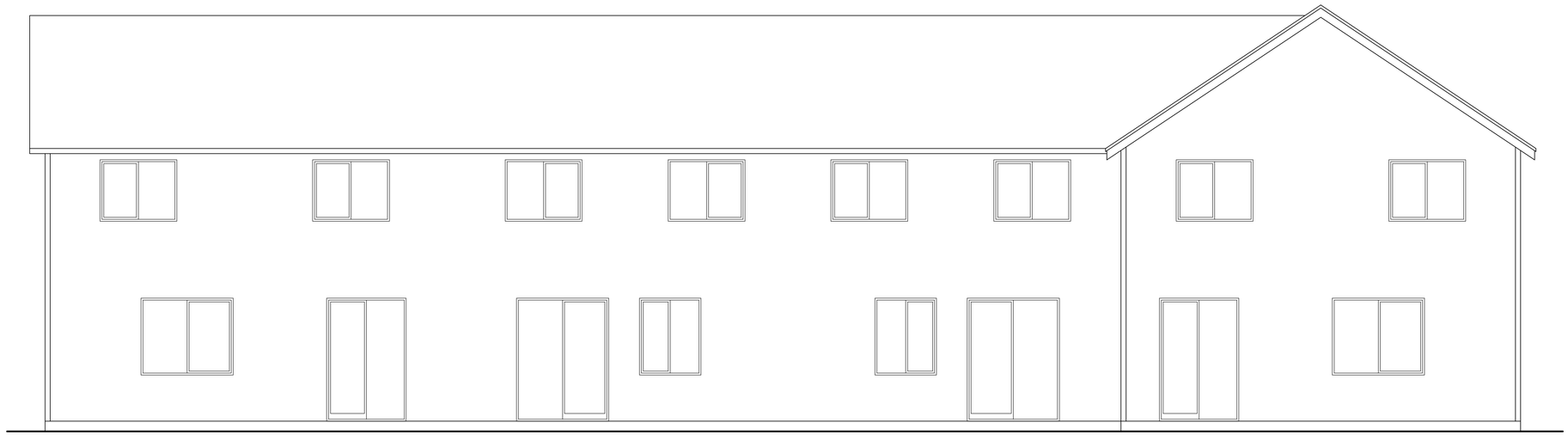


REAR ELEVATION

LOT 95 LOT 96 LOT97 LOT98

1/4"=1'-0"

FRONT ELEVATION

LOT 98 LOT 97 LOT 96 LOT 95

1/4"=1'-0"

VOLARE TOWNHOMES, LLC

VOLARE TOWNHOMES
OFF CAUSEY AVENUE
HAPPY VALLEY, OREGON

OWNER:
VOLARE TOWNHOMES, LLC.

ELEVATIONS
BUILDING 15

SCALE:

DRAWN: SAR

SHEET
A
1.0
building 15

TABLE N1101.1(2) ADDITIONAL MEASURES	
envelope enhancement measure (select one)	
1	**High efficiency walls & windows:** Exterior walls - U-0.047/R-19+5 (insulation sheathing)/SIPS,and one of the following options: Windows - Max 15 percent of conditioned area± or Windows - U-0.30
2	**High efficiency envelope:** Exterior walls - U-0.058/R-21 Intermediate framing, and Vaulted ceilings - U-0.033 / R-30A , and Flat ceilings - U-0.025 / R-49, and Framed floors - U-0.025/R-38, and Windows - U.030± and Doors - All doors U-0.20, or Additional 15 percent of permanently installed lighting fixtures as high-efficacy lamps of Conservation Measure D and E
3	**High efficiency ceiling, windows & duct sealing:** (Cannot be used with Conservation Measure E) Vaulted ceilings - U-0.033 / R-30A[de], and Flat ceilings - U-0.025/R-49, and Windows - U-0.30, and performance tested duct systems[b]
4	**High efficiency thermal envelope UA:** Proposed UA is 15% lower than the Code UA when calculated in Table N1104.1(1)
5	**Building tightness testing, ventilation and duct sealing:** A mechanical exhaust, supply, or combination system providing whole-building ventilation rates specified in Table N1101.1(3), or ASHRAE 62.2, and The dwelling shall be tested with a blower door and found to exhibit no more than: 1. 6.0 air changes per hour[f], or 2. 5.0 air changes per hour[f] when used with Conservation Measure E, and Performance tested duct systems[b]
6	**Ducted HVAC systems within conditioned space:** (Cannot be used with Conservation Measure B or C) All ducts and air handler are contained within building envelope[i]

TABLE N1101.1(2) ADDITIONAL MEASURES	
conservation measure (select one)	
A	High efficiency HVAC system: Gas-fired furnace or boiler with minimum AFUE of 90%, or Air-source heat pump with minimum HSPF of 8.5 or Closed-loop ground source heat pump with minimum COP of 3.0
B	High efficiency duct sealing: Certified performance tested duct systems or All ducts and air handler are contained within building envelope
C	Ductless Heat Pump: Replace electric resistance heating in at least the primary zone of dwelling with at least one ductless mini-split heat pump having a minimum HSPF of 8.5. Unit shall not have integrated backup resistance heat, and the unit (or units, if more than one is installed in the dwelling) shall be sized to have capacity to meet the entire dwelling design heat loss rate at outdoor design temperature condition. Conventional electric resistance heating may be provided for any secondary zones in the dwelling. A packaged terminal heat pump (PTHP) with comparable efficiency ratings may be used when no supplemental zonal heaters are installed in the building and integrated backup resistance heat is allowed in a PTHP.
D	**High efficiency water heating & lighting:** Natural gas/propane, on demand water heating with min EF of 0.80, and A minimum 75 percent of permanently installed lighting fixtures as CFL or linear fluorescent or a min efficacy of 40 lumens per watt as specified in Section N1107.2c
E	**Energy management devise & duct sealing:** Whole building energy management device that is capable of monitoring or controlling energy consumption, and Performance tested duct systemsb, and A minimum 75 percent of permanently installed lighting fixtures as high-efficacy lamps
F	Solar photovoltaic: Minimum 1 Watt / sq ft. conditioned floor space
G	Solar water heating: Minimum of 40 ft^2 of gross collector area

For SI: 1 square foot = 0.093 m^2, 1 watt per square foot = 10.8 W/m^2.

a. Furnaces located within the building envelope shall have sealed combustion air installed. Combustion air shall be ducted directly from the outdoors.
b. Documentation of Performance Tested Ductwork shall be submitted to the Building Official upon completion of work. This work shall be performed by a contractor that is certified by the Oregon Department of Energy's (ODOE) Residential Energy Tax Credit program and documentation shall be provided that work demonstrates conformance to ODOE duct performance standards.
c. Section N1107.2 requires 50 percent of permanently installed lighting fixtures contain high efficacy lamps. Each of these additional measures adds an additional percent to the Section N1107.2 requirement.
d. A = advanced frame construction, which shall provide full required ceiling insulation value to the outside of exterior walls.
e. The maximum vaulted ceiling surface area shall not be greater than 50 percent of the total heated space floor area unless vaulted area has a *U*-factor no greater than U-0.026.
f. Building tightness test shall be conducted with a blower door depressurizing the dwelling 50 Pascal's from ambient conditions. Documentation of blower door test shall be submitted to the Building Official upon completion of work.
g. Solar electric system size shall include documentation indicating that Total Solar Resource Fraction is not less than 75 percent.
h. Solar water heating panels shall be Solar Rating and Certification Corporation (SRCC) Standard OG-300 certified and labeled, with documentation indicating that Total Solar Resource Fraction is not less than 75 percent.
i. A total of 5 percent of an HVAC system's ductwork shall be permitted to be located outside of the conditioned space, Ducts located outside the conditioned space shall have insulation installed as required in this code.

