

STRUCTURAL NOTES

FOUNDATIONS:

INSTALL FOUNDATIONS A MINIMUM OF 12 INCHES INTO SOUND, ORIGINAL, UNDISTURBED SOIL, OR PROPERLY INSTALLED STRUCTURAL (CONTROLLED) FILL, EITHER OF WHICH SHALL HAVE A MINIMUM SAFE BEARING CAPACITY OF 2,000 PSF. STRUCTURAL FILL PLACED UNDER FOOTINGS SHALL CONSIST OF VDOT #57, #21A, LOW PLASTICITY SOILS, OR OTHER CRUSHED STONE & SAND AGGREGATE ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.

UNDERCUT ROCK ENCOUNTERED IN FOOTING EXCAVATIONS TO A DEPTH OF 12 INCHES MINIMUM BELOW THE BOTTOM OF THE FOOTINGS, UNLESS THE FOOTINGS ARE INDICATED TO BEAR ON ROCK. BENCH ANY ANGLED EXPOSED ROCK TO A LEVEL SURFACE. INSTALL STRUCTURAL FILL IN PLACE OF THE REMOVED ROCK.

STEP FOOTINGS BELOW PIPES PENETRATING FOUNDATION WALLS IN ACCORDANCE WITH THE TYPICAL DETAIL.

PROVIDE CONSTRUCTION SITE DRAINAGE TO PREVENT SURFACE RUNOFF FROM ENTERING THE BASEMENT AND FOOTING EXCAVATIONS.

COMPACT GRANULAR FILL BELOW SLABS ON GRADE WITH VIBRATING COMPACTORS ACCORDING TO THE DIRECTIONS OF THE GEOTECHNICAL ENGINEER, BUT NOT LESS THAN 95 % OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698 OR D1557.

BRACE ANY WALLS THAT RETAIN UNBALANCED FILL OR BACKFILL UNTIL PERMANENT RESTRAINING CONSTRUCTION ASSEMBLIES (SUCH AS THE FLOOR SLAB ABOVE AND/OR BELOW) ARE INSTALLED AND ATTAIN DESIGN STRENGTH. IT IS THE INTENT OF THESE DRAWINGS THAT BASEMENT WALLS NOT BE BACKFILLED UNTIL THE FLOOR STRUCTURE ABOVE IS ERECTED AND THE CONCRETE SLABS ABOVE AND BELOW ATTAIN DESIGN STRENGTH.

INSTALL FOUNDATION DRAINS IN AN 18 INCH WIDE ZONE OF VDOT #57 AGGREGATE, SEPARATED FROM GENERAL BACKFILL BY A GEOTEXTILE EQUIVALENT TO MIRAF1140N. INSTALL GENERAL BACKFILL FOR ALL BASEMENT AND RETAINING WALLS CONSISTING OF FREELY-DRAINING / PREDOMINANTLY GRANULAR MATERIAL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.

CONCRETE:

INSTALL CONCRETE WORK IN CONFORMANCE WITH THE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE STANDARD ACI-318 (CURRENT EDITION).

PROVIDE CONCRETE CONFORMING TO THE FOLLOWING:  
MINIMUM 28 DAY COMPRESSIVE STRENGTH:  
FOOTINGS: 3,000 PSI  
WALLS: 4,000 PSI  
SLABS: 4,000 PSI  
WALKS: 4,000 PSI  
AIR ENTRAINMENT: 4 TO 6 %

DO NOT PROVIDE AIR ENTRAINMENT FOR INTERIOR SLABS.  
NO ADMIXTURES OR PRODUCTS CONTAINING CHLORIDES ARE PERMITTED.  
PROVIDE SUBMITTALS FOR CONCRETE MIX DESIGN, REINFORCING, AND ADMIXTURES FOR APPROVAL.

PROVIDE CONCRETE REINFORCING CONFORMING TO THE FOLLOWING:  
CONCRETE BAR REINFORCEMENT: ASTM A615, GRADE 60  
STIRRUPS AND TIES: ASTM A615, GRADE 60  
WELDED WIRE FABRIC: ASTM A185

PROVIDE TYPICAL FLOOR SLABS-ON-GRADE AND EXTERIOR WALKS AS FOLLOWS: 4 INCHES THICK, REINFORCED WITH 6x6-W1.4xW1.4 OR 6x6-W2.0xW2.0 WELDED WIRE FABRIC.

OPTIONAL TYPICAL FLOOR SLABS-ON-GRADE AND EXTERIOR WALKS DESIGN: 4 INCHES THICK, WITH FIBER-REINFORCING (1.5 POUNDS PER CUBIC YARD, FIBRILLATED POLYPROPYLENE, ASTM C1116 TYPE-III, FIBERMESH OR EQUAL).

FOR SLABS-ON-GRADE, PROVIDE A SAW-CUT SLAB CONTROL JOINT SYSTEM EQUAL TO THE "SOFF-CUT" SYSTEM AS INDICATED ON THE DRAWINGS AND AT COLUMN LINES AND TYPICAL LOCATIONS SUCH THAT:  
(1) EACH AREA BOUNDED BY CONTROL JOINTS DOES NOT EXCEED 160 SF.  
(2) THE DISTANCE BETWEEN CONTROL JOINTS DOES NOT EXCEED 13 FEET IN EITHER DIRECTION.  
(3) THE RATIO OF LENGTH TO WIDTH OF ANY AREA BOUNDED BY CONTROL JOINTS DOES NOT EXCEED 2 TO 1. INSTALL CONTROL JOINTS AROUND COLUMNS AS INDICATED ON THE DETAILS.

WHERE EACH FLOOR SLAB ABUTS A CMU OR CONCRETE WALL, PROVIDE A BOND BREAK BY TURNING THE VAPOR BARRIER UP AT THE SLAB PERIMETER.

STRUCTURAL & ENGINEERED WOOD:

PROVIDE PRESERVATIVE-PRESSURE-TREATED (PT) LUMBER FOR LUMBER IN CONTACT WITH CONCRETE OR MASONRY.

