

PERMIT PLANS

FEBRUARY 8, 2024

DUPLEX

29 and 31 Third Street Worcester, MA 01602



CONTENT:

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GENERAL NOTES:

NO WORK SHALL COMMENCE UNTIL A BUILDING PERMIT HAS BEEN OBTAINED.
ALL WORK SHALL BE IN ACCORDANCE WITH THE STATE OF MASSACHUSETTS CODES, RULES AND REGULATIONS.
GUARANTEE ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR REPLACING HIS OWN DEFECTIVE WORK AS WELL AS PAY ALL COSTS INCIDENTAL THERETO INCLUDING DAMAGE TO OTHER WORK, FURNISHINGS AND/OR EQUIPMENT.
DRAWINGS ARE NOT TO BE SCALED. ALL WORK SHALL BE LAID OUT BY DIMENSIONS. ANY DEVIATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER IMMEDIATELY. ALL DEVIATIONS SHALL BE CORRECTED BY THE CONTRACTOR BEFORE HE BEGINS HIS PORTION OF THE WORK.
CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER AS TO PROTECT WORKMEN AND GENERAL PUBLIC FROM INJURY & ADJACENT PROPERTY FROM DAMAGE.
PERFORM ALL WORK IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
DRAWINGS ARE THE PROPERTY OF THE ARCHITECT AND SHALL NOT BE COPIED OR DUPLICATED IN ANY MANNER.

ELECTRICAL:

THE ENTIRE ELECTRICAL INSTALLATION SHALL BE INSTALLED IN ACCORDANCE WITH MA AND NEC CODES, RULES AND REGULATIONS.
CONTRACTORS SHALL GUARANTEE ALL WORK FOR WHICH MATERIALS ARE FURNISHED, FABRICATED OR FIELD ERECTED, ALL FACTORY ASSEMBLED EQUIPMENT FOR WHICH NO SPECIFIC MANUFACTURER'S GUARANTEE IS FURNISHED AND ALL WORK IN CONNECTION WITH INSTALLING ANY MANUFACTURER'S GUARANTEED EQUIPMENT. THIS PERSONAL GUARANTEE SHALL EXIST FOR A PERIOD OF ONE YEAR OF FINAL ACCEPTANCE OF THE WORK AND SHALL APPLY TO DEFECTS IN THE MATERIAL AND WORKMANSHIP IN ANY KIND.
COORDINATE ALL EQUIPMENT REQUIREMENTS WITH THE MANUFACTURER'S DATA.
PERFORM ALL WORK IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

PLUMBING:

ALL PLUMBING SHALL BE PERFORMED BY A LICENSED PLUMBER AND SHALL CONFORM TO STATE OF MA AND NFPA CODES, RULES AND REGULATIONS.
PLUMBING VENT SIZES AND LOCATIONS SHALL BE DETERMINED BY THE PLUMBING CONTRACTOR.
ALL SLEEVE SIZES SHALL BE DETERMINED BY THE PLUMBING CONTRACTOR.
PROVIDE STOP VALVES IN ALL PIPES TO FIXTURES AHEAD OF THE OPERATING LEVERS OR FAUCETS.
COORDINATE ALL EQUIPMENT REQUIREMENTS WITH THE MANUFACTURER'S DATA.
PERFORM ALL WORK IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

FOUNDATION AND CONCRETE NOTES:

ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE STANDARDS ENTITLED SPECIFICATIONS OF STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301-72).
WELDED WIRE FABRIC SHALL CONFORM TO "STANDARD SPECIFICATIONS FOR WELDED WIRE FABRIC FOR CONCRETE REINFORCEMENT" (ASTM A185) AND SHALL BE SUPPLIED IN FLAT SHEETS.
REINFORCING SHALL CONFORM TO "DEFORMED AND PLAIN BILLET STEEL FOR CONCRETE REINFORCING" (ASTM A615) GR. 60.
CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS MINIMUM.
ALL CONCRETE EXPOSED TO THE ELEMENTS SHALL HAVE AIR ENTERTAINMENT IN ACCORDANCE WITH ACI RECOMMENDATIONS FOR THE PARTICULAR MIX DESIGN FOR EXTREME EXPOSURE.
MINIMUM COVER FOR REINFORCEMENT SHALL BE 3 INCHES FOR CAST AGAINST AND EXPOSED TO THE EARTH, 2 INCHES FOR CONCRETE EXPOSED TO THE WEATHER, AND 1 INCHES FOR ALL OTHER CONCRETE.
ALL CONCRETE SHALL BE PROTECTED FROM FREEZING DURING COLD WEATHER.
CONCRETE FOOTINGS SHALL REST ON VIRGIN SOIL HAVING AN ALLOWABLE BEARING CAPACITY OF 20 TONS PER SQUARE FOOT.
NO FOUNDATIONS SHALL BE PLACED ON WATER OR FROZEN GROUND OF 500 PSI AT 28 DAYS.
FOOTING SHALL BE PROTECTED AGAINST FROST UNTIL PROJECT IS COMPLETED.
L CONCRETE SLABS ON GROUND SHALL BE REINFORCED WITH #6 W/ 2X9'S WELDED WIRE FABRIC OR WIRE MESH.
CONTINUOUS BAR SHALL RUN CONTINUOUSLY AROUND THE CORNER AND LAPPED AT NECESSARY SPACES OR HOOKED AT DISCONTINUOUS ENDS.
INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO SCHEDULED COULATION OF PLACEMENT OF REINFORCEMENT.
ALL FOUNDATION WALLS AND GRADE BEAMS SHALL BE BRACED DURING BACK FILLING AND TAMPING OPERATIONS.
THE USE OF CONTRAL JOINTS IN THE SLAB IS RECOMMENDED TO CONTRAL CRACKING.
GROUT TO BE NON STICK AND NON METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH.
ALL REINFORCING BARS SHALL BE COLD BENT.
DAM PROOF ALL FOUNDATION WALLS BELOW GRADE.

Design Loads

Portions of the structure have been designed to support the following superimposed live loads in accordance with the latest edition of the Commonwealth of Massachusetts State Building Code requirements and local code provisions:

1st Floor Level	40 psf
2nd Floor Level	40 psf
Attic	20 psf
Wood Deck	40 psf
Ground (normal) Snow	50 psf
Wind	90 mph
Earthquake	Sec. 1812.0, Mass. State Code

Concrete

- All concrete shall be controlled and be normal weight having a minimum compressive strength of 3,000 psi in 28 days unless noted otherwise. The minimum 28 day compressive strength of all concrete slabs on grade shall be 4,000 psi.
- The maximum size of aggregate is 3/4 inch diameter.
- Admixtures in the concrete shall not be used without the Archt. Engineers consent.
- When deposited, the contractor shall follow the recommended practices of the American Concrete Institute (ACI).
- When deposited, all concrete shall be thoroughly worked by means of suitable tools to avoid pockets, voids or honeycombs.
- Provisions shall be made for maintaining concrete in a continually moist condition for a period of at least five (5) days after placement.
- All reinforced concrete shall conform to the ACI specification 318-95.
- All reinforcing steel rebars shall new billet steel conforming to ASTM A 615, Grade 60 and have a minimum yield strength of 60,000 psi. The minimum lap on all rebar splices shall be 40 bar diameters or as directed on the plans.

9. The detailing, fabrication and placement of reinforcement and accessories shall follow the latest standard practice as recommended by the American Concrete Institute (ACI) and the CRSI Codes of Standard Practice.

- All concrete, where possible, shall be formed. Forms shall be of wood or metal as required to produce clean, true, even surfaces and they shall be sufficiently tight to prevent leakage.

- All slabs on grade shall be reinforced with a single layer of welded wire fabric sheets. Size of wire fabric sheets to be 6x8-W2.8xW2.9 and shall be located at mid-depth of the slab. All welded wire fabric sheets shall conform to ASTM A-185, latest edition. Lap 6 inches at ends.

- All reinforcing steel rebars shall have the following concrete cover:

Footings	3" from bottom
Walls, Piers	2" from sides

- All reinforcing steel shall be securely wired together where possible.

- No horizontal or vertical pour stops are permitted in building concrete foundation walls.

- When construction joints are used in slabs and walls, they shall be located at points of minimum shear and shall be keyed.

- General Contractor shall ascertain the location of all embedments as required by other trades. Installation of all such embedments shall be checked for completeness and location before concrete is poured.

- No concrete shall be subject to drops in excess of 5 feet.

Foundation

- General Contractor shall field verify all dimensions and elevations and shall be responsible for the same.
- All footings shall bear on undisturbed (virgin) soil and / or supervised compact fill, free of frost. Footings have been shown for a minimum allowable bearing capacity of 15 tons per square foot. The elevations shown are for estimating and are subject to revision when true conditions are revealed by excavation. Contractor shall notify Architect of any doubtful conditions.
- Footings depths are subject to approval by the Architect when poor soil, water and obstructions occur.
- The sub-base makeup directly under all slabs on grade shall be a 8 inch minimum layer of gravel plus vapor barrier. The vapor barrier shall be 6 mil polyethylene.
- All fill material shall be free from clay, rock or gravel larger than 2 inches in any dimension, debris, waste frozen materials and vegetable and other deleterious matter. All soil infill garage areas shall be backfilled in 10 inch to 12 inch lifts and compacted to 95% or better.
- The bottoms of all exterior footings shall be at least 4 feet below the finished grade or as indicated on the plans. In no case shall footings be undermined.
- Level changes of footings shall be one foot vertical to two feet horizontal or as shown on the plans.
- Drilled-in anchors shall be HiLl HT Adhesive Anchors installed as per manufacturer's requirements.
- Prior to any excavation, all underground facilities within the work area shall be identified.

Foundation (continued)

- All baselift material against the basement walls shall be carefully placed as not to impose surcharge force. Do not fully backfill basement walls without authorization from the Archt.-Engineer. Floors providing lateral support for such walls must be in place prior to fully backfilling.
- No footing shall be placed on frozen ground or in winter.

Wood

- All connection for wood construction are to be nails, spikes, hold down anchors, metal joist hangers, framing anchors or patented special fasteners as given in the "Simpson Strong-Tie" product manual or equal. They shall be corrosion free where necessary. All fasteners for treated wood shall be of corrosion-resistant material.
- All plywood sub-flooring, roof sheathing, vertical wall sheathing plus installation as required shall conform to the latest American Plywood Association (APA) requirements.
- All wood subject to decay/deterioration shall be treated. All wood posts or columns, sill plates, etc. in direct contact with concrete shall be treated.
- All vertically glued 2.0 E Series LVL, multiple Micro-Lam (M.L.L.) headers and/or beams shall have the following minimum allowable design stresses under dry use and normal load duration:

Modulus Of Elasticity	2,000,000 psi
Flexural	2,800 psi (for 12" depth only)
Horizontal Shear	285 psi

- All solid one piece wood posts shall have the following minimum allowable design stresses under dry use and normal load duration:

Modulus Of Elasticity	1,800,000 psi
Flexural	2,200 psi
Horizontal Shear	285 psi
Comp. perpendicular to Grain	800 psi
Comp. parallel to Grain	3,000 psi

- All sawn lumber size members shall have the following minimum allowable design stresses under dry use and normal load duration unless called for otherwise on the plans:

Modulus Of Elasticity	1,300,000 psi
Flexural	1,200 psi
Horizontal Shear	80 psi
Comp. perpendicular to Grain	390 psi
Comp. parallel to Grain	1,000 psi

- The quantity and size of fasteners connecting all wood frame members together shall not be less than that specified in Table 2305.2, "Fastening Schedule E", as given in the Massachusetts State Building Code, 7th edition.

- Consult Archt.-Engineer for consent prior to providing any hole and/or opening in any wood support member.

- Plywood roof, subflooring and vertical wall sheathing shall be as follows:

roof:
1932" APA structural 1 rated plywood sheathing exp. 1 with clips as all joints
wall
12" subfloor
3/4"

- The tops and bottoms of all wood posts where called for shall have full end support to maintain stability. Positive connections shall be provided to resist uplift and lateral displacement.

- All plywood subflooring shall be glue-nailed to wood floor joists for added strength.

- All plumbing, electrical, heating and fire protection plus all other utilities are by others.

- All floor joists beneath parallel span partitions are to be doubled.

- Provide bridging in all floor, attic and roof framing as required. Conform to the minimum provisions given in the Massachusetts State Building Code, 7th edition.

Pre-Engineered Wood Joists

- All work included the complete furnishing and installation of the joists as shown on the drawings.
- Products shall be custom designed to fit the dimensions and loads given on the drawings. See drawings for size and spacing.
- A complete set of design calculations shall be prepared by the manufacturer of the joists under the supervision of a registered professional Structural Engineer for the State of Massachusetts.
- Shop Drawings showing layout and detail necessary for determining fit and placement of the joists in the structure to be provided by the manufacturer.
- Joists shall be manufactured in a plant approved for fabrication by the building code and under supervision of a third party inspection agency.
- Contractor shall give the joist manufacturer representative notification prior to enclosing the joists to provide opportunity for inspection of the installation.
- All products delivered shall be free from manufacturer errors and defects in workmanship and material.
- Due to customized detail and engineering characteristics of the framing assembly, it is a requirement that the Truss Joist MacMillan products be used in the "base" bid.

Pre-Engineered Wood Joists (continued)

- All joists, if stored prior to erection, shall be stored in a vertical position and protected from the weather. They shall be handled with care so that they are not damaged. All joists are to be erected and installed in accordance with the Shop Drawings and installation suggestions. Temporary construction loads which cause stresses beyond design limits are not permitted. Erection bracing is to be provided to keep the joists straight and plumb as required and to assure adequate lateral support for the individual joist and the entire system until the sheathing and/or sub-flooring has been applied.

- All framing plans, detailing, and calculations for alternate bids are to be received by the owner, architect and engineer for structural performance and compatibility with the structure requirements and building code.

Structural Steel

- General Contractor shall verify all dimensions & elevations.
- All structural steel materials, workmanship and detailing shall be in accordance with the latest provisions of the American Institute Of Steel Construction (AISC) Manual, 9th edition.
- Structural steel shapes shall conform to ASTM requirements as follows:
Steel Pipes A53 Fy = 35 ksi
All Others A36 Fy = 36 ksi
- Contractor to provide 3/4" cap plates for all columns.
- Steel fabricator shall provide setting plate (same size as welded base plate) for all steel columns.
- All field connections using welding or high strength bolts shall be completely detailed on the particular erection drawing showing the location of the member involved.
- All bolted connections shall be made with 3/4 inch diameter ASTM A-325-N bolts with washers as required unless noted otherwise. All bolts shall be tightened by the turn-of-the-nut method in accordance with the 9th edition, AISC Specification For Structural Steels Using ASTM A-305 Or A-490 Bolts. All high strength bolts are subject to direct tension and may require inspection as defined by applicable building code or standard. It is the responsibility of the erector to assure proper tightness.
- Unless otherwise shown on the Plans, all beam-to-beam connections shall be field-bolted. Connections shall be designed for 50% of the total allowable uniform load listed in the section "Allowable Loads on Beams" beginning on page 2-53 of the AISC Manual of Steel Construction, 9th edition.
- All welds, field or shop, shall be made by certified welders. All work shall be executed in conformity with the American Welding Society (AWS) code.
- All welds shall be made with E-70XX electrodes.
- All gusset plates shall be 3/8" thick, minimum, unless otherwise stated.
- All structural steel shall receive one (1) shop coat of gray paint (TNEMEC 99G metal primer or equal).

- Details, shown on the Plans may be modified to suit fabrication and erection procedures, subject to Engineer's approval.

- Holes shall be drilled or punched. Burning is not permitted.

- All columns shall be furnished with cap plates and base plates of sizes called for on the Plans and shall be shop-welded.

- Provide 1/4 inch thick leveling plates under all columns. Same size as base plate.

- General Contractor shall grout under all column bases as required with five star epoxy grout by U.S. GROUT Corp., or equal.

- The Structural Steel Contractor shall verify the foundation construction for anchor bolt location, elevation of top of concrete and leveling plates, alignment, etc., prior to start of erection.

- All column anchor bolts shall be 3/4 inch diameter. Material shall conform to ASTM A-307 (see detail).

- No permission will be granted for any structural drawings to be reproduced for use as shop drawings.

Miscellaneous Notes

- All materials shown on the drawings shall be installed in accordance with the manufacturer's specifications.
- Contractor is responsible for temporary bracing and support during construction.
- Any electrical, mechanical, HVAC, plumbing, or site work to be by others.
- All steel in contact with siding shall be free of projecting bolt heads, connections, and burrs.
- All smoke detectors and carbon monoxide detectors to be supplied and installed by electrical contractor.
- All headers to be fired out with additional 2x's and / or plywood to match wall thickness.
- Joist hangers are required at all flush framed locations.
- Wood column sizes to match wall thickness. Column quantity as indicated on the plans must remain.
- All exposed lumber to be pressure treated.

PROJECT:

DUPLEX

LOCATION:

29 AND 31
THIRD STREET
WORCESTER, MA

REVISIONS:

SCALE: AS PER DRAWING

DATE: 2-8-2024

PROJECT # R-170804

SHEET NO:

A-0

PROJECT:

DUPLEX

LOCATION:

29 AND 31
THIRD STREET
WORCESTER, MA

REVISIONS:

1ST FLOOR PLAN

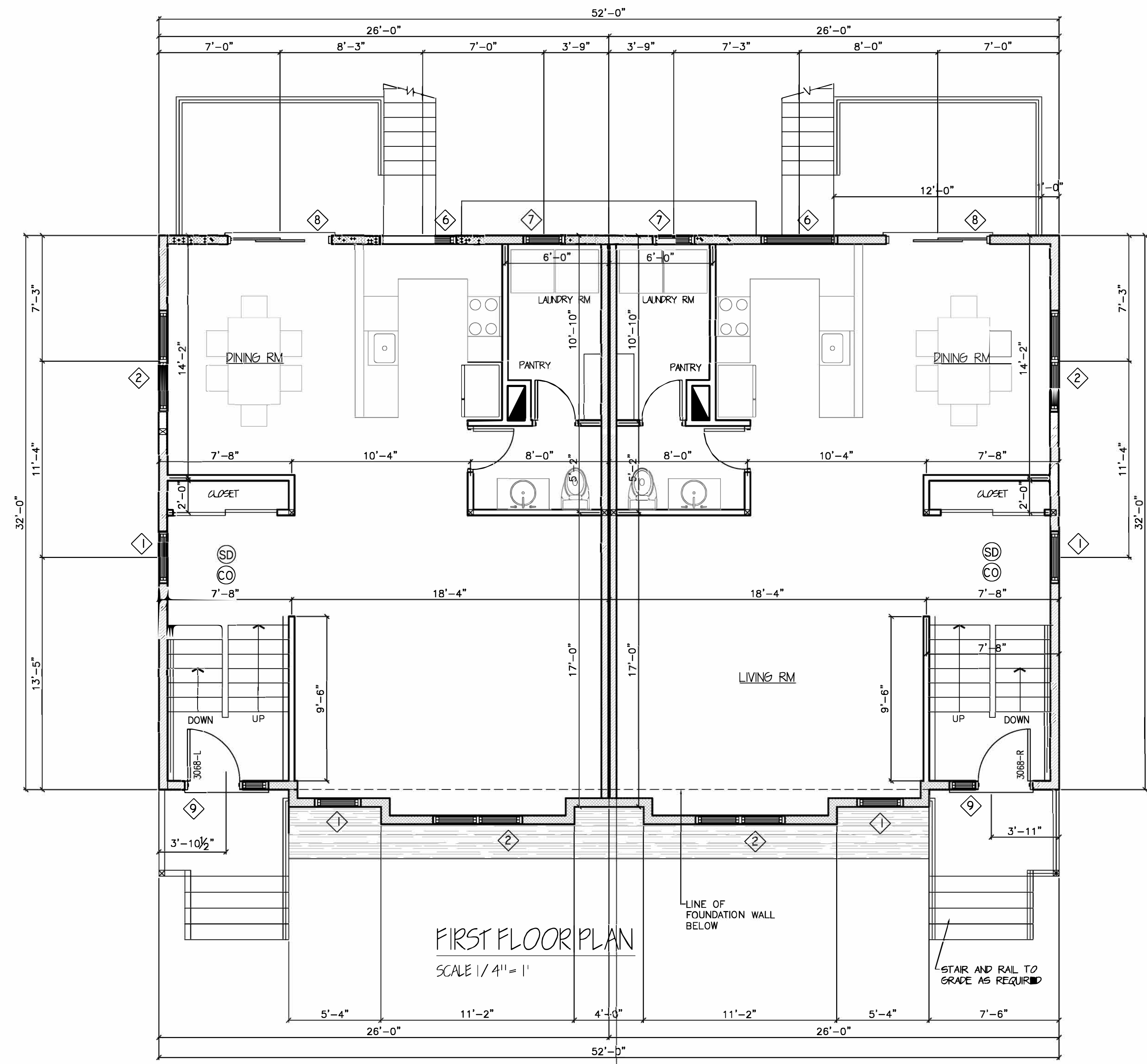
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DATE: 2-8-2024

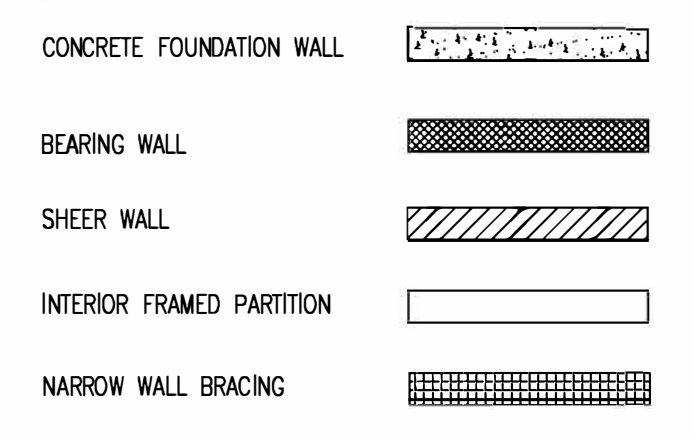
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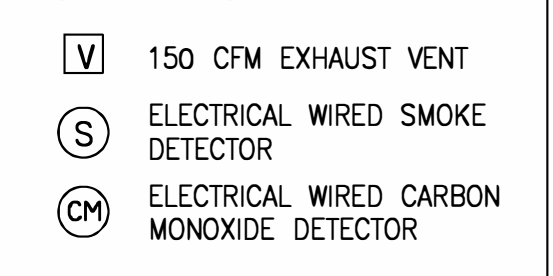
A-1



