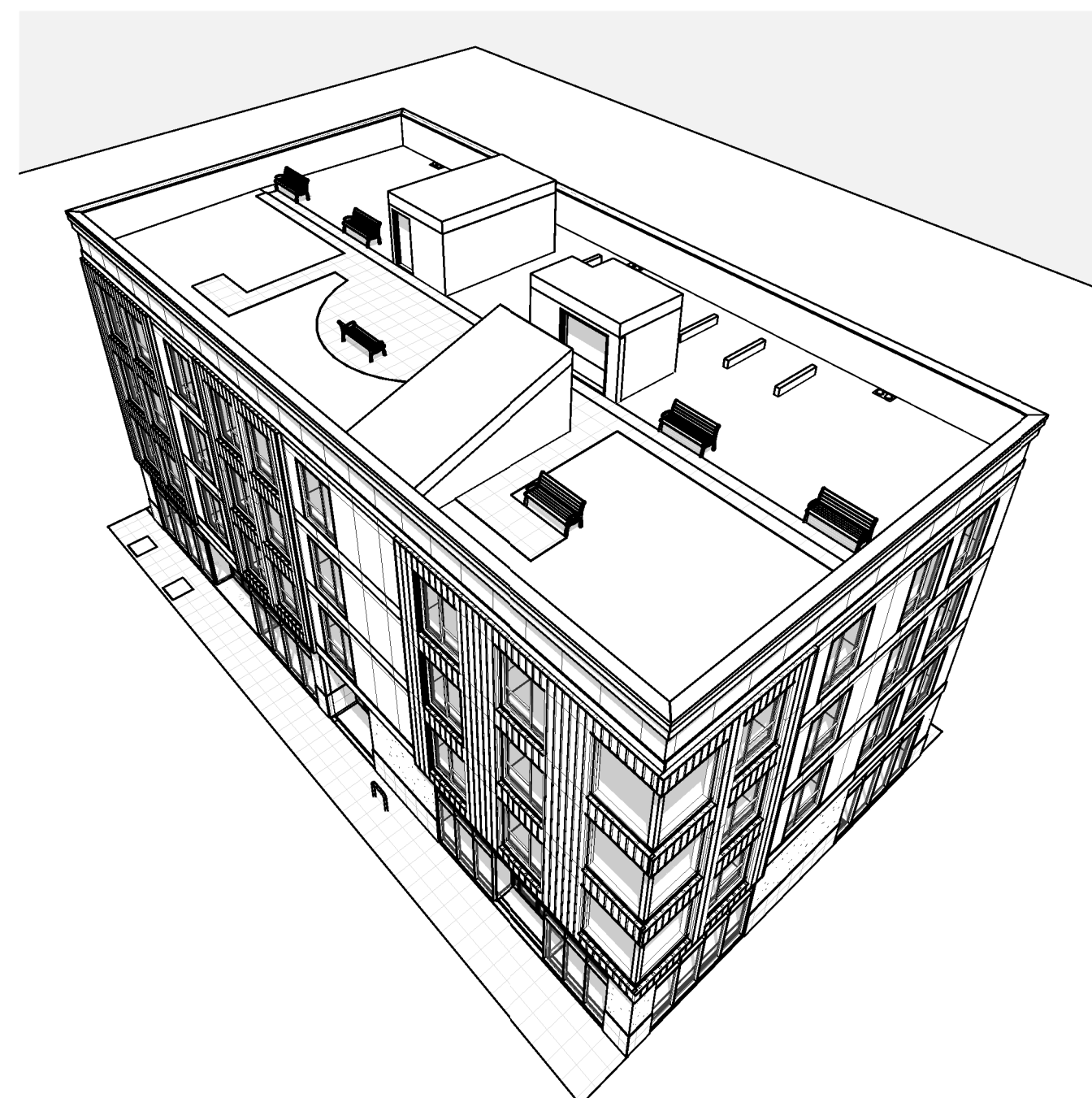
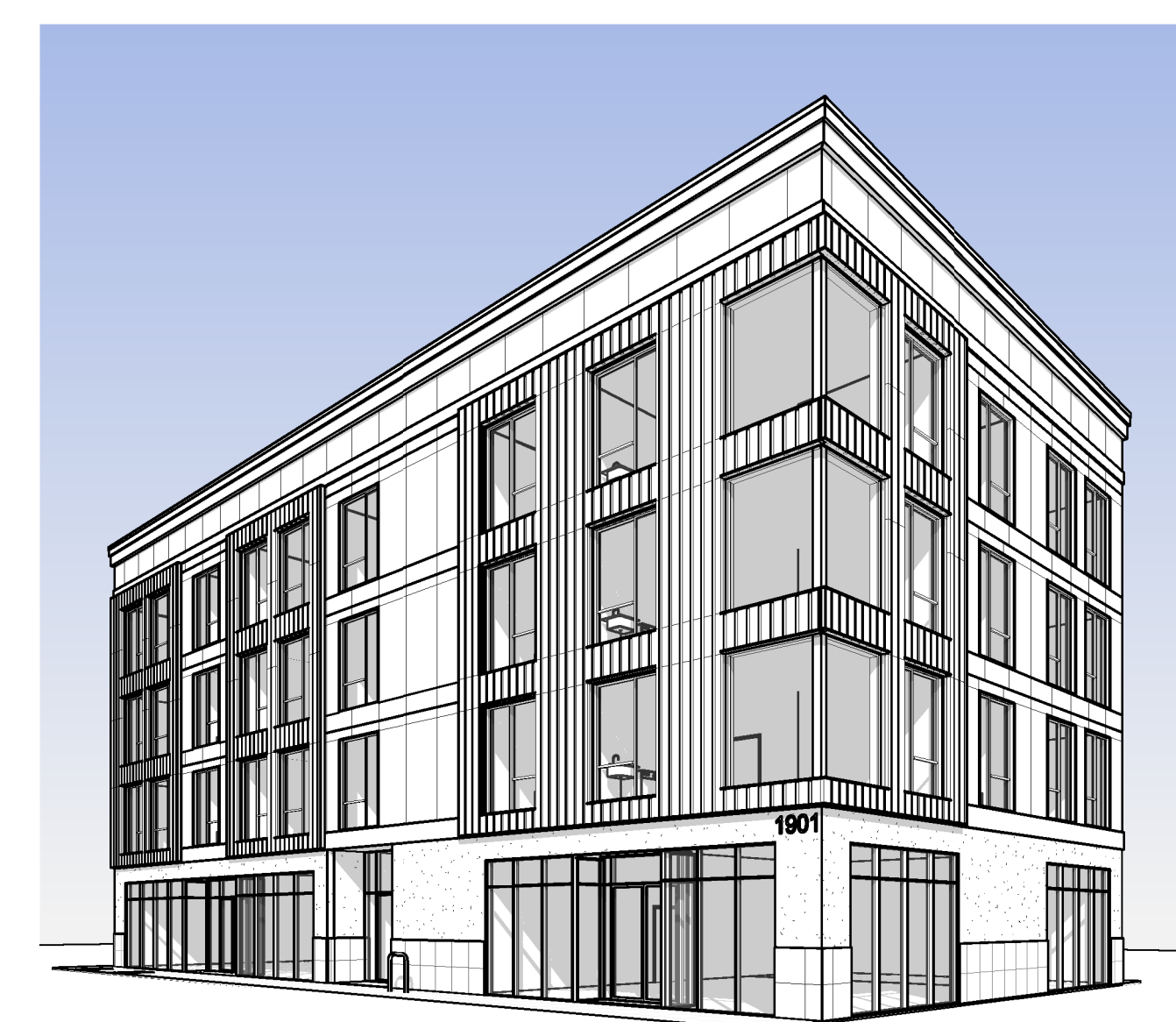


Drawing List	
Sheet Number	Sheet Name
1.CS	COVER SHEET & CODE SUMMARY
A1	SITE PLAN
A2	ELEVATIONS
A3	BASEMENT PLAN
A4	GROUND FLOOR PLAN
A5	1ST FLOOR PLAN
A6	2ND FLOOR PLAN
A7	3RD FLOOR PLAN
A8	ROOF PLAN
A9	BUILDING SECTIONS
A10	BUILDING SECTIONS
A11	EXTERIOR WALL DETAILS
A12	INTERIOR DETAILS
A13	PENETRATION PROTECTION DETAILS
A14	FIRE RATED FILE LISTING
A15	RATED WALLS AND EXITING PLAN
A17	ELEVATOR AND ADA DETAILS
CS	CODE SUMMARY



6 OVERHEAD VIEW  
1.CS



5 SE CORNER  
1.CS

V.M.P.

**DEVELOPMENT STANDARDS FOR PLANNING & ZONING**  
33.130.200 Lot Size - NOT APPLICABLE  
33.130.205 Floor Area Ratio  
MAX 2.5:1 - 8,670 S.F. ALLOWED - 6,075 S.F. ACTUAL (1.75 TO 1 FAR)  
33.130.207 Minimum Density  
1 UNIT PER 1,450 S.F. MINIMUM - (1 UNIT PER 367 S.F. PROPOSED)  
33.130.210 Height  
45' MAXIMUM ALLOWED - (34' PROPOSED)  
33.130.212 Floor Area and Height Bonus Options  
NOT APPLICABLE  
33.130.215 Setbacks  
STREET - NONE (0' PROPOSED)  
SOUTH - 11' SETBACK (11' PROPOSED)  
NORTH - 0' SETBACK (4' PROPOSED)  
WEST - 10' SETBACK (10' PROPOSED)  
33.130.220 Building Coverage  
100% MAXIMUM (61% PROPOSED)  
33.130.222 Building Length and Facade Articulation  
NOT APPLICABLE  
33.130.225 Landscaped Areas  
MIN 15% REQUIRED (39% PROPOSED)  
33.130.227 Trees  
20% OF SITE AREA (MIN. 700 S.F. OR REQUIRED PLANTING AREA)  
33.130.228 Required Outdoor Areas  
MIN. 36 S.F. REQUIRED - (MINIMUM 36 S.F. BALCONIES PROVIDED FOR EACH UNIT)  
33.130.230 Windows  
MIN. 15% REQUIRED - (802 S.F. FACADE) / (156.5 S.F. WINDOWS) = 19.5%  
33.130.235 Screening  
  
33.130.240 Pedestrian Standards  
33.130.242 Transit Street Main Entrance  
33.130.245 Exterior Display, Storage, and Work Activities  
33.130.250 General Requirements for Houses, Attached Houses, Manufactured Homes, and Duplexes/  
33.130.255 Trucks and Equipment  
33.130.260 Drive-Through Facilities  
33.130.265 Detached Accessory Structures  
33.130.270 Fences  
33.130.275 Demolitions  
33.130.285 Nonconforming Development  
33.130.290 Parking, Loading, and Transportation Demand Management  
33.130.292 Street and Pedestrian Connections  
33.130.295 Signs  
33.130.305 Superblock Requirements  
33.130.310 Recycling Areas

1 Code Summary  
1.CS 1/4" = 1'-0"

TABLE 502.1.1 BUILDING ENVELOPE REQUIREMENTS	GROUP R
CLIMATE ZONE	
ROOFS	
ATTIC AND OTHER WALLS, ABOVE GRADE	R-38
WOOD FRAMED AND OTHER WALLS, BELOW GRADE	R-21
BELOW GRADE WALL	R-15
SLAB-ON-GRADE FLOORS	R-10 FOR 24"
UNHEATED SLABS	
OPAQUE DOORS	
SWINGING	U-0.70

**TABLE 502.3**  
BUILDING ENVELOPE REQUIREMENTS: FENESTRATION  
VERTICAL FENESTRATION (30% MAX. ABOVE-GRADE WALL  
FRAMING MATERIALS OTHER THAN METAL FRAMING - 0.35  
MINIMUM 50% OF PERMANENTLY INSTALLED INTERIOR  
LIGHTING FIXTURES TO BE FITTED WITH HIGH EFFICACY LAMPS  
- ABOVE GRADE WALLS TO BE R-21 INSULATION

TABLE 502.1.2 BUILDING ENVELOPE REQUIREMENTS	GROUP R
CLIMATE ZONE	
ROOFS	
ATTIC AND OTHER WALLS, ABOVE GRADE	U-0.027
WOOD FRAMED AND OTHER WALLS, BELOW GRADE	U-0.064
BELOW GRADE WALL	U-0.0119
SLAB-ON-GRADE FLOORS	
UNHEATED SLABS	F-0.540
HEATED SLABS	F-0.860

TABLE 502.3 BUILDING ENVELOPE REQUIREMENTS: FENESTRATION VERTICAL FENESTRATION (30% MAX. OF ABOVE GRADE WALL	
FENESTRATION TYPE	
FRAMING MATERIALS OTHER THAN METAL, WITH OR WITHOUT METAL REINFORCEMENT OR CLADDING	0.35
FIXED, OPERABLE, AND DOORS WITH GREATER THAN 50% GLAZING	
METAL FRAMING WITH OR WITHOUT THERMAL BREAK	0.45
FIXED: CURTAIN WALL/STOREFRONT	0.45
ENTRANCE DOOR	0.80
ALL OTHER	0.46
SHGC- ALL FRAME TYPES	0.40
SKYLIGHTS (3% MAXIMUM OF ROOF AREA)	
U-FACTOR	0.60
SHGC	0.40

**BUILDING CODE SUMMARY - 2014 OREGON STRUCTURAL SPECIALTY CODE**  
CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS:  
503.1.2- BUILDINGS ARE SEPARATED FROM EACH OTHER BY AT LEAST 10'.  
TABLE 503: ALLOWABLE BUILDING HEIGHTS AND AREAS: OCCUPANCY R-2  
CONSTRUCTION TYPE V-A  
BASE ALLOWABLE HEIGHT PER STORY: 12,000 S.F.  
MAXIMUM NUMBER OF STORIES: 3  
MAXIMUM BUILDING HEIGHT: 60'  
504.2 SPRINKLER INCREASE WITH 13 SYSTEM: 4 STORIES, 80' HEIGHT  
506.4.4 MAXIMUM BUILDING AREAS:  
NOT USING FRONTAGE INCREASES  
12,000 S.F. x 3 = 36,000 S.F. MAX. BUILDING AREA.

TABLE 601  
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE V	
	A <sup>a</sup>	
Primary structural frame <sup>e</sup> (see Section 202)	1	
Bearing walls		
Exterior <sup>d,f</sup>	1	
Interior	1	
Nonbearing walls and partitions		
Exterior		
Nonbearing walls and partitions		
Interior <sup>g</sup>	0	
Floor construction and associated secondary members (see Section 202)	1	
Roof construction and associated secondary members (see Section 202)	1 <sup>h,c</sup>	

CHAPTER 7 - FIRE AND SMOKE PROTECTION FEATURES  
708.3 - FIRE PARTITIONS SEPARATING DWELLING UNITS: 1 HOUR.  
TABLE 716.5 FIRE DOOR PROTECTION RATINGS - PER DOOR SCHEDULE

CHAPTER 9 - FIRE PROTECTION SYSTEMS  
903.2.8 - AUTOMATIC SPRINKLER SYSTEM REQUIRED  
903.3.1.1 - NFPA 13 SPRINKLER SYSTEM REQUIRED.  
903.4 - FIRE ALARMS ARE REQUIRED

CHAPTER 10 - MEANS OF EGRESS  
TABLE 1004.1.1 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT - RESIDENTIAL = 200 GSF PER OCCUPANT  
SECTION 1006 - PROVIDE EMERGENCY EGRESS LIGHTING ON EXTERIOR STAIRS AND LANDINGS AT 1 FOOT CANDLE MINIMUM AT THE WALKING SURFACE.

CHAPTER 11 - ACCESSIBILITY  
ACCESSIBILITY REQUIREMENTS APPLY TO THE ENTIRE FIRST FLOOR OF ALL BUILDINGS OF THIS PROJECT.  
THE SECOND, THIRD & FOURTH FLOOR UNITS ARE NOT EXEMPT FROM ACCESSIBILITY REQUIREMENTS

PROJECT DESCRIPTION

- NEW 4 STORY BUILDING
- PARTIAL BASEMENT
- ROOF GARDEN
- GROUND FLOOR COMMERCIAL
- FLOORS 2, 3 & 4 6 LIVING UNITS EACH FLOOR
- (2) 2 BEDROOM UNITS, (4) 1 BEDROOM UNITS
- ZONING CODE: CM2
- BUILDING CODE: OSSC2014
- CONSTRUCTION TYPE VA
- OCCUPANCY:
  - BASEMENT - 1,858 S.F.
  - GROUND FLOOR - 4,559 S.F.
  - 2ND, 3RD & 4TH FLOOR - 4,559 S.F. PER FLOOR
  - ROOF GARDEN - 1,000 S.F. OCCUPIED AREA
  - TOTAL CALCULATED OCCUPANT LOAD = 21,094 S.F. / 200 = 105 OCCUPANT LOAD

SEPARATE PERMITS REQUIRED:

- HVAC
  - PLUMBING
  - STOREFRONT ALUMINUM
  - EGRESS LIGHTING
  - ELEVATOR
  - SPRINKLERS - FULL NFPA 13 SYSTEM
- PERMITS TO BE OBTAINED FROM THE FIRE MARSHAL'S OFFICE:  
2016 PORTLAND FIRE CODE IS APPLICABLE  
SEPARATE PERMITS SHALL BE OBTAINED FROM THE FIRE MARSHAL'S OFFICE, 1300 SE GIDEON STREET, PRIOR TO THE INSTALLATION OF THE FOLLOWING:  
- FIRE SPRINKLERS  
- FIRE ALARM SYSTEMS  
- FIRE UNDERGROUND FIRE LINES  
- "KNOXBOX" PERMIT  
FOR THE PURPOSES OF THIS PERMIT, DRAWINGS OR REFERENCES OF ANY FIRE EXTINGUISHING SYSTEMS OR FIRE ALARM SYSTEMS ARE FOR INFORMATION ONLY AND WILL REQUIRE SEPARATE APPROVAL FROM THE FIRE MARSHAL'S OFFICE UNDER BENEFIT OF A PERMIT PRIOR TO SYSTEM INSTALLATION.  
- CARBON MONOXIDE DETECTORS TO BE INSTALLED IN ACCORDANCE WITH PFC 908

FIRE SAFETY NOTES

- FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED ON THE STREET SIDE OF BUILDINGS, FULLY VISIBLE AND RECOGNIZABLE FROM THE STREET AND WITHIN 150 FEET OF A PUBLIC FIRE HYDRANT. IDENTIFY DISTANCE TO NEAREST FIRE HYDRANT.

- SIGNAGE TO BE MOUNTED ON ALL FIRE DEPARTMENT CONNECTIONS SERVING AUTOMATIC SPRINKLER CONNECTIONS AND BE VISIBLE FROM THE PUBLIC RIGHT-OF-WAY. TO BE VERIFIED UPON FIRE FINAL.

Project Name:

EV BUILDING  
COVER SHEET & CODE SUMMARY

Project Location:  
1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217

Project Owner:  
RKW, INC.

PRINT DATE: 4/12/2019 12:20:22 PM

DRAWN BY: Author  
APPROVED BY: Checker

SHEET:

1.CS

JOB NO.: 11538  
SCALE: 1/4" = 1'-0"



Project Name:  
**EV BUILDING**  
SITE PLAN

Project Location:  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

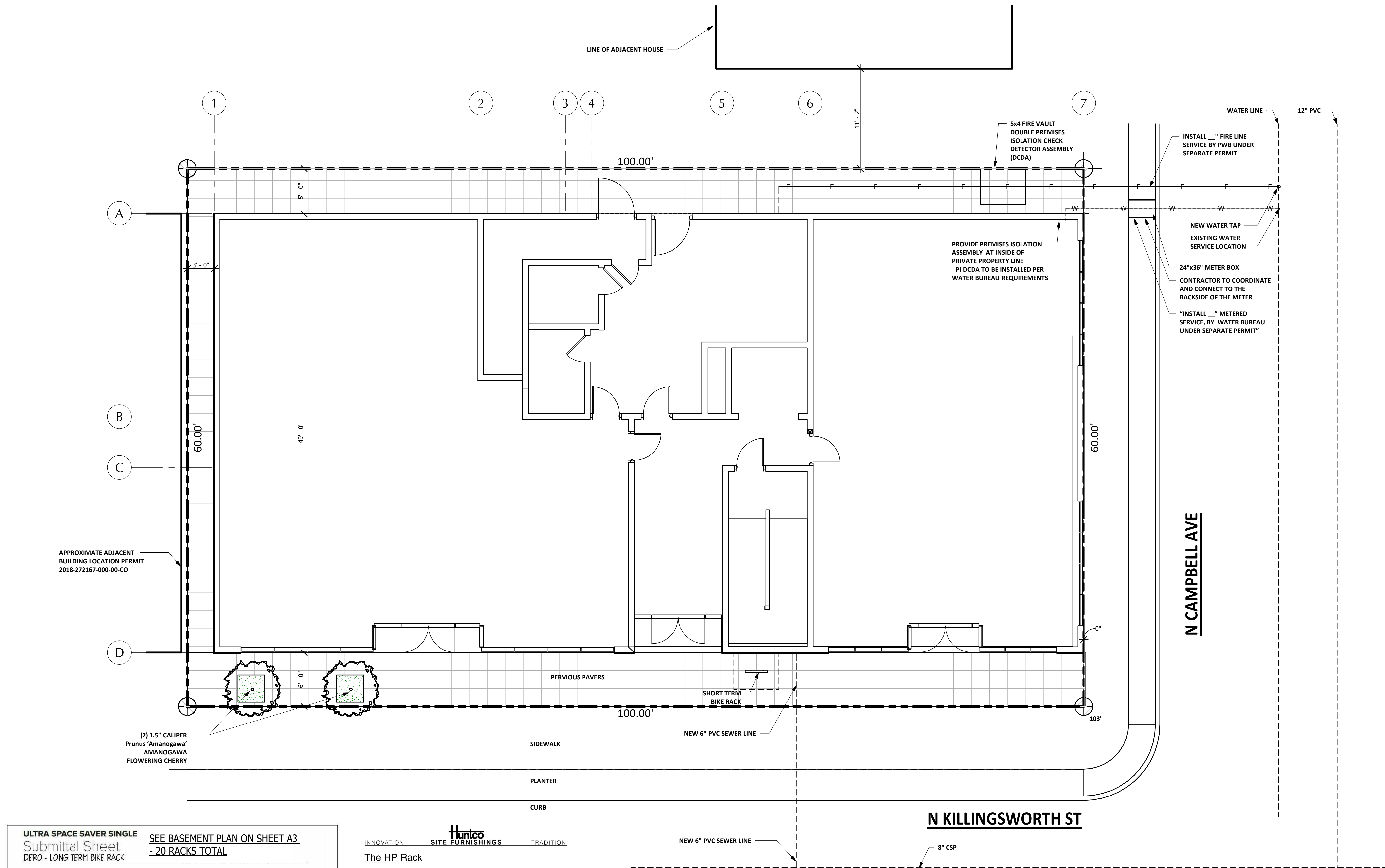
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DRAWN BY: BSY  
APPROVED BY:

SHEET:

**A1**

JOB NO.: 11538  
SCALE: 3/16" = 1'-0"



**ULTRA SPACE SAVER SINGLE**  
Submittal Sheet  
DERO - LONG TERM BIKE RACK

SEE BASEMENT PLAN ON SHEET A3  
- 20 RACKS TOTAL

**CAPACITY** 1 Bike

**MATERIALS** Body is 1" OD 11 gauge tube with 1/2" steel round bar hanger. Mounting flanges are 1/4" plate.

**FINISHES**  Black powder coat  
 Hanger arm is rubber coated

**MOUNT OPTIONS**  Wall Mount  
Wall mount has two 2.5" x 6" foot plates set 25" apart (centerline to centerline) with 4 fasteners. Can be set into concrete block, solid concrete, bricks, wood studs and other base materials.

**TUBE OPTIONS**  Round  
 Square

**INTERIOR BIKE RACK**

**Huntco**  
INNOVATION. SITE FURNISHINGS TRADITION.

**The HP Rack**

Each unit is constructed of 2" x 2" (25" wall) ASTM square structural and mechanical tubing

- The HP is 36" (91.4 cm) or optional 42" (91.4 cm) high x 30" (76.2 cm) wide.
- Mounting Options (see detail):
  - Flange Mount
  - In-Ground
- Choice of four finishes:
  - Hot Dipped Galvanized
  - Powder Coating (weather resistant Polyester TGIC, 6-8 mils thick) in an unlimited range of colors.
  - ASTM A314 schedule 40 TP304 Stainless Steel, #4 Satin Finish.
  - Thermoplastic Coating (10-12 mils thick) in red, black, green, blue, gray, white, yellow and brown.

HP 40 lbs.

**SHORT TERM EXTERIOR BIKE RACK**

**NOTE:**  
FOR ANY NEW TREES PLANTED IN PLANTER STRIP CONTRACTOR TO SEE STANDARD DRAWINGS DETAIL P-845 FROM THE PORTLAND WATER BUREAU

**NOTE:**  
SEE ATTACHED PWB DETAIL P-845 FOR WATER FACILITY PIPE CLEARANCES

**NOTE:**  
SIGNAGE TO BE MOUNTED ON ALL FIRE DEPARTMENT CONNECTIONS SERVING AUTOMATIC SPRINKLERS, STANDPIPES OR FIRE PUMP CONNECTIONS AND SHALL BE VISIBLE FROM THE PUBLIC R.O.W. WHERE THE BUILDING IS PROTECTED BY A FIRE PUMP, SIGNAGE SHALL ALSO INDICATE THE DESIGN PRESSURE OF THE FIRE PUMP. - KNOX BOX TO BE PROVIDED, UNDER SEPARATE PERMIT BY F.M.O.

**LANDSCAPING TO BE MANUALLY IRRIGATED.**  
INSPECTION SHALL BE REQUIRED ONE YEAR AFTER FINAL INSPECTION TO ENSURE THAT THE LANDSCAPING HAS BECOME ESTABLISHED. AN INSPECTION FEE, PAID AT THE TIME OF PERMIT APPLICATION IS REQUIRED - ALL REQUIRED LANDSCAPING AREAS, PARTICULARLY TREES AND SHRUBS, MUST BE PROTECTED FROM POTENTIAL DAMAGE BY ADJACENT USES AND DEVELOPMENT, INCLUDING PARKING AND STORAGE AREAS

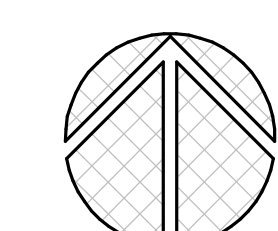
**FIRE LINE WATER SERVICE:**  
DOUBLE CHECK DETECTOR ASSEMBLY (DCDA) REQUIRED. MUST BE INSTALLED ON PRIVATE PROPERTY AT THE PROPERTY LINE ON THE CENTERLINE OF THE SERVICE, IMMEDIATELY ADJACENT TO THE SERVICE CONNECTION

**PREMISES-ISOLATION BACKFLOW PROTECTION**  
WATER QUALITY BACKFLOW (WQBF) REVIEW: REQUIRED BY PORTLAND WATER BUREAU (503)823-7480. MUST BE INSTALLED PER WATER BUREAU BACKFLOW INSTALLATION REQUIREMENTS. WWW.PORTLANDOREGON.GOV/WATER/BACKFLOWINSTALLATIONREQUIREMENTS  
ALL UTILITIES IN THE RIGHT-OF-WAY WITHIN THE DEVELOPMENT PROPERTIES FRONTAGE MUST BE LOCATED THOUGH 811, ONE CALL, AND SHOWN ON THE ASSOCIATED PLAN SET. APPLICANT WILL NEED TO BE ABLE TO PROVIDE THE LOCATE TICKET NUMBER IF REQUESTED FOR VERIFICATION.

