U

ATE OF REVISIONS

GENERAL STRUCTURAL NOTES

A. ALL CONSTRUCTION SHALL CONFORM WITH THE PROVISIONS OF THE 2015

INTERNATIONAL RESIDENTIAL CODE FOR ONE AND TWO FAMILY DWELLINGS.

B. DESIGN LIVE LOADS: FLOORS. SLEEPING AREAS.

2. FOUNDATIONS

A. FOOTINGS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING CAPACITY OF 2000 PSF. FOOTINGS SHALL BEAR ON NATURAL UNDISTURBED SOIL, 1'-O" BELOW ORIGINAL GRADE. THE BOTTOM OF EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW FINISHED GRADE: CONTRACTOR TO VERIFY THE ALLOWABLE SOIL PRESSURE IN THE FIELD, IF FOUND TO BE LESS THAN 2000 PSF, THE FOOTINGS WILL HAVE TO BE REDESIGNED. 3. CAST IN PLACE CONCRETE

A. ALL CONCRETE WORK SHALL CONFORM TO THE LATEST APPROVED (BY LOCAL GOVERNMENT) EDITIONS OF THE FOLLOWING A.C.I. AND A.S.T.M. DOCUMENTS:

SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE

B. ALL CONCRETE, EXCEPT AS NOTED, SHALL BE (f'c=3,000 PSI) STONE AGGREGATE CONCRETE AT 28 DAYS. ALL CONCRETE EXPOSED TO THE WEATHER SHALL BE AIR

C. SLABS ON GROUND SHALL BE 4" THICK CONCRETE REINFORCED WITH 6"X6" W1.4XW1.4 MMF OVER 6 MIL POLYETHYLENE VAPOR BARRIER AND 4" MASHED GRAVEL UNLESS OTHERWISE NOTED. 4. MASONRY

A. ALL MASONRY CONSTRUCTION AND MATERIALS USED THEREIN (CONCRETE MASONRY, CLAY MASONRY, MORTAR, GROUT AND STEEL REINFORCEMENT) SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530-92/ASCE 5-92/TMS 402-92) AND "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI 530.1-92/ASCE 6-92/TMS 602-92) IN ALL RESPECTS.

B. MASONRY BEARING WALLS SHALL CONSIST OF STANDARD HOLLOW UNITS CONFORMING TO ASTM C 90 UNLESS OTHERWISE NOTED. WHERE SOLID UNITS ARE REQUIRED, PROVIDE UNITS CONFORMING TO ASTM C 145.

C. ALL MORTAR SHALL CONFORM TO THE REQUIREMENTS FOR PROPORTIONS, MIXING, STRENGTH AND APPLICATION FOR PORTLAND CEMENT/LIME TYPE "5" MORTAR AS DESCRIBED IN ACI 530-92.

D. ALL GROUT FILL IN MASONRY WALLS SHALL CONFORM TO ASTM C 476. SLUMP RANGE 8-11". PLACE GROUT IN 5'-0" MAXIMUM POUR HEIGHTS AND CONSOLIDATE BY MECHANICAL VIBRATION.

E. PROVIDE 8 DEPTH OF 100 % SOLID MASONRY BELOW ALL JOIST OR SLAB BEARING LINES. PROVIDE 16" HIGH X 16" LONG 100 % SOLID MASONRY BELOW ALL LINTELS AND BEAMS UNLESS NOTED OTHERWISE.

F. ALL MASONRY WALLS SHALL BE REINFORCED WITH NO. 9 GAGE TRUSS TYPE GALVANIZED DUR-O-WALL SPACED VERTICALLY AT 16" O.C. U.N.O. LAP ALL DUR-O-WALL 6" MINIMUM. PROVIDE CORNER AND TEE PIECES AT ALL INTERSECTIONS. G. LOOSE LINTELS FOR MASONRY WALLS SHALL BE FOR EACH 4" WIDTH OF MASONRY ONE

STEEL ANGLE AS FOLLOWS: 0'-0" TO 3'-0" 3-1/2" X 3-1/2" X 5/16" 3'-1" TO 5'-0" 4" X 3-1/2" X 5/16"

5'-1" TO 6'-6" 5" X 3-1/2" X 3/8"

6. NOOD ?

6'-7" TO 8'-0" 6" X 3-1/2" X 3/8"A

ALL ANGLES SHALL HAVE THEIR SHORT LEG OUTSTANDING AND 6" MINIMUM BEARING. 5. STRUCTURAL STEEL

A. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM SPECIFICATION A-36 (LATEST LOCAL APPROVED). ALL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE AISC MANUAL, AISC SPECIFICATION AND AISC CODE OF STANDARD PRACTICE.

B. ALL WELDED CONNECTIONS SHALL BE DONE WITH ETOXX ELECTRODES. SHOP AND FIELD WELDS SHALL BE MADE BY APPROVED CERTIFIED WELDERS AND SHALL CONFORM TO THE AMERICAN MELDING SOCIETY CODE FOR BUILDINGS AMS D1.1. MELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED UNLESS OTHERWISE

A. STRUCTURAL SOLID MOOD RAFTERS, JOISTS, BEAMS AND STUDS SHALL BE HEM FIR #2 OR SPRUCE PINE FIR #2 SURFACED DRY AT A MAXIMUM OF 19 % MOISTURE CONTENT. ALL LUMBER EXPOSED TO MEATHER SHALL BE PRESSURE TREATED SOUTHERN PINE #2. ALL FABRICATION, ERECTION, OTHER PROCEDURES, AND MINIMUM UNIT STRESSES SHALL CONFORM TO THE CURRENT "NATIONAL DESIGN SPECIFICATION FOR WOOD

B. WOOD TRUSSES SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION (ANSI/TPI 1) AND COMMENTARY AND RECOMMENDATIONS FOR HANDLING INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES (HIB-91) AS PUBLISHED BY THE TRUSS PLATE INSTITUTE AND IN ACCORDANCE WITH THE 1991 EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.

C. WOOD TRUSSES AND ENGINEERED FLOOR JOISTS ARE TO BE DESIGNED BY THE SUPPLIER SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER/ARCHITECT FOR REVIEW ALL TRUSSES AND JOISTS SHALL BE DESIGNED TO LIMIT THE BEARING STRESS TO 425 psi WHEN MEMBERS BEAR ON STUD WALLS. PROVIDE MEMBERS OF ADEQUATE WIDTH OR METAL CONNECTIONS TO LIMIT STRESSES TO THE SPECIFIED VALUE.

D. ALL LAMINATED VENEER LUMBER (LVL) OR PARALLEL STRAND LUMBER (PSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb=2600psi, Fv=285psi, E=1,900,000psi, Fc=2510psi(PARALLEL), Fc=750psi(PERPENDICULAR).

E. ALL DOUBLE MEMBERS SHALL BE NAILED TOGETHER WITH 2 ROWS OF 16d NAILS SPACED AT 12" O.C. ALL TRIPLE MEMBERS SHALL BE NAILED TOGETHER WITH 3 ROMS OF 16d NAILS SPACED AT 12" O.C. NAILED FROM EACH SIDE. F. PROVIDE DOUBLE JOISTS AT PARALLEL PARTITIONS WHERE PARTITION LENGTH

EXCEEDS 1/3 JOIST SPAN. G. ALL NAILS ARE TO BE COMMON WIRE NAILS. NAILING OF ALL FRAMING SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS BUT IN NO CASE SHALL BE LESS THAN THE RECOMMENDED NAILING SCHEDULE CONTAINED IN THE 2000 INTERNATIONAL RESIDENTIAL CODE. ALL MULTIPLE STUD POSTS ARE TO BE NAILED TOGETHER WITH 12d NAILS @ 6" O.C. STAGGERED.

H. PROVIDE BRIDGING SPACED AT 48" O.C. IN FIRST TWO JOIST, RAFTER OR TRUSS SPACES MHEN FRAMING IS PARALLEL TO EXTERIOR WALL. NAIL SHEATHING (FLOOR, CEILING OR ROOF) TO BRIDGING AND NAIL BRIDGING TO EXTERIOR WALL PLATE. PROVIDE ONE ROW OF BRIDGING BETWEEN ALL FLOOR AND ROOF JOISTS FOR EACH 8'-O" OF SPAN. PROVIDE SOLID BLOCKING OR A CONTINUOUS RIM JOIST AT THE BEARING OF JOISTS, RAFTERS OR TRUSSES ON WOOD PLATES.

I. PROVIDE THE FOLLOWING JAMB STUDS AT ALL BEARING WALL OPENINGS UNLESS NOTED OTHERWISE: 0-3' OPENING 1 JACK STUD, 1 KING STUD

2 JACK STUDS, 1 KING STUD 3'-1" - 6'-0" OPENING 6'-1" - 9'-0" OPENING 2 JACK STUDS, 2 KING STUDS

PROVIDE DOUBLE STUDS AT ALL CORNERS AND BENEATH ALL GIRDER TRUSSES AND MOOD BEAMS UNLESS NOTED OTHERWISE ON PLANS. MOOD BEAMS, GIRDER TRUSSES AND HEADERS SHALL BEAR THE FULL DEPTH OF POSTS AND JACK STUDS.

J. ALL POSTS (MULTIPLE STUDS OR SOLID POST) SUPPORTING BEAMS, WALL HEADERS OR GIRDER TRUSSES, SHALL BE BLOCKED SOLID FOR THE FULL LENGTH AND WIDTH OF POSTS AT ALL INTERSECTIONS WITH FLOORS AS REQUIRED TO PROVIDE CONTINUOUS SUPPORT TO TOP OF FOUNDATION WALLS OR BEAMS. POSTS SHOWN ON UPPER LEVELS FLOORS SHALL ALSO BE INSTALLED ON THE LOWER LEVELS IN LINE WITH THE POST ABOVE DOWN TO FOUNDATION WALLS OR BEAMS.