PROVIDE DIMENSIONAL LUMBER CONFORMING TO THE FOLLOWING:  
BEAMS, JOISTS, RAFTERS, HEADERS: (UNLESS OTHERWISE SPECIFIED)  
# 2 SOUTHERN PINE, KD19  
# 2 SPRUCE-PINE-FIR, KD19  
STUDS:  
STUD GRADE # 2 SOUTHERN PINE, KD19  
STUD GRADE # 2 SPRUCE-PINE-FIR, KD19  
# 2 SOUTHERN PINE, KD19  
PLATES:  
# 2 SOUTHERN PINE, KD19  
# 2 SPRUCE-PINE-FIR, KD19

LAMINATED VENEER LUMBER (LVL):  
Fb=2800, Fv=250, Fc=550, E=2,000,000, Ft=2600 (ALL PSI MIN)

PROVIDE STRUCTURAL PANELS CONFORMING TO THE FOLLOWING:  
OSB SHEATHING OR ALL-VENEER PLYWOOD PANELS:  
GROUP 1, AMERICAN PLYWOOD ASSOCIATION (APA) RATED AS FOLLOWS:  
SUBFLOOR: 3/4", RATED STURD-I-FLOOR T&G, 24 OC, EXPOSURE 1  
WALL SHEATHING / BRACING: 1/2", RATED SHEATHING, 32/16, EXPOSURE 1  
ROOF SHEATHING: 19/32" OR 5/8", RATED SHEATHING, 40/20, EXPOSURE 1  
ROOF SHEATHING & NAILBASE: 23/32" OR 3/4", RATED SHEATHING, 48/24, EXPOSURE 1, T&G WHERE INDICATED

DESIGN, FABRICATE, AND ERECT ROOF AND FLOOR TRUSSES IN ACCORDANCE WITH THE SPECIFICATIONS OF THE TRUSS PLATE INSTITUTE (TPI).  
PROVIDE TRUSSES DESIGNED & FABRICATED BY THE FABRICATOR AS A SYSTEM.  
PROVIDE STRUCTURAL DESIGN FOR TRUSSES AND HANGERS BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH OF VIRGINIA. SUBMIT TRUSS SHOP DRAWINGS, SEALED BY THIS ENGINEER, FOR APPROVAL. THE FABRICATOR'S ENGINEER IS REQUIRED TO SELECT TRUSS HANGERS AND THE FABRICATOR IS REQUIRED TO FURNISH ALL HANGERS NECESSARY TO CONNECT ANY TRUSS TO ANOTHER TRUSS (SUCH AS A GIRDER-TRUSS).

COMPLY WITH ALL BRACING REQUIREMENTS INDICATED BY THE FABRICATOR, THE TPI SPECIFICATIONS, TPI-BWT, TPI-HIB, AND THESE DRAWINGS.

FABRICATOR: DESIGN TRUSSES TO MEET IBC REQUIREMENTS.  
ROOF TRUSS LOADS (UNLESS INDICATED OTHERWISE):  
BC DEAD = 5 PSF, BC LIVE = PER IBC  
TO DEAD = 10 PSF, TO LIVE = 30 PSF (UNREDUCED BUT NOT CONCURRENT W/ SNOW),  
TC SNOW = PER IBC / GROUND SNOW LOAD 30 PSF - APPLY SNOW-LOAD COEFFICIENTS FOR DRIFT, SLIDE, ROOF CONFIGURATION, AND EXPOSURE.

TRUSS MEMBERS: SOUTHERN PINE, KILN-DRIED TO MOISTURE CONTENT OF 19% OR LESS, SIZE AND GRADE AS REQUIRED BY DESIGN, BUT NOT LESS THAN NO. 2 FOR ANY MEMBER.

CONNECT BEARING POINTS OF ROOF AND ATTIC TRUSSES TO SUPPORTING CONSTRUCTION WITH ANCHORS INDICATED. WHERE ANCHORS ARE NOT DESIGNATED, INSTALL ANCHORS EQUAL TO SIMPSON H11 OR H2.5A AT ALL ROOF AND ATTIC TRUSS BEARING POINTS, AND DOUBLE H2.5A ANCHORS AT ALL GIRDER-TRUSS BEARING POINTS.

BRACE ALL EXTERIOR FRAME WALLS THROUGH-OUT (FULL COVERAGE) WITH APA-RATED STRUCTURAL WALL SHEATHING. REFER TO DETAILS FOR SPECIAL PANEL NAILING AND ANCHOR-STRAP REQUIREMENTS.

FASTENING SCHEDULE:  
COMPLY WITH IBC TABLE 2304.9.1 UNLESS OTHERWISE INDICATED.

GENERAL:

THE TERM "PROVIDE", WHERE USED IN THESE DRAWINGS, IS TO BE INTERPRETED AS A COMBINATION OF BOTH "FURNISH" AND "INSTALL".

COORDINATE CONFIGURATION AND LOCATION OF EQUIPMENT SUPPORTS, PENETRATIONS, AN OPENINGS WITH APPROVED MECHANICAL OR OTHER APPROVED SHOP DRAWINGS. DO NOT CUT FLOOR TRUSSES FOR PLUMBING PENETRATIONS!