**WATER BUREAU NOTES:**  
- INSTALL " " METER BY PORTLAND WATER BUREAU UNDER SEPARATE PERMIT. CONTRACTOR TO CONNECT TO THE SHORT STUB-OUT ON THE BACK-SIDE OF THE NEW WATER METER BOX.  
- INSTALL " " FIRE LINE BY PORTLAND WATER BUREAU UNDER SEPARATE PERMIT. CONTRACTOR TO CONNECT TO THE SHORT STUB-OUT ON THE BACK-SIDE OF THE NEW FIRE LINE CURB GATE VALVE.  
- KILL EXISTING 5/8" METER BY PORTLAND WATER BUREAU UNDER SEPARATE PERMIT

**1901 N KILLINGSWORTH ST  
PORTLAND, OR 97217**  
Property ID R228488  
Tax Roll NUT GROVE, BLOCK 6, S 10' OF LOT 11, LOT 12 Use SR  
Lot 11,12  
Block 6  
County Multnomah  
State ID 1N1E16D0 21300  
New State ID 1N1E16D0 -21300  
Alt Account Number R619600910  
Map Number 2428 OLD

**1 SITE PLAN**  
A1 3/16" = 1'-0"





Project Name:  
**EV BUILDING**  
ELEVATIONS

Project Location:  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

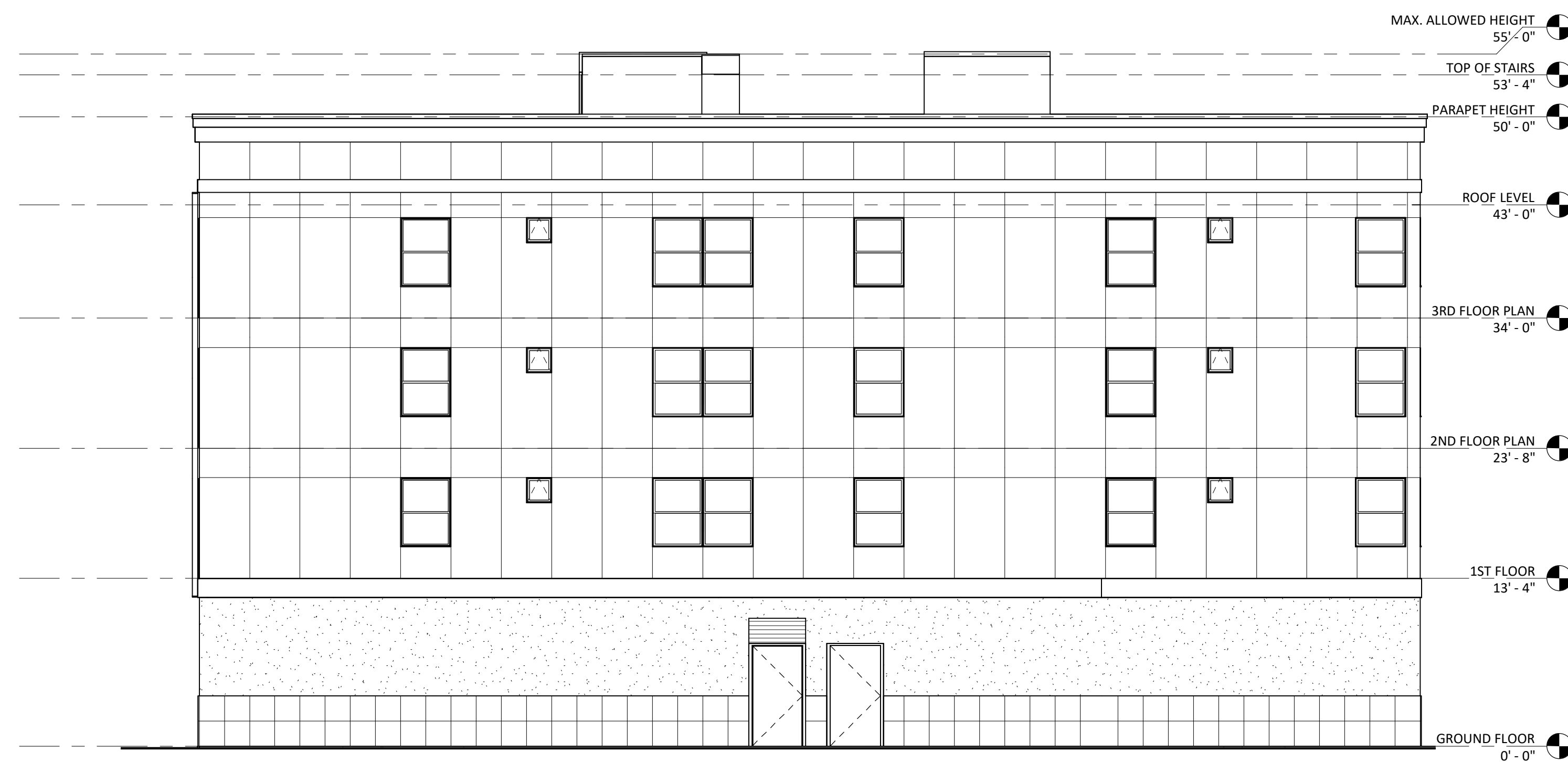
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APPROVED BY:

SHEET:

**A2**

JOB NO.: 11538  
SCALE: As indicated



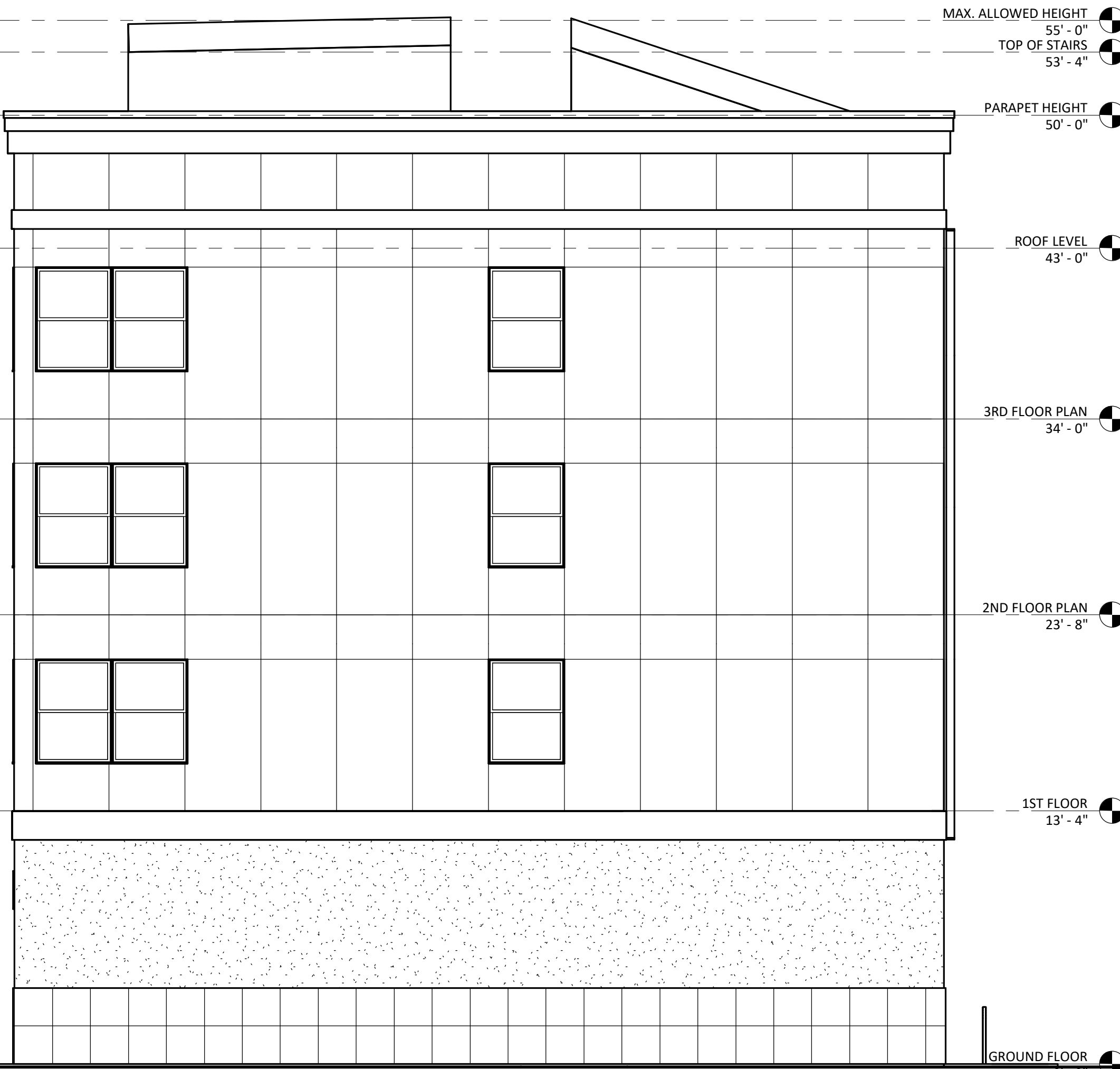
**2 NORTH (REAR).**

A2 1/8" = 1'-0"



**3 EAST (RIGHT)**

A2 3/16" = 1'-0"



**1 WEST (LEFT)**

A2 3/16" = 1'-0"

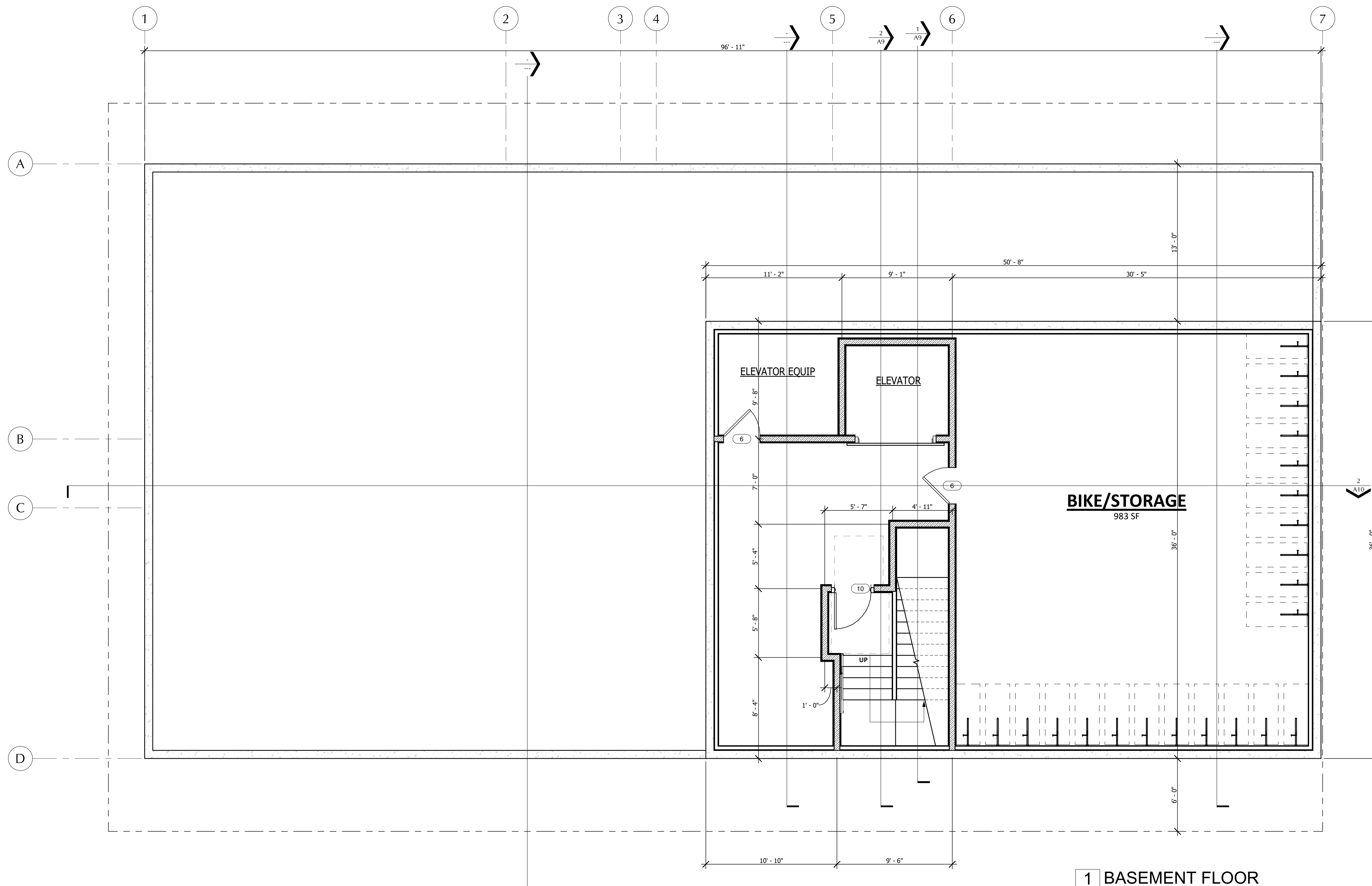
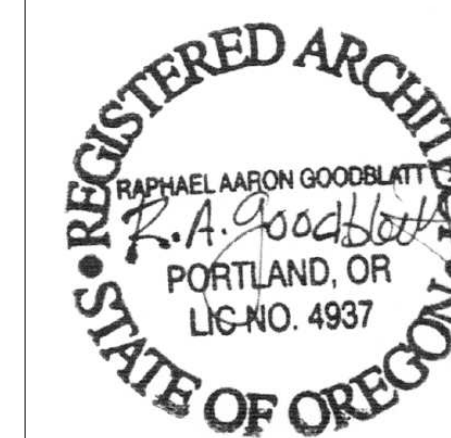


**4 SOUTH (FRONT)**

A2 1/8" = 1'-0"

**NOTE:**  
BUILDING SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND AND BE A MINIMUM OF 4 INCHES HIGH WITH A MINIMUM STROKE WIDTH OF 0.5 INCHES.

**NOTE:**  
SIGNAGE TO BE MOUNTED ON ALL FIRE DEPARTMENT CONNECTIONS SERVING AUTOMATIC SPRINKLERS, STANDPIPES OR FIRE PUMP CONNECTIONS AND BE VISIBLE FROM THE PUBLIC RIGHT-OF-WAY. WHERE THE BUILDING IS PROTECTED BY A FIRE PUMP, SIGNAGE SHALL ALSO INDICATE THE DESIGN PRESSURE OF THE FIRE PUMP.

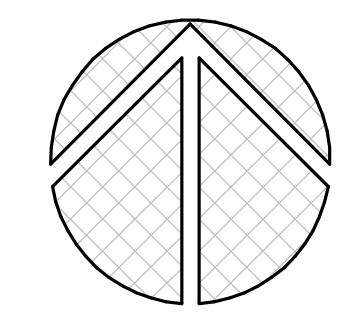


**1 BASEMENT FLOOR**

A3	1/4" = 1'-0"
	W1 - 2-HOUR FIRE RATED - ELEVATOR SHAFTS / STAIRS
	W2 - 1 HOUR RATED - SOUND RATED - 50-54 STC
	W3 - 1 HOUR RATED EXTERIOR WALL - NON SOUND RATED

NON-HATCHED WALLS ARE NON-RATED WALLS

**WALL LEGEND**  
1/4" = 1'-0"



Project Name:  
**EV BUILDING**  
**BASEMENT PLAN**

Project Location:  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

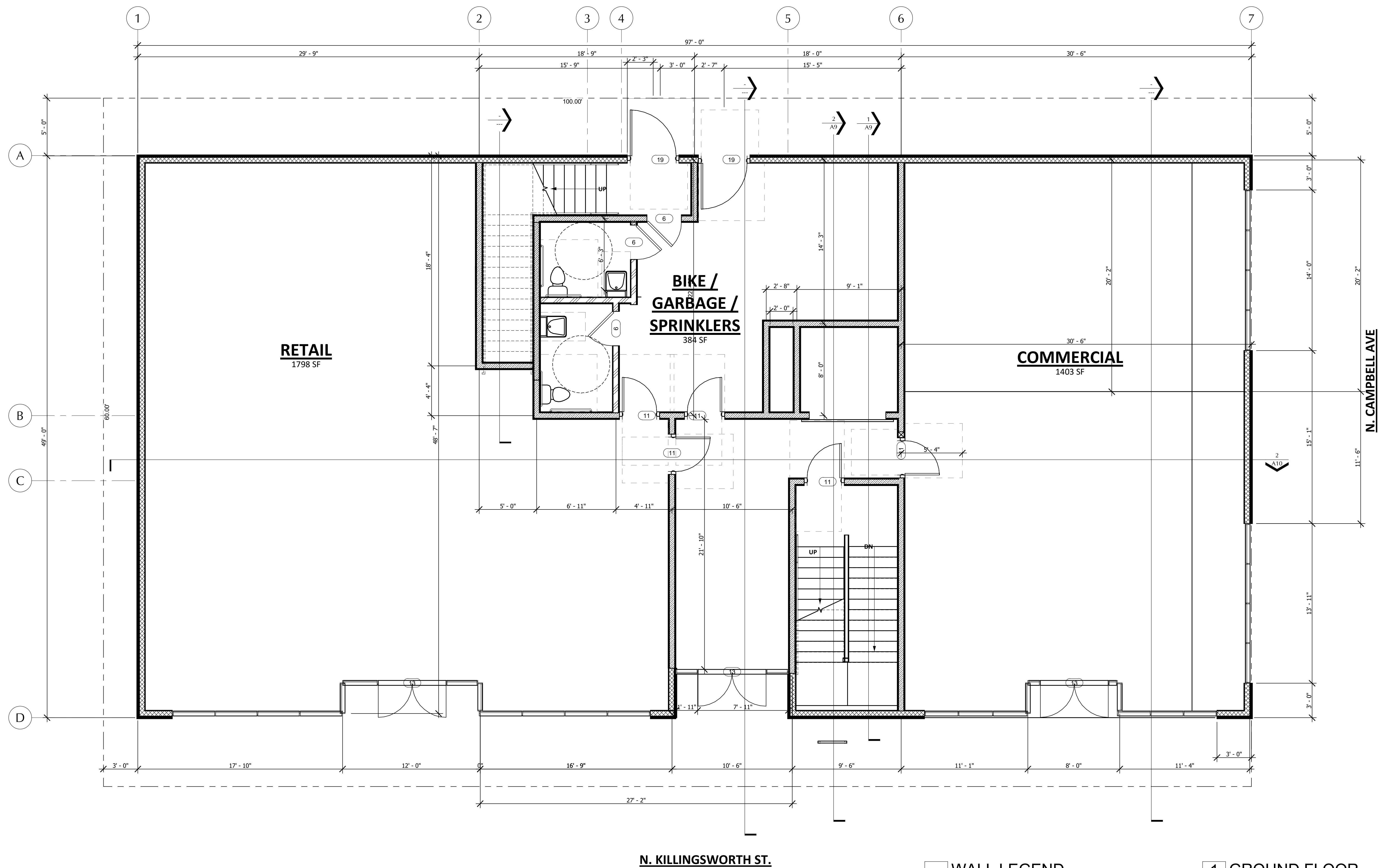
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APPROVED BY: RAG

SHEET:

**A3**

JOB NO.: 11538  
SCALE: 1/4" = 1'-0"



N. KILLINGSWORTH ST.

N. CAMPBELL AVE

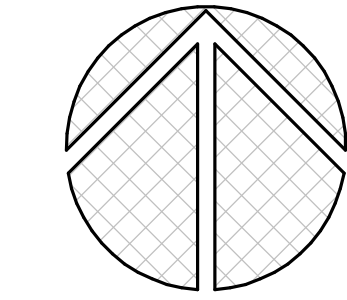
**WALL LEGEND**

	W1 - 2-HOUR FIRE RATED - ELEVATOR SHAFTS / STAIRS
	W2 - 1 HOUR RATED - SOUND RATED - 50-54 STC
	W3 - 1 HOUR RATED EXTERIOR WALL - NON SOUND RATED

NON-HATCHED WALLS ARE NON-RATED WALLS

**1 GROUND FLOOR**

A4 1/4" = 1'-0"



**AHHA**  
Architect Inc  
People  
=  
Architecture  
Raphael A. Goodblatt  
6663 SW Beaverton  
Hillsdale Hwy #222  
Portland Or 97225  
rag@ahhapdx.com  
503 734 8210  
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Oregon Registered Architect



Project Name:  
**EV BUILDING**  
GROUND FLOOR PLAN

Project Location:  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

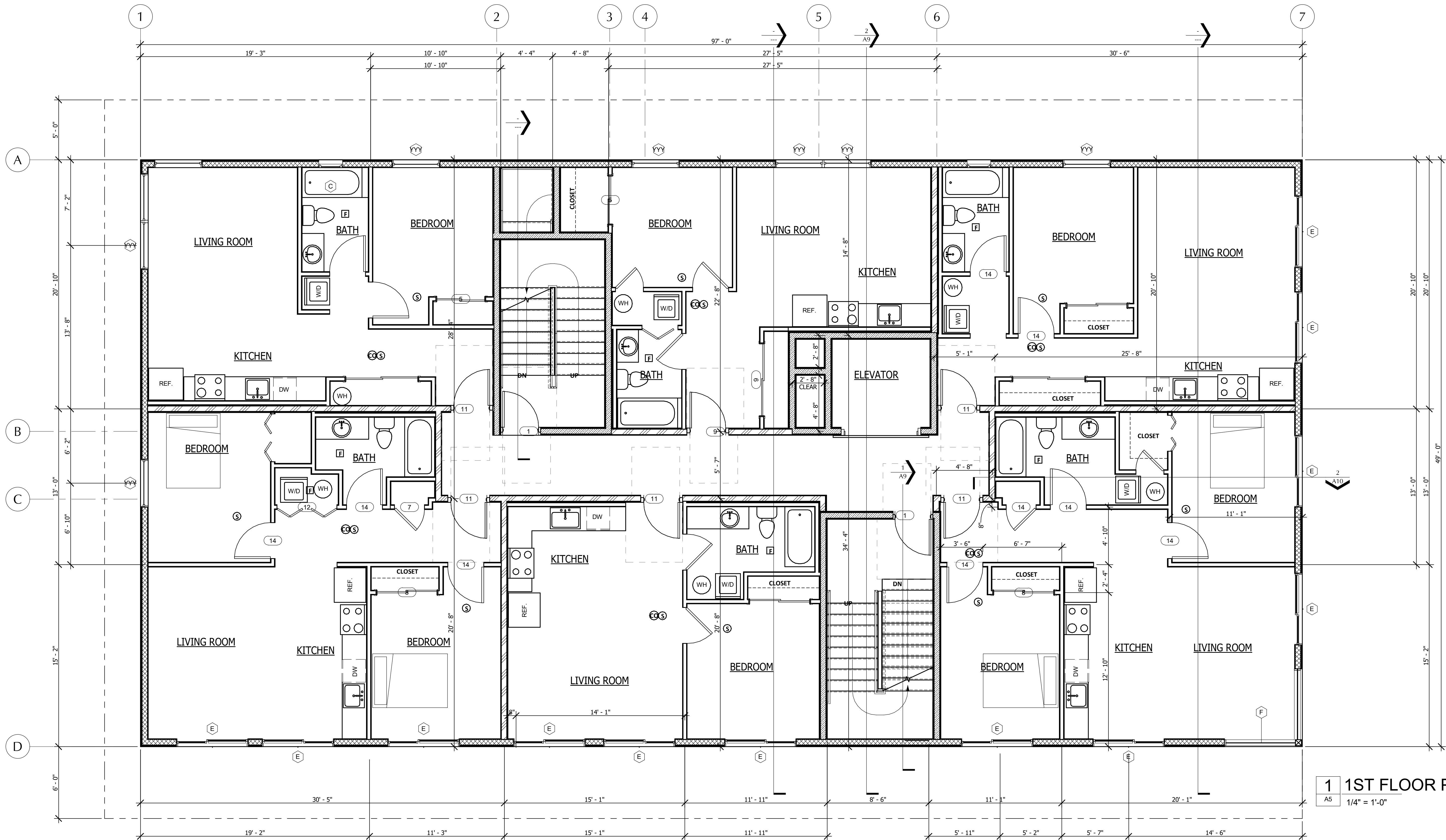
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SHEET:

**A4**

JOB NO.: 11538  
SCALE: 1/4" = 1'-0"



**1 1ST FLOOR PLAN**  
A5 1/4" = 1'-0"

**Project Name:**  
**EV BUILDING**  
**1ST FLOOR PLAN**

**Project Location:**  
**1901 N.**  
**KILLINGSWORTH**  
**ST**  
**PORTLAND, OR**  
**97217**

**Project Owner:**  
RKW, INC.

PRINT DATE: 4/12/2019 12:20:40 PM

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SHEET:

**A5**

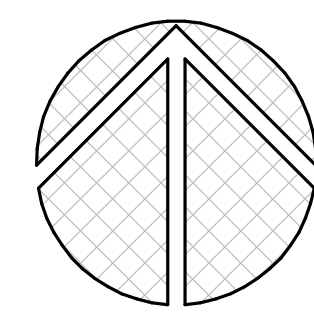
JOB NO.: 11538  
SCALE: 1/4" = 1'-0"

Door Schedule			
Door Type	Door Size	Description	Family
1	36" x 84" - 90 MINUTE RATED DOOR	LEVER TYPE HANDLE - WITH GASKETS AND CLOSER	Flush_Door_w_ADA_Clearances_1663
2	36" x 84"	LEVER TYPE HANDLE	45 - Single-Panel 2
3	36" x 80"		Bifold-2 Panel
4	48" x 84"		Bifold-4 Panel
5	48" x 80"		Door-Interior-Double-Sliding-2_Panel-Wood
6	36" x 84" 20 MIN. DOOR	UNIT ENTRY DOORS TO BE 20 MINUTE FIRE-RATED WITH CLOSERS AND SMOKE GASKETS - MAX. THRESHOLD HEIGHT OF 1/2" - STC RATING OF 30	45 - Single-Panel 2
7	30" x 84"		45 - Single-Panel 2
8	60" x 80"		Door-Interior-Double-Sliding-2_Panel-Wood
9	72" x 80"		Door-Interior-Double-Sliding-2_Panel-Wood
10	36" x 84" - 20 MINUTE RATED DOOR	LEVER TYPE HANDLE	Flush_Door_w_ADA_Clearances_1663
11	36" x 84" - 60 MINUTE RATED DOOR	LEVER TYPE HANDLE	Flush_Door_w_ADA_Clearances_1663
12	60" x 84"		Bifold-4 Panel
13	Door-Curtain-Wall-Double-Storefront	LEVER TYPE HANDLE	Door-Curtain-Wall-Double-Storefront
14	36" x 84"	LEVER TYPE HANDLE	FLUSH - SINGLE
15	36" x 84"		Bifold-4 Panel
16	28" x 80"	WATER HEATER ACCESS DOOR	45 - Single-Panel 2
19	48" x 96" - 60 MINUTE RATED DOOR	LEVER TYPE HANDLE	Flush_Door_w_ADA_Clearances_1663

Window Schedule								
Type Mark	Opening Size		Type	Head Height	S.F. PER WINDOW	Insulation Value	Description	Count
	Width	Height						
C	2' - 0"	2' - 0"	Window-Awning-Single	8' - 0"	4 SF	0.35		6
E	6' - 0"	8' - 0"	Casement with Trim - Offset	8' - 0"	48 SF	0.35		36
F	6' - 2"	8' - 0"	Corner_window_18214	8' - 0"	49 SF	0.35		3
YYY	4' - 0"	5' - 6"	Double Hung with Trim	8' - 0"	22 SF			27

	<b>W1 - 2-HOUR FIRE RATED - ELEVATOR SHAFTS / STAIRS</b>
	<b>W2 - 1 HOUR RATED - SOUND RATED - 50-54 STC</b>
	<b>W3 - 1 HOUR RATED EXTERIOR WALL - NON SOUND RATED</b>

NON-HATCHED WALLS ARE NON-RATED WALLS  
**WALL LEGEND**  
1/4" = 1'-0"





Project Name:  
**EV BUILDING**  
**2ND FLOOR PLAN**

Project Location:  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

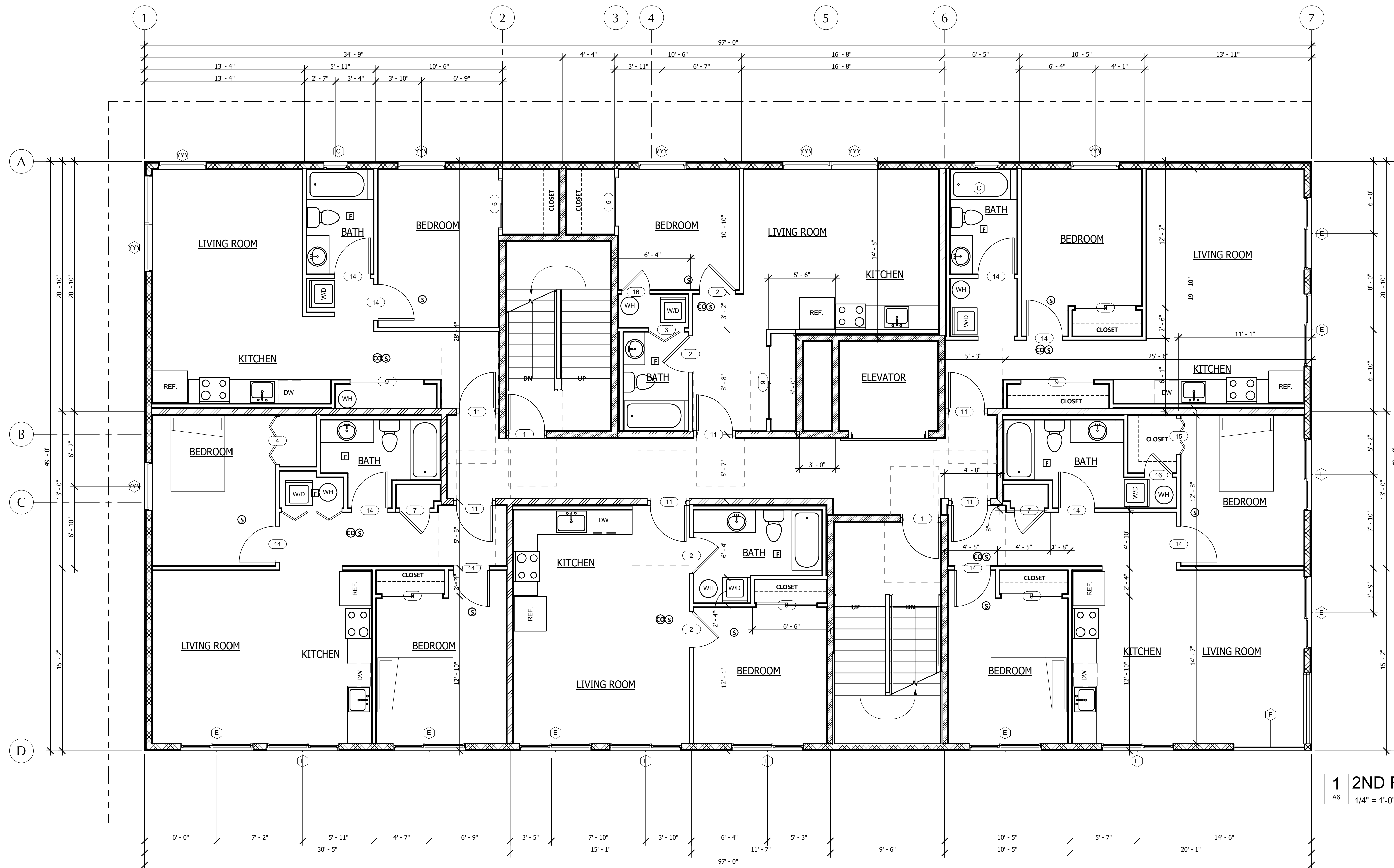
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APPROVED BY:

SHEET:

**A6**

JOB NO.: 11538  
SCALE: 1/4" = 1'-0"



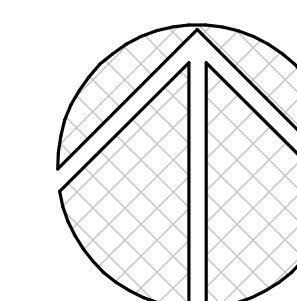
**1 2ND FLOOR PLAN**  
A6 1/4" = 1'-0"

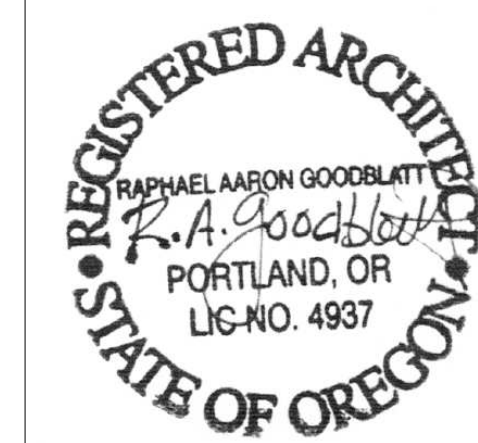
Door Schedule			
Door Type	Door Size	Description	Family
1	36" x 84" - 90 MINUTE RATED DOOR	LEVER TYPE HANDLE - WITH GASKETS AND CLOSER	Flush Door_w ADA Clearances 1663
2	36" x 84"	LEVER TYPE HANDLE	45 - Single-Panel 2
3	36" x 80"		Bifold-2 Panel
4	48" x 84"		Bifold-4 Panel
5	48" x 80"		Door-Interior-Double-Sliding-2 Panel-Wood
6	36" x 84" 20 MIN. DOOR	UNIT ENTRY DOORS TO BE 20 MINUTE FIRE-RATED WITH CLOSERS AND SMOKE GASKETS - MAX. THRESHOLD HEIGHT OF 1/2" - STC RATING OF 30	45 - Single-Panel 2
7	30" x 84"		45 - Single-Panel 2
8	60" x 80"		Door-Interior-Double-Sliding-2 Panel-Wood
9	72" x 80"		Door-Interior-Double-Sliding-2 Panel-Wood
10	36" x 84" - 20 MINUTE RATED DOOR	LEVER TYPE HANDLE	Flush Door_w ADA Clearances 1663
11	36" x 84" - 60 MINUTE RATED DOOR	LEVER TYPE HANDLE	Flush Door_w ADA Clearances 1663
12	60" x 84"		Bifold-4 Panel
13	Door-Curtain-Wall-Double-Storefront	LEVER TYPE HANDLE	Door-Curtain-Wall-Double-Storefront
14	36" x 84"	LEVER TYPE HANDLE	FLUSH - SINGLE
15	36" x 84"		Bifold-4 Panel
16	28" x 80"	WATER HEATER ACCESS DOOR	45 - Single-Panel 2
19	48" x 96" - 60 MINUTE RATED DOOR	LEVER TYPE HANDLE	Flush Door_w ADA Clearances 1663

Window Schedule								
Type Mark	Opening Size		Type	Head Height	S.F. PER WINDOW	Insulation Value	Description	Count
	Width	Height						
C	2' - 0"	2' - 0"	Window-Awning-Single	8' - 0"	4 SF	0.35		6
E	6' - 0"	8' - 0"	Casement with Trim - Offset	8' - 0"	48 SF	0.35		36
F	6' - 2"	8' - 0"	Corner window 18214	8' - 0"	49 SF	0.35		3
YYY	4' - 0"	5' - 6"	Double Hung with Trim	8' - 0"	22 SF			27

	<b>W1 - 2-HOUR FIRE RATED - ELEVATOR SHAFTS / STAIRS</b>
	<b>W2 - 1 HOUR RATED - SOUND RATED - 50-54 STC</b>
	<b>W3 - 1 HOUR RATED EXTERIOR WALL - NON SOUND RATED</b>

NON-HATCHED WALLS ARE NON-RATED WALLS  
**WALL LEGEND**  
1/4" = 1'-0"





