shower pan floor with epoxy adhesive in accordance with shower base receptor installation instructions.

**4. Nonmetallic Pipe** -- Nom 2 in. (51 mm) diam Schedule 40 solid or cellular core PVC pipe solvent-welded into drain in the bottom of the shower base receptor and centered in the floor opening.

**5. Firestop System** -- The details of the firestop system shall be as follows:

A. **Fill, Void or Cavity Materials - Wrap Strip** -- Nom 1/8 in. (3.2 mm) thick intumescent material supplied in 2 in. (51 mm) wide strips. Single layer of wrap strip tightly wrapped around nonmetallic drain pipe (Item 4) with a butted seam and with the top edge of the wrap strip abutting the hub of the shower drain. Wrap strip layer temporarily held in position using tape.

**3M COMPANY 3M FIRE PROTECTION PRODUCTS** -- Ultra GS

B. **Steel Collar** -- Nom 2 in. (51 mm) deep collar with 1-1/4 in. (32 mm) wide by 2 in. (51 mm) long anchor tabs and tabs to retain wrap strip layer. Coils of pre-cut 0.016 in. (0.41 mm) thick (26 gauge) galv sheet steel available from wrap strip manufacturer. Steel collar, with anchor tabs bent outward 90 deg, wrapped tightly around wrap strip with min 1 in. (25 mm) overlap at seam. Anchor tabs to be pressed tightly against hub of shower drain and collar to be compressed around wrap strip using a min 1/2 in. (13 mm) wide stainless steel clamp at the collar midheight. Collar to be secured to underside of flooring system with steel screws with min 1/4 in. (6 mm) diam steel washers in conjunction with steel extension straps. Hanger tab extension straps to be fabricated from min 0.022 in. (0.6 mm) thick galv sheet steel. Taper straps from 1/4 in. (6 mm) wide to 1 in. (25 mm) wide with sufficient length to allow 1-1/2 to 2 in. (38 to 51 mm) lap onto floor. Straps secured to collar by inserting min 1 in. (25 mm) length of 1/4 in. (6 mm) wide end into hole on mounting tab and bending 180 degrees. Min of two anchor screws, diametrically opposed, are required.

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

Last Updated on 2009-01-21

**FLOOR PENETRATION U.L. SYSTEM NO. F-C-2351**

**System No. F-C-1009**  
MARCH 08, 2018  
F Ratings -- 1 and 2 Hr (See Item 1)  
T Ratings -- 1/4 Hr (See Item 1)

**1. FLOOR-CEILING ASSEMBLY** -- THE 1 OR 2 HR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE RATING OF THE FLOOR-CEILING ASSEMBLY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

A. **FLOORING SYSTEM** -- LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR **FLOOR TOPPING MIXTURE\*** AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. DIAM OF OPENING TO BE MAX 1 IN. (25 MM) LARGER THAN DIAM OF PIPE AS AN ALTERNATE. THE OPENING MAY BE SQUARE-CUT WITH A MAX DIMENSION 1 IN. (25 MM) GREATER THAN THE DIAM OF THE PIPE.

B. **WOOD JOISTS** -- NOM 10 IN. (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR **STRUCTURAL WOOD MEMBERS** WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. **FURRING CHANNELS** -- (NOT SHOWN) -- (AS REQUIRED) RESILIENT GALVANIZED STEEL FURRING INSTALLED IN ACCORDANCE WITH THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES DESIGNS IN THE FIRE RESISTANCE DIRECTORY.

D. **GYPSUM BOARD** -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. DIAM OF OPENING TO BE MAX 1 IN. (25 MM) LARGER THAN DIAM OF PIPE.

**2. CHASE WALL** -- (OPTIONAL) -- THE THROUGH PENETRANT (ITEM 3) MAY BE ROUTED THROUGH A FIRE RATED OR NON-RATED SINGLE, DOUBLE, OR STAGGERED WOOD STUD/GYPSUM BOARD CHASE WALL WITH ENDS FIRESTOPPED.

A. **STUDS** -- NOM 2 BY 4 IN. (51 BY 102 MM), 2 BY 6 IN. (51 BY 152 MM) OR DOUBLE NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER STUDS. NOM 2 BY 4 IN. (51 BY 102 MM) STUDS ARE ALLOWED FOR THROUGH-PENETRANTS (ITEM 3) NOT EXCEEDING NOM 2 IN. (51 MM) DIAM.

B. **SOLE PLATE** -- NOM 2 BY 4 IN. (51 BY 102 MM), 2 BY 6 IN. (51 BY 152 MM) OR PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. DIAM OF OPENING IS TO BE MAX 1 IN. (25 MM) LARGER THAN DIAM OF PIPE. AS AN ALTERNATE, THE OPENING MAY BE SQUARE-CUT WITH A MAX DIMENSION 1 IN. (25 MM) GREATER THAN THE DIAM OF THE PIPE. PLATES MAY BE DISCONTINUOUS OVER OPENING, TERMINATING AT TWO OPPOSING EDGES OF OPENING. MAX LENGTH OF DISCONTINUITY TO BE 1 IN. (25 MM) GREATER THAN DIAM OF THROUGH PENETRANT.

C. **TOP PLATE** -- THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOM 2 BY 4 IN. (51 BY 102 MM) OR TWO SETS OF PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. DIAM OF OPENING IS TO BE MAX 1 IN. (25 MM) LARGER THAN DIAM OF PIPE. AS AN ALTERNATE, THE OPENING MAY BE SQUARE-CUT WITH A MAX DIMENSION 1 IN. (25 MM) GREATER THAN THE DIAM OF THE PIPE. PLATES MAY BE DISCONTINUOUS OVER OPENING, TERMINATING AT TWO OPPOSING EDGES OF OPENING. MAX LENGTH OF DISCONTINUITY TO BE 1 IN. (25 MM) GREATER THAN DIAM OF THROUGH PENETRANT.

D. **GYPSUM BOARD** -- ONE OR TWO LAYERS OF MIN 1/2 IN. (13 MM) GYPSUM BOARD.

E. **STEEL PLATE** -- (NOT SHOWN) WHEN LUMBER PLATES ARE DISCONTINUOUS, NOM 1-1/2 IN. (38 MM) WIDE NO. 20 GAUGE (OR HEAVIER) GALV STEEL PLATES SHALL BE INSTALLED TO CONNECT EACH DISCONTINUOUS LUMBER PLATE AND TO PROVIDE A FORM FOR THE FILL MATERIAL. STEEL PLATES SIZED TO LAP 2 IN. (51 MM) ONTO EACH DISCONTINUOUS LUMBER PLATE AND SECURED TO LUMBER PLATES WITH STEEL SCREWS OR NAILS.

**3. THROUGH PENETRANTS** -- ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR ASSEMBLY. THE ANNULAR SPACE WITHIN THE FIRESTOP SYSTEM SHALL BE MIN 0 IN. (POINT CONTACT) TO MAX 1 IN. (25 MM). THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR CONDUITS MAY BE USED:

A. **STEEL PIPE** -- NOM 4 IN. (102 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

B. **IRON PIPE** -- NOM 4 IN. (102 MM) DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.

C. **CONDUIT** -- NOM 4 IN. (102 MM) DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR STEEL CONDUIT.

D. **COPPER TUBING** -- NOM (102 MM) 4 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

E. **COPPER PIPE** -- NOM (102 MM) 4 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

**4. FILL, VOID OR CAVITY MATERIAL - SEALANT** -- MIN 3/4 IN. (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH THE TOP SURFACE OF THE FLOOR OR THE SOLE PLATE. MIN 5/8 IN. (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

**HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC.** -- CP6015, CFS-5 SIL G, CP606, FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT (NOTE: L RATINGS APPLY ONLY WHEN FS-ONE SEALANT IS USED.)

\*INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

Last Updated on 2018-03-08

**FLOOR PENETRATION U.L. SYSTEM NO. F-C-1009**

**System No. W-L-1296**  
February 14, 2008  
F Ratings -- 1 and 2 Hr (See Item 1)  
T Ratings -- 0 and 1/4 Hr (See Item 1)

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

A. **Studs** -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide spaced max 24 in. (610 mm) OC.

B. **Gypsum Board** -- The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 10-5/8 in. (270 mm).

C. **Steel Sleeve** -- (Optional, Not Shown) - Cylindrical sleeve fabricated from min 0.018 in. thick (0.46 mm) galv sheet steel and having a min 2 in. (51 mm) lap along the longitudinal seam, length of steel sleeve to be equal to thickness of wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers.

**The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T Rating is 0 and 1/4 Hr for 1 and 2 Hr rated assemblies, respectively.**

**2. Through Penetrants** -- One nonmetallic pipe, conduit, tubing or flexible metal pipe installed concentrically or eccentrically within opening. Annular space between penetrant and periphery of opening to be min 0 in. (0 mm point contact) to max 2 in. (51 mm). Penetrant to be rigidly supported on both sides of wall. The following types and sizes of penetrants may be used:

A. **Steel Pipe** -- Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. **Iron Pipe** -- Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.

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

D. **Copper Tubing** -- Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.

E. **Copper Pipe** -- Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

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

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

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

**GASTITE, DIV OF TITELFLEX**

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

**WARD MFG L L C**

**3. Fill, Void or Cavity Material - Caulk or Sealant** -- Min 5/8 in. (16 mm) thickness of caulk applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall.

**3M COMPANY** -- IC-15WB, CP-25WB+ caulk or FB-3000 WT sealant

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

Last Updated on 2008-02-14

**WALL PENETRATION U.L. SYSTEM NO. W-L-1296**

**System No. F-C-2027**  
December 07, 2008  
F Rating -- 1 Hr  
T Rating -- 0 Hr

**1. Floor Assembly** -- The 1 hr fire rated wood truss or combination wood and steel truss floor-ceiling assembly shall be constructed of the materials and in the manner described in the individual L500 Series Design in the UL Fire Resistance Directory, as summarized below:

A. **Flooring System** -- Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture\*** as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1/2 in. to 1 in. (13 to 25 mm) larger than the outside diam of nonmetallic pipe (Items 3 and 4).

B. **Joists** -- Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or **Structural Wood Members** with bridging as required and with ends firestopped.

C. **Gypsum Board** -- Nom 4 ft (1.2 m) wide by 5/8 in. (16 mm) thick, attached as described in the individual Floor-Ceiling Design.

**2. Chase Wall** -- The through penetrant (Item 3) shall be routed through a 1 hr fire rated single, double or staggered wood studs/gypsum board chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** -- Nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber studs.

B. **Sole Plate** -- Nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber plates. Diam of opening or length of notch-out in sole plate to be 1/2 in. to 1 in. (13 to 25 mm) larger than outside diam of pipe.

C. **Top Plate** -- The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm) or 2 by 6 in. (51 by 152 mm) lumber plates. Diam of opening or length of notch-out in top plate to be 1/2 in. to 1 in. (13 to 25 mm) larger than outside diam of pipe.

D. **Gypsum Board** -- Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

**3. Through Penetrant** -- One nonmetallic pipe to be installed within the firestop system. Pipe to be rigidly supported on both sides of floor-ceiling assembly. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. (13 mm) to max 1 3/8 in. (35 mm). The following types and sizes of nonmetallic pipes may be used:

A. **Polyvinyl Chloride (PVC) Pipe** -- Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

B. **Acrylonitrile Butadiene Styrene (ABS) Pipe** -- Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** -- Nom 2 in. diam (or smaller) SDR 11 CPVC pipe for use in closed (process or supply) piping systems.

D. **Crosslinked Polyethylene (PEX) Tubing** -- Nom 1-1/2 in. diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) piping systems. The annular space between tubing and periphery of opening shall be min 1/4 in. to max 3/8 in.

E. **Polyvinyl Chloride (PVC) Pipe** -- Nom 2 in. diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) piping systems.

**3. Fill, Void or Cavity Material - Sealant** -- Min 5/8 in. (16 mm) thickness of fill material for a 1 hr rated wall assembly, min 1 in. thickness of fill material for 2, 3 and 4 hr rated wall assemblies applied within the annulus, flush with both surfaces of wall.

**PASSIVE FIRE PROTECTION PARTNERS** -- 360EX, 4800DW

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

Last Updated on 2008-12-08

**FLOOR PENETRATION U.L. SYSTEM NO. F-C-2027**

**System No. W-L-1296**  
February 14, 2008  
F Ratings -- 1 and 2 Hr (See Item 1)  
T Ratings -- 0 and 1/4 Hr (See Item 1)

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

A. **Studs** -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide spaced max 24 in. (610 mm) OC.

B. **Gypsum Board** -- The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 10-5/8 in. (270 mm).

C. **Steel Sleeve** -- (Optional, Not Shown) - Cylindrical sleeve fabricated from min 0.018 in. thick (0.46 mm) galv sheet steel and having a min 2 in. (51 mm) lap along the longitudinal seam, length of steel sleeve to be equal to thickness of wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers.

**The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T Rating is 0 and 1/4 Hr for 1 and 2 Hr rated assemblies, respectively.**

**2. Through Penetrants** -- One nonmetallic pipe, conduit, tubing or flexible metal pipe installed concentrically or eccentrically within opening. Annular space between penetrant and periphery of opening to be min 0 in. (0 mm point contact) to max 2 in. (51 mm). Penetrant to be rigidly supported on both sides of wall. The following types and sizes of penetrants may be used:

A. **Steel Pipe** -- Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. **Iron Pipe** -- Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.

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

D. **Copper Tubing** -- Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.

E. **Copper Pipe** -- Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

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

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

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

**OMEGA FLEX INC**

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

**GASTITE, DIV OF TITELFLEX**

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

**WARD MFG L L C**

**3. Fill, Void or Cavity Material - Caulk or Sealant** -- Min 5/8 in. (16 mm) thickness of caulk applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall.

**3M COMPANY** -- IC-15WB, CP-25WB+ caulk or FB-3000 WT sealant

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

Last Updated on 2008-02-14

**WALL PENETRATION U.L. SYSTEM NO. W-L-1296**

**System No. W-L-2126**  
December 07, 2008  
F Rating -- 1, 2, 3 and 4 Hr (See Item 1)  
T Ratings -- 1, 2, 3 and 4 Hr (See Item 1)

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

A. **Studs** -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.

B. **Gypsum Board** -- The gypsum board type, thickness, number of layers, fasteners type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 3-1/8 in.

**The hourly F and T Ratings of the firestop system is equal to the hourly fire rating of the assembly in which it is installed.**

**2. Through Penetrants** -- One nonmetallic pipe or tubing installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes or tubing may be used:

A. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** -- Nom 2 in. diam (or smaller) SDR 11 CPVC pipe for use in closed (process or supply) piping systems. The annular space between pipe and periphery of opening shall be min 1/4 in. to max 1/2 in.

B. **Crosslinked Polyethylene (PEX) Tubing** -- Nom 1-1/2 in. diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) piping systems. The annular space between tubing and periphery of opening shall be min 1/4 in. to max 3/8 in.

C. **Polyvinyl Chloride (PVC) Pipe** -- Nom 2 in. diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) piping systems.

**3. Fill, Void or Cavity Material - Sealant** -- Min 5/8 in. (16 mm) thickness of fill material for a 1 hr rated wall assembly, min 1 in. thickness of fill material for 2, 3 and 4 hr rated wall assemblies applied within the annulus, flush with both surfaces of wall.

**PASSIVE FIRE PROTECTION PARTNERS** -- 360EX, 4800DW

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

Last Updated on 2002-12-07

**WALL PENETRATION U.L. SYSTEM NO. W-L-2126**

**System No. F-C-2309**  
August 26, 2004  
F Rating -- 1 Hr  
T Ratings -- 1/4 and 1 Hr (See Item 2)

**1. Floor-Ceiling Assembly** -- The 1 hr fire-rated wood joist, wood truss or combination wood and steel truss floor-ceiling assembly shall be constructed of the materials and in the manner described in the individual L500 Series Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Flooring System** -- Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture\*** as specified in the individual Floor-Ceiling Design. Max diam of opening is 3-3/8 in. (92 mm).

B. **Joists** -- Nom 2 by 10 in. (51 by 254 mm) deep (or deeper) lumber joists spaced 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging and with ends firestopped or steel or combination lumber and steel joists, trusses or **Structural Wood Members** with bridging as required and with ends firestopped.

C. **Furring Channels** -- (Not Shown) - Resilient galv steel furring channels installed perpendicular to wood joists (Item 1B) as required in the individual Floor-Ceiling Design.

D. **Gypsum Board** -- Nom 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Max diam of opening is 3-3/8 in. (92 mm).

**1.1 Chase Wall** -- (Optional, Not Shown) -- The through penetrant (Item 2) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** -- Nom 2 by 6 in. (51 by 152 mm), or double nom 2 by 4 in. (51 by 102 mm) lumber studs.

B. **Sole Plate** -- Nom 2 by 6 in. (51 by 152 mm), or parallel 2 by 4 in. (51 by 102 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening is 3-3/8 in. (92 mm).

C. **Top Plate** -- The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening is 3-3/8 in. (92 mm).

D. **Gypsum Board** -- Thickness, type, number of layers and fasteners shall be as specified in the individual Wall and Partition Design.

**2. Through Penetrant** -- One nonmetallic pipe to be installed eccentrically or concentrically within the firestop system. The annular space between the nonmetallic pipe and edge of through opening shall be min 1/4 in. to max 3/4 in. (6 to 19 mm). Pipe, conduit or tubing to be rigidly supported on both sides of the floor-ceiling assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:

A. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** -- Nom 2 in. (51 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

B. **Polyvinyl Chloride (PVC) Pipe** -- Nom 2 in. (51 mm) diam (or smaller) Schedule 40 solid-core PVC pipe for use in closed (process or supply) or vented (drain, waste, or vent) piping systems.

C. **Rigid Nonmetallic Conduit** -- Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70).

D. **Cross-Linked Polyethylene (PEX) Tubing** -- Nom 1 in. (25 mm) diam (or smaller) SDR9 PEX tubing for use in closed (process or supply) piping systems.

E. **Polybutylene (PB) Pipe** -- Nom 1 in. (25 mm) diam (or smaller) SDR11 PB pipe for use in closed (process or supply) piping systems.

F. **Cross-Linked Polyethylene Aluminum Cross-Linked Polyethylene (PEX-AL-PEX) Tubing** -- Nom 1 in. (25 mm) diam (or smaller) SDR 5 PEX-AL-PEX tubing for use in closed (process or supply) piping systems.

**When Items A, B, C, D and E are used, the chase wall is optional. When Item F is used, the chase wall is required. When nom diam of pipe exceeds 1 in. and chase wall is not used, the hourly F Rating is 1/4 Hr. Otherwise, the T Rating is 1 Hr.**

**3. Fill, Void or Cavity Material - Caulk** -- Min 3/4 in. (19 mm) thickness of fill material applied within annulus on top surface of floor. Min 5/8 in. (16 mm) thickness of fill material applied within annulus on bottom surface of ceiling or lower top plate of chase wall assembly.

**HCC HOLDINGS INC** -- Hercules Plumbers Firestop Sealant

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

Last Updated on 2004-08-26

**FLOOR PENETRATION U.L. SYSTEM NO. F-C-2309**

**KONTOGIANNIS & ASSOCIATES**

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PLANNING  
DESIGN

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E-MAIL: architects@kontogiannis.com

PROJECT:

**THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**PLUMBING FIRE STOP SYSTEMS**

DATE: 07/31/2023  
REVISED:

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**P3-2**

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**INTAKE & EXHAUST LOUVERS**

**WALL LOUVERS**

WALL LOUVERS IN STONE & SIDING SHALL BE HOODED PRE-FINISHED VINYL BY MID-AMERICA COMPANY (W/ BACKDRAFT DAMPER). COLOR TO MATCH STONE & SIDING.

**BATH EXHAUST** - 4" ROUND HOODED VENT W/ BACK-DRAFT DAMPER & SCREEN.

**DRYER EXHAUST** - DRYER EXHAUST - 4" ROUND HOODED VENT W/ BACK-DRAFT DAMPER & NO SCREEN.

**RANGE EXHAUST** - RANGE EXHAUST - 6" ROUND HOODED VENT W/ BACK-DRAFT DAMPER & SCREEN.

**FRESH AIR** - FRESH AIR - 4" ROUND HOODED VENT W/ LOCKING DAMPER & SCREEN, SEE PLANS.

**SOFFIT VENTS**

SOFFIT VENTS SHALL BE PRE-FINISHED VINYL (WHITE) AS MANUFACTURED BY PRIMEX MANUFACTURING LTD. AS FOLLOWS:

**BATH EXHAUST** - RDV-4" ROUND W/ SCREEN. USE EB4x90 ELBOW AS NEEDED.

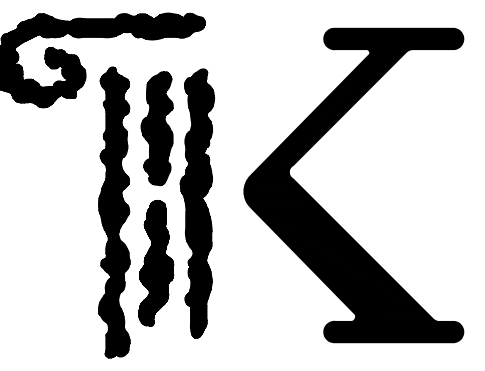
**DRYER EXHAUST** - SV28NS (NO SCREEN) & BACKDRAFT DAMPER

**RANGE EXHAUST** - SV28-6" W/ SCREEN & BACKDRAFT DAMPER

**FRESH AIR** - RDV-4" ROUND W/ SCREEN. USE EB4x90 ELBOW AS NEEDED.

**GENERAL NOTES:**

- ADJUST ALL RESISTERS AS NEEDED TO MISS TRUSSES.
- ADD BLOCKING AS NEEDED TO SECURE RESISTERS.
- PLACE SUPPLY AIR PLENUMS IN TRUSS SPACE ADJUST AS NEEDED TO MISS TRUSSES.
- PROVIDE PRE-FINISHED CAP TO MATCH WITH BACKDRAFT DAMPER FOR ALL EXHAUST LOUVERS.
- LINESETS THROUGH FLOOR TRUSS SPACES AND DOWN WALLS.
- UNDER-CUT DOOR 1" FOR RETURN AIR (TYPICAL).
- MAINTAIN 3'-0" FROM OPERABLE OPENINGS INTO BUILDINGS FOR ALL EXHAUST LOUVERS.
- ALL THIRD FLOOR EXHAUST & FRESH AIR SHALL BE IN SOFFIT.



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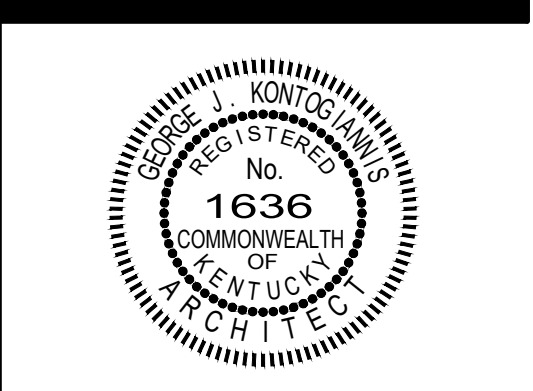
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**BUILDING FIRST  
FLOOR HVAC PLAN**

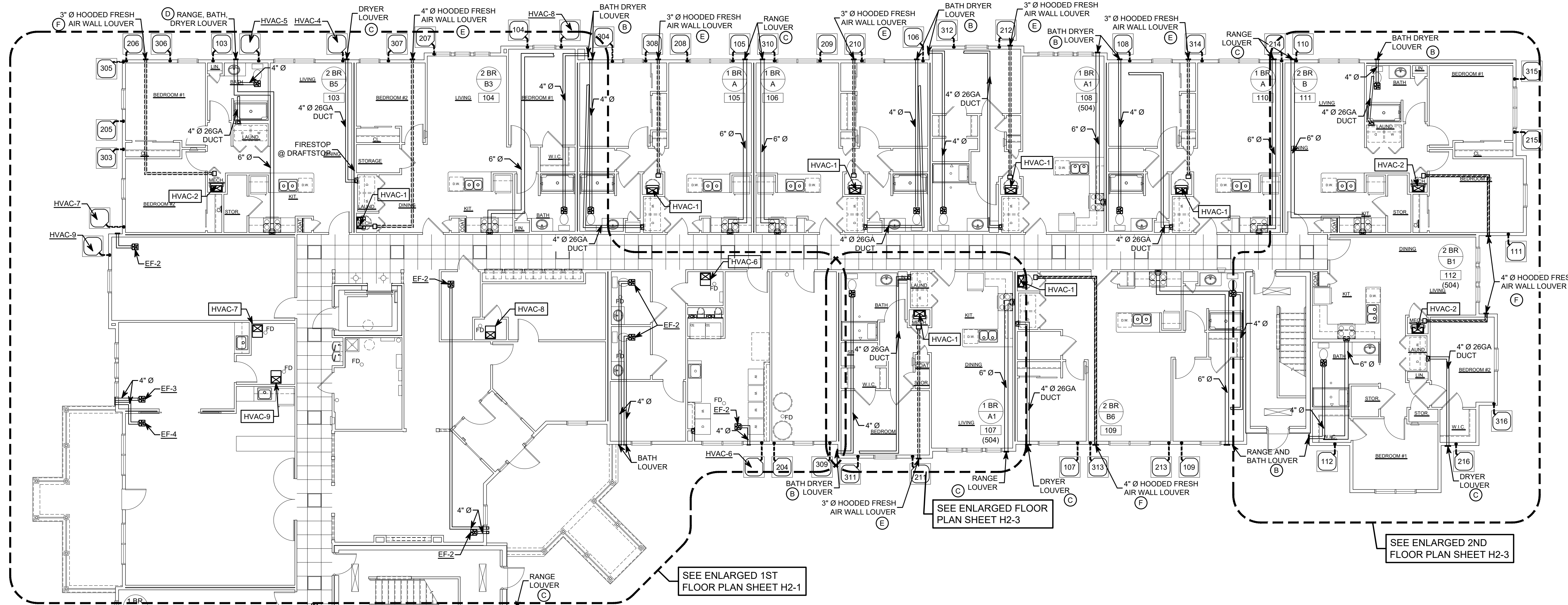
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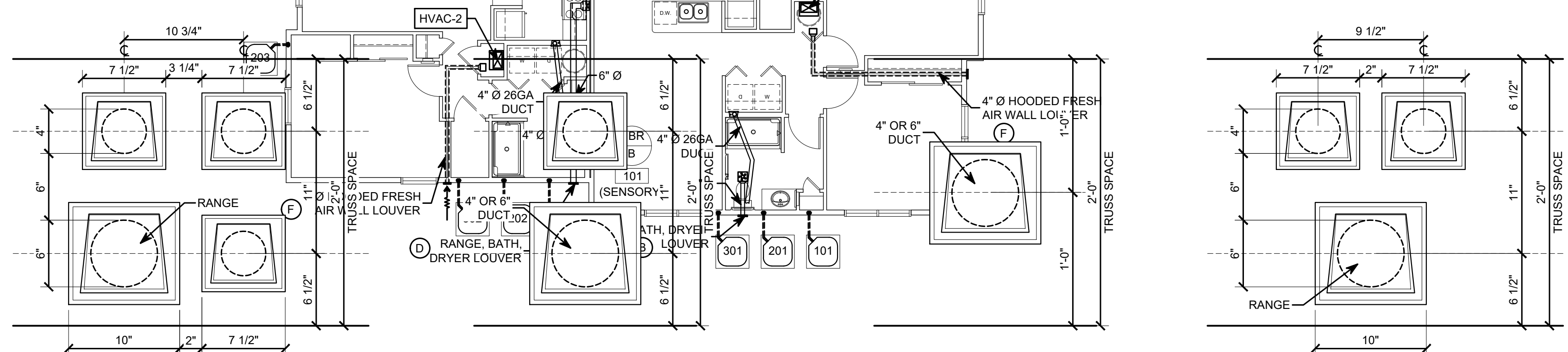
**H1-1**



SEE ENLARGED 1ST FLOOR PLAN SHEET H2-1

SEE ENLARGED FLOOR PLAN SHEET H2-3

SEE ENLARGED 2ND FLOOR PLAN SHEET H2-3



**LOUVER DETAIL (A)**  
SCALE: 1 1/2" = 1'-0"

**LOUVER DETAIL (B)**  
SCALE: 1 1/2" = 1'-0"

**LOUVER DETAIL (C)**  
SCALE: 1 1/2" = 1'-0"

**LOUVER DETAIL (D)**  
SCALE: 1 1/2" = 1'-0"

- (E)** SIM. (3" Ø)
- (F)** SIM. (4" Ø)

**BUILDING FIRST FLOOR HVAC PLAN**

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

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**INTAKE & EXHAUST LOUVERS**

**WALL LOUVERS**

WALL LOUVERS IN STONE & SIDING SHALL BE HOODED PRE-FINISHED VINYL BY MID-AMERICA COMPANY (W/ BACKDRAFT DAMPER). COLOR TO MATCH STONE & SIDING.

**BATH EXHAUST** - 4" ROUND HOODED VENT W/ BACK-DRAFT DAMPER & SCREEN.

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**RANGE EXHAUST** - RANGE EXHAUST - 6" ROUND HOODED VENT W/ BACK-DRAFT DAMPER & SCREEN.

**FRESH AIR** - FRESH AIR - 4" ROUND HOODED VENT W/ LOCKING DAMPER & SCREEN, SEE PLANS.

**SOFFIT VENTS**

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**BATH EXHAUST** - RDV-4" ROUND W/ SCREEN. USE EB4x90 ELBOW AS NEEDED.

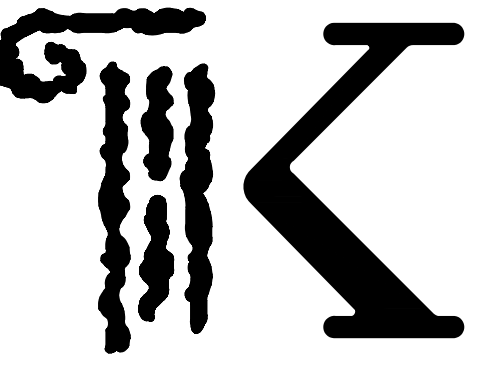
**DRYER EXHAUST** - SV28NS (NO SCREEN) & BACKDRAFT DAMPER

**RANGE EXHAUST** - SV28-6" W/ SCREEN & BACKDRAFT DAMPER

**FRESH AIR** - RDV-4" ROUND W/ SCREEN. USE EB4x90 ELBOW AS NEEDED.

**GENERAL NOTES:**

1. ADJUST ALL RESISTERS AS NEEDED TO MISS TRUSSES.
2. ADD BLOCKING AS NEEDED TO SECURE RESISTERS.
3. PLACE SUPPLY AIR PLENUMS IN TRUSS SPACE ADJUST AS NEEDED TO MISS TRUSSES.
4. PROVIDE PRE-FINISHED CAP TO MATCH WITH BACKDRAFT DAMPER FOR ALL EXHAUST LOUVERS.
5. LINESETS THROUGH FLOOR TRUSS SPACES AND DOWN WALLS.
6. UNDER-CUT DOOR 1" FOR RETURN AIR (TYPICAL).
7. MAINTAIN 3'-0" FROM OPERABLE OPENINGS INTO BUILDINGS FOR ALL EXHAUST LOUVERS.
8. ALL THIRD FLOOR EXHAUST & FRESH AIR SHALL BE IN SOFFIT.



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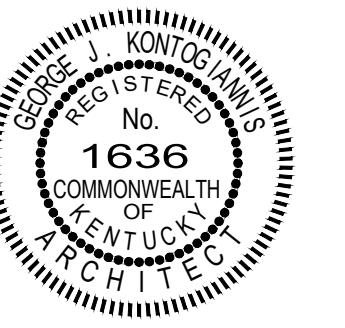
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**BUILDING SECOND  
FLOOR HVAC PLAN**

DATE: 07/31/2023  
REVISED:

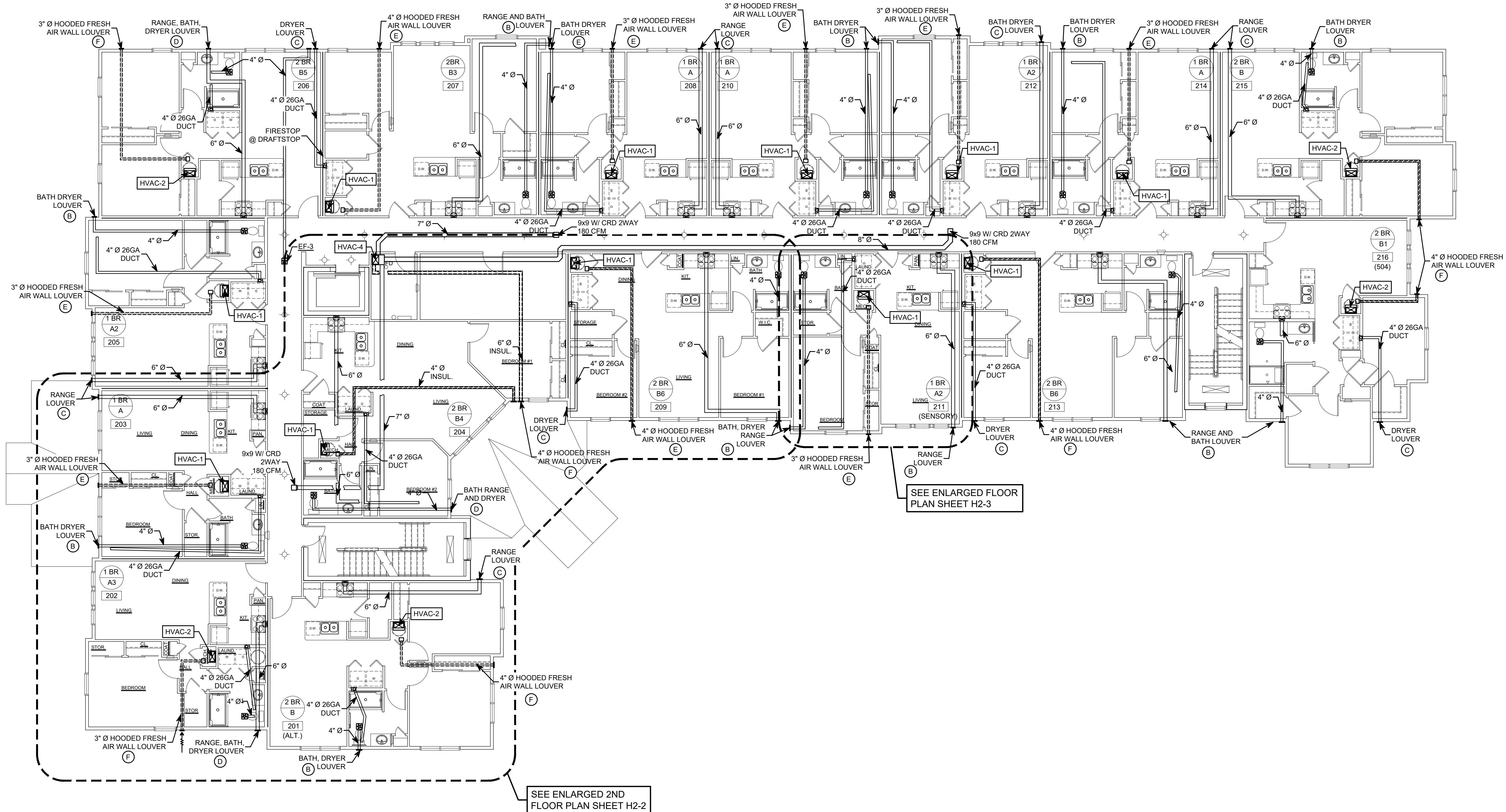


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**H1-2**



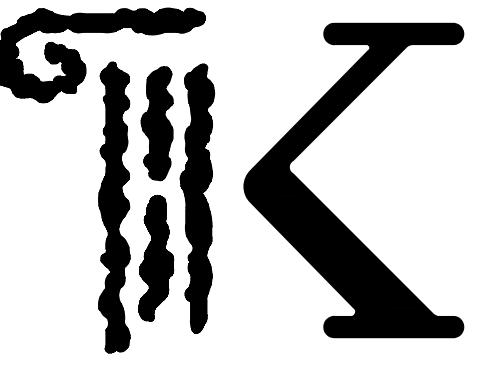
SEE ENLARGED 2ND  
FLOOR PLAN SHEET H2-2

**BUILDING SECOND FLOOR HVAC PLAN**

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

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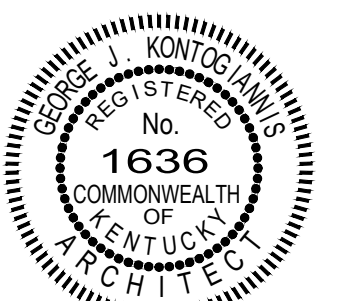
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(BUILDING "B")**

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DRAWING TITLE:  
**BUILDING THIRD  
FLOOR HVAC PLAN**

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**H1-3**

**INTAKE & EXHAUST LOUVERS**

WALL LOUVERS

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FRESH AIR - FRESH AIR - 4" ROUND HOODED VENT W/ LOCKING DAMPER & SCREEN, SEE PLANS.

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BATH EXHAUST - RDV-4" ROUND W/ SCREEN. USE EB4x90 ELBOW AS NEEDED.

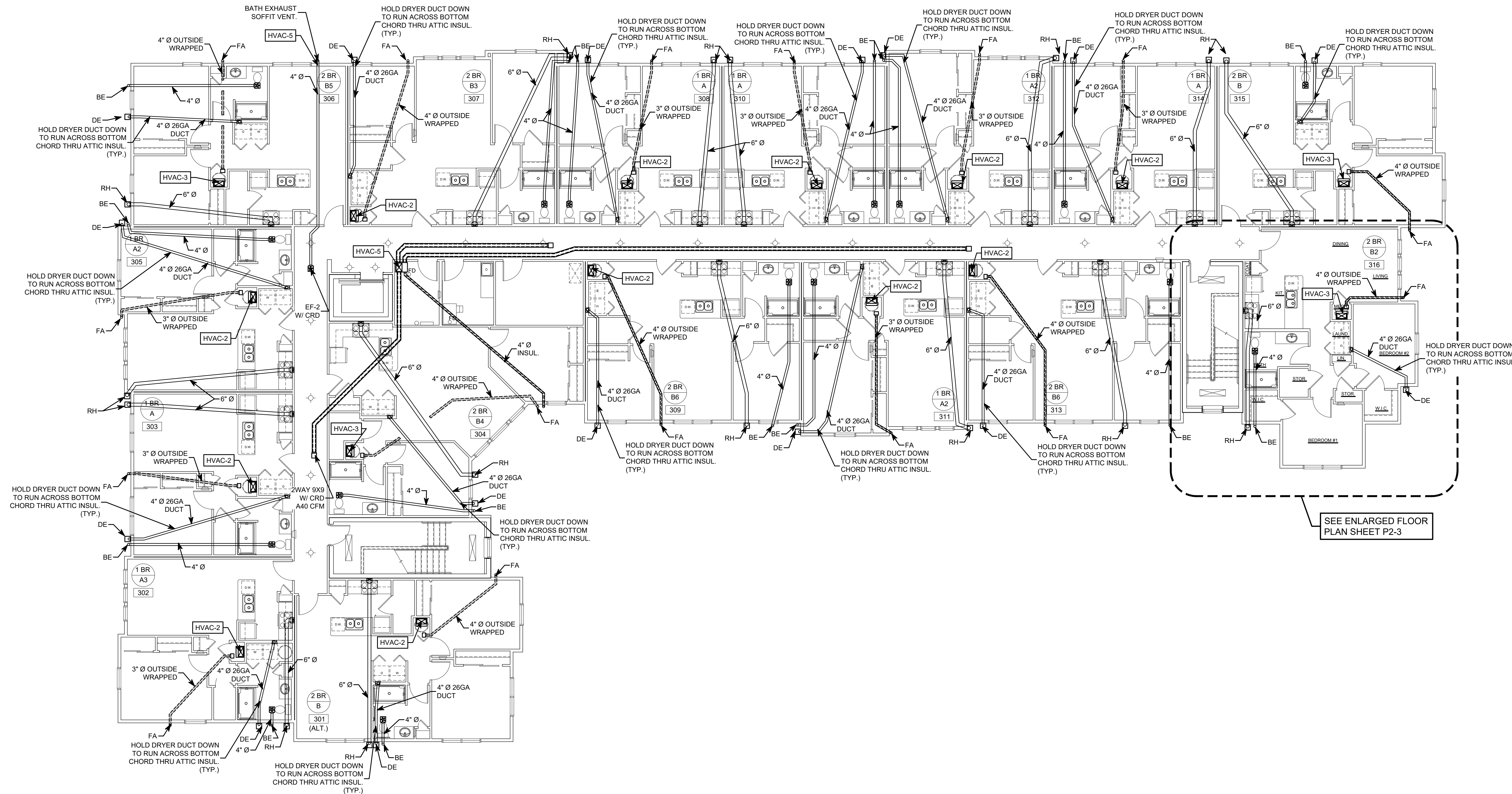
DRYER EXHAUST - SV28NS (NO SCREEN) & BACKDRAFT DAMPER

RANGE EXHAUST - SV28-6" W/ SCREEN & BACKDRAFT DAMPER

FRESH AIR - RDV-4" ROUND W/ SCREEN. USE EB4x90 ELBOW AS NEEDED.

GENERAL NOTES:

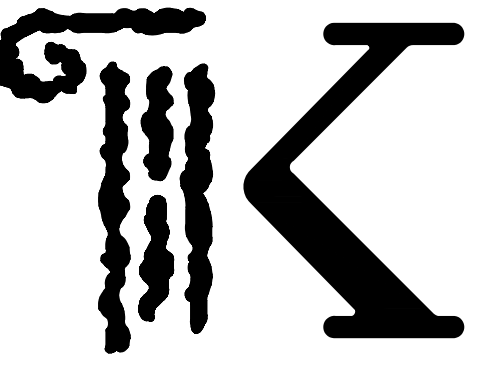
1. ADJUST ALL RESISTERS AS NEEDED TO MISS TRUSSES.
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8. ALL THIRD FLOOR EXHAUST & FRESH AIR SHALL BE IN SOFFIT.



