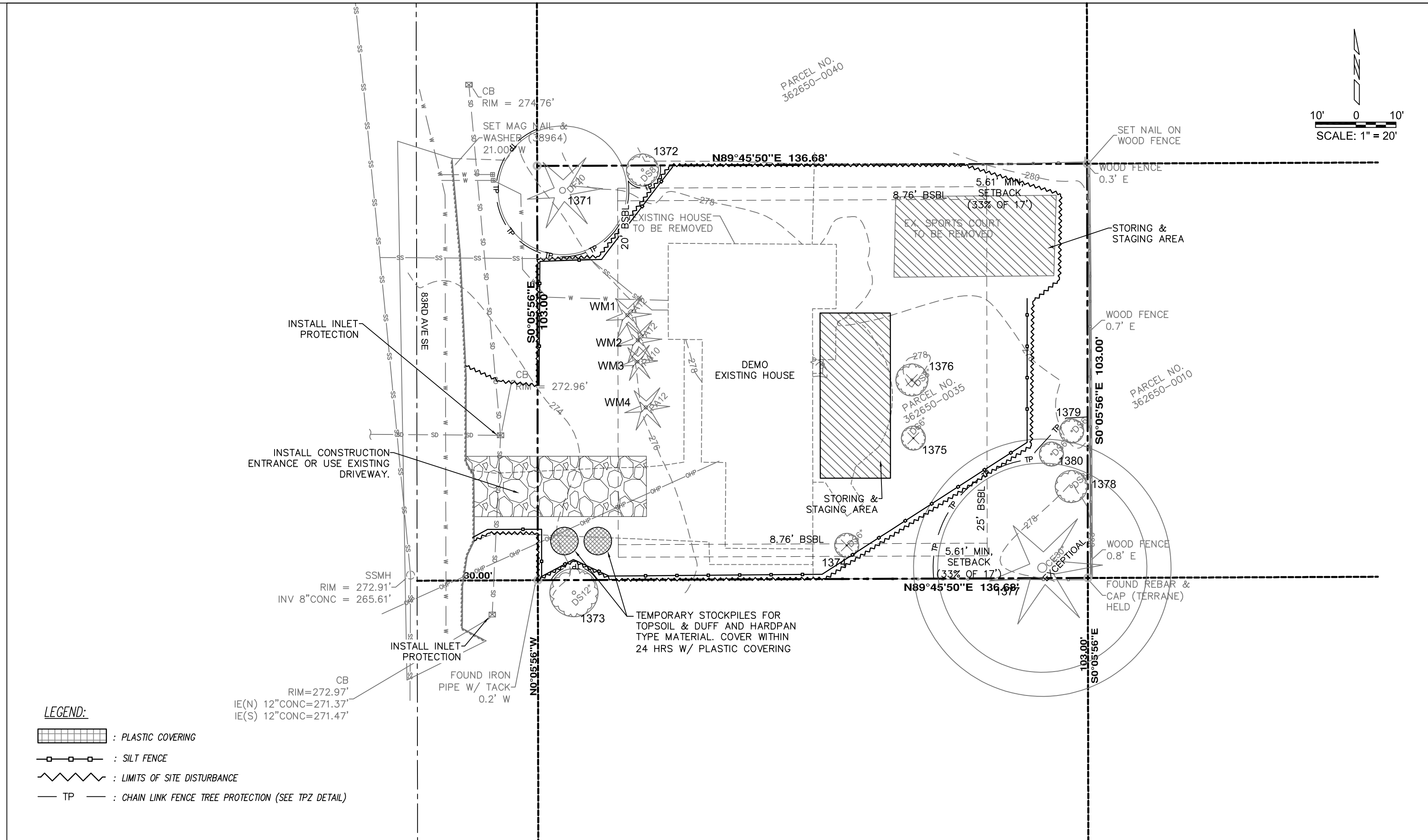
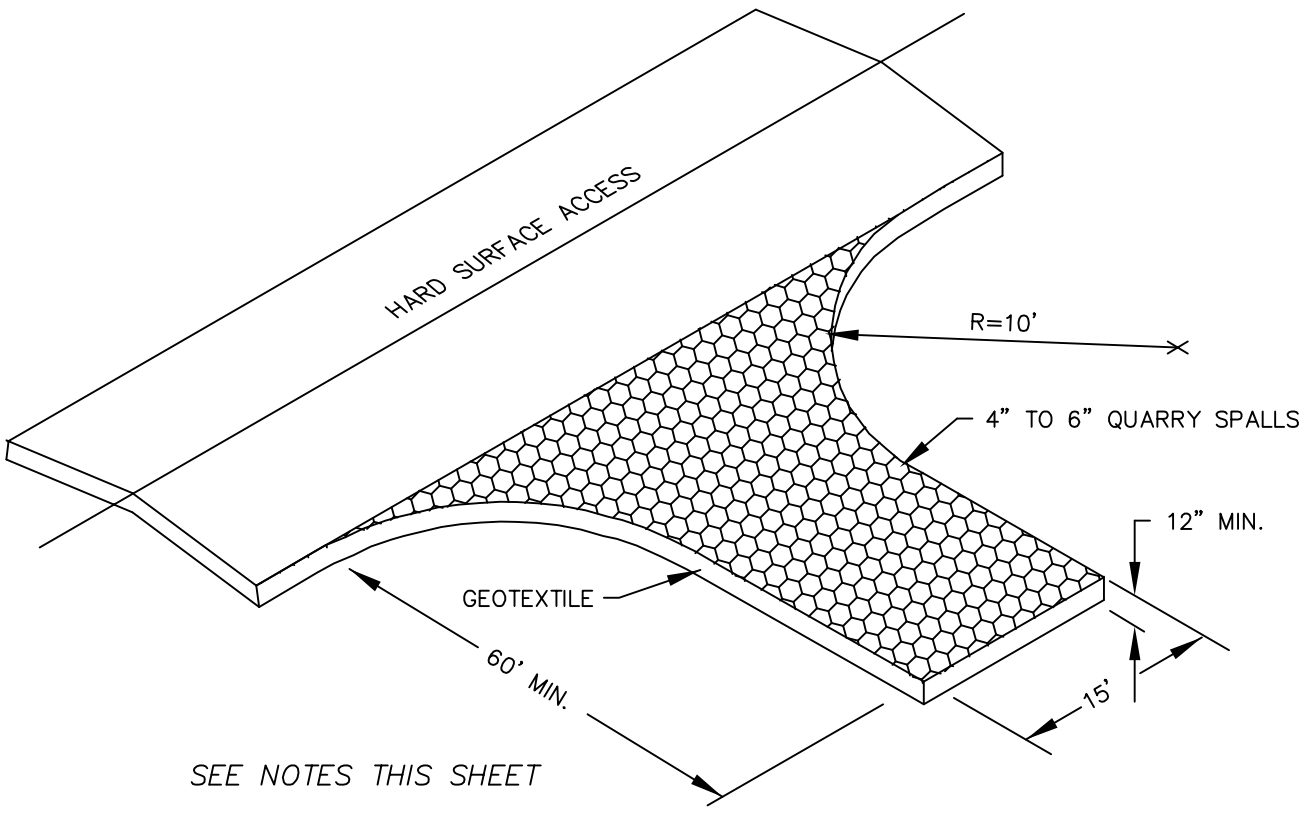
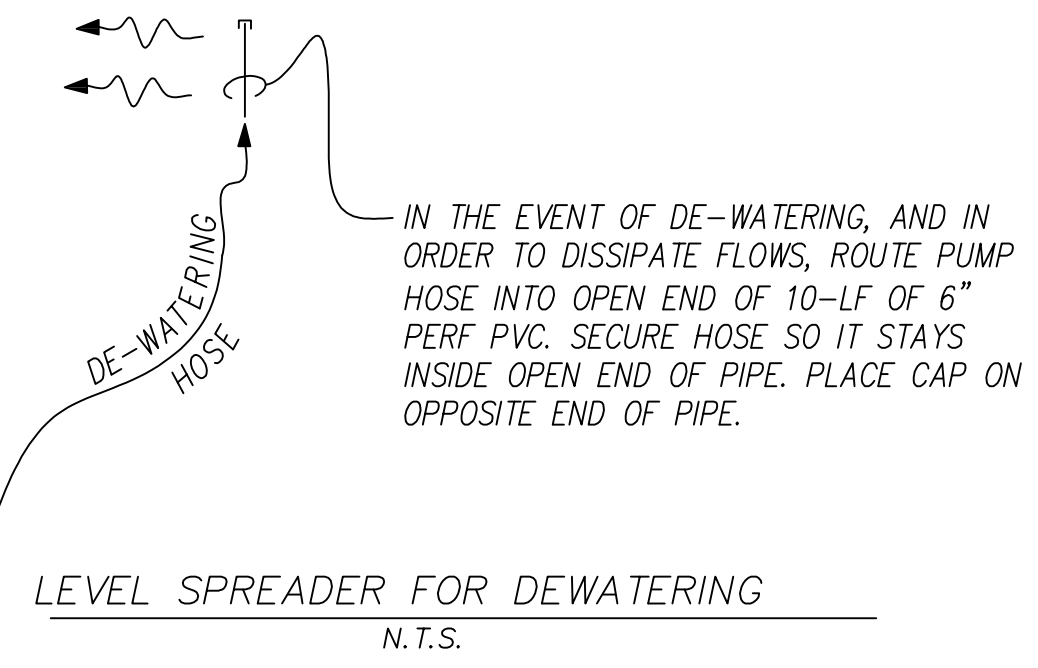
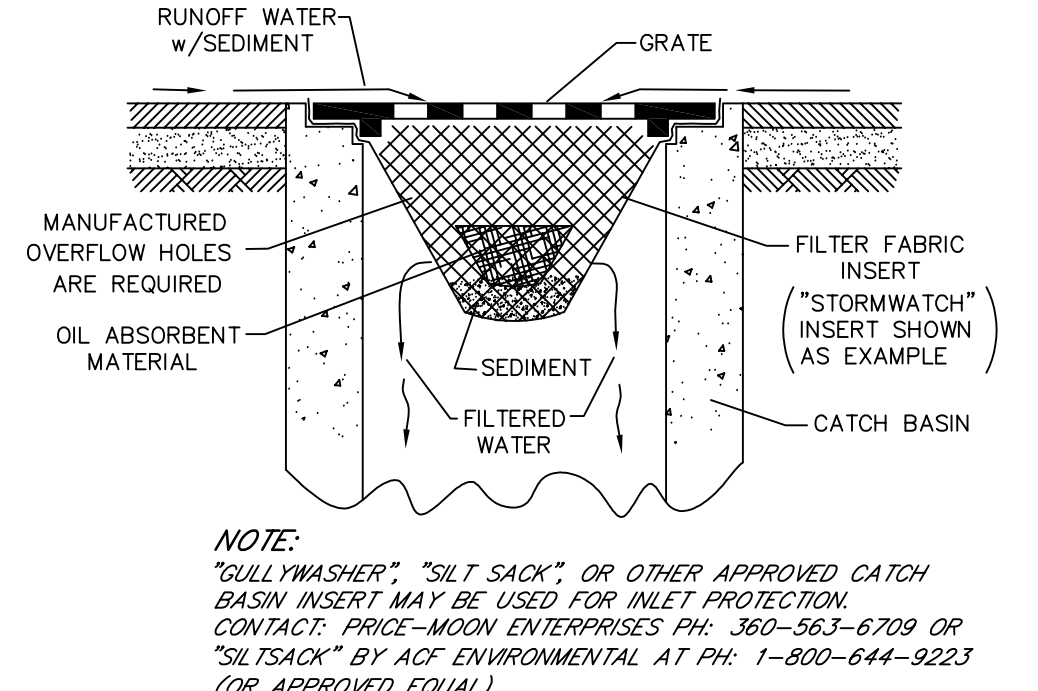
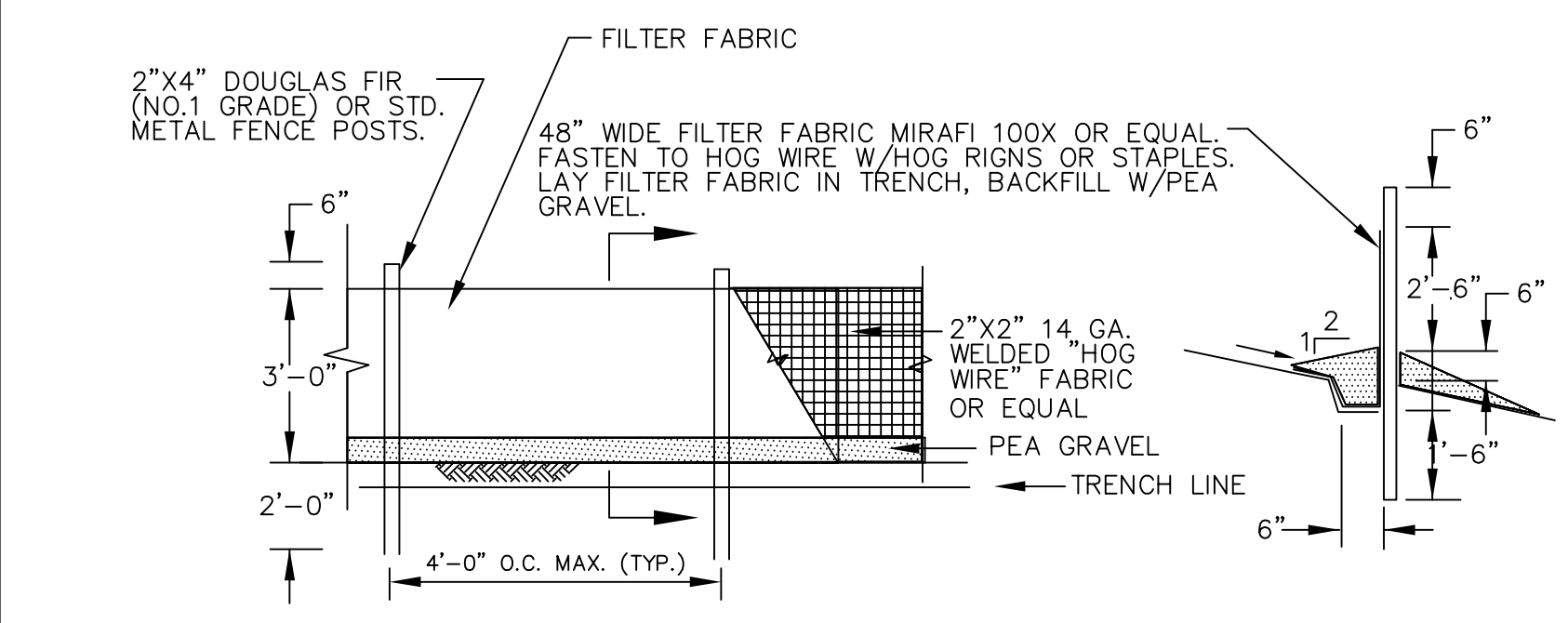


DRAINAGE PLAN



TESC PLAN



**TREE PROTECTION AREA (TPZ)**

**KEEP OUT!**

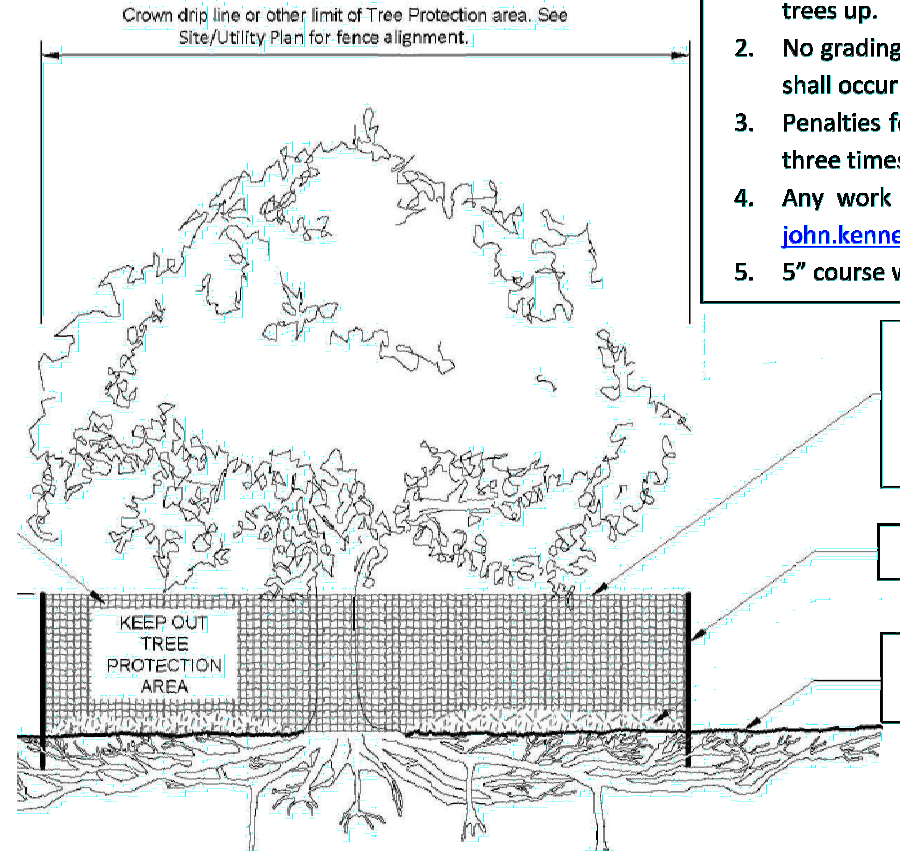
**DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA**

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1. Correction Notices or Stop Work Orders until compliance is achieved
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**Notes**

1. No pruning shall be performed unless under the direction of the Project Arborist, including limbing trees up.
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5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



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<b>HARDSCAPE</b>	
GROSS LOT AREA:	14,078 SF
NET LOT AREA:	14,078 SF
AREA BORROWED FROM LOT COVERAGE:	0 SF
ALLOWED HARDSCAPE AREA = 9%:	1,267 SF
<b>TOTAL EXISTING HARDSCAPE AREA</b>	
UNCOVERED PATIOS:	583 SF
WALKWAYS:	77 SF
CONCRETE SPORTS COURT AREA:	797 SF
TOTAL EXISTING HARDSCAPE AREA:	1,457 SF
<b>TOTAL HARDSCAPE AREA REMOVED:</b>	
	1,457 SF
<b>TOTAL NEW HARDSCAPE AREA</b>	
NEW WALKWAY:	97 SF
TOTAL NEW HARDSCAPE AREA:	97 SF
<b>TOTAL PROJECT HARDSCAPE AREA:</b>	
	97 SF
TOTAL PROJECT HARDSCAPE AREA PERCENT:	0.7%

<b>SLOPE CALCULATIONS</b>	
HIGHEST ELEVATION POINT OF LOT:	280.7'
LOWEST ELEVATION POINT OF LOT:	273.6'
DIFFERENCE:	7.1'
HORIZONTAL DIFFERENCE BETWEEN HIGH & LOW:	149.1'
LOT SLOPE:	4.8%
<b>LOT COVERAGE</b>	
LOT AREA:	14,078 SF
PROPOSED HOUSE ROOF:	4,261 SF
PROPOSED DRIVEWAY:	737 SF
<b>TOTAL LOT COVERAGE:</b>	
	4,998 SF
ALLOWABLE LOT COVERAGE (40%):	5,631 SF

SEE SHEET 3 FOR DRAINAGE AND SEWER DETAILS.

<b>LOT SIZE (AS SURVEYED)</b>	
LOT SIZE ACRES:	0.323
LOT SIZE SQ FT:	14,078 SF
ZONING:	R-9.6

**LEGAL DESCRIPTION**  
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 SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

**QUARTER: NE**  
**SECTION: 13**  
**TOWNSHIP: 24**  
**RANGE: 04**  
**ZONING: R-9.6**

**PROJECT:**  
**HATELY**  
**RESIDENCE**

**HARBERT ENGINEERS**  
 4620 200TH ST. SW, STE. B  
 LYNNWOOD, WA 98036  
 PHONE: (206) 371-3079  
 LISA@HARBERTENGINEERS.COM

**OWNER/CONTRACTOR:**  
 CHARLES HATELY  
 4114 83RD AVE SE  
 MERCER ISLAND, WA 98040  
 425-894-0201

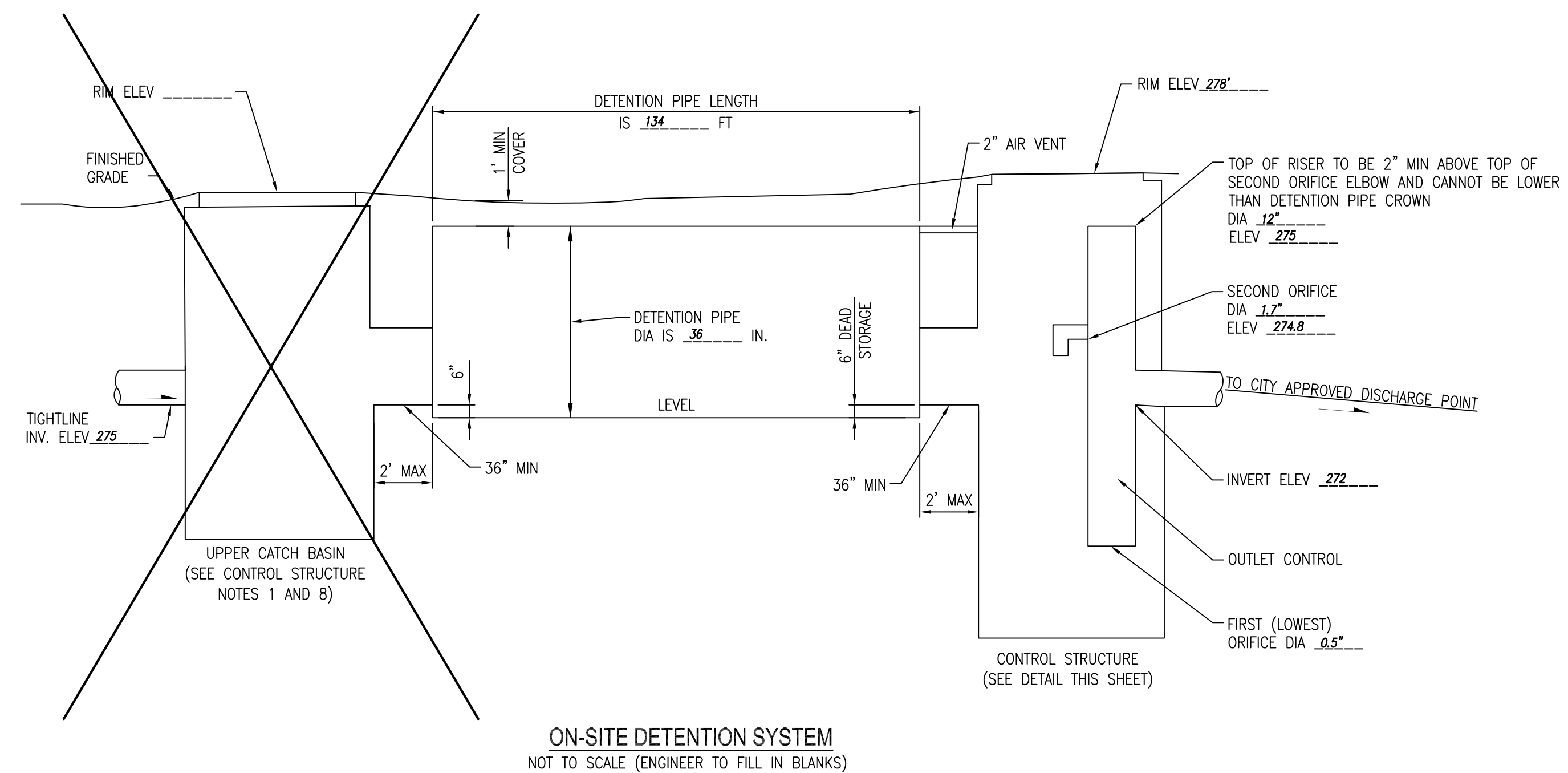
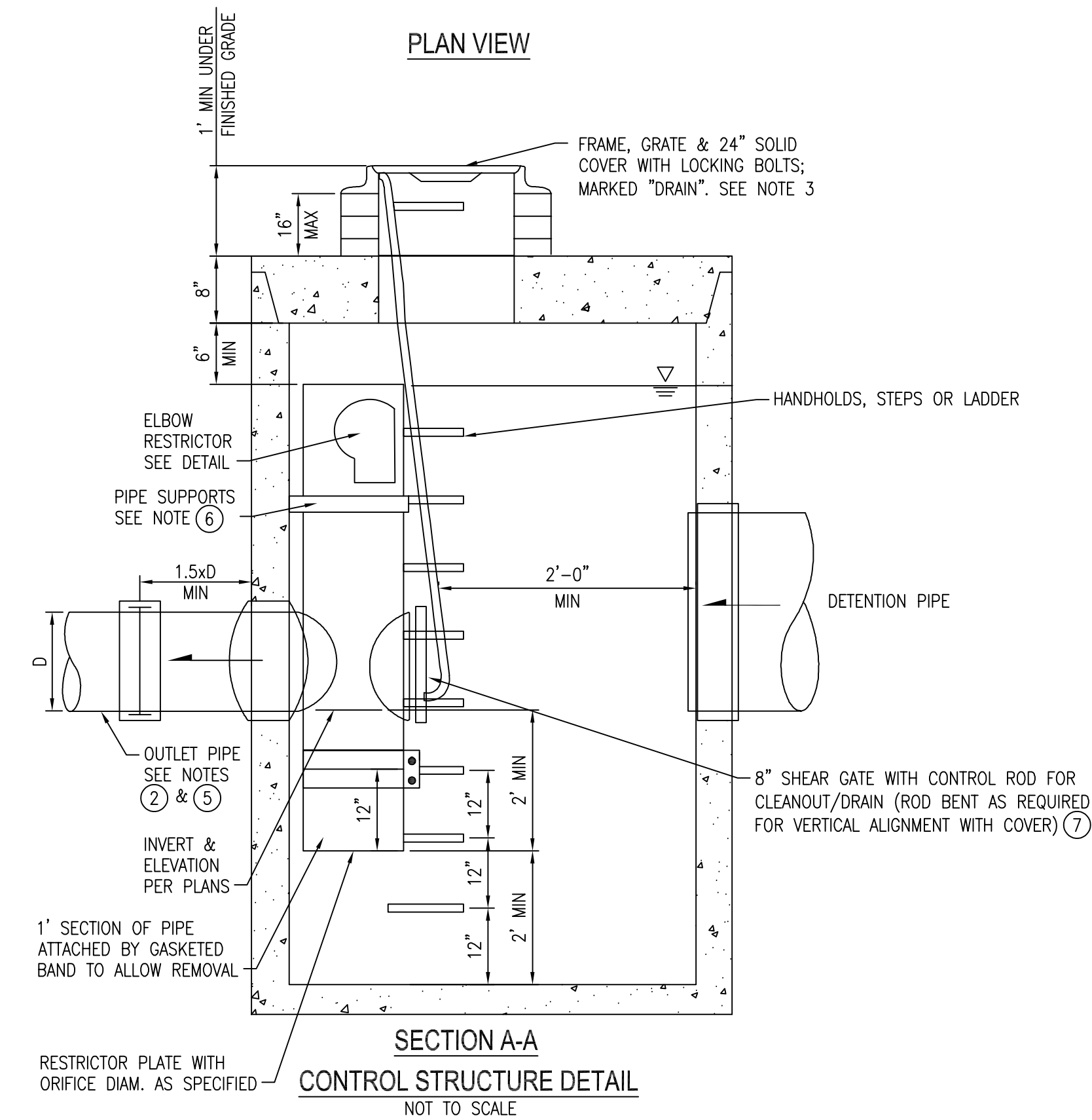
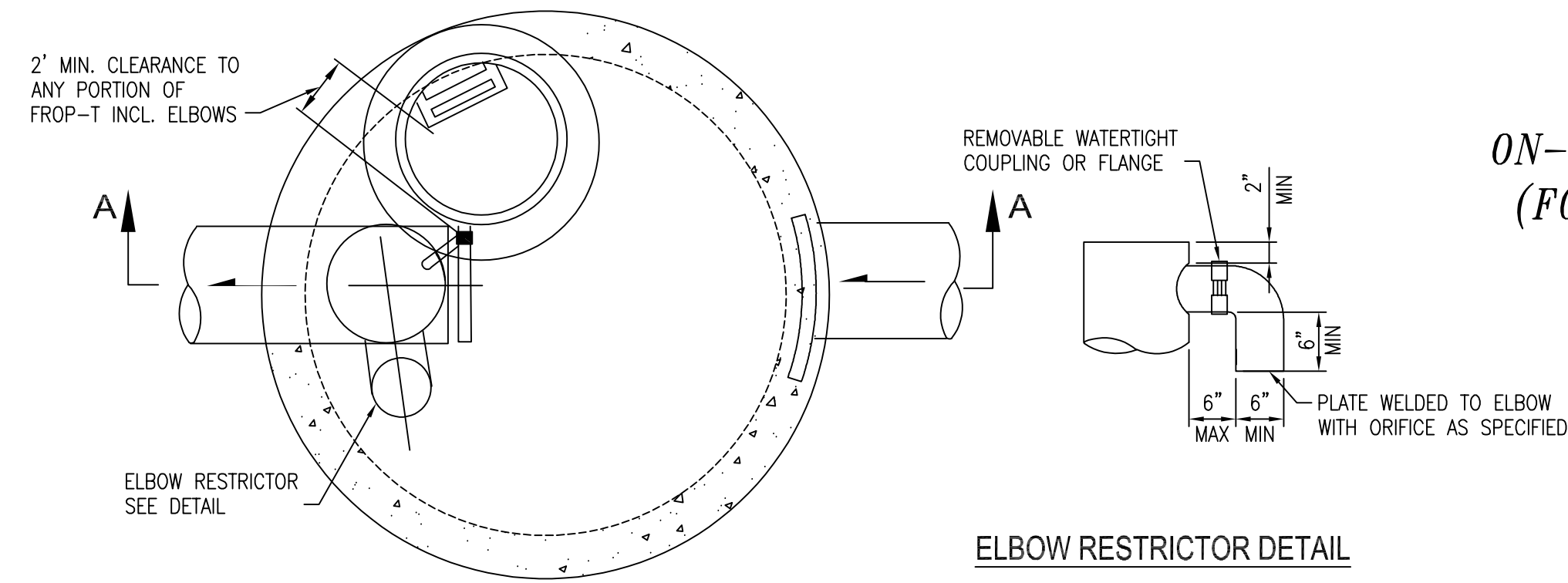
**DRAINAGE PLAN/TESC**  
 4114 83RD AVE SE, MERCER ISLAND, WA 98040  
 SCALE: 1" = 20'  
 ISSUE DATE: 9-20-2023  
 SHEET: C1



Know what's below.  
 Call 811 two business days before you dig.



**ATTACHMENT 1**  
**CITY OF MERCER ISLAND**  
**ON-SITE DETENTION SYSTEM WORKSHEET**  
**(FOR NEW PLUS REPLACED IMPERVIOUS**  
**AREA OF 9,500 SF OR LESS)**



OWNER: <u>CHARLES HATELY</u>	ADDRESS: <u>4114 83RD AVE SE</u>	PREPARED BY: <u>HARBERT ENGINEERS</u>
PERMIT #: <u>TO BE DETERMINED</u>	<u>MERCER ISLAND, WA 98040</u>	PHONE: <u>(206) 371-3079</u>
		DATE: <u>7-11-2023</u>
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): <u>4,261</u>	DETENTION PIPE DIA (INCH): <u>.36</u>	DETENTION PIPE LENGTH (FT): <u>134</u>
SOIL TYPE: <u>TYPE B PER USDA WEB SOIL SURVEY</u>	PIPE MATERIAL: <u>N-12</u>	ORIFICE #1 DIA <u>.05</u> INCH, ELEV <u>270</u>
		ORIFICE #2 DIA <u>.17</u> INCH, ELEV <u>274.8</u>

**CONTROL STRUCTURE NOTES:**

- ① USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
- ② OUTLET PIPE: MIN. 6 INCH.
- ③ METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
- ④ FRAME AND LADDER OR STEPS OFFSET SO:
  - A. CLEANOUT GATE IS VISIBLE FROM TOP;
  - B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
  - C. FRAME IS CLEAR OF CURB.
- ⑤ IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
- ⑥ PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
- ⑦ THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION). IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
- ⑧ THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

**ON-SITE DETENTION SYSTEM NOTES:**

1. CALL DEVELOPMENT SERVICES (206-275-7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
2. RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
3. PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING, LINED CORRUGATED POLYETHYLENE PIPE (LCPE), ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (MEETS AASHTO DESIGNATIONS M274 AND M36), CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE. CORRUGATED STEEL PIPE IS NOT ALLOWED.
4. FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

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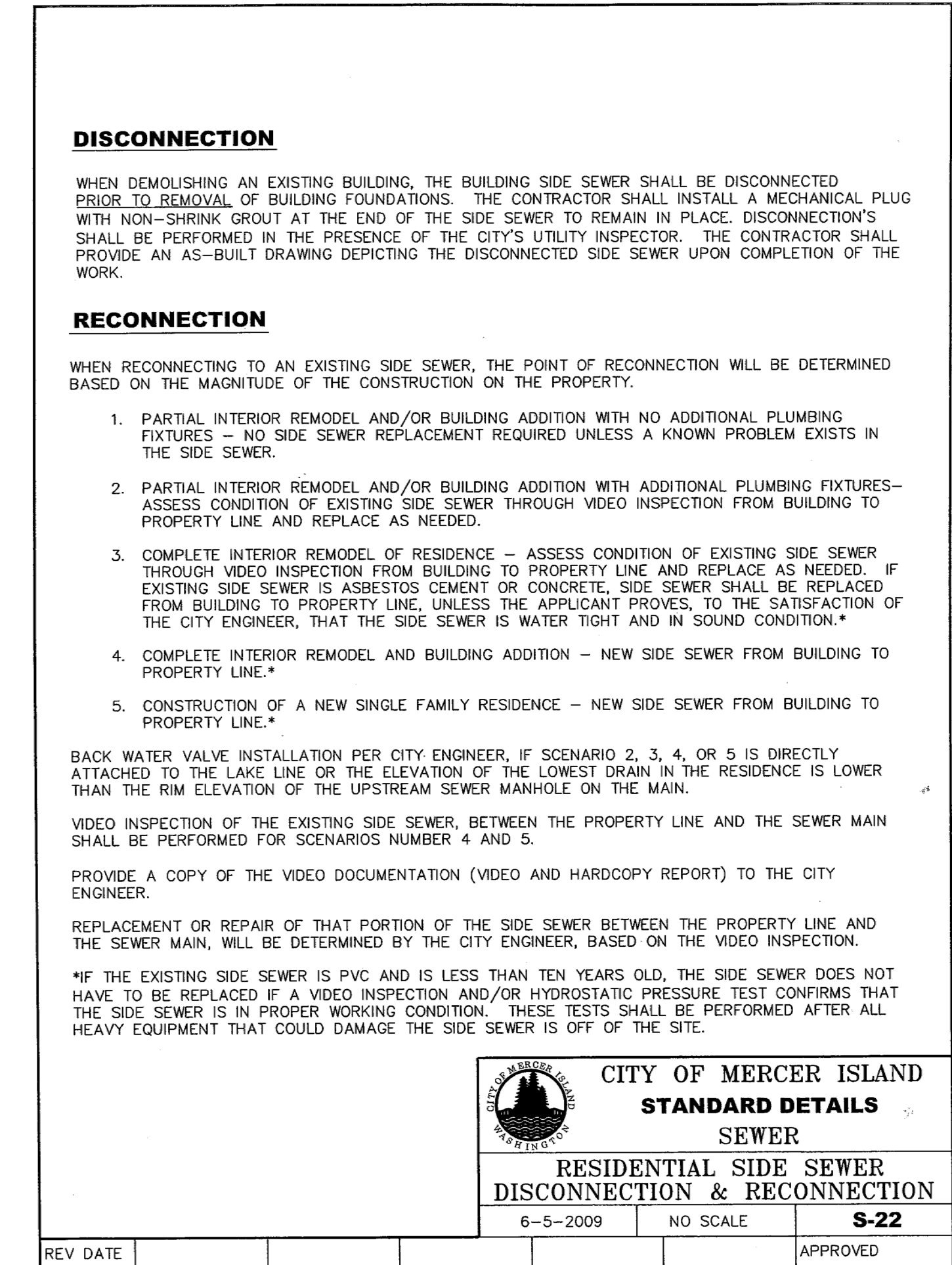
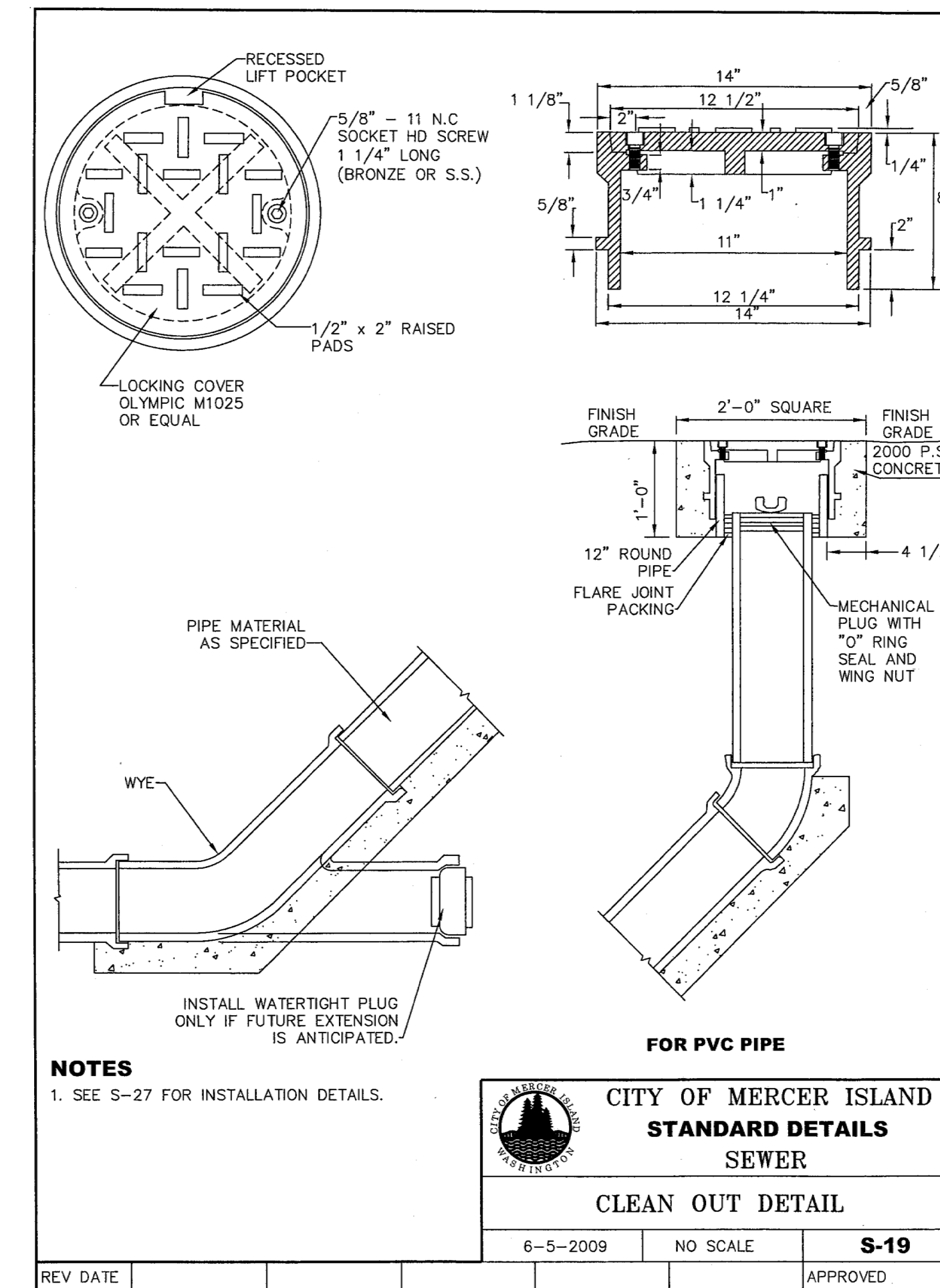
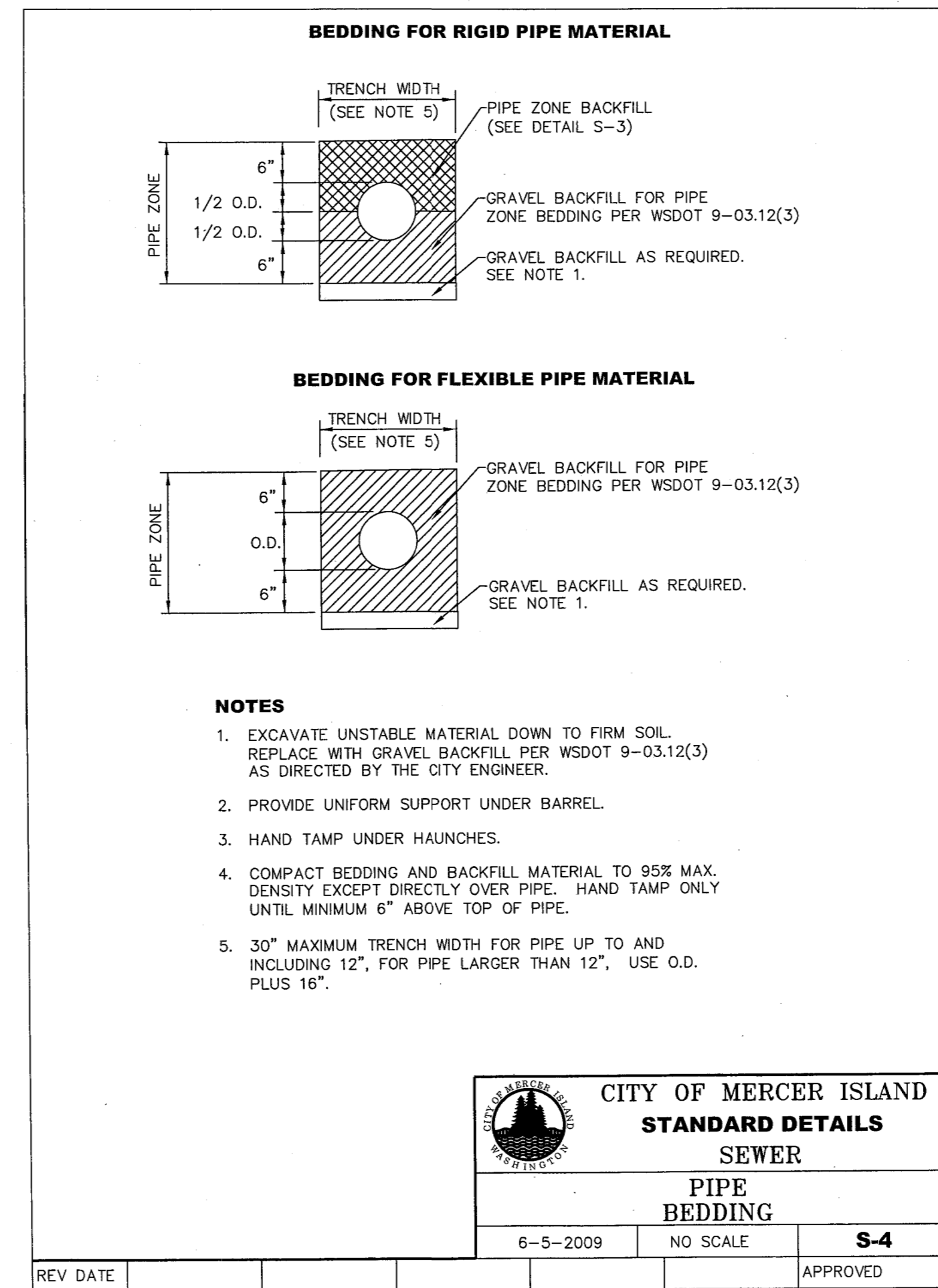
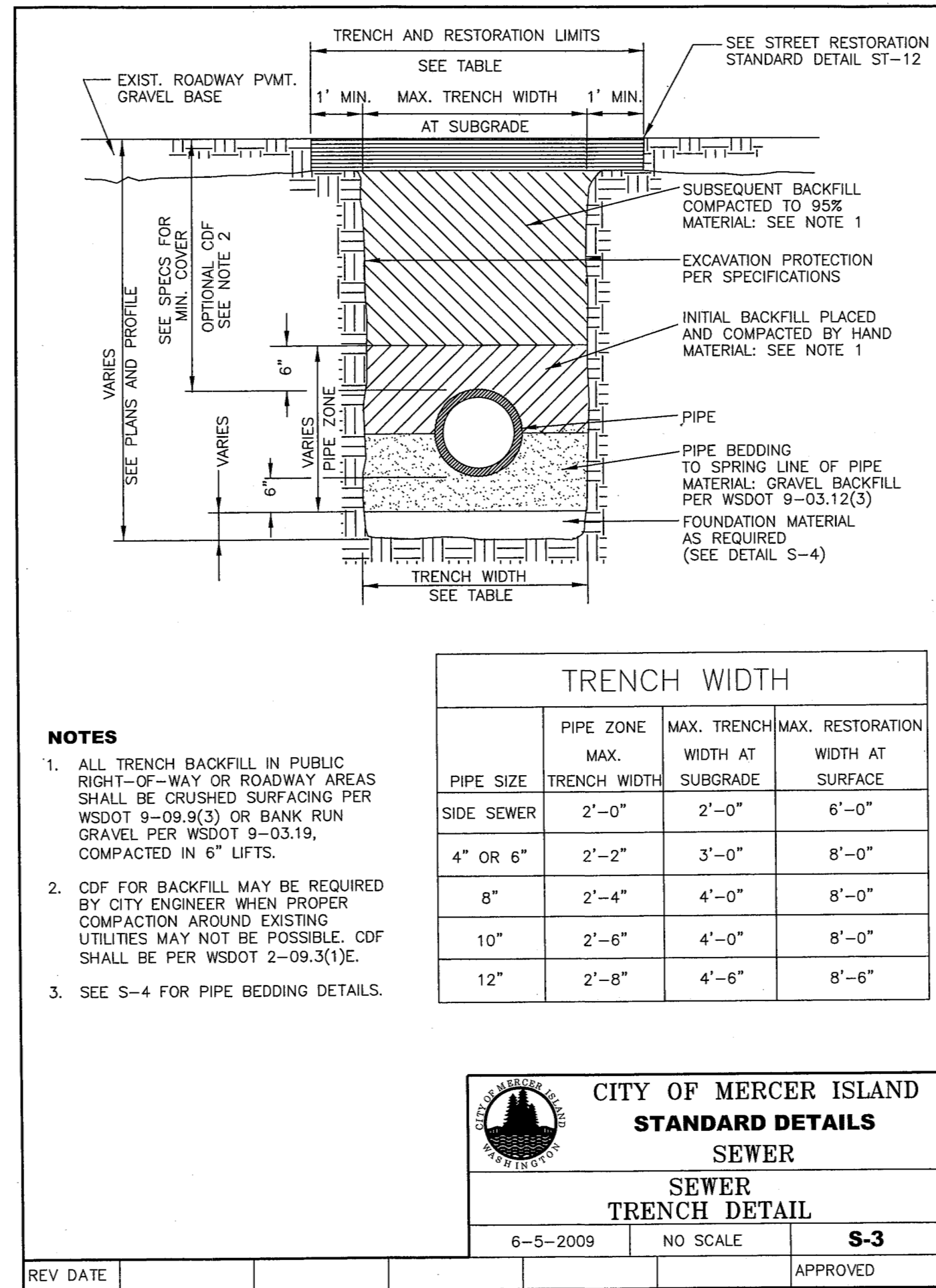
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DETENTION PIPE DETAIL  
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 TAX ID: 362650-0035

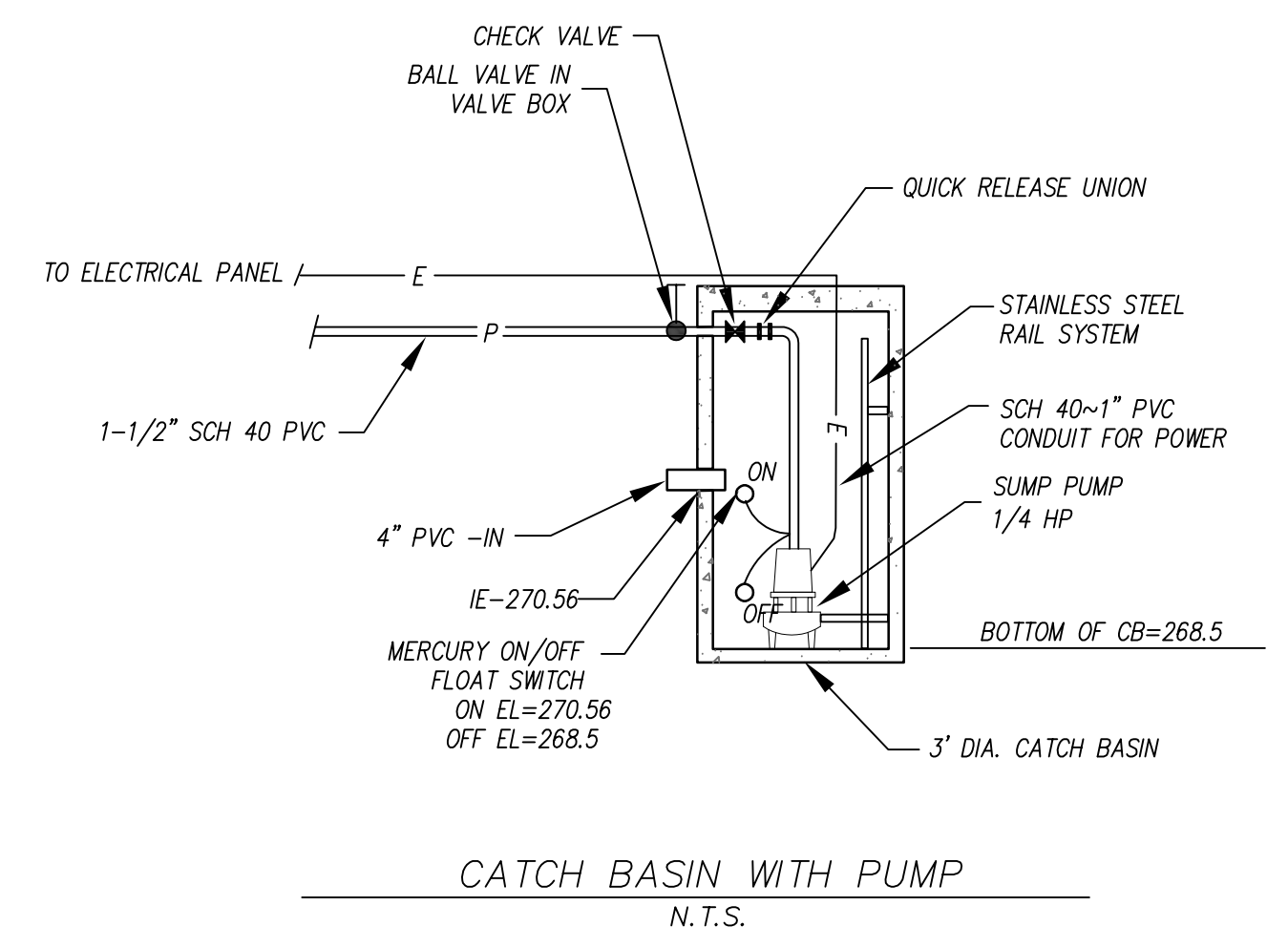
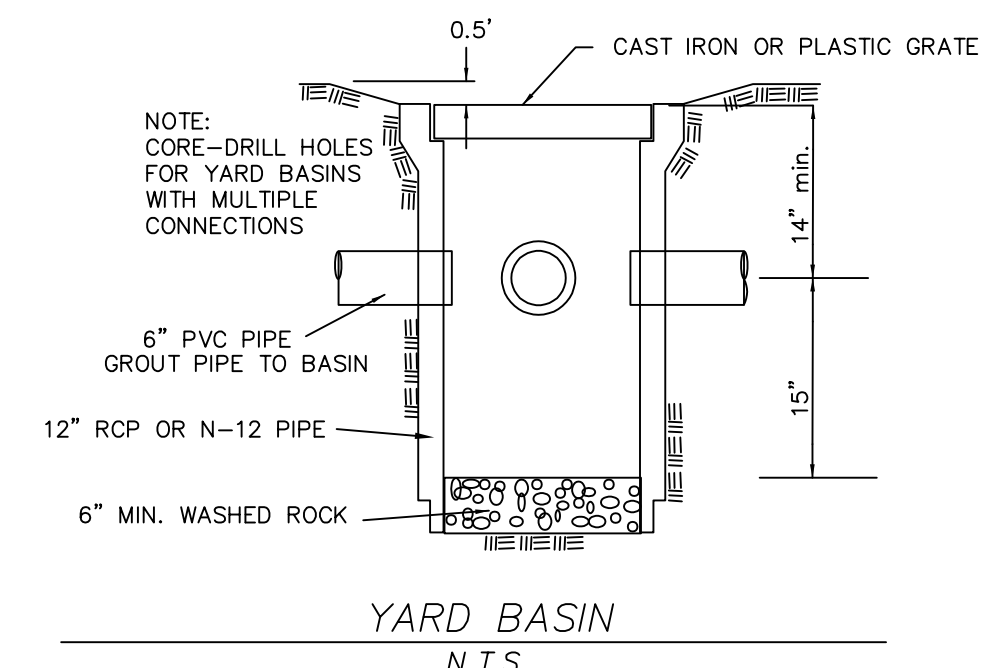
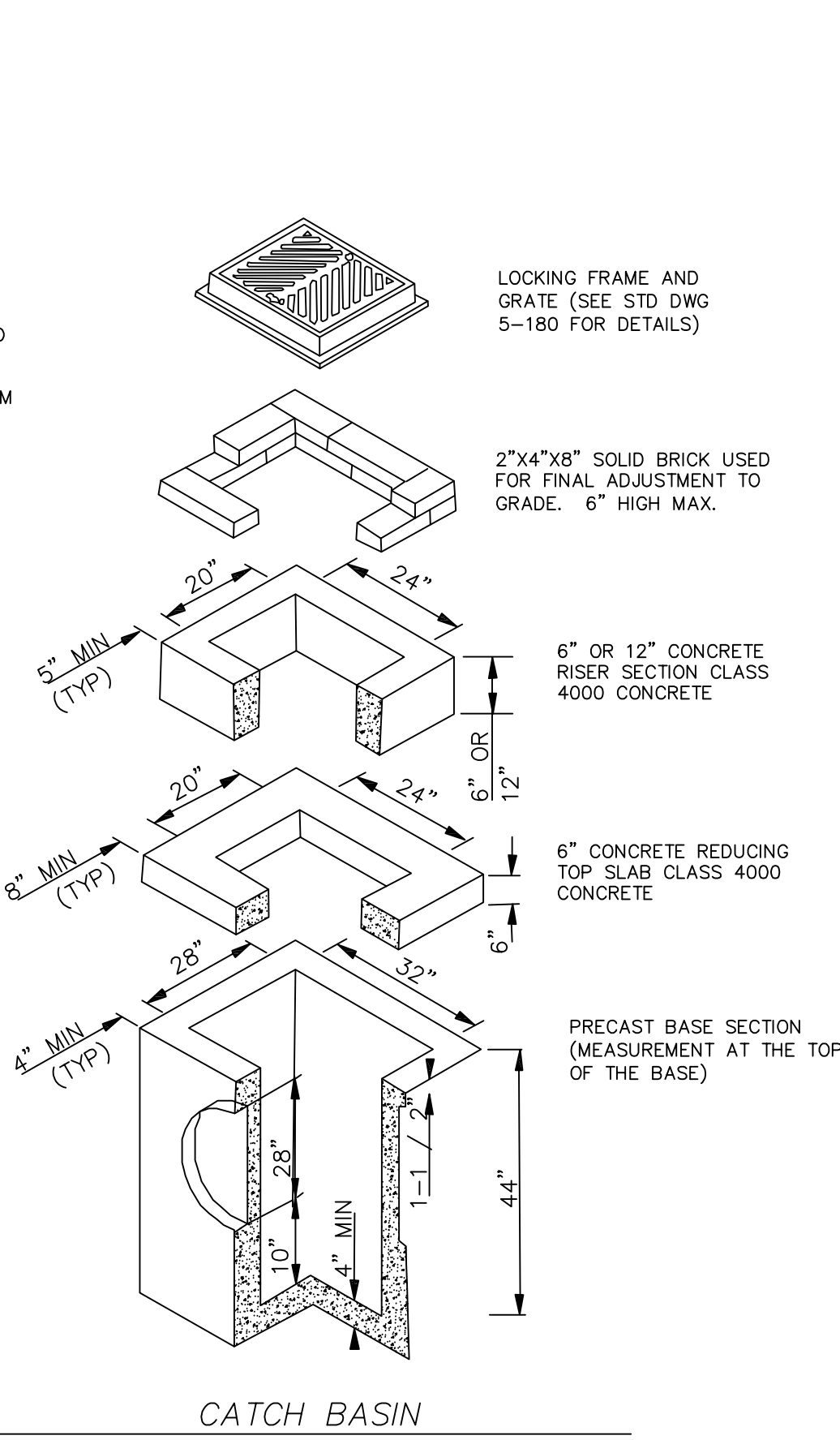
SCALE: 1" = 20'      ISSUE DATE: 9-20-2023      SHEET: C2





**NOTES :**

- CATCHBASINS TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) & ASTM C 890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT / APWA SPECIFICATIONS
- REINFORCING SHALL BE EQUIVALENT TO WELDED WIRE FABRIC HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A 497 (AASHTO M 221). WIRE FABRIC SHALL NOT BE PLACED IN THE KNOCKOUTS.
- THE BOTTOM OF THE PRECAST BASE SECTION MAY BE ROUNDED.
- PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM.
- KNOCKOUTS MAY BE ON ALL 4 SIDES WITH MAXIMUM DIAMETER OF 28". KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPED. PIPE TO BE INSTALLED IN FACTORY SUPPLIED KNOCKOUTS.
- KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS CONCRETE INLET WALL THICKNESS.
- THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2" PER FT.
- CONCRETE INLET FRAME AND GRATE SHALL BE IN ACCORDANCE WITH THE WSDOT / APWA SPECIFICATIONS AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-622ID. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT.
- FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER. SEE TEXT SECTION 5-06 WSDOT / APWA PLAN 1-A



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**TREE SCHEDULE**

ONSITE TREES:	SYM	DBH	TYPE	REMARKS
	1371	23.5"	PNDEROSA PINE	RETAIN
	1372	10"	SAUCER MAGNOLIA	RETAIN
	1374	10"	CRABAPPLE	REMOVE
	1375	7"	CRABAPPLE	REMOVE
	1376	12"	CRABAPPLE	REMOVE
	1377	52"	COAST REDWOOD	RETAIN
	1378	8"	BIG LEAF MAPLE	RETAIN
	1379	6"	VINE MAPLE	RETAIN
	1380	6"	EVERGREEN MAGNOLIA	RETAIN
	WM1		WINDMILL PALM	REMOVE
	WM2		WINDMILL PALM	REMOVE
	WM3		WINDMILL PALM	REMOVE
	WM4		WINDMILL PALM	REMOVE

TOTAL CALIPER INCHES: 135  
 TOTAL CALIPER INCHES SAVED: 106  
 TOTAL CALIPER INCHES REMOVED: 29  
 REQ'D CALIPER INCHES SAVED: 30% MIN  
 % CALIPER INCHES SAVED: 78%

NOTE:  
 TREE CALCULATION DO NOT INCLUDE THE WINDMILL PALMS SINCE THEY WERE DEEMED TO BE AT THE END OF THEIR LIFE

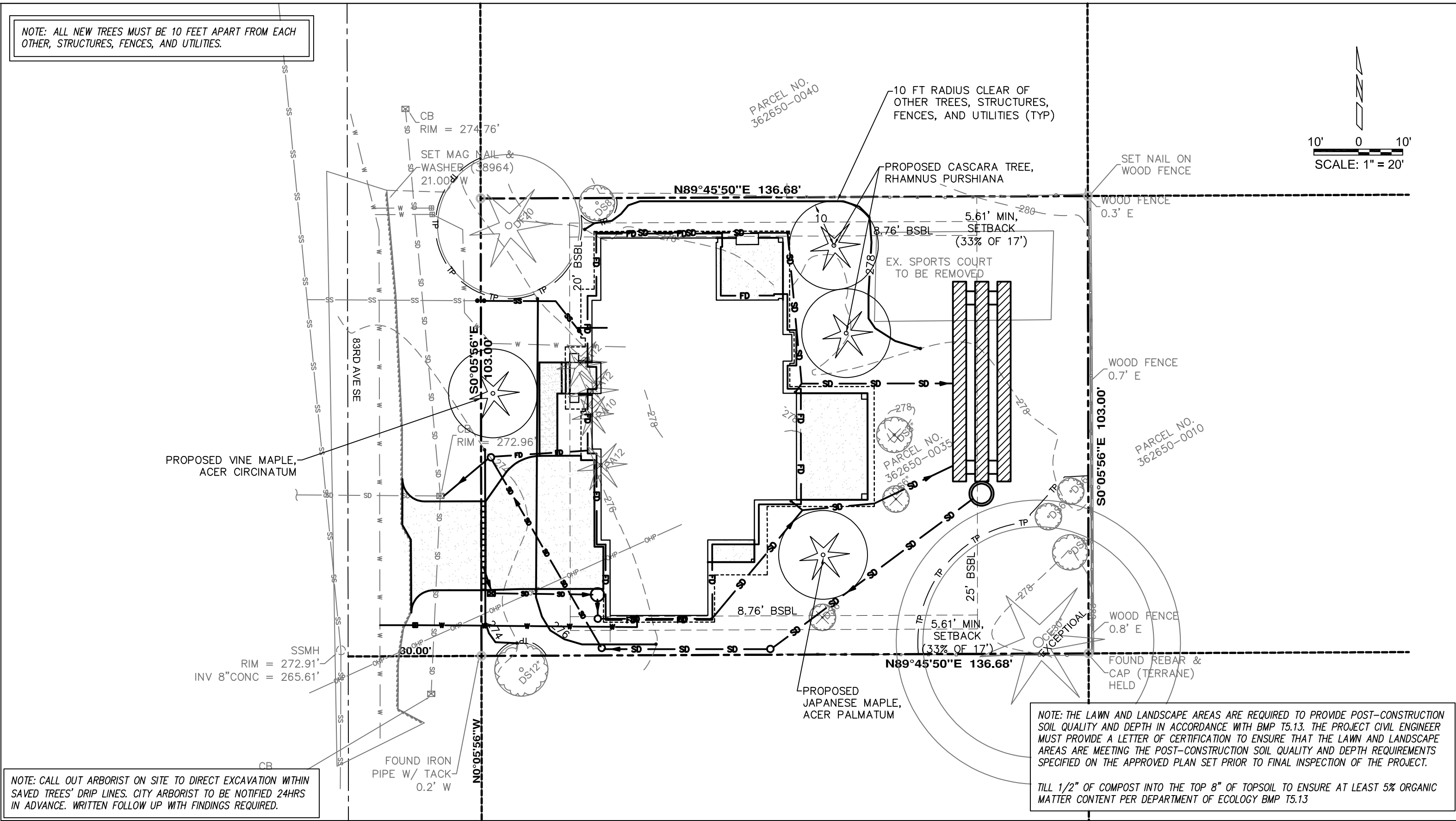
**REPLACEMENT TREES**

NO. OF REPLACEMENT TREES REQUIRED: 4  
 NO. OF REPLACEMENT TREES PROVIDED: 4  
 NO. OF NATIVE REPLACEMENT TREES: 3

TREE SPECIES:  
 CASCARA TREE, RHAMNUS PUSHIANA – NATIVE  
 JAPANESE MAPLE, ACER PALMATUM – NON NATIVE  
 VINE MAPLE, ACER CIRCINATUM – NATIVE

**LEGEND:**

— TP — : CHAIN LINK FENCE TREE PROTECTION (SEE TP2 DETAIL)



**TREE REPLANTING PLAN**

NOTE: 2 FT CONTOURS WERE DETERMINED FROM SURVEY

**TREE WATERING PLAN**

- CASCARA TREE (RHAMNUS PURSHIANA) WATERING:
  - CASCARA TREES ARE NATIVE TO THE PACIFIC NORTHWEST AND ARE GENERALLY WELL-ADAPTED TO THE LOCAL CLIMATE AND SOILS.
  - DURING THE ESTABLISHMENT PERIOD (FIRST 6 TO 12 MONTHS), WATER THE CASCARA TREE DEEPLY ONCE EVERY 5 TO 7 DAYS. PROVIDE 10 TO 15 GALLONS OF WATER PER WATERING TO ENSURE ADEQUATE MOISTURE FOR ROOT DEVELOPMENT.
  - AS THE TREE BECOMES ESTABLISHED, REDUCE THE FREQUENCY TO ONCE EVERY 7 TO 10 DAYS, OR AS NEEDED, DURING DRY PERIODS. ADJUST THE AMOUNT OF WATER BASED ON SOIL MOISTURE LEVELS AND LOCAL WEATHER CONDITIONS.
  - CASCARA TREES HAVE MODERATE DROUGHT TOLERANCE ONCE ESTABLISHED. MONITOR SOIL MOISTURE AND AVOID OVERWATERING, ESPECIALLY IN WELL-DRAINING SANDY SOILS.
- JAPANESE MAPLE (ACER PALMATUM) WATERING:
  - JAPANESE MAPLES PREFER CONSISTENTLY MOIST SOIL, ESPECIALLY DURING THE FIRST FEW YEARS AFTER PLANTING.
  - DURING THE ESTABLISHMENT PERIOD, WATER THE JAPANESE MAPLE DEEPLY EVERY 2 TO 3 DAYS TO KEEP THE SOIL CONSISTENTLY MOIST. AIM FOR 5 TO 10 GALLONS OF WATER PER TREE PER WATERING, ENSURING THE ROOT ZONE IS ADEQUATELY HYDRATED.
  - IN SUBSEQUENT GROWING SEASONS, MAINTAIN A REGULAR WATERING SCHEDULE OF ONCE EVERY 5 TO 7 DAYS, OR AS NEEDED, DURING DRY PERIODS.
  - JAPANESE MAPLES ARE SENSITIVE TO DRYING OUT, ESPECIALLY DURING HOT SUMMERS, SO MONITOR SOIL MOISTURE CLOSELY AND ADJUST THE WATERING FREQUENCY AS REQUIRED.
- VINE MAPLE (ACER CIRCINATUM) WATERING:
  - VINE MAPLES ARE NATIVE TO THE PACIFIC NORTHWEST AND GENERALLY HAVE GOOD DROUGHT TOLERANCE ONCE ESTABLISHED.
  - DURING THE ESTABLISHMENT PERIOD, WATER THE VINE MAPLE DEEPLY ONCE EVERY 3 TO 5 DAYS TO PROMOTE ROOT GROWTH. PROVIDE 5 TO 10 GALLONS OF WATER PER TREE PER WATERING.
  - ONCE THE TREE IS ESTABLISHED, REDUCE THE FREQUENCY TO ONCE EVERY 7 TO 10 DAYS, OR AS NEEDED, DURING DRY PERIODS. ADJUST THE AMOUNT OF WATER BASED ON SOIL MOISTURE LEVELS AND LOCAL CLIMATE CONDITIONS.
  - VINE MAPLES CAN HANDLE SHORT PERIODS OF DROUGHT, BUT IT'S STILL ESSENTIAL TO MONITOR SOIL MOISTURE AND PROVIDE SUPPLEMENTAL WATER DURING PROLONGED DRY SPELLS.

POINTS AT WHICH FURTHER WATERING MAY NOT BE REQUIRED:

- ONCE EACH TREE SPECIES HAS BEEN ESTABLISHED FOR ABOUT 1 TO 2 YEARS AND HAS DEVELOPED A ROBUST ROOT SYSTEM, THEY WILL BECOME MORE DROUGHT-TOLERANT.
- DURING PERIODS OF CONSISTENT RAINFALL, YOU MAY REDUCE OR SKIP WATERING, DEPENDING ON THE MOISTURE LEVELS IN THE SOIL.
- ALWAYS MONITOR THE SOIL MOISTURE AND ADJUST THE WATERING SCHEDULE ACCORDINGLY, CONSIDERING THE INDIVIDUAL REQUIREMENTS OF EACH TREE SPECIES.

PLEASE NOTE THAT THESE WATERING GUIDELINES ARE GENERAL RECOMMENDATIONS. THE ACTUAL WATERING NEEDS OF THE TREES MAY VARY DEPENDING ON FACTORS SUCH AS WEATHER CONDITIONS, SOIL TYPE, TREE SIZE, AND INDIVIDUAL SITE CHARACTERISTICS. BE ATTENTIVE TO THE TREES' HEALTH AND SOIL MOISTURE LEVELS TO ENSURE THEY RECEIVE THE APPROPRIATE AMOUNT OF WATER FOR THEIR SPECIFIC NEEDS.

**TREE PROTECTION AREA (TPZ)**

**KEEP OUT!**

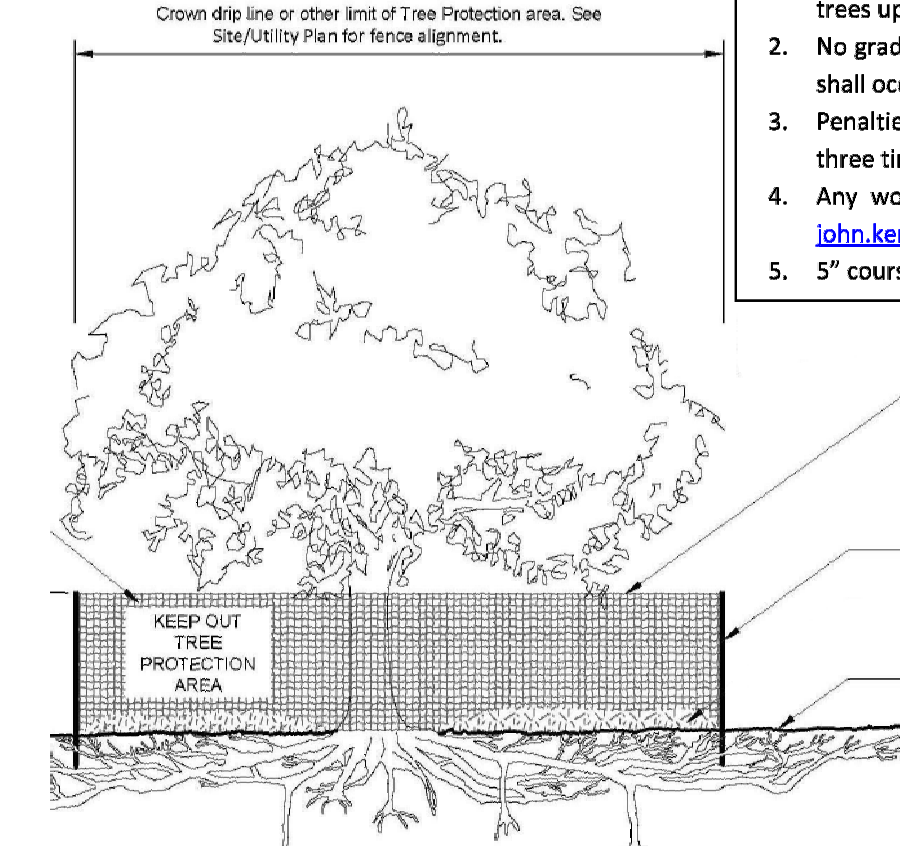
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TREE REPLANTING PLAN  
 4114 83RD AVE SE, MERCER ISLAND, WA 98040  
 TAX ID: 362650-0035

SCALE: 1" = 20'      ISSUE DATE: 9-20-2023      SHEET: C4







## ENERGY CODE

2018 WASHINGTON STATE ENERGY CODE / IECC (MSEC)  
TABLE R402.1.1  
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT A

CLIMATE ZONE	5 & MARINE 4	WITH USE OF CREDIT 1.3
FENESTRATION U-FACTOR B	0.30	0.28
SKYLIGHT B U-FACTOR	0.50	0.50
CEILING R-VALUE E	44	44
WOOD FRAME WALL 8H R-VALUE	21 INT	21 INT
FLOOR R-VALUE	30	30
BELOW GRADE 6F WALL R-VALUE	10/15/21 INT + 5TB	R-10 PERIMETER 4 ENTIRE SLAB
SLAB 6F R-VALUE 4 DEPTH	10, 2 FT.	R-10 PERIMETER 4 ENTIRE SLAB

TABLE R402.1.1 FOOTNOTES  
FOR SI: 1 FOOT = 304.8 MM, CI = CONTINUOUS INSULATION, INT. = INTERMEDIATE FRAMING.

A R-VALUES ARE MINIMUMS. U-FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE COMPRESSED R-VALUE OF THE INSULATION FROM APPENDIX TABLE A101.4 SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.

B THE FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS.

C "10/15/21 +5TB" MEANS R-10 CONTINUOUS INSULATION ON THE EXTERIOR OF THE WALL, OR R-15 CONTINUOUS INSULATION ON THE INTERIOR OF THE WALL, OR R-21 CAVITY INSULATION PLUS A THERMAL BREAK BETWEEN THE SLAB AND THE BASEMENT WALL AT THE INTERIOR OF THE BASEMENT WALL. "10/15/21 +5TB" SHALL BE PERMITTED TO BE MET WITH R-15 CAVITY INSULATION ON THE INTERIOR OF THE BASEMENT WALL PLUS R-5 CONTINUOUS INSULATION ON THE INTERIOR OR EXTERIOR OF THE WALL. "5TB" MEANS R-5 THERMAL BREAK BETWEEN FLOOR SLAB AND BASEMENT WALL.

D R-10 CONTINUOUS INSULATION IS REQUIRED UNDER HEATED SLAB ON GRADE FLOORS. SEE R402.2.4.1.

E FOR SINGLE RAFTER- OR JOIST- VAULTED CEILING, THE INSULATION MAY BE REDUCED TO R-30 IF THE FULL INSULATION DEPTH EXTENDS OVER THE TOP PLATE OF THE EXTERIOR WALL.

F R-15 CONTINUOUS INSULATION INSTALLED OVER AN EXISTING SLAB IS DEEMED TO BE EQUIVALENT TO THE REQUIRED PERIMETER SLAB INSULATION WHEN APPLIED TO EXISTING SLABS COMPLYING WITH SECTION R030.1.1. IF FOAM PLASTIC IS USED, IT MUST MEET THE REQUIREMENTS FOR THE THERMAL BARRIERS PROTECTING FOAM PLASTICS.

G FOR LOG STRUCTURES DEVELOPED IN COMPLIANCE WITH STANDARD ICC 400, LOG WALLS SHALL MEET THE REQUIREMENTS FOR CLIMATE ZONE 5 OF ICC 400.

H INT. (INTERMEDIATE FRAMING) DENOTES FRAMING AND INSULATION AS DESCRIBED IN SECTION A103.2.2 INCLUDING STANDARD FRAMING 16 INCHES ON CENTER, 75 PERCENT OF THE WALL CAVITY INSULATED AND HEADERS INSULATED WITH A MINIMUM OF R-10 INSULATION.

- A CERTIFICATE COMPLYING WITH 2018 MSEC R401.3 IS REQUIRED TO BE COMPLETED BY THE BUILDER OR APPROVED PARTY AND PERMANENTLY POSTED.
- AT LEAST ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM.
- NOT LESS THAN 90 PERCENT OF LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.

## WHOLE HOUSE VENTILATION

WHOLE HOUSE VENTILATION SYSTEM TO BE DESIGNED PER MSEC AMENDMENTS TO 2018 IRC SECTION M1505.4.4.

SEE "WHOLE HOUSE VENTILATION" ON THE SCHEDULE SHEET FOR SELECTED OPTION.

WHOLE-HOUSE MECHANICAL VENTILATION AIRFLOW RATE PER EQUATION 15-1 (M1505.4.3)

VENTILATION QUALITY ADJUSTMENT PER EQUATION 15-2 (M1505.4.3.1)

IRC TABLE M1505.4.3(2)

INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS A,B

RUN TIME PERCENTAGE IN EACH 4-HOUR SEGMENT FACTOR	50%	66%	75%	100%
	2	1.5	1.3	1.0

- A. FOR VENTILATION SYSTEM RUN TIME VALUES BETWEEN THOSE GIVEN, THE FACTORS ARE PERMITTED TO BE DETERMINED BY INTERPOLATION.  
B. EXTRAPOLATION BEYOND THE TABLE IS PROHIBITED.

## MECHANICAL

### GENERAL

SOLID FUEL BURNING APPLIANCES INCLUDE AIRTIGHT STOVES, FIREPLACE STOVES, ROOM HEATERS, FACTORY BUILT FIREPLACES AND FIREPLACE INSERTS. ALL SOLID FUEL BURNING APPLIANCES SHALL COMPLY WITH THE PROVISIONS OF I.R.C. R1006

### HEATING

EACH DWELLING UNIT SHALL BE PROVIDED WITH HEATING FACILITIES CAPABLE OF MAINTAINING A TEMPERATURE OF 68 DEGREES FAHRENHEIT AT A HEIGHT OF 3'-0" ABOVE THE FLOOR AND TWO FEET FROM EXTERIOR WALLS IN ALL HABITABLE ROOMS WHEN THE OUTSIDE TEMPERATURE IS AS SET FORTH IN THE 2018 M.S.E.C.

DEFINITION OF BUILDING THERMAL ENVELOPE FROM THE 2018 WASHINGTON STATE ENERGY CODE:

THE BELOW-GRADE WALLS, ABOVE-GRADE WALLS, FLOORS, CEILING, ROOF, AND ANY OTHER BUILDING ELEMENT ASSEMBLIES THAT ENCLOSE CONDITIONED SPACE OR PROVIDES A BOUNDARY BETWEEN CONDITIONED SPACE AND EXEMPT OR UNCONDITIONED SPACE.

- FUEL BURNING APPLIANCES LOCATED WITHIN THE BUILDING ENVELOPE SHALL OBTAIN AIR FROM OUTDOORS, MEETING THE PROVISIONS OF IRC 62407
- FUEL BURNING APPLIANCES LOCATED OUTSIDE THE BUILDING ENVELOPE SHALL MEET THE PROVISIONS OF CHAPTER 24 OF THE 2018 IRC.
- DUCTWORK LOCATION SHALL MEET THE PROVISIONS OF CHAPTER 24 OF THE 2018 IRC.
- COMBUSTION AIR TO MEET THE REQUIREMENTS OF I.R.C. M101.1

ALL WARM AIR FURNACES SHALL BE LISTED AND LABELED BY AN APPROVED AGENCY PER CHAPTER M302 OF THE 2018 IRC.

NO WARM AIR FURNACE SHALL BE INSTALLED IN A ROOM USED OR DESIGNED TO BE USED AS A BEDROOM, BATHROOM, CLOSET OR IN ANY ENCLOSED SPACE WITH ACCESS ONLY THROUGH SUCH ROOM OR SPACE, EXCEPT PER EXCEPTIONS IN IRC 62406.2

LIQUEFIED PETROLEUM GAS BURNING APPLIANCES SHALL NOT BE INSTALLED IN A PIT, BASEMENT OR SIMILAR LOCATION WHERE HEAVIER THAN AIR GASES MIGHT COLLECT. APPLIANCES SO FUELED SHALL NOT BE INSTALLED IN AN ABOVE GRADE UNDER FLOOR SPACE OR BASEMENT UNLESS SUCH LOCATION IS PROVIDED WITH AN APPROVED MEANS FOR REMOVAL OF UNBURNED GAS.

HEATING AND COOLING APPLIANCES LOCATED IN A GARAGE AND WHICH GENERATE A GLOW, SPARK OR FLAME CAPABLE OF IGNITING FLAMMABLE VAPORS SHALL BE INSTALLED WITH THE PILOTS AND BURNERS OR HEATING ELEMENTS AND SWITCHES AT LEAST 18" ABOVE THE FLOOR SURFACE.

FIRE DAMPERS NEED NOT BE INSTALLED IN AIR DUCTS PASSING THROUGH THE WALL, FLOOR OR CEILING SEPARATING A RESIDENCE (R-3 OCCUPANCY) FROM A GARAGE, PROVIDED SUCH DUCTS WITHIN THE GARAGE ARE CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN 0.019" (NO. 26 GALVANIZED SHEET GAUGE) AND HAVE NO OPENINGS INTO THE GARAGE

EVERY APPLIANCE DESIGNED TO BE VENTED SHALL BE CONNECTED TO A VENTING SYSTEM COMPLYING WITH CHAPTER 10 OF THE 2018 IRC.

EVERY FACTORY BUILT CHIMNEY, TYPE L VENT, TYPE B GAS VENT OR TYPE BW GAS VENT SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF ITS LISTING, MANUFACTURERS INSTALLATION INSTRUCTIONS AND THE REQUIREMENTS PER CHAPTER 24 OF THE 2018 IRC.

A TYPE B OR BW GAS VENT SHALL TERMINATE PER CHAPTER 24 OF THE 2018 IRC.

VENT CONNECTORS SHALL BE INSTALLED WITHIN THE SPACE OR AREA IN WHICH THE APPLIANCE IS LOCATED AND SHALL BE CONNECTED TO A CHIMNEY OR VENT IN SUCH A MANNER AS TO MAINTAIN THE CLEARANCE TO COMBUSTIBLES PER SECTION M1003 OF THE 2018 IRC.

### HEATING EQUIPMENT

ALL HEATING EQUIPMENT SHALL MEET THE REQUIREMENTS OF THE NATIONAL APPLIANCE ENERGY CONSERVATION ACT (NAECA) AND BE SO LABELED. EQUIPMENT SHALL ALSO COMPLY WITH SECTION M1411 OF THE 2018 IRC

### DUCTWORK

- DUCT SYSTEMS OR FACTORY BUILT AIR DUCTS SHALL BE OF METAL AS SET FORTH BY TABLE 1601.1.1 OF THE 2018 IRC
- RECTANGULAR, FLAT, OVAL AND ROUND DUCT JOINTS AND SEAMS SHALL BE AIRTIGHT PER SECTION M1601.4.1 OF THE 2018 IRC.
- INSTALLATION OF DUCTS SHALL COMPLY WITH SECTION M1601.4 OF THE 2018 IRC.
- DUCT INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH SECTION M1601.3 OF THE 2018 IRC.
- FINAL DUCT LEAKAGE AFFIDAVIT IS TO BE PROVIDED TO THE BUILDING INSPECTOR PRIOR TO FINAL INSPECTION. DUCT LEAKAGE AND SEALING REQUIREMENTS IN 2018 M.S.E.C. SECTION R403.3.2 TO BE MET.
- DUCTS INSULATED TO A MINIMUM R-8 INSULATION IN UNCONDITIONED SPACES PER M.S.E.C. SECTION R403.3.1

## CARPENTRY

### GENERAL

ALL FRAMING SHALL COMPLY WITH THE APPLICABLE SECTION(S) OF THE 2018 IRC/IECC. PRESSURE TREATED WOOD REQUIRED IN LOCATIONS LISTED IN IRC R301.1

- 2" MINIMUM VERTICAL CLEARANCE BETWEEN WOOD & CONCRETE STEPS, PORCH SLABS, PATIO SLABS & OTHER SIMILAR HORIZONTAL SURFACES EXPOSED TO THE WEATHER.
- 6" MINIMUM CLEARANCE BETWEEN WOOD AND EARTH.
- 6" MINIMUM CLEARANCE BETWEEN UNTREATED MULLS AND EARTH.
- 12" MINIMUM CLEARANCE BETWEEN FLOOR BEAMS AND EARTH.
- 18" MINIMUM CLEARANCE BETWEEN FLOOR JOISTS AND EARTH.

### LOADING

ROOF	15 PSF DEAD LOAD	+	25 PSF LIVE LOAD	=	40 PSF
FLOOR TRUSSES	15 PSF DEAD LOAD	+	40 PSF LIVE LOAD	=	55 PSF
FLOOR	10 PSF DEAD LOAD	+	40 PSF LIVE LOAD	=	50 PSF
CEILING	5 PSF DEAD LOAD	+	10 PSF LIVE LOAD	=	15 PSF
DECK	10 PSF DEAD LOAD	+	60 PSF LIVE LOAD	=	70 PSF
INTERIOR PARTITION				=	7 PSF
EXTERIOR PARTITION				=	10 PSF

WOOD BEARINGS ON OR INSTALLED WITHIN 1/2" OF MASONRY OR CONCRETE TO BE TREATED WITH AN APPROVED PRESERVATIVE. SOLID BLOCKING OF NOT LESS THAN 2X THICKNESS SHALL BE PROVIDED AT ENDS AND AT ALL SUPPORT OF JOISTS AND RAFTERS. ANCHOR BOLTS TO BE PER SHEAR WALL SCHEDULE AND FOUNDATION PLAN. 7" MINIMUM EMBEDMENT. ALL METAL FRAMING ANCHORS AND HANGERS SHOWN ON DRAWINGS SHALL BE STRONG TIE CONNECTORS AS MANUFACTURED BY SIMPSON COMPANY.

PROVIDE FIREBLOCKING IN CONCEALED SPACES OF STUD WALLS & PARTITIONS, INCLUDING FURRED SPACES & PARALLEL ROWS OF STUDS OR STAGGERED STUDS AS FOLLOWS:

- VERTICALLY AT THE CEILING & FLOOR LEVELS.
- HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.

PROVIDE FIREBLOCKING AT OTHER LOCATIONS PER 2018 IRC R302.11.

## INSULATION & MOISTURE PROTECTION

### GENERAL

UNLESS NOTED OTHERWISE, INSULATION SHALL CONFORM TO THE WASHINGTON STATE ENERGY CODES. INSULATION Baffles TO MAINTAIN 1" CLEAR SPACE ABOVE INSULATION. Baffles TO EXTEND 6" ABOVE BATT INSULATION & 12" ABOVE LOOSE FILL INSULATION. INSULATE BEHIND BATHTUBS, SHOWERS, PARTITIONS AND CORNERS. PROVIDE FACE STAPLED BATTS OR FRICTION FIT FACED BATTS. PROVIDE 4 MIL (0.004") POLYETHYLENE VAPOR BARRIER AT WALLS OR USE CLASS II PVA PRIMER. PROVIDE R-10 INSULATION UNDER ELECTRIC WATER HEATERS.

### INFILTRATION CONTROL

- APPROVED JOINTS AROUND WINDOWS AND DOOR FRAMES, OPENINGS BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AND ROOF AND BETWEEN WALL PANELS, OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH WALLS, FLOORS, AND ROOF, AND ALL OTHERS SUCH OPENINGS IN THE BUILDING ENVELOPE, INCLUDING ACCESS PANELS INTO UNHEATED SPACES, SHALL BE SEALED, CAULKED, GASKETED OR WEATHER-STRIPPED TO LIMIT AIR INFILTRATION.
- ALL EXTERIOR DOORS, OTHER THAN FIRE-RATED DOORS, SHALL BE DESIGNED TO LIMIT AIR INFILTRATION AROUND THEIR PERIMETER WHEN IN A CLOSED POSITION. DOORS BETWEEN RESIDENCE AND GARAGE ARE NOT CONSIDERED "FIRE-RATED" AND MUST MEET THE ABOVE REQUIREMENT.
- ALL EXTERIOR WINDOWS SHALL BE DESIGNED TO ADMIT AIR INFILTRATION INTO OR FROM THE BUILDING ENVELOPE WHICH SHALL BE SUBSTANTIATED BY TESTING TO STANDARD ASTM E 283-15. SITE BUILT AND MILLWORK SHOP MADE WOODEN SASH ARE EXEMPT FROM TESTING BUT SHALL BE WEATHER-STRIPPED, CAULKED AND MORE TIGHTLY FITTING.
- RECESSED LIGHT FIXTURES TO LIMIT AIR LEAKAGE PER M.S.E.C.

PIPING FOR HOT WATER / STEAM SYSTEMS OF PIPING FOR CONTINUOUSLY CIRCULATING HOT WATER SERVICE IS REQUIRED TO BE INSULATED PER THE M.S.E.C. HOT WATER PIPING SHALL BE INSULATED TO A MINIMUM OF R-3 PER M.S.E.C. R403.5.3. MECHANICAL SYSTEM PIPING SHALL BE INSULATED TO A MINIMUM R-6 PER M.S.E.C. R403.4

### VAPOR BARRIERS / GROUND COVERS

AN APPROVED VAPOR BARRIER SHALL BE PROPERLY INSTALLED IN ROOF DECKS, IN ENCLOSED RAFTER SPACES FORMED WHERE CEILING IS APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, AND AT EXTERIOR WALLS. INSET STAPLED BATTS WITH A PERM RATING LESS THAN ONE MAY BE INSTALLED IF THE VAPOR BARRIER IS TO THE WARM SIDE, STAPLES SHALL BE PLACED NOT MORE THAN 8" O.C. AND GAPS BETWEEN THE FACING AND THE FRAMING SHALL NOT EXCEED 1/16"

VAPOR RETARDERS AT WALLS PER IRC R702.7

A GROUND COVER OF 6 MIL (0.006") BLACK POLYETHYLENE OR EQUIVALENT SHALL BE LAID OVER THE GROUND IN ALL CRAWL SPACES. THE GROUND COVER SHALL BE OVERLAPPED ONE FOOT AT EACH JOINT AND SHALL EXTEND TO THE FOUNDATION WALL.

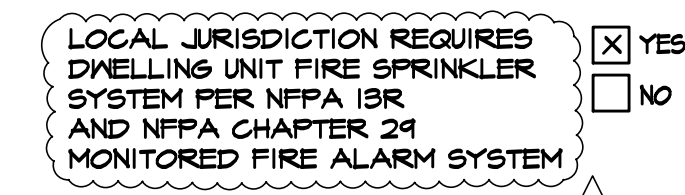
## GENERAL

PLANS COMPLY WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE.

CONTRACTOR SHALL VERIFY ALL NOTES, DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL PROVIDE TEMPORARY BRACINGS AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS HAVE BEEN MADE. IT IS THE CONTRACTORS RESPONSIBILITY TO IDENTIFY ALL DISCREPANCIES TO THE ARCHITECT AT THE TIME THEY ARE NOTED. DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS.

### CODES:

- ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION SHALL BE FOLLOWED
- 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) WITH WASHINGTON STATE AMENDMENTS (WSA) EXCEPT CHAPTERS 11 AND 25 THROUGH 42 ARE NOT ADOPTED. APPENDICES F,Q, & U ARE ADOPTED.
  - 2018 INTERNATIONAL BUILDING CODE (IBC) WITH WASHINGTON STATE AMENDMENTS (WSA)
  - 2018 INTERNATIONAL MECHANICAL CODE (IMC) WITH WASHINGTON STATE AMENDMENTS (WSA)
  - 2018 UNIFORM PLUMBING CODE (UPC) WITH WASHINGTON STATE AMENDMENTS.
  - 2018 INTERNATIONAL FIRE CODE WITH WASHINGTON STATE AMENDMENTS.
  - 2018 WASHINGTON STATE ENERGY CODE, RESIDENTIAL PROVISIONS (MSEC).



## SITE WORK

### GENERAL

ALL FOOTINGS TO BEAR ON FIRM, UNDISTURBED EARTH BELOW ORGANIC SURFACE SOILS. ALL BACK FILL MATERIAL SHALL BE THOROUGHLY COMPACTED. FOUNDATION VENTS SHALL NOT INTERFERE WITH THE DIRECT LOAD PATH OF COLUMNS.

## CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

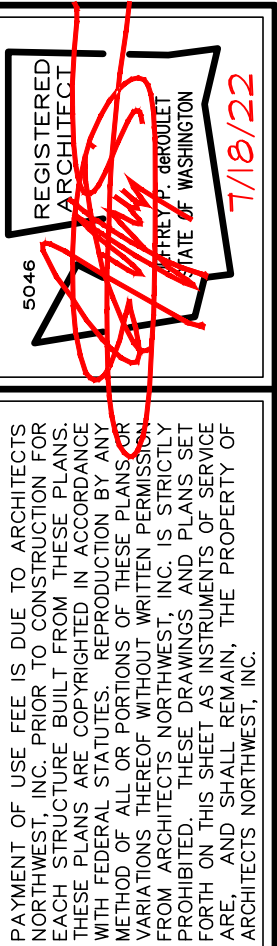
ROOF LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM			ICE BARRIER UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP	
	SPEED (MPH)	TOPOGRAPHIC EFFECTS	SPECIAL WIND REGION	WIND-BORNE DEBRIS ZONE		WEATHERING	FROST LINE DEPTH	TERMITE					
25 psf	110	SEE NOTE 1			D2	MODERATE	12'	SLIGHT TO MODERATE	24/88	NO	N/A	113	59

EQUIVALENT FLUID PRESSURE = 35 P.C.F. (UNRESTRAINED WALLS)  
50 P.C.F. (RESTRAINED WALLS)

NOTES:  
1. WIND EXPOSURE CATEGORY AND TOPOGRAPHIC EFFECTS (WIND SPEED-UP KZT FACTOR) SHALL BE DETERMINED ON A SITE-SPECIFIC BASIS BY THE ENGINEER OF RECORD (COMPONENTS AND CLADDING NEED NOT CONSIDER TOPOGRAPHIC EFFECTS UNLESS OTHERWISE DETERMINED BY THE ENGINEER OF RECORD).

## SHEET INDEX

SHEET #	DESCRIPTION
	SITE
A0	SITE PLAN
	ARCHITECTURAL
A1	COVERSHEET
A2	SCHEDULE SHEET
A3	DETAIL SHEET
A4	FOUNDATION PLAN
A5	MAIN FLOOR FRAMING PLAN
A6	MAIN FLOOR PLAN
A7	UPPER FLOOR FRAMING PLAN
A8	UPPER FLOOR PLAN
A9	ROOF FRAMING PLAN
A10	EXTERIOR ELEVATIONS
A11	EXTERIOR ELEVATIONS
A12	BUILDING SECTIONS
	STRUCTURAL
SO.0	LATERAL DESIGN NOTES
LB-1	LATERAL BRACING DETAILS
LB-2	LATERAL BRACING DETAILS
SD.01	FOUNDATION DETAILS
S1	LATERAL PLANS



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**HATELY RESIDENCE**  
4114 83RD AVE SE, MERCER ISLAND, WA 98040  
**PLAN M4061A3F-2**

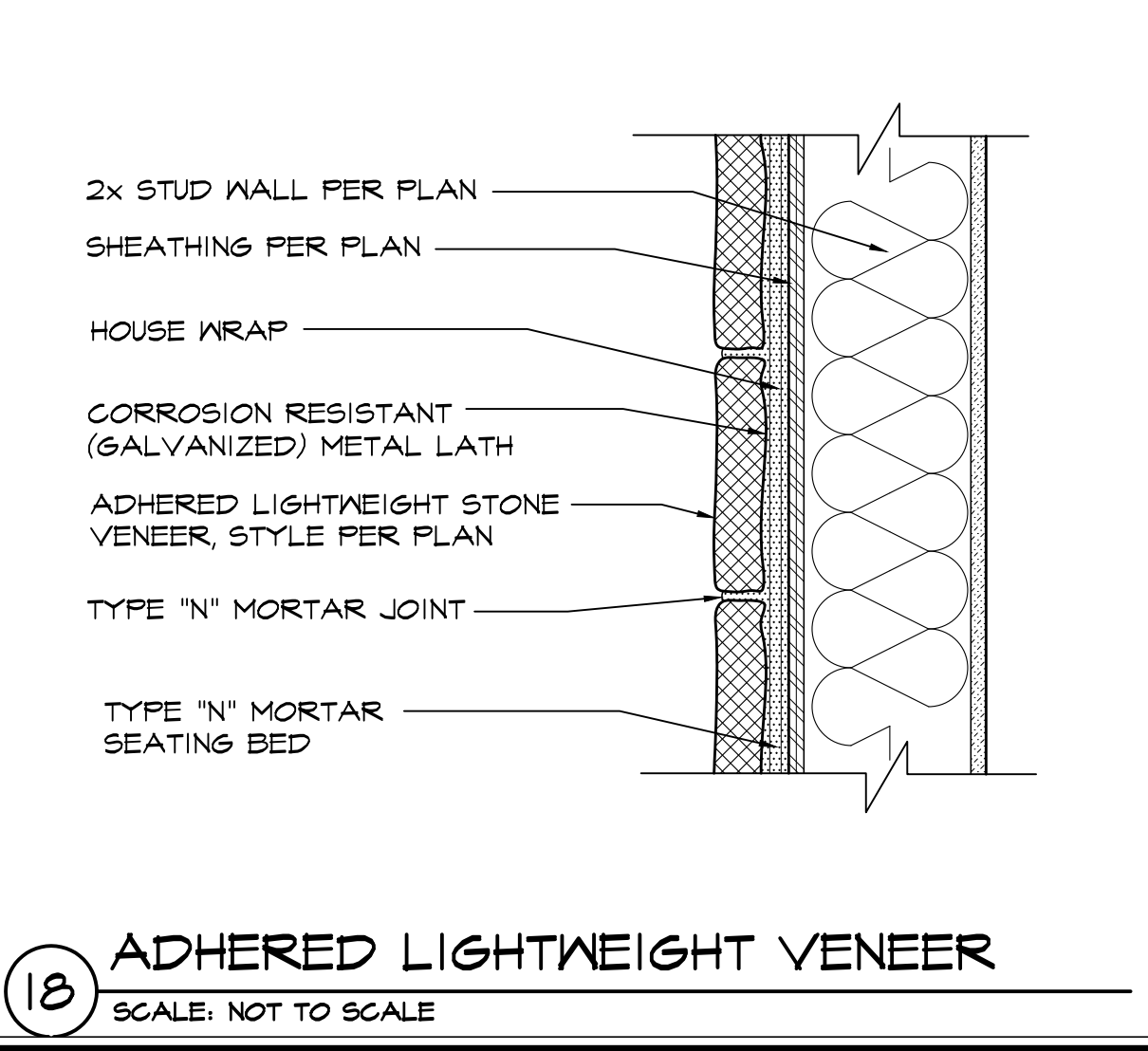
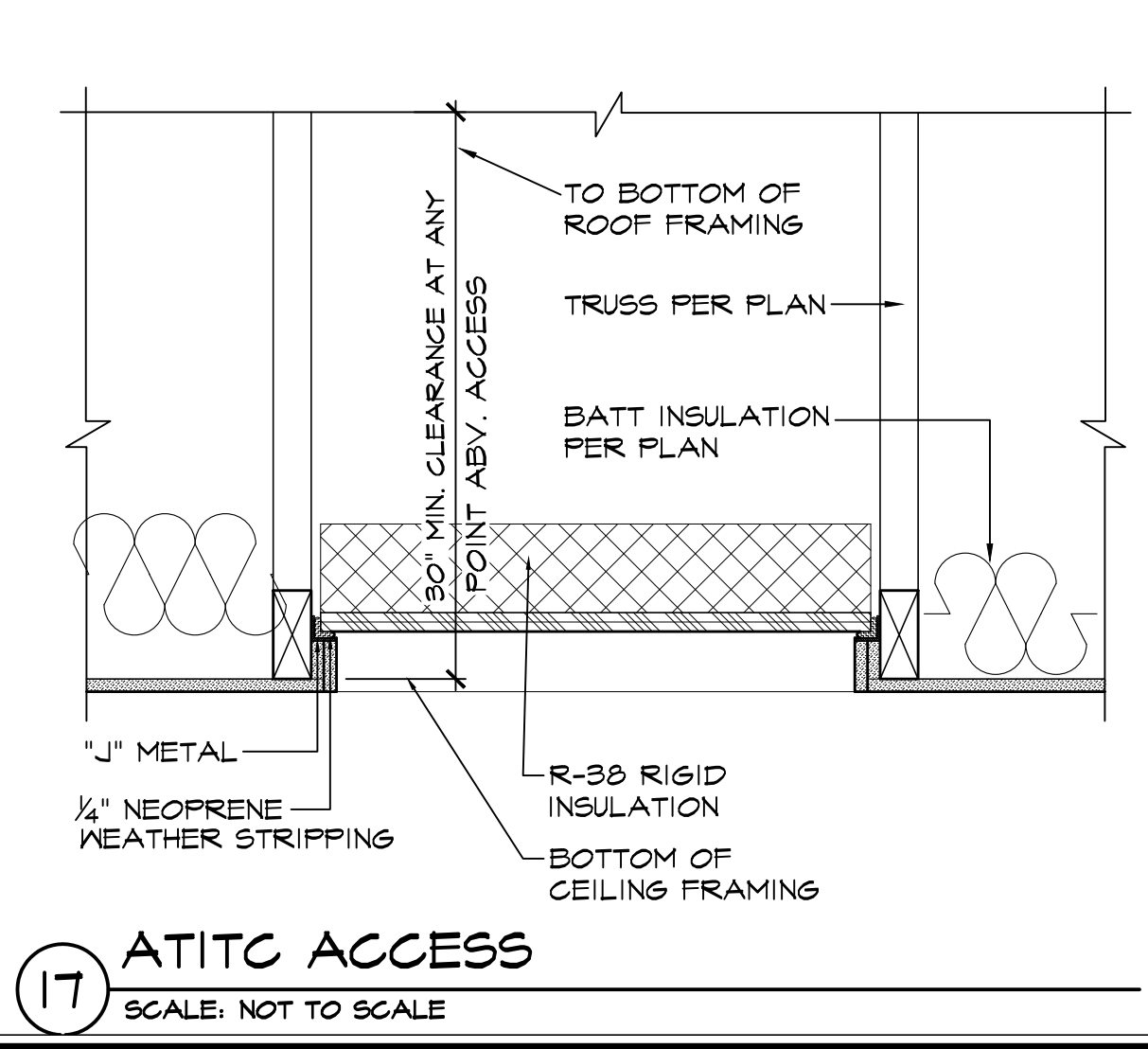
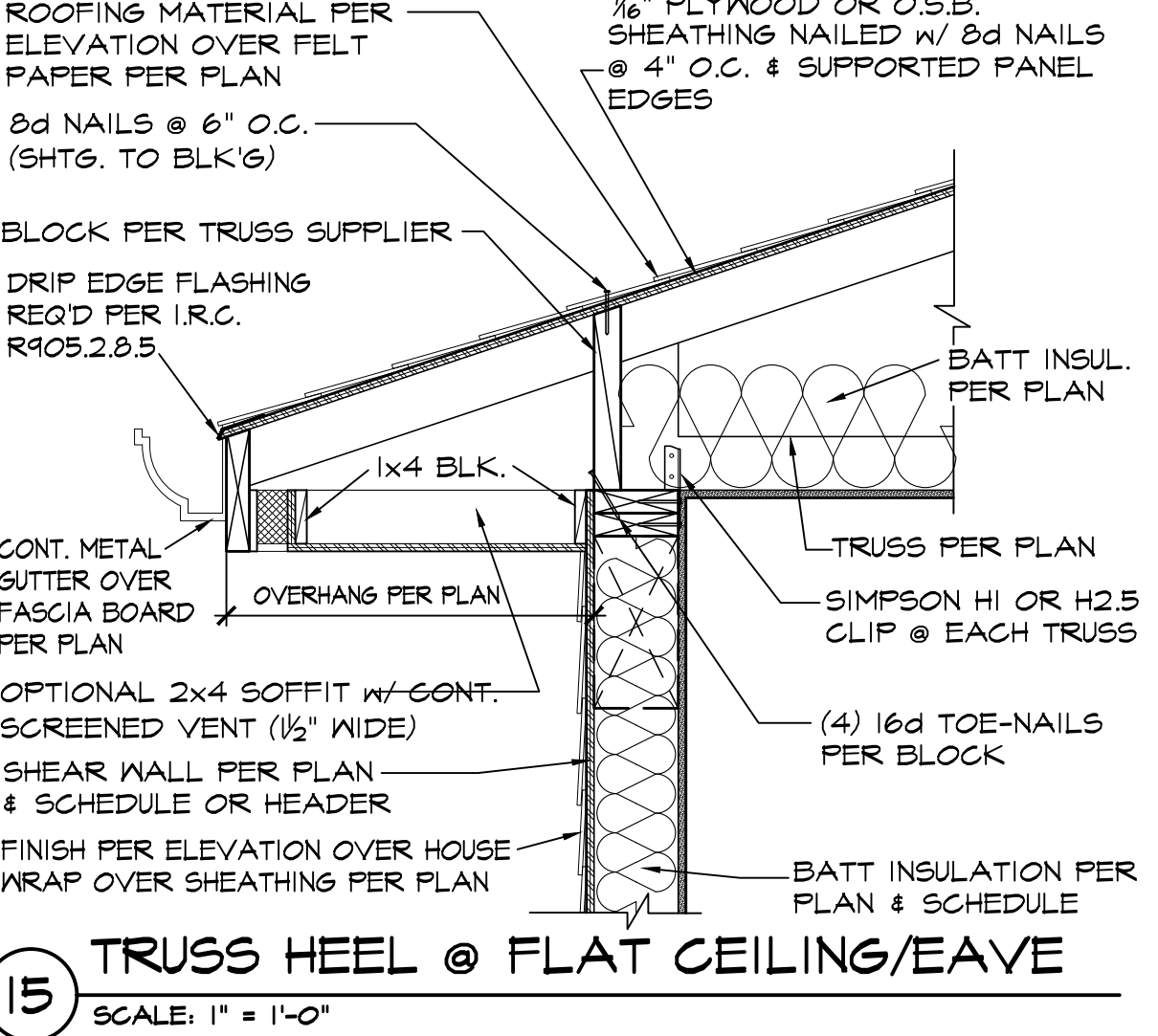
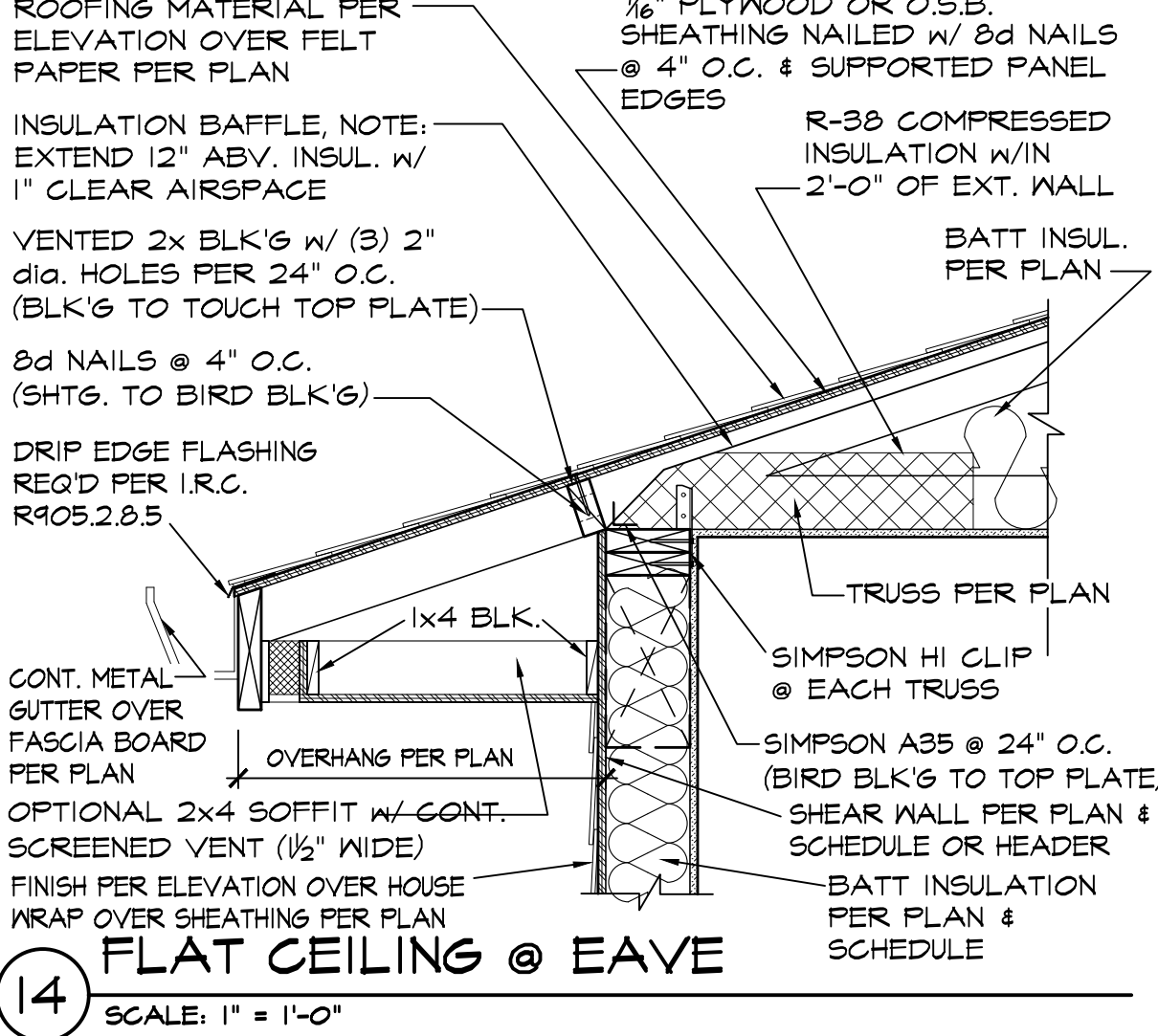
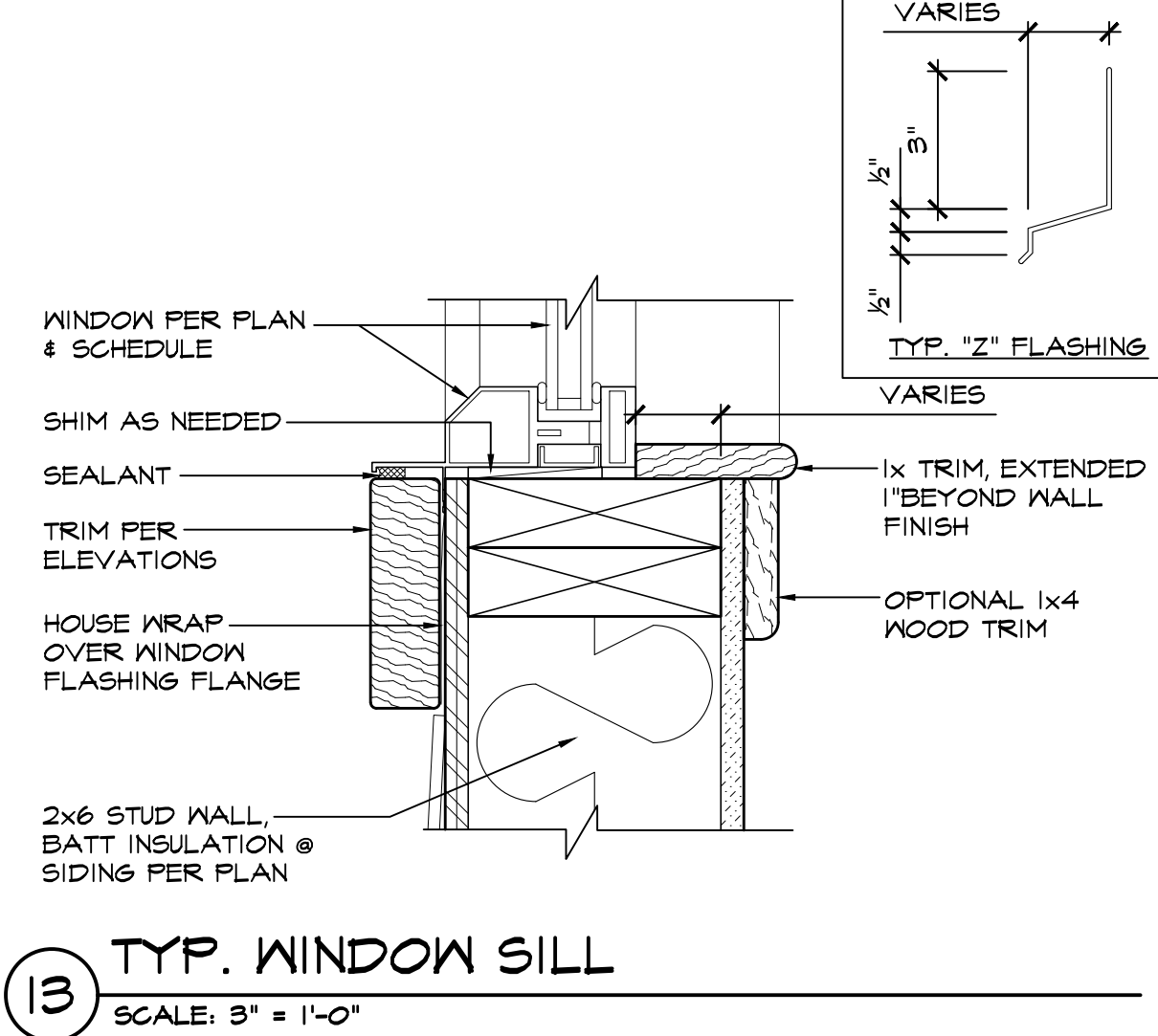
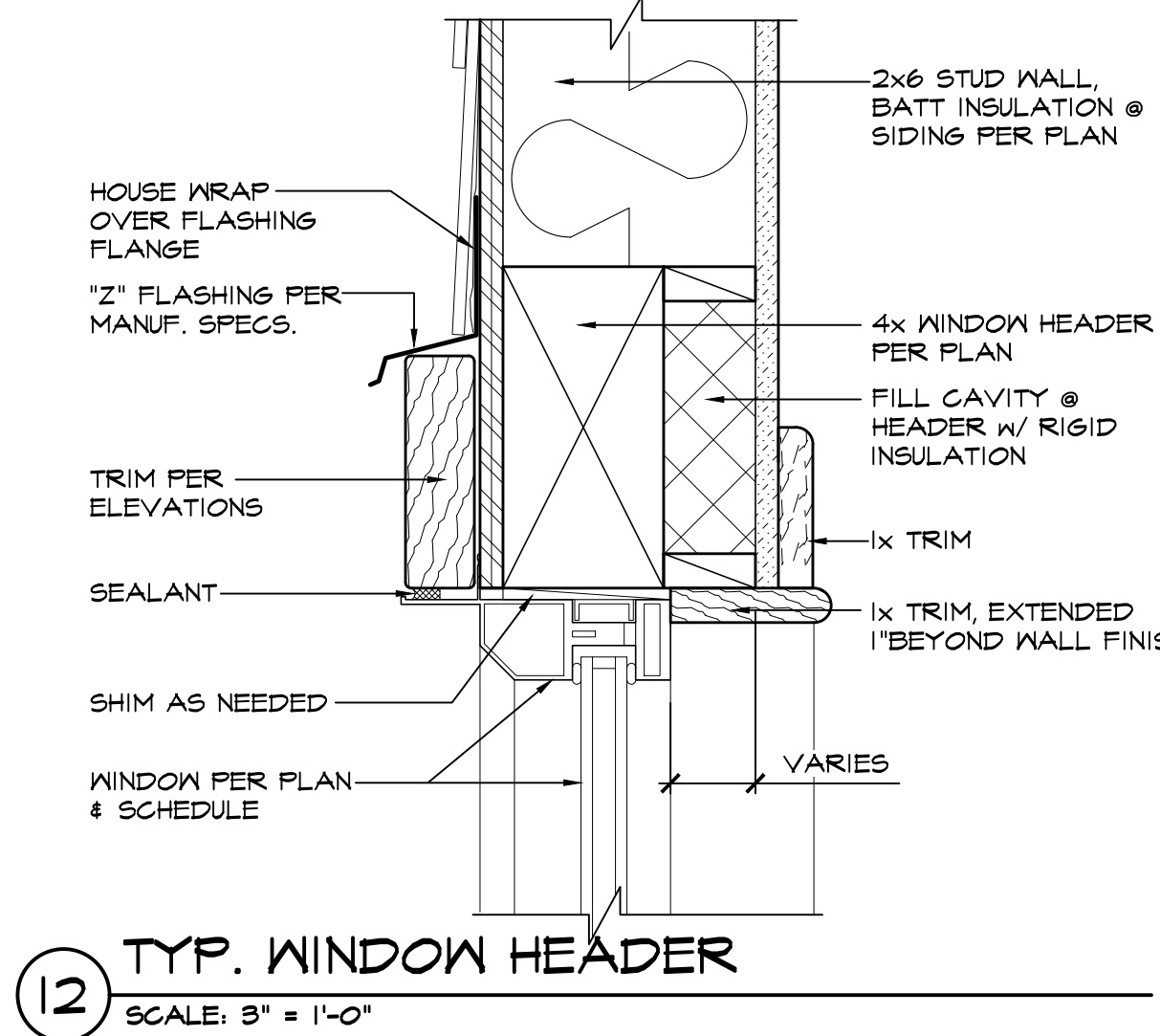
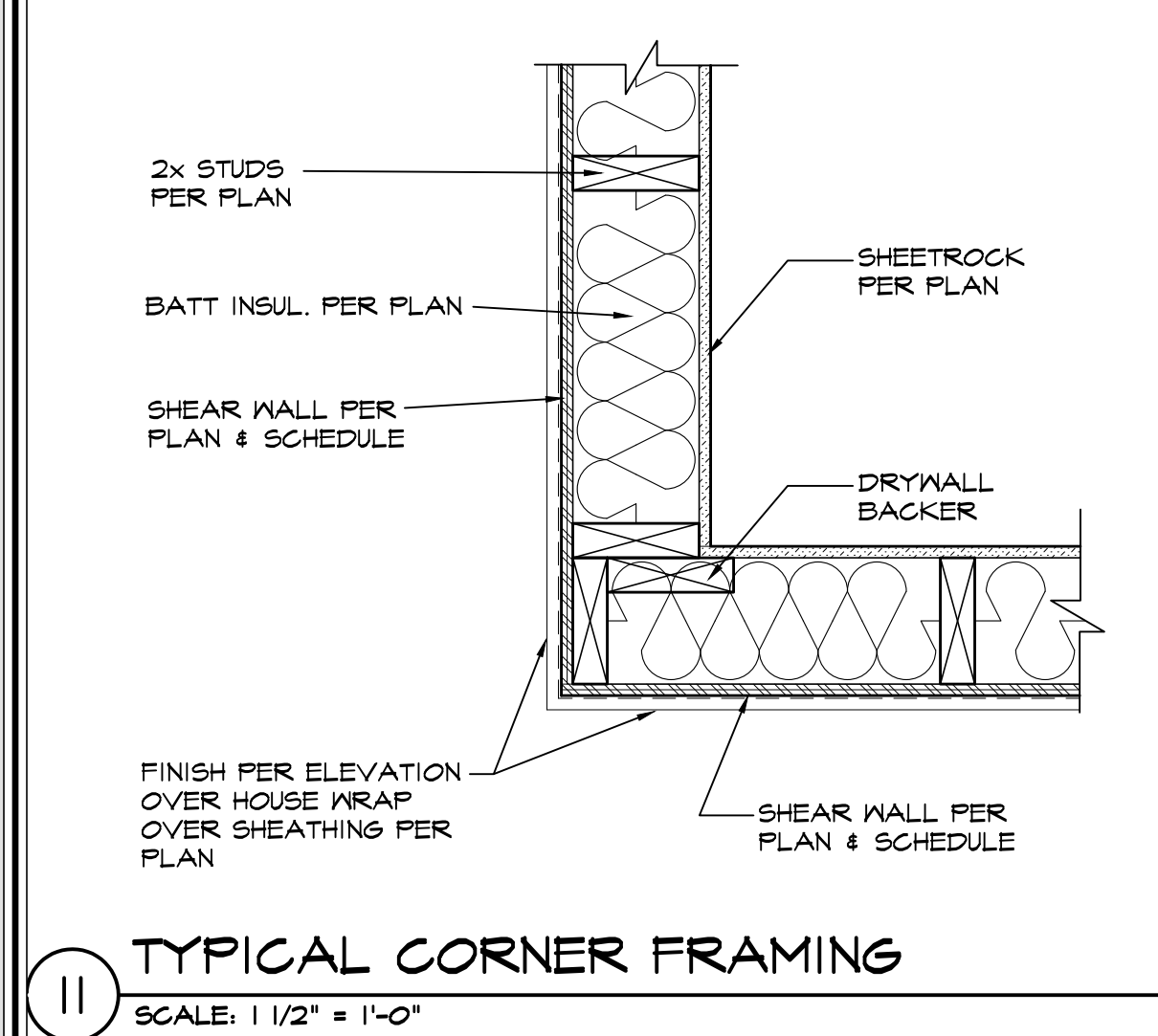
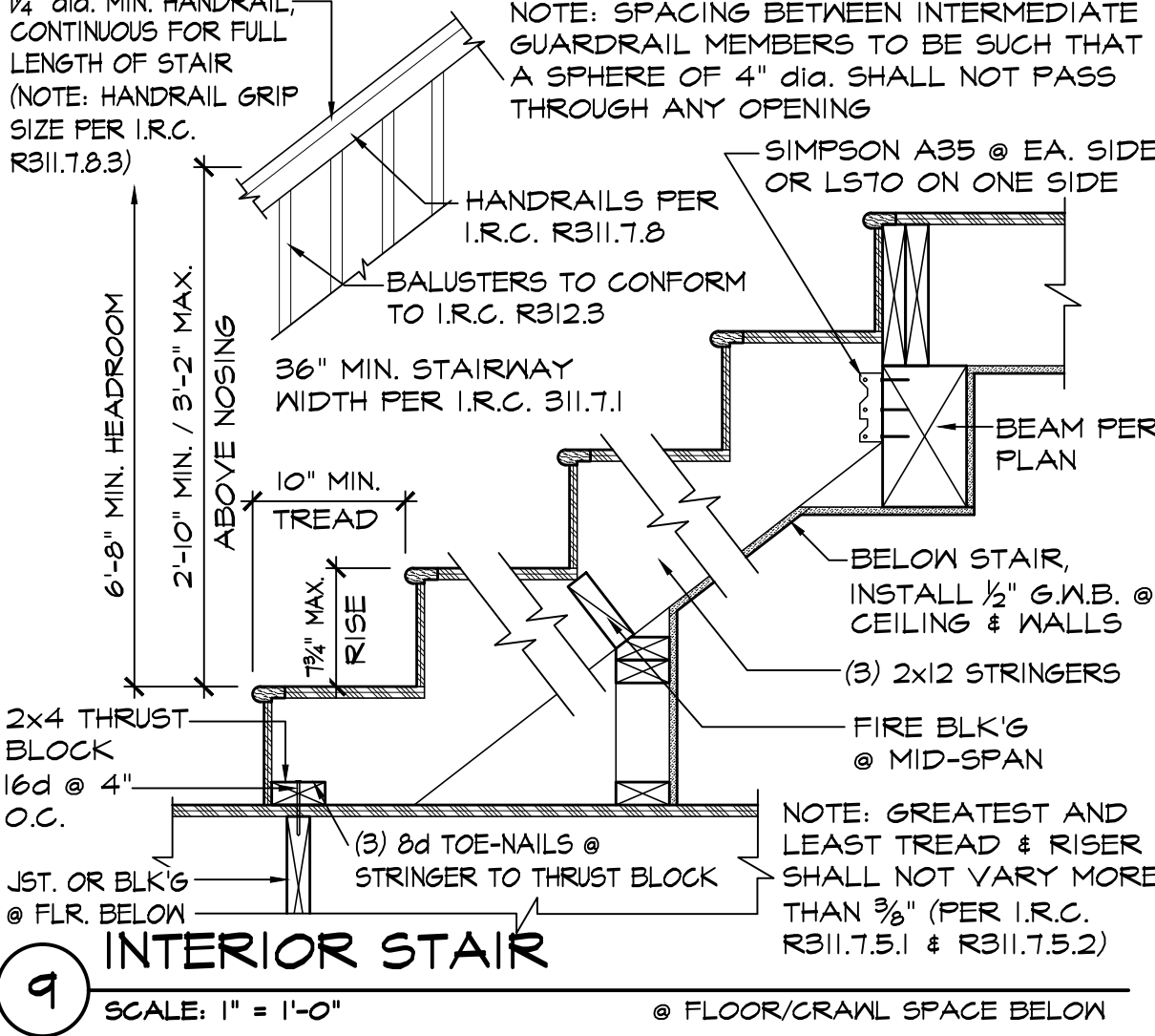
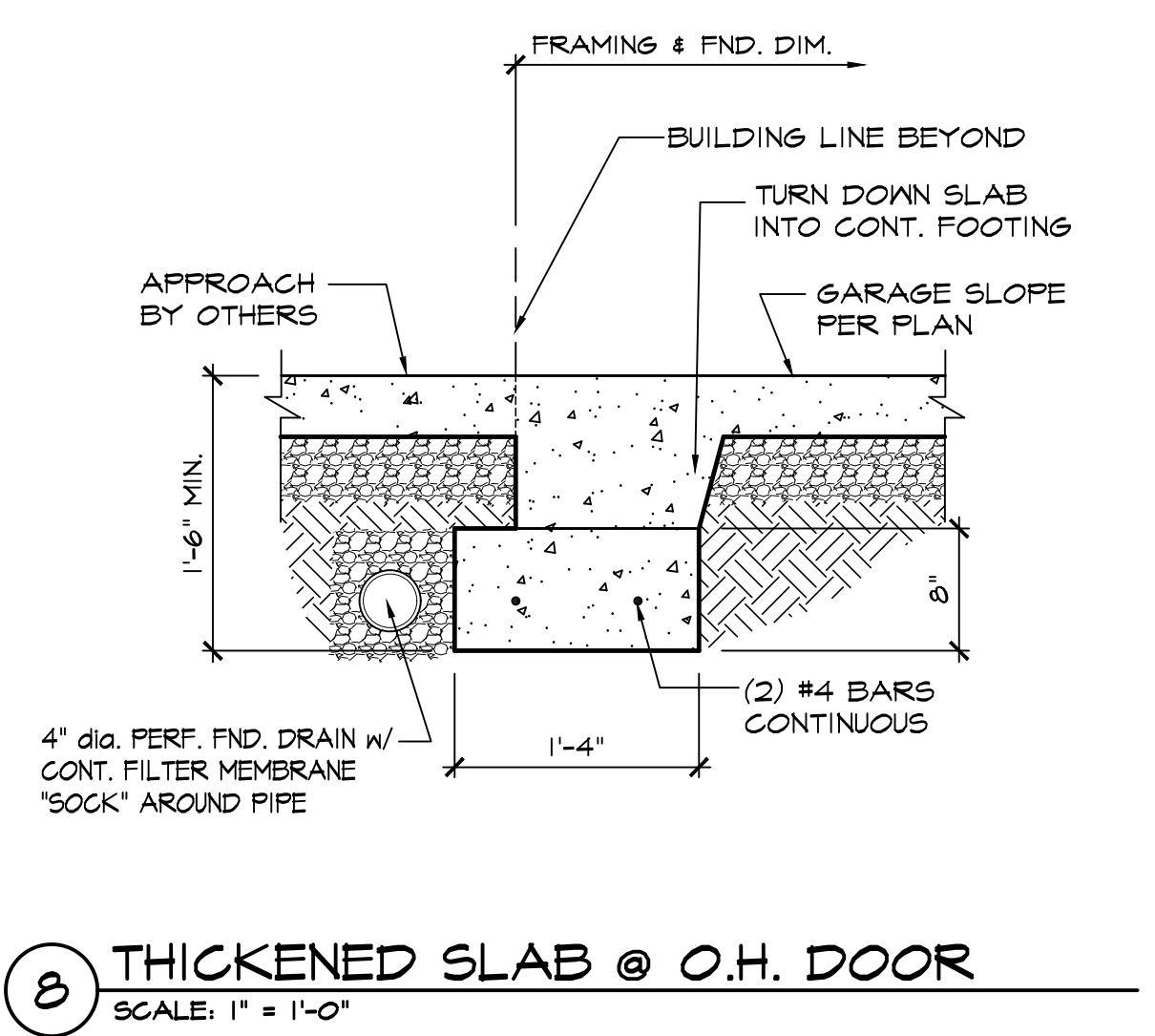
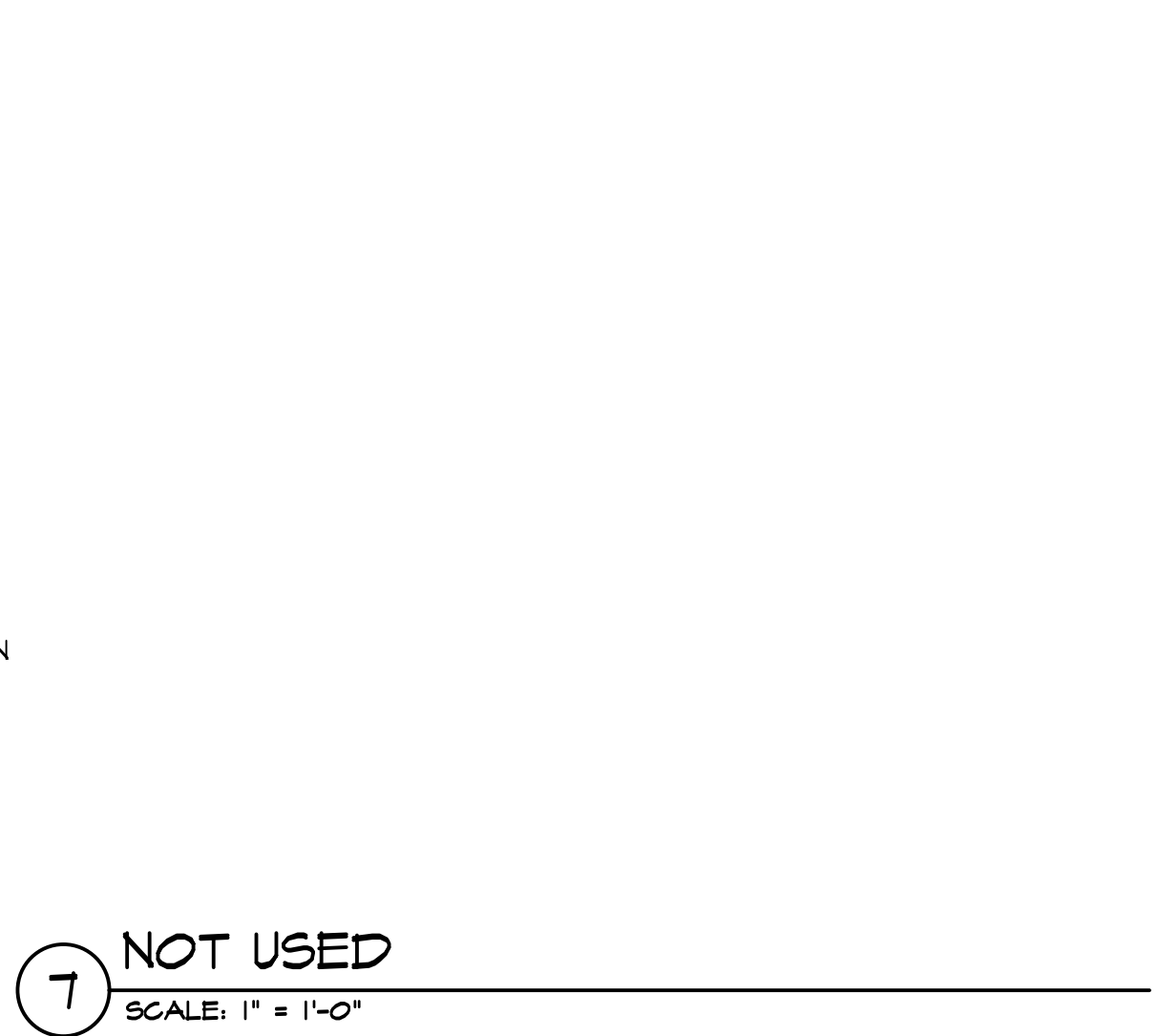
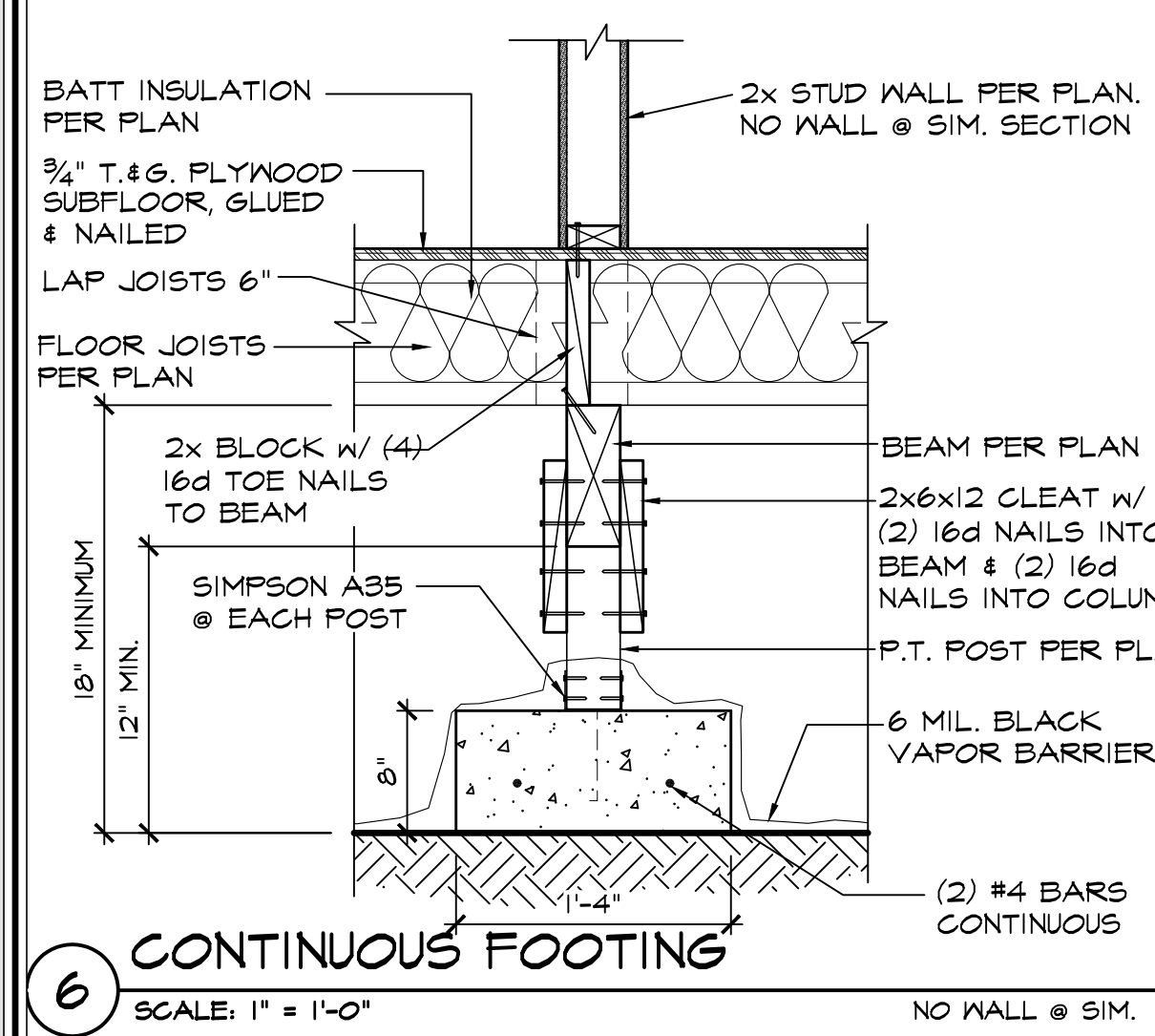
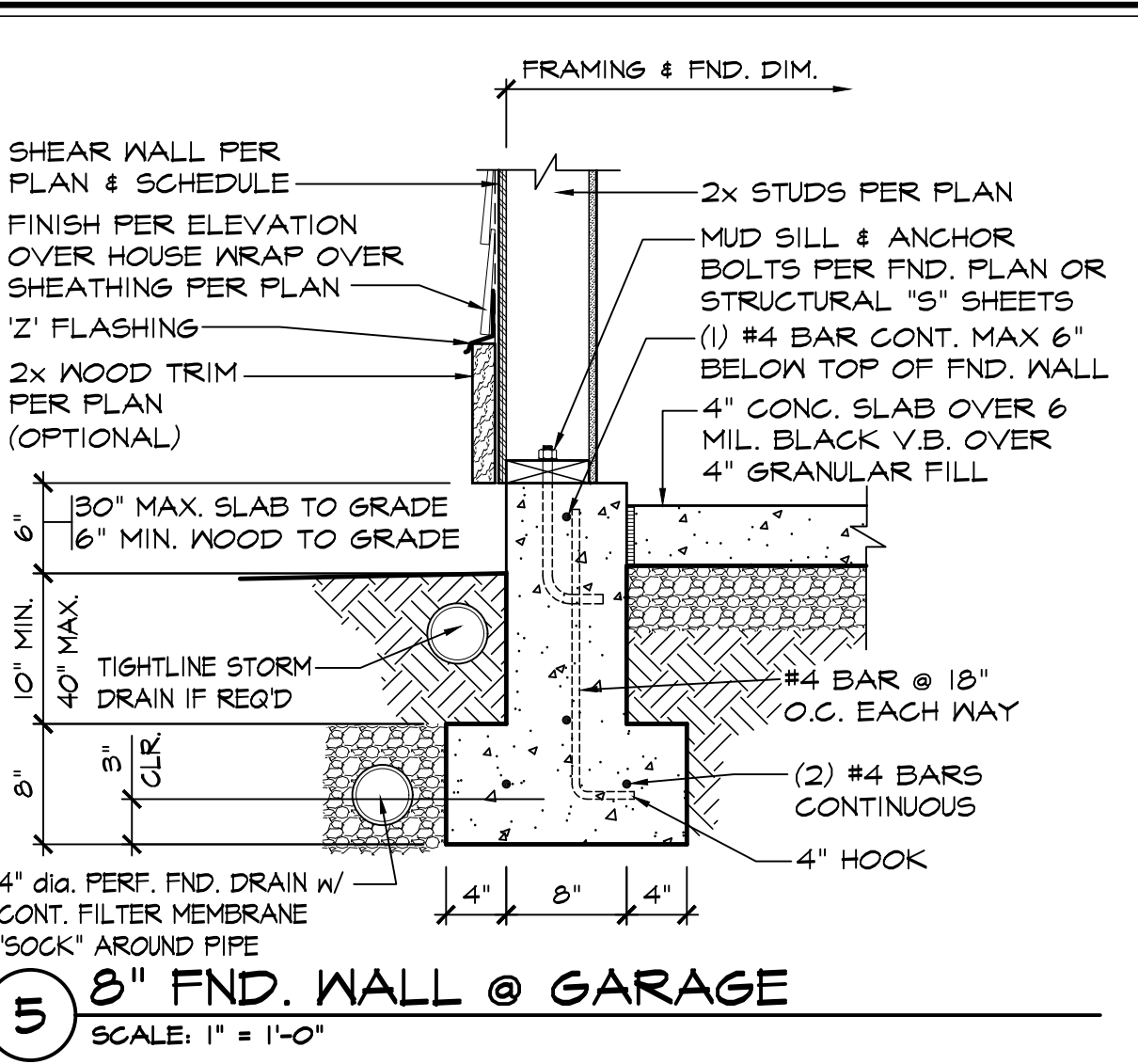
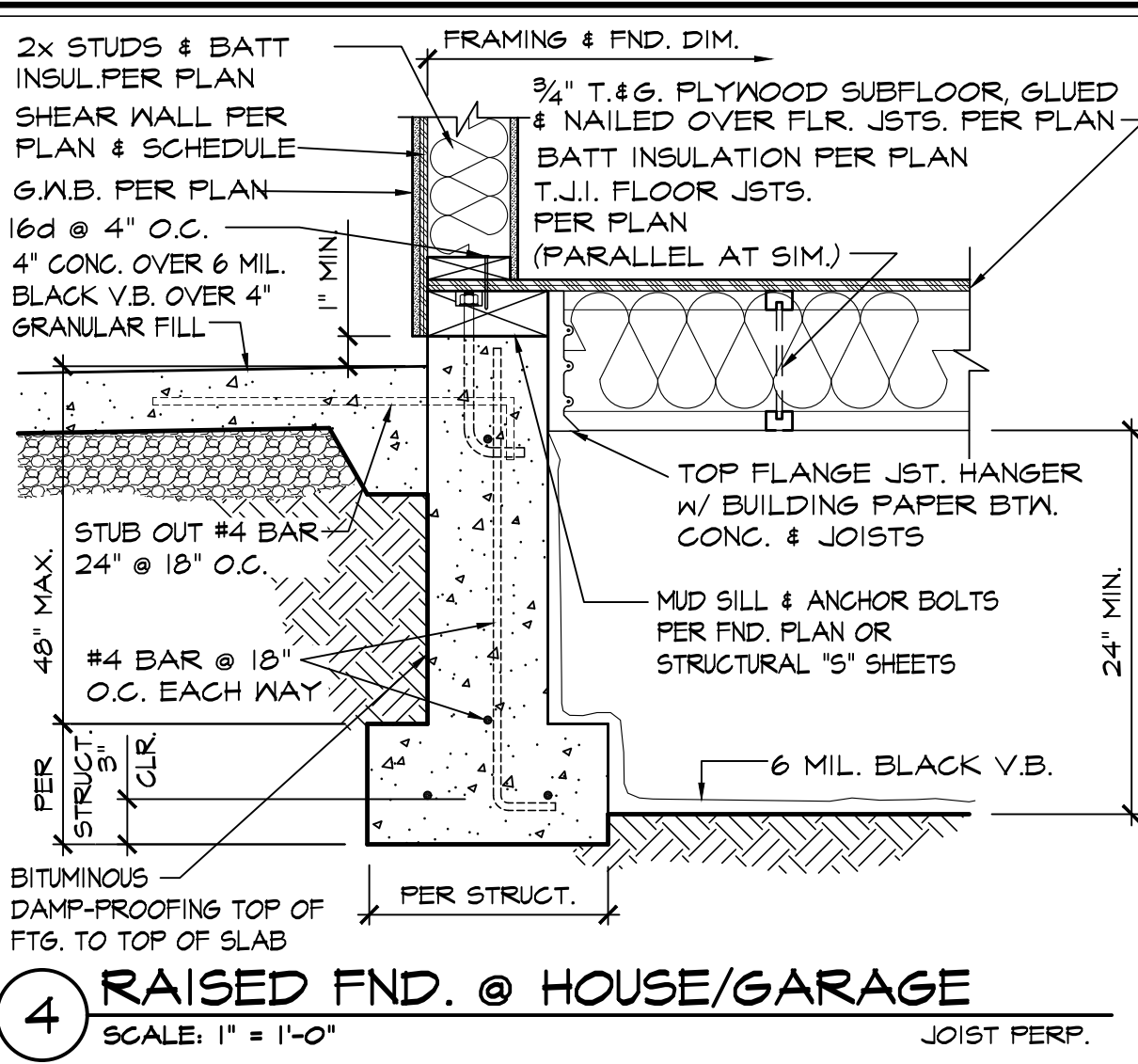
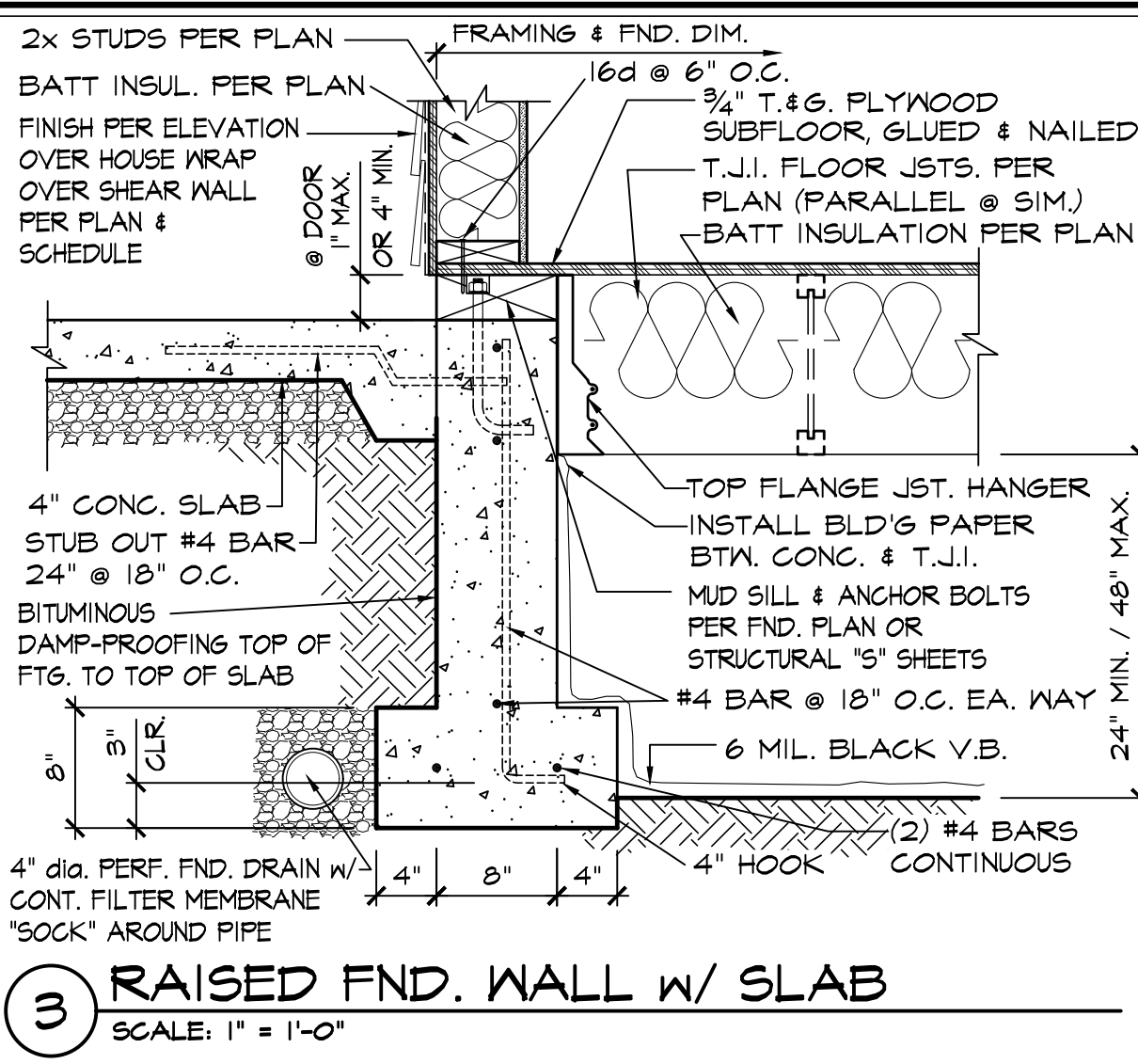
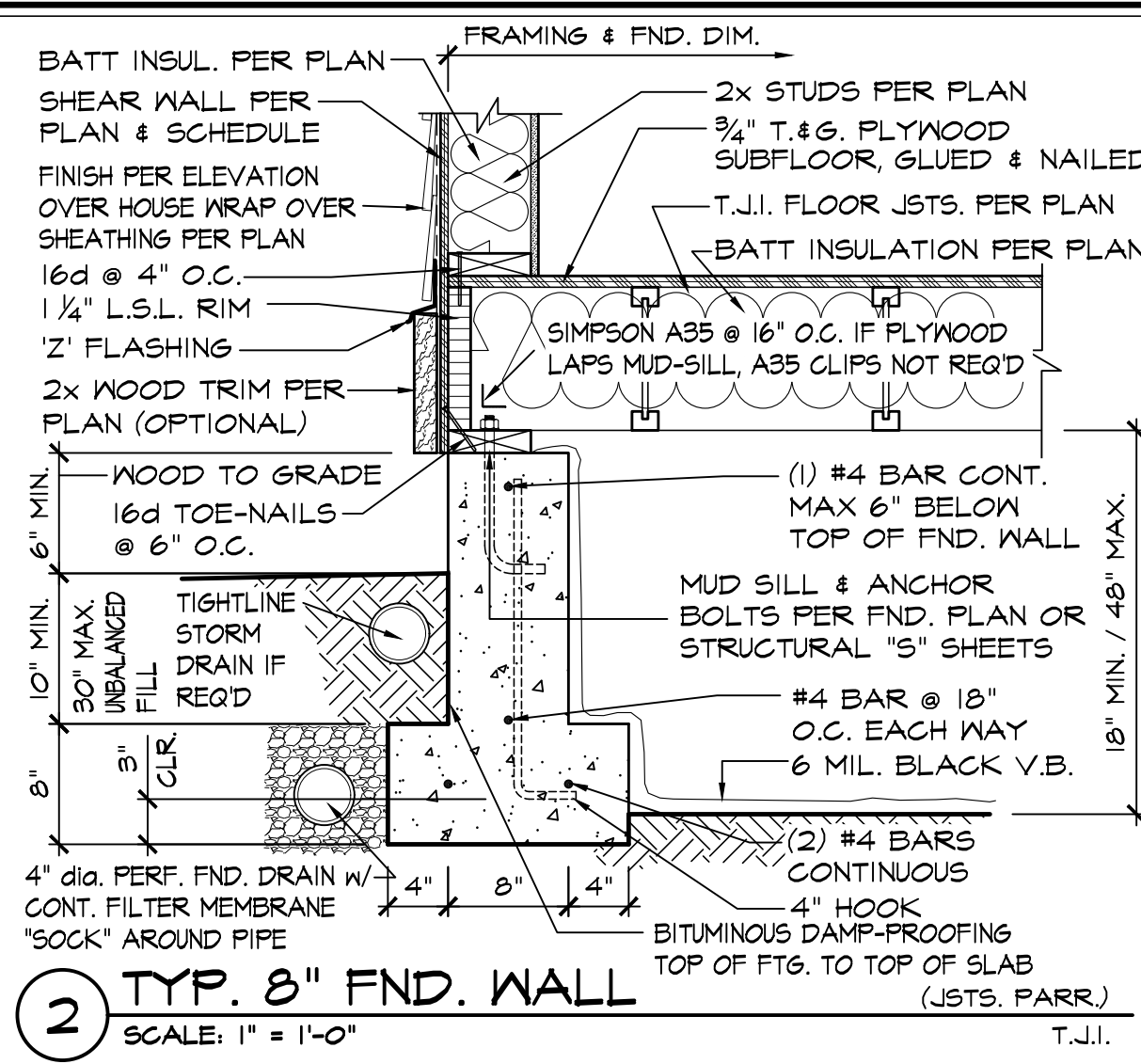
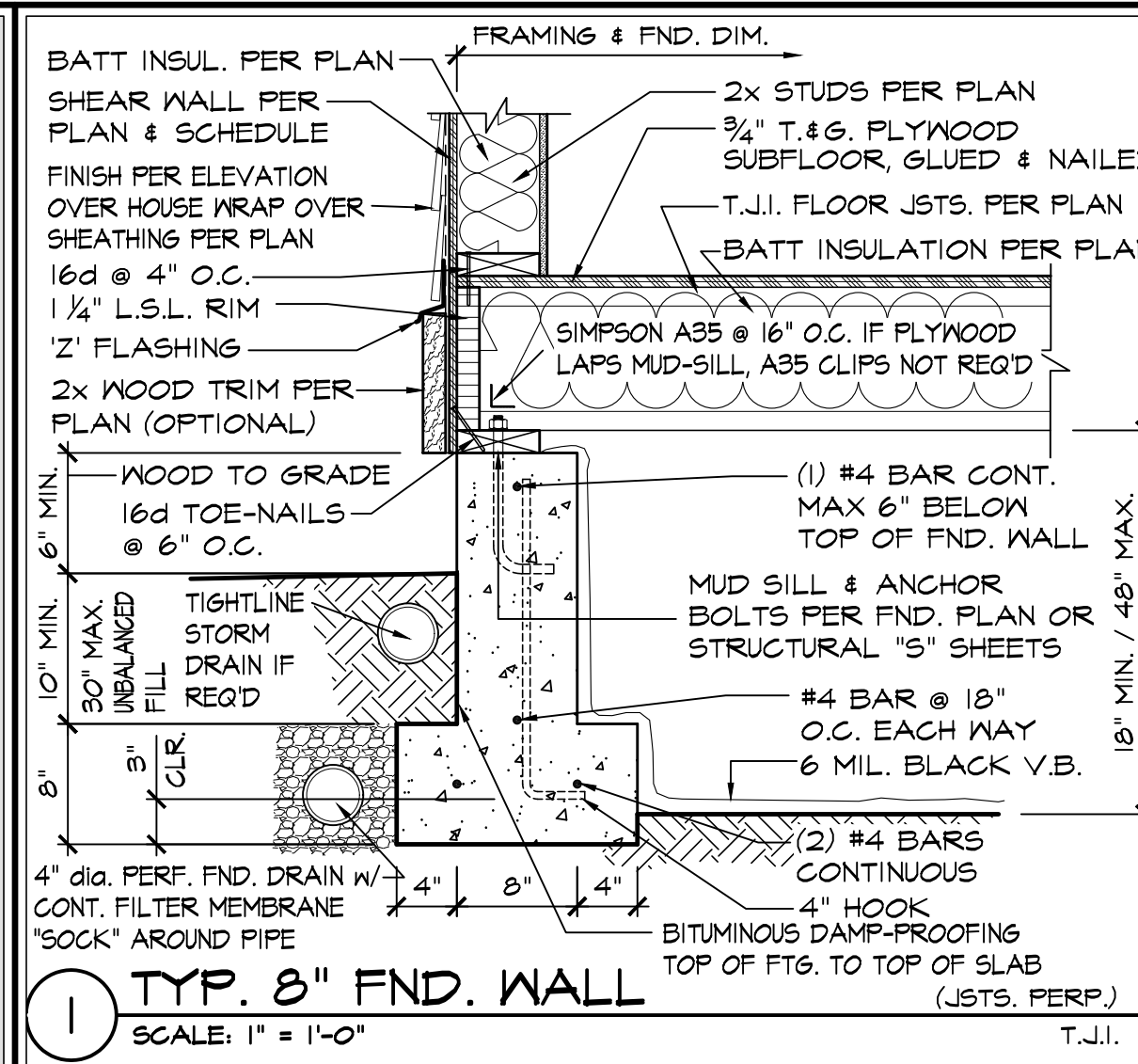
DESIGNED BY: JdeR DATE: 2012  
DRAWN BY: JM DATE: 5/1/2012

PROJECT MANAGER: SARAH WEIGHT  
REVISIONS: JSC 9/7/22, JSC 12/6/22, JSC 6/14/23  
LATERAL BY: M4K DATE: 9/7/22  
LATERAL JOB NUMBER: 202-22014  
**A1 A12**  
ANN WOODMANVILLE OFFICE JOB NUMBER: 220006









REGISTERED ARCHITECT  
1718/22

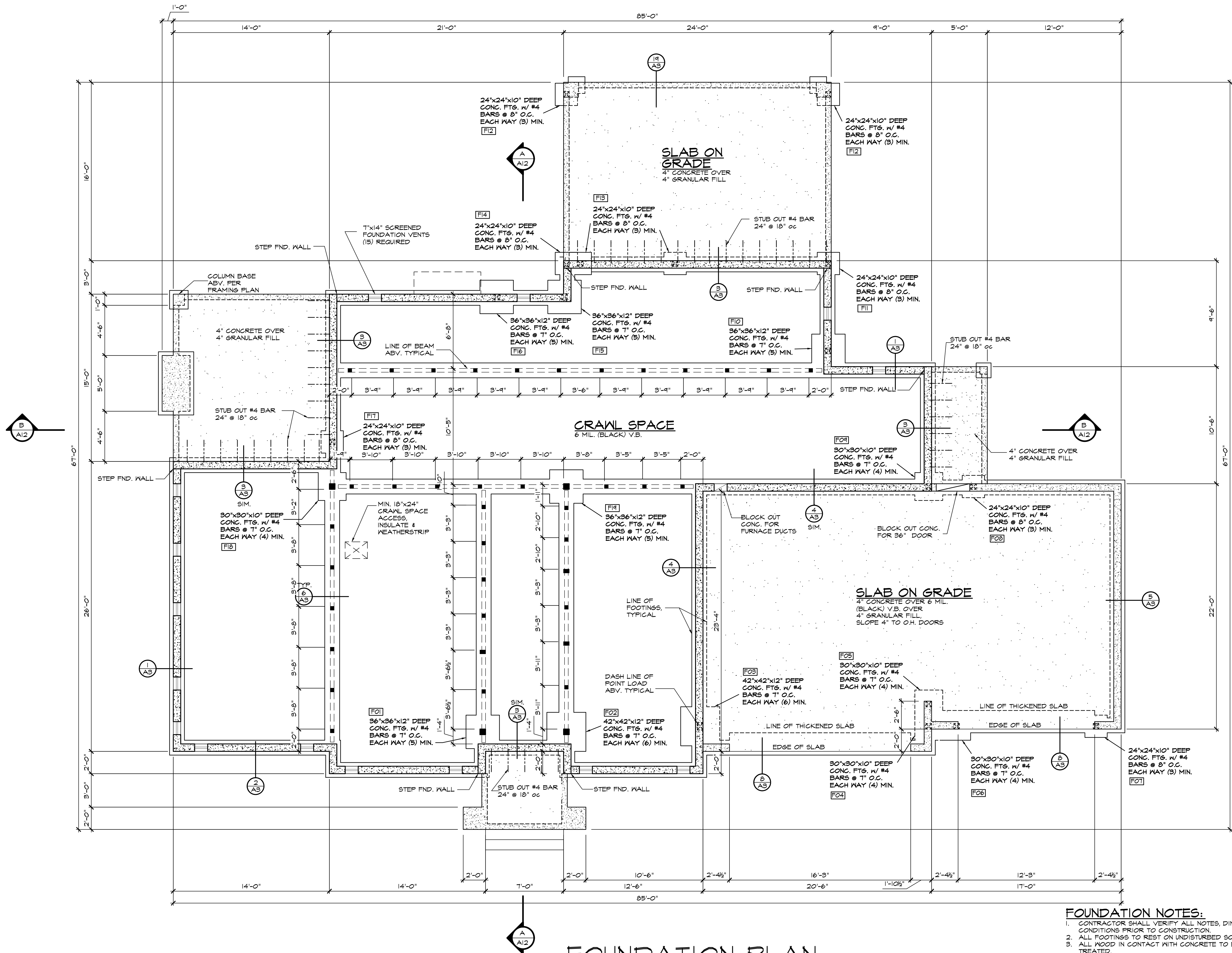
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PLAN M4061A3F-2

DESIGNED BY:	DATE:
JdeR	2012
DRAWN BY:	DATE:
JM	5/1/2012
PROJECT MANAGER:	DATE:
SARAH WEIGHT	9/7/22
REVISED BY:	DATE:
JSC	12/6/22
JSC	6/14/23
LATERAL BY:	DATE:
M4K	9/7/22
LATERAL JOB NUMBER:	
202-22014	

ANN WOODVILLE OFFICE  
JOB NUMBER:  
220006





**FOUNDATION PLAN**

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

- FOUNDATION NOTES:**
1. CONTRACTOR SHALL VERIFY ALL NOTES, DIMENSIONS & CONDITIONS PRIOR TO CONSTRUCTION.
  2. ALL FOOTINGS TO REST ON UNDISTURBED SOIL.
  3. ALL JOINTS IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED.
  4. SOFFIT, VENT & INSULATE CANTILEVERED AREAS.
  5. STEP FOUNDATION PER SITE CONDITIONS.
  6. 1500 P.S.F. ASSUMED SOIL BEARING CAPACITY SHALL BE VERIFIED IN FIELD.
  7. SEE SHEET A1 FOR ADDITIONAL NOTES.
  8. SEE SHEET A2 FOR FOUNDATION VENTILATION CALCULATION.

NOTE: SEE S1 SHEETS FOR LATERAL INFORMATION & ENGINEERING DETAILS

REGISTERED ARCHITECT  
 5044  
 7/18/22

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DESIGNED BY:	DATE:
JdeR	2012
DRAWN BY:	DATE:
JM	5/1/2012

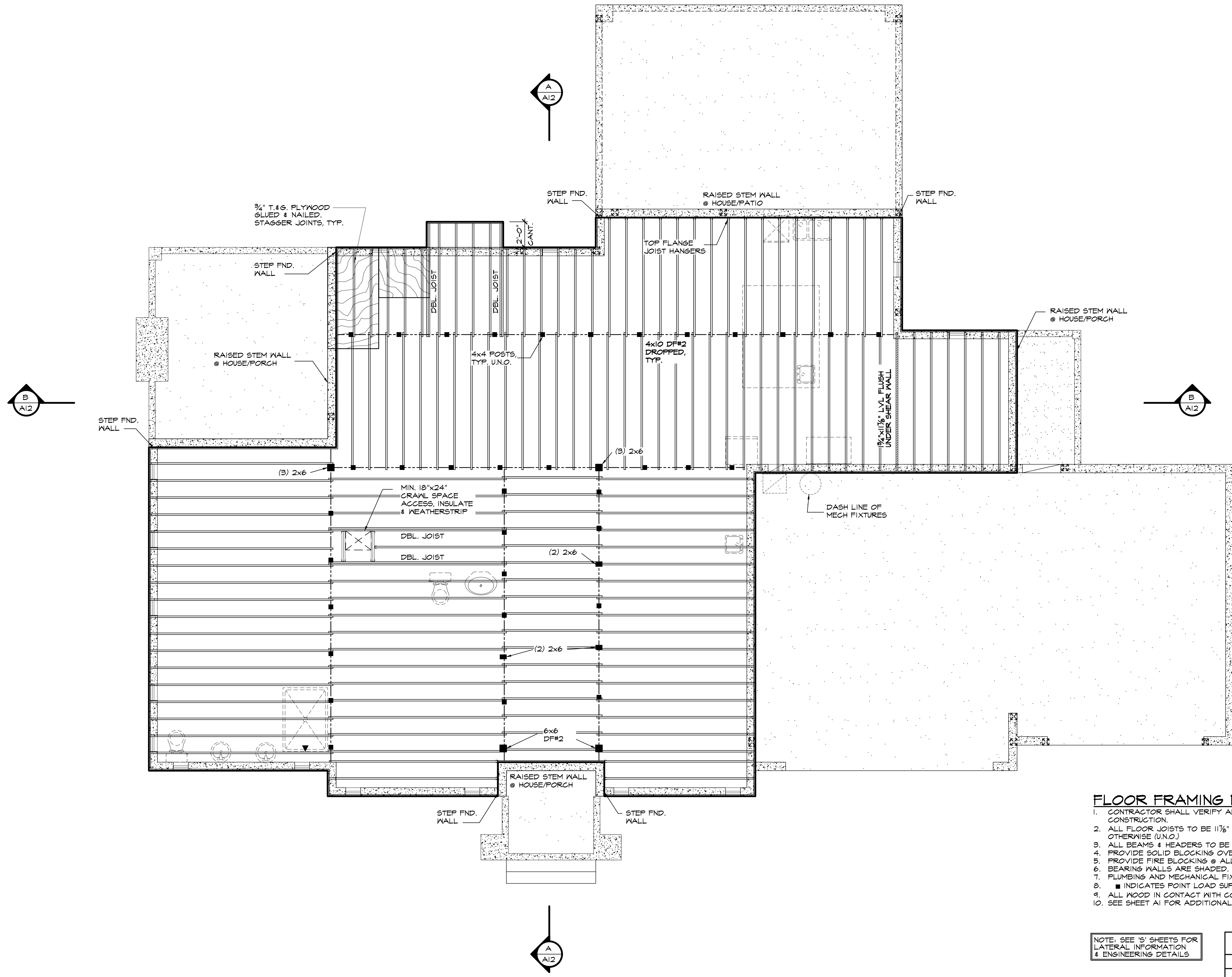
PROJECT MANAGER:  
 SARAH WEIGHT  
 REVISED BY: JSC DATE: 9/7/22  
 JSC DATE: 12/6/22  
 JSC DATE: 6/14/23

LATERAL BY:	DATE:
M&K	9/7/22
LATERAL JOB NUMBER:	
202-22014	

**A4**  
**A12**

ANN WOODVILLE OFFICE  
 JOB NUMBER:  
**220006**





- FLOOR FRAMING NOTES:**
1. CONTRACTOR SHALL VERIFY ALL NOTES, DIMENSIONS & CONDITIONS PRIOR TO CONSTRUCTION.
  2. ALL FLOOR JOISTS TO BE 11 1/2" TJI 110 @ 16" ON CENTER UNLESS NOTED OTHERWISE (U.N.O.)
  3. ALL BEAMS & HEADERS TO BE 4x10 DF#2 U.N.O.
  4. PROVIDE SOLID BLOCKING OVER SUPPORTS.
  5. PROVIDE FIRE BLOCKING @ ALL PLUMBING PENETRATIONS.
  6. BEARING WALLS ARE SHADED.
  7. PLUMBING AND MECHANICAL FIXTURES ARE DASHED.
  8. ■ INDICATES POINT LOAD SUPPORTED BY (2) STUDS, U.N.O.
  9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED.
  10. SEE SHEET A1 FOR ADDITIONAL NOTES.

NOTE: SEE 'S' SHEETS FOR LATERAL INFORMATION & ENGINEERING DETAILS

BEAM SCHEDULE	
PLAN VIEW	DESCRIPTION
----	DROPPED BEAM DESIGNATED ON FLOOR PLANS.
-----	DROPPED BEAM DESIGNATED ON FRAMING PLANS.
▨	FLUSH AND TOP FLUSH BEAM DESIGNATED ON FRAMING PLANS.
▩	UPSET BEAM DESIGNATED ON FRAMING PLANS.

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

REGISTERED ARCHITECT  
SARAH WEIGHT  
STATE OF WASHINGTON  
7/18/22

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**PLAN M4061A3F-2**

DESIGNED BY: JdeR DATE: 2012

DRAWN BY: JM DATE: 5/1/2012

PROJECT MANAGER: SARAH WEIGHT

REVISED BY: JSC DATE: 9/7/22

JSC DATE: 12/6/22

JSC DATE: 6/14/23

LATERAL BY: M&K DATE: 9/7/22

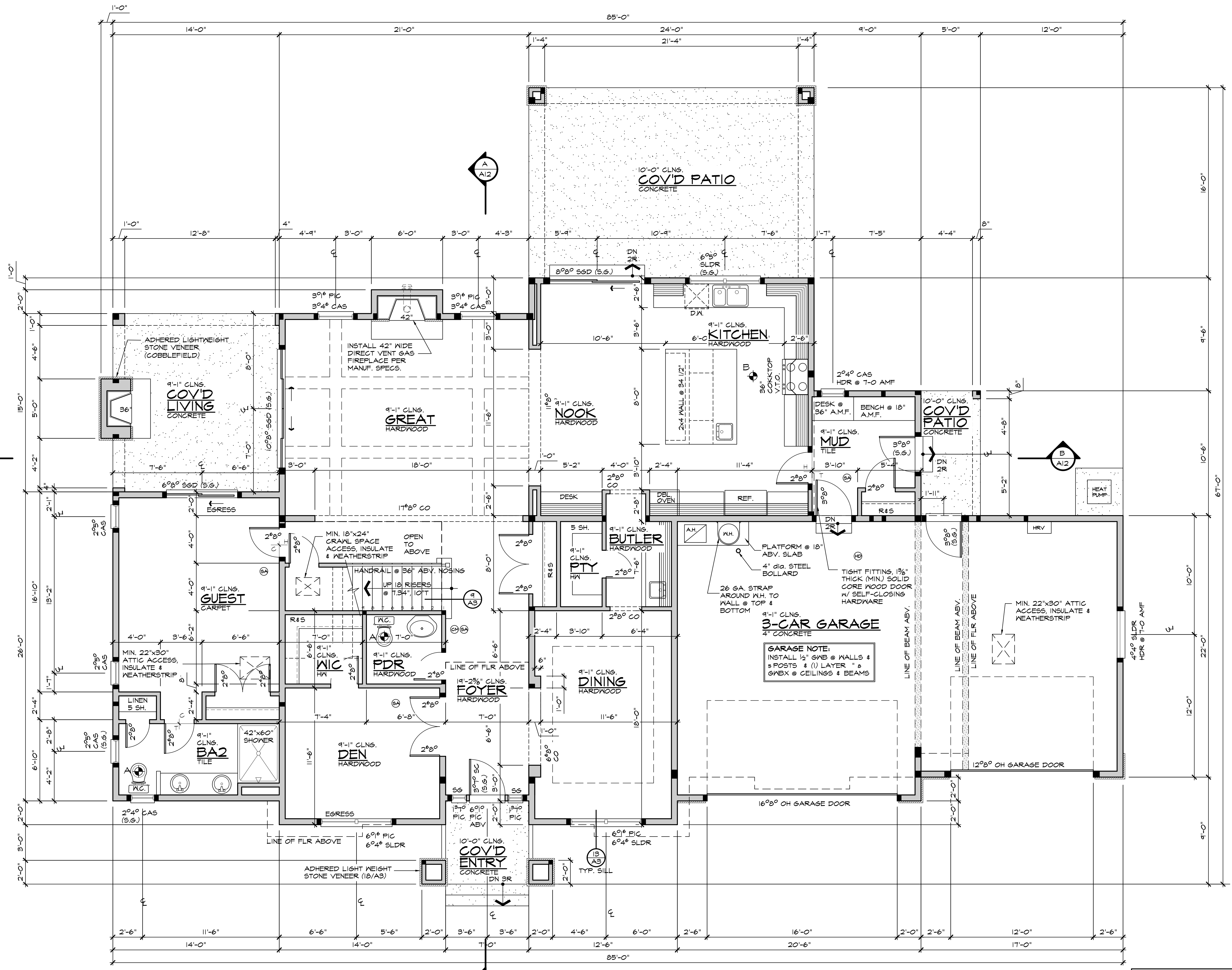
LATERAL JOB NUMBER: 202-22014

**A5**

**A12**

ANN WOODVILLE OFFICE JOB NUMBER: 220006





**2018 W.S.E.C. CREDITS**

**FUEL NORMALIZATION (SYSTEM TYPE 2)**  
 FOR AN INITIAL HEATING SYSTEM USING A HEAT PUMP THAT MEETS FEDERAL STANDARDS FOR THE EQUIPMENT LISTED IN TABLE 6403.9.2(1)G OR 6403.9.2(2)

**EFFICIENT BUILDING ENVELOPE (PER OPTION 1.3)**  
 PRESCRIPTIVE COMPLIANCE IS BASED ON R402.1.1 WITH THE FOLLOWING MODIFICATIONS:  
 VERTICAL FENESTRATION U=0.28, FLOOR R-9.9, SLAB ON GRADE R-10

**AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION (PER OPTION 2.1)**  
 REDUCE THE TESTED AIR LEAKAGE TO 3.0 AIR CHANGES PER HOUR MAXIMUM AT 50 PASCALS

**HIGH EFFICIENCY HVAC EQUIPMENT (PER OPTION 3.5)**  
 AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 11.0.

**EFFICIENT WATER HEATING (PER OPTION 5.5)**  
 ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION

**APPLIANCE PACKAGE (PER OPTION 1.1)**  
 ALL OF THE FOLLOWING APPLIANCES SHALL BE NEW AND INSTALLED IN THE DWELLING UNIT AND SHALL MEET THE FOLLOWING STANDARDS:  
 • DISHWASHER - ENERGY STAR RATED  
 • REFRIGERATOR (IF PROVIDED) - ENERGY STAR RATED  
 • WASHING MACHINE - ENERGY STAR RATED  
 • DRYER - ENERGY STAR RATED, VENTLESS DRYER WITH A MINIMUM CEF RATING OF 5.2.

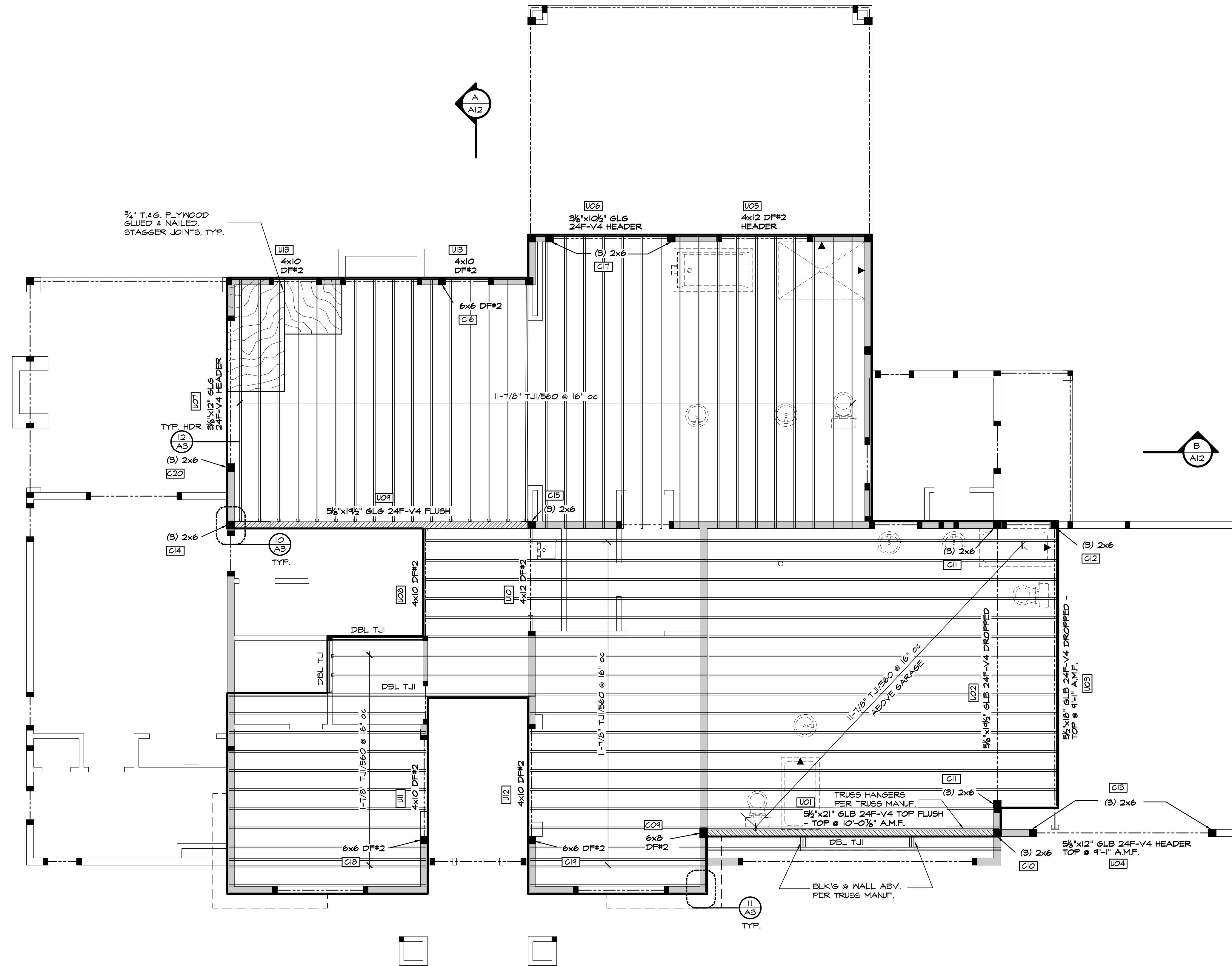
**MAIN FLOOR PLAN**  
 SCALE: 1/4" = 1'-0"

NOTE: SEE 'S' SHEETS FOR LATERAL INFORMATION & ENGINEERING DETAILS

**AREA SUMMARY**

MAIN FLOOR:	2,175 SF
UPPER FLOOR:	2,040 SF
<b>TOTAL FINISHED AREA:</b>	<b>4,225 SF</b>
GARAGE:	856 SF
COVERED ENTRY:	54 SF
COVERED LIVING:	214 SF
COVERED PORCH:	384 SF
COVERED PATIO:	53 SF





# UPPER FLOOR FRAMING PLAN

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

### FLOOR FRAMING NOTES:

- CONTRACTOR SHALL VERIFY ALL NOTES, DIMENSIONS & CONDITIONS PRIOR TO CONSTRUCTION.
- ALL FLOOR JOISTS TO BE 1 7/8" T.J.I. SERIES 560 @ 16" ON CENTER UNLESS NOTED OTHERWISE (U.N.O.)
- ALL BEAMS & HEADERS TO BE 4X10 DF#2 U.N.O.
- PROVIDE SOLID BLOCKING OVER SUPPORTS.
- PROVIDE FIRE BLOCKING @ ALL PLUMBING PENETRATIONS.
- WINDOW HEADERS @ 0'-0" ABOVE FINISHED FLOOR @ MAIN FLOOR U.N.O. WINDOW HEADERS @ 7'-6" ABOVE FINISHED FLOOR @ UPPER FLOOR U.N.O. BEARING WALLS ARE SHADED.
- PLUMBING AND MECHANICAL FIXTURES ARE DASHED.
- INDICATES POINT LOAD SUPPORTED BY (2) STUDS, U.N.O.
- ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED.
- SEE SHEET A1 FOR ADDITIONAL NOTES.

NOTE: SEE 'S' SHEETS FOR LATERAL INFORMATION & ENGINEERING DETAILS

### BEAM SCHEDULE

PLAN VIEW	DESCRIPTION
---	DROPPED BEAM DESIGNATED ON FLOOR PLANS.
----	DROPPED BEAM DESIGNATED ON FRAMING PLANS.
▨	FLUSH AND TOP FLUSH BEAM DESIGNATED ON FRAMING PLANS.
▩	UPSET BEAM DESIGNATED ON

REGISTERED ARCHITECT  
SARAH WEIGHT  
NO. 10000  
STATE OF WASHINGTON  
7/18/22

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HATELY RESIDENCE  
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PLAN M4061A3F-2

DESIGNED BY: JdeR DATE: 2012  
DRAWN BY: JJM DATE: 5/1/2012

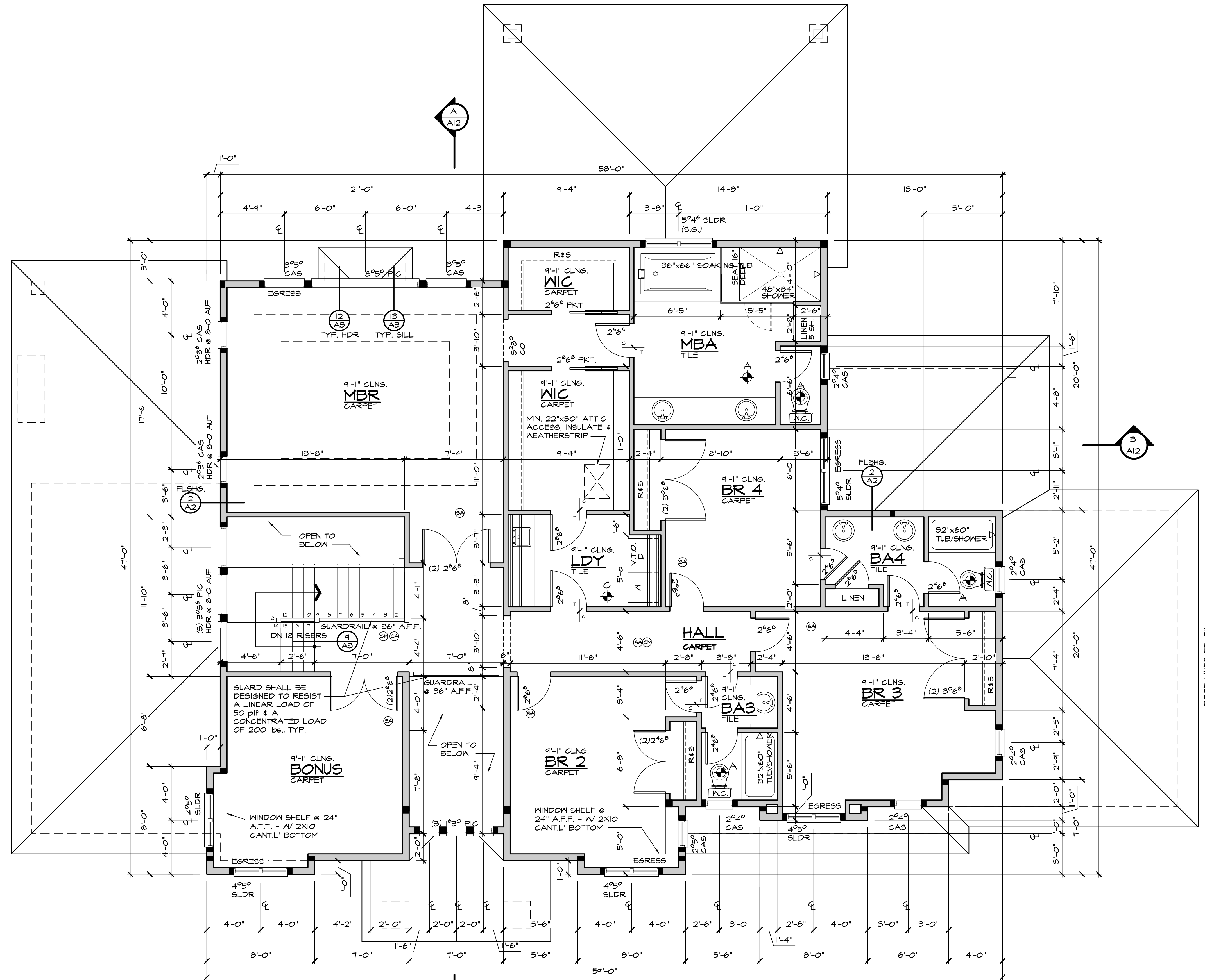
PROJECT MANAGER: SARAH WEIGHT  
REVISED BY: JSC DATE: 9/7/22  
JSC DATE: 12/6/22  
JSC DATE: 6/14/23

LATERAL BY: M&K DATE: 9/7/22  
LATERAL JOB NUMBER: 202-22014

A7  
A12

ANN WOODVILLE OFFICE  
JOB NUMBER:  
220006





UPPER FLOOR PLAN

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

NOTE: SEE 'S' SHEETS FOR LATERAL INFORMATION & ENGINEERING DETAILS

REGISTERED ARCHITECT  
 5040  
 7/18/22

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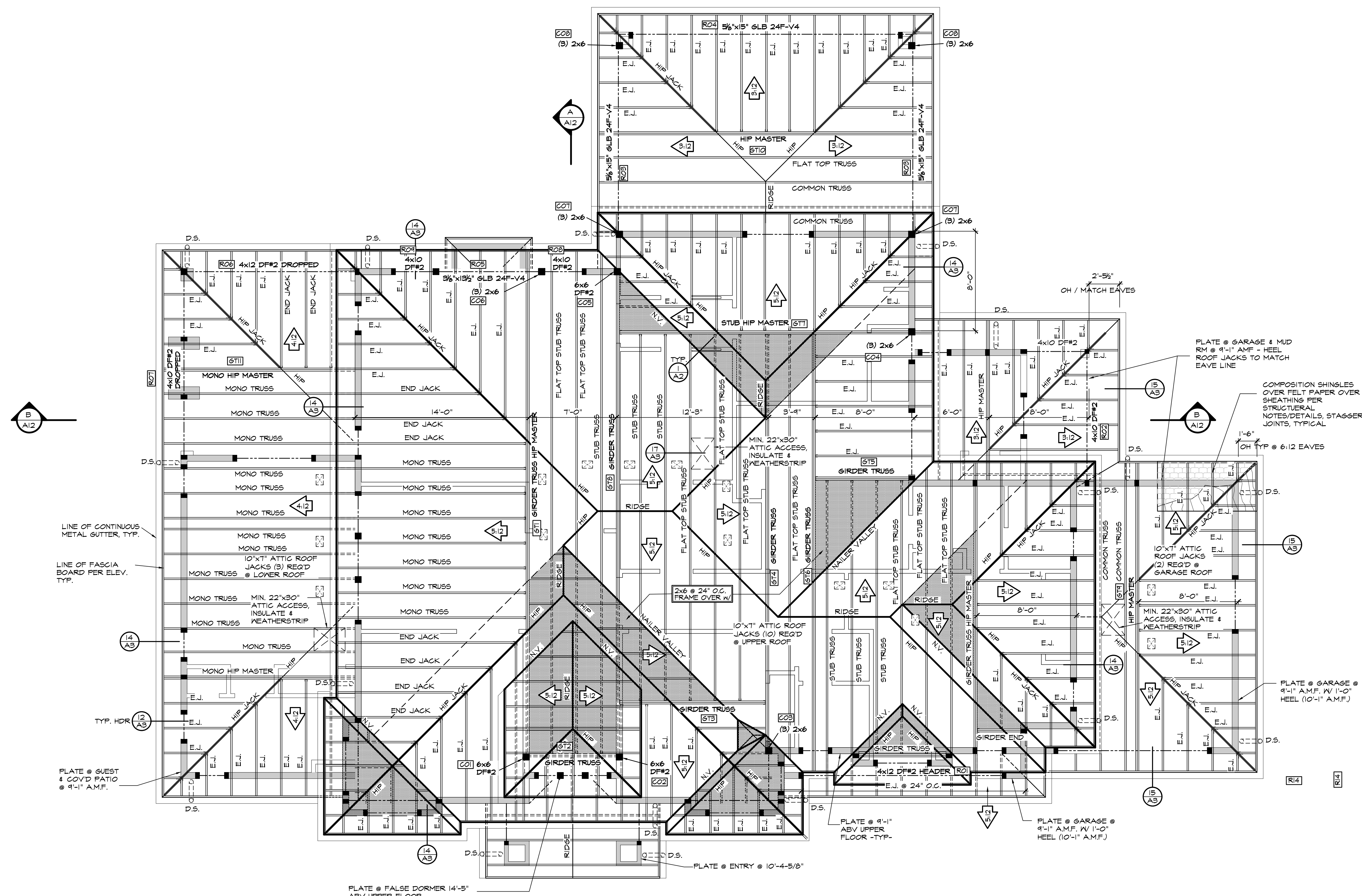
PROJECT MANAGER: SARAH WEIGHT  
 REVISED BY: JSC DATE: 9/7/22  
 JSC DATE: 12/6/22  
 JSC DATE: 6/14/23

LATERAL BY: M4K DATE: 9/7/22  
 LATERAL JOB NUMBER: 202-22014

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 A12

ANW WOODVILLE OFFICE  
 JOB NUMBER:  
 220006





LINE OF CONTINUOUS METAL GUTTER, TYP.  
 LINE OF FASCIA BOARD PER ELEV. TYP.  
 TYP. HDR  
 PLATE @ GUEST & COV'D PATIO @ 9'-1" A.M.F.

PLATE @ GARAGE & MUD RM @ 9'-1" A.M.F. + HEEL ROOF JACKS TO MATCH EAVE LINE  
 COMPOSITION SHINGLES OVER FELT PAPER OVER SHEATHING PER STRUCTURAL NOTES/DETAILS, STAGGER JOINTS, TYPICAL  
 1'-6" OH TYP @ 6:12 EAVES  
 PLATE @ GARAGE @ 9'-1" A.M.F. W/ 1'-0" HEEL (10'-1" A.M.F.)

# ROOF FRAMING PLAN

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

- ROOF FRAMING NOTES:**
- CONTRACTOR SHALL VERIFY ALL NOTES, DIMENSIONS & CONDITIONS PRIOR TO CONSTRUCTION.
  - ALL BEAMS & HEADERS TO BE 4x10 DF#2 U.N.O.
  - PROVIDE VENTED BLOCKING OVER SUPPORTS.
  - BEARING WALLS ARE SHADED.
  - WINDOW HEADERS @ 8'-0" ABOVE FINISHED FLOOR @ MAIN FLOOR U.N.O. WINDOW HEADERS @ 7'-6" ABOVE FINISHED FLOOR @ UPPER FLOOR U.N.O. ALL TRUSSES:
    - \* SHALL CARRY MANUFACTURER'S STAMP.
    - \* SHALL BE INSTALLED & BRACED TO MANUFACTURER'S SPECIFICATIONS.
    - \* SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR FRAMING INSPECTION.
    - \* SHALL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEER'S CALCULATIONS.
    - \* TRUSS HANGERS SHALL BE SPECIFIED BY THE TRUSS ENGINEER.
  - INDICATES POINT LOAD SUPPORTED BY (2) STUDS, U.N.O.
  - INSTALL SHEAR WALLS &/OR BLOCKING IN ROOF STRUCTURE BEFORE INSTALLING FINISH ROOFING.
  - SEE SHEET A1 FOR ADDITIONAL NOTES.
  - SEE SHEET A2 FOR ROOF VENTILATION CALCULATION(S).

NOTE: SEE 'S' SHEETS FOR LATERAL INFORMATION & ENGINEERING DETAILS

BEAM SCHEDULE	
PLAN VIEW	DESCRIPTION
---	DROPPED BEAM DESIGNATED ON FLOOR PLANS.
----	DROPPED BEAM DESIGNATED ON FRAMING PLANS.
▨	FLASH AND TOP FLUSH BEAM DESIGNATED ON FRAMING PLANS.
▩	UPSET BEAM DESIGNATED ON FRAMING PLANS.

ARCHITECTS NORTHWEST  
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 PLAN M4061A3F-2

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 DRAWN BY: JM DATE: 5/1/2012

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 REVISED BY: JSC DATE: 9/7/22  
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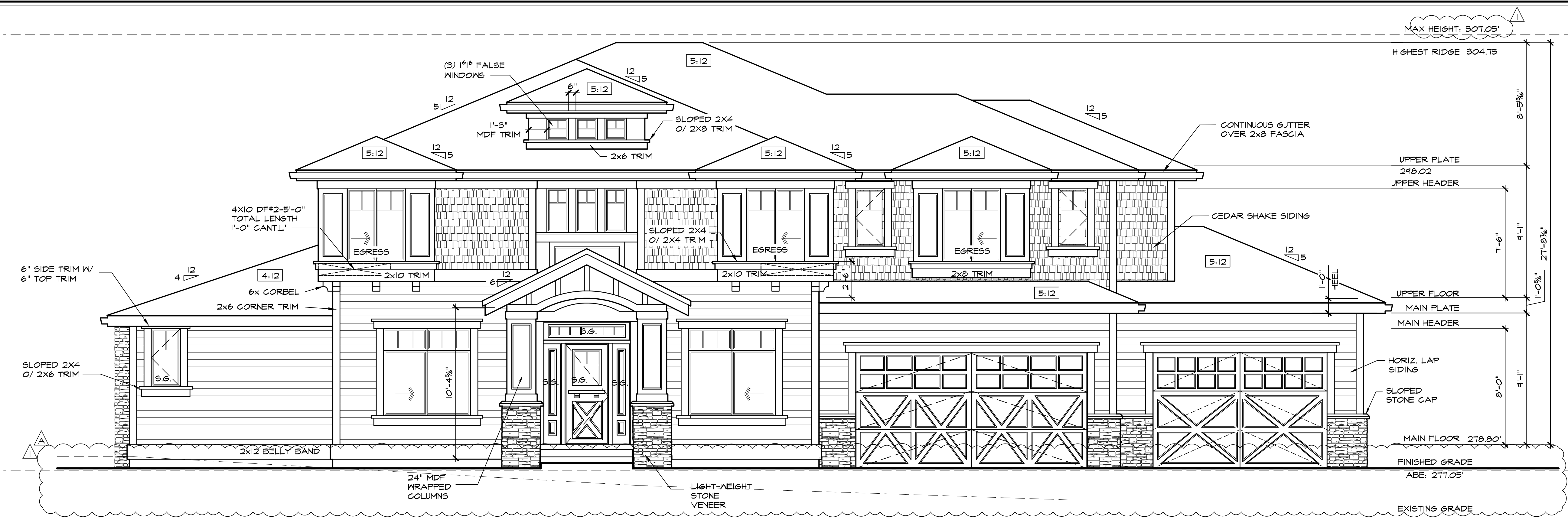
LATERAL BY: M4K DATE: 9/7/22  
 LATERAL JOB NUMBER: 202-22014

ANN WOODVILLE OFFICE  
 JOB NUMBER: 220006

REGISTERED ARCHITECT  
 ARCHITECTS NORTHWEST  
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**FRONT ELEVATION**  
SCALE: 1/4" = 1'-0"

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 OFFICE: (425) 487-4900 FAX: (425) 487-6585  
 HOME: (425) 487-6585 WWW.ARCHITECTSNW.COM

**ELEVATION NOTES:**

1. VERIFY SHEAR WALL NAILING & HOLDDOWNS PER PLAN PRIOR TO INSTALLING SIDING.
2. MASONRY & WOOD FRAME CHIMNEYS ARE TO BE CONSTRUCTED PER I.R.C. CHAPTER 10.
3. CAULK ALL EXTERIOR JOINTS & PENETRATIONS.
4. PROVIDE APPROVED CORROSION RESISTANT FLASHING AT EXTERIOR WALL ENVELOPE PER I.R.C. R303.6
5. PROVIDE FLASHING AT ROOF PENETRATIONS PER I.R.C. R303.2 & R303.2.1.
6. PROVIDE WEATHER STRIPPING AT ALL EXTERIOR & GARAGE-INTERIOR DOORS.
7. PROVIDE CONTINUOUS GUTTERS & DOWNSPOUTS @ ALL EAVES, TYP.
8. ADDRESS OR HOUSE NUMBER TO BE POSTED AND PLAINLY VISIBLE FROM THE STREET FRONTAGE. HUMBERS TO BE MIN. 4" HIGH WITH 1/2" WIDE STROKE & CONTRASTING BACKGROUND.
9. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. R303.6
10. SEE COVERSHEET FOR ADDITIONAL NOTES.



**LEFT ELEVATION**  
SCALE: 1/4" = 1'-0"

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**XtremTrim® Low Profile Outside Corner**

EXTRUDED ALUMINUM

PRODUCT DETAIL: Shows a cross-section of the XtremTrim profile with dimensions: 3/4" (XCCLP34) for the top flange, 1" (XCCLP34) for the main body, and 3/4" (XCCLP34) for the bottom flange. The total width is 1 1/2".

ITEM ID	SIDING SIZE	"A"
XCCLP516	5/16" (8mm)	3/4"
XCCLP716	7/16" (11mm)	3/4"
XCCLP8	5/8" (16mm)	3/4"
XCCLP34	5/16" Lap Siding	1-1/2"

DESIGN FEATURES: Offers a clean outside corner with a minimum visual reveal for vertical siding panels or lap siding.

MATERIAL: 6063 T-5 extruded aluminum alloy with proprietary coating that protects against harsh weather conditions and allows for paint adhesion. THICKNESS: .050" (1.27mm) ± .005.

FINISH: Available in standard primed (ready-to-paint), standard color match (available in most popular siding and shingle finishes), Coastal Color Coating™, and anodized finishes. Unless otherwise specified all XtremTrim® products are provided in primed.

FASTENERS AND FASTENING: Stainless steel fasteners are recommended when installing XtremTrim® and fiber cement products. XtremTrim® wall applications shall be in accordance with the siding manufacturer's best practice. XtremTrim® profiles may be secured in place with a few SS nails until fasteners through panels and in studs during panel fastening. Do not fasten edges of panels or planks until trim is in place. Fasten panel at center and work outward. Fasteners should be staggered on opposite edges of panels.

CUTTING: Use a non-ferrous carbide miter saw blade when cutting XtremTrim®.

PAINTING: Use Direct to Metal (DTM) paint with XtremTrim®. See XtremTrim® Painting Guide.

BUTT JOINTS: Polyurethane sealant is required between butt joints where two trims come together. May also be further protected by use of a piece of TAMIYN SecureSeal Tape behind the butt joint or with a metal flasher behind the joint.

RECOMMENDED APPLICATION: Apply a continuous 3/8" bead of polyurethane sealant on trim before setting panels to help minimize water intrusion behind the siding.

BEST PRACTICE FOR INSTALLING CORNERS: Install house wrap - continuous from bottom to top, overlapping as per manufacturer's install method. Install T2™ self-adhesive membrane tape vertically at both inside and outside corners for additional protection against break down.

Please follow siding manufacturer's best practice application when installing any Tamiyn accessory. XtremTrim® profiles do not form a moisture management system, the architect and builder are responsible for designing and installing a code compliant building envelope.

WARNING: Do not use XtremTrim® Profile with any other brand of siding. XtremTrim® Profile is not to be used with any other brand of siding. XtremTrim® Profile is not to be used with any other brand of siding. XtremTrim® Profile is not to be used with any other brand of siding.

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**SIDING CORNER DETAIL**  
SCALE: NOT TO SCALE

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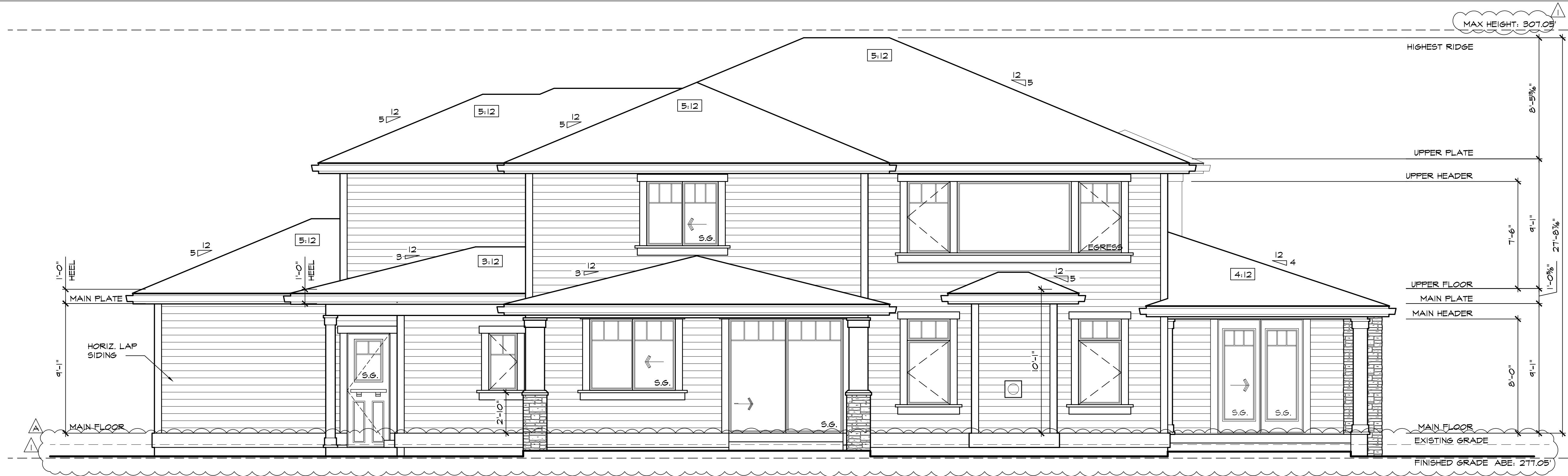
DESIGNED BY: JdeR DATE: 2012  
 DRAWN BY: JSC DATE: 9/17/22  
 JM DATE: 5/11/2012

PROJECT MANAGER: SARAH HEIGHT  
 REVISIONS:  
 JSC 9/17/22  
 JSC 12/6/22  
 JSC 6/14/23

LATERAL BY: M4K DATE: 9/17/22  
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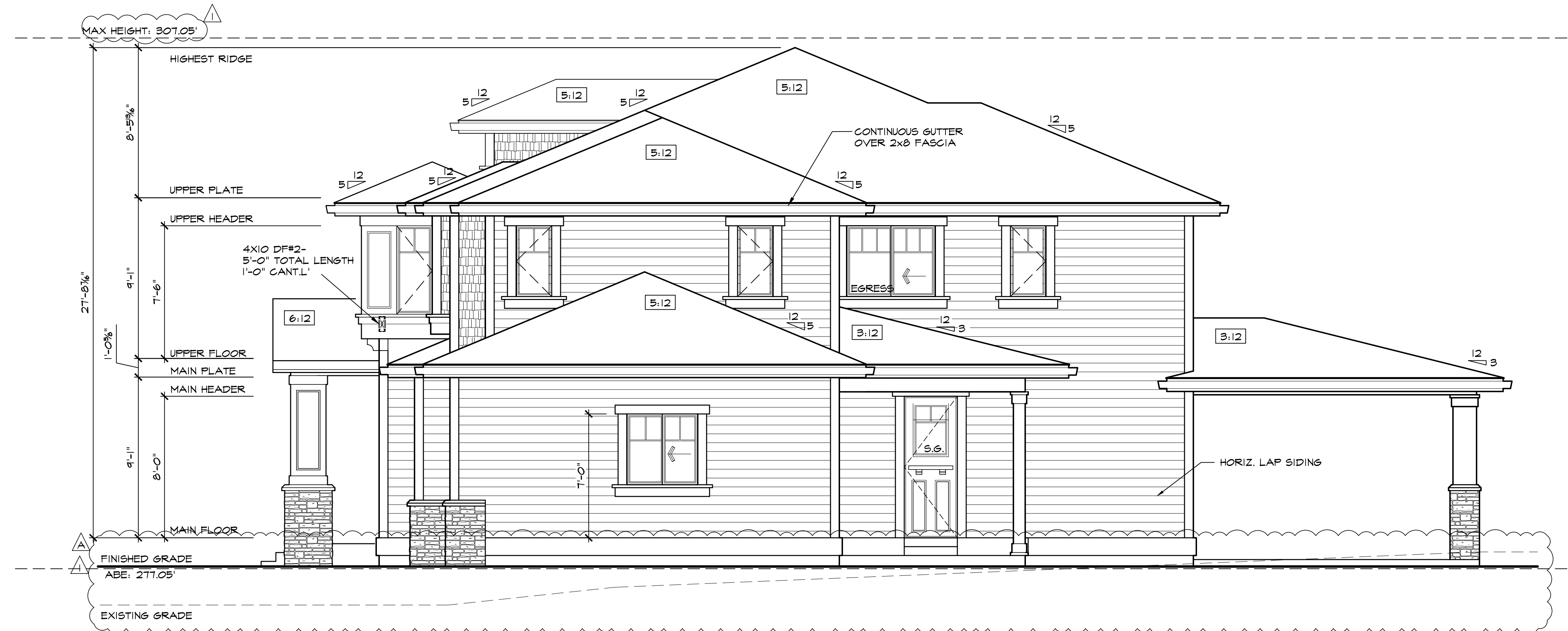




**REAR ELEVATION**  
SCALE: 1/4" = 1'-0"

**ELEVATION NOTES:**

1. VERIFY SHEAR WALL NAILING & HOLDDOWNS PER PLAN PRIOR TO INSTALLING SIDING.
2. MASONRY & WOOD FRAME CHIMNEYS ARE TO BE CONSTRUCTED PER I.R.C. CHAPTER 10.
3. CAULK ALL EXTERIOR JOINTS & PENETRATIONS.
4. PROVIDE APPROVED CORROSION RESISTANT FLASHING AT EXTERIOR WALL ENVELOPE PER I.R.C. R703.5
5. PROVIDE FLASHING AT ROOF PENETRATIONS PER I.R.C. R403.2 & R403.2.1
6. PROVIDE WEATHER STRIPPING AT ALL EXTERIOR & GARAGE-INTERIOR DOORS.
7. PROVIDE CONTINUOUS GUTTERS & DOWNSPOUTS @ ALL EAVES, TYP.
8. ADDRESS OR HOUSE NUMBER TO BE POSTED AND PLAINLY VISIBLE FROM THE STREET FRONTAGE. NUMBERS TO BE MIN. 4" HIGH WITH 1/2" WIDE STROKE & CONTRASTING BACKGROUND.
9. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. R309.6
10. SEE COVERSHEET FOR ADDITIONAL NOTES.



**RIGHT ELEVATION**  
SCALE: 1/4" = 1'-0"

REGISTERED ARCHITECT  
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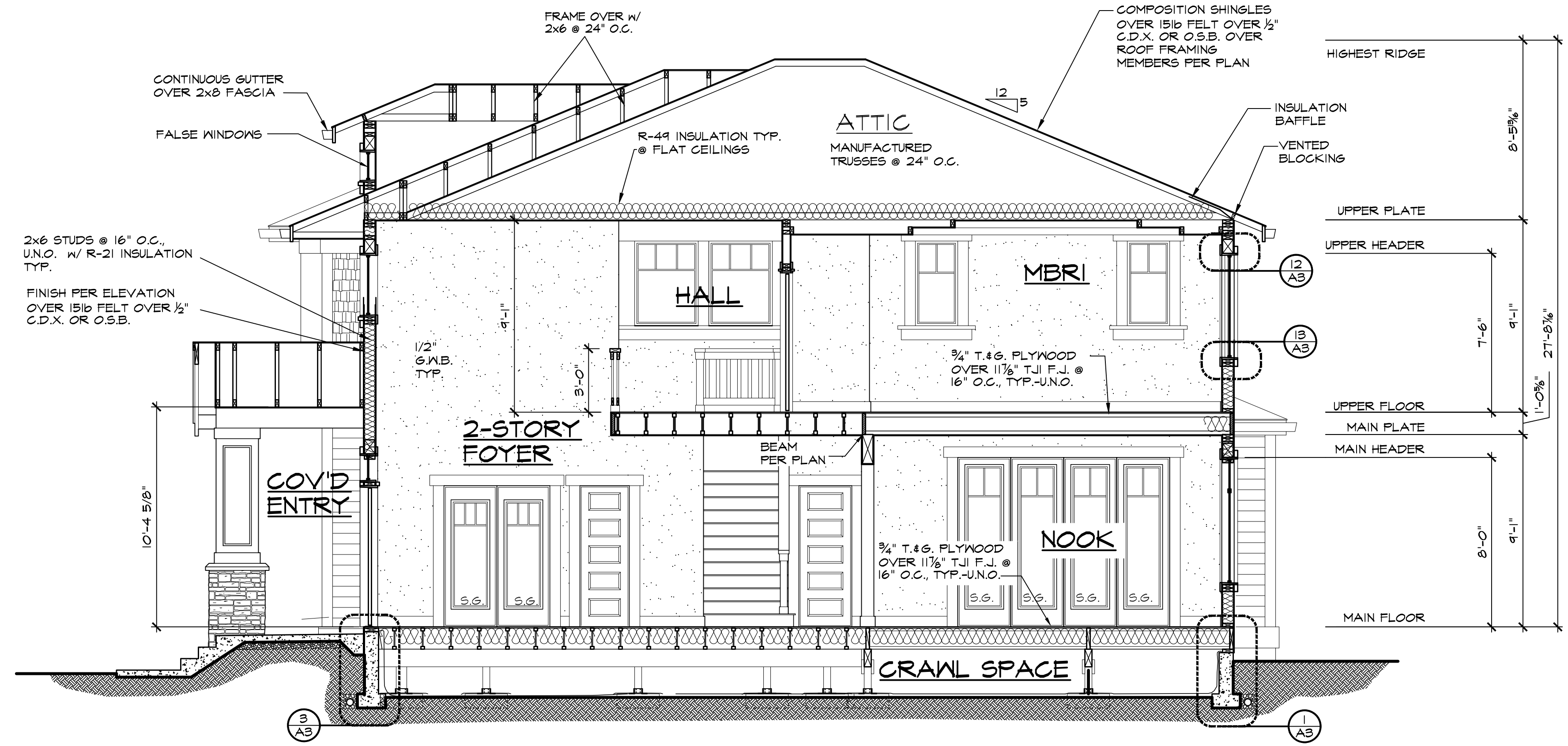
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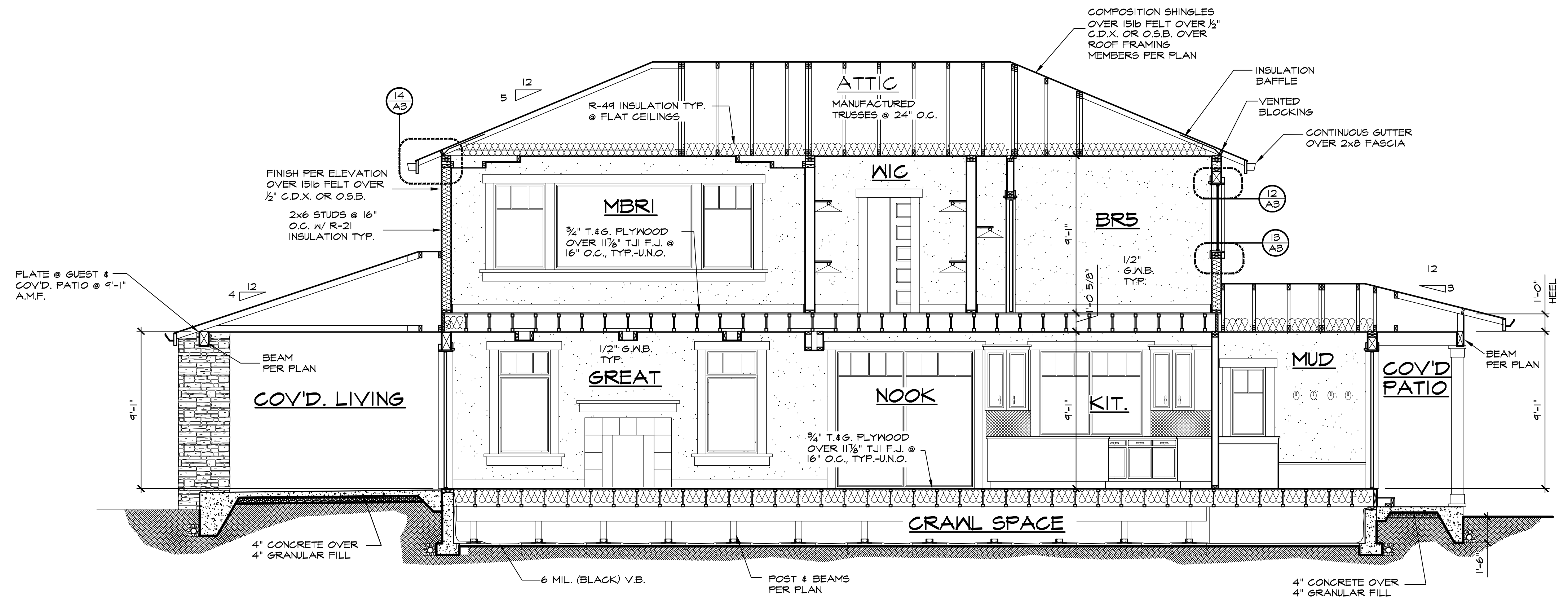
**All A12**

ANN WOODVILLE OFFICE JOB NUMBER: 220006





**A BUILDING SECTION**  
SCALE: 1/4" = 1'-0"



**B BUILDING SECTION**  
SCALE: 1/4" = 1'-0"

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A12  
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220006



### LOADING AND DESIGN PARAMETERS

<b>GRAVITY DESIGN LOADS:</b>	
DEAD LOAD (PSF):	
ROOF TRUSS TOP CHORD :	10
ROOF TRUSS BOTTOM CHORD :	7
FLOOR (I-JOISTS) :	10
FLOOR (TRUSSES) :	15
TILE FLOORS :	10
<b>SNOW LOAD:</b>	
GROUND SNOW LOAD (P <sub>s</sub> ) (PSF) :	25
SNOW EXPOSURE FACTOR (C <sub>e</sub> ) :	0.9
SNOW LOAD IMPORTANCE FACTOR (I) :	1.0
THERMAL FACTOR (C <sub>t</sub> ) :	1.2
<b>LATERAL DESIGN LOADS:</b>	
<b>WIND LOAD: (IBC 1604)</b>	
SPEED (V) (MPH) :	100
WIND RISK CATEGORY :	II
IMPORTANCE FACTOR (I <sub>w</sub> ) :	1.0
EXPOSURE CATEGORY :	B
INTERNAL PRESSURE COEFF. (GC <sub>p</sub> ) :	+0.18
TOPOGRAPHIC FACTOR (K <sub>z</sub> ) :	1.3
<b>SEISMIC LOAD: (IBC 1613)</b>	
SEISMIC RISK CATEGORY :	II
SEISMIC IMPORTANCE FACTOR (I <sub>w</sub> ) :	1.0
MAPPED SPECTRAL RESPONSE :	
S <sub>s</sub> 1.418	S <sub>s</sub> 0.493
SITE CLASS :	C
SPECTRAL RESPONSE COEFF. :	
S <sub>s</sub> 1.125	S <sub>w</sub> 0.448
SEISMIC DESIGN CATEGORY :	D
BASIC SEISMIC-FORCE-RESISTING SYS :	
LIGHT FRAMED WALLS	
W/ WOOD STRUCTURAL PANELS	
ULTIMATE BASE SHEAR:	
TRANS: 23k	LONG: 23k
SEISMIC RESPONSE COEFF. (C <sub>d</sub> ) :	
TRANS: 0.175	LONG: 0.175
RESPONSE MODIFICATION FACTOR (R) :	
TRANS: 6.5	LONG: 6.5
ANALYSIS PROCEDURE USED:	
EQUIVALENT LATERAL FORCE	

### HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
▶ HD-1	SIMPSON 5THD14 (RJ) HOLD-DOWN
▶ HD-5	SIMPSON CSI6 STRAP TIE (14" END LENGTH)
▶ HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
▶ HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

### LATERAL BRACING NOTES

THIS HOME HAS BEEN ENGINEERED TO RESIST LATERAL FORCES RESULTING FROM:  
100 MPH WIND SPEED, EXP. B  
(ASCE 7-16 WIND MAP, PER IRC R301.2.1.1)  
RISK CAT. 2 & SEISMIC CAT. D2.

110 MPH WIND IN 2018 IRC MAP  
ENGINEERED DESIGN WAS COMPLETED PER 2018 IBC (SECTION 1609 & 1613) & ASCE 7-16, AS PERMITTED BY R301.1.3 OF THE 2018 IRC. ACCORDINGLY, THIS HOME, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES, AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

### STANDARD EXTERIOR WALL SHEATHING SPECIFICATIONS

(INTERIOR WALL SPECIFICATION WHERE NOTED ON PLANS)

- $\frac{7}{16}$ " OSB OR  $\frac{1}{2}$ " PLYWOOD:  
FASTEN SHEATHING w/ 2 1/2"x0.131" NAILS @ 6" O.C. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. ALL EXTERIOR WALLS SHALL BE CONSTRUCTED PER THIS SPECIFICATION UNLESS NOTED ON PLANS.

### 3" O.C. EDGE NAILING

(WHERE NOTED ON PLANS)

- $\frac{7}{16}$ " OSB OR  $\frac{1}{2}$ " PLYWOOD:  
ONLY AT LOCATIONS INDICATED ON PLANS - SHEATH WALL SHOWN WITH  $\frac{7}{16}$ " OSB. FASTEN SHEATHING w/ 2 1/2"x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.

### NOTES:

- LATERAL ANALYSIS ASSUMES STUD SPACING @ 16" O.C.
- ALL SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES FASTENED TOGETHER w/ 3"x0.131" NAILS @ 8" O.C. USE (2) 3"x0.131" NAILS AT EACH LAP SPLICE, (6) EACH SIDE OF JOINT (TYP. U.N.O.)
- ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED.
- ALL INTERIOR SHEAR WALLS AND EXTERIOR WALLS ARE SHEATHED ABOVE AND BELOW OPENINGS.
- TYP. SILL PLATE: 2x P.T. PLATE w/ 3/4" DIA. A.B. w/ 1" MIN EMBED. @ 6"-0" O.C. w/ 3"x3/4" PLATE WASHER. PROVIDE (2) PER PLATE, MIN. 12" FROM EACH END.

### GENERAL STRUCTURAL NOTES

#### DESIGN PARAMETERS

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE & 2018 INTERNATIONAL BUILDING CODE
- WOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" - LATEST EDITION.

#### GENERAL FRAMING

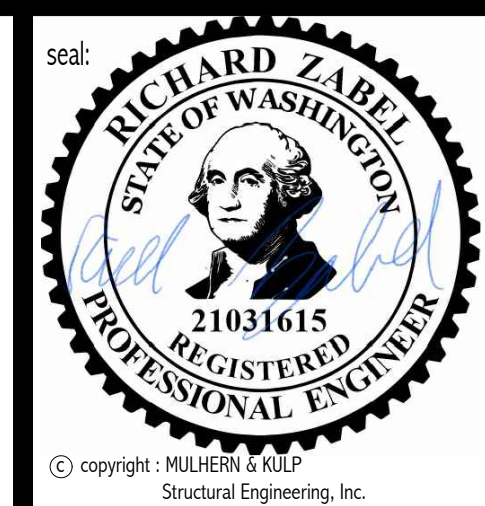
- ALL FRAMING LUMBER SHALL BE KILN DRIED TO 15% MC (KD-15).
- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN GENERAL NOTES, IN DETAILS, OR ON PLANS. ALL NAILS SPECIFIED ARE MIN. DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX. CHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS NOT TYPICAL FRAMING GUN NAILS.
- REFER TO IRC FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. U.N.O.

#### FLOOR FRAMING

- FLOOR SHEATHING SHALL BE 23/32" A.P.A. RATED "STURD-I-FLOOR" 24" O.C. EXPOSURE 1 (OR APPROVED EQUAL) WITH TONGUE AND GROOVE EDGES. FASTEN TO FRAMING MEMBERS w/ GLUE AND 2 1/2" x 0.131" NAILS @ 6" O.C. @ PANEL EDGES & @ 12" O.C. FIELD.

#### ROOF FRAMING

- FASTEN EACH ROOF TRUSS TO TOP PLATE w/ (4) 3"x0.131" TOENAILS MIN. & (1) SIMPSON SDWC15600 SCREW @ ALL BEARING POINTS. PROVIDE (2) SIMPSON SDWC15600 SCREWS AT 2-PLY GIRDER TRUSSES, (3) SIMPSON SDWC15600 SCREWS AT 3-PLY GIRDER TRUSSES AT ALL BEARING POINTS.
- FASTEN EACH ROOF RAFTER TO TOP PLATE WITH (1) SIMPSON SDWC15600 SCREW. PROVIDE (2) SIMPSON SDWC15600 SCREWS AT FLUSH BEAMS IN THE ROOF - AT ALL BEARING POINTS.
- ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS w/ 2 1/2" x 0.131" NAILS @ 6" O.C. AT PANEL EDGES & @ 12" O.C. AT INTERMEDIATE SUPPORTS. ROOF SHEATHING SHALL EXTEND BELOW ALL INSTANCES OF OVERFRAMING. BLOCKING SHALL BE INSTALLED AS REQUIRED TO LIMIT ROOF SHEATHING SPANS TO 24" MAX.
- WITHIN 48" OF ALL ROOF EDGES, RIDGES & HIP FASTEN ROOF SHEATHING FIELDS PER EDGE NAILING SPEC.



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M&K project number:  
**202-22014**

project mgr: R.JZ  
drawn by: JCL  
issue date: 07-08-22

REVISIONS:  
date: initial:

**ARCHITECTS NORTHWEST**

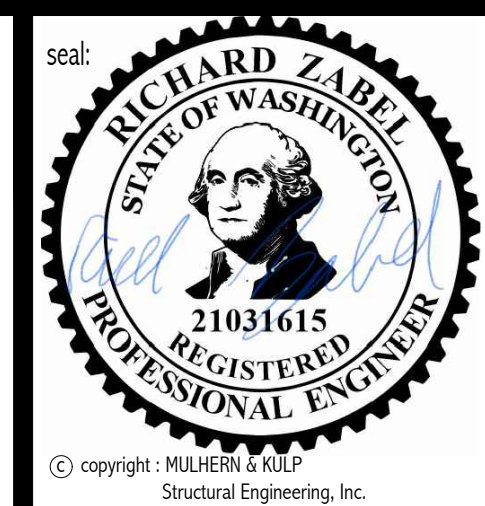
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LATERAL DESIGN NOTES

**HATELY RESIDENCE**  
**4114 83RD AVE SE**  
**MERCER ISLAND, WASHINGTON**

sheet:  
**S-0.0**





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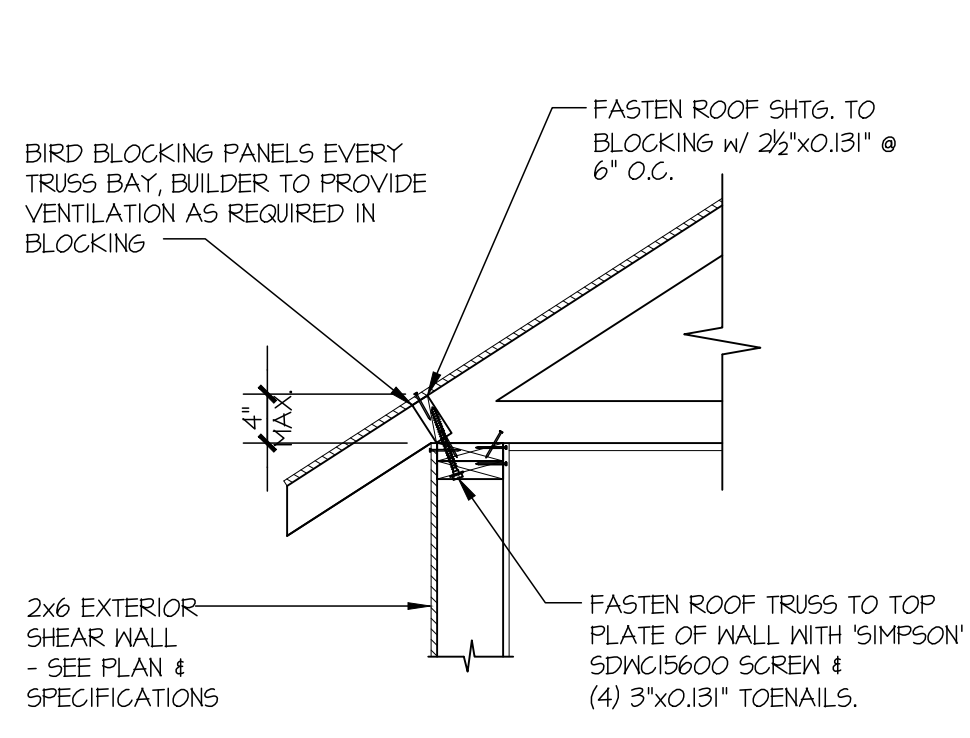
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202-22014  
project mgr: R.JZ  
drawn by: JCL  
issue date: 07-08-22

REVISIONS:	
date:	initial:

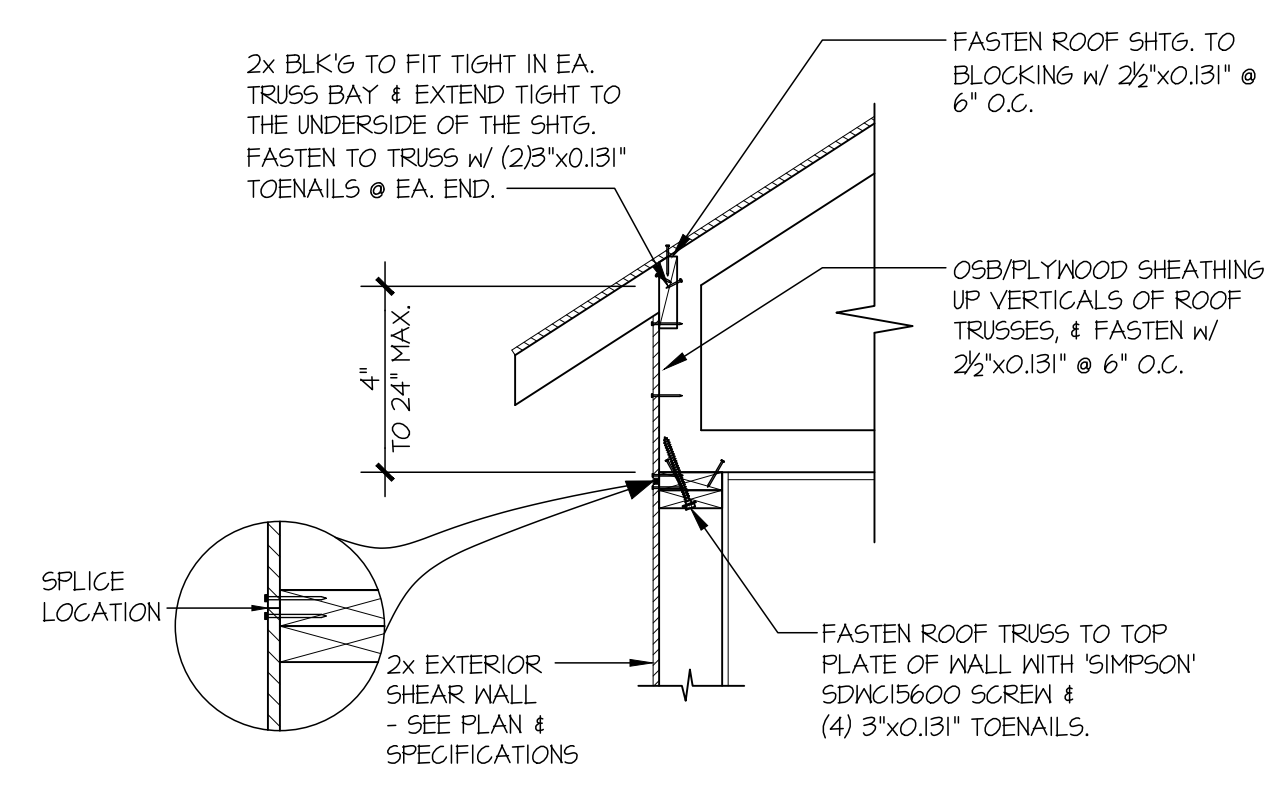
**ARCHITECTS NORTHWEST**  
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Burien, WA 98148  
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Fax: (206) 835-9005  
www.architectsnorthwest.com

**LATERAL BRACING DETAILS**  
**HATELY RESIDENCE**  
**4114 83RD AVE SE**  
**MERCER ISLAND, WASHINGTON**

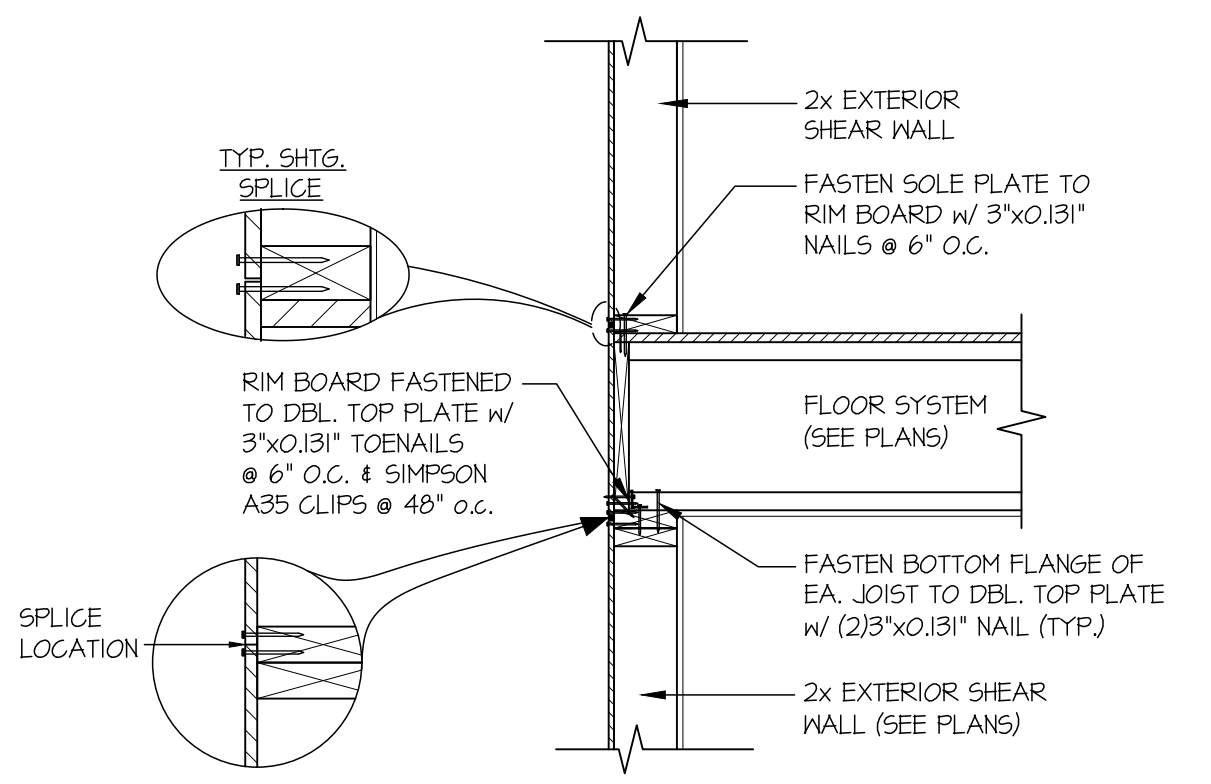
sheet:  
**LB-1**



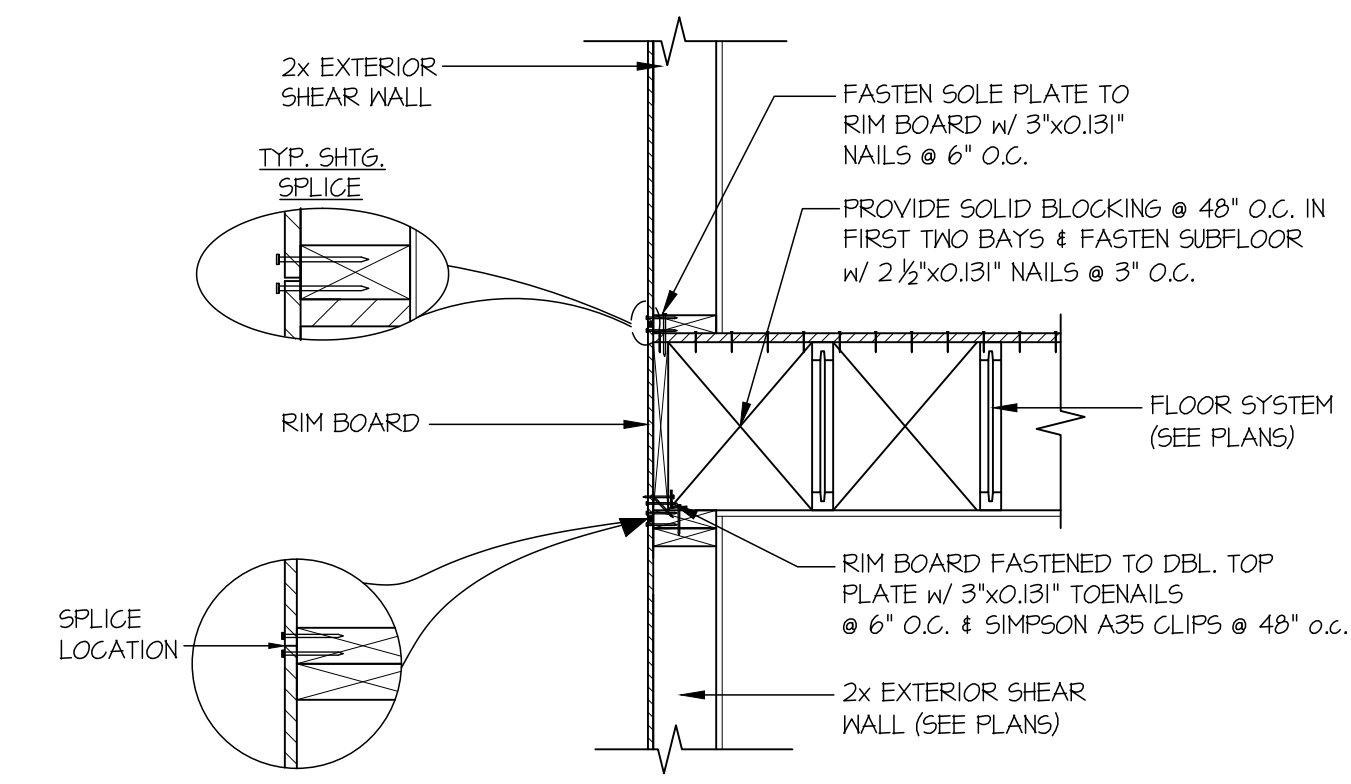
**1** TYPICAL SHEAR TRANSFER DETAIL @ ROOF  
SCALE: 3/4"=1'-0" HEEL HEIGHT LESS THAN 4"



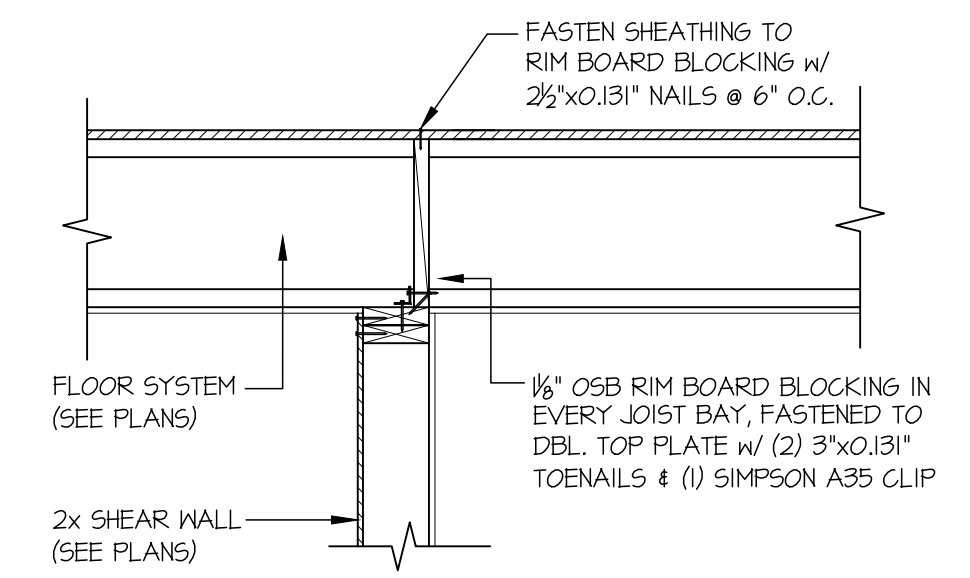
**2** TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS  
SCALE: 3/4"=1'-0" HEEL HEIGHT UP TO 24" MAX.



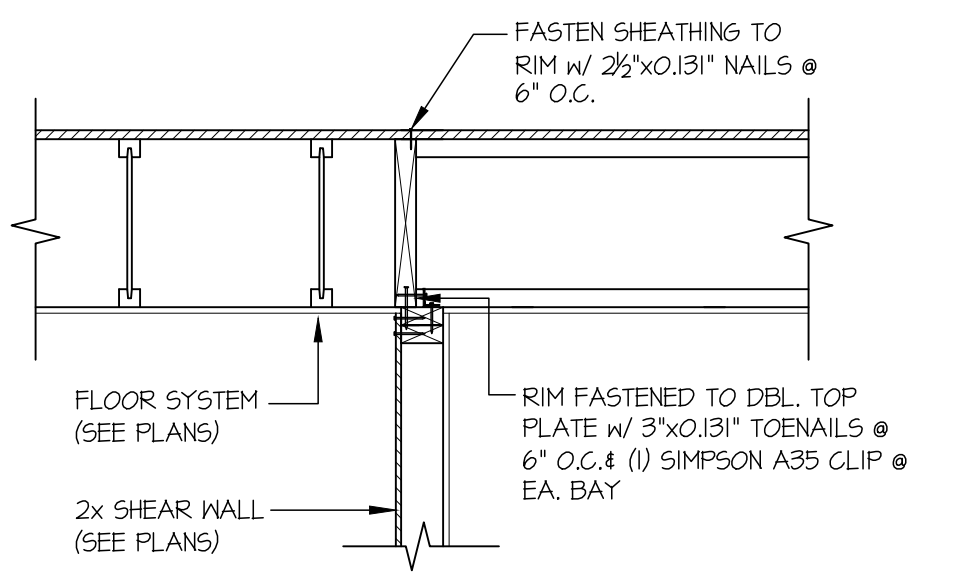
**3** TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL  
SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING



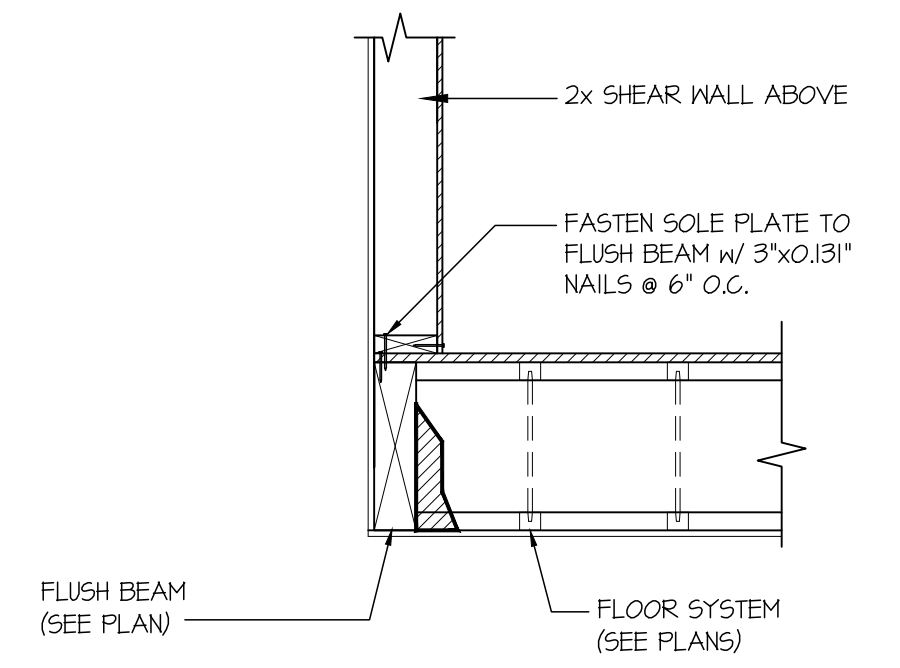
**4** TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL  
SCALE: 3/4"=1'-0" PARALLEL FRAMING



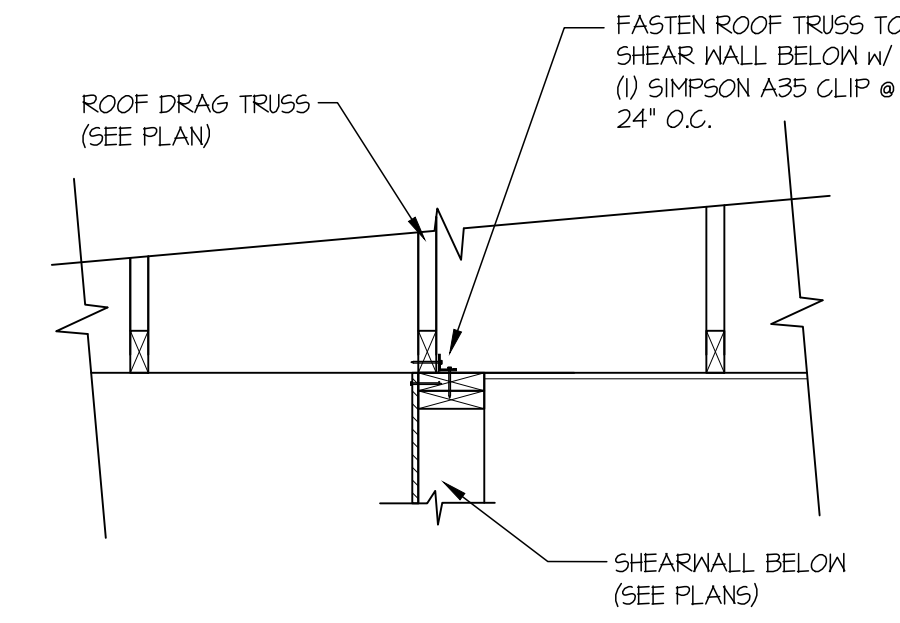
**13** SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL  
SCALE: 3/4"=1'-0"



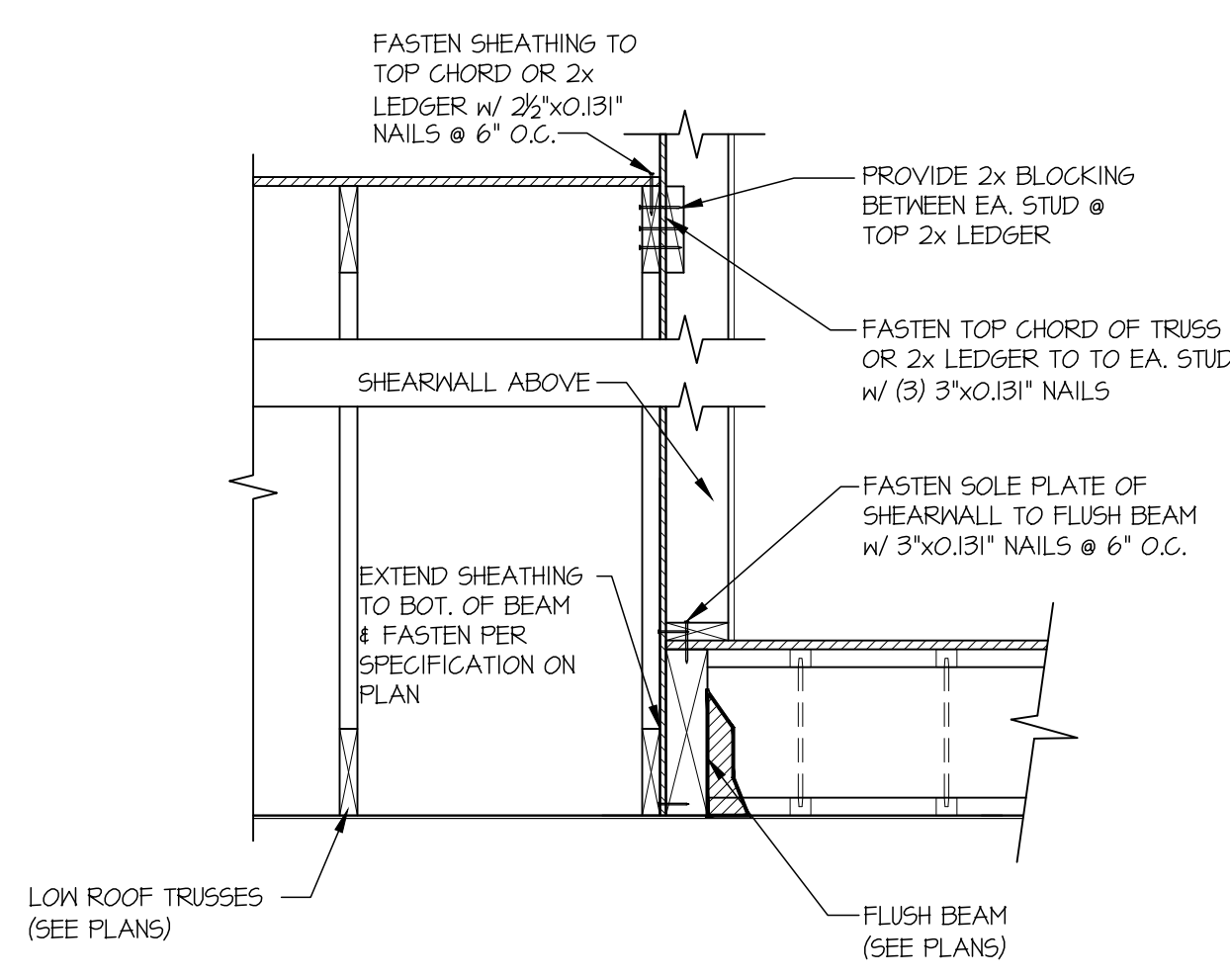
**15** SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL  
SCALE: 3/4"=1'-0"



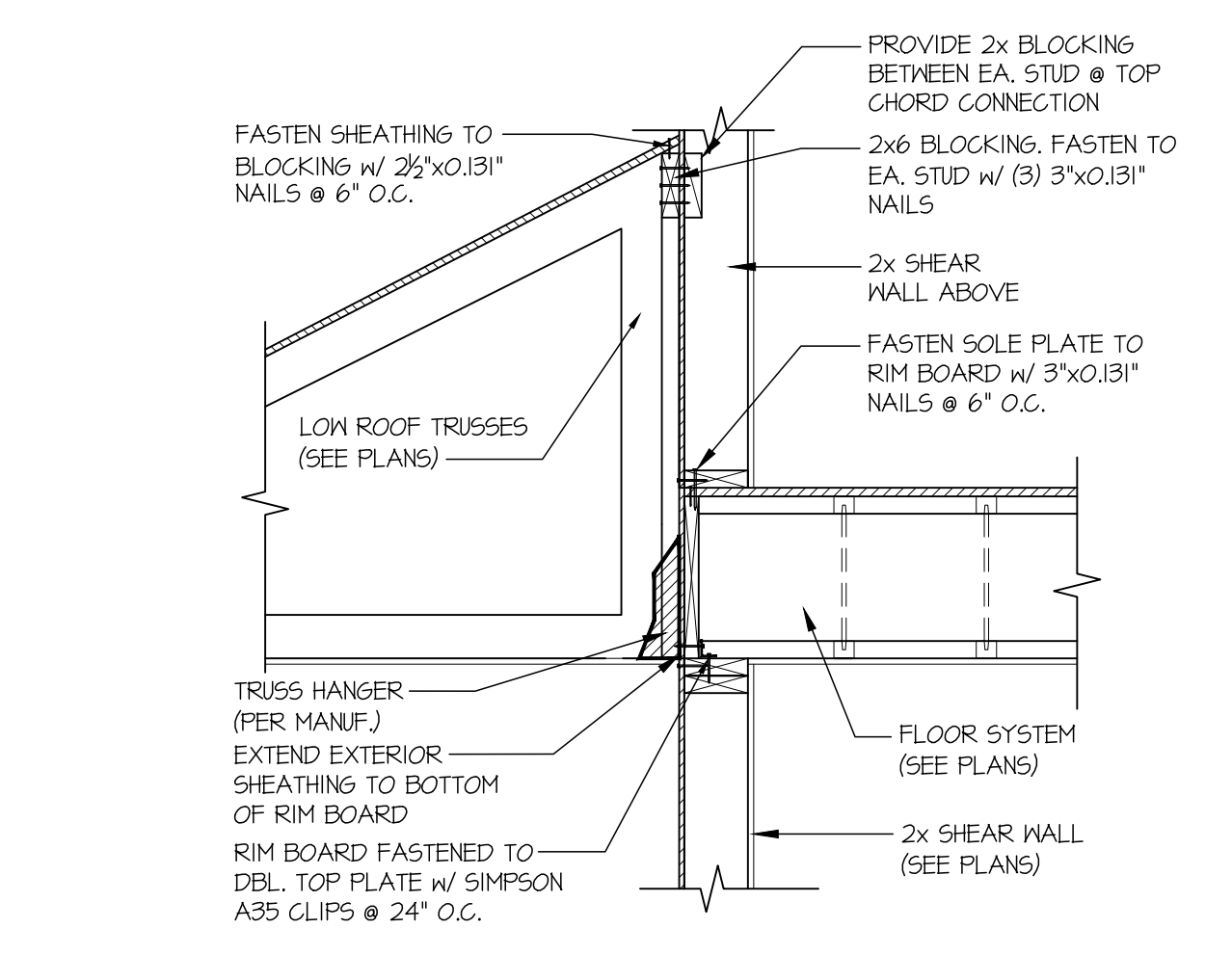
**34** TYPICAL SHEAR TRANSFER DETAIL @ EXTERIOR WALL ABOVE FLUSH BEAM  
SCALE: 3/4"=1'-0"



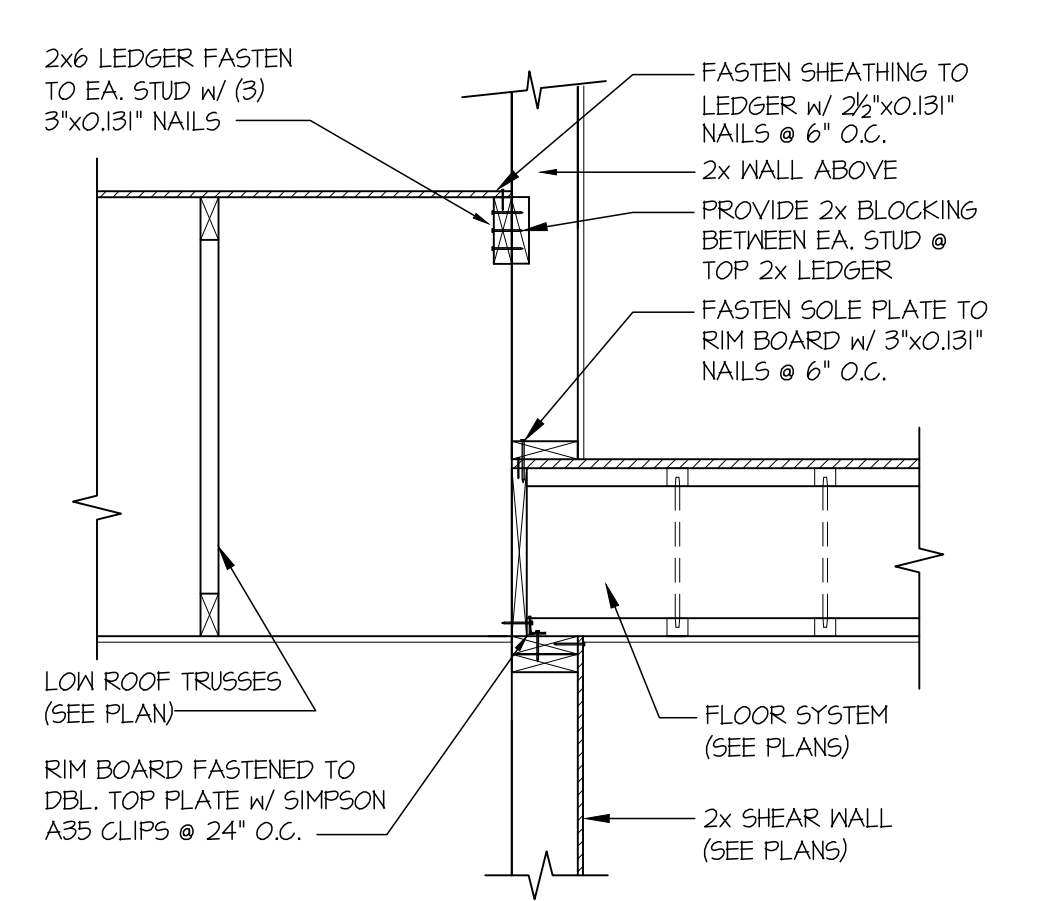
**47** SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW  
SCALE: 3/4"=1'-0"



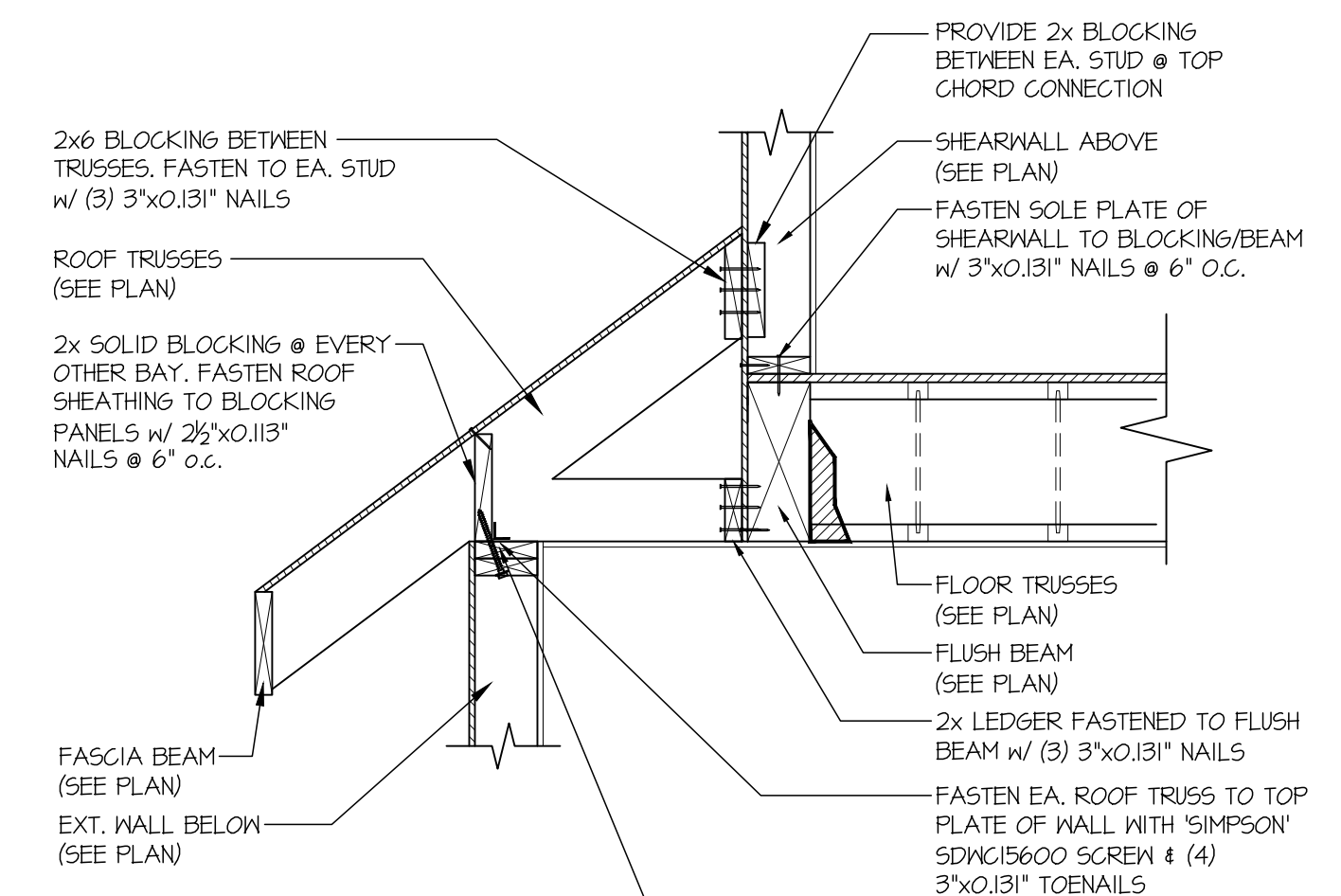
**59** SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE  
SCALE: 3/4"=1'-0"



**60** TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL  
SCALE: 3/4"=1'-0"

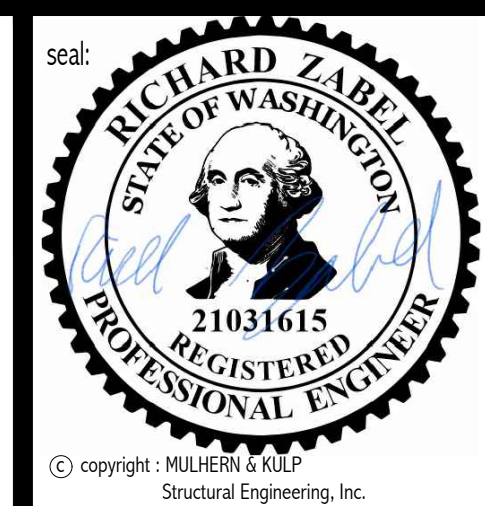


**61** TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL  
SCALE: 3/4"=1'-0"



**76** SECTION  
SCALE: 3/4"=1'-0"





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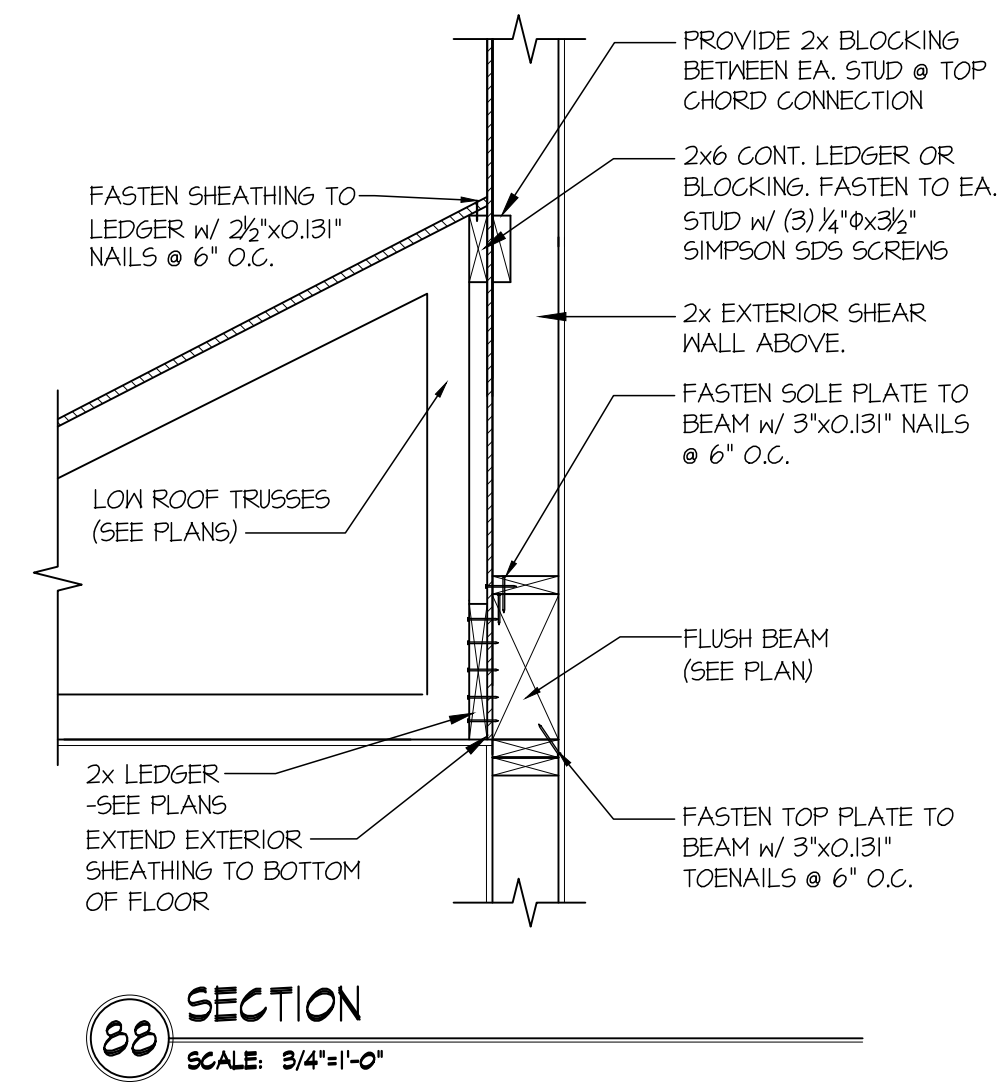
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project mgr: R.JZ  
drawn by: JCL  
issue date: 07-08-22

REVISIONS:	
date:	initial:

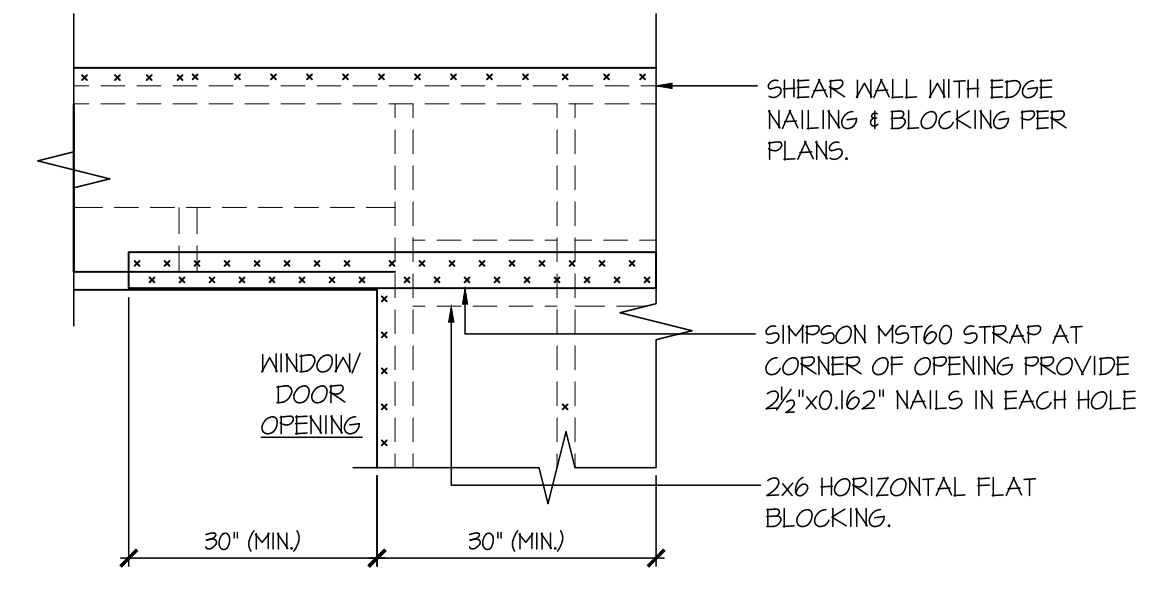
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MERCER ISLAND, WASHINGTON

sheet:  
**LB-2**

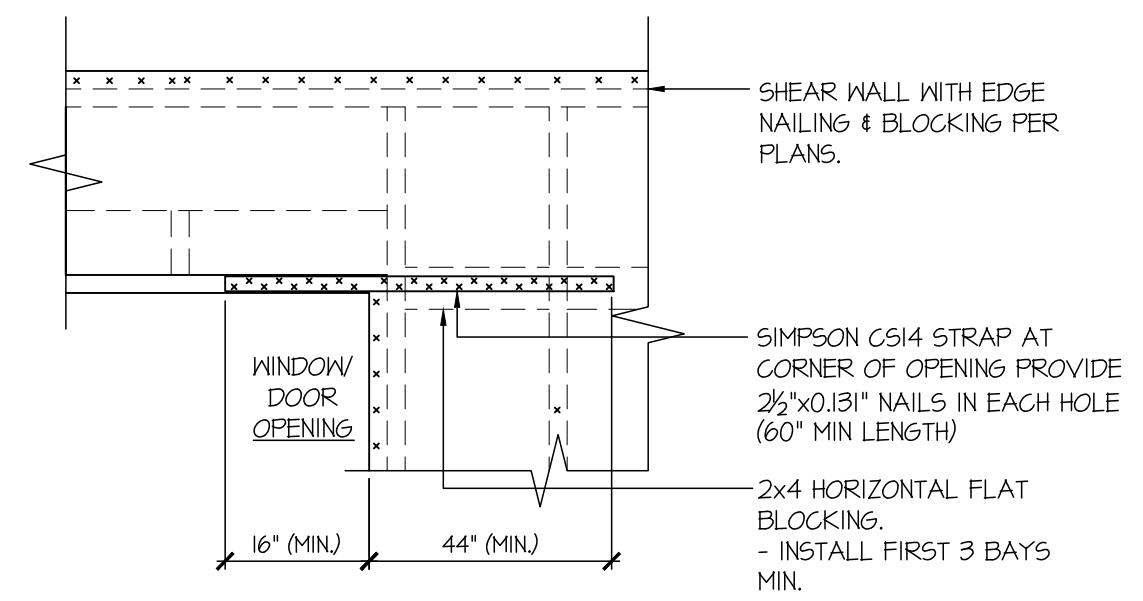


**88** SECTION  
SCALE: 3/4"=1'-0"



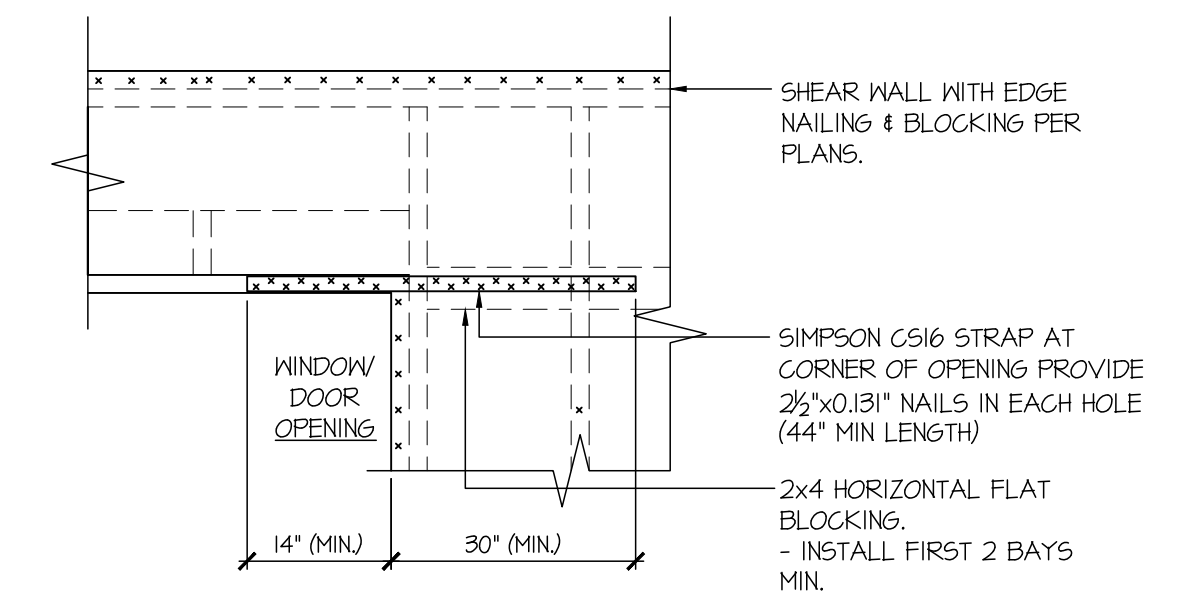
**92** EXT. WALL & INT. SHEARWALL  
OPENING ELEVATION  
SCALE: NTS

• ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS



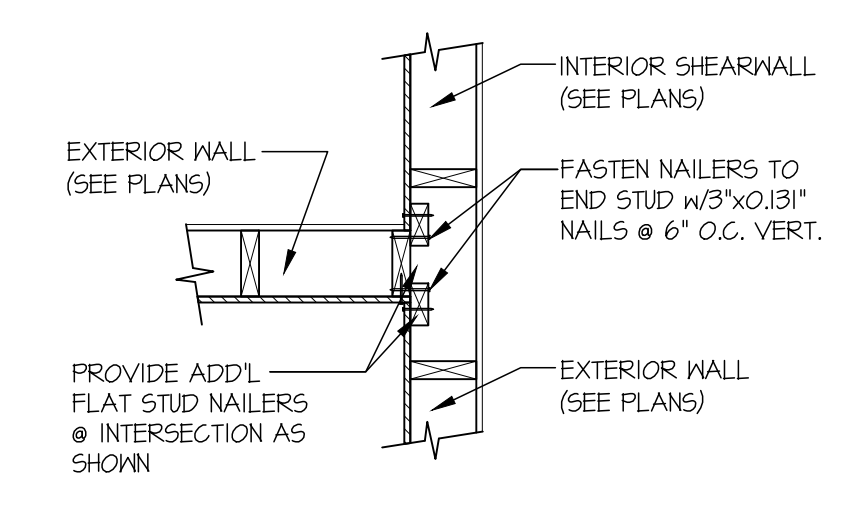
**93** EXT. WALL & INT. SHEARWALL  
OPENING ELEVATION  
SCALE: NTS

• DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.  
• ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS  
• IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

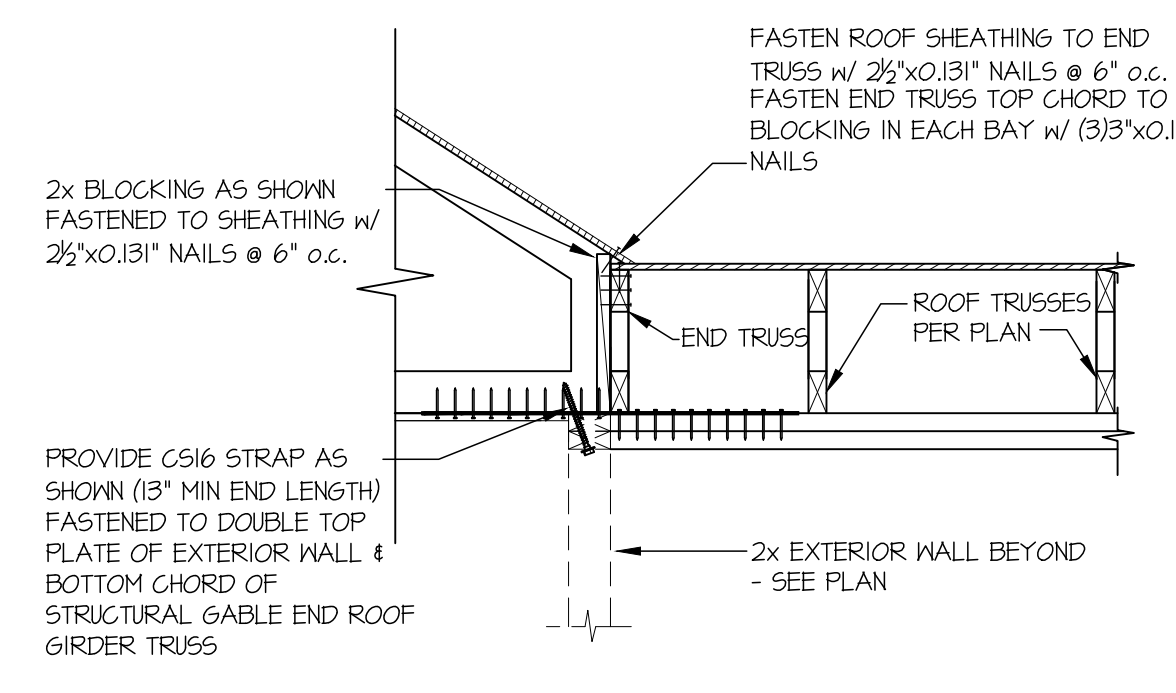


**94** EXT. WALL & INT. SHEARWALL  
OPENING ELEVATION  
SCALE: NTS

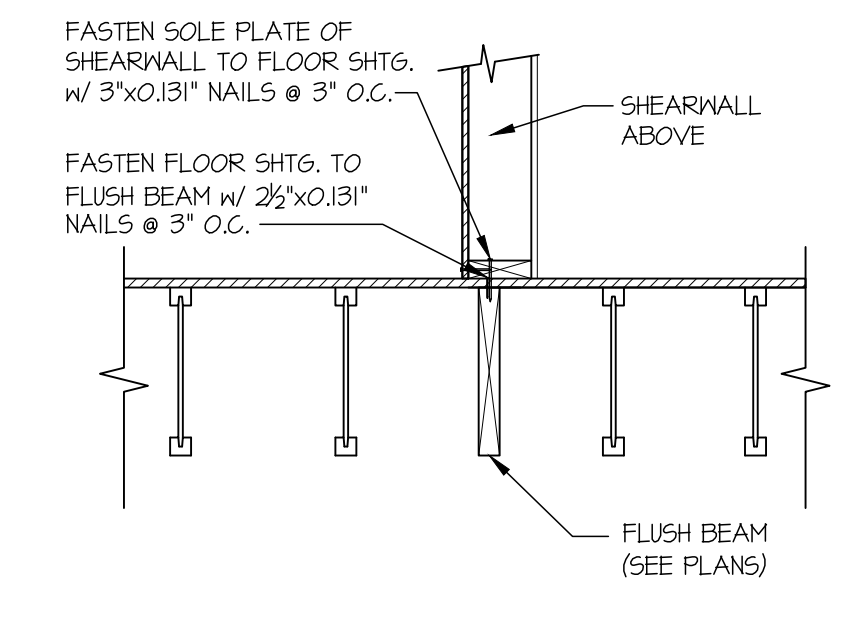
• DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.  
• ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS  
• IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL



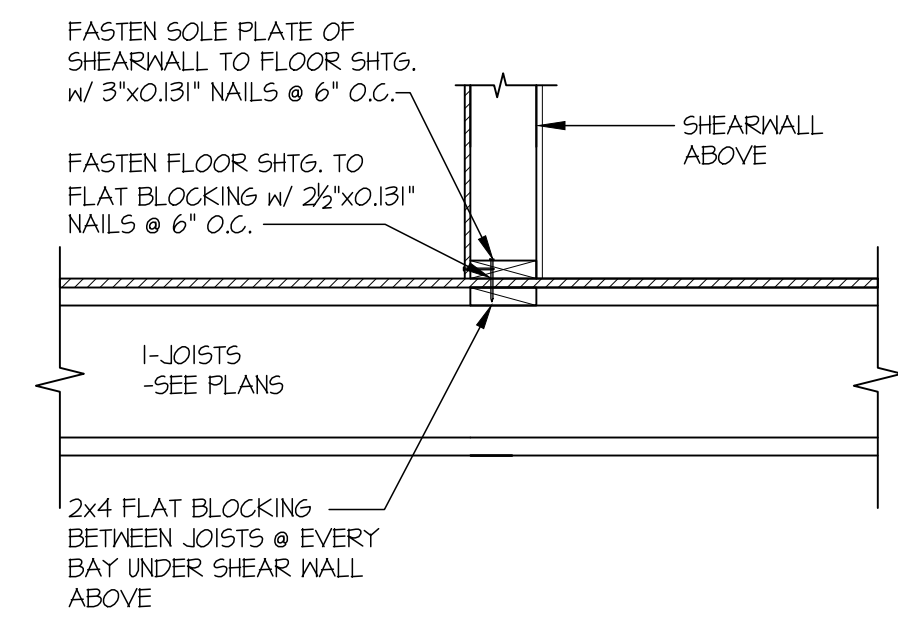
**95** SHEAR TRANSFER DETAIL @  
INTERSECTING INT. SHEARWALL  
SCALE: 3/4"=1'-0" SHG. ON SAME FACE



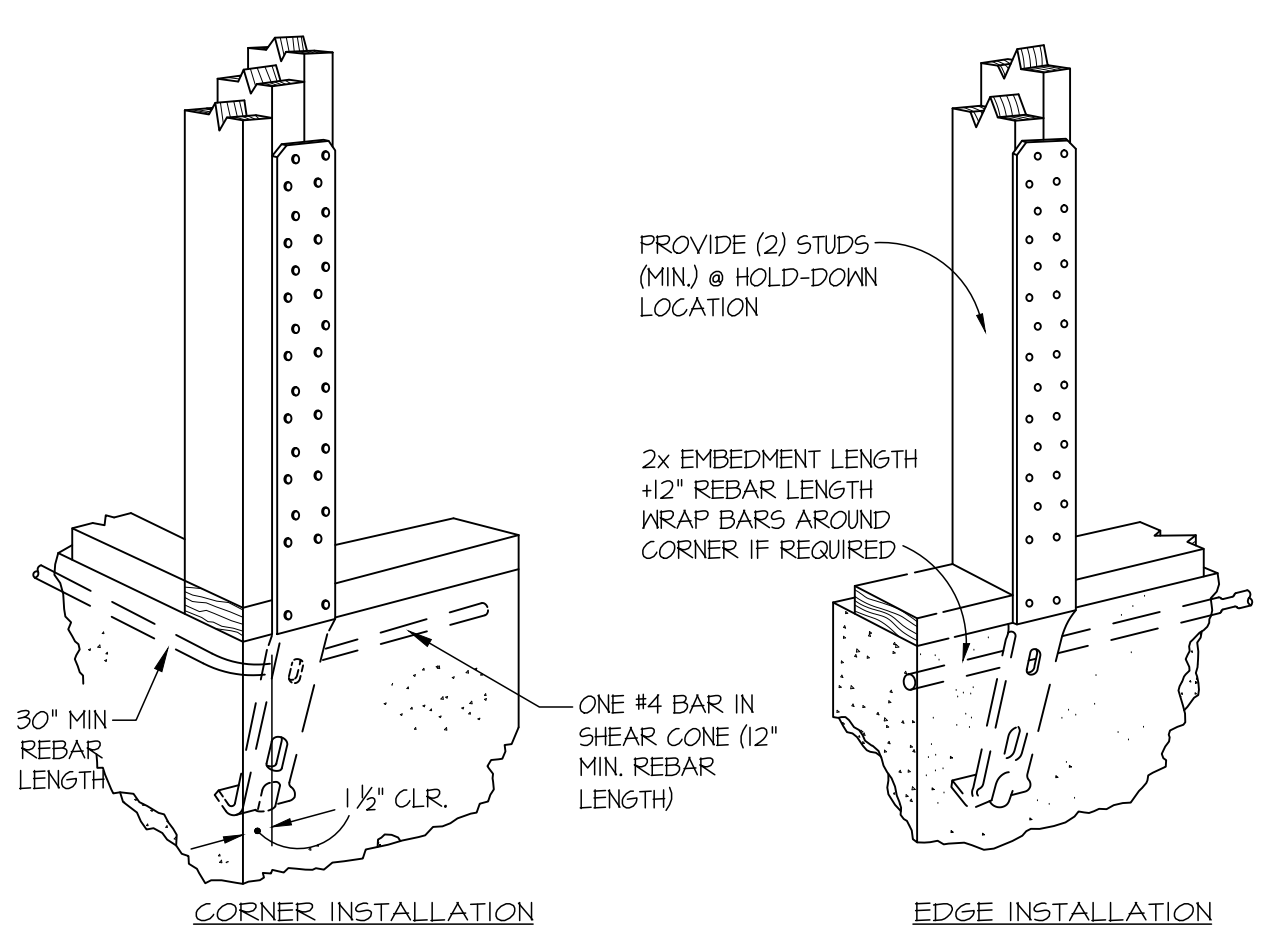
**117** STRAP DETAIL  
SCALE: 3/4"=1'-0"



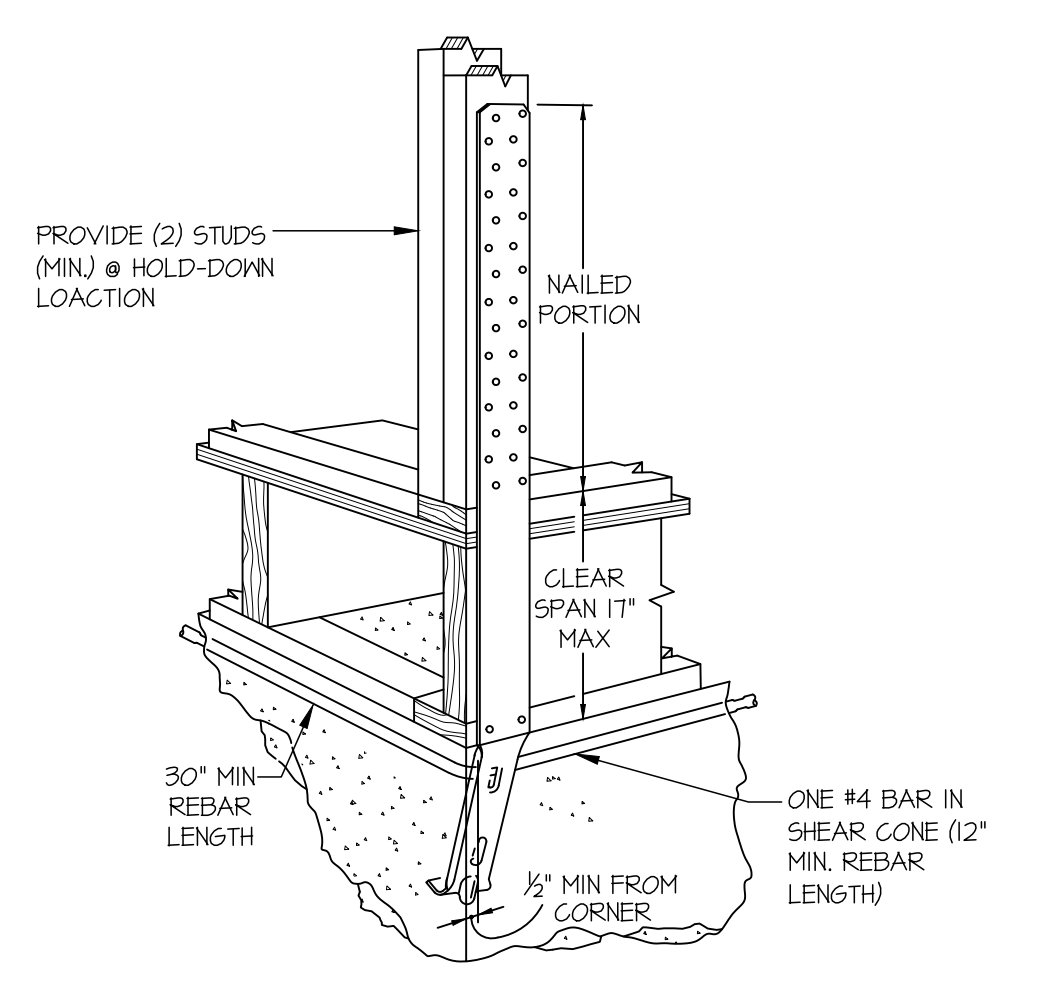
**119** SHEAR TRANSFER DETAIL @  
INTERIOR SHEARWALL ABOVE  
SCALE: 3/4"=1'-0" PARALLEL FRAMING



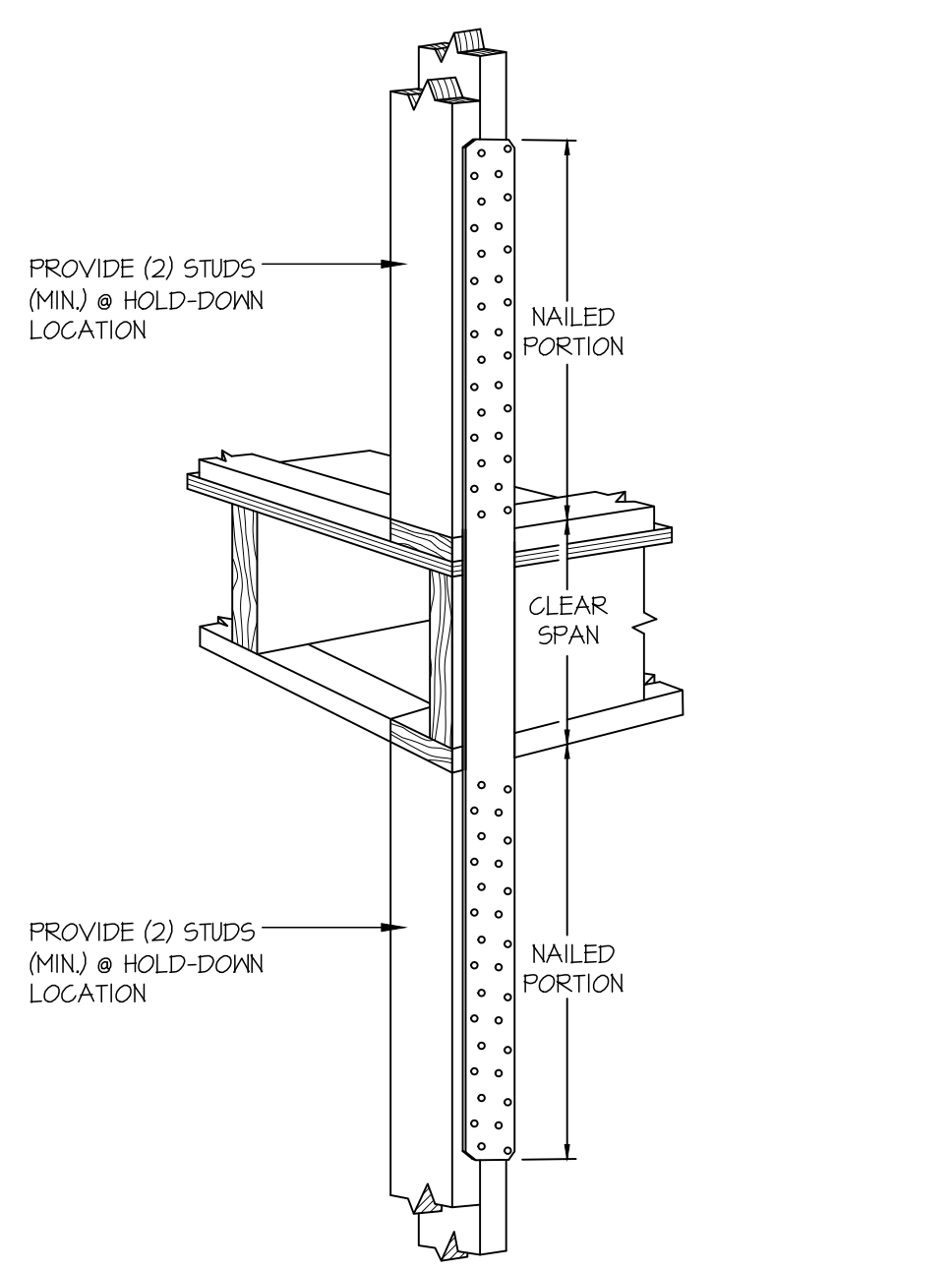
**120** SHEAR TRANSFER DETAIL  
@ INT. SHEARWALL ABOVE  
SCALE: 3/4"=1'-0"



**A** TYPICAL HOLD-DOWN INSTALLATION  
NOT TO SCALE  
SIMPSON STRAP HD @ FOUNDATION



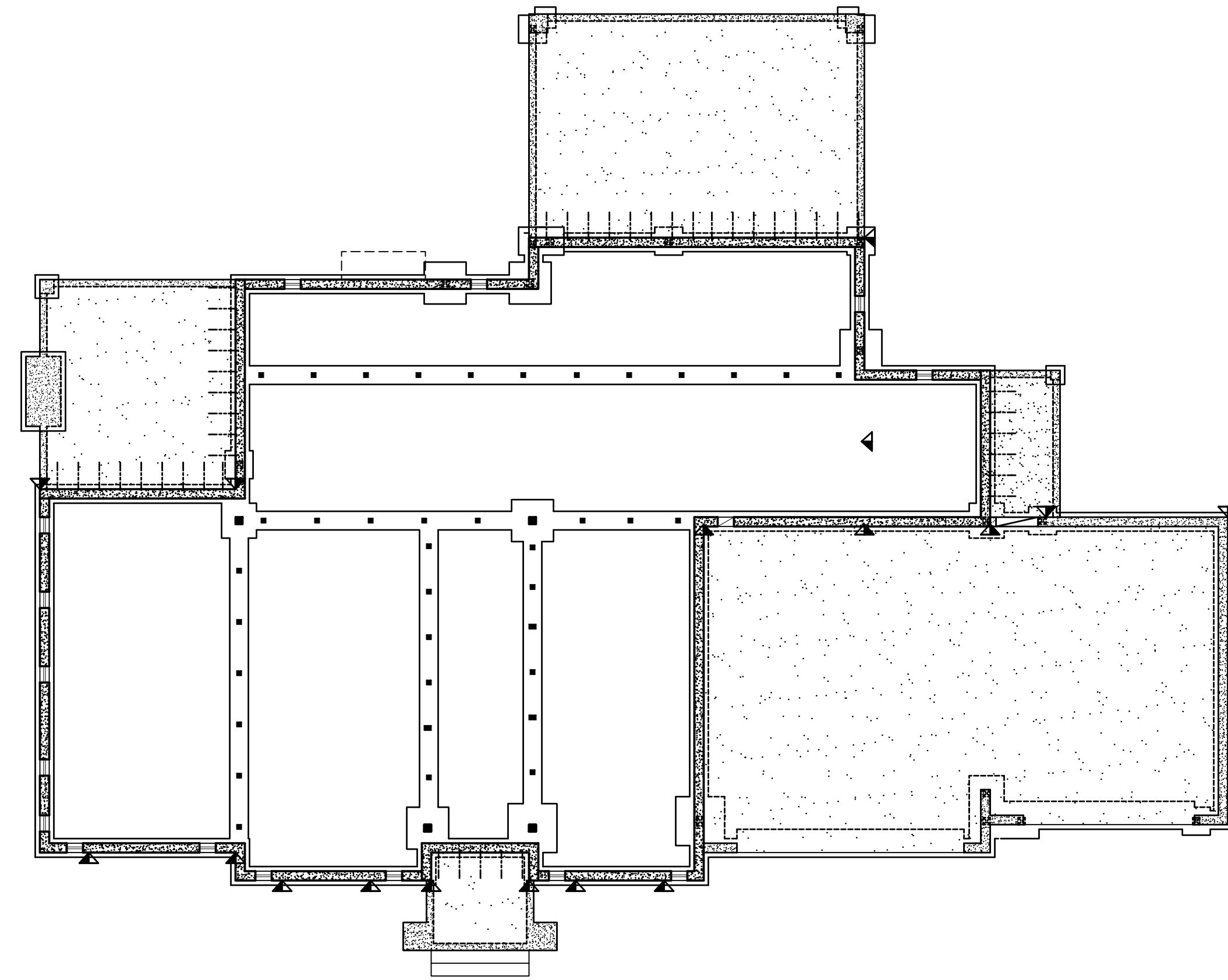
**B** TYPICAL HOLD-DOWN INSTALLATION  
NOT TO SCALE  
SIMPSON STRAP HD @ FLOOR FRAMING



**C** TYPICAL HOLD-DOWN INSTALLATION  
NOT TO SCALE  
SIMPSON STRAP HD @ FLOOR FRAMING

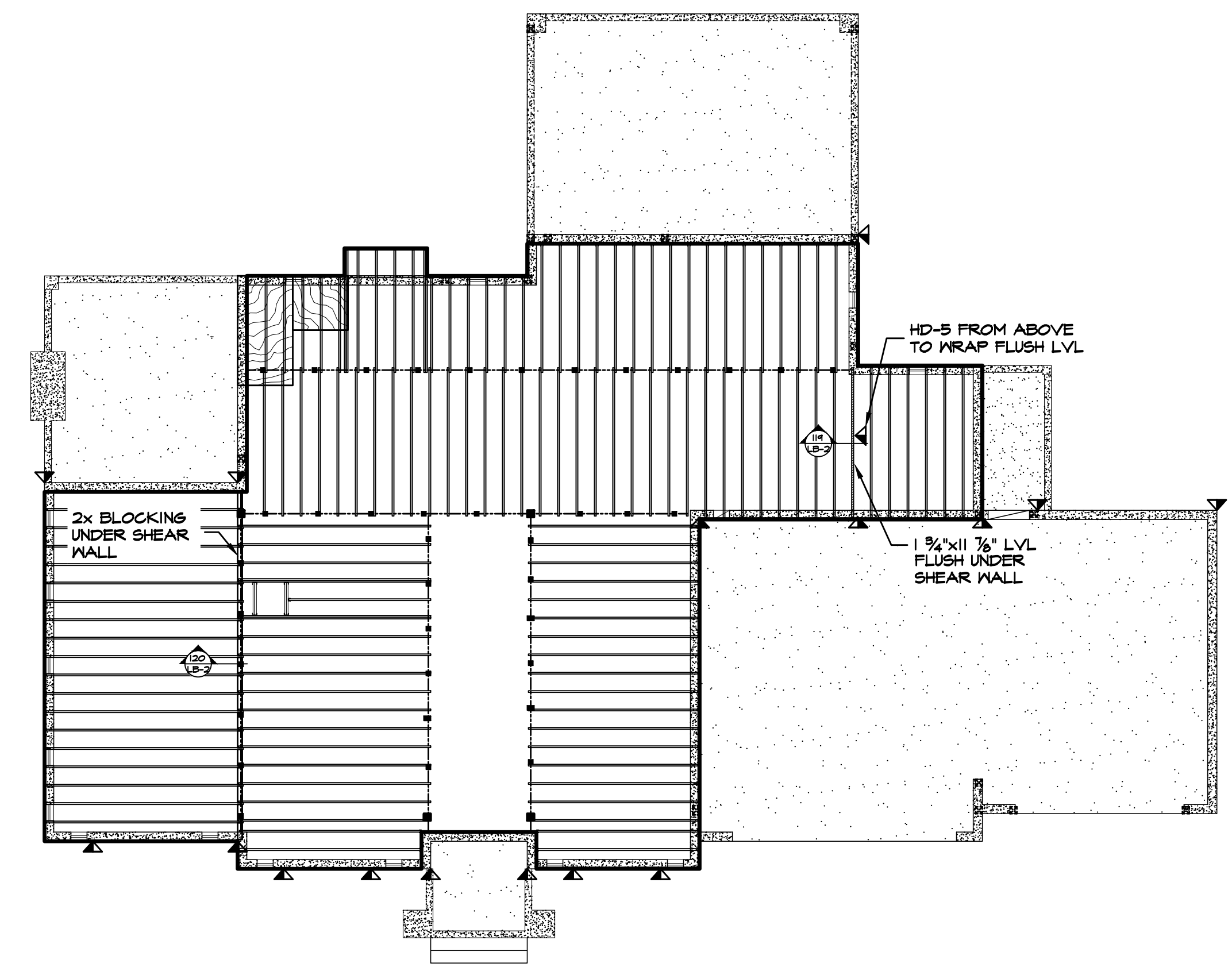


ALL HOLDDOWNS THIS LEVEL SHALL BE HD-1 (SEE S-O) FASTENED FROM POST ABOVE TO FOUNDATION BELOW (TYP. U.N.O.) ▼



1 FOUNDATION (WALLS & HARDWARE)  
SCALE: 1/8" = 1'-0"

ALL HOLDDOWNS THIS LEVEL SHALL BE HD-1 (SEE S-O) FASTENED FROM POST ABOVE TO FOUNDATION BELOW (TYP. U.N.O.) ▼



2 MAIN FLOOR - FRAMING & DETAILS  
SCALE: 1/8" = 1'-0"

ALL HOLDDOWNS THIS LEVEL SHALL BE HD-1 (SEE S-O) FASTENED FROM (2)2x MIN. POST TO FND BELOW (TYP. U.N.O.) ▼

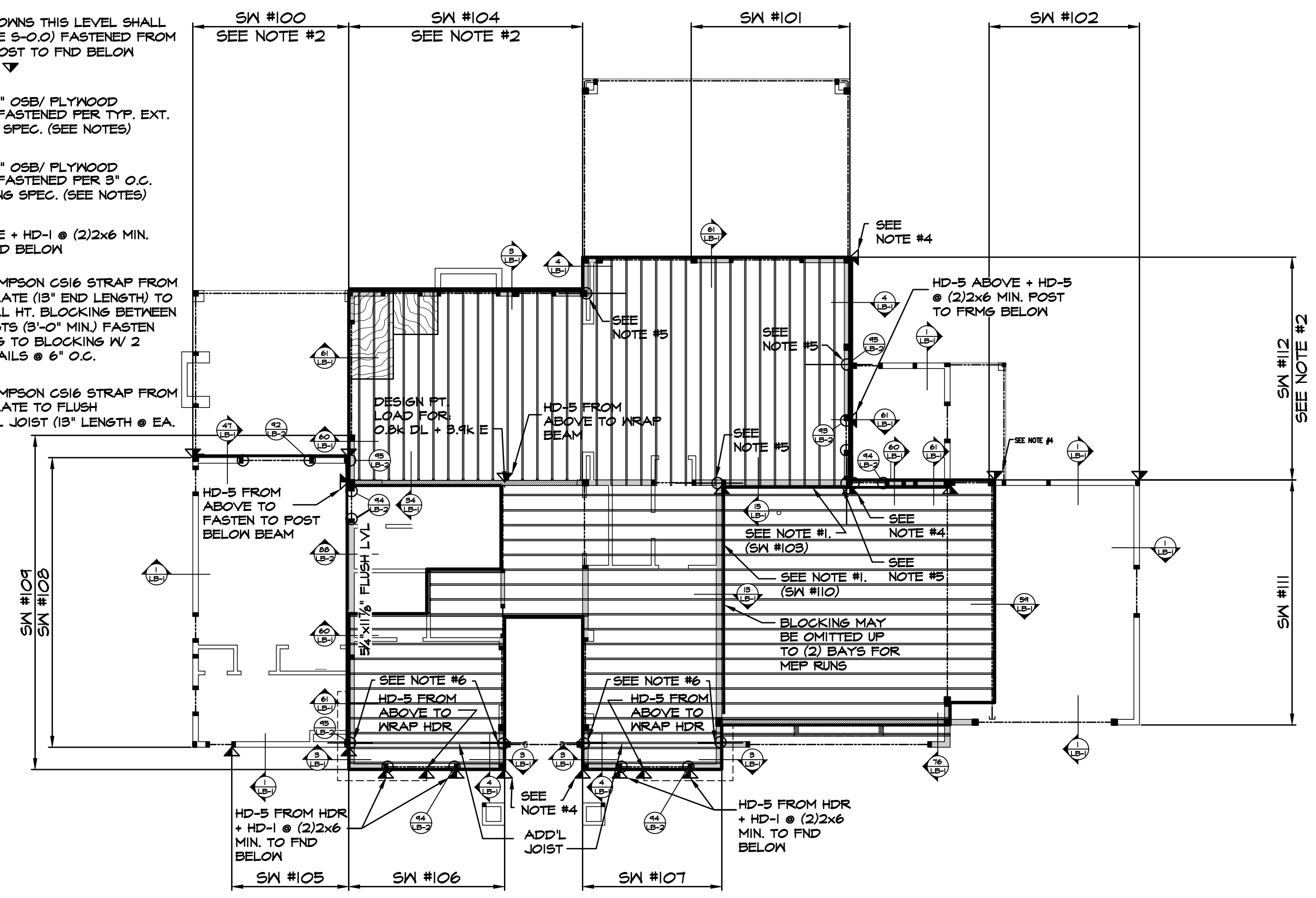
NOTE #1:  
PROVIDE 3/4" OSB/ PLYWOOD SHEATHING FASTENED PER TYP. EXT. WALL SHTG. SPEC. (SEE NOTES)

NOTE #2:  
PROVIDE 3/4" OSB/ PLYWOOD SHEATHING FASTENED PER 3" O.C. EDGE NAILING SPEC. (SEE NOTES)

NOTE #4:  
HD-5 ABOVE + HD-1 @ (2)2x6 MIN. POST TO FND BELOW

NOTE #5:  
PROVIDE SIMPSON CS16 STRAP FROM DBL TOP PLATE (13" END LENGTH) TO BOT. OF FULL HT. BLOCKING BETWEEN FLOOR JOISTS (3'-0" MIN.) FASTEN FLOOR SHTG TO BLOCKING W/ 2 1/2"x0.131" NAILS @ 6" O.C.

NOTE #6:  
PROVIDE SIMPSON CS16 STRAP FROM DBL TOP PLATE TO FLUSH BEAM/ADD'L JOIST (13" LENGTH @ EA. END)



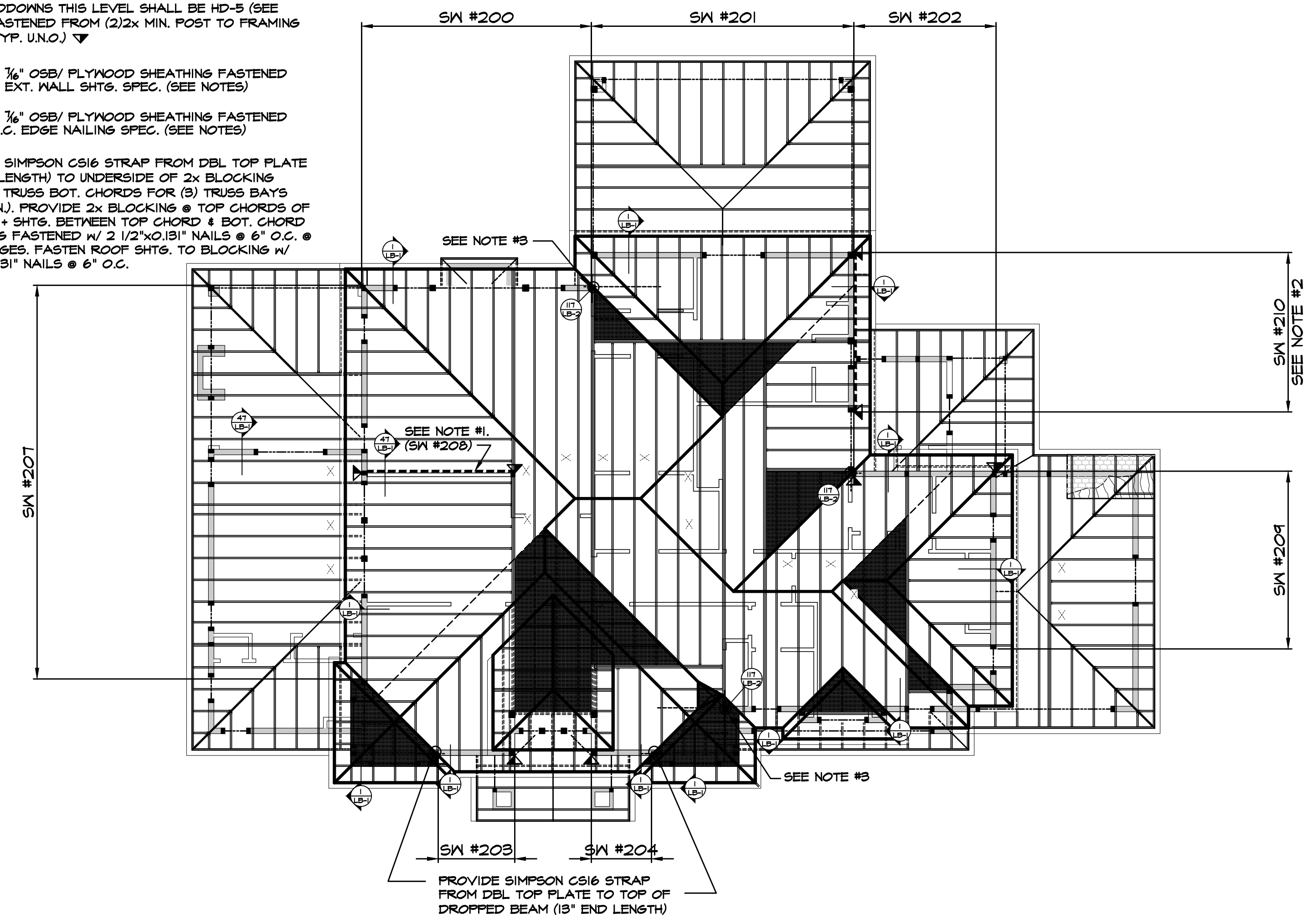
3 UPPER FLOOR - SHEARWALL, FRAMING & DETAILS  
SCALE: 1/8" = 1'-0"

ALL HOLDDOWNS THIS LEVEL SHALL BE HD-5 (SEE S-O) FASTENED FROM (2)2x MIN. POST TO FRMG BELOW (TYP. U.N.O.) ▼

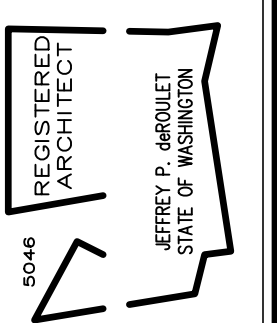
NOTE #1:  
PROVIDE 3/4" OSB/ PLYWOOD SHEATHING FASTENED PER TYP. EXT. WALL SHTG. SPEC. (SEE NOTES)

NOTE #2:  
PROVIDE 3/4" OSB/ PLYWOOD SHEATHING FASTENED PER 3" O.C. EDGE NAILING SPEC. (SEE NOTES)

NOTE #3:  
PROVIDE SIMPSON CS16 STRAP FROM DBL TOP PLATE (13" END LENGTH) TO UNDERSIDE OF 2x BLOCKING BETWEEN TRUSS BOT. CHORDS FOR (3) TRUSS BAYS (6'-0" MIN.). PROVIDE 2x BLOCKING @ TOP CHORDS OF TRUSSES + SHTG. BETWEEN TOP CHORD + BOT. CHORD BLOCKING FASTENED W/ 2 1/2"x0.131" NAILS @ 6" O.C. @ SHTG. EDGES. FASTEN ROOF SHTG. TO BLOCKING W/ 2 1/2"x0.131" NAILS @ 6" O.C.



4 ROOF - SHEAR WALL, FRAMING & DETAILS  
SCALE: 1/8" = 1'-0"



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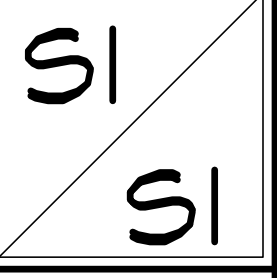
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**HATELY RESIDENCE**  
4114 83RD AVE SE, MERCER ISLAND, WA 98040  
**PLAN M4061A3F-2**

DESIGNED BY: JdeR DATE: 2012  
DRAWN BY: JJC DATE: 5/1/2012  
JM

PROJECT MANAGER: SARAH WEIGHT  
REVISED BY: JJC DATE: 7/14/22  
JJC DATE: 9/7/22

LATERAL BY: M&K DATE: 9/7/22  
LATERAL JOB NUMBER: 202-22014



ANN WOODINVILLE OFFICE  
JOB NUMBER:  
**220006**





# CALCULATION PACKAGE

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July 8, 2022

## Architects NW Hatley Residence

Mercer Island, Washington

---

### MULHERN & KULP STRUCTURAL ENGINEERING, INC.

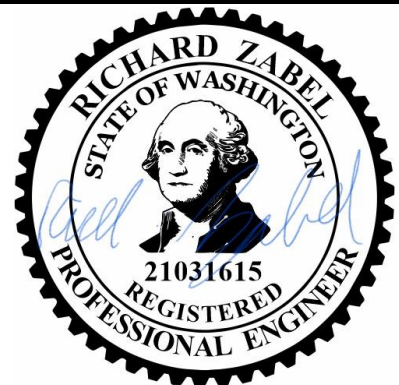
Prepared By:

John C. Leone, E.I.T.

*Staff Engineer*

Ricky J. Zabel, P.E.

*Project Manager + Director of Engineering*



---

*Signature, Seal & Date*



**ARCHITECT NW**  
**HATELY RESIDENCE**

MERCER ISLAND, WA

**SEISMIC SHEAR WALL CALCULATIONS - WIND**

*REVIEWED BY: RJZ*

*JULY 8, 2022*

*PARAMETERS:*

*SINGLE FAMILY HOME*

*DESIGN WIND SPEED: 100 MPH*

*WIND EXPOSURE CATEGORY: B*

*SEISMIC DESIGN CATEGORY: D*

*CODE & DESIGN STANDARD: 2018 IBC CH. 1609, ASCE 7-16 CH. 26-30*



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RESIDENTIAL STRUCTURAL ENGINEERING



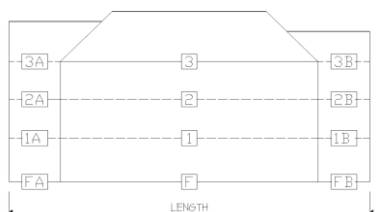
**WIND DESIGN SUMMARY PER ASCE 7-16**

PARAMETERS:		ROOF GEOMETRY:		BUILDING GEOMETRY:	
WIND SPEED	100	TRANS. ROOF PITCH	5.0 : 12	LENGTH	80 FT
EXPOSURE CATEGORY	B	LONG. ROOF PITCH	5.0 : 12	WIDTH	46 FT
RISK CATEGORY	II	MEAN ROOF HEIGHT, H	27.50 FT	NUMBER OF STORIES	2
WIND DIRECTIONALITY FACTOR, $K_D$	0.85				
TOPOGRAPHIC FACTOR, $K_{ZT}$	1.30				
GUST FACTOR, G	0.85				
GROUND ELEV. ABOVE SEA LEVEL (FT)	0				
DESIGN TYPE	ASD 0.60				

---

**TRANSVERSE DIRECTION (PERPENDICULAR TO MAIN RIDGE LINE)**

DIAPHRAGM LEVEL	FLOOR-TO-FLOOR HEIGHT	SURFACE	SECTION			sq ft	
			A	O	B		
2	9.083 FT	Roof Surface	0	307	0	sq ft	
		Wall surface	0	254	0	sq ft	
1	11.583 FT	Roof Surface	0	92	0	sq ft	
		Wall surface	0	721	0	sq ft	
FND		Roof Surface	0	0	0	sq ft	
		Wall surface	0	0	0	sq ft	

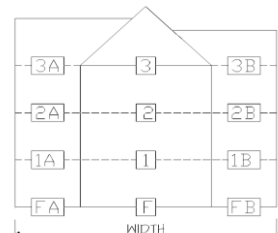


TRIBUTARY DESIGN LOADS: (0.6W)				
	SECTION			
	A	O	B	
Story Shear	0.00	5.21	0.00	kips
Total Shear	0.00	5.21	0.00	kips
5.21				kips
Story Shear	0.00	8.97	0.00	kips
Total Shear	0.00	14.18	0.00	kips
14.18				kips
Story Shear	0.00	0.00	0.00	kips
Total Shear	0.00	14.18	0.00	kips
14.18				kips

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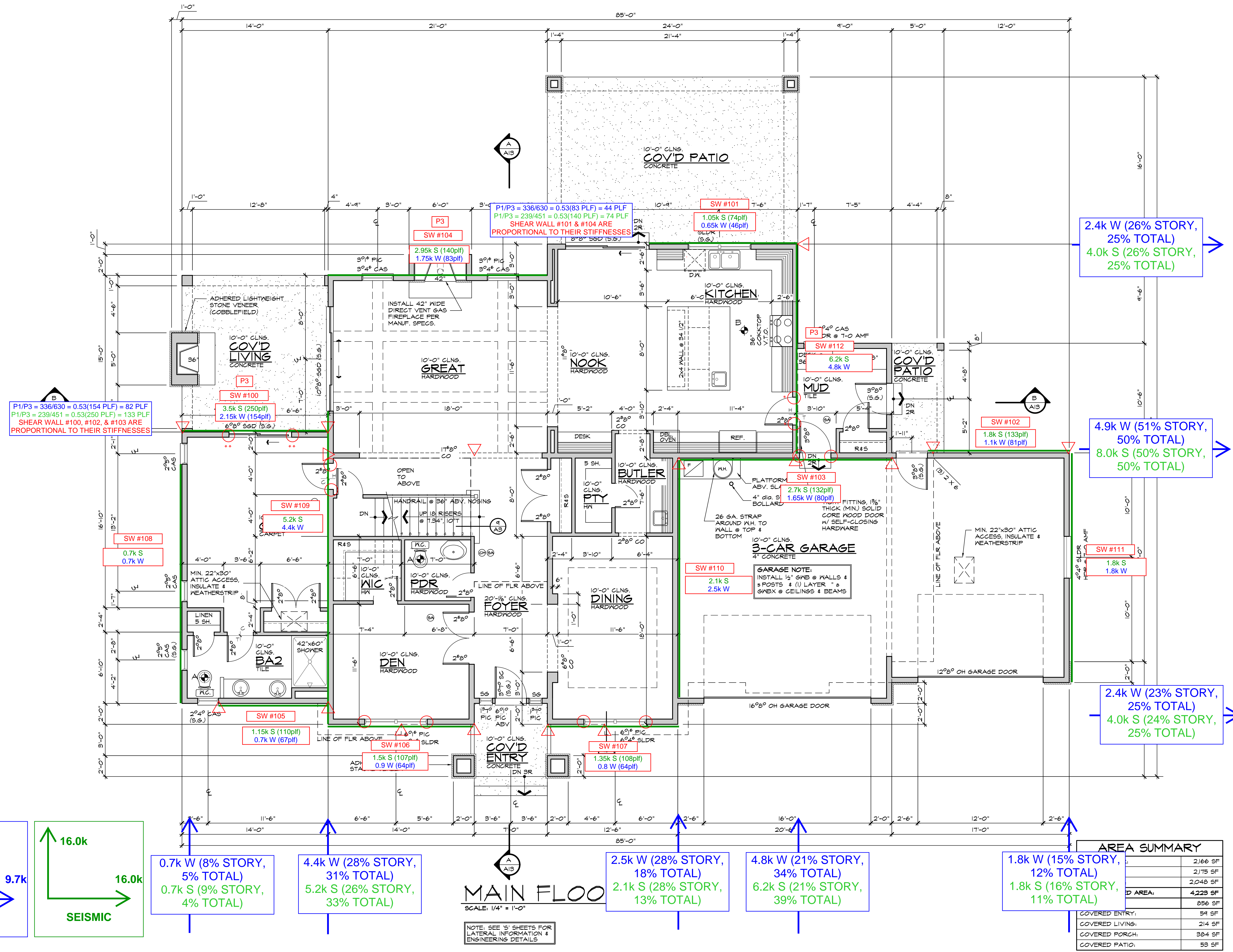
**LONGITUDINAL DIRECTION (PARALLEL TO MAIN RIDGE LINE)**

DIAPHRAGM LEVEL	FLOOR-TO-FLOOR HEIGHT	SURFACE	SECTION			sq ft	
			A	O	B		
2	9.083 FT	Roof Surface	0	256	0	sq ft	
		Wall surface	0	215	0	sq ft	
1	11.583 FT	Roof Surface	0	170	0	sq ft	
		Wall surface	0	392	0	sq ft	
FND		Roof Surface	0	0	0	sq ft	
		Wall surface	0	0	0	sq ft	

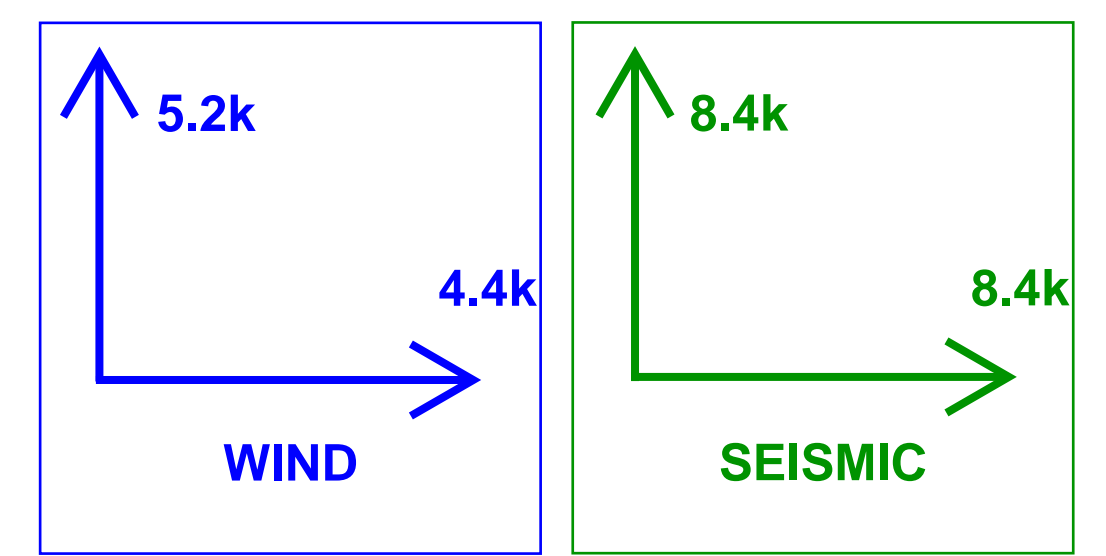
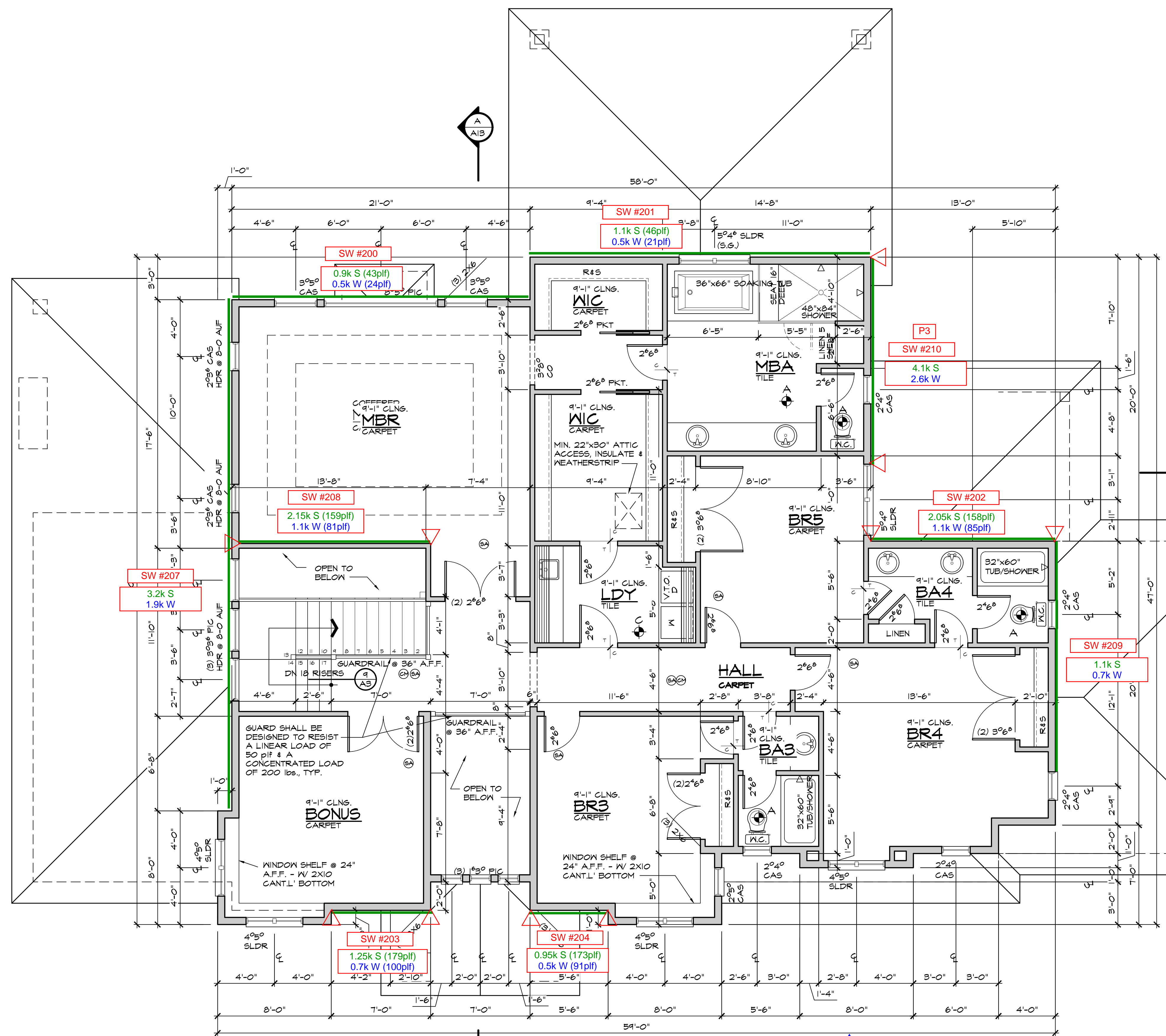


TRIBUTARY DESIGN LOADS: (0.6W)				
	SECTION			
	A	O	B	
Story Shear	0.00	4.35	0.00	kips
Total Shear	0.00	4.35	0.00	kips
4.35				kips
Story Shear	0.00	5.32	0.00	kips
Total Shear	0.00	9.67	0.00	kips
9.67				kips
Story Shear	0.00	0.00	0.00	kips
Total Shear	0.00	9.67	0.00	kips
9.67				kips









1.9k W (37%)  
3.2k S (37%)

2.6k W (50%)  
4.1k S (49%)

0.7k W (13%)  
1.1k S (13%)

1.2k W (27%)  
2.2k S (26%)

2.2k W (50%)  
4.2k S (50%)

1.0k W (23%)  
2.0k S (24%)

UPPER FLOOR PLAN

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

NOTE: SEE 'S' SHEETS FOR LATERAL INFORMATION & ENGINEERING DETAILS

REGISTERED ARCHITECT  
JERRY P. GARRETT  
STATE OF WASHINGTON

ARCHITECTS NORTHWEST  
WOODINVILLE, WA 98072  
18915-142nd AVENUE NE SUITE 100  
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HATELY RESIDENCE  
4114 83RD AVE SE, MERCER ISLAND, WA 98040  
PLAN M4061A3F-2FB

DESIGNED BY: JdeR DATE: 2012  
DRAWN BY: JM DATE: 5/1/2012

PROJECT MANAGER: SARAH WEIGHT  
REVISED BY: JSC DATE: 4/14/22

LATERAL BY: DATE:  
LATERAL JOB NUMBER:

A9  
A13

ANN WOODINVILLE OFFICE  
JOB NUMBER:  
220006





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 200:** 2ND - BACK EXT. WALL @ MBR

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="5.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="21.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="6.0"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="500"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="2016"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="189"/>	PLF	OVERTURNING MOMENT	<input type="text" value="4.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="375"/>	LBS	RESISTIVE MOMENT	<input type="text" value="29.7"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 201:** 2ND - BACK EXT. WALL @ MBA

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="4.5"/>	FT.		
WALL LENGTH, L	<input type="text" value="24.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="19.0"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="500"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="6384"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="184"/>	PLF	OVERTURNING MOMENT	<input type="text" value="4.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="375"/>	LBS	RESISTIVE MOMENT	<input type="text" value="37.2"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 202:** 2ND - BACK EXT. WALL @ BA4

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 203:** 2ND - FRONT EXT. WALL @ BONUS

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON GS16 STRAP TIE (14" END LENGTH)**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 204:** 2ND - FRONT EXT. WALL @ BR3

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="5.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="5.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="184"/>	PLF	OVERTURNING MOMENT	<input type="text" value="4.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="349"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="289"/>	LBS	RESISTIVE MOMENT	<input type="text" value="2.6"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="1705"/>	LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON GS16 STRAP TIE (14" END LENGTH)**

**SHEARWALL 205:** - VOID

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="0.0"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="0.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="0.0"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="PO"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS ####! ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**PO - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
**#DIV/0!**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="0"/>	PLF	OVERTURNING MOMENT	<input type="text" value="#DIV/0!"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="0"/>	LBS	RESISTIVE MOMENT	<input type="text" value="0.0"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 206: - VOID**

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS ALLOWABLE SHEARWALL CAPACITY  LBS  
###

**SHEARWALL ASSEMBLY SPECIFICATION**

**PO - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 207: 2ND - SIDE EXT. WALL @MBR/BONUS**

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 208:** 2ND - INTERIOR WALL @ MBR

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 209:** 2ND - SIDE EXT. WALL @ BR4

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 210:** 2ND - SIDE EXT. WALL @ MBA

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P3 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON GS16 STRAP TIE (14" END LENGTH)**

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS ### ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**PO - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
**#DIV/0!**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
#DIV/0!

**SHEARWALL ASSEMBLY SPECIFICATION**

PO - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

NO HOLDOWN REQUIRED

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
#DIV/0!

**SHEARWALL ASSEMBLY SPECIFICATION**

PO - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

NO HOLDOWN REQUIRED





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
#DIV/0!

**SHEARWALL ASSEMBLY SPECIFICATION**

PO - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

NO HOLDOWN REQUIRED

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
#DIV/0!

**SHEARWALL ASSEMBLY SPECIFICATION**

PO - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

NO HOLDOWN REQUIRED





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS  
###

**SHEARWALL ASSEMBLY SPECIFICATION**

**P0 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 100:** 1ST - BACK EXT. WALL @ MBR2

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P3 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON STHD14RJ HOLDOWN**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 101:** 1ST - BACK EXT. WALL @ KITCHEN

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="5.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="14.3"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="8.3"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="650"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="2772"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="439"/>	PLF	OVERTURNING MOMENT	<input type="text" value="6.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1414"/>	LBS	RESISTIVE MOMENT	<input type="text" value="38.8"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 102:** 1ST - REAR EXT. WALL @ GARAGE

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="11.0"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="13.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="13.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1100"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="4536"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="202"/>	PLF	OVERTURNING MOMENT	<input type="text" value="12.1"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1200"/>	LBS	RESISTIVE MOMENT	<input type="text" value="20.8"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="4935"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 103:** 1ST - INT.WALL @ GARAGE

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 104:** 1ST - BACK EXT. WALL @ GREAT

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P3 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 105:** 1ST - FRONT EXT. WALL @ BA2

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 106:** 1ST - FRONT EXT. WALL @ DEN

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 107:** 1ST - FRONT EXT. WALL @ DINING

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="6.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="12.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="6.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="800"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="2184"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="300"/>	PLF	OVERTURNING MOMENT	<input type="text" value="8.0"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="800"/>	LBS	RESISTIVE MOMENT	<input type="text" value="20.1"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 108:** 1ST - SIDE EXT. WALL @ MBR2

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="5.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="23.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="19.0"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="700"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="6384"/>	LBS
--------------------------	----------------------------------	-----	---	------------------------------	-----------------------------------	-----

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="246"/>	PLF	OVERTURNING MOMENT	<input type="text" value="7.0"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="536"/>	LBS	RESISTIVE MOMENT	<input type="text" value="46.4"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 109:** 1ST - SIDE EXT./INT. WALL @ GREAT

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 110:** 1ST - INT. WALL @ GARAGE

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 111:** 1ST - SIDE EXT. WALL @ GARAGE

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 112:** 1ST - SIDE EXT. WALL @ KITCHEN

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P3 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**ARCHITECT NW**  
**HATELY RESIDENCE**

MERCER ISLAND, WA

**SEISMIC SHEAR WALL CALCULATIONS - SEISMIC**

*REVIEWED BY: RJZ*

*JULY 8, 2022*

*PARAMETERS:*

*SINGLE FAMILY HOME*

*DESIGN WIND SPEED: 100 MPH*

*WIND EXPOSURE CATEGORY: B*

*SEISMIC DESIGN CATEGORY: D*

*CODE & DESIGN STANDARD: 2018 IBC CH. 1609, ASCE 7-16 CH. 26-30*



**MULHERN+KULP**  
RESIDENTIAL STRUCTURAL ENGINEERING



**SEISMIC CALCULATION - ASCE 7-16**

**SEISMIC DESIGN CATEGORY:**

USER INPUTS:

SITE CLASS	C
SPECTRAL RESPONSE ACCELERATION 0.2 SEC, <b>S<sub>s</sub></b>	1.419
SPECTRAL RESPONSE ACCELERATION 1.0 SEC, <b>S<sub>1</sub></b>	0.493
OCCUPANCY CATEGORY	II

VARIABLES:

SITE COEFFICIENT, F <sub>A</sub>	1.20
SITE COEFFICIENT, F <sub>V</sub>	1.50

CALCULATED VALUES:

MAXIMUM SPECTRAL RESPONSE ACCELERATION, <b>S<sub>MS</sub></b>	1.703
MAXIMUM SPECTRAL RESPONSE ACCELERATION, <b>S<sub>M1</sub></b>	0.740
DESIGN SPECTRAL RESPONSE ACCELERATION, <b>S<sub>DS</sub></b>	1.135
DESIGN SPECTRAL RESPONSE ACCELERATION, <b>S<sub>D1</sub></b>	0.493
SEISMIC DESIGN CATEGORY (SHORT TERM)	D
SEISMIC DESIGN CATEGORY (1.0 SECOND TERM)	D

**BUILDING PERIOD DETERMINATION:**

USER INPUTS:

BUILDING PERIOD COEFFICIENT, C <sub>T</sub>	0.020
LONG-PERIOD TRANS PERIOD, T <sub>L</sub> (SEC)	6
HT. ABV BASE TO HIGHEST LEVEL, h <sub>N</sub>	21

CALCULATED VALUES:

APPROXIMATE FUNDAMENTAL PERIOD, T <sub>A</sub>	0.194
T <sub>0</sub>	0.087
T <sub>S</sub>	0.434
SPECTRAL RESPONSE ACC., S <sub>A</sub> (g)	1.135

**SITE CLASS ASSUMPTION**

**NO** PER ASCE 7-16 SECTION 11.4.3 THE SITE CLASS MAY BE ASSUMED TO BE D

**EQUIVALENT LATERAL FORCE PROCEDURE**

DEAD LOAD CALCULATION:

LEVEL	STORY HT. (FT.)	AREA (FT <sup>2</sup> )	DEAD LOAD (PSF)	DL OF EXT WALL TRIB. TO LEVEL (KIPS)	TOTAL LEVEL DL
1	11.6	4153	16	14.5	81 K
2	9.1	2607	17	5.9	50 K
3	0.0	0	0	0.0	0 K
4	0.0	0	0	0.0	0 K
5	0.0	0	0	0.0	0 K
6	0.0	0	0	0.0	0 K
7	0.0	0	0	0.0	0 K
8	0.0	0	0	0.0	0 K
9	0.0	0	0	0.0	0 K
10	0.0	0	0	0.0	0 K
11	0.0	0	0	0.0	0 K
12	0.0	0	0	0.0	0 K
13	0.0	0	0	0.0	0 K
14	0.0	0	0	0.0	0 K
15	0.0	0	0	0.0	0 K
16	0.0	0	0	0.0	0 K
17	0.0	0	0	0.0	0 K
18	0.0	0	0	0.0	0 K
19	0.0	0	0	0.0	0 K
20	0.0	0	0	0.0	0 K

**TOTAL DEAD LOAD OF STRUCTURE** 131 KIPS

SEISMIC RESPONSE COEFFICIENT:

	TRANSVERSE	LONGITUDINAL
RESPONSE MODIFICATION FACTOR, R	6.5	6.5
OCCUPANCY IMPORTANCE FACTOR, I <sub>e</sub>	1.00	1.00
SEISMIC RESPONSE COEFFICIENT, C <sub>s</sub>	0.175	0.175

BASE SHEARS:

**ULTIMATE LOADS**

x 0.7 =

**ALLOWABLE LOADS**

TRANSVERSE	LONGITUDINAL	TRANSVERSE	LONGITUDINAL
23 K	23 K	16.0 K	16.0 K

STORY SHEAR CALCULATION:

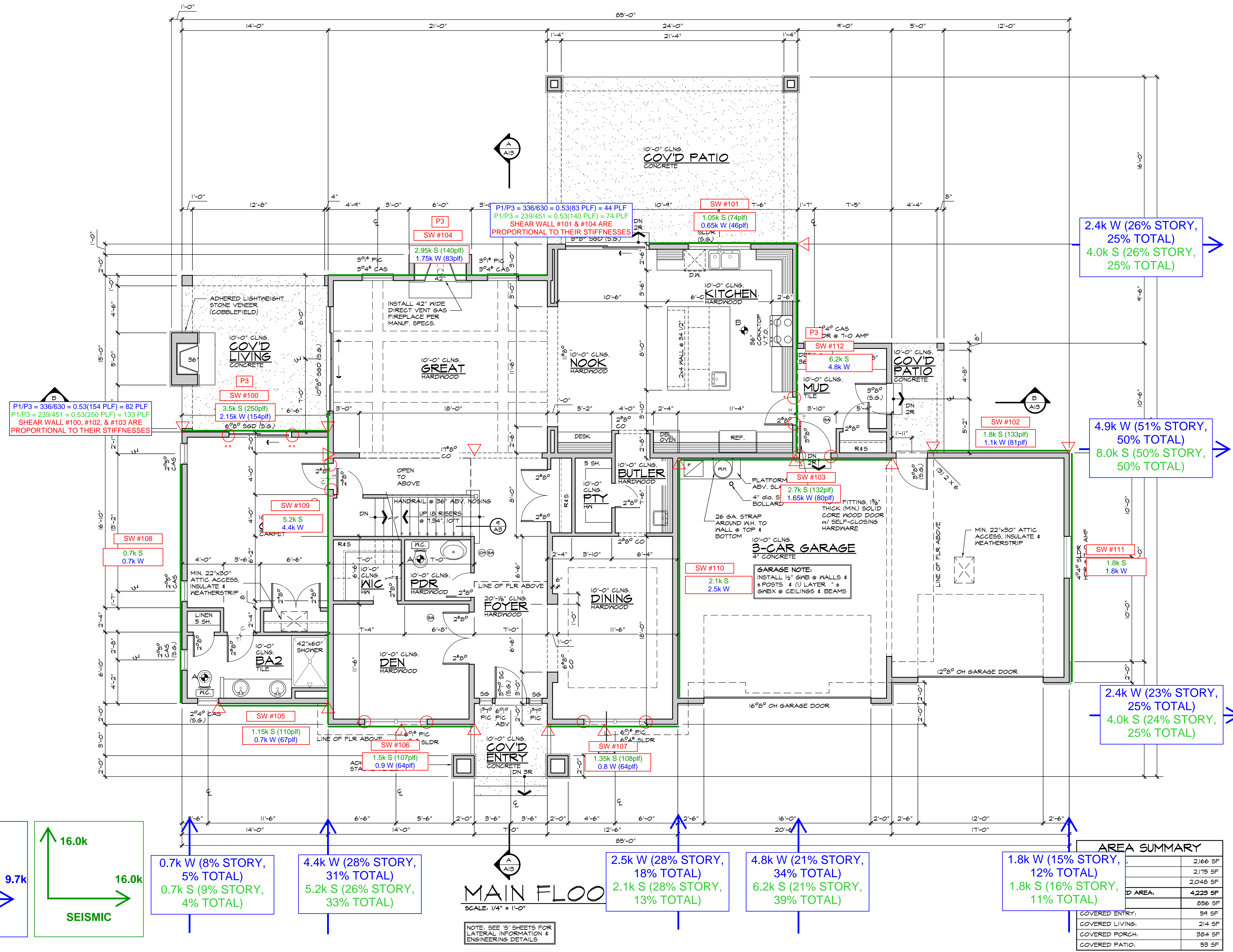
DISTRIBUTION EXPONENT, **1.00**

**ULTIMATE LOADS**

x 0.7 =

**ALLOWABLE LOADS**

LEVEL	VERT. DIST. FACTOR, C <sub>vk</sub>	TRANSVERSE		LONGITUDINAL		TRANSVERSE		LONGITUDINAL	
		STORY SHEAR, F <sub>x</sub>	STORY SHEAR, F <sub>y</sub>	STORY SHEAR, F <sub>x</sub>	STORY SHEAR, F <sub>y</sub>	STORY SHEAR, F <sub>x</sub>	STORY SHEAR, F <sub>y</sub>	STORY SHEAR, F <sub>x</sub>	STORY SHEAR, F <sub>y</sub>
1	0.474	10.9 K	10.9 K	7.6 K	7.6 K	16.0 K	16.0 K	8.4 K	8.4 K
2	0.526	12.0 K	12.0 K	8.4 K	8.4 K	8.4 K	8.4 K	0.0 K	0.0 K
3	0.000	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
4	0.000	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
5	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
6	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
7	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
8	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
9	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
10	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
11	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
12	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
13	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
14	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
15	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
16	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
17	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
18	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
19	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K
20	0.00	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K	0.0 K



P1/P3 = 336/630 = 0.53(154 PLF) = 82 PLF  
 P1/P3 = 239/451 = 0.53(250 PLF) = 133 PLF  
 SHEAR WALL #100, #102, & #103 ARE  
 PROPORTIONAL TO THEIR STIFFNESSES

P1/P3 = 336/630 = 0.53(83 PLF) = 44 PLF  
 P1/P3 = 239/451 = 0.53(140 PLF) = 74 PLF  
 SHEAR WALL #101 & #104 ARE  
 PROPORTIONAL TO THEIR STIFFNESSES

2.4k W (26% STORY,  
 25% TOTAL)  
 4.0k S (26% STORY,  
 25% TOTAL)

4.9k W (51% STORY,  
 50% TOTAL)  
 8.0k S (50% STORY,  
 50% TOTAL)

2.4k W (23% STORY,  
 25% TOTAL)  
 4.0k S (24% STORY,  
 25% TOTAL)

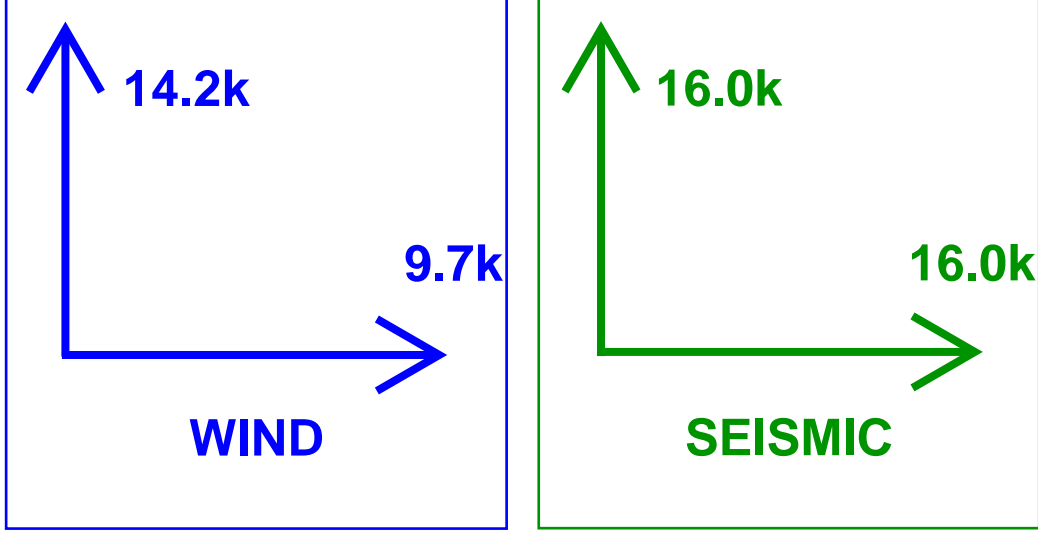
0.7k W (8% STORY,  
 5% TOTAL)  
 0.7k S (9% STORY,  
 4% TOTAL)

4.4k W (28% STORY,  
 31% TOTAL)  
 5.2k S (26% STORY,  
 33% TOTAL)

2.5k W (28% STORY,  
 18% TOTAL)  
 2.1k S (28% STORY,  
 13% TOTAL)

4.8k W (21% STORY,  
 34% TOTAL)  
 6.2k S (21% STORY,  
 39% TOTAL)

1.8k W (15% STORY,  
 12% TOTAL)  
 1.8k S (16% STORY,  
 11% TOTAL)



MAIN FLOOR

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

NOTE: SEE 'S' SHEETS FOR  
 LATERAL INFORMATION &  
 ENGINEERING DETAILS

AREA SUMMARY	
COVERED ENTRY:	54 SF
COVERED LIVING:	214 SF
COVERED PORCH:	384 SF
COVERED PATIO:	53 SF
<b>TOTAL AREA:</b>	<b>4,229 SF</b>
	856 SF

REGISTERED ARCHITECT  
 JERRY P. ARNETT  
 STATE OF WASHINGTON

ARCHITECTS NORTHWEST  
 18915-142nd AVENUE NE SUITE 100 WOODINVILLE, WA 98072  
 OFFICE: (425) 485-4900 FAX: (425) 487-6585  
 (425) 487-6585 WWW.ARCHITECTSNW.COM

HATELY RESIDENCE  
 4114 83RD AVE SE, MERCER ISLAND, WA 98040  
**PLAN M4061A3F-2FB**

DESIGNED BY: JdeR DATE: 2012  
 DRAWN BY: JIM DATE: 5/1/2012

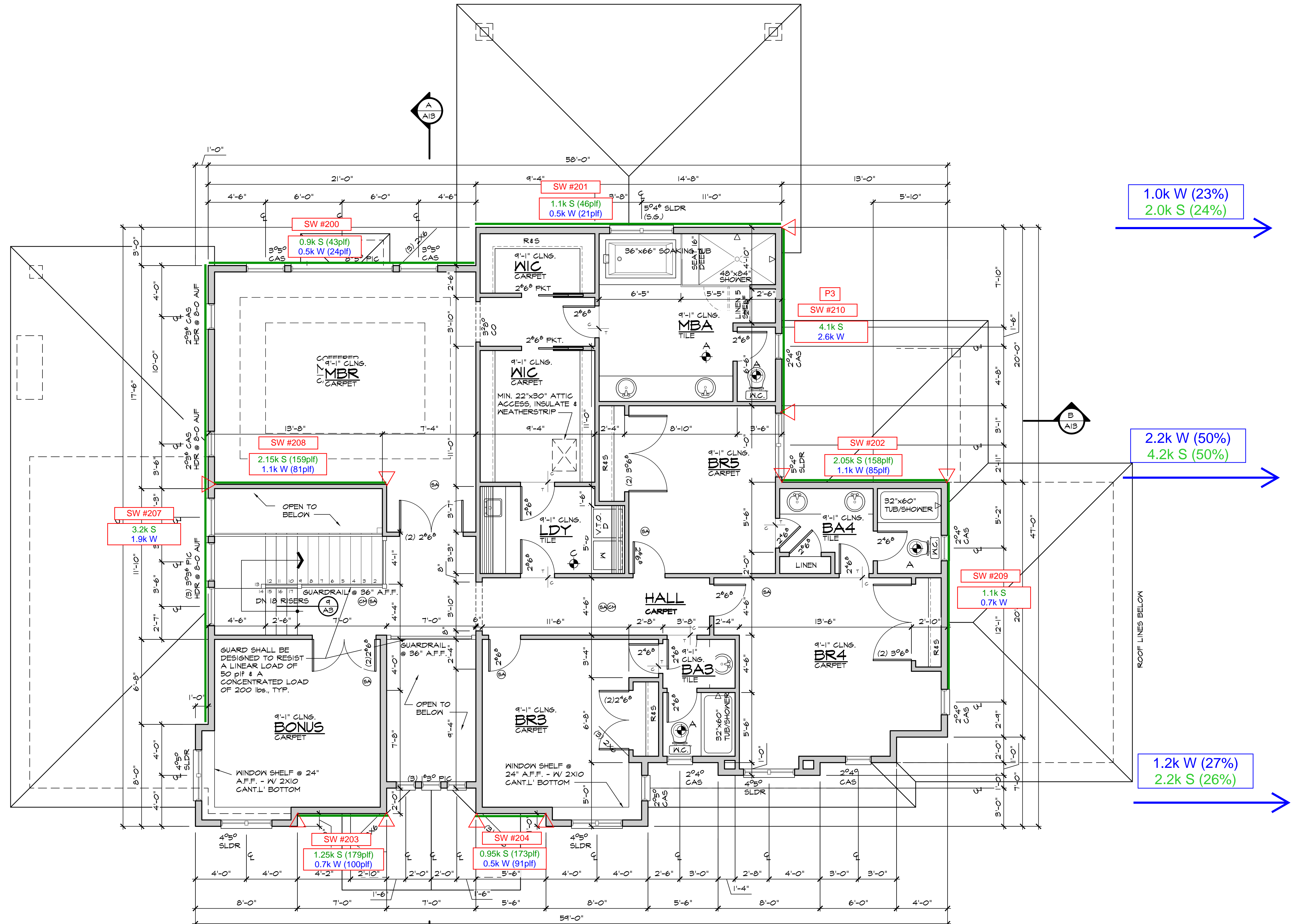
PROJECT MANAGER: SARAH WEIGHT  
 REVISED BY: JSC DATE: 4/14/22

LATERAL BY: DATE:  
 LATERAL JOB NUMBER:

A7  
 A13

ANW WOODVILLE OFFICE  
 JOB NUMBER:  
**220006**

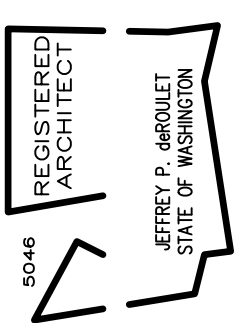




**UPPER FLOOR PLAN**

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

NOTE: SEE 'S' SHEETS FOR LATERAL INFORMATION & ENGINEERING DETAILS



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FAX: (425) 487-6585 WWW.ARCHITECTSNW.COM

**HATELY RESIDENCE**  
4114 83RD AVE SE, MERCER ISLAND, WA 98040  
**PLAN M4061A3F-2FB**

DESIGNED BY: JdeR DATE: 2012  
DRAWN BY: JM DATE: 5/1/2012

PROJECT MANAGER: SARAH WEIGHT  
REVISED BY: JSC DATE: 4/14/22

LATERAL BY: DATE:  
LATERAL JOB NUMBER:

A9  
A13

ANN WOODVILLE OFFICE JOB NUMBER:  
220006



***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 200:** 2ND - BACK EXT. WALL @ MBR

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 201:** 2ND - BACK EXT. WALL @ MBA

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 202:** 2ND - BACK EXT. WALL @ BA4

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	9.1	FT.	MAX WALL OPENING HT, H <sub>c</sub>	0.0	FT.		
WALL LENGTH, L	13.0	FT.	QUALIFYING WALL LENGTH, L	13.0	FT.	SHEARWALL ASSEMBLY	P1

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	2050	LBS	<	ALLOWABLE SHEARWALL CAPACITY	3107	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	160	PLF	OVERTURNING MOMENT	18.6	K-FT	HOLD DOWN DESIGN LOAD	733	LBS
DL AT ENDS OF WALL	500	LBS	RESISTIVE MOMENT	9.1	K-FT	HOLD DOWN CAPACITY	1705	LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON GS16 STRAP TIE (14" END LENGTH)**

**SHEARWALL 203:** 2ND - FRONT EXT. WALL @ BONUS

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	9.1	FT.	MAX WALL OPENING HT, H <sub>c</sub>	0.0	FT.		
WALL LENGTH, L	7.0	FT.	QUALIFYING WALL LENGTH, L	7.0	FT.	SHEARWALL ASSEMBLY	P1

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	1250	LBS	<	ALLOWABLE SHEARWALL CAPACITY	1673	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	180	PLF	OVERTURNING MOMENT	11.4	K-FT	HOLD DOWN DESIGN LOAD	1205	LBS
DL AT ENDS OF WALL	289	LBS	RESISTIVE MOMENT	2.9	K-FT	HOLD DOWN CAPACITY	1705	LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON GS16 STRAP TIE (14" END LENGTH)**



***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 204:** 2ND - FRONT EXT. WALL @ BR3

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="5.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="5.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="950"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="1315"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="184"/>	PLF	OVERTURNING MOMENT	<input type="text" value="8.6"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="1208"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="289"/>	LBS	RESISTIVE MOMENT	<input type="text" value="2.0"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="1705"/>	LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON CS16 STRAP TIE (14" END LENGTH)**

**SHEARWALL 205:** - VOID

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="0.0"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="0.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="0.0"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="PO"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="0"/>	LBS	###	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="#DIV/0!"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

**PO - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
**#DIV/0!**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="0"/>	PLF	OVERTURNING MOMENT	<input type="text" value="#DIV/0!"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="0"/>	LBS	RESISTIVE MOMENT	<input type="text" value="0.0"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 206: - VOID**

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS ALLOWABLE SHEARWALL CAPACITY  LBS  
###

**SHEARWALL ASSEMBLY SPECIFICATION**

**PO - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 207: 2ND - SIDE EXT. WALL @MBR/BONUS**

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**



***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 208:** 2ND - INTERIOR WALL @ MBR

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="13.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="13.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="2150"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="3227"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="125"/>	PLF	OVERTURNING MOMENT	<input type="text" value="19.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="690"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="822"/>	LBS	RESISTIVE MOMENT	<input type="text" value="10.2"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="1705"/>	LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON CS16 STRAP TIE (14" END LENGTH)**

**SHEARWALL 209:** 2ND - SIDE EXT. WALL @ BR4

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="4.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="16.3"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="14.3"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1100"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="3406"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="184"/>	PLF	OVERTURNING MOMENT	<input type="text" value="10.0"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="500"/>	LBS	RESISTIVE MOMENT	<input type="text" value="14.7"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 210:** 2ND - SIDE EXT. WALL @ MBA

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="4.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="14.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="12.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P3"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="4100"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="5638"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

**P3 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="202"/>	PLF	OVERTURNING MOMENT	<input type="text" value="37.2"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="1676"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="500"/>	LBS	RESISTIVE MOMENT	<input type="text" value="12.9"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="1705"/>	LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON GS16 STRAP TIE (14" END LENGTH)**

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="0.0"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="0.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="0.0"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="PO"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="0"/>	LBS	###	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="#DIV/0!"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

**PO - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
**#DIV/0!**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="0"/>	PLF	OVERTURNING MOMENT	<input type="text" value="0.0"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="0"/>	LBS	RESISTIVE MOMENT	<input type="text" value="0.0"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**



***SHEARWALL DESIGN SUMMARY***

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
#DIV/0!

**SHEARWALL ASSEMBLY SPECIFICATION**

PO - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

NO HOLDOWN REQUIRED

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
#DIV/0!

**SHEARWALL ASSEMBLY SPECIFICATION**

PO - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

NO HOLDOWN REQUIRED





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
#DIV/0!

**SHEARWALL ASSEMBLY SPECIFICATION**

PO - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

NO HOLDOWN REQUIRED

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
#DIV/0!

**SHEARWALL ASSEMBLY SPECIFICATION**

PO - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

NO HOLDOWN REQUIRED



***SHEARWALL DESIGN SUMMARY***

**SHEARWALL XXX:** - NOT USED

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
#DIV/0!

**SHEARWALL ASSEMBLY SPECIFICATION**

**PO - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED  
#DIV/0!

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 100:** 1ST - BACK EXT. WALL @ MBR2

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS    ALLOWABLE SHEARWALL CAPACITY  LBS  
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**SHEARWALL ASSEMBLY SPECIFICATION**

**P3 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON STHD14RJ HOLDOWN**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 101:** 1ST - BACK EXT. WALL @ KITCHEN

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="5.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="14.3"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="8.3"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1050"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="1972"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="439"/>	PLF	OVERTURNING MOMENT	<input type="text" value="10.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1414"/>	LBS	RESISTIVE MOMENT	<input type="text" value="29.4"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 102:** 1ST - REAR EXT. WALL @ GARAGE

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H	<input type="text" value="11.0"/>	FT.	MAX WALL OPENING HT, H <sub>c</sub>	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="13.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="13.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1800"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="3227"/>	LBS
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**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL	<input type="text" value="202"/>	PLF	OVERTURNING MOMENT	<input type="text" value="19.8"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="303"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1200"/>	LBS	RESISTIVE MOMENT	<input type="text" value="15.7"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="3695"/>	LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON STHD14RJ HOLDOWN**



***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 103:** 1ST - INT.WALL @ GARAGE

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON STDH14RJ HOLDOWN**

**SHEARWALL 104:** 1ST - BACK EXT. WALL @ GREAT

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P3 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 105:** 1ST - FRONT EXT. WALL @ BA2

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON STD14RJ HOLDOWN**

**SHEARWALL 106:** 1ST - FRONT EXT. WALL @ DEN

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT. MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT. QUALIFYING WALL LENGTH, L  FT. SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF OVERTURNING MOMENT  K-FT HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS RESISTIVE MOMENT  K-FT HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**



***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 107:** 1ST - FRONT EXT. WALL @ DINING

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 108:** 1ST - SIDE EXT. WALL @ MBR2

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**





***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 109:** 1ST - SIDE EXT./INT. WALL @ GREAT

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 110:** 1ST - INT. WALL @ GARAGE

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

P1 - 1-SIDE 7/16" OSB  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**



***SHEARWALL DESIGN SUMMARY***

**SHEARWALL 111:** 1ST - SIDE EXT. WALL @ GARAGE

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P1 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**NO HOLDOWN REQUIRED**

**SHEARWALL 112:** 1ST - SIDE EXT. WALL @ KITCHEN

**SHEARWALL PROPERTIES:**

WALL HEIGHT, H  FT.    MAX WALL OPENING HT, H<sub>c</sub>  FT.  
WALL LENGTH, L  FT.    QUALIFYING WALL LENGTH, L  FT.    SHEARWALL ASSEMBLY

**CAPACITY EVALUATION:**

TOTAL SHEAR LOAD ON WALL  LBS < ALLOWABLE SHEARWALL CAPACITY  LBS

**SHEARWALL ASSEMBLY SPECIFICATION**

**P3 - 1-SIDE 7/16" OSB**  
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED  
**ADEQUATE**

**OVERTURNING EVALUATION:**

RESISTIVE DL  PLF    OVERTURNING MOMENT  K-FT    HOLD DOWN DESIGN LOAD  LBS  
DL AT ENDS OF WALL  LBS    RESISTIVE MOMENT  K-FT    HOLDOWN CAPACITY  LBS

**HOLD-DOWN SPECIFICATION**

**SIMPSON STHD14RJ HOLDOWN**





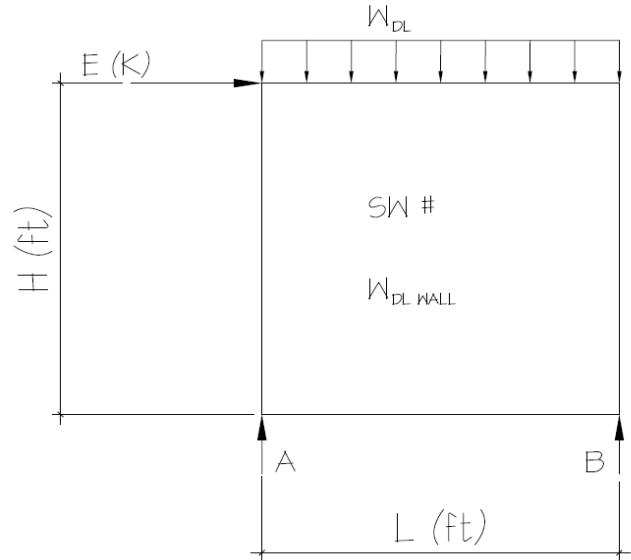
**OVERSTRENGTH CALCULATIONS**

**WALL DESCRIPTION/SW #:**

208

**PARAMETERS:**

- L = 13.5 FT
- H = 9.1 FT
- E = 2.15 K
- $W_{DLWALL}$  = 0.10 KLF
- $W_{DL}$  = 0.025 KLF
- $\Omega_0$  = 2.5 (ASCE TABLE 12.2.1 FOOTNOTE G)
- SDS = 1.135



**ANALYSIS:**

$E_{MH} = \Omega_0 * E = 5.38$  K       $E_v = 0.2 * SDS * DL = 0.383$  K  
 $E_M = E_{MH} + E_v = 5.758$  K  
 $E_M = E_{MH} - E_v = 4.992$  K

$E_M (MAX) = \sum M_A = 0 = 5.76(9.1) + 0.125(13.5)(6.75) - R_B(13.5)$        $R_B = 0.8DL + 3.9E$   
 $R_A = 0.8DL - 3.9E$

$E_M (MIN) = \sum M_A = 0 = 4.99(9.1) + 0.125(13.5)(6.75) - R_B(13.5)$        $R_B = 0.8DL + 3.4E$   
 $R_A = 0.8DL - 3.4E$

CHECK BEAMS FOR AXIAL FORCES SHOWN USING LOAD COMBOS PER SECTION 12.4.3.1 (ASD)

ALLOWABLE STRESS PERMITTED TO BE INCREASED BY 1.2

SEE FOLLOWING BEAM  
CALCS FOR LOAD  
APPLICATION

# BEAM CALCULATIONS FOR

## PLAN M4061A3F-2

### TO BE BUILT IN MERCER ISLAND, WA

### FOR

### HATELY RESIDENCE

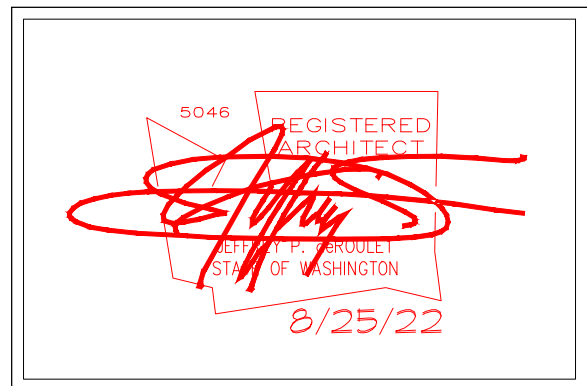
#### LOADING

Roof	15 PSF Dead Load + 25 PSF Live Load	=	40 PSF
Floor	10 PSF Dead Load + 40 PSF Live Load	=	50 PSF
Ceiling	5 PSF Dead Load + 10 PSF Live Load	=	15 PSF
Deck	5 PSF Dead Load + 60 PSF Live Load	=	65 PSF
Interior wall		=	07 PSF
Exterior wall		=	10 PSF

#### DEFLECTION

Roof	=	1 / 240 Live Load, 1 / 180 Total Load
Floor	=	1 / 360 Live Load, 1 / 240 Total Load

NOTE: This stamp applies to the members and assemblies described in these calculations only. And is valid if it has a wet stamp.



Architects Northwest JOB No. 220006

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DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--		

## PROJECT SUMMARY

**Project Name: Hately Residence**

**Governing Codes:**

**Building Code: 2018 International Building Code**

**ASCE: ASCE 7-16**

**Steel: AISC 360-16**

**Concrete: ACI 318-14**

**Masonry: TMS 402/602-16**

**Module Location: GT1 - GIRDER HIP MASTER (end reactions only)**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 1.5 in. X 3.5 in. X 39.3 ft

Section Adequacy: **-99.91%**

Controlling Factor: Deflection

**Module Location: GT2 - GIRDER TRUSS (end reactions only)**

Module Level: StruCalc Members

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 1.5 in. X 3.5 in. X 8 ft

Section Adequacy: **-95.16%**

Controlling Factor: Deflection

**Module Location: GT3 - GIRDER TRUSS (end reactions only)**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 1.5 in. X 3.5 in. X 8 ft

Section Adequacy: **-97.28%**

Controlling Factor: Deflection

**Module Location: GT4 - GIRDER TRUSS (end reactions only)**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 1.5 in. X 3.5 in. X 33.7 ft

Section Adequacy: **-99.7%**

Controlling Factor: Deflection

**Module Location: GT5 - GIRDER TRUSS (end reactions only)**

Module Level: StruCalc Members

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 1.5 in. X 3.5 in. X 8 ft

Section Adequacy: **-91.73%**

Controlling Factor: Deflection

**Module Location: GT6 - GIRDER TRUSS (end reactions only)**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 1.5 in. X 3.5 in. X 33.7 ft

Section Adequacy: **-99.72%**

Controlling Factor: Deflection

**Module Location: GT7 - STUB HIP MASTER (end reactions only)**

Module Level: StruCalc Members

Module Type: Floor Beam  
 Material Type: Solid Sawn Douglas Fir-Larch No. 2  
 Member Dimensions: (1) 1.5 in. X 3.5 in. X 23.7 ft  
 Section Adequacy: **-99.85%**  
 Controlling Factor: Deflection

**Module Location: GT8 - GIRDER TRUSS (end reactions only)**  
 Module Level: StruCalc Members  
 Module Type: Floor Beam  
 Material Type: Solid Sawn Douglas Fir-Larch No. 2  
 Member Dimensions: (1) 1.5 in. X 3.5 in. X 39.3 ft  
 Section Adequacy: **-99.9%**  
 Controlling Factor: Deflection

**Module Location: GT9 - HIP MASTER (end reactions only)**  
 Module Level: StruCalc Members  
 Module Type: Floor Beam  
 Material Type: Solid Sawn Douglas Fir-Larch No. 2  
 Member Dimensions: (1) 1.5 in. X 3.5 in. X 22 ft  
 Section Adequacy: **-99.21%**  
 Controlling Factor: Deflection

**Module Location: GT10 - HIP MASTER (end reactions only)**  
 Module Level: StruCalc Members  
 Module Type: Floor Beam  
 Material Type: Solid Sawn Douglas Fir-Larch No. 2  
 Member Dimensions: (1) 1.5 in. X 3.5 in. X 24 ft  
 Section Adequacy: **-99.38%**  
 Controlling Factor: Deflection

**Module Location: GT11 - MONO HIP MASTER (end reactions only)**  
 Module Level: StruCalc Members  
 Module Type: Floor Beam  
 Material Type: Solid Sawn Douglas Fir-Larch No. 2  
 Member Dimensions: (1) 1.5 in. X 3.5 in. X 14.5 ft  
 Section Adequacy: **-97.01%**  
 Controlling Factor: Deflection

**Module Location: R01 - GARAGE OHD HDR**  
 Module Level: StruCalc Members  
 Module Type: Roof Beam  
 Material Type: Solid Sawn Douglas Fir-Larch No. 2  
 Member Dimensions: (1) 3.5 in. X 11.25 in. X 17 ft  
 Section Adequacy: **53.97%**  
 Controlling Factor: Bending Stress Y

**Module Location: R02 - COV'D PATIO BEAM**  
 Module Level: StruCalc Members  
 Module Type: Floor Beam  
 Material Type: Solid Sawn Douglas Fir-Larch No. 2  
 Member Dimensions: (1) 3.5 in. X 9.25 in. X 11 ft  
 Section Adequacy: **31.71%**  
 Controlling Factor: Bending Stress Y

**Module Location: R03 - COV'D PATIO BEAMS**  
 Module Level: StruCalc Members  
 Module Type: Floor Beam  
 Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF  
 Member Dimensions: (1) 5.125 in. X 15 in. X 15.7 ft  
 Section Adequacy: **51.74%**  
 Controlling Factor: Bearing Stress

**Module Location: R04 - COV'D PATIO BEAM**  
 Module Level: StruCalc Members  
 Module Type: Floor Beam  
 Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF  
 Member Dimensions: (1) 5.125 in. X 15 in. X 22 ft  
 Section Adequacy:



**Module Location: R05 - MBR WDO HDR**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 3.125 in. X 13.5 in. X 8.5 ft

Section Adequacy: 21.06%

Controlling Factor: Shear Stress Y

**Module Location: R06 - COV'D PATIO BEAM**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 11.25 in. X 14.3 ft

Section Adequacy: 27.96%

Controlling Factor: Bending Stress Y

**Module Location: R07 - COV'D PATIO BEAM**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 9.25 in. X 4.7 ft

Section Adequacy: 58.27%

Controlling Factor: Bending Stress Y

**Module Location: R08 - MBR WDO HDR RIGHT**

Module Level: StruCalc Members

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 9.25 in. X 3.6 ft

Section Adequacy: 65.86%

Controlling Factor: Shear Stress Y

**Module Location: R09 - MBR WDO HDR LEFT**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 9.25 in. X 3.6 ft

Section Adequacy: 91.78%

Controlling Factor: Shear Stress Y

**Module Location: U01 - GARAGE BEAM**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 5.5 in. X 21 in. X 21 ft

Section Adequacy: 17.45%

Controlling Factor: Bearing Stress

**Module Location: U02 - GARAGE BEAM**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 5.125 in. X 19.5 in. X 20 ft

Section Adequacy: 24.11%

Controlling Factor: Bearing Stress

**Module Location: U03 - GARAGE BEAM**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 5.5 in. X 18 in. X 22 ft

Section Adequacy: 40.22%

Controlling Factor: Deflection

**Module Location: U04 - GARAGE OHD HDR**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 5.125 in. X 12 in. X 12.3 ft

Section Adequacy: 38.78%

Controlling Factor: Bearing Stress

**Module Location: U05 - KITCHEN WDO HDR**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 11.25 in. X 6.3 ft

Section Adequacy: 29.98%

Controlling Factor: Bending Stress Y

**Module Location: U06 - NOOK SGD HDR**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 3.125 in. X 10.5 in. X 8.3 ft

Section Adequacy: 36.91%

Controlling Factor: Bending Stress Y

**Module Location: U07 - GREAT RM SGD HDR**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 3.125 in. X 12 in. X 10.3 ft

Section Adequacy: 41.42%

Controlling Factor: Bending Stress Y

**Module Location: U08 - STAIR BEAM**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 9.25 in. X 8 ft

Section Adequacy: 50.73%

Controlling Factor: Bending Stress Y

**Module Location: U09 - FOYER GREAT RM BEAM**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 5.125 in. X 19.5 in. X 21.5 ft

Section Adequacy: 27.95%

Controlling Factor: Deflection

**Module Location: U10 - FOYER BEAM**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 11.25 in. X 8 ft

Section Adequacy: 18.45%

Controlling Factor: Bending Stress Y

**Module Location: U11 - DEN DOOR HDR**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 9.25 in. X 7.6 ft

Section Adequacy: 26.63%

Controlling Factor: Bending Stress Y

**Module Location: U12 - DINING OP HDR**

Module Level: StruCalc Members

Module Type: Floor Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 9.25 in. X 8.3 ft

Section Adequacy: 20.42%

Controlling Factor: Bending Stress Y

**Module Location: U13 - GREAT RM WDO HDR**



Module Level: StruCalc Members  
Module Type: Floor Beam  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (1) 3.5 in. X 9.25 in. X 3.6 ft  
Section Adequacy: 75.57%  
Controlling Factor: Shear Stress Y

**Module Location: C01 - COL at GT1a & GT2a**

Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (1) 5.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 36.91%  
Controlling Factor: Bearing Stress

**Module Location: C02 - COL at GT2b & GT8a**

Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (1) 5.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 26.94%  
Controlling Factor: Bearing Stress

**Module Location: C03 - COL at GT4a**

Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 76.03%  
Controlling Factor: Bearing Stress

**Module Location: C04 - COL at GT7b**

Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 66.67%  
Controlling Factor: Bearing Stress

**Module Location: C05 - COL at GT8b**

Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (1) 5.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 24.4%  
Controlling Factor: Bearing Stress

**Module Location: C06 - COL at R05b & U08a**

Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 69.17%  
Controlling Factor: Bearing Stress

**Module Location: C07 - COL at R03a**

Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 81.28%  
Controlling Factor: Bearing Stress

**Module Location: C08 - COL at R03b**

Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.3 ft  
Section Adequacy:

**Module Location: C09 - COL at GT4a & U01a**

Module Level: StruCalc Members

Module Type: Column

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 5.5 in. X 7.5 in. X 9.1 ft

Section Adequacy: 15.46%

Controlling Factor: Bearing Stress

**Module Location: C10 - COL at U01b**

Module Level: StruCalc Members

Module Type: Column

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft

Section Adequacy: 70.36%

Controlling Factor: Bearing Stress

**Module Location: C11 - COL at U02ab**

Module Level: StruCalc Members

Module Type: Column

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft

Section Adequacy: 67.41%

Controlling Factor: Bearing Stress

**Module Location: C12 - COL at U03b**

Module Level: StruCalc Members

Module Type: Column

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft

Section Adequacy: 81.8%

Controlling Factor: Bearing Stress

**Module Location: C13 - COL at U04ab**

Module Level: StruCalc Members

Module Type: Column

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft

Section Adequacy: 73.71%

Controlling Factor: Bearing Stress

**Module Location: C14 - COL at U09a**

Module Level: StruCalc Members

Module Type: Column

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft

Section Adequacy: 73.91%

Controlling Factor: Bearing Stress

**Module Location: C15 - COL at U09b & U10b**

Module Level: StruCalc Members

Module Type: Column

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft

Section Adequacy: 60.96%

Controlling Factor: Bearing Stress

**Module Location: C16 - COL at R05b, R08a, & U13a**

Module Level: StruCalc Members

Module Type: Column

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 5.5 in. X 5.5 in. X 9.1 ft

Section Adequacy: 44.36%

Controlling Factor: Bearing Stress

**Module Location: C17 - COL at U06ab**

Module Level: StruCalc Members

Module Type: Column



Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 84.87%  
Controlling Factor: Bearing Stress

Module Location: C18 - COL at GT1a, GT2a, & U11a  
Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (1) 5.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 32.61%  
Controlling Factor: Bearing Stress

Module Location: C19 - COL at GT2b, GT8a, & U12a  
Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (1) 5.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 22.55%  
Controlling Factor: Bearing Stress

Module Location: C20 - COL at U07a  
Module Level: StruCalc Members  
Module Type: Column  
Material Type: Solid Sawn Douglas Fir-Larch No. 2  
Member Dimensions: (3) 1.5 in. X 5.5 in. X 9.1 ft  
Section Adequacy: 84.78%  
Controlling Factor: Bearing Stress

Module Location: F01 - FTG at GT1a, GT2a, & U11a (C01)  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 3 ft. wide X 12 in. tall X 3 ft long  
Section Adequacy: 22.65%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (5), No. Bars Long: (5)

Module Location: F02 - FTG at GT2b, GT8a, & U12a (C02)  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 3.5 ft. wide X 12 in. tall X 3.5 ft long  
Section Adequacy: 34.68%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (6), No. Bars Long: (6)

Module Location: F03 - FTG at GT4a & U01a (C09)  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 3.5 ft. wide X 12 in. tall X 3.5 ft long  
Section Adequacy: 28.71%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (6), No. Bars Long: (6)

Module Location: F04 - FTG at U01b (C10)  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long  
Section Adequacy: 26.05%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (4), No. Bars Long: (4)

Module Location: F05 - FTG at U02a (C11)  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete

Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long  
Section Adequacy: 18.69%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (4), No. Bars Long: (4)

**Module Location: F06 - FTG at U04a (C13)**  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long  
Section Adequacy: 34.4%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (4), No. Bars Long: (4)

**Module Location: F07 - FTG at U04b (C13)**  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long  
Section Adequacy: 31.62%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (3), No. Bars Long: (3)

**Module Location: F08 - FTG at U03b (C12)**  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long  
Section Adequacy: 29.05%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (3), No. Bars Long: (3)

**Module Location: F09 - FTG at U02b (C11)**  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long  
Section Adequacy: 18.69%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (4), No. Bars Long: (4)

**Module Location: F10 - FTG at GT7b (C04)**  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 3 ft. wide X 12 in. tall X 3 ft long  
Section Adequacy: 34.45%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (5), No. Bars Long: (5)

**Module Location: F11 - FTG at R03a (C07)**  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long  
Section Adequacy: 19.2%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (3), No. Bars Long: (3)

**Module Location: F12 - FTG at R03b (C08)**  
Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long  
Section Adequacy: 43.41%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (3), No. Bars Long: (3)

**Module Location: F13 - FTG at U06ab (C17)**

Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long  
Section Adequacy: 41.04%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (3), No. Bars Long: (3)

**Module Location: F14 - FTG at R03a (C07)**

Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long  
Section Adequacy: 19.2%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (3), No. Bars Long: (3)

**Module Location: F15 - FTG at GT8b (C05)**

Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 3 ft. wide X 12 in. tall X 3 ft long  
Section Adequacy: 13.22%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (5), No. Bars Long: (5)

**Module Location: F16 - FTG at R05b, U08a, & U13a (C16)**

Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 3 ft. wide X 12 in. tall X 3 ft long  
Section Adequacy: 43.68%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (5), No. Bars Long: (5)

**Module Location: F17 - FTG at U07a (C20)**

Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long  
Section Adequacy: 40.67%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (3), No. Bars Long: (3)

**Module Location: F18 - FTG at U09a (C14)**

Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long  
Section Adequacy: 34.9%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (4), No. Bars Long: (4)

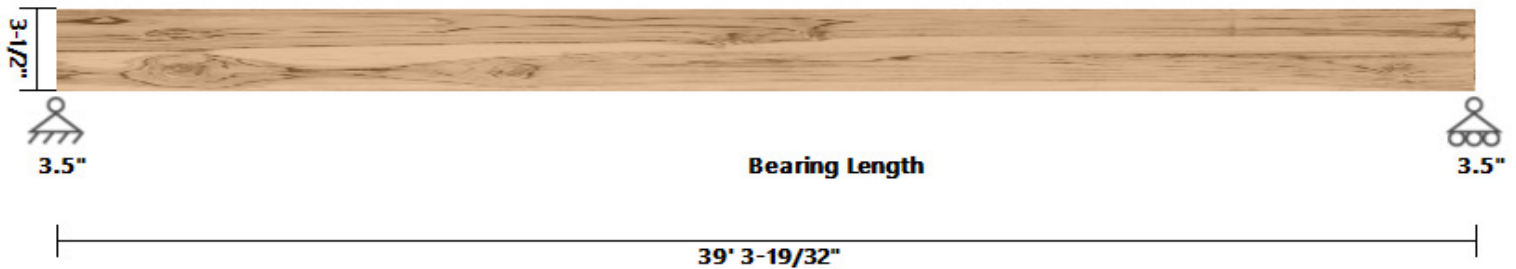
**Module Location: F19 - FTG at U09b & U10b (C15)**

Module Level: StruCalc Members  
Module Type: Isolated Footing  
Material Type: Concrete  
Member Dimensions: 3 ft. wide X 12 in. tall X 3 ft long  
Section Adequacy: 32.36%  
Controlling Factor: Soil Bearing Pressure  
Reinforcement Bars: Size #4, No. Bars Short (5), No. Bars Long: (5)



**FAIL**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT1 - GIRDER HIP MASTER (end rea...	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT1 - GIRDER HIP MASTER (end reactions only) DIAGRAM****BEAM PROPERTIES**

Start (ft): 0 End (ft): 39.3 Member Slope: 0/12 Actual Length (ft): 39.3

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	39.3	2	39.3	0	0.99	0.37	0.99	0.99

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-88.8%)</b>	1854.6	207.0	0	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-99.5%)</b>	296926.1	1540.7	19.65	D+S	1.15
Deflection (in)	<b>FAIL (-99.9%)</b>	1483.465 (=L/0)	1.310 (=L/360)	19.65	S	
Bearing Stress (psi)	<b>FAIL (-49.4%)</b>	1236.4	625.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	2541	0	0	3951	0	0	0	0	0	0	0
B	2217	0	0	3452	0	0	0	0	0	0	0

Reaction Location

A

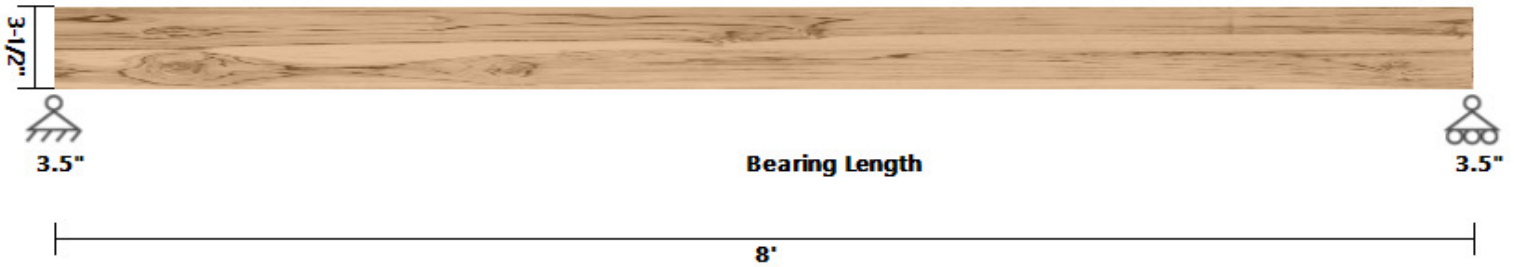
B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	39.3	Snow	Y
Uniform (lbf/ft)	15	15	0	39.3	Dead	Y
Trapezoidal (lbf/ft)	25	25	0	10.1	Snow	Y
Trapezoidal (lbf/ft)	15	15	0	10.1	Dead	Y
Trapezoidal (lbf/ft)	173	173	10.1	25.6	Snow	Y
Trapezoidal (lbf/ft)	104	104	10.1	25.6	Dead	Y
Trapezoidal (lbf/ft)	25	25	25.6	39.3	Snow	Y
Trapezoidal (lbf/ft)	15	15	25.6	39.3	Dead	Y
Point (lbf)	1572	-	10.1	-	Snow	Y
Point (lbf)	1076	-	10.1	-	Dead	Y
Point (lbf)	1572	-	25.6	-	Snow	Y
Point (lbf)	1076	-	25.6	-	Dead	Y
Self Weight (lbf/ft)	1.2	1.2	0	39.3	Dead	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT2 - GIRDER TRUSS (end reactions ...	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT2 - GIRDER TRUSS (end reactions only) DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 8 Member Slope: 0/12 Actual Length (ft): 8

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8	2	8	0	0.99	0.95	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-77.9%)</b>	938.5	207.0	0	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-94.0%)</b>	25742.0	1540.6	4	D+S	1.15
Deflection (in)	<b>FAIL (-95.2%)</b>	5.508 (=L/17)	0.267 (=L/360)	4	S	
Bearing Stress (psi)	<b>FAIL (-0.1%)</b>	625.7	625.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	1235	0	0	2050	0	0	0	0	0	0	0
B	1235	0	0	2050	0	0	0	0	0	0	0

Reaction Location

A

B

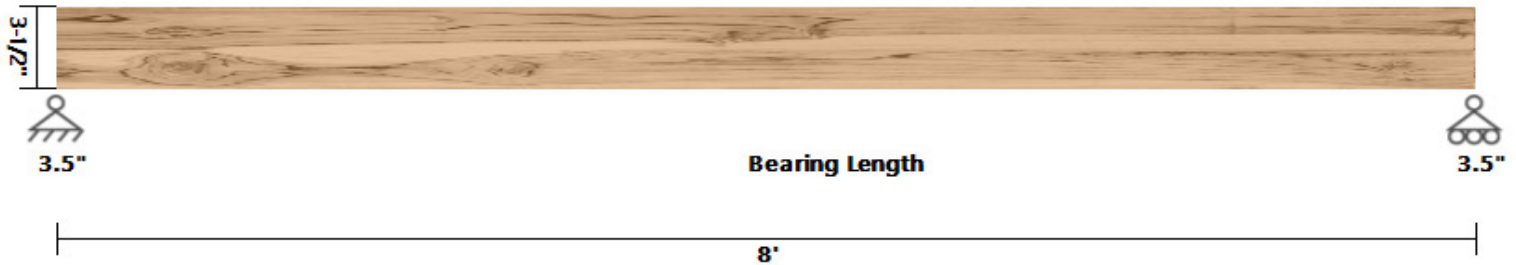


**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	512.5	512.5	0	8	Snow	Y
Uniform (lb/ft)	307.5	307.5	0	8	Dead	Y
Self Weight (lb/ft)	1.2	1.2	0	8	Dead	Y

**FAIL**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT3 - GIRDER TRUSS (end reactions ...	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT3 - GIRDER TRUSS (end reactions only) DIAGRAM****BEAM PROPERTIES**

Start (ft): 0 End (ft): 8 Member Slope: 0/12 Actual Length (ft): 8

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8	2	8	0	0.99	0.95	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-87.3%)</b>	1623.5	207.0	0	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-96.7%)</b>	47132.0	1540.8	4.24	D+S	1.15
Deflection (in)	<b>FAIL (-97.3%)</b>	9.790 (=L/10)	0.267 (=L/360)	4	S	
Bearing Stress (psi)	<b>FAIL (-42.3%)</b>	1082.4	625.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	2148	0	0	3534	0	0	0	0	0	0	0
B	2086	0	0	3425	0	0	0	0	0	0	0

Reaction Location

A

B

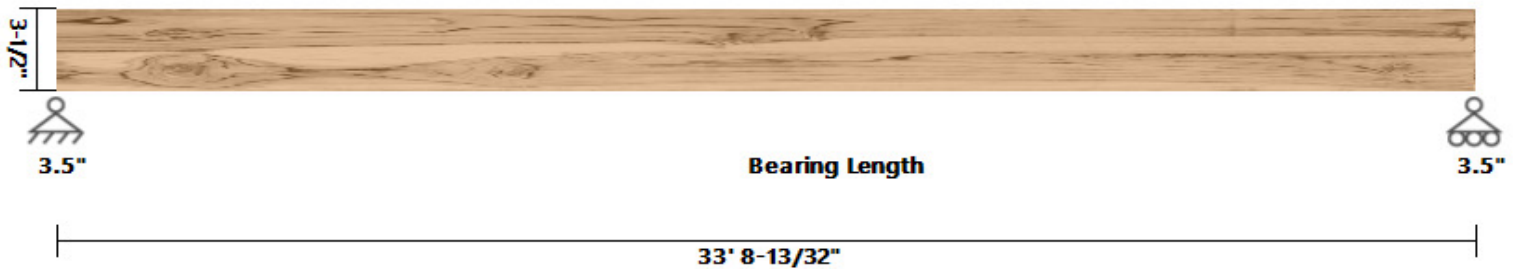
**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	738	738	0	8	Snow	Y
Uniform (lbf/ft)	443	443	0	8	Dead	Y
Trapezoidal (lbf/ft)	100	100	0	4.3	Snow	Y
Trapezoidal (lbf/ft)	60	60	0	4.3	Dead	Y
Trapezoidal (lbf/ft)	25	25	4.3	8	Snow	Y
Trapezoidal (lbf/ft)	15	15	4.3	8	Dead	Y
Point (lbf)	533	-	4.3	-	Snow	Y
Point (lbf)	367	-	4.3	-	Dead	Y
Self Weight (lbf/ft)	1.2	1.2	0	8	Dead	Y



**FAIL**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT4 - GIRDER TRUSS (end reactions ...	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT4 - GIRDER TRUSS (end reactions only) DIAGRAM****BEAM PROPERTIES**

Start (ft): 0 End (ft): 33.7 Member Slope: 0/12 Actual Length (ft): 33.7

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	33.7	2	33.7	0	0.99	0.43	0.99	0.99

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-88.8%)</b>	1841.8	207.0	0	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-98.5%)</b>	102140.4	1540.9	8.43	D+S	1.15
Deflection (in)	<b>FAIL (-99.7%)</b>	374.257 (=L/1)	1.123 (=L/360)	15.5	S	
Bearing Stress (psi)	<b>FAIL (-49.1%)</b>	1227.9	625.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	2447	0	0	3999	0	0	0	0	0	0	0
B	787	0	0	1271	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

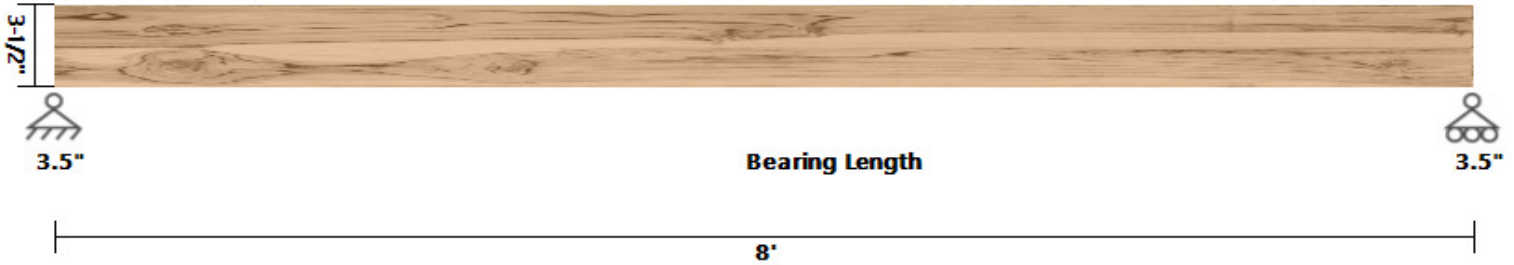
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	33.7	Snow	Y
Uniform (lbf/ft)	15	15	0	33.7	Dead	Y
Trapezoidal (lbf/ft)	40	88	0	4.1	Snow	Y
Trapezoidal (lbf/ft)	24	53	0	4.1	Dead	Y
Trapezoidal (lbf/ft)	25	25	4.1	33.7	Snow	Y
Trapezoidal (lbf/ft)	15	15	4.1	33.7	Dead	Y
Self Weight (lbf/ft)	1.2	1.2	0	33.7	Dead	Y

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2086.056	-	4.1	-	Dead	Y
Point (lbf)	3425.16	-	4.1	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT5 - GIRDER TRUSS (end reactions ...	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT5 - GIRDER TRUSS (end reactions only) DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 8 Member Slope: 0/12 Actual Length (ft): 8

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8	2	8	0	0.99	0.95	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-62.4%)</b>	549.9	207.0	0	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-89.8%)</b>	15084.1	1540.6	4	D+S	1.15
Deflection (in)	<b>FAIL (-91.7%)</b>	3.224 (=L/30)	0.267 (=L/360)	4	S	
Bearing Stress (psi)	<b>PASS (41.3%)</b>	366.6	625.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	725	0	0	1200	0	0	0	0	0	0	0
B	725	0	0	1200	0	0	0	0	0	0	0

Reaction Location

A

B



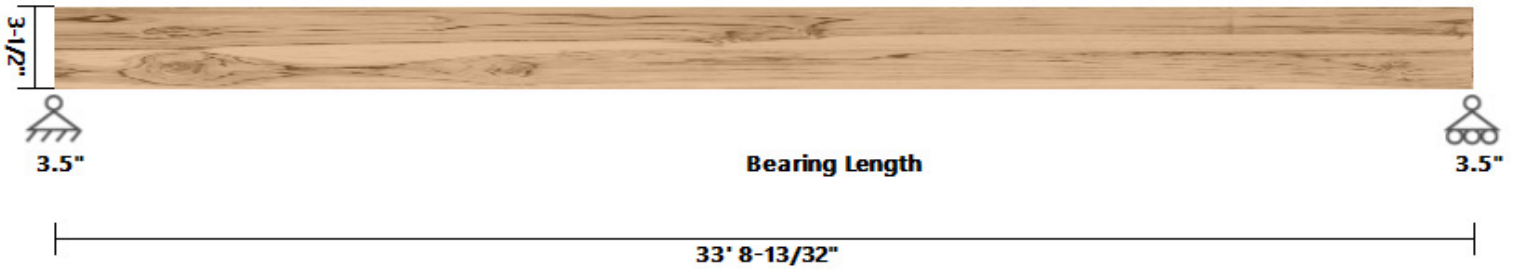
**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	300	300	0	8	Snow	Y
Uniform (lb/ft)	180	180	0	8	Dead	Y
Self Weight (lb/ft)	1.2	1.2	0	8	Dead	Y

**FAIL**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT6 - GIRDER TRUSS (end reactions ...	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT6 - GIRDER TRUSS (end reactions only) DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 33.7 Member Slope: 0/12 Actual Length (ft): 33.7

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	33.7	2	33.7	0	0.99	0.46	0.99	0.99

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-80.8%)</b>	1080.8	207.0	33.7	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-98.7%)</b>	118531.5	1541.7	21.9	D+S	1.15
Deflection (in)	<b>FAIL (-99.7%)</b>	404.879 (=L/1)	1.123 (=L/360)	17.86	S	
Bearing Stress (psi)	<b>FAIL (-13.3%)</b>	720.5	625.0	33.7	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	865	0	0	1405	0	0	0	0	0	0	0
B	1433	0	0	2350	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	33.7	Snow	Y
Uniform (lbf/ft)	15	15	0	33.7	Dead	Y
Trapezoidal (lbf/ft)	25	25	0	22.1	Snow	Y
Trapezoidal (lbf/ft)	15	15	0	22.1	Dead	Y
Trapezoidal (lbf/ft)	100	100	22.1	33.7	Snow	Y
Trapezoidal (lbf/ft)	60	60	22.1	33.7	Dead	Y
Self Weight (lbf/ft)	1.2	1.2	0	33.7	Dead	Y

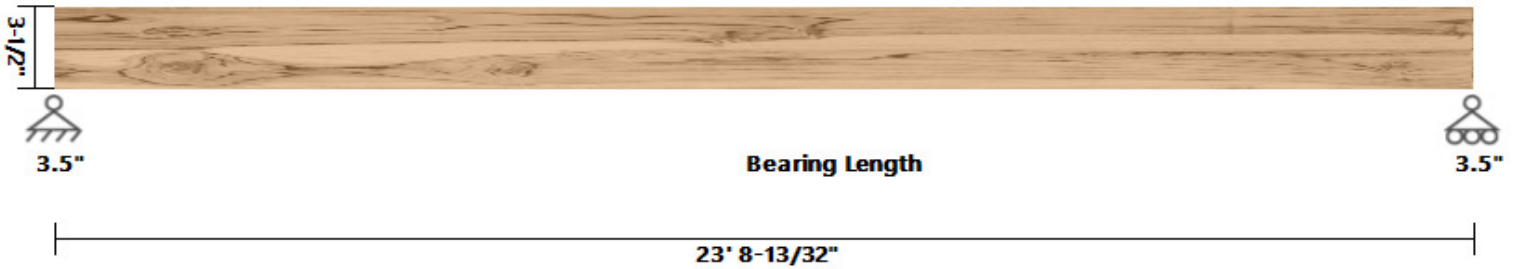
**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	724.7895	-	22.1	-	Dead	Y
Point (lbf)	1200	-	22.1	-	Snow	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT7 - STUB HIP MASTER (end reacti...	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT7 - STUB HIP MASTER (end reactions only) DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 23.7 Member Slope: 0/12 Actual Length (ft): 23.7

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End		CL(Left)	CL(Right)
		Top	Bottom	Elev. Diff (ft)	CL(Top)		
1	23.7	2	23.7	0	0.99	0.61	0.99

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-93.1%)</b>	3011.8	207.0	0	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-99.5%)</b>	298478.1	1541.1	11.85	D+S	1.15
Deflection (in)	<b>FAIL (-99.9%)</b>	529.655 (=L/1)	0.790 (=L/360)	11.85	S	
Bearing Stress (psi)	<b>FAIL (-68.9%)</b>	2007.9	625.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	4007	0	0	6534	0	0	0	0	0	0	0
B	3375	0	0	5474	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	23.7	Snow	Y
Uniform (lbf/ft)	15	15	0	23.7	Dead	Y
Trapezoidal (lbf/ft)	369	369	0	11.9	Snow	Y
Trapezoidal (lbf/ft)	222	222	0	11.9	Dead	Y
Trapezoidal (lbf/ft)	423	423	11.9	15.6	Snow	Y
Trapezoidal (lbf/ft)	254	254	11.9	15.6	Dead	Y
Trapezoidal (lbf/ft)	25	25	15.6	23.7	Snow	Y
Trapezoidal (lbf/ft)	15	15	15.6	23.7	Dead	Y
Trapezoidal (lbf/ft)	75	75	8	15.7	Snow	Y
Trapezoidal (lbf/ft)	45	45	8	15.7	Dead	Y
Point (lbf)	533	-	8	-	Snow	Y
Point (lbf)	367	-	8	-	Dead	Y
Point (lbf)	533	-	15.7	-	Snow	Y
Point (lbf)	367	-	15.7	-	Dead	Y
Self Weight (lbf/ft)	1.2	1.2	0	23.7	Dead	Y

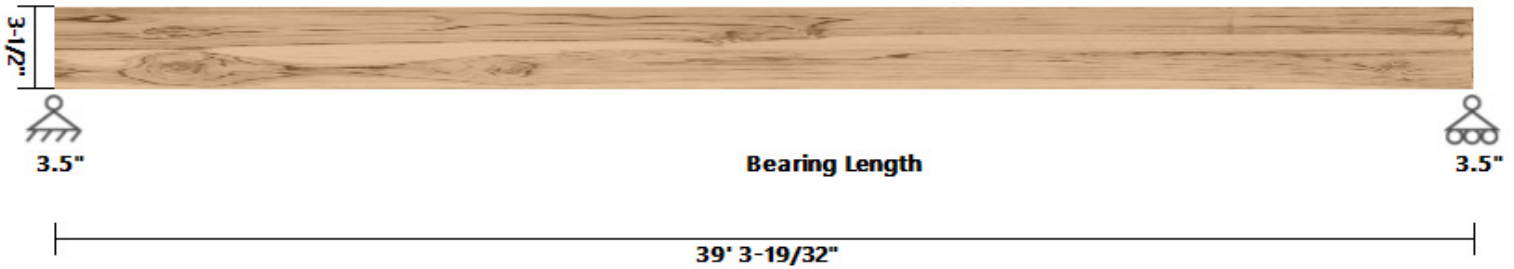
**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	786.5361	-	11.9	-	Dead	Y
Point (lbf)	1270.934	-	11.9	-	Snow	Y
Point (lbf)	1433.142	-	15.6	-	Dead	Y
Point (lbf)	2349.709	-	15.6	-	Snow	Y

**FAIL**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT8 - GIRDER TRUSS (end reactions ...	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT8 - GIRDER TRUSS (end reactions only) DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 39.3 Member Slope: 0/12 Actual Length (ft): 39.3

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	39.3	2	39.3	0	0.99	0.35	0.99	0.99

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-93.8%)</b>	3347.1	207.0	39.3	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-99.3%)</b>	231683.8	1539.9	29.08	D+S	1.15
Deflection (in)	<b>FAIL (-99.9%)</b>	1258.895 (=L/0)	1.310 (=L/360)	20.44	S	
Bearing Stress (psi)	<b>FAIL (-72.0%)</b>	2231.4	625.0	39.3	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	3051	0	0	4986	0	0	0	0	0	0	0
B	4458	0	0	7257	0	0	0	0	0	0	0

Reaction Location

A

B



**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	39.3	Snow	Y
Uniform (lbf/ft)	15	15	0	39.3	Dead	Y
Trapezoidal (lbf/ft)	25	25	0	34.2	Snow	Y
Trapezoidal (lbf/ft)	15	15	0	34.2	Dead	Y
Trapezoidal (lbf/ft)	94	38	34.2	39.3	Snow	Y
Trapezoidal (lbf/ft)	57	23	34.2	39.3	Dead	Y
Self Weight (lbf/ft)	1.2	1.2	0	39.3	Dead	Y

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2148.024	-	4.4	-	Dead	Y
Point (lbf)	3534.341	-	4.4	-	Snow	Y
Point (lbf)	4007.496	-	34.2	-	Dead	Y
Point (lbf)	6533.909	-	34.2	-	Snow	Y

**FAIL**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT9 - HIP MASTER (end reactions o...	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT9 - HIP MASTER (end reactions only) DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 22 Member Slope: 0/12 Actual Length (ft): 22

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	22	2	22	0	0.99	0.64	0.99	0.99

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-66.4%)</b>	615.2	207.0	22	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-97.5%)</b>	60861.8	1541.0	11	D+S	1.15
Deflection (in)	<b>FAIL (-99.2%)</b>	92.982 (=L/3)	0.733 (=L/360)	11	S	
Bearing Stress (psi)	<b>PASS (34.4%)</b>	410.1	625.0	22	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	845	0	0	1308	0	0	0	0	0	0	0
B	845	0	0	1308	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	22	Snow	Y
Uniform (lbf/ft)	15	15	0	22	Dead	Y
Trapezoidal (lbf/ft)	25	25	0	8	Snow	Y
Trapezoidal (lbf/ft)	15	15	0	8	Dead	Y
Trapezoidal (lbf/ft)	100	100	8	14	Snow	Y
Trapezoidal (lbf/ft)	60	60	8	14	Dead	Y
Trapezoidal (lbf/ft)	25	25	14	22	Snow	Y
Trapezoidal (lbf/ft)	15	15	14	22	Dead	Y
Point (lbf)	533	-	8	-	Snow	Y
Point (lbf)	367	-	8	-	Dead	Y
Point (lbf)	533	-	14	-	Snow	Y
Point (lbf)	367	-	14	-	Dead	Y
Self Weight (lbf/ft)	1.2	1.2	0	22	Dead	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT10 - HIP MASTER (end reactions o...	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT10 - HIP MASTER (end reactions only) DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 24 Member Slope: 0/12 Actual Length (ft): 24

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	24	2	24	0	0.99	0.59	0.99	0.99

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-69.2%)</b>	672.7	207.0	24	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-97.8%)</b>	69928.0	1540.9	12	D+S	1.15
Deflection (in)	<b>FAIL (-99.4%)</b>	129.288 (=L/2)	0.800 (=L/360)	12	S	
Bearing Stress (psi)	<b>PASS (28.2%)</b>	448.5	625.0	24	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	921	0	0	1433	0	0	0	0	0	0	0
B	921	0	0	1433	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	24	Snow	Y
Uniform (lbf/ft)	15	15	0	24	Dead	Y
Trapezoidal (lbf/ft)	25	25	0	8	Snow	Y
Trapezoidal (lbf/ft)	15	15	0	8	Dead	Y
Trapezoidal (lbf/ft)	100	100	8	16	Snow	Y
Trapezoidal (lbf/ft)	60	60	8	16	Dead	Y
Trapezoidal (lbf/ft)	25	25	16	24	Snow	Y
Trapezoidal (lbf/ft)	15	15	16	24	Dead	Y
Point (lbf)	533	-	8	-	Snow	Y
Point (lbf)	367	-	8	-	Dead	Y
Point (lbf)	533	-	16	-	Snow	Y
Point (lbf)	367	-	16	-	Dead	Y
Self Weight (lbf/ft)	1.2	1.2	0	24	Dead	Y

**FAIL**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	GT11 - MONO HIP MASTER (end rea...	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 1.5 X 3.5	DRY

**GT11 - MONO HIP MASTER (end reactions only) DIAGRAM****BEAM PROPERTIES**

Start (ft): 0 End (ft): 14.5 Member Slope: 0/12 Actual Length (ft): 14.5

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
5.25	5.36	0.98	1.2	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1350	862	180	1552	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.5	1.5	1	1.15	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14.5	2	14.5	0	0.99	0.86	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>FAIL (-57.1%)</b>	483.0	207.0	14.5	D+S	1.15
Bending Stress Y (psi)	<b>FAIL (-94.1%)</b>	26348.6	1541.7	7.97	D+S	1.15
Deflection (in)	<b>FAIL (-97.0%)</b>	16.177 (=L/11)	0.483 (=L/360)	7.54	S	
Bearing Stress (psi)	<b>PASS (48.5%)</b>	322.0	625.0	14.5	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	456	0	0	711	0	0	0	0	0	0	0
B	656	0	0	1035	0	0	0	0	0	0	0

Reaction Location

A

B

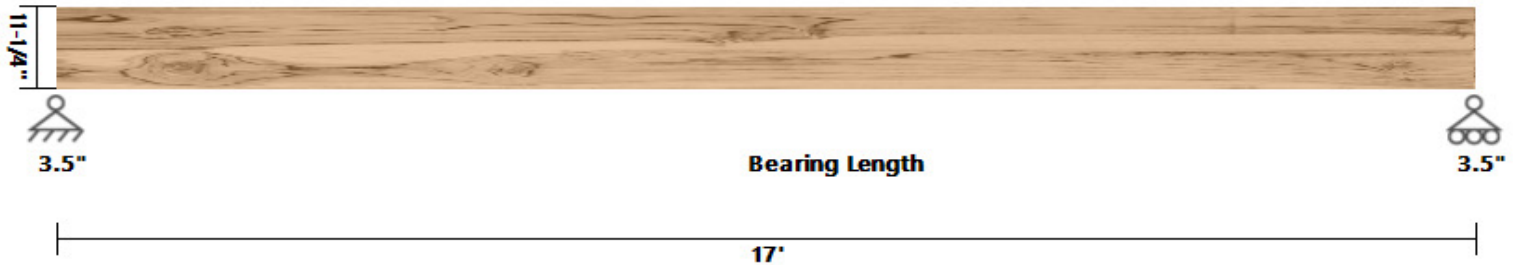


**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	14.5	Snow	Y
Uniform (lbf/ft)	15	15	0	14.5	Dead	Y
Trapezoidal (lbf/ft)	25	25	0	8	Snow	Y
Trapezoidal (lbf/ft)	15	15	0	8	Dead	Y
Trapezoidal (lbf/ft)	100	100	8	14.5	Snow	Y
Trapezoidal (lbf/ft)	60	60	8	14.5	Dead	Y
Point (lbf)	533	-	8	-	Snow	Y
Point (lbf)	367	-	8	-	Dead	Y
Self Weight (lbf/ft)	1.2	1.2	0	14.5	Dead	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	R01 - GARAGE OHD HDR	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 11.25	DRY

**R01 - GARAGE OHD HDR DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 17 Member Slope: 0/12 Actual Length (ft): 17

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
39.38	415.28	40.2	8.98	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	990	575	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	17	2	17	0	1.00	0.96	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (86.1%)</b>	28.8	207.0	0	D+S	1.15
Bending Stress Y (psi)	<b>PASS (54.0%)</b>	522.5	1135.0	8.5	D+S	1.15
Deflection (in)	<b>PASS (75.0%)</b>	0.141 (=L/1443)	0.567 (=L/360)	8.5	S	
Bearing Stress (psi)	<b>PASS (90.1%)</b>	61.7	625.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	331	0	0	425	0	0	0	0	0	0	0
B	331	0	0	425	0	0	0	0	0	0	0

Reaction Location



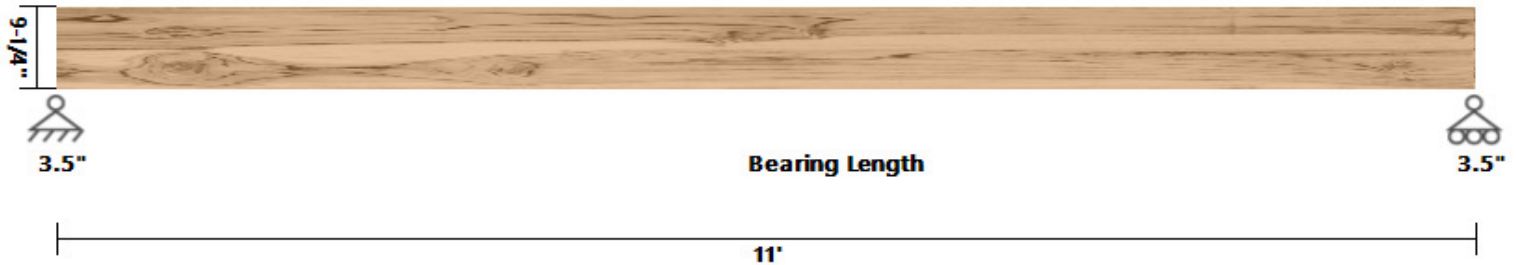
**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	50	50	0	17	Snow	Y
Uniform (lb/ft)	30	30	0	17	Dead	Y
Self Weight (lb/ft)	8.98	8.98	0	17	Dead	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	R02 - COV'D PATIO BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY

**R02 - COV'D PATIO BEAM DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 11 Member Slope: 0/12 Actual Length (ft): 11

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	11	2	11	0	1.00	0.98	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (68.5%)</b>	65.3	207.0	0	D+S	1.15
Bending Stress Y (psi)	<b>PASS (31.7%)</b>	845.8	1238.6	5.06	D+S	1.15
Deflection (in)	<b>PASS (66.0%)</b>	0.125 (=L/1059)	0.367 (=L/360)	5.39	S	
Bearing Stress (psi)	<b>PASS (81.6%)</b>	115.0	625.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	554	0	0	855	0	0	0	0	0	0	0
B	431	0	0	648	0	0	0	0	0	0	0

Reaction Location

A

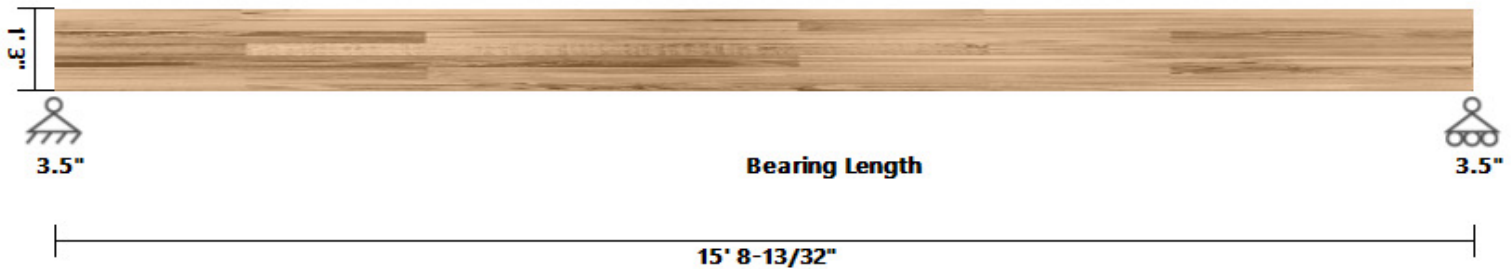
B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	73	73	0	11	Snow	Y
Uniform (lb/ft)	44	44	0	11	Dead	Y
Trapezoidal (lb/ft)	100	100	0	3	Snow	Y
Trapezoidal (lb/ft)	60	60	0	3	Dead	Y
Trapezoidal (lb/ft)	100	0	3	11	Snow	Y
Trapezoidal (lb/ft)	60	0	3	11	Dead	Y
Self Weight (lb/ft)	7.38	7.38	0	11	Dead	Y

**PASS**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	R03 - COV'D PATIO BEAMS	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.125 X 15	DRY

**R03 - COV'D PATIO BEAMS DIAGRAM****BEAM PROPERTIES**

Start (ft): 0 End (ft): 15.7 Member Slope: 0/12 Actual Length (ft): 15.7

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
76.88	1441.41	168.26	17.53	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc <sub>⊥</sub>	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>vr</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	15.7	2	15.7	0	1.00	0.98	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (69.0%)</b>	94.6	304.8	0	D+S	1.15
Bending Stress Y (psi)	<b>PASS (52.3%)</b>	1312.9	2751.8	8.48	D+S	1.15
Deflection (in)	<b>PASS (61.7%)</b>	0.201 (=L/940)	0.523 (=L/360)	7.69	S	
Bearing Stress (psi)	<b>PASS (51.7%)</b>	270.3	560.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	1923	0	0	2925	0	0	0	0	0	0	0
B	1381	0	0	2014	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	38	38	0	15.7	Snow	Y
Uniform (lbf/ft)	23	23	0	15.7	Dead	Y
Trapezoidal (lbf/ft)	300	300	0	8.5	Snow	Y
Trapezoidal (lbf/ft)	180	180	0	8.5	Dead	Y
Trapezoidal (lbf/ft)	100	0	8.5	15.7	Snow	Y
Trapezoidal (lbf/ft)	60	0	8.5	15.7	Dead	Y
Self Weight (lbf/ft)	17.53	17.53	0	15.7	Dead	Y

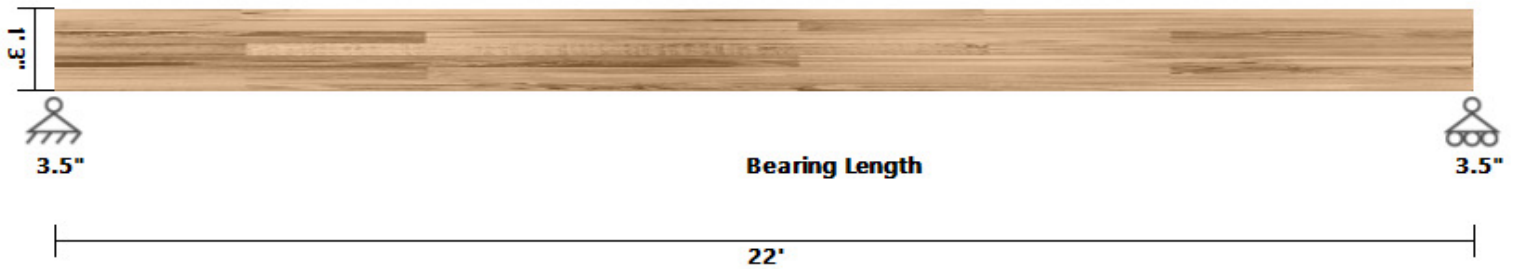
**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	921.3686	-	8.5	-	Dead	Y
Point (lbf)	1432.999	-	8.5	-	Snow	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	R04 - COV'D PATIO BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.125 X 15	DRY

**R04 - COV'D PATIO BEAM DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 22 Member Slope: 0/12 Actual Length (ft): 22

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
76.88	1441.41	168.26	17.53	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc <sub>⊥</sub>	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>VR</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	22	2	22	0	1.00	0.96	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (86.9%)</b>	40.1	304.8	0	D+S	1.15
Bending Stress Y (psi)	<b>PASS (69.6%)</b>	815.7	2686.6	11	D+S	1.15
Deflection (in)	<b>PASS (66.1%)</b>	0.249 (=L/1061)	0.733 (=L/360)	11	S	
Bearing Stress (psi)	<b>PASS (79.6%)</b>	114.4	560.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	885	0	0	1168	0	0	0	0	0	0	0
B	885	0	0	1168	0	0	0	0	0	0	0

Reaction Location

A

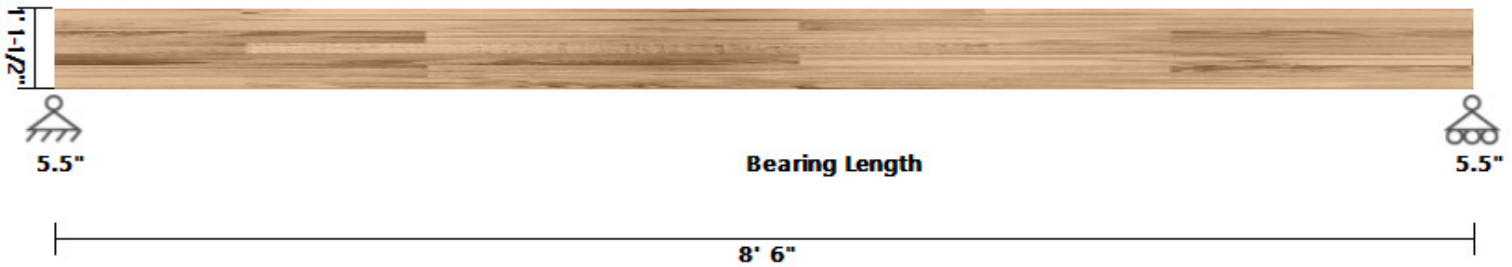
B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	38	38	0	22	Snow	Y
Uniform (lbf/ft)	22	22	0	22	Dead	Y
Trapezoidal (lbf/ft)	0	100	0	7	Snow	Y
Trapezoidal (lbf/ft)	0	60	0	7	Dead	Y
Trapezoidal (lbf/ft)	100	100	7	15	Snow	Y
Trapezoidal (lbf/ft)	60	60	7	15	Dead	Y
Trapezoidal (lbf/ft)	100	0	15	22	Snow	Y
Trapezoidal (lbf/ft)	60	0	15	22	Dead	Y
Self Weight (lbf/ft)	17.53	17.53	0	22	Dead	Y

**PASS**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	R05 - MBR WDO HDR	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 3.125 X 13.5	DRY

**R05 - MBR WDO HDR DIAGRAM****BEAM PROPERTIES**

Start (ft): 0 End (ft): 8.5 Member Slope: 0/12 Actual Length (ft): 8.5

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
42.19	640.72	34.33	9.62	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc <sub>⊥</sub>	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>VR</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8.5	2	8.5	0	0.99	0.96	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (21.1%)</b>	240.6	304.8	8.5	D+S	1.15
Bending Stress Y (psi)	<b>PASS (67.8%)</b>	880.7	2738.5	6.89	D+S	1.15
Deflection (in)	<b>PASS (84.4%)</b>	0.044 (=L/2302)	0.283 (=L/360)	4.67	S	
Bearing Stress (psi)	<b>PASS (29.7%)</b>	393.7	560.0	8.5	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	731	0	0	1125	0	0	0	0	0	0	0
B	2640	0	0	4127	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	38	38	0	8.5	Snow	Y
Uniform (lbf/ft)	22	22	0	8.5	Dead	Y
Trapezoidal (lbf/ft)	82	172	0	7.4	Snow	Y
Trapezoidal (lbf/ft)	49	103	0	7.4	Dead	Y
Trapezoidal (lbf/ft)	488	488	7.4	8.5	Snow	Y
Trapezoidal (lbf/ft)	293	293	7.4	8.5	Dead	Y
Self Weight (lbf/ft)	9.62	9.62	0	8.5	Dead	Y

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2217.029	-	7.6	-	Dead	Y
Point (lbf)	3452.432	-	7.6	-	Snow	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	R06 - COV'D PATIO BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 11.25	DRY

**R06 - COV'D PATIO BEAM DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 14.3 Member Slope: 0/12 Actual Length (ft): 14.3

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
39.38	415.28	40.2	8.98	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	990	575	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14.3	2	14.3	0	1.00	0.97	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (72.1%)</b>	57.8	207.0	14.3	D+S	1.15
Bending Stress Y (psi)	<b>PASS (28.0%)</b>	817.7	1135.0	7.72	D+S	1.15
Deflection (in)	<b>PASS (65.5%)</b>	0.165 (=L/1043)	0.477 (=L/360)	7.29	S	
Bearing Stress (psi)	<b>PASS (80.2%)</b>	123.9	625.0	14.3	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	455	0	0	661	0	0	0	0	0	0	0
B	606	0	0	912	0	0	0	0	0	0	0

Reaction Location

A

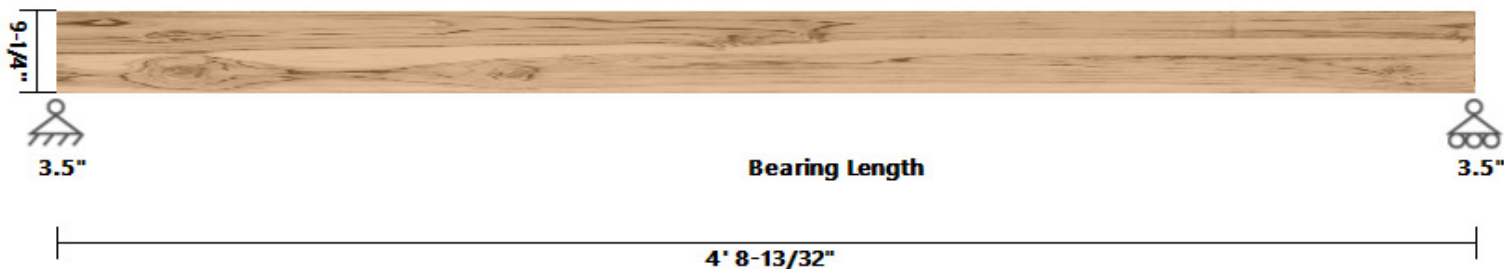
B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	38	38	0	14.3	Snow	Y
Uniform (lbf/ft)	22	22	0	14.3	Dead	Y
Trapezoidal (lbf/ft)	0	100	0	8	Snow	Y
Trapezoidal (lbf/ft)	0	60	0	8	Dead	Y
Trapezoidal (lbf/ft)	100	100	8	14.3	Snow	Y
Trapezoidal (lbf/ft)	60	60	8	14.3	Dead	Y
Self Weight (lbf/ft)	8.98	8.98	0	14.3	Dead	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	R07 - COV'D PATIO BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY

**R07 - COV'D PATIO BEAM DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 4.7 Member Slope: 0/12 Actual Length (ft): 4.7

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4.7	0	4.7	0	1.00	0.99	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (69.7%)</b>	62.7	207.0	4.7	D+S	1.15
Bending Stress Y (psi)	<b>PASS (58.3%)</b>	518.3	1242.0	2.4	D+S	1.15
Deflection (in)	<b>PASS (92.1%)</b>	0.012 (=L/4586)	0.157 (=L/360)	2.4	S	
Bearing Stress (psi)	<b>PASS (82.3%)</b>	110.4	625.0	4.7	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	446	0	0	692	0	0	0	0	0	0	0
B	527	0	0	826	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	38	38	0	4.7	Snow	Y
Uniform (lbf/ft)	22	22	0	4.7	Dead	Y
Trapezoidal (lbf/ft)	73	100	0	2.4	Snow	Y
Trapezoidal (lbf/ft)	44	60	0	2.4	Dead	Y
Trapezoidal (lbf/ft)	183	183	2.4	4.7	Snow	Y
Trapezoidal (lbf/ft)	110	110	2.4	4.7	Dead	Y
Self Weight (lbf/ft)	7.38	7.38	0	4.7	Dead	Y

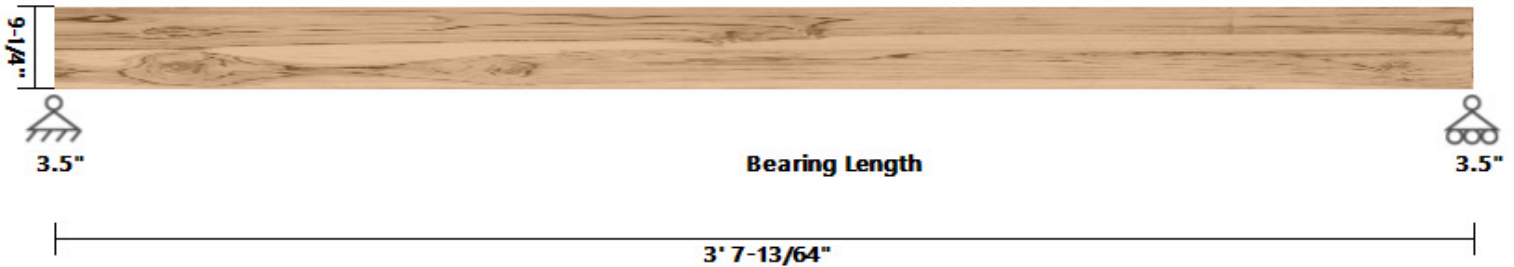
**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	456.2585	-	2.4	-	Dead	Y
Point (lbf)	710.6982	-	2.4	-	Snow	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	R08 - MBR WDO HDR RIGHT	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY

**R08 - MBR WDO HDR RIGHT DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 3.6 Member Slope: 0/12 Actual Length (ft): 3.6

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3.6	2	3.6	0	1.00	1.00	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (65.9%)</b>	70.7	207.0	0	D+S	1.15
Bending Stress Y (psi)	<b>PASS (73.4%)</b>	330.0	1238.6	1.8	D+S	1.15
Deflection (in)	<b>PASS (95.5%)</b>	0.005 (=L/8000)	0.120 (=L/360)	1.8	S	
Bearing Stress (psi)	<b>PASS (80.1%)</b>	124.5	625.0	0	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	580	0	0	945	0	0	0	0	0	0	0
B	580	0	0	945	0	0	0	0	0	0	0

Reaction Location

A

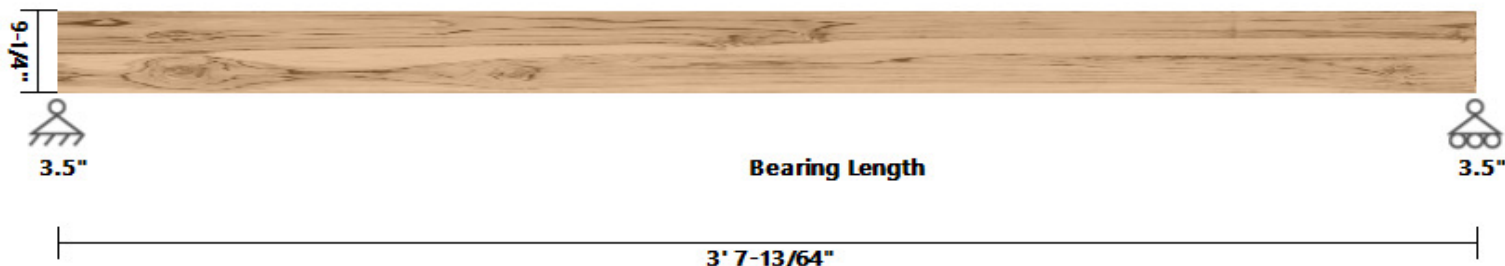
B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	525	525	0	3.6	Snow	Y
Uniform (lb/ft)	315	315	0	3.6	Dead	Y
Self Weight (lb/ft)	7.38	7.38	0	3.6	Dead	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	R09 - MBR WDO HDR LEFT	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY

R09 - MBR WDO HDR LEFT DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 3.6 Member Slope: 0/12 Actual Length (ft): 3.6

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

STRENGTH PROPERTIES

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3.6	2	3.6	0	1.00	1.00	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (91.8%)	14.8	180.0	3.6	D+L	1
Bending Stress Y (psi)	PASS (94.0%)	64.5	1077.4	1.87	D+L	1
Deflection (in)	PASS (98.6%)	0.002 (=L/25412)	0.120 (=L/360)	1.8	D+L	
Bearing Stress (psi)	PASS (95.8%)	26.1	625.0	3.6	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	112	164	0	0	0	0	0	0	0	0	0
B	128	191	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

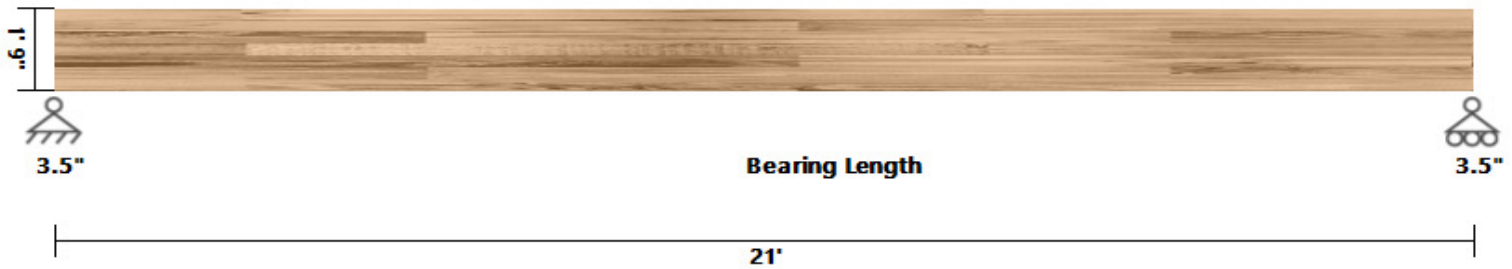
**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	38	38	0	3.6	Live	Y
Uniform (lb/ft)	23	23	0	3.6	Dead	Y
Trapezoidal (lb/ft)	38	83	0	3.6	Live	Y
Trapezoidal (lb/ft)	23	50	0	3.6	Dead	Y
Self Weight (lb/ft)	7.38	7.38	0	3.6	Dead	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U01 - GARAGE BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.5 X 21	DRY

**U01 - GARAGE BEAM DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 21 Member Slope: 0/12 Actual Length (ft): 21

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
115.5	4244.62	291.16	26.34	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc <sub>⊥</sub>	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>VR</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	21	4	21	0	0.99	0.95	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (56.4%)</b>	115.6	265.0	0	D+L	1
Bending Stress Y (psi)	<b>PASS (43.3%)</b>	1276.8	2253.4	10.29	D+L	1
Deflection (in)	<b>PASS (36.4%)</b>	0.445 (=L/566)	0.700 (=L/360)	10.5	D+L	
Bearing Stress (psi)	<b>PASS (17.5%)</b>	462.3	560.0	0	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	3918	4981	0	0	0	0	0	0	0	0	0
B	3181	3752	0	0	0	0	0	0	0	0	0

Reaction Location

A

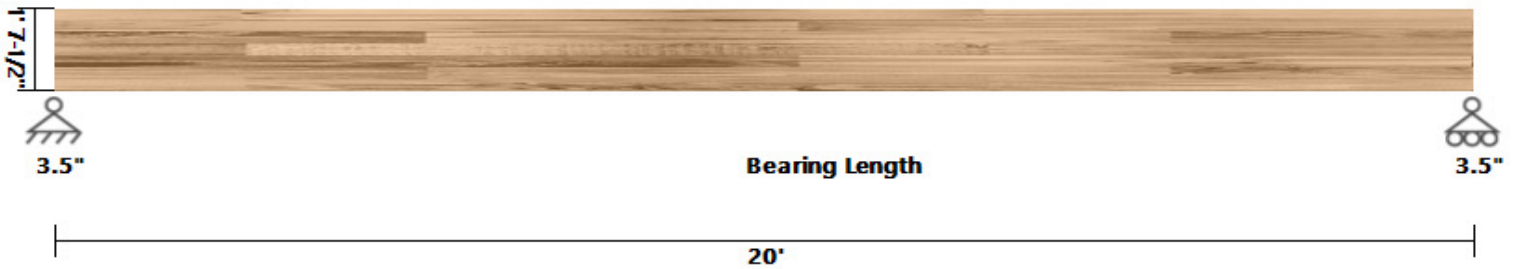
B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	21	Live	Y
Uniform (lbf/ft)	105	105	0	21	Dead	Y
Trapezoidal (lbf/ft)	460	460	0	3.9	Live	Y
Trapezoidal (lbf/ft)	276	276	0	3.9	Dead	Y
Trapezoidal (lbf/ft)	338	338	3.9	16.9	Live	Y
Trapezoidal (lbf/ft)	203	203	3.9	16.9	Dead	Y
Trapezoidal (lbf/ft)	83	83	16.9	21	Live	Y
Trapezoidal (lbf/ft)	50	50	16.9	21	Dead	Y
Trapezoidal (lbf/ft)	80	80	0	21	Live	Y
Trapezoidal (lbf/ft)	20	20	0	21	Dead	Y
Self Weight (lbf/ft)	26.34	26.34	0	21	Dead	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U02 - GARAGE BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.125 X 19.5	DRY

**U02 - GARAGE BEAM DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 20 Member Slope: 0/12 Actual Length (ft): 20

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
99.94	3166.77	218.74	22.79	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc <sub>⊥</sub>	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>VR</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	20	0	20	0	1.00	0.95	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (56.8%)</b>	114.4	265.0	0	D+L	1
Bending Stress Y (psi)	<b>PASS (38.7%)</b>	1408.2	2297.4	10	D+L	1
Deflection (in)	<b>PASS (27.8%)</b>	0.481 (=L/499)	0.667 (=L/360)	10	D+L	
Bearing Stress (psi)	<b>PASS (24.1%)</b>	425.0	560.0	0	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	2703	4920	0	0	0	0	0	0	0	0	0
B	2703	4920	0	0	0	0	0	0	0	0	0

Reaction Location



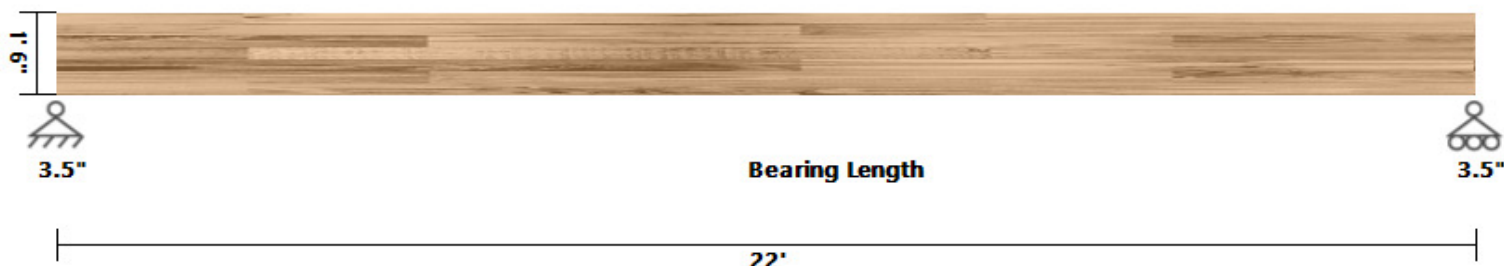
**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft <sup>2</sup> )	492	492	0	20	Live	Y
Uniform (lb/ft <sup>2</sup> )	184.5	184.5	0	20	Dead	Y
Uniform (lb/ft)	63	63	0	20	Dead	Y
Self Weight (lb/ft)	22.79	22.79	0	20	Dead	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U03 - GARAGE BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.5 X 18	DRY

**U03 - GARAGE BEAM DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 22 Member Slope: 0/12 Actual Length (ft): 22

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
99	2673	249.56	22.58	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc <sub>⊥</sub>	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>VR</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	22	2	22	0	1.00	0.96	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (75.7%)</b>	64.5	265.0	22	D+L	1
Bending Stress Y (psi)	<b>PASS (56.7%)</b>	987.0	2277.8	11.22	D+L	1
Deflection (in)	<b>PASS (40.2%)</b>	0.438 (=L/602)	0.733 (=L/360)	11	D+L	
Bearing Stress (psi)	<b>PASS (60.5%)</b>	221.2	560.0	22	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	2319	1804	0	0	0	0	0	0	0	0	0
B	2273	1984	0	0	0	0	0	0	0	0	0

Reaction Location

A

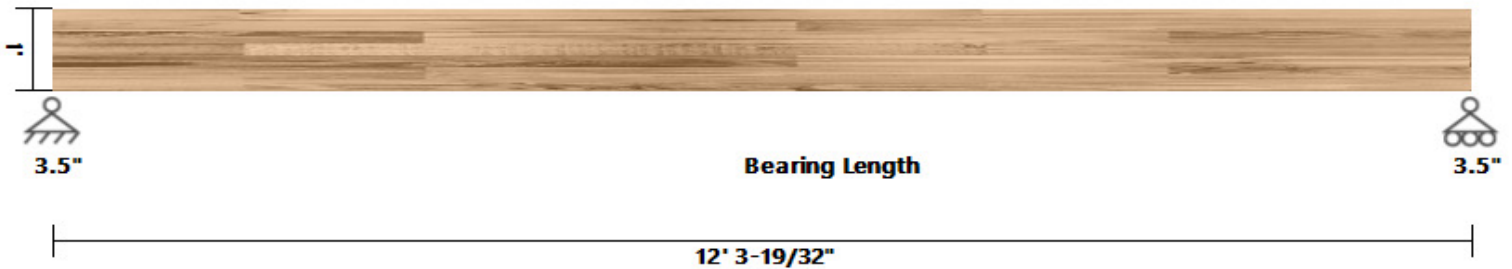
B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	22	Live	Y
Uniform (lbf/ft)	105	105	0	22	Dead	Y
Trapezoidal (lbf/ft)	38	138	2	10	Live	Y
Trapezoidal (lbf/ft)	23	83	2	10	Dead	Y
Trapezoidal (lbf/ft)	138	138	10	14	Live	Y
Trapezoidal (lbf/ft)	83	83	10	14	Dead	Y
Trapezoidal (lbf/ft)	138	38	14	22	Live	Y
Trapezoidal (lbf/ft)	83	23	14	22	Dead	Y
Trapezoidal (lbf/ft)	16	76	0	22	Live	Y
Trapezoidal (lbf/ft)	19	19	0	22	Dead	Y
Point (lbf)	266	-	2	-	Live	Y
Point (lbf)	187	-	2	-	Dead	Y
Self Weight (lbf/ft)	22.58	22.58	0	22	Dead	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U04 - GARAGE OHDR HDR	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.125 X 12	DRY

**U04 - GARAGE OHDR HDR DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 12.3 Member Slope: 0/12 Actual Length (ft): 12.3

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
61.5	738	134.61	14.03	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc <sub>⊥</sub>	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>vr</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	12.3	4	12.3	0	1.00	0.99	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (43.4%)</b>	150.0	265.0	0	D+L	1
Bending Stress Y (psi)	<b>PASS (49.8%)</b>	1200.4	2389.3	5.29	D+L	1
Deflection (in)	<b>PASS (39.3%)</b>	0.249 (=L/593)	0.410 (=L/360)	5.78	D+L	
Bearing Stress (psi)	<b>PASS (38.8%)</b>	342.8	560.0	0	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	3295	2855	0	617	0	0	0	0	0	0	0
B	1360	1142	0	691	0	0	0	0	0	0	0

Reaction Location



**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	38	38	0	12.3	Live	Y
Uniform (lbf/ft)	23	23	0	12.3	Dead	Y
Trapezoidal (lbf/ft)	25	25	0	1.7	Live	Y
Trapezoidal (lbf/ft)	15	15	0	1.7	Dead	Y
Trapezoidal (lbf/ft)	275	275	1.7	6.5	Live	Y
Trapezoidal (lbf/ft)	165	165	1.7	6.5	Dead	Y
Trapezoidal (lbf/ft)	100	25	6.5	12.3	Live	Y
Trapezoidal (lbf/ft)	60	15	6.5	12.3	Dead	Y
Self Weight (lbf/ft)	14.03	14.03	0	12.3	Dead	Y

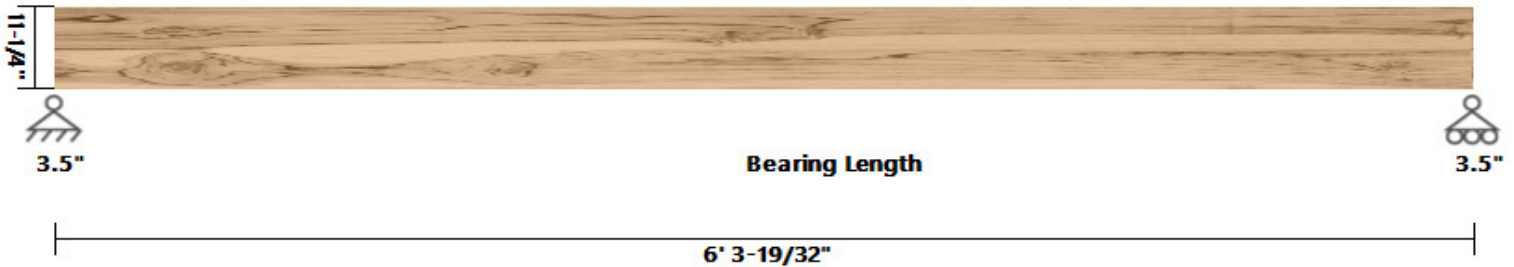
**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	845.171	-	6.5	-	Dead	Y
Point (lbf)	1307.999	-	6.5	-	Snow	Y
Point (lbf)	2318.751	-	1.4	-	Dead	Y
Point (lbf)	1803.714	-	1.4	-	Live	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U05 - KITCHEN WDO HDR	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 11.25	DRY

**U05 - KITCHEN WDO HDR DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 6.3 Member Slope: 0/12 Actual Length (ft): 6.3

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
39.38	415.28	40.2	8.98	1	0.5	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	990	575	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6.3	2	6.3	0	1.00	0.99	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (42.3%)</b>	103.8	180.0	0	D+L	1
Bending Stress Y (psi)	<b>PASS (30.0%)</b>	691.4	987.4	3.15	D+L	1
Deflection (in)	<b>PASS (78.2%)</b>	0.046 (=L/1654)	0.210 (=L/360)	3.15	D+L	1
Bearing Stress (psi)	<b>PASS (64.4%)</b>	222.5	625.0	0	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	936	1790	0	0	0	0	0	0	0	0	0
B	906	1739	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

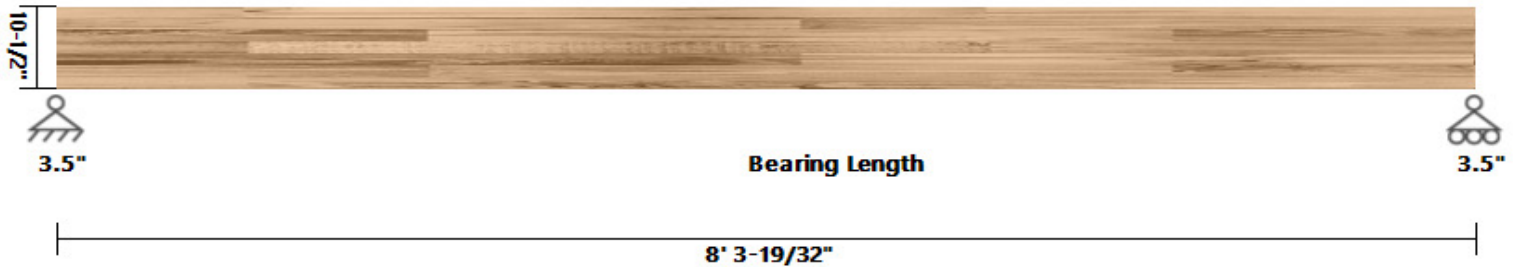
**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	6.3	Live	Y
Uniform (lbf/ft)	105	105	0	6.3	Dead	Y
Trapezoidal (lbf/ft)	138	138	0	2.7	Live	Y
Trapezoidal (lbf/ft)	83	83	0	2.7	Dead	Y
Trapezoidal (lbf/ft)	138	93	2.7	6.3	Live	Y
Trapezoidal (lbf/ft)	83	56	2.7	6.3	Dead	Y
Trapezoidal (lbf/ft)	410	410	0	6.3	Live	Y
Trapezoidal (lbf/ft)	103	103	0	6.3	Dead	Y
Self Weight (lbf/ft)	8.98	8.98	0	6.3	Dead	Y

**PASS**

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U06 - NOOK SGD HDR	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 3.125 X 10.5	DRY

**U06 - NOOK SGD HDR DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 8.3 Member Slope: 0/12 Actual Length (ft): 8.3

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
32.81	301.46	26.7	7.48	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc <sub>⊥</sub>	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1472	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>VR</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8.3	2	8.3	0	1.00	0.98	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (39.0%)</b>	161.7	265.0	8.3	D+L	1
Bending Stress Y (psi)	<b>PASS (36.9%)</b>	1505.9	2387.0	4.23	D+L	1
Deflection (in)	<b>PASS (40.5%)</b>	0.165 (=L/605)	0.277 (=L/360)	4.15	D+L	
Bearing Stress (psi)	<b>PASS (42.2%)</b>	323.4	560.0	8.3	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	1153	2235	0	0	0	0	0	0	0	0	0
B	1209	2329	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

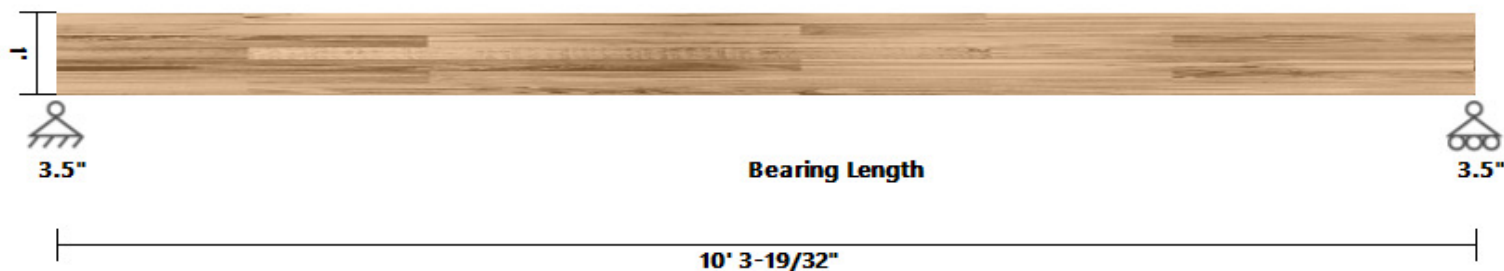
**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	25	25	0	8.3	Live	Y
Uniform (lbf/ft)	105	105	0	8.3	Dead	Y
Trapezoidal (lbf/ft)	78	138	0	6.4	Live	Y
Trapezoidal (lbf/ft)	47	83	0	6.4	Dead	Y
Trapezoidal (lbf/ft)	138	138	6.4	8.3	Live	Y
Trapezoidal (lbf/ft)	83	83	6.4	8.3	Dead	Y
Trapezoidal (lbf/ft)	410	410	0	8.3	Live	Y
Trapezoidal (lbf/ft)	103	103	0	8.3	Dead	Y
Self Weight (lbf/ft)	7.48	7.48	0	8.3	Dead	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U07 - GREAT RM SGD HDR	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 3.125 X 12	DRY

**U07 - GREAT RM SGD HDR DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 10.3 Member Slope: 0/12 Actual Length (ft): 10.3

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
37.5	450	30.52	8.55	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>VR</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	10.3	2	10.3	0	0.99	0.97	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (46.3%)</b>	142.4	265.0	0	D+L	1
Bending Stress Y (psi)	<b>PASS (41.4%)</b>	1397.5	2385.5	4.94	D+L	1
Deflection (in)	<b>PASS (42.5%)</b>	0.197 (=L/626)	0.343 (=L/360)	5.05	D+L	
Bearing Stress (psi)	<b>PASS (41.9%)</b>	325.4	560.0	0	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	1809	1751	0	532	0	0	0	0	0	0	0
B	1424	1142	0	502	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

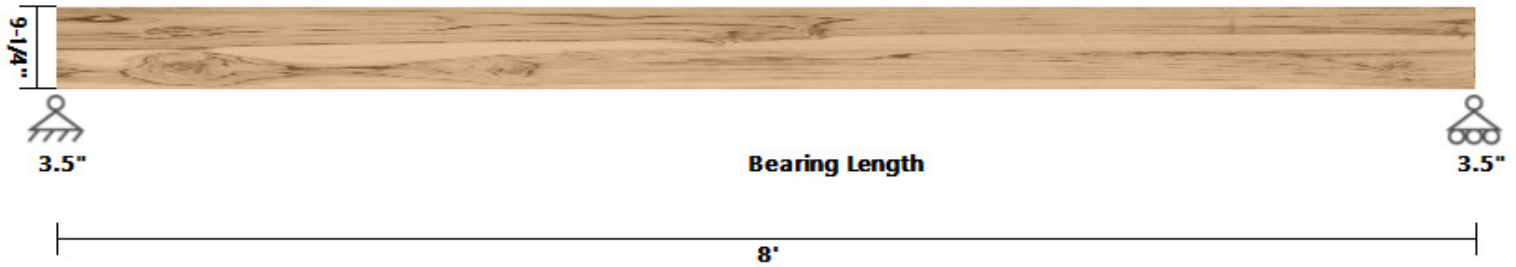
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	90	90	0	10.3	Dead	Y
Trapezoidal (lbf/ft)	203	73	0	10.3	Live	Y
Trapezoidal (lbf/ft)	122	44	0	10.3	Dead	Y
Trapezoidal (lbf/ft)	175	175	0	5	Live	Y
Trapezoidal (lbf/ft)	105	105	0	5	Dead	Y
Trapezoidal (lbf/ft)	25	25	5	10.3	Live	Y
Trapezoidal (lbf/ft)	15	15	5	10.3	Dead	Y
Trapezoidal (lbf/ft)	45	45	0	10.3	Live	Y
Trapezoidal (lbf/ft)	10	10	0	10.3	Dead	Y
Self Weight (lbf/ft)	8.55	8.55	0	10.3	Dead	Y

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	655.6031	-	5	-	Dead	Y
Point (lbf)	1034.802	-	5	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U08 - STAIR BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY

**U08 - STAIR BEAM DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 8 Member Slope: 0/12 Actual Length (ft): 8

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

**STRENGTH PROPERTIES**

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8	0	8	0	1.00	0.99	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (71.5%)</b>	51.3	180.0	0	D+L	1
Bending Stress Y (psi)	<b>PASS (50.7%)</b>	532.1	1080.0	4	D+L	1
Deflection (in)	<b>PASS (74.1%)</b>	0.069 (=L/1391)	0.267 (=L/360)	4	D+L	
Bearing Stress (psi)	<b>PASS (85.5%)</b>	90.3	625.0	0	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	507	600	0	0	0	0	0	0	0	0	0
B	507	600	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft <sup>2</sup> )	150	150	0	8	Live	Y
Uniform (lb/ft <sup>2</sup> )	56.25	56.25	0	8	Dead	Y
Uniform (lb/ft)	63	63	0	8	Dead	Y
Self Weight (lb/ft)	7.38	7.38	0	8	Dead	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U09 - FOYER GREAT RM BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.125 X 19.5	DRY

**U09 - FOYER GREAT RM BEAM DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 21.5 Member Slope: 0/12 Actual Length (ft): 21.5

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
99.94	3166.77	218.74	22.79	1	0.5	1

**STRENGTH PROPERTIES**

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc <sub>⊥</sub>	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C <sub>M</sub>	1	1	1	1	1	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C <sub>VR</sub> = 1											

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	21.5	2	21.5	0	1.00	0.95	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (62.3%)</b>	99.9	265.0	21.5	D+L	1
Bending Stress Y (psi)	<b>PASS (42.4%)</b>	1313.6	2280.9	11.61	D+L	1
Deflection (in)	<b>PASS (27.9%)</b>	0.516 (=L/500)	0.717 (=L/360)	10.97	D+L	
Bearing Stress (psi)	<b>PASS (33.7%)</b>	371.0	560.0	21.5	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	2066	4037	0	0	0	0	0	0	0	0	0
B	2255	4400	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

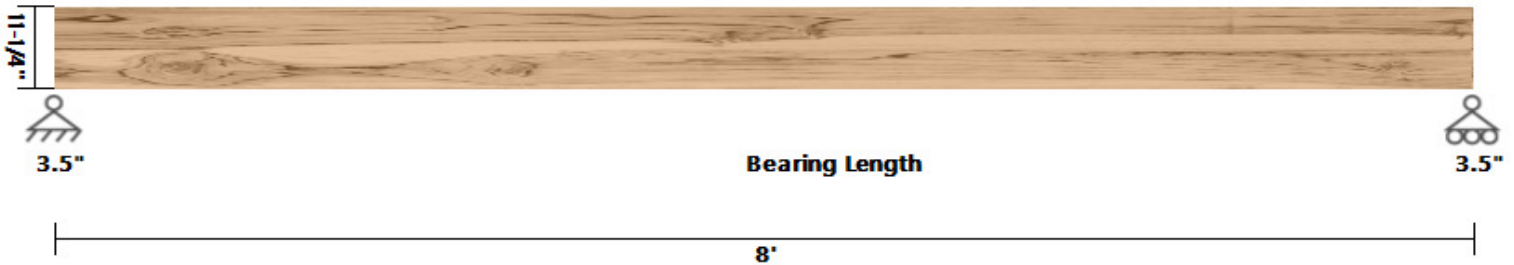
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	63	63	0	21.5	Dead	Y
Trapezoidal (lbf/ft)	350	350	0	21.5	Live	Y
Trapezoidal (lbf/ft)	88	88	0	21.5	Dead	Y
Trapezoidal (lbf/ft)	40	40	13.7	21.5	Live	Y
Trapezoidal (lbf/ft)	10	10	13.7	21.5	Dead	Y
Self Weight (lbf/ft)	22.79	22.79	0	21.5	Dead	Y

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	506.5351	-	13.7	-	Dead	Y
Point (lbf)	600	-	13.7	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U10 - FOYER BEAM	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 11.25	DRY

U10 - FOYER BEAM DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 8 Member Slope: 0/12 Actual Length (ft): 8

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
39.38	415.28	40.2	8.98	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	990	575	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8	2	8	0	1.00	0.99	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (47.6%)	94.4	180.0	0	D+L	1
Bending Stress Y (psi)	PASS (18.4%)	805.2	987.4	4	D+L	1
Deflection (in)	PASS (67.8%)	0.086 (=L/1118)	0.267 (=L/360)	4	D+L	
Bearing Stress (psi)	PASS (67.6%)	202.2	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	885	1592	0	0	0	0	0	0	0	0	0
B	885	1592	0	0	0	0	0	0	0	0	0

Reaction Location

A

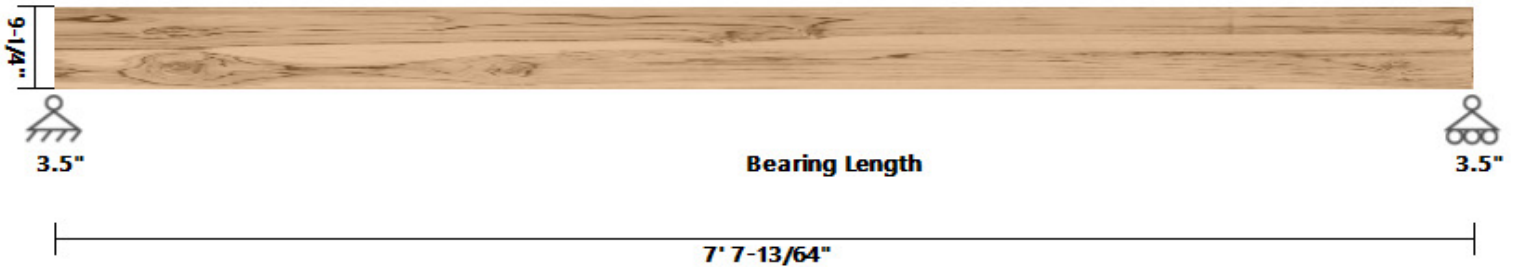
B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft <sup>2</sup> )	398	398	0	8	Live	Y
Uniform (lb/ft <sup>2</sup> )	149.25	149.25	0	8	Dead	Y
Uniform (lb/ft)	63	63	0	8	Dead	Y
Self Weight (lb/ft)	8.98	8.98	0	8	Dead	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U11 - DEN DOOR HDR	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY

U11 - DEN DOOR HDR DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 7.6 Member Slope: 0/12 Actual Length (ft): 7.6

Area	Ix	Iy	BSW	Lams	G	Kcr
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	7.6	2	7.6	0	1.00	0.99	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (55.5%)	80.2	180.0	7.6	D+L	1
Bending Stress Y (psi)	PASS (26.6%)	790.5	1077.4	3.8	D+L	1
Deflection (in)	PASS (63.5%)	0.093 (=L/985)	0.253 (=L/360)	3.8	D+L	
Bearing Stress (psi)	PASS (77.4%)	141.3	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	666	1064	0	0	0	0	0	0	0	0	0
B	666	1064	0	0	0	0	0	0	0	0	0

Reaction Location



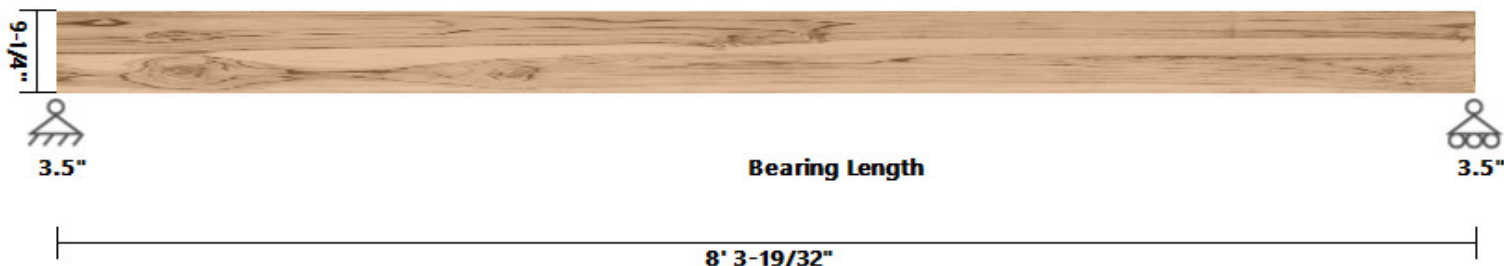


**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft <sup>2</sup> )	280	280	0	7.6	Live	Y
Uniform (lbf/ft <sup>2</sup> )	105	105	0	7.6	Dead	Y
Uniform (lbf/ft)	63	63	0	7.6	Dead	Y
Self Weight (lbf/ft)	7.38	7.38	0	7.6	Dead	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U12 - DINING OP HDR	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY

U12 - DINING OP HDR DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 8.3 Member Slope: 0/12 Actual Length (ft): 8.3

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

STRENGTH PROPERTIES

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8.3	2	8.3	0	1.00	0.99	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (55.8%)	79.6	180.0	8.3	D+L	1
Bending Stress Y (psi)	PASS (20.4%)	857.4	1077.4	4.15	D+L	1
Deflection (in)	PASS (56.7%)	0.120 (=L/832)	0.277 (=L/360)	4.15	D+L	
Bearing Stress (psi)	PASS (77.6%)	140.3	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	681	1038	0	0	0	0	0	0	0	0	0
B	681	1038	0	0	0	0	0	0	0	0	0

Reaction Location

A

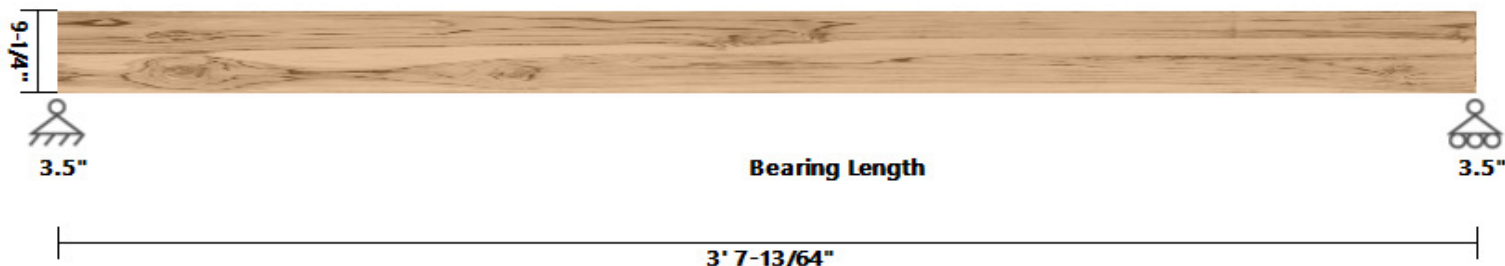
B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft <sup>2</sup> )	250	250	0	8.3	Live	Y
Uniform (lb/ft <sup>2</sup> )	93.75	93.75	0	8.3	Dead	Y
Uniform (lb/ft)	63	63	0	8.3	Dead	Y
Self Weight (lb/ft)	7.38	7.38	0	8.3	Dead	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	U13 - GREAT RM WDO HDR	CODE:	2018 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY

U13 - GREAT RM WDO HDR DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 3.6 Member Slope: 0/12 Actual Length (ft): 3.6

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

STRENGTH PROPERTIES

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3.6	2	3.6	0	1.00	1.00	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (75.6%)	44.0	180.0	0	D+L	1
Bending Stress Y (psi)	PASS (80.9%)	205.4	1077.4	1.8	D+L	1
Deflection (in)	PASS (95.5%)	0.005 (=L/8000)	0.120 (=L/360)	1.8	D+L	
Bearing Stress (psi)	PASS (87.6%)	77.5	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	330	619	0	0	0	0	0	0	0	0	0
B	330	619	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

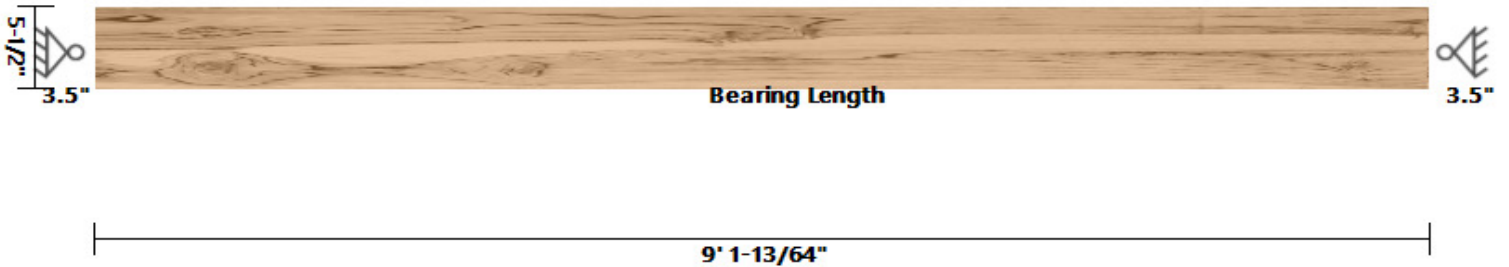
**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft <sup>2</sup> )	344	344	0	3.6	Live	Y
Uniform (lb/ft <sup>2</sup> )	86	86	0	3.6	Dead	Y
Uniform (lb/ft)	90	90	0	3.6	Dead	Y
Self Weight (lb/ft)	7.38	7.38	0	3.6	Dead	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C01 - COL at GT1a & GT2a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 5.5	DRY

C01 - COL at GT1a & GT2a DIAGRAM



COLUMN PROPERTIES

Start(ft)	0	End(ft)	9.1				
Area	lx	ly	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
30.25	76.26	76.26	6.9	1	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	750	475	170	700	625	1300	470
Adjusted Values	750	475	170	700	625	1300	470
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

		Unbraced Length (ft)		Column End					
Span	Length (ft)	X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.75	1.00	1.00	19.85	19.85

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	515.6	0	D	0.9
Bearing Stress (psi)	PASS (36.9%)	507.8	805.0	9.1	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	63	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-3775	0	0	-6001	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

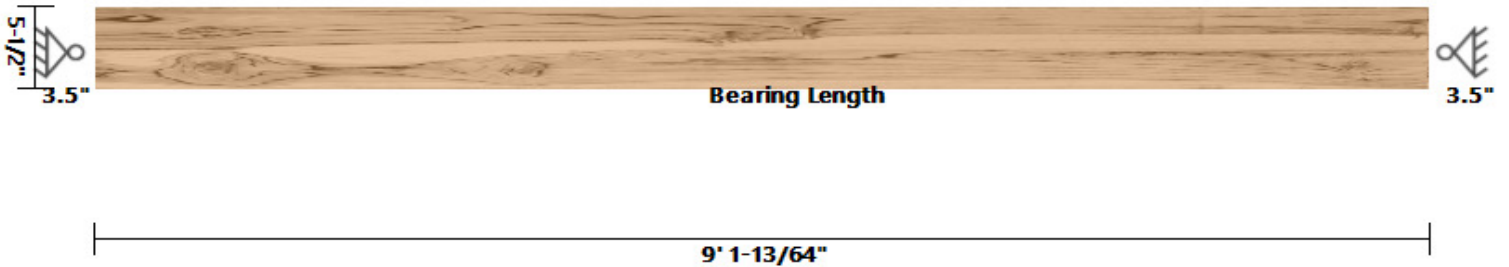
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	6.9	6.9	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2540.525	-	9.1	-	Dead	Y
Point (lbf)	-3950.57	-	9.1	-	Snow	Y
Point (lbf)	-1234.789	-	9.1	-	Dead	Y
Point (lbf)	-2050	-	9.1	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C02 - COL at GT2b & GT8a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 5.5	DRY

**C02 - COL at GT2b & GT8a DIAGRAM**



**COLUMN PROPERTIES**

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
30.25	76.26	76.26	6.9	1	0.5	1	

**STRENGTH PROPERTIES**

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	750	475	170	700	625	1300	470
Adjusted Values	750	475	170	700	625	1300	470
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**COLUMN DATA**

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.75	1.00	1.00	19.85	19.85

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	<b>PASS (99.6%)</b>	2.1	515.6	0	D	0.9
Bearing Stress (psi)	<b>PASS (26.9%)</b>	588.1	805.0	9.1	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	63	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-4286	0	0	-7036	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

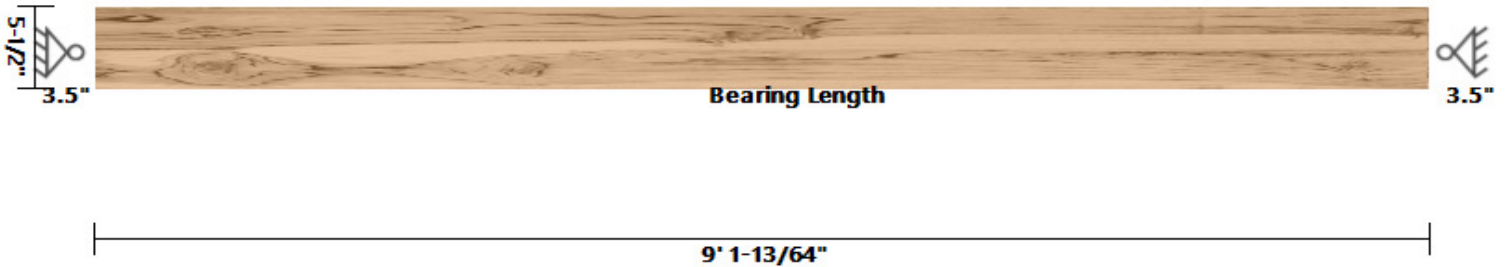
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	6.9	6.9	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-1234.789	-	9.1	-	Dead	Y
Point (lbf)	-2050	-	9.1	-	Snow	Y
Point (lbf)	-3050.767	-	9.1	-	Dead	Y
Point (lbf)	-4985.719	-	9.1	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C03 - COL at GT4a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

C03 - COL at GT4a DIAGRAM



COLUMN PROPERTIES

Start(ft)	0	End(ft)	9.1				
Area	lx	ly	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
24.75	62.39	4.64	5.64	3	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

		Unbraced Length (ft)		Column End					
Span	Length (ft)	X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.31	1.00	1.00	19.85	24.27

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	504.8	0	D	0.9
Bearing Stress (psi)	PASS (76.0%)	409.3	1707.8	9.1	D+S	1.15

REACTIONS

	Units for V: lbf			Units for M: lbf-ft							
Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-2447	0	0	-3999	0	0	0	0	0	0	0

Reaction Location

A

B



**LOAD LIST**

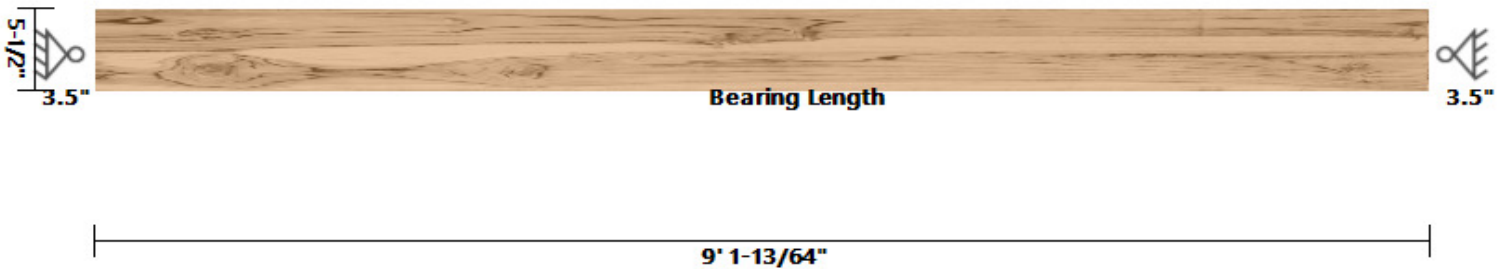
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2447.216	-	9.1	-	Dead	Y
Point (lbf)	-3999.122	-	9.1	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C04 - COL at GT7b	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

**C04 - COL at GT7b DIAGRAM**



**COLUMN PROPERTIES**

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
24.75	62.39	4.64	5.64	3	0.5	1	

**STRENGTH PROPERTIES**

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**COLUMN DATA**

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.31	1.00	1.00	19.85	24.27

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	<b>PASS (99.6%)</b>	2.1	504.8	0	D	0.9
Bearing Stress (psi)	<b>PASS (66.7%)</b>	569.2	1707.8	9.1	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-3491	-165	0	-5474	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

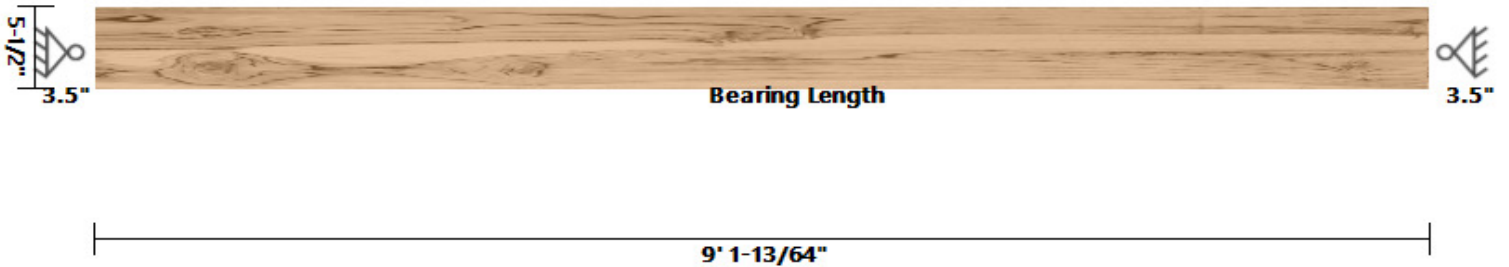
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-165	-	9.1	-	Live	Y
Point (lbf)	-116	-	9.1	-	Dead	Y
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-3375.125	-	9.1	-	Dead	Y
Point (lbf)	-5473.887	-	9.1	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C05 - COL at GT8b	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 5.5	DRY

C05 - COL at GT8b DIAGRAM



COLUMN PROPERTIES

Start(ft)	0	End(ft)	9.1				
Area	lx	ly	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
30.25	76.26	76.26	6.9	1	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	750	475	170	700	625	1300	470
Adjusted Values	750	475	170	700	625	1300	470
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

		Unbraced Length (ft)		Column End					
Span	Length (ft)	X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.75	1.00	1.00	19.85	19.85

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	515.6	0	D	0.9
Bearing Stress (psi)	PASS (24.4%)	608.6	805.0	9.1	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	63	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-4458	0	0	-7257	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	6.9	6.9	0	9.1	Dead	Z

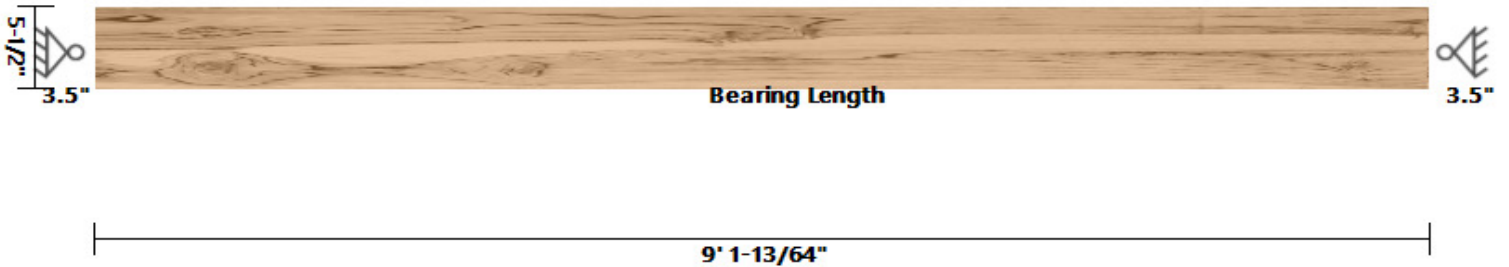
**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-4458.315	-	9.1	-	Dead	Y
Point (lbf)	-7256.631	-	9.1	-	Snow	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C06 - COL at R05b & U08a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

**C06 - COL at R05b & U08a DIAGRAM**



**COLUMN PROPERTIES**

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
24.75	62.39	4.64	5.64	3	0.5	1	

**STRENGTH PROPERTIES**

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**COLUMN DATA**

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.31	1.00	1.00	19.85	24.27

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	<b>PASS (99.6%)</b>	2.1	504.8	0	D	0.9
Bearing Stress (psi)	<b>PASS (69.2%)</b>	526.5	1707.8	9.1	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-3220	0	0	-5072	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

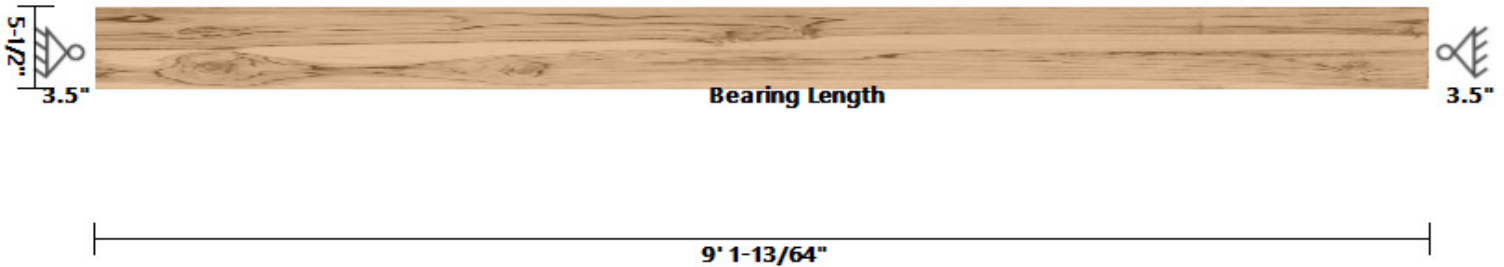
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2639.769	-	9.1	-	Dead	Y
Point (lbf)	-4126.636	-	9.1	-	Snow	Y
Point (lbf)	-580.2908	-	9.1	-	Dead	Y
Point (lbf)	-945	-	9.1	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C07 - COL at R03a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

**C07 - COL at R03a DIAGRAM**



**COLUMN PROPERTIES**

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
24.75	62.39	4.64	5.64	3	0.5	1	

**STRENGTH PROPERTIES**

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**COLUMN DATA**

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.31	1.00	1.00	19.85	24.27

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	<b>PASS (99.6%)</b>	2.1	504.8	0	D	0.9
Bearing Stress (psi)	<b>PASS (81.3%)</b>	319.7	1707.8	9.1	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-2110	-266	0	-2925	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

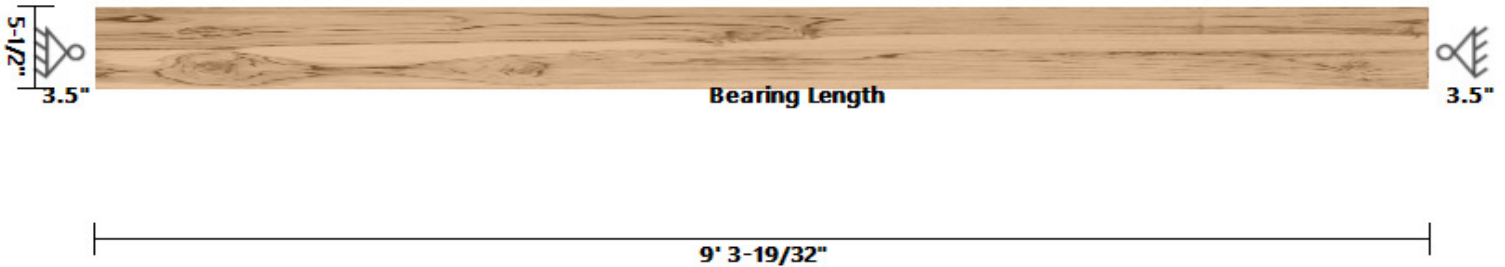
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-266	-	9.1	-	Live	Y
Point (lbf)	-187	-	9.1	-	Dead	Y
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-1922.588	-	9.1	-	Dead	Y
Point (lbf)	-2925.249	-	9.1	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C08 - COL at R03b	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

**C08 - COL at R03b DIAGRAM**



**COLUMN PROPERTIES**

Start(ft) 0	End(ft): 9.3						
Area	Ix	Iy	BSW	Lams	G	Kcr	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
24.75	62.39	4.64	5.64	3	0.5	1	

**STRENGTH PROPERTIES**

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**COLUMN DATA**

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.3	9.3	9.3	0	0.30	1.00	1.00	20.29	24.8

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	<b>PASS (99.6%)</b>	2.1	488.5	0	D	0.9
Bearing Stress (psi)	<b>PASS (87.4%)</b>	215.6	1707.8	9.3	D+S	1.15

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	52	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-1381	0	0	-2014	0	0	0	0	0	0	0

Reaction Location

A

B



**LOAD LIST**

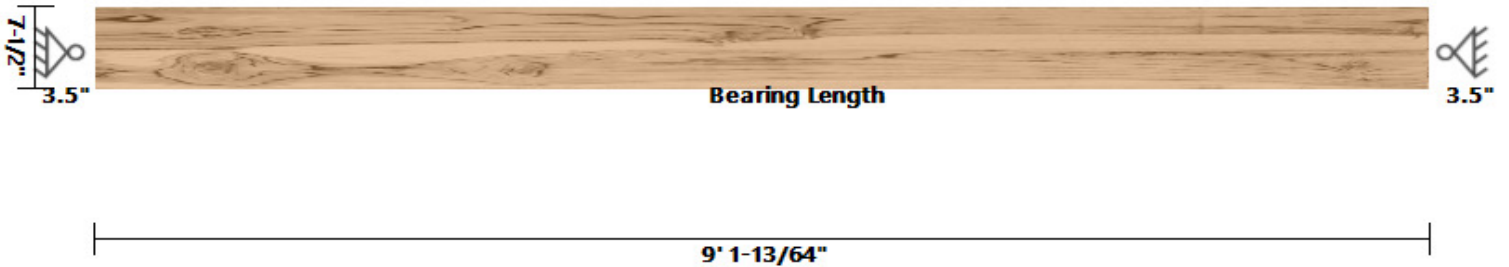
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.3	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-1381.147	-	9.3	-	Dead	Y
Point (lbf)	-2014.35	-	9.3	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C09 - COL at GT4a & U01a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 7.5	DRY

C09 - COL at GT4a & U01a DIAGRAM



COLUMN PROPERTIES

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
41.25	193.36	103.98	9.41	1	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	750	475	170	700	625	1300	470
Adjusted Values	750	475	170	700	625	1300	470
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.75	1.00	1.00	14.56	19.85

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	515.6	0	D	0.9
Bearing Stress (psi)	PASS (15.5%)	680.5	805.0	9.1	D+0.75L+0.75S	1.15

REACTIONS

		Units for V: lbf			Units for M: lbf-ft						
Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	86	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-6365	-4981	0	-3999	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

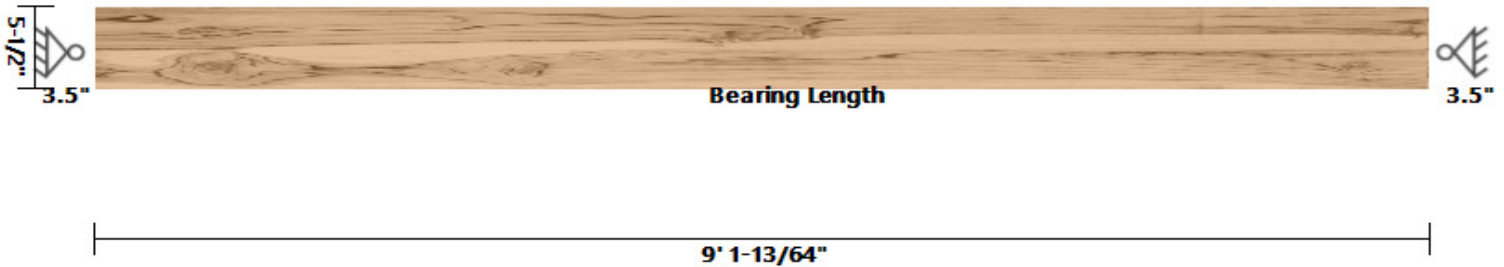
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	9.41	9.41	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2447.216	-	9.1	-	Dead	Y
Point (lbf)	-3999.122	-	9.1	-	Snow	Y
Point (lbf)	-3917.622	-	9.1	-	Dead	Y
Point (lbf)	-4981.051	-	9.1	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C10 - COL at U01b	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

**C10 - COL at U01b DIAGRAM**



**COLUMN PROPERTIES**

Start(ft) 0	End(ft): 9.1						
Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	G	K <sub>cr</sub>	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
24.75	62.39	4.64	5.64	3	0.5	1	

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

**COLUMN DATA**

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.35	1.00	1.00	19.85	24.27

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	<b>PASS (99.6%)</b>	2.1	504.8	0	D	0.9
Bearing Stress (psi)	<b>PASS (70.4%)</b>	440.2	1485.0	9.1	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-3181	-3752	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

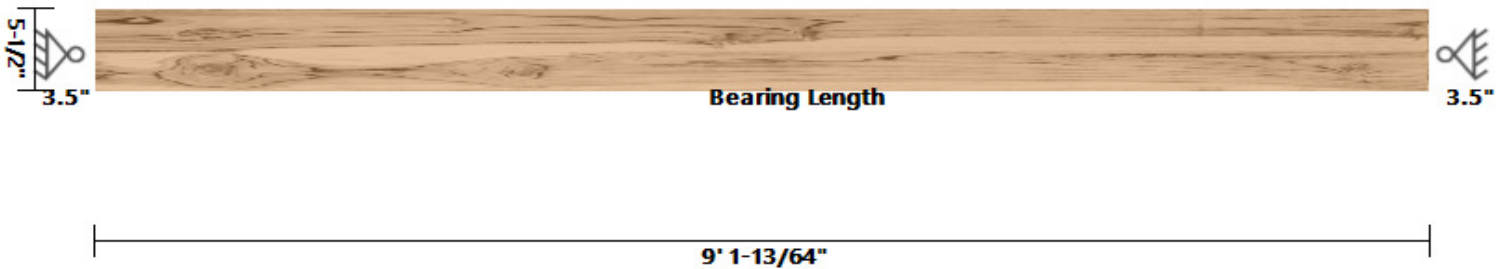
**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-3180.97	-	9.1	-	Dead	Y
Point (lbf)	-3752.244	-	9.1	-	Live	Y



DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C11 - COL at U02ab	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

C11 - COL at U02ab DIAGRAM



COLUMN PROPERTIES

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
24.75	62.39	4.64	5.64	3	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.35	1.00	1.00	19.85	24.27

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	504.8	0	D	0.9
Bearing Stress (psi)	PASS (67.4%)	484.0	1485.0	9.1	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-2703	-4920	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

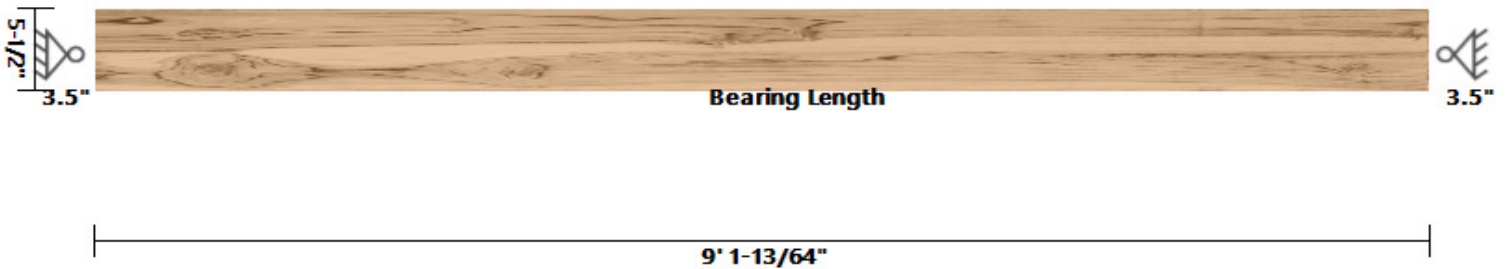
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2702.928	-	9.1	-	Dead	Y
Point (lbf)	-4920	-	9.1	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C12 - COL at U03b	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

C12 - COL at U03b DIAGRAM



COLUMN PROPERTIES

Start(ft)	0	End(ft)	9.1				
Area	lx	ly	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
24.75	62.39	4.64	5.64	3	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

		Unbraced Length (ft)		Column End					
Span	Length (ft)	X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.35	1.00	1.00	19.85	24.27

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	504.8	0	D	0.9
Bearing Stress (psi)	PASS (81.8%)	270.3	1485.0	9.1	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-2273	-1984	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

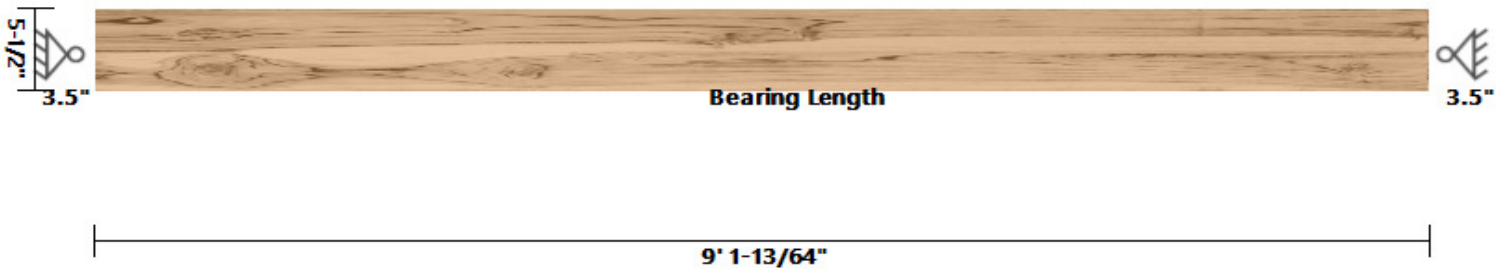
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2273.002	-	9.1	-	Dead	Y
Point (lbf)	-1984.269	-	9.1	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C13 - COL at U04ab	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

C13 - COL at U04ab DIAGRAM



COLUMN PROPERTIES

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
24.75	62.39	4.64	5.64	3	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.35	1.00	1.00	19.85	24.27

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	504.8	0	D	0.9
Bearing Stress (psi)	PASS (73.7%)	390.5	1485.0	9.1	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-3295	-2855	0	-617	0	0	0	0	0	0	0

Reaction Location

A

B



**LOAD LIST**

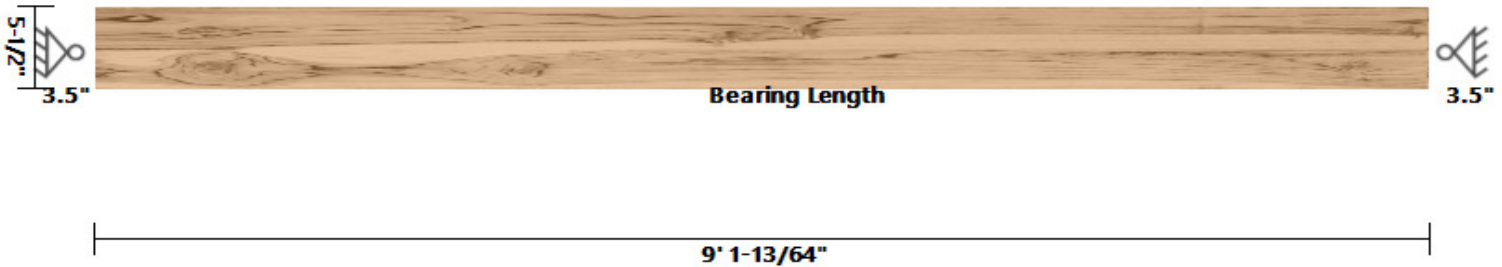
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-3294.965	-	9.1	-	Dead	Y
Point (lbf)	-2854.772	-	9.1	-	Live	Y
Point (lbf)	-617.0391	-	9.1	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C14 - COL at U09a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

C14 - COL at U09a DIAGRAM



COLUMN PROPERTIES

Start(ft)	0	End(ft)	9.1				
Area	lx	ly	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
24.75	62.39	4.64	5.64	3	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

		Unbraced Length (ft)		Column End					
Span	Length (ft)	X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.35	1.00	1.00	19.85	24.27

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	504.8	0	D	0.9
Bearing Stress (psi)	PASS (73.9%)	387.5	1485.0	9.1	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-2066	-4037	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

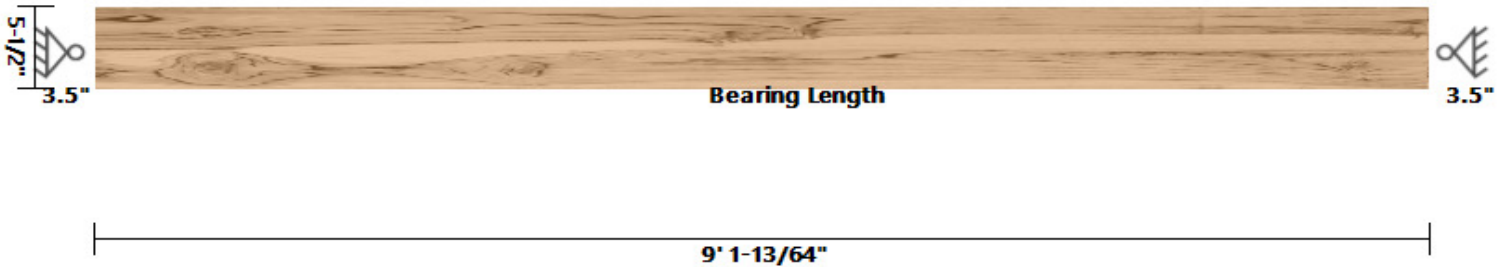
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2066.188	-	9.1	-	Dead	Y
Point (lbf)	-4036.77	-	9.1	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C15 - COL at U09b & U10b	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

C15 - COL at U09b & U10b DIAGRAM



COLUMN PROPERTIES

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
24.75	62.39	4.64	5.64	3	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.35	1.00	1.00	19.85	24.27

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	504.8	0	D	0.9
Bearing Stress (psi)	PASS (61.0%)	579.8	1485.0	9.1	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-3140	-5992	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

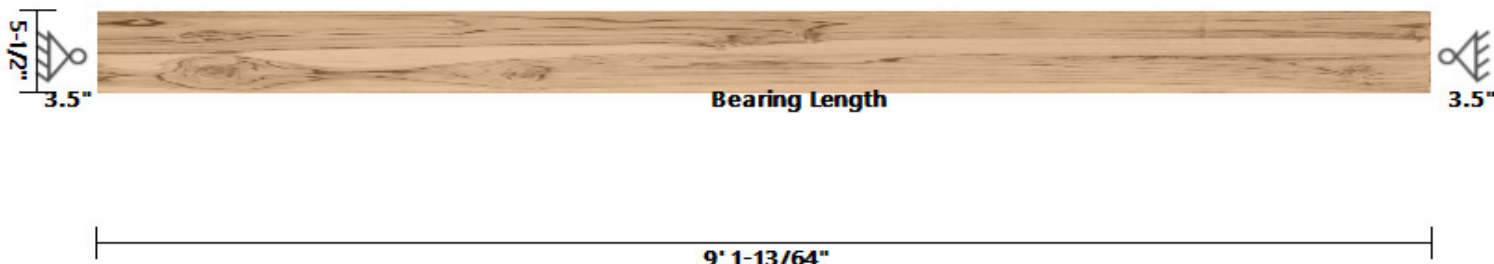
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2254.893	-	9.1	-	Dead	Y
Point (lbf)	-4400.229	-	9.1	-	Live	Y
Point (lbf)	-884.9211	-	9.1	-	Dead	Y
Point (lbf)	-1592	-	9.1	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C16 - COL at R05b, R08a, & U13a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 5.5	DRY

C16 - COL at R05b, R08a, & U13a DIAGRAM



COLUMN PROPERTIES

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
30.25	76.26	76.26	6.9	1	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	750	475	170	700	625	1300	470
Adjusted Values	750	475	170	700	625	1300	470
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.75	1.00	1.00	19.85	19.85

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	515.6	0	D	0.9
Bearing Stress (psi)	PASS (44.4%)	447.9	805.0	9.1	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	63	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-3550	-619	0	-5072	0	0	0	0	0	0	0

Reaction Location

A

B



**LOAD LIST**

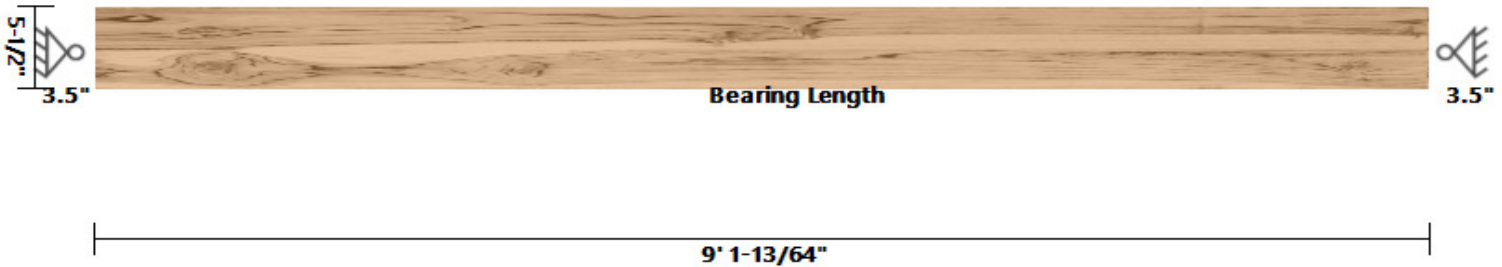
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	6.9	6.9	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2639.769	-	9.1	-	Dead	Y
Point (lbf)	-4126.636	-	9.1	-	Snow	Y
Point (lbf)	-580.2908	-	9.1	-	Dead	Y
Point (lbf)	-945	-	9.1	-	Snow	Y
Point (lbf)	-330.0908	-	9.1	-	Dead	Y
Point (lbf)	-619.2	-	9.1	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C17 - COL at U06ab	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

C17 - COL at U06ab DIAGRAM



COLUMN PROPERTIES

Start(ft)	0	End(ft)	9.1				
Area	lx	ly	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
24.75	62.39	4.64	5.64	3	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

		Unbraced Length (ft)		Column End					
Span	Length (ft)	X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.35	1.00	1.00	19.85	24.27

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	504.8	0	D	0.9
Bearing Stress (psi)	PASS (84.9%)	224.6	1485.0	9.1	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-1209	-2329	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

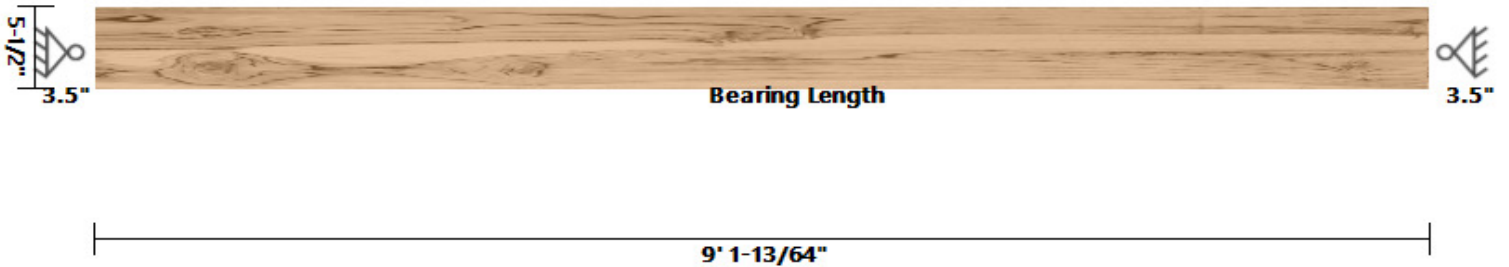
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-1209.094	-	9.1	-	Dead	Y
Point (lbf)	-2328.604	-	9.1	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C18 - COL at GT1a, GT2a, & U11a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 5.5	DRY

C18 - COL at GT1a, GT2a, & U11a DIAGRAM



COLUMN PROPERTIES

Start(ft)	0	End(ft)	9.1				
Area	lx	ly	BSW	Lams	G	Kcr	
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor	
30.25	76.26	76.26	6.9	1	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	750	475	170	700	625	1300	470
Adjusted Values	750	475	170	700	625	1300	470
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

		Unbraced Length (ft)		Column End					
Span	Length (ft)	X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.75	1.00	1.00	19.85	19.85

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	515.6	0	D	0.9
Bearing Stress (psi)	PASS (32.6%)	542.5	805.0	9.1	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	63	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-4442	-1064	0	-6001	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

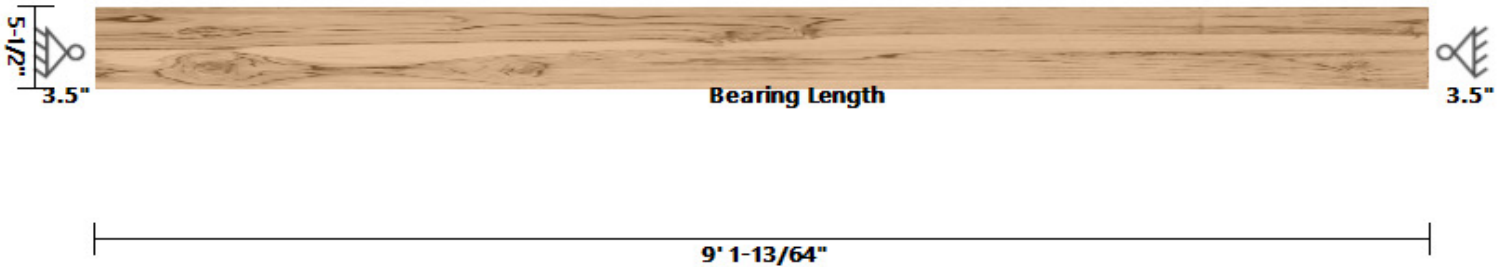
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	6.9	6.9	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-2540.525	-	9.1	-	Dead	Y
Point (lbf)	-3950.57	-	9.1	-	Snow	Y
Point (lbf)	-1234.789	-	9.1	-	Dead	Y
Point (lbf)	-2050	-	9.1	-	Snow	Y
Point (lbf)	-666.4584	-	9.1	-	Dead	Y
Point (lbf)	-1064	-	9.1	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C19 - COL at GT2b, GT8a, & U12a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 5.5	DRY

C19 - COL at GT2b, GT8a, & U12a DIAGRAM



COLUMN PROPERTIES

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
30.25	76.26	76.26	6.9	1	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	750	475	170	700	625	1300	470
Adjusted Values	750	475	170	700	625	1300	470
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

Span	Length (ft)	Unbraced Length (ft)		Column End		Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
		X	Y	Offset	CP				
1	9.1	9.1	9.1	0	0.75	1.00	1.00	19.85	19.85

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	515.6	0	D	0.9
Bearing Stress (psi)	PASS (22.5%)	623.5	805.0	9.1	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	63	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-4967	-1038	0	-7036	0	0	0	0	0	0	0

Reaction Location

A

B



**LOAD LIST**

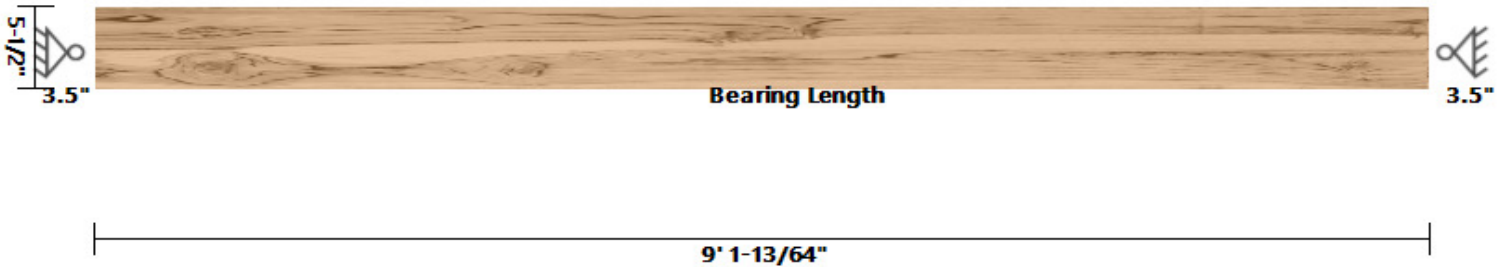
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	6.9	6.9	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-1234.789	-	9.1	-	Dead	Y
Point (lbf)	-2050	-	9.1	-	Snow	Y
Point (lbf)	-3050.767	-	9.1	-	Dead	Y
Point (lbf)	-4985.719	-	9.1	-	Snow	Y
Point (lbf)	-681.1551	-	9.1	-	Dead	Y
Point (lbf)	-1037.5	-	9.1	-	Live	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	ASD
MEMBER NAME:	C20 - COL at U07a	CODE:	2018 International Building Code
MEMBER TYPE:	COLUMN	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(3) 1.5 X 5.5	DRY

C20 - COL at U07a DIAGRAM



COLUMN PROPERTIES

Start(ft) 0	End(ft): 9.1						
Area	Ix	Iy	BSW	Lams	G	Kcr	Creep Factor
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)				
24.75	62.39	4.64	5.64	3	0.5	1	

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc <sub>⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	Emin (psi) x10 <sup>3</sup>
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1
C <sub>i</sub>	1	1	1	1	1	1	1
C <sub>F</sub>	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C<sub>fu</sub> = 1 C<sub>r</sub> = 1

COLUMN DATA

Span	Length (ft)	Unbraced Length (ft)		Column End					
		X	Y	Offset	CP	Ke(X Axis)	Ke(Y Axis)	KeL/d (X Axis)	KeL/d (Y Axis)
1	9.1	9.1	9.1	0	0.35	1.00	1.00	19.85	24.27

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Compressive Stress (psi)	PASS (99.6%)	2.1	504.8	0	D	0.9
Bearing Stress (psi)	PASS (84.8%)	226.0	1485.0	9.1	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Z axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	51	0	0	0	0	0	0	0	0	0	0
B	0	0	0	0	0	0	0	0	0	0	0
Y axis											
A	0	0	0	0	0	0	0	0	0	0	0
B	-1809	-1751	0	-532	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

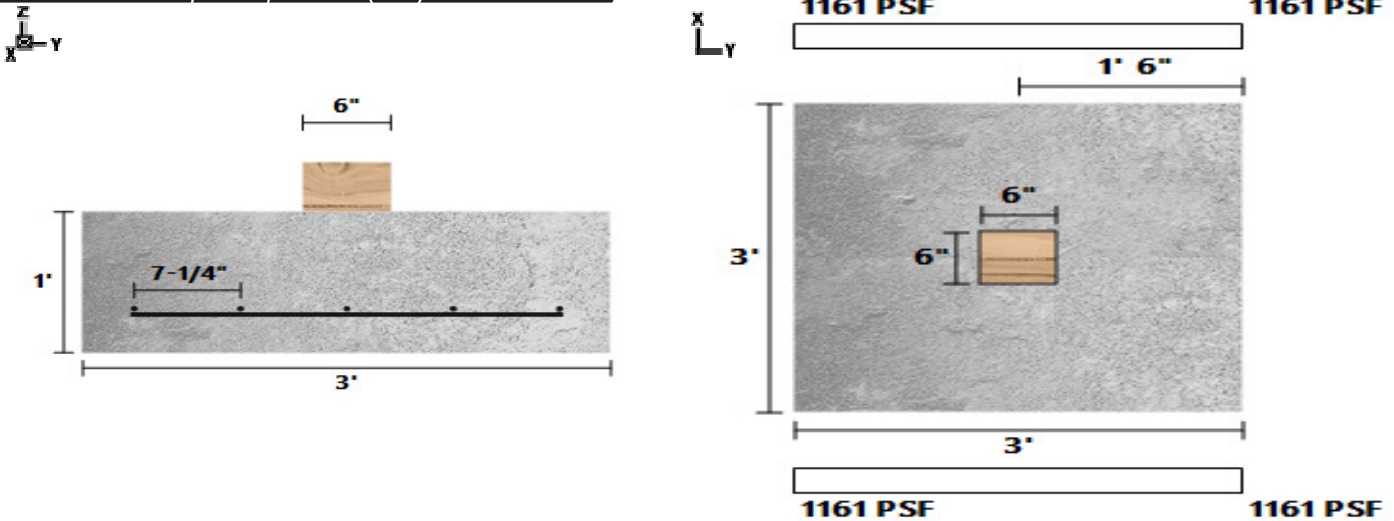
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	5.64	5.64	0	9.1	Dead	Z

**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	-1808.822	-	9.1	-	Dead	Y
Point (lbf)	-1750.745	-	9.1	-	Live	Y
Point (lbf)	-532.4712	-	9.1	-	Snow	Y

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F01 - FTG at GT1a, GT2a, & U11a (C01)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3 (ft) X 3 (ft) X 12 (in)		Soil Depth TOF: 0 (ft)	(5) #4 Long, (5) #4 Short

**F01 - FTG at GT1a, GT2a, & U11a (C01) DIAGRAMS**



**MATERIAL PROPERTIES**

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	3	3	12	9
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
58	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	5	5	40000	2.9E+07		

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (22.6%)</b>	1160.3	1500.0	D+S
Two-Way Shear (Punching) (lbf)	<b>PASS (78.4%)</b>	15995.0	73950.0	1.2D+1.6S+L
One-Way Shear X (lbf)	<b>PASS (87.4%)</b>	2888.0	22950.0	1.2D+1.6S+L
Moment X (lbf-ft)	<b>PASS (83.1%)</b>	4165.4	24715.7	1.2D+1.6S+L
One-Way Shear Y (lbf)	<b>PASS (87.4%)</b>	2888.0	22950.0	1.2D+1.6S+L
Moment Y (lbf-ft)	<b>PASS (83.1%)</b>	4165.4	24715.7	1.2D+1.6S+L
Crushing (psi)	<b>PASS (67.8%)</b>	444.3	1381.3	1.2D+1.6S+L

**LOAD LIST**

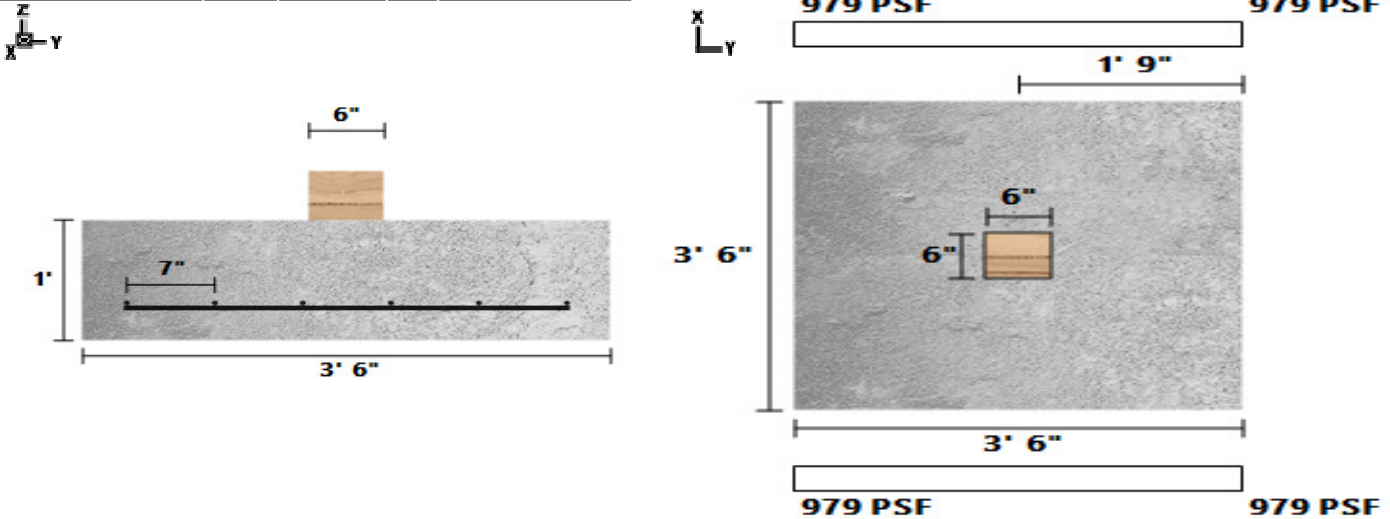
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2540.525	-	0	-	Dead	Z
Point (lbf)	3950.57	-	0	-	Snow	Z
Point (lbf)	1234.789	-	0	-	Dead	Z
Point (lbf)	2050	-	0	-	Snow	Z
Point (lbf)	666.4584	-	0	-	Dead	Z
Point (lbf)	1064	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F02 - FTG at GT2b, GT8a, & U12a (C0...	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.5 (ft) X 3.5 (ft) X 12 (in)		Soil Depth TOF: 0 (ft)	(6) #4 Long, (6) #4 Short

**F02 - FTG at GT2b, GT8a, & U12a (C02) DIAGRAMS**



**MATERIAL PROPERTIES**

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	3.5	3.5	12	12.25
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
58	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	6	6	40000	2.9E+07		

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (34.7%)</b>	979.8	1500.0	D+S
Two-Way Shear (Punching) (lbf)	<b>PASS (75.3%)</b>	18254.7	73950.0	1.2D+1.6S+L
One-Way Shear X (lbf)	<b>PASS (84.6%)</b>	4129.0	26775.0	1.2D+1.6S+L
Moment X (lbf-ft)	<b>PASS (80.2%)</b>	5867.6	29631.9	1.2D+1.6S+L
One-Way Shear Y (lbf)	<b>PASS (84.6%)</b>	4129.0	26775.0	1.2D+1.6S+L
Moment Y (lbf-ft)	<b>PASS (80.2%)</b>	5867.6	29631.9	1.2D+1.6S+L
Crushing (psi)	<b>PASS (63.3%)</b>	507.1	1381.3	1.2D+1.6S+L

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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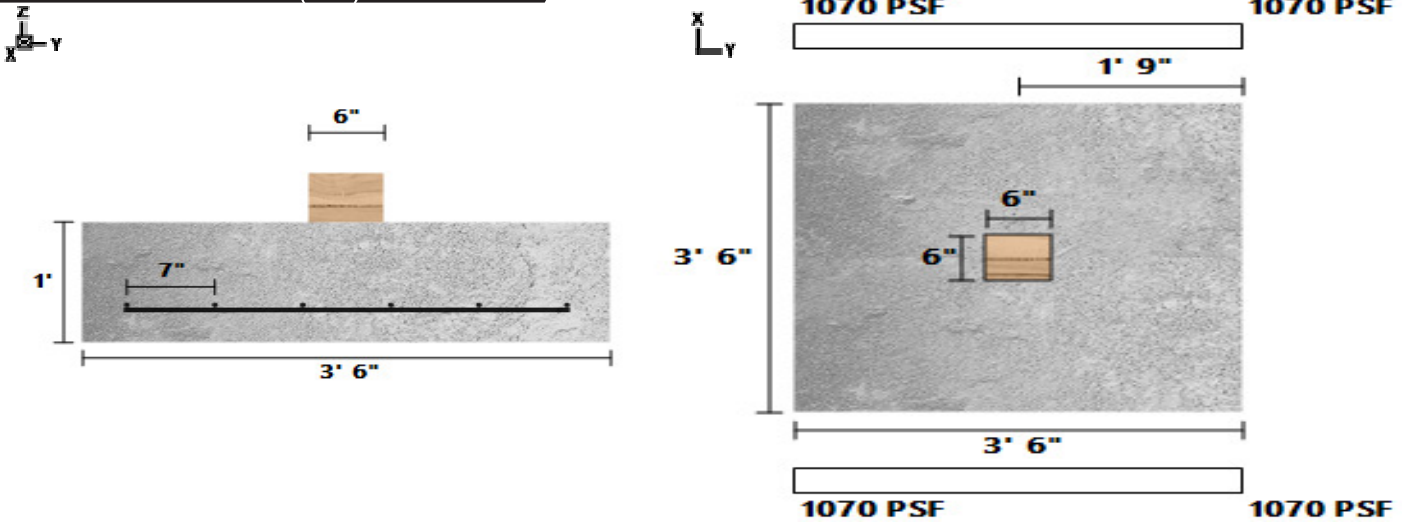


**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	1234.789	-	0	-	Dead	Z
Point (lbf)	2050	-	0	-	Snow	Z
Point (lbf)	3050.767	-	0	-	Dead	Z
Point (lbf)	4985.719	-	0	-	Snow	Z
Point (lbf)	681.1551	-	0	-	Dead	Z
Point (lbf)	1037.5	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F03 - FTG at GT4a & U01a (C09)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.5 (ft) X 3.5 (ft) X 12 (in)		Soil Depth TOF: 0 (ft)	(6) #4 Long, (6) #4 Short

**F03 - FTG at GT4a & U01a (C09) DIAGRAMS**



**MATERIAL PROPERTIES**

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	3.5	3.5	12	12.25
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
58	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	6	6	40000	2.9E+07		

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (28.7%)</b>	1069.4	1500.0	D+0.75L+0.75S
Two-Way Shear (Punching) (lbf)	<b>PASS (74.3%)</b>	19017.5	73950.0	1.2D+1.6S+L
One-Way Shear X (lbf)	<b>PASS (83.9%)</b>	4301.6	26775.0	1.2D+1.6S+L
Moment X (lbf-ft)	<b>PASS (79.4%)</b>	6112.8	29631.9	1.2D+1.6S+L
One-Way Shear Y (lbf)	<b>PASS (83.9%)</b>	4301.6	26775.0	1.2D+1.6S+L
Moment Y (lbf-ft)	<b>PASS (79.4%)</b>	6112.8	29631.9	1.2D+1.6S+L
Crushing (psi)	<b>PASS (61.8%)</b>	528.3	1381.3	1.2D+1.6S+L

**LOAD LIST**

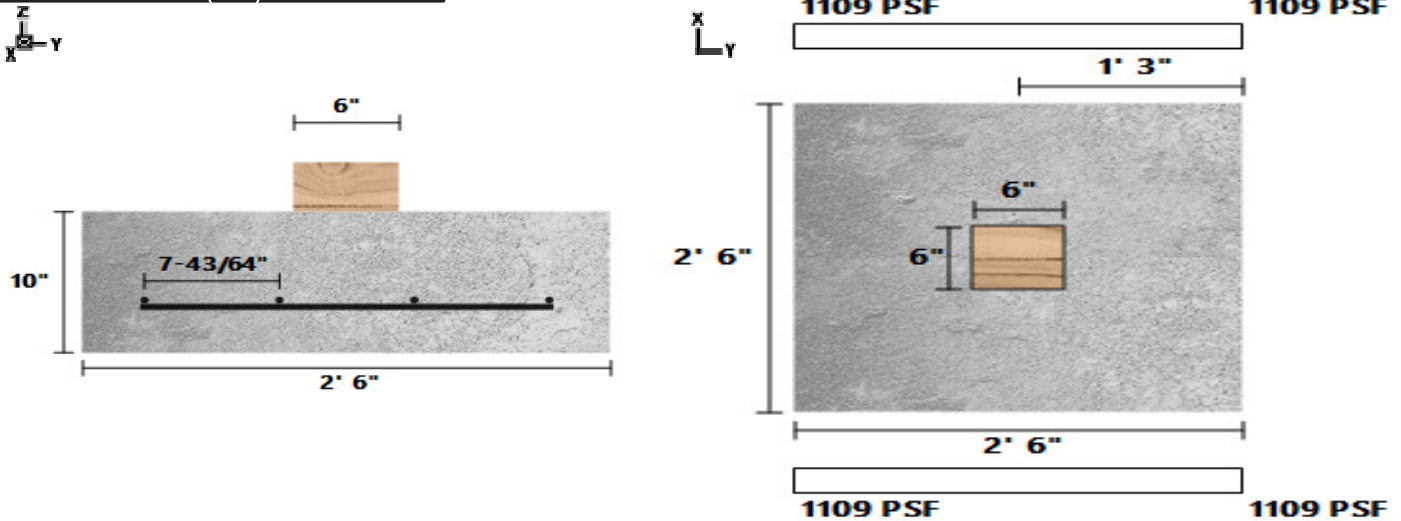
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2447.216	-	0	-	Dead	Z
Point (lbf)	3999.122	-	0	-	Snow	Z
Point (lbf)	3917.622	-	0	-	Dead	Z
Point (lbf)	4981.051	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F04 - FTG at U01b (C10)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.5 (ft) X 2.5 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(4) #4 Long, (4) #4 Short

**F04 - FTG at U01b (C10) DIAGRAMS**



**MATERIAL PROPERTIES**

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2.5	2.5	10	5.21
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	4	4	40000	2.9E+07		

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (26.0%)</b>	1109.3	1500.0	D+L
Two-Way Shear (Punching) (lbf)	<b>PASS (79.9%)</b>	9820.8	48750.0	1.2D+1.6L+0.5Lr
One-Way Shear X (lbf)	<b>PASS (87.7%)</b>	1800.5	14625.0	1.2D+1.6L+0.5Lr
Moment X (lbf-ft)	<b>PASS (50.9%)</b>	1964.2	4000.0	1.2D+1.6L+0.5Lr
One-Way Shear Y (lbf)	<b>PASS (87.7%)</b>	1800.5	14625.0	1.2D+1.6L+0.5Lr
Moment Y (lbf-ft)	<b>PASS (50.9%)</b>	1964.2	4000.0	1.2D+1.6L+0.5Lr
Crushing (psi)	<b>PASS (80.2%)</b>	272.8	1381.3	1.2D+1.6L+0.5Lr

**LOAD LIST**

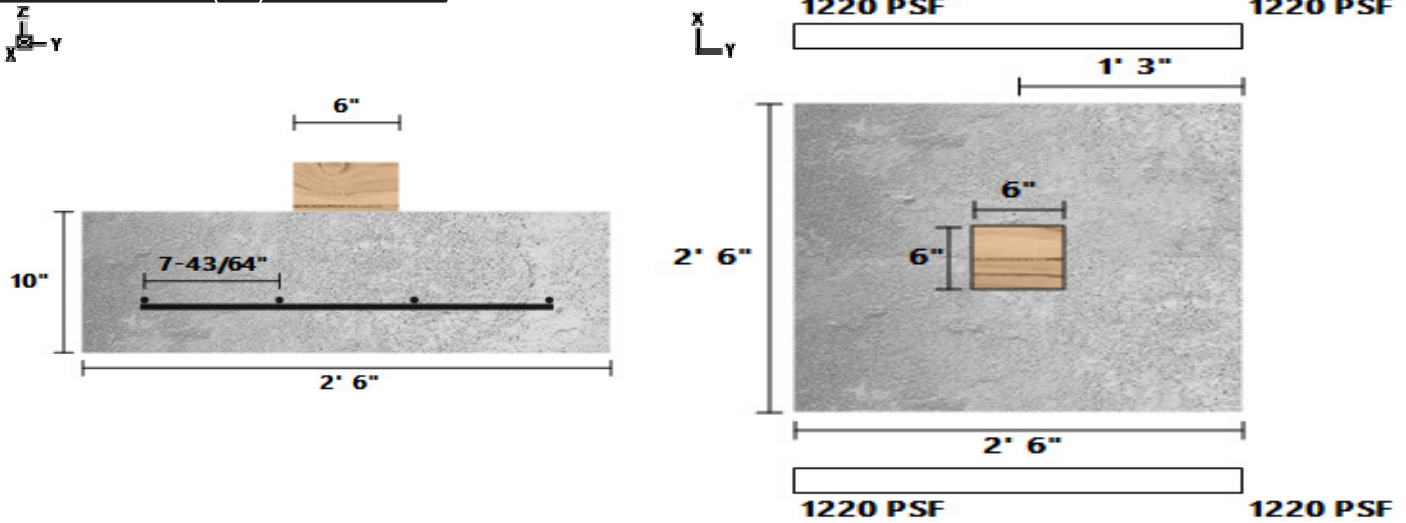
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	3180.97	-	0	-	Dead	Z
Point (lbf)	3752.244	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F05 - FTG aT U02a (C11)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.5 (ft) X 2.5 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(4) #4 Long, (4) #4 Short

**F05 - FTG aT U02a (C11) DIAGRAMS**



**MATERIAL PROPERTIES**

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2.5	2.5	10	5.21
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	4	4	40000	2.9E+07		

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (18.7%)</b>	1219.7	1500.0	D+L
Two-Way Shear (Punching) (lbf)	<b>PASS (77.2%)</b>	11115.5	48750.0	1.2D+1.6L+0.5Lr
One-Way Shear X (lbf)	<b>PASS (86.1%)</b>	2037.8	14625.0	1.2D+1.6L+0.5Lr
Moment X (lbf-ft)	<b>PASS (44.4%)</b>	2223.1	4000.0	1.2D+1.6L+0.5Lr
One-Way Shear Y (lbf)	<b>PASS (86.1%)</b>	2037.8	14625.0	1.2D+1.6L+0.5Lr
Moment Y (lbf-ft)	<b>PASS (44.4%)</b>	2223.1	4000.0	1.2D+1.6L+0.5Lr
Crushing (psi)	<b>PASS (77.6%)</b>	308.8	1381.3	1.2D+1.6L+0.5Lr

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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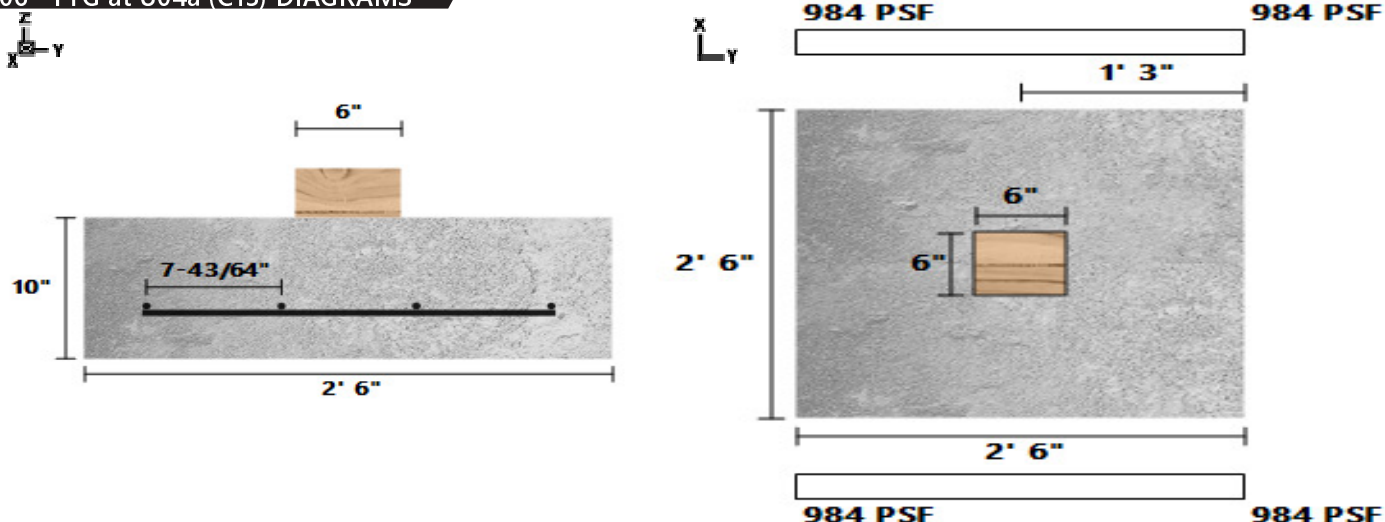


**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2702.928	-	0	-	Dead	Z
Point (lbf)	4920	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F06 - FTG at U04a (C13)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.5 (ft) X 2.5 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(4) #4 Long, (4) #4 Short

F06 - FTG at U04a (C13) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2.5	2.5	10	5.21
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	4	4	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	PASS (34.4%)	984.0	1500.0	D+L
Two-Way Shear (Punching) (lbf)	PASS (81.9%)	8830.1	48750.0	1.2D+1.6L+0.5S
One-Way Shear X (lbf)	PASS (88.9%)	1618.9	14625.0	1.2D+1.6L+0.5S
Moment X (lbf-ft)	PASS (55.8%)	1766.0	4000.0	1.2D+1.6L+0.5S
One-Way Shear Y (lbf)	PASS (88.9%)	1618.9	14625.0	1.2D+1.6L+0.5S
Moment Y (lbf-ft)	PASS (55.8%)	1766.0	4000.0	1.2D+1.6L+0.5S
Crushing (psi)	PASS (82.2%)	245.3	1381.3	1.2D+1.6L+0.5S

LOAD LIST

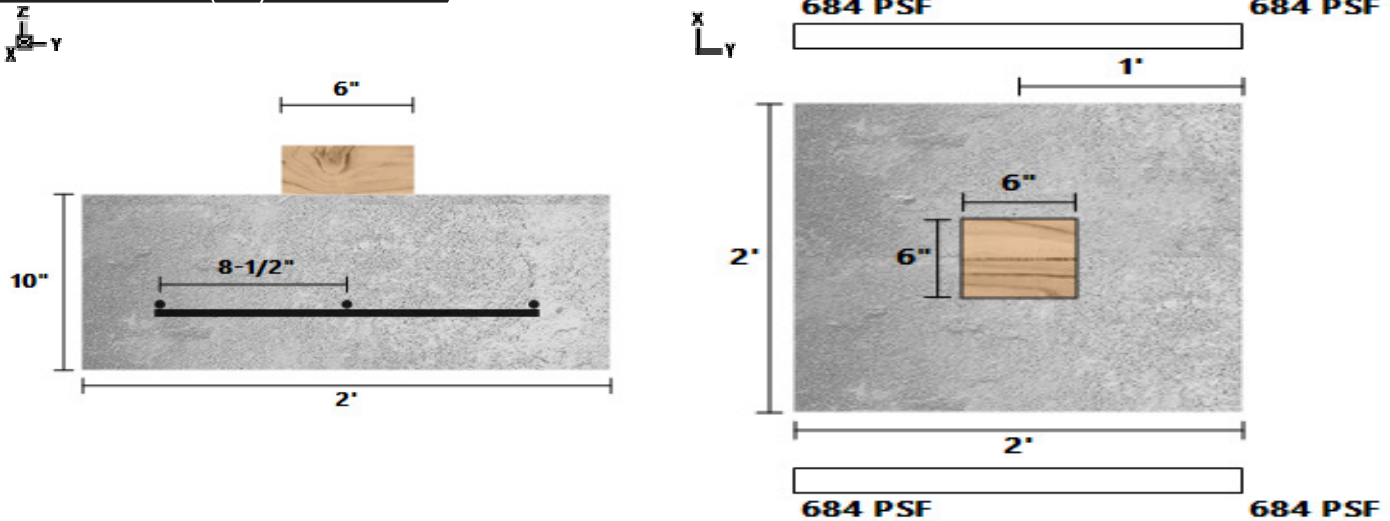
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	3294.965	-	0	-	Dead	Z
Point (lbf)	2854.772	-	0	-	Live	Z
Point (lbf)	617.0391	-	0	-	Snow	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F07 - FTG at U04b (C13)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) X 2 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(3) #4 Long, (3) #4 Short

**F07 - FTG at U04b (C13) DIAGRAMS**



**MATERIAL PROPERTIES**

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2	2	10	3.33
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1000	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	3	3	40000	2.9E+07		

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (31.6%)</b>	683.8	1000.0	D+0.75L+0.75S
Two-Way Shear (Punching) (lbf)	<b>PASS (92.0%)</b>	3880.1	48750.0	1.2D+1.6S+L
One-Way Shear X (lbf)	<b>PASS (96.5%)</b>	404.2	11700.0	1.2D+1.6S+L
Moment X (lbf-ft)	<b>PASS (82.9%)</b>	545.6	3200.0	1.2D+1.6S+L
One-Way Shear Y (lbf)	<b>PASS (96.5%)</b>	404.2	11700.0	1.2D+1.6S+L
Moment Y (lbf-ft)	<b>PASS (82.9%)</b>	545.6	3200.0	1.2D+1.6S+L
Crushing (psi)	<b>PASS (92.2%)</b>	107.8	1381.3	1.2D+1.6S+L

**LOAD LIST**

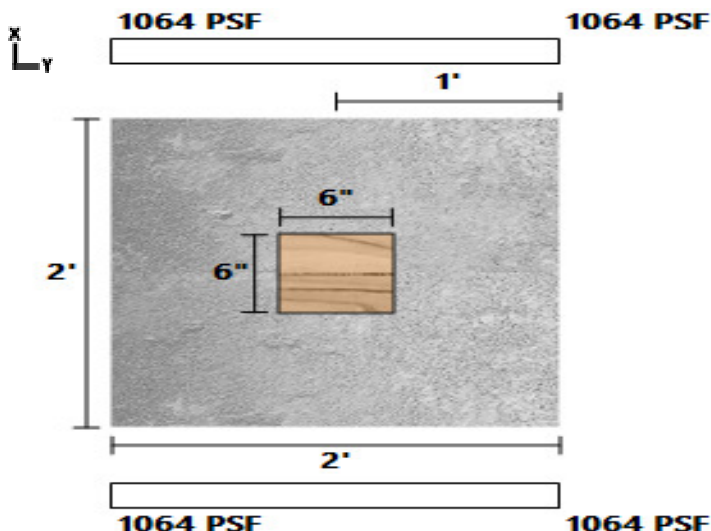
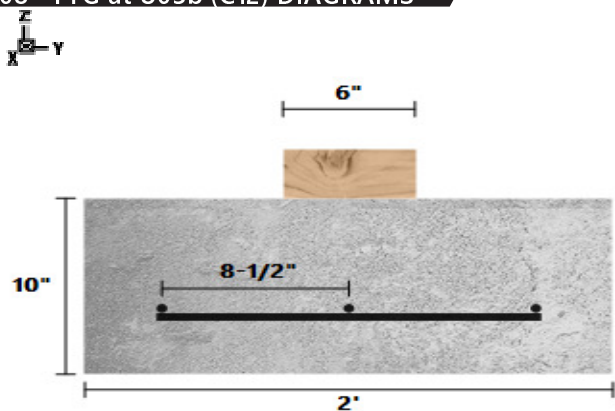
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	1360.113	-	0	-	Dead	Z
Point (lbf)	1141.976	-	0	-	Live	Z
Point (lbf)	691.2676	-	0	-	Snow	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F08 - FTG at U03b (C12)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) X 2 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(3) #4 Long, (3) #4 Short

F08 - FTG at U03b (C12) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2	2	10	3.33
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	3	3	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	PASS (29.0%)	1064.3	1500.0	D+L
Two-Way Shear (Punching) (lbf)	PASS (87.9%)	5902.4	48750.0	1.2D+1.6L+0.5Lr
One-Way Shear X (lbf)	PASS (94.7%)	614.8	11700.0	1.2D+1.6L+0.5Lr
Moment X (lbf-ft)	PASS (74.1%)	830.0	3200.0	1.2D+1.6L+0.5Lr
One-Way Shear Y (lbf)	PASS (94.7%)	614.8	11700.0	1.2D+1.6L+0.5Lr
Moment Y (lbf-ft)	PASS (74.1%)	830.0	3200.0	1.2D+1.6L+0.5Lr
Crushing (psi)	PASS (88.1%)	164.0	1381.3	1.2D+1.6L+0.5Lr

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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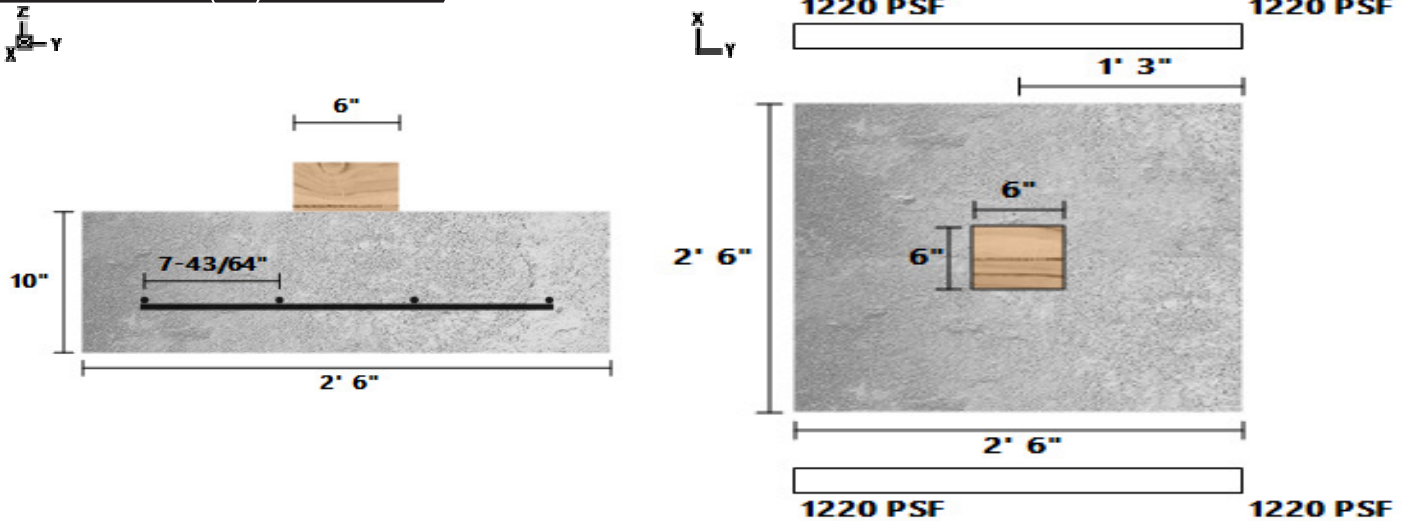


**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2273.002	-	0	-	Dead	Z
Point (lbf)	1984.269	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F09 - FTG at U02b (C11)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.5 (ft) X 2.5 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(4) #4 Long, (4) #4 Short

**F09 - FTG at U02b (C11) DIAGRAMS**



**MATERIAL PROPERTIES**

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2.5	2.5	10	5.21
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	4	4	40000	2.9E+07		

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (18.7%)</b>	1219.7	1500.0	D+L
Two-Way Shear (Punching) (lbf)	<b>PASS (77.2%)</b>	11115.5	48750.0	1.2D+1.6L+0.5Lr
One-Way Shear X (lbf)	<b>PASS (86.1%)</b>	2037.8	14625.0	1.2D+1.6L+0.5Lr
Moment X (lbf-ft)	<b>PASS (44.4%)</b>	2223.1	4000.0	1.2D+1.6L+0.5Lr
One-Way Shear Y (lbf)	<b>PASS (86.1%)</b>	2037.8	14625.0	1.2D+1.6L+0.5Lr
Moment Y (lbf-ft)	<b>PASS (44.4%)</b>	2223.1	4000.0	1.2D+1.6L+0.5Lr
Crushing (psi)	<b>PASS (77.6%)</b>	308.8	1381.3	1.2D+1.6L+0.5Lr

**LOAD LIST**

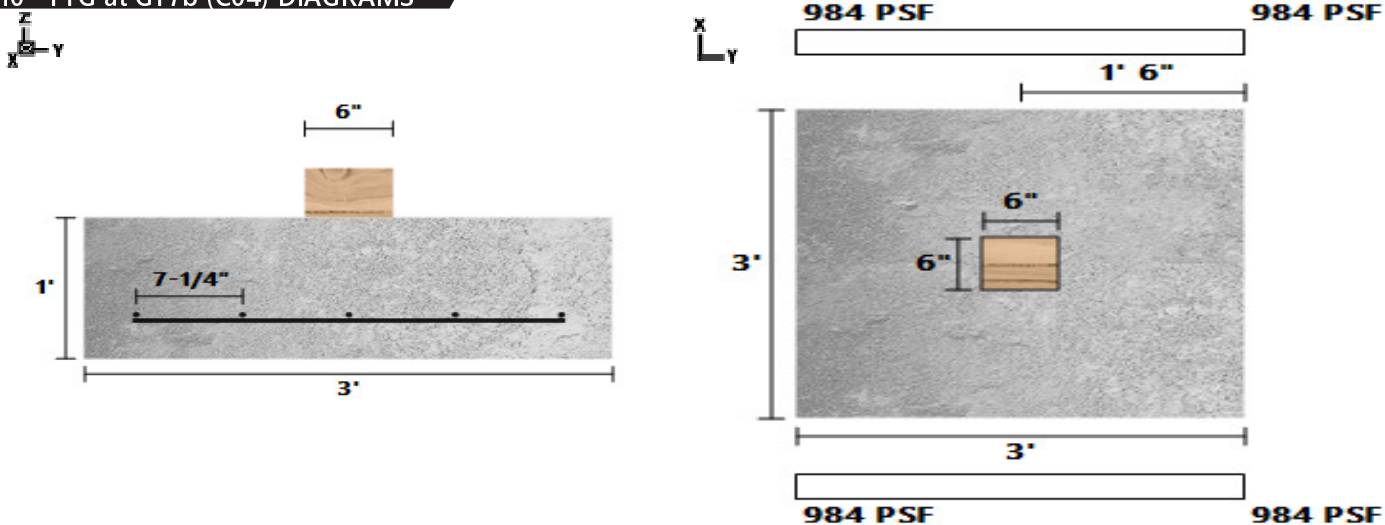
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2702.928	-	0	-	Dead	Z
Point (lbf)	4920	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F10 - FTG at GT7b (C04)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3 (ft) X 3 (ft) X 12 (in)		Soil Depth TOF: 0 (ft)	(5) #4 Long, (5) #4 Short

F10 - FTG at GT7b (C04) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	3	3	12	9
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
58	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	5	5	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	PASS (34.5%)	983.2	1500.0	D+S
Two-Way Shear (Punching) (lbf)	PASS (82.7%)	12808.4	73950.0	1.2D+1.6S+L
One-Way Shear X (lbf)	PASS (89.9%)	2312.6	22950.0	1.2D+1.6S+L
Moment X (lbf-ft)	PASS (86.5%)	3335.5	24715.7	1.2D+1.6S+L
One-Way Shear Y (lbf)	PASS (89.9%)	2312.6	22950.0	1.2D+1.6S+L
Moment Y (lbf-ft)	PASS (86.5%)	3335.5	24715.7	1.2D+1.6S+L
Crushing (psi)	PASS (74.2%)	355.8	1381.3	1.2D+1.6S+L

LOAD LIST

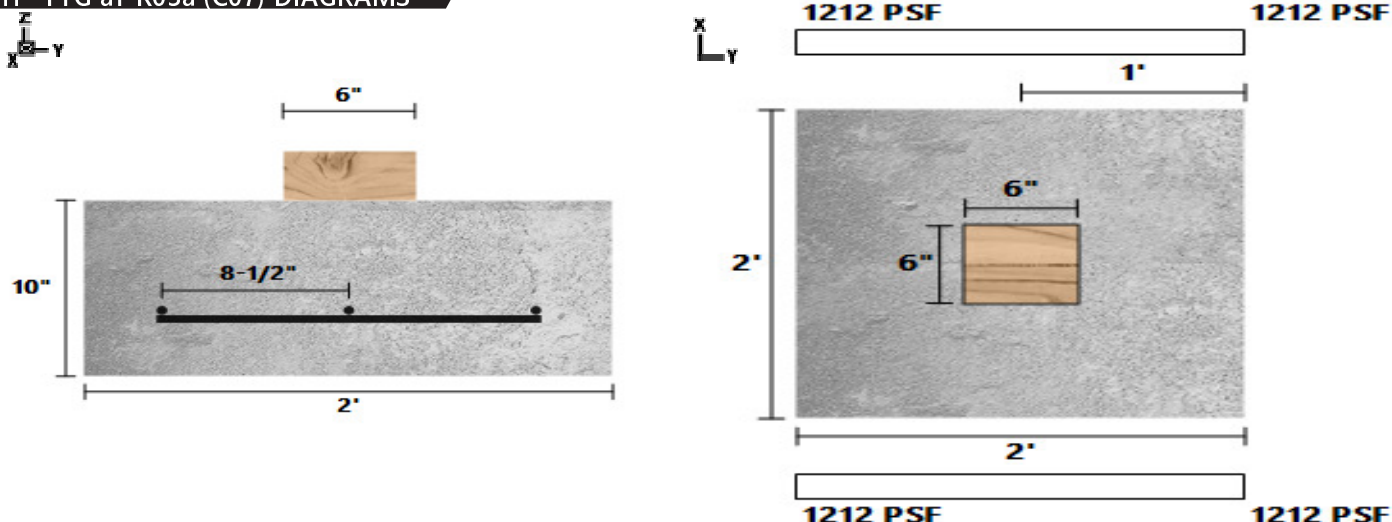
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	3375.125	-	0	-	Dead	Z
Point (lbf)	5473.887	-	0	-	Snow	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F11 - FTG aT R03a (C07)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) X 2 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(3) #4 Long, (3) #4 Short

F11 - FTG aT R03a (C07) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2	2	10	3.33
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	3	3	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	PASS (19.2%)	1212.0	1500.0	D+S
Two-Way Shear (Punching) (lbf)	PASS (85.7%)	6987.5	48750.0	1.2D+1.6S+L
One-Way Shear X (lbf)	PASS (93.8%)	727.9	11700.0	1.2D+1.6S+L
Moment X (lbf-ft)	PASS (69.3%)	982.6	3200.0	1.2D+1.6S+L
One-Way Shear Y (lbf)	PASS (93.8%)	727.9	11700.0	1.2D+1.6S+L
Moment Y (lbf-ft)	PASS (69.3%)	982.6	3200.0	1.2D+1.6S+L
Crushing (psi)	PASS (85.9%)	194.1	1381.3	1.2D+1.6S+L

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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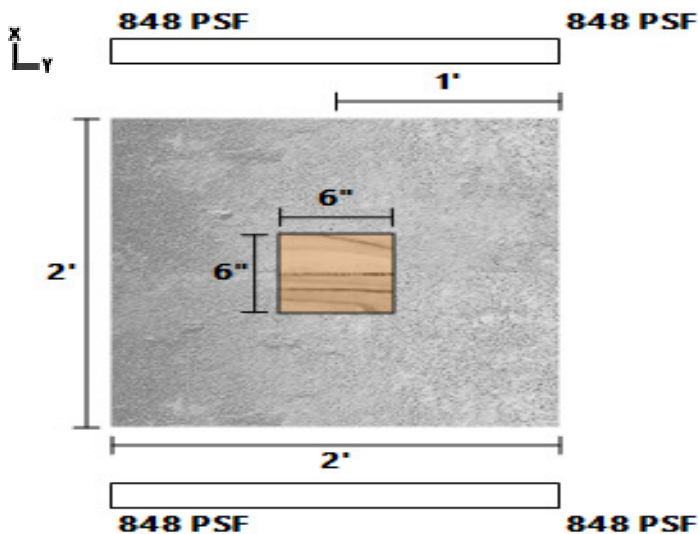
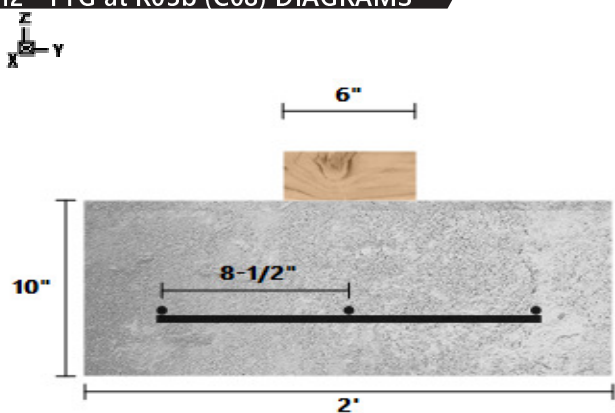


**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	1922.588	-	0	-	Dead	Z
Point (lbf)	2925.249	-	0	-	Snow	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F12 - FTG at R03b (C08)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) X 2 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(3) #4 Long, (3) #4 Short

F12 - FTG at R03b (C08) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2	2	10	3.33
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	3	3	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (43.4%)</b>	848.9	1500.0	D+S
Two-Way Shear (Punching) (lbf)	<b>PASS (90.0%)</b>	4880.3	48750.0	1.2D+1.6S+L
One-Way Shear X (lbf)	<b>PASS (95.7%)</b>	508.4	11700.0	1.2D+1.6S+L
Moment X (lbf-ft)	<b>PASS (78.6%)</b>	686.3	3200.0	1.2D+1.6S+L
One-Way Shear Y (lbf)	<b>PASS (95.7%)</b>	508.4	11700.0	1.2D+1.6S+L
Moment Y (lbf-ft)	<b>PASS (78.6%)</b>	686.3	3200.0	1.2D+1.6S+L
Crushing (psi)	<b>PASS (90.2%)</b>	135.6	1381.3	1.2D+1.6S+L

LOAD LIST

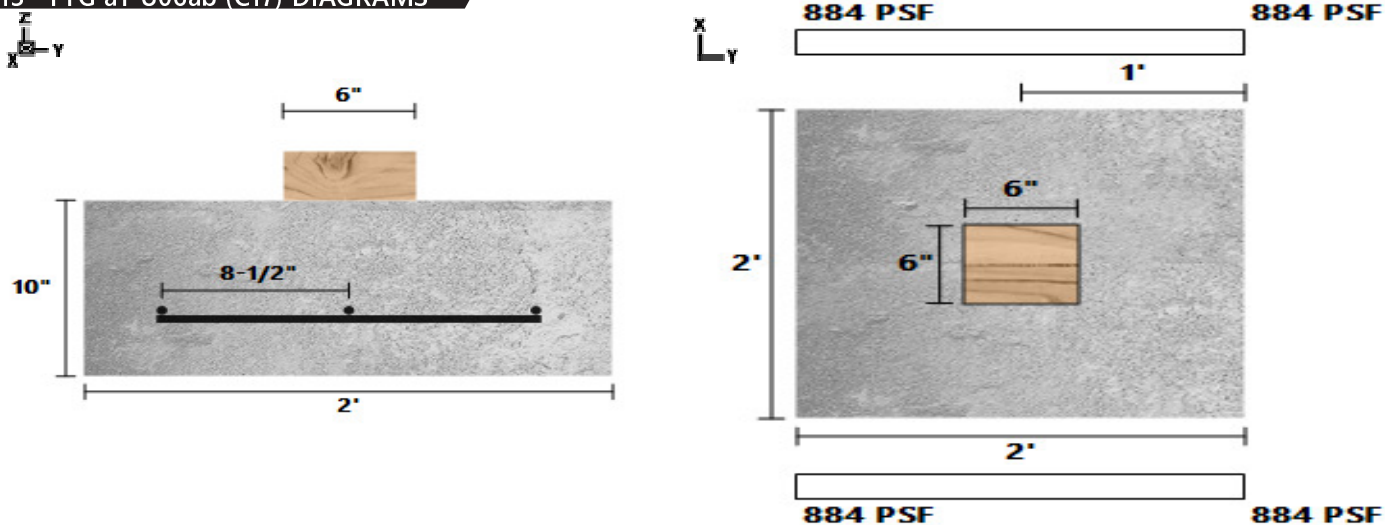
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	1381.147	-	0	-	Dead	Z
Point (lbf)	2014.35	-	0	-	Snow	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F13 - FTG aT U06ab (C17)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) X 2 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(3) #4 Long, (3) #4 Short

F13 - FTG aT U06ab (C17) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2	2	10	3.33
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	3	3	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (41.0%)</b>	884.4	1500.0	D+L
Two-Way Shear (Punching) (lbf)	<b>PASS (89.4%)</b>	5176.7	48750.0	1.2D+1.6L+0.5Lr
One-Way Shear X (lbf)	<b>PASS (95.4%)</b>	539.2	11700.0	1.2D+1.6L+0.5Lr
Moment X (lbf-ft)	<b>PASS (77.3%)</b>	728.0	3200.0	1.2D+1.6L+0.5Lr
One-Way Shear Y (lbf)	<b>PASS (95.4%)</b>	539.2	11700.0	1.2D+1.6L+0.5Lr
Moment Y (lbf-ft)	<b>PASS (77.3%)</b>	728.0	3200.0	1.2D+1.6L+0.5Lr
Crushing (psi)	<b>PASS (89.6%)</b>	143.8	1381.3	1.2D+1.6L+0.5Lr

LOAD LIST

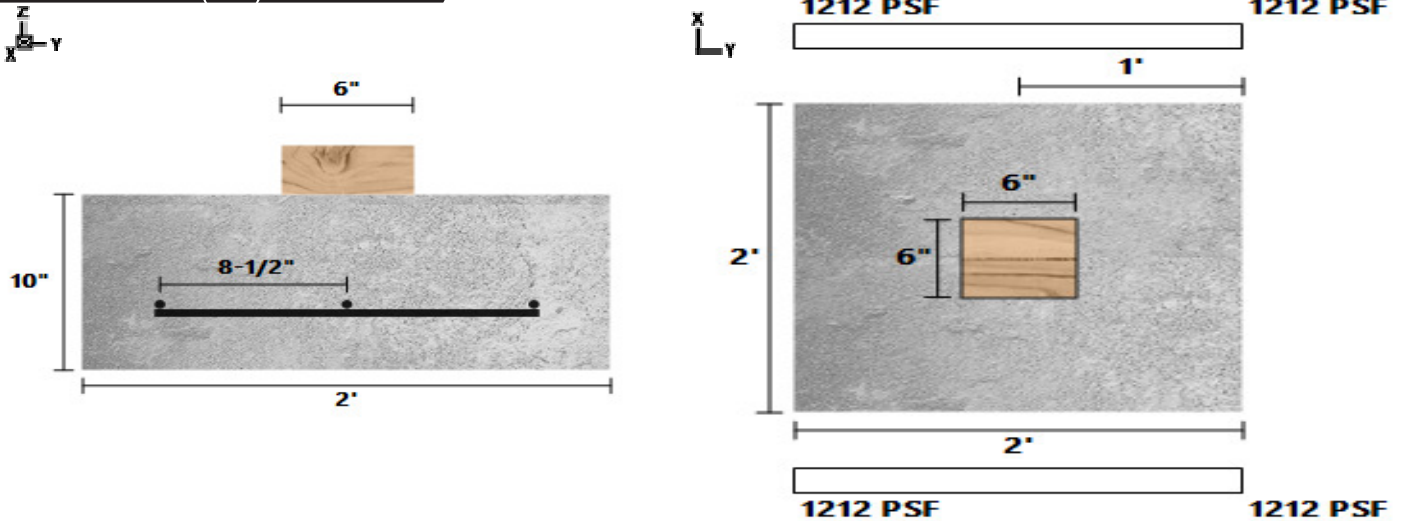
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	1209.094	-	0	-	Dead	Z
Point (lbf)	2328.604	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F14 - FTG at R03a (C07)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) X 2 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(3) #4 Long, (3) #4 Short

F14 - FTG at R03a (C07) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2	2	10	3.33
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	3	3	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	PASS (19.2%)	1212.0	1500.0	D+S
Two-Way Shear (Punching) (lbf)	PASS (85.7%)	6987.5	48750.0	1.2D+1.6S+L
One-Way Shear X (lbf)	PASS (93.8%)	727.9	11700.0	1.2D+1.6S+L
Moment X (lbf-ft)	PASS (69.3%)	982.6	3200.0	1.2D+1.6S+L
One-Way Shear Y (lbf)	PASS (93.8%)	727.9	11700.0	1.2D+1.6S+L
Moment Y (lbf-ft)	PASS (69.3%)	982.6	3200.0	1.2D+1.6S+L
Crushing (psi)	PASS (85.9%)	194.1	1381.3	1.2D+1.6S+L

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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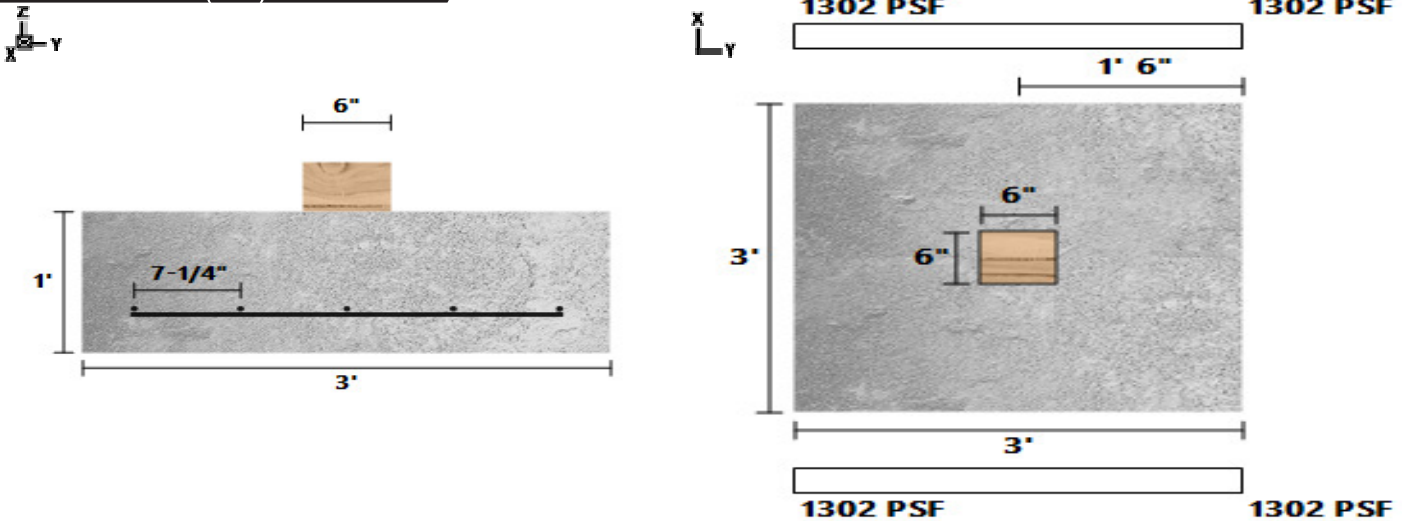


**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	1922.588	-	0	-	Dead	Z
Point (lbf)	2925.249	-	0	-	Snow	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F15 - FTG at GT8b (C05)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3 (ft) X 3 (ft) X 12 (in)		Soil Depth TOF: 0 (ft)	(5) #4 Long, (5) #4 Short

F15 - FTG at GT8b (C05) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	3	3	12	9
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
58	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	5	5	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (13.2%)</b>	1301.7	1500.0	D+S
Two-Way Shear (Punching) (lbf)	<b>PASS (77.1%)</b>	16960.6	73950.0	1.2D+1.6S+L
One-Way Shear X (lbf)	<b>PASS (86.7%)</b>	3062.3	22950.0	1.2D+1.6S+L
Moment X (lbf-ft)	<b>PASS (82.1%)</b>	4416.8	24715.7	1.2D+1.6S+L
One-Way Shear Y (lbf)	<b>PASS (86.7%)</b>	3062.3	22950.0	1.2D+1.6S+L
Moment Y (lbf-ft)	<b>PASS (82.1%)</b>	4416.8	24715.7	1.2D+1.6S+L
Crushing (psi)	<b>PASS (65.9%)</b>	471.1	1381.3	1.2D+1.6S+L

LOAD LIST

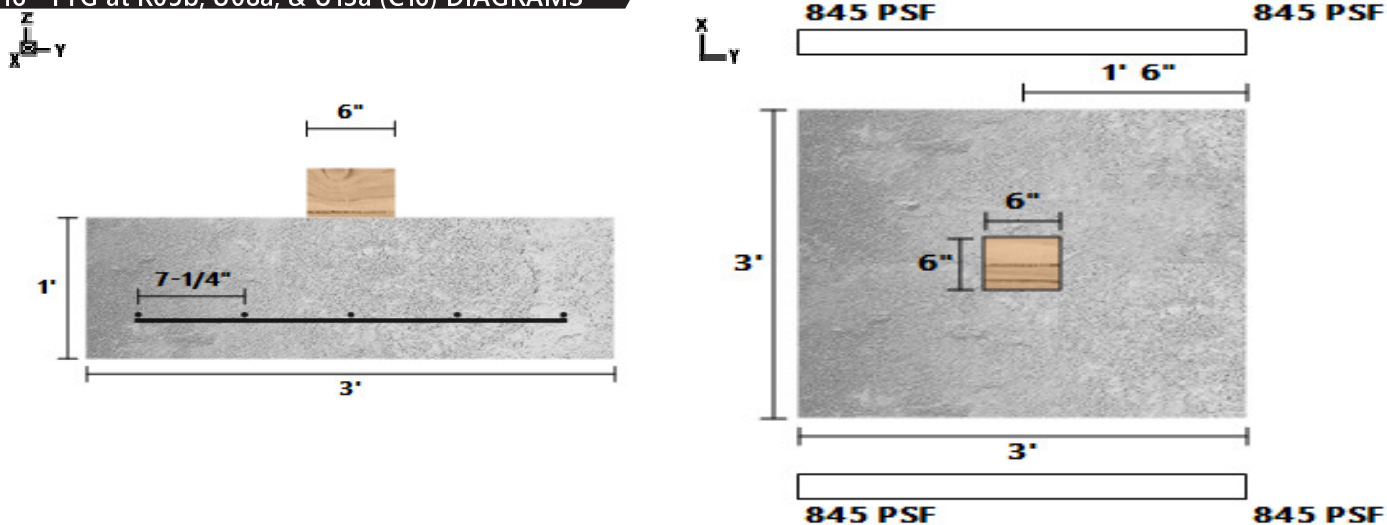
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	4458.315	-	0	-	Dead	Z
Point (lbf)	7256.631	-	0	-	Snow	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F16 - FTG at R05b, U08a, & U13a (C1...	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3 (ft) X 3 (ft) X 12 (in)		Soil Depth TOF: 0 (ft)	(5) #4 Long, (5) #4 Short

F16 - FTG at R05b, U08a, & U13a (C16) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	3	3	12	9
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
58	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	5	5	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	PASS (43.7%)	844.8	1500.0	D+S
Two-Way Shear (Punching) (lbf)	PASS (83.8%)	11993.5	73950.0	1.2D+1.6S+L
One-Way Shear X (lbf)	PASS (90.6%)	2165.5	22950.0	1.2D+1.6S+L
Moment X (lbf-ft)	PASS (87.4%)	3123.3	24715.7	1.2D+1.6S+L
One-Way Shear Y (lbf)	PASS (90.6%)	2165.5	22950.0	1.2D+1.6S+L
Moment Y (lbf-ft)	PASS (87.4%)	3123.3	24715.7	1.2D+1.6S+L
Crushing (psi)	PASS (75.9%)	333.2	1381.3	1.2D+1.6S+L

LOAD LIST

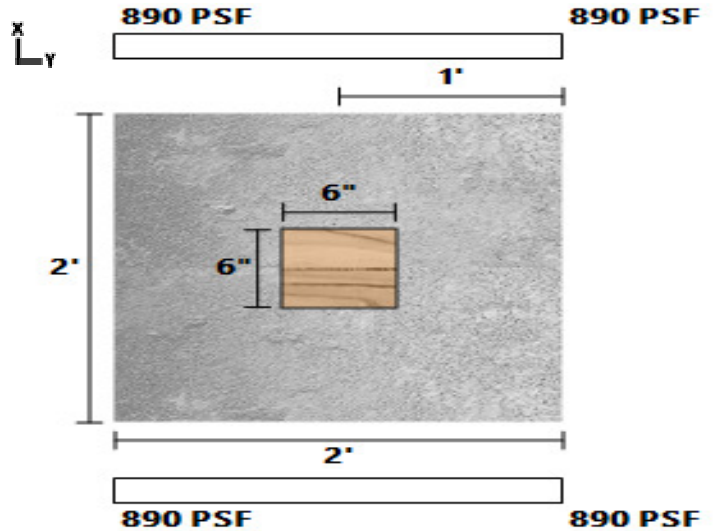
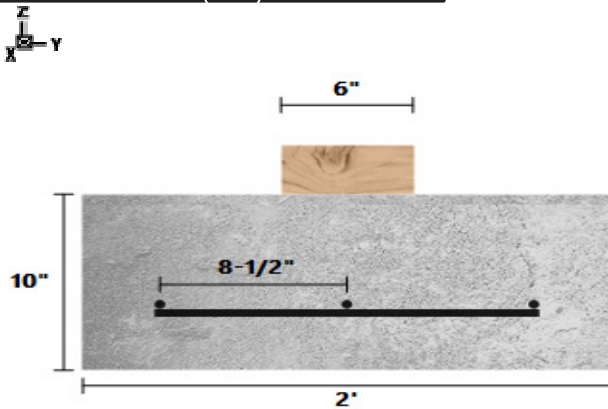
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2639.769	-	0	-	Dead	Z
Point (lbf)	4126.636	-	0	-	Snow	Z
Point (lbf)	506.5351	-	0	-	Dead	Z
Point (lbf)	600	-	0	-	Live	Z
Point (lbf)	330.0908	-	0	-	Dead	Z
Point (lbf)	619.2	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F17 - FTG at U07a (C20)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) X 2 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(3) #4 Long, (3) #4 Short

**F17 - FTG at U07a (C20) DIAGRAMS**



**MATERIAL PROPERTIES**

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2	2	10	3.33
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	3	3	40000	2.9E+07		

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (40.7%)</b>	889.9	1500.0	D+L
Two-Way Shear (Punching) (lbf)	<b>PASS (89.3%)</b>	5238.0	48750.0	1.2D+1.6L+0.5S
One-Way Shear X (lbf)	<b>PASS (95.3%)</b>	545.6	11700.0	1.2D+1.6L+0.5S
Moment X (lbf-ft)	<b>PASS (77.0%)</b>	736.6	3200.0	1.2D+1.6L+0.5S
One-Way Shear Y (lbf)	<b>PASS (95.3%)</b>	545.6	11700.0	1.2D+1.6L+0.5S
Moment Y (lbf-ft)	<b>PASS (77.0%)</b>	736.6	3200.0	1.2D+1.6L+0.5S
Crushing (psi)	<b>PASS (89.5%)</b>	145.5	1381.3	1.2D+1.6L+0.5S

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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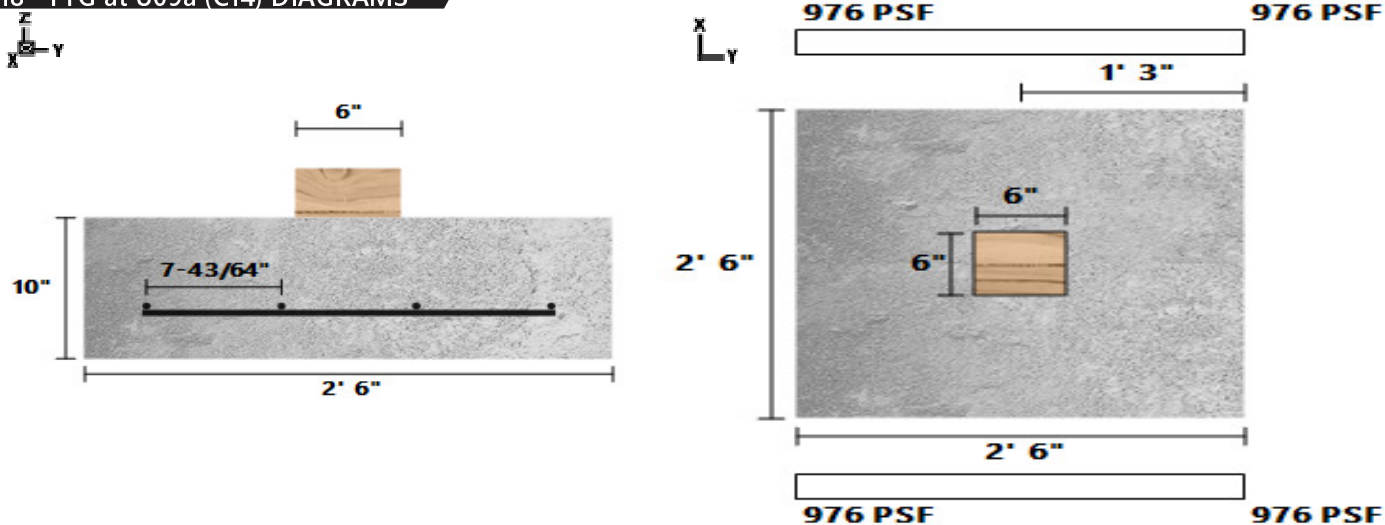


**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	1808.822	-	0	-	Dead	Z
Point (lbf)	1750.745	-	0	-	Live	Z
Point (lbf)	532.4712	-	0	-	Snow	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	-- --	PROJECT NAME:	Hately Residence
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F18 - FTG at U09a (C14)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.5 (ft) X 2.5 (ft) X 10 (in)		Soil Depth TOF: 0 (ft)	(4) #4 Long, (4) #4 Short

F18 - FTG at U09a (C14) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	2.5	2.5	10	5.21
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
50	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	4	4	40000	2.9E+07		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	<b>PASS (34.9%)</b>	976.5	1500.0	D+L
Two-Way Shear (Punching) (lbf)	<b>PASS (81.7%)</b>	8938.3	48750.0	1.2D+1.6L+0.5Lr
One-Way Shear X (lbf)	<b>PASS (88.8%)</b>	1638.7	14625.0	1.2D+1.6L+0.5Lr
Moment X (lbf-ft)	<b>PASS (55.3%)</b>	1787.7	4000.0	1.2D+1.6L+0.5Lr
One-Way Shear Y (lbf)	<b>PASS (88.8%)</b>	1638.7	14625.0	1.2D+1.6L+0.5Lr
Moment Y (lbf-ft)	<b>PASS (55.3%)</b>	1787.7	4000.0	1.2D+1.6L+0.5Lr
Crushing (psi)	<b>PASS (82.0%)</b>	248.3	1381.3	1.2D+1.6L+0.5Lr

LOAD LIST

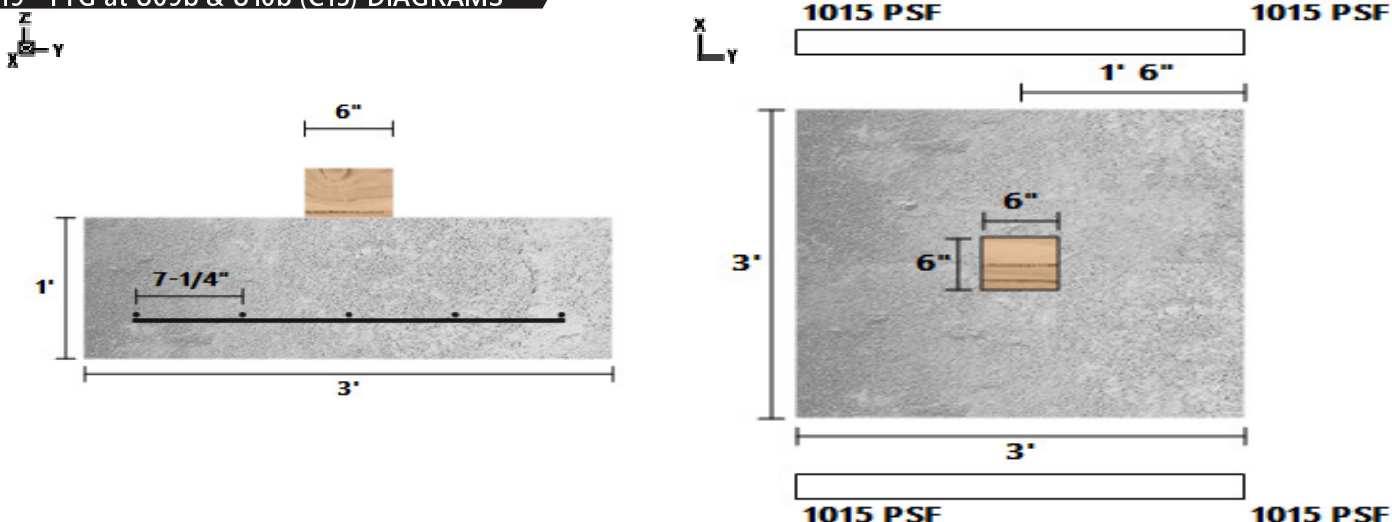
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2066.188	-	0	-	Dead	Z
Point (lbf)	4036.77	-	0	-	Live	Z

DATE:	8/25/2022	COMPANY:	Architects Northwest
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Sarah Weight
CUSTOMER:		REVIEWED BY:	Sarah Weight
PROJ. ADDRESS:	--	PROJECT NAME:	Hately Residence
	--		
LEVEL:	StruCalc Members	LOADING:	
MEMBER NAME:	F19 - FTG at U09b & U10b (C15)	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3 (ft) X 3 (ft) X 12 (in)		Soil Depth TOF: 0 (ft)	(5) #4 Long, (5) #4 Short

F19 - FTG at U09b & U10b (C15) DIAGRAMS



MATERIAL PROPERTIES

FOOTING						
fc' (psi)	Ec (psi)	Density (lbf/ft <sup>3</sup> )	Width (ft)	Length (ft)	Depth (in)	Volume (ft <sup>3</sup> )
2500	2880952	145	3	3	12	9
CALCULATION VARIABLES						
Bo (in)	Φ-X	Φ-Y				
58	0	0				
COLUMN						
Width (in)	Length (in)	Material	Offset (in)			
6	6	Wood	0			
SOIL						
Bearing Strength (lbf/ft <sup>2</sup> )	Density (lbf/ft <sup>3</sup> )	Cohesion	Friction Angle	Depth (ft)	Rankine Coefficient (Kp)	
1500	120	0	30	0	3	
REBAR						
Bar Size #	# Bars Long	# Bars Short	fy (psi)	Es (psi)		
4	5	5	40000	2.9E+07		

PASS-FAIL

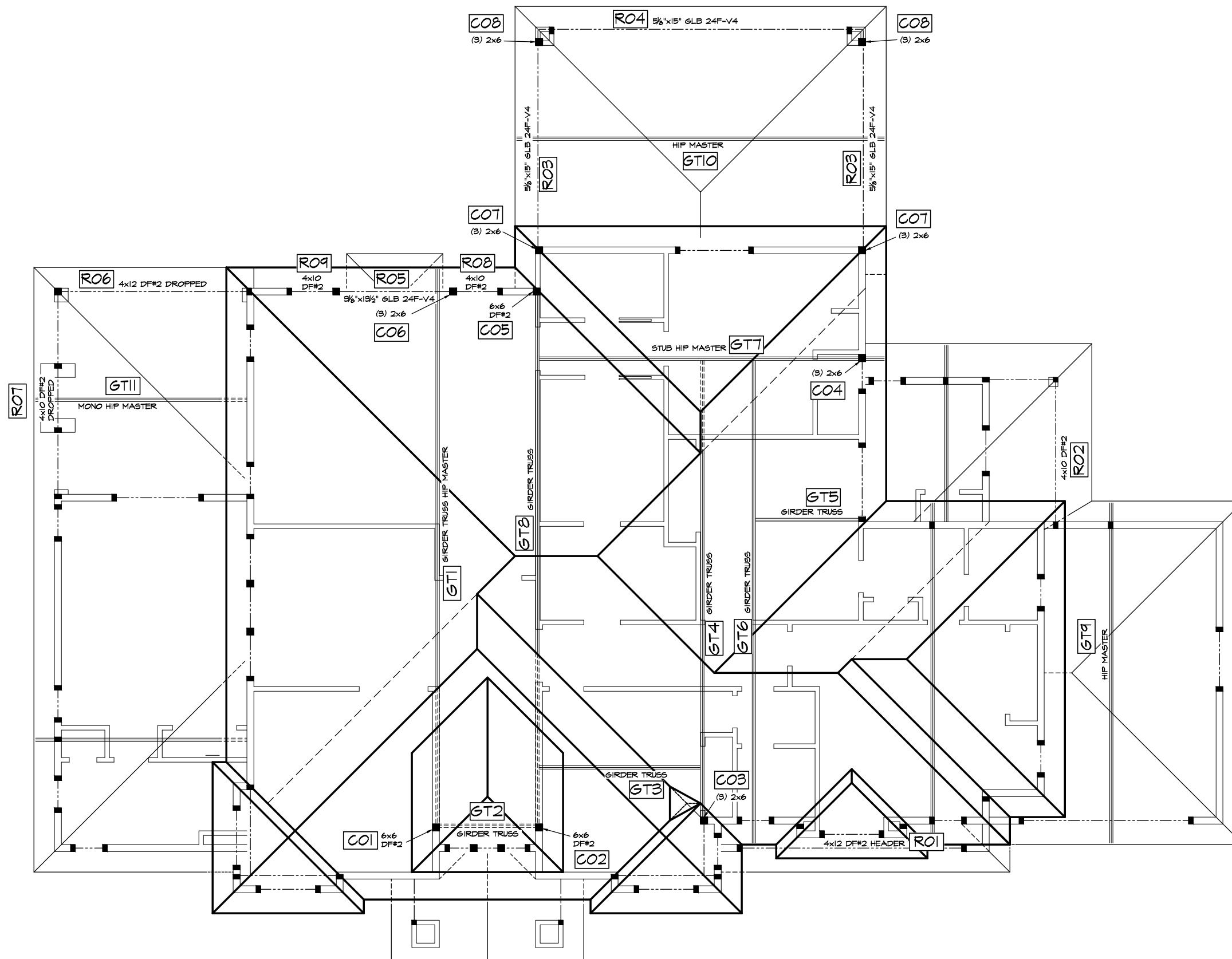
	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO
Soil Bearing Pressure (lbf/ft <sup>2</sup> )	PASS (32.4%)	1014.7	1500.0	D+L
Two-Way Shear (Punching) (lbf)	PASS (81.9%)	13355.3	73950.0	1.2D+1.6L+0.5Lr
One-Way Shear X (lbf)	PASS (89.5%)	2411.4	22950.0	1.2D+1.6L+0.5Lr
Moment X (lbf-ft)	PASS (85.9%)	3478.0	24715.7	1.2D+1.6L+0.5Lr
One-Way Shear Y (lbf)	PASS (89.5%)	2411.4	22950.0	1.2D+1.6L+0.5Lr
Moment Y (lbf-ft)	PASS (85.9%)	3478.0	24715.7	1.2D+1.6L+0.5Lr
Crushing (psi)	PASS (73.1%)	371.0	1381.3	1.2D+1.6L+0.5Lr

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
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**LINKED LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	2254.893	-	0	-	Dead	Z
Point (lbf)	4400.229	-	0	-	Live	Z
Point (lbf)	884.9211	-	0	-	Dead	Z
Point (lbf)	1592	-	0	-	Live	Z



# BEAM KEY

SCALE: 1/8" = 1'-0"

ROOF FRAMING

**ANW ARCHITECTS**  
**NORTHWEST**

18915-142nd AVENUE NE SUITE 100  
 WOODINVILLE, WA 98072  
 TOLL FREE: 1-888-884-9488  
 FAX: (425) 487-6585

DESIGNED BY: DATE:

DRAWN BY: DATE:

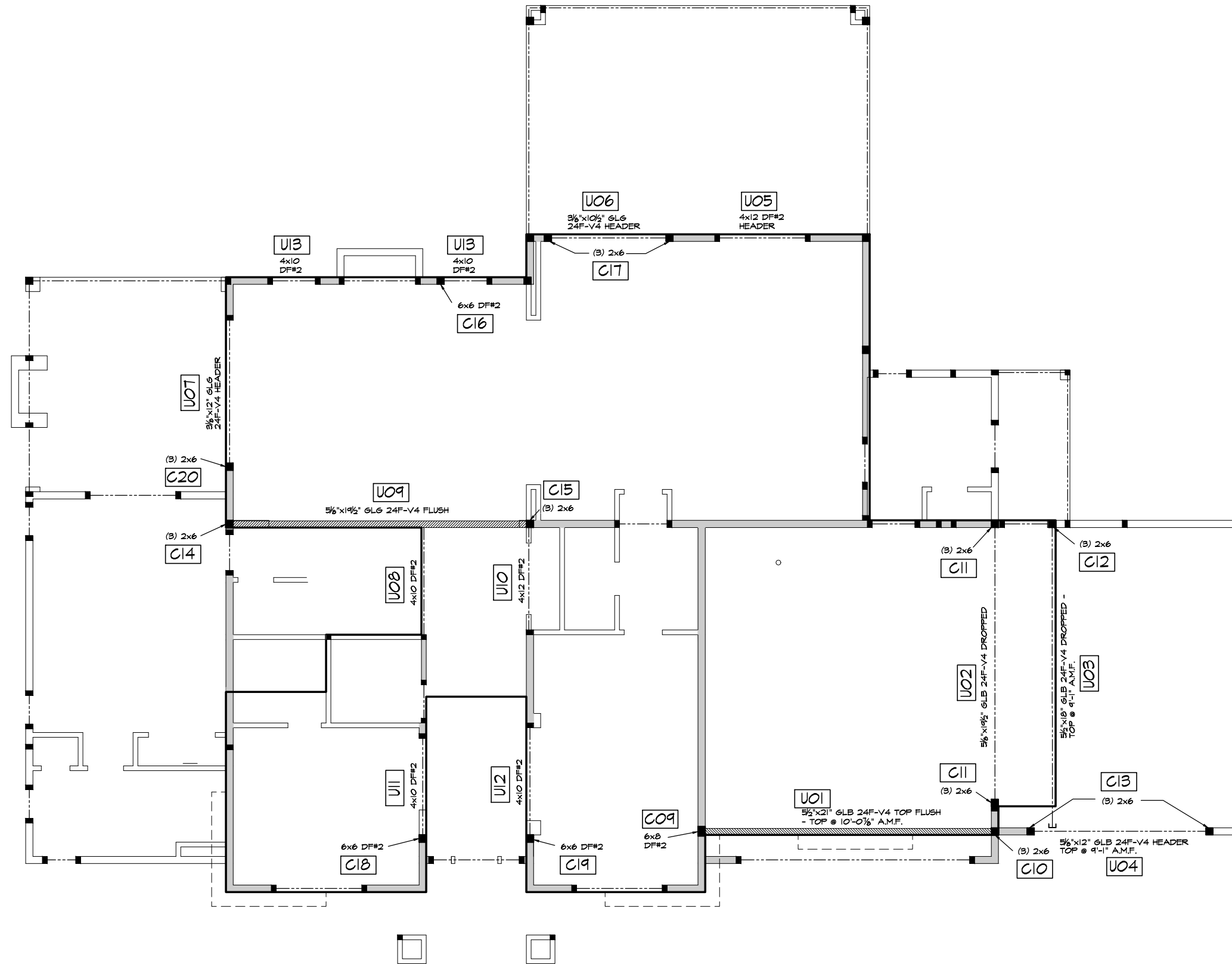
PROJECT MANAGER:

REVISED BY: DATE:

ANW WOODINVILLE OFFICE  
 JOB NUMBER:

220006



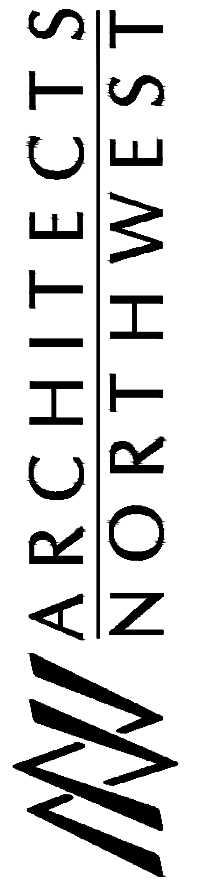


# BEAM KEY

SCALE: 1/8" = 1'-0"

UPPER FLOOR FRAMING

18915-142nd AVENUE NE SUITE 100  
 WOODINVILLE, WA 98072  
 TOLL FREE: 1-888-884-9488  
 FAX: (425) 487-6585



DESIGNED BY: DATE:

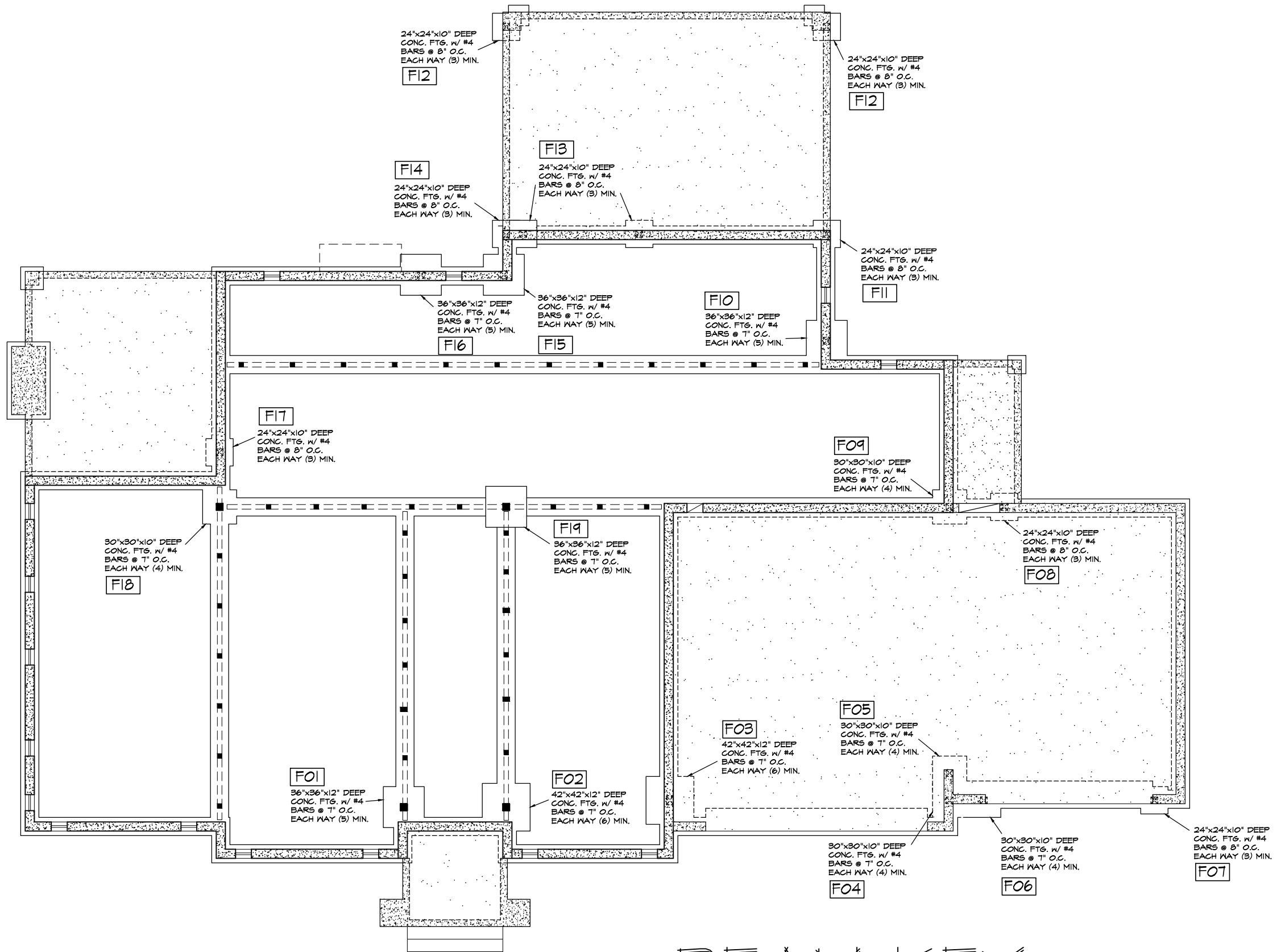
DRAWN BY: DATE:

PROJECT MANAGER:

REVISED BY: DATE:

ANW WOODINVILLE OFFICE  
 JOB NUMBER:

220006



# BEAM KEY

SCALE: 1/8" = 1'-0"

FND/FOOTINGS

18915-142nd AVENUE NE SUITE 100  
WOODINVILLE, WA 98072  
TOLL FREE: 1-888-884-9488  
FAX: (425) 487-6585

# ANW ARCHITECTS NORTHWEST

DESIGNED BY: DATE:

DRAWN BY: DATE:

PROJECT MANAGER:

REVISED BY: DATE:

ANW WOODINVILLE OFFICE  
JOB NUMBER:

220006