Project Name:  
**EV BUILDING**  
**3RD FLOOR PLAN**

Project Location:  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

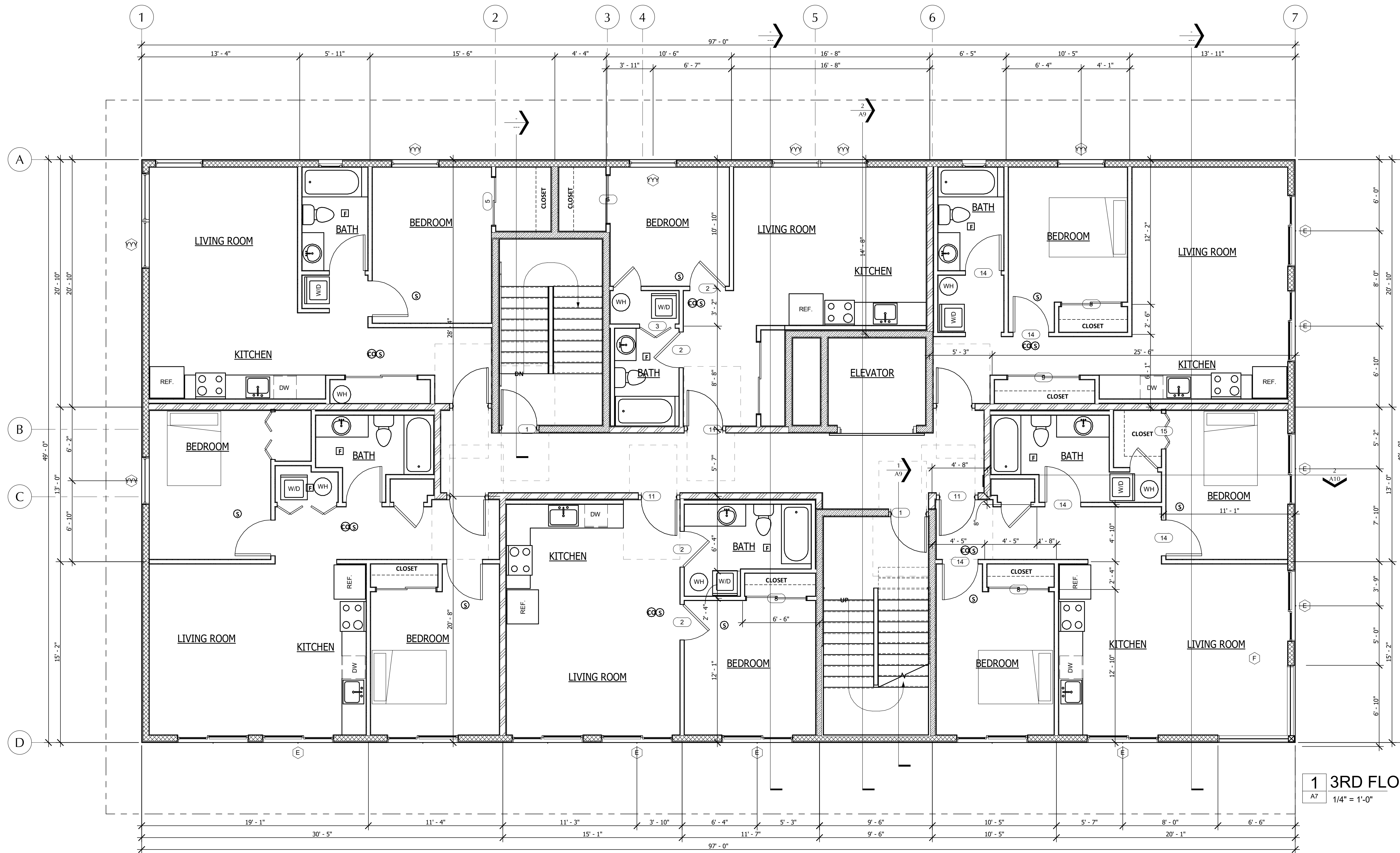
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APPROVED BY:

SHEET:

**A7**

JOB NO.: 11538  
SCALE: 1/4" = 1'-0"



**1 3RD FLOOR PLAN**  
A7 1/4" = 1'-0"

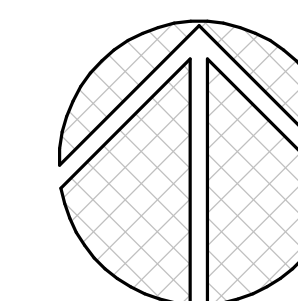
Door Schedule			
Door Type	Door Size	Description	Family
1	36" x 84" - 90 MINUTE RATED DOOR	LEVER TYPE HANDLE - WITH GASKETS AND CLOSER	Flush Door w ADA Clearances 1663
2	36" x 84"	LEVER TYPE HANDLE	45 - Single-Panel 2
3	36" x 80"		Bifold-2 Panel
4	48" x 84"		Bifold-4 Panel
5	48" x 80"		Door-Interior-Double-Sliding-2 Panel-Wood
6	36" x 84" 20 MIN. DOOR	UNIT ENTRY DOORS TO BE 20 MINUTE FIRE-RATED WITH CLOSERS AND SMOKE GASKETS - MAX THRESHOLD HEIGHT OF 1/2" - STC RATING OF 30	45 - Single-Panel 2
7	30" x 84"		45 - Single-Panel 2
8	60" x 80"		Door-Interior-Double-Sliding-2 Panel-Wood
9	72" x 80"		Door-Interior-Double-Sliding-2 Panel-Wood
10	36" x 84" - 20 MINUTE RATED DOOR	LEVER TYPE HANDLE	Flush Door w ADA Clearances 1663
11	36" x 84" - 60 MINUTE RATED DOOR	LEVER TYPE HANDLE	Flush Door w ADA Clearances 1663
12	60" x 84"		Bifold-4 Panel
13	Door-Curtain-Wall-Double-Storefront	LEVER TYPE HANDLE	Door-Curtain-Wall-Double-Storefront
14	36" x 84"	FLUSH - SINGLE	Bifold-4 Panel
15	36" x 84"	LEVER TYPE HANDLE	Bifold-4 Panel
16	28" x 80"	WATER HEATER ACCESS DOOR	45 - Single-Panel 2
19	48" x 96" - 60 MINUTE RATED DOOR	LEVER TYPE HANDLE	Flush Door w ADA Clearances 1663

Window Schedule								
Type Mark	Opening Size		Type	Head Height	S.F. PER WINDOW	Insulation Value	Description	Count
	Width	Height						
C	2' - 0"	2' - 0"	Window-Awning-Single	8' - 0"	4 SF	0.35		6
E	6' - 0"	8' - 0"	Casement with Trim - Offset	8' - 0"	48 SF	0.35		36
F	6' - 2"	8' - 0"	Corner window 18214	8' - 0"	49 SF	0.35		3
YYY	4' - 0"	5' - 6"	Double Hung with Trim	8' - 0"	22 SF			27

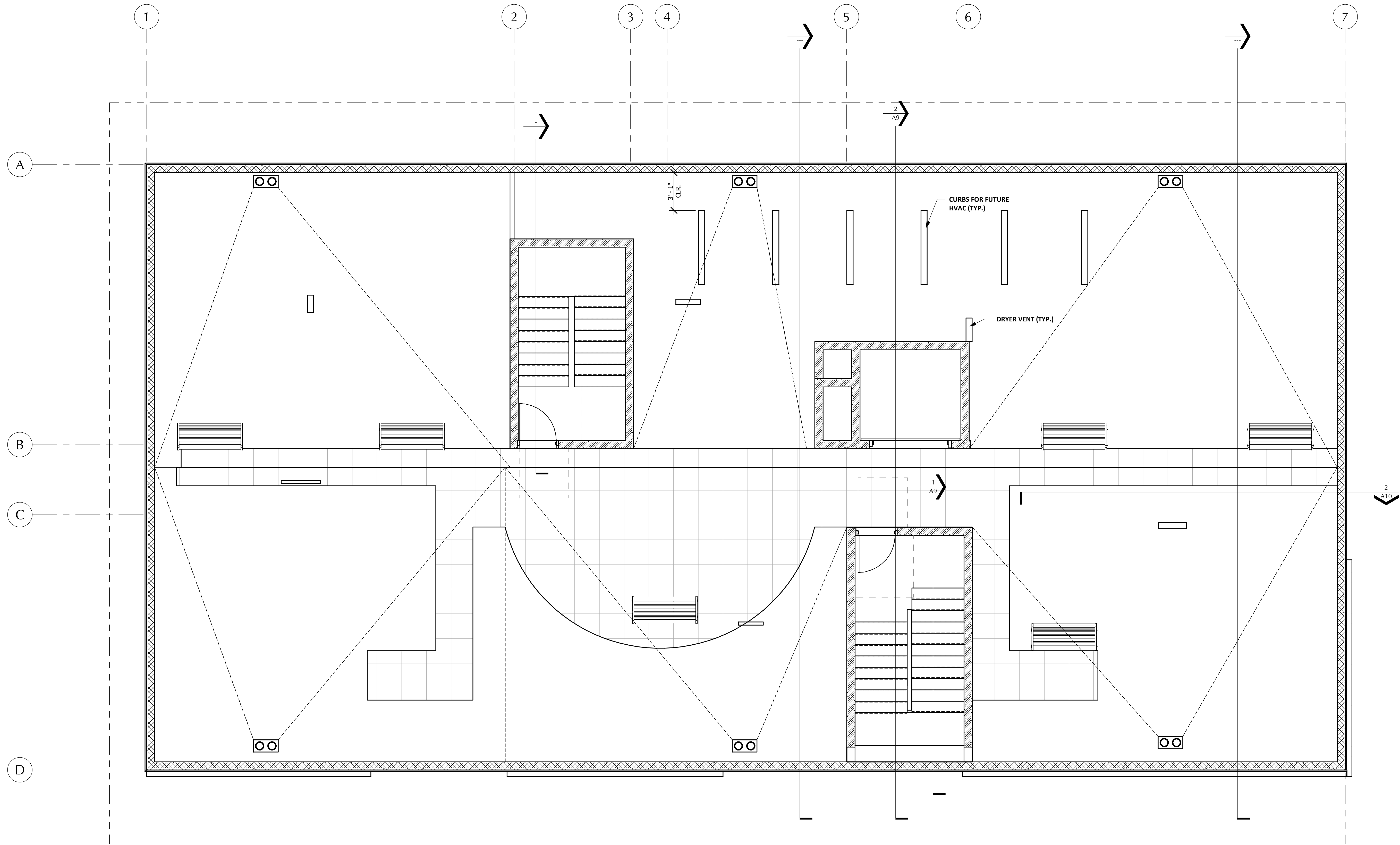
	W1 - 2-HOUR FIRE RATED - ELEVATOR SHAFTS / STAIRS
	W2 - 1 HOUR RATED - SOUND RATED - 50-54 STC
	W3 - 1 HOUR RATED EXTERIOR WALL - NON SOUND RATED

NON-HATCHED WALLS ARE NON-RATED WALLS

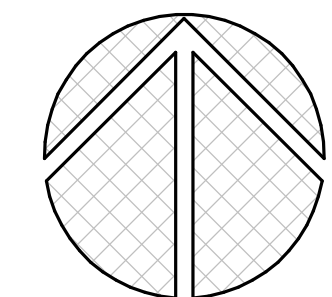
**WALL LEGEND**  
1/4" = 1'-0"







**2 ROOF PLAN**  
 A8 1/4" = 1'-0"



Project Name:  
**EV BUILDING**  
**ROOF PLAN**

Project Location:  
 1901 N.  
 KILLINGSWORTH  
 ST  
 PORTLAND, OR  
 97217

Project Owner:  
 RKW, INC.

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 APPROVED BY:

SHEET:

**A8**

JOB NO.: 11538  
 SCALE: 1/4" = 1'-0"



Project Name:  
**EV BUILDING**  
BUILDING SECTIONS

Project Location:  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

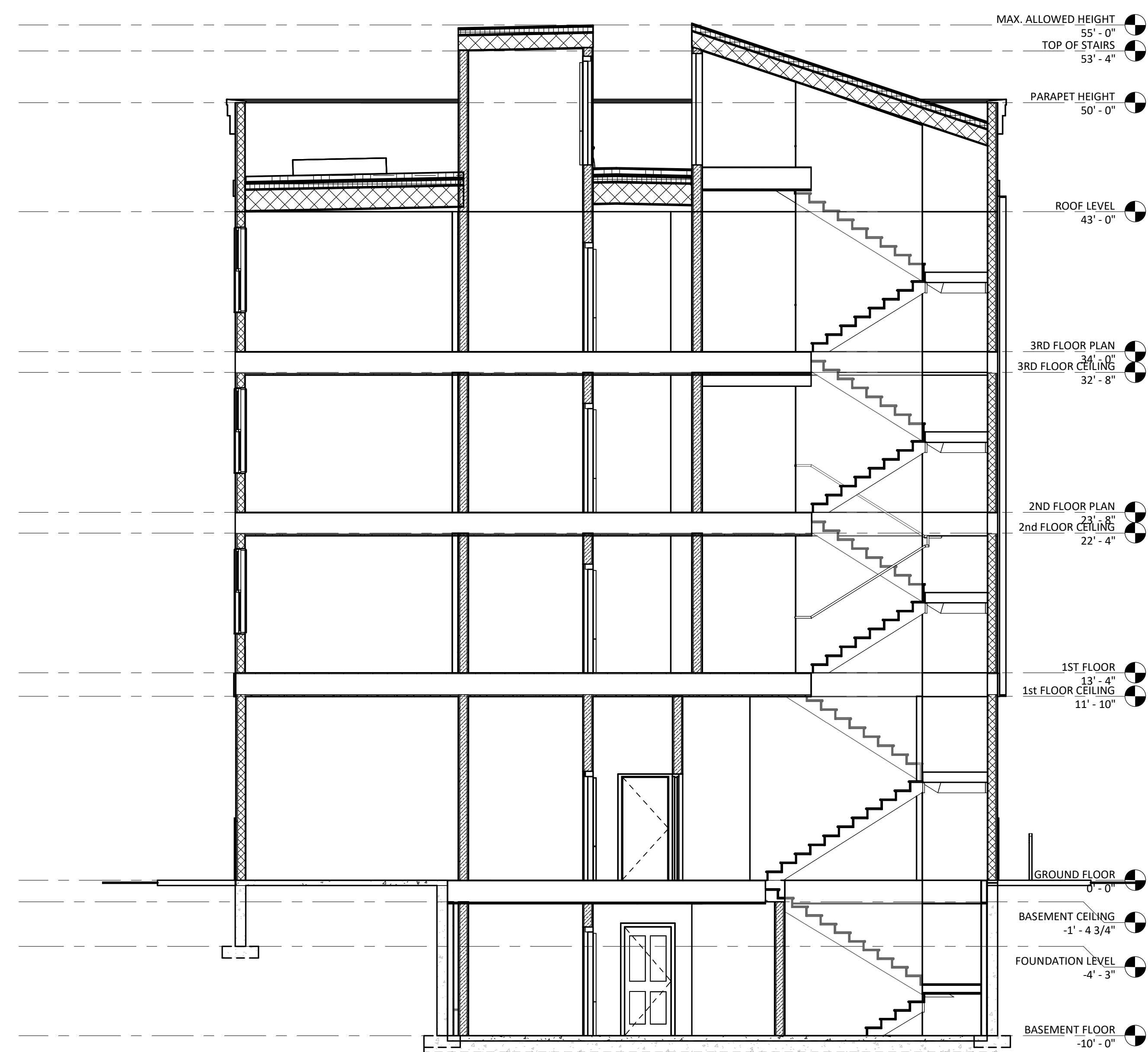
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APPROVED BY: Checker

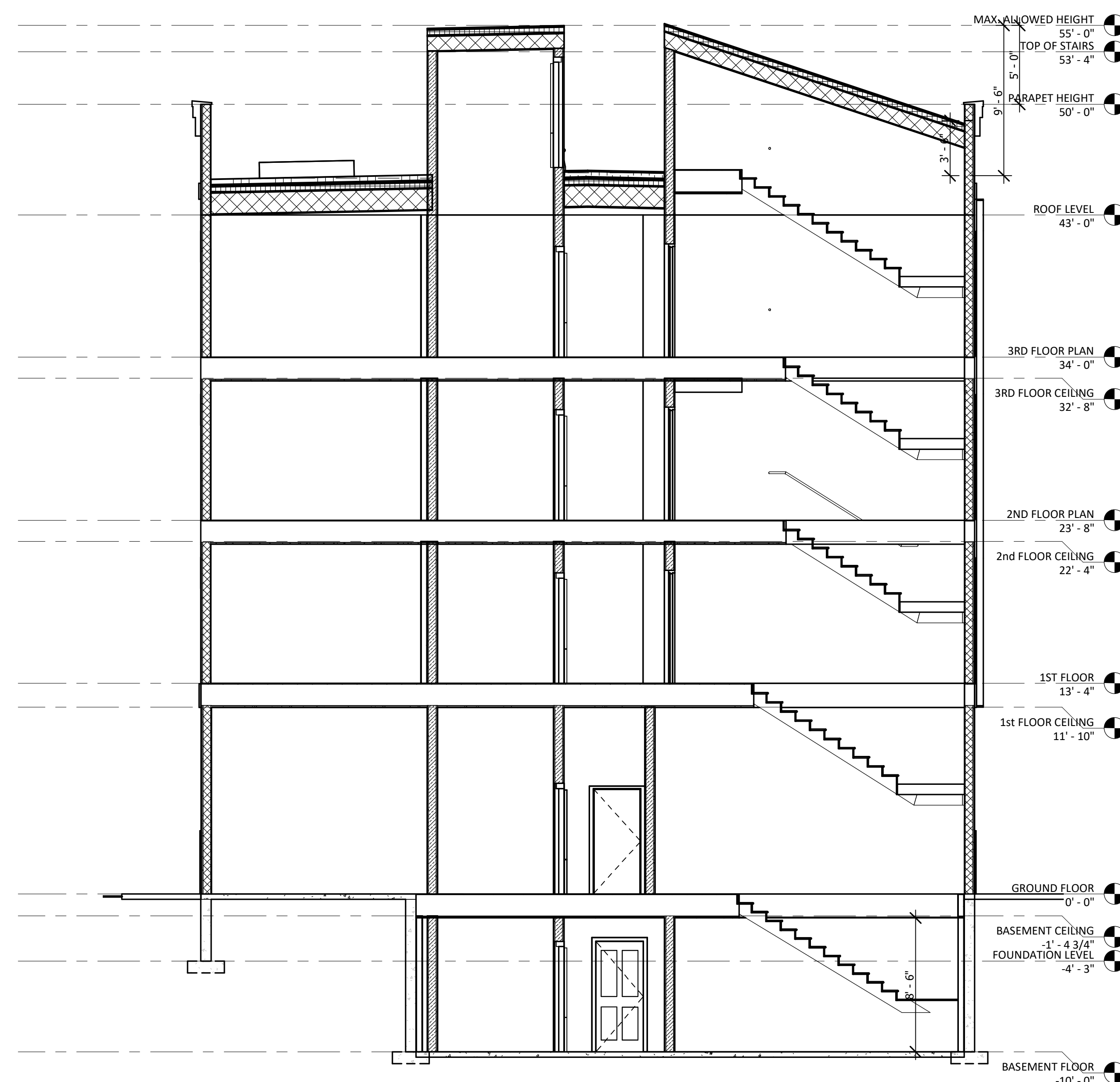
SHEET:

**A9**

JOB NO.: 11538  
SCALE: 3/16" = 1'-0"



**2 Section 6**  
A9 3/16" = 1'-0"



**1 Section 5**  
A9 3/16" = 1'-0"



Project Name:  
**EV BUILDING**  
BUILDING SECTIONS

Project Location:  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

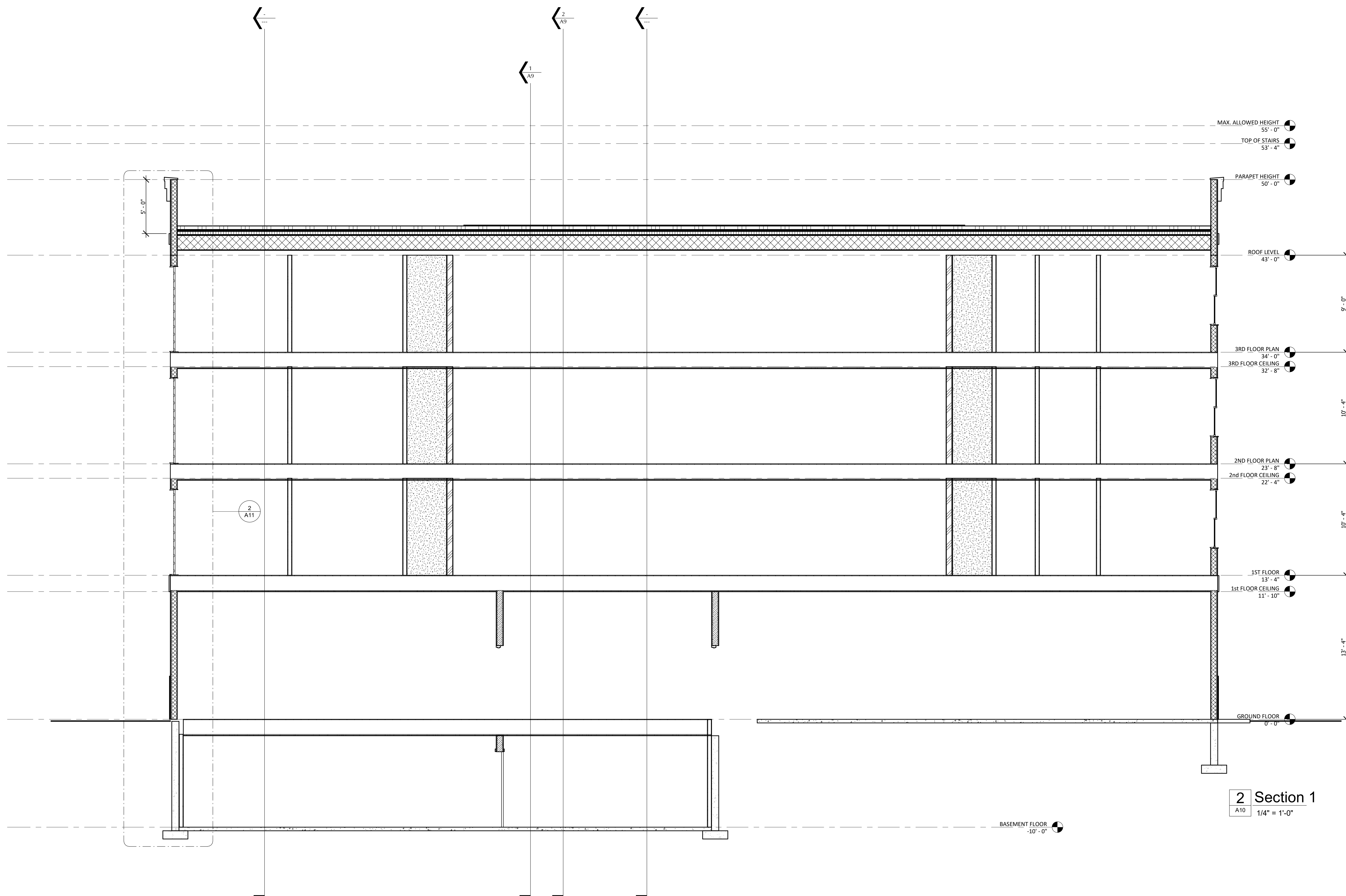
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APPROVED BY:

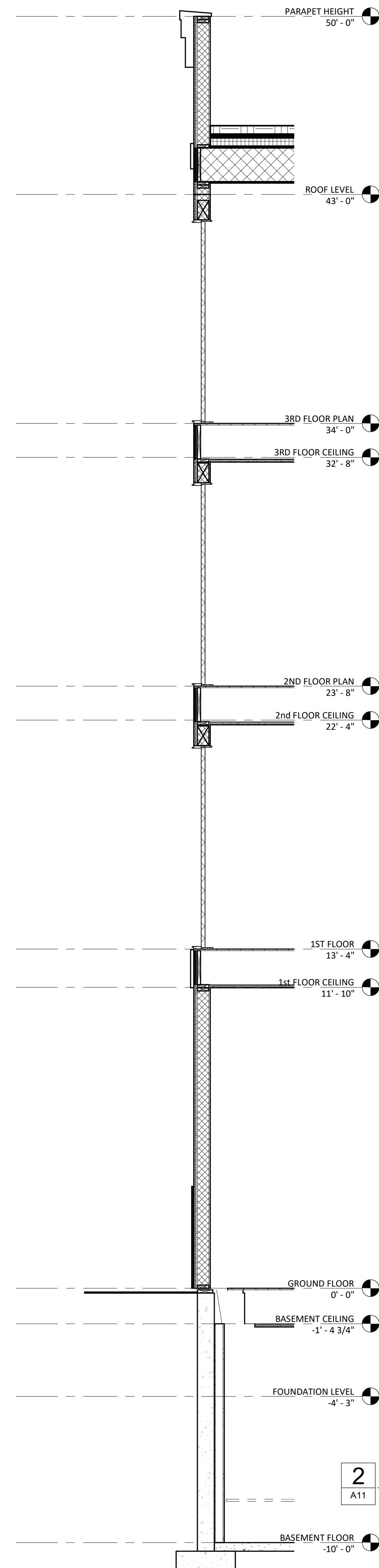
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**A10**

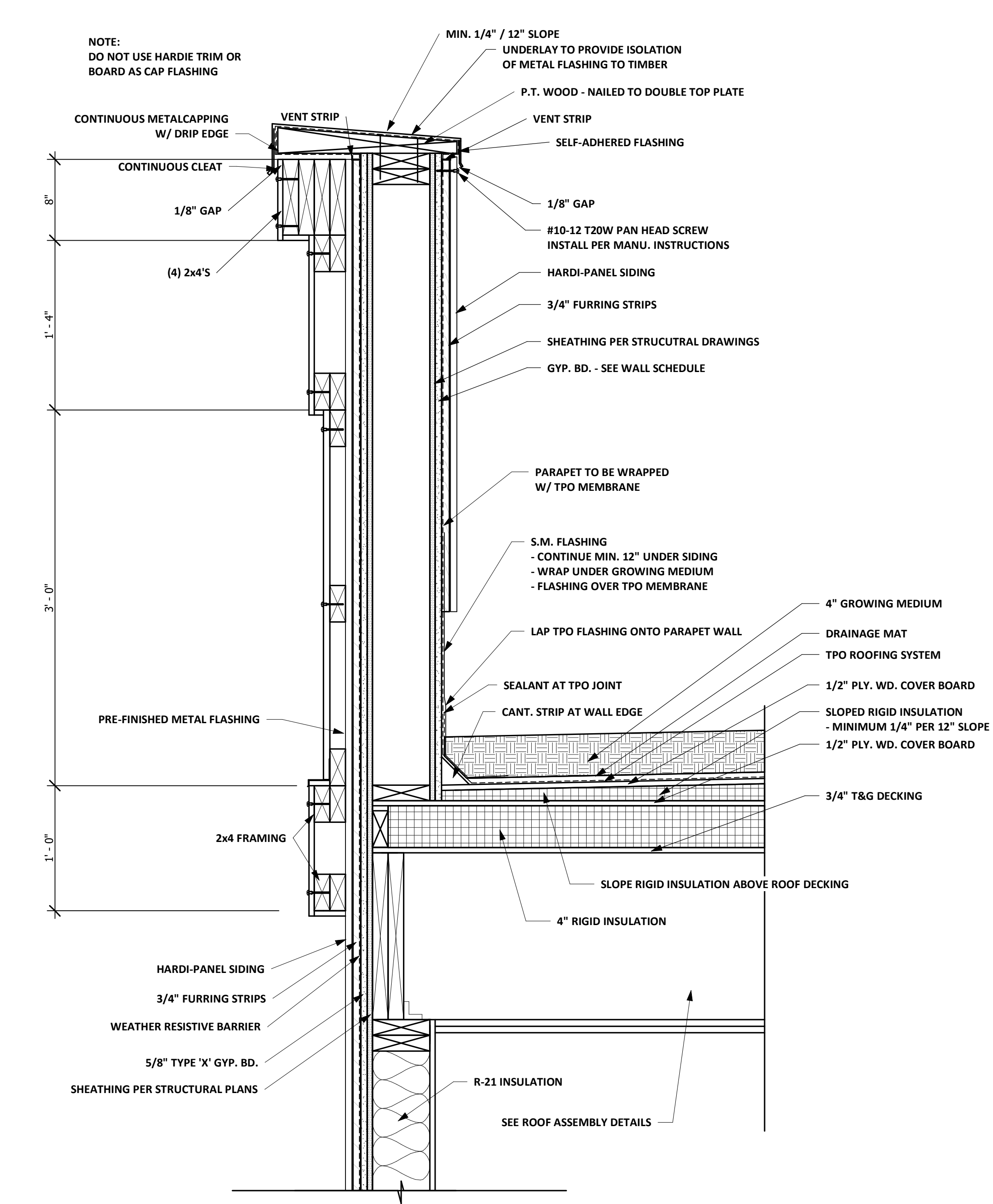
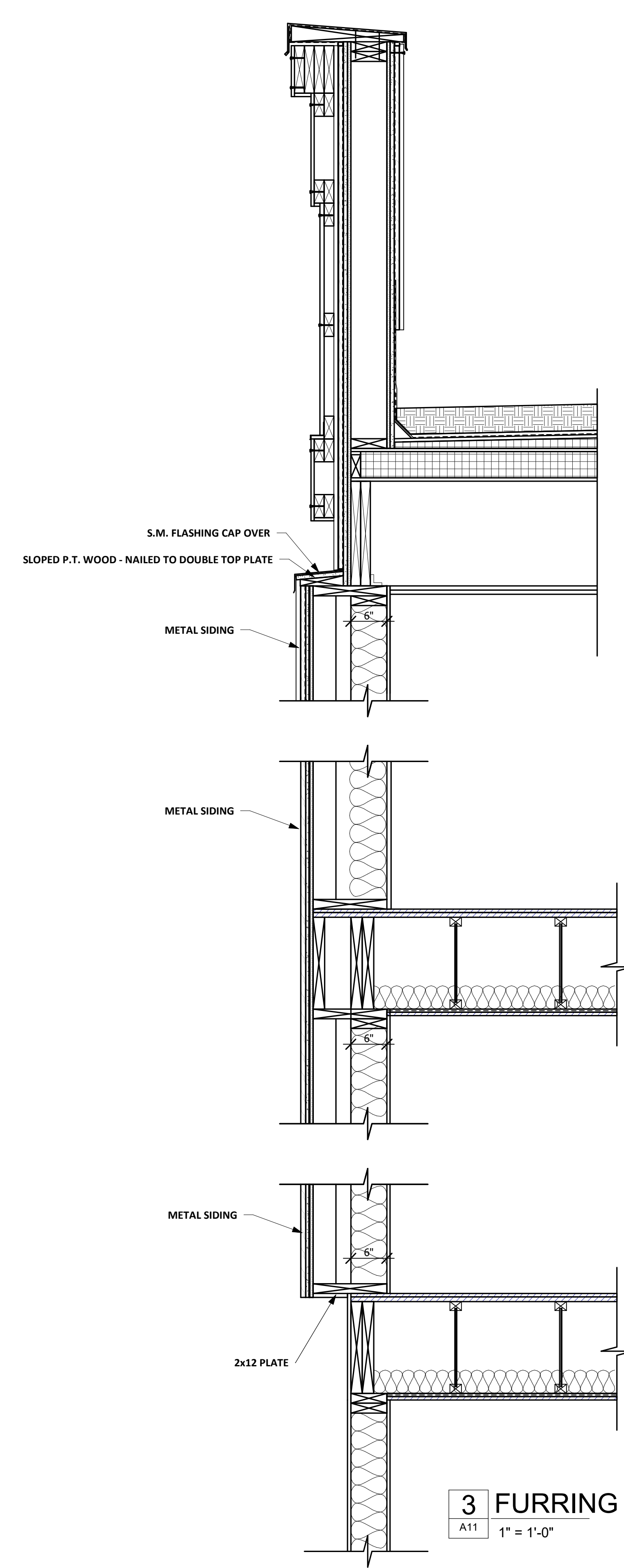
JOB NO.: 11538  
SCALE: 1/4" = 1'-0"



**2** Section 1  
A10 1/4" = 1'-0"



**2** Section 1 - Callout 1  
A11 3/8" = 1'-0"



**1** VENTED CORNICE / PARAPET DETAIL  
A11 1 1/2" = 1'-0"



Project Name:  
**EV BUILDING**  
 EXTERIOR WALL DETAILS

Project Location:  
 1901 N.  
 KILLINGSWORTH  
 ST  
 PORTLAND, OR  
 97217

Project Owner:  
 RKW, INC.