**BUILDING THIRD FLOOR HVAC PLAN**

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

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FAX: 614-224-4736  
E-MAIL: architects@kontogiannis.com

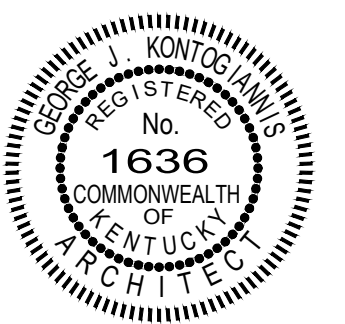
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED FIRST  
FLOOR HVAC PLAN**

DATE: 07/31/2023  
REVISED:

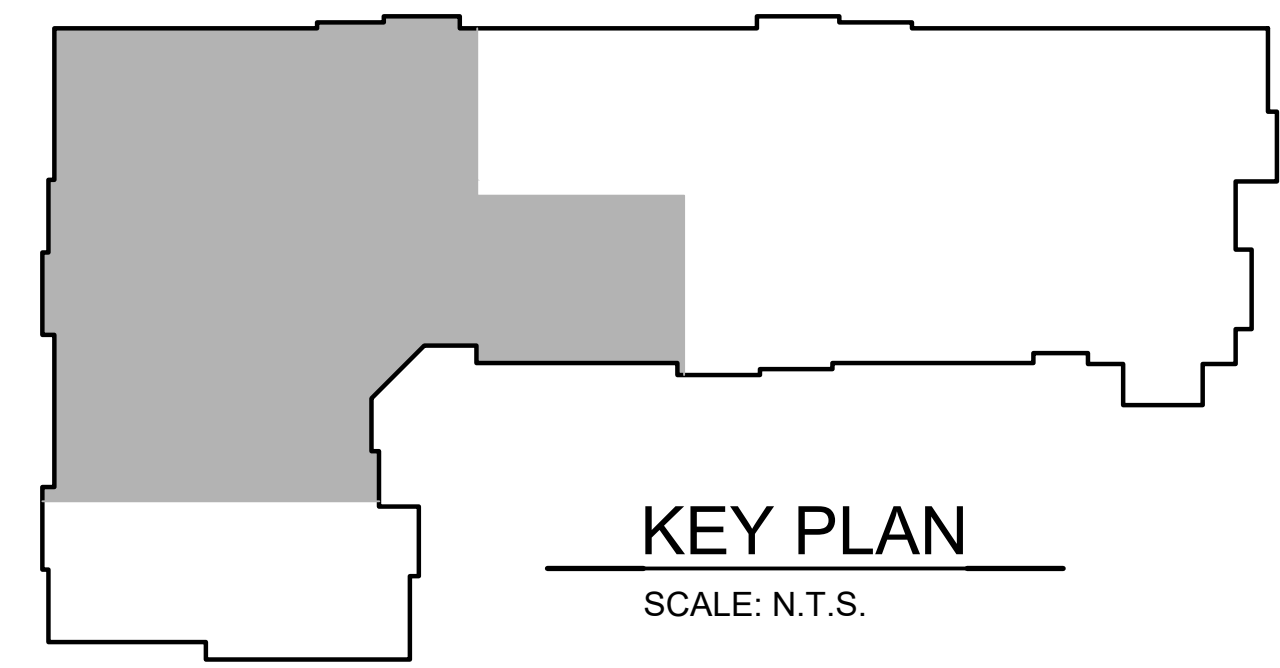


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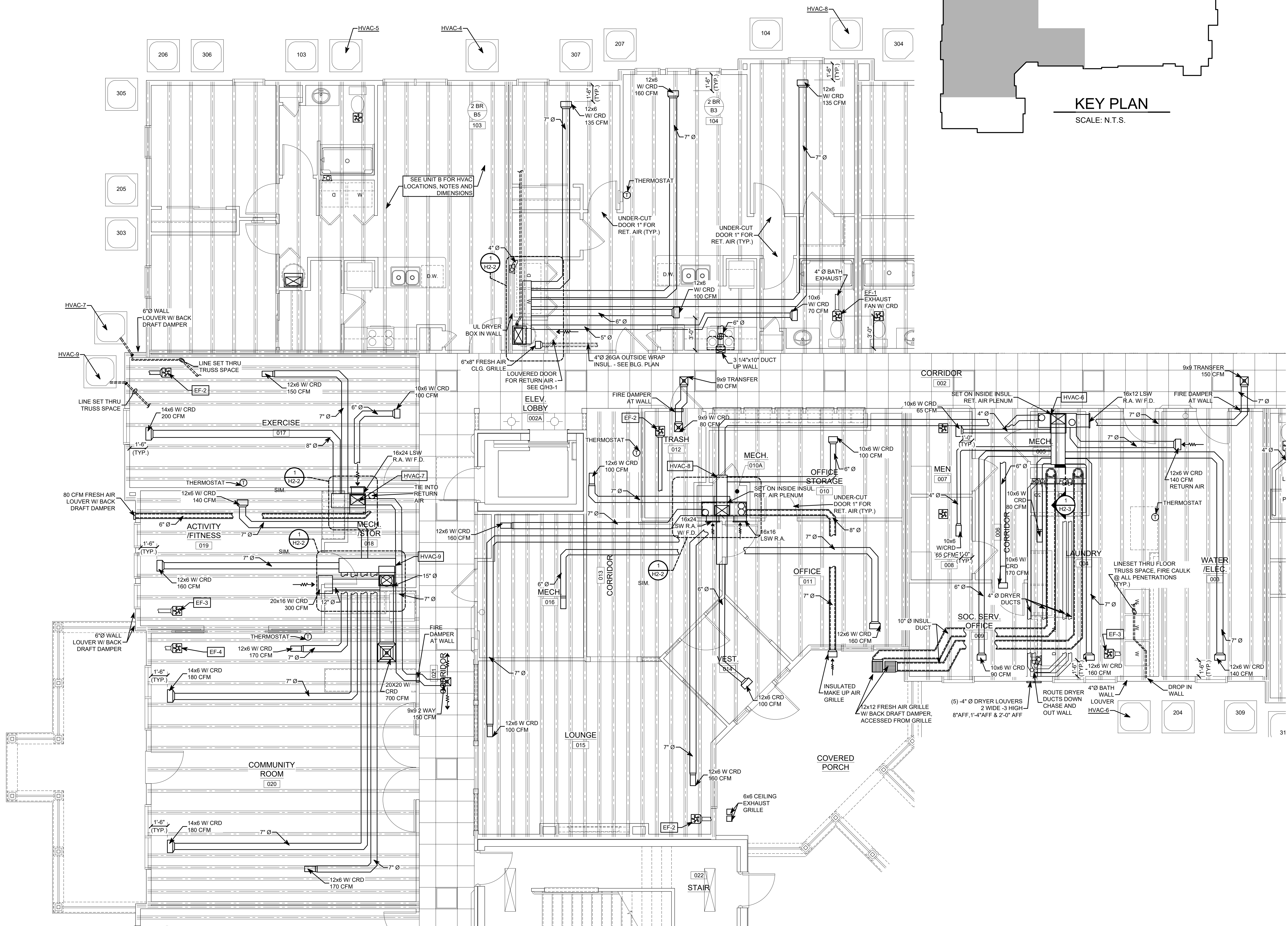
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**H2-1**



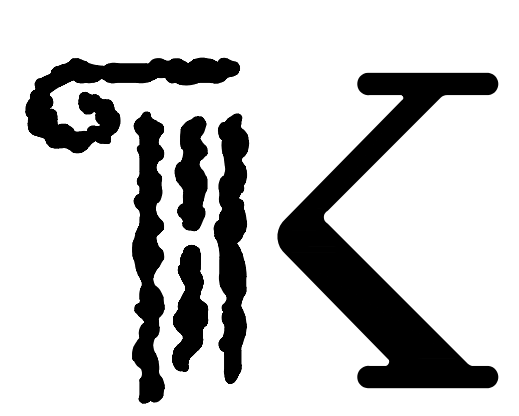
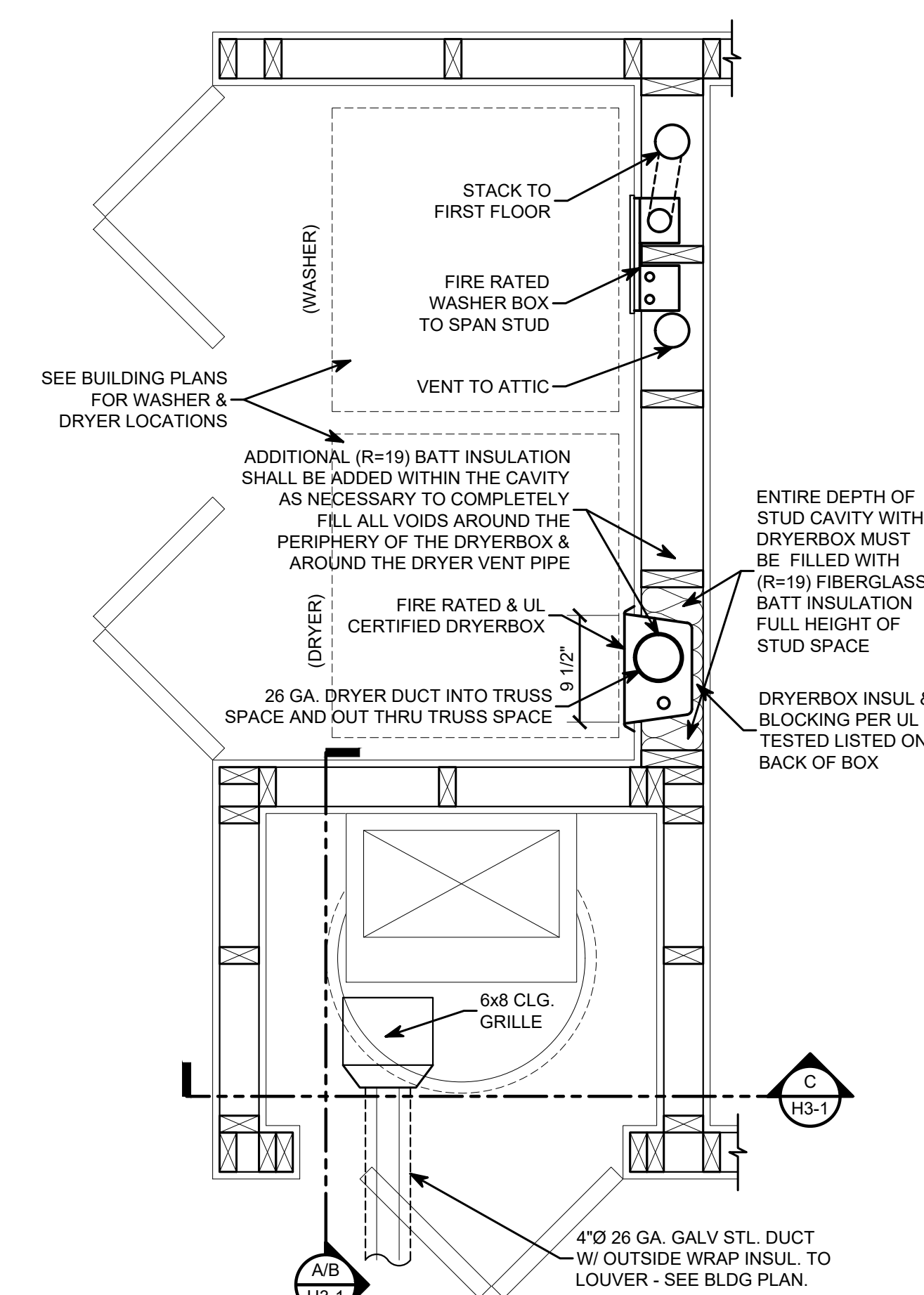
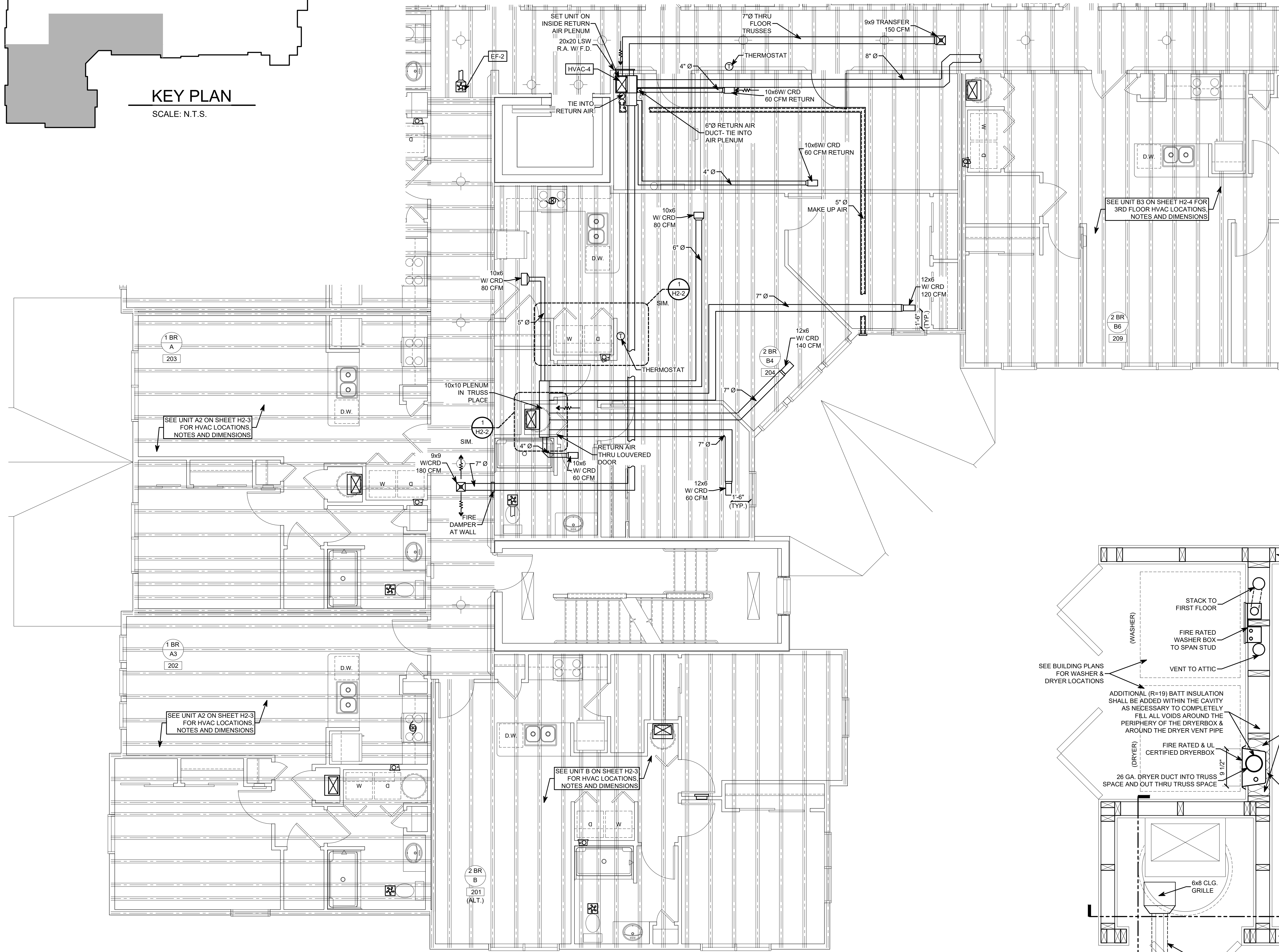
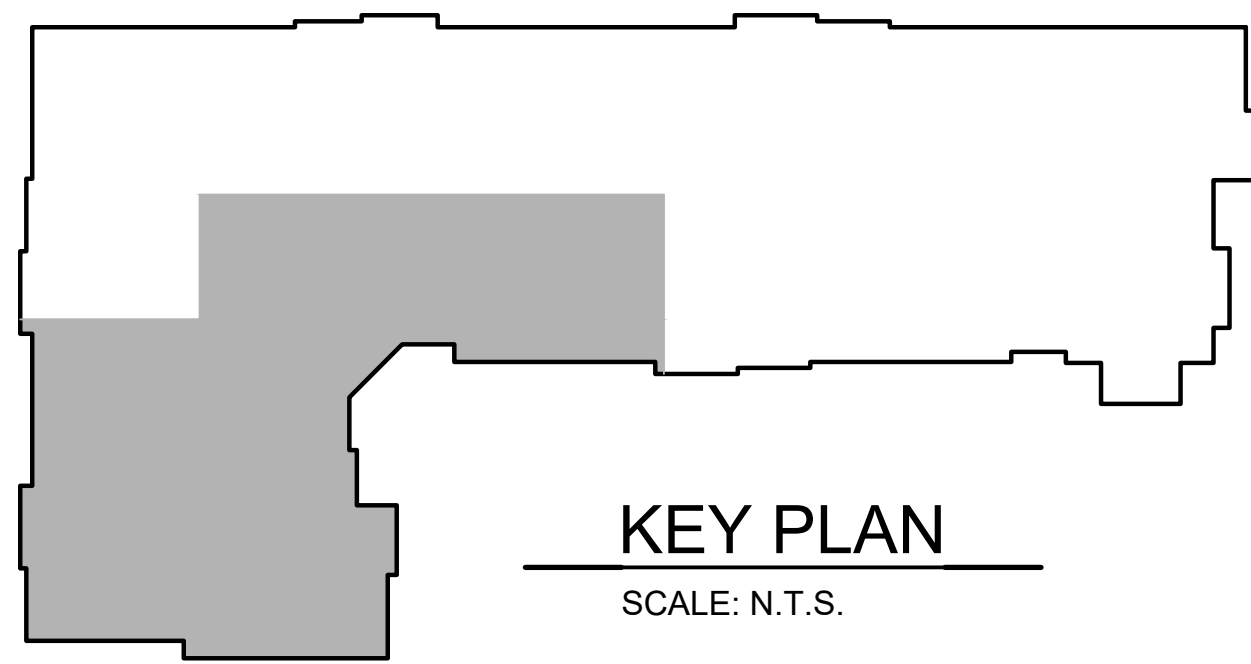
**KEY PLAN**  
SCALE: N.T.S.



**ENLARGED FIRST FLOOR HVAC PLAN**  
SCALE: 1/4" = 1'-0"

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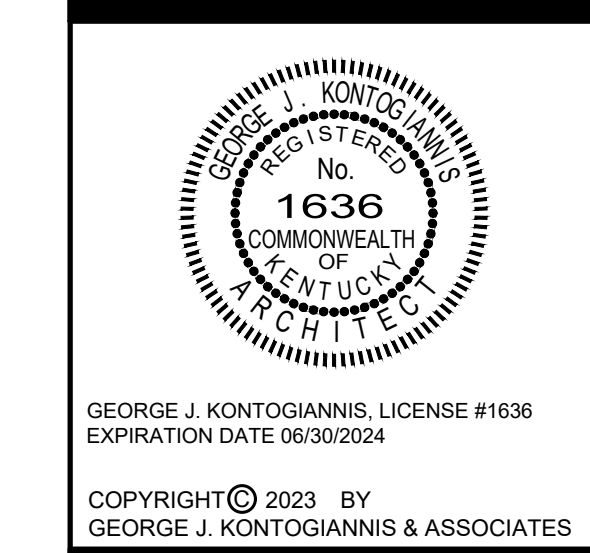
PHONE: 614-224-2083  
FAX: 614-224-4736  
E-MAIL: architects@kontogiannis.com

PROJECT:  
**THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED SECOND FLOOR HVAC PLAN**

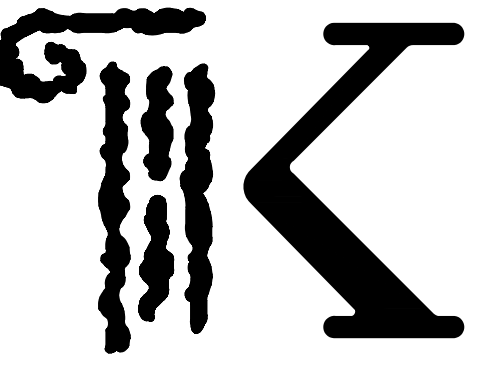
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**H2-2**

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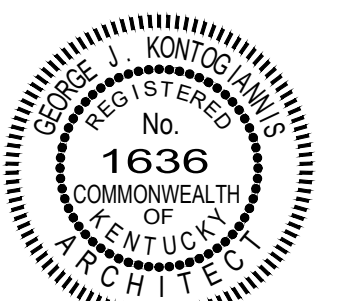
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PROJECT:  
**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED UNIT  
HVAC PLANS**

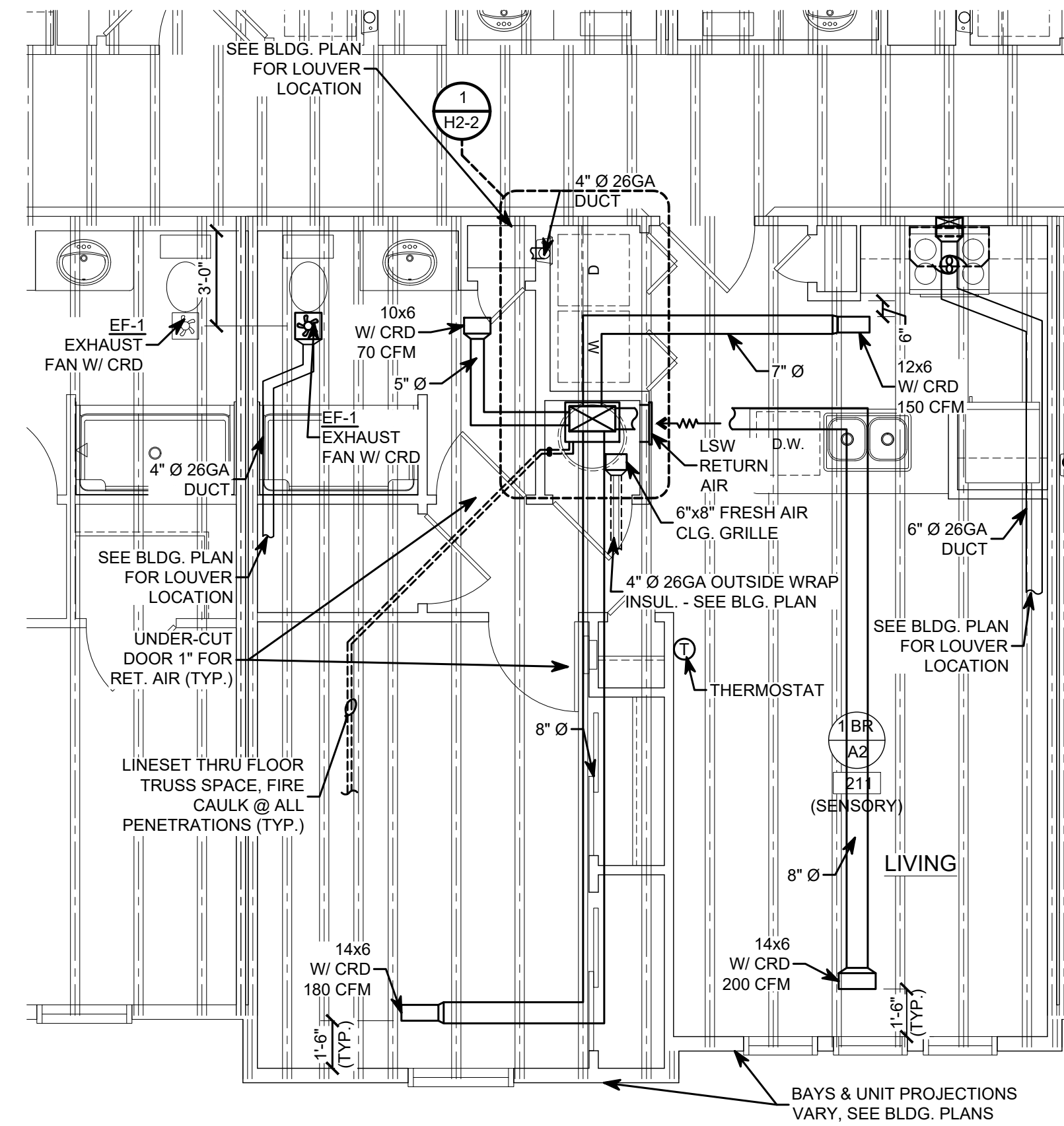
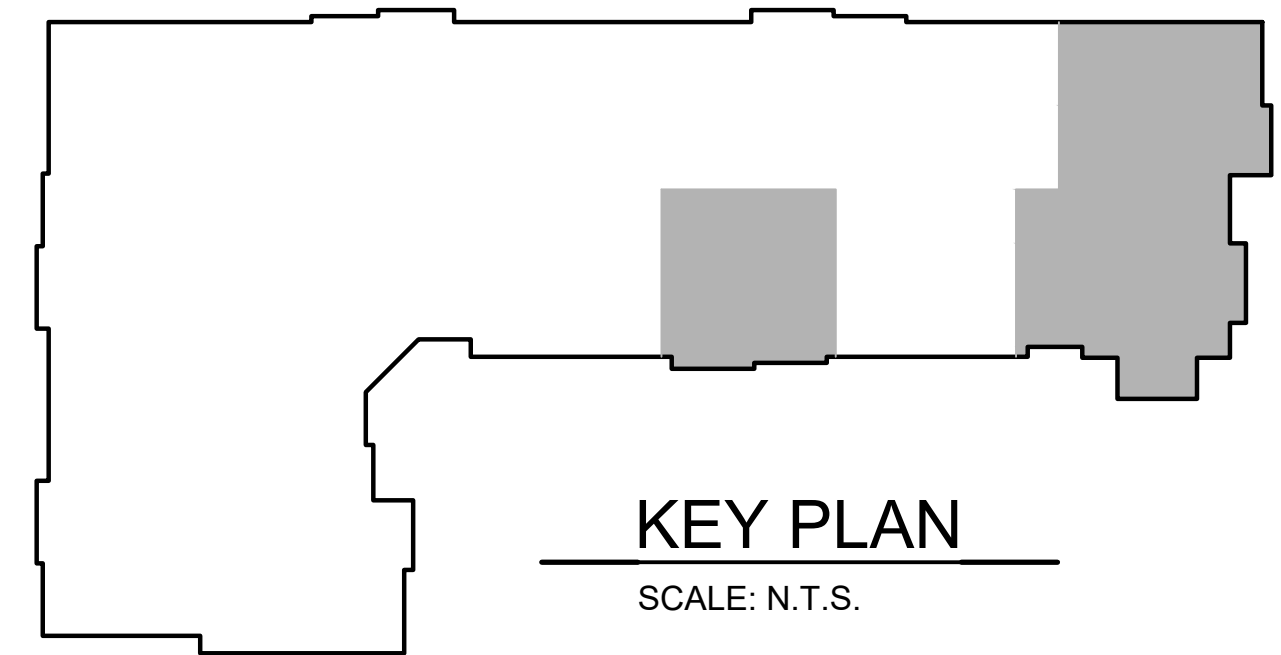
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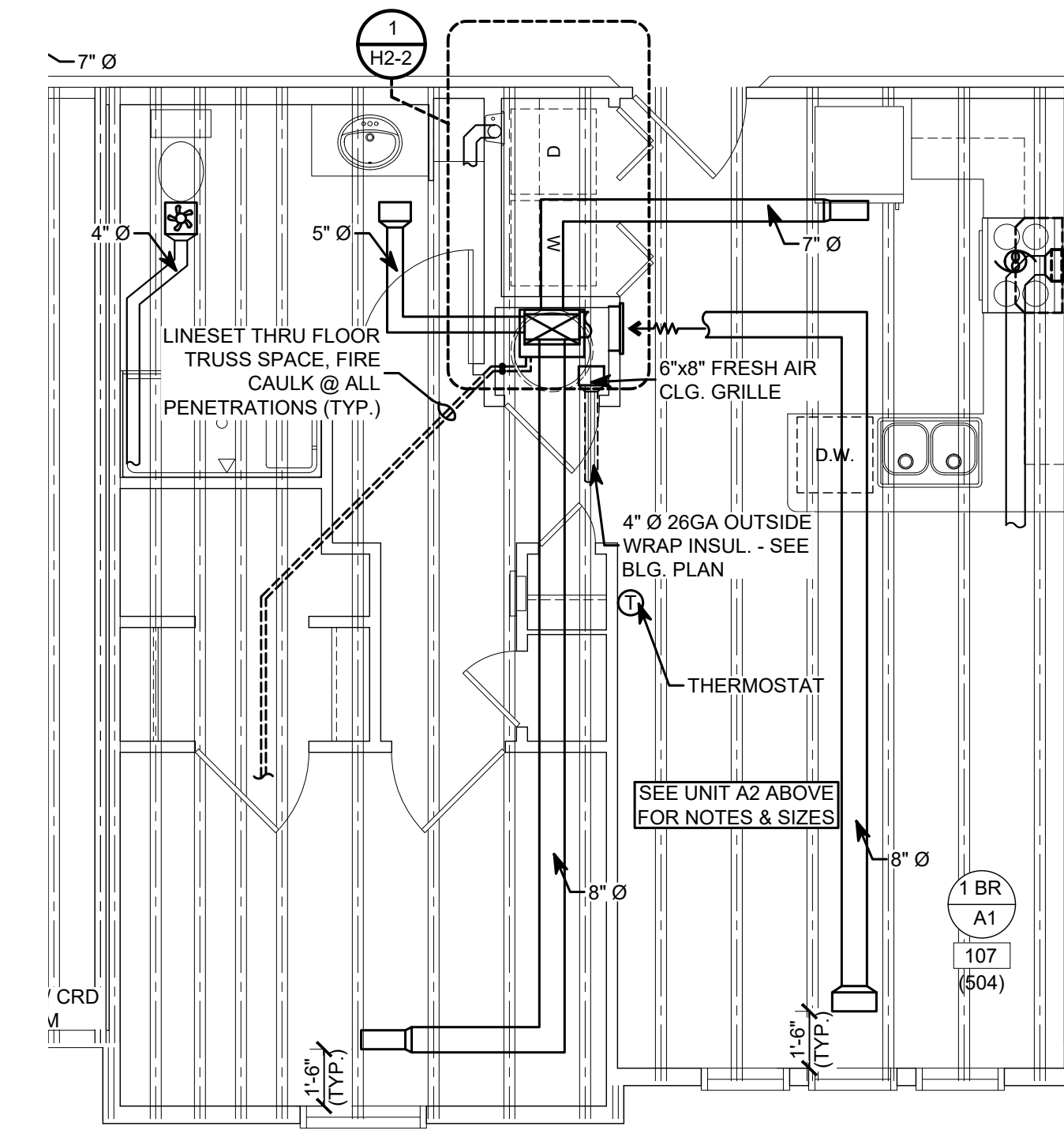
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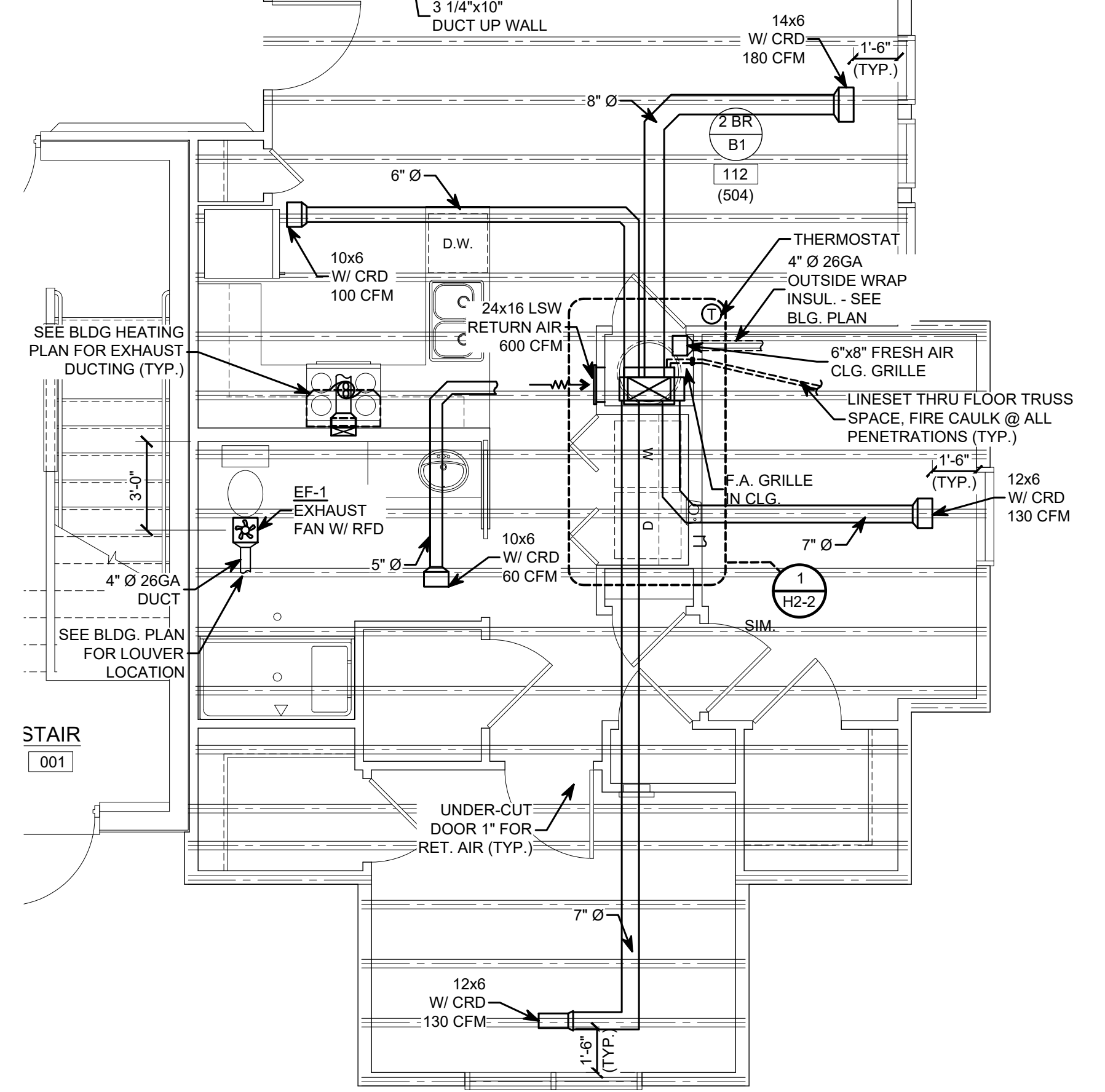
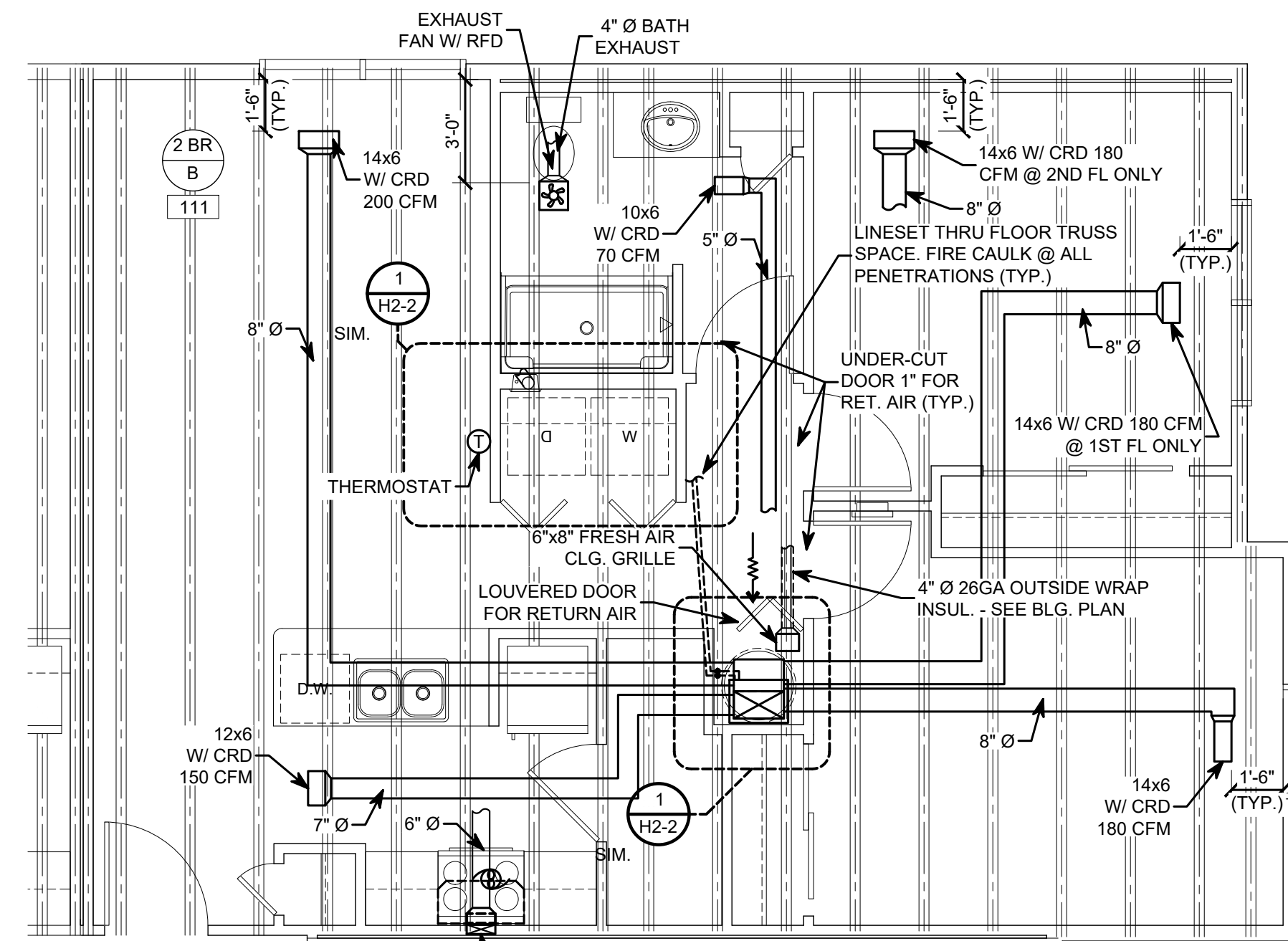
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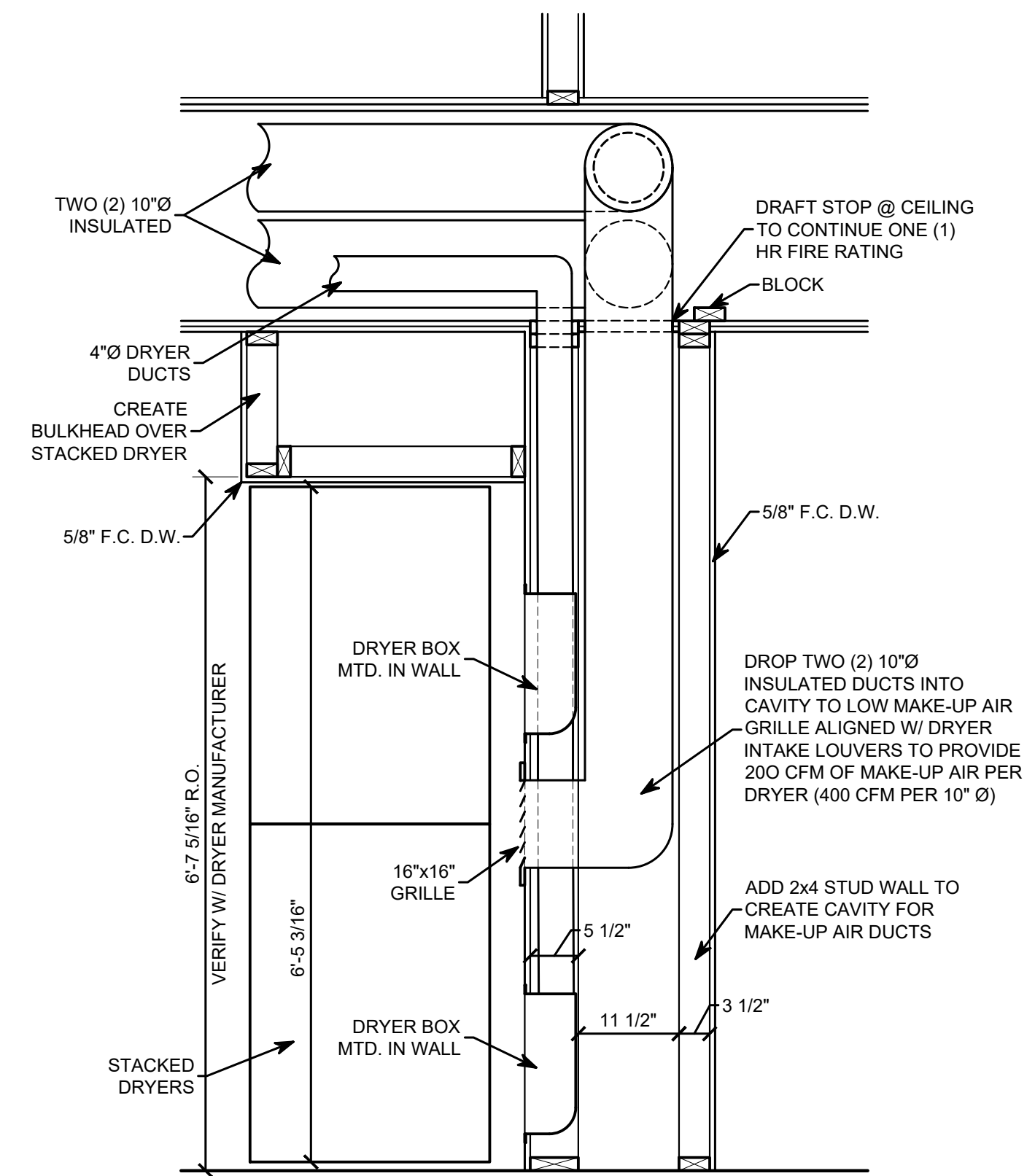
**ONE BEDROOM UNIT (A2)**  
SCALE: 1/4" = 1'-0"



**ONE BEDROOM UNIT (504) (A1)**  
SCALE: 1/4" = 1'-0"



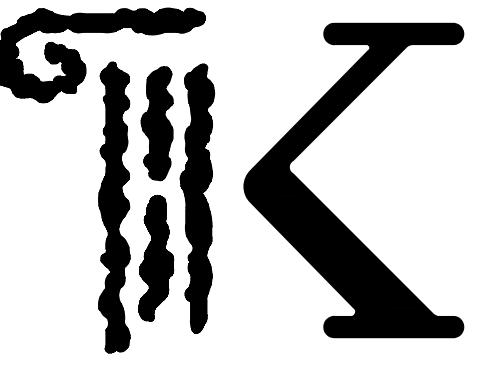
**ENLARGED FIRST & SECOND FLOOR PLAN (BB1)**  
SCALE: 1/4" = 1'-0"



**STACKED DRYER  
MAKE-UP AIR DETAIL (1)**  
SCALE: 3/4" = 1'-0"

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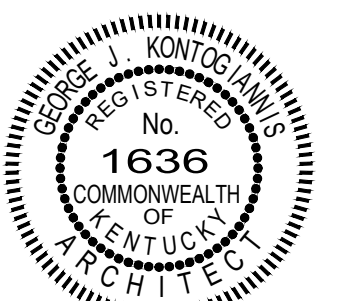
PROJECT:

**THE SANCTUARY  
ON EDWARDS  
SENIOR HOUSING  
(BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:  
**ENLARGED UNIT  
HVAC PLANS**