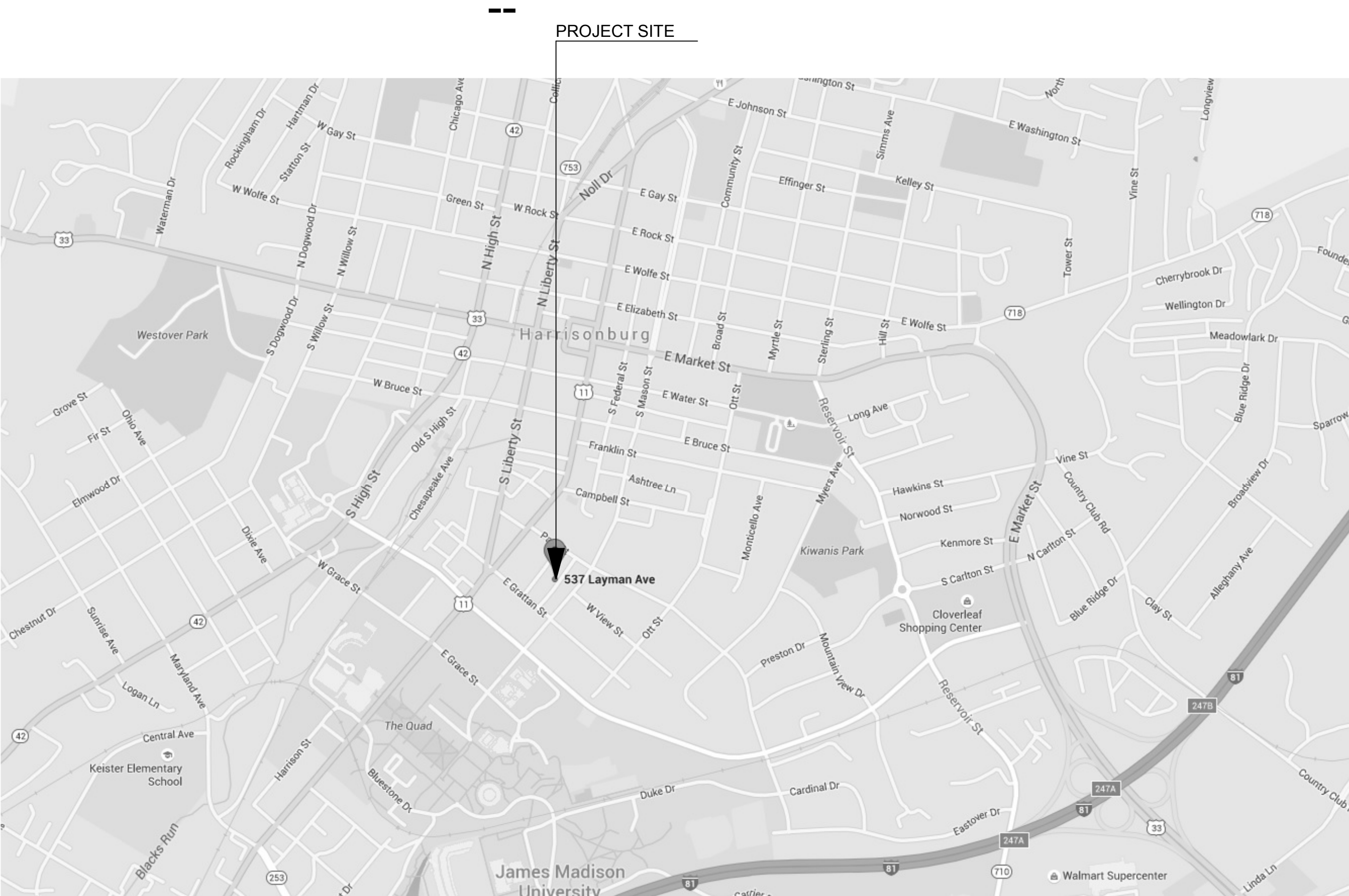
WHERE STRUCTURAL MEMBERS PASS THROUGH OR ABOVE NON-LOAD-BEARING PARTITIONS, PROVIDE CLEARANCES TO PERMIT THE STRUCTURE TO DEFLECT WITHOUT LOADING THE PARTITIONS. WHERE SPECIFIC CLEARANCES ARE NOT INDICATED, PROVIDE NOT LESS THAN 1" AROUND THE MEMBERS. PACK THE CLEARANCE SPACES WITH SAFING, MINERAL WOOL, FIBERGLASS, OR SPECIFIC UL RATED OR LISTED ASSEMBLIES INDICATED.

SOIL BEARING PRESSURE: 2,000 PSF ASSUMED

STRUCTURAL DESIGN LOADS:

LIVE LOADS:  
  