PRINT DATE: 4/12/2019 12:20:46 PM

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 APPROVED BY: Checker

SHEET:

**A11**

JOB NO.: 11538  
 SCALE: As indicated



Project Name:  
**EV BUILDING**  
INTERIOR DETAILS

**Project Location:**  
1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217

**Project Owner:**  
RKW, INC.

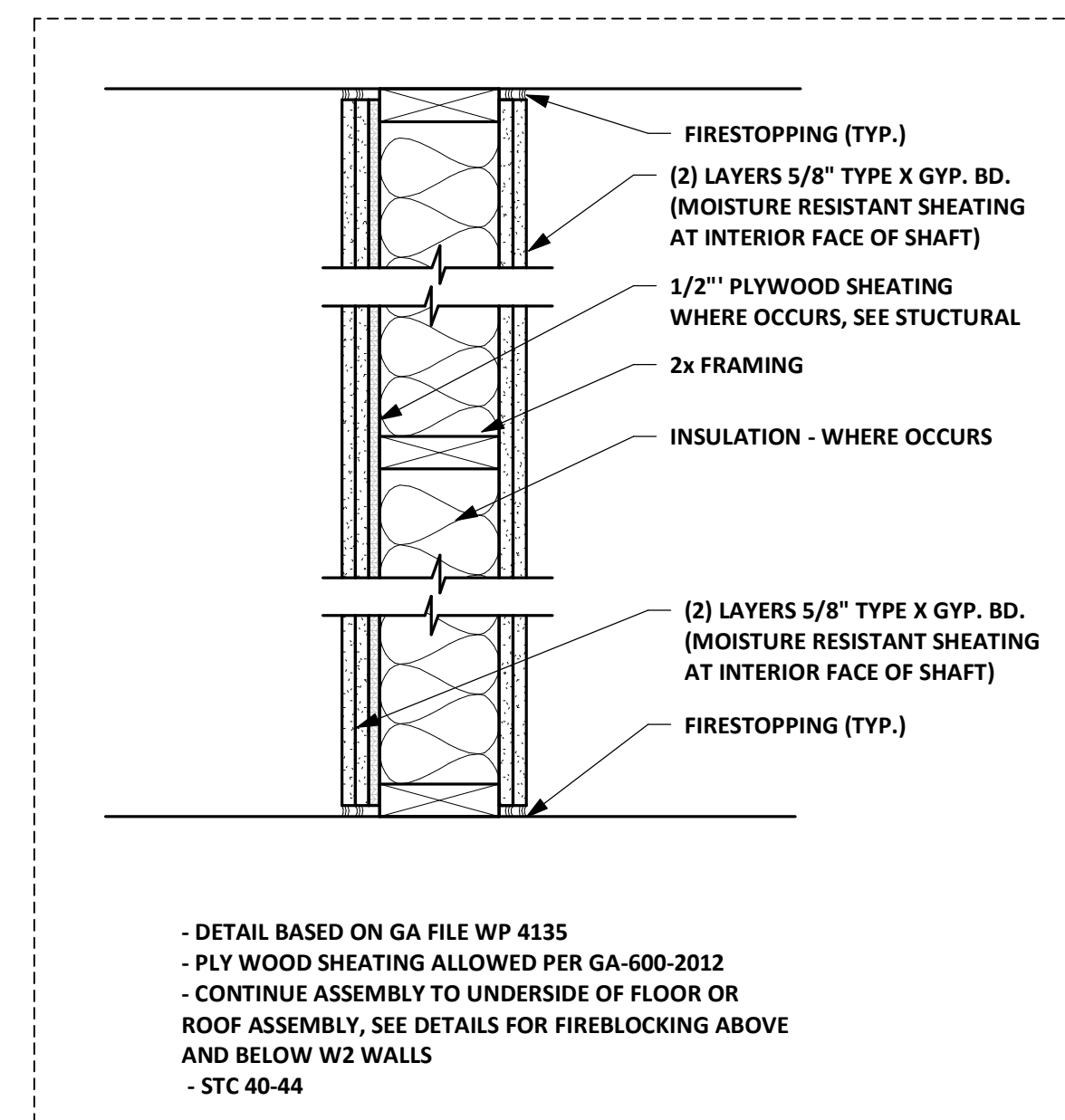
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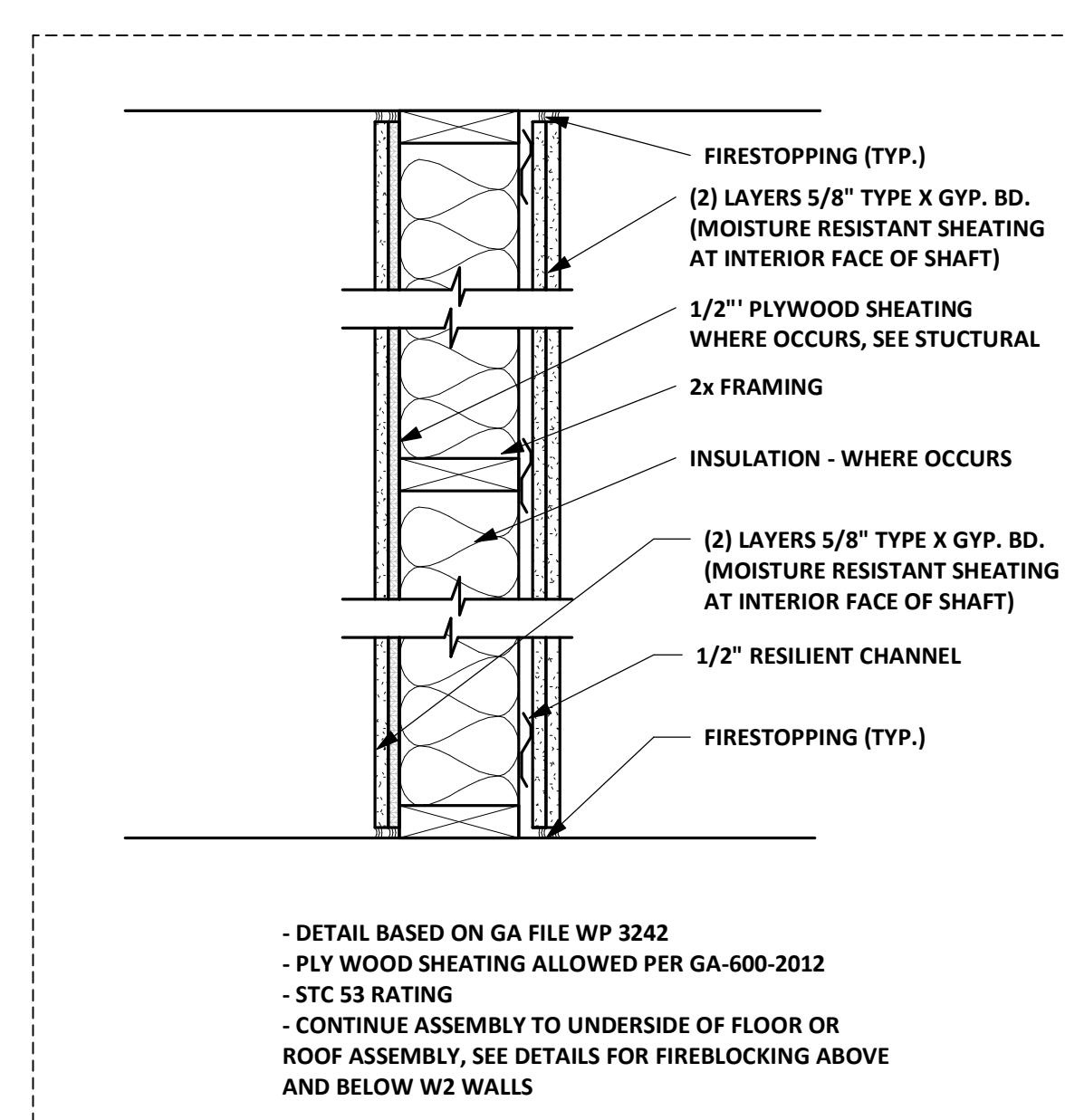
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**A12**

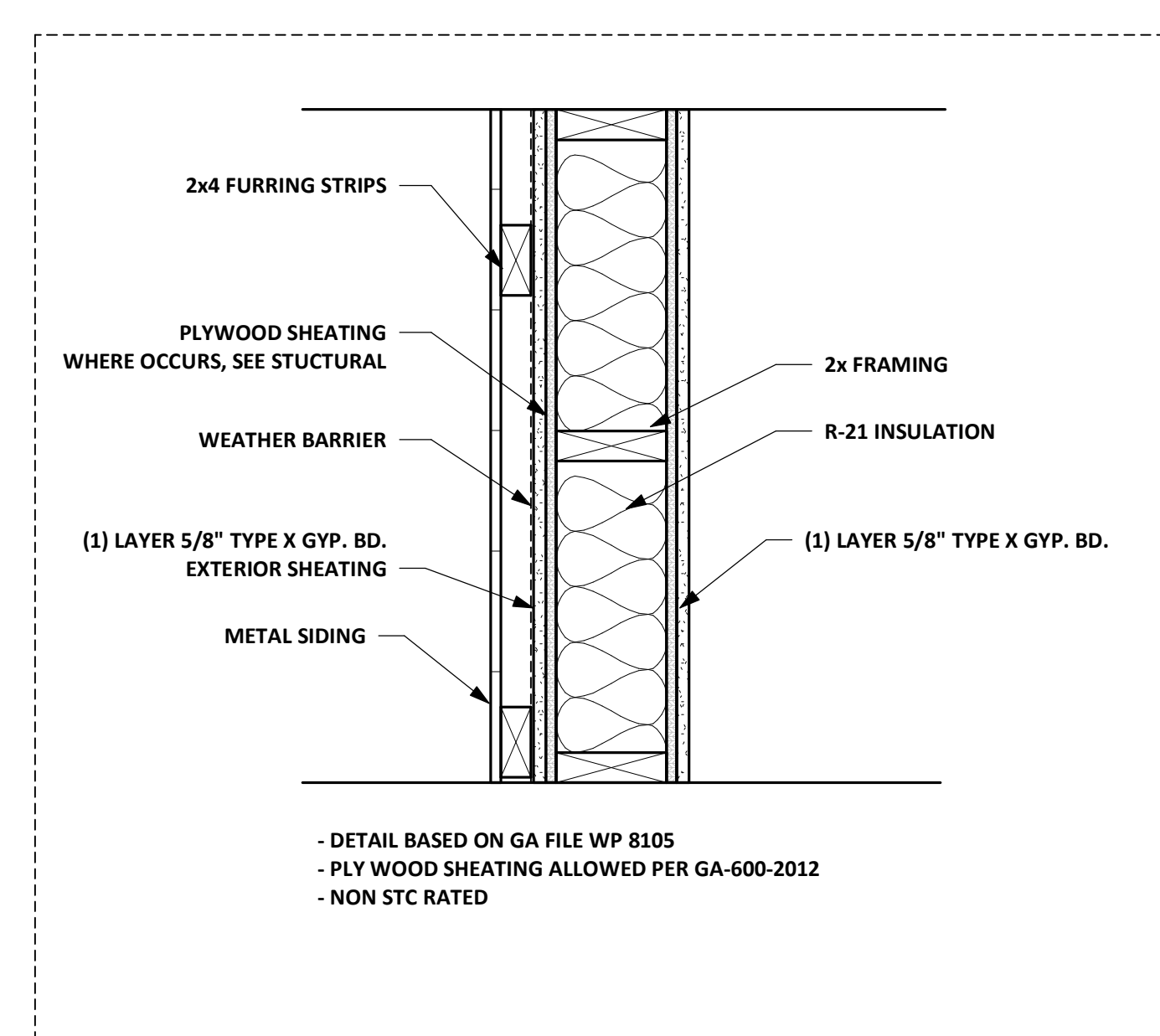
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**SCALE:** 1 1/2" = 1'-0"



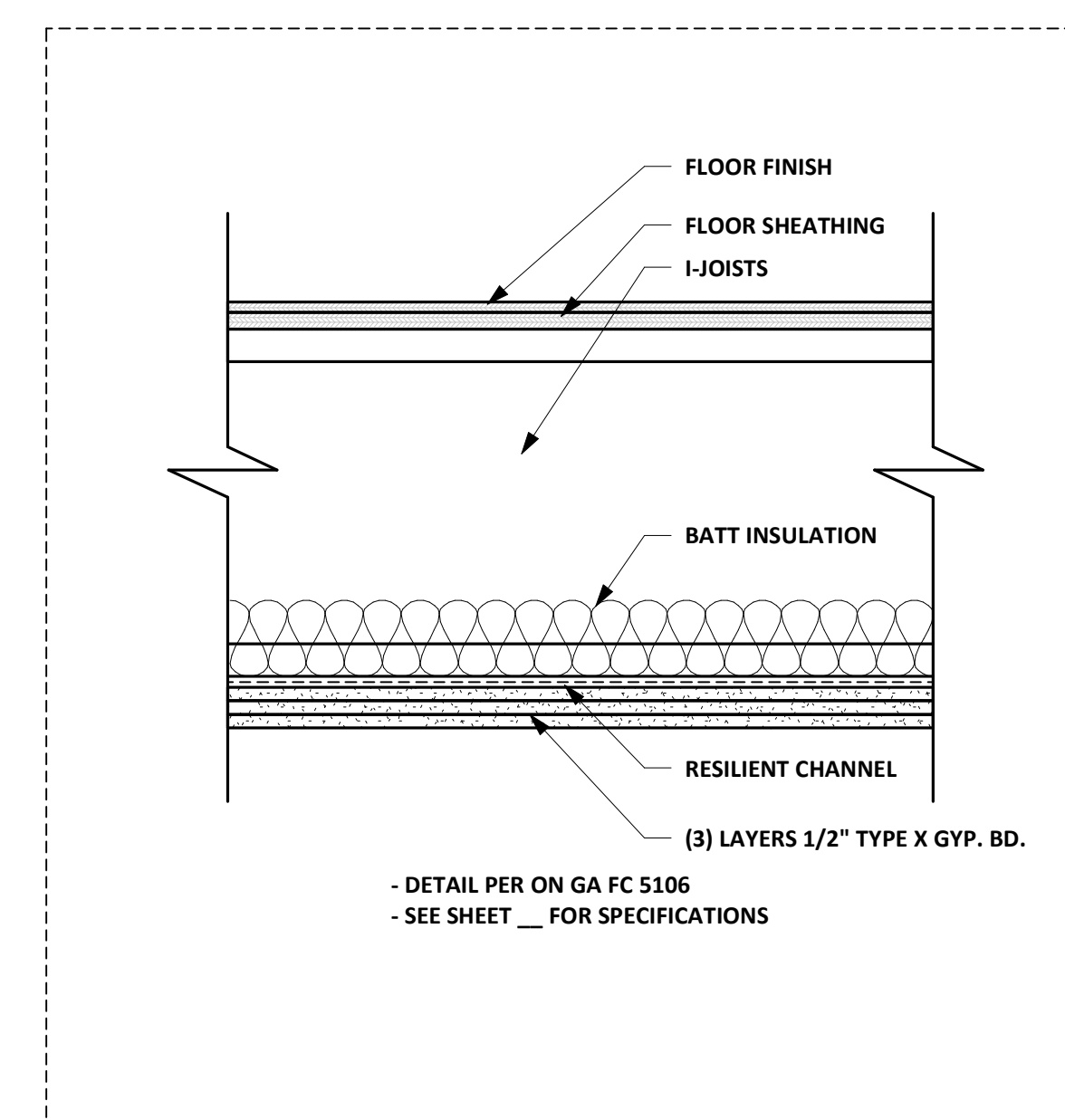
**1 W1 - FIRE PARTITION - 2-HOUR FIRE RATED - GA FILE WP 4135 - STAIR/ELEVATOR**  
A12 1 1/2" = 1'-0"



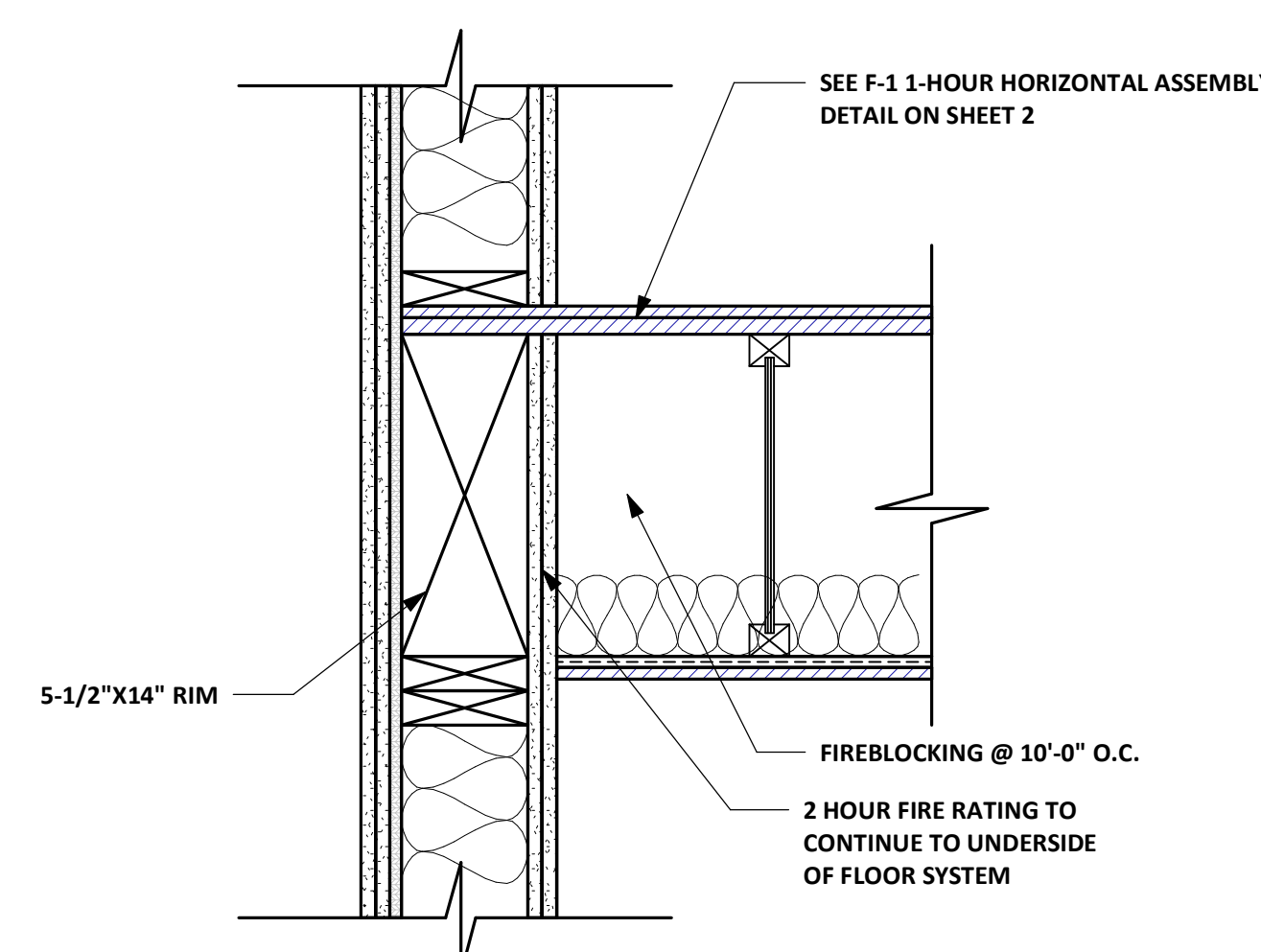
**2 W2 - FIRE BARRIER- 1-HR RATED -**  
A12 1 1/2" = 1'-0"



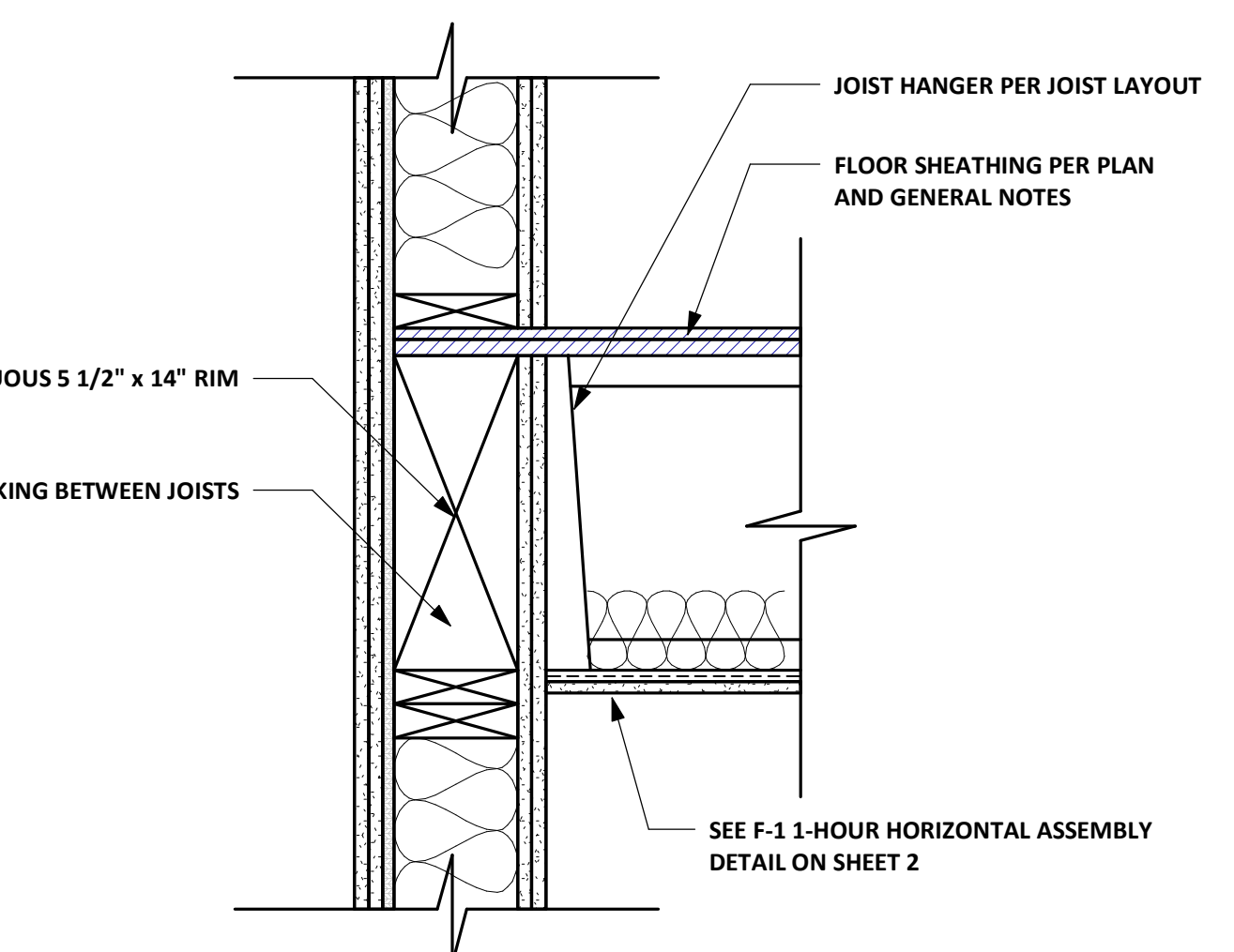
**3 W3 - FIRE RATED EXTERIOR WALL - METAL PANEL**  
A12 1 1/2" = 1'-0"



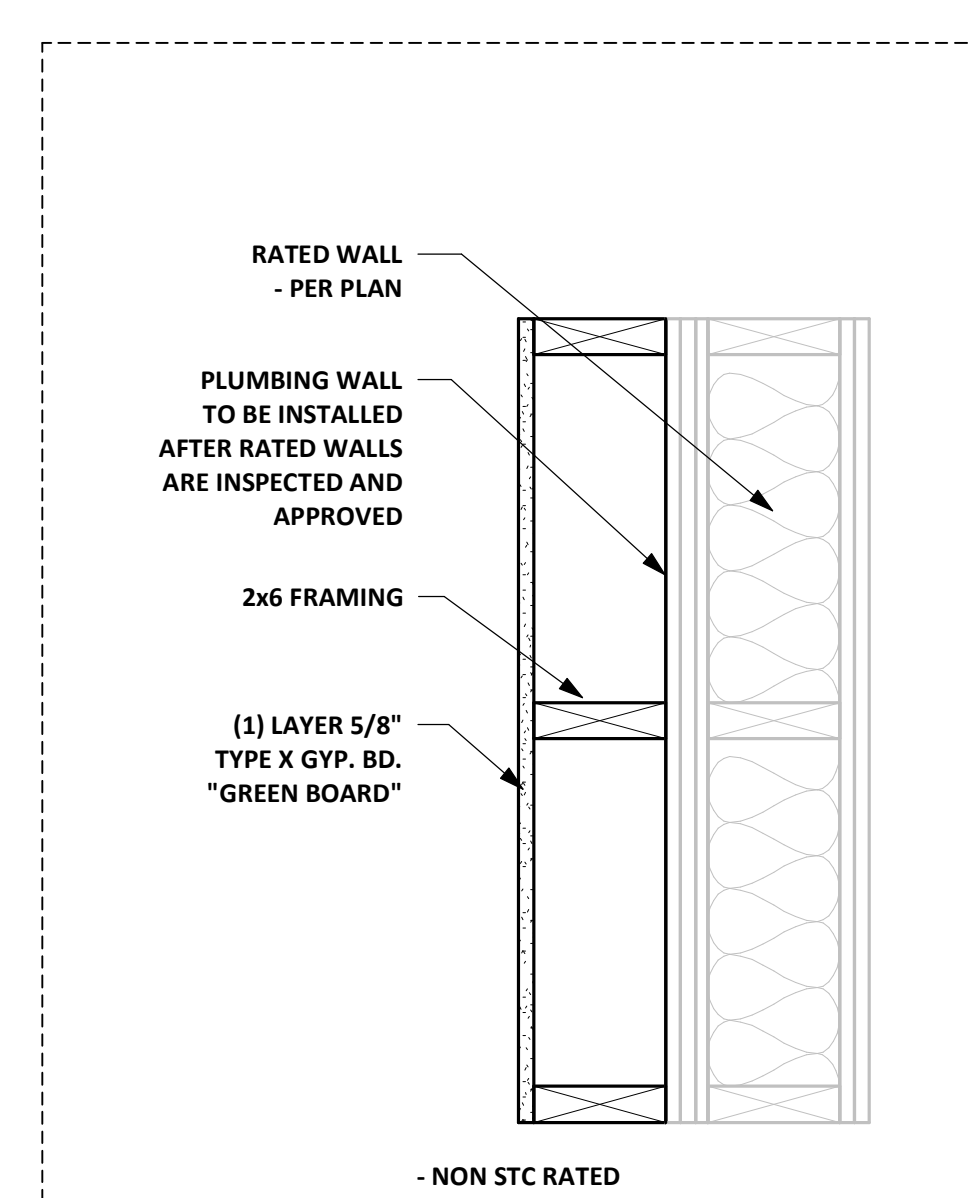
**4 F1 - FIRE BARRIER**  
A12 1 1/2" = 1'-0"



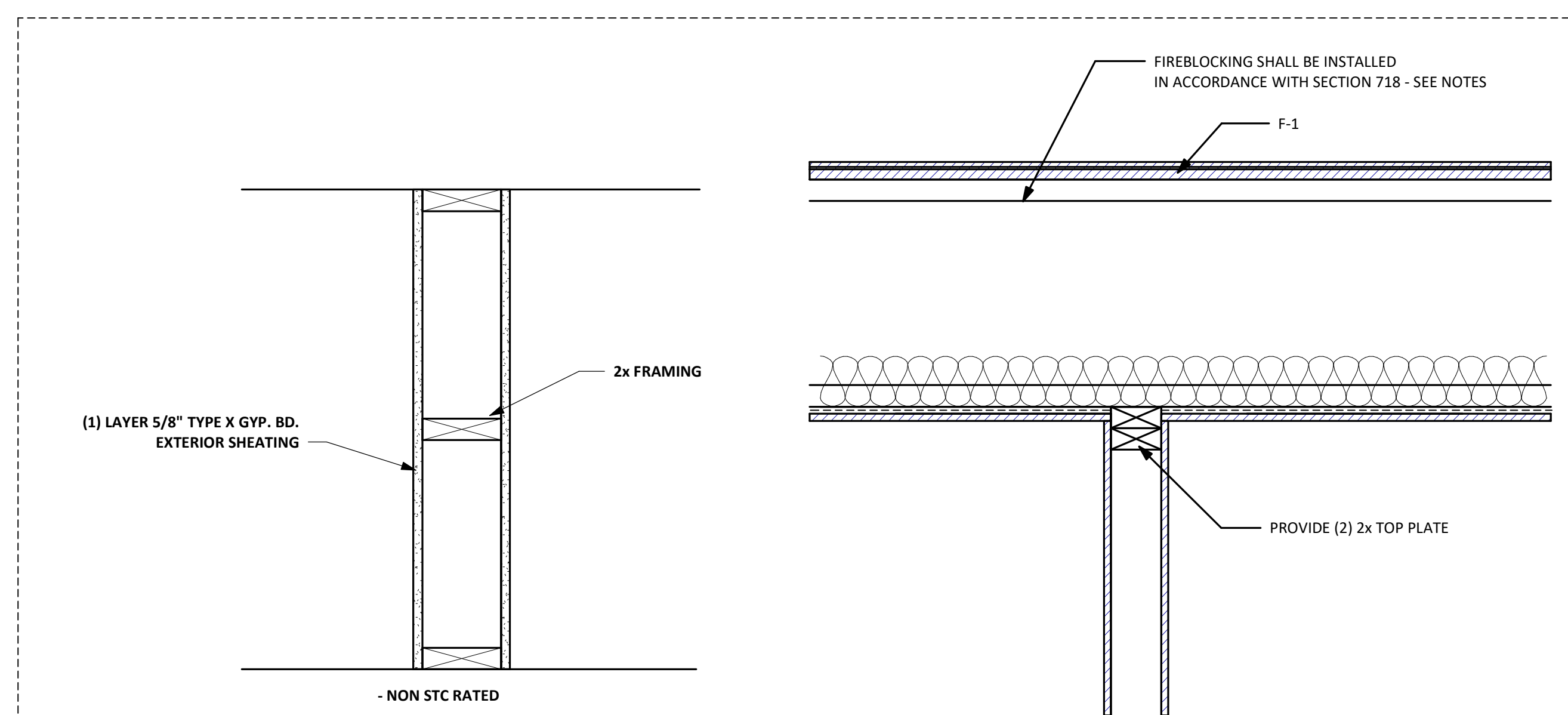
**5 2-HOUR FIRE RATED SHAFT WALL - PARALELL**  
A12 1 1/2" = 1'-0"



**6 2-HOUR FIRE RATED WALL - SHAFT WALL - PERPENDICULAR**  
A12 1 1/2" = 1'-0"



**7 W5 - PLUMBING WALL**  
A12 1 1/2" = 1'-0"



**8 W4 - NON-RATED ASSEMBLY**  
A12 1 1/2" = 1'-0"

**FIRESTOPPING NOTES**  
THE GENERAL CONTRACTOR SHALL SCHEDULE A FIRESTOPPING MEETING WITH THE BUILDING INSPECTOR AND ALL SUBCONTRACTORS THAT WILL BE INSTALLING FIRESTOPPING MATERIALS. EACH SUBCONTRACTOR WILL PROVIDE A LIST OF FIRESTOP MATERIALS/ASSEMBLIES WHICH WILL BE USED, THE TYPE OF PENETRATIONS WHERE EACH MATERIAL/ASSEMBLY WILL BE USED; AND THE LISTING AND APPROVAL INFORMATION (I.E. U.L, ICC OR OTHER APPROVED REPORT/LISTING NUMBERS.) THIS INFORMATION MUST BE SUBMITTED TO, AND APPROVED BY, THE BUILDING INSPECTOR PRIOR TO ANY INSTALLATION. (SEE CITY OF PORTLAND FIRESTOPPING PROGRAM GUIDE AT: [HTTP://WWW.PORTLANDOREGON.GOV/BDS/ARTICLE/68669](http://www.portlandoregon.gov/bds/article/68669))

**SECTION 718 CONCEALED SPACES 718.1**  
GENERAL FIREBLOCKING AND DRAFTSTOPPING SHALL BE INSTALLED IN COMBUSTIBLE CONCEALED LOCATIONS IN ACCORDANCE WITH THIS SECTION. FIREBLOCKING SHALL COMPLY WITH SECTION 718.2. DRAFTSTOPPING IN FLOOR/CEILING SPACES AND ATTIC SPACES SHALL COMPLY WITH SECTIONS 718.3 AND 718.4, RESPECTIVELY. THE PERMITTED USE OF COMBUSTIBLE MATERIALS IN CONCEALED SPACES OF BUILDINGS OF TYPE I OR II CONSTRUCTION SHALL BE LIMITED TO THE APPLICATIONS INDICATED IN SECTION 718.5.