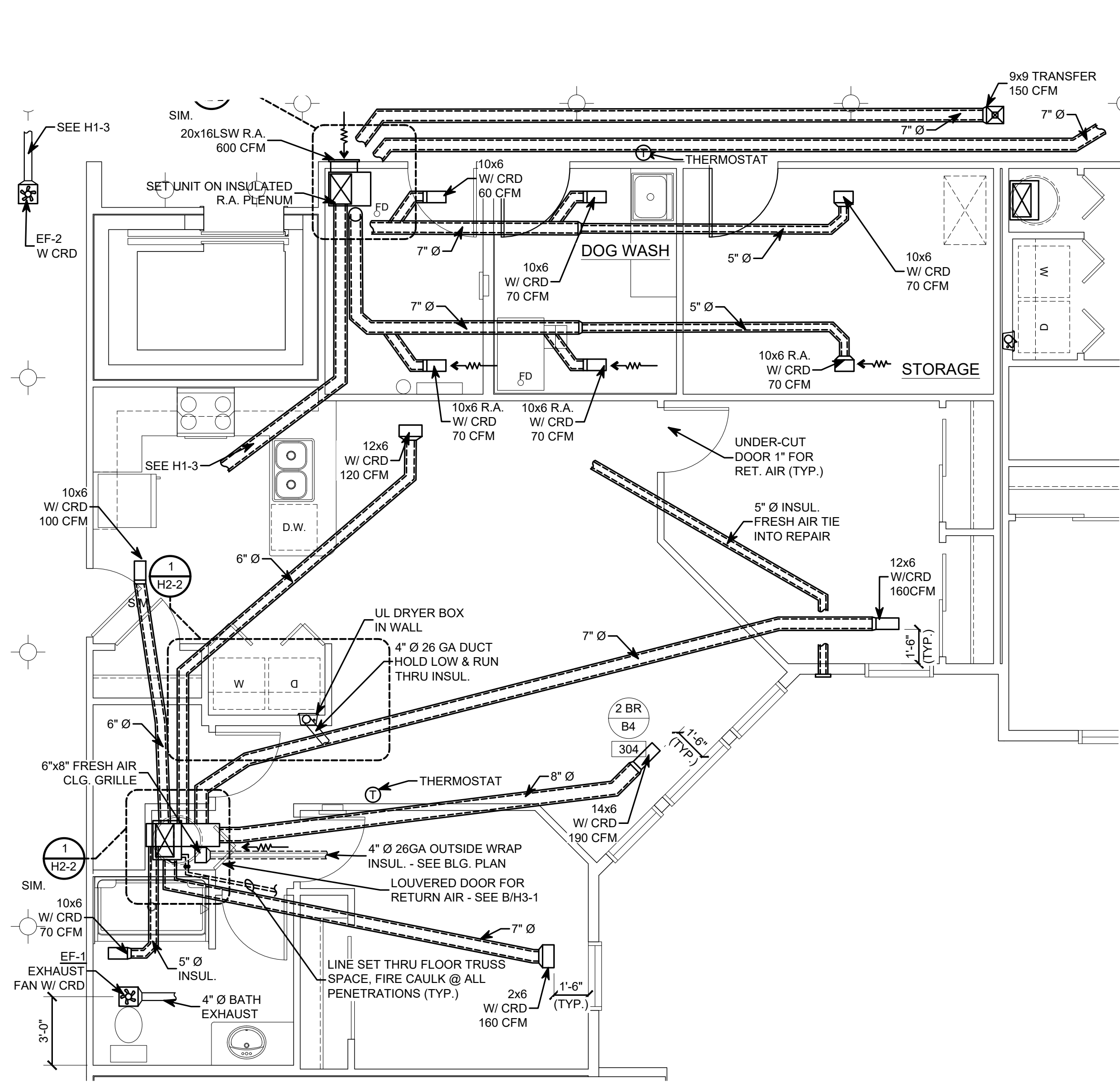
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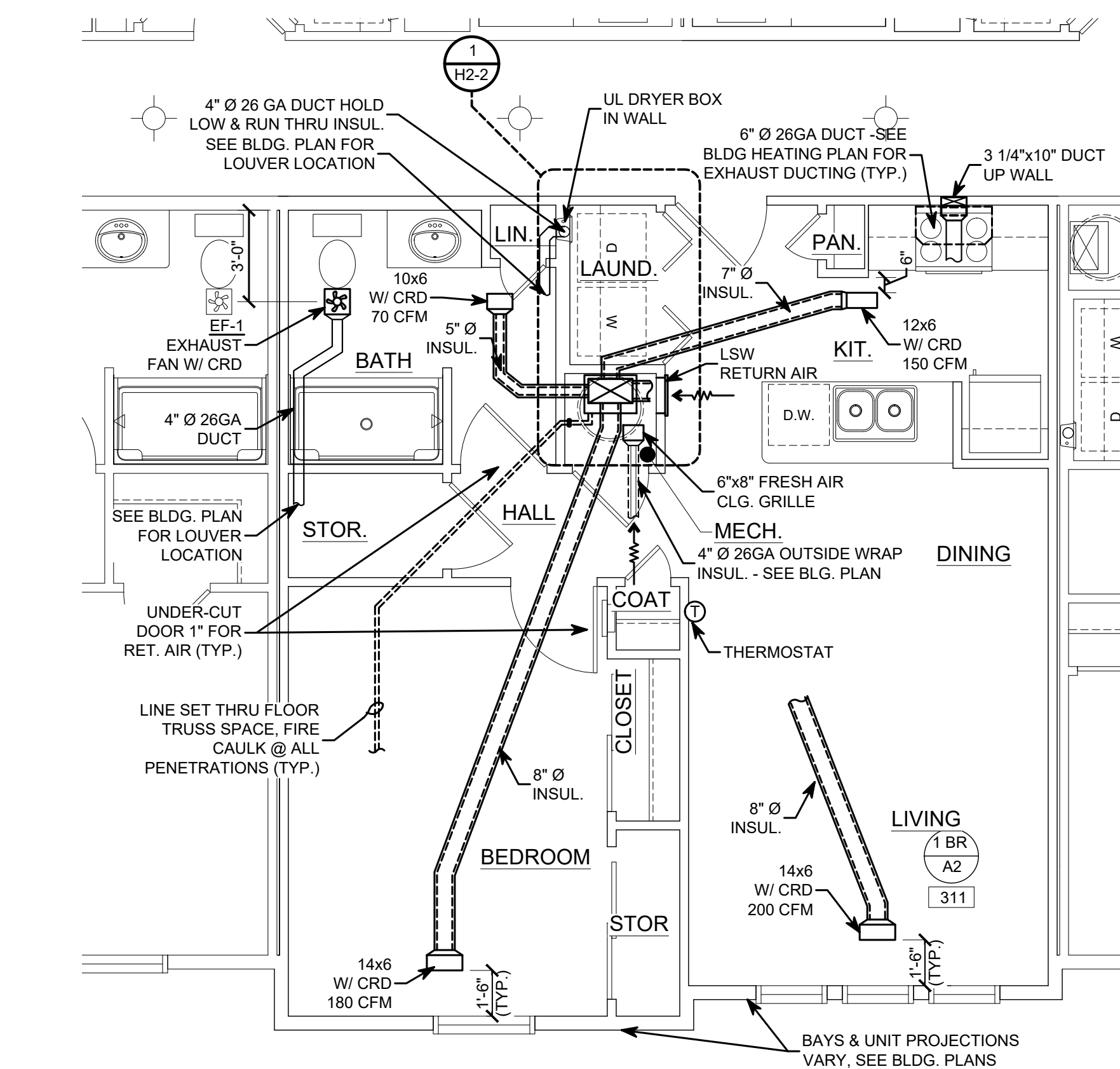
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**H2-4**



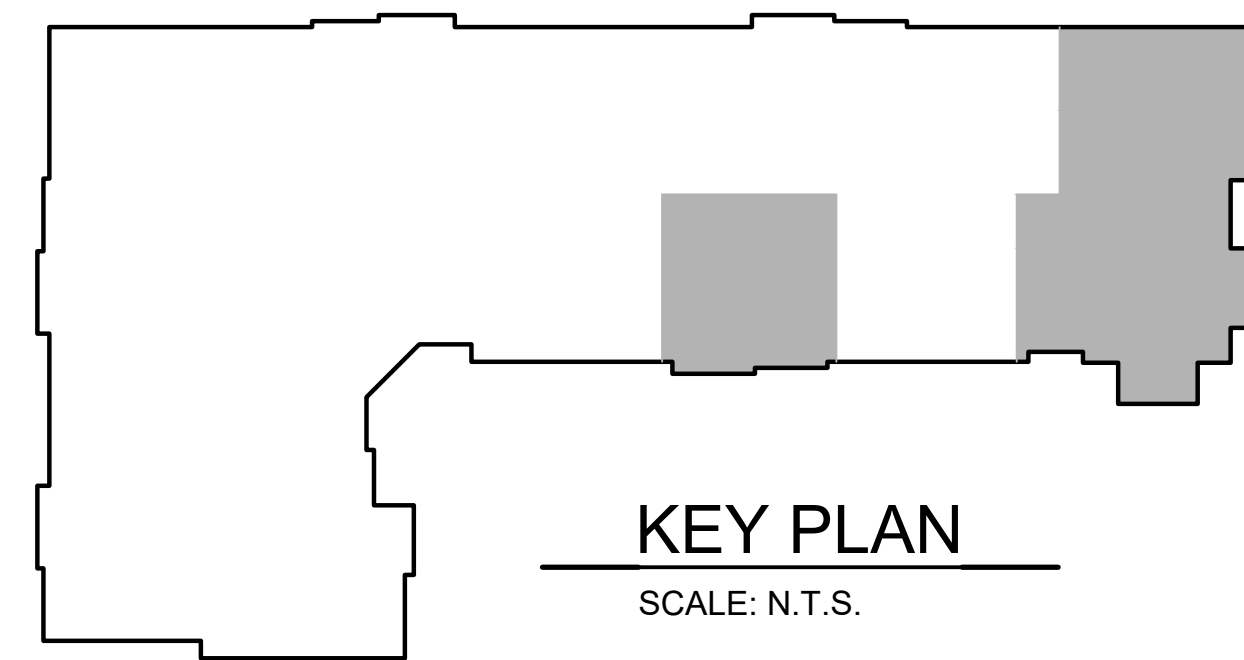
**TWO BEDROOM UNIT B4**

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



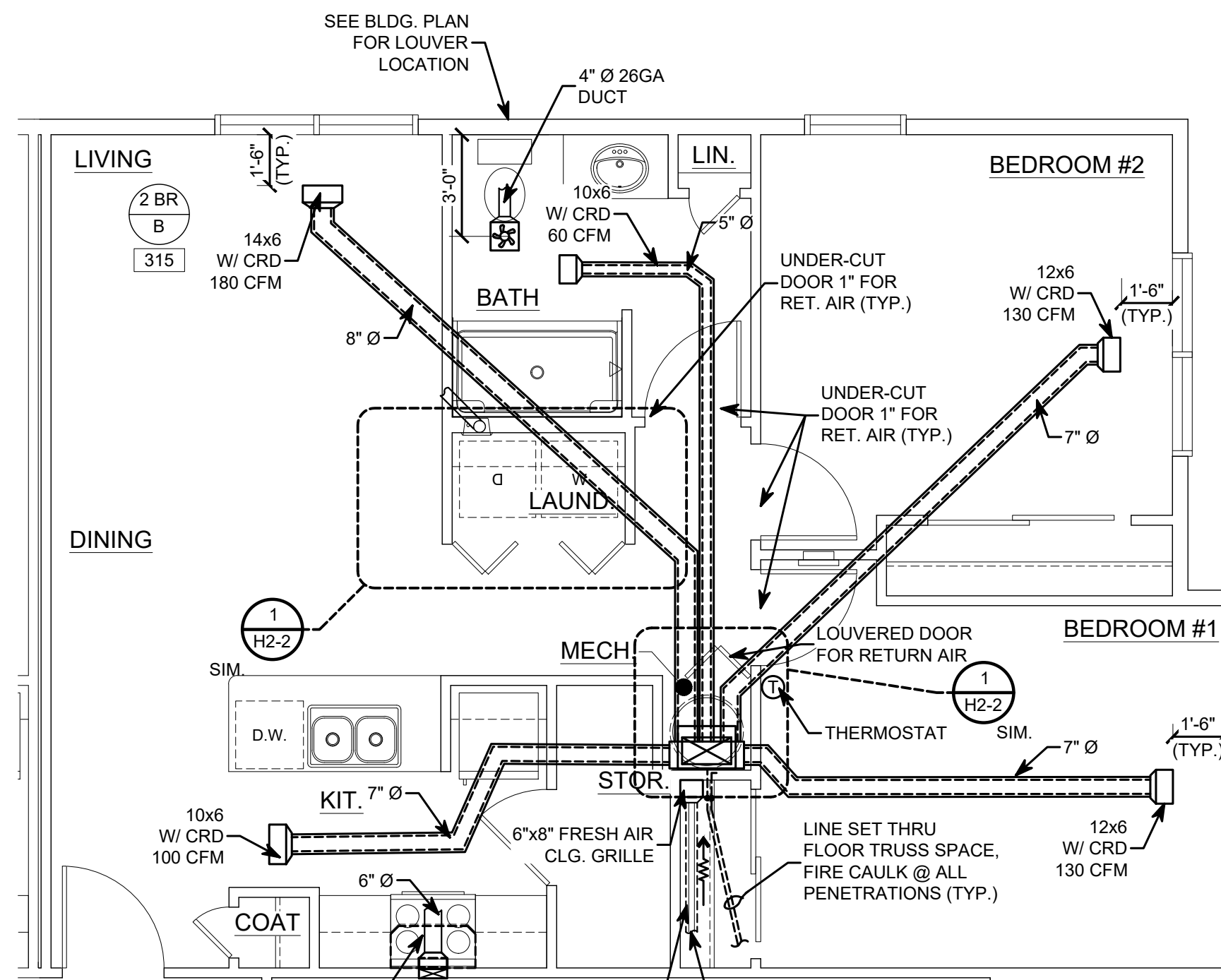
**ONE BEDROOM UNIT A2A3**

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



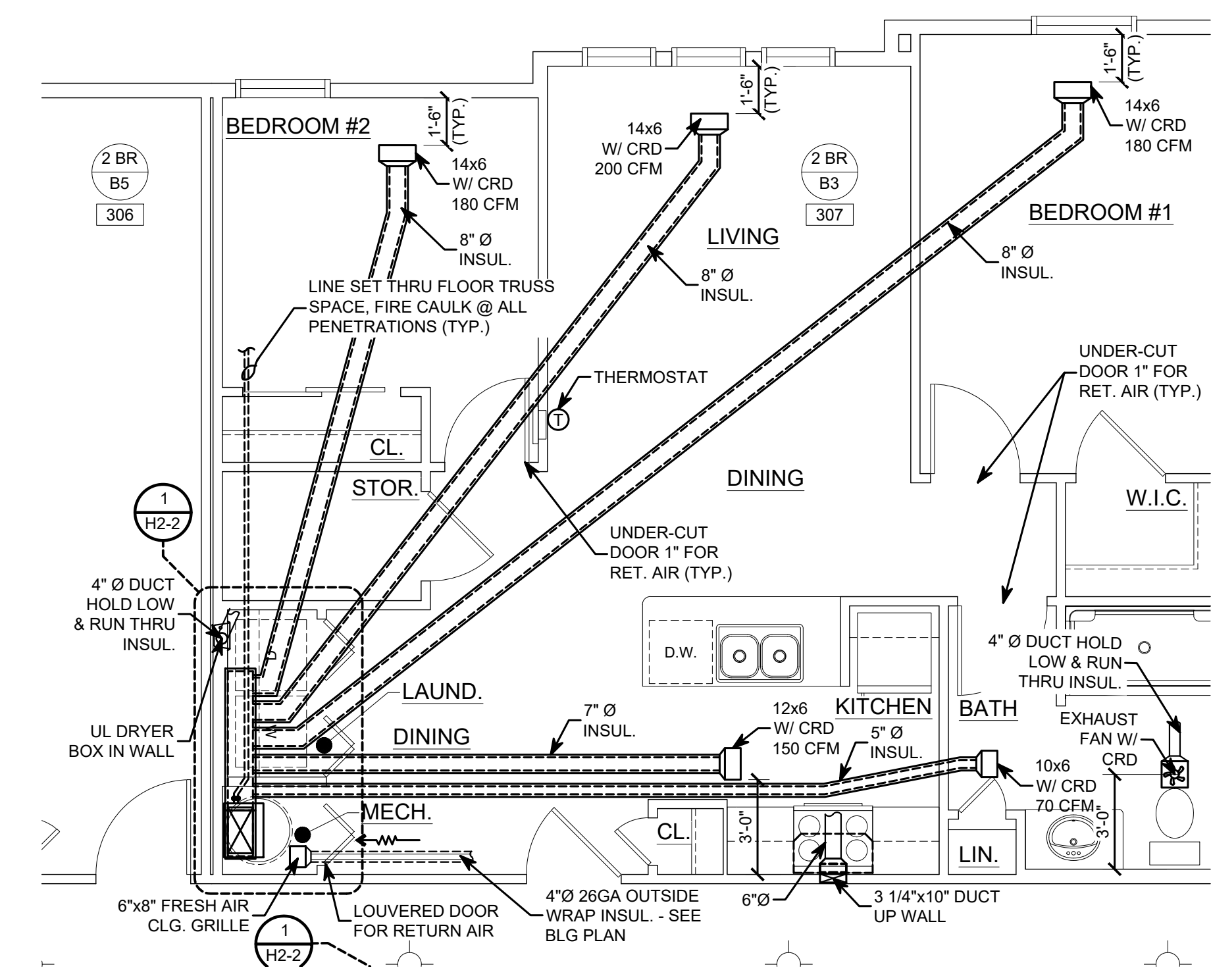
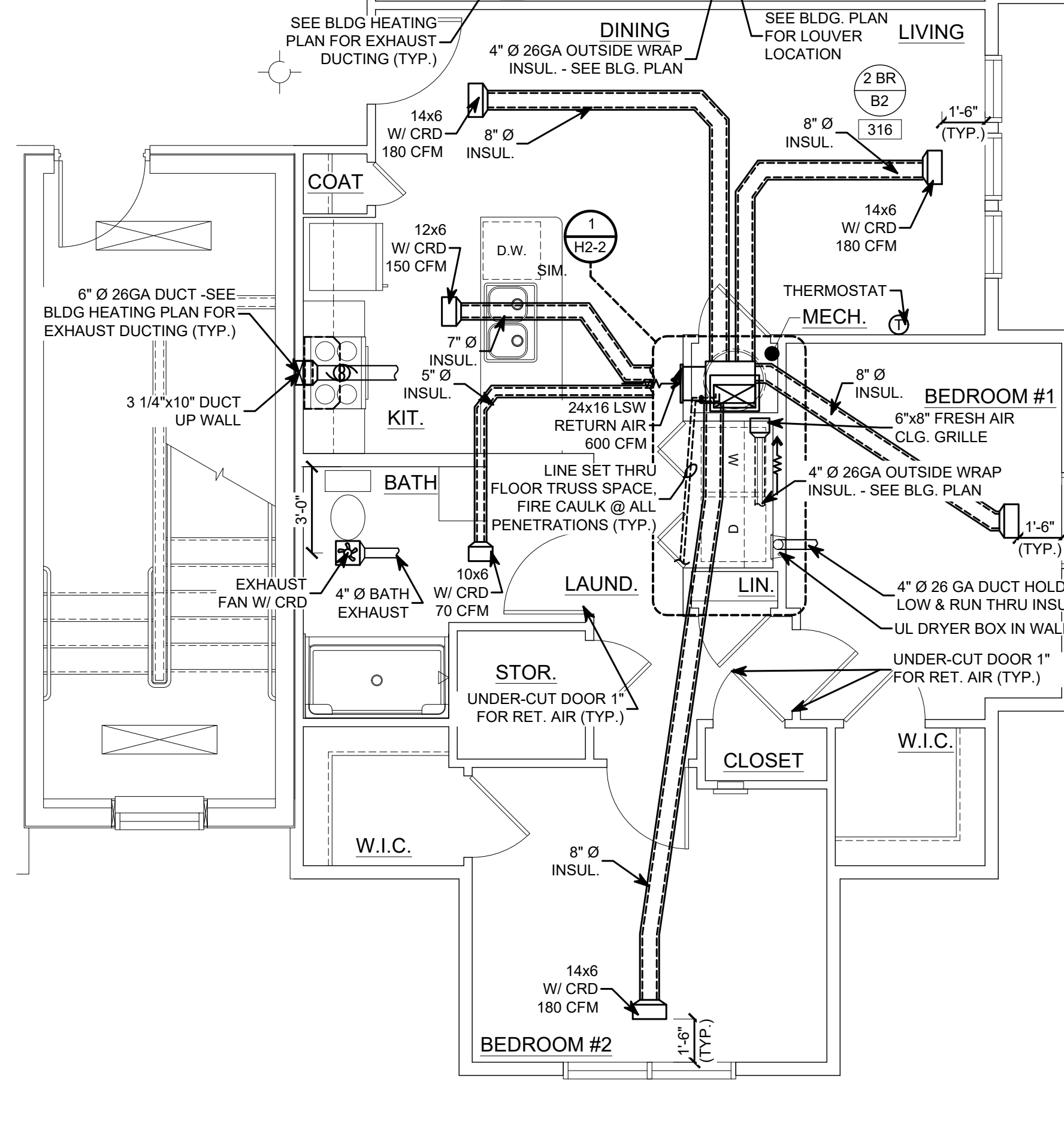
**KEY PLAN**

SCALE: N.T.S.



**ENLARGED THIRD FLOOR PLAN B2**

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



**TWO BEDROOM UNIT B3**

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

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## HEATING EQUIPMENT SCHEDULE

- HVAC-1** BRYANT OR APPROVED EQUAL, WALL HUNG FAN COIL WITH SUPPLEMENTARY ELECTRIC HEAT AND HEAT PUMP CONDENSER. EQUIPMENT PARING SHALL BE ENERGY EFFICIENT WITH A SEER=15 AND HSPF OF 9.0 AND CERTIFIED BY MANUFACTURER. PROVIDE A PROGRAMMABLE THERMOSTAT. PROVIDE MERV13 FILTERS.
- BLOWER COIL** - FMA4X1800AL (18,000 BTUH) EHK205B 5.0 KW ELECTRIC HEAT (3.6 KW @ 208 VOLTS) MCA = 25, 30/2 MAX BREAKER
- HEAT PUMP CONDENSER** - 38MAAB18R (19,400 BTUH), (MCA = 18 AMPS, MAX BREAKER = 25/2 HACR) 15.5 SEER, HSPF = 9.0
- HVAC-2** BRYANT OR APPROVED EQUAL, WALL HUNG FAN COIL WITH SUPPLEMENTARY ELECTRIC HEAT AND HEAT PUMP CONDENSER. EQUIPMENT PARING SHALL BE ENERGY EFFICIENT WITH A SEER=15 AND HSPF OF 9.0 AND CERTIFIED BY MANUFACTURER. PROVIDE A PROGRAMMABLE THERMOSTAT. PROVIDE MERV13 FILTERS.
- BLOWER COIL** - FMA4X1800AL (18,000 BTUH) EHK205B 8.0 KW ELECTRIC HEAT (5.6 KW @ 208 VOLTS) MCA = 36.3, 50/2 MAX BREAKER
- HEAT PUMP CONDENSER** - 38MAQB18R (19,460 BTUH COOLING), (MCA = 18, MAX BREAKER = 25/2 HACR) 15.5 SEER, HSPF = 9.0
- HVAC-3** BRYANT OR APPROVED EQUAL, WALL HUNG FAN COIL WITH SUPPLEMENTARY ELECTRIC HEAT AND HEAT PUMP CONDENSER. EQUIPMENT PARING SHALL BE ENERGY EFFICIENT WITH A SEER=15 AND HSPF OF 9.0 AND CERTIFIED BY MANUFACTURER. PROVIDE A PROGRAMMABLE THERMOSTAT. PROVIDE MERV13 FILTERS.
- BLOWER COIL** - FMA4X2400AL (24,000 BTUH) EHK210B, 10 KW ELECTRIC HEAT (7.2 KW @ 208 VOLTS) MCA = 54.5 AMPS, 60/2 MAX BREAKER
- HEAT PUMP CONDENSER** - BH16024 (24,000 BTUH COOLING) (MCA = 15.5, MAX BREAKER = 25/2 HACR) 15.0 SEER, HSPF = 9.0
- HVAC-4** BRYANT OR APPROVED EQUAL, WALL HUNG FAN COIL WITH SUPPLEMENTARY ELECTRIC HEAT AND HEAT PUMP CONDENSER. EQUIPMENT PARING SHALL BE ENERGY EFFICIENT WITH A SEER=15 AND HSPF OF 9.0 AND CERTIFIED BY MANUFACTURER. PROVIDE A PROGRAMMABLE THERMOSTAT. PROVIDE MERV13 FILTERS.
- BLOWER COIL** - FX4DNF019 (18,000 BTUH) KFCEH2401C05, 5 KW ELECTRIC HEAT (3.8 KW @ 208 VOLTS) MCA = 26.0 AMPS, 30/2 MAX BREAKER, 600 CFM
- HEAT PUMP CONDENSER** - 226CNA018 (17,600 BTUH COOLING) 208 VOLT (MCA = 13.6, MAX BREAKER = 20/2 HACR) 15.0 SEER, HSPF = 9.0
- HVAC-5, 6, & 7** BRYANT OR APPROVED EQUAL, WALL HUNG FAN COIL WITH SUPPLEMENTARY ELECTRIC HEAT AND HEAT PUMP CONDENSER. EQUIPMENT PARING SHALL BE ENERGY EFFICIENT WITH A SEER=15 AND HSPF OF 9.0 AND CERTIFIED BY MANUFACTURER. PROVIDE A PROGRAMMABLE THERMOSTAT. PROVIDE MERV13 FILTERS.
- BLOWER COIL** - FX4DNF019 (18,000 BTUH) KFCEH2501C08, 8 KW ELECTRIC HEAT (6 KW @ 208 VOLTS) MCA = 44.7 AMPS, 45/2 MAX BREAKER, 600 CFM
- HEAT PUMP CONDENSER** - 226CNA018 (17,600 BTUH COOLING) 208 VOLT (MCA = 13.6, MAX BREAKER = 20/2 HACR) 15.0 SEER, HSPF = 9.0
- HVAC-8 & 9** BRYANT OR APPROVED EQUAL, WALL HUNG FAN COIL WITH SUPPLEMENTARY ELECTRIC HEAT AND HEAT PUMP CONDENSER. EQUIPMENT PARING SHALL BE ENERGY EFFICIENT WITH A SEER=15 AND HSPF OF 9.0 AND CERTIFIED BY MANUFACTURER. PROVIDE A PROGRAMMABLE THERMOSTAT. PROVIDE MERV13 FILTERS.
- (BLOWER COIL) FX4DNF037L00 (30,000 BUTH ) WITH TWO STAGE SUPPLEMENTARY ELECTRIC HEATER KFCEH3101C15 11.3 KW ELECTRIC HEAT AT 208 VOLTS**  
 CIRCUIT #1 - 40 AMPS MCA = 58.5 - 60/2 BREAKER  
 CIRCUIT #2 - 20 AMPS MCA = 25.0 - 25/2 BREAKER  
 UNIT SHALL HAVE CIRCUIT BREAKERS MOUNTED IN UNIT
- (HEAT PUMP CONDENSER) 226CNA030 (28,800 BTUH COOLING) (MCA = 18.1, MAX BREAKER = 30/2 HACR) 16.0 SEER, 13.0 EER, HSPF = 9.0**

THERMOSTATS SHALL BE ECOBEE SMART THERMOSTATS

## EXHAUST FANS

- EF-1** BATH FAN SHALL BE A PANASONIC WHISPER GREEN SELECT FAN MODEL# FV-051VKS2 (ENERGY STAR RATED) OR APPROVED EQUAL, 50 - 80 - 110 CFM @ 0.3 SONES, WITH MULTI-SPEED MODULE. UNIT SHALL BE ADJUSTABLE FOR CONTINUOUS OPERATION REQUIRED PER ASHRAE 62.2 AND ANY BLOWER DOOR TEST. WALL SWITCH SHALL TURN FAN UP TO HIGHER EXHAUST RATE WHICH SHALL ALSO BE ADJUSTABLE. PROVIDE RADIANT FIRE DAMPER IN LOCATIONS THAT PENETRATE A RATED CEILING ASSEMBLY.
- EF-2** BROAN OR APPROVED EQUAL XB80, 0.3 LOW SONES (80 CFM) EXHAUST WITH RADIANT FIRE DAMPER, 6" TO 4" REDUCER. RUN 4"Ø AS SHOWN. (ENERGY STAR RATED)
- EF-3** BROAN OR APPROVED EQUAL CEILING FAN W/ RADIANT FIRE DAMPER MODEL XB50 50 CFM, 0.3 SONES. (ENERGY STAR RATED) DUCT AS SHOWN AND WIRE FOR CONTINUOUS OPERATION.
- EF-4** BROAN OR APPROVED EQUAL MODEL QTXE150, 150 CFM, 1.4 SONES. (ENERGY STAR RATED)

## INTAKE & EXHAUST LOUVERS

- WALL LOUVERS** WALL LOUVERS IN STONE & SIDING SHALL BE HOODED PRE-FINISHED VINYL BY MID-AMERICA COMPANY (W/ BACKDRAFT DAMPER), COLOR TO MATCH STONE & SIDING.
- BATH EXHAUST** - 4" ROUND HOODED VENT W/ BACK-DRAFT DAMPER & SCREEN.
- DRYER EXHAUST** - DRYER EXHAUST - 4" ROUND HOODED VENT W/ BACK-DRAFT DAMPER & NO SCREEN.
- RANGE EXHAUST** - RANGE EXHAUST - 6" ROUND HOODED VENT W/ BACK-DRAFT DAMPER & SCREEN.
- FRESH AIR** - FRESH AIR - 4" ROUND HOODED VENT W/ LOCKING DAMPER & SCREEN, SEE PLANS.
- SOFFIT VENTS** SOFFIT VENTS SHALL BE PRE-FINISHED VINYL (WHITE) AS MANUFACTURED BY PRIMEX MANUFACTURING LTD. AS FOLLOWS:
- BATH EXHAUST** - RDV-4" ROUND W/ SCREEN. USE EB4X90 ELBOW AS NEEDED.
- DRYER EXHAUST** - SV28NS (NO SCREEN) & BACKDRAFT DAMPER
- RANGE EXHAUST** - SV28-6" W/ SCREEN & BACKDRAFT DAMPER
- FRESH AIR** - RDV-4" ROUND W/ SCREEN. USE EB4X90 ELBOW AS NEEDED.

## VENTILATION AIR SCHEDULE

### UNIT FRESH AIR VENTILATION

THE UNITS SHALL COMPLY WITH ASHRAE 62.2 STANDARDS FOR DWELLING UNIT VENTILATION. RATES SHALL COMPLY WITH ASHRAE 4.1.1 FRESH AIR RATES SHALL BE AS FOLLOWS:

ONE BEDROOM = 33.9 CFM  
TWO BEDROOM = 48.0 CFM

THE MULTI-SPEED BATH EXHAUST FANS SHALL BE SET TO PROVIDE THESE EXHAUST RATES OR AN ALTERNATE RATING BASED ON A BLOWER DOOR TEST.

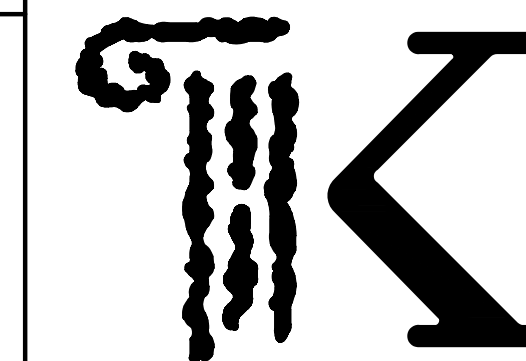
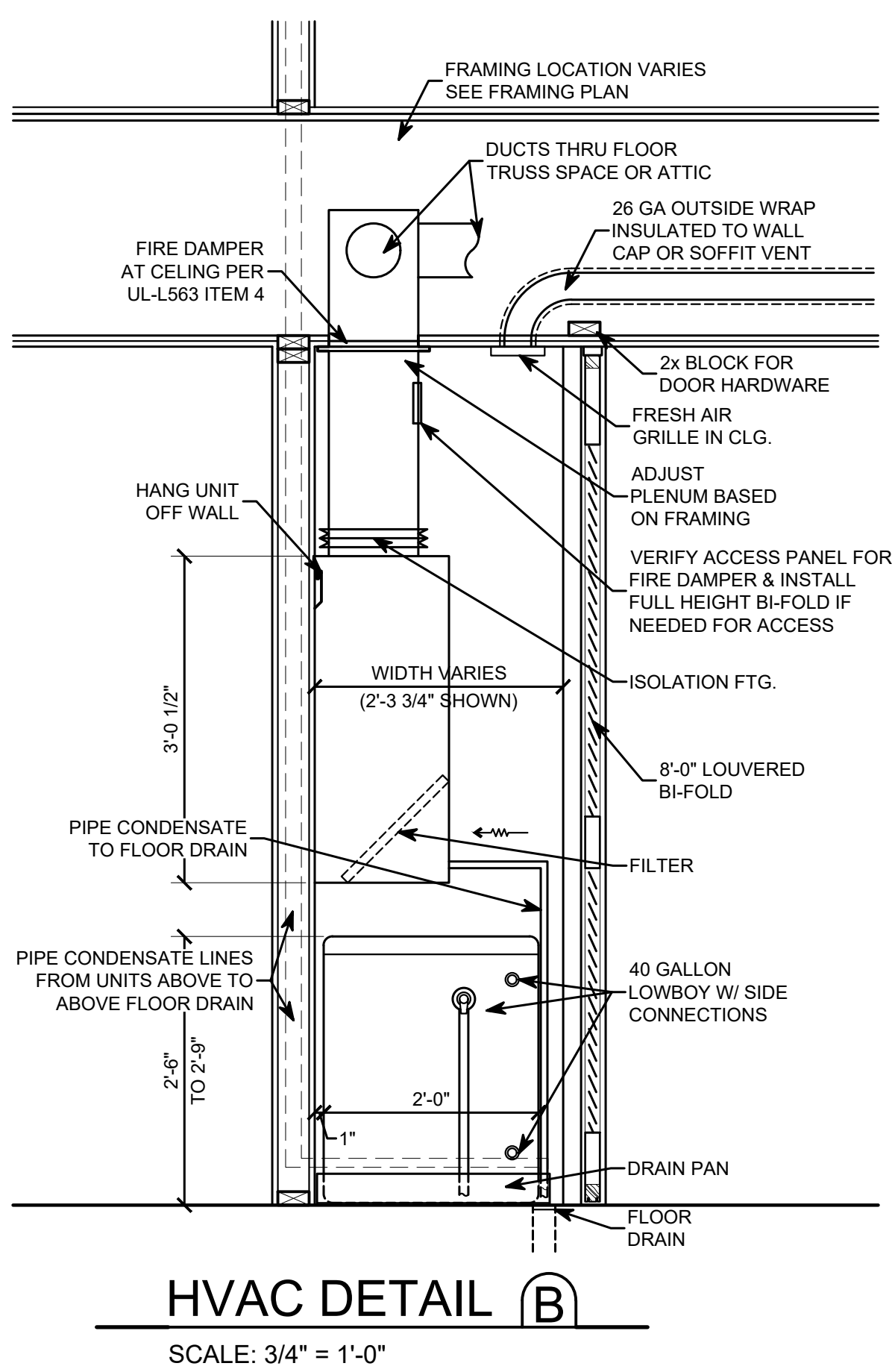
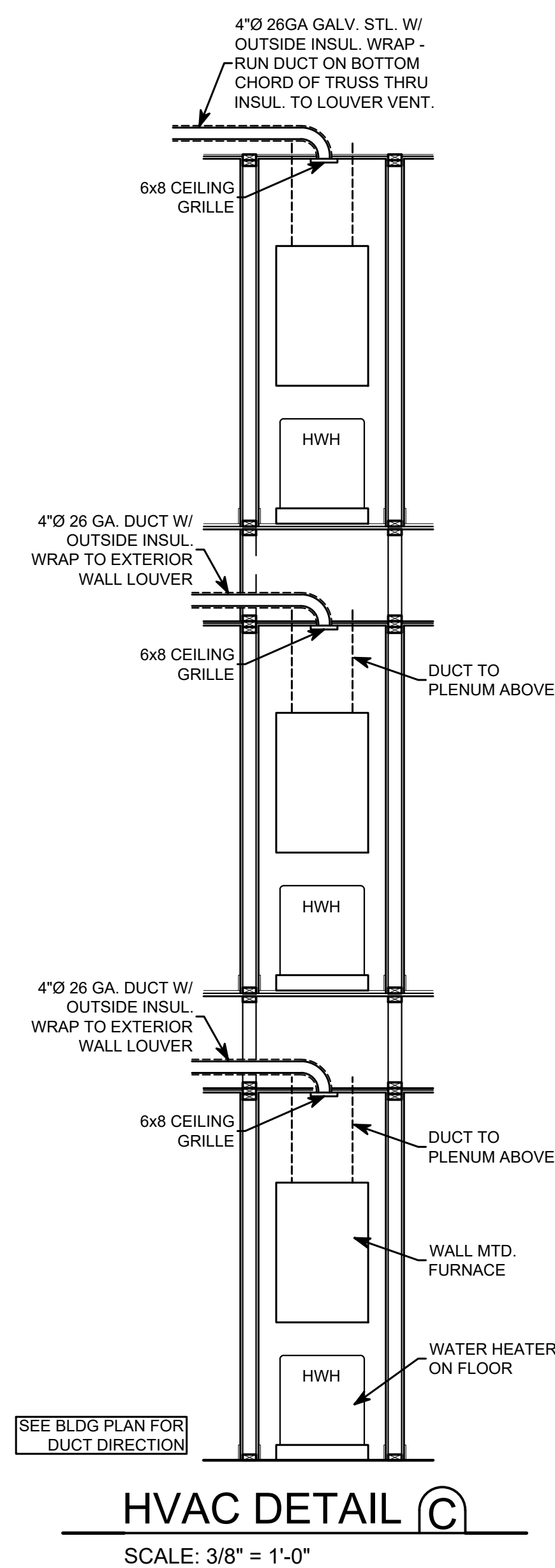
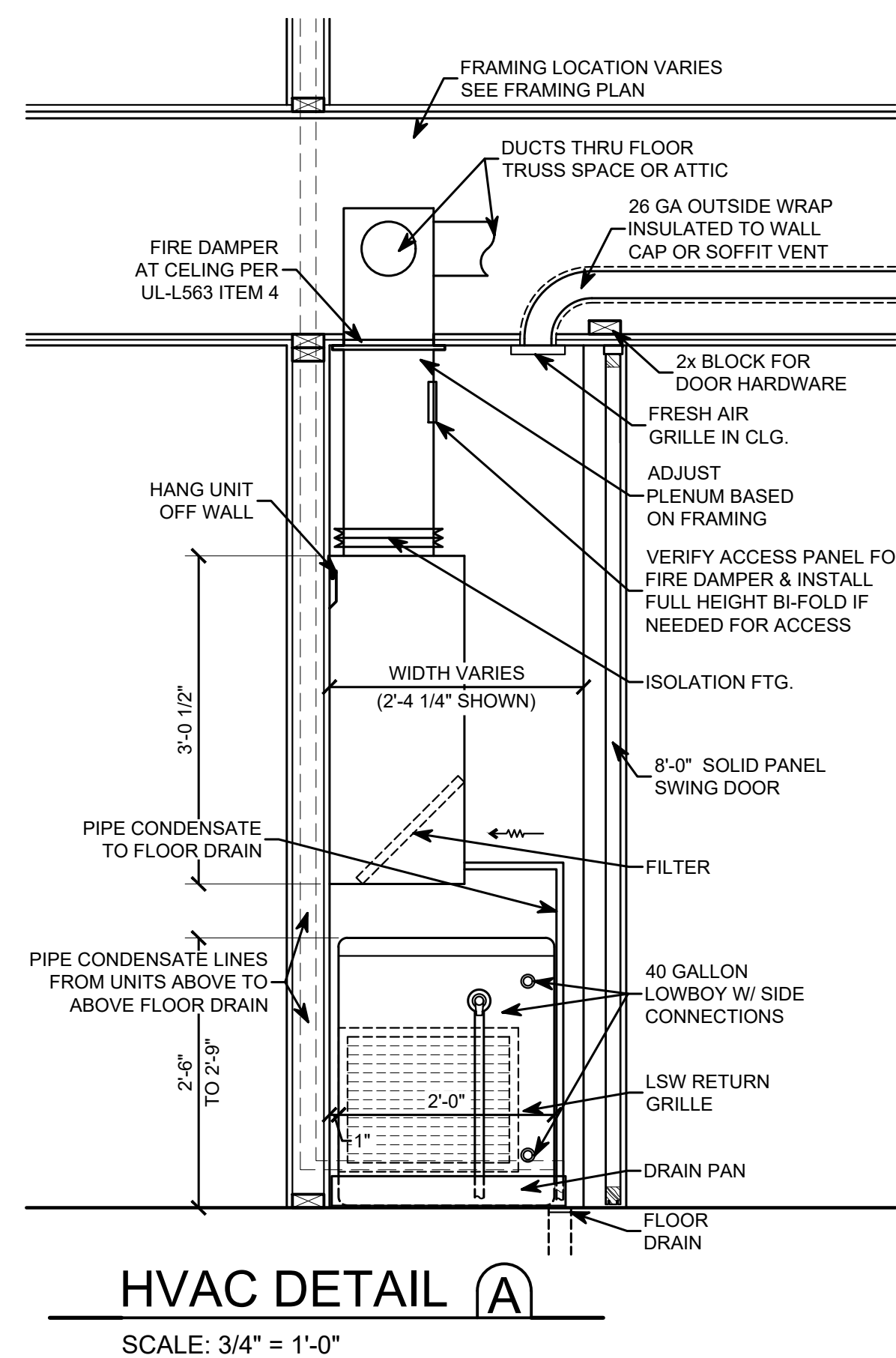
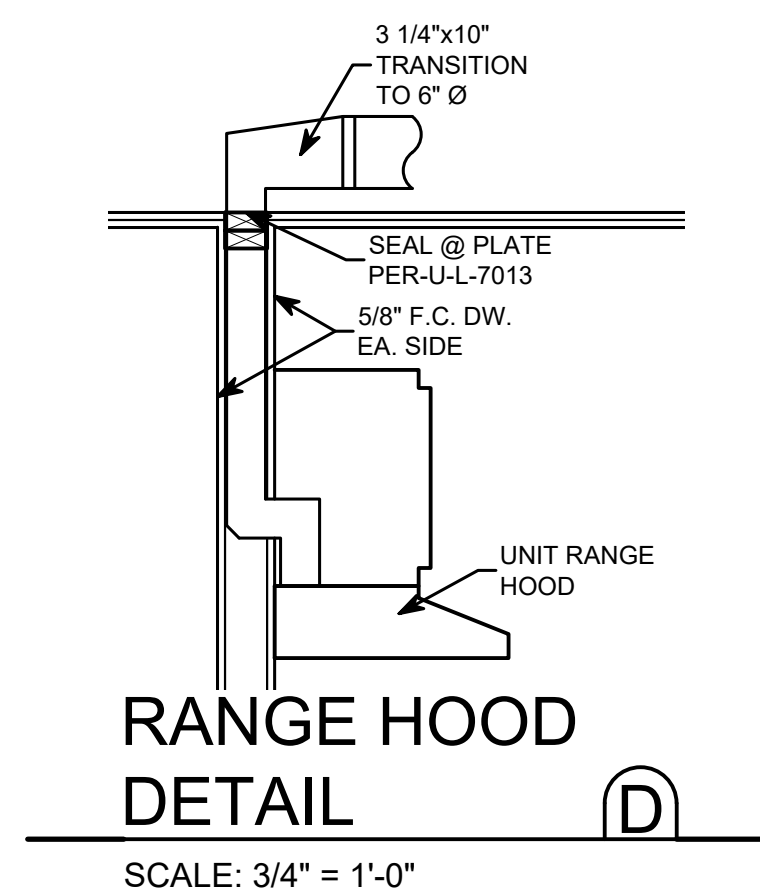
UNIT	COMMON AREAS	PEOPLE OUTDOOR AIR (Rp)	BREATHING ZONE OUTDOOR AIR (Ra)	TOTAL O.A. REQUIRED	TOTAL EXHAUST AIR	TOTAL MAKEUP AIR (PROVIDED)	REMARKS
HVAC-4 (2ND FL.)	CORRIDOR		60.6 CFM (1010 x 0.06)	60.6 CFM			
	MAINT.		6.3 CFM (105 x 0.06)	6.3 CFM			
	<b>TOTAL</b>		66.9 CFM	66.9 CFM	80.0 CFM	80.0 CFM	
HVAC-5 (3RD FL.)	CORRIDOR		60.6 CFM (1010 x 0.06)	60.6 CFM			
	DOG WASH	5 CFM (1 x 5 CFM)	4.8 CFM (79 x 0.06)	9.8 CFM			
	<b>TOTAL</b>	5 CFM	65.4 CFM	70.4 CFM	80.0 CFM	80.0 CFM	
HVAC-6 (LAUNDRY)	LAUNDRY	10 CFM (2 @ 5 CFM)	14.16 CFM (236 x 0.06)	24.16 CFM	50 CFM		
	SOCIAL SERVICES	5 CFM (1 @ 5 CFM)	5.7 CFM (95 x 0.06)	10.7 CFM			
	WATER ROOM	NO OCCUPANCE				80 CFM INTERMITTENT	
	MEN'S					80 CFM INTERMITTENT	
	<b>TOTAL</b>	15 CFM	20 CFM	35 CFM	50.0 CFM		
HVAC-7	COORRIDOR		15.6 CFM (260 x 0.06)	15.6 CFM	16.0 CFM	(UNIT HVAC-8)	EF-2 (80 CFM)
	EXERCISE	60 CFM (3 @ 80 CFM)	10.8 CFM (180 x 0.06)	70.8 CFM			
	<b>TOTAL</b>	60 CFM	26.4 CFM	86.4 CFM	80.0 CFM	80.0 CFM	
HVAC-8	OFFICE	10 CFM (2 @ 5 CFM)	10.4 CFM (173 x 0.06)	20.4 CFM	20.4 CFM		
	COORRIDOR		45 CFM (750 x 0.06)	45 CFM			80 CFM FAN IN TRASH
	LOUNGE	35 CFM (7 @ 5 CFM)	13 CFM (216 x 0.06)	48 CFM	48 CFM		
	<b>TOTAL</b>	45 CFM	68.4 CFM	113.4 CFM	68 CFM	113.4 CFM	
HVAC-9	COMMUNITY RM.	110 CFM (22 @ 5 CFM)	24 CFM (4100 x 0.06)	134 CFM	134 CFM		EF-4 (150 CFM)
	ACTIVITY	35 CFM (7 @ 5 CFM)	12.72 CFM (212 x 0.06)	47.72CFM	50 CFM	50 CFM	EF-3
	KITCHENETTE	5 CFM (1 @ 5 CFM)	4.32 CFM (7.2 x 0.06)	9.32 CFM	9.3 CFM		EF-4 (150CFM)
	<b>TOTAL</b>	150 CFM	41.0 CFM	191.04 CFM	193.3 CFM	50 CFM	

### 2012 IECC HVAC REQUIREMENTS

- PROVIDE A PROGRAMMABLE THERMOSTAT FOR EACH UNIT.
- HEAT PUMPS WITH SUPPLEMENT ELECTRIC HEAT SHALL HAVE CONTROLS THAT EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHEN THE HEAT PUMP COMPRESSOR CAN MEET THE HEATING LOAD.
- SUPPLY DUCTS IN ATTICS SHALL BE INSULATED TO (R=8). ALL OTHERS SHALL BE INSULATED TO (R=6) UNLESS DUCTS, OR PORTIONS THEREOF, ARE LOCATED COMPLETELY INSIDE THE THERMAL ENVELOPE.
- DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH CODE. DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER A POST CONSTRUCTION OR ROUGH-IN TEST SHOWING A LEAKAGE OR LESS THAN OR EQUAL TO 4 CFM PER 100 SQ.FT.