TABLE N1101.1(1) PRESCRIPTIVE ENVELOPE REQUIREMENTS[a]		
Building Component	Standard Base Case	
	Required Performance	Equivalent Value[b]
Wall insulation-above grade	U-0.060	R-21 [c]
Wall insulation-below grade[e]	F-0.565	R-15
Flat ceilings[f]	U-0.031	R-38
Vaulted ceilings[g]	U-0.042	R-38[g]
Underfloors	U-0.028	R-30
Slab edge perimeter	F-0.520	R-15
Heated slab interior[i]	n/a	R-10
Windows[j]	U-0.35	U-0.35
Window area limitation[k]	n/a	n/a
skylights[l]	U-0.60	U-0.60
Exterior doors[m]	U-0.20	U-0.20
Exterior doors w/>2.5 ft^2 glazing[n]	U-0.40	U-0.40
Forced air duct insulation	n/a	R-8

a. **As allowed in section N1104.1, thermal performance of a component may be adjusted provided** that overall heat loss does not exceed the total resulting from conformance to the required U-value standards. Calculations to document equivalent heat loss shall be performed using the procedure and approved U-values contained in Table N1104.1(1).

b. R-values used in this table are nominal, for the insulation only in standard wood framed construction and not for the entire assembly.

c. Wall insulation requirements apply to all exterior wood framed, concrete or masonary walls that are above grade. This includes cripple walls and rim joist areas. R-19 Advanced Frame or 2x4 wall with rigid insulation may be substituted is total nominal insulation R-value is 18.5 or greater.

d. The wall component shall be a minimum solid log or timber wall thickness of 3.5 inches (90mm).

e. Below-grade wood, concrete or masonary walls include all walls that are below grade and does not include those portions of such wall that extend more than 24 inches above grade.

f. Insulation levels for ceilings that have limited attic/rafter depth such as dormers, bay windows or similar architectural features totaling not more than 150 square feet (13.9m^2) in area may be reduced to not less than R-21. When reduced, the cavity shall be filled (except for required ventilation spaces).

g. The maximum vaulted ceiling surface area shall not be greater than 50 percent of the total heated space floor area unless area has a U-factor no greater than U-0.031. The U-factor of 0.042 is representative of a vaulted scissor truss. A 10-inch deep rafter vaulted ceiling with R-30 insulation is U-0.033 and complies with this requirement, not to exceed 50 percent of the total heated space floor area.

h. A=advanced frame construction, which shall provide full required insulating value to the outside of exterior walls.

i. Heated slab interior applies to concrete slab floors (both on and below grade) that incorporate a radiant heating system within the slab. Insulation shall be installed underneath the entire slab.

j. Sliding glass doors shall comply with window performance requirements. Windows exempt from testing in accordance with NF1111.2 item 3 shall comply with window performance reqirements if constructed with thermal break aluminum or wood, or vinyl, or fiberglass frames and double-pane glazing with low-emissivity coatings of 0.10 or less. Buildings designed to incorporate passive solar elements may include glazing with U-factor greater than 0.35 by using Table N1104.1(1) to demonstrate equivalence to building envelope requirements.

k. Reduced window area may not be used as a trade-off criterion for thermal performance of any component.

l. Skylight area installed at 2% or less of total heated space floor area shall be deemed to satisfy this requirement with vinyl, wood, or thermally broken aluminum frames and double-pane glazing with low-emissivity coatings. Skylight U-factor is tested in the 20 degree overhead plane per NFRC standards.

m. A maximum of 28 square feet (2.6 m^2) of exterior door area per dwelling unit can have a U-factor of 0.54 or less.

n. Glazing that is either double pane with low-e coating on one surface, or triple pane shall be deemed to comply with this U-0.40 requirement.

FLASHING NOTE: USE APPROVED CORROSION RESISTANT FLASHING IN ALL OF THE FOLLOWING AREAS:

1. AT THE TOP OF ALL EXTERIOR WINDOW AND DOOR OPENINGS IN SUCH A MANNER TO BE LEAK PROOF, EXCEPT THAT SELF FLASHING WINDOWS CONTINUOUS LAP OF NOT LESS THAN 1⅛" OVER THE SHEATHING MATERIAL AROUND THE PERIMETER OF THE OPENING, INCLUDING THE CORNERS DO NOT REQUIRE FLASHING.
2. AT THE INTERSECTION OF CHIMNEYS AND OTHER MASONRY CONSTRUCTION WITH FRAME OR STUCCO WALLS, WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS.
3. UNDER AND AT THE ENDS OF MASONRY, WOOD OR METAL COPINGS AND SILLS.
4. CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM.
5. WHERE EXTERIOR PORCHES, DECKS, OR STAIRS ATTACH TO A WALL OR FLOOR ASSEMBLY OF WOOD CONSTRUCTION.
6. AT WALL AND ROOF INTERSECTIONS.
7. AT BUILTIN GUTTERS PER IRC SECTION R703.8.

SHEAR WALL BOTTOM PLATE NAILING & ALL NAILING AT PRESSURE TREATED PLATE MEMBERS SHALL BE HOT DIPPED ZINC COATED GALV. STEEL OR STAINLESS STEEL NAILS PER IRC 319.3

FASTENERS FOR PRESSURE PRESERVATIVE & FIRE RETARDANT TREATED WOOD SHALL BE HOT DIPPED GALV. STEEL, STAINLESS STEEL, SILICON, BRONZE, OR COPPER

PER IRC 320.3.1 FIELD CUT END, NOTCHES, AND DRILLED HOLES OF PRESSURE TREATED WOOD SHALL BE RETREATED IN THE FIELD IN ACCORDANCE WITH AWPA M4.

GENERAL NOTES:

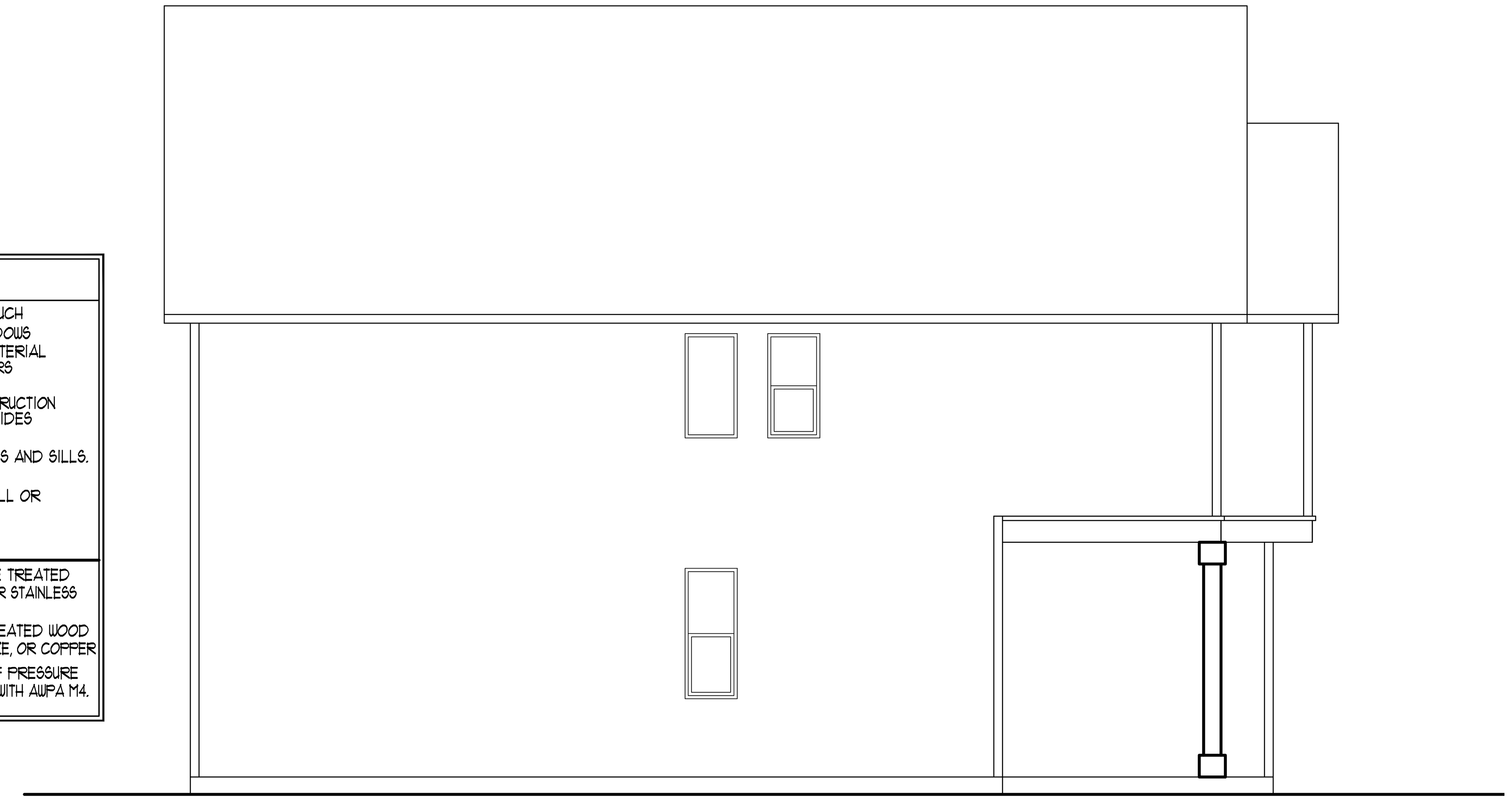
1. ALL WORK SHALL BE DONE IN CONFORMANCE WITH THE LATES EDITION OF LOCAL BUILDING CODE, ONE AND TWO FAMILY DWELLING CODES AND ALL OTHER GOVERNING CODES, LAWS AND REGULATIONS.
2. **SITE/CONSTRUCTION DOCUMENTS AND CONSTRUCTION PHASE:**
   CONTRACTOR SHALL NOT SCALE THE DRAWINGS, OR DETAILS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND CONDITIONS AT THE JOBSITE.
   NOTIFY DESIGN AGENCY IN WRITTING OF ANY SIGNIFICANT DEVIATIONS, ANY CHANGES TO CONSTRUCTION DOCUMENTS OR IF ADDITIONAL DETAILS, SPECIFICATIONS ARE NEEDED FOR PROPER EXECUTION OF THE WORK.
   ALSO NOTIFY DESIGN AGENCY IN WRITTING IF THERE ARE ANY CORRECTIONS OR CHANGES TO BE MADE TO THE CONSTRUCTION DOCUMENTS REQUIRED BY THE PLANNING/BUILDING DEPARTMENT OFFICALS.
   PLANS CORRECTION LIST OR COMMENTS (FROM THE PLANNING/BUILDING DEPARTMENT OFFICIALS) MUST BE DELIVERED TO THE DESIGN AGENCY.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL TRADES, INCLUDING ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL REQUREMENTS.
4. MECHANICAL AND ELECTRICAL WORK IS ON A CONTRACTOR DESIGN/BUILD BASIS. COORDINATE ALL ARCHITECTURAL AND STRUCTURAL WORK WITH MECHANICAL AND ELECTRICAL REQUIREMENTS.
5. ALL DIMENSIONS ARE TO THE FACE OF FRAMING MEMBERS UNLESS NOTED OTHERWISE. ALL EXTERIOR WALLS TO BE 2x6 STUDS AT 16" O.C. , ALL INTERIOR WALLS TO BE 2x4 STUDS AT 16" O.C. UNLESS NOTED OTHERWISE.
6. COORDINATE ALL ITEMS NOT SHOWN OR NOTED WITH OWNER AND/OR DESIGNER, INCLUDING BUT NOT LIMITED TO FINISHES, COLORS, CABINETS, HARDWARE, FIXTURES, ETC...
7. SEAL OR WEATHER STRIP ALL EXTERIOR OPENINGS AND PENETRATIONS IN MANNER TO PREVENT OUTSIDE AIR INFILTRATION AND MOISTURE FROM ENTERING STRUCTURAL AND OCCUPIED SPACES, INCLUDING AROUND PLUMBING AND ELECTRICAL LINES AND EQUIPMENT PASSING THROUGH WALLS, GUTTERS, DOWNSPOUTS, ETC...
8. IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO FOLLOW AND COORDINATE PER THE MANUFACTURER'S PRINTED INSTRUCTIONS, SPECIFICATIONS AND INSTALLATION DETAILS THE INSTALLATION OF ALL BUILDING PRODUCTS (INTERIOR AND EXTERIOR), FIXTURES, EQUIPMENT, ETC... OR FOLLOW THE INDUSTRY STANDARD DETAILS FOR ALL THE CONDITIONS NOT SHOWN ON THE DRAWINGS FOR PROPER EXECUTION OF THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
   THE DESIGN AGENCY MUST BE NOTIFIED IN WRITTING TO PROVIDE ADDITIONAL DETAILS, SPECIFICATIONS OR INFORMATION PER REQUEST OF THE GENERAL CONTACTOR OR OWNER FOR PROPER EXECUTION OF THE WORK.

CONSTRUCTION PHASE

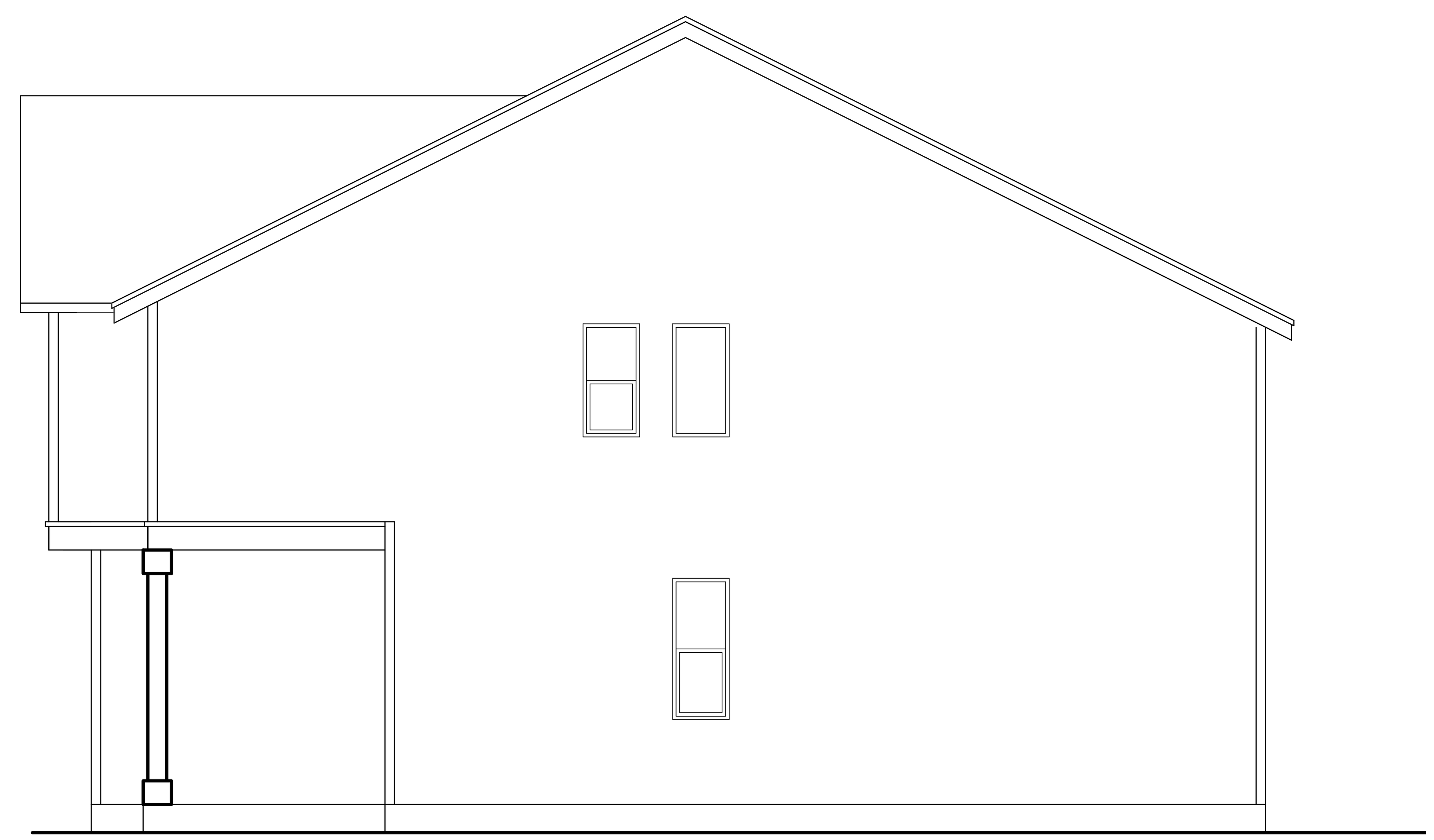
THE DESIGNER SHALL NOT HAVE CONTROL OVER OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, SINCE THESE ARE SOLELY THE CONTRACTOR'S RESPONSIBILITY UNDER CONTRACT FOR CONSTRUCTION.
THE DESIGNER SHALL NOT BE RESPONSIBLE FOR CONTRACTOR'S SCHEDULES OR FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

MATERIAL SPECIFICATION NOTE:

THE DESIGNER DOES NOT RECOMMEND OR SPECIFY USE OF ANY TYPE OF "STUCCO PRODUCTS" OR EXTERIOR INSULATED AND FINISH SYSTEM "E.I.F.S." FOR THE EXTERIOR OF THE HOUSE.
THE DESIGNER WILL NOT BE LIABLE FOR ANY KIND OF DAMAGES TO THE BUILDING (STRUCTURAL OR COSMETIC) IF THE OWNER OR THE CONTRACTOR DECIDE TO USE SUCH PRODUCTS.