FLOOR: 40 PSF  
ROOF: 30 PSF  
CEILING: 20 PSF  
  
GROUND SNOW LOAD: 42.5 PSF  
LATERAL WIND: 90 MPH

# 537 LAYMAN RESIDENCE



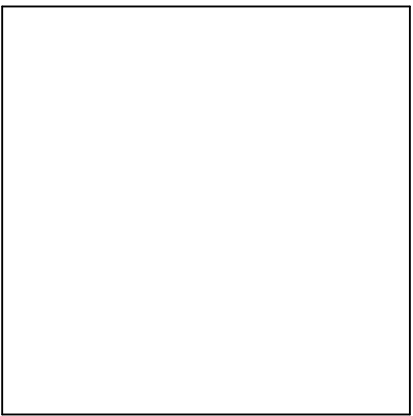
VICINITY MAP

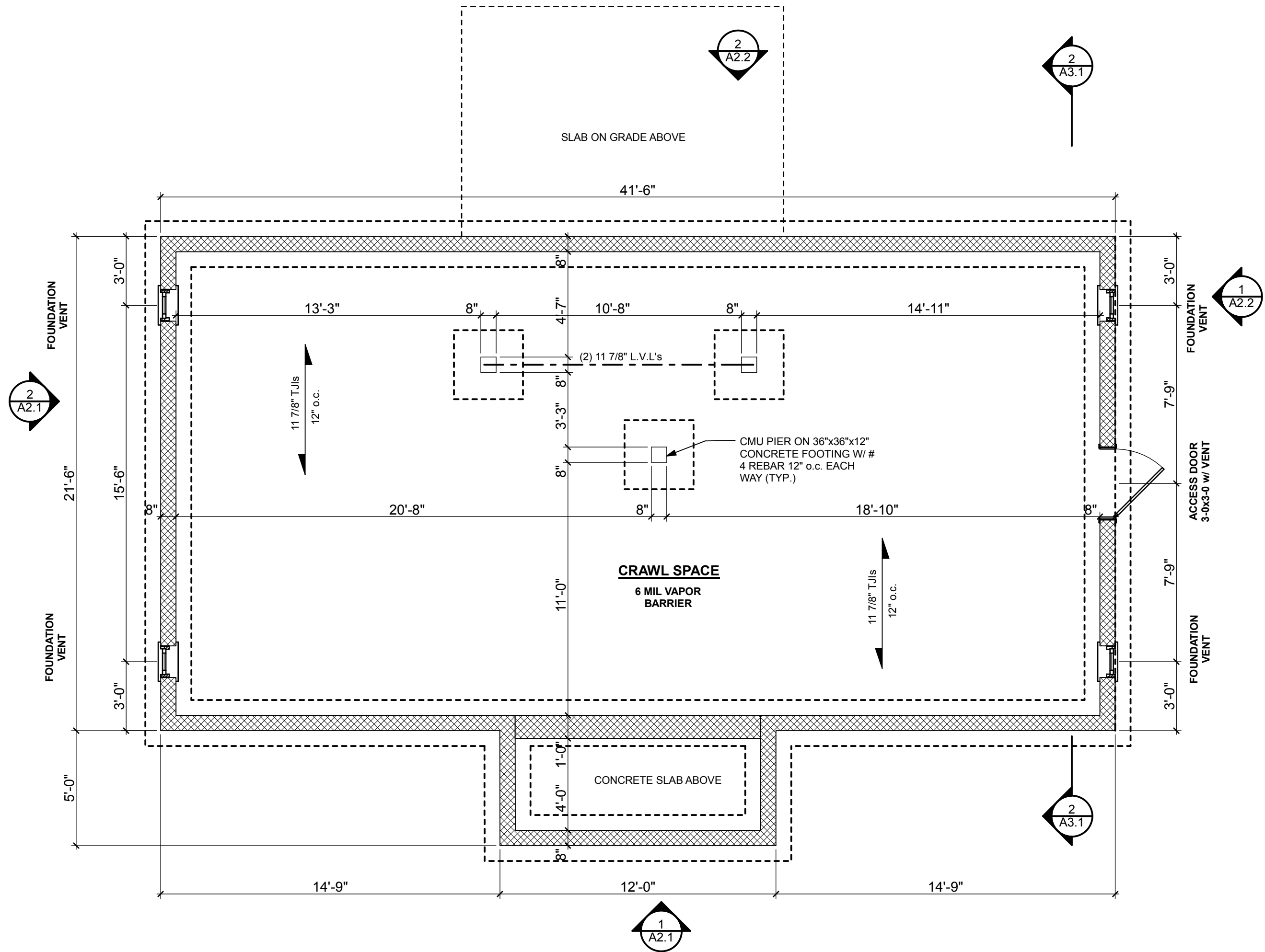
DRAWING INDEX

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- A2.1 ELEVATIONS
- A2.2 ELEVATIONS
- A3.1 BUILDING SECTIONS

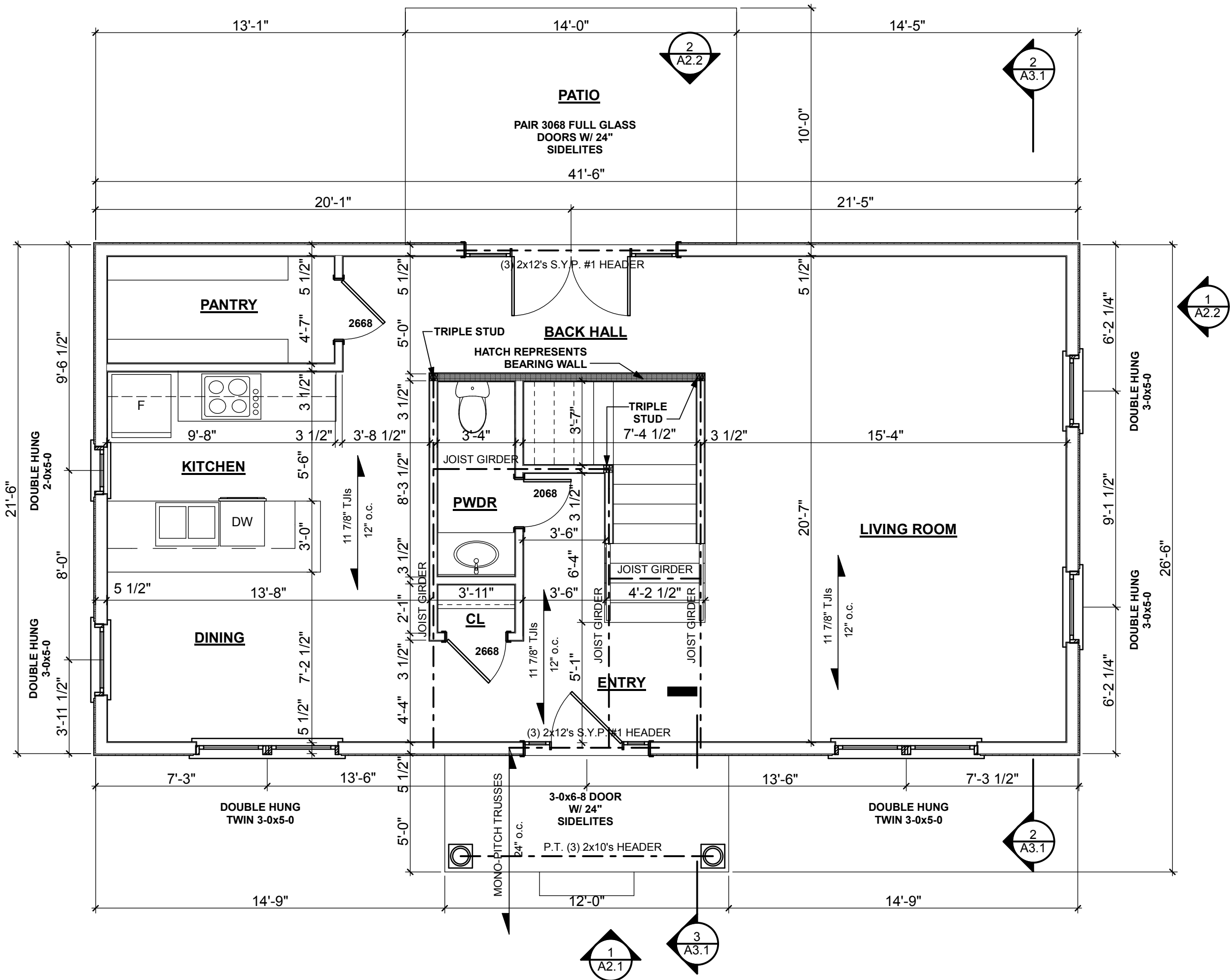
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	01/29/16	PERMIT PLANS
MARK	DATE	DESCRIPTION