### HEATING NOTES

- PROVIDE CANVAS OR FIBERGLASS ISOLATION SLEEVES ON ALL PLENUM CONNECTIONS TO TRUNK DUCT.
- ALL RECTANGULAR DUCTWORK SHALL BE GALVANIZED SHEET METAL WITH OUTSIDE WRAP INSULATION TO MEET CURRENT CODE. ALL DUCT SIZES ARE AIR SIZE. EXHAUST DUCTWORK IN ATTIC NEED NOT BE INSULATED, EXCEPT OUTSIDE WRAP FIRST 5 FEET OF EXHAUST DUCTWORK.
- ALL ROUND DUCTS IN HEATED AREAS SHALL BE GALVANIZED SHEET METAL. ROUND DUCTS IN ATTIC AREAS SHALL BE SHEET METAL WITH EXTERIOR INSULATION WRAP, RIGID INSULATED DUCTS, OR FLEXIBLE INSULATED DUCT. IF FLEXIBLE DUCT IS ALLOWED, IT SHALL BE INSTALLED STRAIGHT AND TRUE WITH A MINIMUM NUMBER OF BENDS SO AS NOT TO INCREASE FRICTION. ANY DUCT RUNS INSTALLED LIKE "SPAGHETTI" SHALL BE REJECTED BY ARCHITECT AND SHALL BE REPLACED WITH RIGID DUCT.
- PROVIDE BALANCING DAMPERS ON ALL BRANCH DUCTS. DAMPERS SHALL BE INSTALLED IN THE DUCT AT TAKE-OFF FROM THE MAIN DUCT. DAMPERS IN REGISTERS ARE NOT CONSIDERED BALANCING DAMPERS. BALANCING DAMPERS ARE NOT REQUIRED IF DUCTWORK IS NOT ACCESSIBLE.
- FLEXIBLE DUCTS SHALL BE CUT TO PROPER LENGTHS TO ELIMINATE DUCT COMPRESSION AND/OR EXTRA BENDS. PROPERLY SUPPORT DUCT TO PREVENT SAGGING. FURNACE WIRE SHALL NOT BE USED TO SUPPORT FLEXIBLE DUCT. FLEXIBLE DUCT CONNECTIONS SHALL BE TAPED AND CLAMPED TO ACHIEVE AN AIRTIGHT CONNECTION.
- CEILING AND WALL REGISTERS SHALL BE SUPPORTED FROM FRAMING STRUCTURE PROVIDE SOLID 2x2 BLOCKING ON ALL SIDES.
- ALL WORK SHALL BE IN ACCORDANCE WITH CURRENT STATE MECHANICAL AND BUILDING CODES AND ALL APPLICABLE CITY, COUNTY AND LOCAL REGULATIONS.
- PROVIDE CEILING RADIANT DAMPER (CRD) AND FIRE RATED WALL PENETRATIONS AS REQUIRED BY CODE. FIRE DAMPER WORK SHALL BE REVIEWED WITH BUILDING INSPECTOR DURING ROUGH-IN WORK TO CLARIFY ALL AREAS WHERE DAMPERS ARE REQUIRED.
- RETURN AIR DUCTS SHALL BE OUTSIDE WRAPPED INSULATED AS LISTED IN NOTES 2 & 3 ABOVE. RETURN AIR PLENUMS IN HEATED AREAS SHALL BE INSIDE INSULATED WITH 1" SOUND INSULATION LINER.
- EXHAUST FANS SHALL BE SUPPORTED FROM THE ROOF TRUSS CONSTRUCTION WITH VIBRATION ISOLATION HANGERS TO PREVENT SOUND AND VIBRATION TRANSMISSION.
- PIPE CONDENSATE TO ABOVE FLOOR DRAIN OR WATER HEATER DRAIN PAN. CONDENSATE DRAINS SHALL BE ADEQUATELY SECURED TO CEILING AND WALLS AND SHALL BE SLOPED AS REQUIRED. CARE SHALL BE TAKEN THAT DRAIN PANS SLOPE TO DRAIN. ALL CONDENSATE PIPING SHALL BE LEAK TESTED PRIOR TO INSTALLATION OF DRYWALL. PROVIDE TRAP.
- HEATING CONTRACTOR SHALL DO ONE (1) COMPLETE ROUGH-IN OF EACH TYPE UNIT FOR REVIEW AND APPROVAL. INSTALLATION SHALL BE REVIEWED BY THE ARCHITECT AND COORDINATED WITH OTHER TRADES. ALL CONFLICTS SHALL BE RESOLVED AND FINAL INSTALLATION SHALL BE APPROVED PRIOR TO PROCEEDING WITH LIKE UNITS.
- THE ENTIRE DUCTWORK SYSTEM SHALL BE INSTALLED PER S.M.A.C.N.A.-HVAC DUCT CONSTRUCTION STANDARDS.
- WHERE THE EXHAUST DUCT EQUIVALENT LENGTH EXCEEDS 35FT, AND THE DUCT IS CONCEALED WITHIN THE BUILDING CONSTRUCTION, THE EQUIVALENT LENGTH SHALL BE IDENTIFIED ON A LABEL LOCATED WITHIN 6FT OF THE CONNECTION.



**KONTOGIANNIS & ASSOCIATES**

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PROJECT:

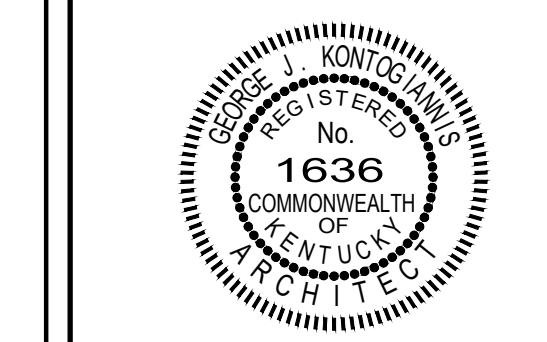
**THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")**

1125 EDWARDS RD.  
ELSMERE, KY 41018

DRAWING TITLE:

**HVAC EQUIPMENT, NOTES & DETAILS**

DATE: 07/31/2023  
REVISED:



GEORGE J. KONTOGIANNIS, LICENSE #1636  
EXPIRATION DATE 06/30/2024

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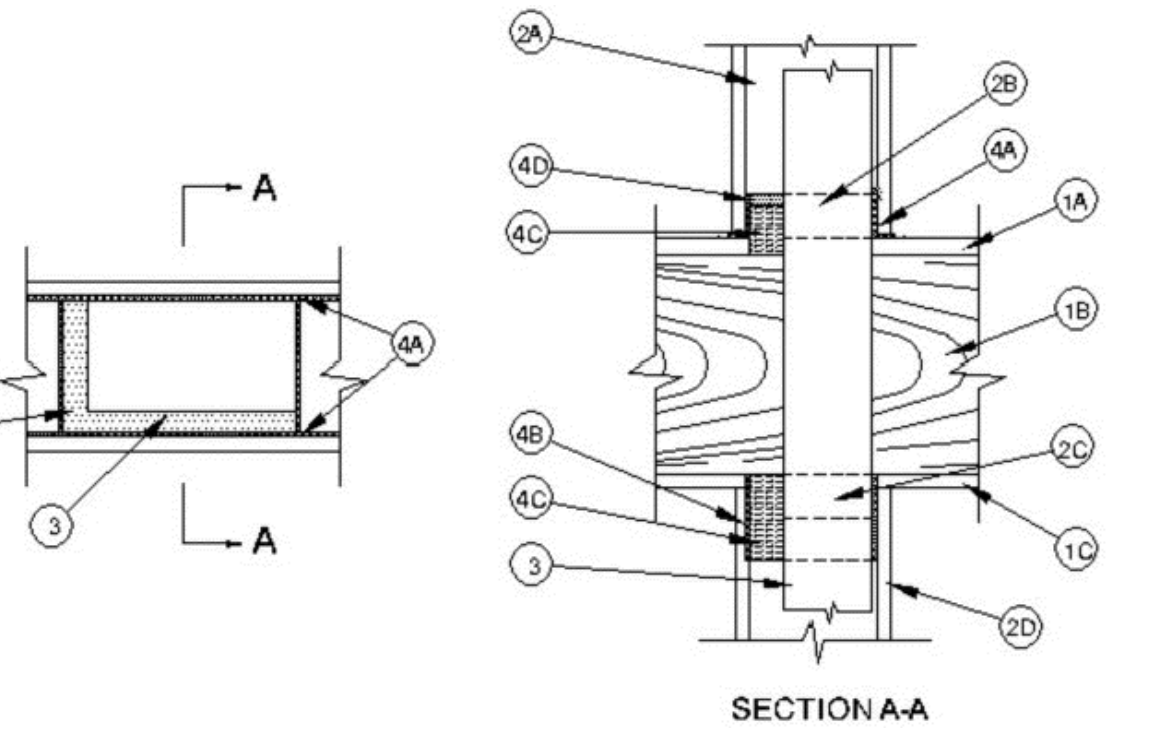
- SUBMISSION SET
- PERMIT SET 07/31/2023
- BID SET 11/08/2023
- CONSTRUCTION SET

H3-1



SYSTEM NO. F-C-7012

APRIL 8, 2008
F RATINGS - 1 HR
T RATINGS - 1/4 HR



1. FLOOR-CEILING ASSEMBLY -- THE 1 HR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL L500 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

- A. FLOORING SYSTEM -- LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE\* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX SIZE OF OPENING IS 5-1/2 BY 14 IN. (140 BY 356 MM).
B. WOOD JOISTS -- NOM 10 IN. (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS\* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.
C. GYPSUM BOARD\* -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL FLOOR-CEILING DESIGN.
2. CHASE WALL -- THE THROUGH PENETRANT (ITEM NO. 3) SHALL BE ROUTED THROUGH A FIRE-RATED SINGLE, DOUBLE OR STAGGED WOOD STUD/GYPSUM BOARD CHASE WALL. DEPTH OF CHASE WALL STUD CAVITY TO BE MIN 1/2 IN. (13 MM) GREATER THAN DIAMETER OF OPENING CUT IN TOP PLATES TO ACCOMMODATE THE THROUGH PENETRANT (ITEM 2). THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS -- NOM 2 BY 4 IN. (51 BY 102 MM) OR DOUBLE NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER STUDS.
B. SOLE PLATE -- NOM 2 BY 6 IN. (51 BY 152 MM) OR PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAX SIZE OF OPENING IS 5-1/2 BY 14 IN. (140 BY 356 MM).
C. TOP PLATE -- THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOM 2 BY 4 IN. (51 BY 102 MM) OR TWO SETS OF PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAX SIZE OF OPENING IS 5-1/2 BY 14 IN. (140 BY 356 MM).
D. GYPSUM BOARD\* -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.
3. STEEL DUCT -- NOM 12 BY 4 IN. (305 BY 102 MM) (OR SMALLER) NO. 30 GAUGE (OR HEAVIER) RECTANGULAR GALVANIZED STEEL DUCT TO BE INSTALLED ECCENTRICALLY OR CONCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN THE DUCT AND THE PERIPHERY OF OPENING SHALL BE MIN 0 IN. (POINT CONTACT) TO MAX 2 IN. (51 MM). DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY.
\*FIRESTOP SYSTEM -- THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. RETAINING ANGLES -- MIN 1 BY 1-1/2 IN. (25 BY 38 MM) 16 GAUGE (OR HEAVIER) STEEL ANGLES USED TO BRIDGE OPENING ON BOTH SIDES OF WALL AT SOLE PLATE IN SINGLE STUD WALLS WHEN SOLE PLATE IS REMOVED AT OPENING IN PLYWOOD FLOOR. ANGLES TO BE CUT TO OVERLAP A MIN OF 2 IN. (51 MM) ONTO SOLE PLATE ON THE 1-1/2 IN. (38 MM) LEG OF ANGLE SECURED TO SOLE PLATE WITH A MIN OF TWO NAILS OR SCREWS ON EACH SIDE OF OPENING AND ON BOTH SIDES OF WALL.
B. STEEL PLATES -- MIN 3 IN. (76 MM) WIDE 16 GAUGE (OR HEAVIER) STEEL PLATES USED TO BRIDGE OPENING ON BOTH SIDES OF WALL AT DOUBLE TOP PLATE IN SINGLE STUD WALLS WHEN TOP PLATES ARE REMOVED AT OPENING. PLATES TO BE CUT TO OVERLAP A MIN OF 2 IN. (51 MM) ONTO TOP PLATES ON EACH SIDE OF OPENING AND SECURED TO TOP PLATES WITH A MIN OF TWO NAILS OR SCREWS ON EACH SIDE OF OPENING AND ON BOTH SIDES OF WALL.
C. PACKING MATERIAL -- MIN 1-3/4 IN. (44 MM) THICKNESS OF A PCF (64 KG/M<sup>3</sup>) MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO THE OPENING WITHIN THE SOLE PLATE/PLYWOOD SUBFLOOR AND A MIN 3 IN. (76 MM) THICKNESS OF 4 PCF (64 KG/M<sup>3</sup>) MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO THE OPENING WITHIN THE TOP PLATE. THE PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF SOLE PLATE TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL (ITEM 4).
D. FILL, VOID OR CAVITY MATERIALS\* -- SEALANT -- MIN 1/2 IN. (13 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF SOLE PLATE AT THE POINT CONTACT LOCATION OF CEILING OR TOP SURFACE OF PLATE. AT THE POINT CONTACT LOCATION BETWEEN DUCT AND RETAINING ANGLE, A MIN 1/8 IN. (3.2 MM) DIAM BEAD OF SEALANT SHALL BE APPLIED AT THE DUCT/RETAINING ANGLE INTERFACE ON TOP SURFACE OF PLATE.
PASSIVE FIRE PROTECTION PARTNERS -- 360DEX, 480DOW
\* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

LAST UPDATED ON 2008-04-08

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FLOOR PENETRATION
U.L. SYSTEM NO. F-C-7012



INSTALLATION INSTRUCTION

- Model: CRD 50-FGFPB-4.2 & CRD 50-EA-FGFPB-4.2 for register & grille installations
CRD 50-FGFPB-4.2 & CRD 50-EA-FGFPB-4.2 for drop thru duct installations
CRD 50-FGFPB-4.2-CP & CRD 50-EA-FGFPB-4.2-CP for register & grille installations
CRD 50-FGFPB-4.2-CP & CRD 50-EA-FGFPB-4.2-CP for drop thru duct installations
CRD 50-FGFPB-6-NI & CRD 50-EA-FGFPB-6-NI for register & grille installations
CRD 50-FGFPB-6-NI & CRD 50-EA-FGFPB-6-NI for drop thru duct installations
(1) Lloyd Industries UL 555-C listed ceiling radiation damper
(2) Easy access or mid finish link (165°F rnd)(212°F optional)
(3) Fiberglass duct-board plenum box (UL rated 181 class (knee nose))
(4) Damper sleeve: flanged for plenum insulation support (22 ga. galv. steel)
(5) Register/grille sleeve 22 ga. galv. steel (for 5/8" thick gypsum)
(6) Support angles (2) per unit, factory installed or supplied separately
A. std (16 ga. galvanized steel 3/4" x 3/4" x 26" lg)
B. optional (22 ga. galvanized 1-1/2" x 1-1/2" x 26" lg)
(7) Support angle fasteners (fastens support angle to damper) #8 x 3/4" lg steel sheet metal screws, 3/16 diameter steel rivets, or spot welds. (2) places on each support angle minimum, when the (4) adjustable angle brackets are used, use fasteners above and secure support angles to adjustable brackets with a minimum of (1) fastener for each bracket.
(8) Support angle fasteners (angles to trans rods) #8 x #10 x 1-1/2" lg steel sheet metal or oval screws or #6 common nails (8) pks.
(9) Drop duct sleeve 22 ga. galv. steel
(10) Drop duct mounting angles (4) 22 ga. x 1" x 1" galv. steel
(11) Drop duct angle fasteners (angles to sleeve) #8 or #10 x 3/4" lg steel sheet metal screws or #8 x 3/4" steel pop rivets
(12) Ref. design 1-5/8" wood truss (ASM).
A. deck/roof materials
B. truss wood cords
C. RC channel
D. gypsum board 5/8" thick minimum
(13) Register/grille (2) ga steel min. 45 mm (provided by other)
(14) Register/grille steel mounting screws (2) #8 x 2" lg minimum (provided by other)
(15) Flexible duct and duct connectors: UL Classified class 0 or class 1 (provided and installed by other)
(16) Boot clip installation permitted using (2) #8 or #10 steel sheet metal screws, use a min of (2) #8 "s" type steel screws to fasten to trans rods at each mounting point, use (2) crimp connections or hardware above to fasten non-locking boot clip to the flange, locking boot clip do not require flange fasteners.

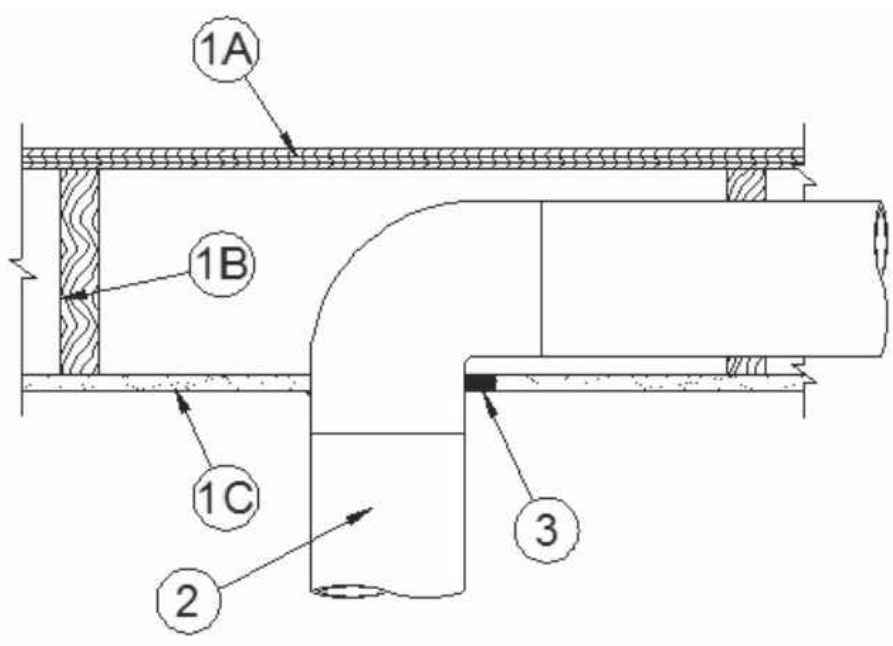
INSTALLATION INSTRUCTIONS AND THE PRODUCTS SPECIFIED ARE IN CONFORMANCE TO ALL OF UNDERWRITERS LABORATORIES REQUIREMENTS. All installations are subject to local authority approval prior to ordering and installing dampers.
221 Commerce Dr., Montgomeryville, PA 19066 Tel: 477...
138 Industrial Loop West, Orange Park, FL 32067 Tel: 477...
3000 Lakeside Blvd., Suite 100, Littleton, CO 80120 Tel: 477...
3600 Lakeside Blvd., Suite 100, Littleton, CO 80120 Tel: 477...
3600 Lakeside Blvd., Suite 100, Littleton, CO 80120 Tel: 477...
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3600 Lakeside Blvd., Suite 100, Littleton, CO 80120 Tel: 477...

SYSTEM NO. F-C-7060

JANUARY 06, 2015

ANSUL1479 (ASTM E814)
F Ratings - 1 Hr
T Rating - 1 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft

CAN/ULC S115
F Ratings - 1 Hr
FT Ratings - 1 Hr
FH Ratings - 1 Hr
FTH Rating - 1 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft



1. FLOOR - CEILING ASSEMBLY -- THE 1 HR FIRE-RATED WOOD JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY, AS SUMMARIZED BELOW:

- A. FLOORING SYSTEM -- LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE\* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN.
B. WOOD JOISTS -- NOM 10 IN. (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS\* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.
C. GYPSUM BOARD\* -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS AS REQUIRED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING IS TO BE MAX 1-1/2 IN. (38 MM) LARGER THAN DIAM OF STEEL DUCT.
1A CHASE WALL -- THE THROUGH PENETRANT (ITEM 2) MAY BE ROUTED THROUGH A 1 HR FIRE RATED SINGLE, DOUBLE OR STAGGED WOOD STUD/GYPSUM BOARD CHASE WALL. DEPTH OF CHASE WALL STUD CAVITY TO BE MIN 1/2 IN. (13 MM) GREATER THAN DIAMETER OF OPENING CUT IN TOP PLATES TO ACCOMMODATE THE THROUGH PENETRANT (ITEM 2). THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS -- NOM 2 BY 4 IN. (51 BY 102 MM), 2 BY 6 IN. (51 BY 152 MM) OR DOUBLE NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER STUDS.
B. SOLE PLATE -- NOM 2 BY 4 IN. (51 BY 102 MM), 2 BY 6 IN. (51 BY 152 MM) OR PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED.
C. TOP PLATE -- THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOM 2 BY 4 IN. (51 BY 102 MM), TWO NOM 2 BY 6 IN. (51 BY 152 MM) OR TWO SETS OF PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. DIAM OF OPENING IS TO BE MAX 1-1/2 IN. (38 MM) LARGER THAN DIAM OF STEEL DUCT. AS AN ALTERNATE, THE OPENING MAY BE SQUARE-CUT WITH A MAX DIMENSION: 1-1/2 IN. (38 MM) GREATER THAN THE DIAM OF THE PIPE. PLATES MAY BE DISCONTINUOUS OVER OPENING, TERMINATING AT TWO OPPOSING EDGES OF OPENING. MAX LENGTH OF DISCONTINUITY IS 7-1/2 IN. (191 MM).
D. STEEL PLATE -- WHEN LUMBER PLATES ARE DISCONTINUOUS, NOM 1-1/2 IN. (38 MM) WIDE NO. 20 GAUGE (OR HEAVIER) GALV STEEL PLATES SHALL BE INSTALLED TO CONNECT DISCONTINUOUS LUMBER PLATES AND TO PROVIDE A FORM FOR THE FILL MATERIAL. STEEL PLATES SIDED TO LAP 2 IN. (51 MM) ONTO EACH DISCONTINUOUS LUMBER PLATE AND SECURED TO LUMBER PLATES WITH STEEL SCREWS OR NAILS.
E. GYPSUM BOARD\* -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN.
2. STEEL DUCT -- ONE NOM 6 IN. (152 MM) DIAM (OR SMALLER) NO. 30 GA (OR HEAVIER) GALVANIZED STEEL DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE OPENING. ANNULAR SPACE TO BE MIN 0 IN. (POINT CONTACT) TO MAX 1-1/2 IN. (38 MM). DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIAL\* -- SEALANT -- MIN 5/8 IN. (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR TOP PLATE. MIN 1/4 IN. (6 MM) DIAM BEAD OF FILL MATERIAL APPLIED AT POINT CONTACT LOCATION AT THE PENETRANT/CEILING OR CHASE WALL TOP PLATE INTERFACE.
SPECIFIED TECHNOLOGIES INC. -- SPECSEAL LCI SEALANT, SPECSEAL LCI50 SEALANT OR TYPE WF300 CAULK
\* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

LAST UPDATED ON 2015-01-06

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FLOOR PENETRATION
U.L. SYSTEM NO. F-C-7060

SEE FIRE RESISTANCE RATINGS SHEETS FOR FIRE DAMPER RATING FOR 1 HOUR FLOOR/CEILING ASSEMBLY
U.L. DESIGN NO. L563

SEE FIRE RESISTANCE RATINGS SHEETS FOR FIRE DAMPER RATING FOR 1 HOUR ROOF/CEILING ASSEMBLY
U.L. DESIGN NO. P522



INSTALLATION INSTRUCTION

- Model: CRD 50-FGFPB-4.2 & CRD 50-EA-FGFPB-4.2 for register & grille installations
CRD 50-FGFPB-4.2 & CRD 50-EA-FGFPB-4.2 for drop thru duct installations
CRD 50-FGFPB-4.2-CP & CRD 50-EA-FGFPB-4.2-CP for register & grille installations
CRD 50-FGFPB-4.2-CP & CRD 50-EA-FGFPB-4.2-CP for drop thru duct installations
CRD 50-FGFPB-6-NI & CRD 50-EA-FGFPB-6-NI for register & grille installations
CRD 50-FGFPB-6-NI & CRD 50-EA-FGFPB-6-NI for drop thru duct installations
1. Before installing the damper assembly, open the ceiling radiation damper blades and secure the blades open with the easy access wire catch and the temperature rated flange link.
2. Ceiling penetrations should be located between adjacent trusses and RC Channels using a s a minimum of 1-3/4" from the truss to the outside of the plenum box as shown. If required (1) RC Channel may be cut to allow installation. The clearance between the damper/sleeve and the gypsum ceiling material must not exceed 1/16" per side and 1/8" total max.
3. Installation:
A. If support angles have been provided pre-assembled to the unit by the factory, center dampers between trusses and locate support angle rails on top of the lower truss cords. Fasten using a minimum of (2) #8, or #10 wood or drywall self tapping screws X 1-1/2" lg or #6 common nails at each mounting point.
B. Support angles may be cut and formed 90° for truss side mounting inside truss cords as shown.
C. If support angles have been provided separate from the unit, establish the dimension for the gypsum flange location to the top of the lower truss cord and fasten (2) support angles to units using (2) #8 x 3/4" lg steel sheet metal screws or (2) 3/16" diameter steel rivets for each angle. NOTE: Ensure that fasteners do not interfere with the ceiling radiation damper operation.
The Fiberglass insulation plenum box permits cutting and installing a maximum of (3) collars for class 1 or class 0 flexible ducting. Use UL Class 1 reinforced 2" wide aluminum Taps where required for assembly and broadcast sealing. NOTE: Duct and collar installation must not interfere with damper operation inside the fiberglass ductboard plenum box.
4. Register/grille sleeve construction with 26 ga. (55 mm) minimum are to be attached to the ceiling radiation damper/gypsum flange using (2) #8 x 2" lg steel sheet metal screws minimum. (1) at each end of the register/grille minimum.
5. Drop duct installation require 22 ga. 1" x 1" retaining angles on all (4) sides fastened to the steel drop duct sleeve using (2) #8 x 3/4" lg steel sheet metal or 3/16" diameter steel rivets on each side as shown.

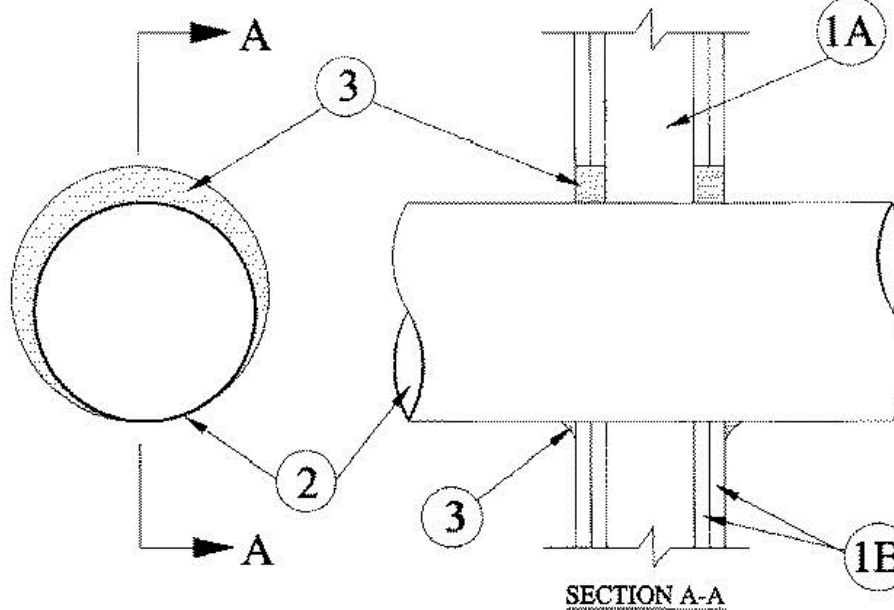
INSTALLATION INSTRUCTIONS AND THE PRODUCTS SPECIFIED ARE IN CONFORMANCE TO ALL OF UNDERWRITERS LABORATORIES REQUIREMENTS. All installations are subject to local authority approval prior to ordering and installing dampers.
221 Commerce Dr., Montgomeryville, PA 19066 Tel: 477...
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System No. W-L-7042

October 12, 2017

ANSUL1479 (ASTM E814)
F Ratings - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr

CAN/ULC S115
F Ratings - 1 and 2 Hr (See Items 1 and 3)
FT Rating - 0 Hr
FH Ratings - 1 and 2 Hr (See Items 1 and 3)
FTH Rating - 0 Hr



1. Wall Assembly -- The 1 or 2 hr fire rated wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced 24 in. (610 mm) OC. Additional framing members shall be used to completely frame the opening for all ducts greater than 20 in. (508 mm) diam.
B. Gypsum Board\* -- For 1 hr assembly, one layer of min 5/8 in. (16 mm) thick wallboard as required in the individual Wall and Partition Design. For 2 hr assembly, two layers of min 5/8 in. (16 mm) thick wallboard as required in the individual Wall and Partition Design. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls and 25-1/2 in. (648 mm) for steel stud walls.
The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant -- Galv steel duct to be installed concentrically or eccentrically within the firestop system. The annular space between the duct and periphery of opening shall be 0 in. (0 mm, point contact) and max 1-1/2 in. (64 mm) Duct to be rigidly supported on both sides of wall assembly.
A. Spiral Wound HVAC Duct -- Nom 24 in. (610 mm) diam (or smaller) No. 28 MSG (or heavier) galv steel spiral wound duct.
B. Sheet Metal Duct -- Nom 12 in. (305 mm) diam (or smaller) No. 28 MSG (or heavier) galv steel sheet metal.
3. Fill, Void or Cavity Material\* -- Sealant -- Min 5/8 in. (16 mm) and 1-1/4 in. (32 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly for 1 and 2 hr F Ratings, respectively. When FS-ONE Max is used, min 5/8 in. (16mm) thickness for both 1 and 2 hr F Ratings. At the point contact location between duct and wallboard, a min 1/2 in. (13 mm) diam steel bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.
HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. -- CP6015 Elastomeric Firestop Sealant, FS-ONE Sealant, FS-ONE MAX Intumescent Sealant or CP606 Flexible Firestop Sealant
\* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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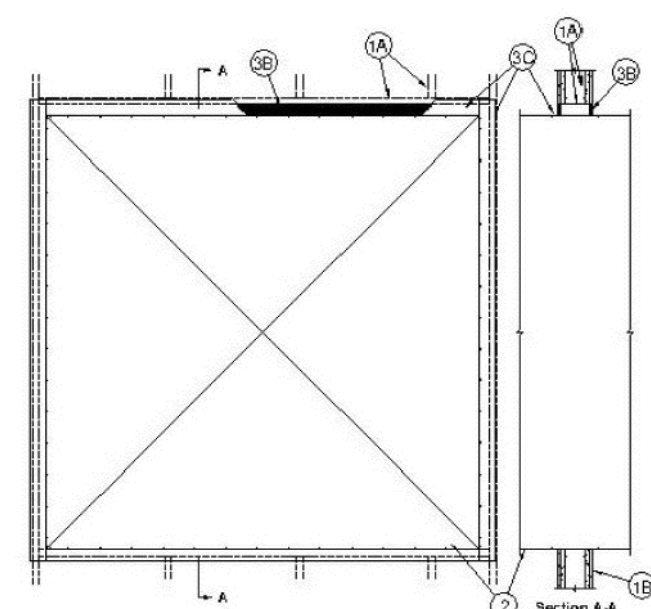
WALL PENETRATION
U.L. SYSTEM NO. W-L-7042

System No. W-L-7155

December 26, 2017

ANSUL1479 (ASTM E814)
F Ratings -- 1 and 2 Hr (See Item 1)
T Ratings -- 0 Hr
L Rating At Ambient -- Less Than 1 CFM/sq ft
L Rating at 400 F -- Less Than 1 CFM/sq ft

CAN/ULC S115
F Ratings -- 1 and 2 Hr (See Item 1)
FT Ratings -- 0 Hr
FH Ratings -- 1 and 2 Hr (See Item 1)
FTH Ratings -- 0 Hr
L Rating At Ambient -- Less Than 1 CFM/sq ft
L Rating at 400 F -- Less Than 1 CFM/sq ft



1. Wall Assembly -- The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

- A. Studs -- Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC. Additional steel studs shall be used to completely frame the opening.
B. Gypsum Board\* -- 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Max area of opening is 73.7 sq ft (6.85 m<sup>2</sup>) with a max dimension of 104 in. (2,644 mm).
The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Duct -- Max 100 in. by 100 in. (2,540 by 2,540 mm) galv steel duct to be installed either concentrically or eccentrically within the firestop system. The duct shall be constructed and reinforced in accordance with SMACNA construction standards. The space between the duct and periphery of opening shall be min 0 in. (point contact) to max 2 in. (51 mm). Steel duct to be rigidly supported on both sides of the wall assembly.
2A1 Through-Penetrating Product\* -- As an alternate to Item 2, Fiber cement with galvanized steel facing, 3/8 (10 mm) thick composite metallic duct, with a max cross-sectional area of 43.0 sq ft (4 m<sup>2</sup>) and a max individual dimension of 78 3/4 in. (2 m). Duct to be installed either concentrically or eccentrically within the firestop system such that the annular space is min 0 in. (point contact) to max 2 in. (51 mm). Duct to be rigidly supported on both sides of wall assembly. Refer to Ventilation Duct Assemblies in Vol. 2 of the Fire Resistance Directory.
DURASYSTEMS BARRIERS INC. -- Type DuraDuct HP.
2A3 Through-Penetrating Product\* -- As an alternate to Item 2, Galvanized steel faced duct panel, with a max cross-sectional area of 2450 sq in. (1,58 m<sup>2</sup>), and a max individual dimension of 49-1/2 in. (1258 mm) Duct to be installed either concentrically or eccentrically within the firestop system such that the annular space is min 0 in. (point contact) to max 2 in. (51 mm). Duct to be rigidly supported on both sides wall assembly. Refer to Ventilation Duct Assemblies in Vol. 2 of the Fire Resistance Directory.
DURASYSTEMS BARRIERS INC. -- Type DuraDuct GNK.
2A4 Through-Penetrants -- Coated Ducts\* -- As an alternate to Item 2, rectangular steel air duct supplied coated with BW11 coating material. Max 40 by 40 in. (1,02 by 1,02 m) duct size. One duct to be installed within the firestop system with an annular space of min 0 in. (point contact) to max 2 in. (51 mm). Reinforcement stiffener or transverse joint with bolted flanges shall be located approximately at the mid depth of the annular space. Duct to be rigidly supported on both sides of the wall assembly. Duct sections shall be assembled using bolted flanges or SMACNA approved Transverse Joint Reinforcements.
FIRESEAP INTERNATIONAL LTD -- FLAMEBAR BW11 FIRE RATED DUCTWORK
3. Firestop System -- The firestop system shall consist of the following:
A. Packing Material\* -- (Optional, Not Shown) -- Polyethylene backed foil, mineral wool batt insulation or fiberglass batt insulation friction fitted into annular space. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material.
A1 Packing Material -- Required as specified in Table below. Min 3/4 in. (95 mm) or 5 in. (127 mm) thickness of min 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation firmly packed into opening as a permanent form for 1 and 2 hr F Ratings, respectively. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material.
B. Fill, Void or Cavity Material\* -- Sealant -- Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of fill material shall be applied at the point contact location between the steel duct or coated duct and the gypsum board of wall.
HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. -- CFS-5 SIL GGL Sealant, FS-ONE Sealant, FS-ONE MAX Intumescent Sealant or CP606 Flexible Firestop Sealant
C. Steel Retaining Angles -- Min No. 16 gauge galv steel angles sized to lap steel duct a min of 2 in. (51 mm) and to lap wall surfaces a min of 1 in. (25 mm). When max duct dimension does not exceed 48 in. (122 cm) and duct area does not exceed 1300 in<sup>2</sup> (837 cm<sup>2</sup>), angles may be No. 18 gauge galv steel. Angles attached to steel duct or coated duct on both sides of wall with min No. 10 by 1/2 in. (13 mm) long sheet metal screws located a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC. Steel angles are optional for those sides of duct that do not exceed the dimension specified in Table below, dependent on packing material, sealant and annular space as specified.
Max Duct Dimension Duct Thickness Annular Space Sealant Packing Material Angle (Item 3C) Required
24 in. (610 mm) 24 ga or heavier 1/2 in. min to 1 in. max FS-ONE Sealant or Item 3A1 No
(13 to 25 mm) CP606 Flexible Firestop Sealant

\* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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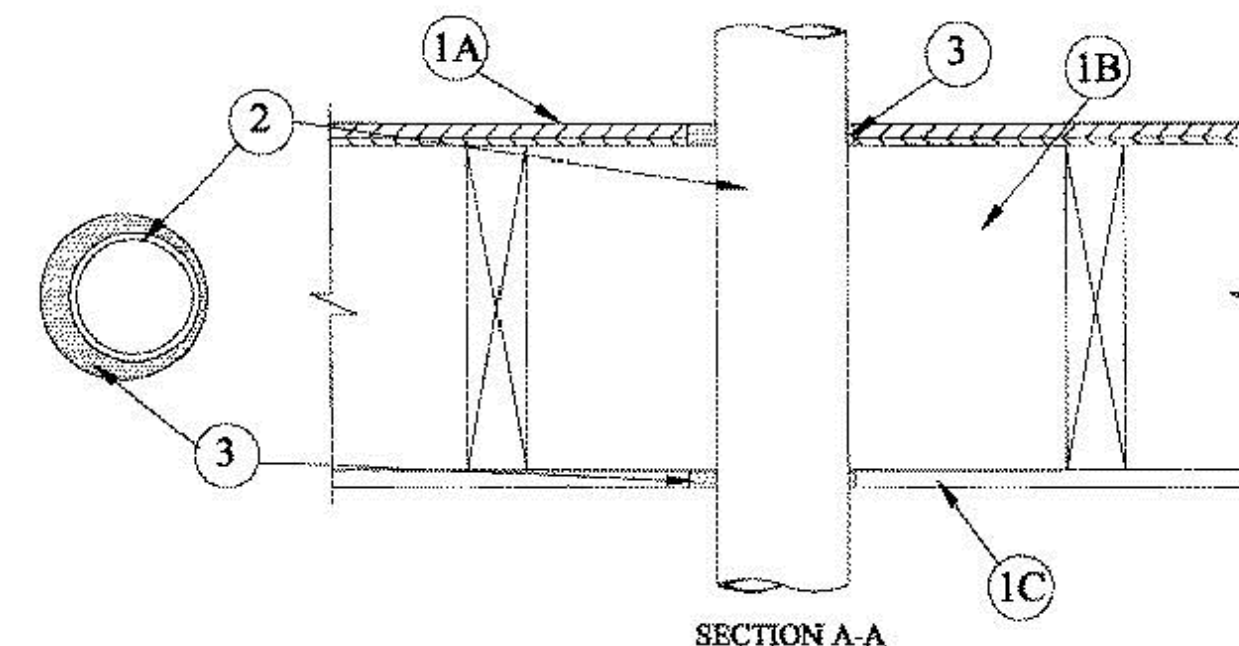
WALL PENETRATION
U.L. SYSTEM NO. W-L-7155

SYSTEM NO. F-C-7013

JANUARY 20, 2015

ANSUL1479 (ASTM E814)
F Rating - 1 Hr
T Rating - 0 Hr

CAN/ULC S115
F Rating - 1 Hr
FT Rating - 0 Hr
FH Ratings - 1 Hr
FTH Rating - 0 Hr