PARTITION LEGEND

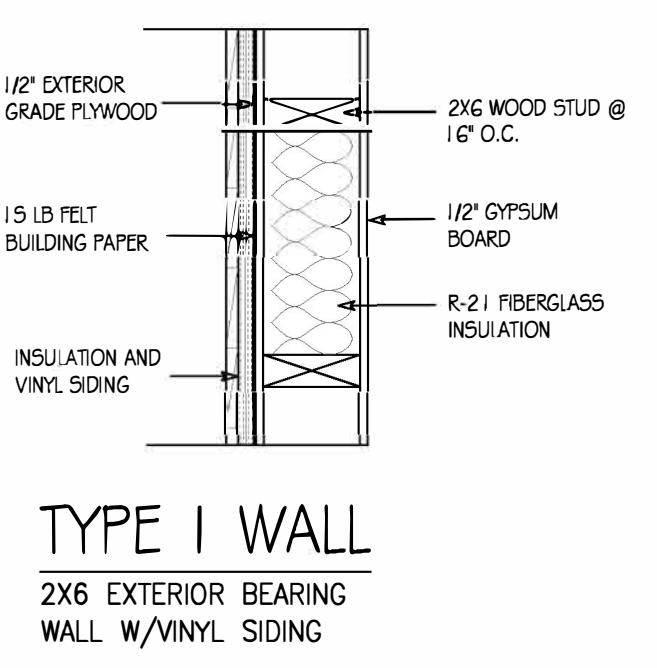


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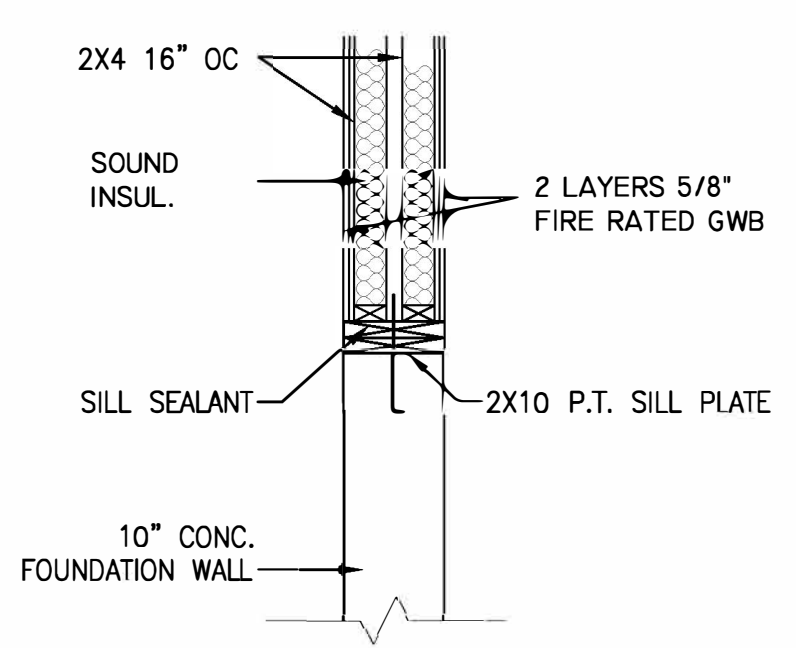


WINDOW SCHEDULE

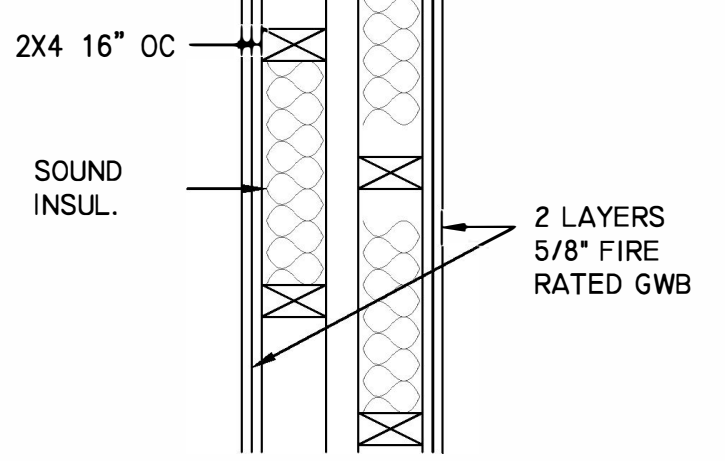
CODE	MODEL	QNTY	ROUGH OPENING		U VALUE	EGRESS COMPLIANT	MANUFACT.	DESCRIPTION
			WIDTH	HEIGHT				
1	DH-3046	4	3'-2"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
2	DH-3046-2	12	6'-2 1/4"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
3	DH-2452-2	2	4'-10 1/4"	5'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
4	HRD-24-2J	2	4'-10 1/4"	2'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, HALF ROUND HUNG
5	AWNING 3030	6	3'-2 1/2"	3'-0 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, AWNING
6	CASEMENT 4836-2	2	4'-8 3/4"	3'-6"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, CASEMENT
7	DH-3032	2	3'-2"	3'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, DOUBLE HUNG
8	SLIDING DOOR 6'-0" x 6'-8"	2	6'-2 1/2"	6'-8 1/2"	.30	YES	HARVEY	PATIO DOOR
9	ENTRY DOOR PER OWNER'S SPECS							



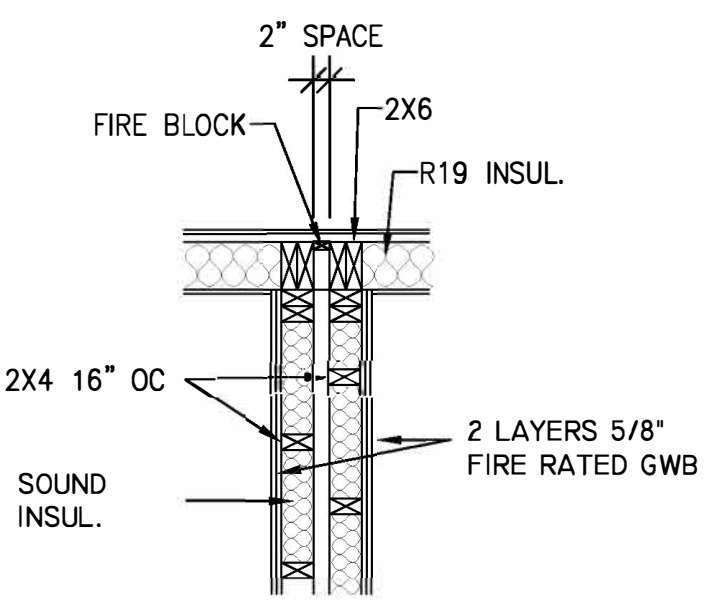
TYPE 1 WALL
2X6 EXTERIOR BEARING WALL W/VINYL SIDING



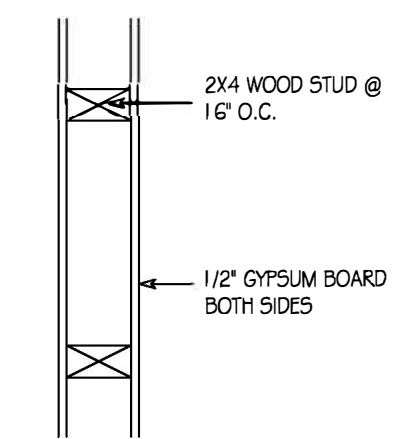
TYPICAL PARTYWALL / FOUNDATION WALL DETAIL



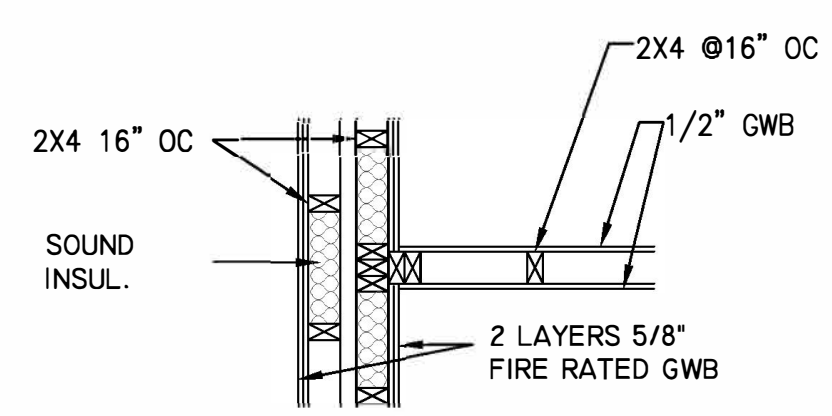
TYPE 2 WALL
2 HR PARTY WALL



DETAIL: TYPICAL PARTYWALL / EXTERIOR WALL JOINT



TYPE 3 WALL
NON BEARING INTERIOR WALL



DETAIL: TYPICAL PARTYWALL / INTERIOR WALL JOINT

NOTES

EXTERIOR WALLS:
2X6 WOOD STUDS AT 6" O.C.
1/2" GYPSUM BOARD, PLASTER AND PAINT
R-21 FIBER GLASS INSULATION
5/8" EXTERIOR GRADE PLYWOOD SHEATHING
5 MIL VAPOR BARRIER
EXTERIOR SIDING SYSTEM

INTERIOR WALLS:
2X4 WOOD STUDS @ 16" O.C.
1/2" GYPSUM BOARD BOTH SIDES PLASTER AND PAINT

FIRST FLOOR DECK:
SEE FRAMING PLAN FOR DETAILS
3/4" T&G PLYWOOD NAILED AND ELUED
R-30 BATT. INSULATION

SECOND FLOOR DECK:
SEE FRAMING PLAN FOR DETAILS
3/4" T&G PLYWOOD NAILED AND ELUED

ATTIC FLOOR AND ROOF:
2X10 JOISTS @ 16" O.C.
R-38 BATTERY INSULATION
GARAGE/LIVING SPACE SEPARATION 1 HR FIRE WALL:
2X4 WOOD STUDS AT 16" O.C.
R-19 FIBERGLASS INSULATION
1/2" GYPSUM BOARD ROOM SIDE PLASTERED
2 LAYERS 5/8" FIRE RATED GYPSUM BOARD GARAGE SIDE PLASTERED

GARAGE CEILING SEPARATION 1 HR:
CEILING/FLOOR JOISTS AS PER PLAN
R-30 BATT. INSULATION
STRAFFING
2 LAYERS 5/8" GYPSUM BOARD PLASTERED

FIRE STOP:
PROVIDE FIRE STOPS AT ALL VERTICAL PLUMBING, WIRE OR OTHER OPENINGS

INSTALL MECHANICAL EXHAUST FANS IN ALL BATHROOMS.
INSTALL SMOKE DETECTORS IN
- ALL BEDROOMS ROOMS
- SECOND FLOOR HALLWAY
- FIRST FLOOR HALLWAY
- BASEMENT

INSTALL CARBON-MONOXIDE DETECTORS
- FIRST FLOOR HALLWAY
- SECOND FLOOR HALLWAY
- LOCATE 10 FEET MAXIMUM FROM BEDROOM DOORS

THERMAL INSULATION NOTES

EXTERIOR WALL INSULATION:
R-21 FIBERGLASS BATT. INSULATION

INTERIOR PARTY WALL INSULATION:
R-13 SOUND INSULATION

FIRST FLOOR DECK:
RE-30 FIBERGLASS BATT. INSULATION

ATTIC:
R-38 FIBERGLASS BATT. INSULATION

PROJECT:
DUPLEX

LOCATION:
29 AND 31
THIRD STREET
WORCESTER, MA

REVISIONS:

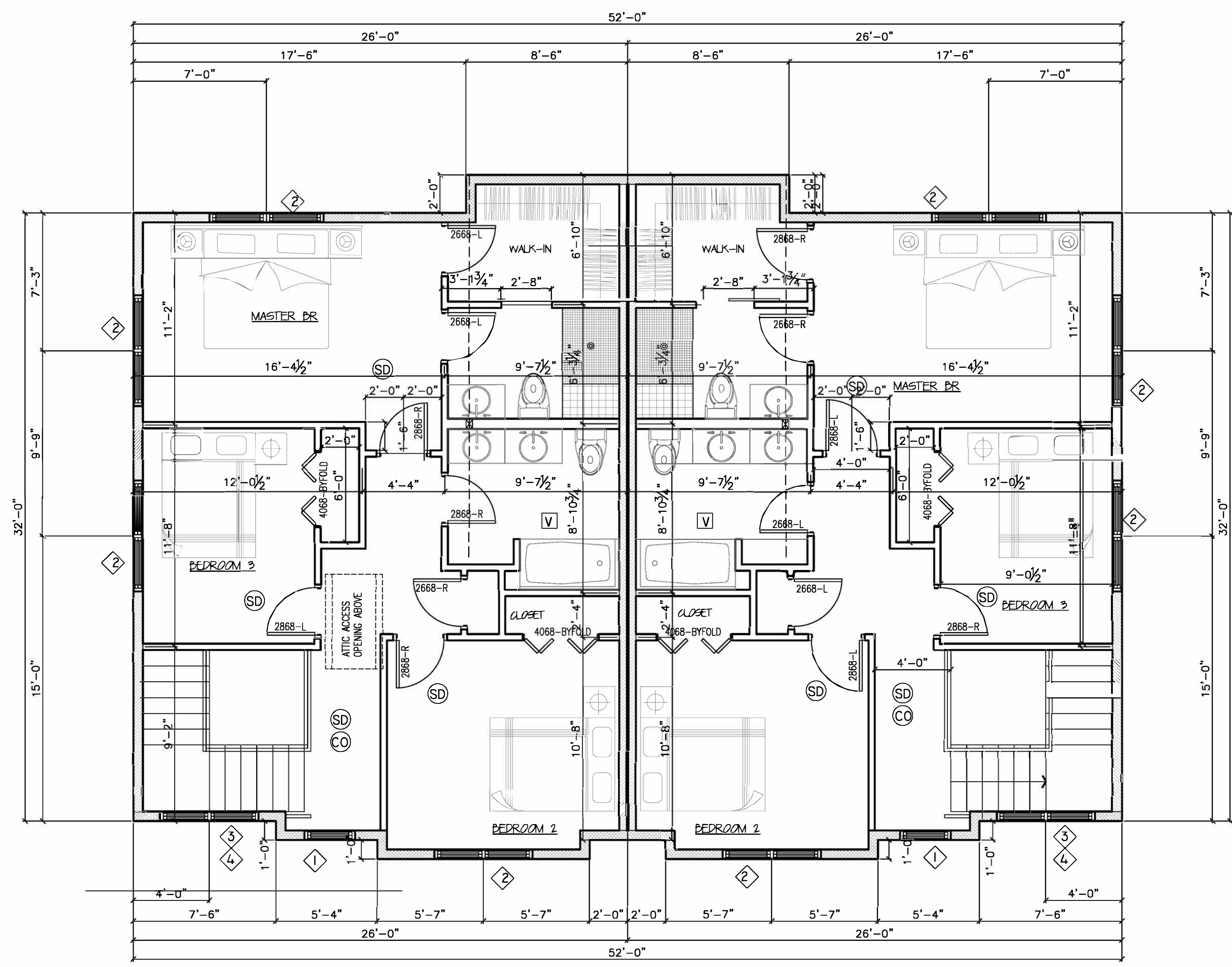
2ND FLOOR PLAN

SCALE: AS PER DRAWING

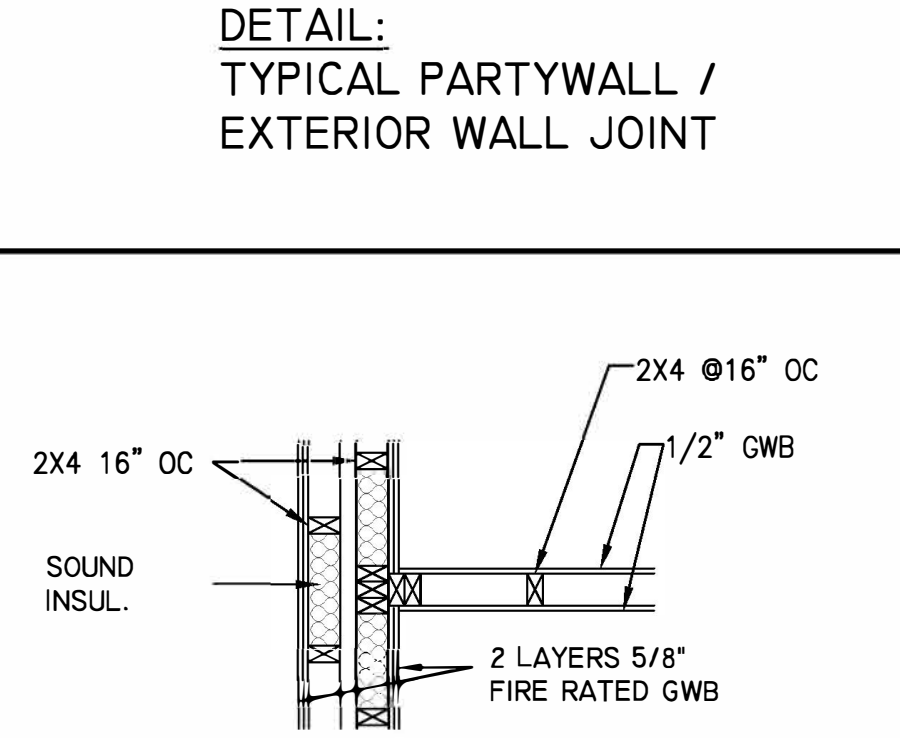
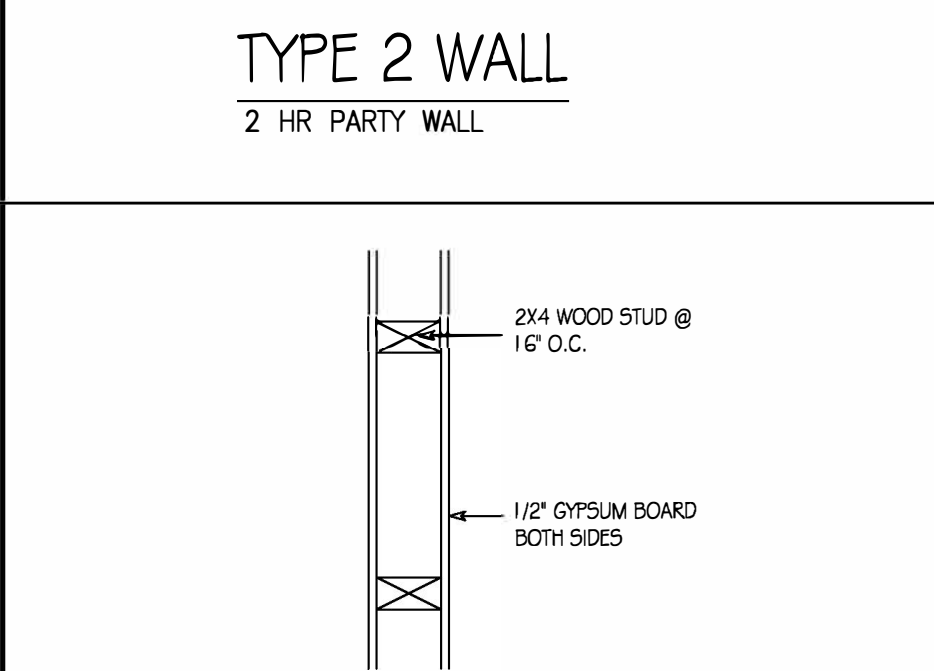
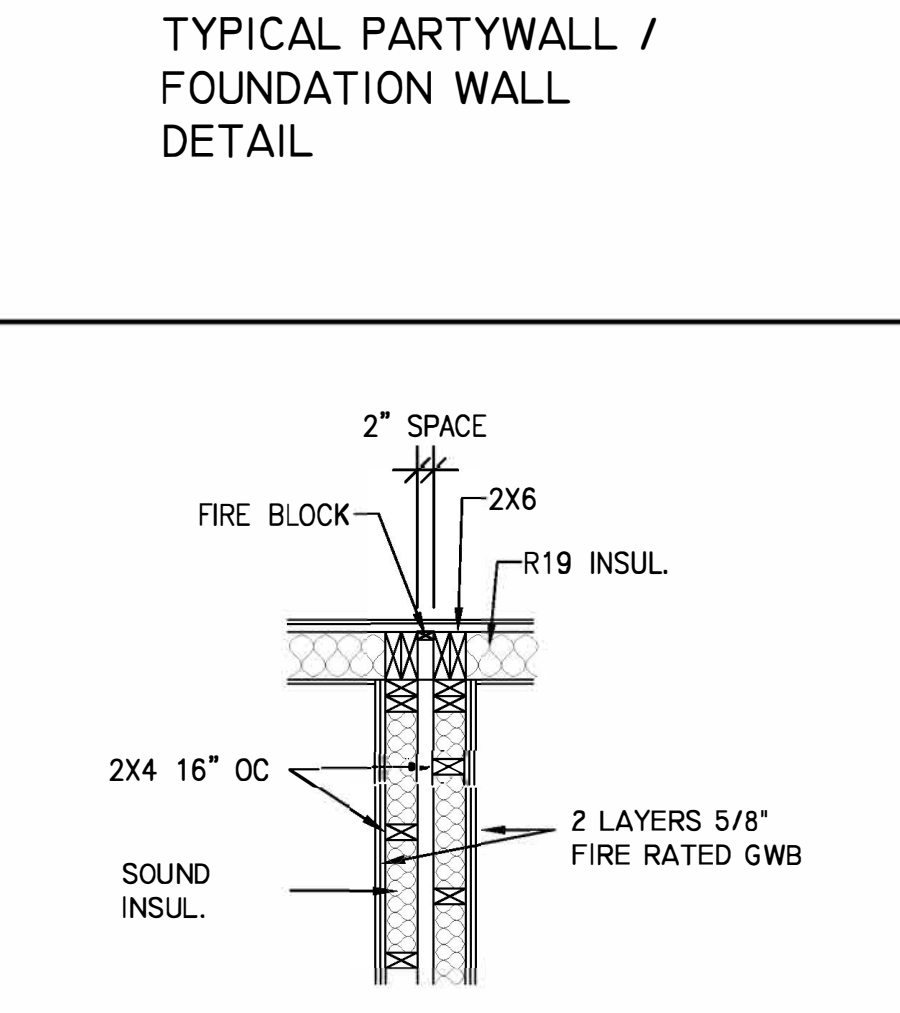
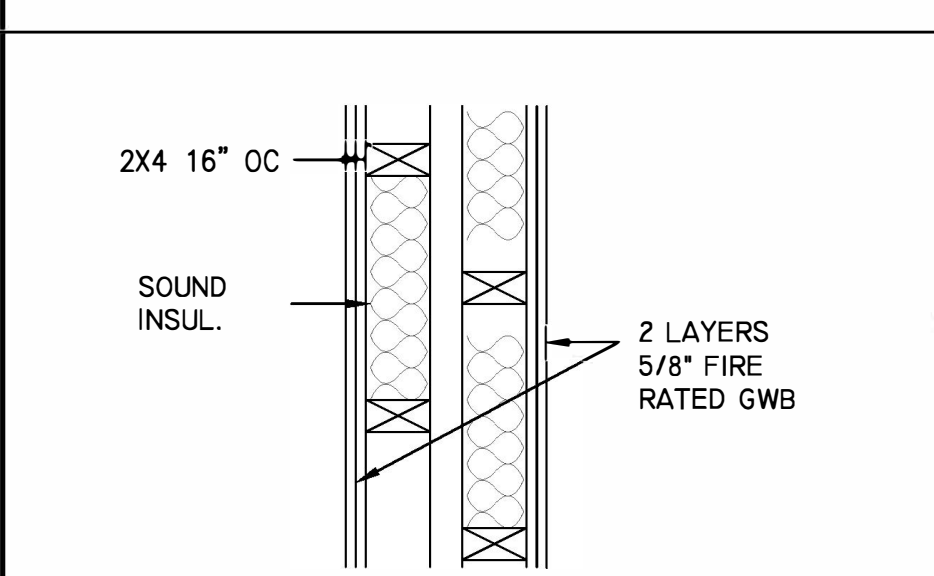
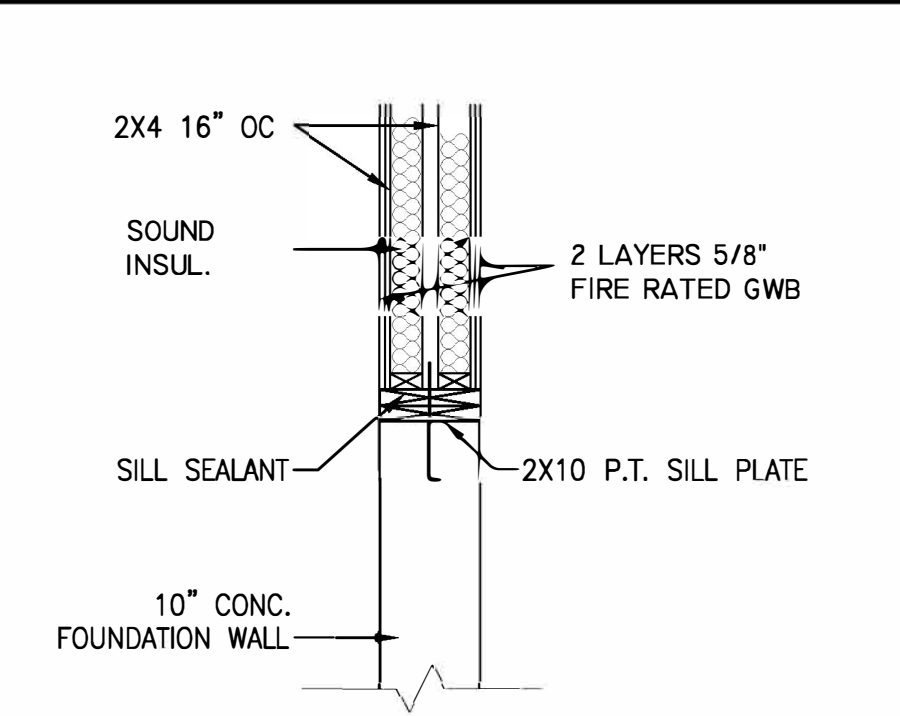
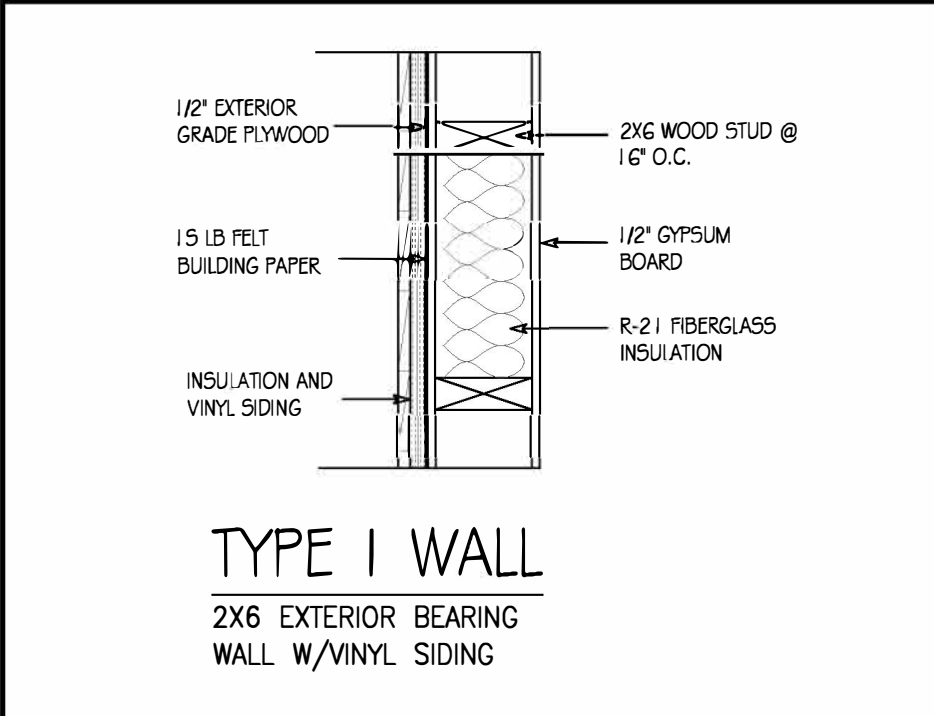
DATE: 2-8-2024