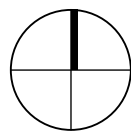




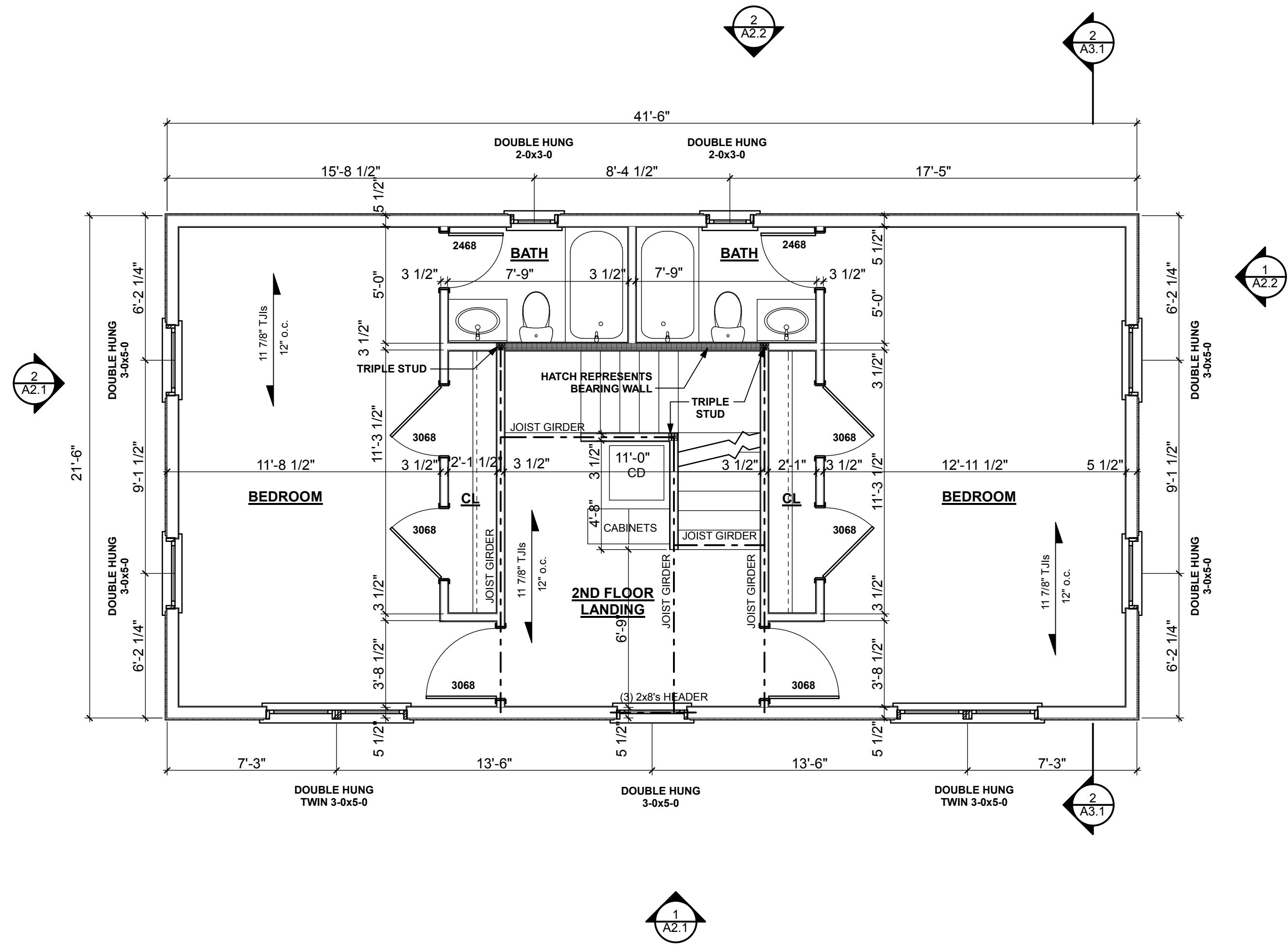
1 FOUNDATION  
A1.1 SCALE: 1/4" = 1'-0"



2 MAIN LEVEL PLAN  
A1.1 SCALE: 1/4" = 1'-0"



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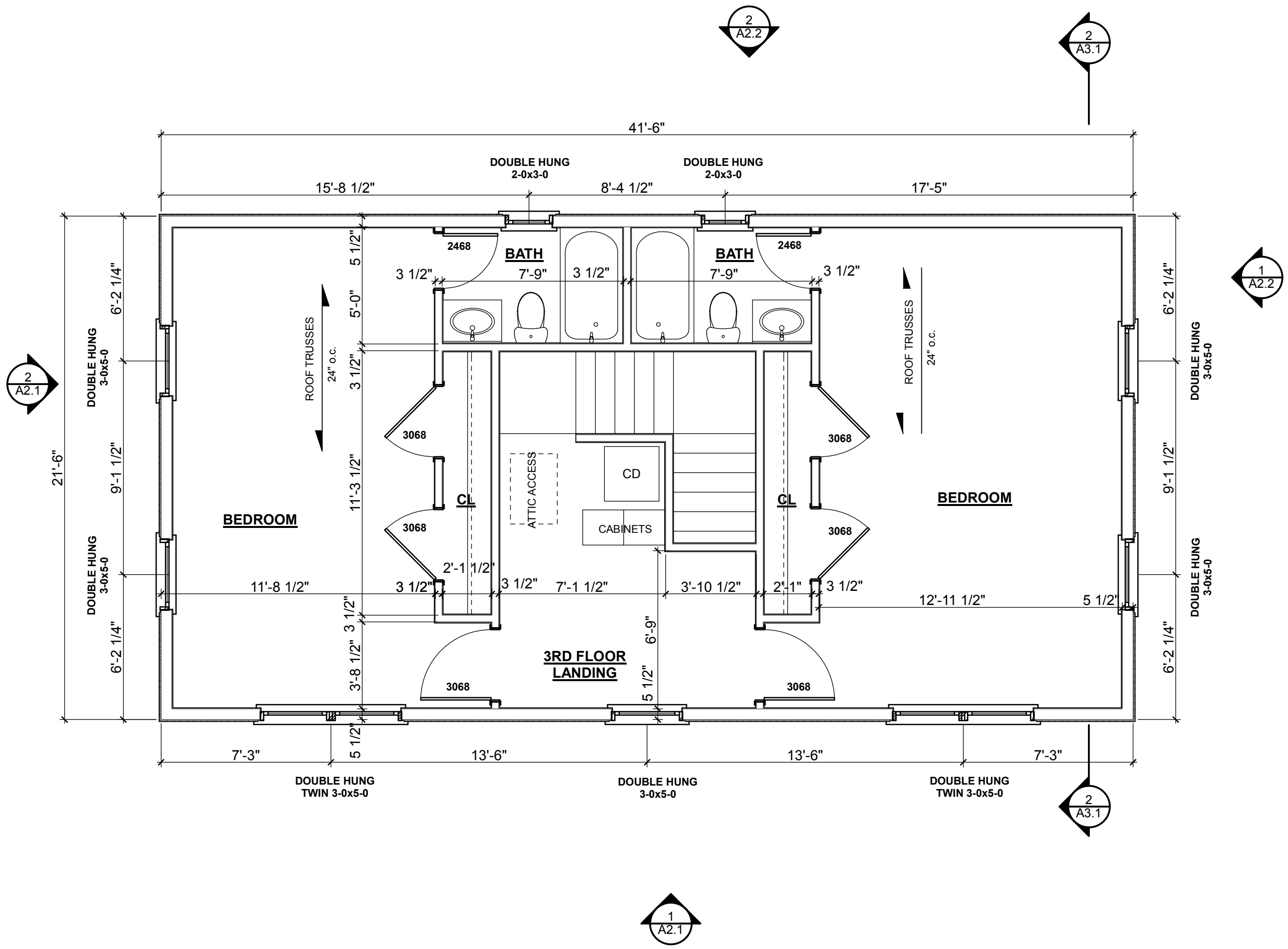
1  
A1.2 2ND LEVEL PLAN