1. FLOOR-CEILING ASSEMBLY -- THE 1 HR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

- A. FLOORING SYSTEM -- LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE\* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING SHALL BE 5-1/4 IN. (133 MM).
B. WOOD JOIST\* -- NOM 10 IN. (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS\* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.
C. GYPSUM BOARD\* -- NOM 4 FT (1.2 M) WIDE BY 5/8 IN. (16 MM) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING SHALL BE 5-1/4 IN. (133 MM).
1.1 CHASE WALL -- (NOT SHOWN, OPTIONAL) THE THROUGH PENETRANTS (ITEM 2) MAY BE ROUTED THROUGH A 1 HR FIRE-RATED SINGLE, DOUBLE OR STAGGED WOOD STUD/GYPSUM WALLBOARD CHASE WALL HAVING A FIRE RATING CONSISTENT WITH THAT OF THE FLOOR-CEILING ASSEMBLY. THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS -- NOM 2 BY 6 IN. (51 BY 152 MM) LUMBER OR DOUBLE NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER STUDS.
B. SOLE PLATE -- NOM 2 BY 6 IN. (51 BY 152 MM) LUMBER OR PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAX DIAM OF OPENING SHALL BE 5-1/4 IN. (133 MM).
C. TOP PLATE -- THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOM 2 BY 6 IN. (51 BY 152 MM) LUMBER PLATES OR TWO SETS OF NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES TIGHTLY BUTTED. MAX DIAM OF OPENING IS 5-1/4 IN. (133 MM).
D. GYPSUM BOARD\* -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.
2. STEEL DUCT -- NOM 4 IN. (102 MM) DIAM (OR SMALLER) NO. 30 GAUGE (OR HEAVIER) GALV STEEL DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN DUCT AND PERIPHERY OF OPENING SHALL BE MIN 0 IN. (POINT CONTACT) TO MAX 3/4 IN. (19 MM). STEEL DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY.
3. FILL, VOID OR CAVITY MATERIALS\* -- SEALANT -- MIN 3/4 IN. (19 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULAR SPACE, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MIN 5/8 IN. (16 MM) THICKNESS OF SEALANT APPLIED WITHIN ANNULAR SPACE, FLUSH WITH BOTTOM SURFACE OF GYPSUM BOARD OR LOWER TOP PLATE.
HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. -- FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT
\* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

LAST UPDATED ON 2015-01-20

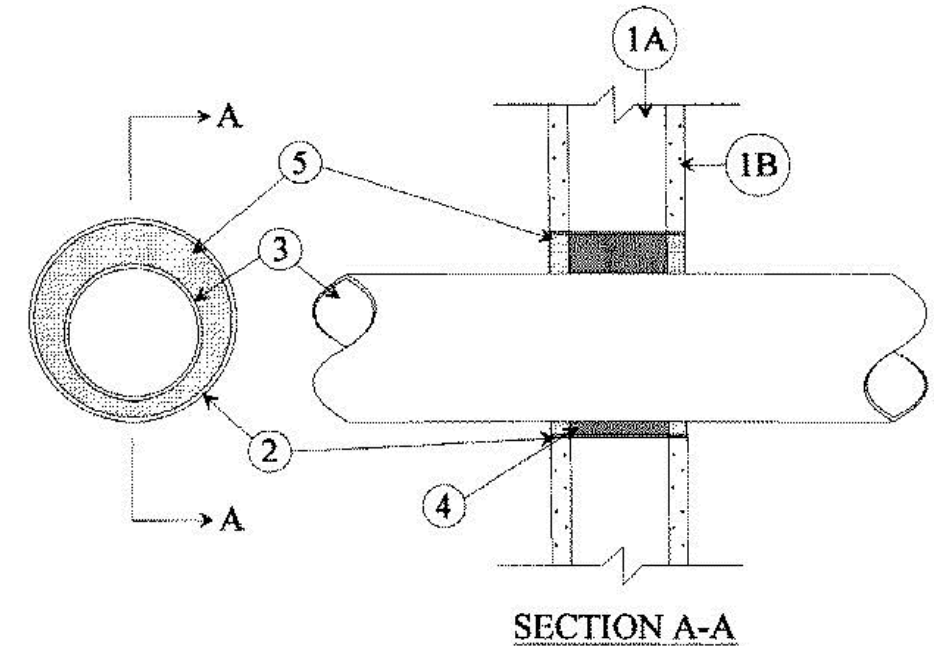
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FLOOR PENETRATION
U.L. SYSTEM NO. F-C-7013

System No. F-C-7017

May 19, 2005

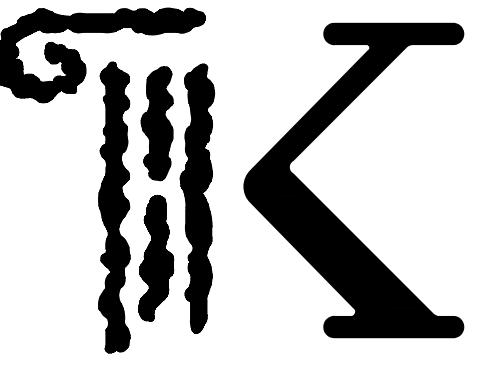
F Rating - 1 Hr
T Rating - 1 Hr



1. Floor-Ceiling Assembly -- The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction details of the floor-ceiling assembly are summarized below:

- A. Flooring System -- Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the individual Floor-Ceiling Design. Max diam of opening is 5 1/4 in. (137 mm).
B. Wood Joists -- Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members\* with bridging as required and with ends firestopped.
C. Gypsum Board\* -- Nom 4 ft. (122 cm) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Gypsum board secured to wood joists or curving channels as specified in the individual Floor-Ceiling Design. Max of opening is 6 by 5-1/2 in. (152 mm by 140 mm).
1.1 Chase Wall -- (Optional, not shown) -- The duct (item 2) may be routed through a fire-rated single, double or staggered wood stud/gypsum board chase wall having a fire rating consistent with that of the floor-ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
A. Studs -- Nom 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.
B. Sole Plate -- Nom 2 by 6 in. (51 by 152 mm) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted.
C. Top Plate -- The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max of opening is 6 by 5-1/2 in. (152 by 140 mm).
D. Gypsum Board\* -- Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.
2. Steel Duct -- Nom 4 in. (102 mm) diam (or smaller) No. 30 gauge (or heavier) galv steel duct to be installed concentrically or eccentrically within the firestop system. The annular space between the duct and





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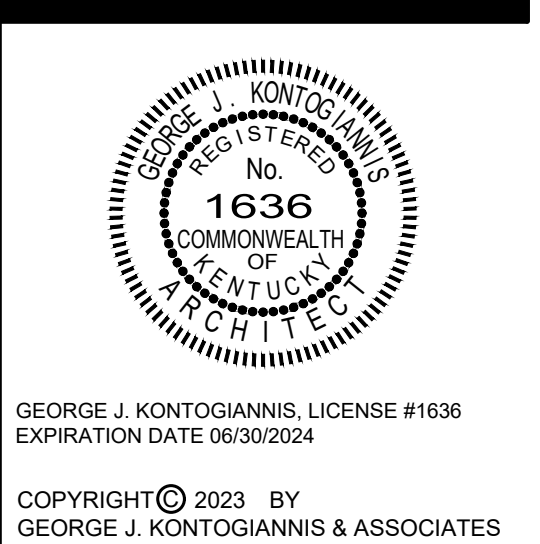
PROJECT:

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(BUILDING "B")**

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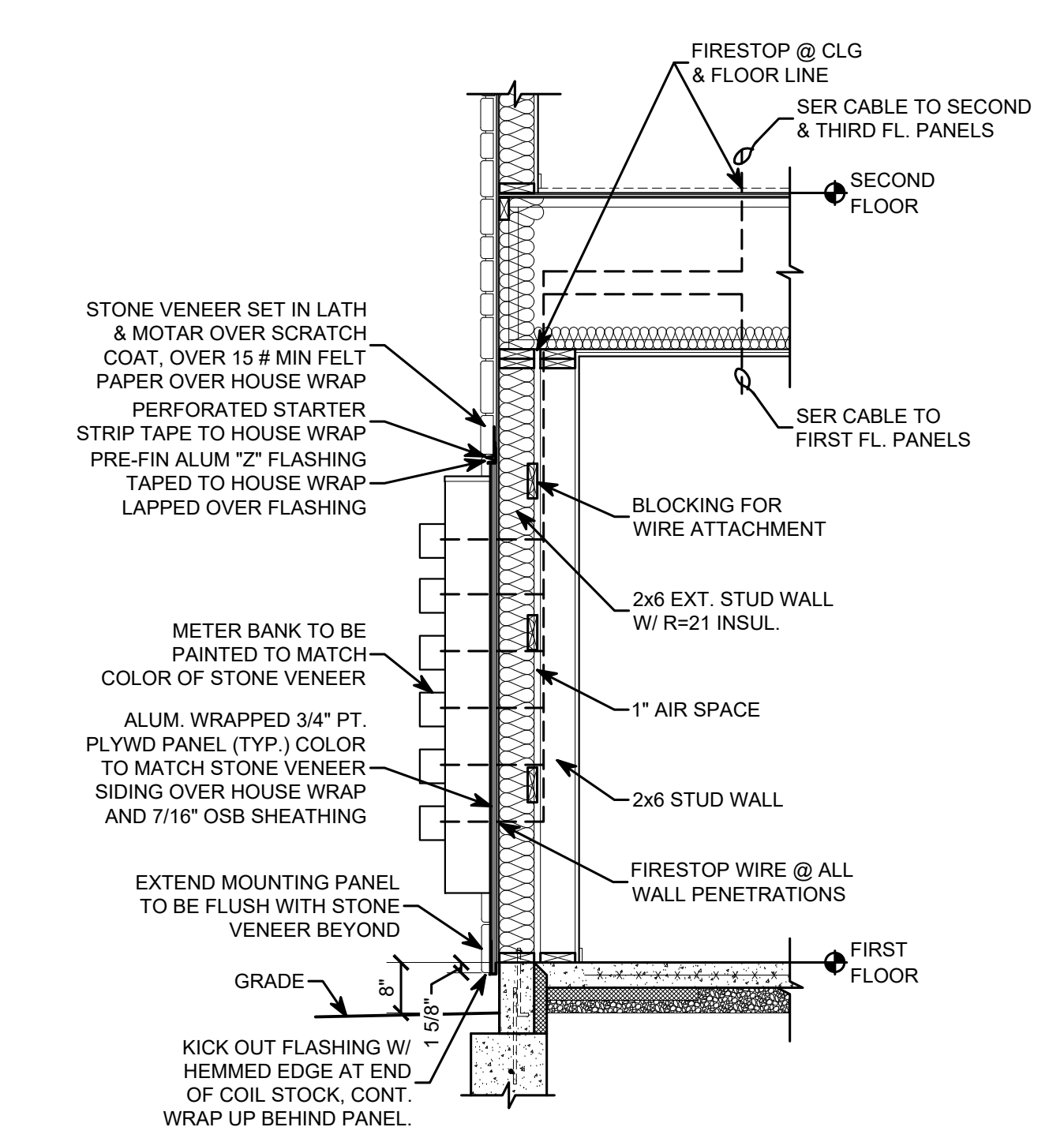
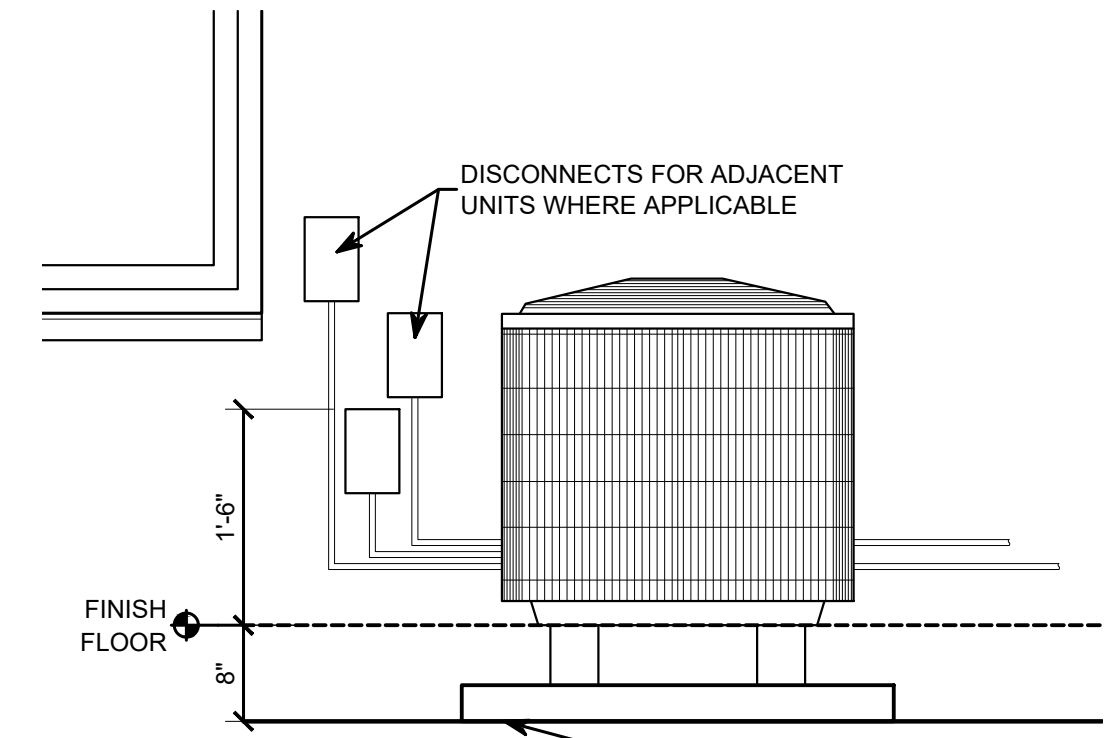
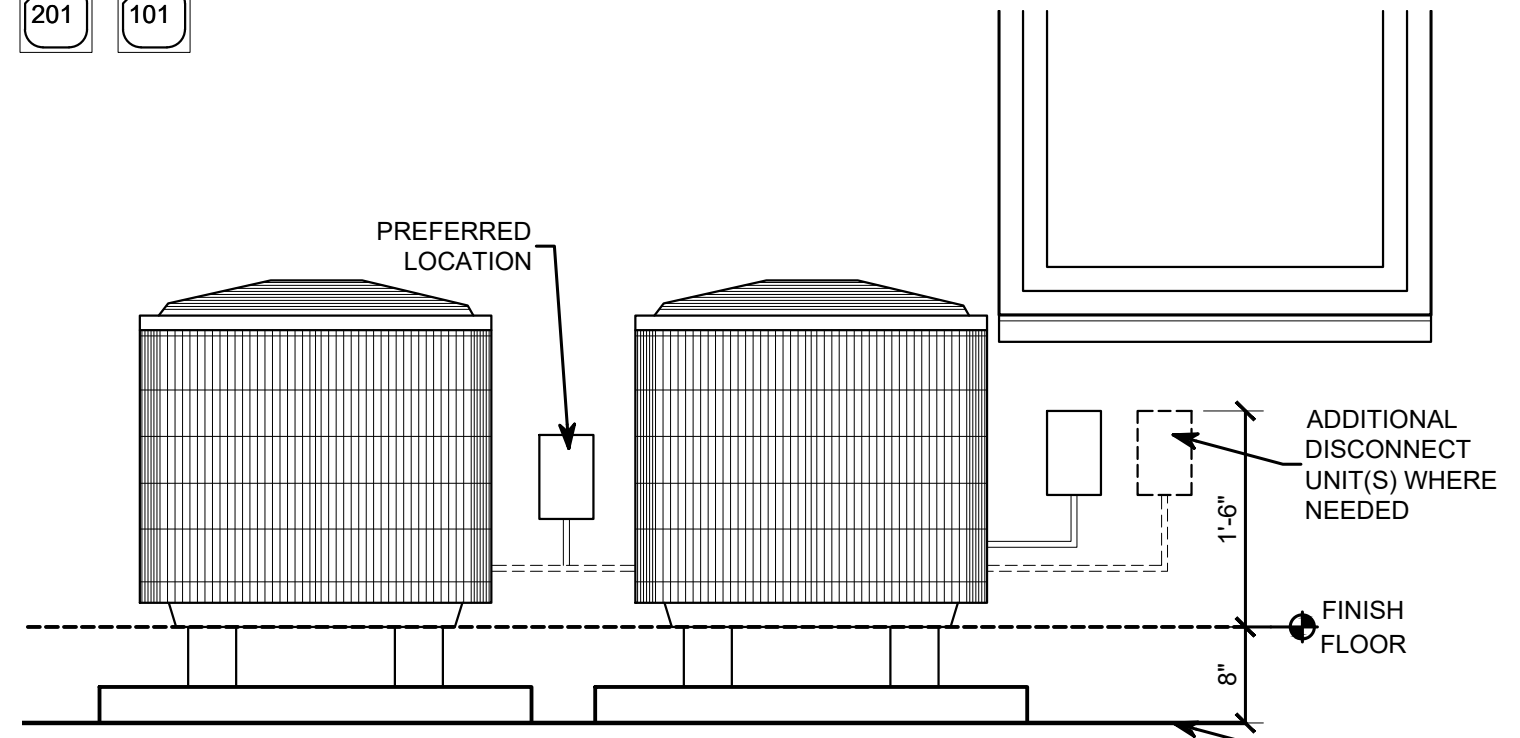
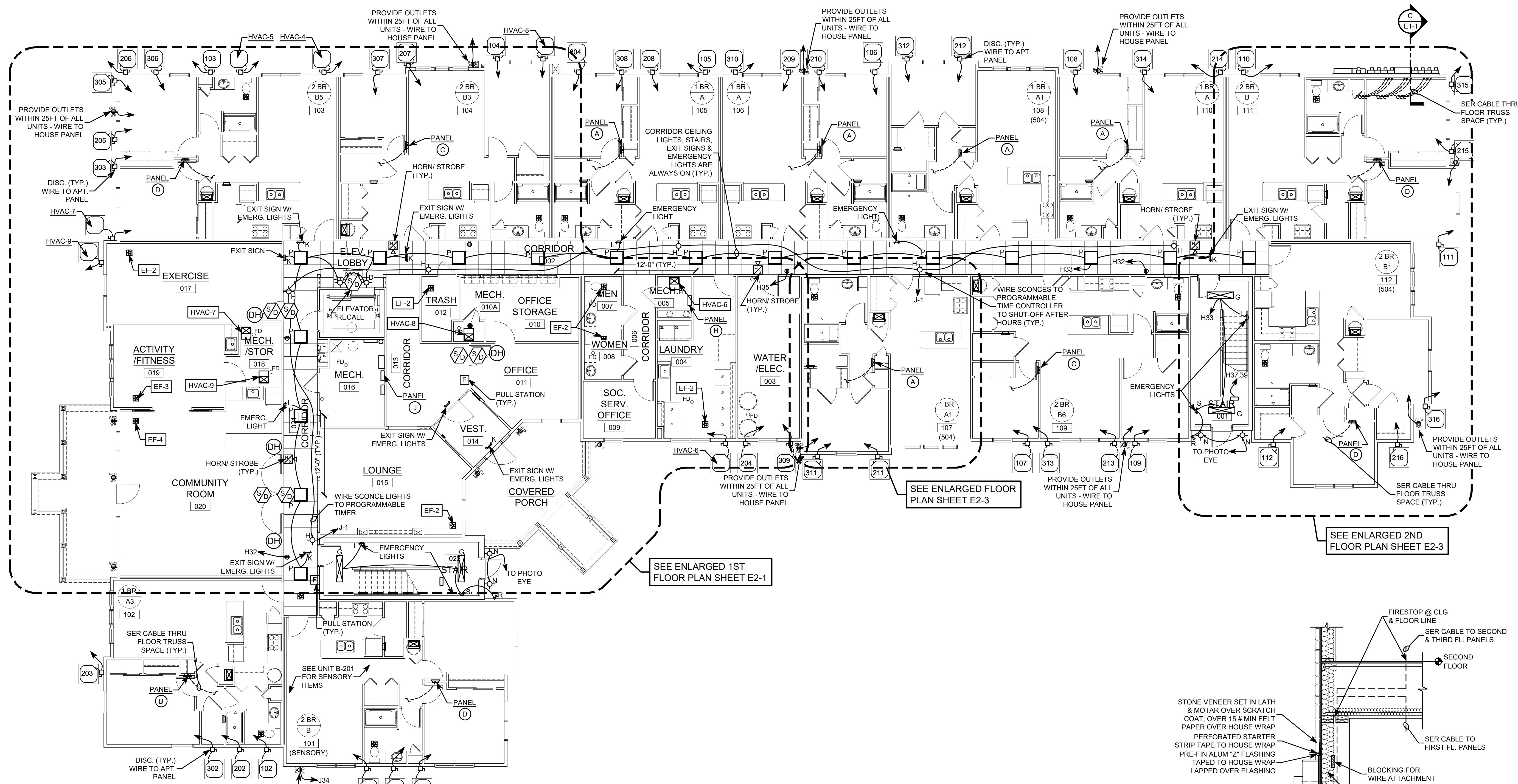
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FLOOR ELECTRICAL  
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**E1-1**



**BUILDING FIRST FLOOR ELECTRICAL PLAN**

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

**DISCONNECT DETAIL (A)**

SCALE: 3/4" = 1'-0"

**DISCONNECT DETAIL (B)**

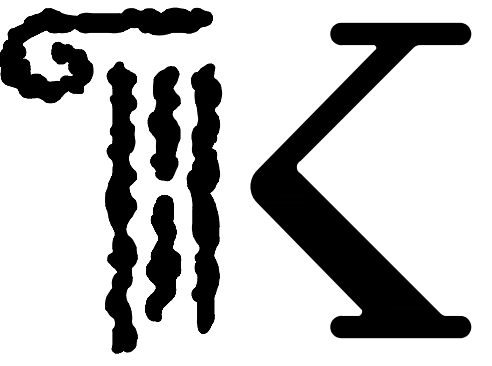
SCALE: 3/4" = 1'-0"

**WALL SECTION (C)**

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

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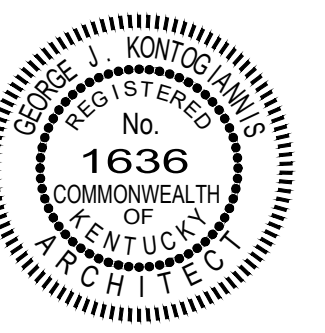
**THE SANCTUARY  
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SENIOR HOUSING  
(BUILDING "B")**

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DRAWING TITLE:

**BUILDING SECOND  
FLOOR ELECTRICAL  
PLAN**

DATE: 07/31/2023  
REVISED:

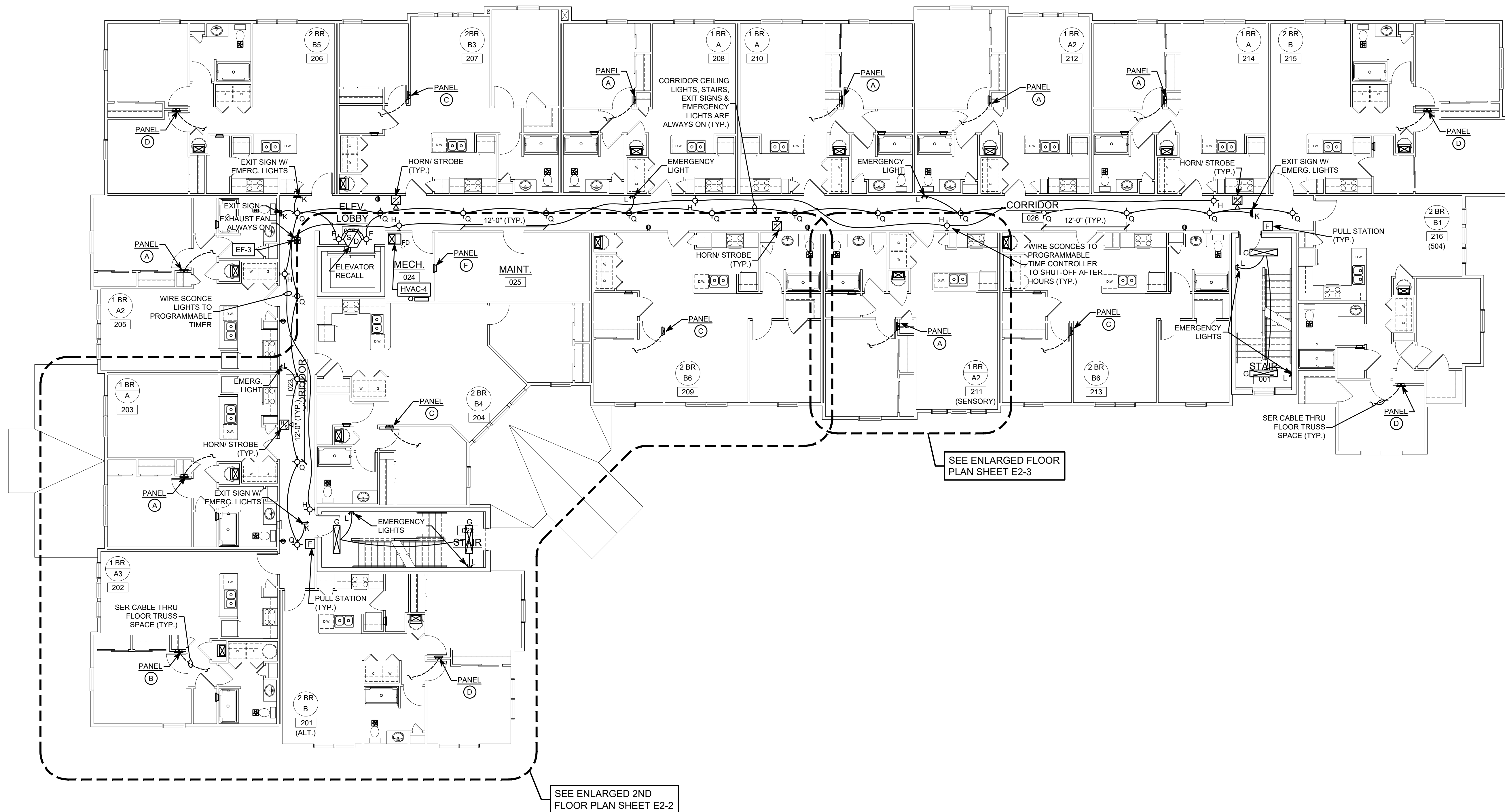


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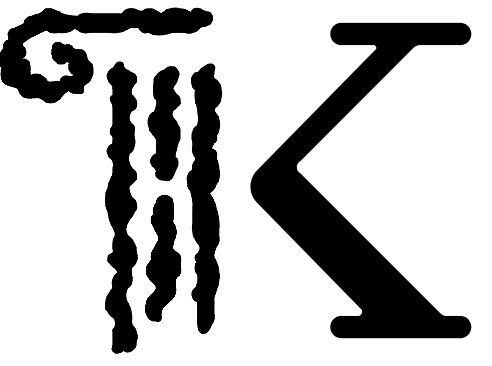
**E1-2**



**BUILDING SECOND FLOOR ELECTRICAL PLAN**

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

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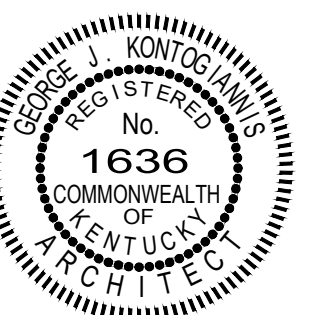
PROJECT:

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(BUILDING "B")**

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DRAWING TITLE:  
**BUILDING THIRD  
FLOOR ELECTRICAL  
PLAN**

DATE: 07/31/2023  
REVISED:

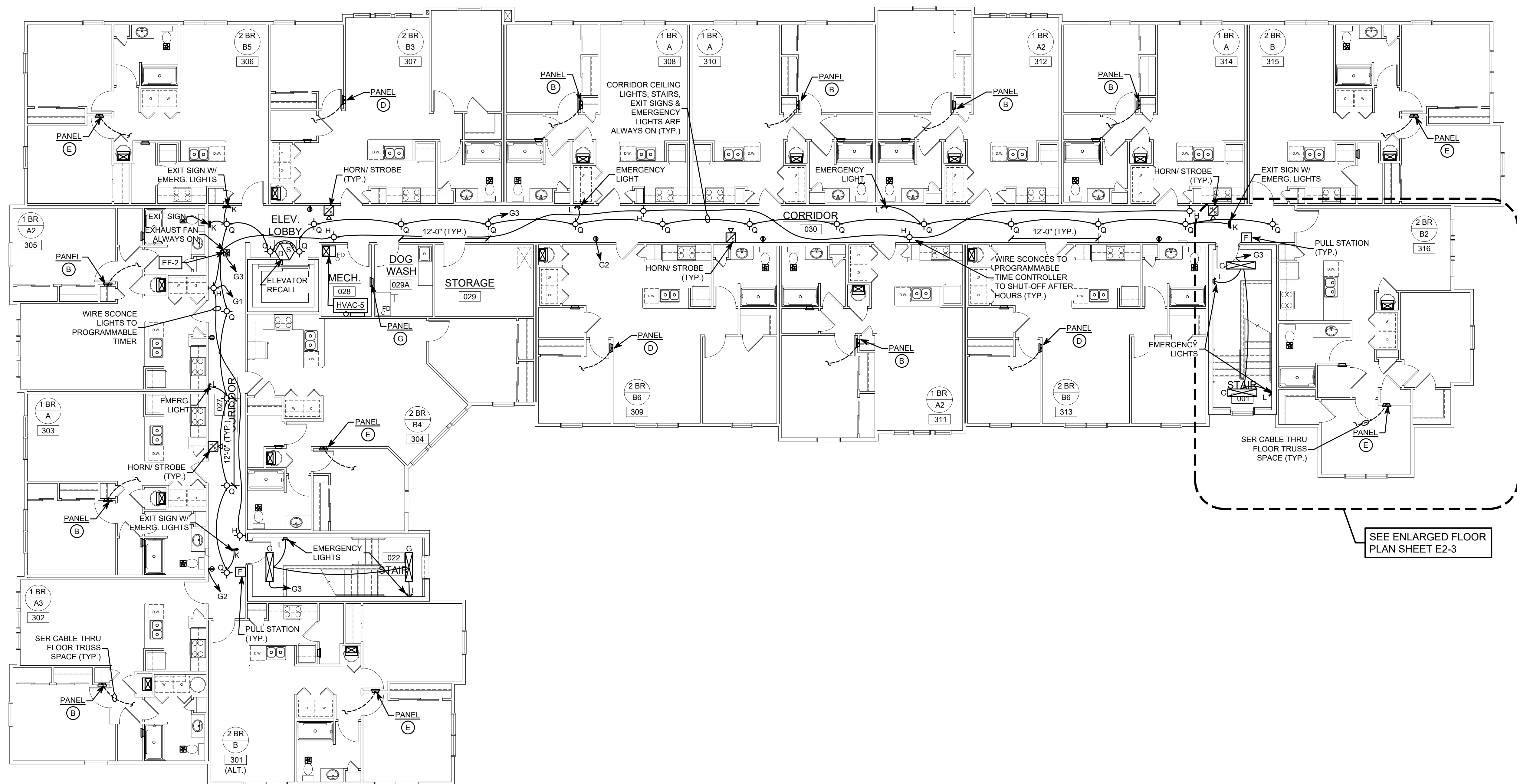


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**E1-3**

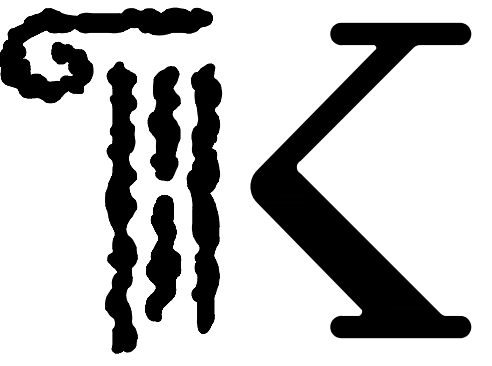


**BUILDING THIRD FLOOR ELECTRICAL PLAN**

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

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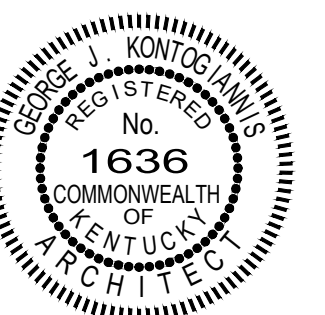
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DRAWING TITLE:  
**BUILDING CABLE  
& CAMERA PLAN**

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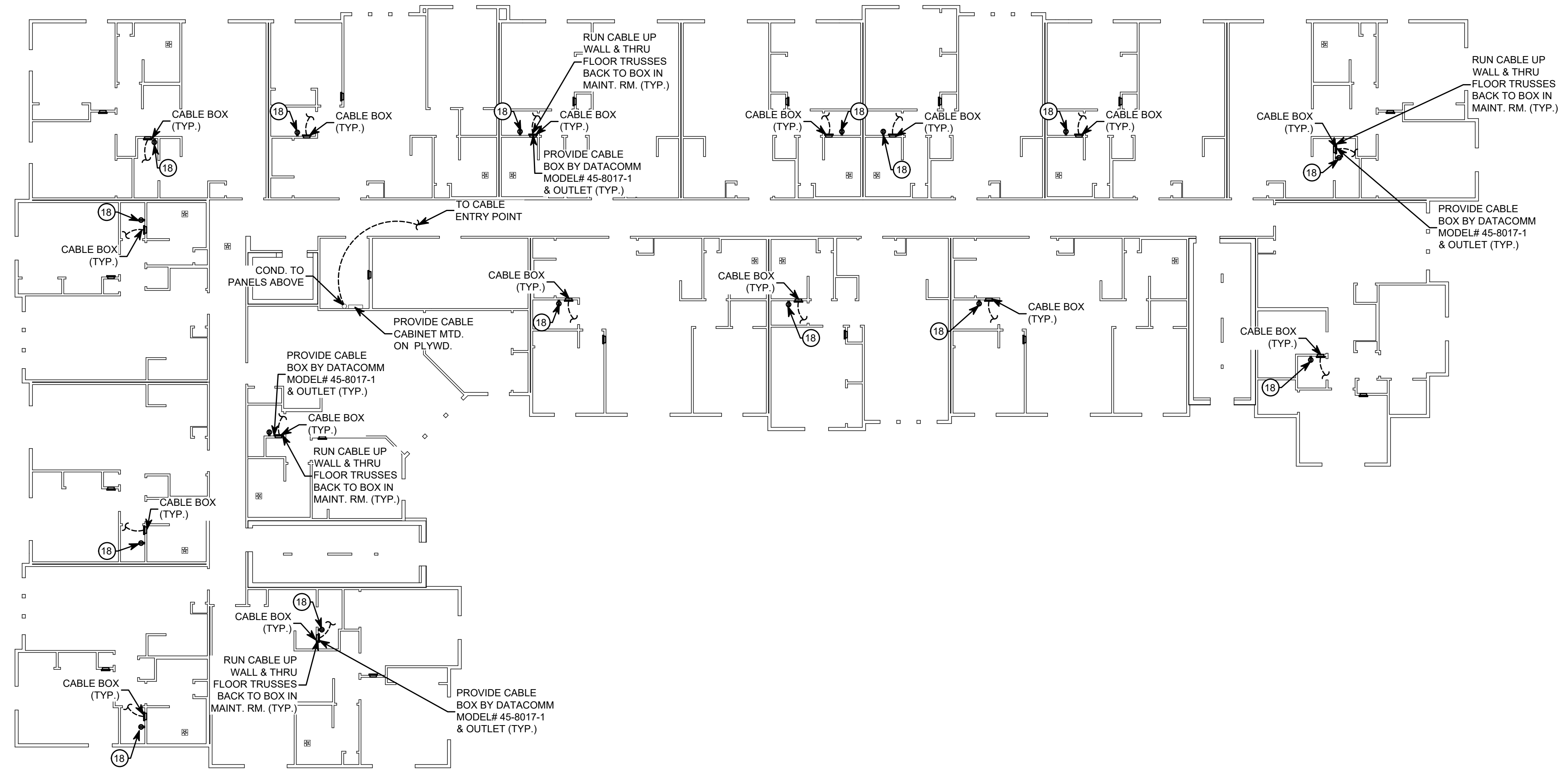


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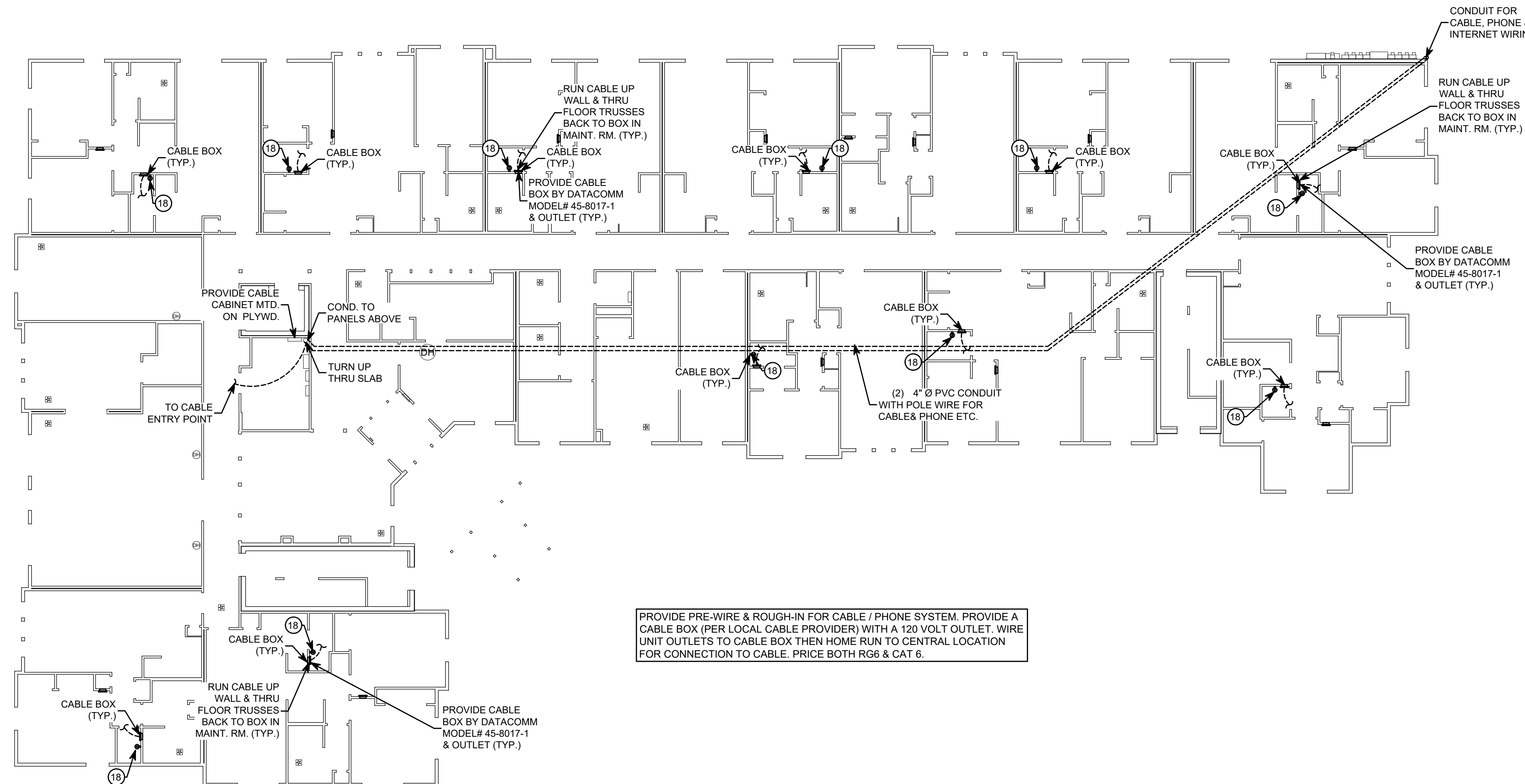
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**E1-4**



**BUILDING 2ND AND 3RD FL CABLE AND CAMERA PLAN**

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

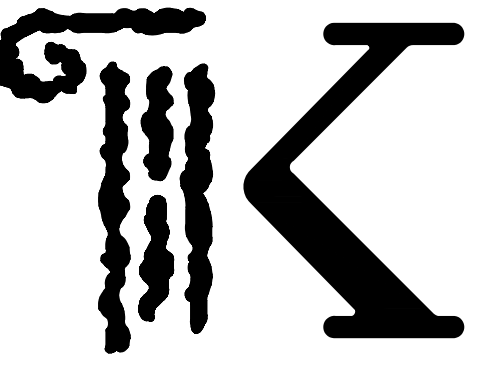


PROVIDE PRE-WIRE & ROUGH-IN FOR CABLE / PHONE SYSTEM. PROVIDE A CABLE BOX (PER LOCAL CABLE PROVIDER) WITH A 120 VOLT OUTLET. WIRE UNIT OUTLETS TO CABLE BOX THEN HOME RUN TO CENTRAL LOCATION FOR CONNECTION TO CABLE. PRICE BOTH RG6 & CAT 6.