PROJECT # R-170804

SHEET NO:
A-2



SECOND FLOOR PLAN
SCALE 1/4" = 1'



NOTES

EXTERIOR WALLS:
2x6 WOOD STUDS @ 16" O.C.
1/2" GYPSUM BOARD, PLASTER AND PAINT
R-21 FIBER GLASS INSULATION
5/8" EXTERIOR GRADE PLYWOOD SHEATHING
5 MIL VAPOR BARRIER
EXTERIOR SIDING SYSTEM

INTERIOR WALLS:
2x4 WOOD STUDS @ 16" O.C.
1/2" GYPSUM BOARD BOTH SIDES PLASTER AND PAINT

FIRST FLOOR DECK:
SEE FRAMING PLAN FOR DETAILS
3/4" T&G PLYWOOD NAILED AND ELUED
R-30 BATT. INSULATION

SECOND FLOOR DECK:
SEE FRAMING PLAN FOR DETAILS
3/4" T&G PLYWOOD NAILED AND ELUED

ATTIC FLOOR AND ROOF:
2x10 FLOOR JOISTS @ 16" O.C.
R-38 BATTERY INSULATION
GARAGE/LIVING SPACE SEPARATION 1 HR FIRE WALL:
2x4 WOOD STUDS @ 16" O.C.
R-19 FIBERGLASS INSULATION
1/2" GYPSUM BOARD ROOM SIDE PLASTERED
2 LAYERS 5/8" FIRE RATED GYPSUM BOARD GARAGE SIDE PLASTERED

GARAGE CEILING SEPARATION 1 HR:
CEILING/FLOOR JOISTS AS PER PLAN
R-30 BATT. INSULATION
STRAPPING
2 LAYERS 5/8" GYPSUM BOARD PLASTERED

FIRE STOP:
PROVIDE FIRE STOPS AT ALL VERTICAL PLUMBING, WIRE OR OTHER OPENINGS

INSTALL MECHANICAL EXHAUST FANS IN ALL BATHROOMS.
INSTALL SMOKE DETECTORS IN
- ALL BEDROOMS ROOMS
- SECOND FLOOR HALLWAY
- FIRST FLOOR HALLWAY
- BASEMENT

INSTALL CARBON-MONOXIDE DETECTORS
- FIRST FLOOR HALLWAY
- SECOND FLOOR HALLWAY
- LOCATE 10 FEET MAXIMUM FROM BEDROOM DOORS

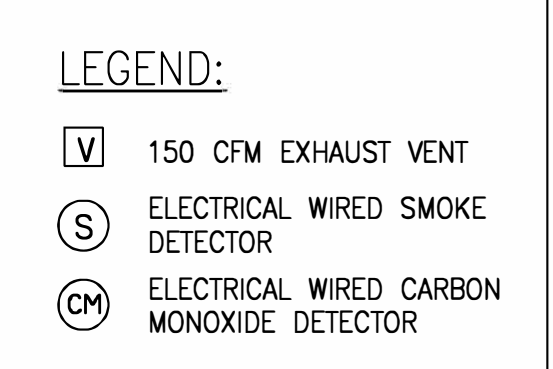
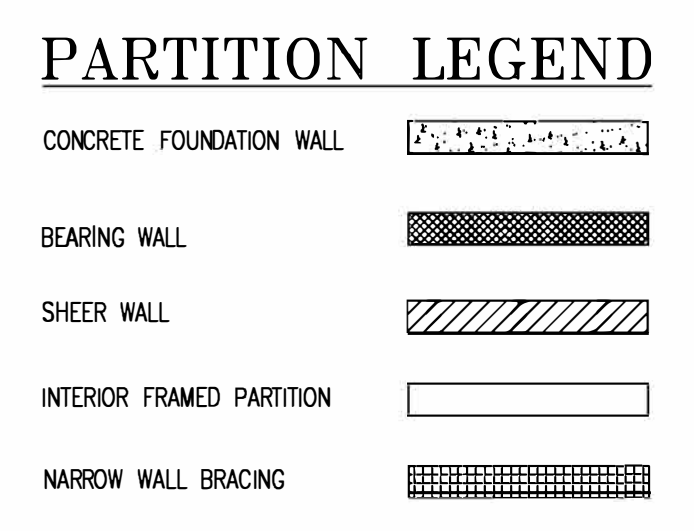
THERMAL INSULATION NOTES

EXTERIOR WALL INSULATION:
R-21 FIBERGLASS BATT. INSULATION

INTERIOR PARTY WALL INSULATION:
R-13 SOUND INSULATION

FIRST FLOOR DECK:
RE-30 FIBERGLASS BATT. INSULATION

ATTIC:
R-38 FIBERGLASS BATT. INSULATION



WINDOW SCHEDULE

CODE	MODEL	QNTY	ROUGH OPENING		U VALUE	EGRESS COMPLIANT	MANUFACT.	DESCRIPTION
			WIDTH	HEIGHT				
1	DH-3046	4	3'-2"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
2	DH-3046-2	12	6'-2 1/4"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
3	DH-2452-2	2	4'-10 1/4"	5'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
4	HRD-24-2J	2	4'-10 1/4"	2'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, HALF ROUND HUNG
5	AWNING 3030	6	3'-2 1/2"	3'-0 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, AWNING
6	CASEMENT 4836-2	2	4'-8 3/4"	3'-6"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, CASEMENT
7	DH-3032	2	3'-2"	3'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, DOUBLE HUNG
8	SLIDING DOOR 6'-0" X 6'-8"	2	6'-2 1/4"	6'-8 1/2"	.30	YES	HARVEY	PATIO DOOR
9	ENTRY DOOR PER OWNER'S SPECS							

FOUNDATION AND CONCRETE NOTES:

ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE STANDARDS ENTITLED SPECIFICATIONS OF STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301-72). WELDED WIRE FABRIC SHALL CONFORM TO "STANDARD SPECIFICATIONS FOR WELDED WIRE FABRIC FOR CONCRETE REINFORCEMENT" (ASTM A185) AND SHALL BE SUPPLIED IN FLAT SHEETS. REINFORCING SHALL CONFORM TO "DEFORMED AND PLAIN BILLET STEEL FOR CONCRETE REINFORCING" (ASTM A615) GR. 60.

CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS MINIMUM. ALL CONCRETE EXPOSED TO THE ELEMENTS SHALL HAVE AIR ENTERTAINMENT IN ACCORDANCE WITH ACI RECOMMENDATIONS FOR THE PARTICULAR MIX DESIGN FOR EXTREME EXPOSURE. MINIMUM COVER FOR REINFORCEMENT SHALL BE 3 INCHES FOR CAST AGAINST AND EXPOSED TO THE EARTH, 2 INCHES FOR CONCRETE EXPOSED TO THE WEATHER, AND 1 INCHES FOR ALL OTHER CONCRETE.

ALL CONCRETE SHALL BE PROTECTED FROM FREEZING DURING COLD WEATHER. CONCRETE FOOTING SHALL REST ON VIRGIN SOIL HAVING AN ALLOWABLE BEARING CAPACITY OF 2.0 TONS PER SQUARE FOOT.

NO FOUNDATIONS SHALL BE PLACED ON WATER OR ON FROZEN GROUND OF 500 PSI AT 28 DAYS. FOOTING SHALL BE PROTECTED AGAINST FROST UNTIL PROJECT IS COMPLETED.

L CONCRETE SLABS PLACED ON GROUND SHALL BE REINFORCED WITH #6 W/ 2.0X12.9 WELDED WIRE FABRIC OR WIRE MESH.

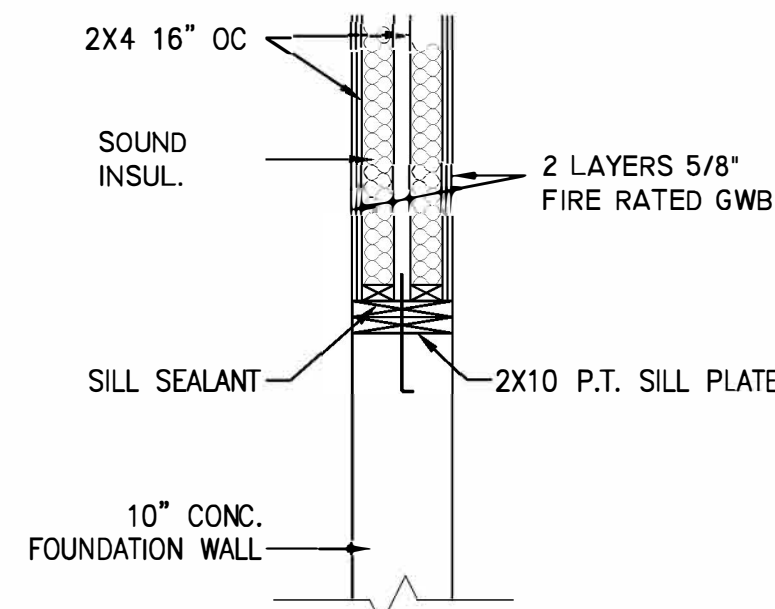
CONTINUOUS BAR SHALL RUN CONTINUOUSLY AROUND THE CORNER AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS.

INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO SCHEDULED COULUATION OF PLACEMENT OF REINFORCEMENT.

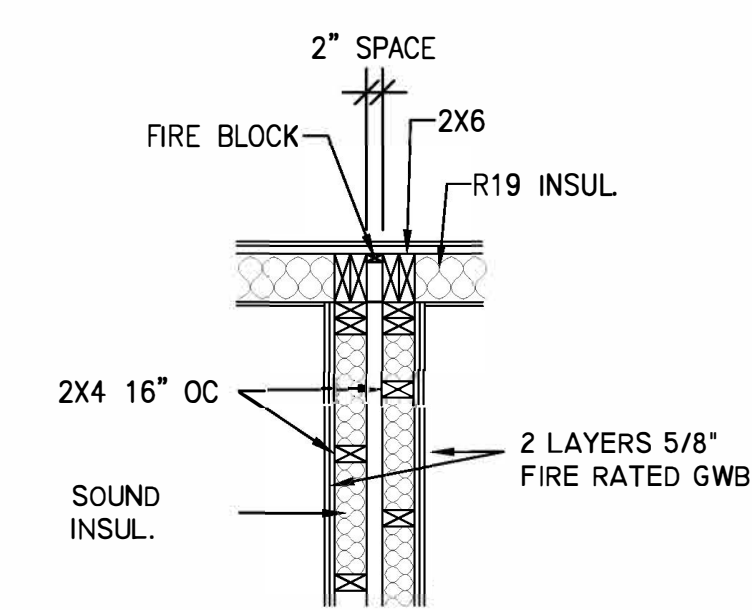
ALL FOUNDATION WALLS AND GRADE BEAMS SHALL BE BRACED DURING BACK FILLING AND TAMPING OPERATIONS. THE USE OF CONTROL JOINTS IN THE SLAB IS RECOMMENDED TO CONTROL CRACKING.

GRAUT TO BE NON STICK AND NON METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH.

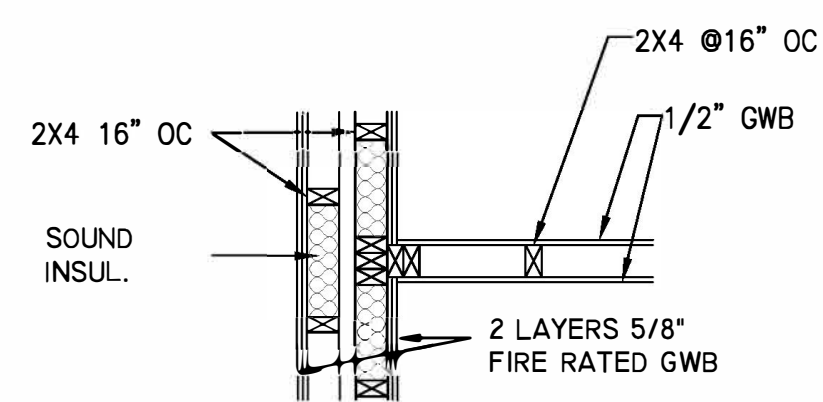
ALL REINFORCING BARS SHALL BE COLD BENT. DAM PROOF ALL FOUNDATION WALLS BELOW GRADE.



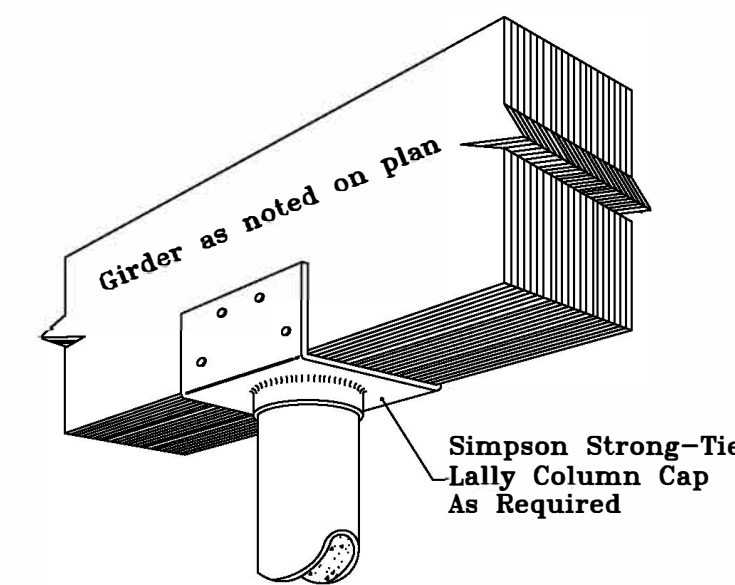
TYPICAL PARTYWALL / FOUNDATION WALL DETAIL



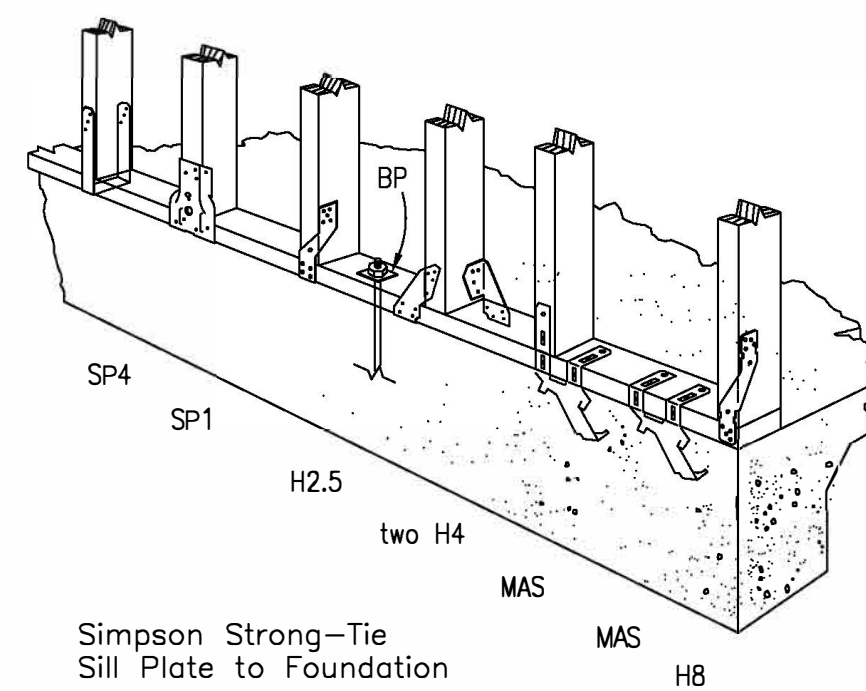
DETAIL: TYPICAL PARTYWALL / EXTERIOR WALL JOINT



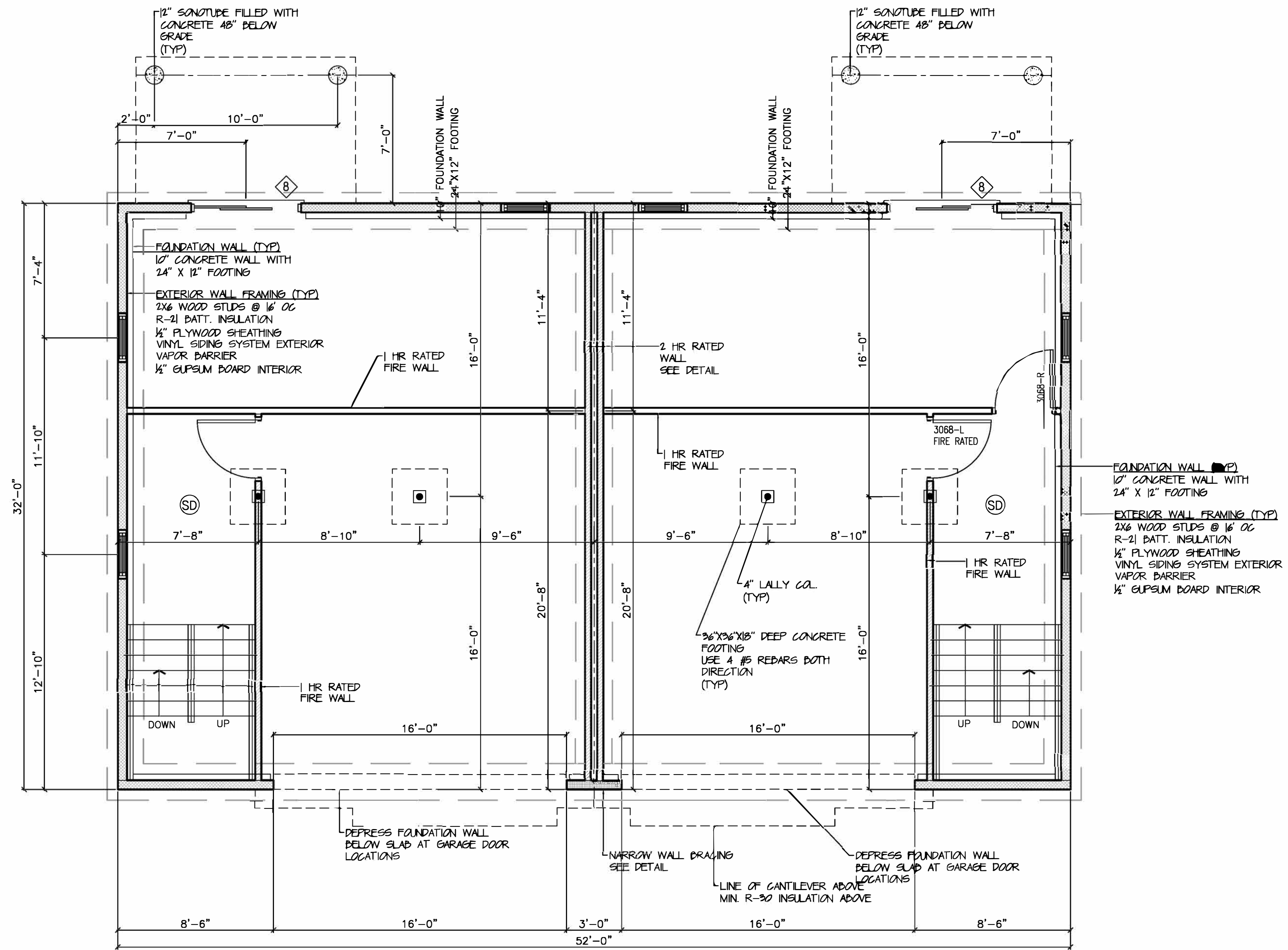
DETAIL: TYPICAL PARTYWALL / INTERIOR WALL JOINT



LALLY COL.-CAP DETAIL



SILL PLATE TO FOUNDATION CONNECTION DETAIL



FOUNDATION PLAN

SCALE 1/4" = 1'

- GARAGE FLOOR:**
- 4" CONCRETE SLAB ON 4" POLYPSYLL FILL
 - PITCH GARAGE SLAB 1/8" PER FOOT TO GARAGE DOORS (TYP)
 - MIN. 3/8" GYPSEUM BOARD ON CEILING AND COMMON WALLS (2 LAYERS)
 - MIN. R-12 INSULATION IN CEILING
 - MIN. R-15 INSULATION IN WALLS

PARTITION LEGEND

CONCRETE FOUNDATION WALL	
BEARING WALL	
SHEER WALL	
INTERIOR FRAMED PARTITION	
NARROW WALL BRACING	

LEGEND:

- 150 CFM EXHAUST VENT
- ELECTRICAL WIRED SMOKE DETECTOR
- ELECTRICAL WIRED CARBON MONOXIDE DETECTOR

WINDOW SCHEDULE

CODE	MODEL	QNTY	ROUGH OPENING		U VALUE	EGRESS COMPLIANT	MANUFACT.	DESCRIPTION
			WIDTH	HEIGHT				
1	DH-3046	4	3'-2"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
2	DH-3046-2	12	6'-2 1/4"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
3	DH-2452-2	2	4'-10 1/4"	5'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
4	HRD-24-2J	2	4'-10 1/4"	2'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, HALF ROUND
5	AWNING 3030	6	3'-2 1/4"	3'-0 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, AWNING
6	CASEMENT 4836-2	2	4'-8 3/4"	3'-6"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, CASEMENT
7	DH-3032	2	3'-2"	3'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, DOUBLE HUNG
8	SLIDING DOOR 6'-0" X 6'-8"	2	6'-2 1/4"	6'-8 1/2"	.30	YES	HARVEY	PATIO DOOR
9	ENTRY DOOR PER OWNER'S SPECS							