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

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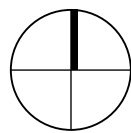
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2  
A1.2 3RD LEVEL PLAN

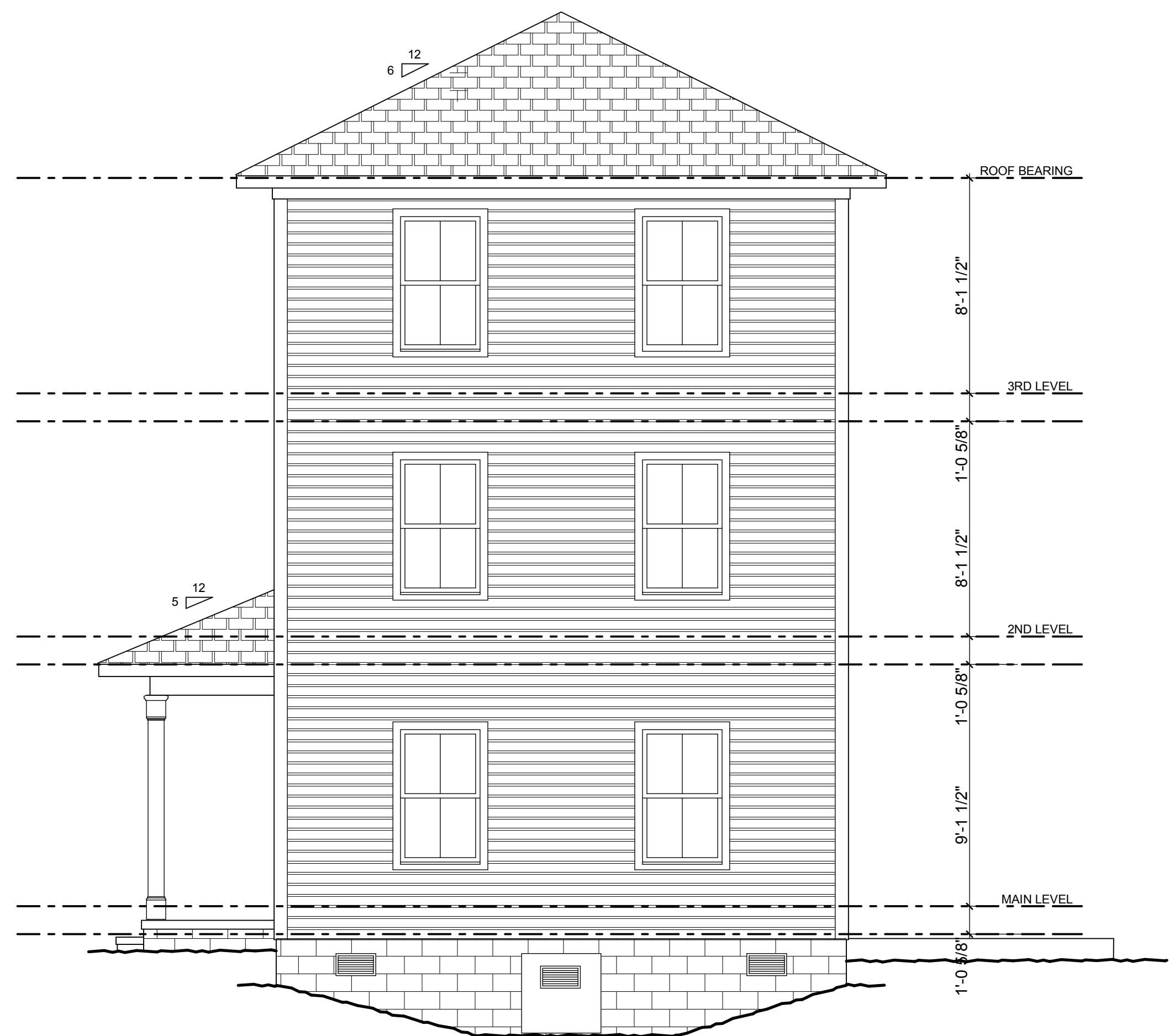
SCALE: 1/4" = 1'-0"



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1  
A2.1  
FRONT ELEVATION  
SCALE: 1/4" = 1'-0"