**BUILDING 1ST FL CABLE AND CAMERA PLAN**

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

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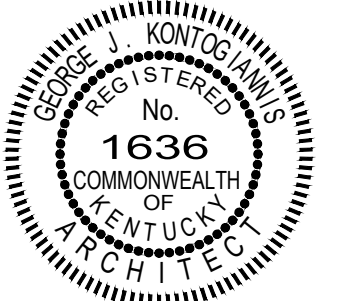
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DRAWING TITLE:  
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PLAN**

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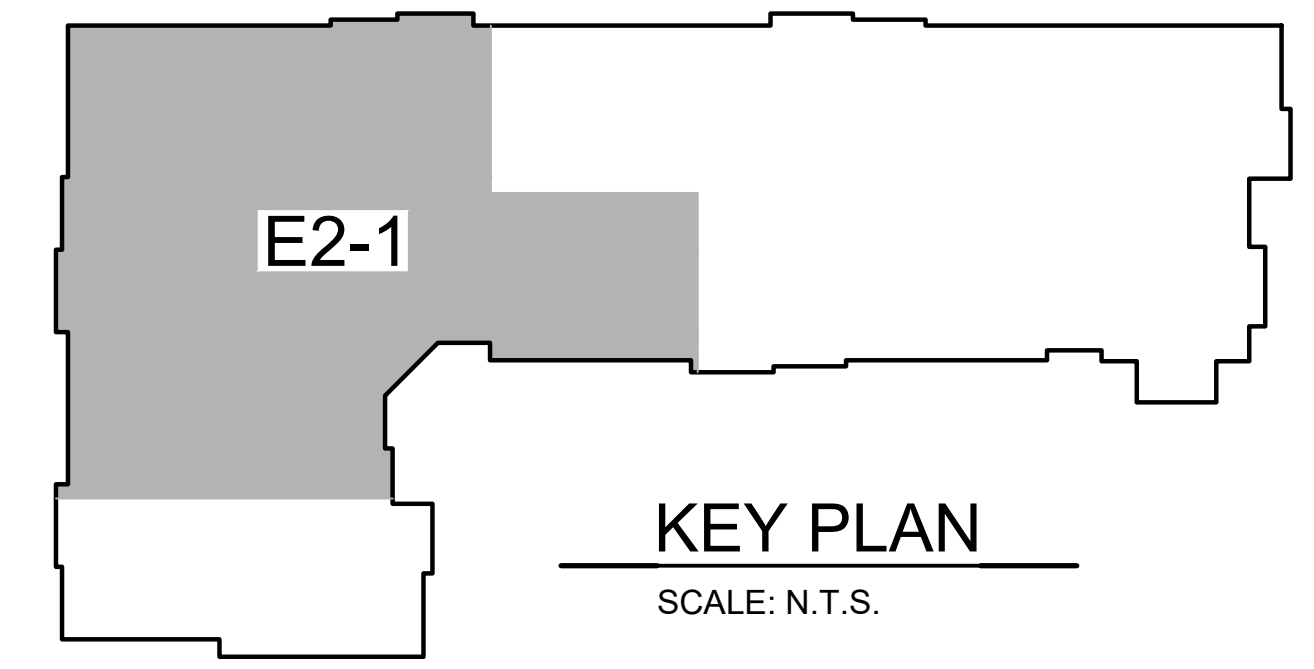
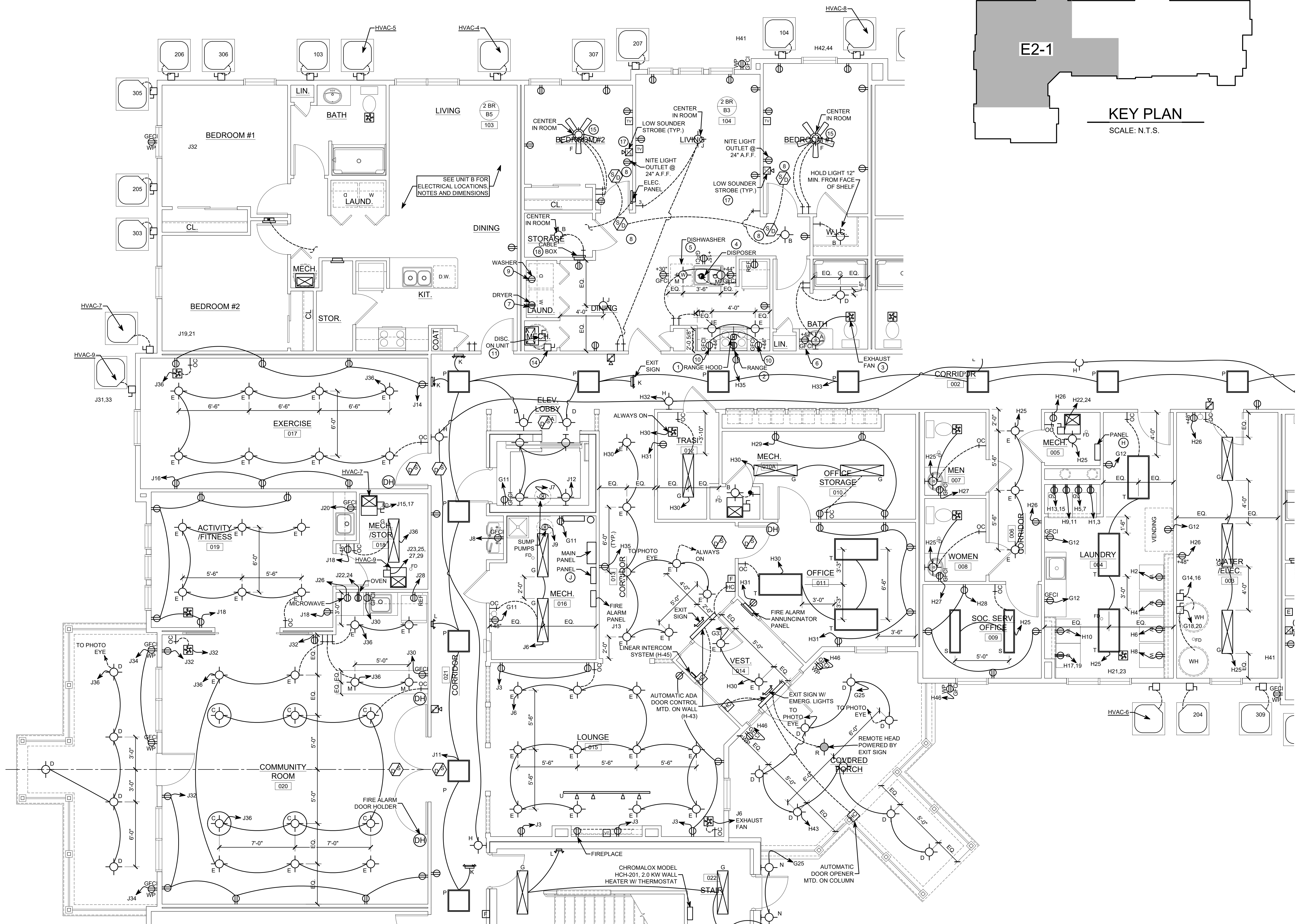


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**E2-1**

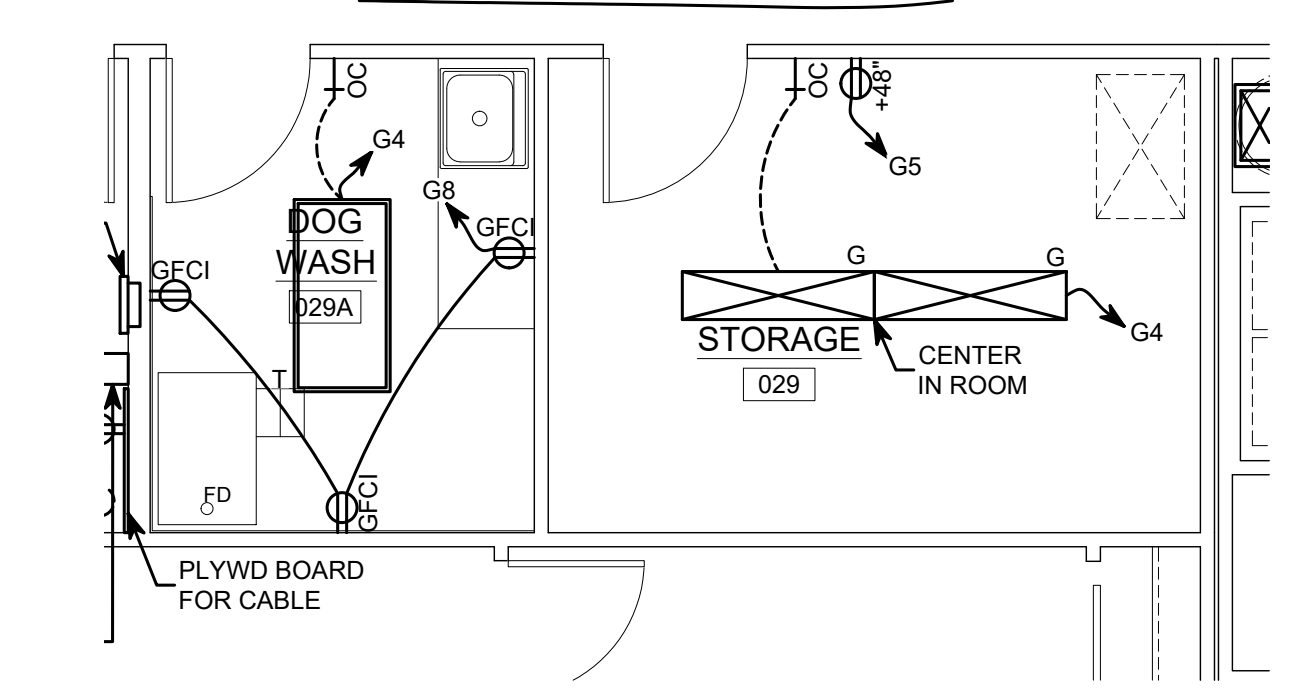
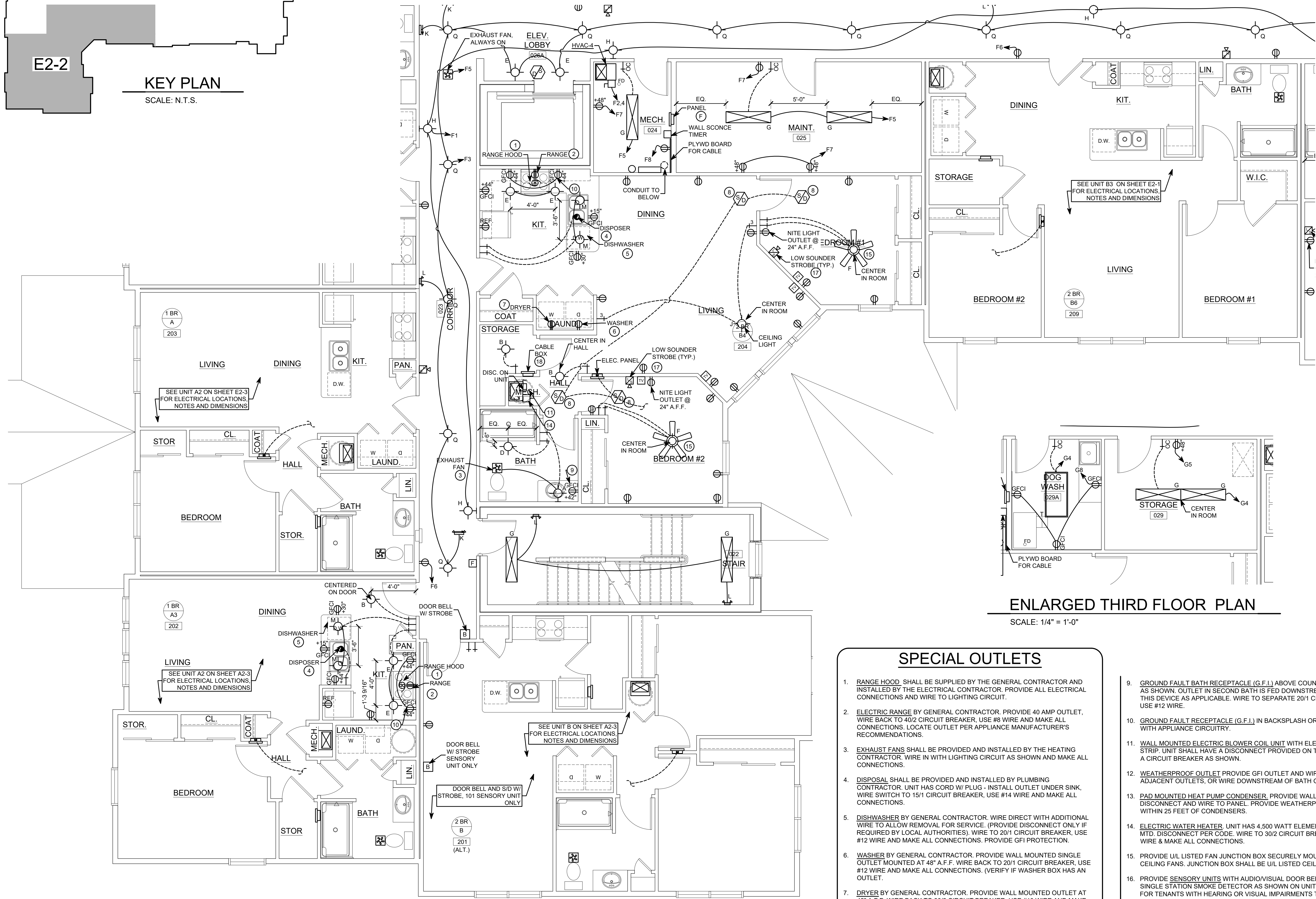
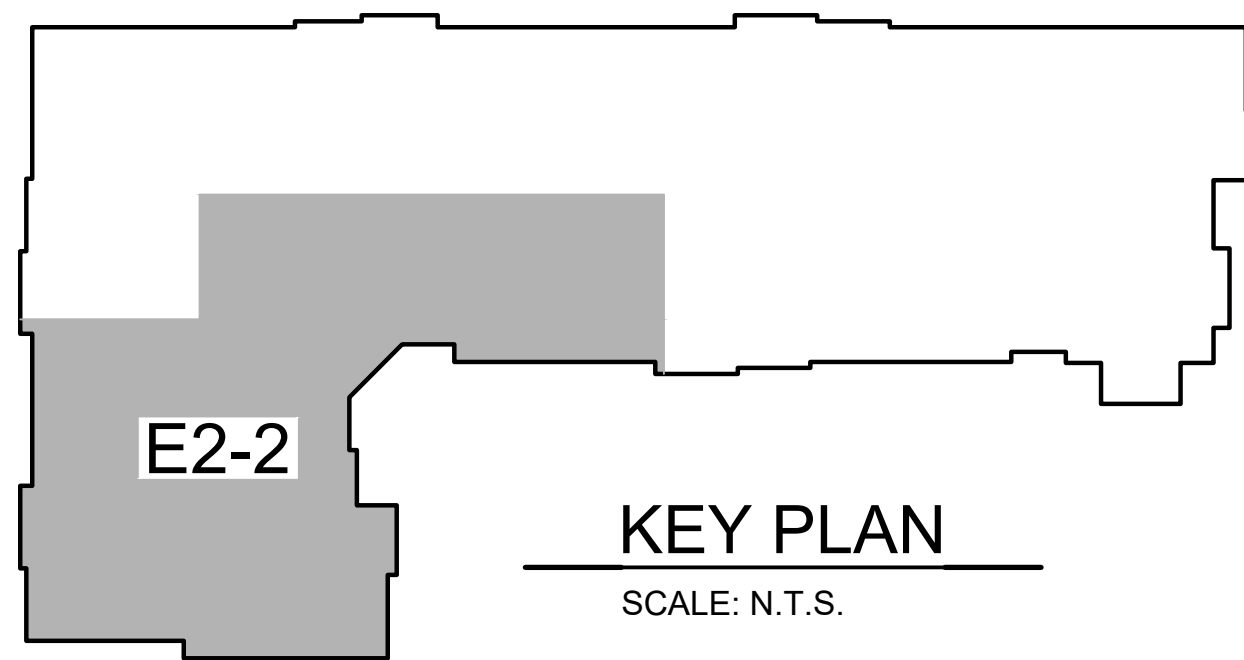


**ENLARGED FIRST FLOOR ELECTRICAL PLAN**

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

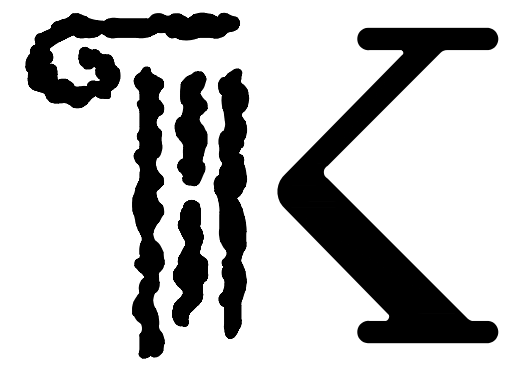
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**SPECIAL OUTLETS**

- RANGE HOOD** SHALL BE SUPPLIED BY THE GENERAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. PROVIDE ALL ELECTRICAL CONNECTIONS AND WIRE TO LIGHTING CIRCUIT.
- ELECTRIC RANGE** BY GENERAL CONTRACTOR. PROVIDE 40 AMP OUTLET, WIRE BACK TO 40/2 CIRCUIT BREAKER, USE #8 WIRE AND MAKE ALL CONNECTIONS. LOCATE OUTLET PER APPLIANCE MANUFACTURER'S RECOMMENDATIONS.
- EXHAUST FANS** SHALL BE PROVIDED AND INSTALLED BY THE HEATING CONTRACTOR. WIRE IN WITH LIGHTING CIRCUIT AS SHOWN AND MAKE ALL CONNECTIONS.
- DISPOSAL** SHALL BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR. UNIT HAS CORD W/ PLUG - INSTALL OUTLET UNDER SINK, WIRE SWITCH TO 15/1 CIRCUIT BREAKER, USE #14 WIRE AND MAKE ALL CONNECTIONS.
- DISHWASHER** BY GENERAL CONTRACTOR. WIRE DIRECT WITH ADDITIONAL WIRE TO ALLOW REMOVAL FOR SERVICE. (PROVIDE DISCONNECT ONLY IF REQUIRED BY LOCAL AUTHORITIES). WIRE TO 20/1 CIRCUIT BREAKER, USE #12 WIRE AND MAKE ALL CONNECTIONS. PROVIDE GFI PROTECTION.
- WASHER** BY GENERAL CONTRACTOR. PROVIDE WALL MOUNTED SINGLE OUTLET MOUNTED AT 48" A.F.F. WIRE BACK TO 20/1 CIRCUIT BREAKER, USE #12 WIRE AND MAKE ALL CONNECTIONS. (VERIFY IF WASHER BOX HAS AN OUTLET.
- DRYER** BY GENERAL CONTRACTOR. PROVIDE WALL MOUNTED OUTLET AT 42" A.F.F. WIRE BACK TO 30/2 CIRCUIT BREAKER, USE #10 WIRE AND MAKE ALL CONNECTIONS.
- HOUSEHOLD FIRE DETECTION** CEILING MOUNTED AS SHOWN, SHALL BE INSTALLED IN ACCORDANCE WITH NFPA #74 MANUAL. WIRE INTO BEDROOM LIGHTING CIRCUIT. INTERCONNECT DETECTOR SO THAT IF ONE DETECTOR ALARMS ALL DETECTORS ALARM (PROVIDE BATTERY BACKUP). PROVIDE STROBE UNIT IN HANDICAPPED AND SENSORY UNIT. THE UNIT IN THE HALLWAY SHALL BE WITHIN 3 FT. OF THE BEDROOM DOOR & SHALL BE A COMBINATION FIRE DETECTION UNIT & CO2 DETECTION. THE UNIT INSIDE THE BEDROOM SHALL BE A STANDARD FIRE DETECTION UNIT.
- GROUND FAULT BATH RECEPTACLE (G.F.I.)** ABOVE COUNTER AT 42" A.F.F. AS SHOWN. OUTLET IN SECOND BATH IS FED DOWNSTREAM THROUGH THIS DEVICE AS APPLICABLE. WIRE TO SEPARATE 20/1 CIRCUIT BREAKER USE #12 WIRE.
- GROUND FAULT RECEPTACLE (G.F.I.)** IN BACKSPASH OR ON WALL. WIRE IN WITH APPLIANCE CIRCUITRY.
- WALL MOUNTED ELECTRIC BLOWER COIL UNIT** WITH ELECTRIC HEAT STRIP. UNIT SHALL HAVE A DISCONNECT PROVIDED ON THE UNIT. WIRE TO A CIRCUIT BREAKER AS SHOWN.
- WEATHERPROOF OUTLET** PROVIDE GFI OUTLET AND WIRE IN WITH ADJACENT OUTLETS, OR WIRE DOWNSTREAM OF BATH GFI OUTLET.
- PAD MOUNTED HEAT PUMP CONDENSER**. PROVIDE WALL MOUNTED DISCONNECT AND WIRE TO PANEL. PROVIDE WEATHERPROOF OUTLETS WITHIN 25 FEET OF CONDENSERS.
- ELECTRIC WATER HEATER**. UNIT HAS 4,500 WATT ELEMENT. PROVIDE WALL MTD. DISCONNECT PER CODE. WIRE TO 30/2 CIRCUIT BREAKER. USE #10 WIRE & MAKE ALL CONNECTIONS.
- PROVIDE UL LISTED FAN JUNCTION BOX SECURELY MOUNTED FOR ALL CEILING FANS. JUNCTION BOX SHALL BE UL LISTED CEILING FAN BOX.
- PROVIDE **SENSORY UNITS** WITH AUDIO/VISUAL DOOR BELL, TELEPHONE & SINGLE STATION SMOKE DETECTOR AS SHOWN ON UNIT PLAN IN ORDER FOR TENANTS WITH HEARING OR VISUAL IMPAIRMENTS TO BE NOTIFIED IF SOMEONE IS AT THE ENTRY DOOR, CALLING ON THE PHONE OR IF SMOKE IS BUILDING UP IN THEIR UNIT.
- PROVIDE **LOW SOUNDER UNIT** WITH STROBE AT PILLOW LOCATION CONNECTED TO THE FIRE ALARM SYSTEM PER NFPA 72.
- PROVIDE **PRE-WIRE & ROUGH-IN** FOR CABLE / PHONE SYSTEM. PROVIDE A CABLE BOX (PER LOCAL CABLE PROVIDER) WITH A 120 VOLT OUTLET. WIRE UNIT OUTLETS TO CABLE BOX THEN HOME RUN TO CENTRAL LOCATION FOR CONNECTION TO CABLE. PRICE BOTH RG6 & CAT 6.



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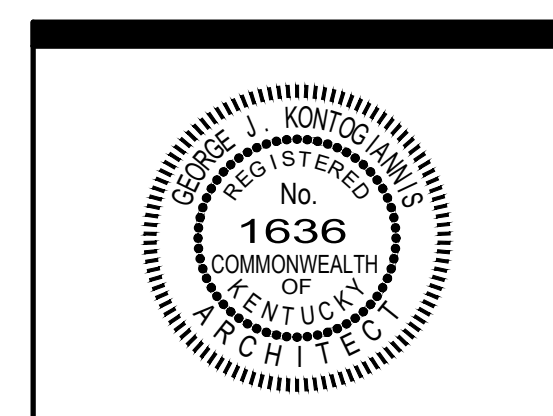
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DRAWING TITLE:  
**ENLARGED SECOND  
FLOOR ELECTRICAL  
PLAN**

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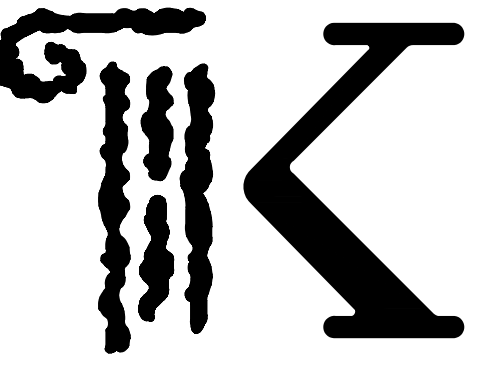


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**E2-2**

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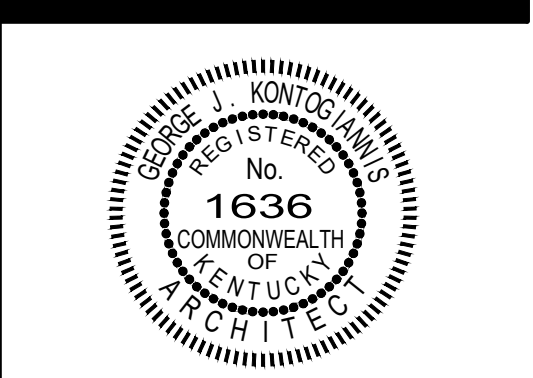
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DRAWING TITLE:  
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ELECTRICAL PLANS**

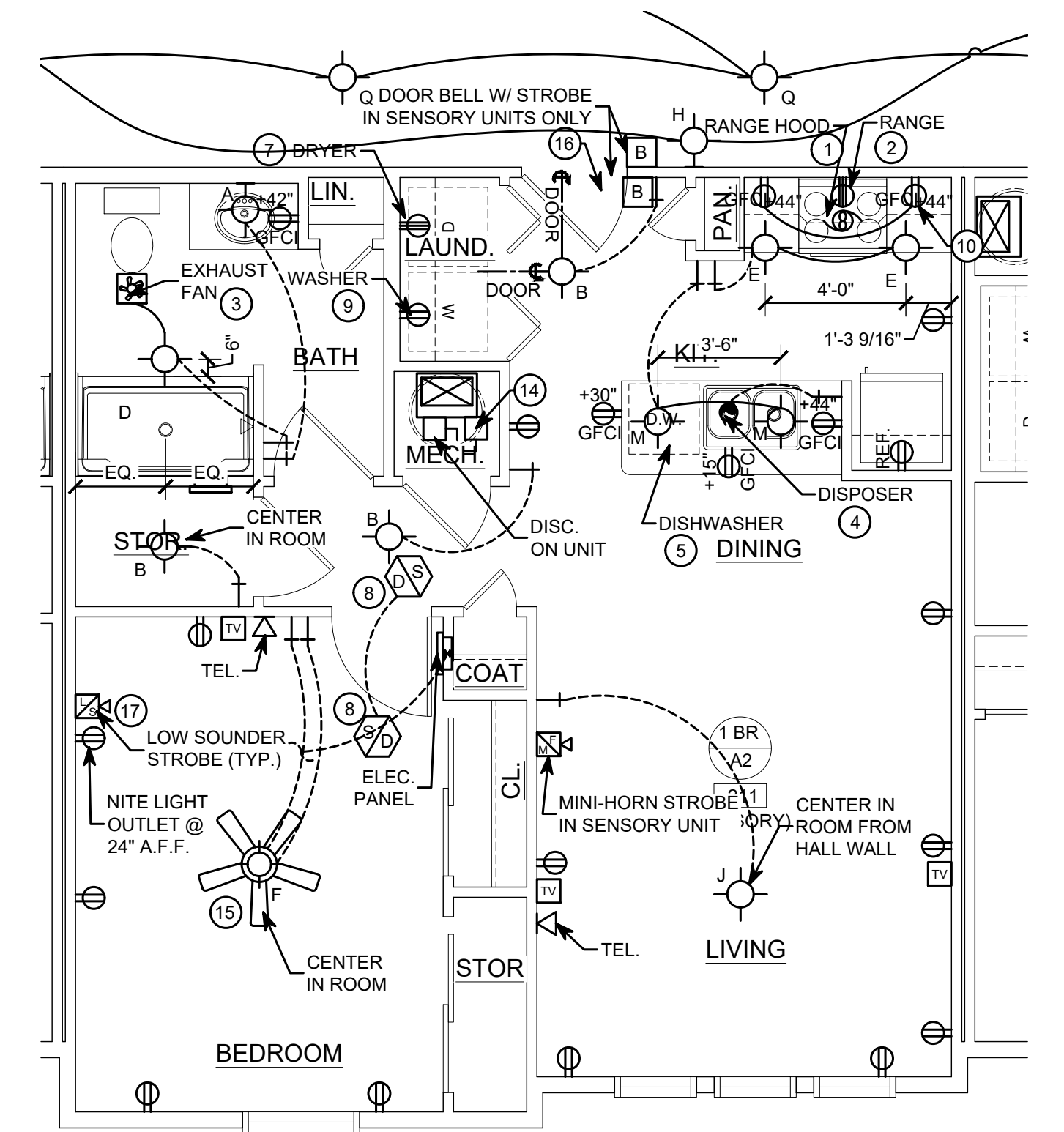
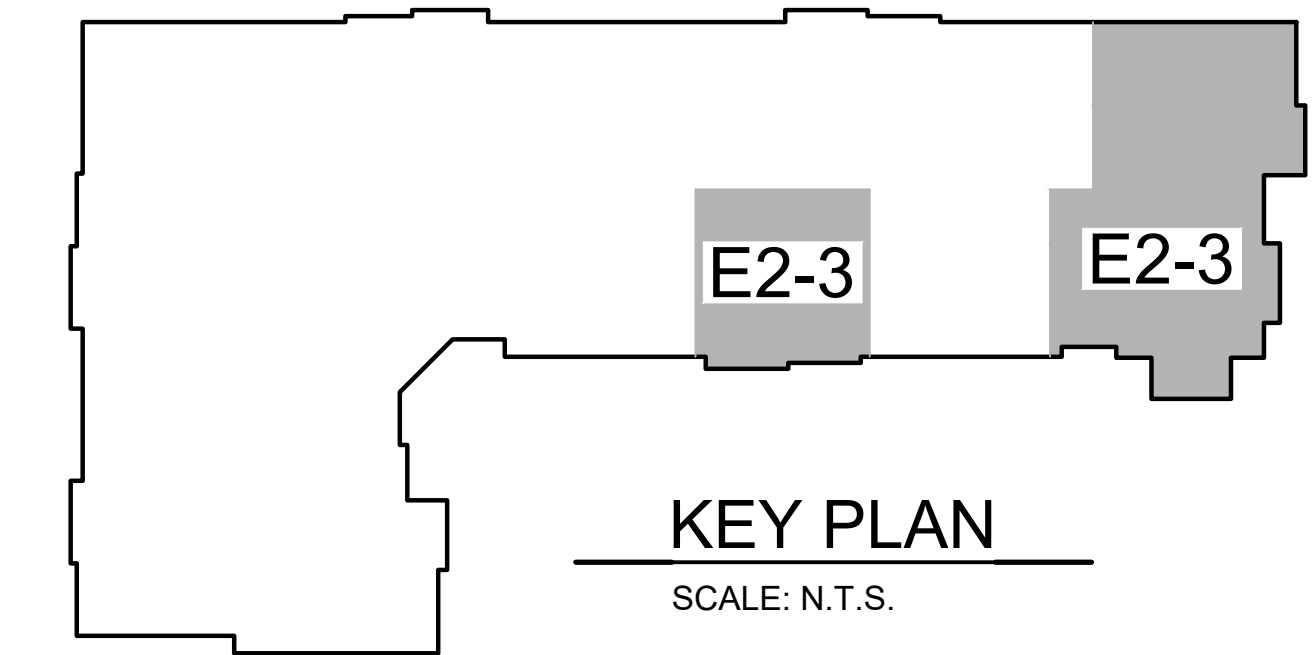
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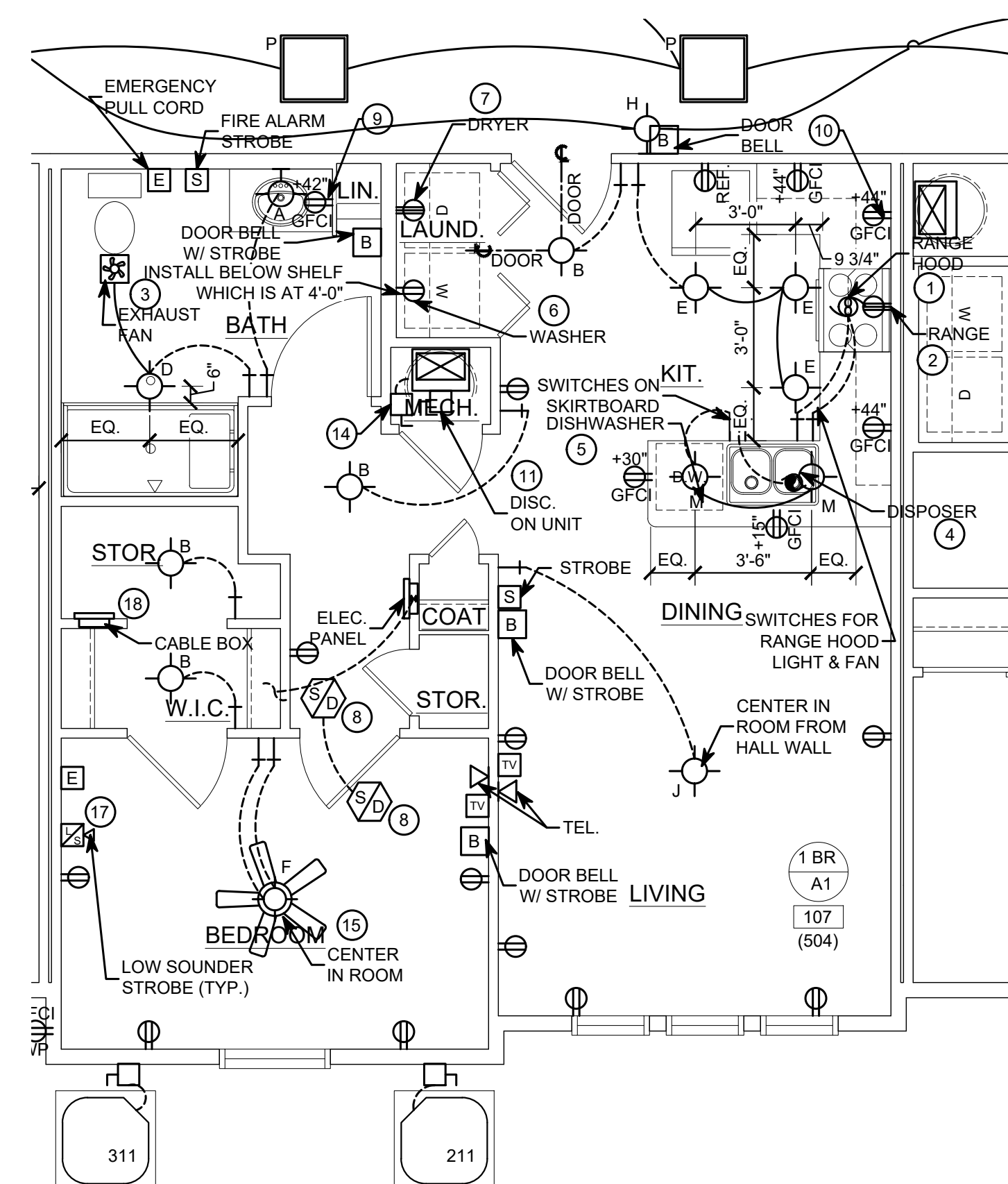
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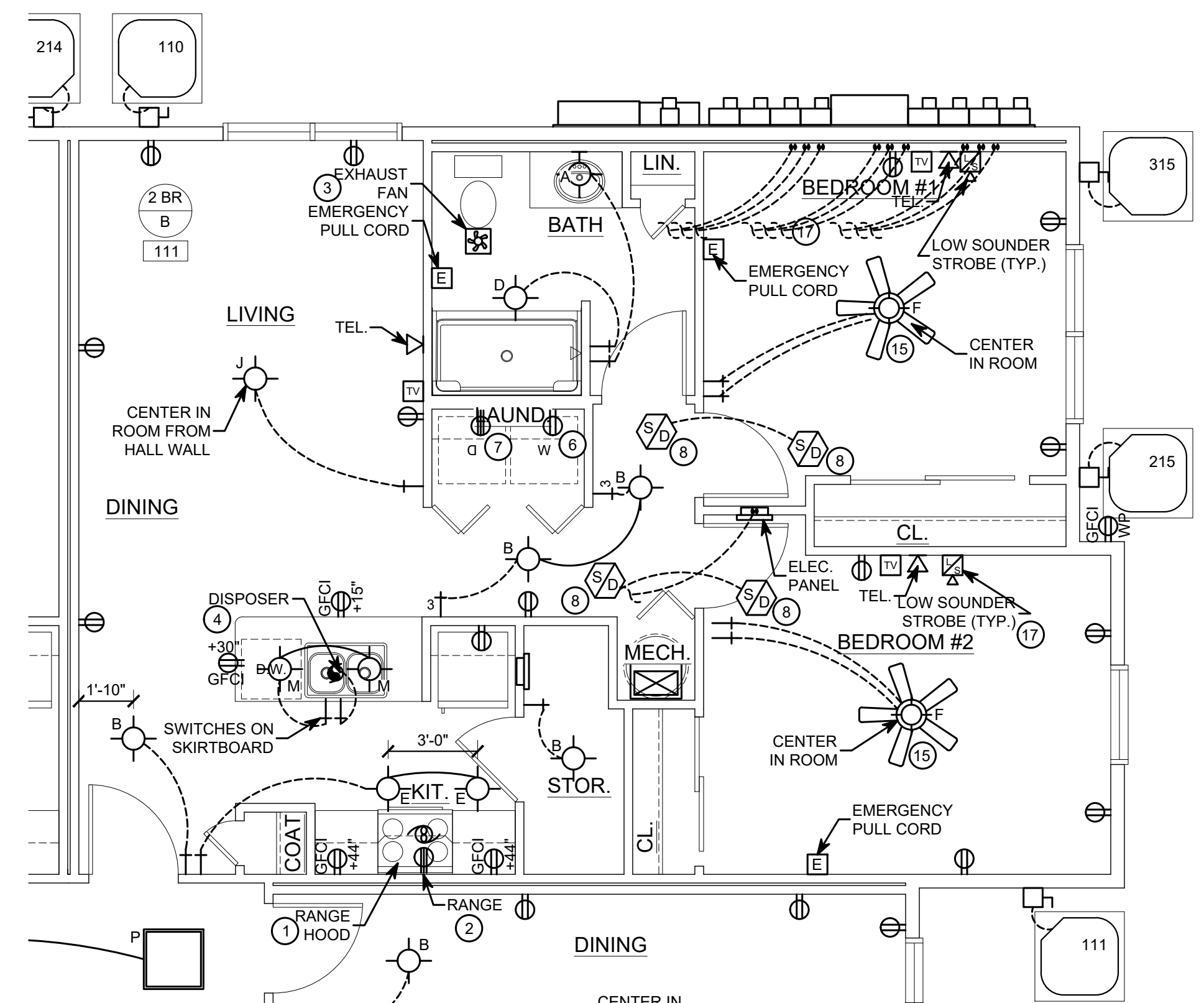
**E2-3**



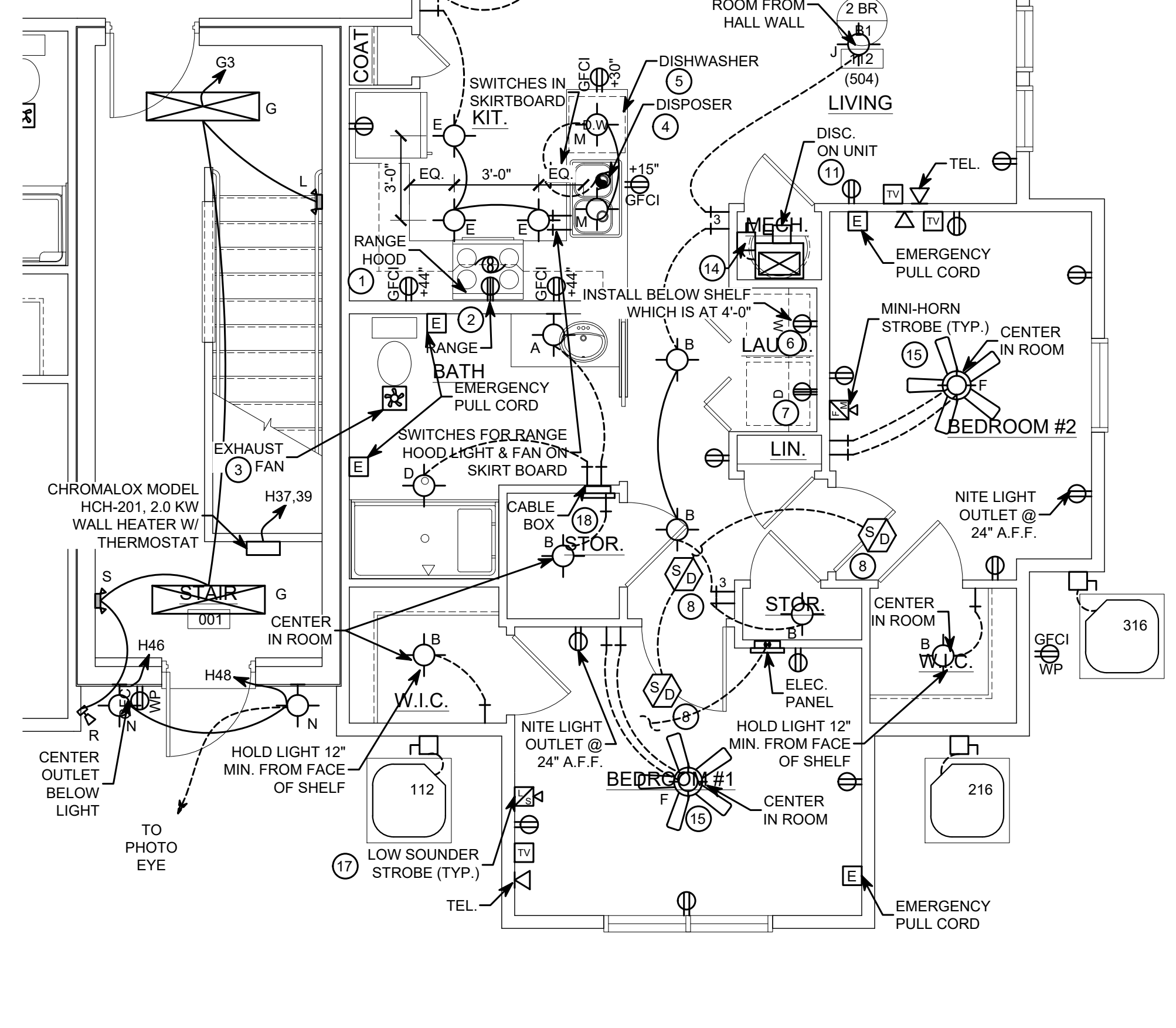
**ONE BEDROOM UNIT (A2)**  
SCALE: 1/4" = 1'-0"



**ONE BEDROOM UNIT (504) (A1)**  
SCALE: 1/4" = 1'-0"



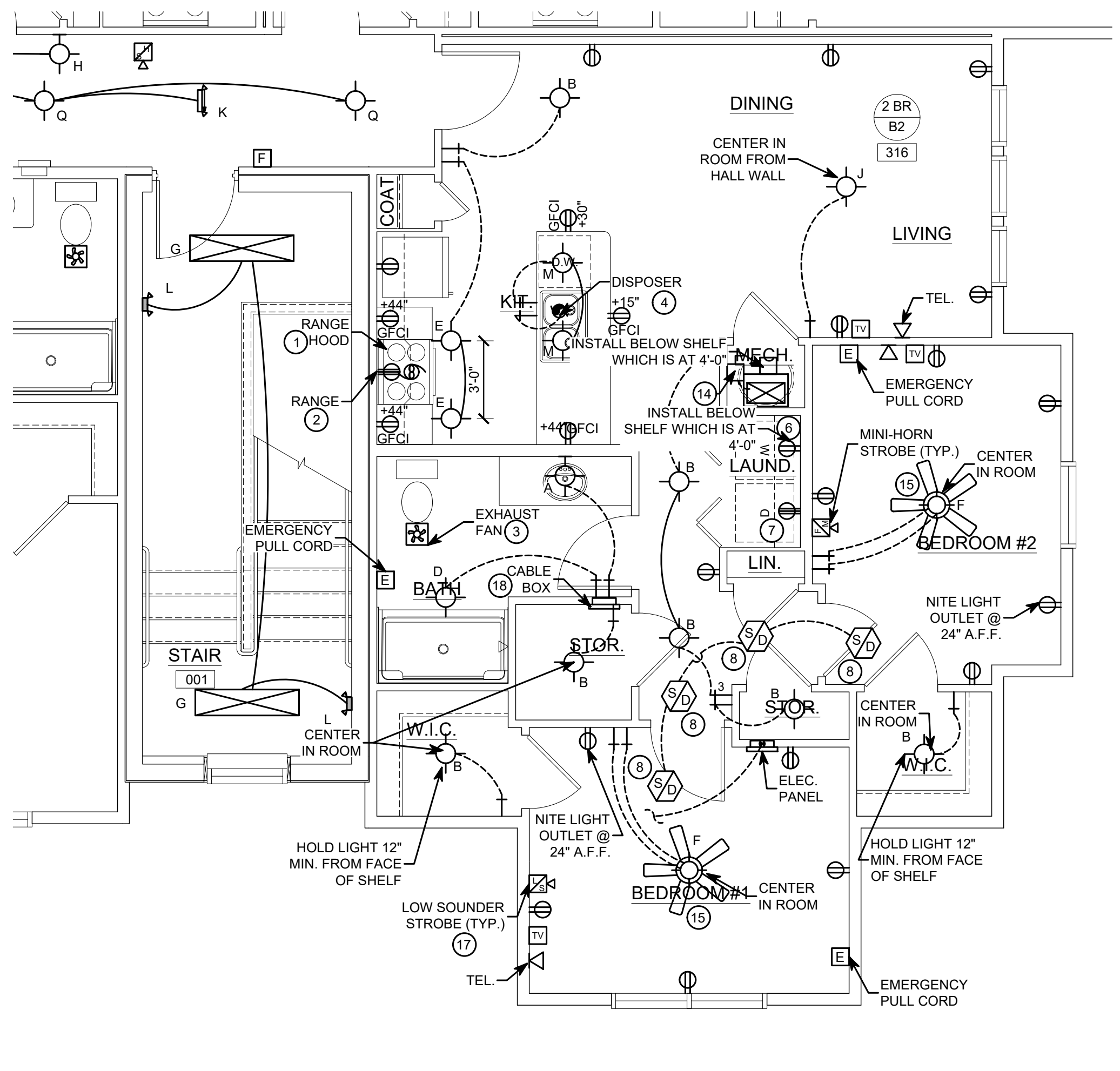
**ENLARGED FIRST & SECOND FLOOR PLAN**  
SCALE: 1/4" = 1'-0"



**SPECIAL OUTLETS**

1. RANGE HOOD SHALL BE SUPPLIED BY THE GENERAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. PROVIDE ALL ELECTRICAL CONNECTIONS AND WIRE TO LIGHTING CIRCUIT.
2. ELECTRIC RANGE BY GENERAL CONTRACTOR. PROVIDE 40 AMP OUTLET. WIRE BACK TO 40/2 CIRCUIT BREAKER. USE #8 WIRE AND MAKE ALL CONNECTIONS. LOCATE OUTLET PER APPLIANCE MANUFACTURER'S RECOMMENDATIONS.
3. EXHAUST FANS SHALL BE PROVIDED AND INSTALLED BY THE HEATING CONTRACTOR. WIRE IN WITH LIGHTING CIRCUIT AS SHOWN AND MAKE ALL CONNECTIONS.
4. DISPOSAL SHALL BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR. UNIT HAS CORD W/ PLUG - INSTALL OUTLET UNDER SINK. WIRE SWITCH TO 15/1 CIRCUIT BREAKER. USE #14 WIRE AND MAKE ALL CONNECTIONS.
5. DISHWASHER BY GENERAL CONTRACTOR. WIRE DIRECT WITH ADDITIONAL WIRE TO ALLOW REMOVAL FOR SERVICE. (PROVIDE DISCONNECT ONLY IF REQUIRED BY LOCAL AUTHORITIES). WIRE TO 20/1 CIRCUIT BREAKER. USE #12 WIRE AND MAKE ALL CONNECTIONS. PROVIDE GFI PROTECTION.
6. WASHER BY GENERAL CONTRACTOR. PROVIDE WALL MOUNTED SINGLE OUTLET MOUNTED AT 48" A.F.F. WIRE BACK TO 20/1 CIRCUIT BREAKER. USE #12 WIRE AND MAKE ALL CONNECTIONS. (VERIFY IF WASHER BOX HAS AN OUTLET).
7. DRYER BY GENERAL CONTRACTOR. PROVIDE WALL MOUNTED OUTLET AT 42" A.F.F. WIRE BACK TO 30/2 CIRCUIT BREAKER. USE #10 WIRE AND MAKE ALL CONNECTIONS.
8. HOUSEHOLD FIRE DETECTION CEILING MOUNTED AS SHOWN. SHALL BE INSTALLED IN ACCORDANCE WITH NFPA #74 MANUAL. WIRE INTO BEDROOM LIGHTING CIRCUIT. INTERCONNECT DETECTOR SO THAT IF ONE DETECTOR ALARMS ALL DETECTORS ALARM (PROVIDE BATTERY BACKUP). PROVIDE STROBE UNIT IN HANDICAPPED AND SENSORY UNIT. THE UNIT IN THE HALLWAY SHALL BE WITHIN 3 FT. OF THE BEDROOM DOOR & SHALL BE A COMBINATION FIRE DETECTION UNIT & CO2 DETECTION. THE UNIT INSIDE THE BEDROOM SHALL BE A STANDARD FIRE DETECTION UNIT.
9. GROUND FAULT BATH RECEPTACLE (G.F.I.) ABOVE COUNTER AT 42" A.F.F. AS SHOWN. OUTLET IN SECOND BATH IS FED DOWNSTREAM THROUGH THIS DEVICE AS APPLICABLE. WIRE TO SEPARATE 20/1 CIRCUIT BREAKER USE #12 WIRE.
10. GROUND FAULT RECEPTACLE (G.F.I.) IN BACKSPASH OR ON WALL. WIRE IN WITH APPLIANCE CIRCUITRY.
11. WALL MOUNTED ELECTRIC BLOWER COIL UNIT WITH ELECTRIC HEAT STRIP. UNIT SHALL HAVE A DISCONNECT PROVIDED ON THE UNIT. WIRE TO A CIRCUIT BREAKER AS SHOWN.
12. WEATHERPROOF OUTLET PROVIDE GFI OUTLET AND WIRE IN WITH ADJACENT OUTLETS, OR WIRE DOWNSTREAM OF BATH GFI OUTLET.