LEFT ELEVATION



LEFT ELEVATION

1/4"=1'-0"

VOLARE TOWNHOMES, LLC

VOLARE TOWNHOMES
OFF CAUSEY AVENUE
HAPPY VALLEY, OREGON

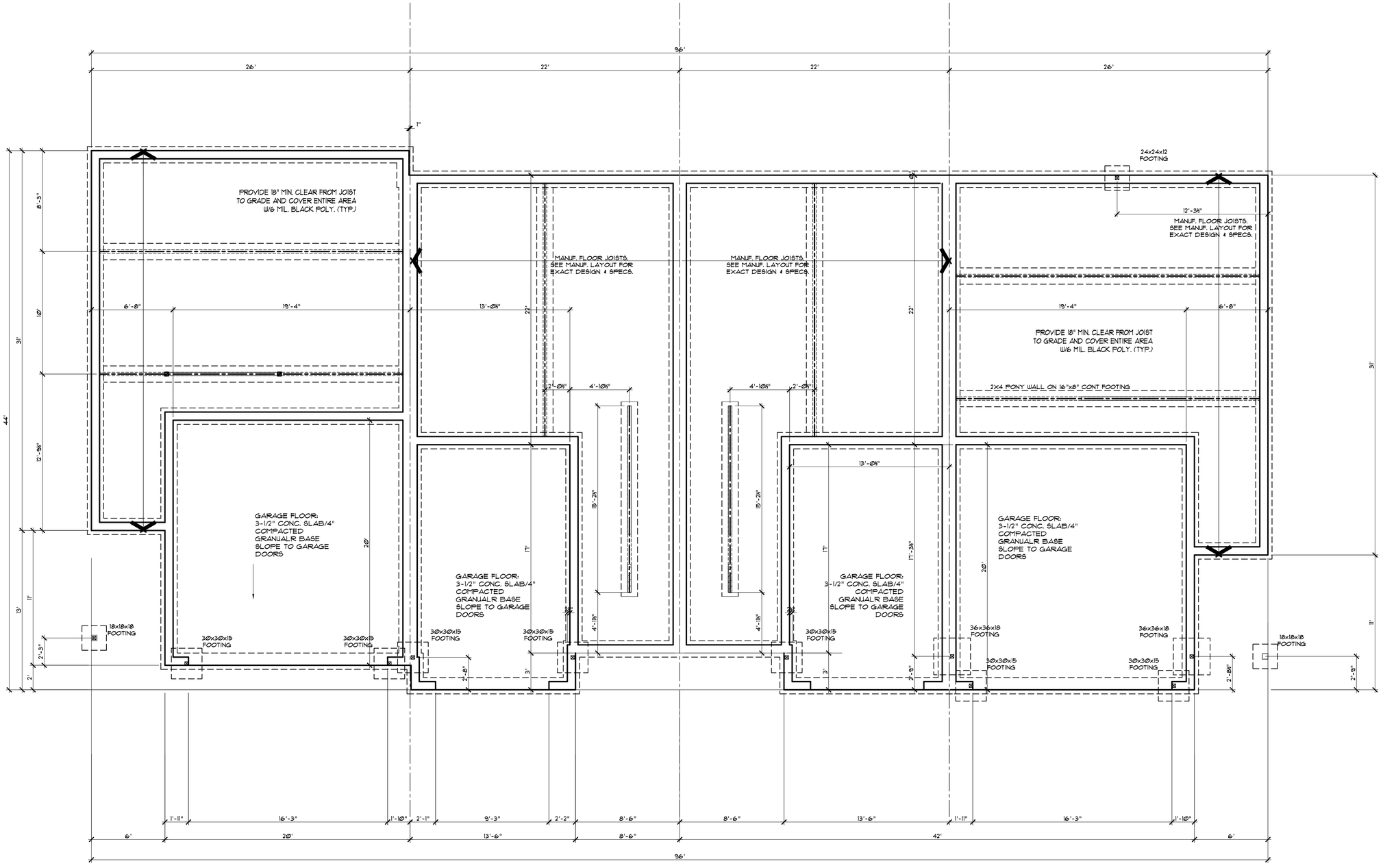
OWNER:
VOLARE TOWNHOMES, LLC.

ELEVATIONS
BUILDING 15

SCALE:

DRAWN: SAR

SHEET
A
1.1
building 15



FOUNDATION LAYOUT

LOT 98 LOT 97 LOT 96 LOT 95

1/4"=1'-0"

REFER TO THE MANUFACTURES JOIST LAYOUT FOR EXACT LAYOUT AND SPECIFICATIONS.

VOLARE TOWNHOMES, LLC

VOLARE TOWNHOMES
OFF CAUSEY AVENUE
HAPPY VALLEY, OREGON

OWNER:
VOLARE TOWNHOMES, LLC.

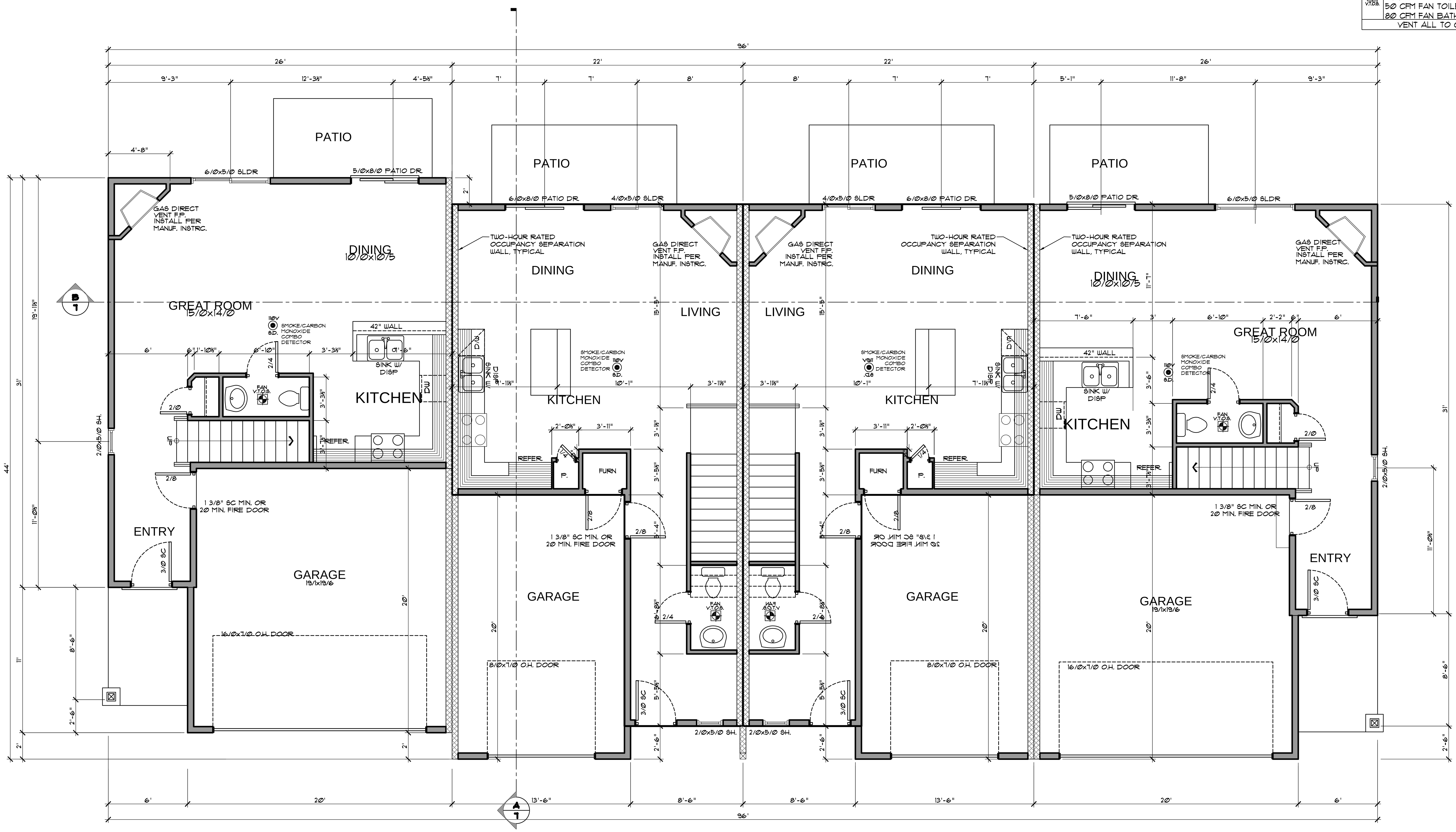
FOUNDATION

SCALE:
DRAWN: SAR

SHEET
A
2.0
building 5

SMOKED DETECTORS REQUIRED AS
THE PLAN. DETECTORS TO BE INTE
POWERED BY PREMISE WIRING AND

FAN V.T.O.S.	WASHINGTON STATE: 50 CFM FAN
	OREGON STATE: 50 CFM FAN TOILET COMPARTME 80 CFM FAN BATHING & SPA ARE
	VENT ALL TO OUTSIDE