**718.2 FIREBLOCKING.**  
IN COMBUSTIBLE CONSTRUCTION, FIREBLOCKING SHALL BE INSTALLED TO CUT OFF CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND SHALL FORM AN EFFECTIVE BARRIER BETWEEN FLOORS, BETWEEN A TOP STORY AND A ROOF OR ATTIC SPACE. FIREBLOCKING SHALL BE INSTALLED IN THE LOCATIONS SPECIFIED IN SECTIONS 718.2.2 THROUGH 718.2.7.

- 718.2.1 FIREBLOCKING MATERIALS.**  
FIREBLOCKING SHALL CONSIST OF THE FOLLOWING MATERIALS:
1. TWO-INCH (51 MM) NOMINAL LUMBER.
  2. TWO THICKNESSES OF 1-INCH (25 MM) NOMINAL LUMBER WITH BROKEN LAP JOINTS.
  3. ONE THICKNESS OF 0.719-INCH (18.3 MM) WOOD STRUCTURAL PANELS WITH JOINTS BACKED BY 0.719-INCH (18.3 MM) WOOD STRUCTURAL PANELS.
  4. ONE THICKNESS OF 0.75-INCH (19.1 MM) PARTICLEBOARD WITH JOINTS BACKED BY 0.75-INCH (19 MM) PARTICLEBOARD.
  5. ONE-HALF-INCH (12.7 MM) GYPSUM BOARD.
  6. ONE-FOURTH-INCH (6.4 MM) CEMENT-BASED MILLBOARD.
  7. BATTS OR BLANKETS OF MINERAL WOOL, MINERAL FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE.
  8. CELLULOSE INSULATION INSTALLED AS TESTED FOR THE SPECIFIC APPLICATION.

**718.2.2 CONCEALED WALL SPACES.**  
FIREBLOCKING SHALL BE PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AND PARALLEL ROWS OF STUDS OR STAG-GERED STUDS, AS FOLLOWS:

1. VERTICALLY AT THE CEILING AND FLOOR LEVELS.
2. HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET (3048 MM).



Project Name:  
**EV BUILDING**  
**PENETRATION PROTECTION**  
**DETAILS**

Project Location:  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

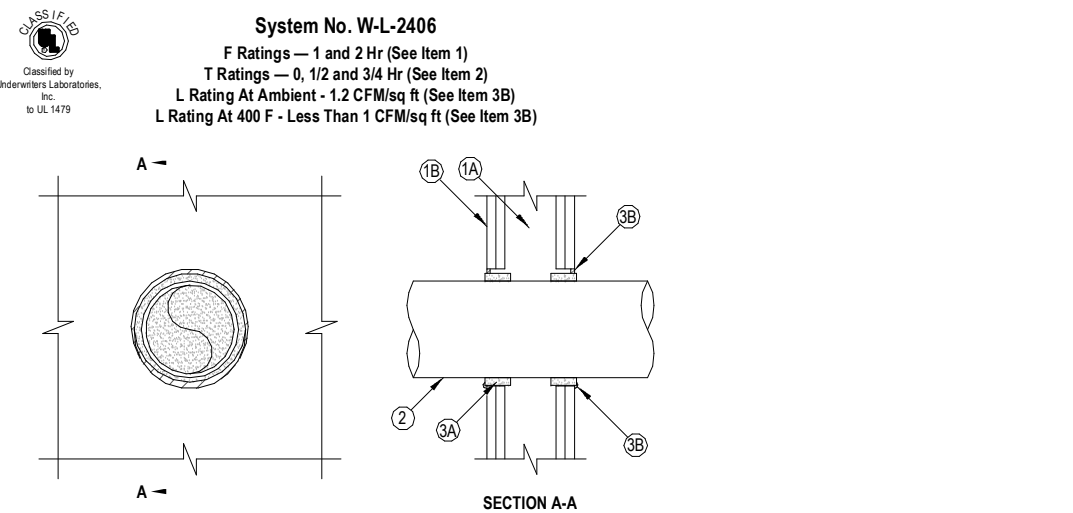
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SHEET:

**A13**

JOB NO.: 11538  
SCALE: As indicated

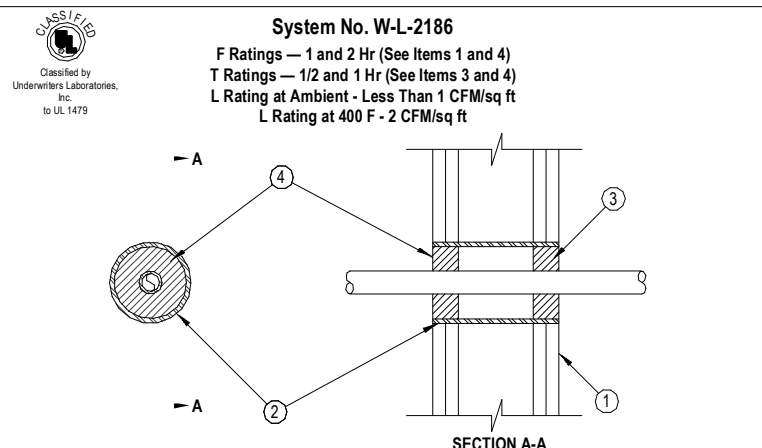


- Wall Assembly — The 1 or 2 hr fire-rated gypsum board/wall assembly shall be constructed of the materials and in the manner specified in the individual L500, 1500, 1600 or 1650 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
  - Shear 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 max 16 in. (406 mm) OC. Steel studs to consist of 1 1/2 in. (38 mm) wide and spaced max 24 in. (610 mm) OC.
  - Gypsum Board — One or two layers of nom 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition Design.
  - Through Penetrations — One nonmetallic pipe installed within the firestop system. See Table under Item 3B for annular space required in the firestop system. One or two layers of nom 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition Design.
  - Cable Tray under nom 30 for max diam of opening.
  - Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or vent) piping systems.
  - Cross-linked Polyethylene (XLPE) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or vent) piping systems.
  - Firestop System — The firestop system shall consist of the following:
    - Fill, Void or Cavity Material\* — Wrap Strp — See Table under Item 3B for min size of stanchion wrap strip. The wrap strip is continuously wrapped around the pipe through the hole and shall not be applied at the hole opening.
    - The Hourly F-Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
    - Through Penetrations — One or more pipes, conduit or tubes to be installed where the opening. The total number of through penetrations is dependent on the size of the opening and the type and size of the penetrations. Any combination of the penetrations described below may be used provided that the following performance criteria in the graphic specifications are satisfied:
      - The annular space between penetrations shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design. If the through penetrations are in a wall, the annular space shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
      - If the through penetrations are in a ceiling, the annular space shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
      - If the through penetrations are installed in a steel stud/gypsum board assembly, max area of opening is 162 in<sup>2</sup> (1174 cm<sup>2</sup>) with max diameter of 22 3/4 in. (579 mm) wide.
    - The Hourly F-Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
    - Through Penetrations — One or more pipes, conduit or tubes to be installed where the opening. The total number of through penetrations is dependent on the size of the opening and the type and size of the penetrations. Any combination of the penetrations described below may be used provided that the following performance criteria in the graphic specifications are satisfied:
      - The annular space between penetrations shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
      - If the through penetrations are in a wall, the annular space shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
      - If the through penetrations are installed in a steel stud/gypsum board assembly, max area of opening is 162 in<sup>2</sup> (1174 cm<sup>2</sup>) with max diameter of 22 3/4 in. (579 mm) wide.
  - Steel Sleeve (Optional) — Max 3 in. (76 mm) diam (Schedule 40) (or heavier) steel pipe sleeve friction-fit into circular opening core drilled through wall.
  - Through Penetrations — One or more pipes, conduit or tubes to be installed where the opening. The total number of through penetrations is dependent on the size of the opening and the type and size of the penetrations. Any combination of the penetrations described below may be used provided that the following performance criteria in the graphic specifications are satisfied:
    - The annular space between penetrations shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
    - If the through penetrations are in a wall, the annular space shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
    - If the through penetrations are installed in a steel stud/gypsum board assembly, max area of opening is 162 in<sup>2</sup> (1174 cm<sup>2</sup>) with max diameter of 22 3/4 in. (579 mm) wide.
  - Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. (16 mm) thickness of sealant applied within annular space around perimeter of pipe through penetration.
- Firestop System — The firestop system shall consist of the following:
  - Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. (16 mm) thickness of sealant applied within annular space around perimeter of pipe through penetration.

Opening	Wrap Strp	Wall Stud Size	Max Over of	Annular Space in
Diam (mm)	US	thick x with in. (mm)	in. (mm)	Max
1-1/2 (38)	CP 6485 - 1" US	3/8 x 1 (9 x 25)	2-3/8 (60)	3/16 (5)
2 (51)	CP 6485 - 2" US	3/8 x 1 (9 x 25)	3 (76)	3/16 (5)
3 (76)	CP 6485 - 2" US	3/8 x 1 (9 x 25)	4 (102)	3/16 (5)
4 (102)	CP 6485 - 4" US	3/8 x 1 (9 x 25)	5-3/8 (127)	3/8 (10)
6 (152)	CP 6485 - 6" US	1/2 x 1-3/4 (13 x 44)	8 (203)	3/8 (10)

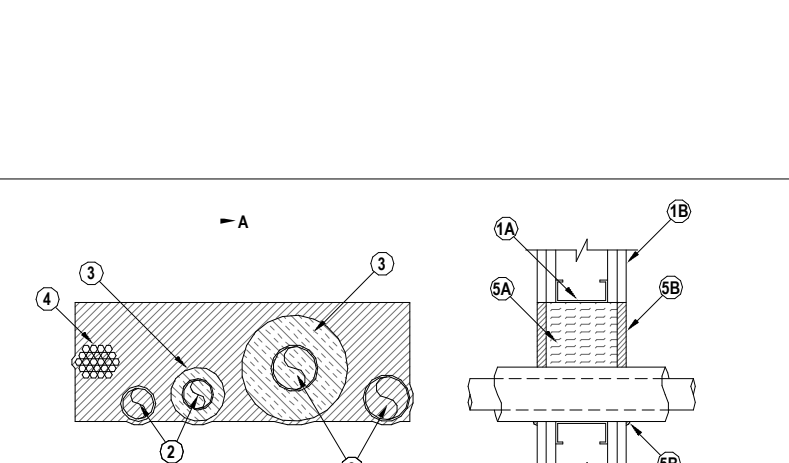
\*Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

**PLUMBING DRAIN MEMBRANE PENETRATION  
INTO SEPARATION WALL**



- Wall Assembly — The 1 or 2 hr fire-rated gypsum board/wall assembly shall be constructed of the materials and in the manner specified in the individual L500, 1500 or 1600 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
  - Shear 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 max 16 in. (406 mm) OC. Steel studs to consist of 1 1/2 in. (38 mm) wide and spaced max 24 in. (610 mm) OC.
  - Through Penetrations — One or more pipes, conduit or tubes to be installed where the opening. The total number of through penetrations is dependent on the size of the opening and the type and size of the penetrations. Any combination of the penetrations described below may be used provided that the following performance criteria in the graphic specifications are satisfied:
    - The annular space between penetrations shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
    - If the through penetrations are in a wall, the annular space shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
    - If the through penetrations are installed in a steel stud/gypsum board assembly, max area of opening is 162 in<sup>2</sup> (1174 cm<sup>2</sup>) with max diameter of 22 3/4 in. (579 mm) wide.
  - The Hourly F-Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
  - Through Penetrations — One or more pipes, conduit or tubes to be installed where the opening. The total number of through penetrations is dependent on the size of the opening and the type and size of the penetrations. Any combination of the penetrations described below may be used provided that the following performance criteria in the graphic specifications are satisfied:
    - The annular space between penetrations shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
    - If the through penetrations are in a wall, the annular space shall be as specified in the individual L500, 1500 or 1600 Wall and Partition Design.
    - If the through penetrations are installed in a steel stud/gypsum board assembly, max area of opening is 162 in<sup>2</sup> (1174 cm<sup>2</sup>) with max diameter of 22 3/4 in. (579 mm) wide.
- Steel Sleeve (Optional) — Max 3 in. (76 mm) diam (Schedule 40) (or heavier) steel pipe sleeve friction-fit into circular opening core drilled through wall.
- Through Penetrations — One or more pipes, conduit or tubes to be installed where the opening. The total number of through penetrations is dependent on the size of the opening and the type and size of the penetrations. Any combination of the penetrations described below may be used provided that the following performance criteria in the graphic specifications are satisfied:
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- Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. (16 mm) thickness of sealant applied within annular space around perimeter of pipe through penetration.
- Firestop System — The firestop system shall consist of the following:
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**HILTI HIHI Firestop Systems  
WATER SUPPLY MEMBRANE PENETRATION  
INTO SEPARATION WALL**



- Wall Assembly — The 1 or 2 hr fire-rated gypsum board/wall assembly shall be constructed of the materials and in the manner specified in the individual L500, 1500 or 1600 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
  - Shear wall framing may consist of either wood studs or channel (slotted) steel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to consist of 1 1/2 in. (38 mm) wide and spaced max 24 in. (610 mm) OC.
  - Through Penetrations — One or more pipes, conduit or tubes to be installed where the opening. The total number of through penetrations is dependent on the size of the opening and the type and size of the penetrations. Any combination of the penetrations described below may be used provided that the following performance criteria in the graphic specifications are satisfied:
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    - If the through penetrations are installed in a steel stud/gypsum board assembly, max area of opening is 162 in<sup>2</sup> (1174 cm<sup>2</sup>) with max diameter of 22 3/4 in. (579 mm) wide.
  - The Hourly F-Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
  - Through Penetrations — One or more pipes, conduit or tubes to be installed where the opening. The total number of through penetrations is dependent on the size of the opening and the type and size of the penetrations. Any combination of the penetrations described below may be used provided that the following performance criteria in the graphic specifications are satisfied:
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- Firestop System — The firestop system shall consist of the following:
  - Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. (16 mm) thickness of sealant applied within annular space around perimeter of pipe through penetration.

Opening	Wrap Strp	Wall Stud Size	Max Over of	Annular Space in
Diam (mm)	US	thick x with in. (mm)	in. (mm)	Max
1-1/2 (38)	CP 6485 - 1" US	3/8 x 1 (9 x 25)	2-3/8 (60)	3/16 (5)
2 (51)	CP 6485 - 2" US	3/8 x 1 (9 x 25)	3 (76)	3/16 (5)
3 (76)	CP 6485 - 2" US	3/8 x 1 (9 x 25)	4 (102)	3/16 (5)
4 (102)	CP 6485 - 4" US	3/8 x 1 (9 x 25)	5-3/8 (127)	3/8 (10)
6 (152)	CP 6485 - 6" US	1/2 x 1-3/4 (13 x 44)	8 (203)	3/8 (10)

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

Through Penetrations

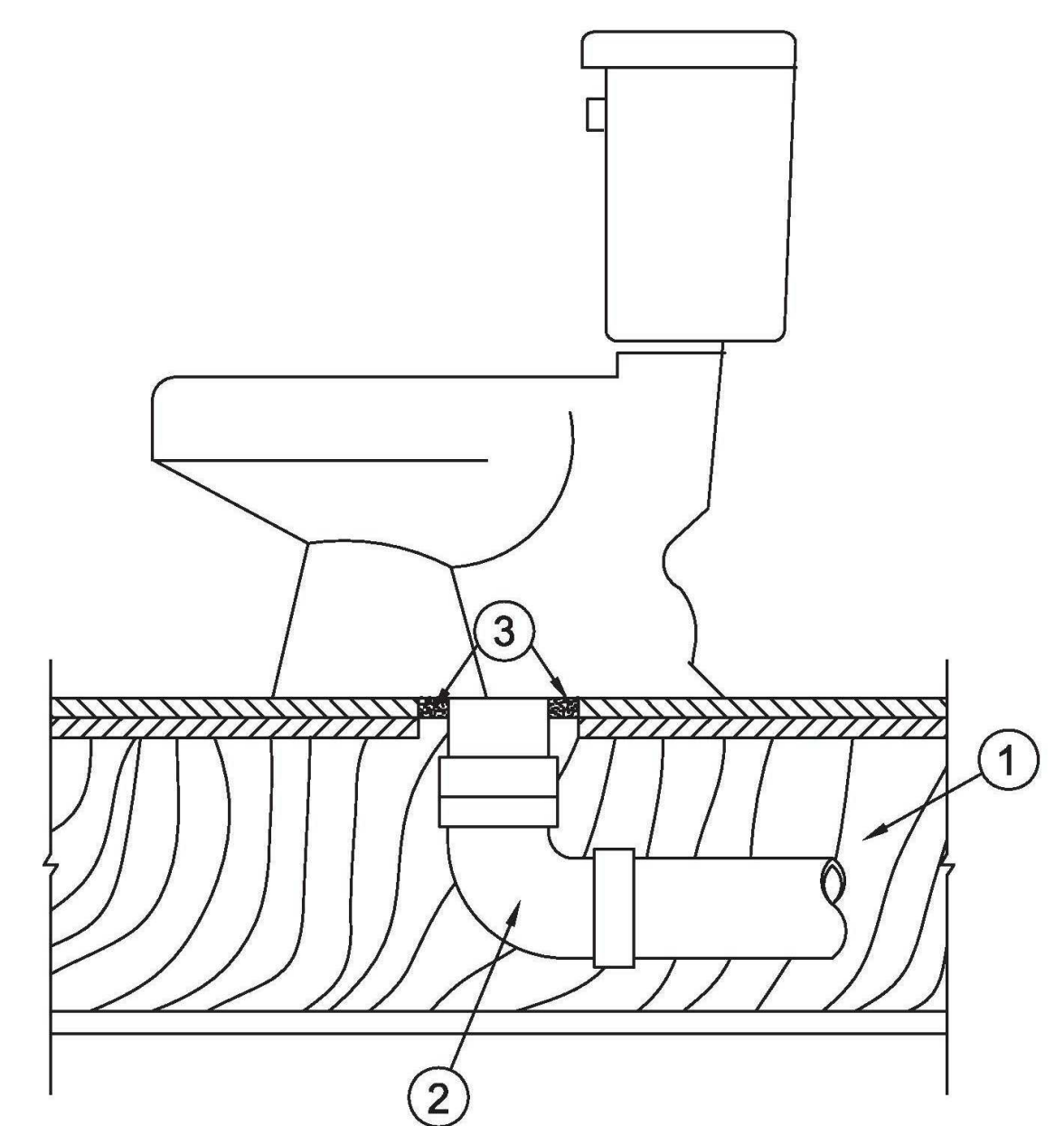
Non-Metallic Pipes

2000 Series

Wood Frame Floor/Ceiling

FC

**System No. F-C-2349**  
July 30, 2009  
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:
  - 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 in. (25 mm) larger than diam of pipe.
  - 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.
  - Gypsum Board\*** — Nom 4 ft (1.2 m) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design.

2. **Nonmetallic Pipe** — One nonmetallic drain pipe with max 4 in. (102 mm) diam toilet flange installed within the firestop system. The annular space between drain pipe and periphery of opening shall be min 0 in. (point contact) to max 1 in. (25 mm). Pipe to be rigidly supported on lower side of floor assembly. Pipe to be rigidly supported on lower side of floor assembly. The following types and sizes of nonmetallic pipes, fittings and flanges may be used:
  - 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.
  - Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular core or solid core ABS pipe for use in vented (drain, waste or vent) piping systems.

3. **Fill, Void or Cavity Materials\* — Caulk or Sealant** — Min 1/2 in. (13 mm) thickness of caulk applied within annular space around perimeter of pipe (Item 2), flush with top surface of floor.
 

3M COMPANY — IC 15WB+, CP 25WB+, FB-3000WT

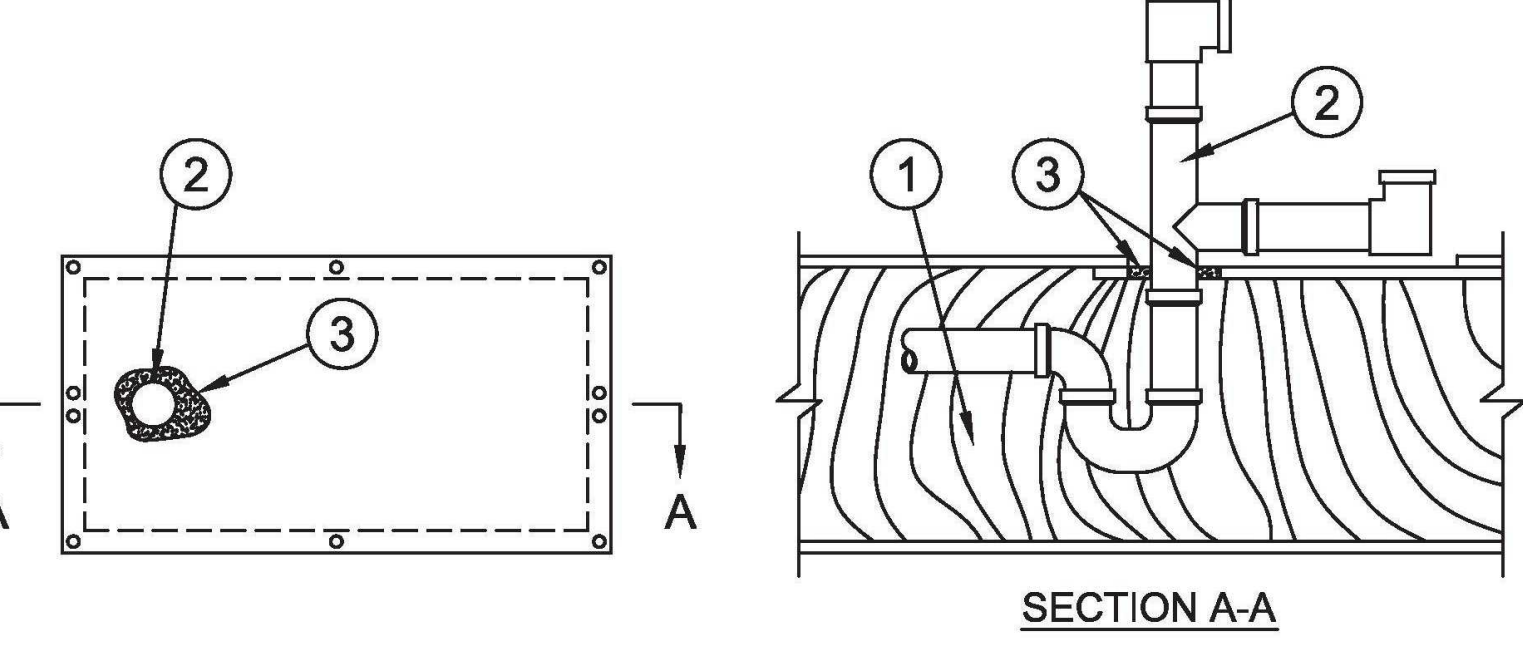
4. **Water Closet** — Floor mounted vitreous china water closet.
 

\*Bearing the UL Classification Mark

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**3M Fire Protection Products**  
www.3m.com/firestop  
**F-C-2349 • 1 of 1**  
Product Support Line  
1-800-328-1687

**System No. F-C-2350**  
June 13, 2007  
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:
  - Flooring System** — Lumber or plywood subfloor with finish floor of lumber, plywood or **Floor Topping Mixture\*** as specified in the individual Floor-Ceiling Design. Rectangular cutout in flooring to accommodate the bathtub drain piping (Item 2) to be max 8 by 12 in. (203 by 305 mm). Cutout to be patched using one layer of min 3/4 in. (19 mm) thick plywood or min 5/8 in. (16 mm) thick gypsum board (Item 1C). One piece of plywood or gypsum board, min 2 in. (51 mm) longer and wider than the cutout in the flooring, cut in half in short dimension at opening hole-sawed for bathtub drain piping (Item 2). Two halves positioned below flooring, concentric with cutout, with cut edges tightly butted with no visible openings, and screw attached by means of 1-1/2 in. (38 mm) long laminate screw spaced max 4-1/2 in. (114 mm) OC. Diam of opening hole-sawed through patch to be 3/8 in. (10 mm) larger than outside diam of bathtub drain piping. Max diameter opening is 2-1/2 in. (63.5 mm)
  - 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.
  - Gypsum Board\*** — Nom 4 ft (1.2 m) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design.
2. **Drain Piping** — Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 polyvinyl chloride (PVC) pipe and drain fittings cemented together and provided with PVC bathtub waste/overflow fittings. The annular space shall be min 0 in. (point contact) to max 1 in. (25 mm).
3. **Fill, Void or Cavity Materials\* — Caulk or Sealant** — Min 5/8 in. (16 mm) thickness of sealant applied within annular space around perimeter of Drain Piping, flush with top surface of plywood or gypsum wallboard patch.
 

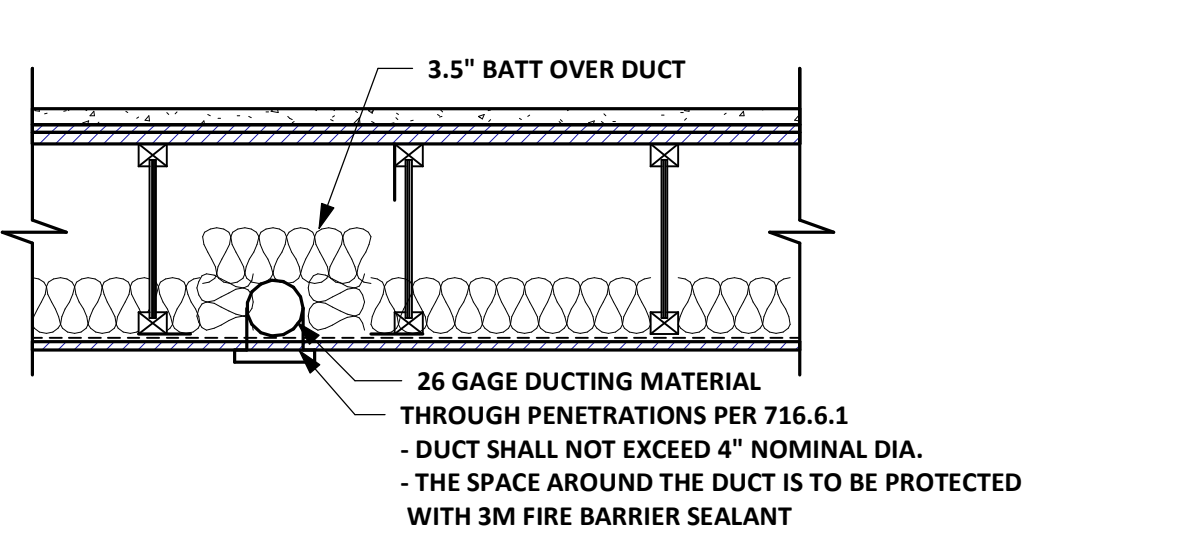
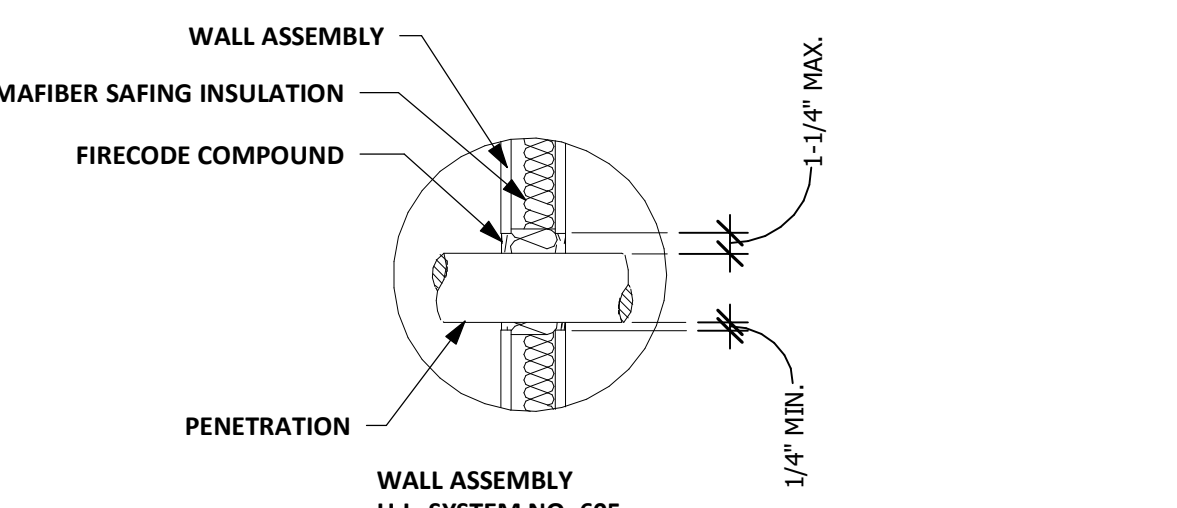
3M COMPANY — IC 15WB+ Sealant, CP 25WB+ Caulk, FB-3000 WT Sealant