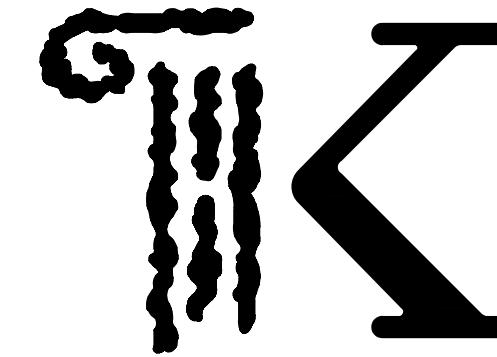
13. PAD MOUNTED HEAT PUMP CONDENSER. PROVIDE WALL MOUNTED DISCONNECT AND WIRE TO PANEL. PROVIDE WEATHERPROOF OUTLETS WITHIN 25 FEET OF CONDENSERS.
14. ELECTRIC WATER HEATER. UNIT HAS 4,500 WATT ELEMENT. PROVIDE WALL MTD. DISCONNECT PER CODE. WIRE TO 30/2 CIRCUIT BREAKER. USE #10 WIRE & MAKE ALL CONNECTIONS.
15. PROVIDE U/L LISTED FAN JUNCTION BOX SECURELY MOUNTED FOR ALL CEILING FANS. JUNCTION BOX SHALL BE U/L LISTED CEILING FAN BOX.
16. PROVIDE SENSORY UNITS WITH AUDIOVISUAL DOOR BELL, TELEPHONE & SINGLE STATION SMOKE DETECTOR AS SHOWN ON UNIT PLAN IN ORDER FOR TENANTS WITH HEARING OR VISUAL IMPAIRMENTS TO BE NOTIFIED IF SOMEONE IS AT THE ENTRY DOOR, CALLING ON THE PHONE OR IF SMOKE IS BUILDING UP IN THEIR UNIT.
17. PROVIDE LOW SOUNDER UNIT WITH STROBE AT PILLOW LOCATION CONNECTED TO THE FIRE ALARM SYSTEM PER NFPA 72.
18. PROVIDE PRE-WIRE & ROUGH-IN FOR CABLE / PHONE SYSTEM. PROVIDE A CABLE BOX (PER LOCAL CABLE PROVIDER) WITH A 120 VOLT OUTLET. WIRE UNIT OUTLETS TO CABLE BOX THEN HOME RUN TO CENTRAL LOCATION FOR CONNECTION TO CABLE. PRICE BOTH RG6 & CAT 6.



**TWO BEDROOM UNIT (B2)**  
SCALE: 1/4" = 1'-0"

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KONTOGIANNIS & ASSOCIATES

ARCHITECTURE PLANNING DESIGN

400 SOUTH FIFTH ST SUITE 400 COLUMBUS, OHIO 43215-5492

PHONE: 614-224-2083 FAX: 614-224-4736 E-MAIL: architects@kontogiannis.com

PROJECT:

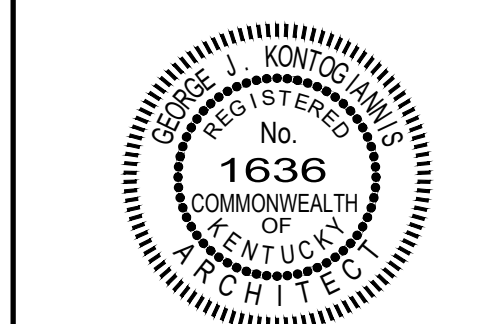
THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")

1125 EDWARDS RD. ELSMERE, KY 41018

DRAWING TITLE:

ELECTRICAL LIGHT FIXTURE SCHEDULE, NOTES & DETAILS

DATE: 07/31/2023 REVISED:



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- Submission set, Permit set 07/31/2023, Bid set 11/08/2023, Construction set

E3-1

LIGHT FIXTURE SCHEDULE

Table with columns: MARK, MANUFACTURER, CATALOG NUMBER, LAMP, MT'G. TYPE, REMARKS. Lists various lighting fixtures like Generation Lighting, Halo, Progress, Lithonia, Sure-Lites, Wac Lighting, etc.

NOTE: ALL LIGHTS TO MEET ENERGY STAR RATINGS

PUBLIC SAFETY BI-DIRECTIONAL AMPLIFIER (BDA) FOR FIRST RESPONDERS

A BI-DIRECTIONAL AMPLIFIER WILL BE INSTALLED IN THE THIRD FLOOR BY A QUALIFIED INSTALLER TO PROVIDE AMPLIFIED EMERGENCY RESPONDER RADIO COVERAGE WITH INTERIOR AND EXTERIOR ANTENNA.

TWO-WAY COMMUNICATION SYSTEM

A TWO-WAY COMMUNICATIONS SYSTEM WILL BE PROVIDED AT AN ACCESSIBLE LOCATION AT THE LANDING OF THE ELEVATOR ON EACH FLOOR TO COMPLY WITH SECTIONS 1009.8, 1009.8.1 OF THE 2018 KENTUCKY BUILDING CODE (KBC).

RESIDENT BEDROOM SAFETY DEVICES

OWNER TO PROVIDE THE FOLLOWING HOMEWARE PRODUCTS FOR EACH RESIDENTIAL UNIT:

Table with columns: EQUIPMENT SPECIFICATIONS, QTY., POWER SOURCE. Lists items like Homeaware - Main Unit w/ Bed Vibrator, Homeaware - Smoke/CO Transmitter, etc.

ELECTRICAL NOTES

- 1. ALL BRANCH CIRCUIT WIRING SHALL BE COPPER. ALUMINUM MAY BE USED ONLY FOR SERVICE ENTRANCE FEEDS TO UNIT PANELS.
2. OUTLETS & SWITCHES IN KITCHENS SHALL BE AT 44" AFF. OUTLETS & SWITCHES IN BATHROOMS SHALL BE AT 42" AFF. ALL OTHER OUTLETS SHALL BE AT 15" MIN. AFF. & ALL OTHER LIGHT SWITCHES SHALL BE AT 48" AFF. TO TOP.
3. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE & ALL APPLICABLE STATE, CITY, & LOCAL CODES.
4. COORDINATE ALL WORK WITH ASSOCIATED TRADES. VERIFY ELECTRICAL REQUIREMENTS W/SUBTRADES PROVIDING ITEMS REQUIRING HOOK-UPS (I.E. FURNACES, FANS, APPLIANCES, ETC. )
5. COORDINATE WIRING OF TELEPHONE SERVICE & CABLE TV. PROVIDE ALL LABOR & MATERIALS REQUIRED FOR A COMPLETE INSTALLATION BUT NOT SUPPLIED BY TELEPHONE OR TV CABLE COMPANY.
6. WIRE ONE OF EACH TYPICAL UNIT AS COMPLETELY AS POSSIBLE. REVIEW LOCATIONS OF ALL ITEMS WITH THE INSPECTOR, ARCHITECT, SUPERINTENDENT, & ASSOCIATED TRADES. CORRECT ANY ERRORS AND THEN PROCEED WITH LIKE UNITS. ANY MISTAKES REPEATED FROM UNIT TO UNIT BECAUSE OF FAILURE TO REVIEW TYPICAL UNIT SHALL BE CORRECTED @ THIS CONTRACTORS EXPENSE.
7. ALL WIRING MUST BE RUN WITHIN WALLS. IN AREAS WHERE WIRINGS MUST BE RUN EXPOSED, ALL WIRING MUST BE IN RIGID CONDUIT.
8. ELECTRIC PANELS EXPOSED TO VIEW (OTHER THAN IN MECHANICAL ROOMS) SHALL HAVE THE COVER AND DOOR SANDED AND PAINTED TO MATCH THE WALL WITH SEMI-GLOSS OR EGGSHELL ENAMEL BEFORE COVER IS INSTALLED ON PANEL.
9. UNIT SMOKE DETECTORS MAY NOT BE INSTALLED UNTIL AFTER FINAL CLEANUP OF UNITS TO PREVENT DUST FROM ACCUMULATING IN THE CHAMBER. IF ELECTRICIAN WISHES TO INSTALL UNITS PRIOR TO FINAL CLEANUP THEY SHALL BE COVERED TIGHTLY WITH A SMALL PIECE OF PLASTIC BAG WITH RUBBER BAND.
10. COORDINATE ELECTRIC SERVICE W/ POWER CO. VERIFY AVAILABLE FAULT CURRENT PRIOR TO ORDERING METER UNITS - NOTIFY ARCHITECT OF ANY LOCATIONS WHERE FAULT CURRENT IS ABOVE 10,000 A.I.C. PROVIDE ALL LABOR & MATERIALS STARTING AT THE TRANSFORMER FOR ALL WORK NOT BEING DONE BY POWER CO. BUT NECESSARY FOR COMPLETE INSTALLATION.

SPECIAL OUTLETS

- 1. RANGE HOOD SHALL BE SUPPLIED BY THE GENERAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. PROVIDE ALL ELECTRICAL CONNECTIONS AND WIRE TO LIGHTING CIRCUIT.
2. ELECTRIC RANGE BY GENERAL CONTRACTOR. PROVIDE 40 AMP OUTLET, WIRE BACK TO 40/2 CIRCUIT BREAKER. USE #8 WIRE AND MAKE ALL CONNECTIONS. LOCATE OUTLET PER APPLIANCE MANUFACTURER'S RECOMMENDATIONS.
3. EXHAUST FANS SHALL BE PROVIDED AND INSTALLED BY THE HEATING CONTRACTOR. WIRE IN WITH LIGHTING CIRCUIT AS SHOWN AND MAKE ALL CONNECTIONS.
4. DISPOSAL SHALL BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR. UNIT HAS CORD W/ PLUG - INSTALL OUTLET UNDER SINK, WIRE SWITCH TO 15/1 CIRCUIT BREAKER, USE #14 WIRE AND MAKE ALL CONNECTIONS.
5. DISHWASHER BY GENERAL CONTRACTOR. WIRE DIRECT WITH ADDITIONAL WIRE TO ALLOW REMOVAL FOR SERVICE. (PROVIDE DISCONNECT ONLY IF REQUIRED BY LOCAL AUTHORITIES). WIRE TO 20/1 CIRCUIT BREAKER, USE #12 WIRE AND MAKE ALL CONNECTIONS. PROVIDE GFI PROTECTION.
6. WASHER BY GENERAL CONTRACTOR. PROVIDE WALL MOUNTED SINGLE OUTLET MOUNTED AT 48" A.F.F. WIRE BACK TO 20/1 CIRCUIT BREAKER, USE #12 WIRE AND MAKE ALL CONNECTIONS. (VERIFY IF WASHER BOX HAS AN OUTLET.
7. DRYER BY GENERAL CONTRACTOR. PROVIDE WALL MOUNTED OUTLET AT 42" A.F.F. WIRE BACK TO 30/2 CIRCUIT BREAKER, USE #10 WIRE AND MAKE ALL CONNECTIONS.
8. HOUSEHOLD FIRE DETECTION CEILING MOUNTED AS SHOWN, SHALL BE INSTALLED IN ACCORDANCE WITH NFPA #74 MANUAL. WIRE INTO BEDROOM LIGHTING CIRCUIT. INTERCONNECT DETECTOR SO THAT IF ONE DETECTOR ALARMS ALL DETECTORS ALARM (PROVIDE BATTERY BACKUP). PROVIDE STROBE UNIT IN HANDICAPPED AND SENSOY UNIT. THE UNIT IN THE HALLWAY SHALL BE WITHIN 3 FT. OF THE BEDROOM DOOR & SHALL BE A COMBINATION FIRE DETECTION UNIT & CO2 DETECTION. THE UNIT INSIDE THE BEDROOM SHALL BE A STANDARD FIRE DETECTION UNIT.
9. GROUND FAULT BATH RECEPTACLE (G.F.I.) ABOVE COUNTER AT 42" A.F.F. AS SHOWN. OUTLET IN SECOND BATH IS FED DOWNSTREAM THROUGH THIS DEVICE AS APPLICABLE. WIRE TO SEPARATE 20/1 CIRCUIT BREAKER USE #12 WIRE.
10. GROUND FAULT RECEPTACLE (G.F.I.) IN BACKSPLASH OR ON WALL. WIRE IN WITH APPLIANCE CIRCUITRY.
11. WALL MOUNTED ELECTRIC BLOWER COIL UNIT WITH ELECTRIC HEAT STRIP. UNIT SHALL HAVE A DISCONNECT PROVIDED ON THE UNIT. WIRE TO A CIRCUIT BREAKER AS SHOWN.
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17. PROVIDE LOW SOUNDER UNIT WITH STROBE AT PILLOW LOCATION CONNECTED TO THE FIRE ALARM SYSTEM PER NFPA 72.
18. PROVIDE PRE-WIRE & ROUGH-IN FOR CABLE / PHONE SYSTEM. PROVIDE A CABLE BOX (PER LOCAL CABLE PROVIDER) WITH A 120 VOLT OUTLET. WIRE UNIT OUTLETS TO CABLE BOX THEN HOME RUN TO CENTRAL LOCATION FOR CONNECTION TO CABLE. PRICE BOTH RG6 & CAT 6.

APARTMENT UNIT LOAD SUMMARY

Table with columns: UNIT, PANEL, # UNITS, UNIT LOAD, TOTAL. Summarizes electrical loads for various apartment units.

DEMAND PER NEC 220.84 1,618.42 KW x .27 = 436.97 KW 436.97 KW / .208 / 1.732 = 1,212.94 AMPS

USE 1600/3 AMP SWITCH WITH 1400 AMP FUSES

HOUSE PANEL J

Table with columns: LIGHTS, OUTLETS, HEAT PUMPS, SUPPL. ELEC. HEAT, WASHER/ DRYER, OTHER, TOTAL. Lists electrical loads for House Panel J.

46.26 KW / .208 / 1.732 = 128 AMPS

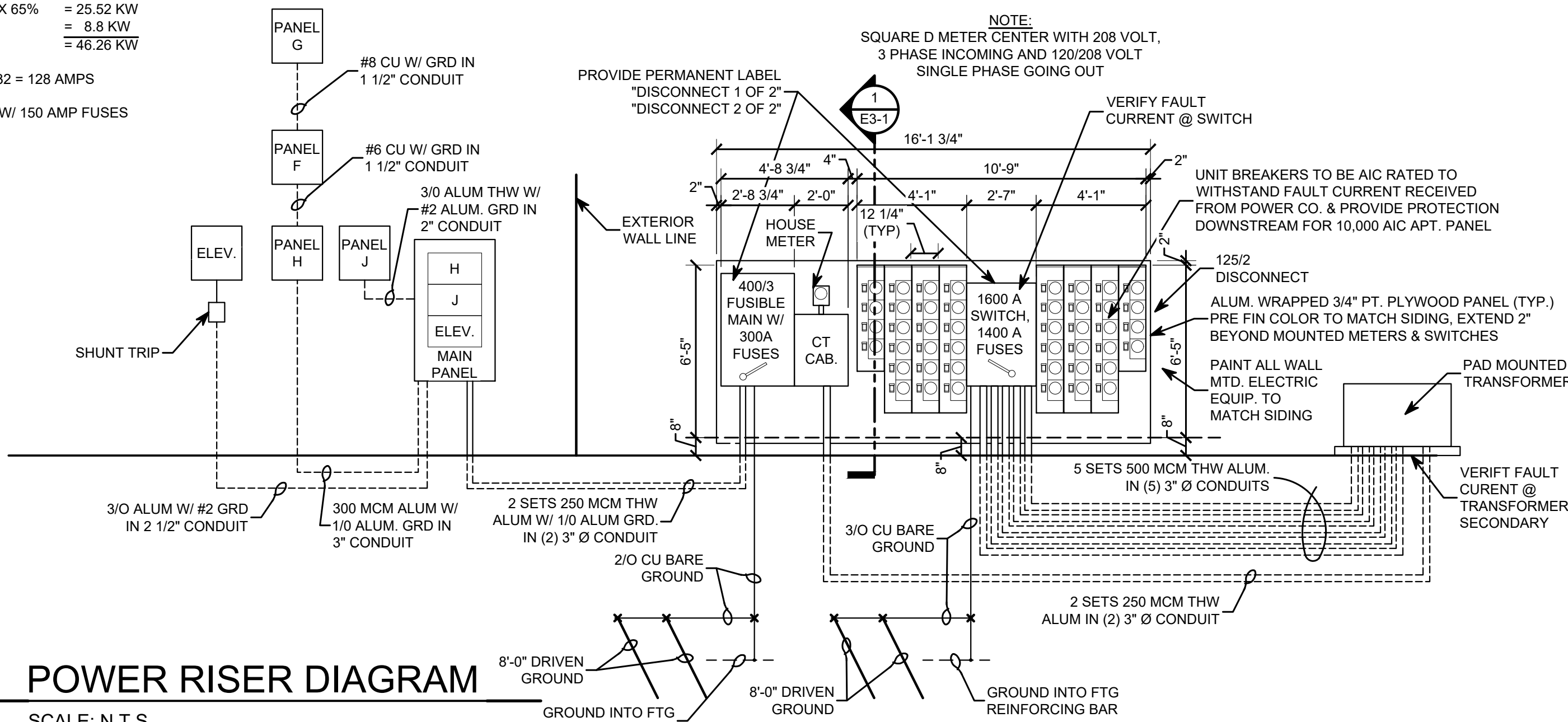
USE 200 AMP DISC. W/ 150 AMP FUSES

HOUSE PANEL LOADS

Table with columns: LIGHTS, OUTLETS, HEAT PUMPS, SUPPL. ELEC. HEAT, WASHER/ DRYER, OTHER, TOTAL. Lists electrical loads for various house panels.

DEMAND PER NEC 220.44 x 65% 139.20 KW / .208 / 1.732 = 386.4 AMPS

USE 400/3 AMP FUSIBLE SWITCH W/ 300 AMP FUSES



POWER RISER DIAGRAM

SCALE: N.T.S.

ELECTRICAL SYMBOLS

Table of electrical symbols and their corresponding descriptions, including switches, outlets, lights, fans, and detectors.

ELECTRIC LOADS

ONE BEDROOM (PANEL A)

Table of electrical loads for one bedroom (Panel A), including lights, electric range, disposal, washer, dishwasher, dryer, refrigerator, and water heater.

SUBTOTAL = 27.88 KW

HEAT PUMP = 3.74 ELECTRIC = 3.47 KW RESISTANCE HEAT = 3.6 = 5.60 KW

TOTAL CONNECTED LOAD = 35.22 KW

Table showing demand per NEC 220.82 for one bedroom (Panel A).

TOTAL LOAD = 23.23 KW

23.23 KW / .208 = 111.68 AMPS

USE 125/2 CIRCUIT BREAKER WITH #1/0 SER ALUMINUM CABLE (XHHW)

TWO BEDROOM (PANEL C)

Table of electrical loads for two bedroom (Panel C), including lights, electric range, disposal, washer, dishwasher, dryer, refrigerator, and water heater.

SUBTOTAL = 28.40 KW

HEAT PUMP = 3.74 ELECTRIC = 3.74 KW RESISTANCE HEAT = 3.6 = 3.60 KW

TOTAL CONNECTED LOAD = 35.74 KW

Table showing demand per NEC 220.82 for two bedroom (Panel C).

TOTAL LOAD = 23.44 KW

23.44 KW / .208 = 112.7 AMPS

USE 125/2 CIRCUIT BREAKER WITH #1/0 SER ALUMINUM CABLE (XHHW)

ONE BEDROOM (PANEL B)

Table of electrical loads for one bedroom (Panel B), including lights, electric range, disposal, washer, dishwasher, dryer, refrigerator, and water heater.

SUBTOTAL = 27.88 KW

HEAT PUMP = 3.74 ELECTRIC = 3.74 KW RESISTANCE HEAT = 5.6 = 5.60 KW

TOTAL CONNECTED LOAD = 37.22 KW

Table showing demand per NEC 220.82 for one bedroom (Panel B).

TOTAL LOAD = 24.53 KW

24.53 KW / .208 = 117.9 AMPS

USE 125/2 CIRCUIT BREAKER WITH #1/0 SER ALUMINUM CABLE (XHHW)

TWO BEDROOM (PANEL D)

Table of electrical loads for two bedroom (Panel D), including lights, electric range, disposal, washer, dishwasher, dryer, refrigerator, and water heater.

SUBTOTAL = 28.40 KW

HEAT PUMP = 3.74 ELECTRIC = 3.74 KW RESISTANCE HEAT = 5.6 = 5.60 KW

TOTAL CONNECTED LOAD = 37.74 KW

Table showing demand per NEC 220.82 for two bedroom (Panel D).

TOTAL LOAD = 24.74 KW

24.74 KW / .208 = 118.9 AMPS

USE 125/2 CIRCUIT BREAKER WITH #1/0 SER ALUMINUM CABLE (XHHW)

TWO BEDROOM (PANEL E)

Table of electrical loads for two bedroom (Panel E), including lights, electric range, disposal, bath outlet, washer, dishwasher, dryer, refrigerator, and water heater.

SUBTOTAL = 28.40 KW

HEAT PUMP = 3.2 ELECTRIC = 3.20 KW RESISTANCE HEAT = 7.2 = 7.2 KW

TOTAL CONNECTED LOAD = 38.80 KW

Table showing demand per NEC 220.82 for two bedroom (Panel E).

TOTAL LOAD = 25.24 KW

25.24 KW / .208 = 121.3 AMPS

USE 125/2 CIRCUIT BREAKER WITH #1/0 SER ALUMINUM CABLE (XHHW)

HOUSE PANEL G

Table of electrical loads for House Panel G, including HVAC, electric range, outlets, lights, and other.

9.74 KW / .208 / 1.732 = 27.04 AMPS

USE 40/3 CIRCUIT BREAKER W/ #8 CU WIRE & GROUND IN 1 1/2" CONDUIT

HOUSE PANEL H

Table of electrical loads for House Panel H, including lights, outlets, dryers, washers, heat pumps, and other.

81.44 KW / .208 / 1.732 = 226 AMPS

USE 400 AMP DISC. W/ 250 AMP FUSES

HOUSE PANEL F

Table of electrical loads for House Panel F, including HVAC, electric range, outlets, lights, and other.

15.46 KW / .208 / 1.732 = 43.75 AMPS

USE 60/3 CIRCUIT BREAKER W/ #6 CU WIRE & GROUND IN 1 1/2" CONDUIT

HOUSE PANEL J

Table of electrical loads for House Panel J, including HVAC, electric range, outlets, lights, and other.

46.26 KW / .208 / 1.732 = 128 AMPS

USE 200 AMP DISC. W/ 150 AMP FUSES

HOUSE PANEL G

Table of electrical loads for House Panel G, including HVAC, electric range, outlets, lights, and other.

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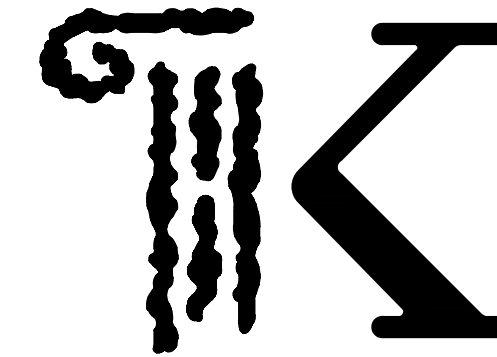
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USE 60/3 CIRCUIT BREAKER W/ #6 CU WIRE & GROUND IN 1 1/2" CONDUIT

HOUSE PANEL F



KONTOGIANNIS & ASSOCIATES

ARCHITECTURE PLANNING DESIGN

400 SOUTH FIFTH ST SUITE 400 COLUMBUS, OHIO 43215-5492

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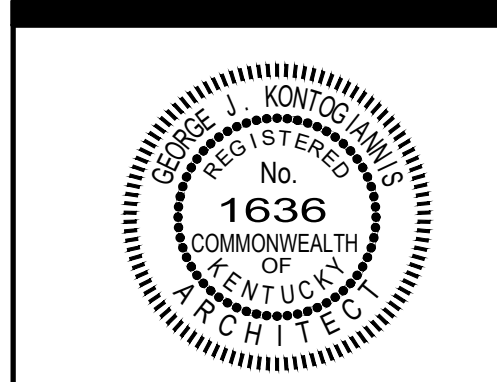
PROJECT:

THE SANCTUARY ON EDWARDS SENIOR HOUSING (BUILDING "B")

1125 EDWARDS RD. ELSMERE, KY 41018

DRAWING TITLE: ELECTRIC PANELS

DATE: 07/31/2023 REVISED:



GEORGE J. KONTOGIANNIS, LICENSE #1636 EXPIRATION DATE 06/30/2024

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- Submission set options: SUBMISSION SET, PERMIT SET 07/31/2023, BID SET 11/08/2023, CONSTRUCTION SET

E3-2

PANEL A: VOLTAGE 120/208, 1 PHASE, 3 WIRE, MOUNTING RECESSED. MAIN BREAKER, MAIN LUGS 125 AMPS, MAIN FEEDERS 1/0 ALUMINUM SER CABLE (XHHW). Table with 29 rows of electrical load data.

PANEL B: VOLTAGE 120/208, 1 PHASE, 3 WIRE, MOUNTING RECESSED. MAIN BREAKER, MAIN LUGS 125 AMPS, MAIN FEEDERS 1/0 ALUMINUM SER CABLE (XHHW). Table with 29 rows of electrical load data.

PANEL C: VOLTAGE 120/208, 1 PHASE, 3 WIRE, MOUNTING RECESSED. MAIN BREAKER, MAIN LUGS 125 AMPS, MAIN FEEDERS 1/0 ALUMINUM SER CABLE (XHHW). Table with 29 rows of electrical load data.

PANEL D: VOLTAGE 120/208, 1 PHASE, 3 WIRE, MOUNTING RECESSED. MAIN BREAKER, MAIN LUGS 125 AMPS, MAIN FEEDERS 1/0 ALUMINUM SER CABLE (XHHW). Table with 29 rows of electrical load data.

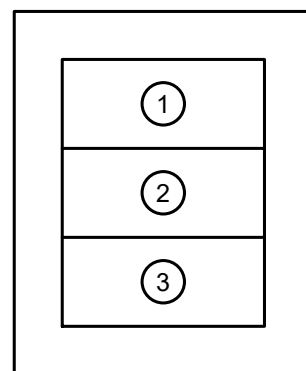
PANEL E: VOLTAGE 120/208, 1 PHASE, 3 WIRE, MOUNTING RECESSED. MAIN BREAKER, MAIN LUGS 125 AMPS, MAIN FEEDERS 1/0 ALUMINUM SER CABLE (XHHW). Table with 29 rows of electrical load data.

PANEL F (2nd FL): VOLTAGE 120/208, 3 PHASE, 4 WIRE, MOUNTING RECESSED, #8 CU WIRE W/ GROUND. MAIN BREAKER, MAIN LUGS 100 AMP, MAIN FEEDERS IN 1 1/2" CONDUIT. Table with 15 rows of electrical load data.

PANEL G (3RD FL): VOLTAGE 120/208, 3 PHASE, 4 WIRE, MOUNTING RECESSED, #6 CU WIRE W/ GROUND. MAIN BREAKER, MAIN LUGS 100 AMP, MAIN FEEDERS IN 1 1/2" CONDUIT. Table with 15 rows of electrical load data.

MAIN PANEL

SQUARE "D" 400 AMP MAIN LUGS FUSIBLE SERVICE ENTRANCE PANEL WITH QMB FUSIBLE BRANCH SWITCHES AS FOLLOWS (MIN. 100,000 AIC RATING) VERIFY AVAILABLE FAULT CURRENT WITH POWER COMPANY) AIC CAN BE REDUCED BASED ON AVAILABLE FAULT CURRENT.



- 1 PANEL H - 400/3 SWITCH W/ 250 AMP CURRENT LIMITING FUSES. 250 MCM ALUM. THW W/ 1/0 GROUND IN 2" CONDUIT
2 PANEL J - 200/3 SWITCH W/ 150 AMP CURRENT LIMITING FUSES. 3/0 ALUM THW W/ #2 ALUM. GROUND IN 2 1/2" COND.
3 ELEVATOR - 200/3 W/ 150 AMP CURRENT LIMITING FUSES. 3/0 ALUM. THW W/ #2 GROUND IN 2 1/2" CONDUIT

PANEL H: VOLTAGE 120/208, 3 PHASE, 4 WIRE, MOUNTING SURFACE, 350 MCM ALUM. THW W/ 1/0. MAIN BREAKER, MAIN LUGS 400 AMP, MAIN FEEDERS GROUND IN 3" CONDUIT. Table with 60 rows of electrical load data.

PANEL J: VOLTAGE 120/208, 3 PHASE, 4 WIRE, MOUNTING SURFACE, 3/0 ALUM. W/ #2 ALUM. MAIN BREAKER, MAIN LUGS 200 AMP, MAIN FEEDERS GROUND IN 2" CONDUIT. Table with 60 rows of electrical load data.

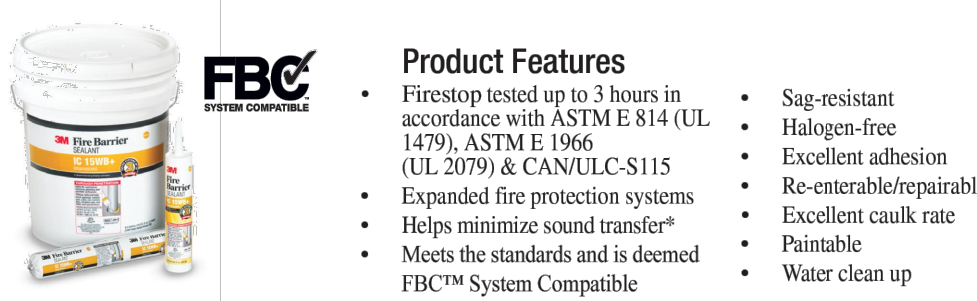




# 3M™ Fire Barrier Sealant IC 15WB+ Product Data Sheet

### 1. Product Description

3M™ Fire Barrier Sealant IC 15WB+ is a cost-effective, one-part, gun-grade, latex-based, intumescent firestop sealant that dries to form a monolithic firestop seal that also acts as a barrier to airborne sound transmission. 3M™ Fire Barrier Sealant IC 15WB+ firestops through penetrations passing through fire-rated floor, floor/ceiling or wall assemblies, as well as other fire-rated interior building partitions and assemblies (e.g. static construction joints or blank openings). In addition, the unique intumescent property of this material allows 3M™ Fire Barrier Sealant IC 15WB+ to expand and help maintain a firestop penetration seal for up to 3 hours as penetrants are exposed to fire. 3M™ Fire Barrier Sealant IC 15WB+ bonds to most construction substrates, including: gypsum wallboard, concrete, metals, wood, plastic and cable jacketing. No mixing is required.



- ### Product Features
- Firestop tested up to 3 hours in accordance with ASTM E 814 (UL 1479), ASTM E 1966 (UL 2079) & CAN/ULC-S115
  - Expanded fire protection systems
  - Helps minimize sound transfer\*
  - Meets the standards set by deemed FBC™ System Compatible
  - Sag-resistant
  - Halogen-free
  - Excellent adhesion
  - Re-entrance/reparable
  - Excellent paint cure
  - Paintable
  - Water clean up

**Cost-effective firestop sealant available in tube, pail or sausage.**

Product Color: Yellow.



Complies with the intent of LEED® NC-RED Credit 4.1 for Low-Emitting Materials. Adhesives and Sealants, contains <250 g/L VOC content (less H<sub>2</sub>O and exempt solvents per SEQM/D Rule 1108).

Minimizes waste transfer—STC-Rating of 54 when tested as STC-54-rated wall assembly.

### 4. Performance & Typical Physical Properties

**Color:** Yellow

**Application Temperature Range:** 40° to 122°F (4° to 50°C)

**Service Temperature Range:** -20° to 180°F (-28° to 82°C)

**STC Acoustic Barrier:** 54 when tested in STC 54 rated wall assembly (ASTM E 90 and ASTM E 413)

**Surface Burning (ASTM E 84):** Flame Spread 5, Smoke Development 50

**Unit Volume:** 10.1 lb or can (298.7 mL, 18.2 in.<sup>3</sup>), 20.0 lb or sausage (591.5 mL, 36.1 in.<sup>3</sup>), 27 lb or tube (798.3 mL, 48.7 in.<sup>3</sup>), 4.5 gal. pail (170.0 L, 1039.5 in.<sup>3</sup>)

**Hardness (ASTM D 2240 Shore A):** 70

**Tensile Strength:** 85 psi (0.59 MPa)

**Volume Shrinkage (ASTM C 1241):** 28%

**VOC Less H<sub>2</sub>O and Exempt Solvents:** <2 g/L

**Dry:** Under typical conditions of 75°F (23°C) and 50% R.H., sealant becomes tack-free in about ten minutes and dry-to-touch in 30 to 60 minutes. Full dry depends upon substrate conditions and volume of sealant. Typical dry rate is approximately 1/8 inch (3 mm) per day.

### 5. Packaging, Storage, Shelf Life

**Packaging:** Product packaged in cartridge or pail is enclosed in HDPE plastic containers, sausage is packaged in aluminum foil wrap. 3M™ Fire Barrier Sealant IC 15WB+ should be stored indoors in dry conditions between 40°F and 90°F (4°C and 32°C) in the original unopened package. Avoid repeated freeze / thaw exposures of the 3M™ Fire Barrier Sealant IC 15WB+ prior to installation.

**Shelf Life:** 3M™ Fire Barrier Sealant IC 15WB+ shelf life is 12 months in original unopened containers from date of packaging when stored above 68°F (2°C).

**Lot numbering (e.g. 5183AS):** First digit = Last digit of year manufactured, Second to fourth digit = Julian Date, Letters = Random to distinguish between lot numbers.

### 6. Installation Techniques

Consult a 3M Authorized Fire Protection Products Distributor / Dealer or Sales Representative for applicable UL, cUL, ULC, Intertek, FM or other third-party drawings and system details.

**Preparatory Work:** The surface of the opening and any penetrating items should be cleaned to allow for the proper adhesion of the 3M™ Fire Barrier Sealant IC 15WB+. Ensure that the surface of the substrates are not wet and are frost free. Sealant can be installed with a standard caulking gun, pneumatic pumping equipment or it can be easily applied with a putty knife or trowel.

**Installation Details:** Install the applicable depth of backing material, if required, as detailed within the applicable UL, cUL, ULC, Intertek, FM or other third-party listed system. Cut the end of the 3M™ Fire Barrier Sealant IC 15WB+ tube stop to achieve the desired depth. Then apply the sealant into the opening to a depth of 3M™ Fire Barrier Sealant IC 15WB+ into the opening. Flush with the surface of the substrate, or as detailed within the applicable listed system, at the depth for the assembly and rating that is required. Tool within 5 minutes. Clean all tools immediately after use with water.

**Limitations:** Do not apply 3M™ Fire Barrier Sealant IC 15WB+ when surrounding temperature is less than 40°F (4°C) and in conditions where seals may be exposed to rain or water spray within 18 hours of application. Do not apply 3M™ Fire Barrier Sealant IC 15WB+ to building materials that bleed oil, plasticizers or solvent (e.g. impregnated wood, oil-based sealers, or green or partially vulcanized rubber). Do not apply 3M™ Fire Barrier Sealant IC 15WB+ to wet or frost-coated surfaces or to areas that are continuously damp or immersed in water.

### 7. Maintenance

No maintenance is expected to be required when installed in accordance with the applicable UL, cUL, ULC, Intertek, FM or other third-party listed system. Once installed, if any section of the 3M™ Fire Barrier Sealant IC 15WB+ is damaged, the following procedure will apply: remove and reinstall the damaged section in accordance with the applicable listed system, with a minimum 1/2 in. (12.7 mm) overlap onto the adjacent material.

### 8. Availability

3M™ Fire Barrier Sealant IC 15WB+ is available from 3M Authorized Fire Protection Products Distributors and Dealers. 3M™ Fire Barrier Sealant IC 15WB+ is available in 10.1 fl. oz. cartridges (3M ID 98-0400-559-1), 12.5oz, 20.0 lb. c. sausages (3M ID 98-0400-55125-10), 10 case, and 4.5 gallon pails (3M ID 98-0400-55109-1) cases. For additional technical and purchasing information regarding this and other 3M Fire Protection Products, please call: 1-800-328-1087 or visit [www.3m.com/firestop](http://www.3m.com/firestop).

### 9. Safe Handling Information

Consult your office of Safety Data Sheet (SDS) prior to handling and disposal.

**Important Note to User:** Technical information, recommendations, and other statements contained in this document are based upon tests and approvals that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

**Warranty and Limited Remedy:** 3M warrants that each 3M Fire Protection Product will be free from defects in material and workmanship for a period of 30 days after the date of purchase. 3M does not warrant, either expressly or impliedly, that the product will be suitable for use in any application not specifically intended for by 3M. 3M makes no warranty, either expressly or impliedly, regarding the fitness of the product for use in any application not specifically intended for by 3M. 3M makes no warranty, either expressly or impliedly, regarding the fitness of the product for use in any application not specifically intended for by 3M. 3M makes no warranty, either expressly or impliedly, regarding the fitness of the product for use in any application not specifically intended for by 3M.



### 2. Applications

3M™ Fire Barrier Sealant IC 15WB+ is a general-purpose intumescent firestop ideal for sealing single or multiple through penetrations in fire-rated construction. 3M™ Fire Barrier Sealant IC 15WB+ is typically used in mechanical, electrical and plumbing applications in fire-rated openings created for the following penetrations in fire-rated floors, floor/ceiling or walls: metallic pipe, plastic pipe, conduit, power and communication cable, cable trays, busways, conduits, insulated pipe and HVAC duct penetrations. 3M™ Fire Barrier Sealant IC 15WB+ is also used to firestop blank openings and static construction joints.