MAIN FLOOR		MAIN FLOOR		MAIN FLOOR		MAIN FLOOR	
632 sq.ft.	1669	636 sq.ft.	1477	636 sq.ft.	1477	632 sq.ft.	1669

BUILDING 15

VOLARE TOWNHOMES, LLC

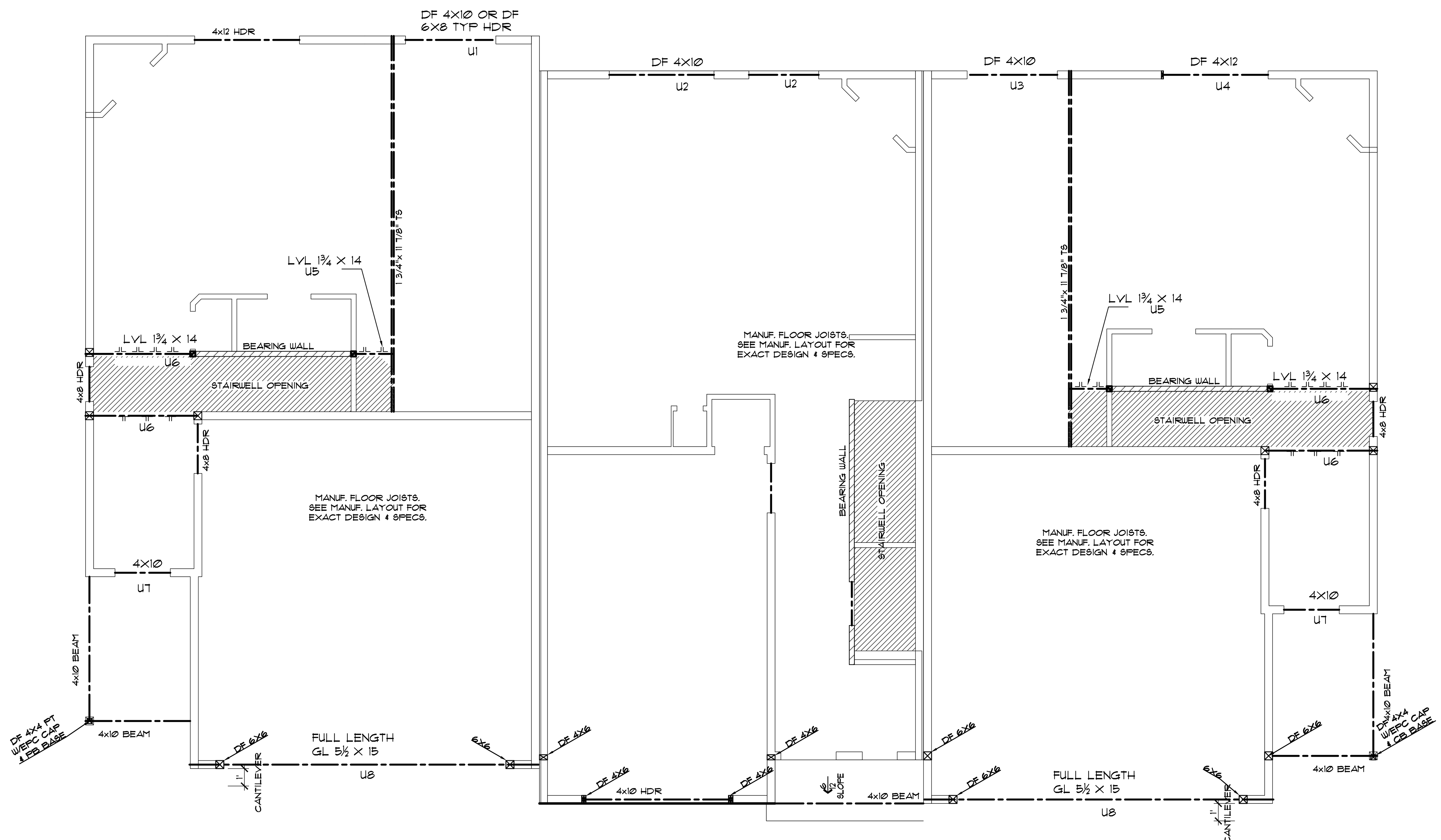
VOLARE TOWNHOMES
OFF CAUSEY AVENUE
HAPPY VALLEY, OREGON

OWNER:
VOLARE TOWNHOMES, LLC.

MAIN FLOOR

SCALE:
DRAWN: SAR

SHEET
A
3.0
building 15



UPPER FLOOR FRAMING

1/4"= 1'-0"

BUILDING 15

REFER TO THE MANUFACTURES JOIST LAYOUT FOR EXACT LAYOUT AND SPECIFICATIONS.
(SEE "S" SHEETS FOR MORE INFORMATION)

VOLARE TOWNHOMES, LLC

VOLARE TOWNHOMES
OFF CAUSEY AVENUE
HAPPY VALLEY, OREGON

OWNER: VOLARE TOWNHOMES, LLC.