PROJECT:

DUPLEX

LOCATION:

29 AND 31
THIRD STREET
WORCESTER, MA

REVISIONS:

DRAWING:

BASEMENT,
FOUNDATION
PLAN

SCALE: AS PER DRAWING

DATE: 2-8-2024

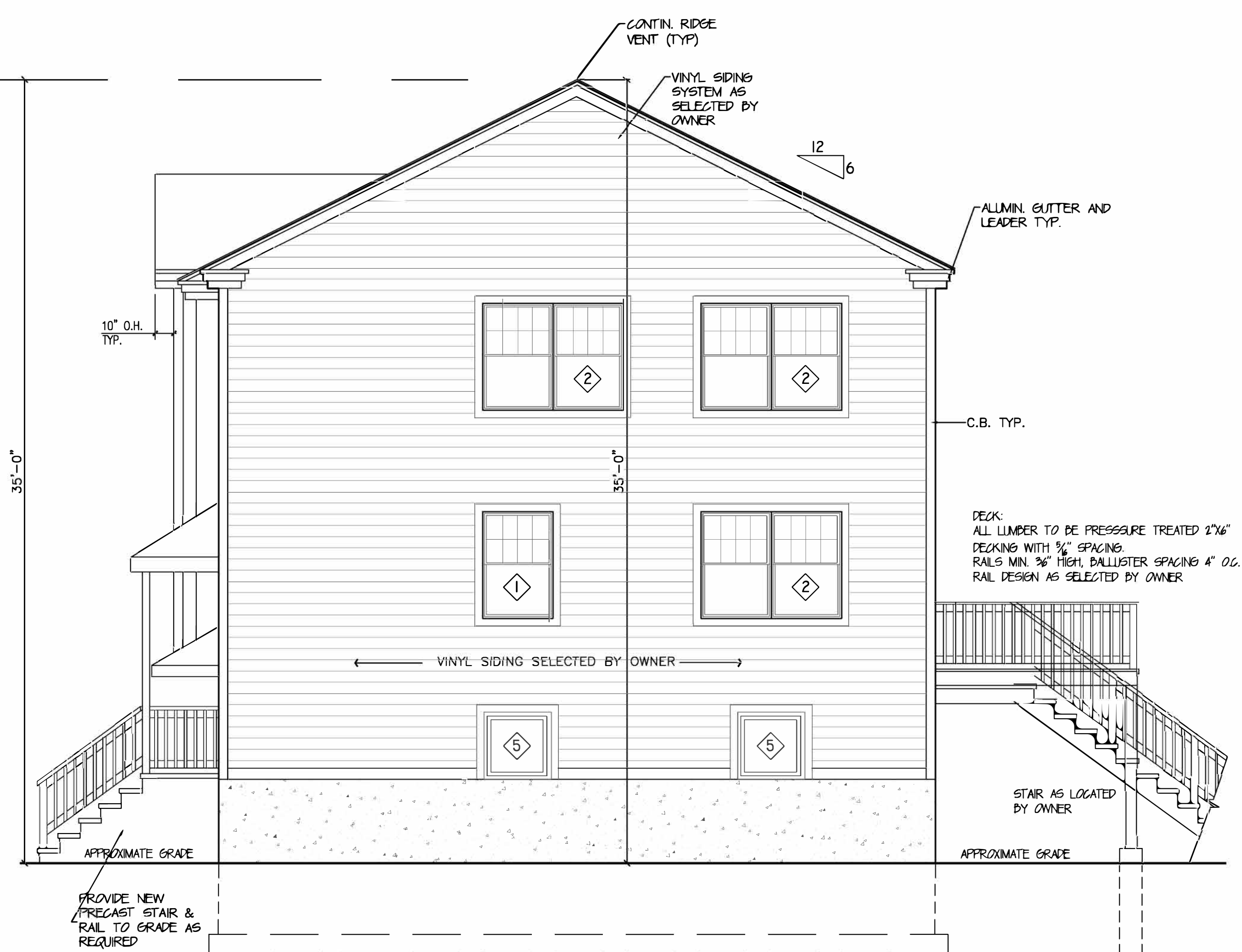
PROJECT # R-170804

SHEET NO:

A-3



FRONT ELEVATION
SCALE 1/4" = 1'



RIGHT SIDE ELEVATION
SCALE 1/4" = 1'

PROJECT:
DUPLEX
BURNCOAT HEIGHTS

LOCATION:
29 AND 31
THIRD STREET
WORCESTER, MA

REVISIONS:

DRAWING:
FRONT AND
RIGHT SIDE
ELEVATIONS

SCALE: AS PER DRAWING

DATE: 2-8-2024

PROJECT # R-170804

SHEET NO:

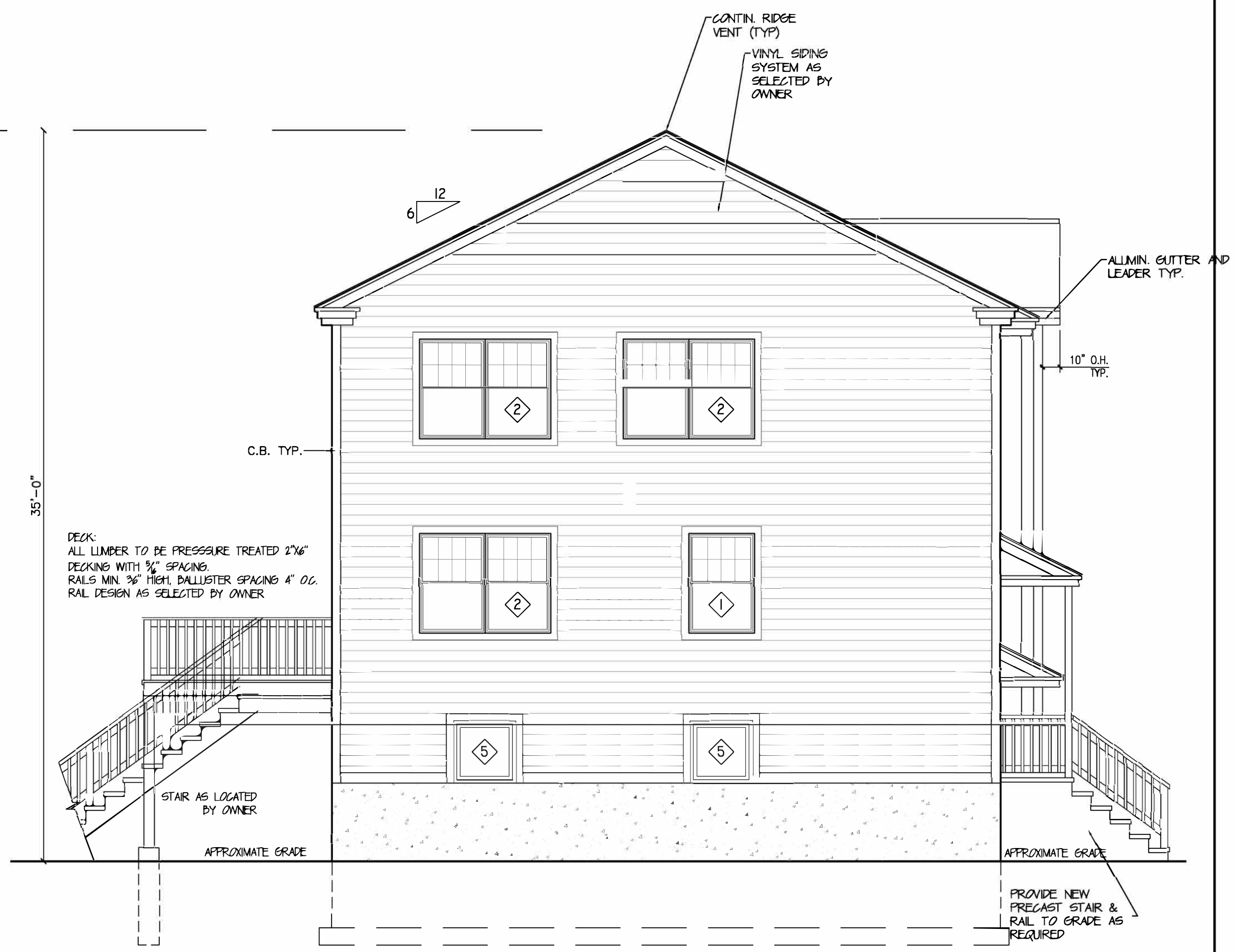
A-4

WINDOW SCHEDULE

CODE	MODEL	QNTY	ROUGH OPENING		U VALUE	EGRESS COMPLIANT	MANUFACT.	DESCRIPTION
			WIDTH	HEIGHT				
1	DH-3046	4	3'-2"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
2	DH-3046-2	12	6'-2 1/4"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
3	DH-2452-2	2	4'-10 1/4"	5'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
4	HRD-24-2J	2	4'-10 1/4"	2'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, HALF ROUND
5	AWNING 3030	6	3'-2 1/4"	3'-0 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, AWNING
6	CASEMENT 4836-2	2	4'-8 3/4"	3'-6"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, CASEMENT
7	DH-3032	2	3'-2"	3'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, DOUBLE HUNG
8	SLIDING DOOR 6'-0" X 6'-8"	2	6'-2 1/4"	6'-8 1/2"	.30	YES	HARVEY	PATIO DOOR
9	ENTRY DOOR PER OWNER'S SPECS							



REAR ELEVATION
SCALE 1/4" = 1'



LEFT SIDE ELEVATION
SCALE 1/4" = 1'

PROJECT:

DUPLEX

LOCATION:

29 AND 31
THIRD STREET
WORCESTER, MA

REVISIONS:

DRAWING:

REAR AND
LEFT SIDE
ELEVATIONS

SCALE: AS PER DRAWING

DATE: 2-8-2024

PROJECT # R-170804

SHEET NO:

A-5

WINDOW SCHEDULE

CODE	MODEL	QNTY	ROUGH OPENING		U VALUE	EGRESS COMPLIANT	MANUFACT.	DESCRIPTION
			WIDTH	HEIGHT				
1	DH-3046	4	3'-2"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
2	DH-3046-2	12	6'-2 1/4"	4'-9 1/2"	.30	YES	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
3	DH-2452-2	2	4'-10 1/4"	5'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL DOUBLE HUNG
4	HRD-24-2J	2	4'-10 1/4"	2'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, HALF ROUND
5	AWNING 3030	6	3'-2 1/4"	3'-0 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, AWNING
6	CASEMENT 4836-2	2	4'-8 3/4"	3'-6"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, CASEMENT
7	DH-3032	2	3'-2"	3'-5 1/2"	.30	NO	HARVEY	NEW CONSTRUCTION, VINYL, DOUBLE HUNG
8	SLIDING DOOR 6'-0" X 6'-8"	2	6'-2 1/4"	6'-8 1/2"	.30	YES	HARVEY	PATIO DOOR
9	ENTRY DOOR PER OWNER'S SPECS							

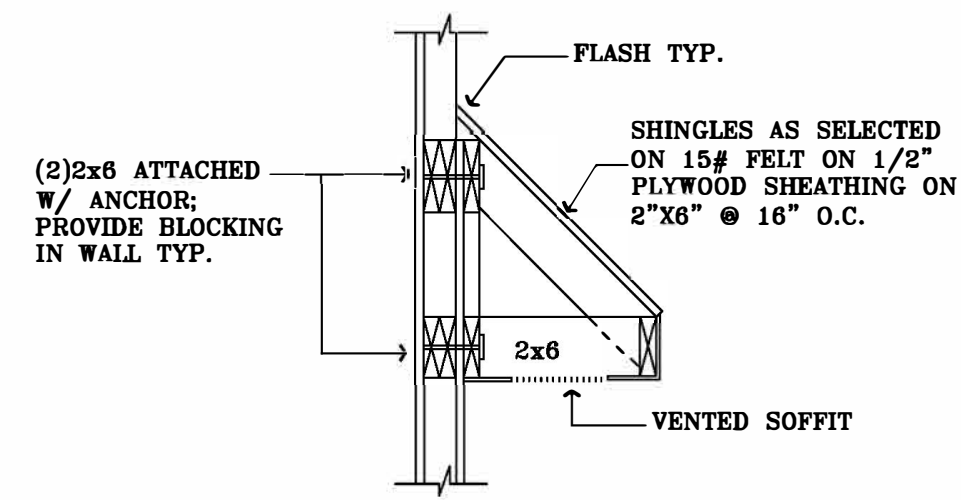
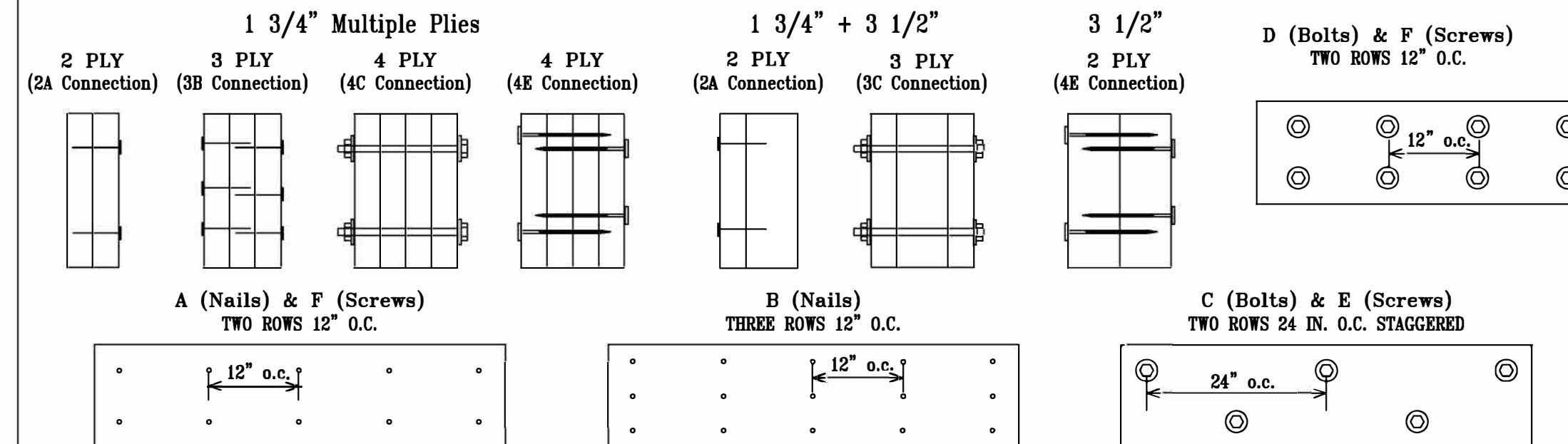
BEAM & HEADER FASTENING SCHEDULE

Maximum Uniform Load Applied to
Either or Both Outside Pieces
(Pounds per lineal foot)

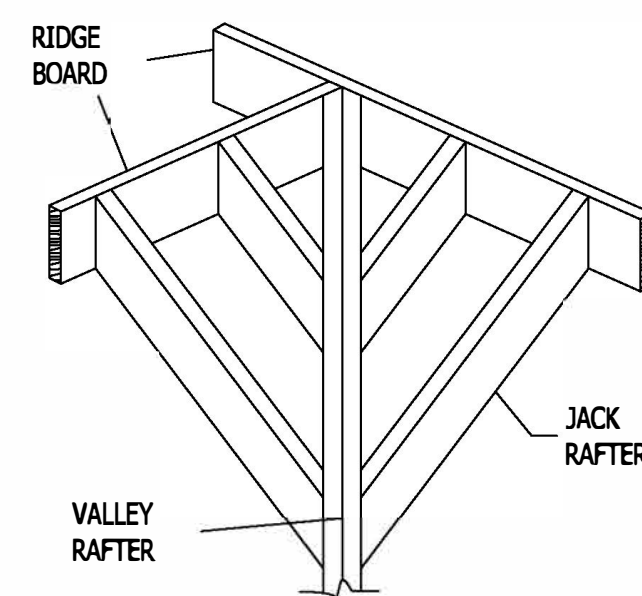
Pieces in Member	16d NAILS		1/2" BOLTS		SCREWS (Note 9)	
	A	B	C	D	E	F
2	505	760	505	1015	500	995
3	380	570	380	760	375	745
4	Not Permitted					

NOTES:

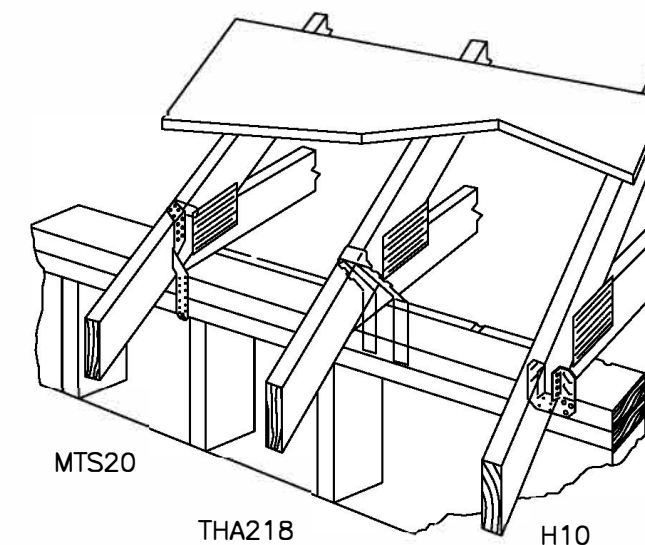
1. Confirm adequacy of the beam (depth and number of pieces) for carrying the designated load.
2. Stress level for nail and bolt values is 100%. Increases of 15% for snow loaded or 25% for non-snow loaded roof conditions are permitted.
3. Top and bottom row of connectors should be 2" from edge.
4. Bolt holes are to be the same diameter as the bolt. Every bolt must extend through the full thickness of the member. Use washers under head and nut.
5. For three-piece member, specified nailing is from the each side.
6. To minimize rotation, four-piece members should only be used when loads are applied to both sides, or completely across the top of the member.
7. Four-piece members must be bolted or attached with 6" screws from both sides.
8. Floor joists must be attached with approved metal hangers.
9. Screws are USP WS series or Simpson Strong-Tie SDS installed per manufacturer instructions.
10. Screws for 3-ply and 4-ply members must be from both sides of beam.



GARAGE OVERHANG DETAIL

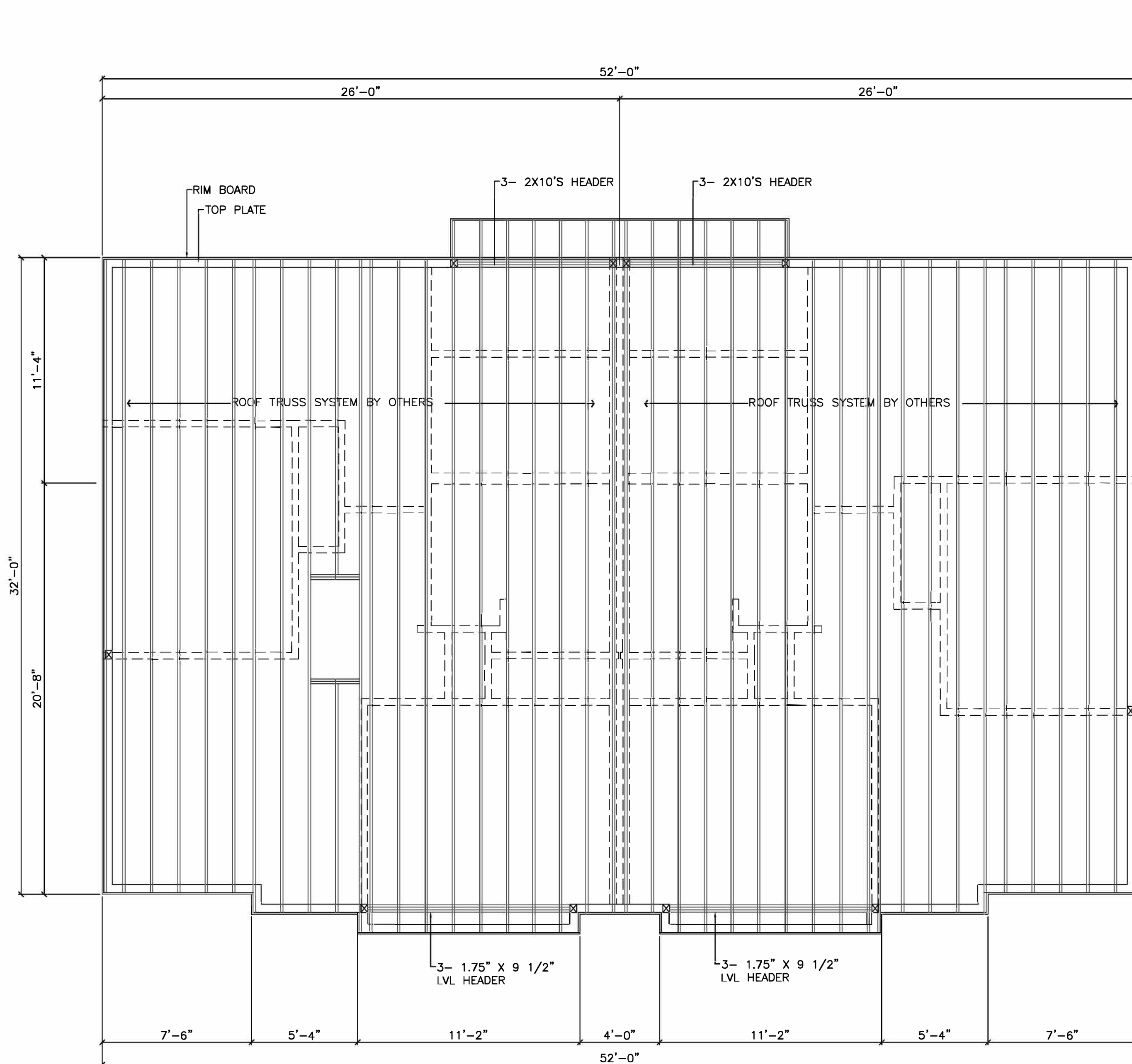


TYP. VALLEY RAFTER FRAMING



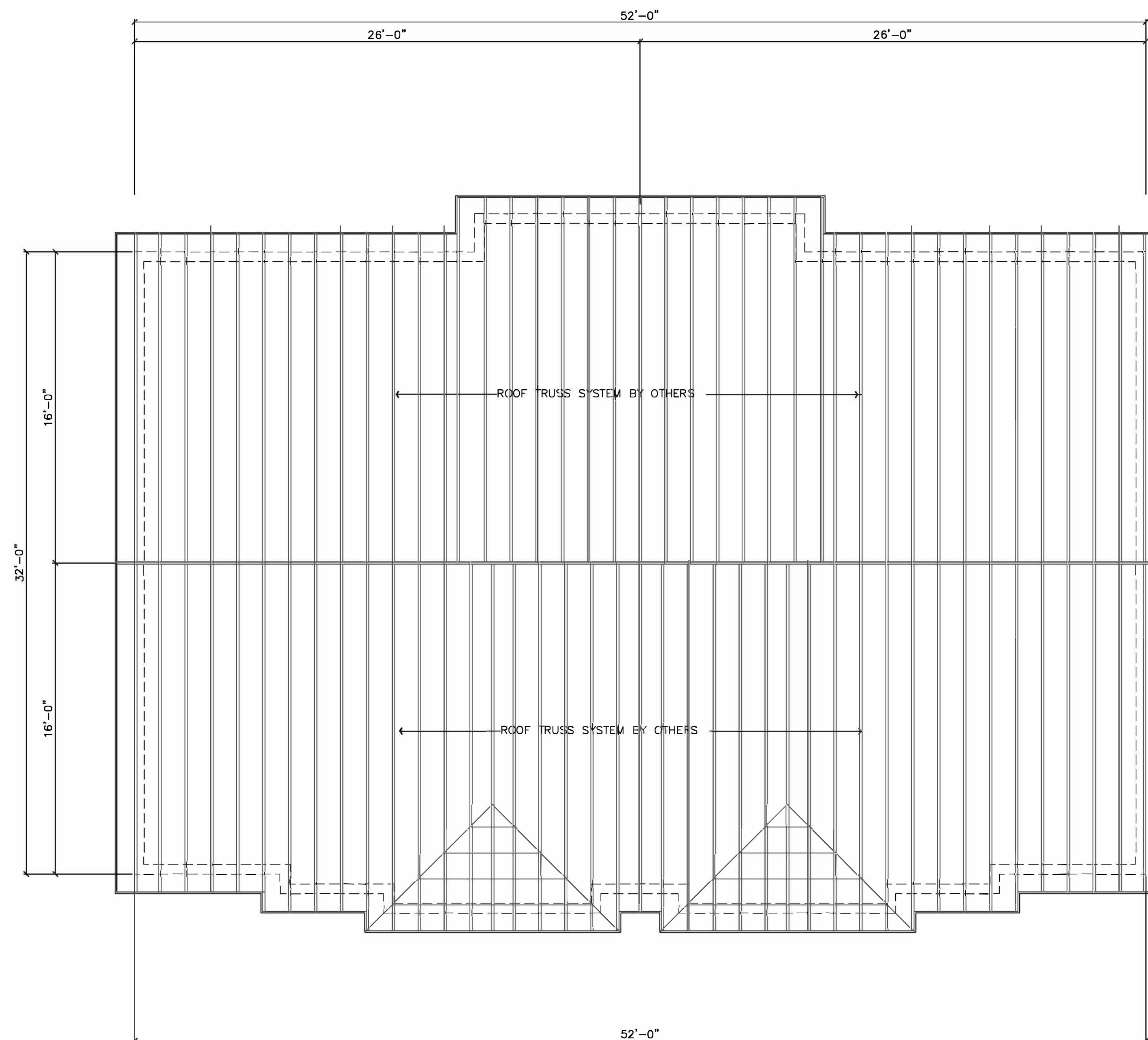
Simpson Strong-Tie Truss and Rafter Connections to framed bearing wall

TRUSS TO WALL CONNECTION DETAIL



ATTIC FRAMING PLAN

SCALE 1/4" = 1'



ROOF FRAMING PLAN

SCALE 1/4" = 1'

PROJECT:

DUPLEX

LOCATION:

29 AND 31
THIRD STREET
WORCESTER, MA

REVISIONS:

DRAWING:

FRAMING
PLANS

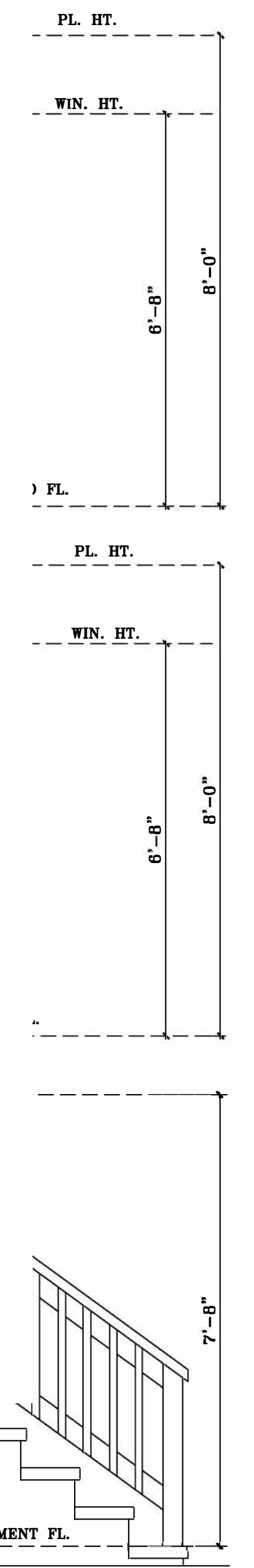
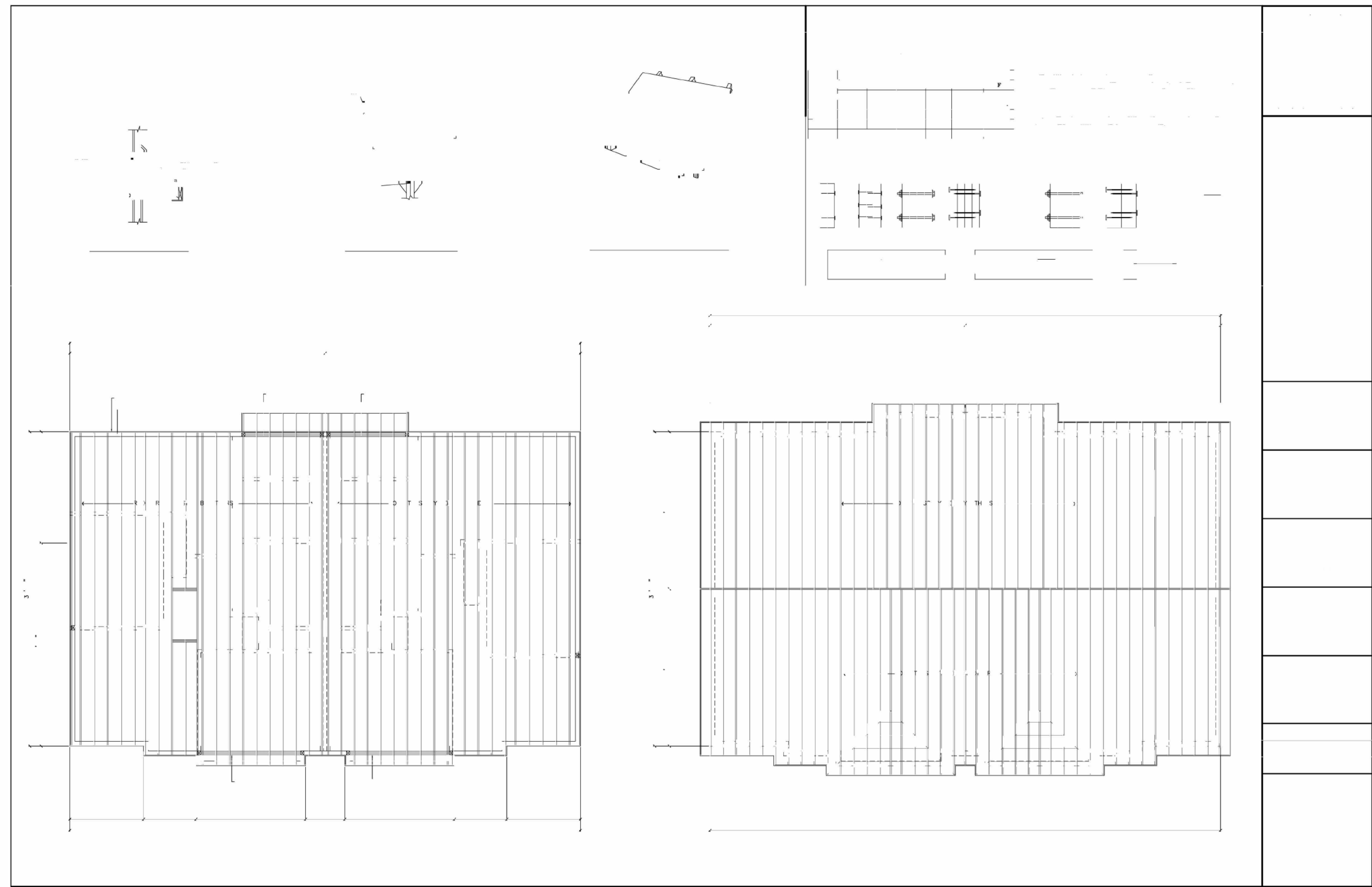
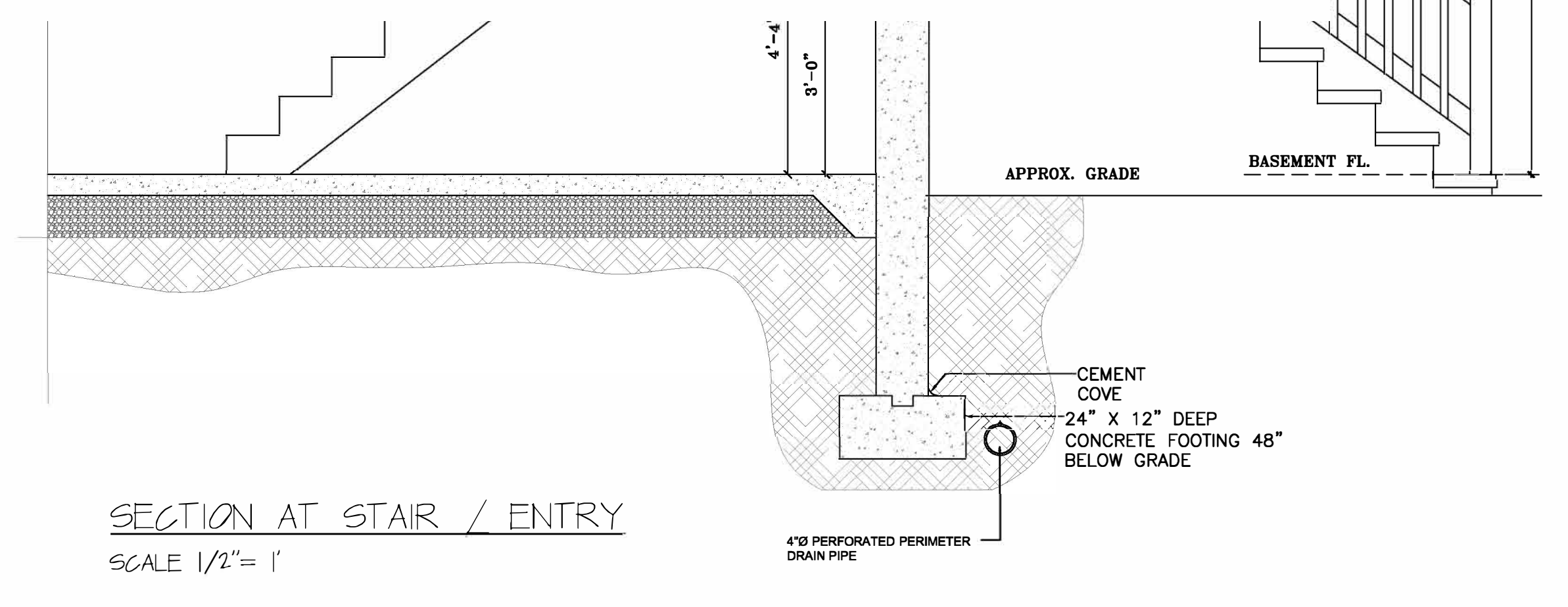
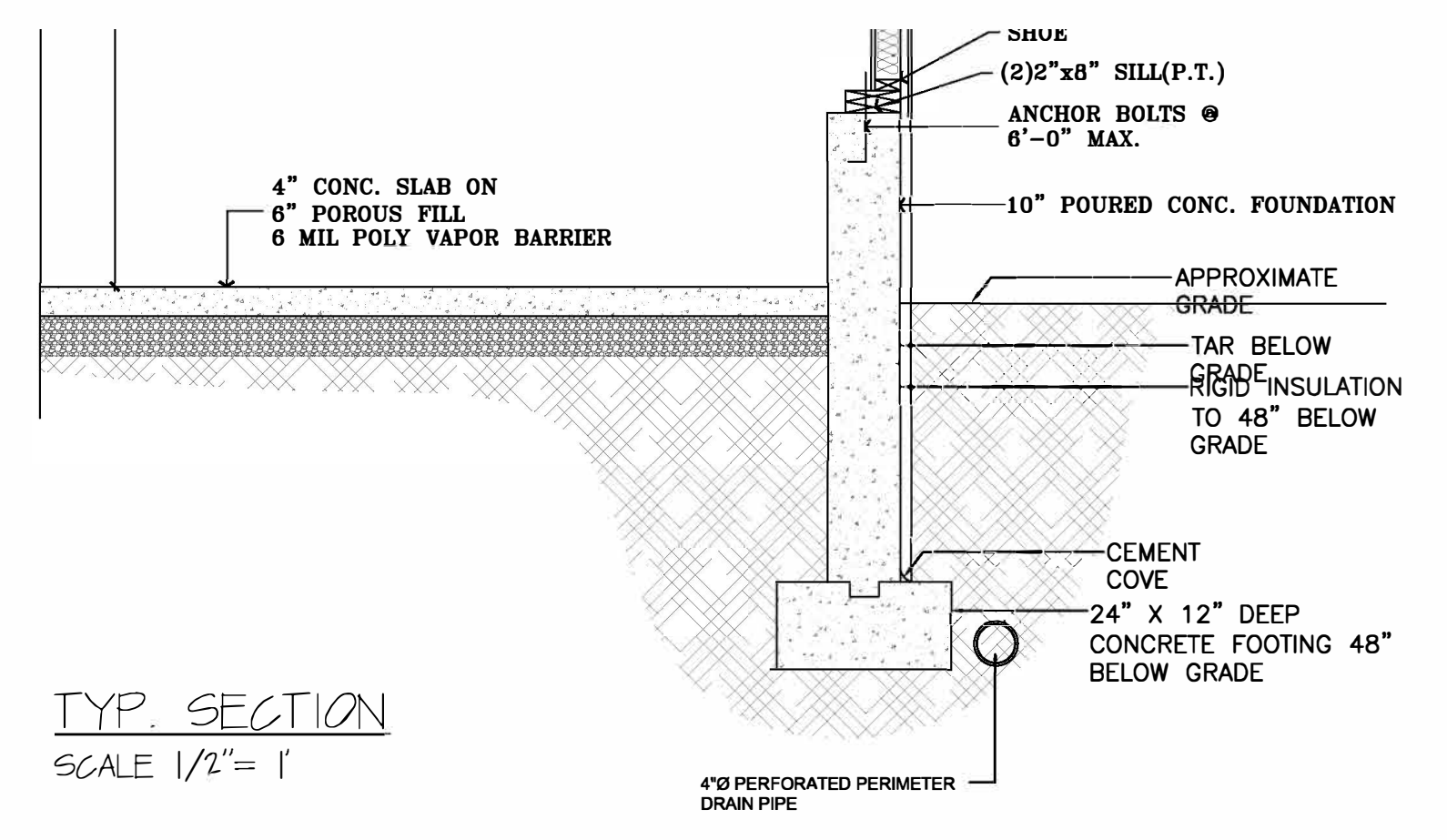
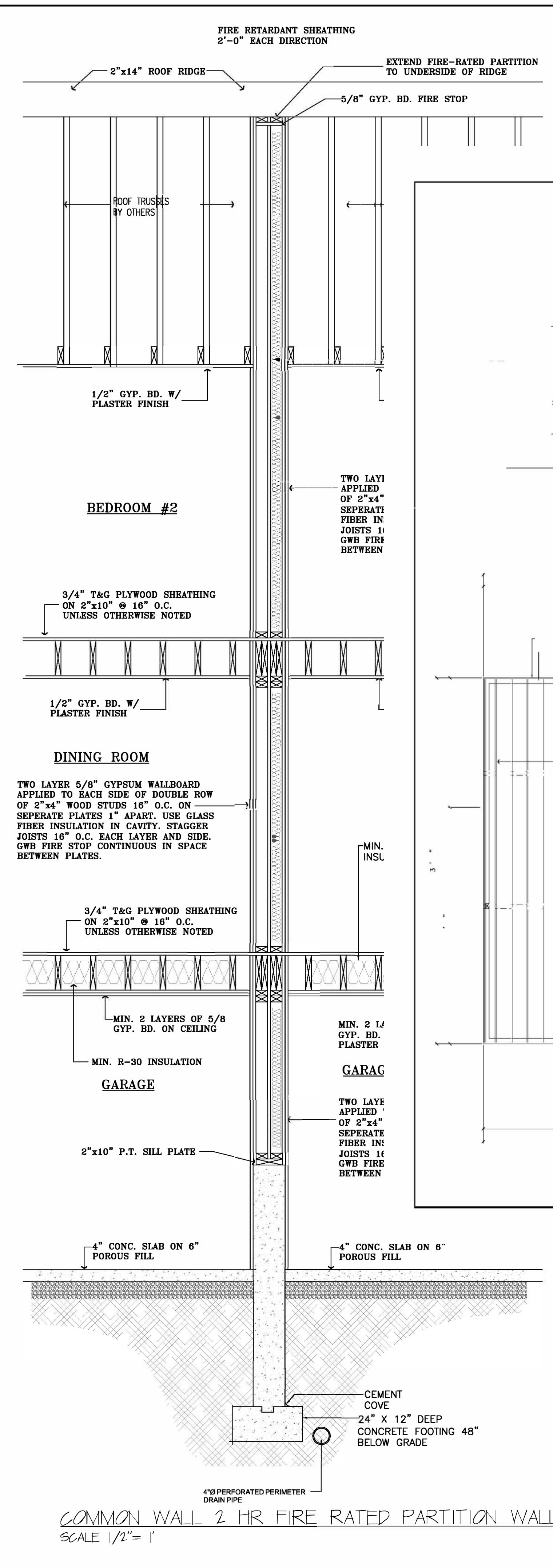
SCALE: AS PER DRAWING

DATE: 2-8-2024

PROJECT # R-170804

SHEET NO:

A-7



PROJECT:
DUPLEX

LOCATION:
 29 AND 31
 THIRD STREET
 WORCESTER, MA

REVISIONS:

DRAWING:
SECTION DETAILS

SCALE: AS PER DRAWING
 DATE: 2-8-2024
 PROJECT # R-170804
 SHEET NO:

A-8

BEARING WALL CONSTRUCTION SCHEDULE

BEARING WALL	WOOD STUD SIZE AND SPACING	BLOCKING REQUIRED @ JOINTS	GYPSUM 1 SIDE (SCREW SIZE AND SPACING)	GYPSUM BOTH SIDES (SCREW SIZE AND SPACING)	PLYWOOD 1 SIDE (NAIL SIZE AND SPACING)	PLYWOOD BOTH SIDES (NAIL SIZE AND SPACING)
BW 1	2x6 @ 16" O.C.	Y	1 1/4" W#6 @ 6" O.C.	N / A	10d - 6" O.C.	N / A
BW 2	2x4 @ 16" O.C.	Y	1 1/4" W#6 @ 6" O.C.	N / A	10d - 6" O.C.	N / A