\*Bearing the UL Classification Mark

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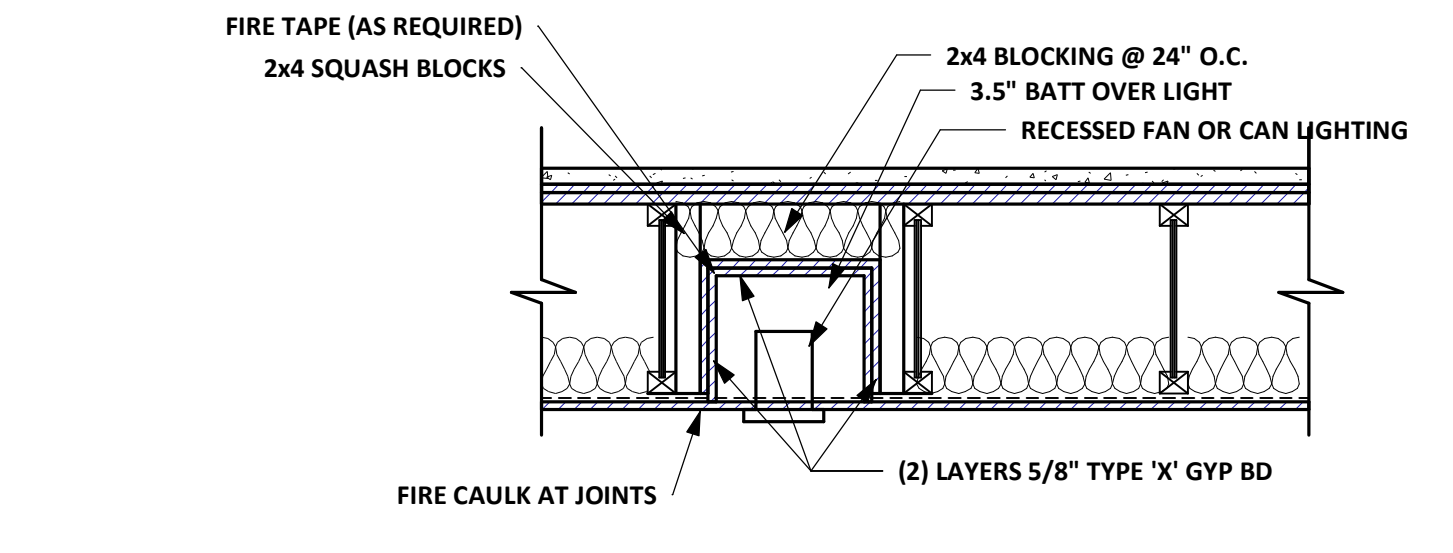
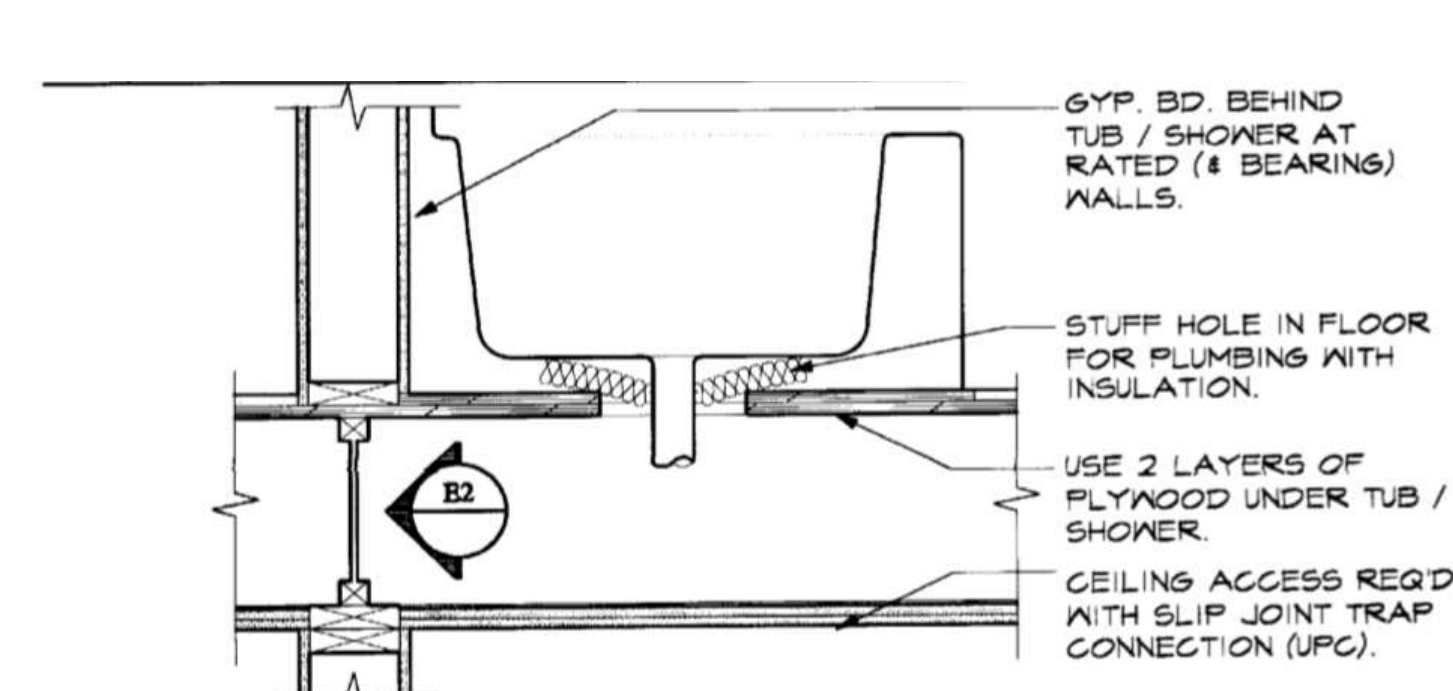
**3M Fire Protection Products**  
www.3m.com/firestop  
**F-C-2350 • 1 of 1**  
Product Support Line  
1-800-328-1687

**3 DUCTING THROUGH FIRE PENETRATIONS**



**4 DUCTING DETAIL**  
A13 1" = 1'-0"

**F4 TUB / SHOWER DETAILS**



**2 RECESSED LIGHT**  
A13 1" = 1'-0"

**1 FIRE PENETRATION DETAILS**  
A13 1/2" = 1'-0"

**CABLING MEMBRANE PENETRATION  
INTO SEPARATION WALL**

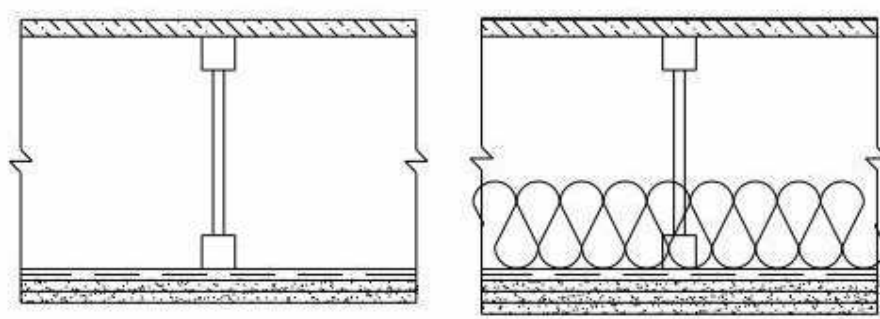


1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum board/wall assembly shall be constructed of the materials and in the manner specified in the individual L500, 1500 or 1600 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
  - Shear wall framing may consist of either wood studs or channel (slotted) steel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to consist of 1 1/2 in. (38 mm) wide and spaced max 24 in. (610 mm) OC.
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  - The Hourly F-Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
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  - Fill, Void or Cavity Material\* — Sealant — Min 5/8 in. (16 mm) thickness of sealant applied within annular space around perimeter of pipe through penetration.

\*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 Recognized Component Mark

## FLOOR-CEILING SYSTEMS, WOOD-FRAMED

GA FILE NO. FC 5106	GENERIC	1 HOUR FIRE	55 to 59 STC SOUND
<b>WOOD I-JOISTS, GYPSUM WALLBOARD, RESILIENT CHANNELS</b>			
<p><b>Base</b> layer 1/2" type X gypsum wallboard applied at right angles to resilient channels 16" o.c. with 1 1/4" Type S drywall screws 12" o.c. Resilient channels applied at right angles to minimum 9 1/2" deep wood I-joists, with minimum 1 1/4" deep x 1 1/2" wide flanges and minimum 3/8" webs, 24" o.c. with 1 1/4" Type W drywall screws. <b>Face</b> layer 1/2" type X gypsum wallboard applied at right angles to channels with 1 5/8" Type S drywall screws 12" o.c. Face layer end joints located midway between channels and attached to base layer with 1 1/2" Type G screws 12" o.c. Edge joints offset 24" from base layer edge joints. Wood I-joists supporting 5/8" oriented strand board applied at right angles to I-joists with 8d common nails 12" o.c.</p>			
<p>STC and IIC tested both with and without vinyl floor covering and with 3 1/2" glass fiber insulation in joist spaces. <b>Third layer of 1/2" or 5/8" type X gypsum wallboard required to achieve 1 hour fire resistance rating when glass fiber insulation is used.</b></p>			
		<p>Approx. Ceiling Weight: 5 psf                      Fire Test: NRCC A-4440.1 (Revised), 6-24-97                      Sound Test: NRCC B-3150.3, 6-30-00                      IIC &amp; Test: 46 (50 vinyl floor covering)                      NRCC B-3150.3, 6-30-00;                      NRCC B-3150.6, 6-30-00</p>	



## GA FILE NO. WP 3242

## GENERIC

### 1 HOUR FIRE

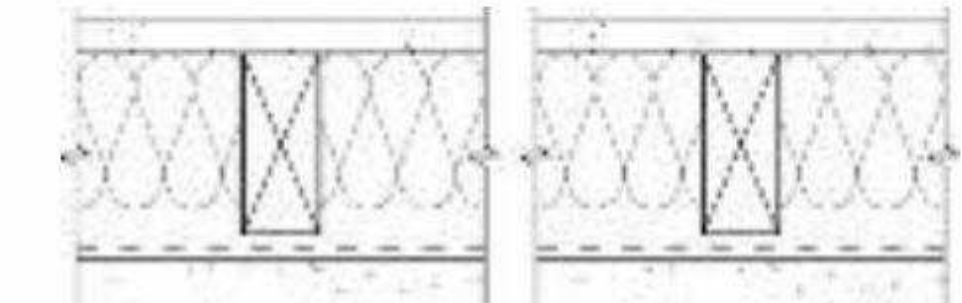
### 50 to 54 STC SOUND

**GYPSUM WALLBOARD, RESILIENT CHANNELS, MINERAL OR GLASS FIBER INSULATION, WOOD STUDS**

Resilient channels 16" o.c. attached at right angles to ONE SIDE of 2 x 4 wood studs 24" o.c. with 1 1/4" Type S drywall screws. One layer 5/8" type X gypsum wallboard or gypsum veneer base applied at right angles to channels with 1" Type S drywall screws 8" o.c. with vertical joints located midway between studs. 3" mineral or glass fiber insulation in stud space.

OPPOSITE SIDE: One layer 5/8" type X gypsum wallboard or gypsum veneer base applied parallel or at right angles to studs with 6d cement coated nails, 1 7/8" long, 0.0915" shank, 1 5/64" heads, 7" o.c.

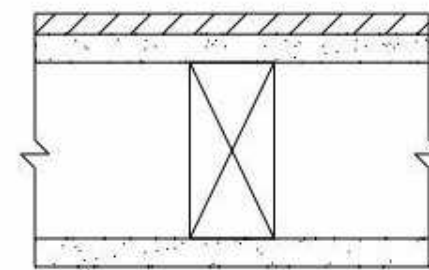
Vertical joints staggered 24" on opposite sides. **(LOAD-BEARING)**



Thickness: 5 3/8"  
 Approx. Weight: 7 psf  
 Fire Test: Based on UL R14196, 05NK05371, 2-15-05, UL Design U309  
 Sound Test: NRCC TL-93-098, IRC-IR-761, 3/98

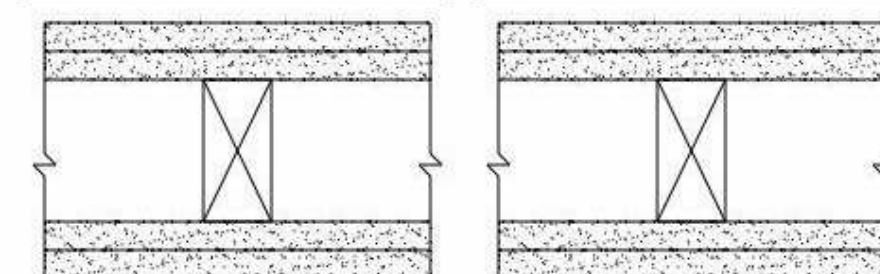
## EXTERIOR WALLS

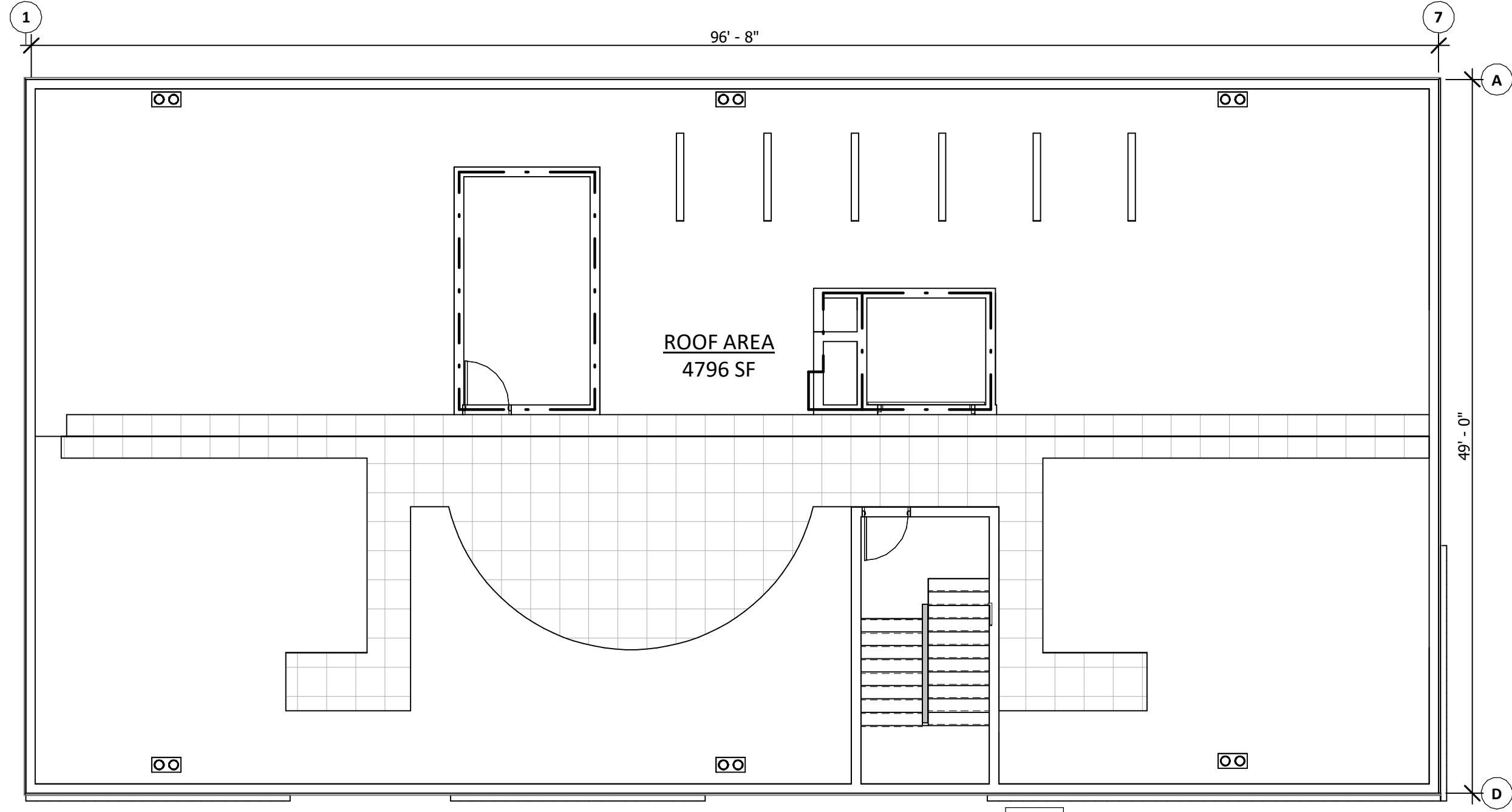
GA FILE NO. WP 8105	GENERIC	1 HOUR FIRE
<b>GYPSUM WALLBOARD, GYPSUM SHEATHING, WOOD STUDS</b>		
<p><b>EXTERIOR SIDE:</b> One layer 48" wide 5/8" type X gypsum sheathing applied parallel to 2 x 4 wood studs 24" o.c. with 1 3/4" galvanized roofing nails 4" o.c. at vertical joints and 7" o.c. at intermediate studs and top and bottom plates. Joints of gypsum sheathing may be left untreated. Exterior cladding to be attached through sheathing to studs.</p>		
<p><b>INTERIOR SIDE:</b> One layer 5/8" type X gypsum wallboard, water-resistant gypsum backing board, or gypsum veneer base applied parallel or at right angles to studs with 6d coated nails 1 7/8" long, 0.0915" shank, 1/4" heads 7" o.c. <b>(LOAD-BEARING)</b></p>		
		<p>Thickness: Varies                      Approx. Weight: 7 psf                      Fire Test: See WP 3510 (UL R3501-47, -48, 9-17-65, UL Design U309; UL R1319-129, 7-22-70, UL Design U314)</p>



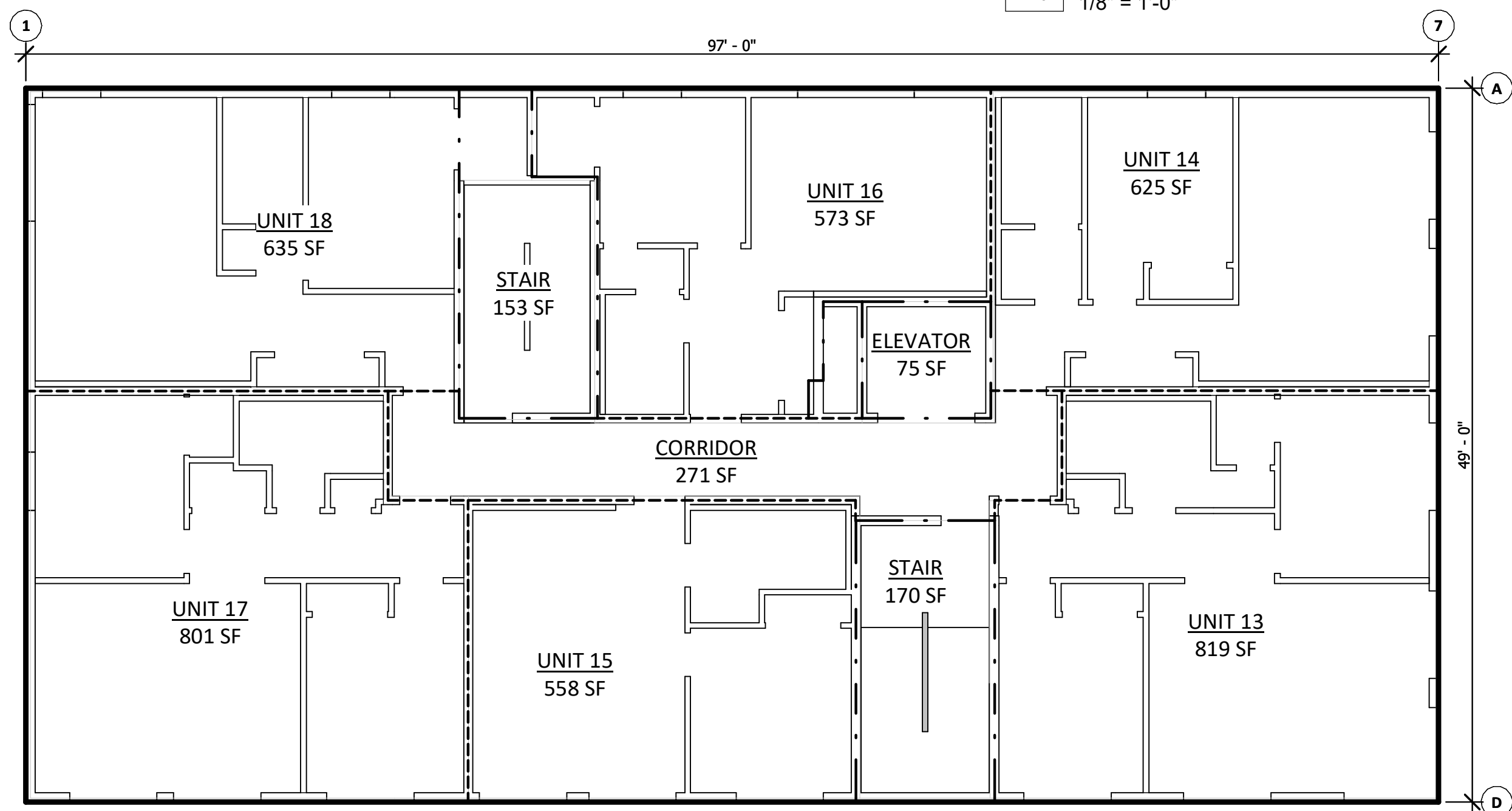
## WALLS AND INTERIOR PARTITIONS, WOOD-FRAMED

GA FILE NO. WP 4135	GENERIC	2 HOUR FIRE	40 to 44 STC SOUND
<b>GYPSUM WALLBOARD, WOOD STUDS</b>			
<p><b>Base</b> layer 5/8" type X gypsum wallboard or gypsum veneer base applied at right angles to each side of 2 x 4 wood studs 24" o.c. with 6d coated nails, 1 7/8" long, 0.085" shank, 1/4" heads, 24" o.c. <b>Face</b> layer 5/8" type X gypsum wallboard or gypsum veneer base applied at right angles to each side with 8d coated nails, 2 3/8" long, 0.100" shank, 1/4" heads, 8" o.c.</p>			
<p>Joints staggered 24" each layer and side. Sound tested with studs 16" o.c. and with nails for <b>base</b> layer spaced 6" o.c. <b>(LOAD-BEARING)</b></p>			
		<p>Thickness: 6 1/8"                      Approx. Weight: 12 psf                      Fire Test: FM WP 360, 9-27-74                      Sound Test: NGC 2363, 4-1-70</p>	

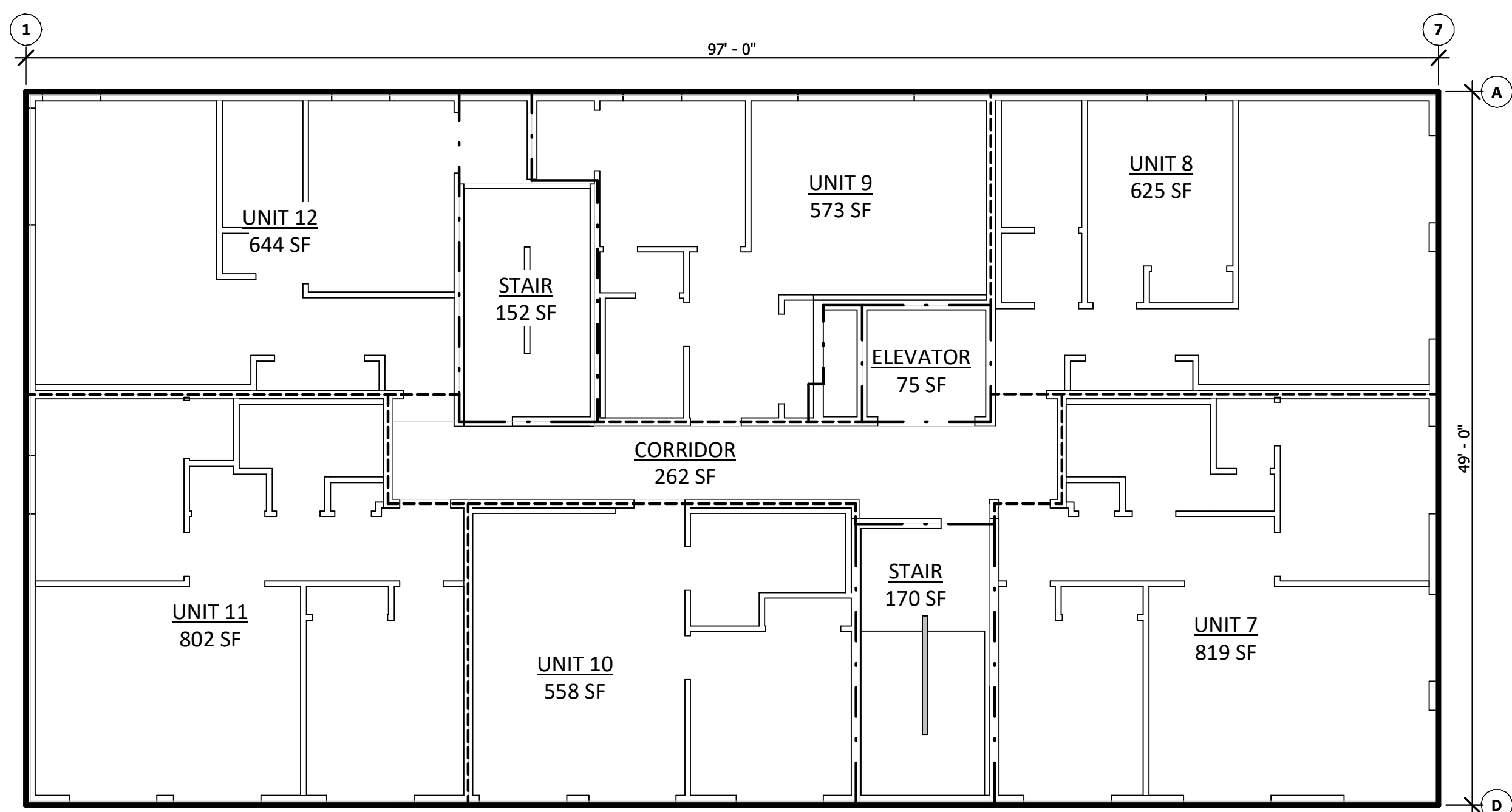




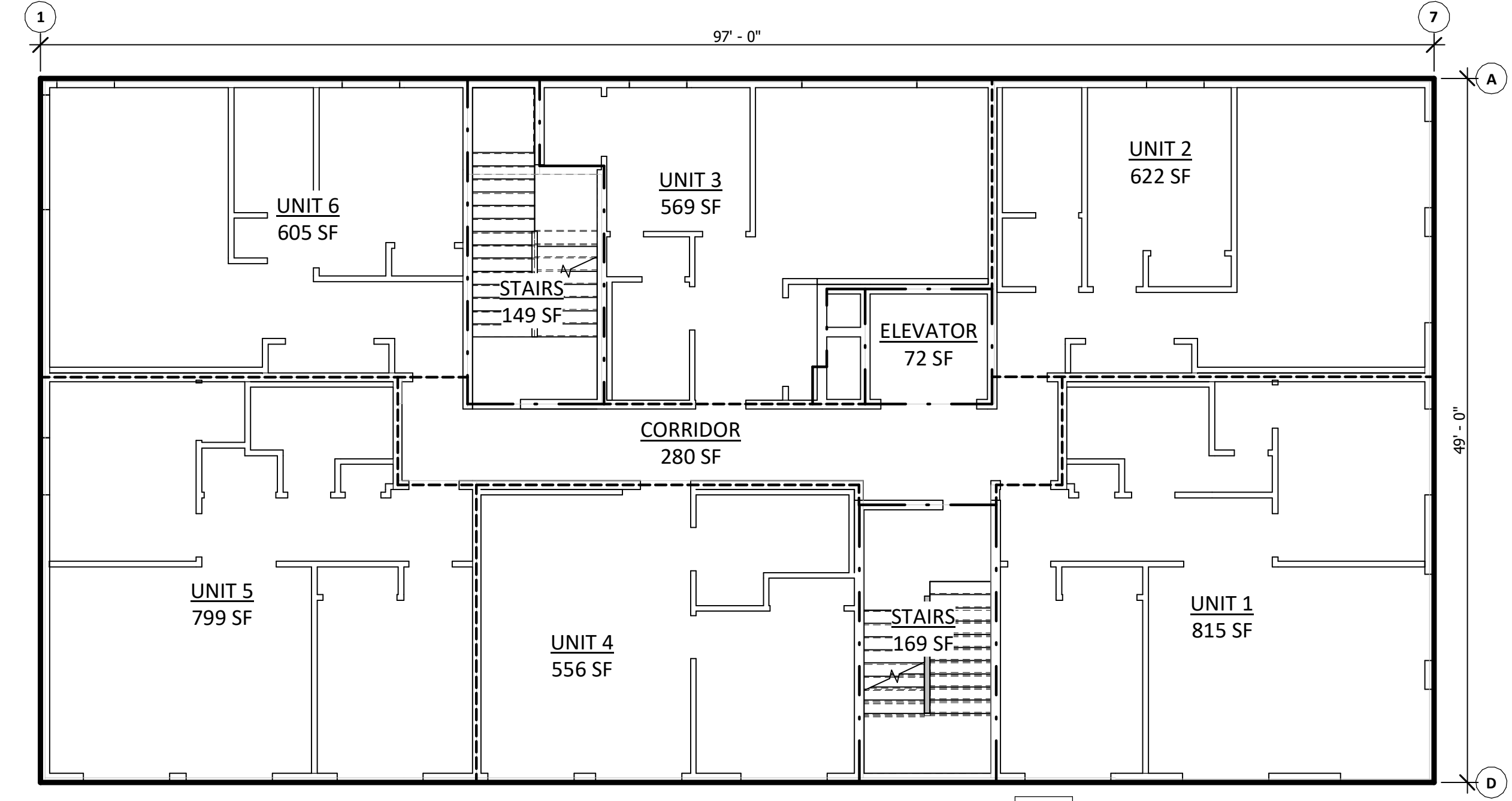
**6 ROOF LEVEL**  
A15 1/8" = 1'-0"



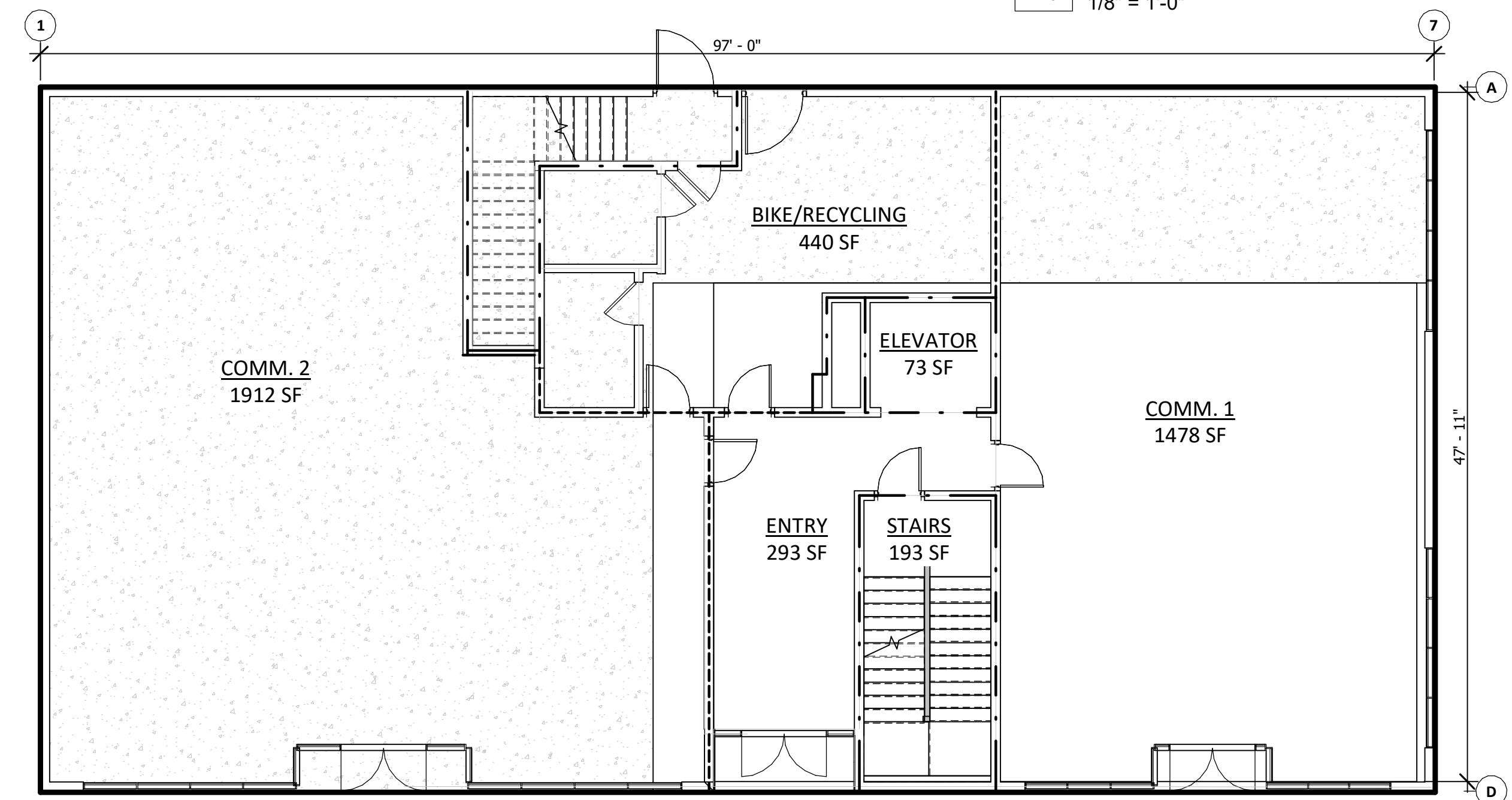
**4 3RD FLOOR PLAN**  
A15 1/8" = 1'-0"