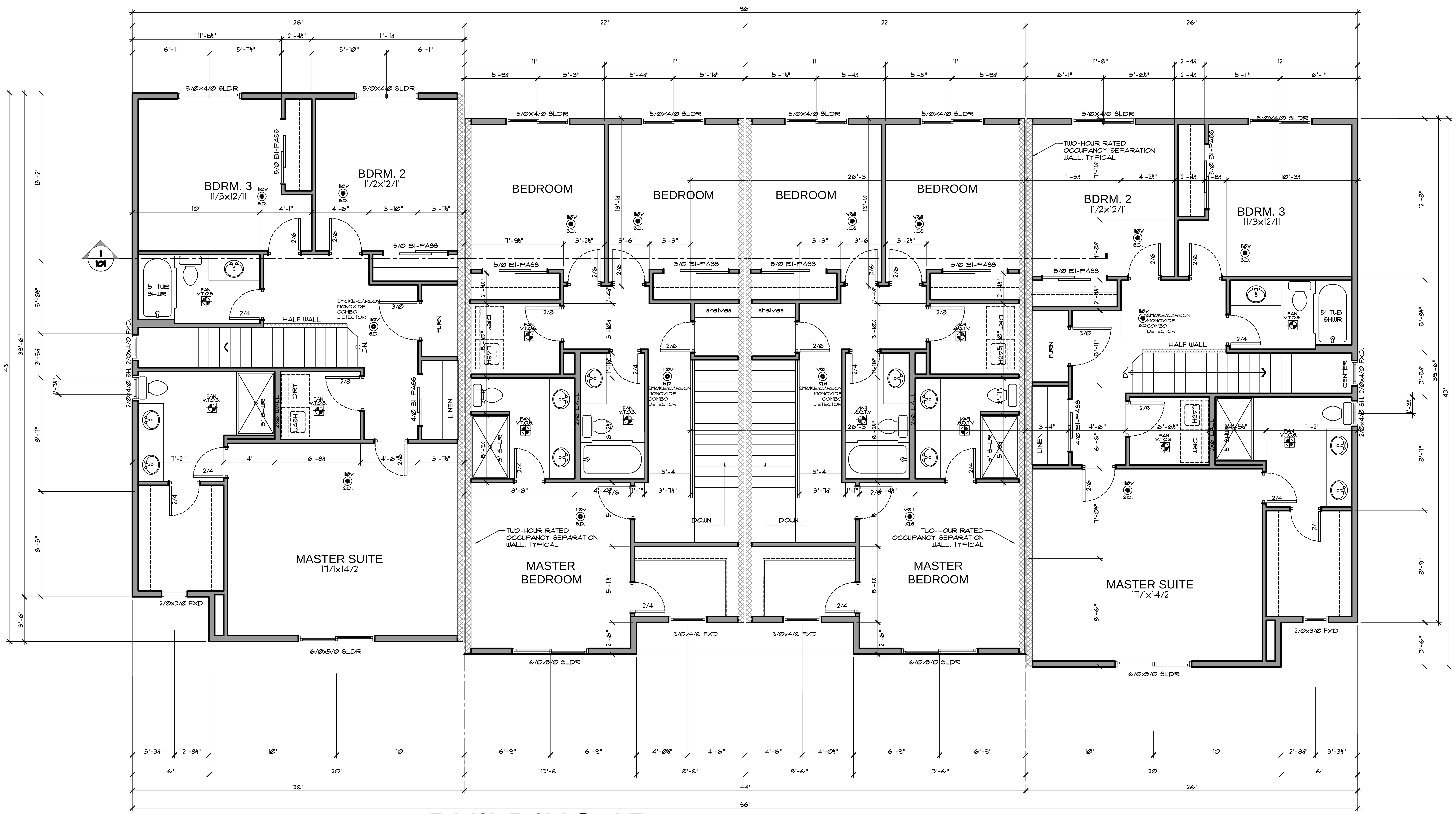
UPPER FLOOR FRAMING

SCALE:
DRAWN: SAR

SHEET
A
4.0
building 15

SMOKED DETECTORS REQUIRED AS SHOWN ON THE PLAN. DETECTORS TO BE INTERCONNECTE AND POWERED BY PREMISE WIRING AND HAVE BATTERY

FAN V.T.O.S.	WASHINGTON STATE: 50 CFM FAN
	OREGON STATE: 50 CFM FAN TOILET COMPARTMENTS 80 CFM FAN BATHING & SPA AREAS
	VENT ALL TO OUTSIDE



BUILDING 15

UPPER FLOOR	UPPER FLOOR	UPPER FLOOR	UPPER FLOOR
1037 sq.ft. 1669	841 sq.ft. 1477	841 sq.ft. 1477	1037 sq.ft. 1669

VOLARE TOWNHOMES, LLC

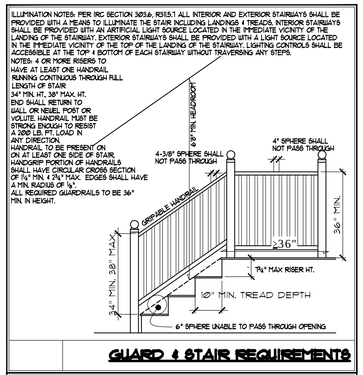
VOLARE TOWNHOMES
OFF CAUSEY AVENUE
HAPPY VALLEY, OREGON

OWNER: VOLARE TOWNHOMES, LLC.

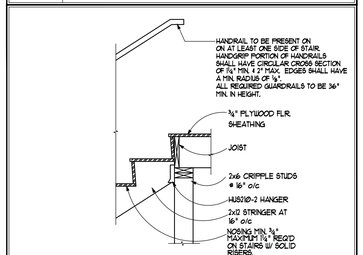
UPPER FLOOR

SCALE:
DRAWN: SAR

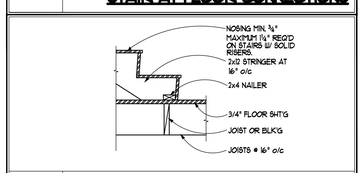
SHEET
A
5.0
building 15



GUARD & STAIR REQUIREMENTS



STAIR AT FLOOR CONNECTIONS



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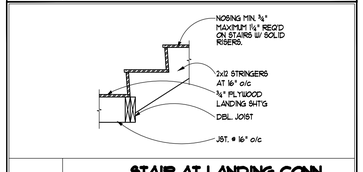
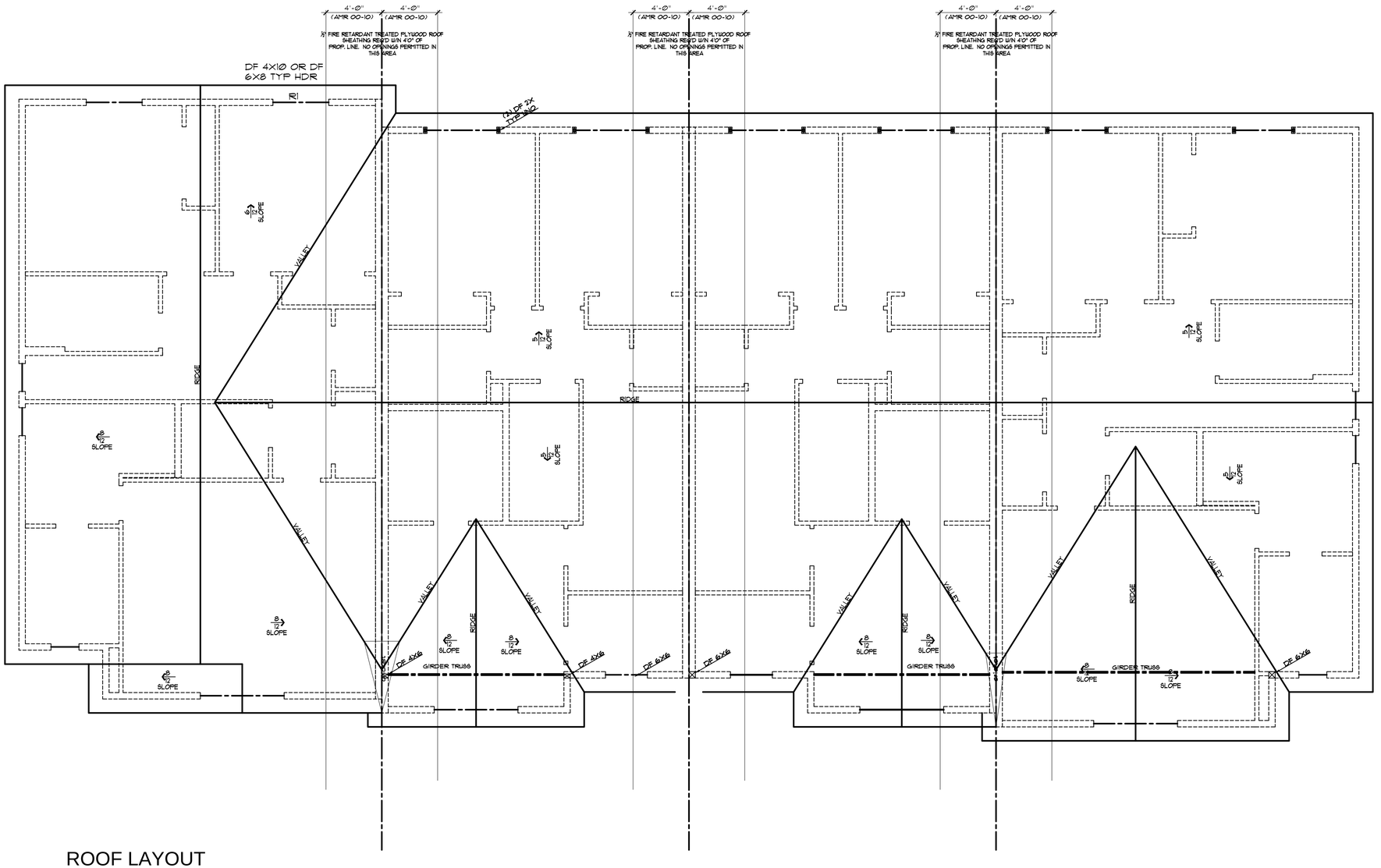


STAIR AT LANDING CONN.



ROOF LAYOUT

1/4"= 1'-0"

BUILDING 15

REFER TO THE MANUFACTURES TRUSS LAYOUT FOR EXACT LAYOUT AND SPECIFICATIONS.