2  
A2.1  
RIGHT ELEVATION  
SCALE: 1/4" = 1'-0"

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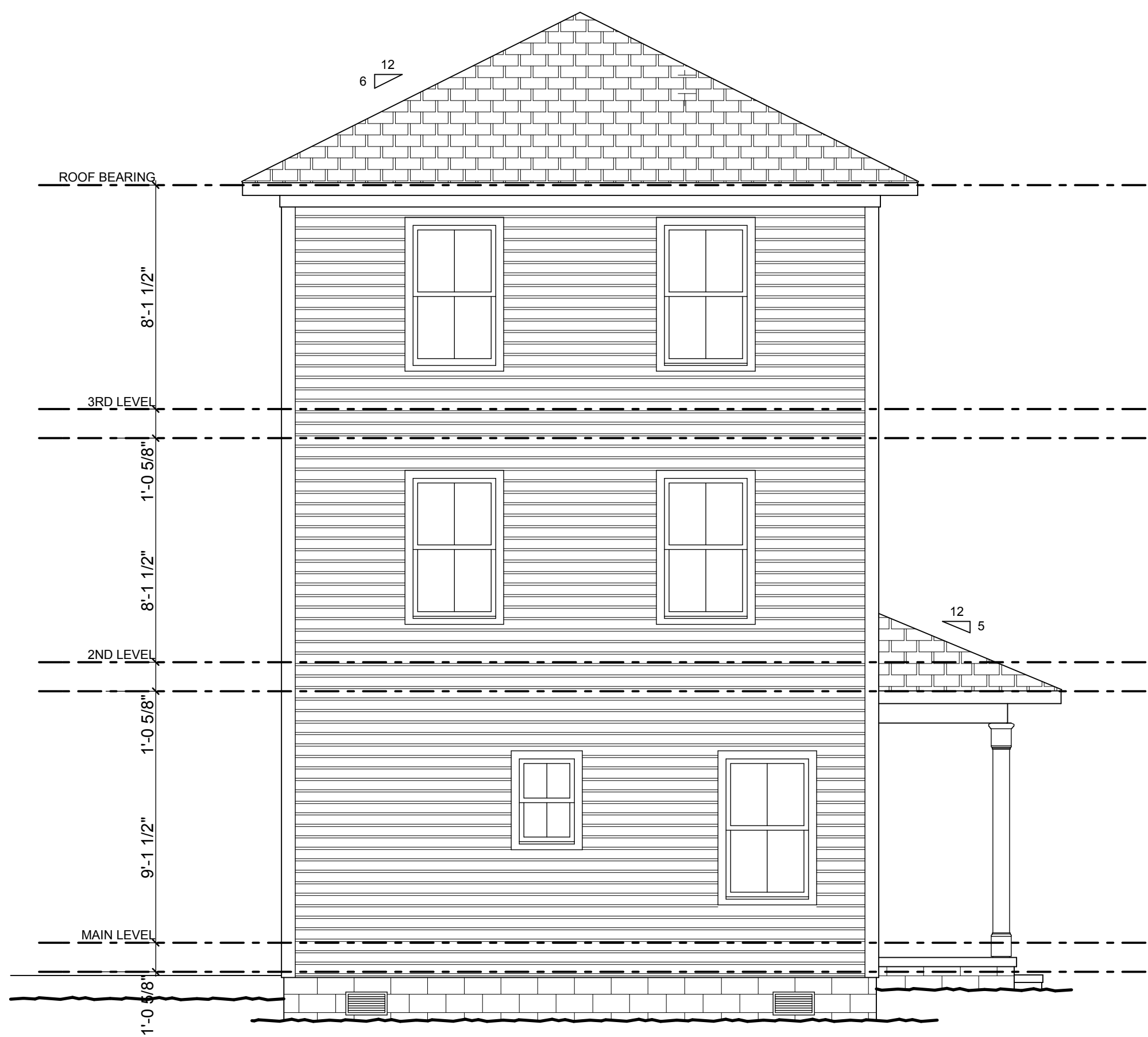
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1  
A2.2 REAR ELEVATION  
SCALE: 1/4" = 1'-0"

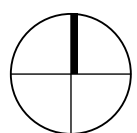


2  
A2.2 LEFT ELEVATION  
SCALE: 1/4" = 1'-0"

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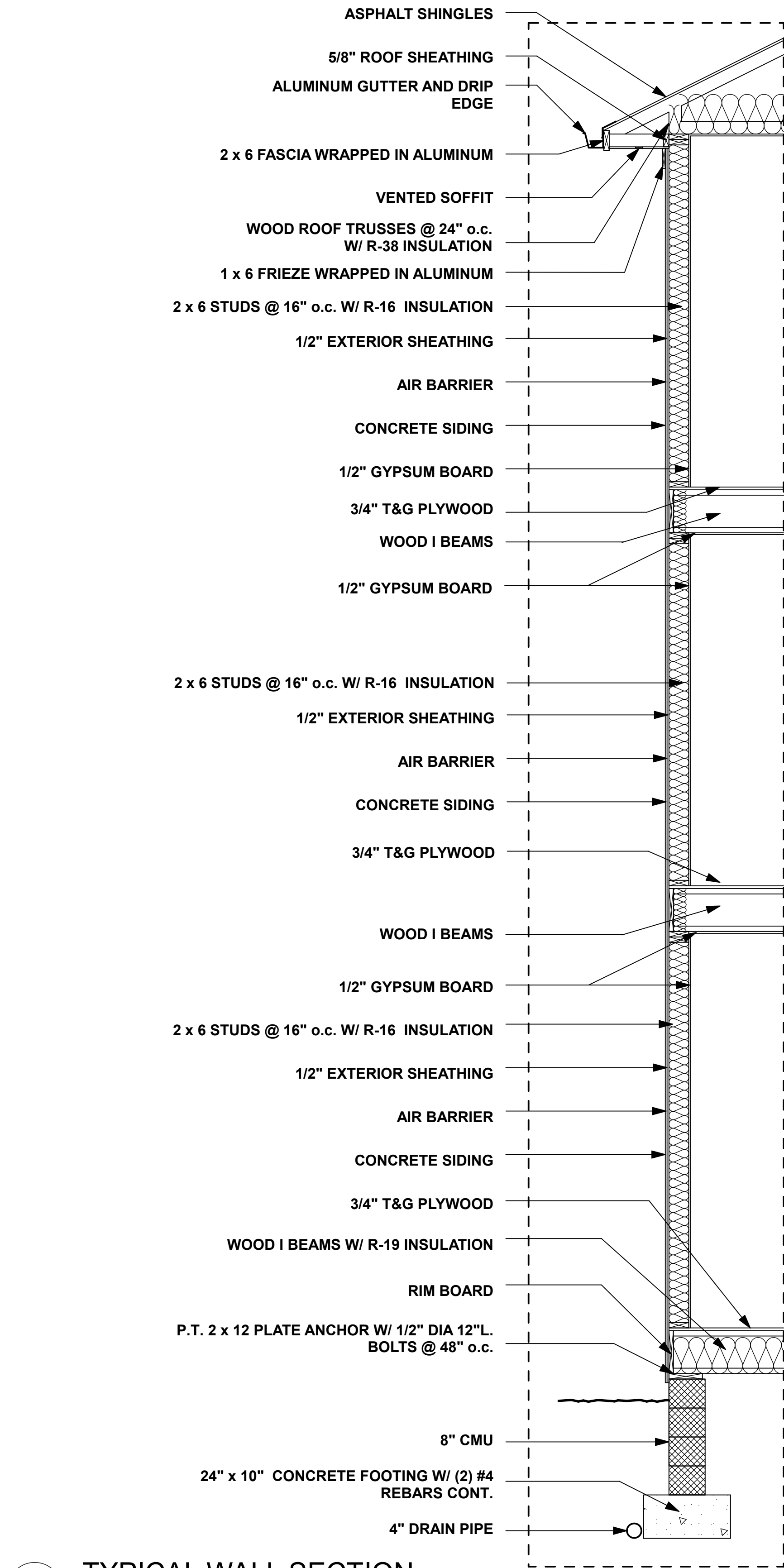
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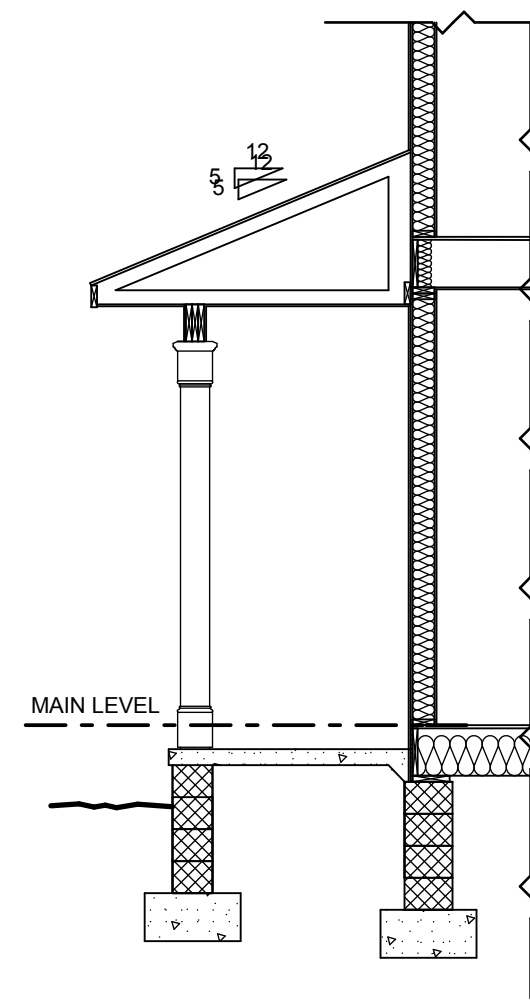