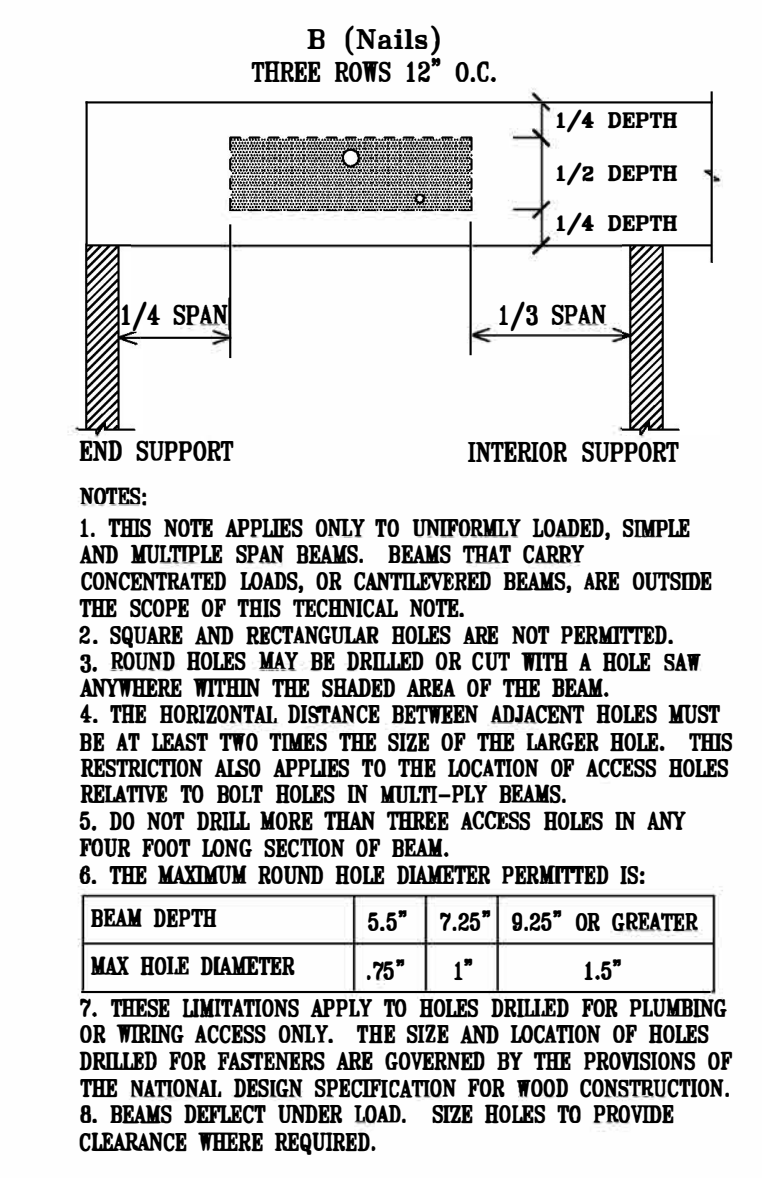
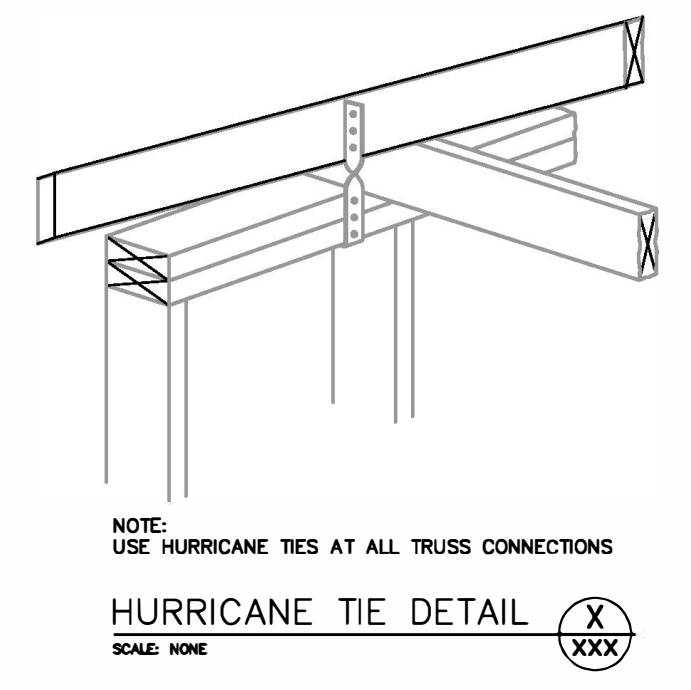
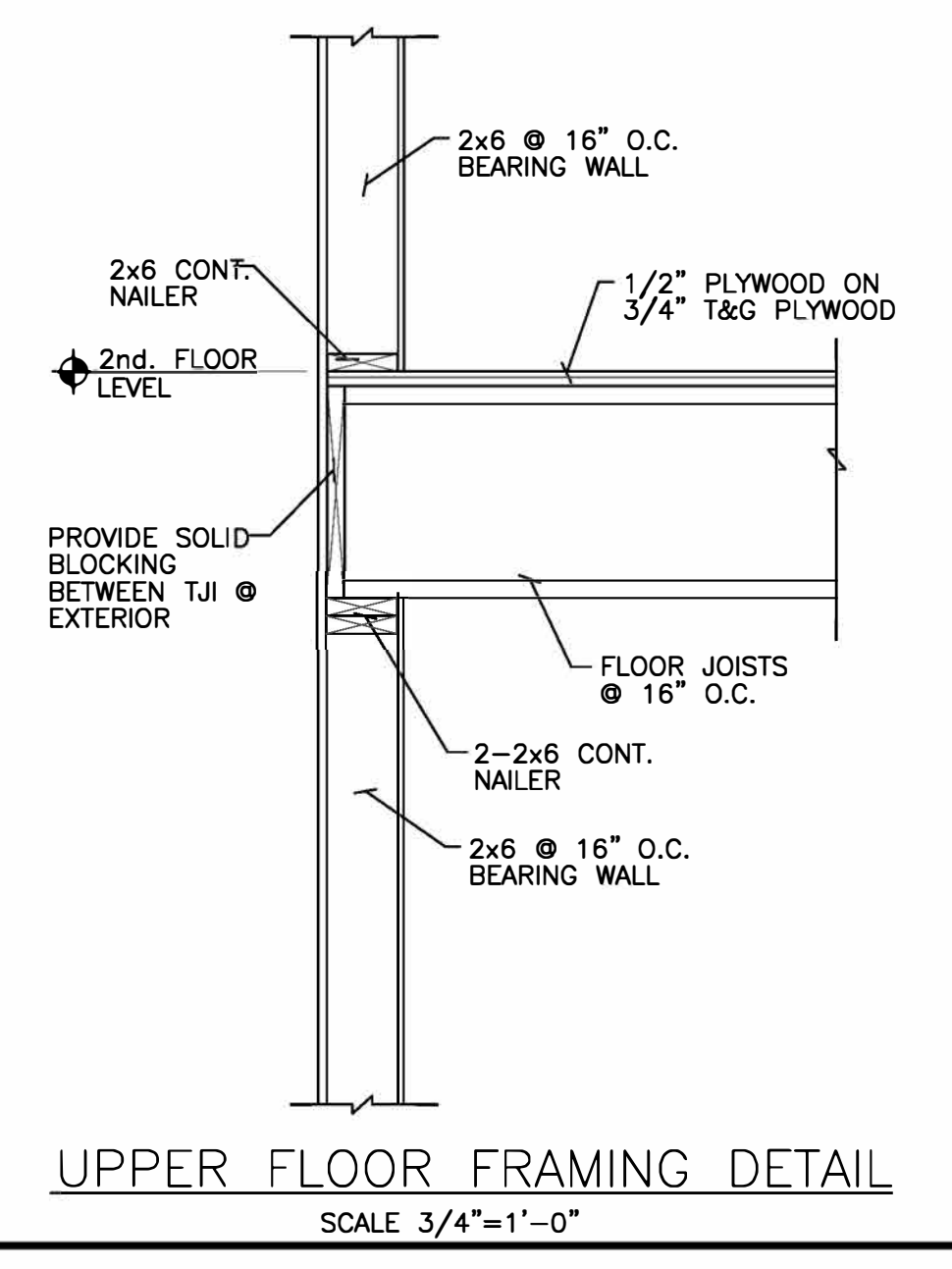
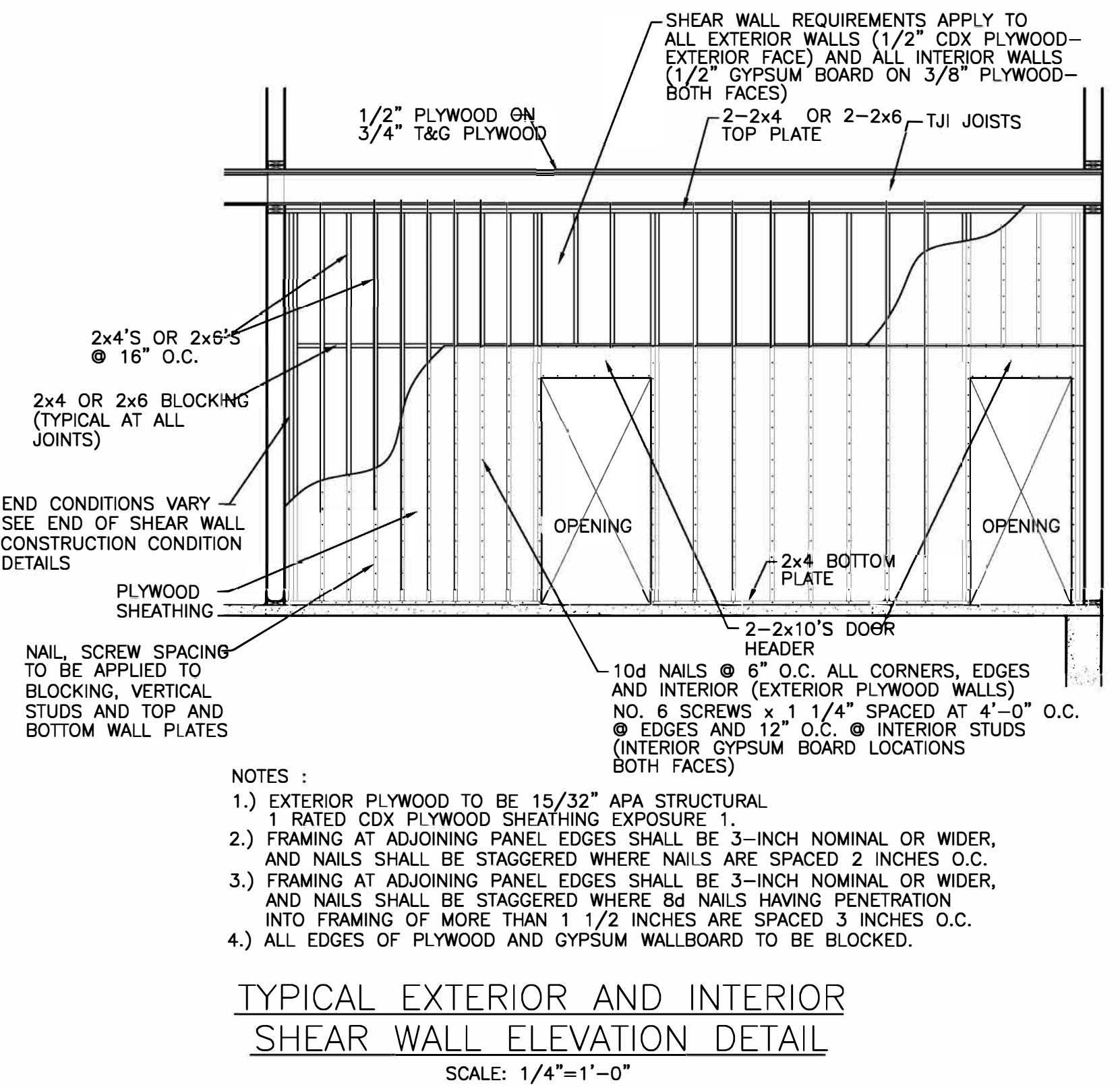
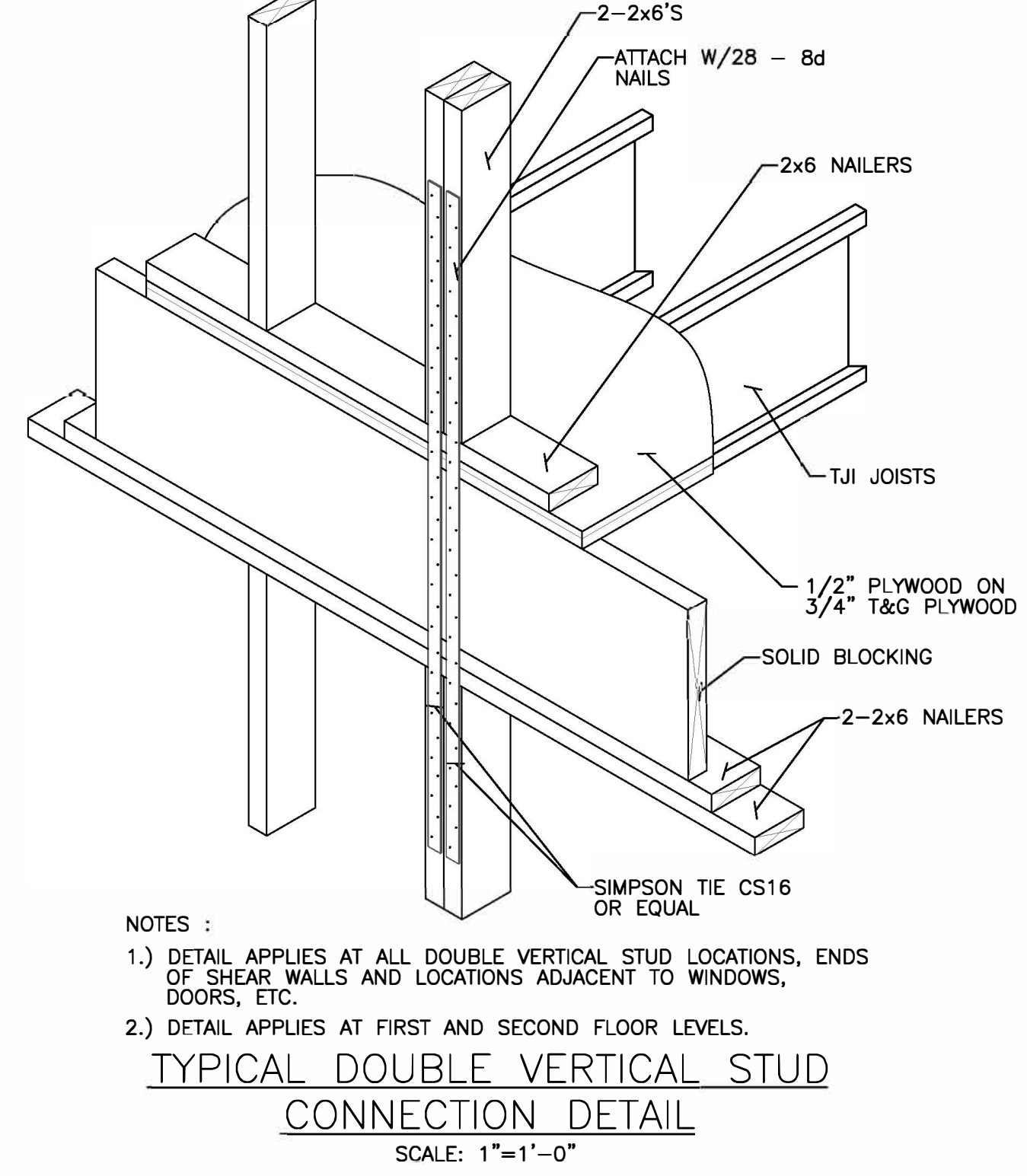
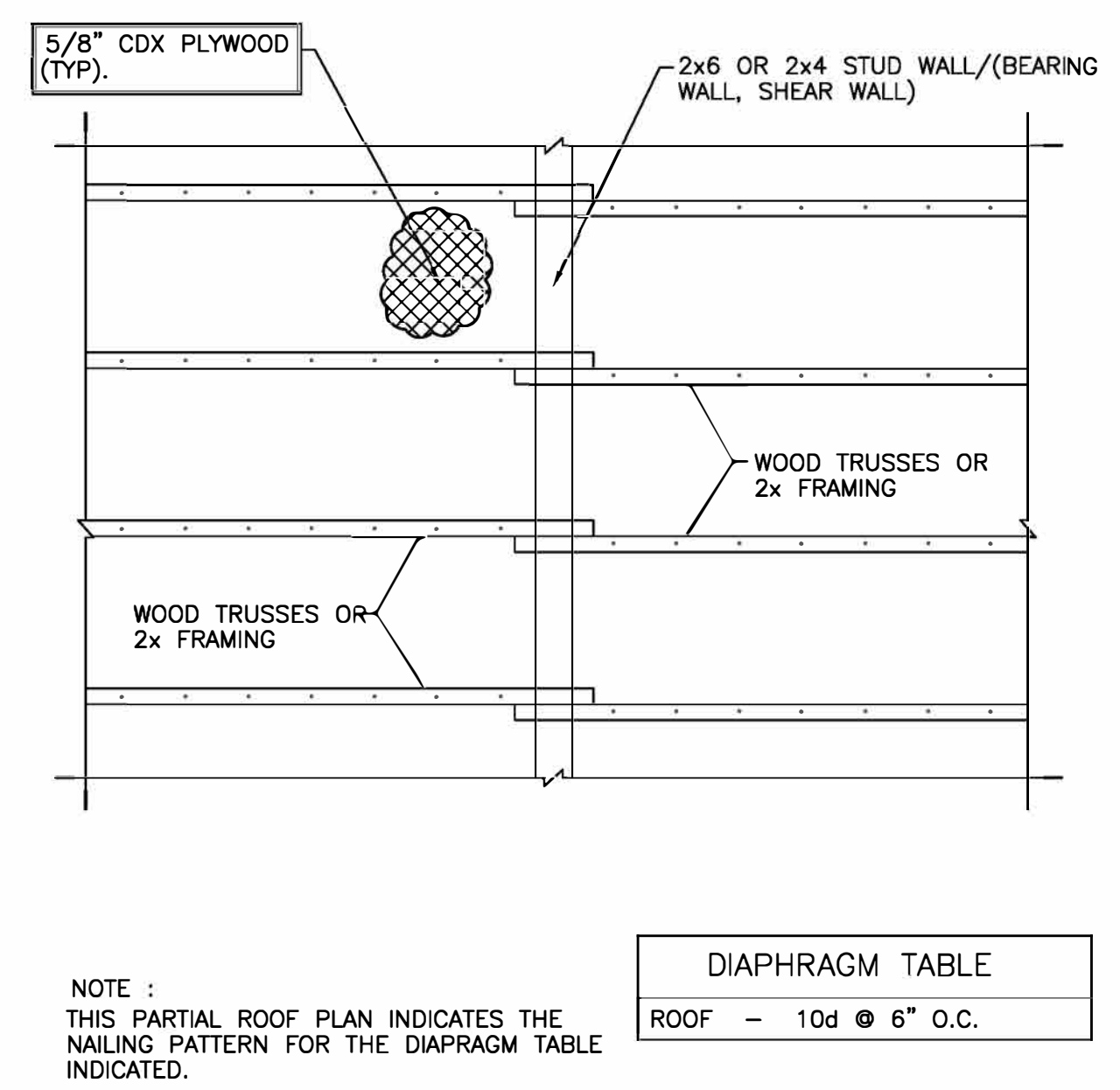
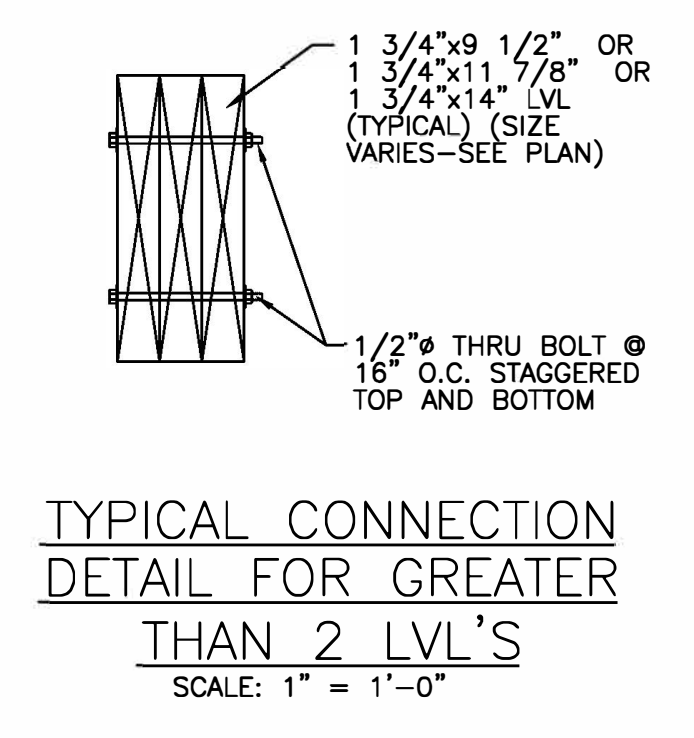
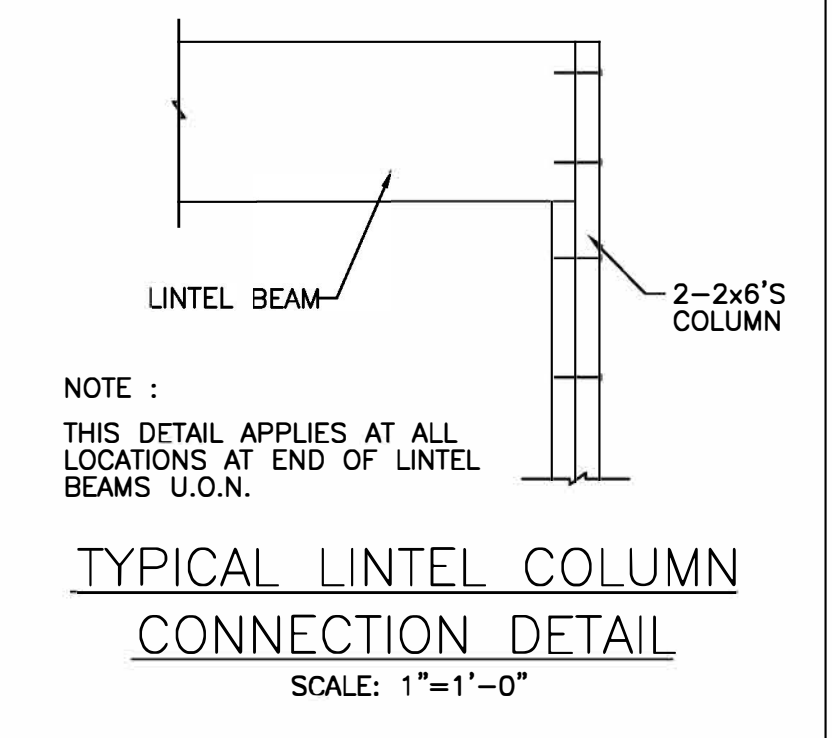
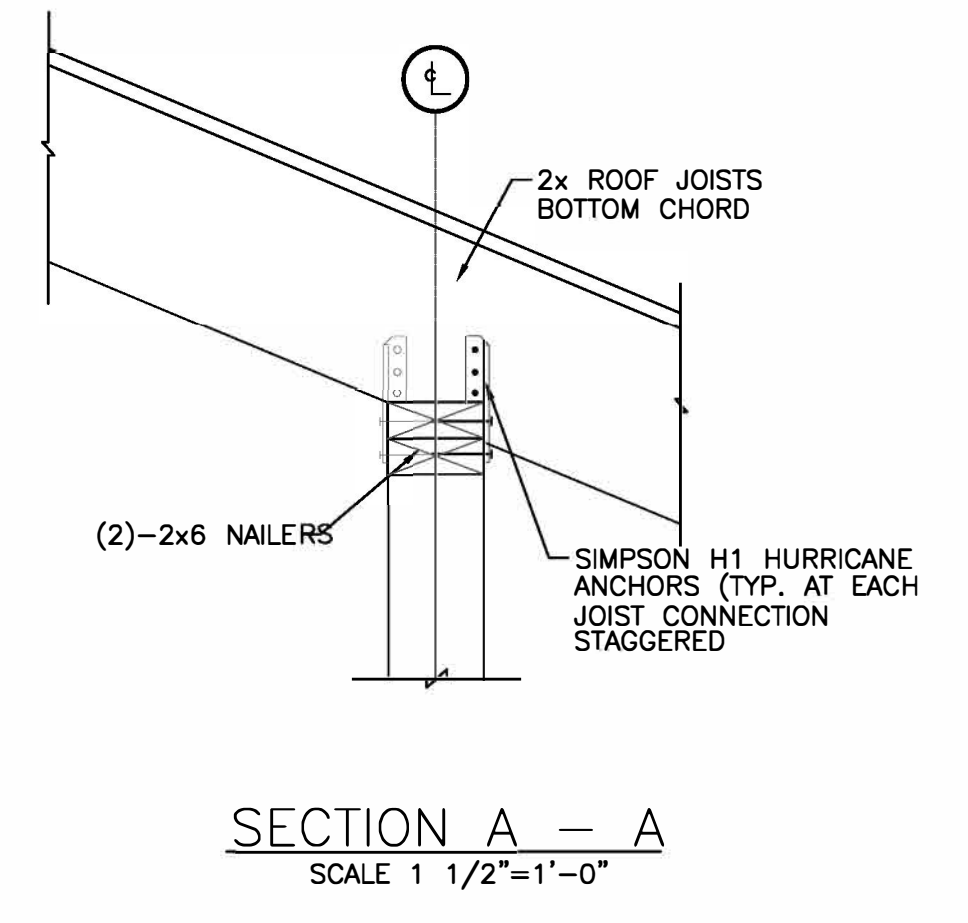
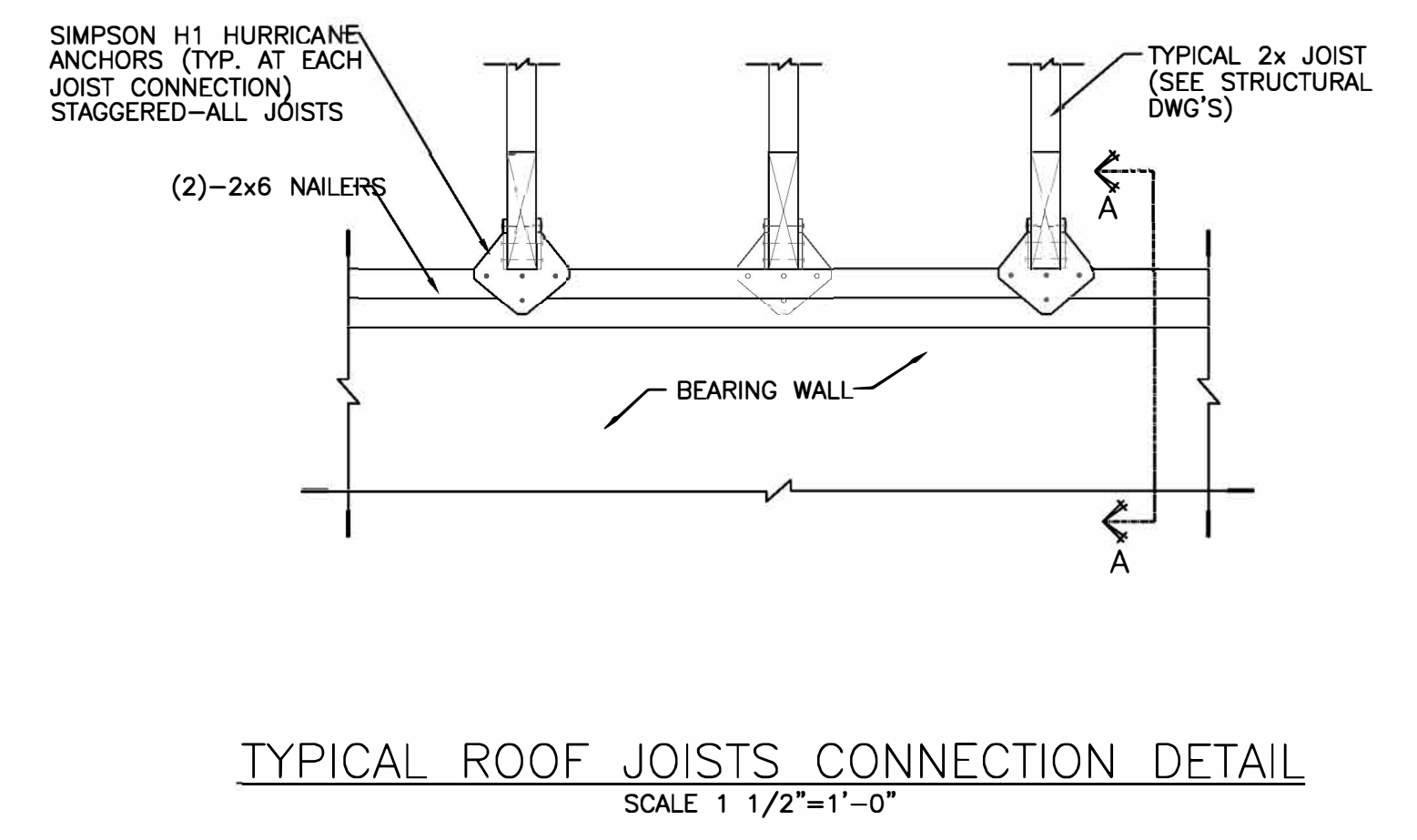
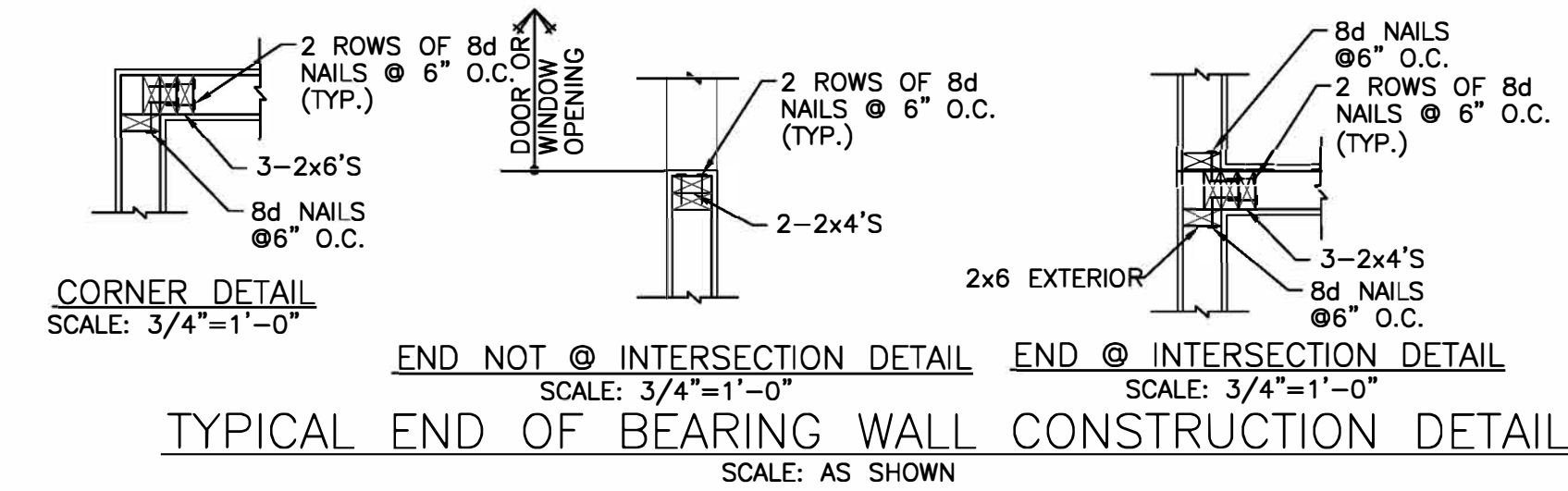