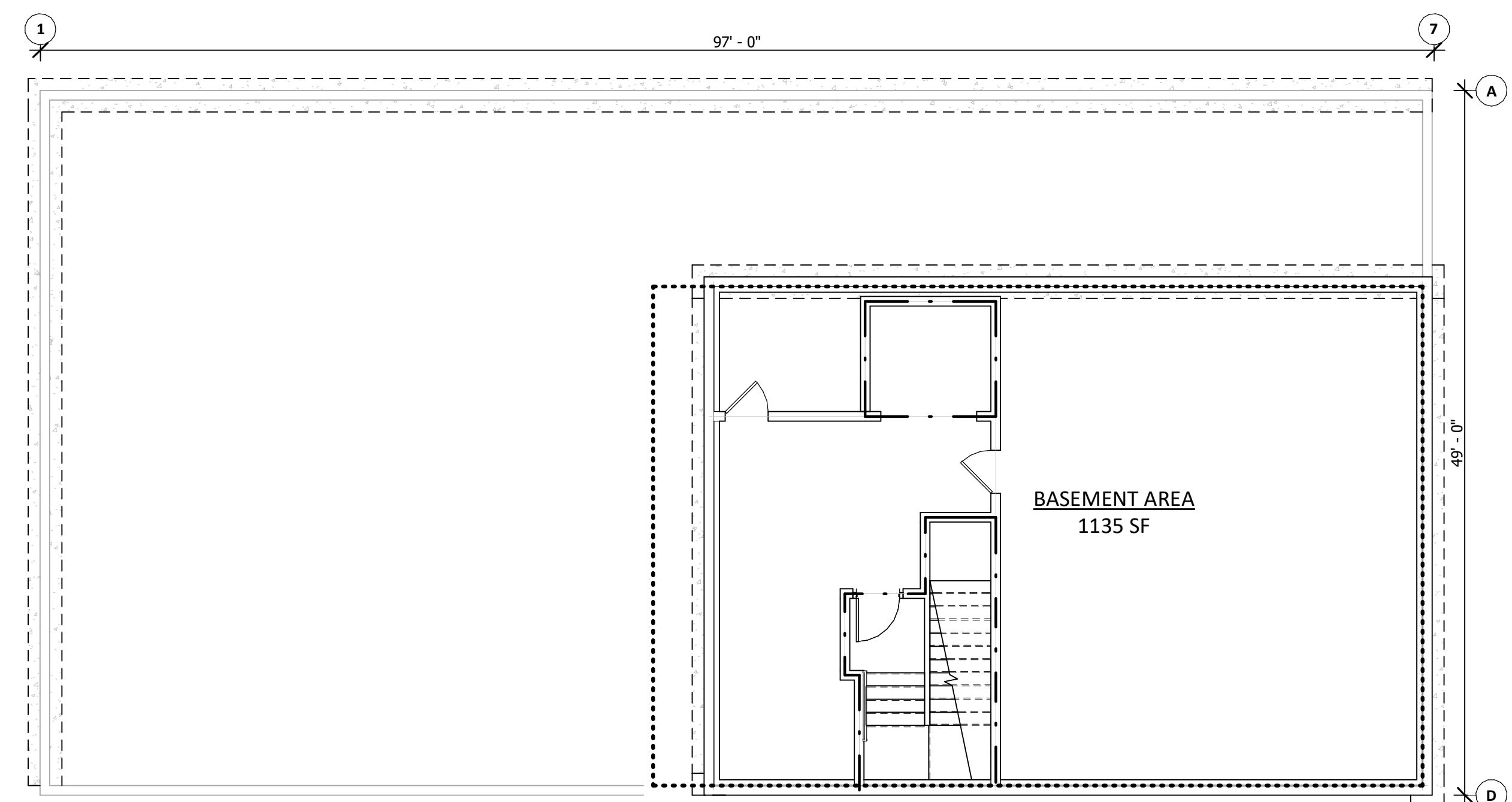
**3 2ND FLOOR PLAN**  
A15 1/8" = 1'-0"



**2 1ST FLOOR PLAN**  
A15 1/8" = 1'-0"



**1 GROUND FLOOR**  
A15 1/8" = 1'-0"



**5 BASEMENT FLOOR**  
A15 1/8" = 1'-0"

---	W1 - 2-HOUR FIRE RATED - ELEVATOR SHAFTS / STAIRS
----	W2 - 1 HOUR RATED - SOUND RATED - 50-54 STC
—	W3 - 1 HOUR RATED EXTERIOR WALL - NON SOUND RATED
.....	CONCRETE WALLS

**WALL LINE LEGEND**  
1/4" = 1'-0"



Project Name:  
**EV BUILDING**  
**RATED WALLS AND EXITING**  
**PLAN**

**Project Location:**  
**1901 N.**  
**KILLINGSWORTH**  
**ST**  
**PORTLAND, OR**  
**97217**

Project Owner:  
 RKW, INC.

PRINT DATE: 4/12/2019 12:20:50 PM

DRAWN BY: Author  
 APPROVED BY: Checker

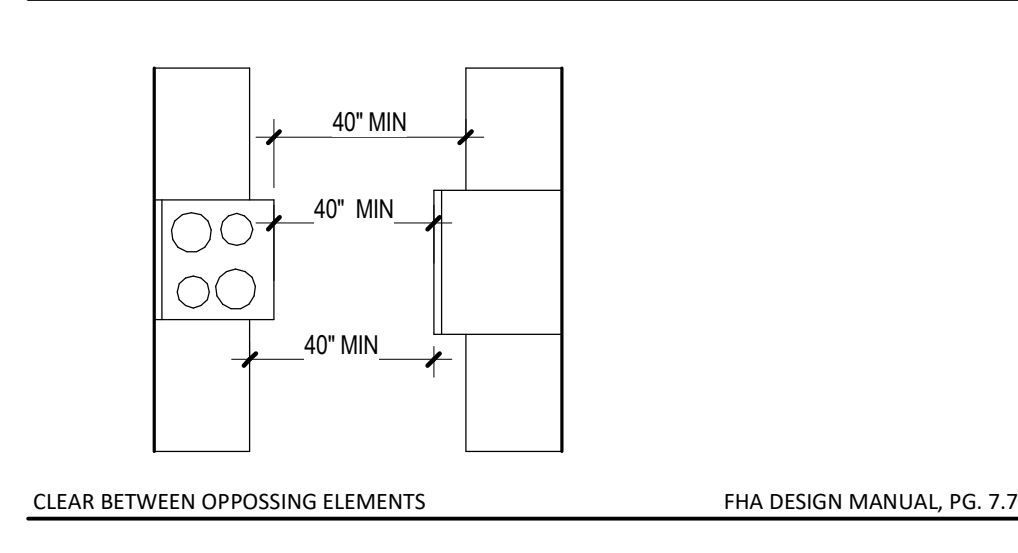
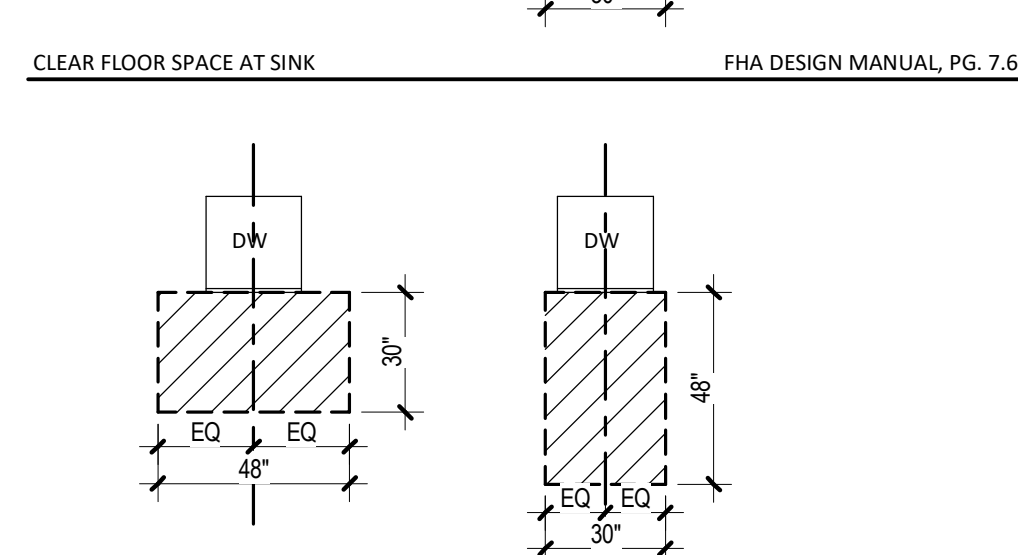
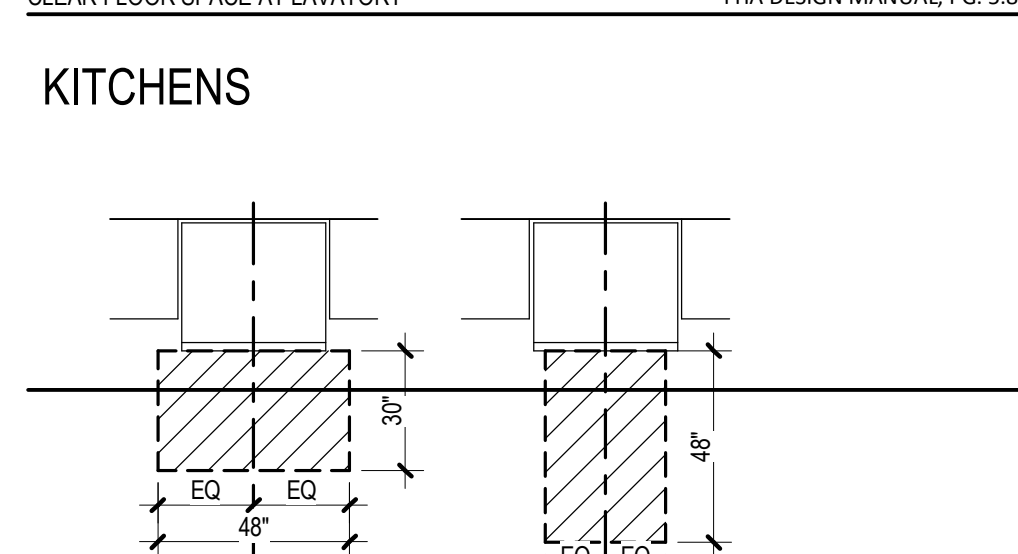
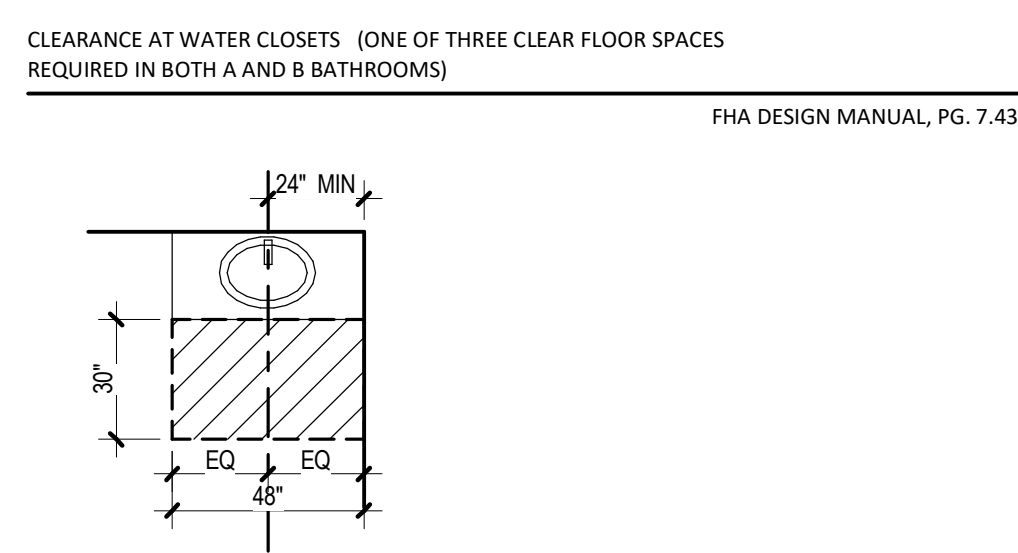
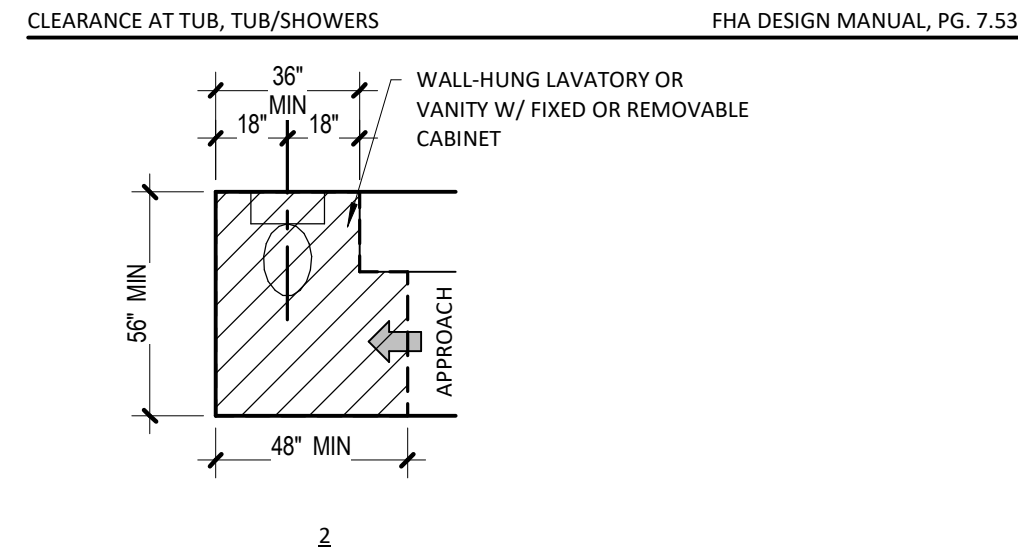
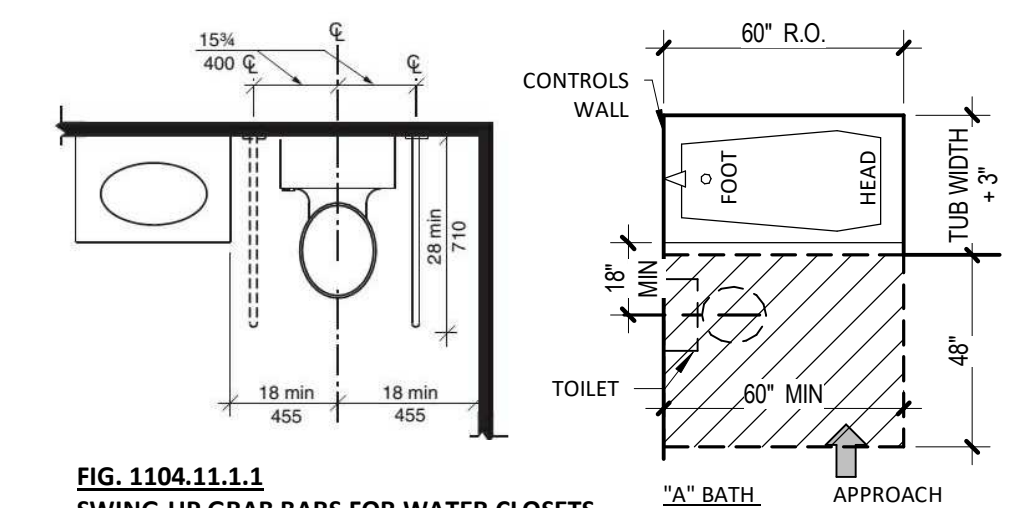
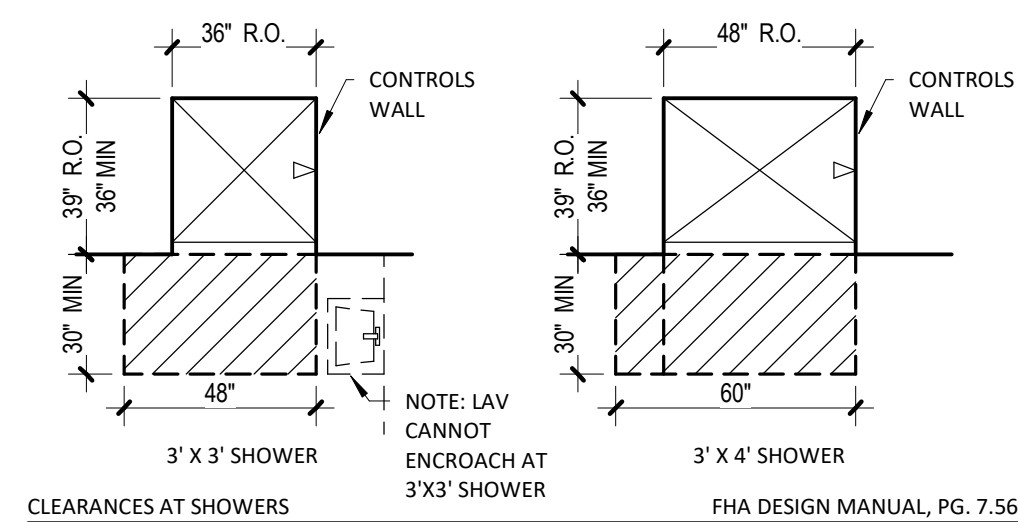
SHEET:

**A15**

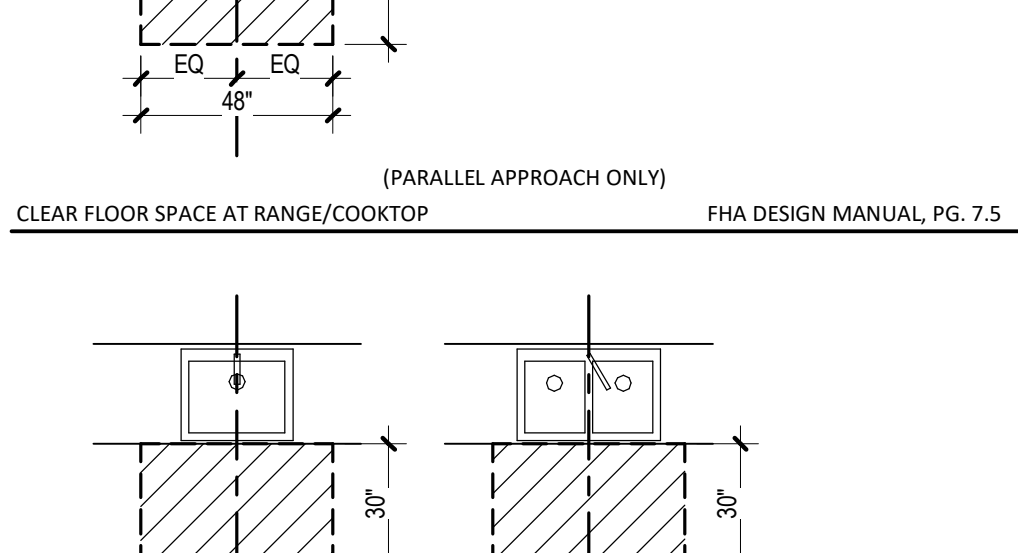
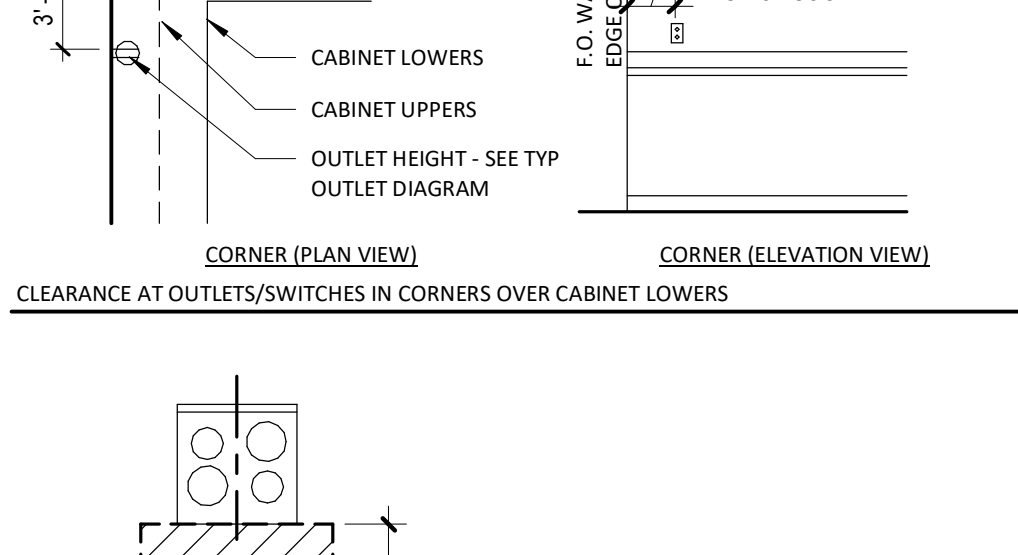
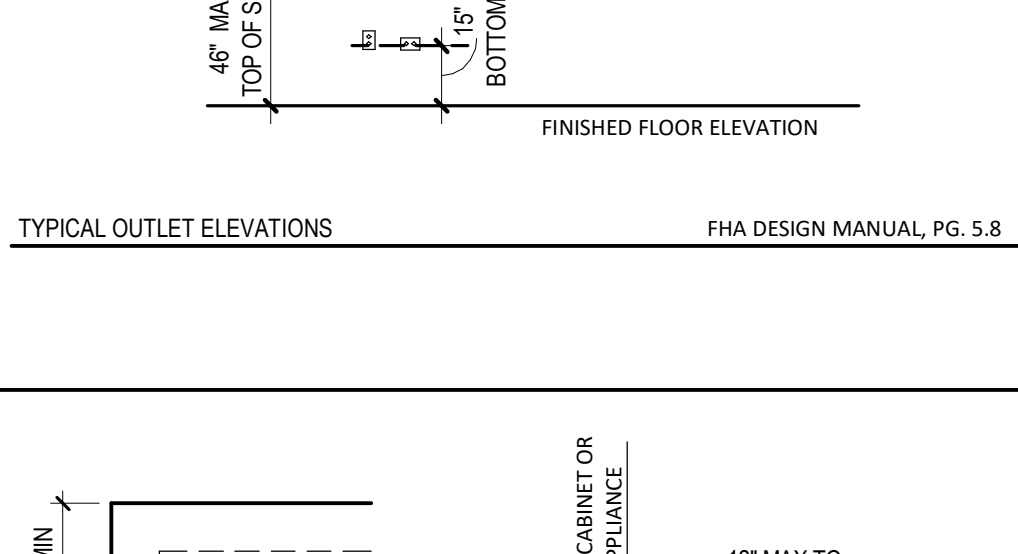
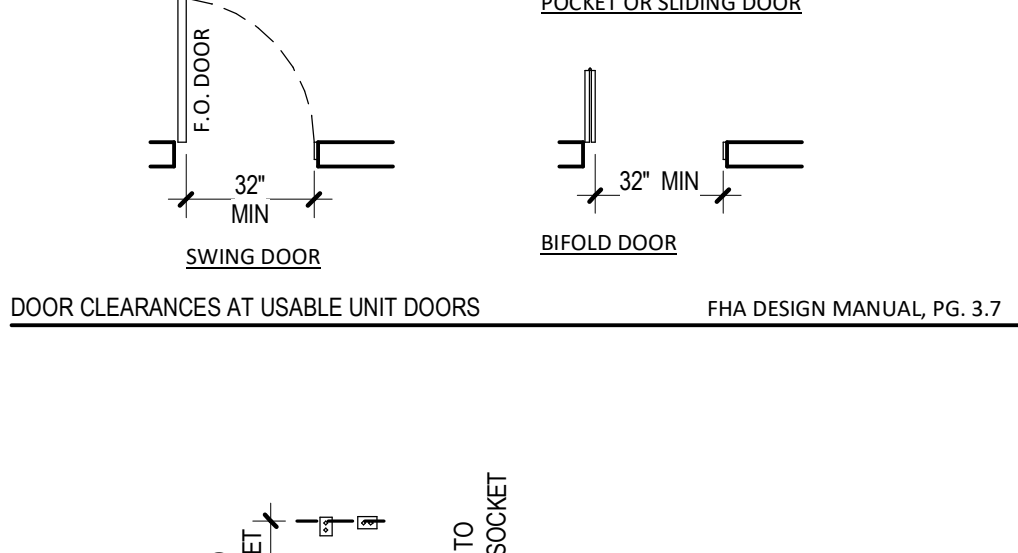
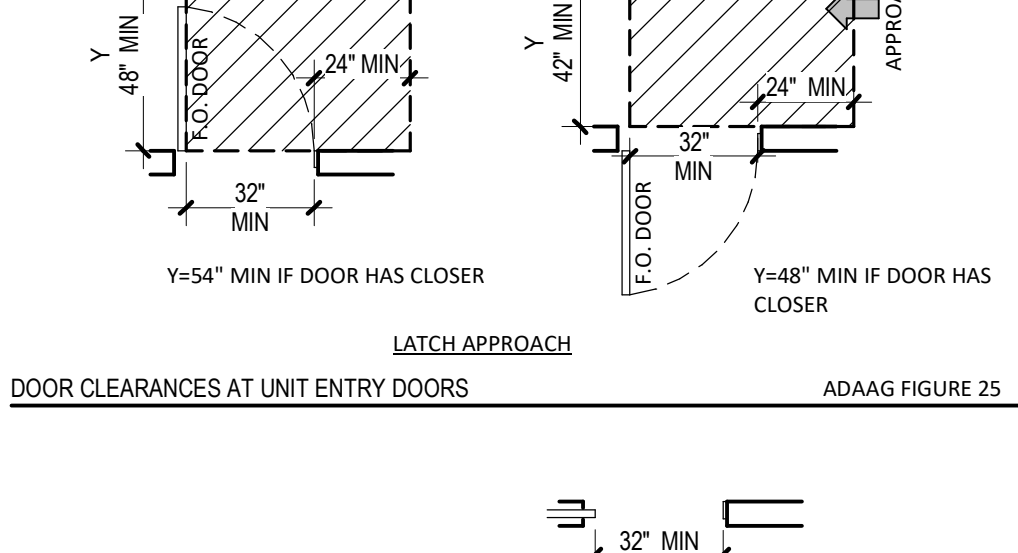
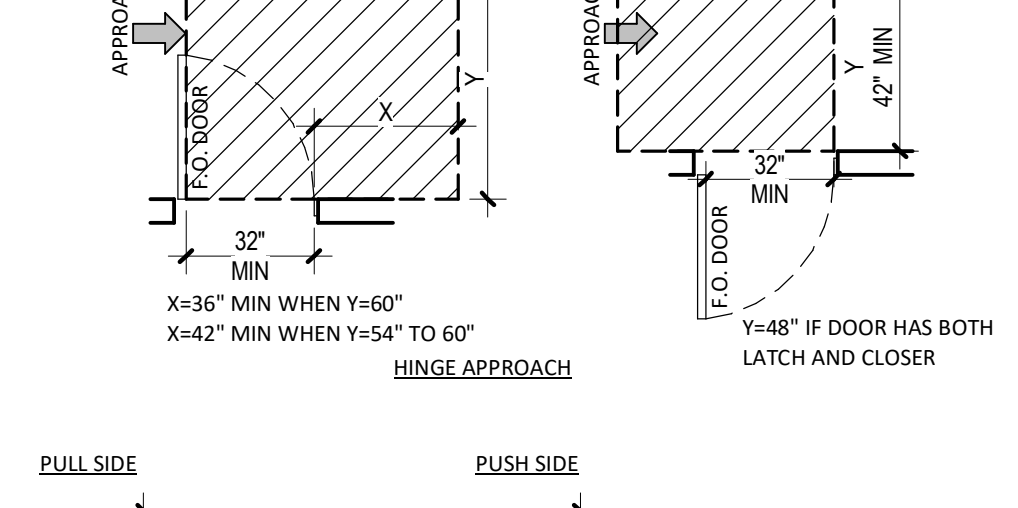
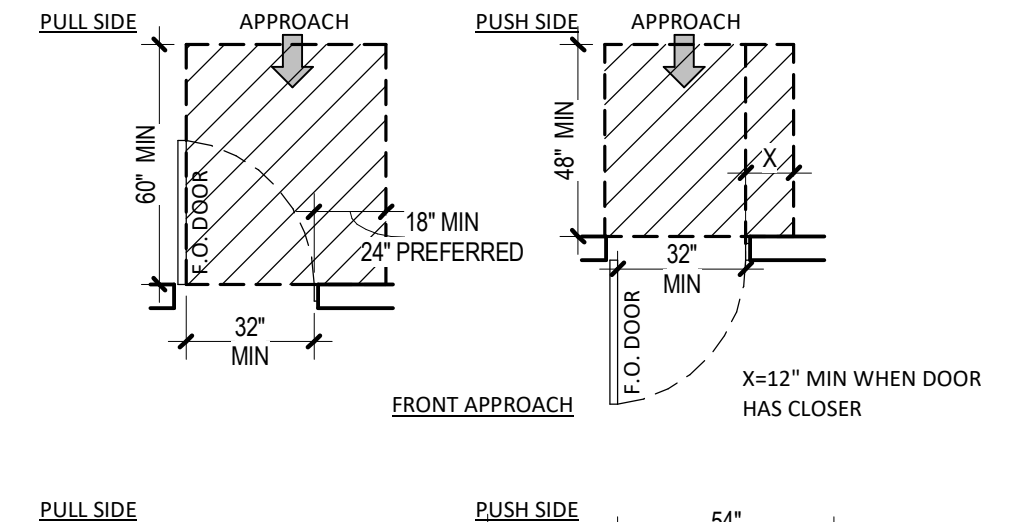
JOB NO.: 11538  
 SCALE: As indicated