VOLARE TOWNHOMES, LLC

VOLARE TOWNHOMES
OFF CAUSEY AVENUE
HAPPY VALLEY, OREGON

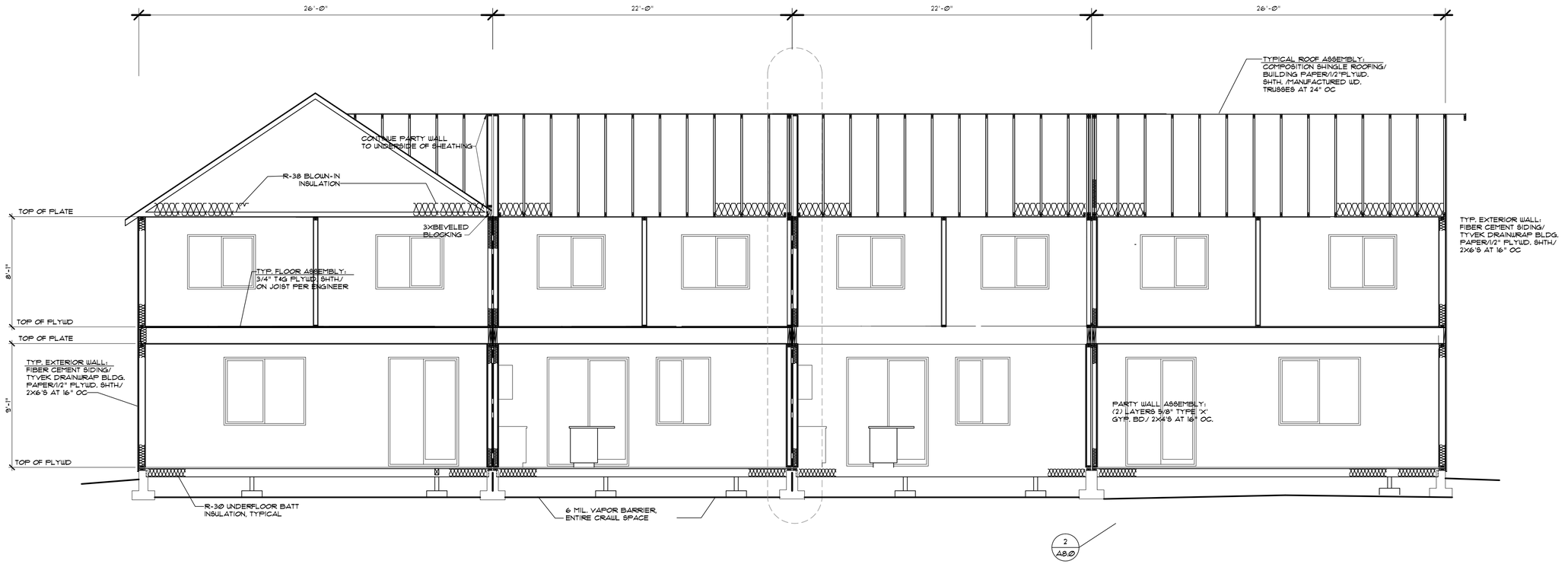
OWNER
VOLARE TOWNHOMES, LLC.

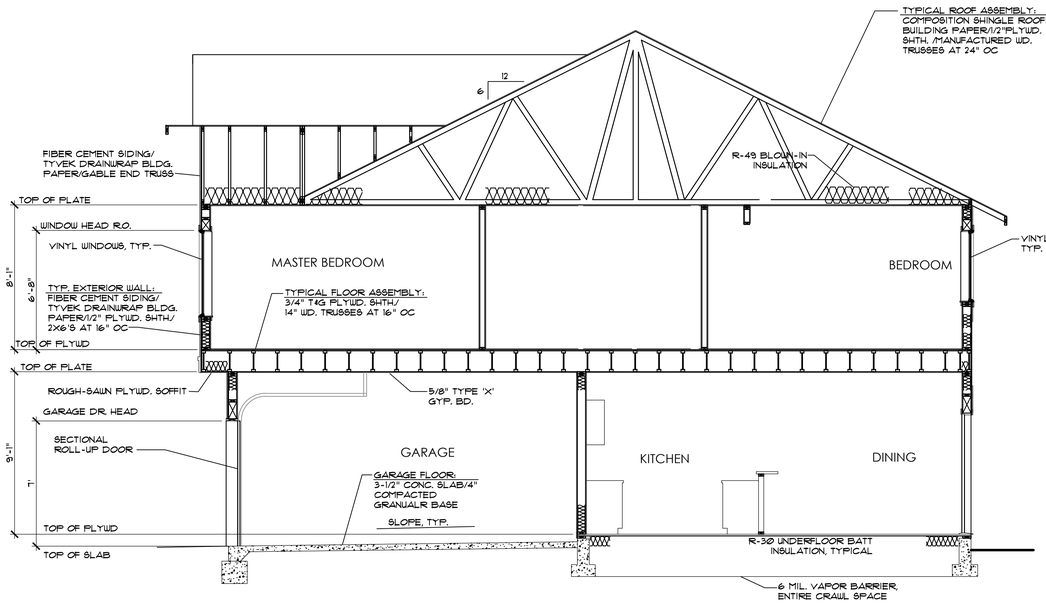
ROOF

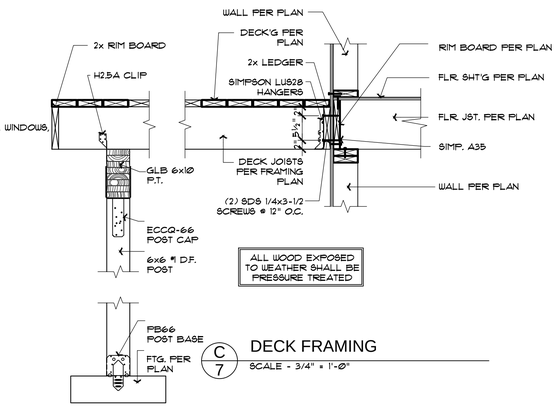
SCALE:

DRAWN: SAR

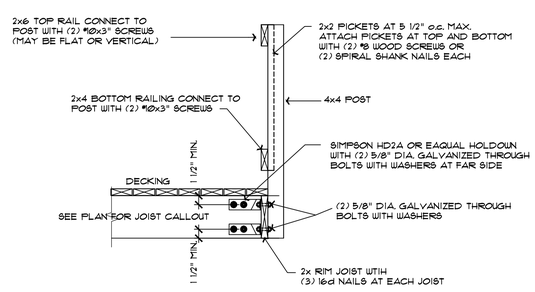
SHEET
A
6.0
building 15



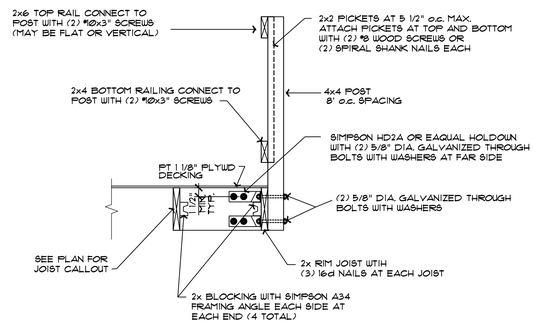




C/7 DECK FRAMING
SCALE - 3/4" = 1'-Ø"



D/7 GUARDRAIL PERPENDICULAR TO JOIST
SCALE - N.T.S.



E/7 GUARDRAIL PARALEL TO JOIST
SCALE - N.T.S.