TABLE 602.1a.2(1) BRACING REQUIREMENTS BASED ON WIND SPEED (AS A FUNCTION OF BRACED WALL LINE SPACING)

BASIC WIND SPEED (MPH)	STORY LOCATION	MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE				
		METHOD LIB	METHOD GB	METHOD DWB, WSP, SFB, PBS, PCP, HPS	CONTINUOUS SHEATHING	
100 (MPH)	Eave to Ridge	10	4.5	4.5	2.5	2.5
		20	8.5	8.5	5.0	4.0
		30	12.0	12.0	7.0	6.0
		40	15.5	15.5	9.0	7.5
		50	19.0	19.0	11.0	9.5
		60	22.5	22.5	13.0	11.0
	Ridge to Eave	10	8.5	8.5	5.0	4.5
		20	16.0	16.0	9.0	8.0
		30	23.0	23.0	13.0	11.0
		40	29.5	29.5	17.0	14.5
		50	36.5	36.5	21.0	18.0
		60	43.5	43.5	25.0	21.0
Other	10	NP	12.5	7.5	6.0	
	20	NP	23.5	13.5	11.5	
	30	NP	34.0	19.5	16.5	
	40	NP	44.0	25.0	21.5	
	50	NP	54.0	31.0	26.5	
	60	NP	64.0	36.5	31.0	

TABLE R602.10.1.2(1)a, b, c, d, e--continued BRACING REQUIREMENTS BASED ON WIND SPEED (as a function of braced wall line spacing)

For SI: 1 foot = 304.8 mm, 1 inch = 25.4 mm, 1 mile per hour = 0.447 m/s, 1 pound force = 4.448 N.

a. Tabulated bracing lengths are based on Wind Exposure Category B, a 30-ft mean roof height, a 10-ft eave to ridge height, a 10-ft wall height, and two braced wall lines sharing load in a given plan direction on a given story level. Methods of bracing shall be as described in Sections R602.10.2, R602.10.4 and R602.10.5. Interpolation shall be permitted.

b. For other mean roof heights and exposure categories, the required bracing length shall be multiplied by the appropriate factor from the following table:

NUMBER OF STORIES	EXPOSURE / HEIGHT FACTORS		
	EXPOSURE B	EXPOSURE C	EXPOSURE D
1	1.0	1.2	1.5
2	1.0	1.3	1.6
3	1.0	1.4	1.7

c. For other roof-to-eave ridge heights, the required bracing length shall be multiplied by the appropriate factor from the following table: interpolation shall be permitted.

SUPPORT CONDITION	ROOF EAVE-TO-RIDGE HEIGHT			
	5 FT OR LESS	10 FT	15 FT	20 FT
ROOF ONLY	0.7	1.0	1.3	1.6
ROOF + FLOOR	0.85	1.0	1.15	1.3
ROOF + 2 FLOORS	0.9	1.0	1.1	NP

d. For a maximum 9-foot wall height, multiplying the table values by 0.95 shall be permitted. For a maximum 8-foot wall height, multiplying the table values by 0.90 shall be permitted. For a maximum 12-foot wall height, the table values shall be multiplied by 1.1.

e. For three or more braced wall lines in a given plan direction, the required bracing length on each braced wall line shall be multiplied by the appropriate factor from the following table:

NUMBER OF BRACED WALL LINES	ADJUSTMENT FACTOR
3	1.30
4	1.45
≥5	1.60

f. Bracing lengths are based on the application of gypsum board finish (or equivalent) applied to the inside face of a braced wall panel. When gypsum board finish (or equivalent) is not applied to the inside face of braced wall panels, the tabulated lengths shall be multiplied by the appropriate factor from the following table:

BRACED METHOD	ADJUSTMENT FACTOR
METHOD LIB	1.8
METHODS DWB, WSP, SFB, PBS, PCP, HPS	1.4

g. Bracing lengths for Method GB are based on the application of gypsum board on both faces of a braced wall panel. When Method GB is provided on only one side of the wall, the required bracing amounts shall be doubled. When Method GB braced wall panels installed in accordance with Section R602.10.2 are fastened at 4 inches on center at panel edges, including top and bottom plates, and are blocked at all horizontal joints, multiplying the required bracing percentage for wind loading by 0.7 shall be permitted.

h. Method LIB bracing shall have gypsum board attached to at least one side according to the Section R602.10.2 Method GB requirements.

i. Required bracing length for Methods DWB, WSP, SFB, PBS, PCP and HPS in braced wall lines located in one-story buildings and in the top story of two or three story buildings shall be permitted to be multiplied by 0.80 when an approved hold-down device with a minimum uplift design value of 800 pounds is fastened to the end studs of each braced wall panel in the braced wall line and to the foundation or framing below.

TABLE 602.10.4.1 CONTINUOUS SHEATHING METHODS

METHOD	MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA
CS-WSP	WOOD STRUCTURAL PANEL	3/8"		8d COMMON (2"x0.113") NAILS AT 6" SPACING (PANEL EDGES) AND AT 12" SPACING (INTERMEDIATE SUPPORTS) OR 18 GA. x 1 3/4 STAPLES AT 3" SPACING (PANEL EDGES) AND 6" SPACING (INTERMEDIATE SUPPORTS)
CS-G	WOOD STRUCTURAL PANEL ADJACENT TO GARAGE OPENINGS AND SUPPORTING ROOF LOAD ONLY ^{a,b}	3/8"		SEE METHOD CS-WSP
CS-PF	CONTINUOUS PORTAL FRAME	SEE SECTION R602.10.4.1.1		SEE SECTION R602.10.4.1.1

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 47.89 Pa.

a. Applies to one wall of a garage only.

b. Roof covering dead loads shall be 3 psf or less.

TABLE 602.10.4.2 LENGTH REQUIREMENTS FOR BRACED WALL PANELS WITH CONTINUOUS SHEATHING^{a,b} (INCHES)

METHOD	ADJACENT CLEAR OPENING HEIGHT (INCHES)	WALL HEIGHT (FEET)			
		8	9	10	11
CS-WSP	64	24	27	30	33
	66	26	27	30	-
	72	28	27	30	-
	76	29	30	30	-
	80	31	33	30	-
	84	35	36	33	-
	88	39	39	36	-
	92	44	42	39	-
	96	46	45	42	-
	100	-	46	45	-
	104	-	51	46	-
	106	-	54	51	-
112	-	-	54	44	
116	-	-	57	-	
120	-	-	60	-	
122	-	-	-	46	
132	-	-	-	66	
144	-	-	-	75	
CS-G	≤120	24	27	30	-
CS-PF	≤120	16	18	20	-

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. Interpolation shall be permitted.

TABLE 602.10.6(1) BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING

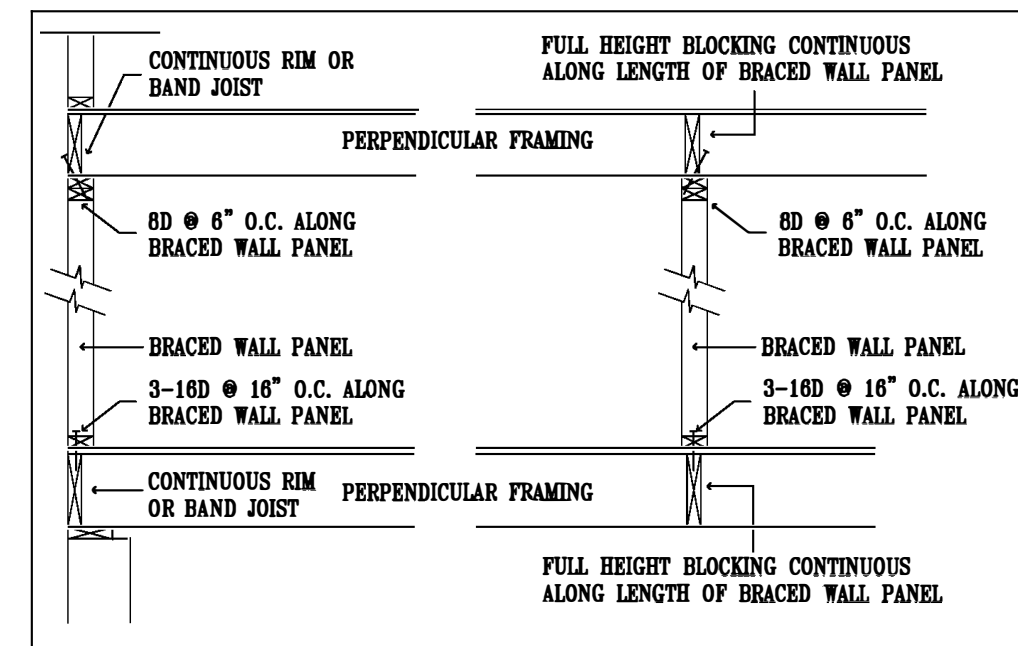


TABLE 602.10.6(1) BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS

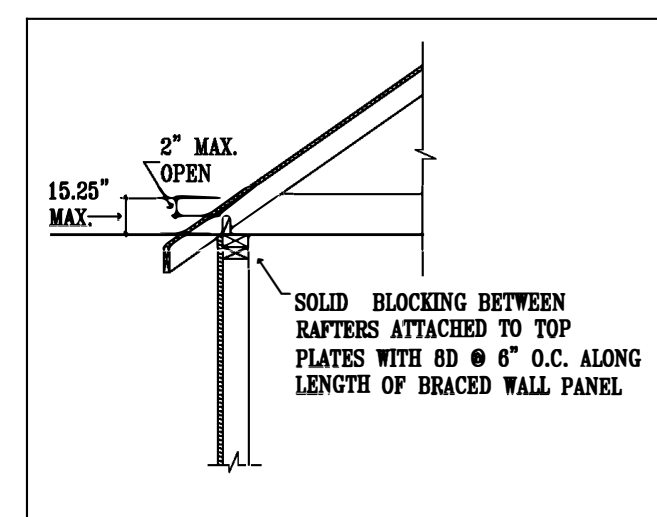
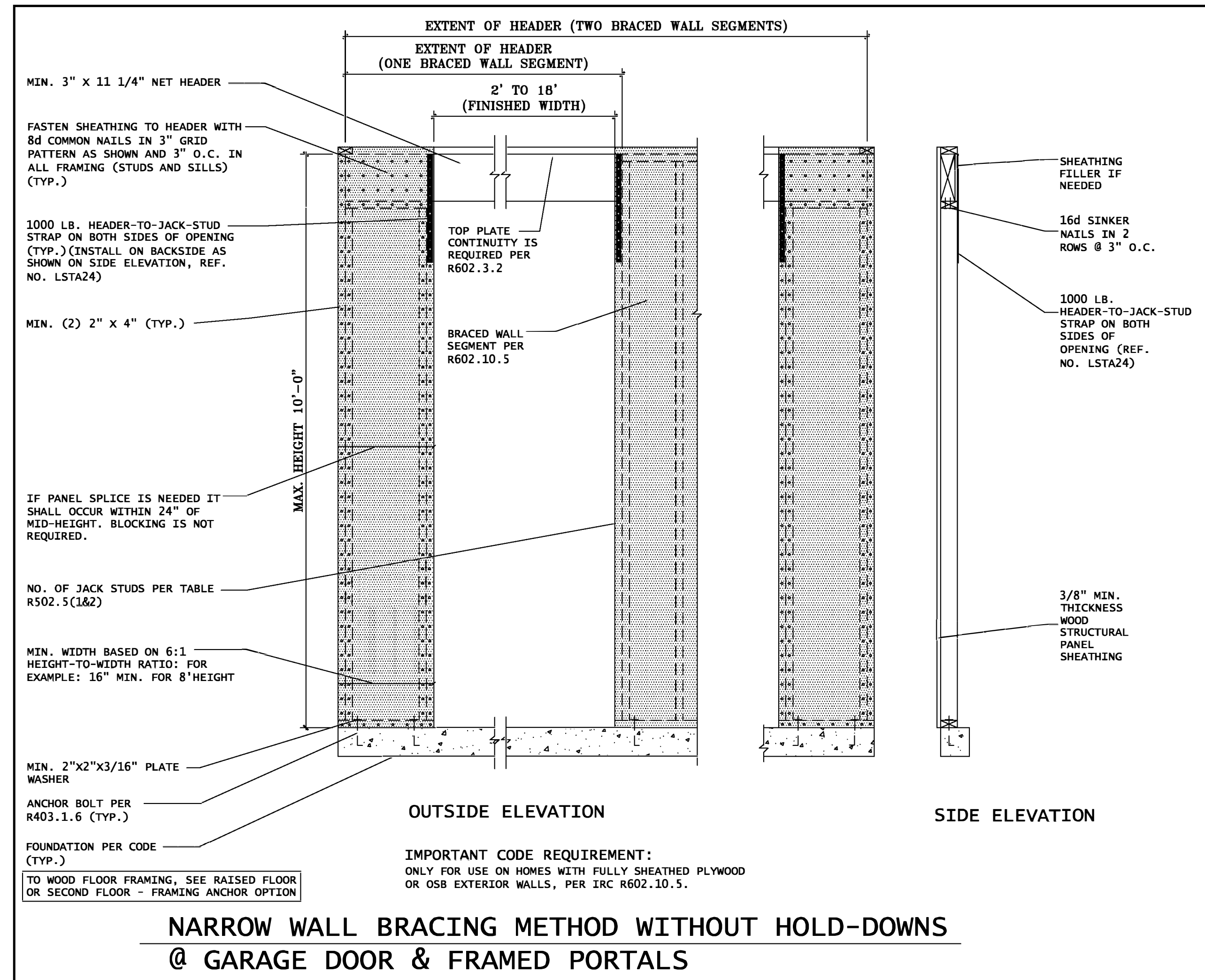
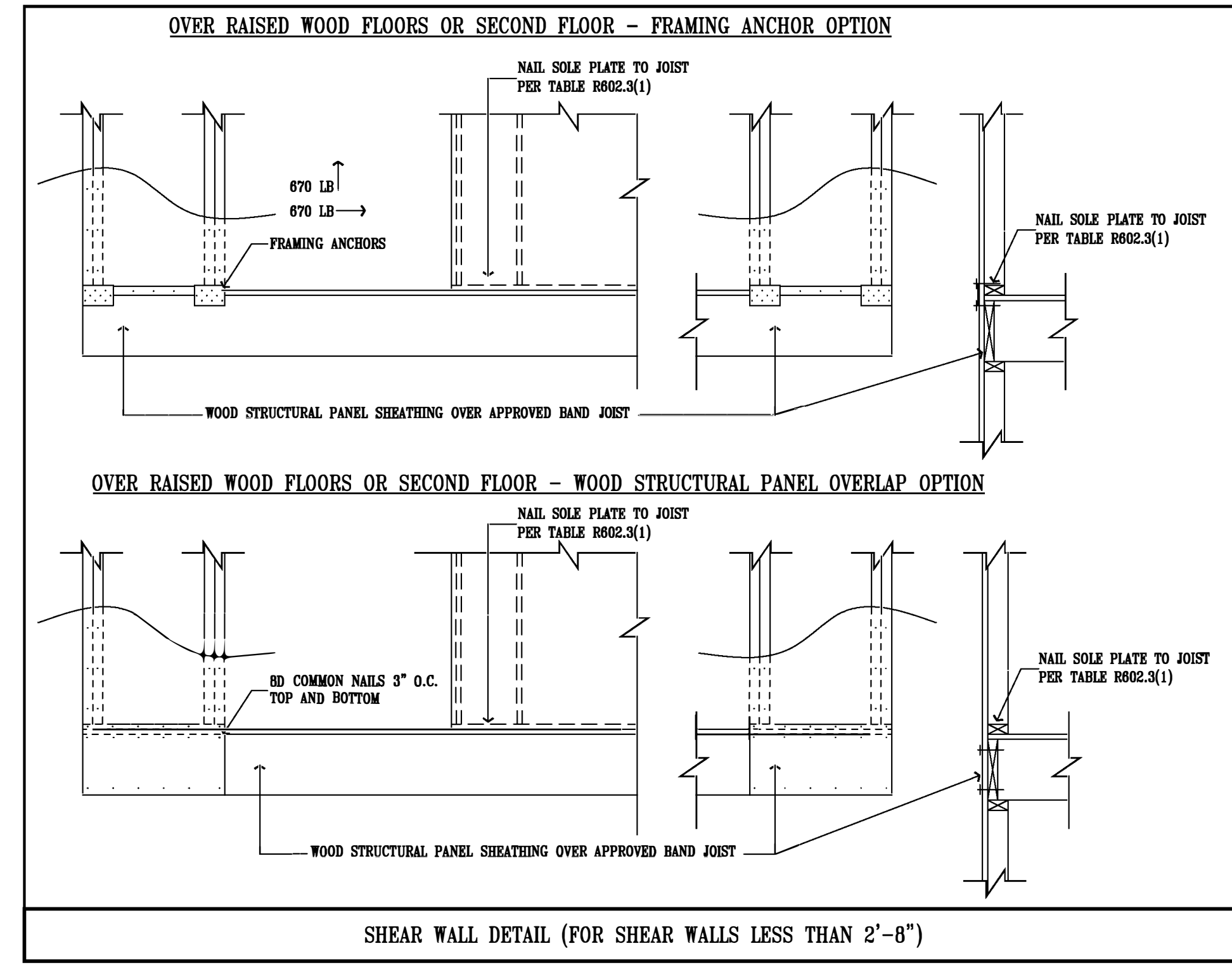
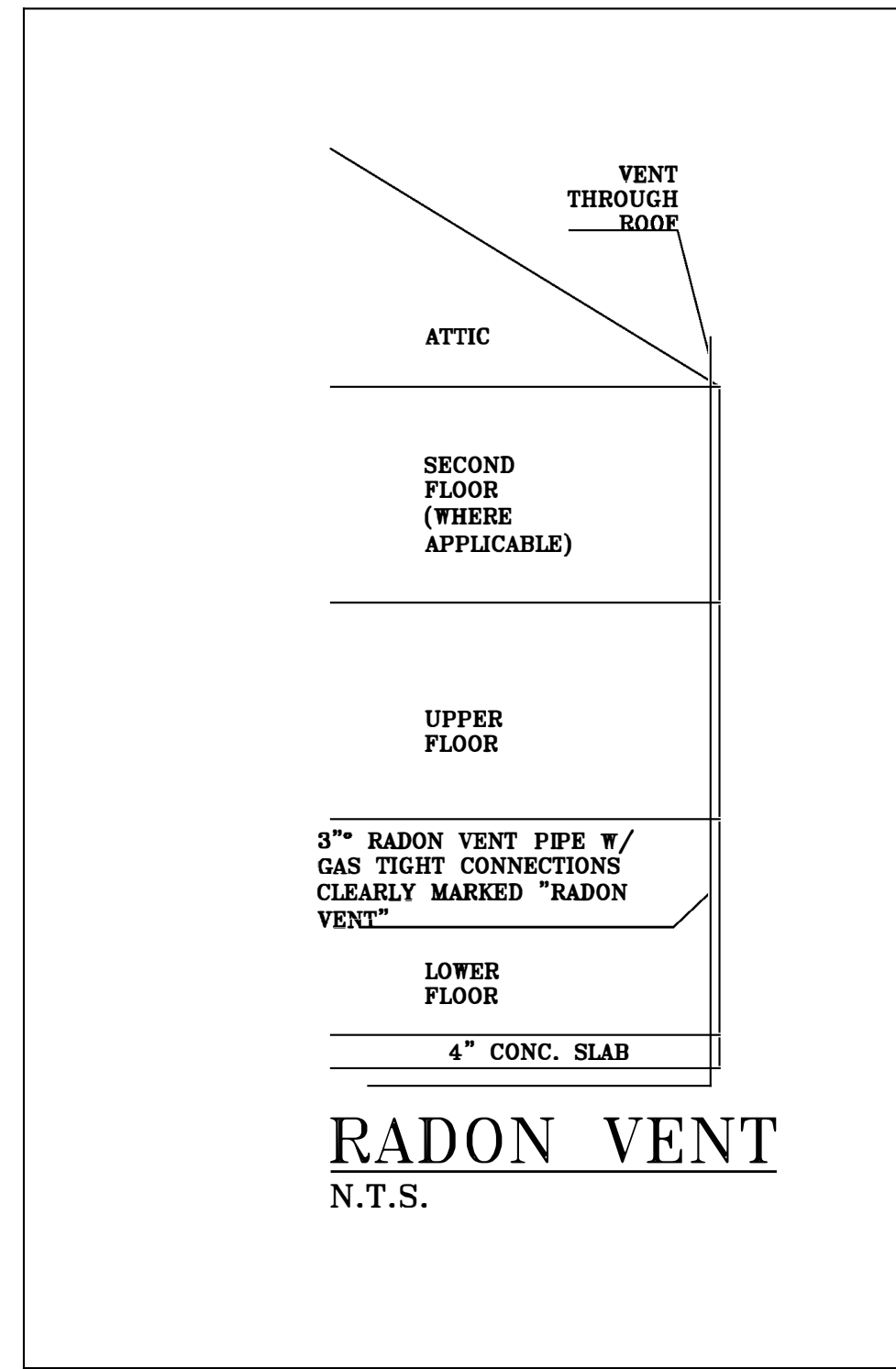
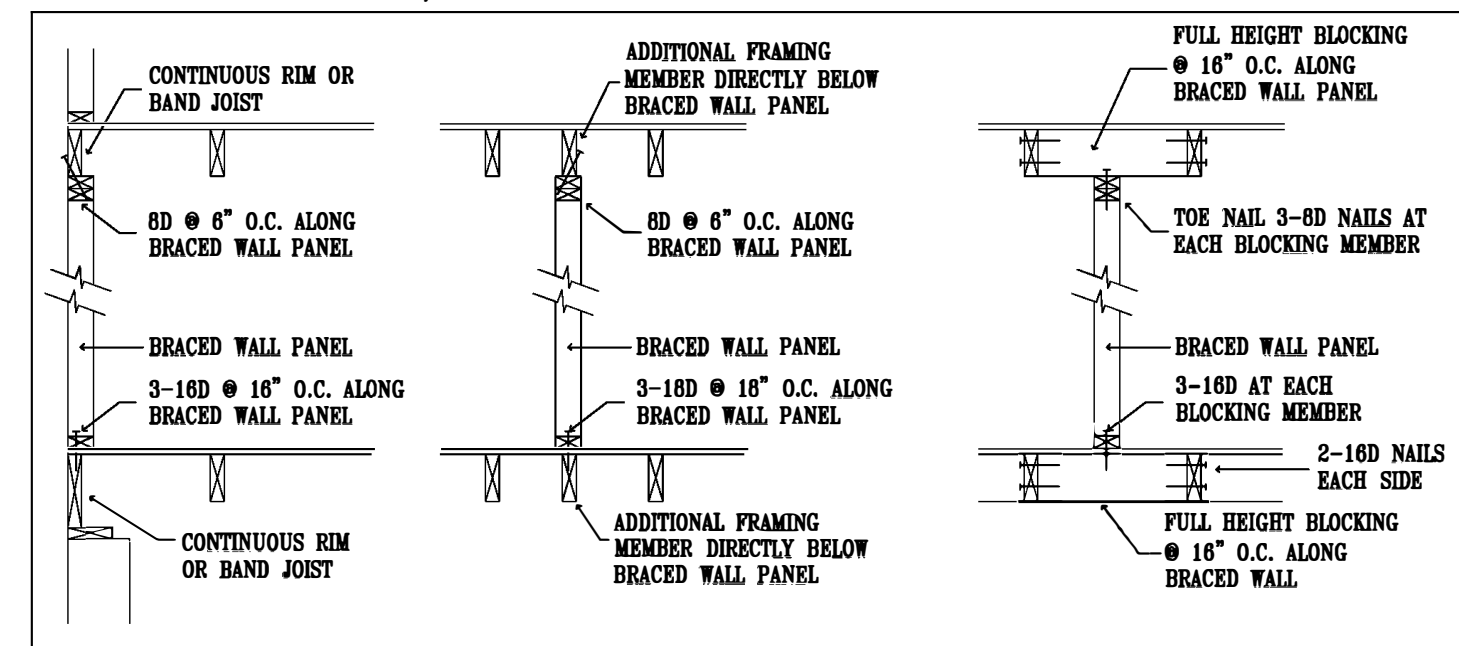


TABLE 602.10.6(2) BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING



PROJECT:

DUPLEX

LOCATION:

29 AND 31
THIRD STREET
WORCESTER, MA

REVISIONS:

DRAWING:

STANDARD
BRACING
SPECS

SCALE: AS PER DRAWING

DATE: 2-8-2024

PROJECT # R-170804

SHEET NO:

A-10



43 HONORR AVE. WORCESTER, MA 01602
TEL. 508.754.5415 FAX: 508.754.5592

CONSTRUCTION SPECIFICATIONS (WHERE APPLICABLE)

GENERAL CONDITIONS

1.) THESE ARE BUILDERS PLANS. THE FOLLOWING, UNLESS PROVIDED FOR IN THESE DRAWINGS, ARE TO BE FURNISHED BY OTHERS:

A.) SITE GRADING, SOIL BEARING CAPACITY, DRAINAGE, UTILITIES, BUILDING LOCATION AND CONSTRUCTION OUTSIDE OF BUILDING PROPER INCLUDING LANDSCAPING.