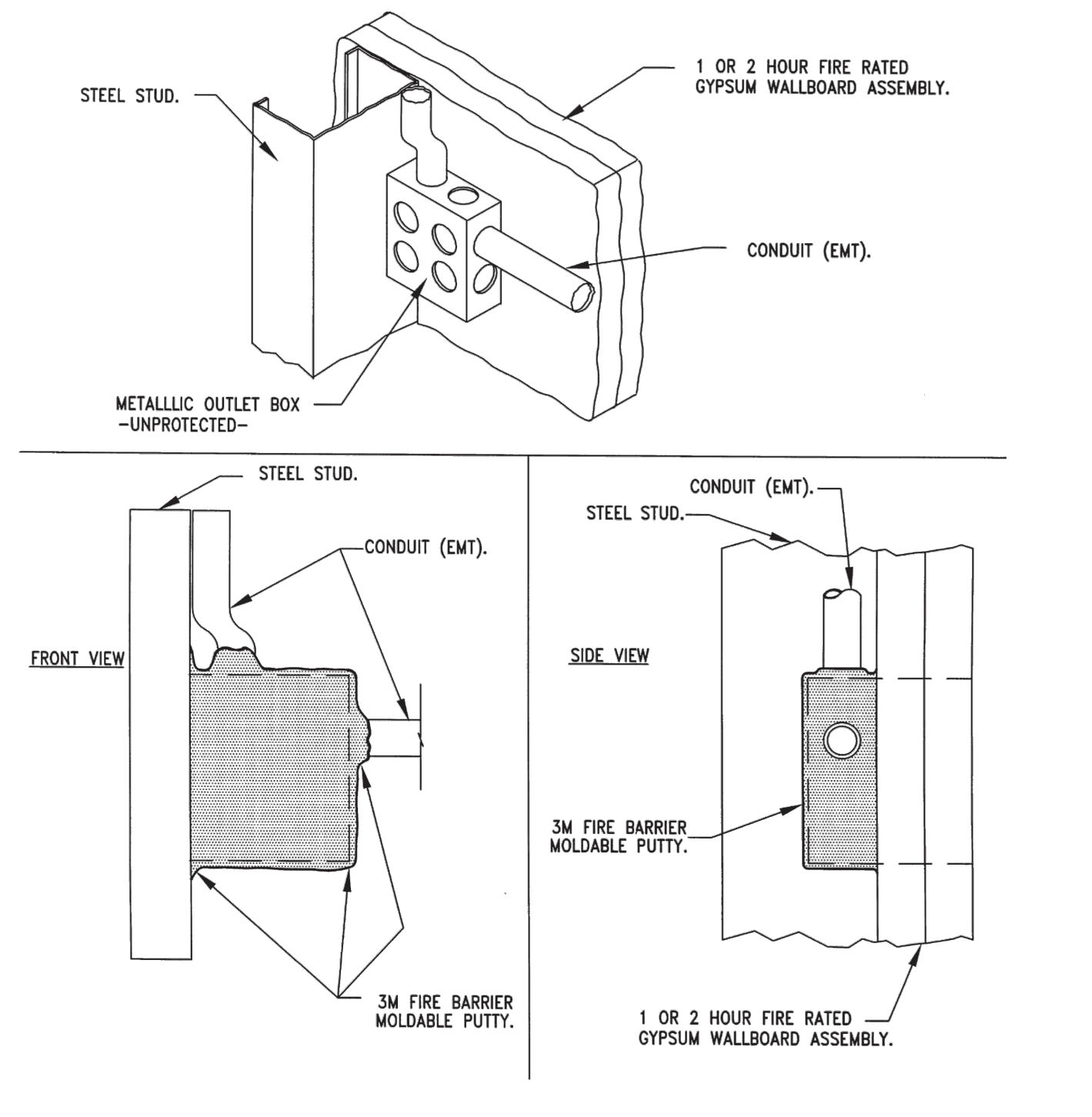
### 3. Specifications

3M™ Fire Barrier Sealant IC 15WB+ shall be a one component, ready-to-use, gun-grade, latex-based, intumescent firestop sealant capable of expanding a minimum of 3 times at 1000°F. The material shall be thixotropic and applicable to overhead, vertical and horizontal firestop. The sealant shall be listed by independent test agencies such as UL, ULC, Intertek or FM. 3M™ Fire Barrier Sealant IC 15WB+ shall be tested to and pass the criteria of ASTM E 814 (UL 1479) Standard Test Method for Fire Tests of Penetration Firestop Systems, ASTM E 1966 (UL 2079) Standard Test Method for Fire Resistance Joint Systems and CAN/ULC-S115 Standard Method of Fire Tests of Firestop Systems. 3M™ Fire Barrier Sealant IC 15WB+ meets the requirements of the IBC, IRC, NBCC, IFC, IPC, IMC, NFPA 5000, NEC (NFPA 70) and NFPA 101.

**Typically Specified MasterFormat (2004)**  
 Section 07 84 00 - Firestopping  
 Related Section  
 Section 07 21 00 - Air Barriers  
 Section 07 84 10 - Annular Space Protection  
 Section 07 84 15 - Fire Resistance Joint Sealants  
 Section 07 88 00 - Smoke Seal  
 Section 07 87 00 - Smoke Containment Barriers  
 Section 07 91 10 - Elastomeric Joint Sealants  
 Section 22 00 00 - Plumbing  
 Section 23 00 00 - Heating, Ventilating, and Air Conditioning (HVAC)  
 Section 26 00 00 - Electrical

For technical support relating to 3M Fire Protection Products and Systems, call: 1-800-328-1087. For more information on 3M Fire Protection Products, visit: [www.3m.com/firestop](http://www.3m.com/firestop)

## Suggested Installation for 3M™ Fire Barrier Moldable Putty+ on Electrical Outlet Boxes



This material was extracted and drawn by 3M Fire Protection Products from the 2007 edition of the UL Fire Resistance Directory.

**3M Fire Protection Products**  
[www.3m.com/firestop](http://www.3m.com/firestop)

**CLIV • 1 of 2**

Product Support Line: 1-800-328-1087  
 Contact your local UL or SEMKO

### WALL OPENING PROTECTIVE MATERIALS (CLIV)

This category covers proprietary compositions which are used to maintain the hourly ratings of fire resistive walls and partitions containing flush mounted devices such as electrical cabinets and mechanical cabinets. The individual Classifications indicate the specific applications for which the materials have been evaluated. The basic standard used to investigate products in this category is ANSIUL 263, "Fire Tests of Building Construction and Materials".

### LOOK FOR CLASSIFICATION MARKING ON PRODUCT

The Classification Marking of Underwriters Laboratories Inc. (shown below) on the product or container is the only method provided by Underwriters Laboratories Inc. to identify Wall Opening Protective Materials produced under its Classification and Follow-Up Service.

**UNDERWRITERS LABORATORIES INC.® CLASSIFIED**  
**WALL OPENING PROTECTIVE MATERIAL**  
**FIRE RESISTANCE CLASSIFICATION**  
**SEE PRODUCT CATEGORY IN UL FIRE RESISTANCE DIRECTORY**

**3M CENTER, ST PAUL, MN 55144 USA** **R9700**

**3M CENTER, ST PAUL, MN 55144 USA**

Type MPP+ moldable putty pads for use with max 4-11/16 by 2-1/8 in. deep flush device UL Listed Metallic Outlet Boxes installed with steel cover plates for use in 1 or 2 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood or steel studs and constructed as specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4-11/16 by 2-1/8 in. deep flush device UL Listed Metallic Outlet Boxes installed with plastic cover plates for use in 1 or 2 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood or steel studs and constructed as specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4 by 2-1/2 in. deep flush device UL Listed Metallic Outlet Boxes installed with steel cover plates for use in 1 or 2 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood or steel studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4 by 2-1/2 in. deep flush device UL Listed Nonmetallic Outlet Boxes manufactured by Thomas & Betts Corp., made of polycarbonate, Type 234 or made of phenolic, Type 1052 and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. Boxes installed with steel cover plates. For use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4 by 3-3/4 by 3 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Carlson Electrical Products, made of PVC and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. Boxes installed with plastic cover plates, for use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4 by 3-1/4 by 3-3/4 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Thomas & Betts Corp., made of phenolic, Type 2002-738-C and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. Boxes installed with steel cover plates. For use in 2 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide steel studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4 by 4-1/2 in. deep flush device UL Listed Metallic Outlet Boxes installed with plastic cover plates for use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 5 by 5 by 2-7/8 in. deep flush device UL Listed Metallic Outlet Boxes or UL Listed Communications Circuit Accessories manufactured by Randl Industries Inc. for use in 1 or 2 hr fire rated gypsum board wall assemblies framed with min 3-5/8 in. wide wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory. Boxes installed with steel cover plates. For use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide steel studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory. Boxes may be installed back-to-back with plastic cover plates for use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory. Boxes may be installed back-to-back with plastic cover plates for use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4 by 4-1/2 in. deep flush device UL Listed Metallic Outlet Boxes or UL Listed Communications Circuit Accessories manufactured by Randl Industries Inc. for use in 1 or 2 hr fire rated gypsum board wall assemblies framed with min 3-5/8 in. wide wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory. Boxes installed with steel cover plates. For use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide steel studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory. Boxes may be installed back-to-back with plastic cover plates for use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory. Boxes may be installed back-to-back with plastic cover plates for use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory. Boxes may be installed back-to-back with plastic cover plates for use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud unless otherwise noted) including nailing tabs and to completely seal against the stud within the stud cavity. Multiple moldable putty pads may be installed on an outlet box to attain the required minimum thickness of putty material. Additional putty material used to seal around each conduit and/or cable fitting on the exterior of each box. A min 1/16 in. thickness of putty material is required on the exterior surfaces of flush device boxes in 1 and 2 hr fire rated Wall and Partition Designs. When the moldable putty pads are applied to the exterior material on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the outlet boxes are not installed back to back, except as noted.

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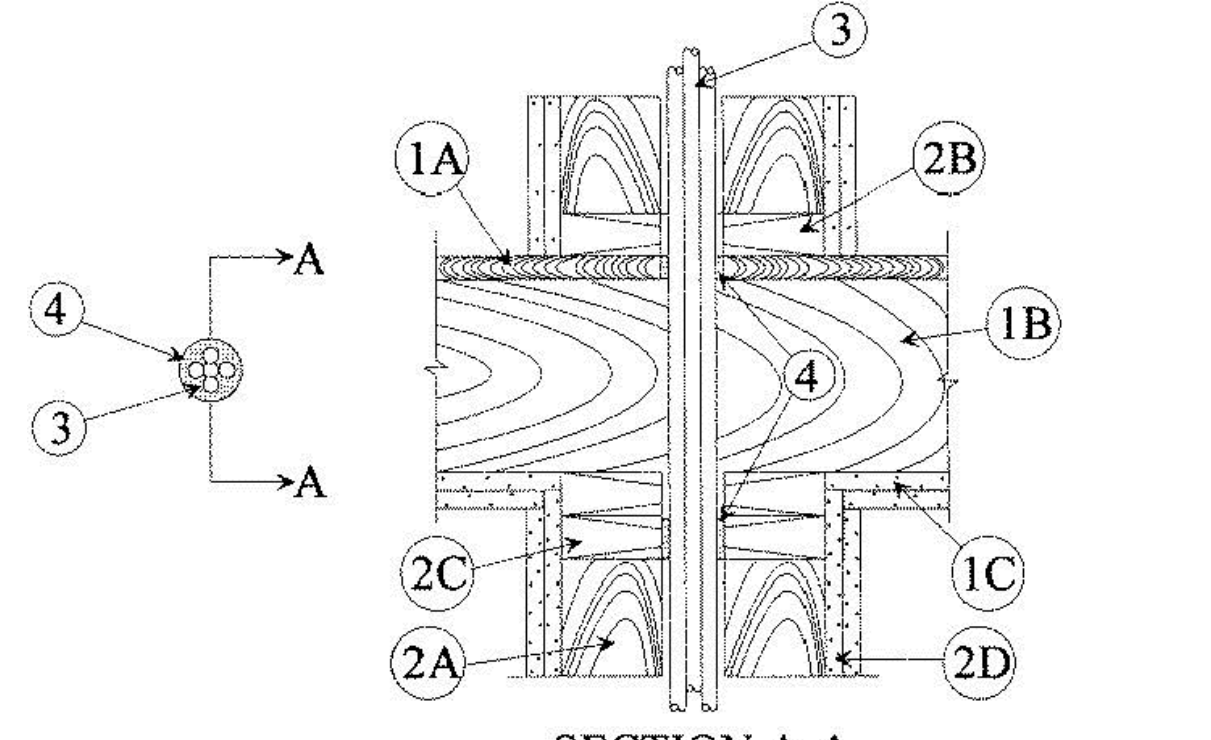
**3M Fire Protection Products**  
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**CLIV • 2 of 2**

Product Support Line: 1-800-328-1087

## SYSTEM NO. F-C-3012

APRIL 06, 2018  
 F RATINGS -- 1 AND 2 HR (SEE ITEM 1)  
 T RATINGS -- 0, 1 AND 3/4 HR (SEE ITEM 3)



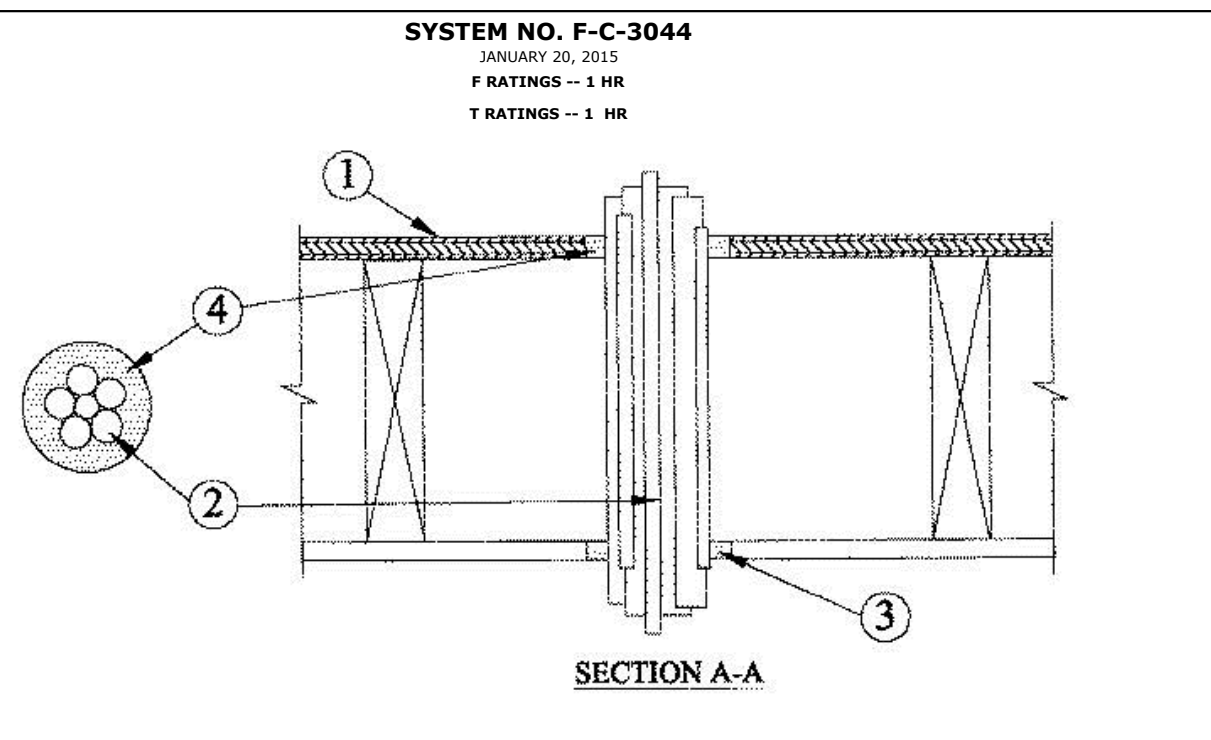
### SECTION A-A

**1 FLOOR-CEILING ASSEMBLY** -- THE 1 OR 2 HR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

- A. FLOORING SYSTEM** -- LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE\* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING FOR 1 OR 2 HR ASSEMBLY IS 2-1/2 IN. (64 MM) OR 2 IN. (51 MM), RESPECTIVELY.
  - B. WOOD JOISTS** -- NOM 10 IN. (254 MM) DEEP (OR DEEPER) LUMBER, STEEL, OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS\* WITH BRIGGING AS REQUIRED AND WITH ENDS FIRESTOPPED.
  - C. FURRING CHANNELS** -- (NOT SHOWN) -- (AS REQUIRED) -- RESILIENT GALVANIZED STEEL FURRING INSTALLED IN ACCORDANCE WITH THE MANNER SPECIFIED IN THE INDIVIDUAL U500 SERIES DESIGNS IN THE FIRE RESISTANCE DIRECTORY.
  - D. GYPSUM BOARD** -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING FOR 1 OR 2 HR ASSEMBLY IS 2-1/2 IN. (64 MM) OR 2 IN. (51 MM), RESPECTIVELY.
- THE F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE RATING OF THE FLOOR-CEILING ASSEMBLY.
- 2 CHASE WALL** -- (OPTIONAL) -- THE THROUGH PENETRANT (ITEM 3) MAY BE ROUTED THROUGH A FIRE-RATED OR NON-RATED SINGLE, DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL. THE CHASE WALL SHALL BE CONSTRUCTED TO INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
    - A. STUDS** -- NOM 2 BY 6 IN. (51 BY 152 MM) OR DOUBLE NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER STUDS.
    - SOLE PLATE** -- NOM 2 BY 6 IN. (51 BY 152 MM) OR PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAX DIAM OF OPENING FOR 1 OR 2 HR RATED ASSEMBLY IS 2-1/2 IN. (64 MM) OR 2 IN. (51 MM), RESPECTIVELY.
    - TOP PLATE** -- THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOM 2 BY 6 IN. (51 BY 152 MM) OR TWO SETS OF PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAX DIAM OF OPENING FOR 1 OR 2 HR RATED ASSEMBLY IS 2-1/2 IN. (64 MM) OR 2 IN. (51 MM), RESPECTIVELY.
    - AFC CABLE SYSTEMS INC**
  - 3 FILL VOID OR CAVITY MATERIAL** -- SEALANT -- MIN 3/4 IN. (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULAR SPACE, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MIN 5/8 IN. (16 MM) THICKNESS OF FILL MATERIAL ALSO APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.
  - HILTI CONSTRUCTION CHEMICALS DIV OF HILTI INC.** -- FS-011A SEALANT OR FS-05 SEALANT OR FS-05-ONE MAX INTUMESCENT SEALANT
  - \*INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

LAST UPDATED ON 2018-04-06  
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## FLOOR PENETRATION U.L. SYSTEM NO. F-C-3012



### SECTION A-A

**1 FLOOR-CEILING ASSEMBLY** -- THE 1 HR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

- A. FLOORING SYSTEM** -- LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE\* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING SHALL BE 3 IN. (76 MM).
- B. WOOD JOISTS** -- NOM 10 IN. (254 MM) DEEP (OR DEEPER) LUMBER, STEEL, OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS\* WITH BRIGGING AS REQUIRED AND WITH ENDS FIRESTOPPED.
- C. GYPSUM BOARD** -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX DIAM OF OPENING SHALL BE 3 IN. (76 MM).
- D. FURRING CHANNELS** -- (NOT SHOWN) -- (AS REQUIRED) -- RESILIENT GALVANIZED STEEL FURRING INSTALLED IN ACCORDANCE WITH THE MANNER SPECIFIED IN THE INDIVIDUAL U500 SERIES DESIGNS IN THE FIRE RESISTANCE DIRECTORY.
- E. CHASE WALL** -- (NOT SHOWN, OPTIONAL) -- THE THROUGH PENETRANTS (ITEM 2) MAY BE ROUTED THROUGH A 1 HR FIRE-RATED SINGLE, DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL HAVING A FIRE RATING CONSISTENT WITH THAT OF THE FLOOR-CEILING ASSEMBLY. THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U500 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
  - A. STUDS** -- NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER STUDS.
  - SOLE PLATE** -- NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER OR PARALLEL 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAX DIAM OF OPENING SHALL BE 3 IN. (76 MM).
  - TOP PLATE** -- THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER PLATES. MAX DIAM OF OPENING SHALL BE 3 IN. (76 MM).
  - D. GYPSUM BOARD** -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN.
- 2 CABLES** -- AGGREGATE CROSS-SECTIONAL AREA OF CABLES IN OPENING TO BE MAX 25 PERCENT OF THE CROSS-SECTIONAL AREA OF THE OPENING. THE ANNULAR SPACE WITHIN THE FIRESTOP SYSTEM SHALL BE 3/4 IN. CABLES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR ASSEMBLY. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF CABLES MAY BE USED:
  - A. NS-05 COAXIAL CABLE WITH SINGLE COPPER CONDUCTOR, CELLULAR POLYETHYLENE CELLULAR FOAM INSULATION AND POLYVINYL CHLORIDE (PVC) JACKETING.
  - B. MAX 25 PAIR NO. 24 AWG TELEPHONE CABLE WITH POLYVINYL CHLORIDE (PVC) JACKETING.
  - C. MAX 3/C NO. 10 AWG CABLE (TYPE NM).
  - D. MAX 3/C WITH GROUND NO. 2/0 AWG ALUMINUM OR COPPER TYPE SER CABLE WITH POLYVINYL CHLORIDE (PVC) INSULATION.
  - E. MAX 24 FIBER OPTIC CABLE.
  - F. THROUGH PENETRATING PRODUCTS\* -- ANY CABLES, METAL-CLAD CABLE\* OR ARMORED CABLE\* CURRENTLY CLASSIFIED UNDER THE THROUGH PENETRATING PRODUCTS CATEGORY.
- 3 FILL VOID OR CAVITY MATERIALS** -- SEALANT -- MIN 3/4 IN. (19 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULAR SPACE, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MIN 5/8 IN. (16 MM) THICKNESS OF SEALANT APPLIED WITHIN ANNULAR SPACE, FLUSH WITH BOTTOM SURFACE OF THE GYPSUM WALLBOARD OR LOWER TOP PLATE. SEALANT FORCED INTO THE INTERSTICES OF THE CABLES ON BOTH SIDES OF THE WALL.
- HILTI CONSTRUCTION CHEMICALS DIV OF HILTI INC.** -- FS-05 SEALANT OR FS-05-ONE MAX INTUMESCENT SEALANT
- \*INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY. \*BEARING THE UL LISTING MARK

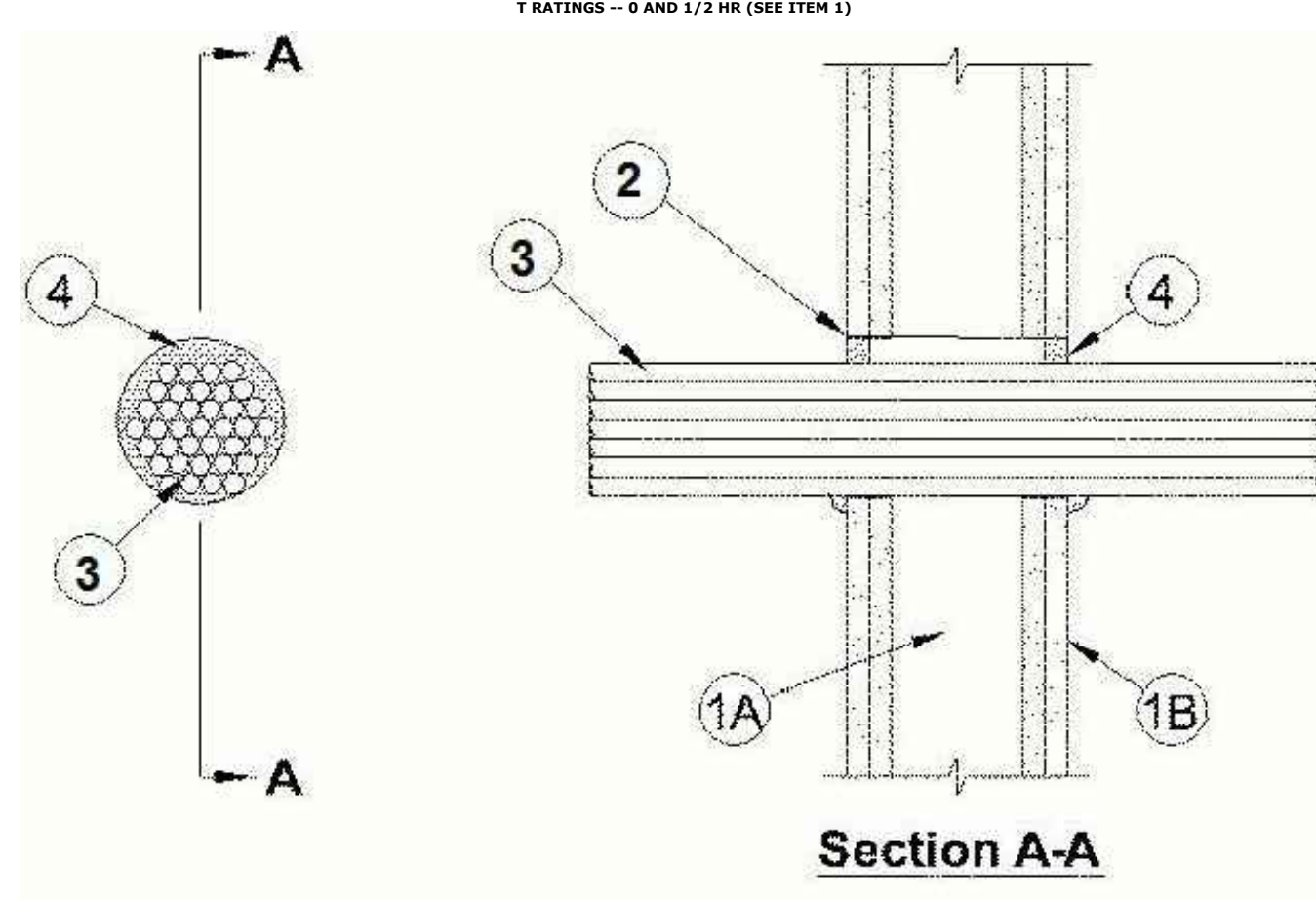
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## FLOOR PENETRATION U.L. SYSTEM NO. F-C-3044



## SYSTEM NO. W-L-3195

APRIL 10, 2018  
 F RATINGS -- 1 AND 2 HR (SEE ITEM 1)  
 T RATINGS -- 0 AND 1/2 HR (SEE ITEM 3)



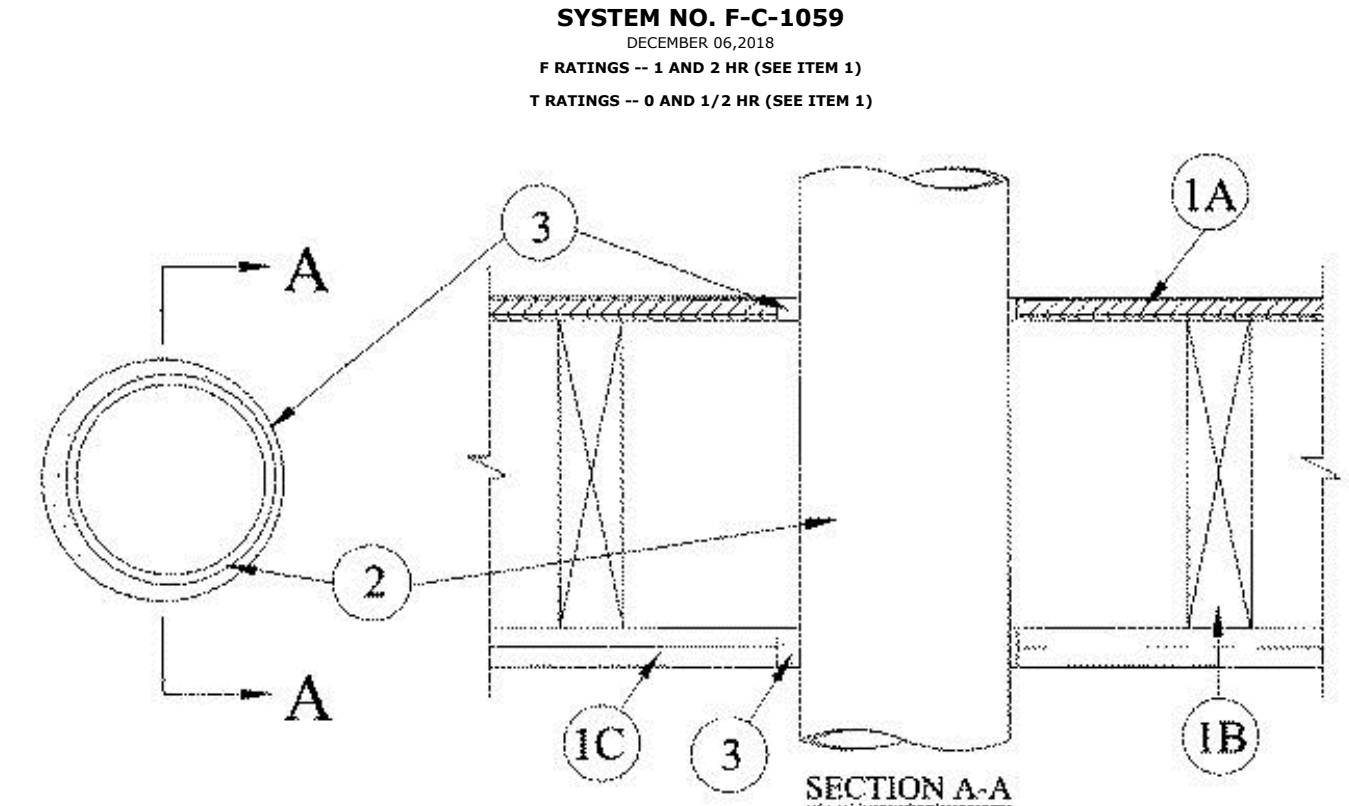
### Section A-A

**1 WALL ASSEMBLY** -- THE 1 OR 2 HR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

- A. STUDS** -- WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. (51 BY 102 MM) SPACED 16 IN. (405 MM) O.C. STEEL STUDS TO BE MIN 1-1/2 IN. (38 MM) WIDE.
- B. GYPSUM BOARD** -- THE GYPSUM BOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 5 IN. (127 MM).
- THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED. THE HOURLY F RATING IS 0 HR FOR 1 AND 1/2 HR FOR 2 HR RATED ASSEMBLIES, RESPECTIVELY.**
- 2 STEEL SLEEVE** -- (OPTIONAL) -- CYLINDRICAL SLEEVE FABRICATED FROM MIN 0.018 IN. (0.46 MM) THICK (NO. 28 GAUGE) GALV SHEET STEEL AND HAVING A MIN 1 IN. (25 MM) LAP ALONG THE LONGITUDINAL SEAM. LENGTH OF SLEEVE TO BE EQUAL TO OR MAX 2 IN. (51 MM) GREATER THAN THE THICKNESS OF WALL. ENDS OF SLEEVE TO BE FLUSH WITH OR EXCEED A MAX 1 IN. (25 MM) BEYOND EACH SURFACE OF WALL.
- 3 CABLE** -- MAX 4 IN. (102 MM) DIAM CABLE BUNDLE INSTALLED ECCENTRICALLY OR CONCENTRICALLY WITHIN OPENING. ANNULAR SPACE BETWEEN CABLE BUNDLE AND PERIMETRY OF OPENING OR SLEEVE TO BE MIN 1/4 IN. (6 MM) MINIMUM CONTACT TO MAX 1 IN. (25 MM). CABLE BUNDLE TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL. THE FOLLOWING TYPES AND SIZES OF CABLES MAY BE USED:
  - A. MAX 200 PAIR NO. 22 AWG (OR SMALLER) COPPER CONDUCTOR WITH POLYVINYL CHLORIDE (PVC) INSULATION AND PVC JACKETING MATERIAL.
  - B. MAX 1/C NO. 390 KCMIL (OR SMALLER) COPPER CONDUCTOR CABLE WITH CROSS-LINKED POLYETHYLENE (XLPE) OR PVC JACKET.
  - C. MAX 7/C NO. 12 AWG (OR SMALLER) COPPER CONDUCTOR POWER AND CONTROL CABLES WITH XLPE OR PVC INSULATION WITH XLPE OR PVC JACKET.
  - D. MAX 3/C NO. 4/0 AWG (OR SMALLER) COPPER OR ALUMINUM CONDUCTOR SER CABLES WITH XLPE OR PVC INSULATION AND JACKET.
  - E. MAX 4/C NO. 2/0 AWG (OR SMALLER) COPPER CONDUCTOR, ALUMINUM CLAD OR STEEL CLAD TIE TO CABLE WITH OR WITHOUT PVC JACKETED.
  - F. MAX 11/0125 FIBER OPTIC (F.O.) CABLE WITH PVC INSULATION AND JACKET.
  - G. MAX 3/C WITH GROUND NO. 8 AWG (OR SMALLER) COPPER CONDUCTOR NM CABLE WITH PVC INSULATION AND JACKET.
  - H. MAX 8/0 COAXIAL CABLE WITH FLUOROPOLYMER INSULATION AND JACKET.
  - I. MAX 4 PAIR NO. 24 AWG (OR SMALLER) COPPER CONDUCTOR DATA CABLE WITH PLUR JACKET TYPE INSULATION.
- 4 THROUGH PENETRATING PRODUCT** -- ANY CABLES, ARMORED CABLE\* OR METAL-CLAD CABLE\* CURRENTLY CLASSIFIED UNDER THE THROUGH PENETRATING PRODUCTS CATEGORY.
- \*INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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## WALL PENETRATION U.L. SYSTEM NO. W-L-3195



**1 FLOOR-CEILING ASSEMBLY** -- THE 1 OR 2 HR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE F, FH RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE RATING OF THE FLOOR-CEILING AND WALL ASSEMBLIES. THE F, FT AND FTH RATING OF THE FIRESTOP SYSTEM IS 0 HR FOR 1 HR RATED FLOOR-CEILING ASSEMBLY AND 1/2 HR FOR 2 HR RATED FLOOR-CEILING ASSEMBLY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

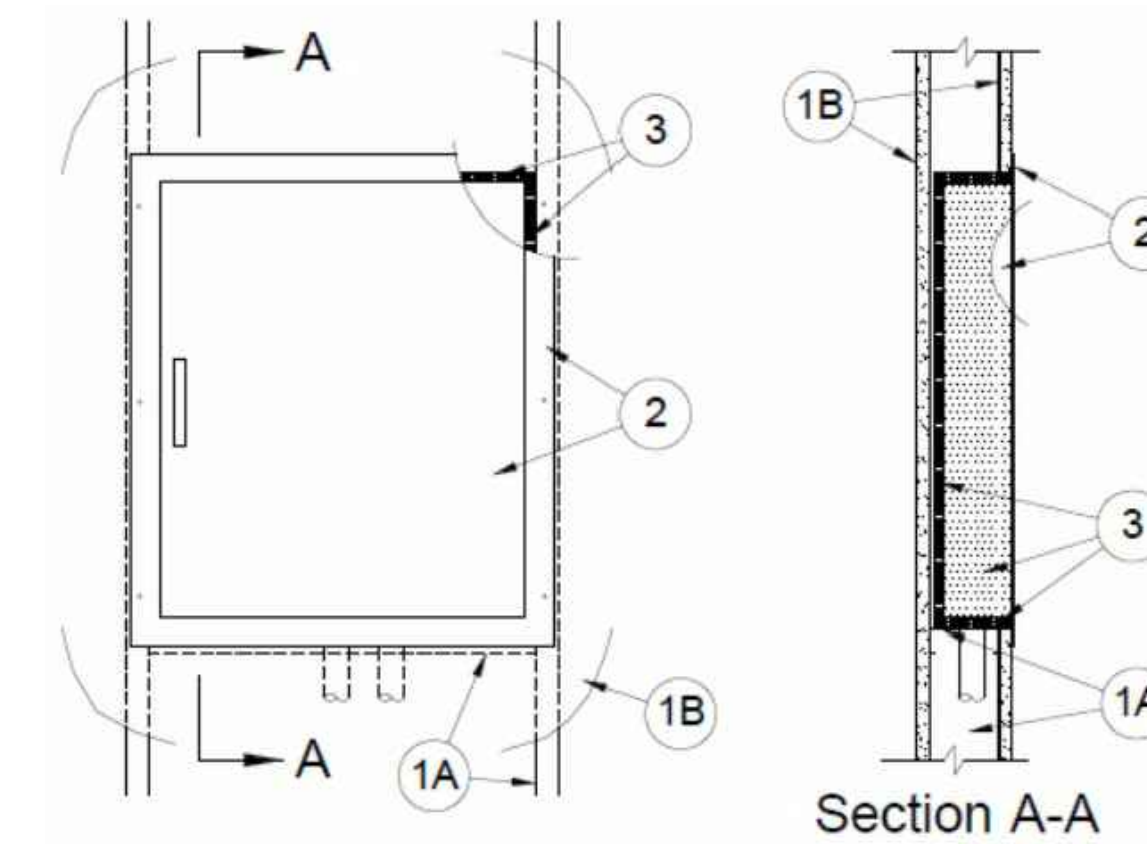
- A. FLOORING SYSTEM** -- LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE\* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING SHALL BE 7-5/8 IN. (194 MM).
- B. WOOD JOISTS** -- NOM 10 IN. (254 MM) DEEP (OR DEEPER) LUMBER, STEEL, OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS\* WITH BRIGGING AS REQUIRED AND WITH ENDS FIRESTOPPED.
- C. GYPSUM BOARD** -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING SHALL BE 7-5/8 IN. (194 MM).
- D. FURRING CHANNELS** -- (NOT SHOWN) -- (AS REQUIRED) -- RESILIENT GALVANIZED STEEL FURRING INSTALLED IN ACCORDANCE WITH THE MANNER SPECIFIED IN THE INDIVIDUAL U500 SERIES DESIGNS IN THE FIRE RESISTANCE DIRECTORY.
- E. CHASE WALL** -- (NOT SHOWN, OPTIONAL) -- THE THROUGH PENETRANTS (ITEM 2) MAY BE ROUTED THROUGH A 1 OR 2 HR FIRE-RATED SINGLE, DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL HAVING A FIRE RATING CONSISTENT WITH THAT OF THE FLOOR-CEILING ASSEMBLY. THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
  - A. STUDS** -- NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER OR DOUBLE NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER STUDS.
  - SOLE PLATE** -- NOM 2 BY 8 IN. (51 BY 203 MM) LUMBER OR PARALLEL 2 BY 6 IN. (51 BY 152 MM) LUMBER PLATES, TIGHTLY BUTTED. MAX DIAM OF OPENING SHALL BE 7-5/8 IN. (194 MM).
  - TOP PLATE** -- THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOM 2 BY 8 IN. (51 BY 203 MM) LUMBER PLATES OR TWO SETS OF NOM 2 BY 6 IN. (51 BY 152 MM) LUMBER PLATES TIGHTLY BUTTED. MAX DIAM OF OPENING IS 7-5/8 IN. (194 MM).
  - D. GYPSUM BOARD** -- THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN.
- 2 THROUGH PENETRANTS** -- ONE METALLIC TUBING, PIPE OR CONDUIT TO BE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF OPENING TO BE MIN 1/4 IN. (6 MM) AND MAX 3/4 IN. (19 MM). PIPE, TUBING OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY.



System No. W-L-7248  
December 05, 2016

ANSI/UL1479 (ASTM E814)  
F Ratings -- 1 Hr  
T Ratings -- 1 Hr

CANULC S115  
F Ratings -- 1 Hr  
FT Ratings -- 1 Hr  
FH Ratings -- 1 Hr  
FTH Ratings -- 1 Hr



**1. Wall Assembly** -- The 1 hr fire rated framed gypsum board wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400, or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

**A. Studs** -- Wall framing shall consist of steel channel studs or wood studs. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC. Wood studs to be min 2 by 4 in. (51 by 102 mm) or larger and spaced max 16 in. (406 mm) OC. An additional framing member shall be used to form a shelf within the wall cavity to support the steel box (item 2) and mat fill material (item 3). The framed opening is to be 1 in. (25 mm) wider than the width of the steel box. Studs sized to allow min 3/4 in. between back of the bare box and the back of the gypsum on the opposite side of wall to accommodate the thickness of the Membrane Penetration Fire Shield (item 3).

**B. Gypsum Board** -- The gypsum board type, thickness, number of layers and orientation shall be, as specified in the individual Wall and Partition Design. Size of cutout made to accommodate steel box (item 2) is to be 1 in. (25 mm) wider and 1 in. (25 mm) higher than the width and height of the steel box.

**2. Steel Box** -- Max 20 in. (508 mm) wide by max 33 in. (838 mm) high by max 3 1/2 in. (89 mm) deep for steel stud walls. Max 14-3/8 in. (365 mm) wide by max 32 in. (813 mm) high by max 3 1/2 in. (89 mm) deep for wood stud walls. Electrical panel box, utility box, valve box, fire extinguisher cabinet fabricated from 18 ga or lighter steel, fabricated from 18 ga or lighter steel. Box to be recessed box with hinged steel door and mounting flange. Steel box secured to steel studs with steel screws after application of mat material (item 3) on exterior surfaces of steel box. Bottom and/or top of steel box may be penetrated by up to six max 1-1/2 in. (38 mm) diam copper, steel or iron pipes or tubes metal clad cable and up to ten 1 in. max diam steel or iron pipes or tubes metal clad cables installed from the top and five max 1 in. diam steel or iron pipes or tubes metal clad cable installed from the bottom of the box. Total number of box penetrations shall not exceed six for configurations with copper penetrations and ten for all others. Open pipes or tubes and clad cables which terminate within the box shall be sealed with caulk (item 4) or plugged with a ball of putty (item 5).

**3. Fill, Void or Cavity Materials - Cavity material** -- Prefabricated insulation assembly sized to accommodate the Steel box (item 2). Circular cutouts made in the top, bottom and vertical sides mat to accommodate the pipes or tubes to be 1/4 in. to 1/2 in. (6 to 13 mm) larger than outside diam of pipe or tube. All corners and butted seams in the mat are to be sealed with min 1/8 in. bead of caulk (item 4).

**FIRE SHIELD LLC** -- Barricade

**4. Fill, Void or Cavity Materials - Caulk or Sealant** -- (Not Shown) - Nom 1/4 in. (6 mm) diam bead of caulk applied between the gypsum (item 1B) and mat (item 3) around the entire perimeter of the opening in the wall. Additional caulk fill material shall be used to completely fill each circular cutout made in the mat material to accommodate a pipe or tube. The end of each open pipe or tube which terminates within the box shall be sealed with a min 1/2 in. (13 mm) depth of caulk.

**3M COMPANY 3M FIRE PROTECTION PRODUCTS** -- Type CP 25WB+ Caulk, FB-3000WT Sealant

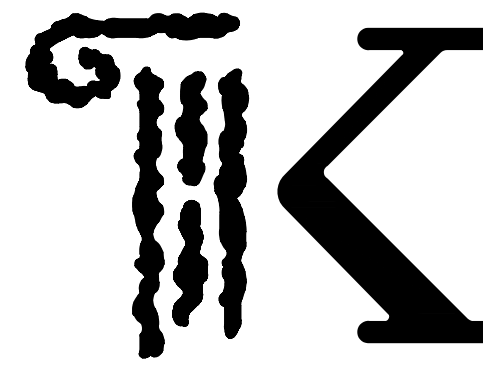
**5. Fill, Void or Cavity Materials - Putty** -- (Not Shown) - As an alternate to the caulk (item 4), the end of each open pipe or tube which terminates within the box may be sealed with a min 1/2 in. (13 mm) depth of putty fill material.

**3M COMPANY 3M FIRE PROTECTION PRODUCTS** -- Type MP+ Moldable Putty

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

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WALL PENETRATION  
U.L. SYSTEM NO. W-L-7248



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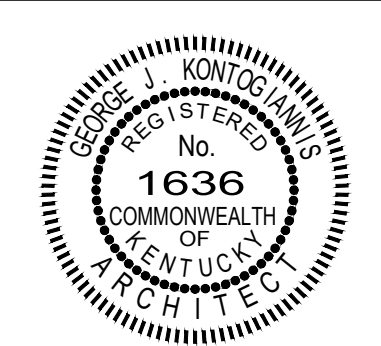
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(BUILDING "B")**

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DRAWING TITLE:  
**ELECTRICAL FIRE  
STOP SYSTEMS**

DATE: 07/31/2023  
REVISED:



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EXPIRATION DATE 06/30/2024

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- SUBMISSION SET
- PERMIT SET 07/31/2023
- BID SET 11/08/2023**
- CONSTRUCTION SET

**E3-4**