VOLARE TOWNHOMES, LLC

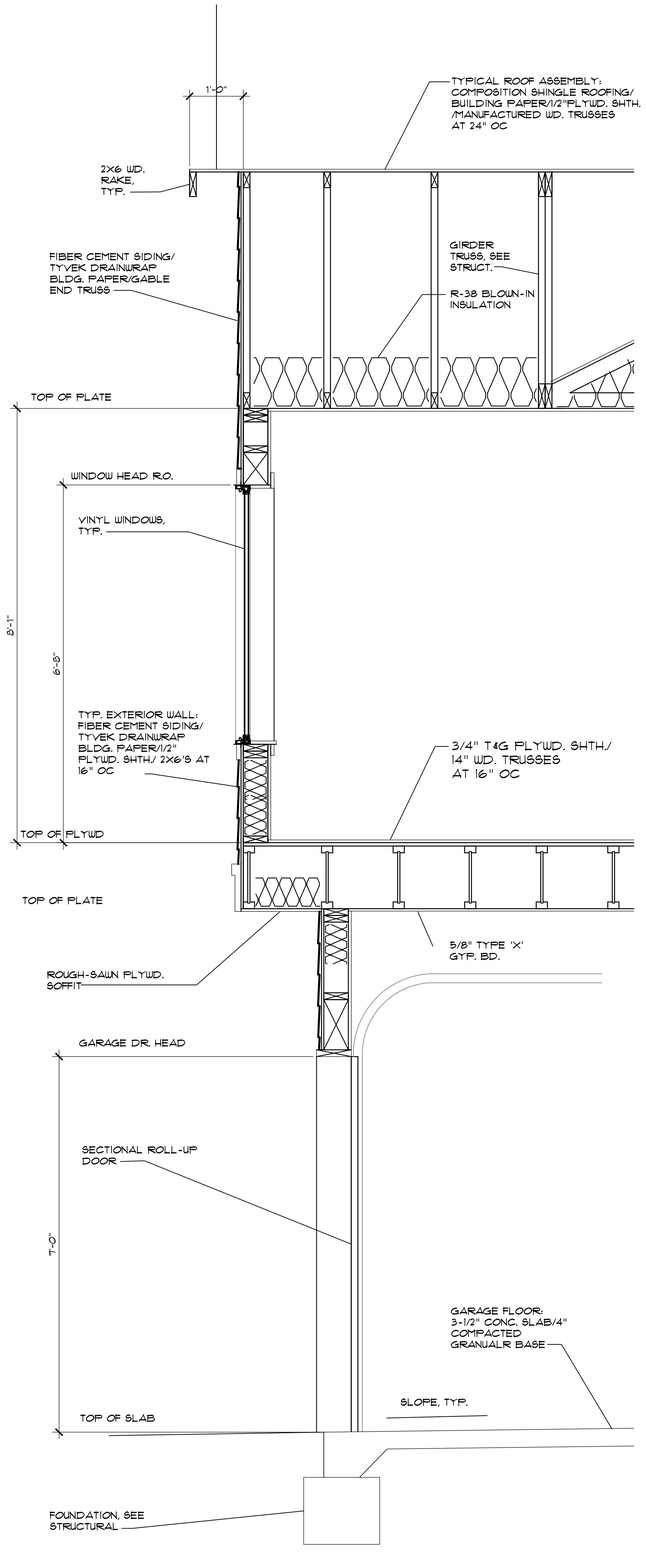
VOLARE TOWNHOMES
OFF CAUSEY AVENUE
HAPPY VALLEY, OREGON

OWNER:
VOLARE TOWNHOMES, LLC.

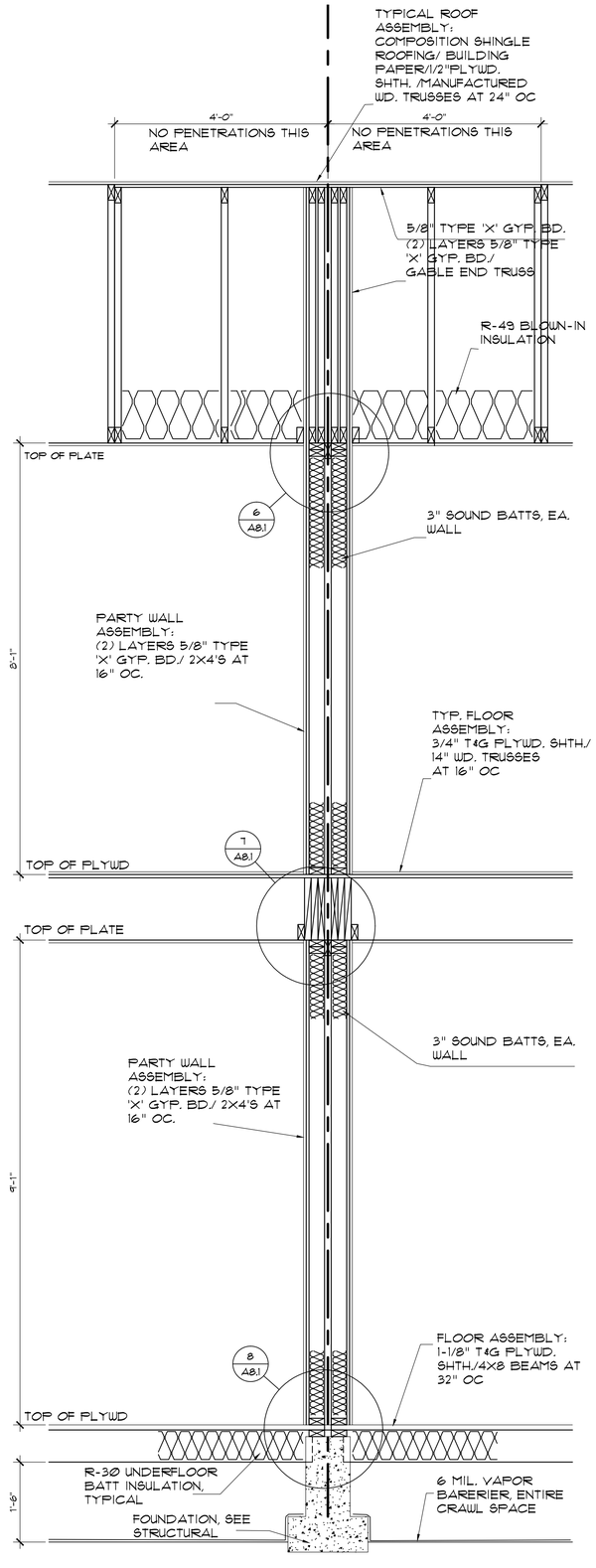
SECTIONS

SCALE:
DRAWN: SAR

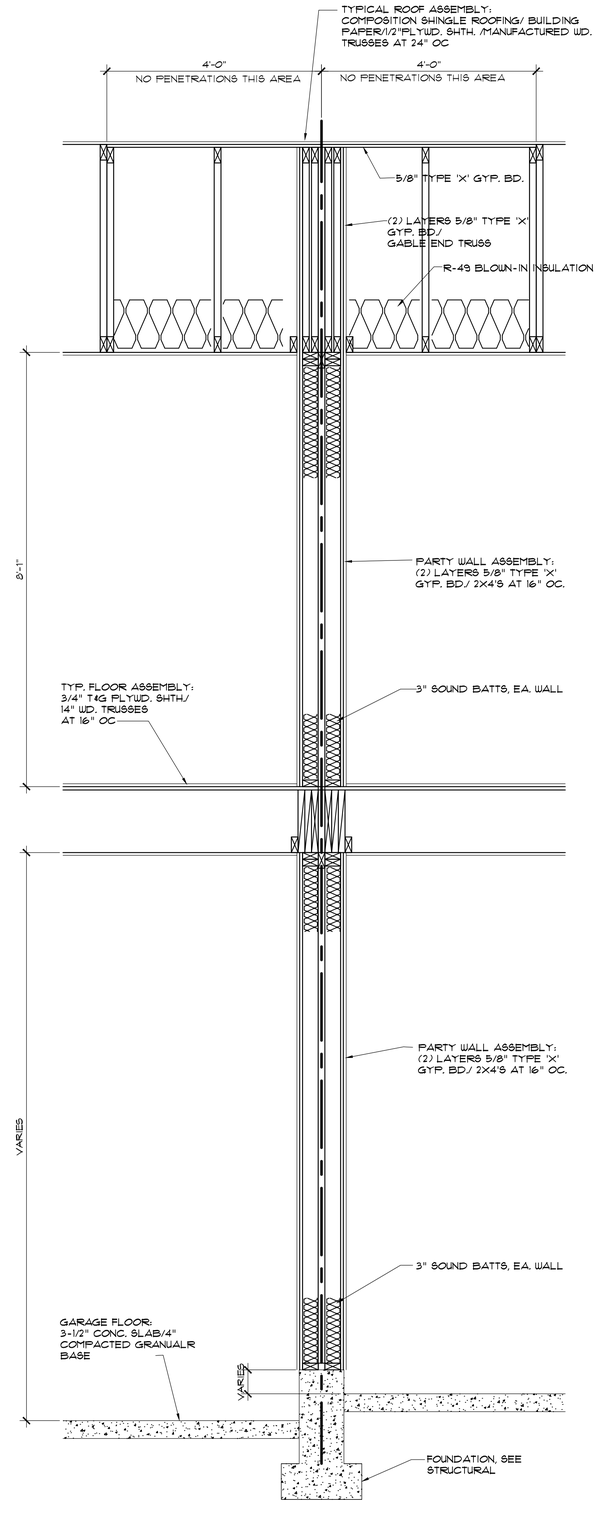
SHEET
A
7.0
building 5



3 A8.0 WALL SECTION
3/4" = 1'-0"



2 A8.0 WALL SECTION
3/4" = 1'-0"



1 A8.0 WALL SECTION
3/4" = 1'-0"

VOLARE TOWNHOMES, LLC

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HAPPY VALLEY, OREGON

OWNER:
VOLARE TOWNHOMES, LLC.

WALL SECTIONS

SCALE:
DRAWN: SAR

SHEET
A
8.0
building 15