K. ALL FLUSH JOIST TO BEAM OR BEAM TO BEAM CONNECTIONS SHALL BE MADE WITH JOIST OR BEAM HANGERS TO SUPPORT THE LOAD CAPACITY INDICATED ON THE PLANS OR THE FULL CAPACITY OF THE JOIST OR BEAM. HANGERS SHALL BE PROVIDED BY SIMPSON STRONG TIE OR USP LUMBER CONNECTORS. THE SUPPLIER SHALL DESIGN ALI HANGERS FOR THE CAPACITY STATED. INSTALL ALL HANGERS IN STRICT CONFORMANCE TO THE MANUFACTURES INSTRUCTIONS. FILL ALL NAIL OR BOLT HOLES USING THE

2015 IECC CODE COMPLIANCE

R301.1 CLIMATE ZONE 4

R401.2 COMPLIANCE METHOD: MANDATORY AND PRESCRIPTIVE PROVISIONS

R402.1.1 VAPOR RETARDER WALL ASSEMBLIES IN THE THERMAL BUILDING ENVELOPE SHALL COMPLY WITH THE VAPOR RETARDER REQUIREMENTS OF SECTION R702.7 OF THE IRC CODE, 2015 EDITION

R402.1.2 ATTIC INSULATION: RAISED HEEL TRUSSES:

R402.1.2 WOOD FRAME WALL: R-20 OR R13+R5 CONTINUOUS INSULATION

R402.1.2 BASEMENT WALL INSULATION: R-13/R-10 FOIL FACED CONTINUOUS, UNINTERRUPTED BATTS

R402.1.2 CRAWL SPACE WALL INSULATION: R-13/R-10 FOIL FACED CONTINUOUS BATTS FULL HEIGHT EXTENDING FROM FLOOR ABOVE TO FINISH GRADE LEVEL AND THEN

VERTICALLY OR HORIZONTALLY AN ADDITIONAL 2'-O". R402.1.2 FLOOR INSULATION OVER UNCONDITIONED SPACE: R-19 BATT INSULATION

R402.1.2 WINDOW U-VALUE / SHGC .35 (U-VALUE) .40 (SHGC)

R402.2.10 SLAB ON GRADE FLOORS LESS THAN 12" BELOW GRADE: R-10 RIGID FOAM BOARD UNDER SLAB EXTENDING EITHER 2'-0" HORIZONTALLY OR 2'-0" VERTICALLY.

R402.2.4 ATTIC ACCESS: ATTIC ACCESS SCUTTLE WILL BE WEATHERSTRIPPED AND INSULATED R-49.

R402.4 BUILDING THERMAL ENVELOPE (AIR LEAKAGE): EXTERIOR WALLS AND PENETRATIONS WILL BE SEALED PER THIS SECTION OF THE 2015 IECC WITH CAULK, GASKETS, WEATHERSTRIPPING OR AN AIR BARRIER OF SUITABLE MATERIAL.

R402.4.12 BUILDING THERMAL ENVELOPE TIGHTNESS TEST: BUILDING ENVELOPE SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 3 AIR CHANGES PER HOUR. TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM E 779 OR ASTM E 1827 WITH (BLOWER DOOR) AS A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). TESTING SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING INSPECTOR.

R402.4.2 FIREPLACES: NEW MOOD BURNING MASONRY FIREPLACES WILL HAVE TIGHT-FITTING FLUE DAMPERS AND OUTDOOR COMBUSTION AIR. FIRE PLACE DOORS SHALL BE LISTED AND LABLED IN ACCORDANCE WITH UL 127 (FACTORY BUILT FIREPLACE) AND UL 907 (MASONRY FIREPLACE)

R402.4.4 ROOMS CONTAINING FUEL BURNING APPLIANCES WHERE OPEN COMBUSTION AIR DUCTS PROVIDE COMBUSITON AIR TO OPEN COMBUSTION FUEL BURNING APPLICANCES, THE APPLIANCES AND COMBUSITON AIR SHALL BE LOCATED OUTSIDE THE BUILDING THERMAL ENVELOPE TO ENCLOSED IN A ROOM ISOLATED FROM THE THERMAL ENVELOPE. EXCEPTION: DIRECT VENT APPLIANCES WITH BOTH INTAKE AND EXHAUST PIPES INSTALLED CONTINOUS THE OUTSIDE. FIREPLACES AND STOVES COMPLYING WITH SECTION R402.4.2 AND SECTION R1006 OF THE IRC.

R402.4.5 RECESSED LIGHTING: RECESSED LUMINARIES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE SEALED TO LIMIT AIR LEAKAGE.

ALL DWELLING UNITS WILL HAVE AT LEAST (1) PROGRAMMABLE THERMOSTAT FOR EACH SEPARATE HEATING AND COOLING SYSTEM PER 2015 IECC SECTION 403.1.1

R403.1.2 WHERE A HEAT PUMP SYSTEM HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT IS USED THE THERMOSTAT SHALL PREVENT THE SUPPLEMENTARY HEAT FROM COMING ON WHEN HEAT PUMP CAN MEET HEATING LOAD.

R403.3.1 MECHANICAL DUCT INSULATION: SUPPLY AND RETURN DUCTS IN ATTIC R-8 MINIMUM, R-6 WHEN LESS THAN 3" SUPPLY AND RETURN DUCTS OUTSIDE OF CONDITIONED SPACE R-8 MINIMUM ALL OTHER DUCTS EXCEPT THOSE LOCATED COMPLETELY INSIDE THE BUILDING THERMAL ENVELOPE R-6 MINIMUM. DUCTS LOCATED UNDER CONCRETE

R403.3.2 DUCT SEALING: ALL DUCTS, AIR HANDLERS, FILTER BOXES WILL BE SEALED. JOINTS AND SEAMS WILL COMPLY WITH SECTION M1601.4.1 OF 9 THE IRC. A DUCT TIGHTNESS TEST ("DUCT BLASTER" DUCT TOTAL LEAKAGE TEST) WILL BE PERFORMED ON ALL HOMES AND SHALL BE VERIFIED BY EITHER A POST CONSTRUCTION TEST OR A ROUGH-IN TEST DUCT TIGHTNESS IS NOT REQUIRED IF THE AIR HANDLER AND

ALL DUCTS ARE LOCATED WITHIN THE CONDITIONED SPACE. R403.6 MECHANICAL VENTILATION: OUTDOOR (MAKE UP AND EXHAUSTS) AIR DUCTS TO BE PROVIDED WITH AUTOMATIC OR GRAVITY DAMPER THAT CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING.

R403.6.1 WHOLE HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICIENCY TO COMPLY WITH TABLE R403.6.1 R403.7 EQUIPMENT SIZING SHALL COMPLY WITH R403.7.

R404.1 LIGHTING EQUIPMENT A MINIMUM OF 75 % OF ALL LAMPS (LIGHTS) MUST BE HIGH-EFFICACY LAMPS.

THE CONTRACTOR ALSO RESPONSIBLE FOR GENERATING CERTIFICATE OF COMPLIANCE AND AFFIXING TO ELECTRICAL PANEL OR WITHIN 6' OF THE PANEL AND BE READILY VISABLE.

R308.4.3 GLAZING IN WINDOWS

GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION:

1. THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SQUARE FEET (0.836 M2), 2. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES (457 MM) ABOVE THE FLOOR, 3. THE TOP EDGE OF THE GLAZING IS MORE THAN 36 INCHES (914 MM) ABOVE THE FLOOR;

4. ONE OR MORE WALKING SURFACES ARE WITHIN 36 INCHES (914 MM), MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.

1. DECORATIVE GLAZING.

EXCEPTIONS:

2. WHERE A HORIZONTAL RAIL IS INSTALLED ON THE ACCESSIBLE SIDE(S) OF THE GLAZING 34 TO 38 INCHES (864 TO 965 MM) ABOVE THE WALKING SURFACE. THE RAIL SHALL BE CAPABLE OF WITHSTANDING A HORIZONTAL LOAD OF 50 POUNDS PER LINEAR FOOT (730 N/M) WITHOUT CONTACTING THE GLASS AND HAVE A CROSS-SECTIONAL HEIGHT OF NOT LESS THAN 11/2 INCHES (38 MM).

3. OUTBOARD PANES IN INSULATING GLASS UNITS AND OTHER MULTIPLE GLAZED PANELS WHERE THE BOTTOM EDGE OF THE GLASS IS 25 FEET (7620 MM) OR MORE ABOVE GRADE, A ROOF, WALKING SURFACES OR OTHER HORIZONTAL [WITHIN 45 DEGREES (0.79 RAD) OF HORIZONTAL] SURFACE ADJACENT TO THE GLASS EXTERIOR.

R308.6.2 MATERIALS

THE FOLLOWING TYPES OF GLAZING SHALL BE PERMITTED TO BE USED:

1. LAMINATED GLASS WITH NOT LESS THAN A 0.015-INCH (0.38 MM) POLYVINYL BUTYRAL INTERLAYER FOR GLASS PANES 16 SQUARE FEET (1.5 M2) OR LESS IN AREA LOCATED SUCH THAT THE HIGHEST POINT OF THE GLASS IS NOT MORE THAN 12 FEET (3658 MM) ABOVE A WALKING SURFACE OR OTHER ACCESSIBLE AREA; FOR HIGHER OR LARGER SIZES, THE INTERLAYER THICKNESS SHALL BE NOT LESS THAN 0.030 INCH (0.76 MM).

2. FULLY TEMPERED GLASS.

3. HEAT-STRENGTHENED GLASS.

4. WIRED GLASS.

5. APPROVED RIGID PLASTICS.

Bearing wall, G-P Lam LVL or Glulam Beam 4 \* Non-stacking walls require additional consideration. Solid block all posts from above to bearing below with equal number of squash blocks Check local building code for appropriate details in areas of high lateral load.

LVL FASTENING SCHEDULE

Joist may be shifted up to 3" to avoid plumbing interference.

8d nail top and

bottom flange

8d nails at 6" on center

— 3-8d nails toe-nail to plate, typical

at corners

Vertical load transfer = 2000 plf max along load bearing wall.

Load bearing wall must stack over squash blocks and wall or beam below.\*

SQUASH BLOCKS AT INTERIOR BEARING

Sauash block

(2x4 minimum)

BLOCKING PANEL, INTERIOR

8d nails at 6"o.c. (or per

design professional's specs., but complying with Installation

Note D, on p. 18 of Product

vertical load transfer = 2000 plf max. along bearing wall

\* Non-stacking walls require additional consideration.

[F19] SQUASH BLOCKS AT CONCENTRATED LOADS

– Load bearing wall must stack over

blocking and wall or beam below.\*

bearing wall exist above.