B.) SELECTION OF MATERIALS, FINISHES, CABINETS, AND HARDWARE.

C.) DESIGN OF HEATING, PLUMBING, AND ELECTRICAL PLANS AND THE COORDINATION OF THEM IN CONSTRUCTION.

2.) THE ARCHITECT WILL NOT BE RESPONSIBLE WHERE CONSTRUCTION DEVIATES FROM THESE DRAWINGS OR WRITTEN RECOMMENDATIONS.

3.) CONSTRUCTION SHALL CONFORM TO ALL LOCAL BUILDING CODES AND ORDINANCES HAVING JURISDICTION. WHERE DRAWINGS CONFLICT WITH CODES, CODE REQUIREMENTS SHALL TAKE PRECEDENCE.

FOUNDATION

1.) REMOVE ALL TOP SOIL, RUBBISH AND OTHER DETRIORUS MATERIAL FROM INSIDE BUILDING AREA BEFORE BEGINNING WORK.

2.) PLACE ALL DEEP FILLS UNDER SLABS IN 8" LAYERS, COMPACTED TO 95% MINIMUM A.A.S.H.O. DENSITY.

3.) EXTERIOR FOOTINGS SHALL BE 4'-0" MIN. BELOW FINISHED GRADES OR DEEPER IF REQUIRED BY CODE.

4.) FOOTINGS SHALL BE MIN. 4" EACH SIDE OF WALL ABOVE AND MIN. 8" DEEP. ADD 6" TO WIDTH OF FOOTINGS ARE NOT FORMED. CHIMNEY - 6" EACH SIDE AND 12" DEEP.

5.) WHERE FOOTINGS ARE STEPPED, BOTTOMS SHALL NOT SLOPE MORE THAN ONE FOOT VERTICALLY FOR EACH TWO FOOT HORIZONTALLY.

6.) FOOTINGS ARE DESIGNED FOR AND SHALL BEAR ON FIRM UNDISTURBED EARTH HAVING 4000 P.S.F. BEARING CAPACITY.

7.) CONSTRUCT GROUND SLABS ON 4" POROUS FILL PROVIDE VAPOR BARRIER OF MIN. 6 MIL. PROVIDE MIN. 6"x6" 10/10 WWM.

8.) CONCRETE SHALL BE 2500 P.S.I. STONE AGGREGATE READY MIX FOR FOOTINGS, AND 3500 P.S.I. OR GREATER FOR SLABS.

MASONRY

1.) CONSTRUCT FOUNDATION WALLS OF POURED CONCRETE OR LIGHT WEIGHT CONCRETE BLOCK, LAID UP IN RUNNING BOND WITH BOTTOM COURSE FILLED SOLID AND A 4" MIN. SOLID CAP BLOCK UNDER FRAMING MEMBERS. (CINDER BLOCK WITH 1000 P.S.I. COMPRESSIVE STRENGTH MAY BE USED IN RESIDENTIAL CONSTRUCTION.)

2.) FOUNDATION DEPTH

FOUNDATION WALL CONSTRUCTION	THICKNESS	MAX. DEPTH BELOW GRADE SUPPORTING WALL CONSTRUCTION		
		FRAME	MASONRY	MASONRY VENEER
HOLLOW MASONRY	8"	4'-0"	4'-6"	5'-0"
	10"	5'-0"	5'-6"	6'-0"
	12"	7'-0"	7'-0"	7'-0"

3.) DAMPPROOF HOLLOW BLOCK WALLS WITH 1/2" PORTLAND CEMENT PARING, APPLIED TO EXTERIOR FROM COVE TO CAP. APPLY BITUMINOUS DAMPPROOFING OVER PARING BELOW GRADE.

4.) PROVIDE 1/2"x 1'-6" ANCHOR BOLTS AT 6'-0" O.C. FOR WOOD SILLS.

5.) PROVIDE 8" SOLID BRICK MASONRY UNDER GIRDER ENDS.

6.) INSTALL FIRE CLAY FLUE LINING AND THIMBLE IN ALL MASONRY CHIMNEYS AS FOLLOWS:

- A.) FOR HEATING UNIT: SIZE AS RECOMMENDED BY MANUFACTURER.
- B.) FOR FIREPLACES: SIZE AS REQUIRED BY DAMPER MANUFACTURER FOR FIREPLACE DIMENSIONS SHOWN.
- C.) PREFABRICATED FIRE PLACE AND CHIMNEY FLUES SHALL BE INSTALLED AS PER MANUFACTURER'S WRITTEN SPECIFICATIONS.

7.) BRICK VENEER SHALL BEAR ON 12" BLOCK FOUNDATIONS WITH SEMI-SOLID BLOCK UNDER FIRST COURSE OF BRICK. PROVIDE FLASHING WITH WEEP HOLES AT 8'-0" O.C.

8.) ANCHOR BRICK VENEER TO MASONRY BACK UP OR WOOD FRAMING WITH GALVANIZED STEEL TIES SPACED 24" HORIZONTALLY AND 16" VERTICALLY.

9.) LINTELS - ONE ANGLE FOR EACH FOUR INCHES OF MASONRY OVER ALL OPENINGS AND RECESSES AS FOLLOWS:
0'-0" TO 4'-0" USE 3 1/2" X 3 1/2" X 5/16"
4'-0" TO 6'-0" USE 4" X 3 1/2" X 5/16"

6'-0" TO 8'-0" USE 5" X 3 1/2" X 5/16"
8'-0" TO 10'-0" USE 6" X 3 1/2" X 5/16"
LINTELS SHALL BEAR 8" MIN. EACH END.

10.) PROVIDE 3/8" CAULKING JOINT BETWEEN WINDOW OR DOOR SILLS AND MASONRY SILLS.

CARPENTRY

1.) LUMBER AND IT'S FASTENINGS SHALL CONFORM TO THE "NATIONAL DESIGN SPECIFICATIONS" RECOMMENDED BY THE N.F.P.A. AND LOCAL BUILDING CODE STANDARDS.

2.) STRUCTURAL LUMBER SIZES ARE BASED ON HEMLOCK FIR #2 OR BETTER WITH A FIBER STRESS OF 1150 PSI AND AN "E" OF 1,400,000.

3.) ANCHOR SILLS TO BOLTS SET IN MASONRY. ALL SILLS IN CONTACT WITH CONCRETE SHALL BE WOLMANIZED LUMBER.

4.) SET ALL JOISTS AND BEAMS WITH NATURAL CAMBER UP. ENDS LAPPED OVER BEARING SHALL BE SECURELY SPIKED TOGETHER. FIRECUT ENDS BEARING IN MASONRY WALLS WITH "T" ANCHORE'S EVERY 4TH JOIST.

5.) FRAME OPENINGS LARGER THAN 16" WITH DOUBLE HEADERS AND TRIMMERS. DOUBLE UP JOISTS UNDER PARTITIONS PARALLEL ABOVE.

6.) PROVIDE 5/4" X 3" CROSS BRIDGING @ 8'-0" O.C. MAXIMUM AND SOLID BLOCKING AT ENDS, UNLESS NOTED OTHERWISE.

7.) SUBFLOORING SHALL BE "C-D" PLYWOOD #32/16 OR BETTER WITH EXTERIOR 2-8d NAILS IN SIZES SHOWN ON DRAWING.

8.) HEADERS - UNLESS NOTED OTHERWISE:
0'-0" - 2'-2" USE (2) 2" X 4"
2'-0" - 3'-0" USE (2) 2" X 6"
3'-0" - 5'-0" USE (2) 2" X 8"
5'-0" - 7'-0" USE (2) 2" X 10"
7'-0" - 8'-0" USE (2) 2" X 12"
SPANS OVER 7'-0" PROVIDE DOUBLE STUD BEARING EACH SIDE.

9.) EXTERIOR WALL SHEATHING MAY BE OMITTED WHEN CORNER BRACING AND SOLID OR HORIZONTAL SIDINGS ARE USED.

10.) WOOD STAIRS: STRINGERS - CLEAR SOFT WOOD, 5/4" X 12" MINIMUM, WITH 3 1/2" MINIMUM EFFECTIVE DEPTH. TREADS - HARDWOOD, MINIMUM 10". BASEMENT STAIRS MAY BE OF SOFT WOOD. RISERS CLEAR SOFT WOOD, 7 3/4" MAXIMUM. HAND RAILS - EACH SIDE OF STAIRS AND GUARDS. BALLUSTERS @ MAXIMUM 4" O.C. OMIT ONE HANDRAIL ON STAIRS LESS THAN 44" WIDE.

MISCELLANEOUS

1.) ENTRANCE DOORS, SIDELIGHTS AND SHOWER DOORS HAVING GLAZING MUST CONFORM TO THE REQUIREMENTS OF THE ANNOTATED LAWS OF MASSACHUSETTS BUILDING CODE, 8TH EDITION.

2.) ALL BATHS & LAVATORIES SHALL HAVE EXHAUST FANS DUCTED TO EXTERIOR.

ENERGY COMPLIANCES

THE BUILDING SHOWN COMPLIES WHEN IT MEETS ALL CRITERIA OF ENERGY CONSERVATION PER MASSACHUSETTS STATE BUILDING CODE, 8TH ED.

- 1) THERMAL ENVELOPE:
 - A) WINDOW AND DOOR AREA IS LESS THAN 15% OF GROSS WALL AREA.
 - B) WALL INSULATION (R-13) MINIMUM
 - C) CEILING/ ROOF INSULATION (R-30) MINIMUM
 - D) FLOOR INSULATION (R-20) MINIMUM
 - E) SLAB ON GRADE (R-10)

4.) PLUMBING SYSTEM: FIXTURES

	DRAIN	TRAP	VENT	H.W.	C.W.
WATER CLOSET	4"	4"	2"	-	1 1/2"
TUB	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
SHOWER	2"	2"	1 1/2"	1 1/2"	1 1/2"
LAVATORY	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
KITCHEN SINK	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
LAUNDRY	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"

- A) DOMESTIC WATER COMBINED MAIN= 3/4"
- B) BUILDING WATER SUPPLY= 3/4" COPPER
- C) COMBINED BUILDING WASTE= 4" C.I.

LIGHTING
LIGHTING: BUILDING SHALL COMPLY TO CONSERVATION PER MASSACHUSETTS STATE BUILDING CODE, 8TH ED.

TABLE 602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENERS ^{a b c}	SPACING OF FASTENERS
ROOF			
1	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	3-8D (2 1/2" x 0.113")	-
2	CEILING JOISTS TO PLATE, TOE NAIL	3-8D (2 1/2" x 0.113")	-
3	CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, LAPSE OVER PARTITIONS, FACE NAIL	3-10D	-
4	COLLAR TIE RAFTER, FACE NAIL OR 1 1/4" x 20 GA. RIDGE STRAP	3-10D (3" x 0.128")	-
5	RAFTER TO PLATE, TOE NAIL	2-16D (3 1/2" x 0.135")	-
6	ROOF RAFTER TO RIDGE, VALLEY OR HIP RAFTERS: TOE NAIL FACE NAIL	4-16D (3 1/2" x 0.135") 3-16D (3 1/2" x 0.135")	- -
WALL			
7	BUILT-UP CORNER STUDS	10D (3" x 0.128")	24" O.C.
8	BUILT-UP HEADER, TWO PIECES WITH 1/2" SPACER	16D (3 1/2" x 0.135")	16" O.C. ALONG EA. EDGE
9	CONTINUOUS HEADER, TWO PIECES	16D (3 1/2" x 0.135")	16" O.C. ALONG EA. EDGE
10	CONTINUOUS HEADER TO STUD, TOE NAIL	4-8D (2 1/2" x 0.113")	-
11	DOUBLE STUDS, FACE NAIL	10D (3" x 0.128")	24" O.C.
12	DOUBLE TOP PLATES, FACE NAIL	10D (3" x 0.128")	24" O.C.
13	DOUBLE TOP PLATES, MINIMUM 48-INCH OFFSET OF END JOISTS, FACE NAIL IN LAPPED AREA	8-16D (3 1/2" x 0.135")	-
14	SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16D (3 1/2" x 0.135")	16" O.C.
15	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANELS	3-16D (3 1/2" x 0.135")	16" O.C.
16	STUDS TO SOLE PLATE, TOE NAIL	3-8D (2 1/2" x 0.113") 2-16D (3 1/2" x 0.135")	- -
17	TOP OF SOLE PLATE TO STUD, END NAIL	2-16D (3 1/2" x 0.135")	-
18	TOP PLATE, LAPSE AT CORNERS AND INTERSECTIONS, FACE NAIL	2-10D (3" x 0.128")	-
19	1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8D (2 1/2" x 0.113")	-
20	1" x 6" SHEATHING TO EACH BEARING, FACE NAIL	2 STAPLES 1 3/4"	-
21	1" x 8" SHEATHING TO EACH BEARING, FACE NAIL	2-8D (2 1/2" x 0.113") 3 STAPLES 1 3/4"	- -
22	WIDER THAN 1" x 8" SHEATHING TO EACH BEARING, FACE NAIL	3-8D (2 1/2" x 0.113") 4 STAPLES 1 3/4"	- -
WALL			
23	JOIST TO SILL OR GIRDER, TOE NAIL	3-8D (2 1/2" x 0.113")	-
24	1" x 6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8D (2 1/2" x 0.113") 2 STAPLES 1 3/4"	- -
25	2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2-16D (3 1/2" x 0.135")	-
26	HM JOIST TO TOP PLATE, TOE NAIL (ROOF APPLICATIONS ALSO)	8D (2 1/2" x 0.113")	6" O.C.
27	2" PLANKS (PLANK & BEAM-FLOOR & ROOF)	2-16D (3 1/2" x 0.135")	-
28	BUILT-UP GIRDERS & BEAMS, 2-INCH LUMBER LAYERS	10D (3" x 0.128")	NAIL EACH LAYER AS FOLLOWS: 32" O.C. AT TOP AND BOTTOM AND STAGGERED. TWO NAILS AT ENDS AND AT EACH SPLICE.
29	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3-16D (3 1/2" x 0.135")	AT EACH JOIST OR RAFTER

TABLE R602.3(1) - CONTINUED FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER ^{b c e}	EDGES (INCHES)	INTERMEDIATE SUPPORTS ^{c e} (INCHES)
WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF & INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING				
30	3/8" - 1/2"	6D COMMON (2" x 0.113") NAIL (SUBFLOOR WALL) ^j 8D COMMON (2 1/2" x 0.131") NAIL (ROOF)	6	12 6
31	19/32" - 1"	8D COMMON (2 1/2" x 0.131")	6	12 6
32	1 1/8" - 1 1/4"	10D COMMON (3" x 0.148") NAIL OR 8D (2 1/2" x 0.131") DEFORMED NAIL	6	12
OTHER WALL SHEATHING ^b				
33	1/2" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 1/2" GALVANIZED ROOFING NAIL, 7/16" CROWN OR 1" CROWN STAPLE 16 GA., 1 1/4" LONG	3	6
34	25/32" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 3/4" GALVANIZED ROOFING NAIL, 7/16" CROWN OR 1" CROWN STAPLE 16 GA., 1 1/2" LONG	3	6
35	1/2" GYPSUM SHEATHING ^d	1 1/2" GALVANIZED ROOFING NAIL, STAPLE GALVANIZED, 1 1/2" LONG; 1 1/4" SCREWS, TYPE W OR S	7	7
36	5/8" GYPSUM SHEATHING ^d	1 3/4" GALVANIZED ROOFING NAIL, STAPLE GALVANIZED, 1 5/8" LONG; 1 5/8" SCREWS, TYPE W OR S	7	7
WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING				
37	3/4" AND LESS	6D DEFORMED (2" x 0.120") NAIL OR 8D COMMON (2 1/2" x 0.131") NAIL	6	12
38	7/8" - 1"	8D COMMON (2 1/2" x 0.131") NAIL OR 8D DEFORMED (2 1/2" x 0.120") NAIL	6	12
39	1 1/8" - 1 1/4"	10D COMMON (3" x 0.148") NAIL OR 8D DEFORMED (2 1/2" x 0.120") NAIL	6	12

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1ksi = 6.896 MPa.
a. All nails are smooth-common, box or deformed shank except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.

- b. Staples are 16 gage wire and have a minimum 7/16 inch on diameter crown width.
- c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 46 inches or greater.
- d. Four-foot-by-8-foot or 4-foot-by-9-foot panels shall be applied vertically.
- e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).

f. For regions having basic wind speed of 110 mph or greater, 8d deformed (2 1/2" x 0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.

g. For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 8 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.

h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 206.

i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.

TABLE 602.3(2) ALTERNATE ATTACHMENTS

NOMINAL MATERIAL THICKNESS (inches)	DESCRIPTION ^{a,b} OF FASTENER AND LENGTH (inches)	SPACING ^c OF FASTENERS		
		EDGES (inches)	INTERMEDIATE SUPPORTS (inches)	
WOOD STRUCTURAL PANELS SUBFLOOR, ROOF & WALL SHEATHING TO FRAMING & PARTICLEBOARD WALL SHEATHING TO FRAMING ^f				
UP TO 1/2	STAPLE 15 GA. 1 3/4	4	8	
	0.097-0.099 NAIL 2 1/4	3	6	
	STAPLE 16 GA. 1 3/4	3	6	
	0.113 NAIL 2	3	6	
19/32 AND 5/8	STAPLE 15 AND 16 GA. 2	4	8	
	0.097-0.099 NAIL 2 1/4	4	8	
	STAPLE 14 GA. 2	4	8	
	STAPLE 15 GA. 1 3/4	3	6	
23/32 AND 3/4	0.097-0.099 NAIL 2 1/4	4	8	
	STAPLE 16 GA. 2	4	8	
	STAPLE 14 GA. 2 1/4	4	8	
	0.113 NAIL 2 1/4	3	6	
1	STAPLE 15 GA. 2 1/4	4	8	
	0.097-0.099 NAIL 2 1/4	4	8	
	STAPLE 16 GA. 2 1/4	4	8	
	0.097-0.099 NAIL 2 1/2	4	8	
NOMINAL MATERIAL THICKNESS (inches)	DESCRIPTION ^{a,b} OF FASTENER AND LENGTH (inches)	SPACING ^c OF FASTENERS	EDGES (inches)	BODY OF PANEL ^d (inches)
FLOOR UNDERLAYMENT; PLYWOOD-HARDBOARD-PARTICLEBOARD ^f				
PLYWOOD				
1/4 AND 5/16	1 1/4" RING OR SCREW SHANK NAIL-MINIMUM 12 1/2 GA. (0.099) SHANK DIAMETER	3	6	
	STAPLE 16 GA., 7/8, 3/16 CROWN WIDTH	2	5	
11/32, 3/8, 15/32 AND 1/2	1 1/4" RING OR SCREW SHANK NAIL-MINIMUM 12 1/2 GA. (0.099) SHANK DIAMETER	6	6 ^e	
19/32, 5/8, 23/32 AND 3/4	1 1/2" RING OR SCREW SHANK NAIL-MINIMUM 12 1/2 GA. (0.099) SHANK DIAMETER	6	8	
	STAPLE 16 GA., 1 1/2	6	8	
HARDBOARD ^f				
0.200	1 1/2" LONG RING-GROOVED UNDERLAYMENT NAIL	6	6	
	4D CEMENT-COATED SINKER NAIL	6	6	
	STAPLE 16 GA., 7/8 LONG (PLASTIC COATED)	3	6	
PARTICLEBOARD				
1/4	4D RING-GROOVED UNDERLAYMENT NAIL	3	6	
	STAPLE 16 GA., 7/8 LONG, 3/16 CROWN	3	6	
	6D RING-GROOVED UNDERLAYMENT NAIL	6	10	
3/8	STAPLE 16 GA., 1 1/8 LONG, 3/8 CROWN	3	6	
	6D RING-GROOVED UNDERLAYMENT NAIL	6	10	
1/2, 5/8	STAPLE 16 GA., 1 5/8 LONG, 3/8 CROWN	3	6	

- For SI: 1 inch = 25.4 mm.
- a. Nail is a general description and may be T-head, modified round head or round head.
- b. Staples shall have a minimum crown width of 7/16-inch on diameter except as noted.
- c. Nails or staples shall be spaced at not more than 6 inches on center at all supports where spans are 46 inches or greater. Nails or staples shall be spaced at not more than 12 inches on center at intermediate supports for floors.
- d. Fasteners shall be placed in a grid pattern throughout the body of the panel.
- e. For 5-ply panels, intermediate nails shall be spaced not more than 12 inches on center each way.

PROJECT:

DUPLEX

LOCATION:

29 AND 31
THIRD STREET
WORCESTER, MA

REVISIONS:

DRAWING:

STANDARD
FASTENER
SPECS

SCALE: AS PER DRAWING

DATE: 2-8-2024

PROJECT # R-170804

SHEET NO:

A-11