1  
A3.1

TYPICAL WALL SECTION

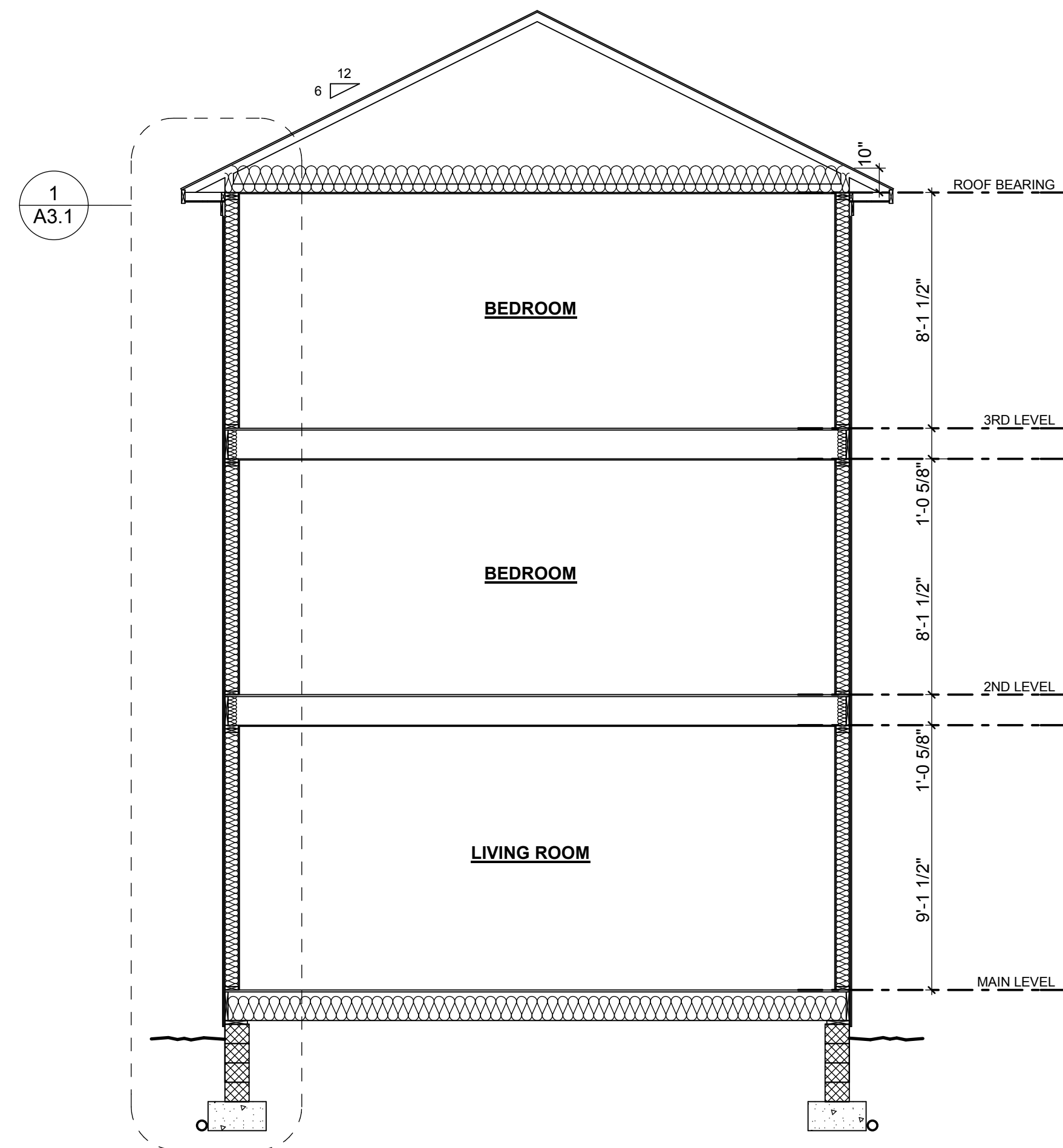
SCALE: 1/2" = 1'-0"



3  
A3.1

PORCH SECTION

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



2  
A3.1

BUILDING SECTION

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

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537 LAYMAN RESIDENCE  
537 LAYMAN AVE, HARRISONBURG, VA

PROJ NO: 01-16-005

A3.1

SECTIONS

1/30/2016 8:19 PM