When joists meet over wall, provide 1 3/4" minimum

bearing for both joists and install blocking panel to support both Joists. Blocking panels not required when joists are continuous over wall and no load

Maximum Uniform Load Applied to Either or Both Outside Pieces (Pounds per lineal foot) 16d NAILS 1/2" BOLTS SCREWS (Note 9) 3. Top and bottom row of connectors should be 2" from edge. ABC Member | 2 ROMS | 3 ROMS | 2 ROMS | 2 ROMS | 2 ROMS | 2 ROMS | 12" o.c. | 12" o.c. 24" o.c. stag. 12" o.c. | 24" o.c. | 12" o.c. | 3 | 380 | 570 | 380 | 375 760 4 Not Permitted 340 675 330 665

P2 JOIST SPACING BELOW PLUMBING

| FIBERSTRONG®

RIM BOARD CLOSURE

blocking panels \* )

or FiberStrong<sup>®</sup>

24" o.c. to brace

G-P Fiberstrona

rim board—/

rim board at

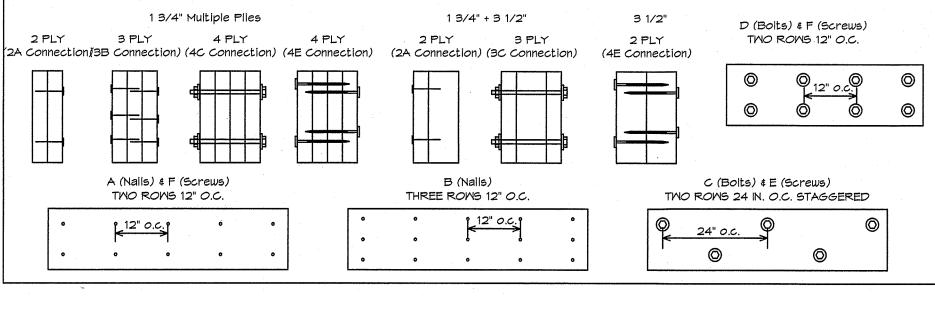
starter joist

Vertical load transfer = 5700 plf

( 850 plf for starter joist without

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.

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. 2 505 760 505 1015 500 995 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 MS 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.



R311.7.4 WALKLINE

THE WALKLINE ACROSS WINDER TREADS SHALL BE CONCENTRIC TO THE CURVED DIRECTION OF TRAVEL THROUGH THE TURN AND LOCATED 12 INCHES (305 MM) FROM THE SIDE WHERE THE MINDERS ARE NARROWER. THE 12-INCH (305 MM) DIMENSION SHALL BE MEASURED FROM THE MIDEST POINT OF THE CLEAR STAIR MIDTH AT THE WALKING SURFACE OF THE MINDERS. IF MINDERS ARE ADJACENT WITHIN THE FLIGHT, THE POINT OF THE WIDEST CLEAR STAIR WIDTH OF THE ADJACENT WINDERS SHALL BE USED.

R311.7.5 STAIR TREADS AND RISERS

STAIR TREADS AND RISERS SHALL MEET THE REQUIREMENTS OF THIS SECTION. FOR THE PURPOSES OF THIS SECTION, DIMENSIONS AND DIMENSIONED SURFACES SHALL BE EXCLUSIVE OF CARPETS, RUGS OR RUNNERS.

## R311.7.5.1 RISERS

THE RISER HEIGHT SHALL BE NOT MORE THAN 73/4 INCHES (196 MM). THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8 INCH (9.5 MM). RISERS SHALL BE VERTICAL OR SLOPED FROM THE UNDERSIDE OF THE NOSING OF THE TREAD ABOVE AT AN ANGLE NOT MORE THAN 30 DEGREES (0.51 RAD) FROM THE VERTICAL. OPEN RISERS ARE PERMITTED PROVIDED THAT THE OPENINGS LOCATED MORE THAN 30 INCHES (762 MM), AS MEASURED VERTICALLY, TO THE FLOOR OR GRADE BELOW DO NOT PERMIT THE PASSAGE OF A 4-INCH-DIAMETER (102 MM) SPHERE.

1. THE OPENING BETWEEN ADJACENT TREADS IS NOT LIMITED ON SPIRAL STAIRWAYS.

2. THE RISER HEIGHT OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION

#### R311.7.5.2 TREADS

THE TREAD DEPTH SHALL BE NOT LESS THAN 10 INCHES (254 MM). THE TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREAD'S LEADING EDGE. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8 INCH (9.5 MM).

### R311.7.5.2.1 WINDER TREADS

BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AT THE INTERSECTIONS WITH THE WALKLINE. WINDER TREADS SHALL HAVE A TREAD DEPTH OF NOT LESS THAN 6 INCHES (152 MM) AT ANY POINT WITHIN THE CLEAR WIDTH OF THE STAIR, WITHIN ANY FLIGHT OF STAIRS, THE LARGEST WINDER TREAD DEPTH AT THE WALKLINE SHALL NOT EXCEED THE SMALLEST WINDER TREAD BY MORE THAN 3/8 INCH (9.5 MM). CONSISTENTLY SHAPED WINDERS AT THE WALKLINE SHALL BE ALLOWED WITHIN THE SAME FLIGHT OF STAIRS AS RECTANGULAR TREADS AND DO NOT HAVE TO BE WITHIN 3/8 INCH (9.5 MM) OF THE RECTANGULAR TREAD DEPTH.

EXCEPTION: THE TREAD DEPTH AT SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION

SECTION R310 EMERGENCY ESCAPE AND RESCUE OPENINGS

## R310.1 EMERGENCY ESCAPE AND RESCUE OPENING REQUIRED

BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL HAVE NOT LESS THAN ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, AN EMERGENCY ESCAPE AND RESCUE OPENING SHALL BE REQUIRED IN EACH SLEEPING ROOM. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL OPEN DIRECTLY INTO A PUBLIC MAY, OR TO A YARD OR COURT THAT OPENS TO A PUBLIC MAY.

EXCEPTION: STORM SHELTERS AND BASEMENTS USED ONLY TO HOUSE MECHANICAL EQUIPMENT NOT EXCEEDING A TOTAL FLOOR AREA OF 200 SQUARE FEET (18.58 M2).

# R310.1.1 OPERATIONAL CONSTRAINTS AND OPENING CONTROL DEVICES

EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE. WINDOW OPENING CONTROL DEVICES COMPLYING WITH ASTM F2090 SHALL BE PERMITTED FOR USE ON WINDOWS SERVING AS A REQUIRED EMERGENCY ESCAPE AND RESCUE OPENING.

# R310.2 EMERGENCY ESCAPE AND RESCUE OPENINGS

EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE MINIMUM DIMENSIONS AS SPECIFIED IN THIS SECTION.

# R310.2.1 MINIMUM OPENING AREA

EMERGENCY AND ESCAPE RESCUE OPENINGS SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5.7 SQUARE FEET (0.530 M2). THE NET CLEAR OPENING DIMENSIONS REQUIRED BY THIS SECTION SHALL BE OBTAINED BY THE NORMAL OPERATION OF THE EMERGENCY ESCAPE AND RESCUE OPENING FROM THE INSIDE. THE NET CLEAR HEIGHT OPENING SHALL BE NOT LESS THAN 24 INCHES (610 MM) AND THE NET CLEAR WIDTH SHALL BE NOT LESS THAN 20 INCHES (508 MM). EXCEPTION: GRADE FLOOR OR BELOW GRADE OPENINGS SHALL HAVE A NET CLEAR OPENING OF

# R310.2.2 MINDOW SILL HEIGHT

NOT LESS THAN 5 SQUARE FEET (0.465 M2).

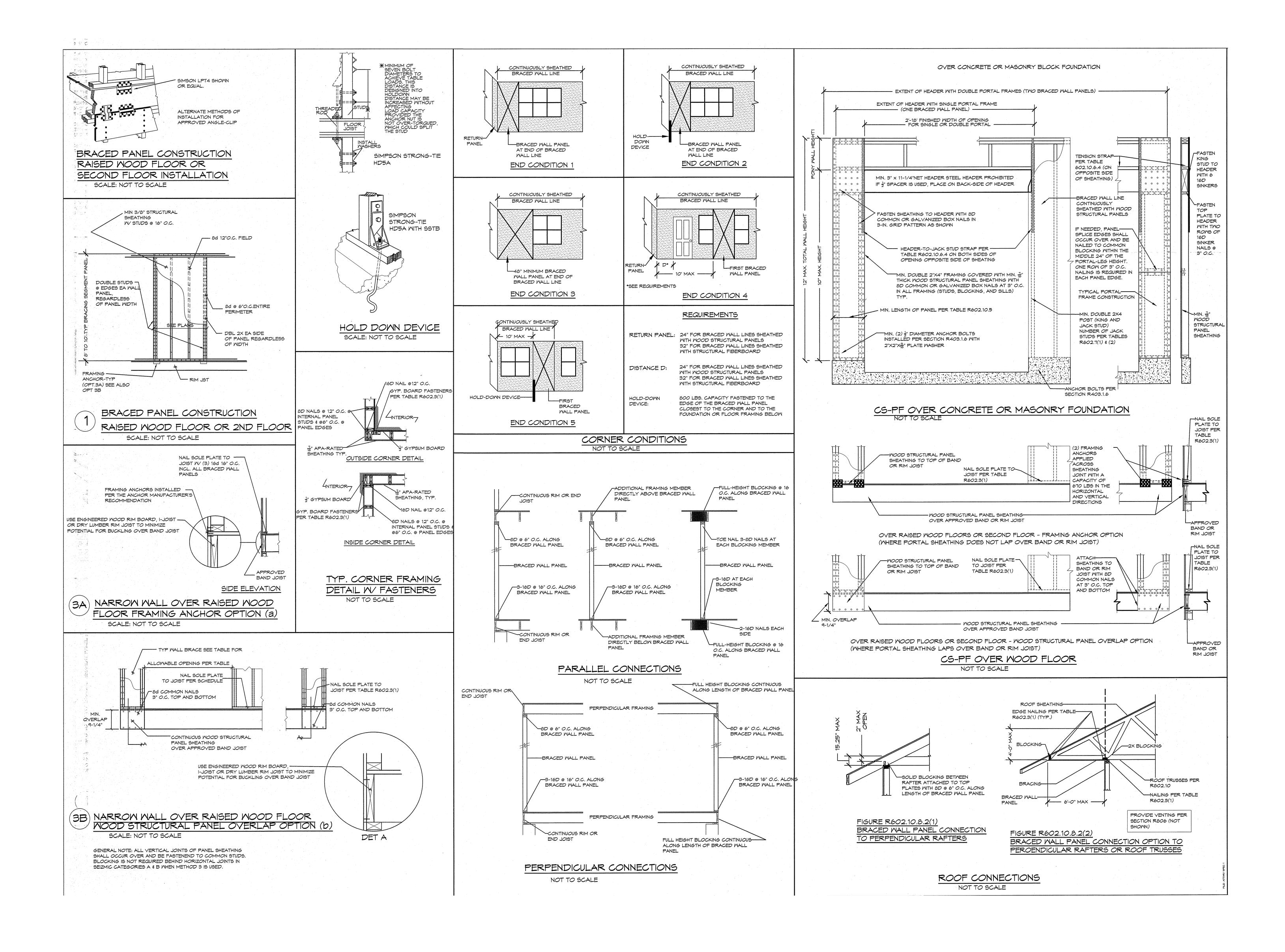
WHERE A MINDOW IS PROVIDED AS THE EMERGENCY ESCAPE AND RESCUE OPENING, IT SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES (1118 MM) ABOVE THE FLOOR; WHERE THE SILL HEIGHT IS BELOW GRADE, IT SHALL BE PROVIDED WITH A WINDOW WELL IN ACCORDANCE WITH SECTION R310.2.3.

List Own

SHEET NUMBER

Copyright Levin/Brown & Associates, I

SPECIFIED NAILS AND BOLTS ONLY.



Prototype ion DETAIL Residence ew Constructic d, Randallstown, M **Tulsemere** TRUC

ATE OF REVISIONS

DATE: 01 December 2020 PHASE: Construction Documents

NUMBER 3720 certify that these documents were

prepared or approved by me, and that I am a duly licensed architect under the laws of the State of Maryland. Name: Jay Ira Brown, AIA, LEED AP

License Number: 03822 Expiration Date:

 $\approx$ 

in/B



TABLE R404.1.2(3) MINIMUM VERTICAL REINFORCEMENT FOR 8-INCH (203 MM) NOMINAL FLAT CONCRETE BASEMENT WALLS

	MAXIMUM	MAXIMUM	MINIMUM VERT ANI	IENT-BAR SIZE ES)	
	UNSUPPORTED WALL HEIGHT (FEET) "X"	UNBALANCED BACKFILL	SOIL CLASSES AND DESIGN LATERAL SOIL (PSF PER FOOT OF DEPTH)		
		HEIGHT (FEET) "Y"	GM, GP, SM, SP, 30	GM, GC, SM, SM-SC, AND ML 45	SC, ML-CL, AND INORGANIC CL 60
	8	4	NR	NR	NR
		5	NR	NR	NR
		6	NR	NR	6@37
		7	NR	6@36	6@35
		8	6@41	6@35	6@26
	a	4	NR	NR	NR
		5	NR	NR	NR
		6	NR	NR	6@35
		7	NR	6@35	6@32
		8	6@36	6@32	6@23
		9	6@35	6@25	6@18
	10	4	NR	NR	NR
		5	NR	NR	NR
		6	NR	NR	6@35
		447 04 <b>7</b> 444 44	NR	6@35	6@29
		8	6@35	6@29	6@21
		٩	6@34	6@22	6@16
		10	6027	6017	6@13

- FOR SI: 1 INCH= 25.4 MM; 1 FOOT= 304.8MM; 1 POUND PER SQUARE FOOT PER FOOT= 0.1571 kPa^2/M, 1 POUND PER SQUARE INCH= 6.895 kPa. NR= NOT REQUIRED
- a. SOIL CLASSES ARE IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM. REFER TO TABLE R405.1.
- b. TABLE VALUES ARE BASED ON REINFORCING BARS WITH A MINIMUM YIELD STRENGTH OF 60,000 PSI CONCRETE WITH A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 2,500 PSI AND VERTICAL REINFORCEMENT BEING LOCATED AT THE CENTERLINE OF THE WALL. SEE SECTION R404.1.3.3.7.2. C. VERTICAL REINFORCEMENT WITH A YIELD STRENGTH OF LESS THAN 60,000 PSI AND/OR BARS OF A DIFFERENT SIZE THAN SPECIFIED IN THE TABLE ARE PERMITTED
- d. NR INDICATES NO VERTICAL REINFORCEMENT IS REQUIRED e. DEFLECTION CRITERION IS L/240, WHERE L IS THE HEIGHT OF THE BASEMENT WALL IN INCHES
- f. INTERPOLATION IS NOT PERMITTED g. WHERE WALLS WILL RETAIN 4 FEET OR MORE OF UNBALANCED BACKFILL, THEY SHALL BE LATERALLY SUPPORTED AT THE TOP AND BOTTOM BEFORE

IN ACCORDANCE WITH SECTION R404.1.3.3.7.6 AND TABLE R404.1.2(9)

- BACKFILLING. h. SEE SECTION R404.1.3.2 FOR MINIMUM REINFORCEMENT REQUIRED FOR BASEMENT MALLS SUPPORTING ABOVE-GRADE CONCRETE MALLS.
- SEE TABLE R608.3 FOR TOLERANCE FROM NOMINAL THICKNESS PERMITTED FOR FLAT WALLS. THE USE OF THIS TABLE SHALL BE PROHIBITED FOR SOIL CLASSIFICATIONS NOT

TABLE R404.1.2(1) MINIMUM HORIZONTAL REINFORCEMENT FOR CONCRETE BASEMENT WALLS

MAXIMUM UNSUPPORTED HEIGHT OF BASEMENT WALL (FEET)	LOCATION OF HORIZONTAL REINFORCEMENT
82	ONE NO. 4 BAR WITHIN 12 INCHES OF THE TOP OF THE WALL STORY AND ONE NO. 4 BAR NEAR MID-HEIGHT OF THE WALL STORY.
>8	ONE NO. 4 BAR WITHIN 12 INCHES OF THE TOP OF THE WALL STORY AND ONE NO. 4 BAR NEAR THIRD POINTS IN THE WALL STORY.

FOR SI: 1 INCH= 25.4 MM, 1 FOOT= 304.8 MM, 1 POUND PER SQUARE INCH= 6.895 kPa. a. HORIZONTAL REINFORCEMENT REQUIREMENTS ARE FOR REINFORCING BARS WITH A MINIMUM YIELD STRENGTH OF 40,000 PSI AND CONCRETE WITH A MINIMUM CONCRETE

COMPRESSIVE STRENGTH OF 2,500 PSI. b. SEE SECTION R404.1.2.2 FOR MINIMUM REINFORCEMENT REQUIRED FOR FOUNDATION WALLS SUPPORTING ABOVE-GRADE CONCRETE WALLS.

TABLE R301.5 MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS (in pounds per square foot) LIVE LOAD UNINHABITABLE ATTICA W/O STORAGE. b 10

UNINHABITABLE ATTICS W/ LIMITED STORAGE. b, g HABITABLE ATTICS & ATTICS SERVED W/ FIXED STAIRS. BALCONIES (EXTERIOR) & DECKS. e FIRE ESCAPES. GUARDRAILS & HANDRAILS. d 200h 50h GUARDRAIL INFILL COMPONENTS. F 50a PASSENGER VEHICLE GARAGES. a ROOMS OTHER THAN SLEEPING ROOMS 40 30 SLEEPING ROOMS. STAIRS. 40c

For SI: 1 pound per square foot = 0.0479 kPa, 1 square inch = 645 mm2, 1 pound = 4.45 N.

a. Elevated garage floors shall be capable of supporting a 2,000-pound load applied over a 20-square-inch area. b. Uninhabitable attics without storage are those where the maximum clear height between joists and rafters is less than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches high by 24 inches in width, or greater, within the plane of the trusses. This live load need not be assumed to act concurrently with any other live load requirements.

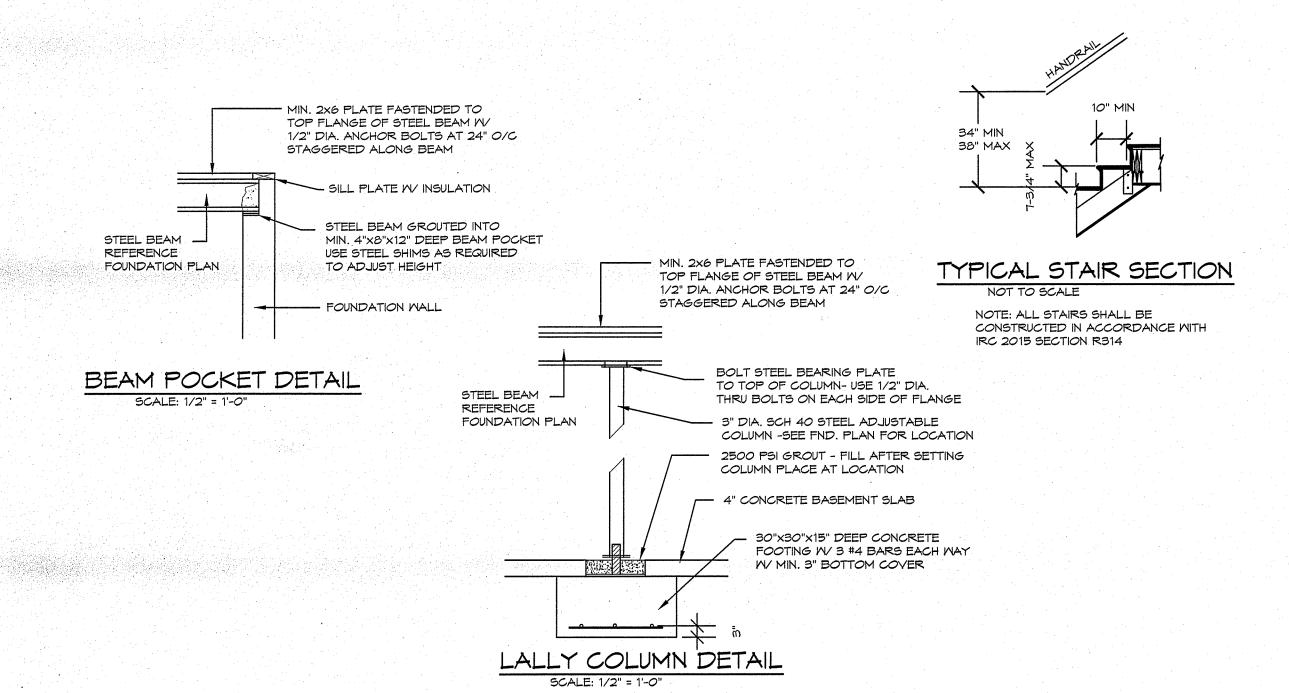
c. Individual stair treads shall be designed for the uniformly distributed live load or a 300-pound concentrated load acting over an area of 4 square inches, whichever produces the greater stresses. d. A single concentrated load applied in any direction at any point along the top.

e. See Section R502.2.2 for decks attached to exterior walls. f. Guard in-fill components (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to 1 square foot. This load need not be assumed to act concurrently with any other live load requirement.

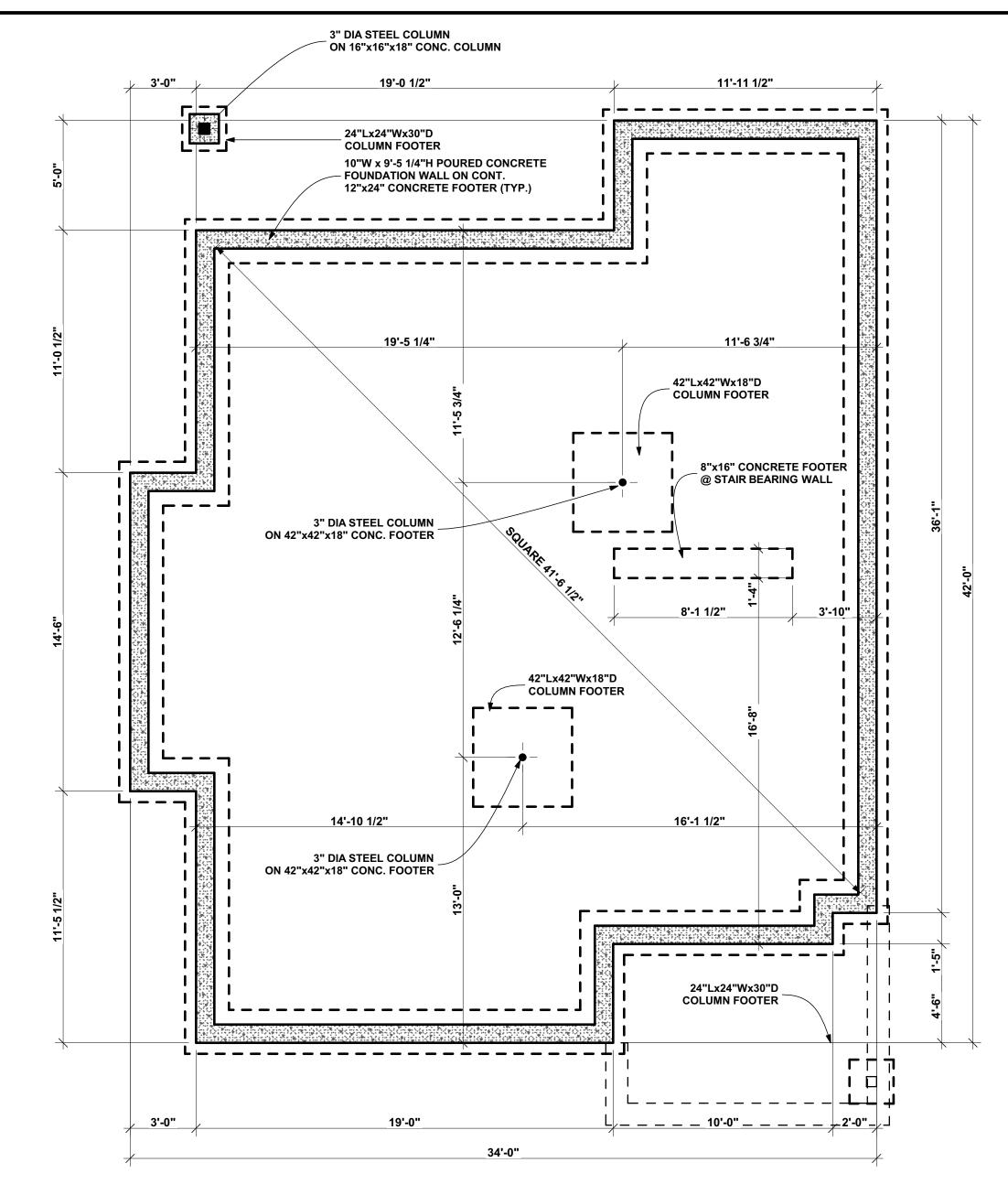
g. Uninhabitable attics with limited storage are those where the maximum clear height between joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. The live load need only be applied to those portions of the joists or truss bottom chords where all of the

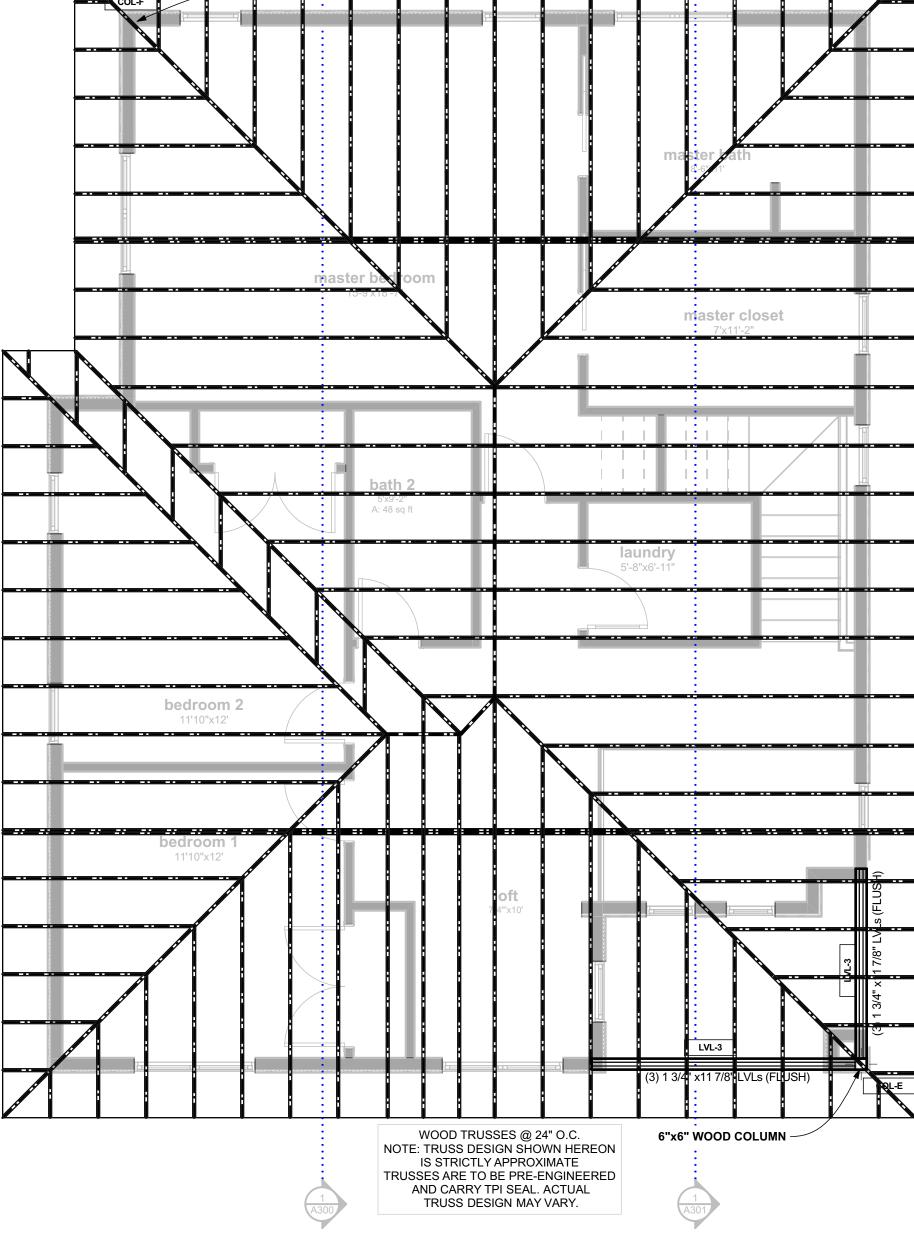
1. The attic area is accessible from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is a minimum of 30 inches.

2. The slopes of the joists or truss bottom chords are no greater than 2 inches vertical to 12 units horizontal. 3. Required insulation depth is less than the joist or truss bottom chord member depth. The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 lb/ft2. h. Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the in-fill components. These loads shall be determined independent of one another, and loads are assumed not to occur with any other live load.

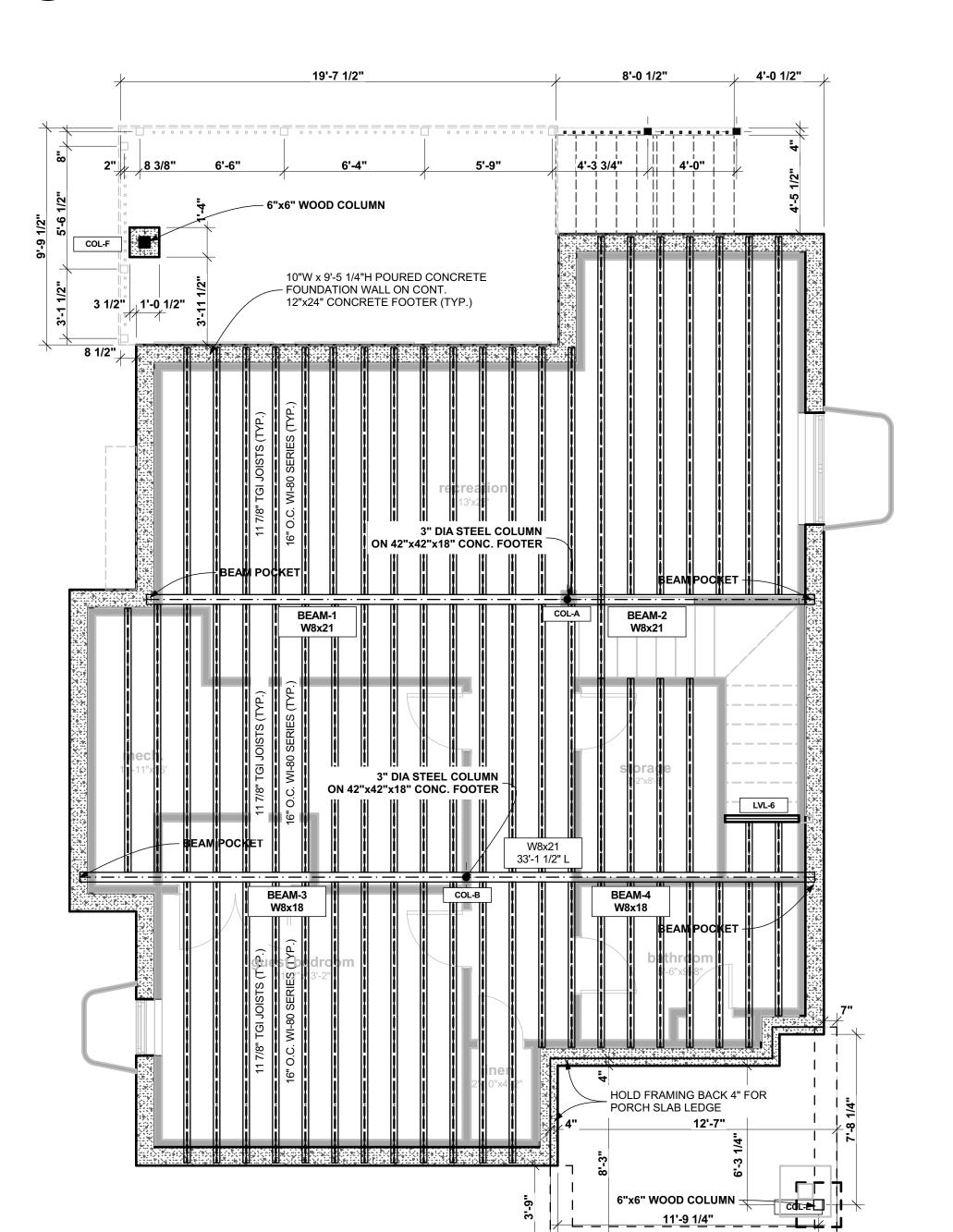


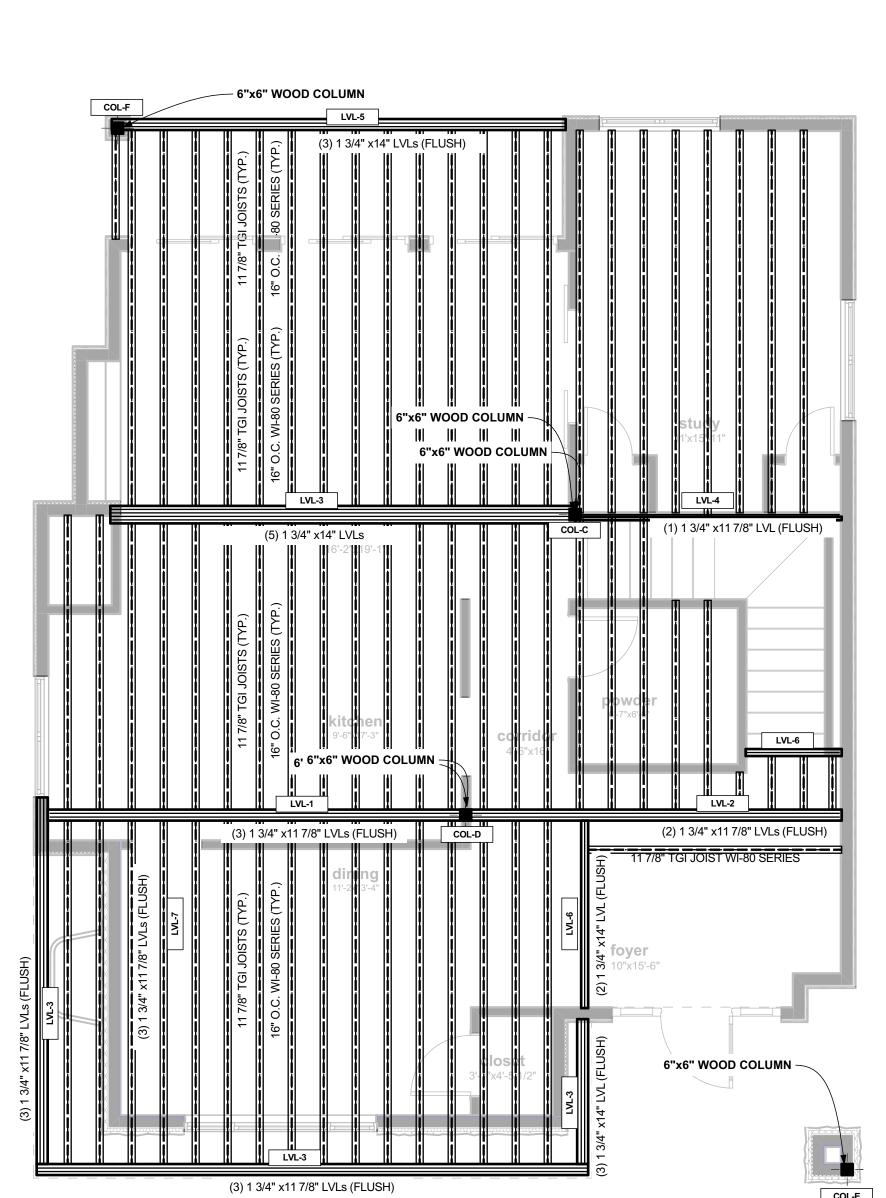
STRUCTURAL NOTES, DETAILS, & SCHEDULES S101 SCALE: 1' = 1'-0"





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

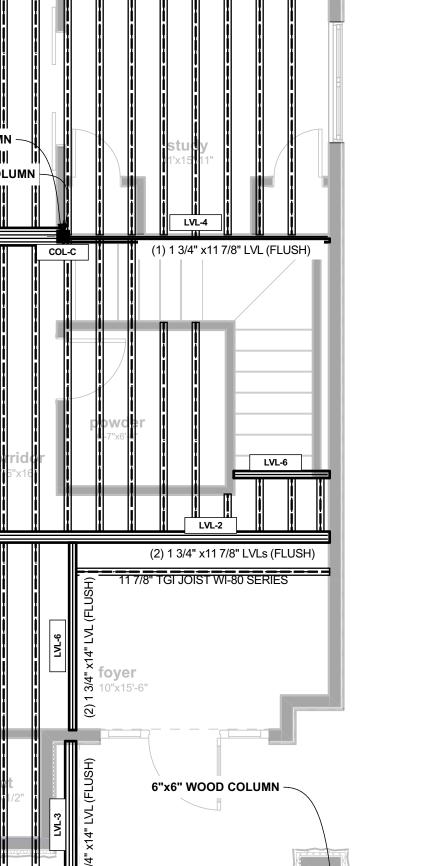




SECOND FLOOR FRAMING PLAN

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

ROOF FRAMING PLAN SCALE: 1/4" = 1'-0"



SHEET NUMBER

Prototype ion

**Residence**Construction

ere

ulsem

DATE: 01 December 2020

certify that these documents were

prepared or approved by me, and that

am a duly licensed architect under the

Name: Jay Ira Brown, AIA, LEED AP

aws of the State of Maryland.

License Number: 03822

Expiration Date:

PHASE: Construction Documents

NUMBER 3720

**S101** 

FIRST FLOOR FRAMING PLAN SCALE: 1/4" = 1'-0"

In dwelling units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the fininshed floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch-diameter (102 mm) sphere where such openings are located within 24 inches (610 mm) of the finished floor. Exceptions:

R312.2.1 Mindow sills

1. Mindows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position. 2. Openings that are provided with window fall prevention devices that comply with ASTM F 2090.

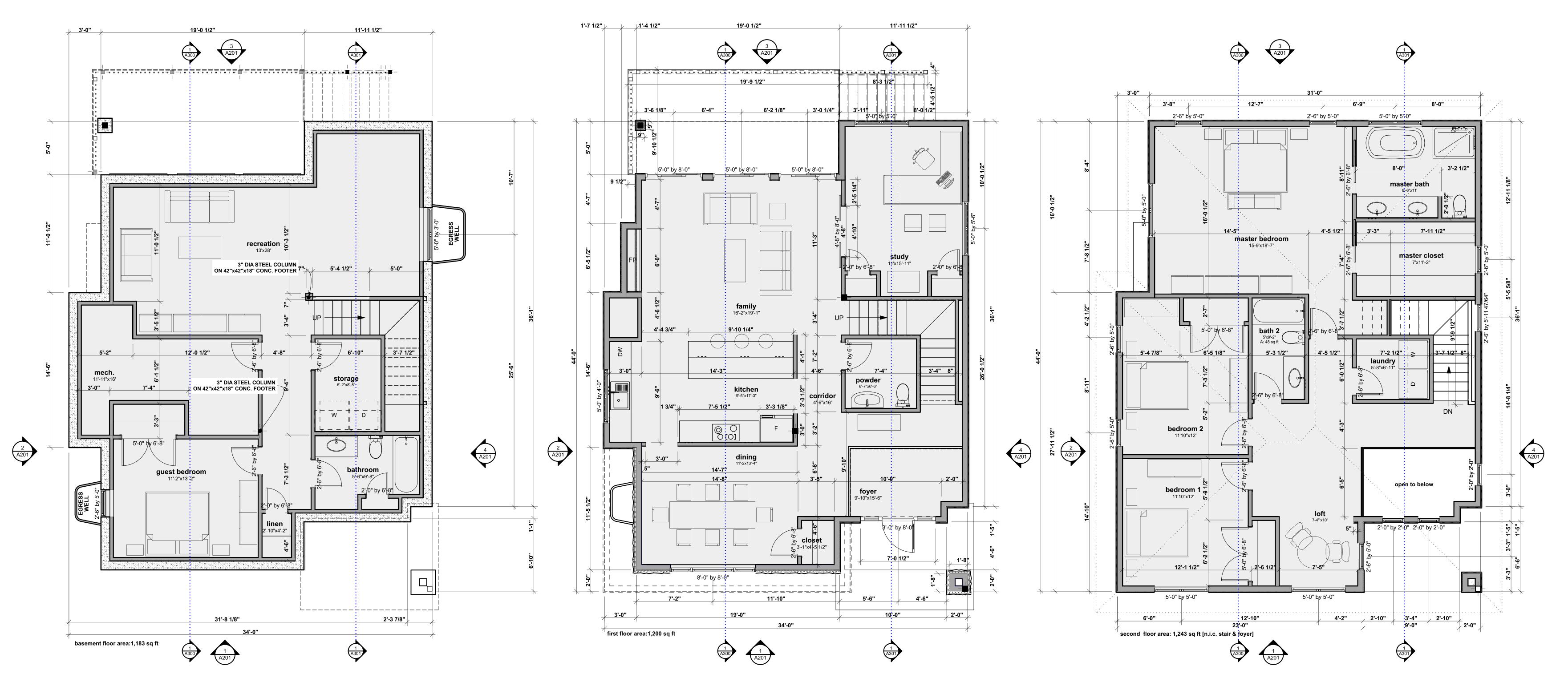
3. Mindows that are provided with window opening control devices that comply with Section R312.2.2. R312.2.2 Window opening control devices. Mindow opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by <u>Section</u>

GENERAL NOTES:

-MINDOMS SHOWN ARE STANDARD VINYL SIZES. VERIFY MITH MANUFACTURE THAT SHOWN SIZES MEET OR EXCEED EGRESS CLEAR OPENING AREA OF 5.7 SQ.FT., CLEAR OPENING MIDTH OF 20" & CLEAR OPENING HEIGHT OF 24" -FINAL GRADE SHOWN HEREON IS STRICTLY APPROXIMATE. CONTRACTOR TO FIELD VERIFY. -PROVIDE SMOKE DETECTORS TO BE HARD WIRED W/ BATTERY BACKUP. 1 PER BEDROOM & 1 IN CENTRAL LOCATION PER LEVEL -PROVIDE CARBON MONOXIDE DETECTORS TO BE HARD WIRED W/ BATTERY BACKUP.

1 IN CENTRAL LOCATION PER LEVEL -THIS HOME IS TO BE FULLY SPRINKLED PER COUNTY CODE

**GENERAL NOTES** 



ARCHITECTRAL BASEMENT PLAN SCALE: 1/4" = 1'-0"

ARCHITECTURAL FIRST FLOOR PLAN A101 SCALE: 1/4" = 1'-0"

ARCHITECTURAL SECOND FLOOR PLAN

e Prototype tion Residence ew Constructic d, Randallstown, M Tulsemere

DATE OF REVISIONS

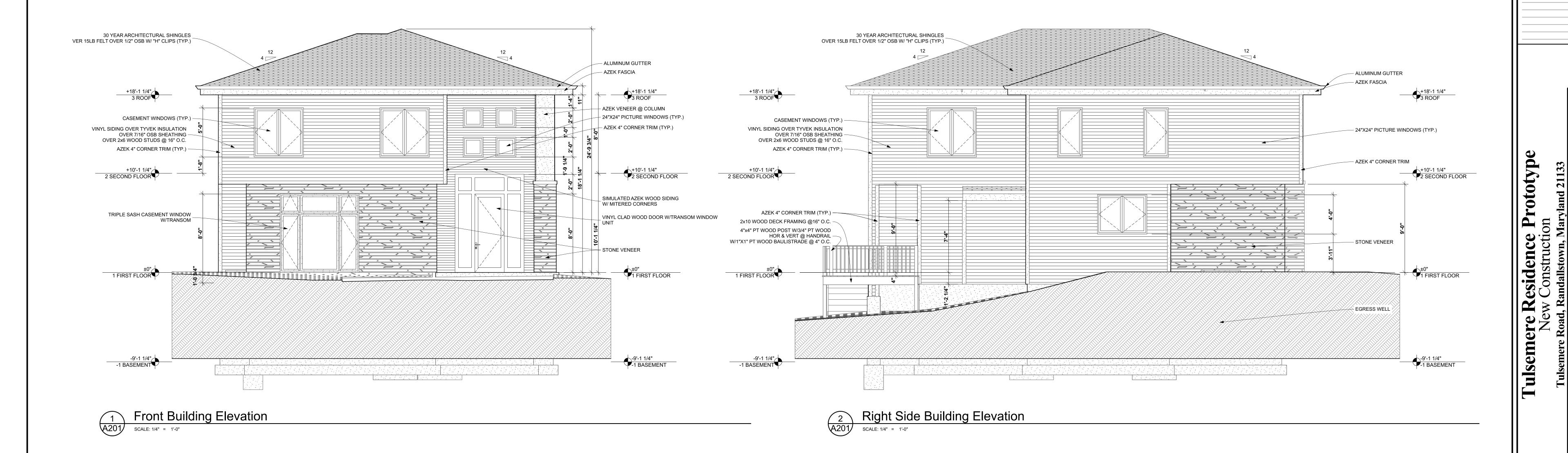
PHASE: Construction Documents NUMBER 3720

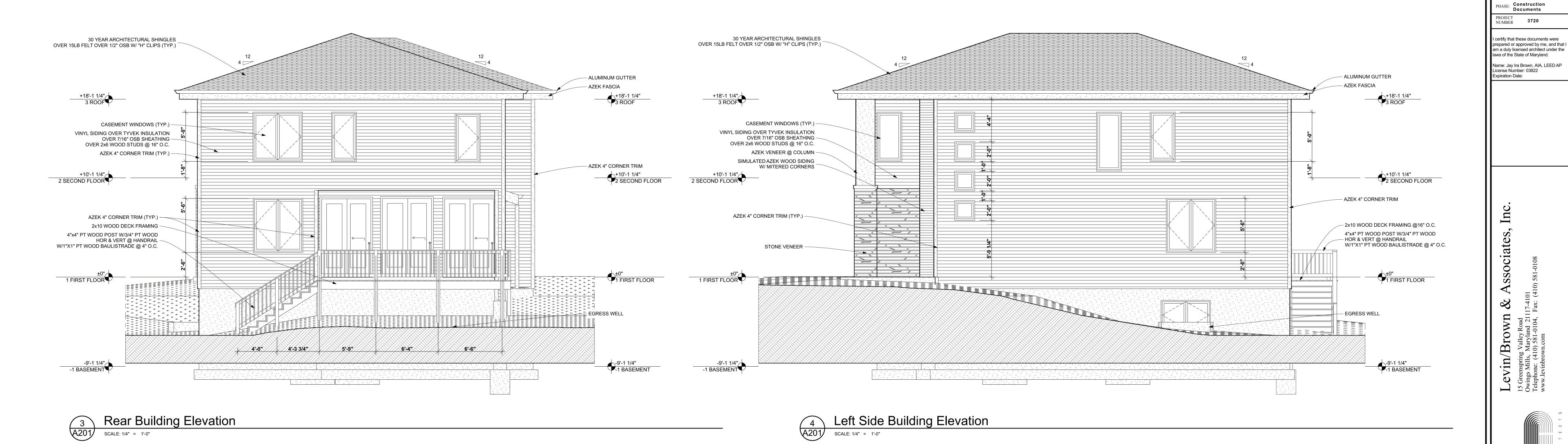
DATE: 01 December 2020

certify that these documents were prepared or approved by me, and that I am a duly licensed architect under the

laws of the State of Maryland. Name: Jay Ira Brown, AIA, LEED AP License Number: 03822 Expiration Date:

L(15 C) Owi





Levin/Brown & 15 Greenspring Valley Road Owings Mills, Maryland 21117-410 Telephone: (410) 581-0104, Fax: (www.levinbrown.com  $\approx$ 

DATE OF REVISIONS

XTERIOR

DATE: 01 December 2020







1 Front View-Right
A202 SCALE: 1/4" = 1'-0"

2 Front View Left
A202 SCALE: 1/4" = 1'-0"







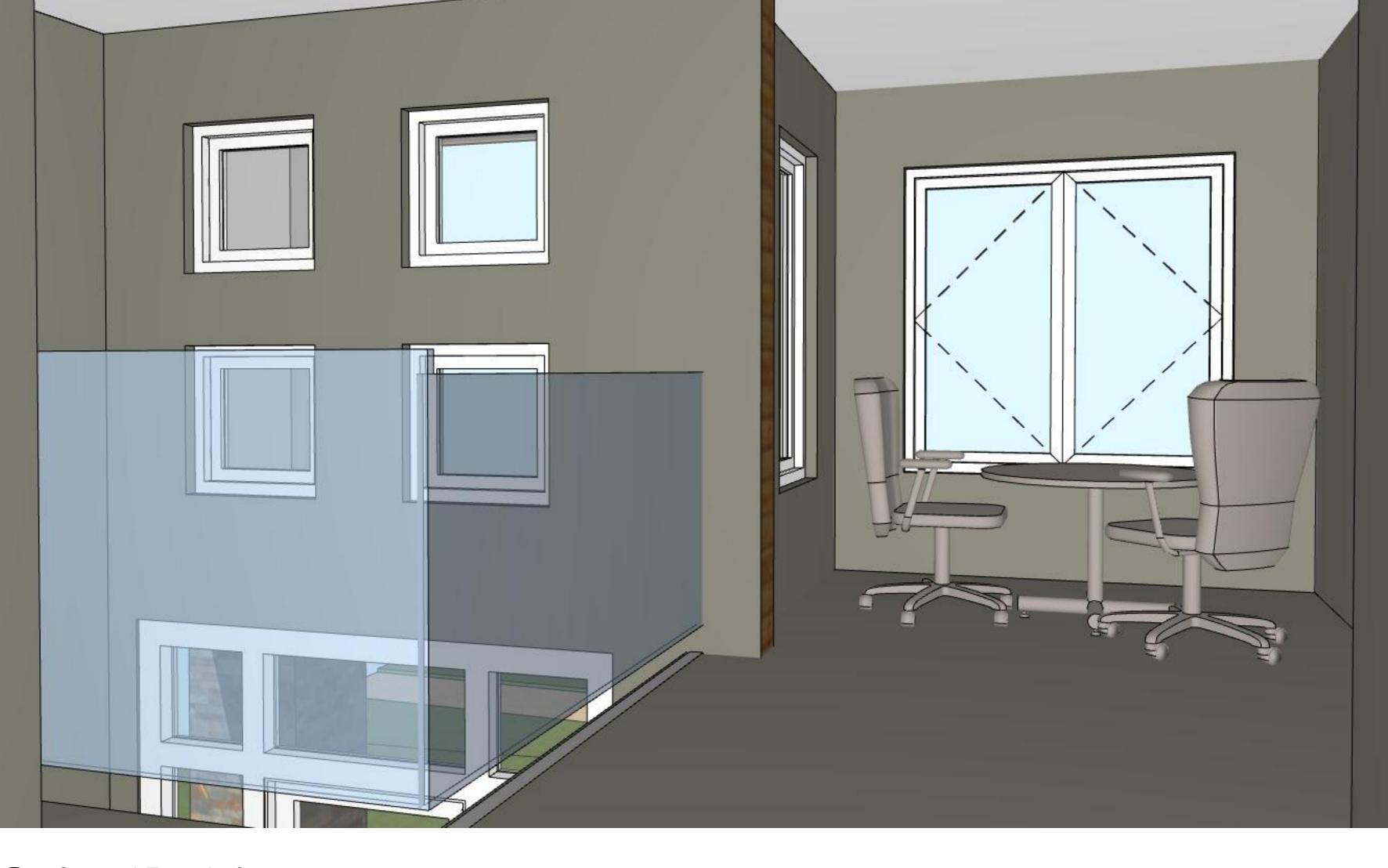
DATE: 01 December 2020

PROJECT NUMBER 3720

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1 Aerial
A203 SCALE: 1/4" = 1'-0"

Second Floor Loft

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

Tulsemere Residence Prototype
New Construction
Tulsemere Road, Randallstown, Maryland 21133
MODEL VIEWS

DATE: 01 December 2020 PHASE: Construction Documents

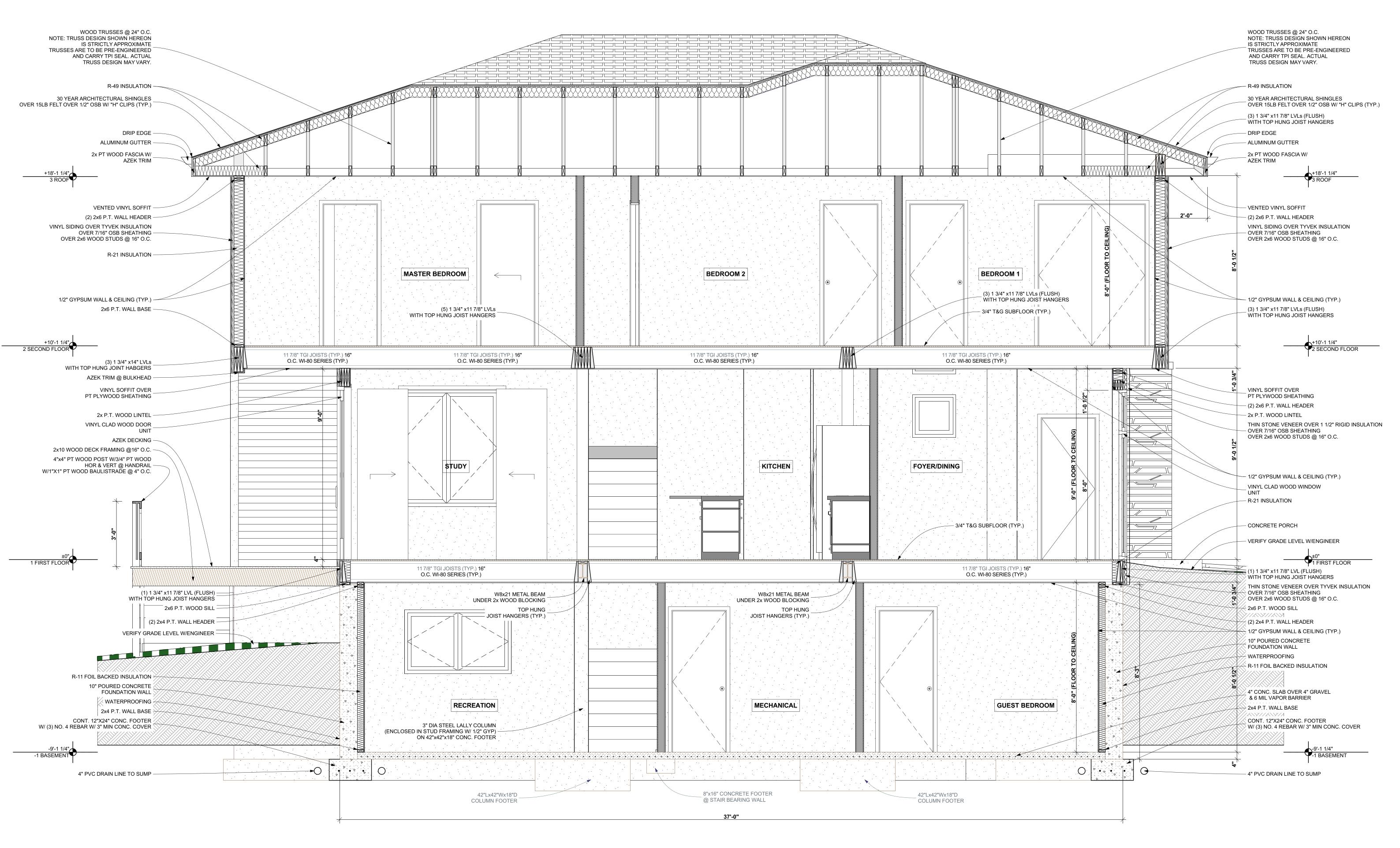
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www.levinbrown.com





Tulsemere Residence Prototype
New Construction
Tulsemere Road, Randallstown, Maryland 21133
BUILDING SECTION

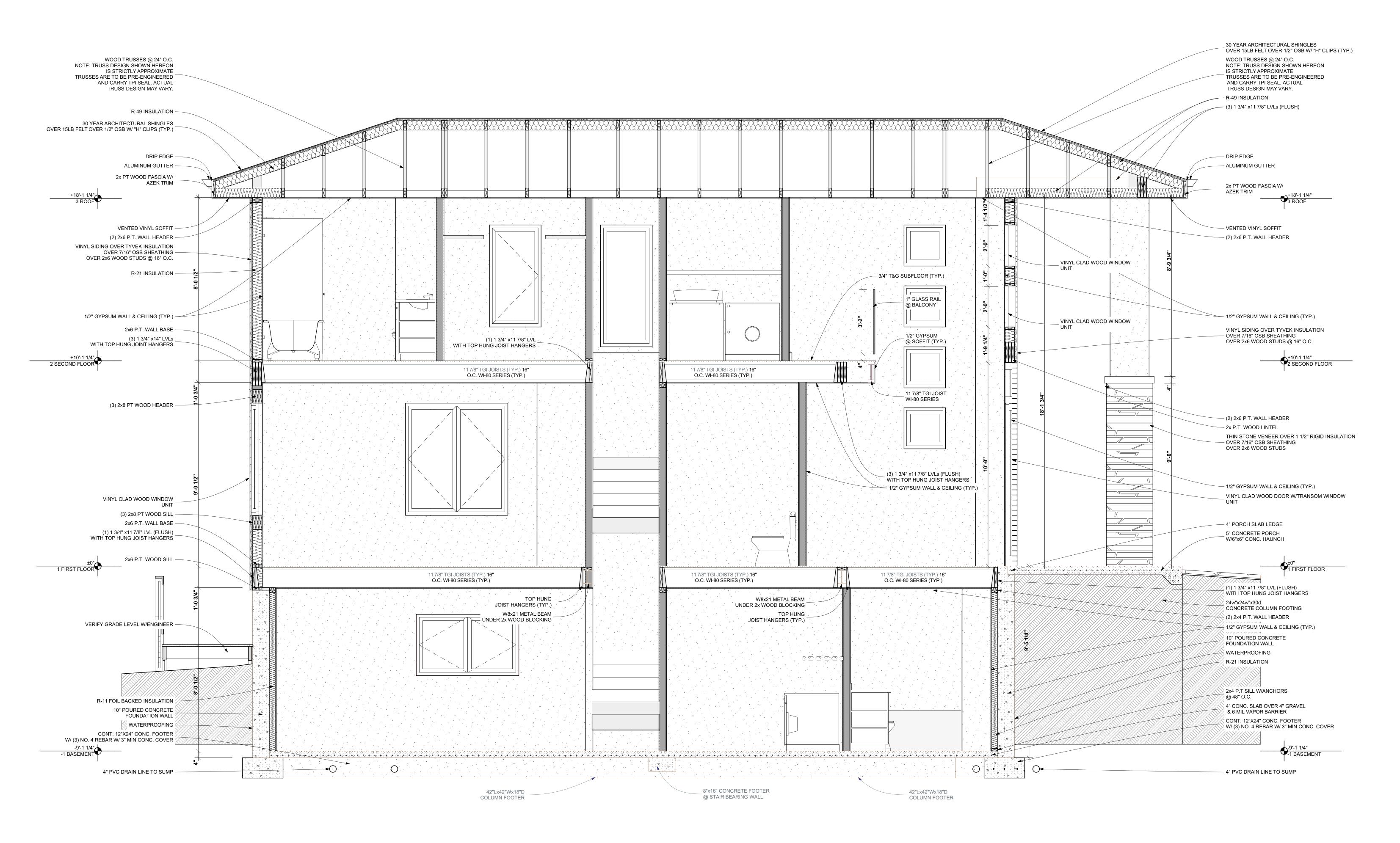
DATE OF REVISIONS

DATE: 01 December 2020 PHASE: Construction Documents

PROJECT NUMBER 3720

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Building Section F-B @ Canopy

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

Tulsemere Residence Prototype
New Construction
Tulsemere Road, Randallstown, Maryland 21133
BUILDING SECTION (a) CANOPY

DATE OF REVISIONS

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