**BATHROOMS**

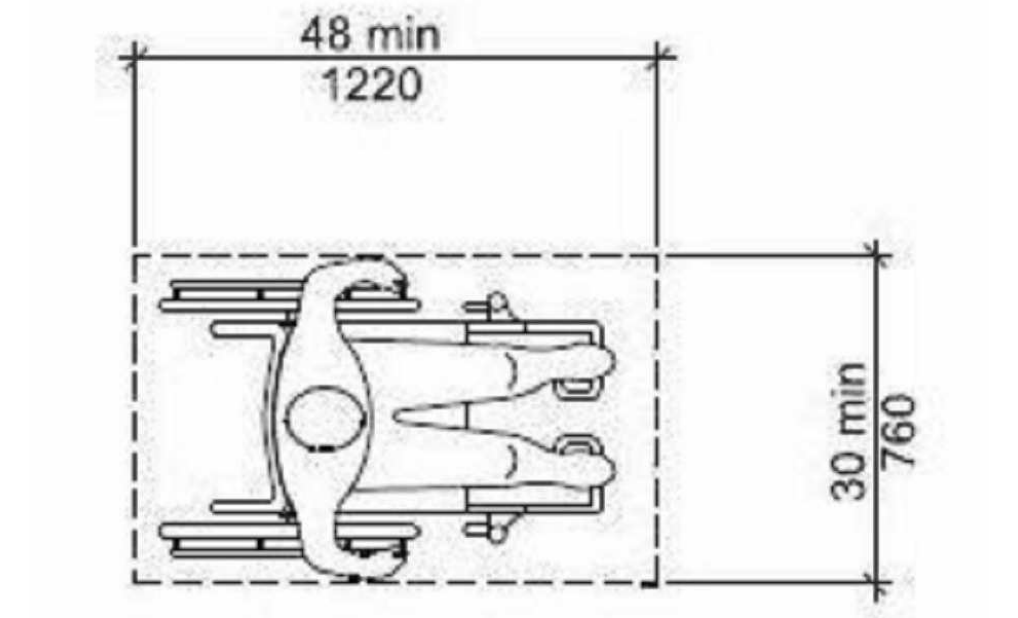
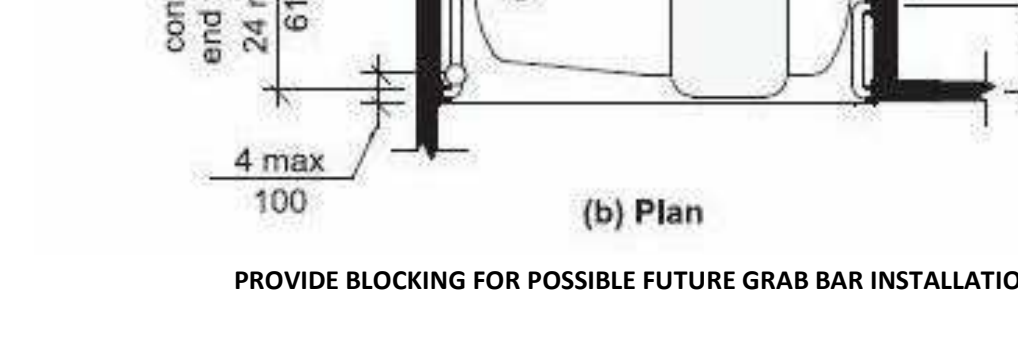
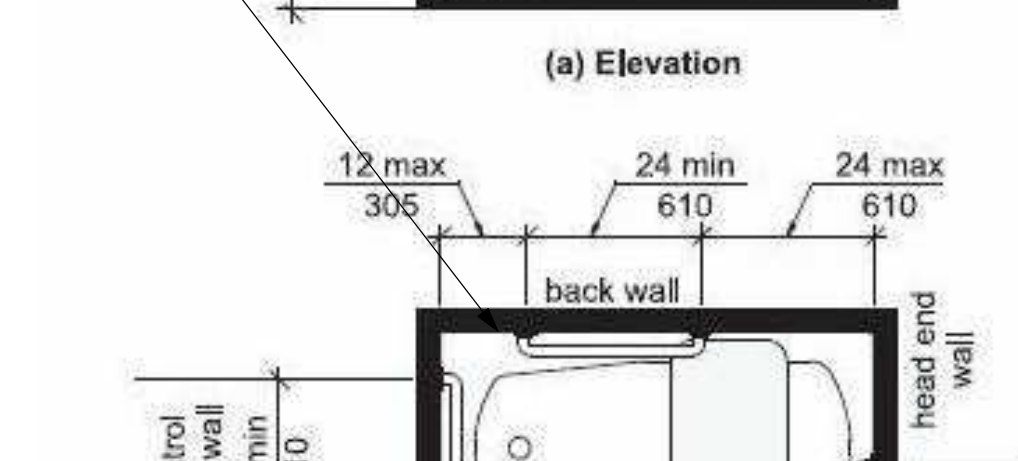
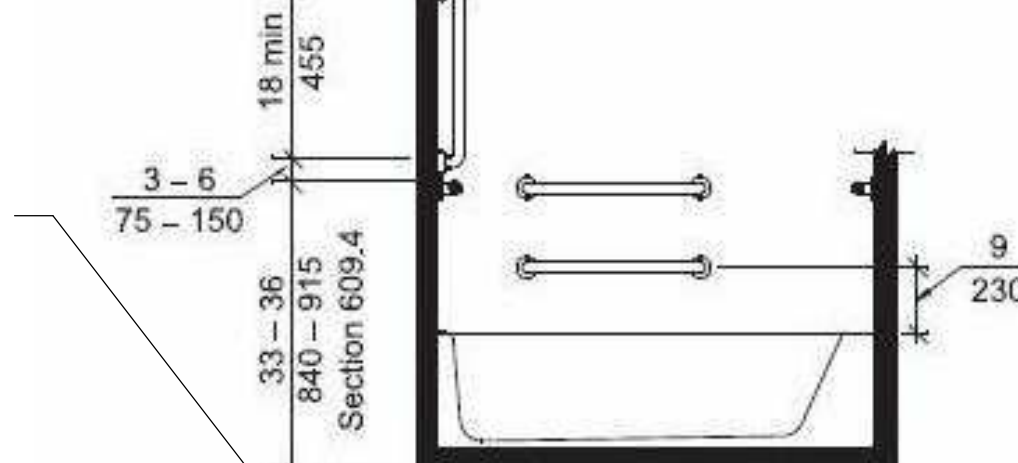
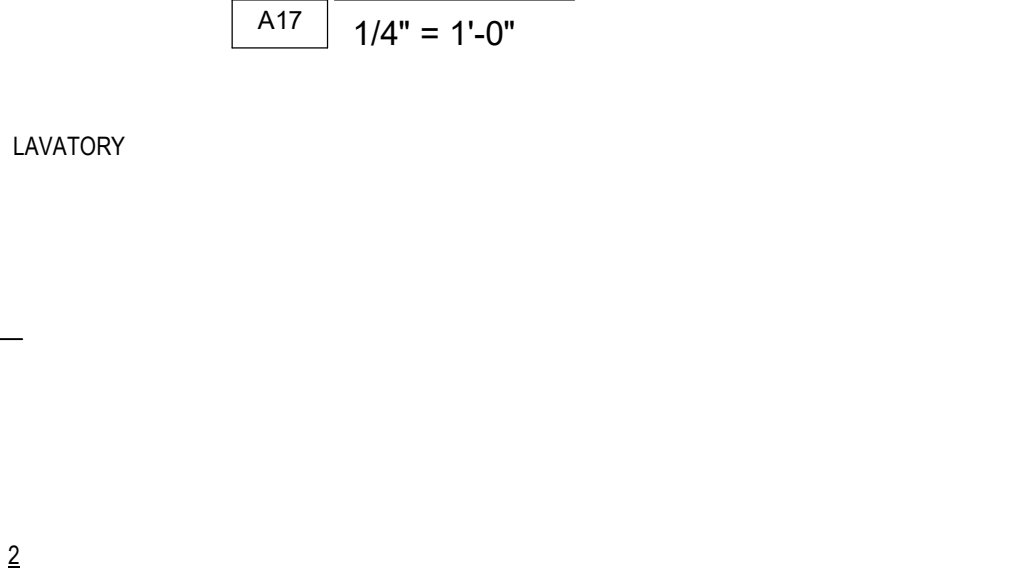
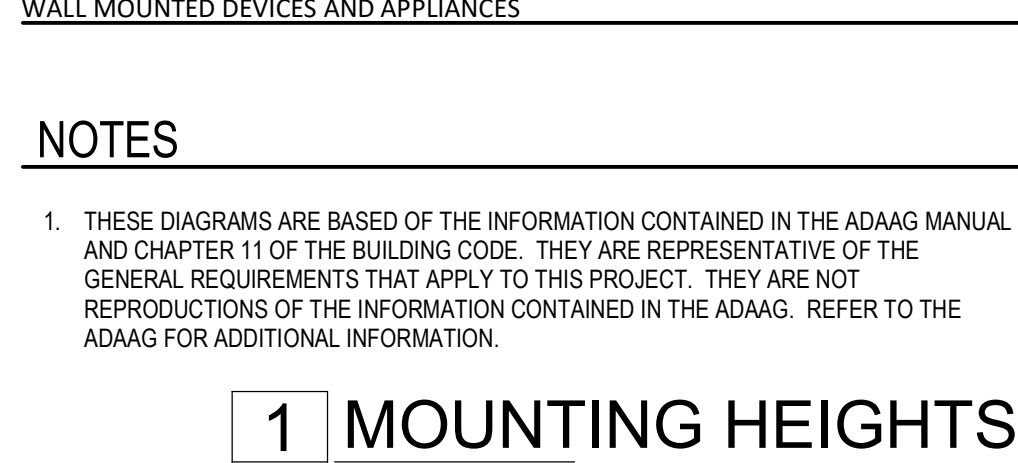
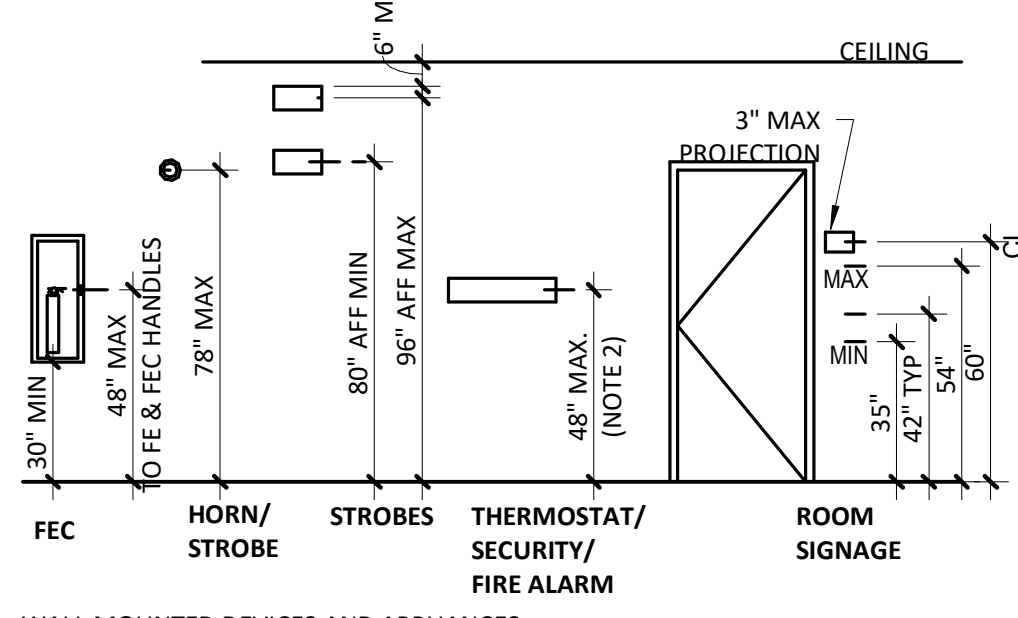
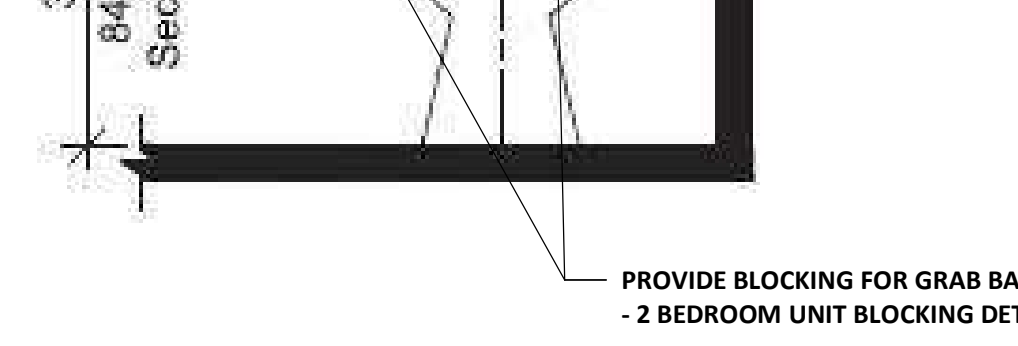
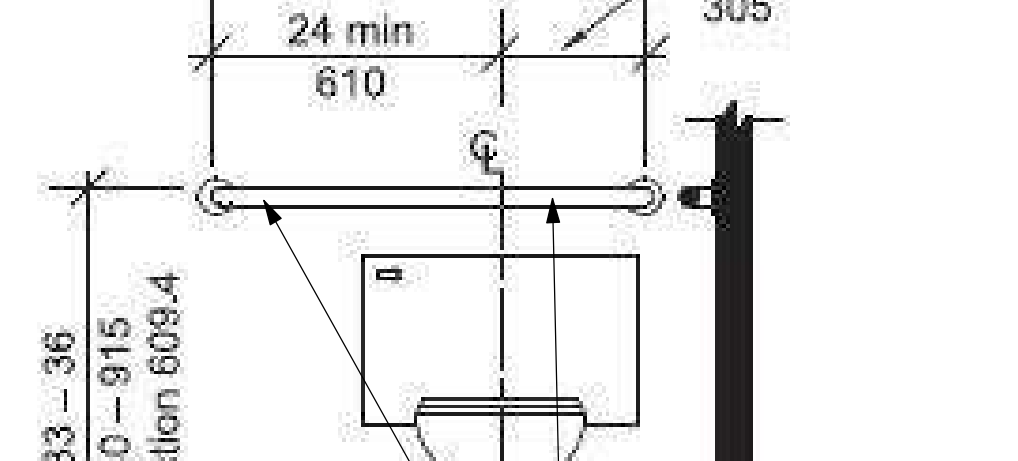
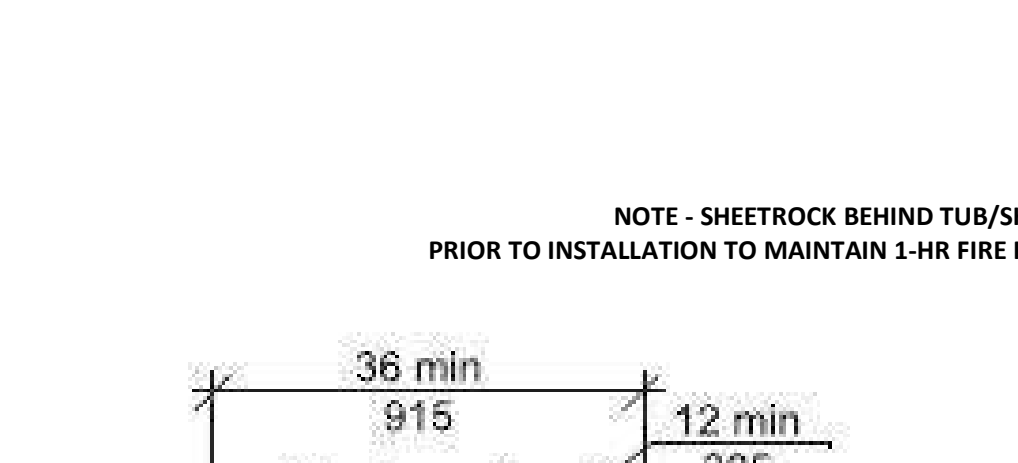
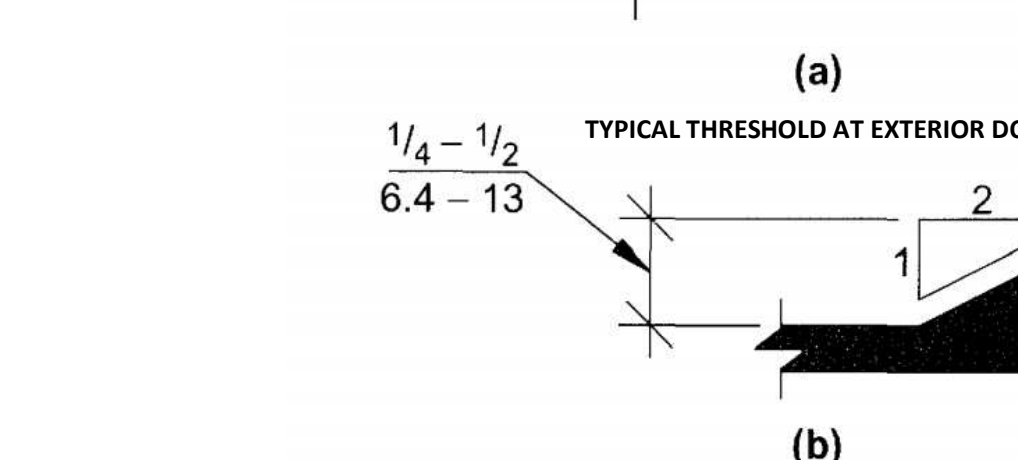
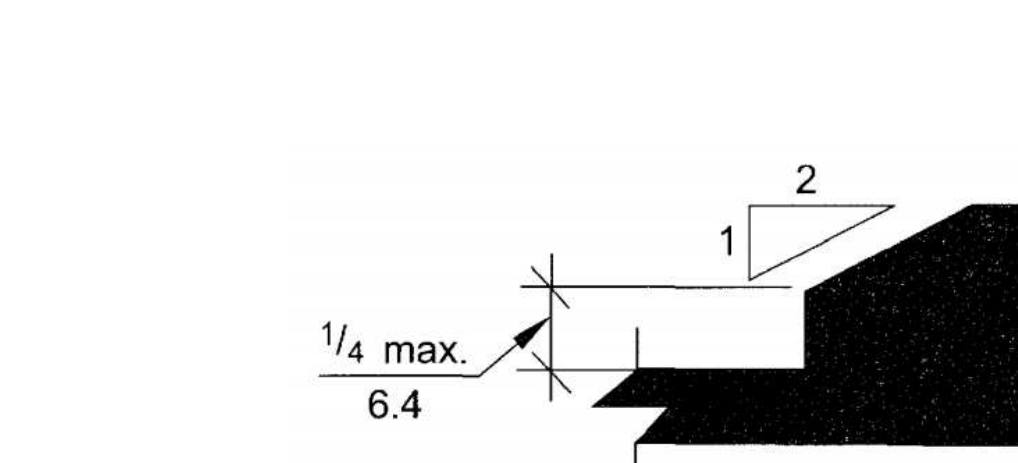
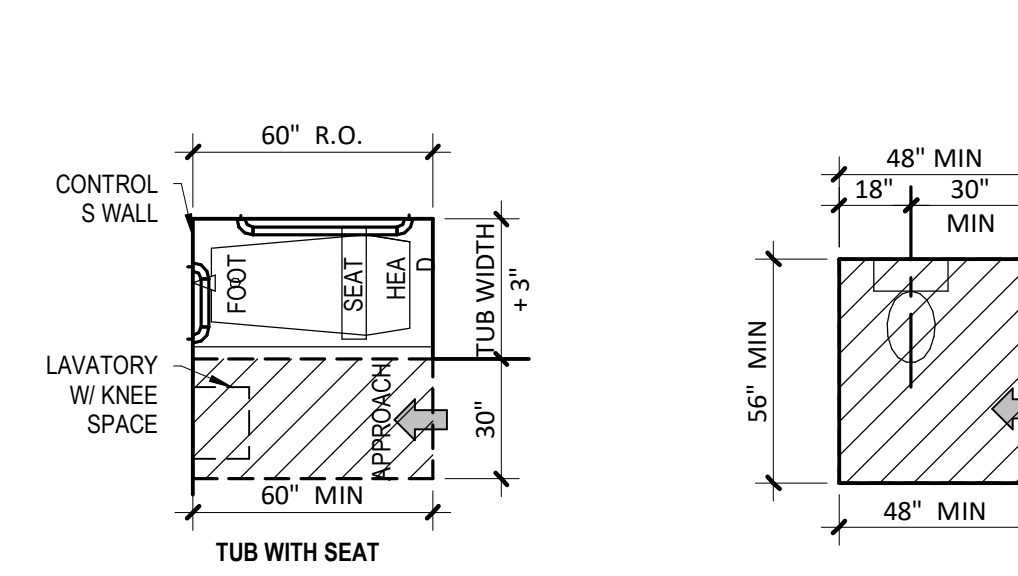
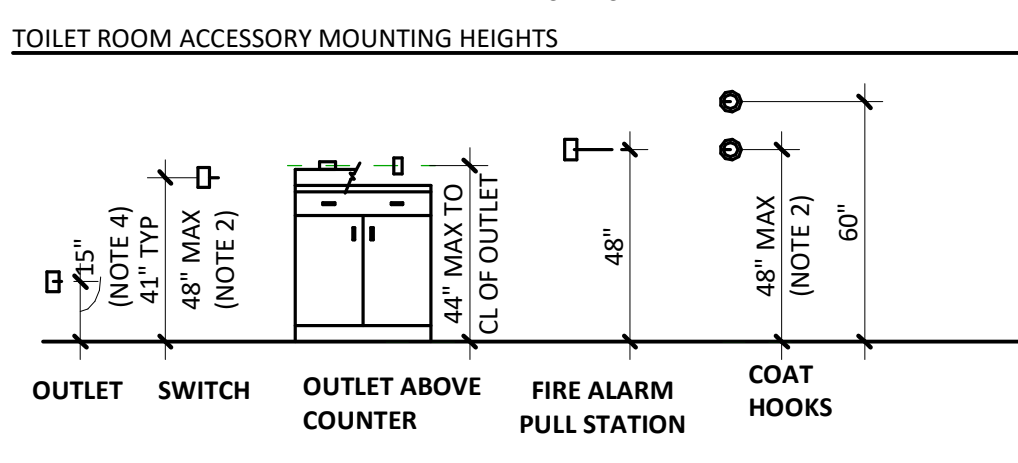
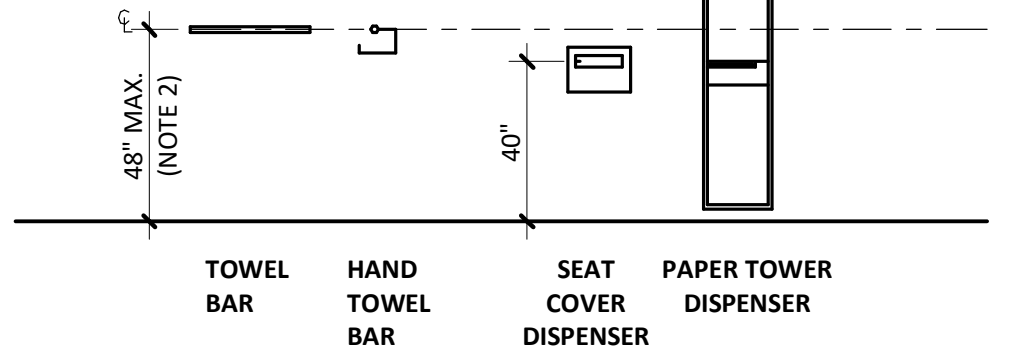


**GENERAL**

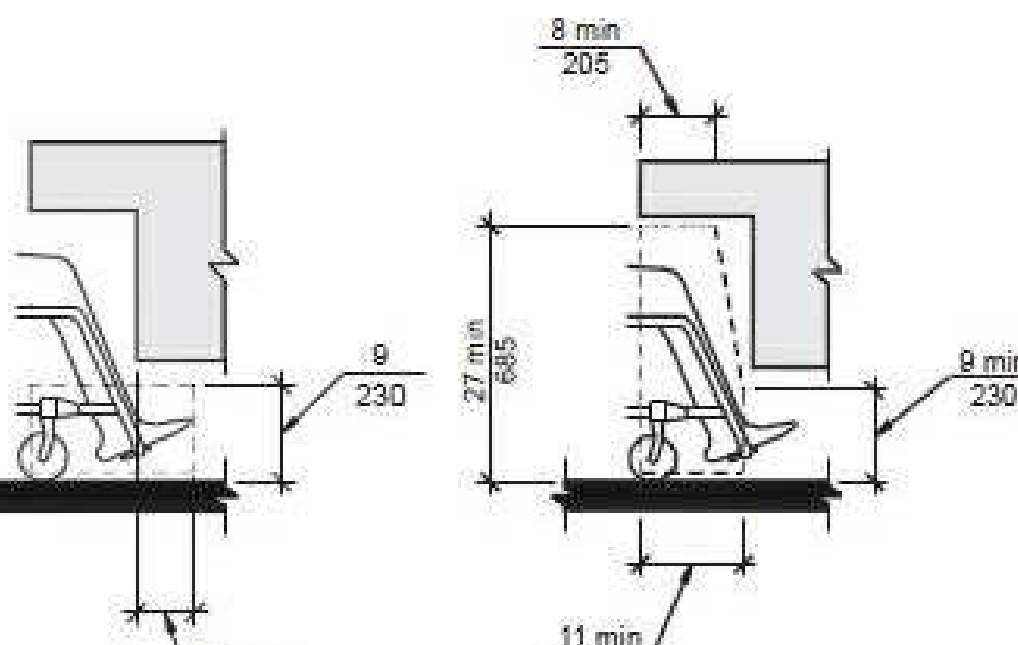


**MOUNTING HEIGHTS**

NOTE:  
 1. WALL MOUNTED DEVICES SHALL NOT EXTEND MORE THAN 4" BEYOND WALL SURFACE WHEN LOCATED BELOW 6'-8"  
 2. MAXIMUM HEIGHT TO TOP OF ALL OPERABLE PARTS  
 3. LOCATE OUTLET SO THAT CENTERLINE OF BOTTOM OUTLET IS ABOVE 15" MINIMUM SIDE REACH HEIGHT.



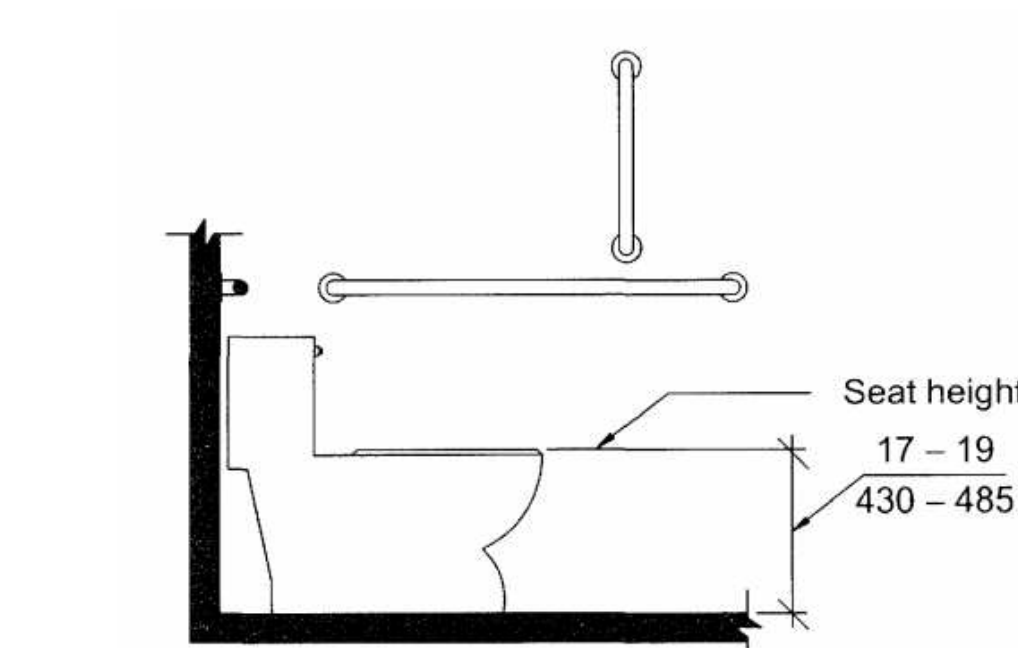
**Fig. 305.3 Size of Clear Floor Space**



**TOE AND KNEE CLEARANCES AT TYPE A ADA UNIT**

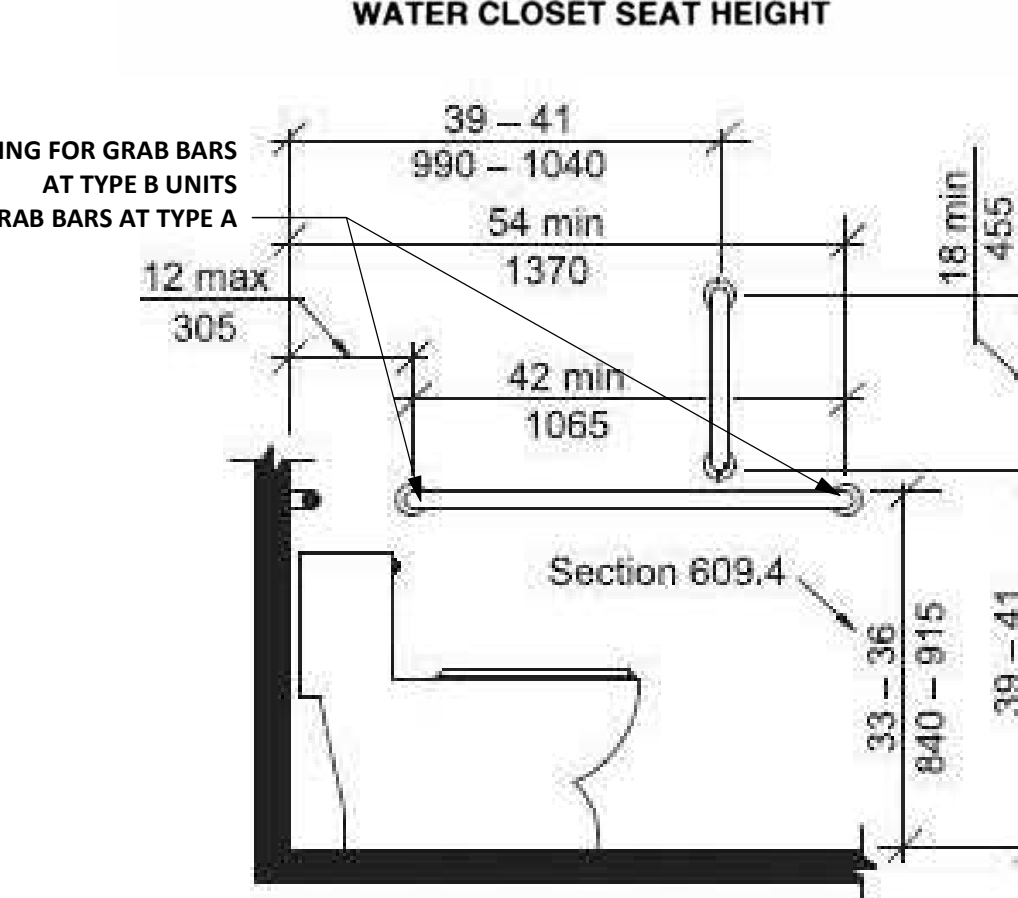
ADA NOTES  
 MAXIMUM MOUNTING HEIGHT FOR SWITCHES AND CONTROLS IS 48" AT MAIN FLOOR ADA UNITS. MINIMUM 15" MOUNTING HEIGHT FOR OUTLETS RECEPTACLES

GENERAL DOOR NOTES:  
 1. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 8.5 LB'S FOR EXTERIOR DOORS AND 5 LB'S FOR INTERIOR DOORS, ADA/ANSI 404.2.  
 2. HAND ACTIVATED HARDWARE SHALL BE CENTERED BETWEEN 34" MIN. AND 48" MAX. ABOVE FLOOR. LATCHING AND LOCKING DOORS THAT ARE HAND-ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.  
 3. THE FLOOR OR LANDING SHALL BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGES IN LEVEL GREATER THAN 1/4" (NOT MORE THAN 1/2" MAX. IN HEIGHT SHALL BE BEVELED WITH A SLOPE NOTE STEEPER THAN 2:1. (SEE FIG. 303.3)  
 4. DOOR HARDWARE SHALL NOT BE MOUNTED BELOW 34" ABOVE FINISH FLOOR.  
 5. EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. EXTERIOR DOORS MAY BE EQUIPPED WITH A NIGHT LATCH, DEAD BOLT OR SECURITY CHAIN PROVIDED THE DOOR IS OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR TOOL.



**FIG. 604.4 WATER CLOSET SEAT HEIGHT**

Note: For children's dimensions see Fig. 604.11.4



**PROVIDE BLOCKING FOR GRAB BARS AT TYPE B UNITS - PROVIDE GRAB BARS AT TYPE A**

**FAIR HOUSING ACT CLEARANCE INFORMATION AND SUMMARY**

2 A17 1/4" = 1'-0"



Project Name:  
**EV BUILDING**  
 ELEVATOR AND ADA DETAILS

Project Location:  
**1901 N. KILLINGSWORTH ST PORTLAND, OR 97217**

Project Owner:  
 RWK, INC.

PRINT DATE: 4/12/2019 12:20:51 PM

DRAWN BY:  
 APPROVED BY:

SHEET:

**A17**

JOB NO.: 11538  
 SCALE: 1/4" = 1'-0"

AHHA

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Oregon Registered Architect



Project Name:  
**EV BUILDING  
CODE SUMMARY**

**Project Location:**  
**1901 N.  
KILLINGSWORTH  
ST  
PORTLAND, OR  
97217**

Project Owner:  
RKW, INC.

PRINT DATE: 4/12/2019 12:20:51 PM

DRAWN BY: Author  
APPROVED BY: Checker

SHEET:

**CS**

JOB NO.: 11538  
SCALE: