PLANNING & ZONING COMMISSION

July 08, 2025, at 7:00 PM

250 River Circle - Alpine, WY 83128

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1. **CALL TO ORDER:**

2. **ROLL CALL & ESTABLISH QUORUM:**

3. **TONIGHT'S APPOINTMENTS/ NEW BUSINESS:**

   a. BENNETT, BRETT, AND META Lot #27 Greys River Village, 368 Wooden Spur Dr. (REM-0625-0001)- Remodel and addition to existing home and addition of an accessory building

   b. MULLER, MICHAEL, AND NIKIA Lot #66 of Three River Meadows, 437 Meadows Dr. (MC-0725-0001)- Addition of gabled porch and replacement of wooden foundation

4. **TABLED ITEMS:**

   a. EPLIN, CHERI: Lot #220, Lakeview Estates A, 672 Sunset Dr (R1-0425-0001) – New single-family residence

   b. KURT LINFORD DDS: Lot #302 Riverview Meadows – Encroachment Application for parking lot

5. **UNFINISHED/ONGOING BUSINESS:**

   a. 1.) Review the 2nd reading of Section 2 of the Land Use Development Code.

      2.) Discuss any updates, revisions, or additions to the current Land Use Development Code.

   b. Discuss the Site Plan Review Sheet and implementation of its use.

6. **PLANNING/ZONING CORRESPONDENCE:**

7. **PLANNING AND ZONING DISCUSSION ITEMS:**

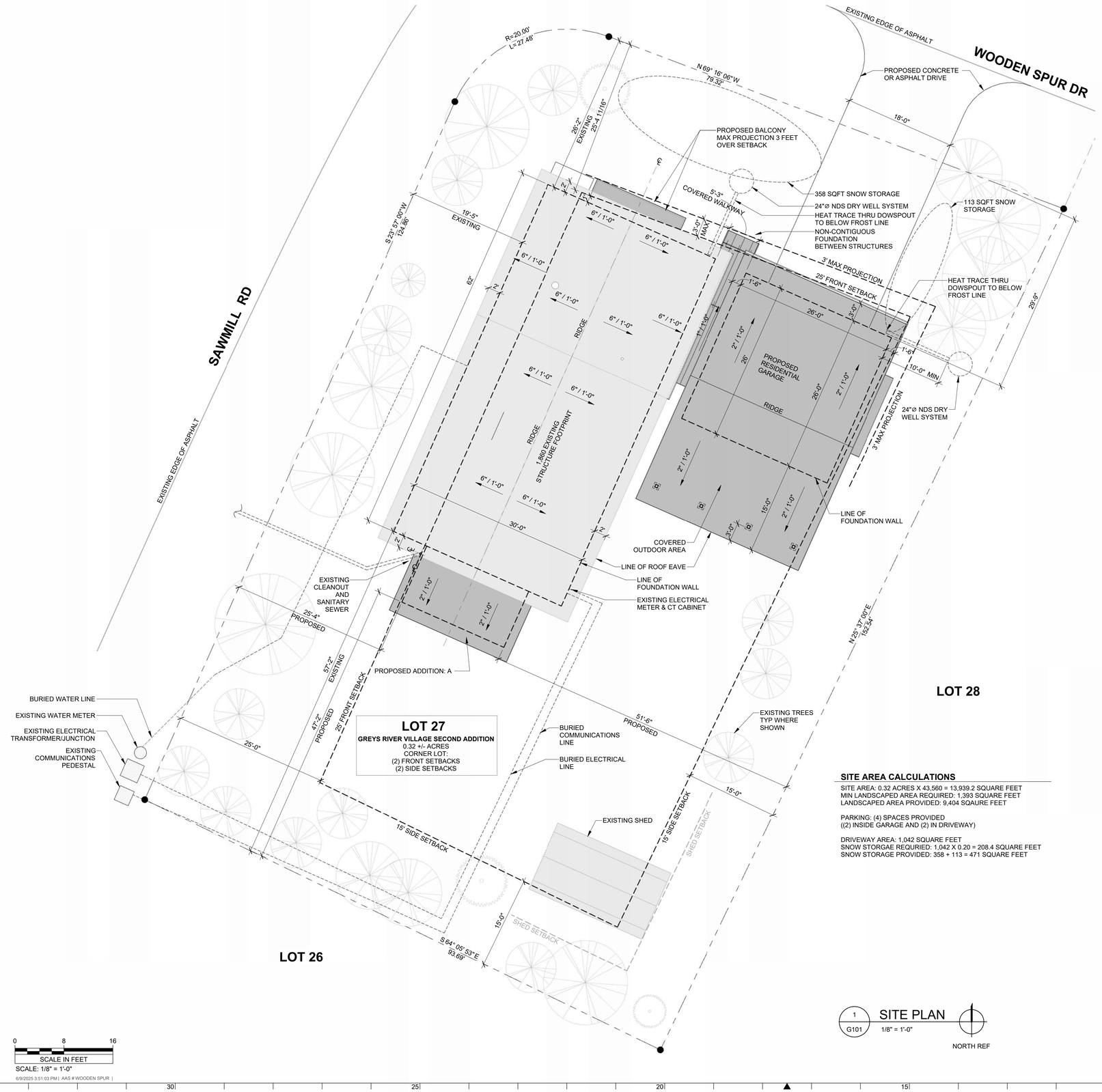
   Steve Smith with Aramark wants to discuss the option of making some employee housing in the upstairs of the current Adventure Rentals Building.

8. **APPROVAL OF MINUTES:**

   a. Approval of June 10, 2025, meeting minutes.

9. **TOWN COUNCIL ASSIGNMENT:**

10. **ADJOURN MEETING:**



1 G101 SITE PLAN
1/8" = 1'-0"

NORTH REF

SITE AREA CALCULATIONS

SITE AREA: 0.32 ACRES X 43,560 = 13,939.2 SQUARE FEET
MIN LANDSCAPED AREA REQUIRED: 1,393 SQUARE FEET
LANDSCAPED AREA PROVIDED: 9,404 SQAURE FEET

PARKING: (4) SPACES PROVIDED
((2) INSIDE GARAGE AND (2) IN DRIVEWAY)

DRIVEWAY AREA: 1,042 SQUARE FEET
SNOW STORGAE REQURIED: 1,042 X 0.20 = 208.4 SQUARE FEET
SNOW STORAGE PROVIDED: 358 + 113 = 471 SQUARE FEET

ARCHITECT
ALPINE ARCHITECTURAL STUDIO, LLC
PO BOX 3975
ALPINE, WY 83128
bbennett@alpinearchstudio.com

STRUCTURAL ENGINEER
TSE ENGINEERS
136 S. STATE ST.
SHELLY, ID 83274
office@tetoneng.com

SHEET INDEX

CODES UTILIZED
IRC 2021
TOWN OF ALPINE LAND USE DEVELOPMENT CODE

PROJECT DESCRIPTION
RESIDENTIAL GARAGE AND RENOVATION OF EXISTING SINGLE FAMILY DWELLING

OCCUPANCY
R101.2: ONE FAMILY DWELLING & ACCESSORY STRUCTURE

FIRE SPRINKLER SYSTEM
EXISTING: NO
PROPOSED: NO

FLOOR AREAS IN GROSS SQUARE FEET
ONE FAMILY DWELLING GROSS FLOOR AREAS:
EXISTING 1ST FLOOR DWELLING AREA: 1,216 SQFT
EXISTING ATTACHED GARAGE AREA: 528 SQFT
EXISTING 2ND FLOOR AREA: 295 SQFT
EXISTING 1ST COVERED PORCH: 132 SQFT

PROPOSED 1ST FLOOR ADDITION: 180 SQFT
COVERED PORCH TO LIVING ROOM: 132 SQFT
EXISTING GARAGE TO LIVING ROOM: 515 SQFT
PROPOSED DETACHED GARAGE: 676 SQFT
PROPOSED COVERED OUTDOOR AREA: 150 SQFT AT ENTRY + 312 SQFT AT DETACHED GARAGE

GENERAL CONSTRUCTION NOTES

1. THIS PROJECT SHALL COMPLY WITH THE 2021 VERSION OF THE INTERNATIONAL RESIDENTIAL CODE INCLUDING ALL AMENDMENTS & THE TOWN OF ALPINE LAND USE DEVELOPMENT CODE. ANY BUILDING OFFICIAL, SUBCONTRACTOR OR TRADES PERSON NOTING DISCREPANCIES SHALL NOTIFY THE ARCHITECT IMMEDIATELY UPON DISCOVERY.
2. CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS BY THE TOWN OF ALPINE AND ANY OTHER GOVERNING AUTHORITIES, AS NECESSARY.
3. ALL CONSTRUCTION DEBRIS IS TO BE STOCKPILED NEATLY ON SITE UNTIL DISPOSAL, WHICH SHALL BE DONE AT COUNTY LANDFILL OR RECYCLING FACILITY ONLY. NO DEBRIS IS TO BE DISPOSED OF IN LOCAL WASTE COLLECTION FACILITIES.
4. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE GIVEN TO FACE OF ROUGH FRAMING, CENTERLINE OF COLUMNS, OR FACE OF CONCRETE AND C.M.U. WALL.
5. CONTRACTOR SHALL PROVIDE STORAGE FOR ALL BUILDING MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. STORAGE OF SUPPLIES SHALL REMAIN DRY.
6. ALL SUBSTITUTIONS ARE TO BE APPROVED BY ARCHITECT/OWNER. ALONG WITH WRITTEN REQUESTS CONTRACTOR SHALL PROVIDE ALL INFORMATION REGARDING THE SUBSTITUTION IN QUESTION, INCLUDING COST, AVAILABILITY AND REASON FOR SUBSTITUTION.
7. NON-COMBUSTIBLE BLOCKING, INSULATION OR OTHER FIRESTOP MATERIAL IS TO BE PROVIDED BETWEEN STORIES, BETWEEN TOP STORY AND ROOF SPACE, BETWEEN STAIR STRINGERS AT TOP AND BOTTOM, BETWEEN STUDS ALONG STAIR RUNS AND AT ALL OTHER PLACES THAT COULD ALLOW THE PASSAGE OF FLAME.
8. CONTRACTOR SHALL PROVIDE SAMPLES OF ALL FINISHES AND STAIN COLORS FOR APPROVAL BY ARCHITECT/OWNER. THIS INCLUDES BUT IS NOT LIMITED TO INTERIOR AND EXTERIOR STAINS, INTERIOR PAINT, SHEETROCK TEXTURES, CHEMICALLY APPLIED METAL PATINAS, AND STONE VENEER MATERIAL & MASONRY TECHNIQUE.
9. ALL ELECTRICAL WORK TO BE PERFORMED BY WY LICENSED ELECTRICIAN.
10. ALL MATERIALS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH WARRANTY GUIDELINES.
11. REFER TO GEOTECHNICAL REPORT PROVIDED BY OWNER.
12. CONTRACTOR RESPONSIBLE FOR PROVIDING, COORDINATION AND SUPERVISING TRENCHING OF UTILITIES AND SERVICES TO AND FROM BUILDING. LOCATE ALL UTILITIES PRIOR TO EXCAVATION. COORDINATION SHALL INCLUDE CONTRACTOR'S REASONABLE EFFORTS TO COMBINE AS MANY DIFFERENT UTILITIES IN COMMON TRENCHES AS PRACTICAL AND GOOD PRACTICE PERMIT.
13. VERIFY EXISTING BUILDING DIMENSIONS
14. VERIFY ALL BURIED UTILITIES PRIOR TO EXCAVATION.

VICINITY MAP: NTS

PROJECT LOCATION

alpine
architectural studio

WOODEN SPUR RENOVATION

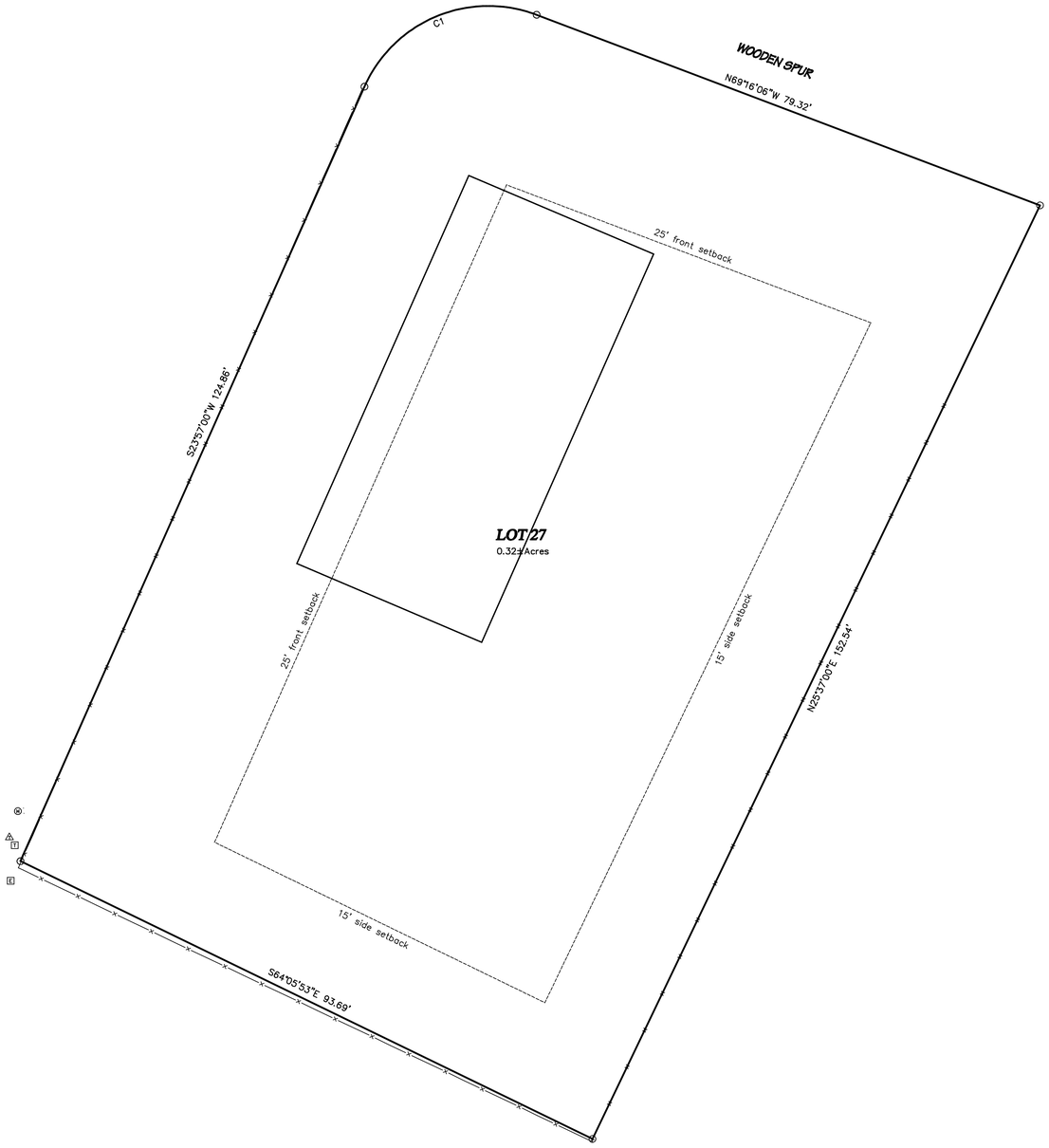
ALPINE, WY 83128
368 WOODEN SPUR DR

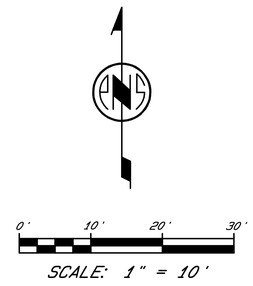
PERMIT DRAWINGS

6.9.2025
DRAWN BY | BENNETT
CHECKED BY | BENNETT
REVISIONS

COVER SHEET & SITE PLAN

G101





CURVE	LENGTH	DELTA	RADIUS	CHORD BEARING	CHORD	TANGENT
C1	30.29'	86°46'54"	20.00'	S67°20'27"W	27.48'	18.91'

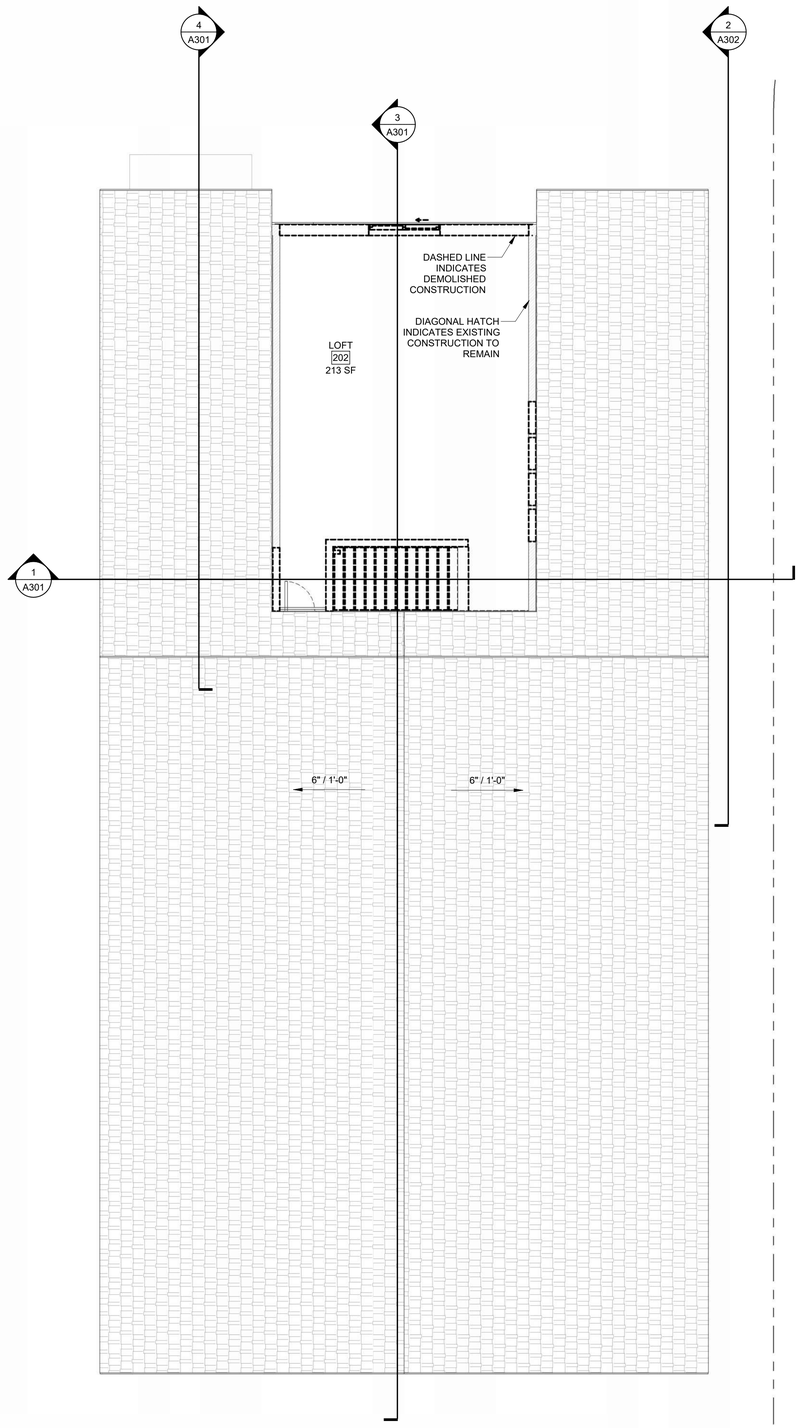
MAP OF
GREYS RIVER VILLAGE
SECOND ADDITION
LOT 27
FOR
BRETT BENNETT
TOWN OF ALPINE
LINCOLN COUNTY, WYOMING

DATE: 5 September 2024
DRAWN BY: Kori F. Scherbel
CALCULATED BY: Kori F. Scherbel
CATEGORY/PART: Site Plan/Alpine
FIELD BOOK:
COMPUTER FILE: GR12-27TOPO.pro

SURVEYOR SCHERBEL, LTD.
PROFESSIONAL LAND SURVEYORS
BOX 96 BIG PINEY-MARBLETON, WYO. 83113 TEL 307-276-3347
BOX 725 AFTON, WYO. 83110 TEL 307-885-9319; ALPINE, WYO. 83128 TEL 307-885-9318
JACKSON, WYO. TEL 307-733-5983; LAVA, ID TEL 208-776-5930; MONTPELIER, ID TEL 208-847-2800

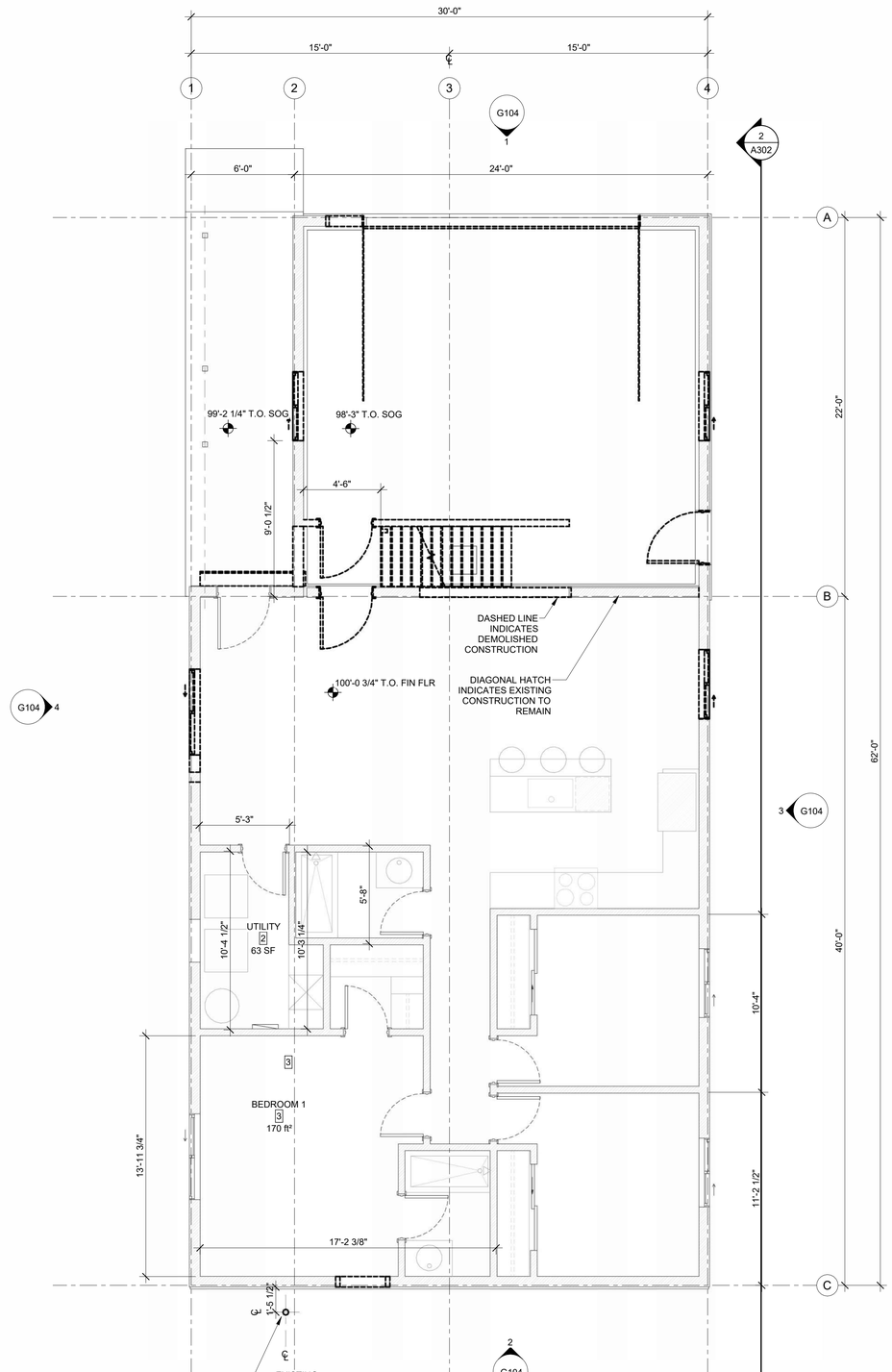
REVISIONS:

PLOT DATE: 5 September 2024



2 G103 2ND FLOOR PLAN EXISTING & DEMOLITION

1/4" = 1'-0"



1 G103 1ST FLOOR PLAN EXISTING & DEMOLITION

1/4" = 1'-0"

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PERMIT DRAWINGS

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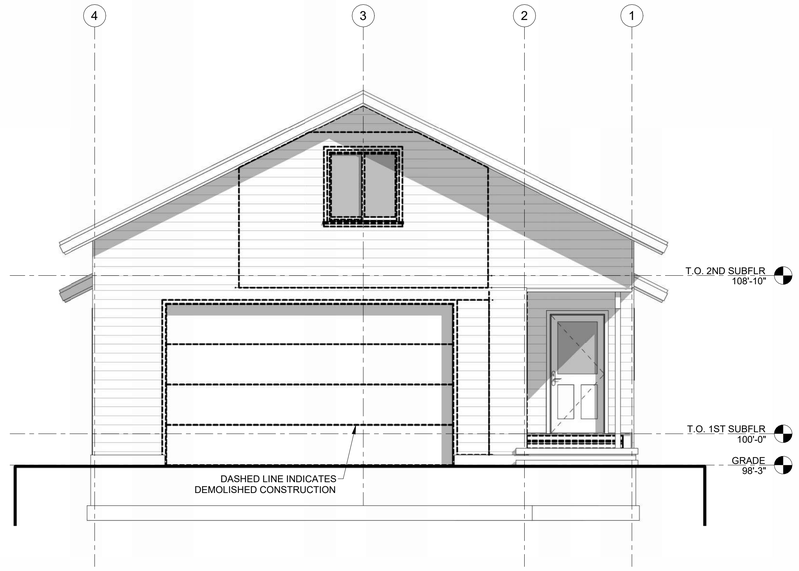
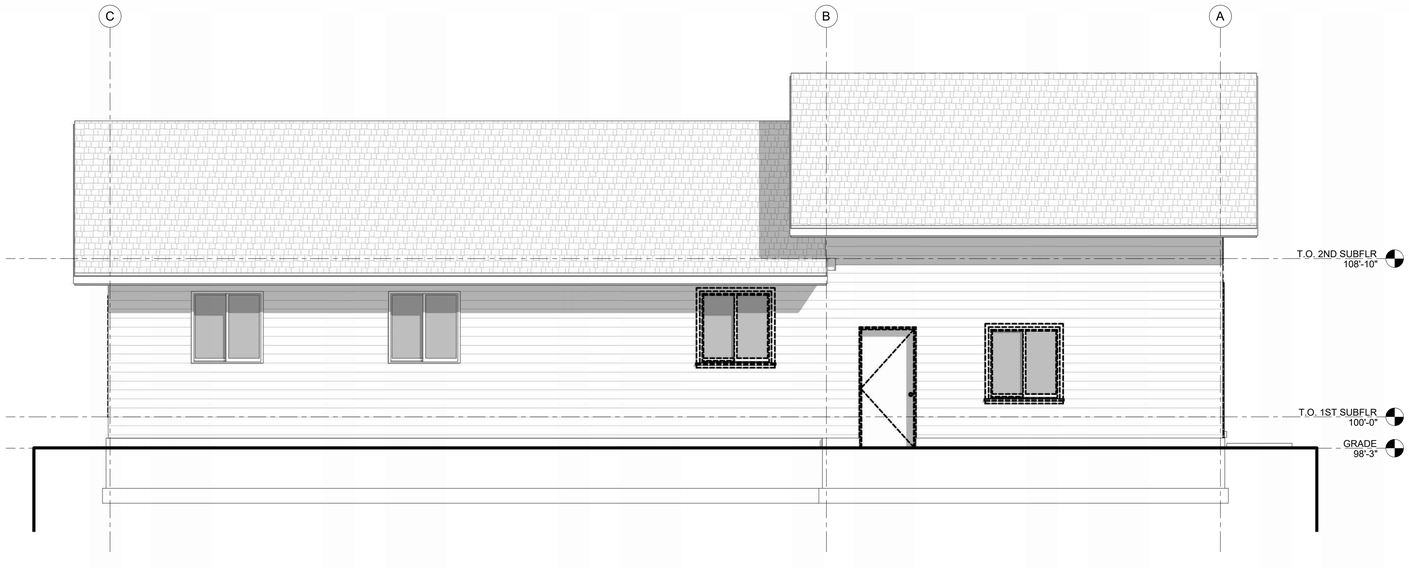
EXISTING & DEMOLITION FLOOR PLANS

G103

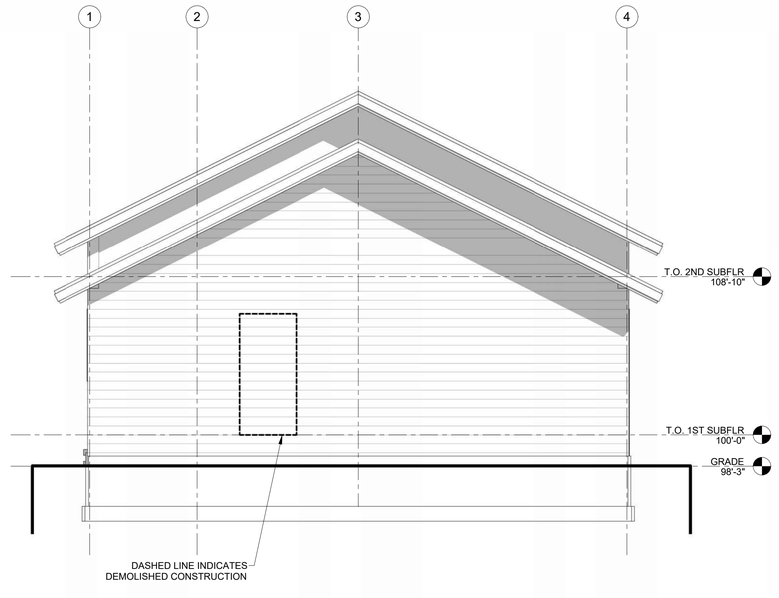
4 G104 WEST EXTERIOR ELEVATION EXISTING
1/4" = 1'-0"



1 G104 NORTH EXTERIOR ELEVATION EXISTING
1/4" = 1'-0"



3 G104 EAST EXTERIOR ELEVATION EXISTING
1/4" = 1'-0"



2 G104 SOUTH EXTERIOR ELEVATION EXISTING
1/4" = 1'-0"

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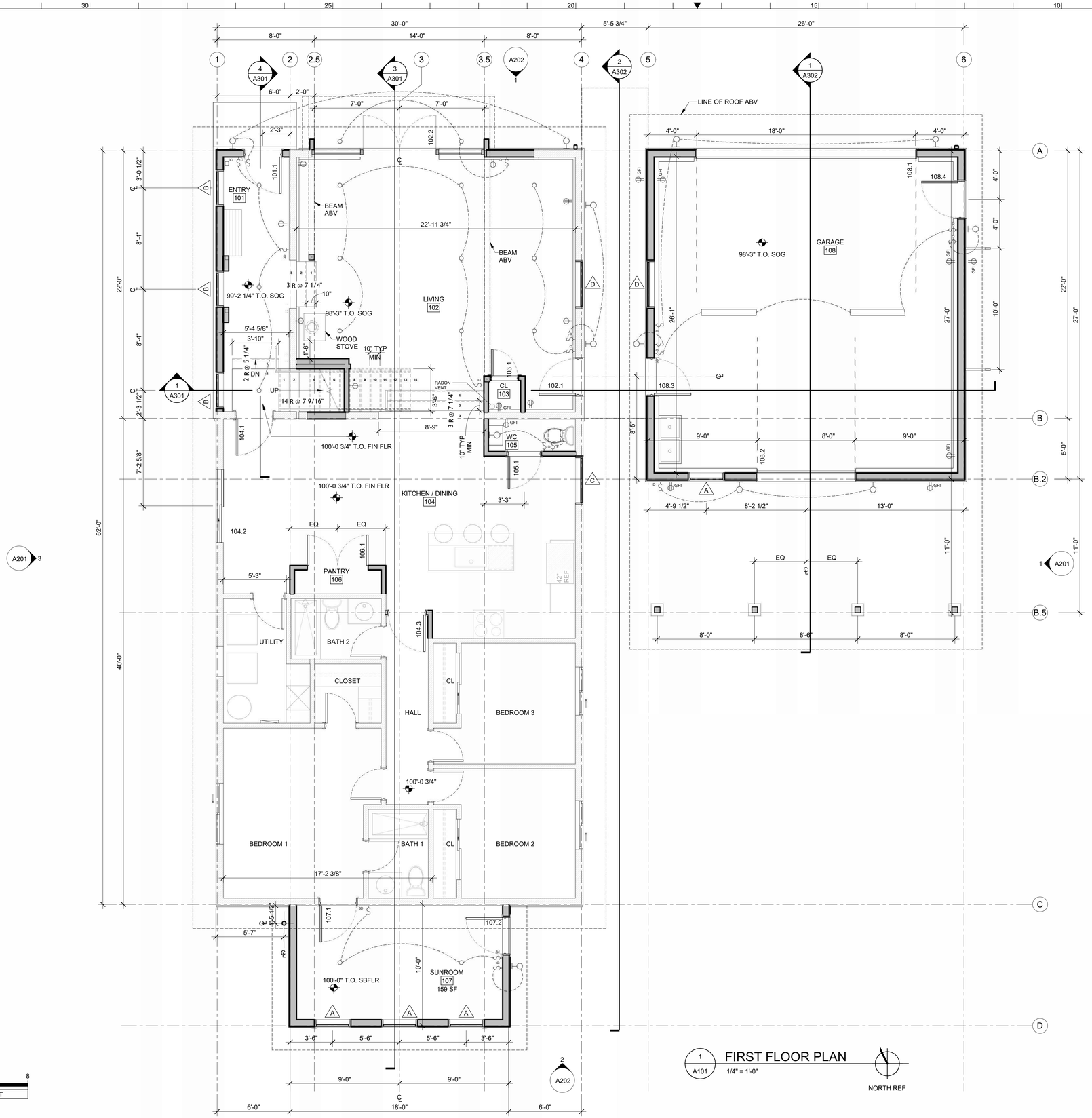
EXISTING &
DEMOLITION
EXTERIOR
ELEVATIONS

G104



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

NORTH REF

POWER LEGEND

- SPECIAL RECEPTACLE: VERIFY EQUIPMENT
- DUPLEX RECEPTACLE: 18" AFFL UNO
- GFI DUPLEX RECEPTACLE: GROUND FAULT CIRCUIT INTERRUPTER
- GFI DUPLEX RECEPTACLE HALF SWITCHED: GROUND FAULT CIRCUIT INTERRUPTER
- DOUBLE DUPLEX RECEPTACLE: 18" AFFL UNO
- S_D LIGHT SWITCH AT 46" ABV FFL UNO: DAMNABLE
- S_{3D} 3-WAY LIGHT SWITCH AT 46" ABV FFL UNO: DAMNABLE
- S_F FAN SWITCH WITH TIMER AT 46" ABV FFL
- VENTILATION FAN
- (T) THERMOSTAT

LIGHT FIXTURE LEGEND

ALL LIGHT FIXTURES TO BE LED: COLOR 3000K

- SUSPENDED PENDANT LIGHT FIXTURE
- RECESSED LIGHT FIXTURE: CEILING MOUNTED / 4" MAX DIAMETER / PROVIDE SLOPED TRIM IN VAULTED CEILINGS
- WALL SCONCE
- UTILITY LIGHT FIXTURE
- UNDER CABINET TASK LIGHTING: 0.69" HEIGHT
- MONOPOINT (ART LIGHT) SURFACE MOUNTED

GENERAL NOTES

1: ALL WORK TO BE PERFORMED BY LICENSED ELECTRICIAN PER IRC 2021 AND NEC 2020

2: ALL LIGHT FIXTURES AND SWITCHING TO BE DAMNABLE UN LESS NOTED OTHERWISE.

3: PROVIDE SERVICE, FEEDER, AND GROUNDING PER IRC 2021 AND NEC 2020

4: ALL EXTERIOR AND SHOWER LIGHTING RATED WET LOCATION

5: PROVIDE ELECTRIC COVE BY LICENSED ELECTRICIAN THROUGHOUT ALL HABITABLE SPACES. VERIFY THERMOSTAT LOCATIONS WITH OWNER.

6: PROVIDE ADDITIONAL POWER AND RECESSED TV MEDIA BOX KIT FOR ALL TV'S. VERIFY WALL MOUNTED TV LOCATIONS WITH OWNER.

7: VERIFY LIGHT FIXTURES, FINISH, AND TRIM WITH OWNER.

8: ALL RECESSED LIGHTING TO BE IC RATED FOR DIRECT CONTACT WITH SPRAY FOAM INSULATION. VERIFY WITH MANUF.

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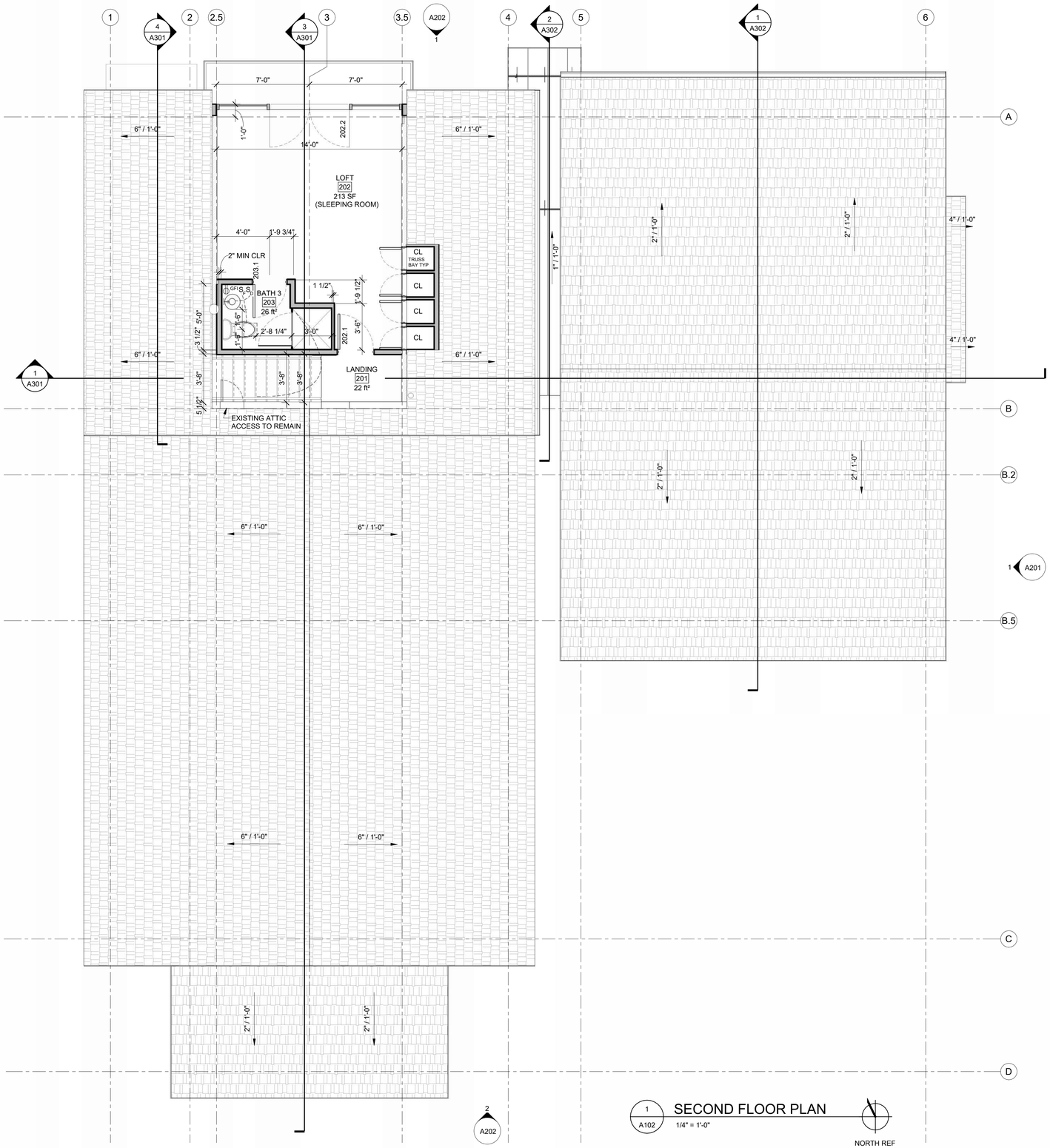
FIRST FLOOR PLAN

A101



0 4 8

SCALE IN FEET

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

2 A202

1 A102 SECOND FLOOR PLAN

1/4" = 1'-0"

NORTH REF

POWER LEGEND

- SPECIAL RECEPTACLE: VERIFY EQUIPMENT
- DUPLEX RECEPTACLE: 18" AFFL UNO
- GFI DUPLEX RECEPTACLE: GROUND FAULT CIRCUIT INTERRUPTER
- GFI DUPLEX RECEPTACLE HALF SWITCHED: GROUND FAULT CIRCUIT INTERRUPTER
- DOUBLE DUPLEX RECEPTACLE: 18" AFFL UNO
- S_D LIGHT SWITCH AT 46" ABV FFL UNO: DAMNABLE
- S_{3D} 3-WAY LIGHT SWITCH AT 46" ABV FFL UNO: DAMNABLE
- S_F FAN SWITCH WITH TIMER AT 46" ABV FFL
- VENTILATION FAN
- T THERMOSTAT

LIGHT FIXTURE LEGEND

ALL LIGHT FIXTURES TO BE LED: COLOR 3000K

- SUSPENDED PENDANT LIGHT FIXTURE
- RECESSED LIGHT FIXTURE: CEILING MOUNTED / 4" MAX DIAMETER / PROVIDE SLOPED TRIM IN VAULTED CEILINGS
- WALL SCONCE
- UTILITY LIGHT FIXTURE
- UNDER CABINET TASK LIGHTING: 0.69" HEIGHT
- MONOPOINT (ART LIGHT) SURFACE MOUNTED

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6: PROVIDE ADDITIONAL POWER AND RECESSED TV MEDIA BOX KIT FOR ALL TV'S. VERIFY WALL MOUNTED TV LOCATIONS WITH OWNER.

7: VERIFY LIGHT FIXTURES, FINISH, AND TRIM WITH OWNER.

8: ALL RECESSED LIGHTING TO BE IC RATED FOR DIRECT CONTACT WITH SPRAY FOAM INSULATION. VERIFY WITH MANUF.

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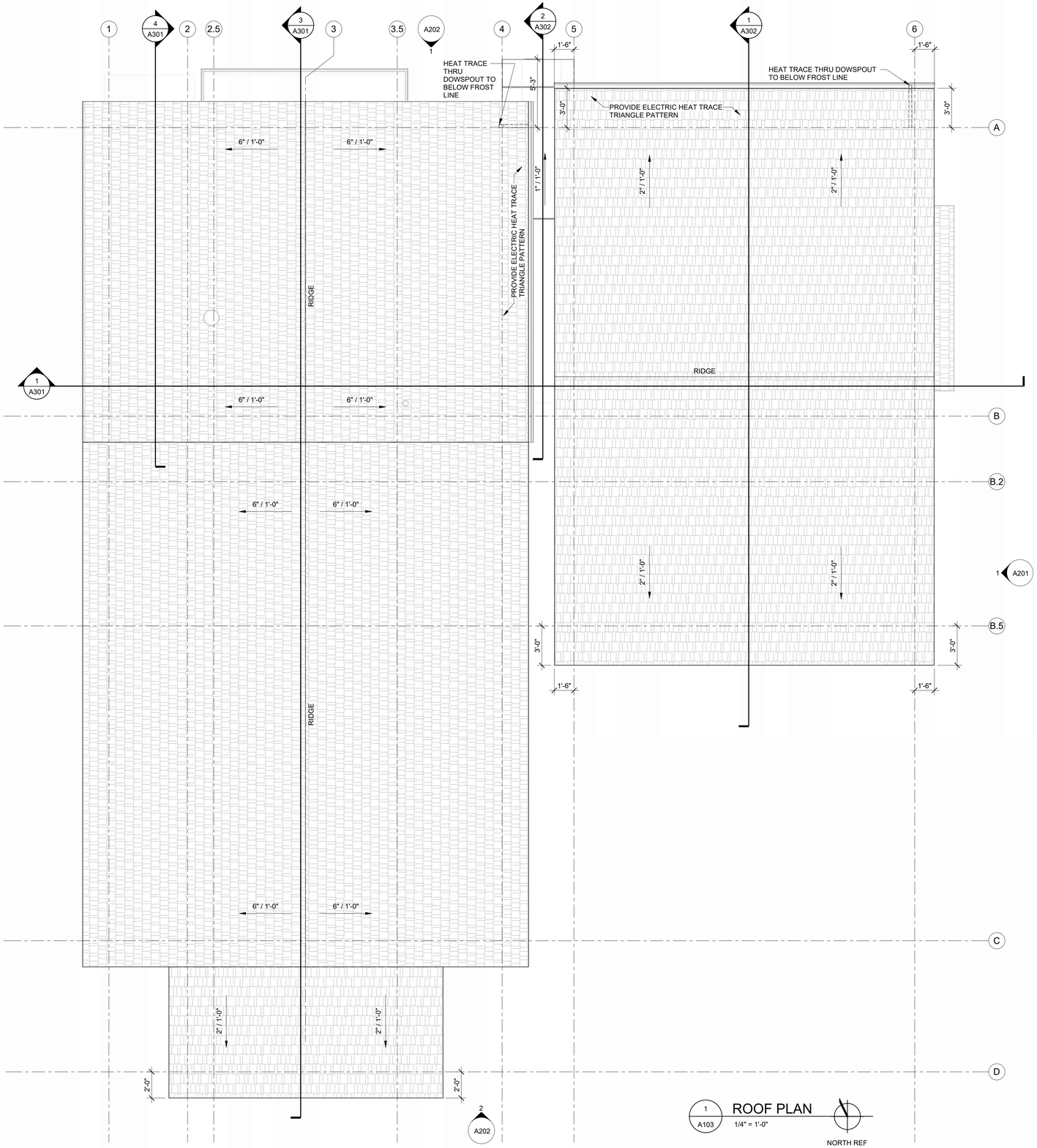
SECOND FLOOR PLAN

A102



1 A103 ROOF PLAN
1/4" = 1'-0"

NORTH REF

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:26 PM | AAS # WOODEN SPUR |

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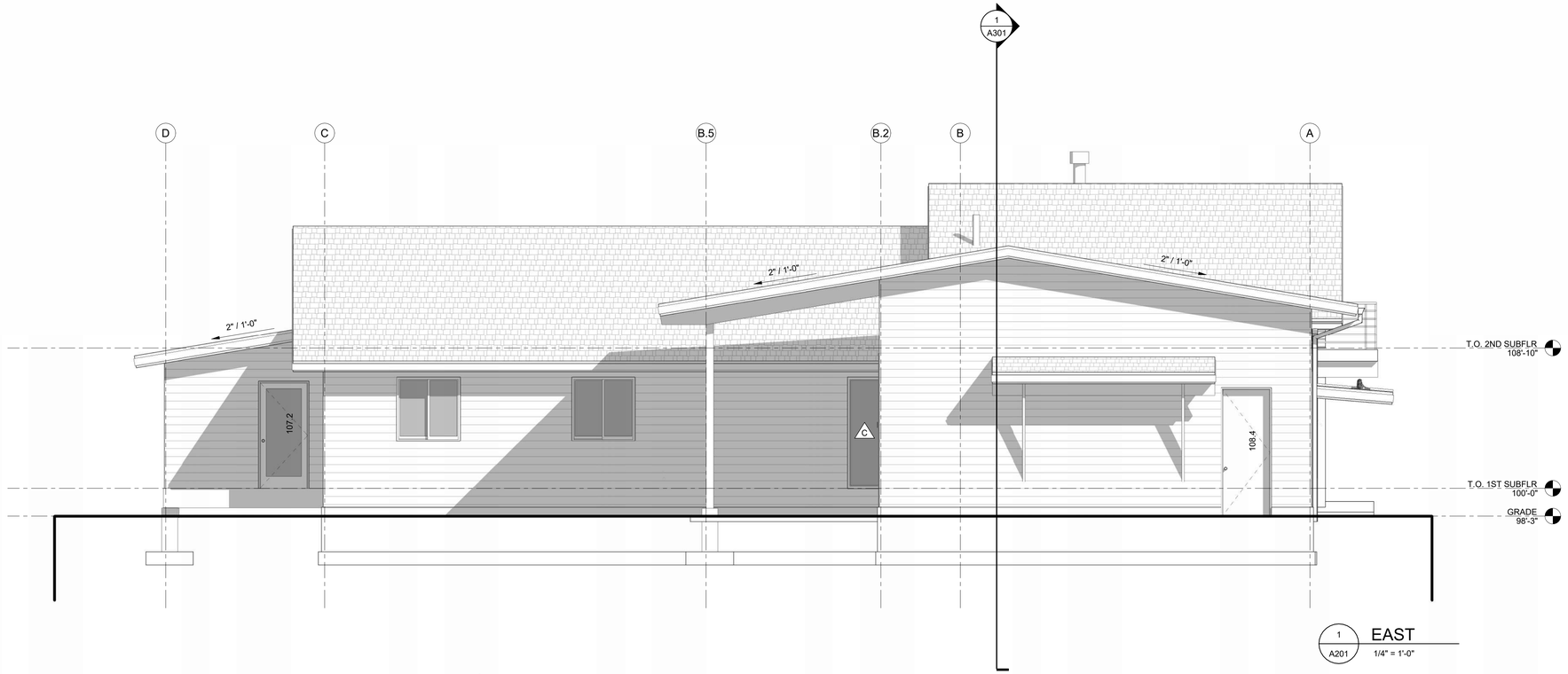
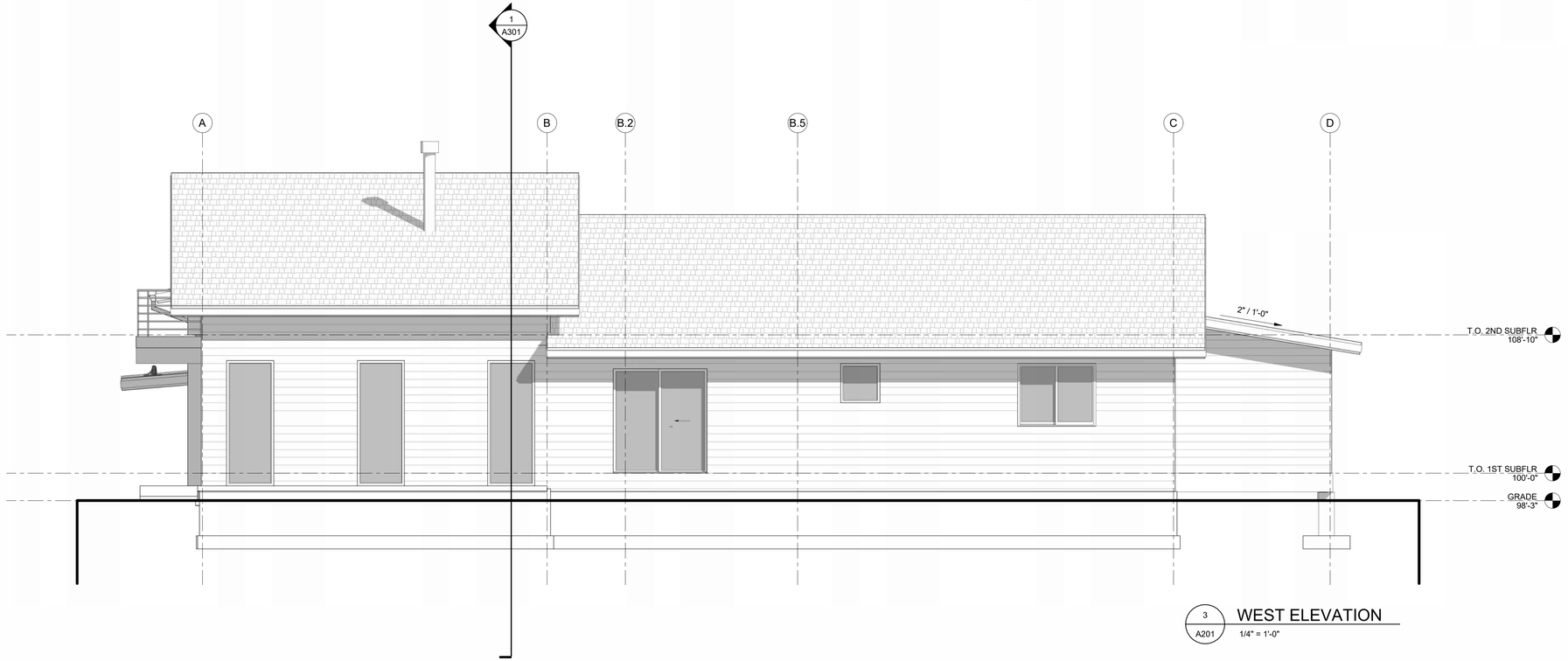
ROOF PLAN

A103



1 A201 EAST
1/4" = 1'-0"



3 A201 WEST ELEVATION
1/4" = 1'-0"

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:32 PM | AAS # WOODEN SPUR |

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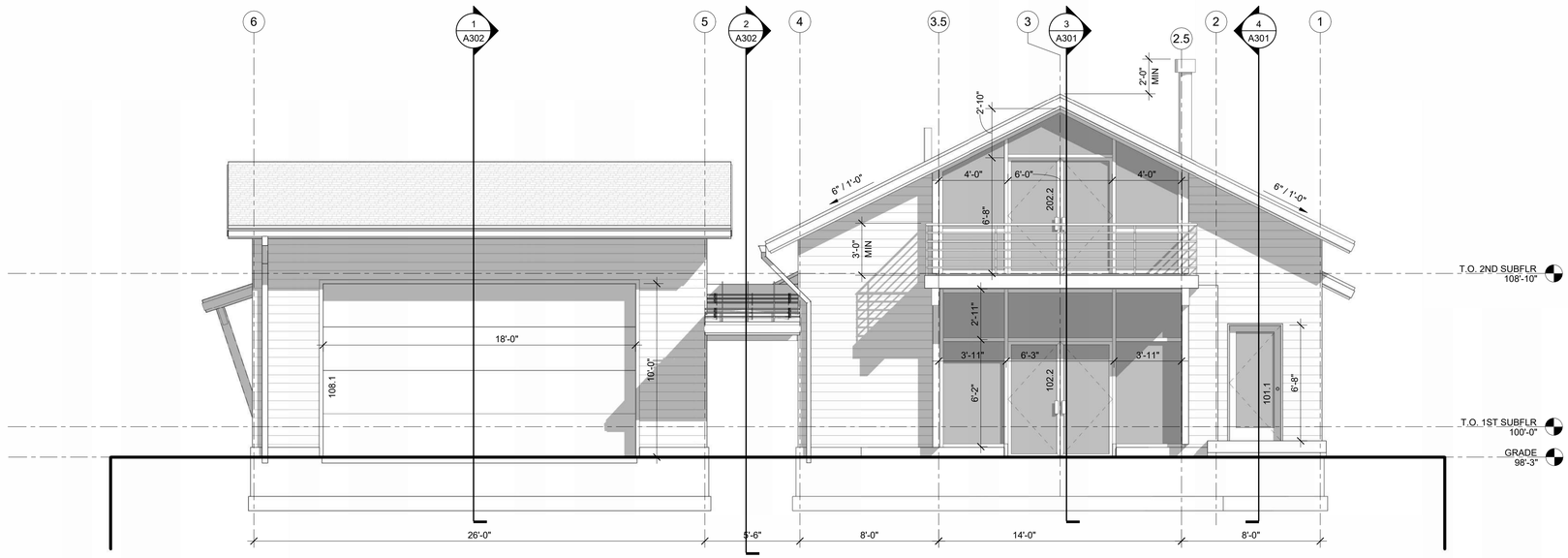
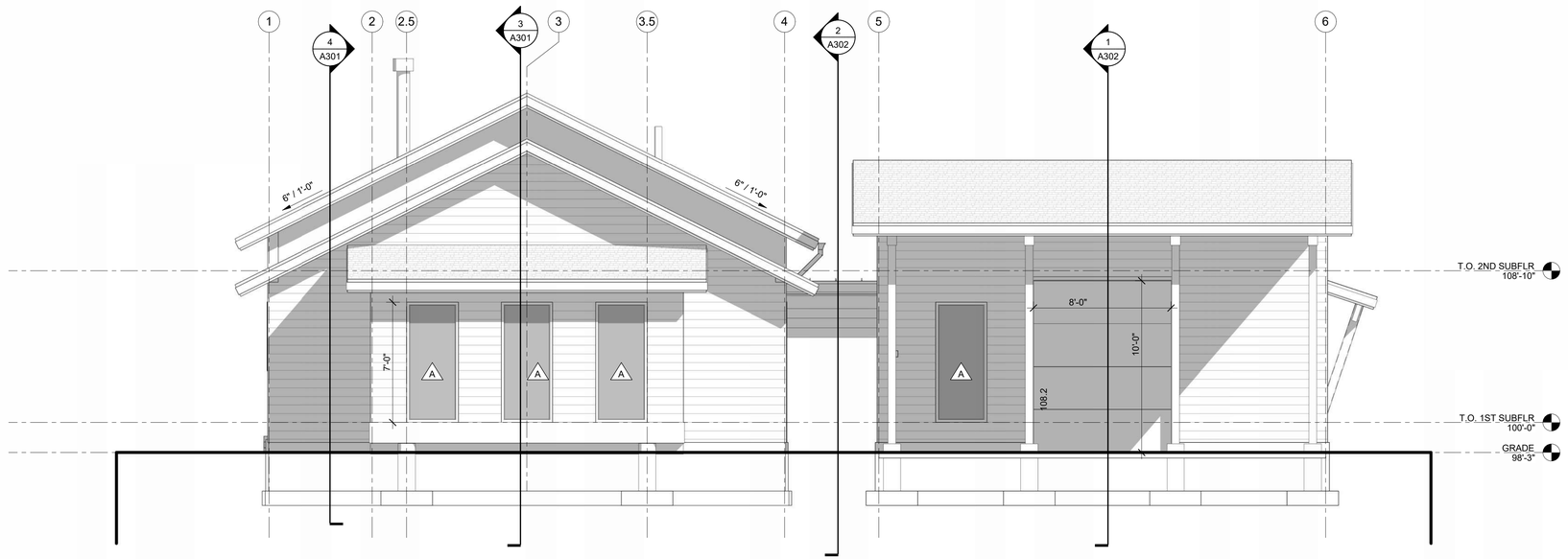
EXTERIOR
ELEVATIONS

A201



1 A202 NORTH ELEVATION
1/4" = 1'-0"



2 A202 SOUTH ELEVATION
1/4" = 1'-0"

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:38 PM | AAS # WOODEN SPUR |

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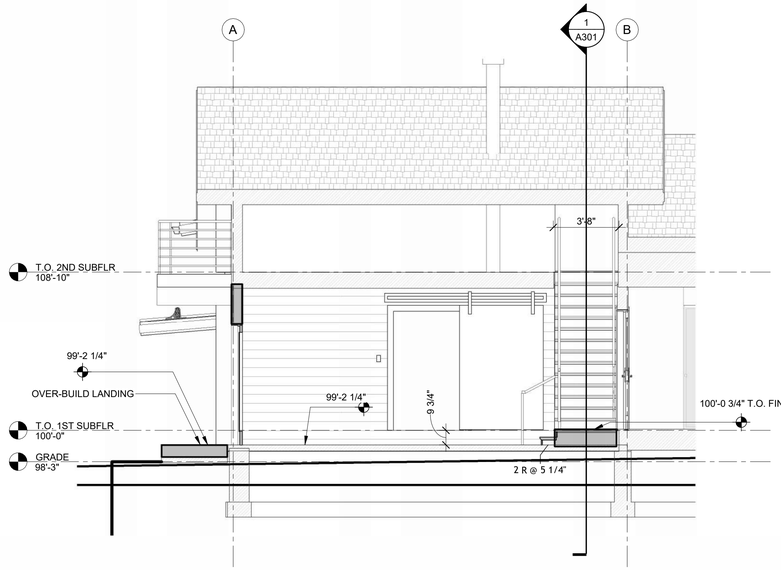
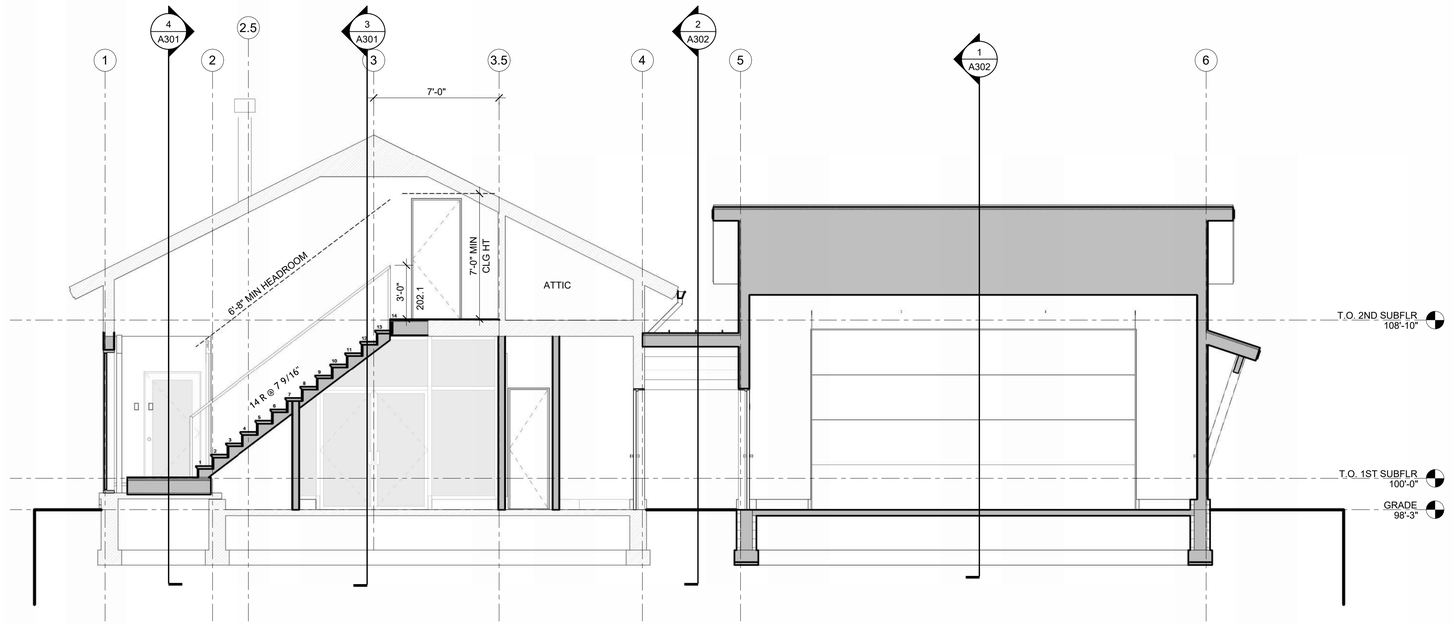
EXTERIOR ELEVATIONS

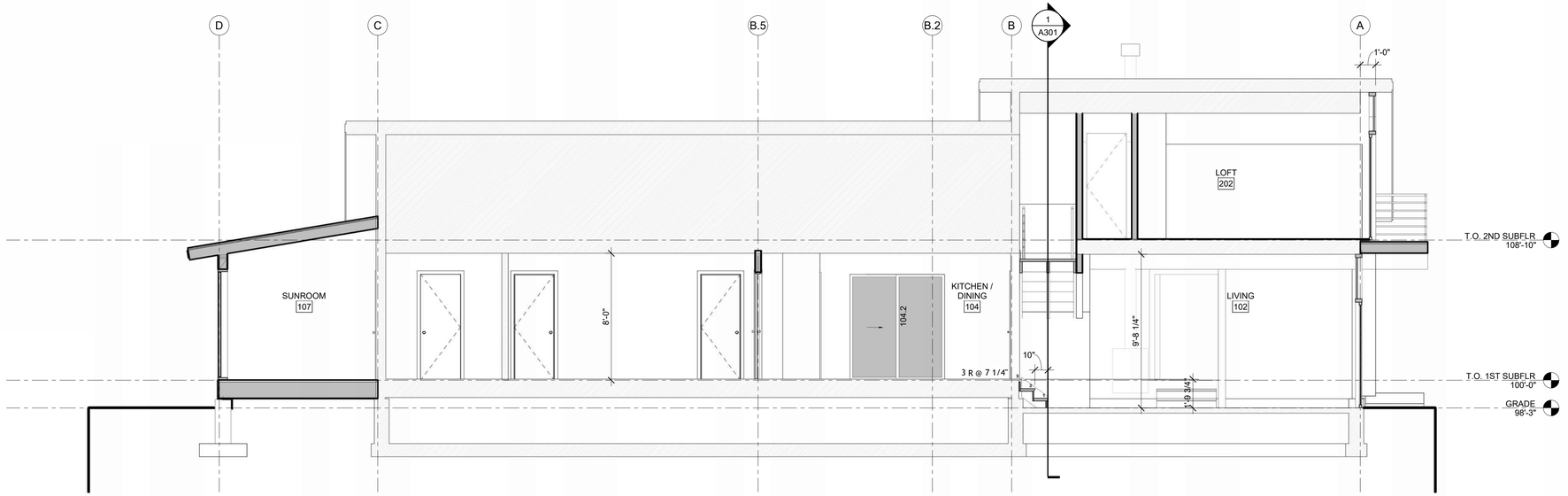
A202



4 A301 BUILDING SECTION - C
1/4" = 1'-0"



1 A301 BUILDING SECTION - A
1/4" = 1'-0"



3 A301 BUILDING SECTION - B
1/4" = 1'-0"

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:44 PM | AAS # WOODEN SPUR |

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REVISIONS

BUILDING SECTIONS

A301

INSULATION SCHEDULE

LOCATION	R-VALUE	DESCRIPTION
1. SOIL GAS BARRIER/RADON MITIGATION: NEW CONSTRUCTION ONLY	N/A	1. INSTALL 4" PERF. PIPE IN PEA GRAVEL BED (NO FINES). 2. COVER GRAVEL BED WITH CONTINUOUS 10 MIL POLYETHYLENE SHEET SOIL GAS BARRIER ADHERED TO FOOTINGS. 3. PROVIDE VENT STACK THROUGH HEATED SPACE AND POWER IN CRAWL SPACE FOR EXHAUST FAN IF NECESSARY.
2. SLABS ON GRADE	0	UNHEATED CONCRETE SLAB
3. EXTERIOR FRAMED WALL CAVITIES	R-30	INSTALL CLOSED CELL SPRAY FOAM INSULATION IN STUD CAVITIES. R6.5 PER INCH = 4.6" INSUL DEPTH. SPRAY URETHANE (CLOSED CELL) SWD QUICK-SHIELD 112 SPRAY FOAM INSULATION OR EQUAL.
4. CONCRETE STEMWALLS IN CRAWLSPACE	R-15	POLY ISO RIGID INSULATION OR ICF FORMS
5. FLOOR JOISTS OVER CONDITIONED SPACE	R-39	MIN 13" (R3 PER INCH) FORMALDEHYDE FREE BATT INSULATION.
6. SOUND ISOLATION AT ALL INTERIOR WALLS.	N/A	FILL SPACE WITH FRICTION-FIT FORMALDEHYDE FREE FIBERGLASS SOUND-ATTENUATION BATTS.
7. CEILINGS	R-60	PROVIDE 17.14" BLOWN-IN CELLULOSE INSULATION (R3.5 PER INCH)
9. EXTERIOR DOORS AND WINDOWS	MAX U=0.30	FILL RO SPACE WITH LOW EXPANDING SPRAY URETHANE (CLOSED CELL) INSULATION.
10. MECHANICAL AND ELECTRICAL PENETRATIONS	N/A	FILL RO SPACE WITH LOW EXPANDING SPRAY URETHANE (CLOSED CELL) INSULATION.
11. MECHANICAL AND ELECTRICAL PENETRATIONS	N/A	FILL RO SPACE WITH LOW EXPANDING SPRAY URETHANE (CLOSED CELL) INSULATION.

1.
- PROVIDE "TYVEK DRAINWRAP" OR EQUAL HOUSE WRAP OVER PLYWOOD SHEATHING AT ALL FRAMED EXTERIOR WALLS - TAPE ALL SEAMS WITH "TYVEK TAPE".
- AT WINDOW AND DOOR ROUGH OPENINGS, CUT HOUSEWRAP IN A MODIFIED - I PATTERN PRIOR TO INSTALLING UNIT.
- USE "TYVEK FLEXWRAP" OR EQUAL FOR FLASHING AT PANS & "TYVEK STRAIGHT FLASH" @ HEADS & LEGS.
- PROVIDE APPROPRIATE "QUICKFLASH" OR EQUAL PRODUCT TO SEAL HOUSEWRAP AT ALL OTHER PENETRATIONS.

2.
- ALL FIBERGLASS BATTS TO FILL SPACE WITH NO GAPS. SEE BUILDERS GUIDE TO COLD CLIMATES.
- TRIM BATTS TO FIT AROUND AND BEHIND OBJECTS IN WALL AND ROOF CAVITIES SUCH AS ELECTRICAL JUNCTION BOXES.

3. SPRAY URETHANE (CLOSED CELL) SWD QUICK-SHIELD 112 SPRAY INSULATION TO BE USED AT ALL FLOOR RIM AND ROOF RIM SPACES.

4. CAULK ALL PLATES. CAULK ALL CRACKS (TRIMMERS, PANEL JOINTS, ETC...) TO ENSURE AIR TIGHTNESS.

5. CONTRACTOR TO ARRANGE INSPECTION AT COMPLETION OF INSULATION INSTALLMENT AND PRIOR TO THE INSTALLATION OF ANY GYPSUM BOARD OR INTERIOR FINISH TRIM.

6. PROVIDE INSULATION WRAP (R-5) ON ALL HOT WATER PIPING.

7. EXPOSED SPRAY FOAM INSULATION IN CRAWLSPACE TO BE APPROVED IGNITION BARRIER OR PROTECTED WITH APPROVED THERMAL IGNITION BARRIER.

8. INSTALL 6 MIL. POLYETHYLENE VAPOR RETARDER AT THE INTERIOR OF ALL EXTERIOR WALLS AND ROOFS. TRIM AND SEAL VAPOR RETARDER TO ALL PENETRATIONS.

9. CONTRACTOR TO ENSURE AIR-TIGHTNESS OF THERMAL ENVELOPE AND AIR BARRIER. CONTRACTOR SHALL BE RESPONSIBLE FOR PASSING BLOWER DOOR TEST AS REQUIRED IN 2021 IECC CHAPTER 4 AND 2021 IRC CHAPTER 11.

MECHANICAL AND ELECTRICAL NOTES

1. MECHANICAL PLANS INCLUDING HEAT-LOSS ANALYSIS PROVIDED BY DESIGN-BUILD MECHANICAL HVAC CONTRACTOR AS REQUIRED. PROVIDE FORCED AIR HEATING AND COOLING. DWELLING HEAT PROVIDED BY EXISTING ELECTRIC FURNACE.
2. ELECTRICAL POWER & LIGHTING INCLUDING SERVICE TO SITE TO BE COORDINATED AND INSTALLED BY LICENSED ELECTRICIAN.
5. GROUNDING ELECTRODE CONDUCTOR REQUIRED PER IRC 2021 CHAPTER 36.
6. ALL LED LIGHTING: COLOR TEMPERATURE: 3000K MAX

IRC STAIR AND GUARD REQUIREMENTS
STAIRWAYS SHALL BE NOT LESS THAN 36 INCHES (914 MM) IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT.

THE HEADROOM IN STAIRWAYS SHALL BE NOT LESS THAN 6 FEET 8 INCHES (2032 MM) MEASURED VERTICALLY FROM THE SLOPED LINE ADJOINING THE TREAD NOSING OR FROM THE FLOOR SURFACE OF THE LANDING OR PLATFORM ON THAT PORTION OF THE STAIRWAY.

THE RISER HEIGHT SHALL BE NOT MORE THAN 7-3/4 INCHES (196 MM). THE RISER HEIGHT SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8 INCH (9.5 MM).

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

NOSINGS AT TREADS, LANDINGS AND FLOORS OF STAIRWAYS SHALL HAVE A RADIUS OF CURVATURE AT THE NOSING NOT GREATER THAN 9/16 INCH (14 MM) OR A BEVEL NOT GREATER THAN 1/2 INCH (12.7 MM). A NOSING PROJECTION NOT LESS THAN 3/4 INCH (19 MM) AND NOT MORE THAN 1 1/4 INCHES (32 MM) SHALL BE PROVIDED ON STAIRWAYS. THE GREATEST NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN 3/8 INCH (9.5 MM) WITHIN A STAIRWAY.

THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY. THE WIDTH PERPENDICULAR TO THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN THE WIDTH OF THE FLIGHT SERVED.

HANDRAILS SHALL BE PROVIDED ON NOT LESS THAN ONE SIDE OF EACH FLIGHT OF STAIRS WITH FOUR OR MORE RISERS.

HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE NOT LESS THAN 34 INCHES (864 MM) AND NOT MORE THAN 38 INCHES (965 MM).

HANDRAILS SHALL NOT PROJECT MORE THAN 41/2 INCHES (114 MM) ON EITHER SIDE OF THE STAIRWAY.

HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF NOT LESS THAN 11/2 INCHES (38 MM) BETWEEN THE WALL AND THE HANDRAILS.

HANDRAILS SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE FLIGHT, FROM A POINT DIRECTLY ABOVE THE TOP RISER OF THE FLIGHT TO A POINT DIRECTLY ABOVE THE LOWEST RISER OF THE FLIGHT. HANDRAIL ENDS SHALL BE RETURNED TOWARD A WALL, GUARD WALKING SURFACE CONTINUOUS TO ITSELF, OR TERMINATE TO A POST.

TYPE I. HANDRAILS WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF NOT LESS THAN 1-1/4 INCHES (32 MM) AND NOT GREATER THAN 2 INCHES (51 MM).

STAIRWAYS SHALL BE PROVIDED WITH ILLUMINATION IN ACCORDANCE WITH SECTIONS R303.7 AND R303.8.

GUARDS SHALL BE PROVIDED FOR THOSE PORTIONS OF OPEN-SIDED WALKING SURFACES, INCLUDING FLOORS, STAIRS, RAMPS AND LANDINGS THAT ARE LOCATED MORE THAN 30 INCHES (762 MM) MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES (914 MM) HORIZONTALLY TO THE EDGE OF THE OPEN SIDE. INSECT SCREENING SHALL NOT BE CONSIDERED AS A GUARD.

REQUIRED GUARDS AT OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, PORCHES, BALCONIES OR LANDINGS, SHALL BE NOT LESS THAN 36 INCHES (914 MM) IN HEIGHT AS MEASURED VERTICALLY ABOVE THE ADJACENT WALKING SURFACE OR THE LINE CONNECTING THE NOSINGS.

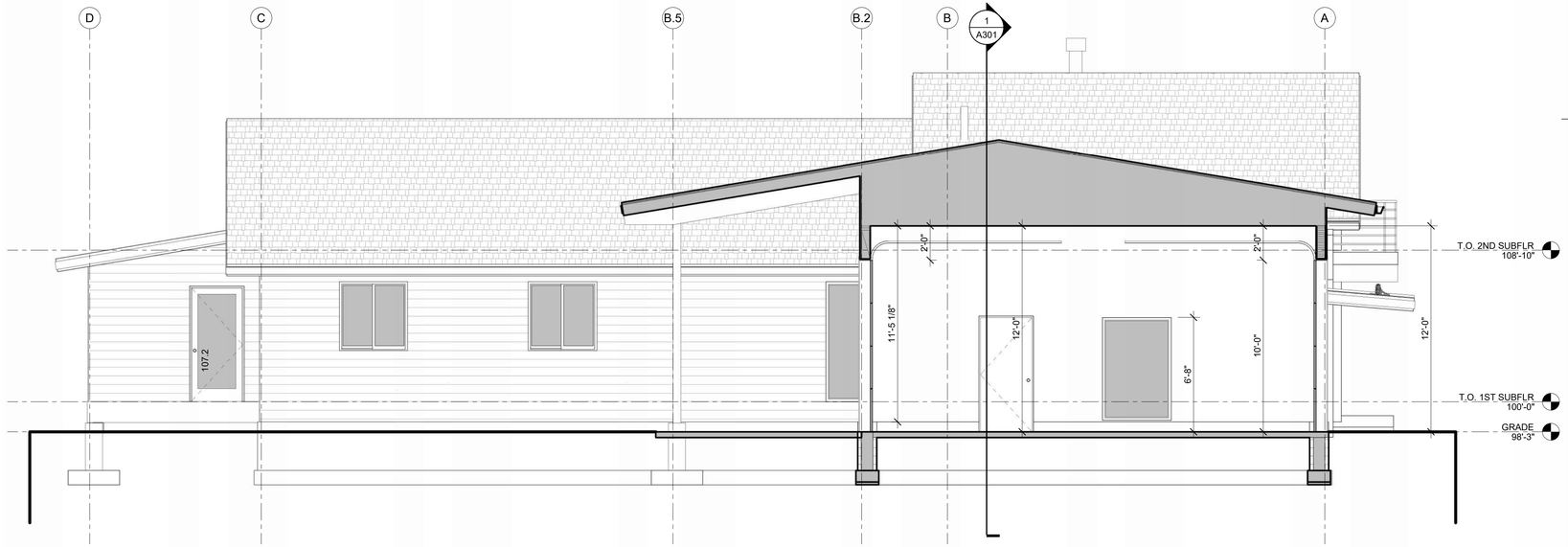
EXCEPTIONS:
GUARDS ON THE OPEN SIDES OF STAIRS SHALL HAVE A HEIGHT OF NOT LESS THAN 34 INCHES (864 MM) MEASURED VERTICALLY FROM A LINE CONNECTING THE NOSINGS.
WHERE THE TOP OF THE GUARD SERVES AS A HANDRAIL ON THE OPEN SIDES OF STAIRS, THE TOP OF THE GUARD SHALL BE NOT LESS THAN 34 INCHES (864 MM) AND NOT MORE THAN 38 INCHES (965 MM) AS MEASURED VERTICALLY FROM A LINE CONNECTING THE NOSINGS.

REQUIRED GUARDS SHALL NOT HAVE OPENINGS FROM THE WALKING SURFACE TO THE REQUIRED GUARD HEIGHT THAT ALLOW PASSAGE OF A SPHERE 4 INCHES (102 MM) IN DIAMETER.

EXCEPTIONS:
THE TRIANGULAR OPENINGS AT THE OPEN SIDE OF STAIR, FORMED BY THE RISER, TREAD AND BOTTOM RAIL OF A GUARD, SHALL NOT ALLOW PASSAGE OF A SPHERE 6 INCHES (153 MM) IN DIAMETER.
GUARDS ON THE OPEN SIDE OF STAIRS SHALL NOT HAVE OPENINGS THAT ALLOW PASSAGE OF A SPHERE 4-3/8 INCHES (111 MM) IN DIAMETER.

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:51 PM | AAS # WOODEN SPUR |



1 A302 BUILDING SECTION - D
1/4" = 1'-0"

TEMPERED GLAZING REQUIRED IN HAZARDOUS LOCATIONS:

GLAZING IN FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BIFOLD DOORS SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.

GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES (1524 MM) ABOVE THE FLOOR OR WALKING SURFACE AND IT MEETS EITHER OF THE FOLLOWING CONDITIONS:
WHERE THE GLAZING IS WITHIN 24 INCHES (610 MM) OF EITHER SIDE OF THE DOOR IN THE PLANE OF THE DOOR IN A CLOSED POSITION.
WHERE THE GLAZING IS ON A WALL LESS THAN 180 DEGREES (3.14 RAD) FROM THE PLANE OF THE DOOR IN A CLOSED POSITION AND WITHIN 24 INCHES (610 MM) OF THE HINGE SIDE OF AN IN-SWINGING DOOR.

R310.1 EMERGENCY ESCAPE AND RESCUE OPENING REQUIRED:
BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL HAVE NOT LESS THAN ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, AN EMERGENCY ESCAPE AND RESCUE OPENING SHALL BE REQUIRED IN EACH SLEEPING ROOM. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL OPEN DIRECTLY INTO A PUBLIC WAY, OR TO A YARD OR COURT HAVING A MINIMUM WIDTH OF 36 INCHES (914 MM) THAT OPENS TO A PUBLIC WAY.

R310.1.1 OPERATIONAL CONSTRAINTS AND OPENING CONTROL DEVICES:
EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE. WINDOW OPENING CONTROL DEVICES AND FALL PREVENTION DEVICES COMPLYING WITH ASTM F2090 SHALL BE PERMITTED FOR USE ON WINDOWS SERVING AS A REQUIRED EMERGENCY ESCAPE AND RESCUE OPENING AND SHALL BE NOT MORE THAN 70 INCHES (178 CM) ABOVE THE FINISHED FLOOR.

R310.2 EMERGENCY ESCAPE AND RESCUE OPENINGS:
EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE MINIMUM DIMENSIONS IN ACCORDANCE WITH SECTIONS R310.2.1 THROUGH R310.2.4.

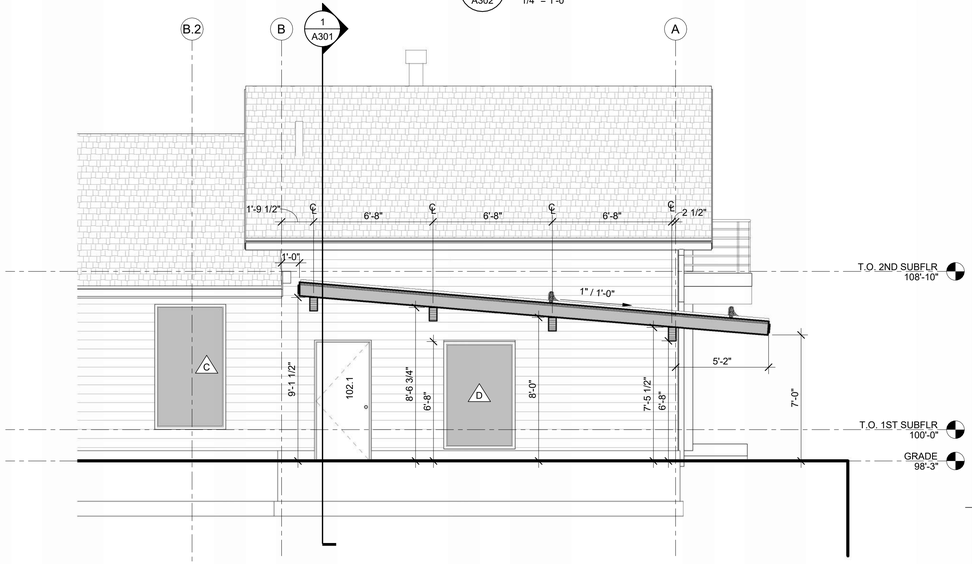
R310.2.1 MINIMUM SIZE:
EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5.7 SQUARE FEET (0.530 M2).

EXCEPTION: THE MINIMUM NET CLEAR OPENING FOR GRADE-FLOOR EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE 5 SQUARE FEET (0.465 M2).

R310.2.2 MINIMUM DIMENSIONS:

THE MINIMUM NET CLEAR OPENING HEIGHT DIMENSION SHALL BE 24 INCHES (610 MM). THE MINIMUM NET CLEAR OPENING WIDTH DIMENSION SHALL BE 20 INCHES (508 MM). THE NET CLEAR OPENING DIMENSIONS SHALL BE THE RESULT OF NORMAL OPERATION OF THE OPENING.

R310.2.3 MAXIMUM HEIGHT FROM FLOOR:
EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE THE BOTTOM OF THE CLEAR OPENING NOT GREATER THAN 44 INCHES (1118 MM) ABOVE THE FLOOR.



2 A302 BUILDING SECTION - E
1/4" = 1'-0"

WINDOW SCHEDULE

TYPE MK	UNIT SIZE W	UNIT SIZE H	MAT'L	FINISH	GLAZING THICKNESS	GLAZING TYPE	COMMENTS
A	3'-0"	7'-0"	WOOD CLAD		3/4"	DOUBLE PANE LOW- E	
B	3'-0"	8'-0"	WOOD CLAD		3/4"	DOUBLE PANE LOW- E	
C	4'-0"	7'-0"	WOOD CLAD		3/4"	DOUBLE PANE LOW- E	
D	4'-0"	6'-0"	WOOD CLAD		3/4"	DOUBLE PANE LOW- E	

PROVIDE WINDOW SHOP DRAWINGS FOR OWNER/ARCH REVIEW
WINDOW GLAZING & FRAMED COLOR TO MATCH DOOR UNITS

DOOR, FRAME AND HARDWARE SCHEDULE

DOOR NUMBER	ROOM NUMBER	ROOM NAME	DOOR SIZE W	DOOR SIZE H	DOOR SIZE T	DOOR MTL	DOOR GLAZE	DOOR NOTES	FRAME MTL	HARDWARE THRES	HARDWARE LOCK	HARDWARE STOP HOLD	HARDWARE WTHR	HARDWARE NOTES
101.1	101	ENTRY	3'-0"	6'-8"	1 3/4"	WOOD CLAD	YES / TEMPERED	DOUBLE PANE LOW-E	WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	YES	YES	
102.1	102	LIVING	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	YES	YES	
102.2	102	LIVING	6'-0"	6'-8"	1 3/4"	WOOD CLAD	YES / TEMPERED	DOUBLE PANE LOW-E	WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	NO	YES	
103.1	103	CL	2'-2"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	DUMMY LEVERSET W/ROLLER CATCH	NO	NO	
104.1	101	ENTRY	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PASSAGE LEVERSET	YES	NO	
104.2	104	KITCHEN / DINING	6'-0"	6'-8"	1 3/4"	COMPOSITE	YES / TEMPERED	DOUBLE PANE LOW-E	COMPOSITE	YES	BY MANUF	NO	YES	
104.3	104	KITCHEN / DINING	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PASSAGE LEVERSET	YES	NO	
105.1	105	WC	2'-8"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PRIVACY LEVERSET W/EMERGENCY RELEASE	NO	NO	
106.1	106	PANTRY	5'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	DUMMY LEVERSET W/ROLLER CATCH	NO	NO	
107.1	107	SUNROOM	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	YES	YES	
107.2	107	SUNROOM	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	YES / TEMPERED	DOUBLE PANE LOW-E	WOOD-ALUM CLAD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	YES	YES	
108.1	108	GARAGE	18'-0"	10'-0"	1 1/2"	ALUMINUM	NO		METAL	NO	BY MANUF	NO	YES	PROVIDE ELEC OVERHEAD OPEN W/REMOTE
108.2	108	GARAGE	8'-0"	10'-0"	1 1/2"	ALUMINUM	NO		METAL	NO	BY MANUF	NO	YES	PROVIDE ELEC OVERHEAD OPEN W/REMOTE
108.3	108	GARAGE	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	NO	YES	
108.4	108	GARAGE	3'-0"	8'-0"	1 3/4"	WOOD SOLID CORE	NO		WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	NO	YES	
202.1	202	LOFT	2'-8"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PRIVACY LEVERSET W/EMERGENCY RELEASE	YES	NO	
202.2	202	LOFT	6'-0"	6'-8"	1 3/4"	WOOD CLAD	YES / TEMPERED	DOUBLE PANE LOW-E	WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	NO	YES	
203.1	203	BATH 3	2'-6"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PRIVACY LEVERSET W/EMERGENCY RELEASE	YES	NO	

PROVIDE DOOR SHOP DRAWINGS FOR OWNER/ARCH REVIEW
DOOR GLAZING & FRAME COLOR TO MATCH WINDOW UNITS

alpine
architectural studio

WOODEN SPUR RENOVATION

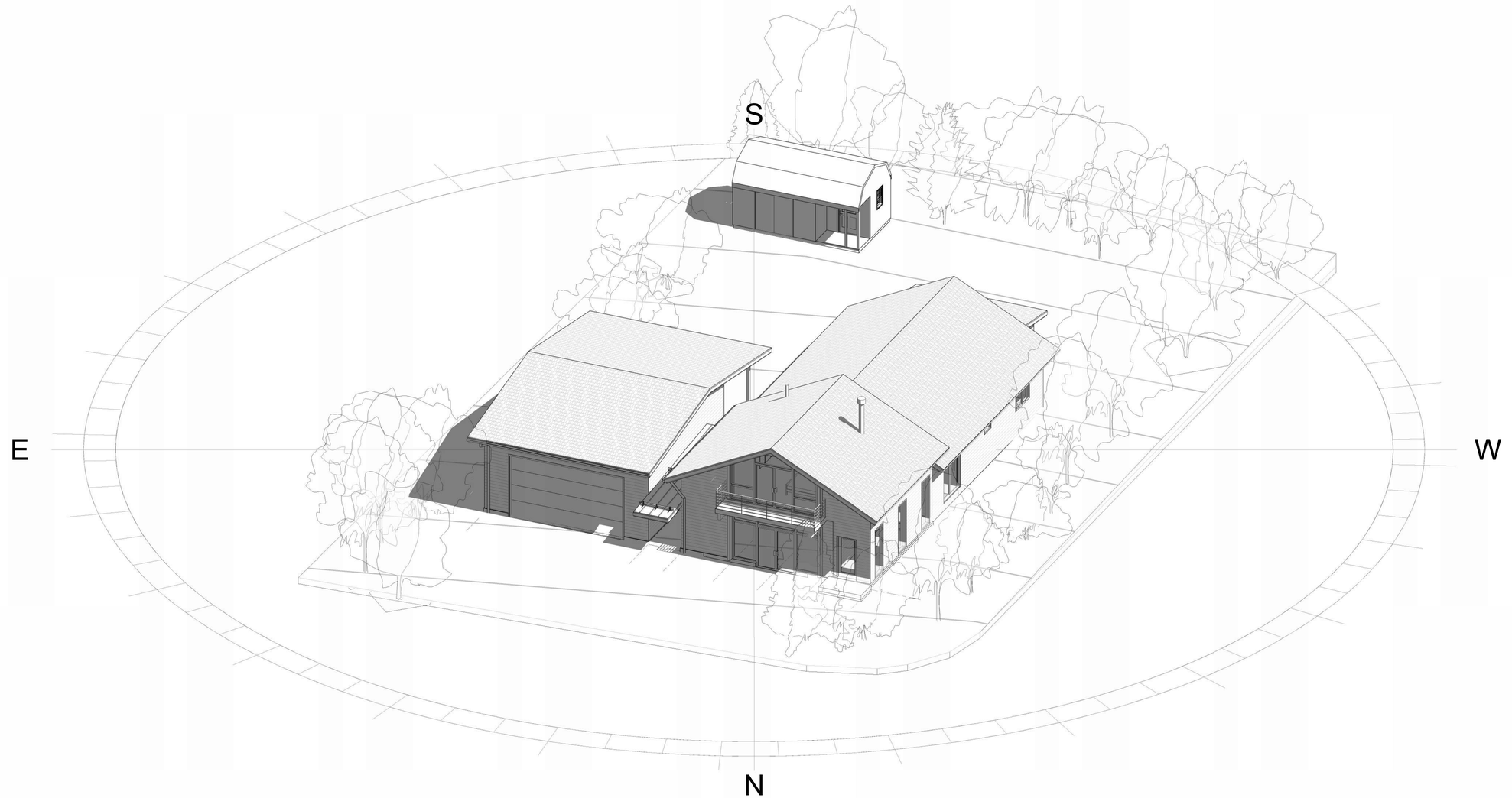
ALPINE, WY 83128
368 WOODEN SPUR DR

PERMIT DRAWINGS

6.9.2025
DRAWN BY | BENNETT
CHECKED BY | BENNETT
REVISIONS

BUILDING SECTIONS & SCHEDULES

A302



1 A303 NORTH SITE PERSPECTIVE

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WOODEN SPUR RENOVATION

ALPINE, WY 83128
368 WOODEN SPUR DR

PERMIT DRAWINGS

6.9.2025
DRAWN BY | BENNETT
CHECKED BY | BENNETT
REVISIONS

PERSPECTIVE

A303

JELD-WEN WINDOWS & DOORS

Installation Instructions for Vinyl Flush Fin Windows and Vinyl Windows with Nailing Fin

Vinyl Flush Fin Windows

The flush fin window is a retro-fit product designed for installation into an existing window frame with a 3/8" or wider return that protrudes past or is flush with the exterior siding. There cannot be any fins or lips that extend past this vertical plane. The flush fin window will be sealed to this surface.

Vinyl Windows with Nailing Fin

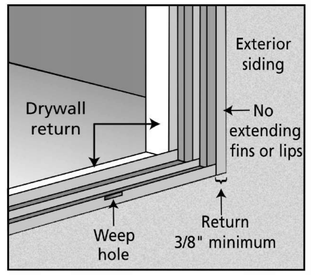
The attached are JELD-WEN's recommended installation instructions for vinyl windows which incorporate an integral nail fin. These installation instructions do not supersede any national, provincial, or local building codes. While the use of these installation instructions is recommended, in Canada, installation in strict compliance with CSA A440-4 is an alternate method of window installation and will not affect the application of the JELD-WEN limited warranty.

Newer construction methods have led to an increase in air and water tightness in buildings. This frequently leads to negative air pressure inside the home, which can draw water through very small openings. Our installation method integrates the window with the weather barrier (typically building wrap).

***These installation instructions do not supercede any national, provincial or local building codes. They are meant as a guideline and reflect good installation practices.**

RELIABILITY *for* real life® JW

INSTALLATION PREREQUISITES
for Vinyl Flush Fin Windows



The lack of an adequate return significantly adds to the complexity of a long-term, water-tight installation. If the existing window frame does not have a sufficient return, consult an installation professional to design an installation that completely seals the new window in a weatherproof manner.

IMPORTANT INFORMATION

Vinyl Flush Fin Windows
This installation assumes that the existing frame has a water-tight installation into the structure.

Vinyl Windows with nailing Fin and flush Fin
This instruction is based on CSA A440.4, for any specific details (ex: different siding type) that maybe different please contact your supplier for recommendations.

If installing in an area of high winds, see the structural engineering report of the product for specific fastening requirements.

Any local building code requirements supersede the recommended installation instructions. Failure to install square, level and plumb could result in denial of warranty claims for operational or performance problems.

Please Note! Installation such that the window sill is higher than 35 feet above ground level or any window installation into a wall condition not specifically addressed in this poster must be designed by an architect or structural engineer.

Vinyl Flush Fin Windows

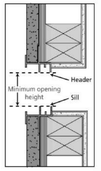
Vinyl Windows with Nailing Fin

GLOSSARY

Flush Fin Window: A vinyl window used for retro-fit installation into an existing window frame. The integral exterior trim is decorative and covers the gap between the new window and the existing siding.

Meeting Stile: A vertical frame member of a window that sits in the center of the exterior sill track and either holds one side of the fixed glass or keeps the stationary sash from moving.

Minimum Opening Width/Height: Measurements taken to determine the size of window that will fit into a retro-fit opening. For example, the minimum opening height is the distance between the highest frame point on the sill to the lowest frame point on the header.



Return: The exterior face of an existing window frame that helps tie the window to the siding.

Mulled Unit: Two or more window units structurally joined together.

Shiplap: The layering method in which each layer overlaps the layer below it so that water runs down the outside.

Weep Hole (weep channel): The visible exit or entry part of a water drainage system used to drain water out of a window.

SAFETY & HANDLING

Please Note!
For a detailed list of safety and handling recommendations, refer to the full set of installation instructions at our website: www.jeld-wen.com/resources.

SAFETY

- Do not work alone.
- Use caution when handling glass. Broken or cracked glass can cause serious injury.
- Wear protective gear as necessary.
- Read and fully understand ALL manufacturers' instructions before beginning.

WINDOW HANDLING

- Do not put stress on joints, corners or frames.

Vinyl Flush Fin Windows and Vinyl Windows with Nailing Fin

- Make sure the window is locked prior to installation.
- Read material manufacturers' handling and application instructions.
- Properly dispose of unused products and waste material per federal, provincial, and local environmental protection rules.
- Handle in vertical position; do not drag on floor.
- Store window in dry, well-ventilated area in vertical, leaning position to allow air circulation; do not stack horizontally.
- Protect from exposure to direct sunlight.
- Install only when conditions and sheathing are completely dry.

IF INJURY OCCURS, IMMEDIATELY SEEK MEDICAL ATTENTION!

NEEDED MATERIALS & TOOLS

MATERIALS

- 3 1/2" corrosion-resistant, pan head screws; screws must penetrate at least 1" into framing
- Solid wood (sloped sill); dimensions should be 1/4" shorter than the length of the sill and 3/8" taller than the depth of the track by a minimum of 3 1/4" wide.
- Sealant (polyurethane if painted, Thermoplastic sealant if left exposed) and backer rod
- Low expansion foam or/and fiberglass insulation

Please see your local retailer for appropriate foam expansion properties.

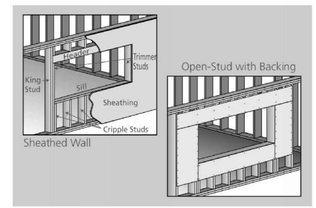
- 1 3/4" galvanized roofing nails; nails must penetrate at least 1" into framing
- Shims
- JELD-WEN 6" wide self-adhesive flashing (part #08987) or equivalent, or flexible flashing (Width requirement may vary according to local code)
- 3/8" stainless steel square wire staples

Note!
Follow all material manufacturers' instructions for proper use and compatibility.

TOOLS

- Tape measure
- Level
- Screwdriver
- Hacksaw
- Cloth
- Hammer
- J-roller
- Caulking gun
- Putty knife
- Drill with 1/8" tapered drill bit and 3/8" countersink
- Construction stapler

ROUGH OPENINGS
for Vinyl Windows with Nailing Fin



FULLY SHEATHED WALL CONSTRUCTION

The wall framing is covered by sheathing and the window will be mounted with the nailing fin flush against the sheathing.

OPEN-STUD INSTALLATION

The wall framing needs to be covered by backing support before the window can be installed. The window will be mounted with the nailing fin flush against the applied backing support. This backing support should be a non water-degradable, thin (max. 1/8" thick) sheet material such as vinyl sheeting. Completely surround the rough opening with the backing support as shown. Backing support must be applied before building wrap. Note! For curved windows, ensure framing is sufficient around window perimeter to allow nailing fin to be nailed every 8" to the framing.

1 REMOVE PACKAGING & INSPECT YOUR WINDOW

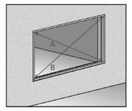
REMOVE PACKAGING

Remove shipping materials such as corner covers, shipping blocks or pads. If there is a protective film on the glass, do not remove it until installation and construction are complete.

INSPECT YOUR WINDOW

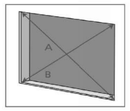
- Cosmetic damage
- Product squareness (diagonal measurements no more than 1/4" difference)
- Correct product (size, color, grid pattern, handing, glazing, energy-efficiency requirements, etc.)
- Cracked frame
- Splits, cracks or missing sections in nailing fin longer than 6"
- Cracks, holes or other damage to nailing fin within 1/2" of window frame

2 INSPECT EXISTING FRAME OR ROUGH OPENING



For Vinyl Flush Fin Windows

- **Verify width/height of new window are each 3/4" smaller than minimum opening width/ height of the existing frame.**
- **Verify the existing opening is square. The "A" and "B" measurements above should be the same. Maximum allowable deviation from square is 1/8" for windows 20 sq. ft. and smaller, and 1/4" for windows larger than 20 sq. ft.**
- Verify the existing frame is level and plumb. The maximum allowable deviation is 1/16" for every 2' (not to exceed 1/8").
- The exterior face of the rough opening must be in a single plane with less than 1/8" twist from corner to corner.
- Signs of water leakage near the existing frame must be investigated and corrected prior to installing the new flush fin window.

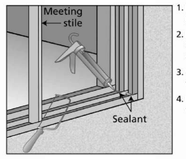


For Vinyl Windows with Nailing Fin

- Verify the width and height of the window are each 1/2" smaller than the rough opening width/ height.
- Verify the rough opening is square. The "A" and "B" measurements above should be the same. Maximum allowable deviation from square is 1/8" for windows 20 sq. ft. and smaller, and 1/4" for windows larger than 20 sq. ft.
- Verify the rough opening is level and plumb. The maximum allowable deviation is 1/16" for every 2' of rough opening (not to exceed 1/8").
- The rough opening sill must not be crowned or sagged.
- The exterior face of the rough opening must be in a single plane with less than 1/8" twist from corner to corner.
- The header must be supported by trimmer studs.
- Signs of water leakage near the existing frame must be investigated and corrected prior to installing the new window.

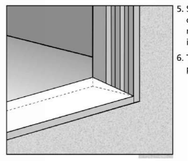
3 PREPARE EXISTING WINDOW FRAME
for Vinyl Flush Fin Windows

PREPARE THE FRAME



1. Remove the sashes and/or glass in the existing window.
2. Remove the meeting stile (if a slider) with a screwdriver or hacksaw.
3. Seal all four corners of the window frame.
4. Remove all existing window frame cladding.

APPLY THE SLOPED SILL



5. Sloped sill must be continuous with a minimum of 3/8" in height inside to 0° outside.
6. Test fit new window into place and then remove.

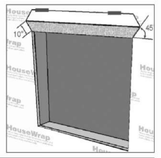
3 PREPARE ROUGH OPENING
for Vinyl Windows with Nailing Fin

FOR RETROFIT INSTALLATIONS

- After removing sufficient siding to expose at least 9" of intact building wrap, remove old window.
- If damaged, apply new building wrap in shiplap manner.
- Verify trimmer studs/header are structurally sound.
- Continue with the instructions.

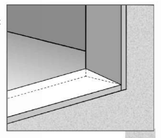
PREPARE BUILDING WRAP

1. Trim building wrap flush at rough opening head, sides and sill. Check with your building wrap manufacturer to verify that this does not void their product warranty.
2. At the head, cut building wrap 10" at 45 degrees. Tape up as shown.

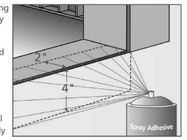


PREPARE SILL

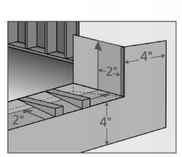
3. Sloped sill must be continuous with a minimum of 3/8" in height inside to 0° outside.



4. If using self-adhesive flashing in extreme conditions, apply spray adhesive/primer per manufacturer's instructions to nailing fin, sheathing and building wrap at the sides and head of the window as shown.

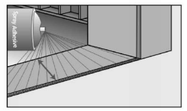


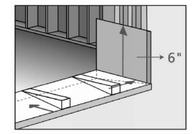
5. Cut a piece of self-sealing adhesive flashing to the sill length and jambs and apply it as shown.
6. Apply sill shims in the following manner: Apply one shim at 1" from each window corner. Apply one shim under any mullion or meeting rail or at centre for any window exceeding 24" in width.



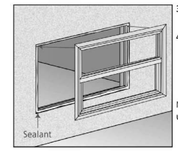
7. Fold the drain mat down onto the sheathing.

4 INSTALL WINDOW
for Vinyl Flush Fin Windows



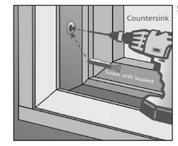


INSTALL WINDOW



3. Make sure prepared slope sill is level.
4. From the exterior, place the new flush window into the existing frame making sure the window sill rests completely on the shims.

Note! Hold window in place until fully fastened.



5. Fasten window temporarily through the predrilled holes in jamb 3"-6" from one upper corner as follows: (if there is no predrilled holes do step a.)

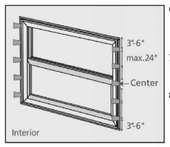
PREPARE SILL

1. Cut a piece of self-sealing adhesive flashing to the sill length and jambs and apply it as shown.
2. Apply sill shims in the following manner: Apply one shim at 1" from each window corner. Apply one shim under any mullion or meeting rail or at centre for any window exceeding 24" in width.

a. Use a 1/8" tapered drill bit with 3/8" countersink to drill a screw hole through the side jamb and into the buck (on the interior, or exterior if insufficient space). Countersink should not penetrate the back wall of the frame.

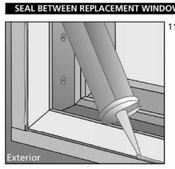
b. Apply sealant to the threads of a 3 1/2" screw and drive into the side jamb.

4 INSTALL WINDOW (CONTINUED)
for Vinyl Flush Fin Windows



6. Shim the side jambs aligned with the predrilled holes or 3"-6" from the corners and at 24" maximum intervals.
7. Inspect window for square, level, plumb. Adjust as needed with shims.
8. Fasten window through side jambs and shims.
9. If the window is higher than 3', fasten the side jambs at 24" maximum intervals. If the window is wider than 3', fasten the head jamb at 24" maximum intervals with a free flowing screw. Do not shim the head.
10. Install vinyl plugs supplied or available through suppliers if desired.

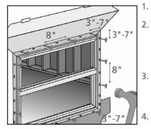
SEAL BETWEEN REPLACEMENT WINDOW AND EXISTING FRAME



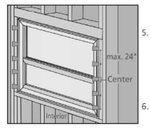
11. Apply back rod and a continuous bead of thermoplastic sealant between the new window frame and the existing frame around the window. Leave 2" x 1/2" gaps in your back rod and sealant at sill to allow for proper water drainage.

4 INSTALL WINDOW
for Vinyl Windows with Nailing Fin

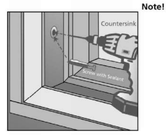
Caution! To avoid injury, use two people to install.



1. Place window into the rough opening.
2. Temporarily fasten window with a galvanized roofing nail through a nailing fin hole between 3"-7" from one top corner.
3. Shim the side jambs aligned with the predrilled holes or 3"-6" from the corners and at 24"maximum intervals.
4. Inspect window for square, level, plumb. Adjust as needed with shims. Fasten window through side jambs predrilled holes and shims.



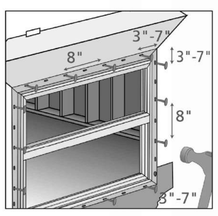
5. If the window is taller than 3', fasten the side jambs at 24"maximum intervals. If the window is wider than 3', fasten the head jamb at 24" maximum intervals with a free flowing screw. Do not shim the head.
6. Install vinyl plugs supplied or available through suppliers if desired.



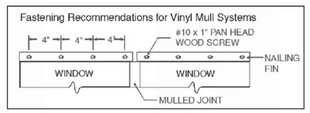
Note! a. Use a 1/8" tapered drill bit with 3/8" countersink to drill a screw hole through the side jamb and into the buck (on the interior, or exterior if insufficient space). Countersink should not penetrate the back wall of the frame.

b. Apply sealant to the threads of a 3 1/2" screw and drive into the side jamb.

Note! Fastener heads must be flush. Do not dent nailing fin.



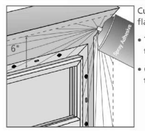
Fastening Recommendations for Vinyl Mull Systems



- For any product B4 or above, fastener spacing is 4".
- For mulled units, fastener spacing is 4" around the mulled joint as shown.

5 FLASH WINDOW
for Vinyl Windows with Nailing Fin only

CUT FLASHING



Cut three pieces of 6" self-adhesive flashing as follows:

- Two side pieces 12" longer than the side
- One header piece 14" longer than the header

PRIMER

If using self-adhesive flashing in extreme conditions, apply spray adhesive/primer per manufacturer's instructions to nailing fin, sheathing and building wrap at the sides and head of the window as shown.

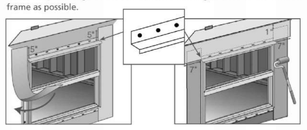
- Protect window from overspray. Concrete, on damp surfaces and/or where frost is present.
- The flashing manufacturer's recommended primer is Protecto Wrap Safseal Systems 5500.

Note! Extreme conditions exist where the outside temperature is at or below 32° F (0° C), on excessively dirty surfaces, on Dens-Glass Gold, on concrete, on damp surfaces and/or where frost is present.

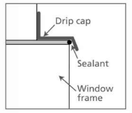
- The flashing manufacturer's recommended primer is Protecto Wrap Safseal Systems 5500 primer.

APPLY SELF-ADHESIVE FLASHING IN THIS ORDER

Note! Keep the edge of the self-adhesive flashing as close to the window frame as possible.

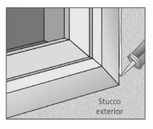


1. Apply the side pieces starting 5" above the header
2. Install drip cap (should extend 1/2" on each side)
3. Center and apply the header piece above the drip cap
4. Press the flashing down with a j-roller
5. Apply a bead of sealant all along between the drip cap and the window head



6 COMPLETE INSTALLATION
for Vinyl Flush Fin Windows

INSULATION



1. Insulate with fiberglass batting or low expansion foam. Fill gap with low expansion foam around window perimeter at the sash position. Fill remaining cavity with fiberglass batting. Use as per manufacturers instructions.

AFTER INSTALLATION

2. Apply interior trim as desired.
3. Adjust window for best operation (if applicable).
4. Protect recently installed units from damage from plaster, paint, etc. by covering the units with plastic.
5. For casement window, remove the shipping block (cork) underneath the sash.

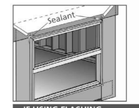
Please visit our website at www.jeld-wen.ca/eng/resources to download a copy of the complete guide to care and maintenance for your window.

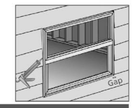
Thank you for choosing

JELD-WEN WINDOWS & DOORS

RELIABILITY *for* real life® JW

6 COMPLETE INSTALLATION
for Vinyl Windows with Nailing Fin





IF USING FLASHING

1. Seal the top corners of the window with a 1/4" bead of sealant. Tool into a fillet shape.
2. Release the building wrap from above the header (previously taped up) and overlap the header flashing. Seal the ends with self-sealing flashing or building wrap tape.
3. Ensure weep holes/ channels are clear of debris for proper water drainage; do not seal weep holes/channels if present.

IS USING FLEXIBLE FLASHING

- Mechanically fasten flashing.
- Apply sealant down sides where the window meets the flashing. "Tool" or smooth out the sealant.

AFTER INSTALLATION

1. Install exterior wall surface within seven days of window installation.
2. Maintain gap of 1/4"-3/8" between window frame and final exterior wall surface (siding, stucco, etc.).
3. Seal the gap with backer rod and sealant. Do not apply sealant on top of window frame or drip cap if present.
4. On the interior, seal the void between the rough opening and the window frame with backer rod and sealant, or with low expansion foam. Do not use high-expansion foam as this may cause frame deflection.
5. Adjust window for best operation.
6. Protect recently installed units from damage from plaster, paint, etc. by covering the unit with plastic.
7. For casement window, remove the shipping block (cork) underneath the sash.

Note! For integral J-channel vinyl product installed into a structure with shiplap siding, no expansion/contraction joint is needed.

alpine **architectural** studio

WOODEN SPUR RENOVATION

ALPINE, WY 83128
368 WOODEN SPUR DR

PERMIT DRAWINGS

6.9.2025

REVISIONS

DOOR & WINDOW INSTALLATION

A601

GENERAL STRUCTURAL NOTES (DRAWING NOTES)

A. CODES AND SPECIFICATIONS
1. International Building Code (IBC) - 2018 Edition
2. ACI 318-14 Building Code Requirements for Reinforced Concrete
3. ANSI/AWC National Design Specification (NDS) & Suppl. for Wood Const. - 2018 Edition
4. ASCE 7-16 Min. Design Loads for Buildings and other Structures.

B. DESIGN LOADS UNIFORM (PSF)

	Uniform
1. Floor Loads	
a. Main Live =	40
Dead =	10
b. Upper Live =	40
Dead =	10
2. Roof Loads	
a. Live Load	20 PSF
b. Snow Load	
Design Snow Load	100.0 PSF
Flat Roof Snow Load	Pf = 98.0
Ce = 1.0; Ct = 1.0; Is = 1.0	
Ground Snow Load	140.0
Sloped Roof	Ps = 98.0; Cs = 1.0
c. Rain Load =	N/A
3. Lateral Loads	
a. Wind Load 115 MPH (3 Sec Gust) Risk Cat= II; EXP = C	
Encl. Cat. - Enclosed Building	
Internal Pressure Coef. +/- 0.18	
Components & Cladding - 13.3 PSF	
b. Seismic Load: Risk Cat: II Importance Factor = 1.0	
Ss = 110.9% G; S1 = 34.10% G	
Site Class = D	
Sds = 0.887; Sd1 = 0.445	
Seismic Design Category = D	
Basic Seismic System = Bearing wall System	
Design Base Shear V = 0.136 W	
Seismic Response Coef. Cs = 0.136	
Response Modification Factor R = 6.5	
Analysis Procedure = Equivalent Lateral - Force Analysis	

C. FOUNDATIONS
1. Bearing pressure taken as 1500 PSF for column and wall footings, based on a sand, silty sand, clayey sand, silty gravel, and clayey gravel (Table 1806.2, Class of Materials #4). Notify Engineer if conditions encountered are different.
2. Bear footing on same type of undisturbed soil or rock throughout the entire structure.

D. MATERIALS

1. Dimensional Lumber	#2 Douglas Fir
2. Glulam Beams (GLB)	24FV4
3. Laminated Veneer Lumber (LVL)	E = 1.9E6 PSI Fb=2600
4. Concrete f'c - Ftgs, Walls	3500 PSI Exposure Class = F1 Air Content 5%
- Garage & Exterior Slabs	4500 PSI Exposure Class = F2 Air Content 6%
Max Water-Cement Ratio	0.55
Max Aggregate size	3/4"
5. Reinforcing Steel	ASTM A615 - Grade 60
6. Anchor Bolts	A36 / F1554 GRADE 36

E. REINFORCED CONCRETE
1. Concrete shall be of ready mix type conforming to ASTM C94.
2. Portland Cement to comply with ASTM C150
3. Comply with ACI 306 Cold Weather Concrete standards if the mean daily temperature is expected to drop below 40° F for 3 or more successive days. Place no concrete against frozen earth.
4. Comply with ACI 305 Hot Weather Concrete Standards.
5. Conduct all compression tests according to ACI Standard Recommended Practice for Evaluation of Compression Test Results of Field Concrete (ACI 214)
6. Control joints in large areas of slab on grade shall be placed in checkerboard fashion in lengths not to exceed 20 feet in any direction.
7. All construction joints shall be located so as not to impair the strength of the structure. Unless noted on the drawings, all reinforcement shall be continuous through the joints. Each construction joint shall be keyed.
8. No aluminum products shall be embedded in the concrete. Electrical conduit shall be placed at mid-height of the slabs and shall have an O.D. less that one-third the slab thickness.
9. Add 2-#5 reinforcing bars around all opening (unless noted otherwise) and extend 24" beyond the corner of the openings.
10. Unless otherwise noted, reinforce all concrete wall as follows:

Wall Size	Horizontal Reinforcement	Vertical Reinforcement
6"	#4 @ 18" O.C.	#4 @ 18" O.C.

F. REINFORCING STEEL
1. All detailing, fabrication and placing of reinforcing bars shall conform to the ACI Manual of Standard Practice for Detailing Reinforced Concrete Structures (ACI 315). All reinforcement to be supported in the forms and space with wire or plastic bar supports. Reinforcement in footings shall be supported on precast concrete block supports conforming to the Concrete Reinforcing Steel Institute Manual of Standard Practice.
2. Splice of reinforcement at points of maximum stress shall be avoided wherever possible. See Table.
3. All continuous reinforcement shall terminate with 90 degree return or hook or separatecorner bar.
4. All vertical reinforcement in columns and walls shall be doweled from the footing or structure below with rebar of the same size and spacing as required above.
5. Minimum concrete cover for reinforcing bars shall be as specified in Building Code Requirements for Reinforced Concrete (ACI 318)
6. Welding or tack welding of reinforcing bars is prohibited unless specifically approved by the Engineer.

G. LUMBER
1. Do not notch any structural wood member unless shown on the drawings.
2. Install and follow all manufacturers guidelines for Engineered Wood I members and LVL products. --Do not notch or cut flanges of Eng. Wood I Members.--
3. All nails shall be common wire nails. Any nails exposed to weather or moisture shall be of stainless steel or shall be galvanized.
4. Nailing to conform to IBC Table 2304.10.1 unless noted otherwise (See Nailing Schedule).
5. Wherever possible nails should be driven perpendicular to the grain instead of toe nail.
6. Where wood tends to split, holes for nails shall be bored a diameter smaller that of the nails.
7. Plywood face grain must be perpendicular to its supports.
8. Any wood members in contact with concrete or earth shall be pressure-treated wood or wood that is decay resistant (redwood or cedar).
9. Wet use adhesives shall be used on all glulam members subjected to possible moisture.
10. Roof trusses to be designed and engineered by supplier to meet the design loads herein indicated in addition to any and all drifting loads, wind loads, equipment loads and other loads as indicated on framing plan. Submit shop drawings and calculations for review.
11. Truss manufacturer to provide truss to truss connection details.

NAILING SCHEDULE

19/32" APA Rated 40/20 Roof Sheathing No blocking required unless shown on framing plan. See typical detail. use panel clips at unsupported edges.	Boundary nailing - 10d @ 6" o.c. End nailing - 10d @ 6" o.c. Side nailing - 10d @ 6" o.c. Intermediate nailing - 10d @ 12" o.c.
23/32 APA Rated 48/24 Floor Sheathing Use tongue and groove wood panels or block all panel edges.	Boundary nailing - 10d @ 6" o.c. End nailing - 10d @ 6" o.c. Side nailing - 10d @ 6" o.c. Intermediate nailing - 10d @ 10" o.c.

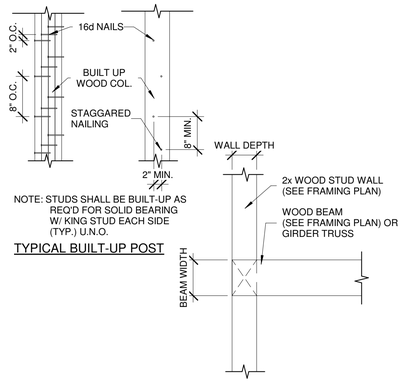
SHEAR WALLS
See Shear Wall Schedule

H. DEFERRED SUBMITTALS
List of deferred submittals (shop drawings) that require Architectural and/or Engineering review and approval before fabrication or installation begins:
1. Engineered Roof Trusses

GENERAL NOTES
1. Adequate shoring and bracing of all structural members during construction shall be provided.
2. Any proposed field changes shall have prior approval from the Engineer.
3. Contractor shall verify all dimensions in the field. Any variation from the drawings shall be brought to the attention of the Engineer.
4. Install Simpson hardware as per Manufacturers requirements.
5. Details are representations/ depictions only. Follow written callouts.
6. NO CHANGES PERMITTED WITHOUT EXPRESS WRITTEN PERMISSION OF ENGINEER

WIND COMPONENT AND CLADDING SCHEDULE

WIND PRESSURE (PSF)	10 SF	50 SF	100 SF
ROOF AT LEAST 3'-0" AWAY FROM ANY EDGE	+10.0, -29.1	+10.0, -17.7	+10.0, -10.0
ROOF WITHIN 3'-0" OF ANY EDGE	+10.0, -50.5	+10.0, -33.7	+10.0, -26.4
WALL AT LEAST 3'-0" AWAY FROM ANY CORNER	+14.4, -15.6	+12.9, -14.1	+12.3, -13.5
WALL WITHIN 3'-0" OF ANY CORNER	+14.4, -19.2	+12.9, -16.3	+12.3, -15.0

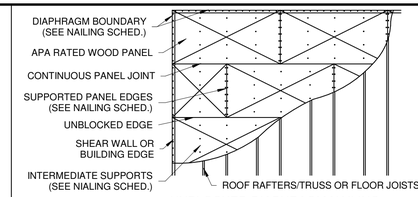


NOTE: STUDS SHALL BE BUILT-UP AS REQ'D FOR SOLID BEARING W/ KING STUD EACH SIDE (TYP.) U.N.O.

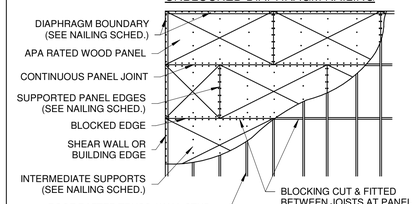
TYPICAL BUILT-UP POST

MINNIMUM COLUMN = BEAM WIDTH x WALL DEPTH

F S1 SECTION DO NOT SCALE — MINIMUM COLUMN DETAIL



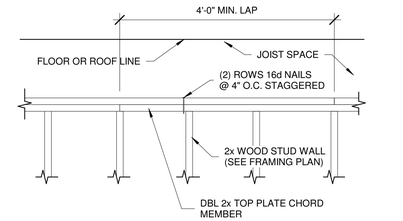
UNBLOCKED DIAPHRAGM NAILING



BLOCKED DIAPHRAGM NAILING

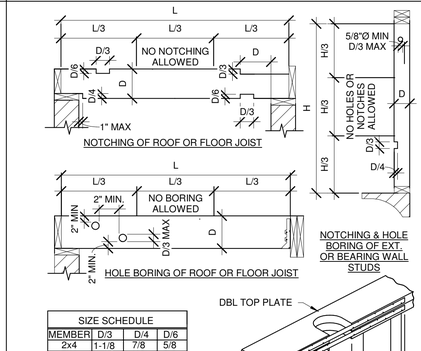
C S1 SECTION DO NOT SCALE

APA RATED PLYWOOD DEPICTED (HORIZONTAL ONLY)
OSB APA RATED SHEATHING CAN BE ORIENTED EITHER HORIZONTAL OR VERTICAL



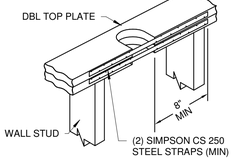
SPLICE DETAIL

E S1 SECTION DO NOT SCALE



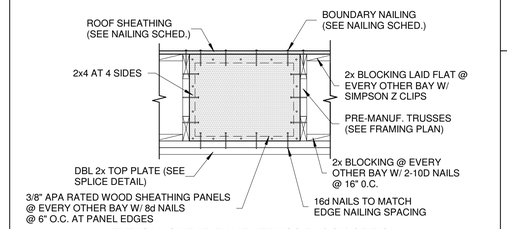
SIZE SCHEDULE			
MEMBER	D/3	D/4	D/6
2x4	1-1/8	7/8	5/8
2x6	1-3/4	1-3/8	7/8
2x8	2-3/8	1-3/4	1-1/8
2x10	3	2-1/4	1-1/2
2x12	3-5/8	2-3/4	1-7/8

HOLES & NOTCHES IN BEAMS ARE NOT ALLOWED UNLESS OTHERWISE APPROVED IN WRITING BY ENGINEER



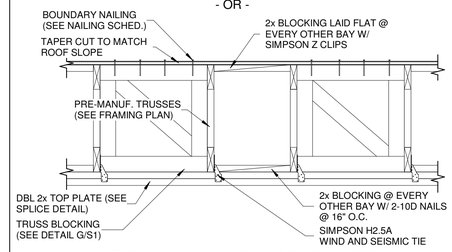
NOTCHING OF DOUBLE TOP PLATE

B S1 SECTION DO NOT SCALE



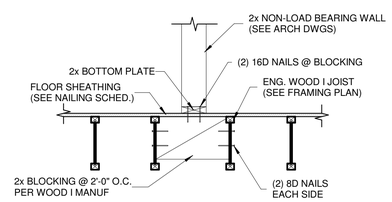
TYPICAL SHEAR PANEL TRUSS BLOCK OPTION

- OR -

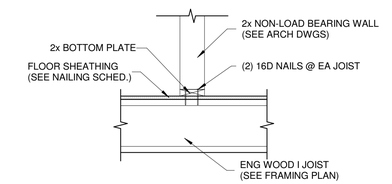


TYPICAL MANUF. BLOCKING PANELS OPTION

G S1 SECTION DO NOT SCALE

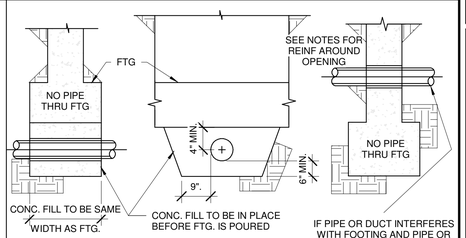


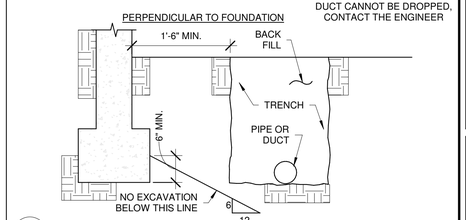
JOIST PARALLEL TO WALL



JOIST PERPENDICULAR TO WALL

D S1 SECTION DO NOT SCALE





PARALLEL TO FOUNDATION

A S1 SECTION DO NOT SCALE

BRETT BENNETT REMODEL
368 WOODEN SPUR
ALPINE, WY

DATE: 06/09/25
CHECKED BY: EVB
DRAWN BY: LBG

BY	REVISIONS	DATE

Professional Engineer — Eric BOLANDER — 17058 — WYOMING
06/09/2025

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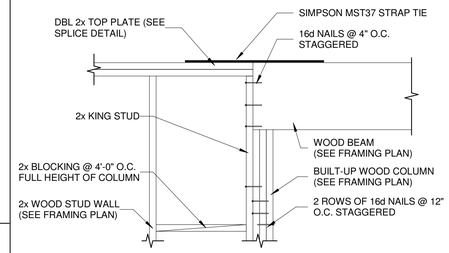
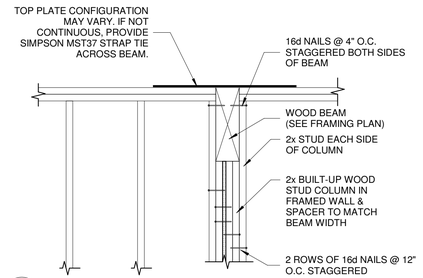
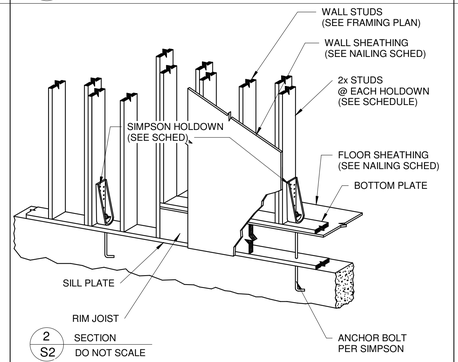
PROJECT NO. 225112
SHEET NO. S1
OF FIVE



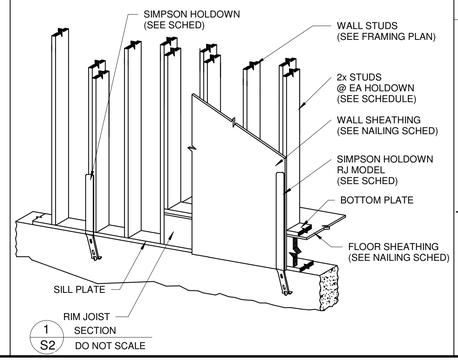
4 S2 SECTION
DO NOT SCALE



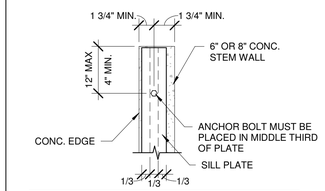
3 S2 SECTION
DO NOT SCALE



2 S2 SECTION
DO NOT SCALE



1 S2 SECTION
DO NOT SCALE



SILL PLATE ANCHORAGE OF SHEAR WALLS

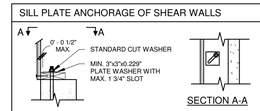
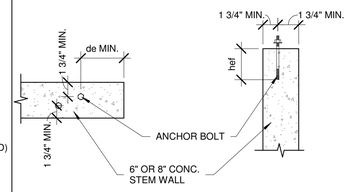
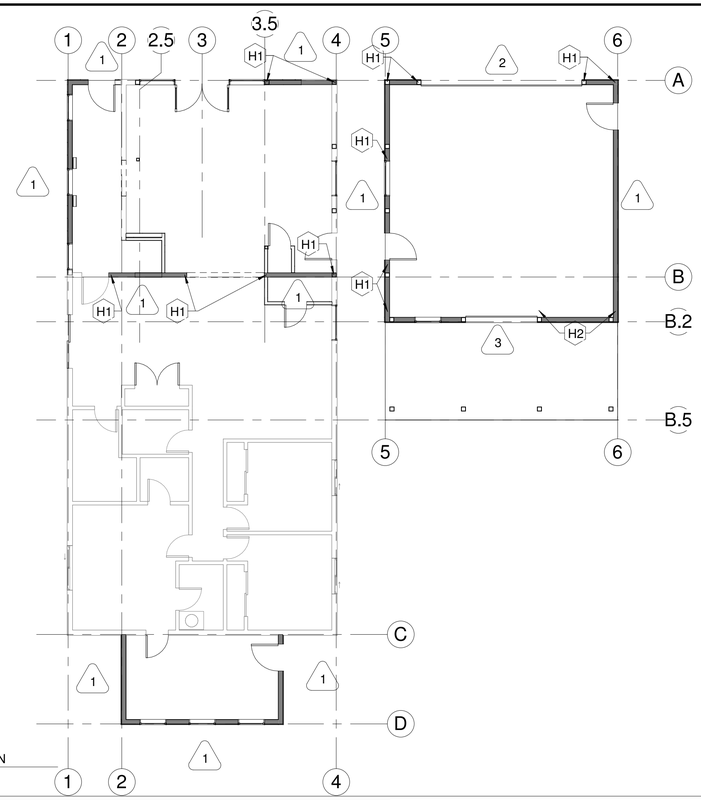


PLATE WASHERS MUST BE A MIN. OF 0.229"x3"x3" AND MUST EXTEND TO WITHIN 1/2" OF THE SHEATHED EDGE OF THE SILL PLATE. SLOTS ARE PERMITTED IN THE PLATE WASHER TO ALLOW FOR A TOLERANCE IN ANCHOR ROD PLACEMENT.

EPOXY ANCHOR BOLT OPTION			
SIZE	de	hef	EPOXY
1/2"	8 1/2"	5"	SIMPSON SET EPOXY SYSTEM OR EQUIV.
5/8"	10"	5"	SIMPSON SET EPOXY SYSTEM OR EQUIV.



POST INSTALLED SHEAR WALL ANCHORS ONLY.



FIRST FLOOR SHEAR WALL PLAN
1/8" = 1'-0"

HOLDOWN SCHEDULE

LABEL	HOLDOWN OR STRAP		WOOD WALL		CONCRETE WALL	HOLDOWN ANCHOR BOLTS			DETAILS
	AT FDTN	FLOOR TO FLOOR	# STUDS	FASTENERS	WALL SIZE	BOLT Ø	HOLDOWN EMBED. (hef)	HOOK LENGTH (eh)	
H1	[A]LSTHD8 -OR- HDU2		2 2	(20) 16d SINKERS (6) SDS 1/4X2 1/2" SCREWS	8" 8"	- 5/8"	8" [B]14"	- 3"	1/S2 2/S2
H2	HDU4		2	(10) SDS 1/4X2 1/2 SCREWS	8"	5/8"	[B]14"	3"	2/S2

A. USE RJ MODEL WHERE FLOOR SYSTEM OCCURS
B. USE SIMPSON SET EPOXY SYSTEM OR EQUIV. W/ 8" MIN. EMBED

SHEAR WALL SCHEDULE

MARK	WOOD PANEL SHEATHING			FASTENERS - EDGE NAILING[C]		FRAMING MEMBER SIZE		ANCHOR BOLTS		
	GRADE	MINIMUM NOMINAL THICKNESS	# OF LAYERS	NAILS (SEE NOTE 1)	STAPLES (7/16" MIN. CROWN)	WALL STUDS	SILL PLATE (P.T.)	BOLT Ø	SPACING	SHEAR WALL EMBED. (hef)
1	APA RATED	7/16"	1	8d @ 6" O.C.	1 1/2" 16 GA. @ 4" O.C.	2x	2x	5/8"	4'-0"	[D]7"
2	APA RATED	7/16"	1	8d @ 4" O.C.	1 1/2" 16 GA. @ 3" O.C.	2x	2x	5/8"	4'-0"	[D]7"
3	APA RATED	7/16"	1	8d @ 3" O.C.	NOT ALLOWED	2x	2x	5/8"	3'-0"	[D]7"

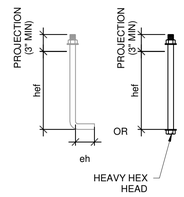
C. SEE INTERMEDIATE NAILING SCHED
D. SEE EPOXY ANCHOR BOLT OPTION

NOTES:
1. NAILS TO BE COMMON OR GALV. BOX NAILS ONLY. (GALV. NAILS MUST BE HOT DIPPED OR TUMBLED). NON-GALV. BOX NAILS, SINKERS, ETC. ARE NOT ALLOWED.
2. FOUNDATION SILL PLATE SHALL BE ATTACHED PER DETAIL
3. ALL EXTERIOR WALLS TO BE ⚠ U.N.O.
4. ▬ DENOTES A SHEAR WALL
5. LOCATE HOLDOWNS AT CORNERS AND ADJACENT TO DOOR/WINDOW OPENINGS. (SEE ARCH DRAWINGS)
6. ALL ANCHOR BOLTS TO BE A36/F1554 GRADE 36

NOTE: BLOCK ALL SHEAR WALL PANEL EDGES. SEE DETAIL C/S1

[C]INTERMEDIATE NAILING (FIELD)

STUD SPACING	MINIMUM PANEL THICKNESS	FASTNERS - FIELD NAILING	
		NAILS	STAPLES (7/16" MIN. CROWN)
16" O.C.	7/16"	8d @ 12" O.C.	8" O.C.
24" O.C.	7/16"	8d @ 6" O.C.	4" O.C.
24" O.C.	15/32"	8d @ 12" O.C.	8" O.C.



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ALPINE, WY

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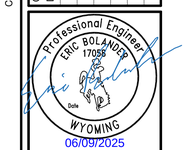

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PROJECT NO. 225112

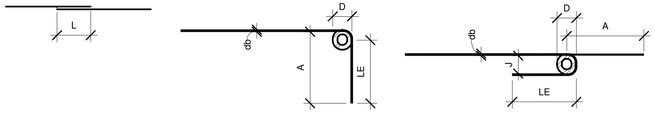
SHEET NO. S2

OF FIVE

REBAR LAP SPLICE SCHEDULE		
BAR SIZE		min. f'c = 3000 PSI TYP. SPLICES
NO.	DIA.	LENGTH (L)
4	0.500	22"
5	0.625	28"
6	0.750	33"

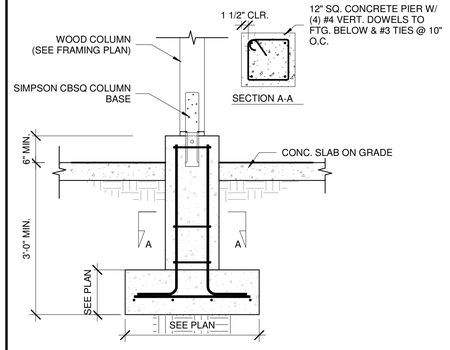
90° HOOK DIMMENSIONS			
BAR SIZE	A	D	LE
#4	8"	3"	6"
#5	10"	3 3/4"	7 1/2"
#6	1'-0"	4 1/2"	9"

180° HOOK DIMMENSIONS				
BAR SIZE	A	J	D	LE
#4	6"	4"	3"	2 1/2"
#5	7"	5"	3 3/4"	2 1/2"
#6	8"	6"	4 1/2"	3"

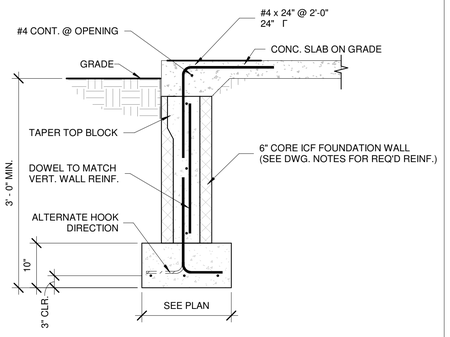


STANDARD HOOK DETAILS

CONCRETE FOOTING SCHEDULE						
				REINFORCEMENT*		
TYPE	DEPTH	WIDTH	LENGTH	LONGITUDINAL	TRANSVERSE	REMARKS
F24	0' - 10"	2' - 0"	CONT.	(3) - #4	-	-
F20	0' - 10"	1' - 8"	CONT.	(3) - #4	-	-
F16	0' - 8"	1' - 4"	CONT.	(2) - #4	-	-
F3.0	0' - 10"	3' - 0"	3'-0"	(4) - #4	(4) - #4	-
F2.5	0' - 10"	2' - 6"	2'-6"	(3) - #4	(3) - #4	-



4 S3 SECTION DO NOT SCALE



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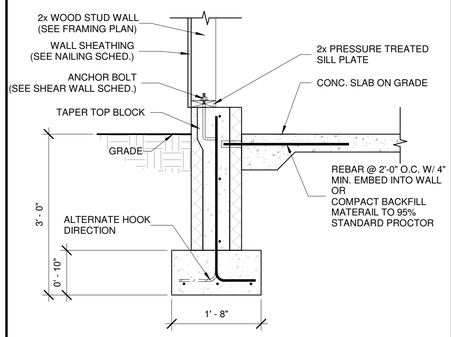

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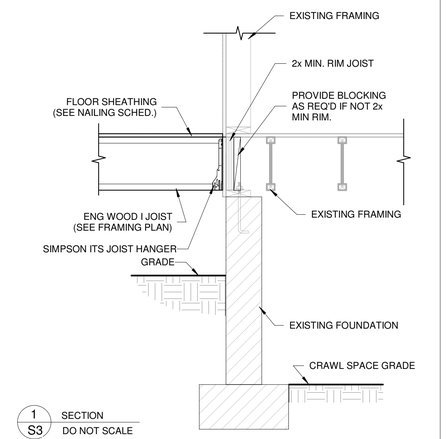
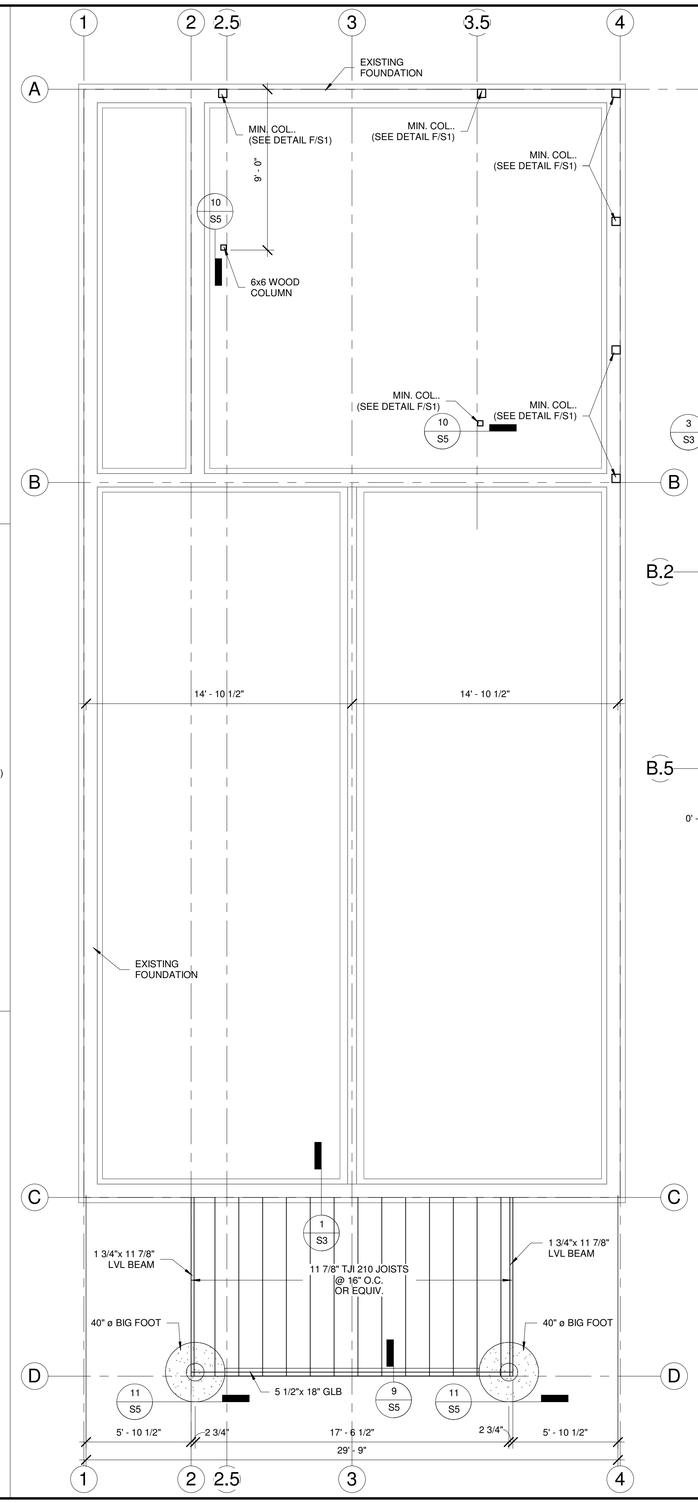
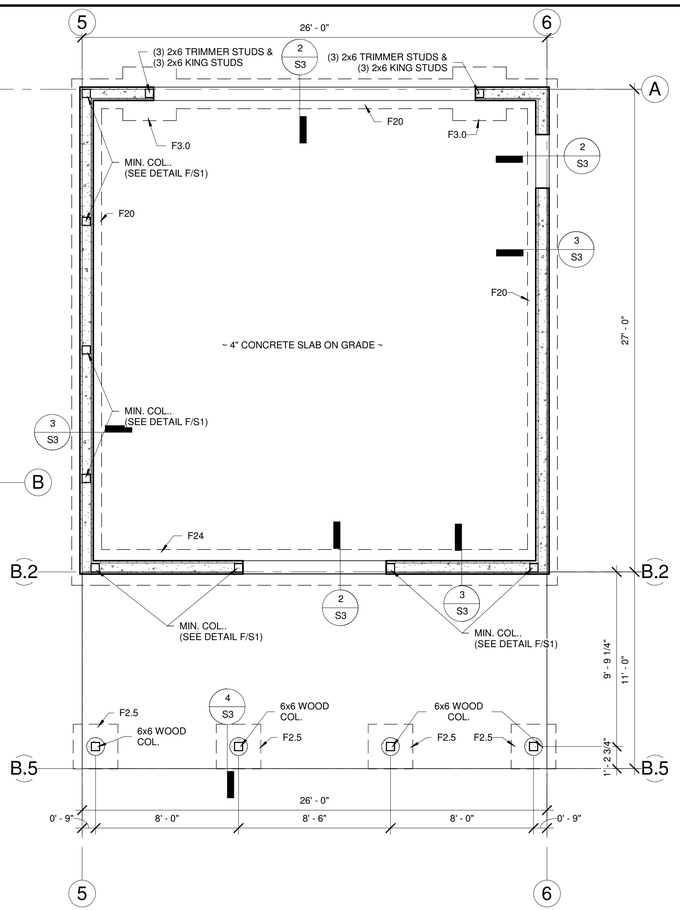


1 S3 SECTION DO NOT SCALE



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

NOTE: HOLDDOWNS SHOWN FOR CONTRACTORS CONVENIENCE. REFER TO SHEET S2 FOR SHEAR WALL DETAILS AND PLACEMENT.



BRETT BENNETT REMODEL
368 WOODEN SPUR
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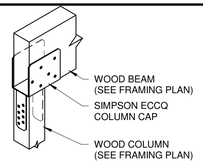
PROJECT NO. 225112
SHEET NO. S3
OF FIVE



8/S4 SECTION
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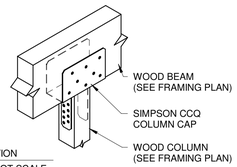

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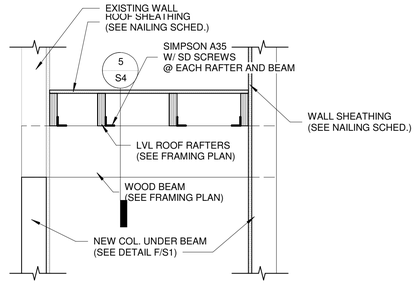

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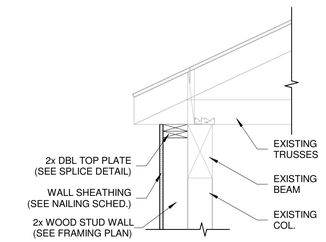

7/S4 SECTION
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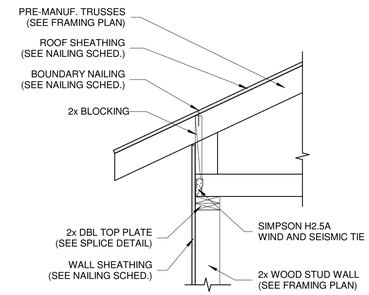
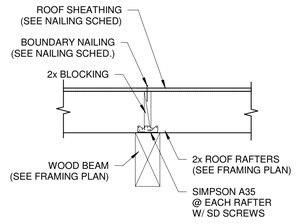


3/S4 SECTION
DO NOT SCALE



6/S4 SECTION
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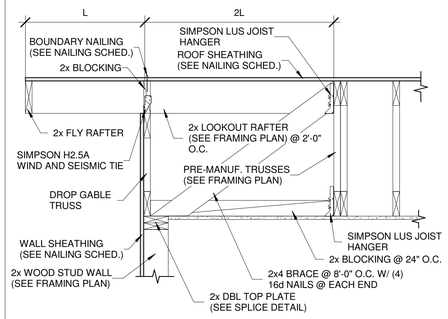
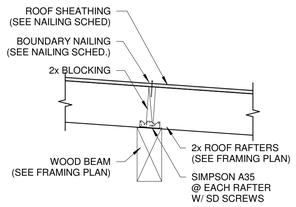


2/S4 SECTION
DO NOT SCALE



5/S4 SECTION
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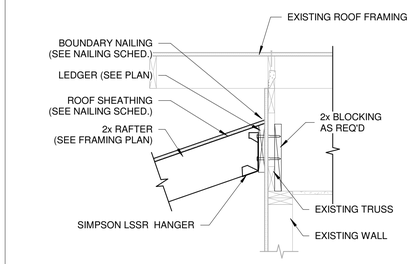
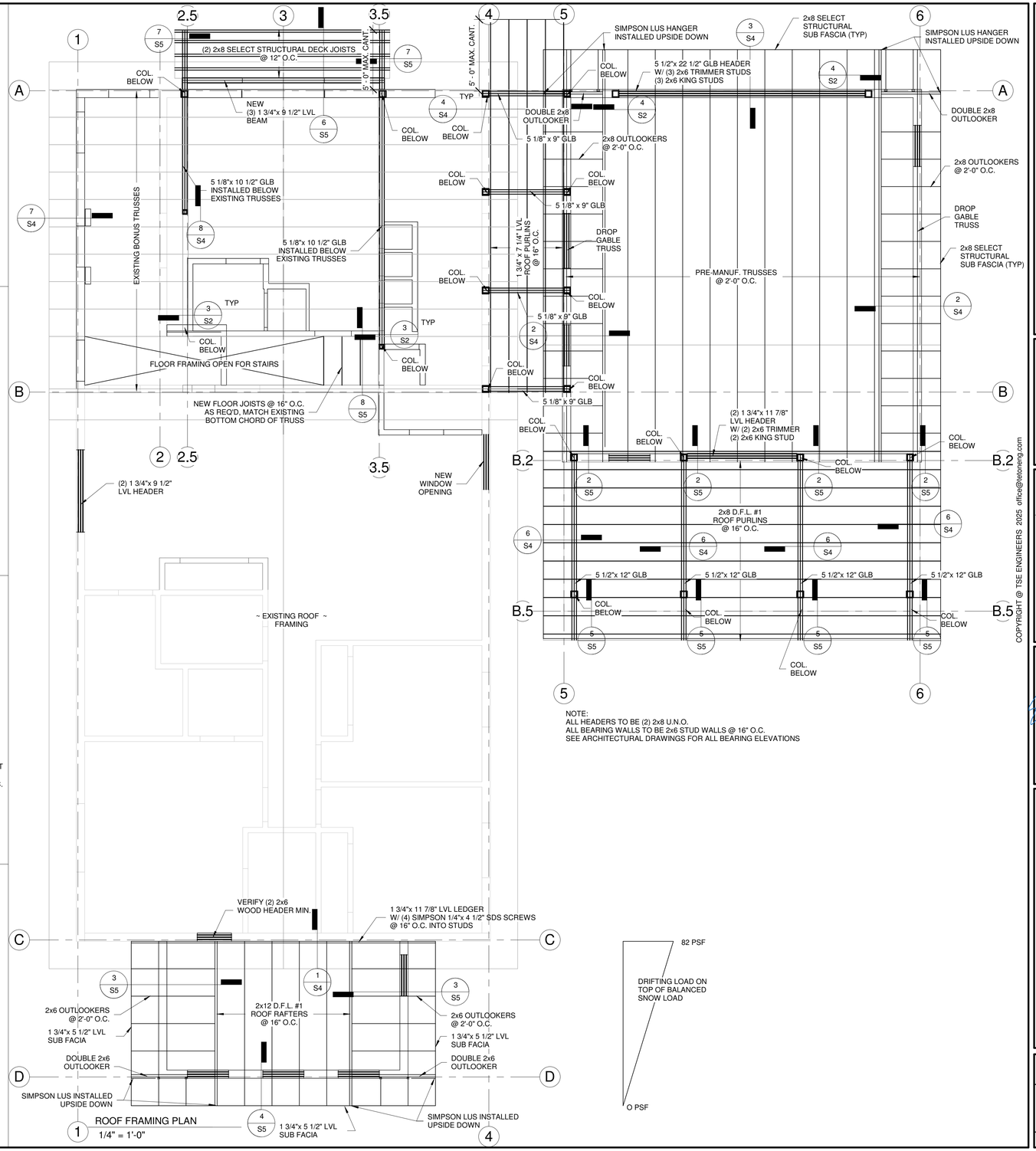


1/S4 SECTION
DO NOT SCALE



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

NOTE:
ALL HEADERS TO BE (2) 2x8 U.N.O.
ALL BEARING WALLS TO BE 2x6 STUD WALLS @ 16" O.C.
SEE ARCHITECTURAL DRAWINGS FOR ALL BEARING ELEVATIONS

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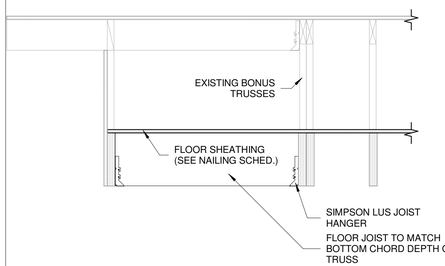
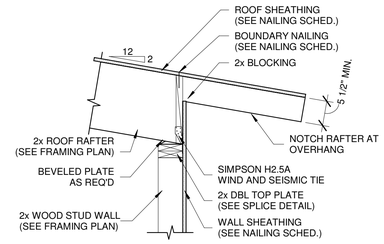
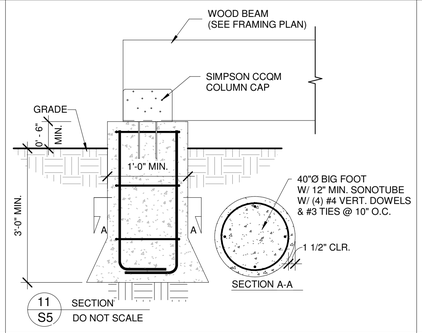


8 S5 SECTION DO NOT SCALE



4 S5 SECTION DO NOT SCALE



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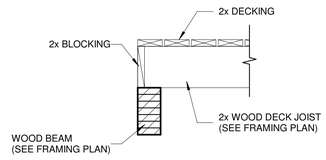

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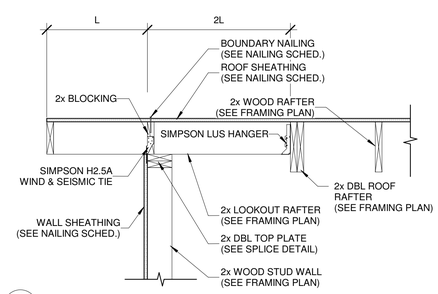

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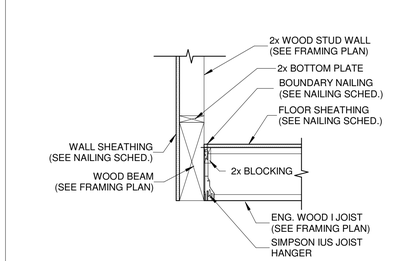

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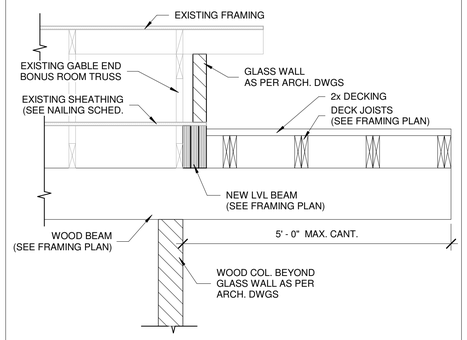

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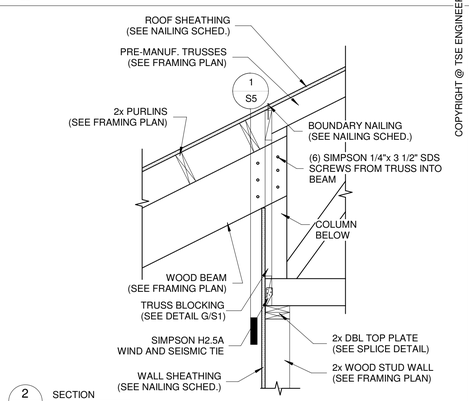
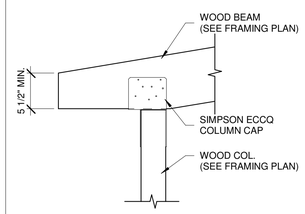


2 S5 SECTION DO NOT SCALE

9 S5 SECTION DO NOT SCALE



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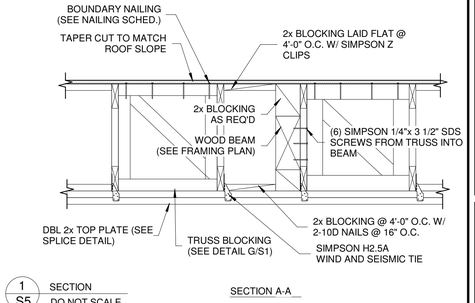


1 S5 SECTION DO NOT SCALE

BRETT BENNETT REMODEL
368 WOODEN SPUR
ALPINE, WY

DATE: 06/09/25
CHECKED BY: EVB
DRAWN BY: LBG

REVISIONS	BY	DATE

Professional Engineer
ERIC BOLANDER
17088
Date
WYOMING
06/09/2025

136 SOUTH STATE STREET
SHELLEY, IDAHO 83274
PHONE (208)-357-2420
FAX (208)-357-2419
office@tetoneng.com
TSE ENGINEERS

PROJECT NO. 225112

SHEET NO. S5

OF FIVE

Town of Alpine

REMODEL/ADDITION PERMIT APPLICATION

ALL permit information is DUE NO LATER than 4:00 PM on the 1st and 3rd Mondays of the month. Meeting appointments will not be scheduled if applicant has failed to submit all the requested information identified on the checklist and/or has not paid all required permitting fees.

Please plan accordingly. NO EXCEPTIONS WILL BE GIVEN

Applications are valid for 90 days from the submitted date to the Town Office.

P&Z Commission meets on the 2nd & 4th Tuesdays of the month (during the months of May – October) at 7:00 pm.
P&Z Commission meets on the 2nd Tuesday of the month (during the months of November - April) at 7:00 pm.

There are no refunds on building application fees.

The Property Owner and/or a Representative must be present at the scheduled meeting for your permit to be approved.

REMODEL/ADDITION

Permit Application

INFORMATION TO BE PROVIDED BY APPLICANT ~ PLEASE FILL IN ALL BLANKS

PROJECT NAME:

Physical Address:	358 ~~358~~ 368 WOODEN SPUR DR
Legal Description (Lot # and Subdivision):	GREYS RIVER VILLAGE NO. 2 LOT-27
Description of Work:	RESIDENTIAL GARAGE AND RENOVATION OF EXISTING DWELLING
Proposed Building Use:	RESIDENTIAL R-1
Estimated Valuation of Work:	$200,000.00
Floor Area: First Flr:	FLOOR AREAS IN GROSS SQUARE FEET ONE FAMILY DWELLING GROSS FLOOR AREAS: EXISTING 1ST FLOOR DWELLING AREA: 1,216 SQFT EXISTING ATTACHED GARAGE AREA: 528 SQFT EXISTING 2ND FLOOR AREA: 295 SQFT EXISTING 1ST COVERED PORCH: 132 SQFT
Total Square Footage:	PROPOSED 1ST FLOOR ADDITION: 180 SQFT COVERED PORCH TO LIVING ROOM: 132 SQFT EXISTING GARAGE TO LIVING ROOM: 515 SQFT PROPOSED DETACHED GARAGE: 676 SQFT 1503 PROPOSED COVERED OUTDOOR AREA: 150 SQFT AT ENTRY + 312 SQFT AT DETACHED GARAGE

APPLICANT/CONTRACTORS AND/OR CONSULTANTS:

Owner: BRETT BENNETT	Phone: (307) 880-4280
Mailing Address: PO BOX 3975, ALPINE, WY 83128	
Contractor: RIGHT ANGLE CONSTRUCTION	Phone: (307) 690-3728
Mailing Address: PO BOX 3375, ALPINE, WY 83128	
Excavating Contractor: TO BE DETERMINED	Phone:
Mailing Address:	
Electrical Contractor: TO BE DETERMINED	Phone:

Mailing Address:	
Plumbing Contractor: BE DETERMINED	Phone:
Mailing Address:	
Mechanical Contractor: TO BE DETERMINED	Phone:
Mailing Address:	
Authorized Representative if different from Owner:	
Signature of Owner or Authorized Representative:	**Date:**

FOR USE BY TOWN:

Date Received:	**Permit #:**	**Property Zoning:**
Permit Fees:	**Paid Fees: (Check#/Cash)**	**Scheduled Meeting Date:**
Fire Sprinklers Required: (Yes/No)	**Business Licenses:**	
Application Completed:	**Employee Review:**	**Application Return Date:**
Town Inspector Submittal Date:		

Town of Alpine

Remodel/Addition Permit

CHECKLIST

There will be NO guarantees of being on the P & Z Agenda if...

- **Your application is turned in <u>after</u> the deadline date/day; or,**
- **If your remodel/addition building packet (application, checklist, fee payments, all required information, etc.,) is <u>not completed and/or submitted;</u> or,**
- **Your review is found to be incomplete and/or not approved by the Town Building Official.**

Owner: BRETT BENNETT Phone #'s: (307) 880-4280

Lot#/Subdiv. LOT-27 GREYS RIVER VILLAGE NO.2 Physical Address: 368 WOODEN SPUR DR

You may submit your Building Application Packet by mail to: PO Box 3070, Alpine, WY 83128
Or deliver in person to: 250 River Circle, Alpine, WY 83128

<u>#1 - REVIEW AND COMPLETE ALL APPROPRIATE AREAS; PLACE A CHECK MARK ONCE COMPLETED OR PLACE "N/A" IF NOT APPLICABLE TO YOUR PERMIT APPLICATION {DO NOT LEAVE ANY OF THE LINES BLANK}:</u>

- ALL information is filled out and submitted as requested by the Town of Alpine;
- ALL Contractors/Subcontractors obtained a **<u>Town of Alpine Business License;</u>**
- Requested Water Main Locate prior to ANY digging (Owner's Responsibility);
- Requested all other utility(electrical, phone, etc) lines located prior to ANY digging (Owner's Responsibility)
- Must have written approval from Homeowner's Association on Building Plans (if Applicable)

<u>#2 - GETTING A BUILDING PERMIT:</u>

X Remodel/Addition Building Permit Application Completed and Signed;
X Remodel/Addition Building Checklist Completed and Signed;
X Owner must read and signs Remodel/Addition Building Permit Instructions;
X **Payment of Permit Fees, which <u>MUST</u> be paid when submitting the Building Permit Application;**
******See Fee Schedule ** <u>ALL FEES ARE NON REFUNDABLE</u>***

<u>SUBMITTAL REQUIRMENTS:</u>
<u>SITE PLAN TO BE PUT ON 11" X 17" PAPER SIZE AND MUST CONTAIN</u>:

X Setback distances;
X All Property Line & measurements according to surveyor's dimensions;
X Location & Dimensions of ALL buildings (home, garage, yard hydrants, propane tanks etc.) Dimensions must include exact perimeter of the new proposed building/addition – include any recessed areas when documenting;
X Location of utility connections;
X Location of all recorded easements;
X Proposed Landscaping and Snow Storage Areas/Requirements as stated in Land Use and Development Code;
X Proposed Vehicular Parking Requirement as stated in Land Use and Development Code;

THREE (3) FULL SETS OF STRUCTURAL PLANS {2' x 3' IN SIZE} (MUST BE STAMPED BY A WYOMING LICENSED ENGINEER) - (MINIMUM SCALE ¼" – 1');

X Detailed Building Elevations;
X Detailed Floor Plan;
X Detailed Wall Sections;
X Detailed Utilities {Plumbing, HVAC Systems, etc.,} and Electrical Plan;
X Detailed Footing/Foundation Plan and Building Material to be Used;
X Detailed Roof Plan and Building Material to be Used;
X Detailed Insulation Schedule {a Rescheck or Comcheck can be utilized};
X Detailed Window and Door Schedules/Identifications;
X Detailed Radon Mitigation System Identified;

ADDITIONAL SUBMITTALS NEEDED:

X Any Additional information and/or attachments as stipulated by the Wyoming Licensed Engineer associated with the project;
X Read Propane Tank Regulations (if applicable) Refer to Chapter 38 of IFC;
N/A Application for State of Wyoming Department of Fire Prevention & Electrical Safety (if applicable);

Please note that the Town of Alpine has adopted the **2021 International Building Codes**; refer to the adopted codes for additional information; in addition, please review the Town Adopted Building Code Ordinances located on our website for any exceptions granted by the Town of Alpine to the Adopted Building Codes.

#3 - TOWN RESPONSIBILITIES:

____ Town Building Official approves plans, by conducting a plan review;
____ Planning & Zoning Board approves Remodel/Addition Building Permit.

#4 – PROPERTY OWNER PREPARATIONS:

____ Clearly string & stake the EXACT dimensions of the new structure. **All Dimensions on the ground **MUST MATCH your Site Plan;***
____ Property stakes: All property monuments/surveyor pins must be exposed and visible; Wooden stakes without Surveyors Monuments will not be accepted.

CERTIFICATE OF PLACEMENT: A Certificate of Placement must be obtained by a Wyoming Licensed Surveyor **BEFORE** your foundation is poured. This certificate must be submitted to the Town Office before you will be allowed to move forward with your project.

BUILDING/PROJECT INSPECTIONS: Refer to the inspection schedule for the complete list of scheduled inspections for your project. **IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO CALL FOR INSPECTIONS; a minimum of 48 hours notice is suggested. FAILURE TO NOTIFY THE TOWN OFFICE OF SCHEDULED INSPECTIONS MAY RESULT IN ADDITIONAL INSPECTION CHARGES, FINES, PENALITIES AND/OR REMOVAL OF THE WORK THAT WAS INSTALLED BUT NOT BEEN INSPECTED.**

CERTIFICATE OF COMPLETION/COMPLIANCE: Upon final completion of all of the remodel/addition building requirements; *a final inspection will be completed; it is the applicant's responsibility to contact the Town Office to schedule the final inspection to receive your Certificate of Completion/Compliance.* A Certificate of Completion/Compliance represents the building can be **permanently** occupied.

Property Owner Initials:

For more thorough information and instructions:** ***Refer to the current version of the adopted Town Ordinance of the International Building Code {IBC} and/or International Residential Code {IRC} in addition refer to the Alpine Land Use and Development Code Ordinance; plus the Adopted Building Code Ordinances for any exceptions.

These can be found on our website at: www.alpinewy.org/planningandzoning.

Yes, I received, completed and understand the Remodel/Addition Permit Checklist.

Property Owner Signature — **Date** JUNE 9TH, 2025

Contractor Signature (if applicable) — **Date** 6/9/2025

Office Use Only:	
Received By:	Date:
All Items have been Completed & Application Accepted:	
Incomplete Application Returned:	
Scheduled for P&Z Meeting:	

Planning

TSE Engineers
136 S. State Street
Shelley, Idaho 83274
208-357-2420

JOB TITLE	Wooden Spur Renovati		
	368 Wppdem Spur Dr. A		
JOB NO.	225112	SHEET NO.	
CALCULATED BY	EVB	DATE	6/4/25
CHECKED BY		DATE	

STRUCTURAL CALCULATIONS

FOR

Wooden Spur Renovation

368 Wppdem Spur Dr. Alpine Wy.

06/09/2025

TSE Engineers
136 S. State Street
Shelley, Idaho 83274
208-357-2420

JOB TITLE Wooden Spur Renovation
368 Wppdem Spur Dr. Alpine Wy.
JOB NO. 225112 SHEET NO. 1 of 39
CALCULATED BY EVB DATE 6/4/25
CHECKED BY DATE

CODE SUMMARY

Code: International Building Code 2021

Live Loads:

Roof	0 to 200 sf:	20 psf
	200 to 600 sf:	24 - 0.02Area, but not less than 12 psf
	over 600 sf:	12 psf

Typical Floor	40 psf
Partitions	N/A
All other residential areas except bal	40 psf
Habitable attics & sleeping areas	30 psf
Attics without storage	10 psf
Decks (1.5 times live load)	60 psf

Dead Loads:

Floor	10.0 psf
Roof	15.0 psf

Roof Snow Loads:

Design Uniform Roof Snow load		=	100.0 psf
Flat Roof Snow Load	Pf	=	98.0 psf
Balanced Snow Load	Ps	=	98.0 psf
Ground Snow Load	Pg	=	140.0 psf
Importance Factor	I	=	1.00
Snow Exposure Factor	Ce	=	1.00
Thermal Factor	Ct	=	1.00
Sloped-roof Factor	Cs	=	1.00
Drift Surcharge load	Pd	=	
Width of Snow Drift	w	=	

Earthquake Design Data:

Risk Category		=	II
Importance Factor	I	=	1.00
Mapped spectral response accelerat	Ss	=	110.90
	S1	=	34.10
Site Class		=	code default
Spectral Response Coef.	Sds	=	0.887
	Sd1	=	0.445
Seismic Design Category		=	D
Basic Structural System		=	Bearing Wall Systems
Seismic Resisting System		=	Light frame (wood) walls with structural wood shear panels
Seismic Response Coef.	Cs	=	0.136
Response Modification Factor	R	=	6.5
Analysis Procedure		=	Equivalent Lateral-Force Analysis

Rain Design Data:

Rain intensity	*i* =	7.23 in/hr
Rain Load	R =	24.4 psf

Wind Design Data:

Ultimate Design Wind Speed	120 mph
Nominal Design Wind Speed	92.95 mph
Risk Category	II
Mean Roof Ht (h)	17.0 ft
Exposure Category	C
Enclosure Classif.	Enclosed Building
Internal pressure Coef.	+/-0.18
Directionality (Kd)	0.85

TSE Engineers
136 S. State Street
Shelley, Idaho 83274
208-357-2420

JOB TITLE Wooden Spur Renovation
368 Wppdem Spur Dr. Alpine Wy.
JOB NO. 225112 SHEET NO. 2 of 39
CALCULATED BY EVB DATE 6/4/25
CHECKED BY DATE

Component and Cladding Nominal Wind Pressures

Roof	Surface Pressure (psf)							
Area	2 sf	10 sf	20 sf	50 sf	75 sf	100 sf	200 sf	250 sf
Negative Zone 1 & 2e	-29.1	-29.1	-29.1	-17.7	-12.7	-10.0	-10.0	-10.0
Negative Zone 2n, 2r &3e	-42.4	-42.4	-36.7	-29.1	-25.7	-23.3	-17.6	-15.8
Negative Zone 3r	-50.5	-50.5	-43.2	-33.7	-29.4	-26.4	-26.4	-26.4
Positive All Zones	11.7	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Overhang Zone 1 & 2e	-33.4	-33.4	-33.4	-25.8	-22.4	-20.0	-20.0	-20.0
Overhang Zone 2n & 2r	-46.7	-46.7	-42.4	-36.7	-34.2	-32.4	-28.1	-26.7
Overhang Zone 3e	-54.7	-54.7	-47.3	-37.4	-33.0	-29.9	-22.4	-20.0
Overhang Zone 3r	-62.7	-62.7	-53.1	-40.3	-34.7	-30.7	-30.7	-30.7

Overhang soffit pressure equals adj wall pressure (which includes internal pressure of 2.4 psf)

Parapet		Solid Parapet Pressure (psf)					
	Area	10 sf	20 sf	50 sf	100 sf	250 sf	500 sf
CASE A:	Zone 2e :	0.0	0.0	0.0	0.0	0.0	0.0
	Zone 2n, 2r & 3e :	0.0	0.0	0.0	0.0	0.0	0.0
	Zone 3r :	0.0	0.0	0.0	0.0	0.0	0.0
CASE B :	Interior zone :	0.0	0.0	0.0	0.0	0.0	0.0
	Corner zone :	0.0	0.0	0.0	0.0	0.0	0.0

Wall	Surface Pressure (psf)			
Area	10 sf	100 sf	200 sf	500 sf
Negative Zone 4	-15.6	-13.5	-12.9	-12.0
Negative Zone 5	-19.2	-15.0	-13.7	-12.0
Positive Zone 4 & 5	14.4	12.3	11.7	10.8

TSE Engineers
136 S. State Street
Shelley, Idaho 83274
208-357-2420

JOB TITLE Wooden Spur Renovat
368 Wppdem Spur Dr.
JOB NO. 225112 SHEET NO. 5 of 39
CALCULATED BY EVB DATE 6/4/25
CHECKED BY DATE

Code Search

Code: International Building Code 2021

Occupancy:

Occupancy Group = R Residential

Risk Category & Importance Factors:

Risk Category =	II	
Wind factor =	1.00	use 0.60 NOTE: Output will be nominal wind pressures
Snow factor =	1.00	
Seismic factor =	1.00	

Type of Construction:

Fire Rating:

Roof =	0.0 hr
Floor =	0.0 hr

Building Geometry:

Roof angle (θ)	2.00 / 12	9.5 deg
Building length	26.0 ft	
Least width	38.0 ft	
Mean Roof Ht (h)	17.0 ft	
Parapet ht above grd	0.0 ft	
Minimum parapet ht	0.0 ft	

Live Loads:

Roof
0 to 200 sf: 20 psf
200 to 600 sf: 24 - 0.02Area, but not less than 12 psf
over 600 sf: 12 psf

Floor:

Typical Floor	40 psf
Partitions	N/A
All other residential areas except balc	40 psf
Habitable attics & sleeping areas	30 psf
Attics without storage	10 psf
Decks (1.5 times live load)	60 psf

TSE Engineers
136 S. State Street
Shelley, Idaho 83274
208-357-2420

JOB TITLE Wooden Spur Renovat
368 Wppdem Spur Dr.
JOB NO. 225112 SHEET NO. 7 of 51
CALCULATED BY EVB DATE 6/4/25
CHECKED BY DATE

Wind Loads : ASCE 7- 16

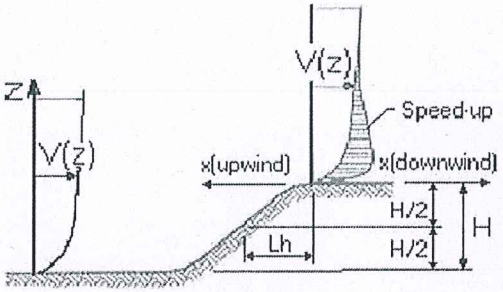
Ultimate Wind Speed	120 mph
Nominal Wind Speed	93 mph
Risk Category	II
Exposure Category	C
Enclosure Classif.	Enclosed Building
Internal pressure	+/-0.18
Directionality (Kd)	0.85
Kh case 1	0.872
Kh case 2	0.872
Type of roof	Gable

Topographic Factor (Kzt)

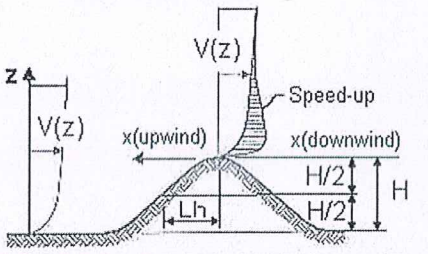
Topography		Flat
Hill Height	(H)	80.0 ft
Half Hill Length (Lh)		100.0 ft
Actual H/Lh	=	0.80
Use H/Lh	=	0.50
Modified Lh	=	160.0 ft
From top of crest: x =		50.0 ft
Bldg up/down wind?		downwind

H/Lh= 0.50 K_1 = 0.000
x/Lh = 0.31 K_2 = 0.792
z/Lh = 0.11 K_3 = 1.000

At Mean Roof Ht:
Kzt = $(1+K_1K_2K_3)^2$ = 1.00



ESCARPMENT



2D RIDGE or 3D AXISYMMETRICAL HILL

Gust Effect Factor

h =	17.0 ft
B =	38.0 ft
/z (0.6h) =	15.0 ft

Flexible structure if natural frequency < 1 Hz (T > 1 second).
If building h/B>4 then may be flexible and should be investigated.
h/B = 0.45 Rigid structure (low rise bldg)

G = 0.85 Using rigid structure formula

Rigid Structure

$\bar{e}$ =	0.20
ℓ =	500 ft
z_{min} =	15 ft
c =	0.20
g_Q, g_v =	3.4
L_z =	427.1 ft
Q =	0.92
I_z =	0.23
G =	**0.88** use G = 0.85

Flexible or Dynamically Sensitive Structure

Natural Frequency (η_1) =	0.0 Hz				
Damping ratio (β) =	0				
/b =	0.65				
/α =	0.15				
Vz =	101.3				
N_1 =	0.00				
R_n =	0.000				
R_h =	28.282	η =	0.000	h =	17.0 ft
R_B =	28.282	η =	0.000		
R_L =	28.282	η =	0.000		
g_R =	0.000				
R =	0.000				
Gf =	0.000				

TSE Engineers
136 S. State Street
Shelley, Idaho 83274
208-357-2420

JOB TITLE Wooden Spur Renovat
368 Wppdem Spur Dr.
JOB NO. 225112 SHEET NO. 3 of 51
CALCULATED BY EVB DATE 6/4/25
CHECKED BY DATE

Enclosure Classification

Test for Enclosed Building: Ao < 0.01Ag or 4 sf, whichever is smaller

Test for Open Building: All walls are at least 80% open.
Ao ≥ 0.8Ag

Test for Partially Enclosed Building: Predominately open on one side only

	Input			Test	
Ao	180.0	sf	Ao ≥ 1.1Aoi	NO	
Ag	286.0	sf	Ao > 4' or 0.01Ag	YES	
Aoi	308.0	sf	Aoi / Agi ≤ 0.20	NO	Building is NOT Partially Enclosed
Agi	858.0	sf			

Conditions to qualify as Partially Enclosed Building. Must satisfy all of the following:
Ao ≥ 1.1Aoi
Ao > smaller of 4' or 0.01 Ag
Aoi / Agi ≤ 0.20
Where:
Ao = the total area of openings in a wall that receives positive external pressure.
Ag = the gross area of that wall in which Ao is identified.
Aoi = the sum of the areas of openings in the building envelope (walls and roof) not including Ao.
Agi = the sum of the gross surface areas of the building envelope (walls and roof) not including Ag.

Test for Partially Open Building: A building that does not qualify as open, enclosed or partially enclosed. (This type building will have same wind pressures as an enclosed building.

Reduction Factor for large volume partially enclosed buildings (Ri) :

If the partially enclosed building contains a single room that is unpartitioned , the internal pressure coefficient may be multiplied by the reduction factor Ri.

Total area of all wall & roof openings (Aog): 0 sf
Unpartitioned internal volume (Vi) : 0 cf
Ri = 1.00

Ground Elevation Factor (Ke)

Grd level above sea level = 5664.0 ft Ke = 0.8146
Constant = 0.00256 Adj Constant = 0.00209

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JOB TITLE Wooden Spur Renovation
368 Wppdem Spur Dr. Alpine Wy.
JOB NO. 225112 SHEET NO. 6 OF 31
CALCULATED BY EVB DATE 6/4/25
CHECKED BY DATE

Wind Loads - MWFRS h≤60' (Low-rise Buildings) except for open buildings

Kz = Kh (case 1) = 0.87
Base pressure (qh) = **13.3 psf**
GCpi = +/-0.18

Edge Strip (a) = 3.0 ft
End Zone (2a) = 6.0 ft
Zone 2 length = 13.0 ft

Wind Pressure Coefficients

	CASE A				CASE B		
		θ = 9.5 deg					
Surface	GCpf	w/-GCpi	w/+GCpi		GCpf	w/-GCpi	w/+GCpi
1	0.44	0.62	0.26		-0.45	-0.27	-0.63
2	-0.69	-0.51	-0.87		-0.69	-0.51	-0.87
3	-0.40	-0.22	-0.58		-0.37	-0.19	-0.55
4	-0.33	-0.15	-0.51		-0.45	-0.27	-0.63
5					0.40	0.58	0.22
6					-0.29	-0.11	-0.47
1E	0.67	0.85	0.49		-0.48	-0.30	-0.66
2E	-1.07	-0.89	-1.25		-1.07	-0.89	-1.25
3E	-0.58	-0.40	-0.76		-0.53	-0.35	-0.71
4E	-0.49	-0.31	-0.67		-0.48	-0.30	-0.66
5E					0.61	0.79	0.43
6E					-0.43	-0.25	-0.61

Nominal Wind Surface Pressures (psf)

1		8.3	3.5		-3.6	-8.4
2		-6.8	-11.6		-6.8	-11.6
3		-3.0	-7.8		-2.5	-7.3
4		-2.0	-6.8		-3.6	-8.4
5					7.7	2.9
6					-1.5	-6.3
1E		11.3	6.5		-4.0	-8.8
2E		-11.9	-16.7		-11.9	-16.7
3E		-5.3	-10.1		-4.7	-9.5
4E		-4.2	-9.0		-4.0	-8.8
5E					10.5	5.7
6E					-3.3	-8.1

Parapet

Windward parapet = 0.0 psf (GCpn = +1.5)
Leeward parapet = 0.0 psf (GCpn = -1.0)

Windward roof overhangs = 9.3 psf (upward) add to windward roof pressure

Horizontal MWFRS Simple Diaphragm Pressures (psf)

Transverse direction (normal to L)

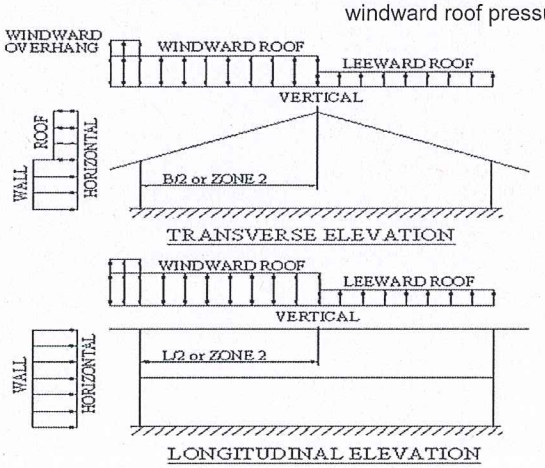
Interior Zone: Wall 10.3 psf
Roof -3.8 psf **
End Zone: Wall 15.5 psf
Roof -6.6 psf **

Longitudinal direction (parallel to L)

Interior Zone: Wall 9.2 psf
End Zone: Wall 13.9 psf

** NOTE: Total horiz force shall not be less than that determined by neglecting roof forces (except for MWFRS moment frames).

The code requires the MWFRS be designed for a min ultimate force of 16 psf multiplied by the wall area plus an 8 psf force applied to the vertical projection of the roof.



TSE Engineers
136 S. State Street
Shelley, Idaho 83274
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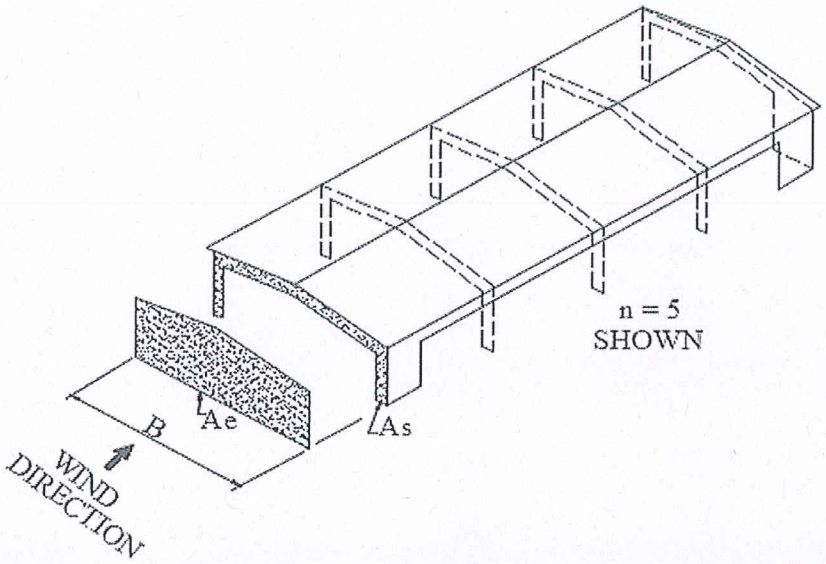
JOB TITLE	Wooden Spur Renovation 368 Wppdem Spur Dr. Alpine Wy.		
JOB NO.	225112	SHEET NO.	706 31
CALCULATED BY	EVB	DATE	6/4/25
CHECKED BY		DATE	

Wind Loads - h≤60' Longitudinal Direction MWFRS On Open or Partially Enclosed Buildings with Transverse Frames and Pitched Roofs

ASCE 7-16 procedure

Base pressure (qh) = **13.3 psf**
GCpi = +/-0.18 Enclosed bldg, procdure doesn't apply
Roof Angle (θ) = 9.5 deg



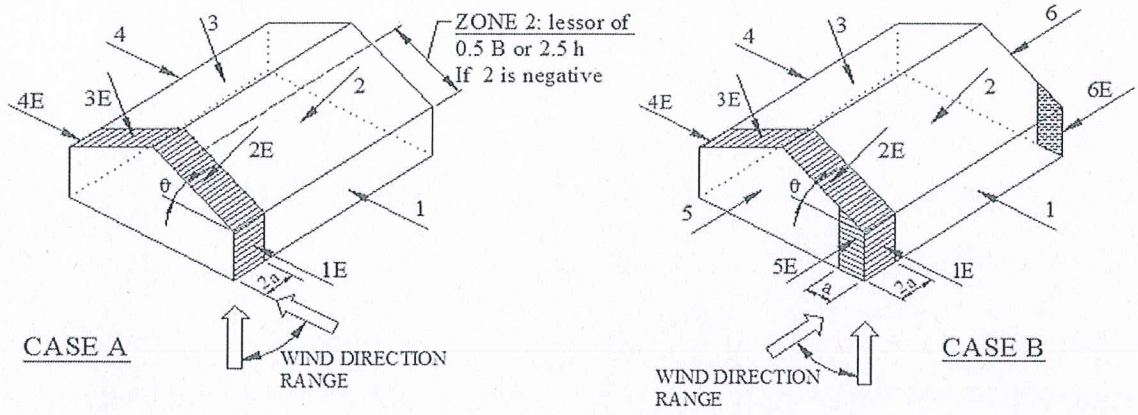
B=	38.0	ft
# of frames (n) =	5	
Solid are of end wall including fascia (As) =	1,500.0	sf
Roof ridge height =	20.2	ft
Roof eave height =	17.0	ft
Total end wall area if soild (Ae) =	706.2	sf

Longidinal Directional Force (F) = pAe
p= qh [(GCpf)windward -(GCpf)leeward] K_B K_S

Solidarity ratio (Φ) =	2.124	
n =	5	
KB =	1.42	
KS =	5.597	
Zones 5 & 6 area =	653	sf
5E & 6E area =	53	sf
(GCpf) windward - (GCpf) leeward] =	0.716	
p =	76.0	psf

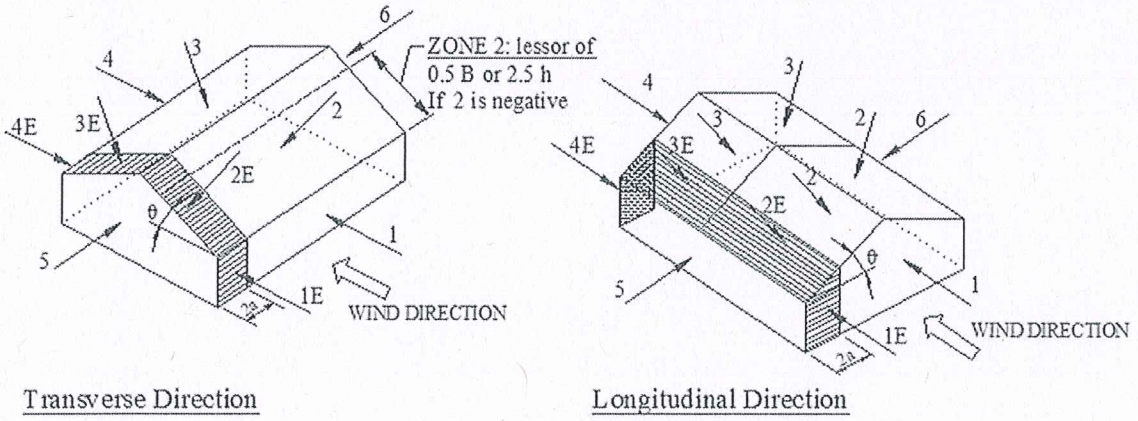
Total force to be resisted by MWFRS (F) = **53.7 kips** applied at the centroid of the end wall area Ae

Note: The longidudinal force acts in combination with roof loads calculated elsewhere for an open or partially enclosed building.



NOTE: Torsional loads are 25% of zones 1 - 6. See code for loading diagram.
Exception: One story buildings h<30' and 1 to 2 storybuildings framed with light-frame construction or with flexible diaphragms need not be designed for the torsional load case.

ASCE 7-98 & ASCE 7-10 (& later) - MWFRS wind pressure zones



NOTE: Torsional loads are 25% of zones 1 - 4. See code for loading diagram.
Exception: One story buildings h<30' and 1 to 2 storybuildings framed with light-frame construction or with flexible diaphragms need not be designed for the torsional load case.

ASCE 7-02 and ASCE 7-05 - MWFRS wind pressure zones

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Nominal Wind Pressures

Wind Loads - Components & Cladding : h ≤ 60'

Kh (case 2) =	0.87	h =	17.0 ft
Base pressure (qh) =	**13.3 psf**	a =	3.0 ft
Minimum parapet ht =	0.0 ft	GCpi =	+/-0.18
Roof Angle (θ) =	9.5 deg	qi = qh =	13.3 psf
Type of roof =	Gable		

Roof

	Surface Pressure (psf)								User input	
Area	2 sf	10 sf	20 sf	50 sf	75 sf	100 sf	200 sf	250 sf	25 sf	50 sf
Negative Zone 1 & 2e	-29.1	-29.1	-29.1	-17.7	-12.7	-10.0	-10.0	-10.0	-26.3	-17.7
Negative Zone 2n, 2r &3e	-42.4	-42.4	-36.7	-29.1	-25.7	-23.3	-17.6	-15.8	-34.8	-29.1
Negative Zone 3r	-50.5	-50.5	-43.2	-33.7	-29.4	-26.4	-26.4	-26.4	-40.9	-33.7
Positive All Zones	11.7	10	10	10	10.0	10.0	10.0	10.0	10.0	10.0
Overhang Zone 1 & 2e	-33.4	-33.4	-33.4	-25.8	-22.4	-20.0	-20.0	-20.0	-31.5	-25.8
Overhang Zone 2n & 2r	-46.7	-46.7	-42.4	-36.7	-34.2	-32.4	-28.1	-26.7	-41.0	-36.7
Overhang Zone 3e	-54.7	-54.7	-47.3	-37.4	-33.0	-29.9	-22.4	-20.0	-44.8	-37.4
Overhang Zone 3r	-62.7	-62.7	-53.1	-40.3	-34.7	-30.7	-30.7	-30.7	-50.0	-40.3

Overhang pressures in the table above assume an internal pressure coefficient (Gcpi) of 0.0
Overhang soffit pressure equals adj wall pressure (which includes internal pressure of 2.4 psf)

Parapet

qp = 0.0 psf

		Surface Pressure (psf)						User input
Solid Parapet Pressure		10 sf	20 sf	50 sf	100 sf	250 sf	500 sf	50 sf
CASE A:	Zone 2e :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Zone 2n, 2r & 3e :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Zone 3r :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CASE B :	Interior zone :	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Corner zone :	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Walls

	GCp +/- GCpi				Surface Pressure at h				User input	
Area	10 sf	100 sf	200 sf	500 sf	10 sf	100 sf	200 sf	500 sf	21 sf	50 sf
Negative Zone 4	-1.17	-1.01	-0.96	-0.90	-15.6	-13.5	-12.9	-12.0	-14.9	-14.1
Negative Zone 5	-1.44	-1.12	-1.03	-0.90	-19.2	-15.0	-13.7	-12.0	-17.8	-16.3
Positive Zone 4 & 5	1.08	0.92	0.87	0.81	14.4	12.3	11.7	10.8	13.7	12.9

Note: GCp reduced by 10% due to roof angle <= 10 deg.

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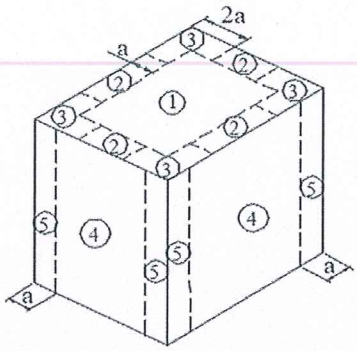
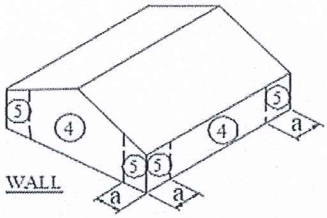
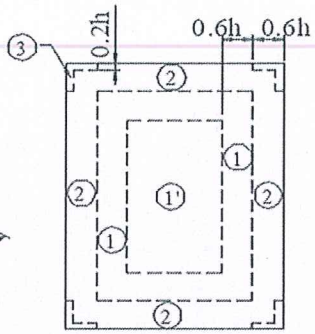
Location of C&C Wind Pressure Zones - ASCE 7-16



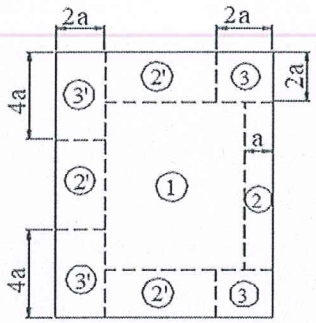
Roofs w/ θ ≤ 10°
and all walls
h > 60'



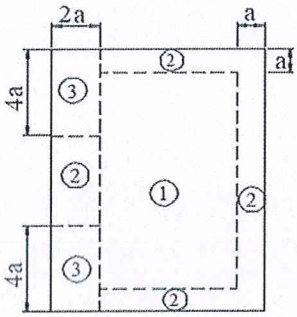
Walls h ≤ 60'
& alt design h<90'



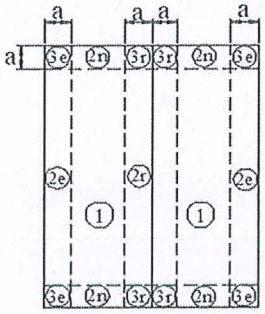
Gable, Sawtooth and
Multispan Gable θ ≤ 7 degrees &
Monoslope ≤ 3 degrees
h ≤ 60' & alt design h<90'



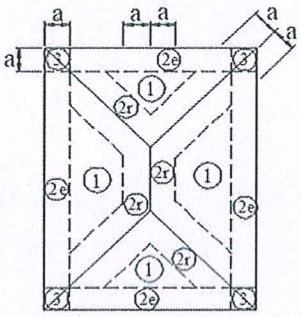
Monoslope roofs
3° < θ ≤ 10°
h ≤ 60' & alt design h<90'



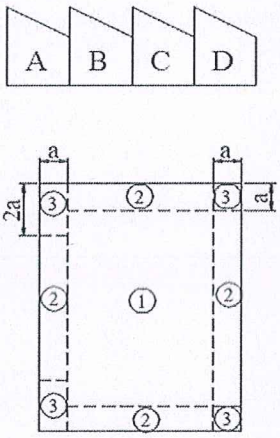
Monoslope roofs
10° < θ ≤ 30°
h ≤ 60' & alt design h<90'



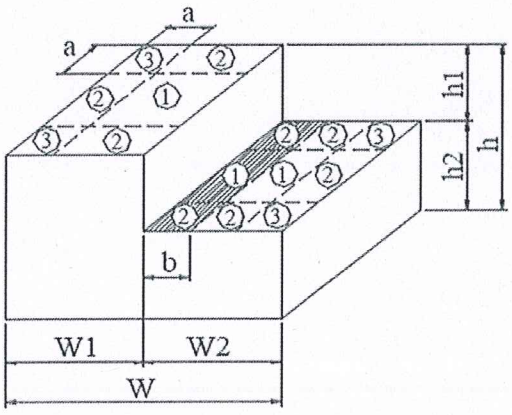
Multispan Gable &
Gable 7° < θ ≤ 45°

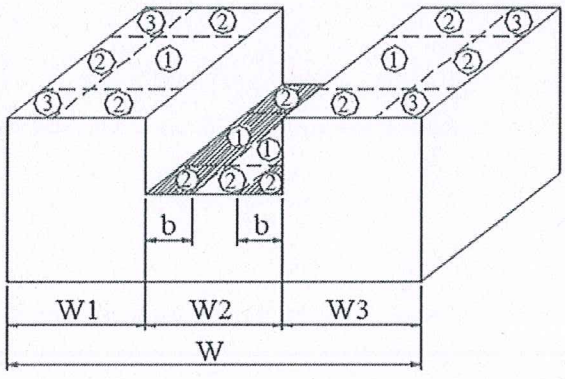


Hip 7° < θ ≤ 27°



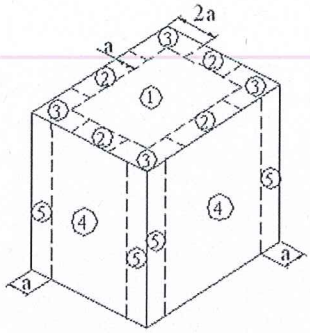
Sawtooth 10° < θ ≤ 45°
h ≤ 60' & alt design h<90'



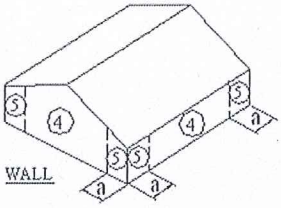


Stepped roofs θ ≤ 3°
h ≤ 60' & alt design h<90'

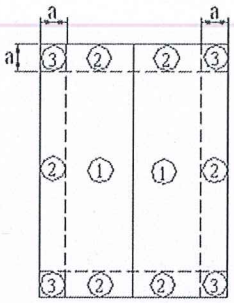
Location of C&C Wind Pressure Zones - ASCE 7-10 & earlier



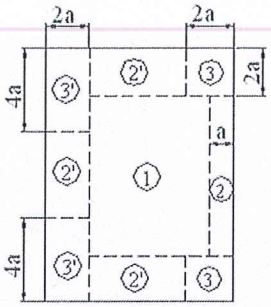
Roofs w/ θ ≤ 10°
and all walls
h > 60'



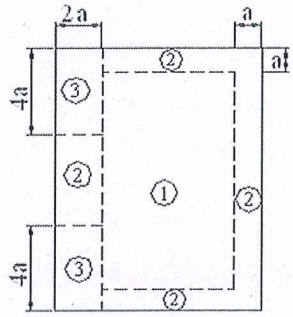
Walls h ≤ 60'
& alt design h<90'



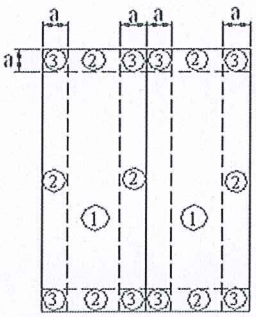
Gable, Sawtooth and
Multispan Gable θ ≤ 7 degrees &
Monoslope ≤ 3 degrees
h ≤ 60' & alt design h<90'



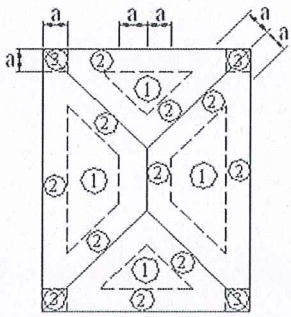
Monoslope roofs
3° < θ ≤ 10°
h ≤ 60' & alt design h<90'



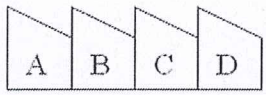
Monoslope roofs
10° < θ ≤ 30°
h ≤ 60' & alt design h<90'

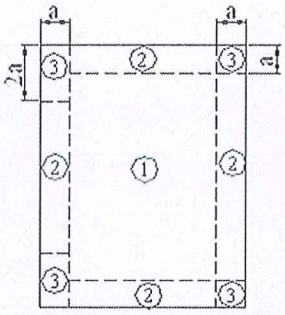


Multispan Gable &
Gable 7° < θ ≤ 45°

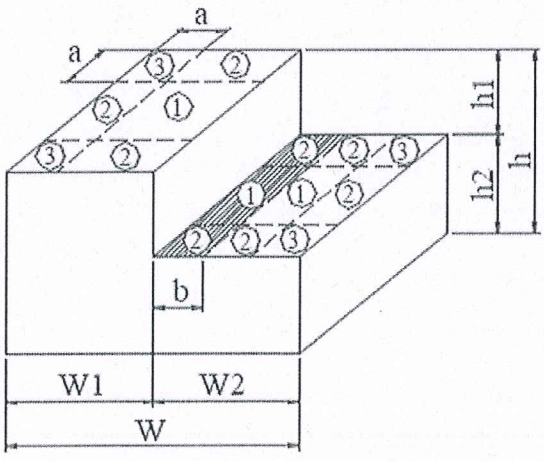


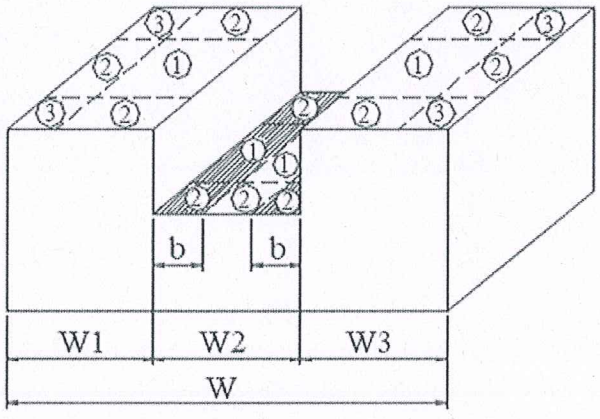
Hip 7° < θ ≤ 27°





Sawtooth 10° < θ ≤ 45°
h ≤ 60' & alt design h<90'





Stepped roofs θ ≤ 3°
h ≤ 60' & alt design h<90'

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JOB TITLE Wooden Spur Renovati
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Snow Loads : ASCE 7- 16

Nominal Snow Forces

Roof slope	=	9.5 deg
Horiz. eave to ridge dist (W)	=	19.0 ft
Roof length parallel to ridge (L)	=	26.0 ft

Type of Roof			Hip and gable w/ trussed systems
Ground Snow Load	Pg	=	140.0 psf
Risk Category		=	II
Importance Factor	I	=	1.0
Thermal Factor	Ct	=	1.00
Exposure Factor	Ce	=	1.0
Pf = 0.7*Ce*Ct*I*Pg		=	98.0 psf
Unobstructed Slippery Surface			no
Sloped-roof Factor	Cs	=	1.00
Balanced Snow Load		=	**98.0 psf**

Near ground level surface balanced snow load = **140.0 psf**

Rain on Snow Surcharge Angle			0.38 deg
Code Maximum Rain Surcharge			5.0 psf
Rain on Snow Surcharge		=	0.0 psf
Ps plus rain surcharge		=	98.0 psf
Minimum Snow Load	Pm	=	20.0 psf

Uniform Roof Design Snow Load = **98.0 psf** use 100.0

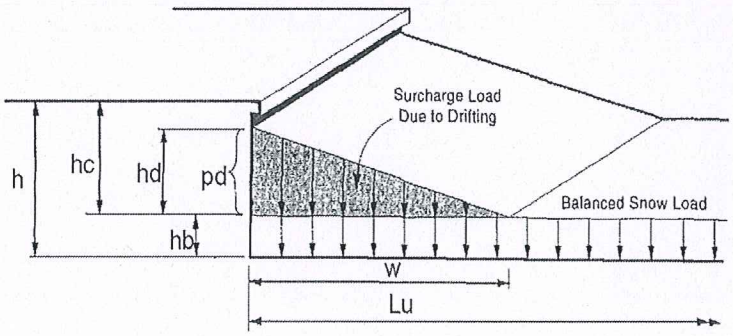
NOTE: Alternate spans of continuous beams shall be loaded with half the design roof snow load so as to produce the greatest possible effect - see code for loading diagrams and exceptions for gable roofs..

Unbalanced Snow Loads - for Hip & Gable roofs only

Required if slope is between 7 on 12 =	30.26 deg	
and 2.38 deg =	2.38 deg	**Unbalanced snow loads must be applied**
Windward snow load =	29.4 psf	= 0.3Ps
Leeward snow load from ridge to 16.88' =	129.7 psf	= hdγ / √S + Ps
Leeward snow load from 16.88' to the eave =	98.0 psf	= Ps

Windward Snow Drifts 1 - Against walls, parapets, etc

Up or downwind fetch	lu	=	40.0 ft
Projection height	h	=	6.0 ft
Projection width/length	lp	=	18.0 ft
Snow density	g	=	30.0 pcf
Balanced snow height	hb	=	3.27 ft
	hd	=	2.73 ft
	hc	=	2.73 ft
hc/hb >0.2 = 0.8	**Therefore, design for drift**		
Drift height (hc)		=	2.73 ft
Drift width	w	=	10.95 ft
Surcharge load:	pd = γ*hd	=	**82.0 psf**
Balanced Snow load:		=	98.0 psf
			180.0 psf



Note: If bottom of projection is at least 2 feet above hb then snow drift is not required.

Windward Snow Drifts 2 - Against walls, parapets, etc

Up or downwind fetch	lu	=	12.0 ft
Projection height	h	=	6.0 ft
Projection width/length	lp	=	18.0 ft
Snow density	g	=	30.0 pcf
Balanced snow height	hb	=	3.27 ft
	hd	=	1.94 ft
	hc	=	2.73 ft
hc/hb >0.2 = 0.8	**Therefore, design for drift**		
Drift height (hd)		=	1.94 ft
Drift width	w	=	7.75 ft
Surcharge load:	pd = γ*hd	=	**58.2 psf**
Balanced Snow load:		=	98.0 psf
			156.2 psf

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Seismic Loads: IBC 2021 Strength Level Forces

Risk Category : II
Importance Factor (Ie) : 1.00
Site Class : D - code default

Ss (0.2 sec) = 110.90 %g
S1 (1.0 sec) = 34.10 %g
A site specific ground motion analysis is required for seismically isolated structures or with damping systems, see ASCE7 11.4.8

Fa =	1.200	Sms =	1.331	S_{DS} =	0.887	Design Category =	D
Fv =	1.959	Sm1 =	0.668	S_{D1} =	0.445	Design Category =	D

Seismic Design Category = **D**
Redundancy Coefficient ρ = 1.30
Number of Stories: 1
Structure Type: All other building systems
Horizontal Struct Irregularities: No plan Irregularity
Vertical Structural Irregularities: No vertical Irregularity

Flexible Diaphragms: Yes
Building System: **Bearing Wall Systems**
Seismic resisting system: **Light frame (wood) walls with structural wood shear panels**
System Structural Height Limit: **65 ft**
Actual Structural Height (hn) = 17.0 ft
See ASCE7 Section 12.2.5 for exceptions and other system limitations

DESIGN COEFFICIENTS AND FACTORS

Response Modification Coefficient (R) = 6.5
Over-Strength Factor (Ωo) = 2.5
Deflection Amplification Factor (Cd) = 4
S_{DS} = 0.887
S_{D1} = 0.445

Seismic Load Effect (E) = Eh +/-Ev = ρ Q_E +/- 0.2S_{DS} D = 1.3Qe +/ 0.177D — Q_E = horizontal seismic force
Special Seismic Load Effect (Em) = Emh +/- Ev = Ωo Q_E +/- 0.2S_{DS} D = 2.5Qe +/ 0.177D — D = dead load

PERMITTED ANALYTICAL PROCEDURES

Simplified Analysis - Use Equivalent Lateral Force Analysis

Equivalent Lateral-Force Analysis - Permitted
Building period coef. (C_T) = 0.020 Cu = 1.40
Approx fundamental period (Ta) = $C_T h_n^{x}$ = 0.167 sec x= 0.75 Tmax = CuTa = 0.234 sec
User calculated fundamental period = 0.500 s T = 0.234 sec
Long Period Transition Period (TL) = ASCE7 map = 8 sec

Seismic response coef. (Cs) = Sdsl/R = 0.136 ASCE7 11.4.8 exception 2 equations used
but not less than Cs = 0.044Sdsl = 0.039
USE Cs = 0.136
Design Base Shear V = 0.136W

Model & Seismic Response Analysis - Permitted (see code for procedure)

ALLOWABLE STORY DRIFT

Structure Type: All other structures
Allowable story drift Δa = 0.020hsx where hsx is the story height below level x

Total Stories =	1	Floor Dead Load =	40.0 psf	Roof Dead Load =	20.0 ps
Building length L =	26.0 ft	Floor LL to include =	0.0 psf	Roof Snow Load =	20.0 ps
Building width W =	38.0 ft	Floor Equip wt =	0.0 kips	Roof Equip wt =	0.0 kip
hn =	17.0 ft	Partition weight =	10.0 psf	Parapet weight =	0.0 psf
k =	1.000	Ext Wall Weight =	0.0 psf	Parapet height =	0.0 ft
V =	0.136W				

Bottom Floor is a slab on grade

Diaphragm shall be designed for level force Fx, but not less than Fpx = (Σ Fi / Σ wi) wpx, but :
Fpx min = $0.2S_{DS}$ Ie wpx = 0.177 wpx
Fpx max = $0.4S_{DS}$ Ie wpx = 0.355 wpx

Seismic Forces Normal to Building Length

V = 5.4k

Level (x)	EL above Seismic Base hx (ft)	Level Weight Wx (kips)	$Wx\ hx^k$ (ft-kips)	$Cvx = \frac{Wx\ hx^k}{\Sigma\ Wi\ hi^k}$	Base Shear Distribution Fx=CvxV	Σ Fx (k)	Story M	Diaphragm Force Fpx Σ Wi (k)	Fpx	Design Fpx
Roof	15.00	40	593	1.000	5.39	5.4	0	40	5.4	7.0
1	2.00	0	0	0.000	0.00	0.0	0	0	0.0	0.0
Base		40		1.000		5.4	81			

81 = Base M

Seismic Forces Parallel to Building Length

V = 5.4k

Level (x)	hx (ft)	Wx (kips)	$Wx\ hx^k$	Cvx =	Base Shear Distribution Fx=CvxV	Σ Fx (k)	Story M	Diaphragm Force Fpx Σ Wi (k)	Fpx	Design Fpx
Roof	15.00	40	593	1.000	5.39	5.4	0	40	5.4	7.0
1	2.00	0	0	0.000	0.00	0.0	0	0	0.0	0.0
Base	0.00	40		1.000		5.4	81			

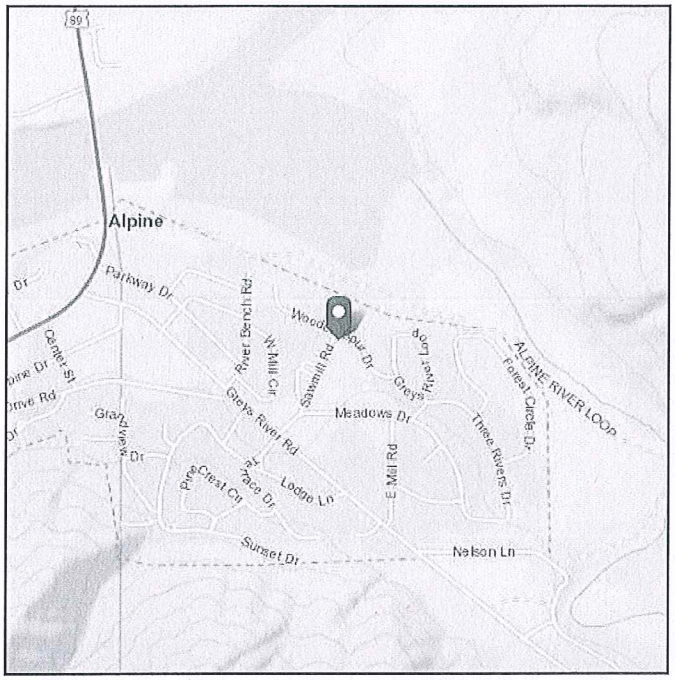
81 = Base M

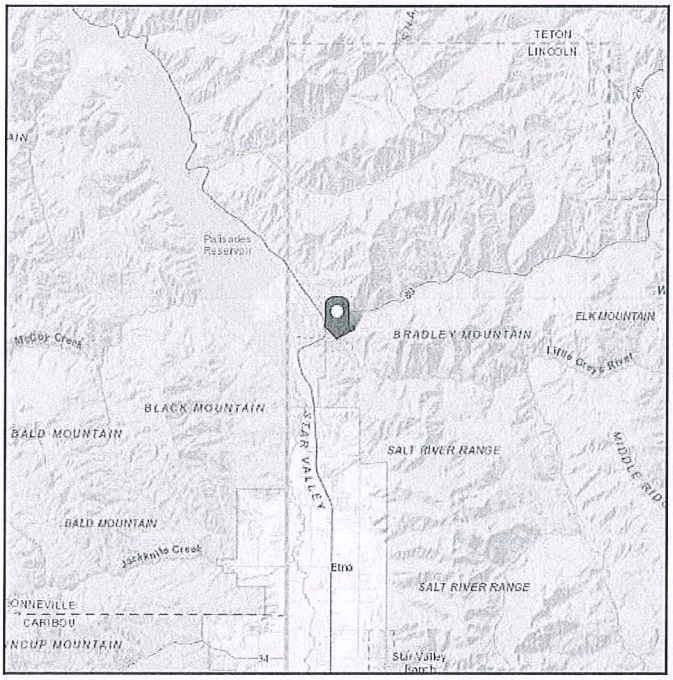
ASCE Hazards Report

Address:
368 Wooden Spur Dr
Alpine, Wyoming
83128

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Latitude: 43.16238
Longitude: -111.008836
Elevation: 5666.142041756172 ft (NAVD 88)





AMERICAN SOCIETY OF CIVIL ENGINEERS

Seismic

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	1.109	S_{D1} :	N/A
S_1 :	0.341	T_L :	6
F_a :	1.2	PGA :	0.477
F_v :	N/A	PGA_M :	0.572
S_{MS} :	1.331	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1
S_{DS} :	0.888	C_v :	1.322

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Wed Jun 04 2025

Date Source: USGS Seismic Design Maps

TSE Engineers
136 S. State Street
Shelley, Idaho 83274
208-357-2420

JOB TITLE Wooden Spur Renovation
368 Wppdem Spur Dr. Alpine Wy.
JOB NO. 225112 SHEET NO. 1 of 2
CALCULATED BY EVB DATE 6/4/25
CHECKED BY DATE

Roof Design Loads

Items	Description	Multiple	psf (max)	psf (min)
Roofing	Asphalt Shingles w/roll roofing		3.0	2.0
Decking	5/8" plywood/OSB		2.2	1.8
Framing	Wood Trusses @ 24"		3.0	2.5
Insulation	R-40 Fiberglass insul.	x 1.4	1.8	1.7
Ceiling	5/8" gypsum		2.8	2.5
			0.0	0.0
			0.0	0.0
			0.0	0.0
		Actual Dead Load	○ 12.8	○ 10.5
		Use this DL instead	◉ 15.0	◉ 9.0
		Live Load	20.0	0.0
		Snow Load	100.0	0.0
		Ultimate Wind (zone 2 - 100sf)	16.0	-38.9
ASD Loading		D + S	115.0	-
		D + 0.75(0.6*W + S)	97.2	-
		0.6*D + 0.6*W	-	-17.9
LRFD Loading		1.2D + 1.6 S + 0.5W	186.0	-
		1.2D + 1.0W + 0.5S	84.0	-
		0.9D + 1.0W	-	-30.8

Roof Live Load Reduction Roof angle 2.00 / 12 9.5 deg

0 to 200 sf: 20.0 psf
200 to 600 sf: 24 - 0.02Area, but not less than 12 psf
over 600 sf: 12.0 psf

	300 sf	18.0 psf
	400 sf	16.0 psf
	500 sf	14.0 psf
User Input:	450 sf	15.0 psf

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208-357-2420

JOB TITLE Wooden Spur Renovation
368 Wppdem Spur Dr. Alpine Wy.
JOB NO. 225112 SHEET NO. 45 of 51
CALCULATED BY EVB DATE 6/4/25
CHECKED BY DATE

Floor Design Loads

Items	Description	Multiple	psf (max)	psf (min)
Flooring	Carpet & pad		1.0	1.0
	None		0.0	0.0
Decking	3/4" plywood/OSB		2.7	2.3
Framing	TJI @ 24"	x 1.4	2.8	1.4
	None		0.0	0.0
Ceiling	5/8" gypsum		2.8	2.5
	None		0.0	0.0
	None		0.0	0.0
	None		0.0	0.0
		Actual Dead Load	○ 9.3	◉ 7.2
		Use this DL instead	◉ 10.0	○ 8.0
		Partitions	15.0	0.0
		Live Load	40.0	0.0
		Total Live Load	55.0	0.0
		Total Load	65.0	7.2

FLOOR LIVE LOAD REDUCTION (not including partitions)

NOTE: Not allowed for assembly occupancy or LL>100psf or passenger car garages, except may reduce members supporting 2 or more floors & non-assembly 20%.

$L=Lo(0.25+15/\sqrt{K_{LL}A_T})$

Unreduced design live load: Lo = 40 psf

Floor member & 1 floor cols K_{LL} = 2
Tributary Area A_T = 300 sf
Reduced live load: L = 34.5 psf

Columns (2 or more floors) K_{LL} = 4
Tributary Area A_T = 500 sf
Reduced live load: L = 23.4 psf

IBC alternate procedure
Smallest of:
R= .08%(SF - 150)
R= 23.1(1+D/L) = 28.9%
R= 40% member supports 1 floor
R= 60% member supports ≥2 floors
R = 12.0%
Reduced live load: L = 35.2 psf

R = 28.0%
Reduced live load: L = 28.8 psf

TSE Engineers
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Shelley, ID 83274
208-357-2420

JOB TITLE	Wooden Spur Renovation		
	368 Wooden Spur Dr. Alpine, Wyoming		
JOB NO.	225112	SHEET NO.	19 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Header Design Or Wood Beam (Not Laterally Supported)
NDS 2018

Mark: HDR1

Span(ft)=	18
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	16	240	1600	1840
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				240.0	1600.0	1840

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	roof				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	2160	2160
	RLL=	14400	14400
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	16560	16560
	Max Shear=	16.6	k

DIM TIMBER LVL GLB

Wood Species=	Douglas Fir #2	Douglas Fir #1	LVL	24F-V4
Option 1	No Single Ply	4x None	No Single Ply	3.125 x None
Option 2	No Double Ply	6x None	No Double Ply	5.125x22.5
Option 3	No Triple Ply	8x None	No Triple Ply	6.75x19.5
Option 4	No Four Ply	10x None	(4) 1.75x18	8.75x18
Option 5	-	12x None	-	10.75x16.5
Option 6	-	14x None	-	-
Option 7	-	16x18	-	-

Moment

	Center	Point Load 1	Point Load 2
RDL=	9720	0	0
RLL=	64800	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	74520	0	0
Max M=	74.5		k-ft

Mark: HDR2

Span(ft)=	3
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	4	60	400	460
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				65.2	434.8	500

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	roof				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	98	98
	RLL=	652	652
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	750	750
	Max Shear=	0.8	k

DIM TIMBER LVL GLB

Wood Species=	Douglas Fir #2	Douglas Fir #1	LVL	24F-V4
Option 1	(1) 2x6	4x4	(1) 1.75x5.5	3.125x9
Option 2	(2) 2x4	6x6	(2) 1.75x5.5	5.125x6
Option 3	(3) 2x4	8x8	(3) 1.75x5.5	6.75x9
Option 4	(4) 2x4	10x10	(4) 1.75x5.5	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

Moment

	Center	Point Load 1	Point Load 2
RDL=	73	0	0
RLL=	489	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	563	0	0
Max M=	0.6		k-ft

TSE Engineers
136 S State Street
Shelley, ID 83274
208-357-2420

JOB TITLE	Wooden Spur Renovation		
	368 Wooden Spur Dr. Alpine, Wyoming		
JOB NO.	225112	SHEET NO.	20 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Header Design Or Wood Beam (Not Laterally Supported)
NDS 2018

Mark: HDR3

Span(ft)=	8
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	14	210	1400	1610
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				210.0	1400.0	1610

Load Factors Applied

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	DL	LL
Point Load 1	roof				0	0
Point Load 2	roof				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	840	840
	RLL=	5600	5600
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	6440	6440
	Max Shear=	6.4	k

DIM **TIMBER** **LVL** **GLB**

Wood Species=	Douglas Fir #2	Douglas Fir #1	LVL	24F-V4
Option 1	No Single Ply	4x None	No Single Ply	3.125x12
Option 2	No Double Ply	6x12	(2) 1.75x11.875	5.125x9
Option 3	No Triple Ply	8x12	(3) 1.75x9.5	6.75x9
Option 4	No Four Ply	10x10	(4) 1.75x9.5	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

Moment

	Center	Point Load 1	Point Load 2
RDL=	1680	0	0
RLL=	11200	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	12880	0	0
	Max M=	12.9	k-ft

Mark: HDR4

Span(ft)=	3
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	14	210	1400	1610
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				210.0	1400.0	1610

Load Factors Applied

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	DL	LL
Point Load 1	roof				0	0
Point Load 2	roof				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	315	315
	RLL=	2100	2100
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	2415	2415
	Max Shear=	2.4	k

DIM **TIMBER** **LVL** **GLB**

Wood Species=	Douglas Fir #2	Douglas Fir #1	LVL	24F-V4
Option 1	No Single Ply	4x8	(1) 1.75x9.5	3.125x9
Option 2	(2) 2x8	6x6	(2) 1.75x5.5	5.125x6
Option 3	(3) 2x6	8x8	(3) 1.75x5.5	6.75x9
Option 4	(4) 2x6	10x10	(4) 1.75x5.5	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

Moment

	Center	Point Load 1	Point Load 2
RDL=	236	0	0
RLL=	1575	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	1811	0	0
	Max M=	1.8	k-ft

TSE Engineers
136 S State Street
Shelley, ID 83274
208-357-2420

JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	21 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Header Design Or Wood Beam (Not Laterally Supported)
NDS 2018

Mark: HDR5

Span(ft)=	4
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	4	60	400	460
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				65.2	434.8	500

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	roof				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	130	130
	RLL=	870	870
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	1000	1000
	Max Shear=	1.0	k

DIM **TIMBER** **LVL** **GLB**

Wood Species=	Douglas Fir #2	Douglas Fir #1	LVL	24F-V4
Option 1	(1) 2x8	4x4	(1) 1.75x5.5	3.125x9
Option 2	(2) 2x6	6x6	(2) 1.75x5.5	5.125x6
Option 3	(3) 2x4	8x8	(3) 1.75x5.5	6.75x9
Option 4	(4) 2x4	10x10	(4) 1.75x5.5	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

Moment

	Center	Point Load 1	Point Load 2
RDL=	130	0	0
RLL=	870	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	1000	0	0
	Max M=	1.0	k-ft

Mark: HDR6

Span(ft)=	3
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	4	60	400	460
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				65.2	434.8	500

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	roof				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	98	98
	RLL=	652	652
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	750	750
	Max Shear=	0.8	k

DIM **TIMBER** **LVL** **GLB**

Wood Species=	Douglas Fir #2	Douglas Fir #1	LVL	24F-V4
Option 1	(1) 2x6	4x4	(1) 1.75x5.5	3.125x9
Option 2	(2) 2x4	6x6	(2) 1.75x5.5	5.125x6
Option 3	(3) 2x4	8x8	(3) 1.75x5.5	6.75x9
Option 4	(4) 2x4	10x10	(4) 1.75x5.5	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

Moment

	Center	Point Load 1	Point Load 2
RDL=	73	0	0
RLL=	489	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	563	0	0
	Max M=	0.6	k-ft

TSE Engineers
136 S State Street
Shelley, ID 83274
208-357-2420

JOB TITLE	Wooden Spur Renovation		
	368 Wooden Spur Dr. Alpine, Wyoming		
JOB NO.	225112	SHEET NO.	22 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Header Design Or Wood Beam (Not Laterally Supported)
NDS 2018

Mark: HDR7

Span(ft)=	3
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	7	105	700	805
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				105.0	700.0	805

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	roof				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	158	158
	RLL=	1050	1050
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	1208	1208
	Max Shear=	1.2	k

Wood Species=	Douglas Fir #2	Douglas Fir #1	LVL	24F-V4
Option 1	(1) 2x8	4x4	(1) 1.75x5.5	3.125x9
Option 2	(2) 2x6	6x6	(2) 1.75x5.5	5.125x6
Option 3	(3) 2x4	8x8	(3) 1.75x5.5	6.75x9
Option 4	(4) 2x4	10x10	(4) 1.75x5.5	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

DIM TIMBER LVL GLB

Moment

	Center	Point Load 1	Point Load 2
RDL=	118	0	0
RLL=	788	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	906	0	0
Max M=	0.9		k-ft

Mark: HDR8

Span(ft)=	3
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	9	135	900	1035
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				135.0	900.0	1035

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	roof				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	203	203
	RLL=	1350	1350
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	1553	1553
	Max Shear=	1.6	k

Wood Species=	Douglas Fir #2	Douglas Fir #1	LVL	24F-V4
Option 1	(1) 2x10	4x6	(1) 1.75x5.5	3.125x9
Option 2	(2) 2x6	6x6	(2) 1.75x5.5	5.125x6
Option 3	(3) 2x6	8x8	(3) 1.75x5.5	6.75x9
Option 4	(4) 2x4	10x10	(4) 1.75x5.5	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

DIM TIMBER LVL GLB

Moment

	Center	Point Load 1	Point Load 2
RDL=	152	0	0
RLL=	1013	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	1164	0	0
Max M=	1.2		k-ft

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JOB TITLE Wooden Spur Renovation
368 Wooden Spur Dr. Alpine, Wyoming
JOB NO. 225112 SHEET NO. 23 of 39
CALCULATED BY EVB DATE 6/4/2025
CHECKED BY DATE

Wood Beam Design (Lateral Supported Fully)
NDS 2018

Mark: BM1

Span(ft)=	12
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	8.5	127.5	850	977.5
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				127.5	850	977.5

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	floor				0	0

	DIM	TIMBER	LVL	GLB
Wood Species=	Douglas Fir #2	Douglas Fir #2	LVL	24F-V4
Option 1	No Single Ply	4x None	(1) 1.75x18	3.125x13.5
Option 2	No Double Ply	6x None	(2) 1.75x14	5.125x12
Option 3	No Triple Ply	8x16	(3) 1.75x11.875	6.75x10.5
Option 4	No Four Ply	10x14	(4) 1.75x11.875	8.75x10.5
Option 5	-	12x14	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	765	765
	RLL=	5100	5100
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	5865	5865
	Max Shear=	5.9	k

Moment

	Center	Point Load	Point Load 2
RDL=	2295	0	0
RLL=	15300	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	17595	0	0
Max M=	17.6	k-ft	

Mark: BM 2

Span(ft)=	12
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	1.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	5.75	86.25	575	661.25
floor				0	0	0
wall				0	0	0
misc.				0	0	0
Total				86.25	575	661.25

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	floor				0	0

	DIM	TIMBER	LVL	GLB
Wood Species=	Douglas Fir #2	Douglas Fir #2	LVL	24F-V4
Option 1	No Single Ply	4x None	(1) 1.75x14	3.125x12
Option 2	No Double Ply	6x16	(2) 1.75x11.875	5.125x10.5
Option 3	No Triple Ply	8x14	(3) 1.75x9.5	6.75x9
Option 4	No Four Ply	10x12	(4) 1.75x9.5	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	518	518
	RLL=	3450	3450
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	3968	3968
	Max Shear=	4.0	k

Moment

	Center	Point Load	Point Load 2
RDL=	1553	0	0
RLL=	10350	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	11903	0	0
Max M=	11.9	k-ft	

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	24 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Joist/Rafters (simple span)
NDS 2018

Mark: RFT1

Span(ft)=	8.5
Spacing (in)=	16
LL Deflection<L/	360
Total Deflection<L/	240
C_D=	1
C_r=	1.15

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	1.33	20.0	133.3	153.3
floor			1.33	0.0	0.0	0.0
misc.			1.33	0.0	0.0	0.0
			Total	20.0	133.3	153.3

Reactions	Left (lbs)	Right (lbs)	Moment	
RDL=	85	85	RDL=	181
RLL=	567	567	RLL=	1204
RTL=	652	652	MTL=	1385
Max Shear (k)=	0.7		Max M (k-ft)=	1.4

	DIM	TJI	BCI
Wood Species=	Douglas Fir #1	-	-
Single Ply	(1) 2x8	9 1/2" 110	9 1/2" 5000
Double Ply	(2) 2x6	9 1/2" 210	9 1/2" 6000
4x	4x6	9 1/2" 230	9 1/2" 6500
6x	6x6	11 7/8" 360	11 7/8" 60
8x	8x8	11 7/8" 560	11 7/8" 90
10x	10x10		
12x	12x12		
14x	14x14		
16x	16x16		

Mark: RFT 2

Span(ft)=	10
Spacing (in)=	16
LL Deflection<L/	360
Total Deflection<L/	240
C_D=	1
C_r=	1.15

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	1.33	20.0	133.3	153.3
floor			1.33	0.0	0.0	0.0
misc.		60	1.33	0.0	80.0	80.0
			Total	20.0	213.3	233.3

Reactions	Left (lbs)	Right (lbs)	Moment	
RDL=	100	100	RDL=	250
RLL=	1067	1067	RLL=	2667
RTL=	1167	1167	MTL=	2917
Max Shear (k)=	1.2		Max M (k-ft)=	2.9

	DIM	TJI	BCI
Wood Species=	Douglas Fir #1	-	-
Single Ply	(1) 2x12	11 7/8" 110	11 7/8" 5000
Double Ply	(2) 2x8	9 1/2" 210	9 1/2" 6000
4x	4x8	9 1/2" 230	9 1/2" 6500
6x	6x8	11 7/8" 360	11 7/8" 60
8x	8x8	11 7/8" 560	11 7/8" 90
10x	10x10		
12x	12x12		
14x	14x14		
16x	16x16		

Mark: FLR 1

Span(ft)=	10
Spacing (in)=	16
LL Deflection<L/	480
Total Deflection<L/	240
C_D=	1
C_r=	1.15

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof			1.33	0.0	0.0	0.0
floor	10	40	1.33	13.3	53.3	66.7
misc.			1.33	0.0	0.0	0.0
			Total	13.3	53.3	66.7

Reactions	Left (lbs)	Right (lbs)	Moment	
RDL=	67	67	RDL=	167
RLL=	267	267	RLL=	667
RTL=	333	333	MTL=	833
Max Shear (k)=	0.3		Max M (k-ft)=	0.8

	DIM	TJI	BCI
Wood Species=	Douglas Fir #2	-	-
Single Ply	(1) 2x8	9 1/2" 110	9 1/2" 5000
Double Ply	(2) 2x6	9 1/2" 210	9 1/2" 6000
4x	4x6	9 1/2" 230	9 1/2" 6500
6x	6x6	11 7/8" 360	11 7/8" 60
8x	8x8	11 7/8" 560	11 7/8" 90
10x	10x10		
12x	12x12		
14x	14x14		
16x	16x16		

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	25 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY		DATE	

Wood Beam Design (Lateral Supported Fully)
NDS 2018

Mark: BM21

Span(ft)=	18
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	0.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	7	105	700	805
floor	10	40	5	50	0	50
wall				0	0	0
misc.		60	5	0	300	300
Total				155	1000	1155

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	floor				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	1395	1395
	RLL=	9000	9000
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	10395	10395
	Max Shear=	10.4	k

	DIM	TIMBER	LVL	GLB
Wood Species=	Douglas Fir #2	Douglas Fir #2	LVL	24F-V4
Option 1	No Single Ply	4x None	No Single Ply	3.125 x None
Option 2	No Double Ply	6x None	No Double Ply	5.125x18
Option 3	No Triple Ply	8x None	(3) 1.75x18	6.75x16.5
Option 4	No Four Ply	10x None	(4) 1.75x16	8.75x15
Option 5	-	12x None	-	10.75x13.5
Option 6	-	14x18	-	-
Option 7	-	16x18	-	-

Moment

	Center	Point Load	Point Load 2
RDL=	6278	0	0
RLL=	40500	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	46778	0	0
Max M=	46.8	k-ft	

Mark: BM 21

Span(ft)=	18
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	0.75
Roof Live/Snow	0.75
Misc.	0.75

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	7	105	525	630
floor	10	40	5	50	150	200
wall				0	0	0
misc.		60	5	0	225	225
Total				155	900	1055

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	floor				0	0

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	1395	1395
	RLL=	8100	8100
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	9495	9495
	Max Shear=	9.5	k

	DIM	TIMBER	LVL	GLB
Wood Species=	Douglas Fir #2	Douglas Fir #2	LVL	24F-V4
Option 1	No Single Ply	4x None	No Single Ply	3.125x21
Option 2	No Double Ply	6x None	No Double Ply	5.125x18
Option 3	No Triple Ply	8x None	(3) 1.75x18	6.75x16.5
Option 4	No Four Ply	10x None	(4) 1.75x16	8.75x15
Option 5	-	12x None	-	10.75x13.5
Option 6	-	14x18	-	-
Option 7	-	16x18	-	-

Moment

	Center	Point Load	Point Load 2
RDL=	6278	0	0
RLL=	36450	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	42728	0	0
Max M=	42.7	k-ft	

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	26 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY		DATE	

Wood Beam Design (Lateral Supported Fully)
NDS 2018

Mark: BM22

Span(ft)=	10
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	0.00
Roof Live/Snow	1.00
Misc.	1.00

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	4	60	400	460
floor	10	40	1	10	0	10
wall				0	0	0
misc.		60	4	0	240	240
Total				70	640	710

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	floor				0	0

	DIM	TIMBER	LVL	GLB
Wood Species=	Douglas Fir #2	Douglas Fir #2	LVL	24F-V4
Option 1	No Single Ply	4x None	(1) 1.75x11.875	3.125x10.5
Option 2	No Double Ply	6x14	(2) 1.75x9.5	5.125x9
Option 3	No Triple Ply	8x12	(3) 1.75x9.5	6.75x9
Option 4	(4) 2x12	10x10	(4) 1.75x9.5	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	350	350
	RLL=	3200	3200
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	3550	3550
	Max Shear=	3.6	k

Moment

	Center	Point Load	Point Load 2
RDL=	875	0	0
RLL=	8000	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	8875	0	0
Max M=	8.9	k-ft	

Mark: BM 22

Span(ft)=	10
LL Deflection<L/	360
Total Deflection<L/	240
CD=	1

Load Factors

Dead	1.00
Floor Live	0.75
Roof Live/Snow	0.75
Misc.	0.75

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	4	60	300	360
floor	10	40	1	10	30	40
wall				0	0	0
misc.		60	4	0	180	180
Total				70	510	580

	Load	DL(lbs)	LL(lbs)	x(ft)(left)	Load Factors Applied DL	LL
Point Load 1	roof				0	0
Point Load 2	floor				0	0

	DIM	TIMBER	LVL	GLB
Wood Species=	Douglas Fir #2	Douglas Fir #2	LVL	24F-V4
Option 1	No Single Ply	4x None	(1) 1.75x11.875	3.125x10.5
Option 2	No Double Ply	6x12	(2) 1.75x9.5	5.125x9
Option 3	No Triple Ply	8x10	(3) 1.75x9.5	6.75x9
Option 4	(4) 2x12	10x10	(4) 1.75x7.25	8.75x9
Option 5	-	12x12	-	10.75x12
Option 6	-	14x14	-	-
Option 7	-	16x16	-	-

Reactions

		Left (lbs)	Right (lbs)
Uniform	RDL=	350	350
	RLL=	2550	2550
Point Loads	P1DL=	0	0
	P1LL=	0	0
	P2DL=	0	0
	P2LL=	0	0
	RTL=	2900	2900
	Max Shear=	2.9	k

Moment

	Center	Point Load	Point Load 2
RDL=	875	0	0
RLL=	6375	0	0
P1DL=	0	0	0
P1LL=	0	0	0
P2DL=	0	0	0
P2LL=	0	0	0
MTL=	7250	0	0
Max M=	7.3	k-ft	

TSE ENGINEERS

Date JUN 04 2025

Project Wooden Spur Renovation

Project # 225112

Title Roof Frams

By EvB Ck'd

Code IBC 2021 Jurisdiction City of Alpine wy

Sheet 27 of 39

SL = 100 DL = 15

Prifty / siding = 100psf

Rafters

L = 5' cant $w = (100+100+15)(16/12) = 287$ $M = 3.6$ $V = 1.4$

$w = (100+100+15)(1) =$ $M =$ $V =$

1 3/4 x 7 1/4 LVL	7.11	4.8	110	$\Delta = 0.19"$	$\frac{L}{323}$	ok

1 3/4 x 7 1/4 LVL @ 16" o.c.

max span

L = ? $w = (100+1000+15)(16/12) = 287$

$V_A = 4800$

$M_A = 7110$

$\Delta = L/360$

$V = 4800 = \frac{(287)(L)}{2}$ $L = 33'$

$M = 7110 = \frac{287(L)^2}{8}$ $L = 14'$

$\Delta = \frac{L(12)}{360} = \frac{5(287/12)((L)(12))^4}{384(1100000)(110)}$ $L = 10'$

max span = 10'-0"

1 3/4 x 7 1/4 LVL @ 16" o.c.

(99) Beam

L = 6' $w = (100+100+15)(8/12+5) = 1935$

$M = 8.7$ $V = 5.8$

5 1/8 x 9	13.8	8.1	310	$\Delta = 0.10"$	$\frac{L}{712}$

5 1/8 x 9 hus

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TSE ENGINEERS

Date JUN 04 2025

Project Wooden Spur Renovation

Project # 225112

Title Framing

By _____ Ck'd _____

Code IBC 2021 Jurisdiction City of Alpine wy.

Sheet 28 of 39

(100) Floor Beam

L = 5'-0" Cant

W = (60+10)(14/12) = 500

M = 6.3

V = 2.5

5 1/8 x 10 1/2	18.8	9.5	490	Δ = 0.0001

5 1/8 x 10 1/2" GLB

(101) Beam

L = 14'

W = ?

(2) 1 3/4 x 7 1/4 LVL

I = 170

VA = 7230

MA = 10700

Δ = 0.25"

$7230 = \frac{w(14)}{2} = 1032$

$10700 = \frac{w(14)^2}{8} = 436$

$0.25 = \frac{5w((14)(12))^4}{384(1900000)(170)} = 7.785(12) = 93$ plf

(3) 1 3/4 x 9 1/2" LVL

I = 380

VA = 9480

MA = 17700

Δ = 0.25"

VU = 1354

W = 722

W = 208

Use (3) 1 3/4 x 9 1/2" LVL

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	29 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Joist/Rafters (simple span)
NDS 2018

Mark: FLR 2

Span(ft)=	14
Spacing (in)=	12
LL Deflection<L/	360
Total Deflection<L/	240

C_D= 1
C_r= 1.15

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	10	60	1.00	10.0	60.0	70.0
floor			1.00	0.0	0.0	0.0
misc.			1.00	0.0	0.0	0.0
Total				10.0	60.0	70.0

Reactions	Left (lbs)	Right (lbs)	Moment	
RDL=	70	70	RDL=	245
RLL=	420	420	RLL=	1470
RTL=	490	490	MTL=	1715
Max Shear (k)=	0.5		Max M (k-ft)=	1.7

	DIM	TJI	BCI
Wood Species=	Douglas Fir S.S.	-	-
Single Ply	(1) 2x10	9 1/2" 110	9 1/2" 5000
Double Ply	(2) 2x8	9 1/2" 210	9 1/2" 6000
4x	4x8	9 1/2" 230	9 1/2" 6500
6x	6x6	11 7/8" 360	11 7/8" 60
8x	8x8	11 7/8" 560	11 7/8" 90
10x	10x10		
12x	12x12		
14x	14x14		
16x	16x16		

Mark:

Span(ft)=	
Spacing (in)=	16
LL Deflection<L/	360
Total Deflection<L/	240

C_D= 1
C_r= 1.15

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof	15	100	1.33	20.0	133.3	153.3
floor			1.33	0.0	0.0	0.0
misc.		60	1.33	0.0	80.0	80.0
Total				20.0	213.3	233.3

Reactions	Left (lbs)	Right (lbs)	Moment	
RDL=	0	0	RDL=	0
RLL=	0	0	RLL=	0
RTL=	0	0	MTL=	0
Max Shear (k)=	0.0		Max M (k-ft)=	0.0

	DIM	TJI	BCI
Wood Species=	Douglas Fir #1	-	-
Single Ply	(1) 2x4	9 1/2" 110	9 1/2" 5000
Double Ply	(2) 2x4	9 1/2" 210	9 1/2" 6000
4x	4x4	9 1/2" 230	9 1/2" 6500
6x	6x6	11 7/8" 360	11 7/8" 60
8x	8x8	11 7/8" 560	11 7/8" 90
10x	10x10		
12x	12x12		
14x	14x14		
16x	16x16		

Mark:

Span(ft)=	
Spacing (in)=	16
LL Deflection<L/	480
Total Deflection<L/	240

C_D= 1
C_r= 1.15

Loading

	DL (psf)	LL(psf)	trib (ft)	DLw(plf)	LLw(plf)	TLw(plf)
roof			1.33	0.0	0.0	0.0
floor	10	40	1.33	13.3	53.3	66.7
misc.			1.33	0.0	0.0	0.0
Total				13.3	53.3	66.7

Reactions	Left (lbs)	Right (lbs)	Moment	
RDL=	0	0	RDL=	0
RLL=	0	0	RLL=	0
RTL=	0	0	MTL=	0
Max Shear (k)=	0.0		Max M (k-ft)=	0.0

	DIM	TJI	BCI
Wood Species=	Douglas Fir #2	-	-
Single Ply	(1) 2x4	9 1/2" 110	9 1/2" 5000
Double Ply	(2) 2x4	9 1/2" 210	9 1/2" 6000
4x	4x4	9 1/2" 230	9 1/2" 6500
6x	6x6	11 7/8" 360	11 7/8" 60
8x	8x8	11 7/8" 560	11 7/8" 90
10x	10x10		
12x	12x12		
14x	14x14		
16x	16x16		

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Date JUN 04 2025

Project Wooden Spur Renovation | Project # 225112

Title Foundation | By EJB Ck'd

Code IBC 2021 | Jurisdiction City of Alpine Wy. | Sheet 30 of 39

$q_A = 1500$

Footings Exterior

$W = 1610$ Try 10x24

$P = 5.9\ k$

$$q = \frac{1610(1)}{(24/12)(1)} + \frac{5900}{(24/12)(6)} = 1296 < 1500 \quad ok$$

$A_s = 0.0018(10)(24) = 0.43\ in^2$

(3) #4 = 0.6 in²

∴ 10x24 w/(3) #4 Layers.

$W = 1840$

$P = 16.6$ Try 10x20

$$q = \frac{1840(1)}{(24/12)(1)} + \frac{16{,}600}{(24/12)(6)} = 2300 > 1500 \text{ Fails USC}$$

Spot Footings for Point Load

$$q = \frac{1840(1)}{(20/12)(1)} = 1104 < 1500 \quad ok$$

$A_s = 0.0018(10)(20) = 0.36\ in^2$

(3) #4 = 0.6 in²

∴ 10 x 20 w/(3) #4 Layers

Spot Footings $q_A = 1500$

Size	PA
2'-0"	6.0
2'-6"	9.4
3'-0"	13.5
3'-6"	18.4
4'-0"	24.0

TSE ENGINEERS

Date JUN 04 2025
Project Wooden Spar Renovation
Project # 225112
Title Lateral Loads
By EVB Ck'd
Code IBC2021 Jurisdiction City of Alpine Wy.
Sheet 31 of 39

Seismic RISK II I = 1.0 S_S = 110.9 S_1 = 34.1 SC = D

S_{DS} = 0.887 S_{D1} = 0.445 SDC = D R = 6.5 Cs = 0.136

V = 0.136 W (ultimate)

Garage $W = (29)(29)(15) + (29)(29)(100)(0.2) = 29435$

$V = 0.136(29435)/1.4/2 = 1.4$

Covered Patio $W = (15)(29)(15) + (15)(29)(100)(0.2) = 15225$

$V = 0.136(15225)/1.4 = 1.5/2 = 0.8$

Sun Room $W = (21)(12)(15) + (21)(12)(100)(0.2) = 8820$

$V = 0.136(8820)/1.4/2 = 0.4$

Existg House

$W = (40)(30)(15) + (40)(30)(100)(0.2) = 42000$

$V = 0.136(42000)/1.4/2 = 2.0$

Existg Garage

$W = (30)(22)(20) + (30)(22)(100)(0.2) = 26400$

$V = 0.136(26400)/1.4/2 = 1.3$

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Date JUN 04 2025

Project Wooden Spur Renovation

Project # 225112

Title Lateral Loads

By EvB Ck'd

Code IBC 2021 Jurisdiction City of Alpine Wy.

Sheet 32 of 39

Wind 115 mph Exp=C RC=II z_g=60'

P_W = 15.5 ; 10.3 P_{OH} = 13.9 ; 9.2 P_L = -6.6 ; -3.8

W1 $V = (13.9(6) + 10(26/2 - 6))(11/2 + 2 + 5.5/2) = 1.6$

W2 $V = (15.5(6) + 10.3(26/2 - 6))(11/2 + 2) + 10(26/2)(5.5) = 2.0$

W3 $V = (15.5(6) + 10.3(26/2 - 6))(11/2 + 4) + 10(26/2)(5.5) = 2.3$

W4 $V = (10)(2)(15) = 0.3$

W5 $V = (15.5(6) + 10.3(18/2 - 6))(8/2) + 10(18/2)(2) = 0.7$

W6 $V = (13.9(6) + 10.3(10/2 - 6))(8/2 + 3/2) = 0.4$

W7 $V = (15.5(6) + 10.3(40/2 - 6))(8/2) + 10(40/2)(8.5) = 2.6$

W8 $V = (15.5(6) + 10.3(22/2 - 6))(9/2 + 3) + 10(22/2)(8.5) = 2.0$

W9 $V = (13.9(6) + 10.3(30/2 - 6))(10/2 + 3 + 8.5/2) = 2.2$

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	33 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Shear Walls w/ Wood Studs (Top Story)
NDS 2021 (ASD Loading)
Total Length of walls (ft) = 8.00

Shear Line:	SW1
Sesimic Load (lb):	1400
S_{DS}	0.887
Wind Load (lb):	1600
Roof DL (psf)	15
Floor DL (psf)	10
Wall Self (psf)	8

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7
	length (ft)	4	4					
	height (ft)	11	11					
	roof trib. (ft)	16	16					
	floor trib. (ft)	0	0					
	Distance from HD to end of wall (in)	3	3					
	Aspect Ratio:	2.75	2.75					
	Aspect Ratio Factor (WSP):	0.91	0.91					
Seismic	shear flow (plf)	175.0	175.0					
	F (lbs)	700	700					
	Seismic Factor	0.73	0.73					
	Adjusted Shear Flow (plf)	240.63	240.63					
	MOT (ft-lb)	7700	7700					
	DL Factor A=	1.12	1.12					
	A x wDL (plf)	369	369					
	End Post Compression (lb)	2175	2175					
	DL Factor B=	0.48	0.48					
	B x wDL (plf)	156	156					
	End Post Uplift for HDs (lb)	1035	1035					
Wind	shear flow (plf)	200	200					
	F (lb)	800	800					
	MOT (ft-lb)	8800	8800					
	wDL (plf)	328	328					
	End Post Compression (lb)	3003	3003					
	DL Factor	0.6	0.6					
	wDL (plf)	196.8	197					
	End Post Uplift for HDs (lb)	2121	2121					
	Max Compression	3003	3003					
	Max Uplift	2121	2121					
	Max Shear Flow	241	241					
	Max Shear Floow Due to Wind or Seismic (W/S)	S	S					
	Sheathing Nails	7/16 w/ 8d @ 4" O.C.	7/16 w/ 8d @ 4" O.C.					
	# of Layers	1	1					
	Shear Flow Allowabel (plf)	317	317					
	Check	Adequate	Adequate					
	Sheathing Staples	7/16 w/ 1 1/2" 16 ga. @ 3" O.C.	7/16 w/ 1 1/2" 16 ga. @ 3" O.C.					
	Shar Flow Allowable (plf)	310	310					
	Check	Adequate	Adequate					
	Recommended Holdown @ Foundation 8" wall	HDU2	HDU2					
	Strap Style (Midwall)	LSTHD8	LSTHD8					
	Strap Style (End Wall)	LSTHD8	LSTHD8					
	Recommended Holdown @ Wood Wall	MSTC40	MSTC40					
	Strap Nailing Req'd	(32) 16d	(32) 16d					
	# OF Minimum End Post	2	2					

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	**SHEET NO.**	34 of 39
CALCULATED BY	EVB	**DATE**	6/4/2025
CHECKED BY	0	**DATE**	

Wood Shear Walls w/ Wood Studs (Top Story)
NDS 2021 (ASD Loading)
Total Length of walls (ft) = 9.00

Shear Line:	SW2
Sesimic Load (lb):	2900
S_{DS}	0.887
Wind Load (lb):	1900
Roof DL (psf)	15
Floor DL (psf)	10
Wall Self (psf)	8

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7
	length (ft)	9						
	height (ft)	11						
	roof trib. (ft)	13						
	floor trib. (ft)	0						
	Distance from HD to end of wall (in)	3						
	Aspect Ratio:	1.22						
Seismic	shear flow (plf)	322.2						
	F (lbs)	2900						
	Seismic Factor	1.00						
	Adjusted Shear Flow (plf)	322.22						
	MOT (ft-lb)	31900						
	DL Factor A=	1.12						
	A x wDL (plf)	318						
	End Post Compression (lb)	3984						
	DL Factor B=	0.48						
	B x wDL (plf)	135						
	End Post Uplift for HDs (lb)	1875						
Wind	shear flow (plf)	211						
	F (lb)	1900						
	MOT (ft-lb)	20900						
	wDL (plf)	283						
	End Post Compression (lb)	3662						
	DL Factor	0.6						
	wDL (plf)	169.8						
	End Post Uplift for HDs (lb)	1695						
	Max Compression	3984						
	Max Uplift	1875						
	Max Shear Flow	322						
	Max Shear Floow Due to Wind or Seismic (W/S)	S						
	Sheathing Nails	7/16 w/ 8d @ 3" O.C.						
	# of Layers	1						
	Shear Flow Allowabel (plf)	450						
	Check	Adequate						
	Sheathing Staples	7/16 w/ 1 1/2" 16 ga.@ 2" O.C.						
	Shar Flow Allowable (plf)	395						
	Check	Adequate						
	Recommended Holdown @ Foundation 8" wall	HDU2						
	Strap Style (Midwall)	LSTHD8						
	Strap Style (End Wall)	LSTHD8						
	Recommended Holdown @ Wood Wall	MSTA49						
	Strap Nailing Req'd	(26) 10d						
	# OF Minimum End Post	2						

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	35 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Shear Walls w/ Wood Studs (Top Story)
NDS 2021 (ASD Loading)
Total Length of walls (ft) = 20.00

Shear Line:	SW3
Sesimic Load (lb):	2200
S_{DS}	0.887
Wind Load (lb):	2000
Roof DL (psf)	15
Floor DL (psf)	10
Wall Self (psf)	8

	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7
length (ft)	20						
height (ft)	11						
roof trib. (ft)	4						
floor trib. (ft)	0						
Distance from HD to end of wall (in)	3						
Aspect Ratio:	0.55						
Seismic shear flow (plf)	110.0						
F (lbs)	2200						
Seismic Factor	1.00						
Adjusted Shear Flow (plf)	110.00						
MOT (ft-lb)	24200						
DL Factor A=	1.12						
A x wDL (plf)	166						
End Post Compression (lb)	2522						
DL Factor B=	0.48						
B x wDL (plf)	70						
End Post Uplift for HDs (lb)	143						
Wind shear flow (plf)	100						
F (lb)	2000						
MOT (ft-lb)	22000						
wDL (plf)	148						
End Post Compression (lb)	2594						
DL Factor	0.6						
wDL (plf)	88.8						
End Post Uplift for HDs (lb)	240						
Max Compression	2594						
Max Uplift	240						
Max Shear Flow	110						
Max Shear Floow Due to Wind or Seismic (W/S)	S						
Sheathing Nails	7/16 w/ 8d @ 6" o.c.						
# of Layers	1						
Shear Flow Allowabel (plf)	240						
Check	Adequate						
Sheathing Staples	7/16 w/ 1 1/2" 16 ga. @ 6" o.c.						
Shar Flow Allowable (plf)	155						
Check	Adequate						
Recommended Holdown @ Foundation 8" wall	not reqd.						
Strap Style (Midwall)	not reqd.						
Strap Style (End Wall)	not reqd.						
Recommended Holdown @ Wood Wall	not reqd.						
Strap Nailing Req'd	not reqd.						
# OF Minimum End Post	not reqd						

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	36 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Shear Walls w/ Wood Studs (Top Story)
NDS 2021 (ASD Loading)
Total Length of walls (ft) = 15.00

Shear Line:	SW4
Sesimic Load (lb):	2200
S_{os}	0.887
Wind Load (lb):	2000
Roof DL (psf)	15
Floor DL (psf)	10
Wall Self (psf)	8

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7
	length (ft)	9	6					
	height (ft)	11	11					
	roof trib. (ft)	4	4					
	floor trib. (ft)	0	0					
	Distance from HD to end of wall (in)	3	3					
	Aspect Ratio:	1.22	1.83					
Seismic	shear flow (plf)	146.7	146.7					
	F (lbs)	1320	880					
	Seismic Factor	1.00	1.00					
	Adjusted Shear Flow (plf)	146.67	146.67					
	MOT (ft-lb)	14520	9680					
	DL Factor A=	1.12	1.12					
	A x wDL (plf)	166	166					
	End Post Compression (lb)	1910	1678					
	DL Factor B=	0.48	0.48					
	B x wDL (plf)	70	70					
	End Post Uplift for HDs (lb)	812	918					
Wind	shear flow (plf)	133	133					
	F (lb)	1200	800					
	MOT (ft-lb)	13200	8800					
	wDL (plf)	148	148					
	End Post Compression (lb)	2175	1974					
	DL Factor	0.6	0.6					
	wDL (plf)	88.8	89					
	End Post Uplift for HDs (lb)	1153	1334					
	Max Compression	2175	1974					
	Max Uplift	1153	1334					
	Max Shear Flow	147	147					
	Max Shear Floow Due to Wind or Seismic (W/S)	S	S					
	Sheathing Nails	7/16 w/ 8d @ 6" O.C.	7/16 w/ 8d @ 6" O.C.					
	# of Layers	1	1					
	Shear Flow Allowabel (plf)	240	240					
	Check	Adequate	Adequate					
	Sheathing Staples	7/16 w/ 1 1/2" 16 ga. @ 6" O.C.	7/16 w/ 1 1/2" 16 ga. @ 6" O.C.					
	Shar Flow Allowable (plf)	155	155					
	Check	Adequate	Adequate					
	Recommended Holdown @ Foundation 8" wall	HDU2	HDU2					
	Strap Style (Midwall)	LSTHD8	LSTHD8					
	Strap Style (End Wall)	LSTHD8	LSTHD8					
	Recommended Holdown @ Wood Wall	MSTC28	MSTC28					
	Strap Nailing Req'd	(16) 16d	(16) 16d					
	# OF Minimum End Post	2	2					

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JOB TITLE	Wooden Spur Renovation		
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CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Shear Walls w/ Wood Studs (Top Story)
NDS 2021 (ASD Loading)
Total Length of walls (ft) = 5.00

Shear Line:	SW5
Sesimic Load (lb):	400
S_{DS}	0.887
Wind Load (lb):	400
Roof DL (psf)	15
Floor DL (psf)	10
Wall Self (psf)	8

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7
	length (ft)	2.5	2.5					
	height (ft)	7	7					
	roof trib. (ft)	7	7					
	floor trib. (ft)	0	0					
	Distance from HD to end of wall (in)	3	3					
	Aspect Ratio:	2.80	2.80					
	Aspect Ratio Factor (WSP):	0.90	0.90					
Seismic	shear flow (plf)	80.0	80.0					
	F (lbs)	200	200					
	Seismic Factor	0.71	0.71					
	Adjusted Shear Flow (plf)	112.00	112.00					
	MOT (ft-lb)	1400	1400					
	DL Factor A=	1.12	1.12					
	A x wDL (plf)	181	181					
	End Post Compression (lb)	662	662					
	DL Factor B=	0.48	0.48					
	B x wDL (plf)	77	77					
	End Post Uplift for HDs (lb)	296	296					
Wind	shear flow (plf)	80	80					
	F (lb)	200	200					
	MOT (ft-lb)	1400	1400					
	wDL (plf)	161	161					
	End Post Compression (lb)	823	823					
	DL Factor	0.6	0.6					
	wDL (plf)	96.6	97					
	End Post Uplift for HDs (lb)	579	579					
	Max Compression	823	823					
	Max Uplift	579	579					
	Max Shear Flow	112	112					
	Max Shear Floow Due to Wind or Seismic (W/S)	S	S					
	Sheathing Nails	7/16 w/ 8d @ 6" O.C.	7/16 w/ 8d @ 6" O.C.					
	# of Layers	1	1					
	Shear Flow Allowabel (plf)	216	216					
	Check	Adequate	Adequate					
	Sheathing Staples	7/16 w/ 1 1/2" 16 ga. @ 6" O.C.	7/16 w/ 1 1/2" 16 ga. @ 6" O.C.					
	Shar Flow Allowable (plf)	155	155					
	Check	Adequate	Adequate					
	Recommended Holdown @ Foundation 8" wall	not reqd.	not reqd.					
	Strap Style (Midwall)	not reqd.	not reqd.					
	Strap Style (End Wall)	not reqd.	not reqd.					
	Recommended Holdown @ Wood Wall	not reqd.	not reqd.					
	Strap Nailing Req'd	not reqd.	not reqd.					
	# OF Minimum End Post	not reqd	not reqd					

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	38 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Shear Walls w/ Wood Studs (Top Story)
NDS 2021 (ASD Loading)
Total Length of walls (ft) = 8.00

Shear Line:	SW6
Sesimic Load (lb):	1300
S_{DS}	0.887
Wind Load (lb):	2000
Roof DL (psf)	15
Floor DL (psf)	10
Wall Self (psf)	8

	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7
length (ft)	8						
height (ft)	9						
roof trib. (ft)	4						
floor trib. (ft)	1						
Distance from HD to end of wall (in)	3						
Aspect Ratio:	1.13						
Seismic shear flow (plf)	162.5						
F (lbs)	1300						
Seismic Factor	1.00						
Adjusted Shear Flow (plf)	162.50						
MOT (ft-lb)	11700						
DL Factor A=	1.12						
A x wDL (plf)	160						
End Post Compression (lb)	1695						
DL Factor B=	0.48						
B x wDL (plf)	68						
End Post Uplift for HDs (lb)	753						
Wind shear flow (plf)	250						
F (lb)	2000						
MOT (ft-lb)	18000						
wDL (plf)	142						
End Post Compression (lb)	2891						
DL Factor	0.6						
wDL (plf)	85.2						
End Post Uplift for HDs (lb)	2059						
Max Compression	2891						
Max Uplift	2059						
Max Shear Flow	250						
Max Shear Floow Due to Wind or Seismic (W/S)	W						
Sheathing Nails	7/16 w/ 8d @ 6" O.C.						
# of Layers	1						
Shear Flow Allowabel (plf)	335						
Check	Adequate						
Sheathing Staples	7/16 w/ 1 1/2" 16 ga. @ 4" O.C.						
Shar Flow Allowable (plf)	322						
Check	Adequate						
Recommended Holdown @ Foundation 8" wall	HDU2						
Strap Style (Midwall)	LSTHD8						
Strap Style (End Wall)	LSTHD8						
Recommended Holdown @ Wood Wall	MSTC40						
Strap Nailing Req'd	(32) 16d						
# OF Minimum End Post	2						

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JOB TITLE	Wooden Spur Renovation		
368 Wooden Spur Dr. Alpine, Wyoming			
JOB NO.	225112	SHEET NO.	39 of 39
CALCULATED BY	EVB	DATE	6/4/2025
CHECKED BY	0	DATE	

Wood Shear Walls w/ Wood Studs (Top Story)
NDS 2021 (ASD Loading)
Total Length of walls (ft) = 16.50

Shear Line:	SW7
Sesimic Load (lb):	3300
S_{DS}	0.887
Wind Load (lb):	4600
Roof DL (psf)	15
Floor DL (psf)	10
Wall Self (psf)	8

	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7
length (ft)	8	8.5					
height (ft)	8	8					
roof trib. (ft)	4	4					
floor trib. (ft)	2	2					
Distance from HD to end of wall (in)	3	3					
Aspect Ratio:	1.00	0.94					
Seismic shear flow (plf)	200.0	200.0					
F (lbs)	1600	1700					
Seismic Factor	1.00	1.00					
Adjusted Shear Flow (plf)	200.00	200.00					
MOT (ft-lb)	12800	13600					
DL Factor A=	1.12	1.12					
A x wDL (plf)	162	162					
End Post Compression (lb)	1804	1842					
DL Factor B=	0.48	0.48					
B x wDL (plf)	69	69					
End Post Uplift for HDs (lb)	846	829					
Wind shear flow (plf)	279	279					
F (lb)	2230	2370					
MOT (ft-lb)	17842	18958					
wDL (plf)	144	144					
End Post Compression (lb)	2878	2910					
DL Factor	0.6	0.6					
wDL (plf)	86.4	86					
End Post Uplift for HDs (lb)	2033	2002					
Max Compression	2878	2910					
Max Uplift	2033	2002					
Max Shear Flow	279	279					
Max Shear Floow Due to Wind or Seismic (W/S)	W	W					
Sheathing Nails	7/16 w/ 8d @ 6" O.C.	7/16 w/ 8d @ 6" O.C.					
# of Layers	1	1					
Shear Flow Allowabel (plf)	335	335					
Check	Adequate	Adequate					
Sheathing Staples	7/16 w/ 1 1/2" 16 ga. @ 4" O.C.	7/16 w/ 1 1/2" 16 ga. @ 4" O.C.					
Shar Flow Allowable (plf)	322	322					
Check	Adequate	Adequate					
Recommended Holdown @ Foundation 8" wall	HDU2	HDU2					
Strap Style (Midwall)	LSTHD8	LSTHD8					
Strap Style (End Wall)	LSTHD8	LSTHD8					
Recommended Holdown @ Wood Wall	MSTC40	MSTA49					
Strap Nailing Req'd	(32) 16d	(26) 10d					
# OF Minimum End Post	2	2					

Town of Alpine
PROJECT AUTHORIZATION FORM

Application Submittal Date:				
Type of Review & Authorization Needed: (Circle One)				Building Plan Review

Property Owner - Project Information:

Owner:	Brett Bennett
Job Address:	368 Wooden Spur
Description of Project:	Garage Addition and Remodel

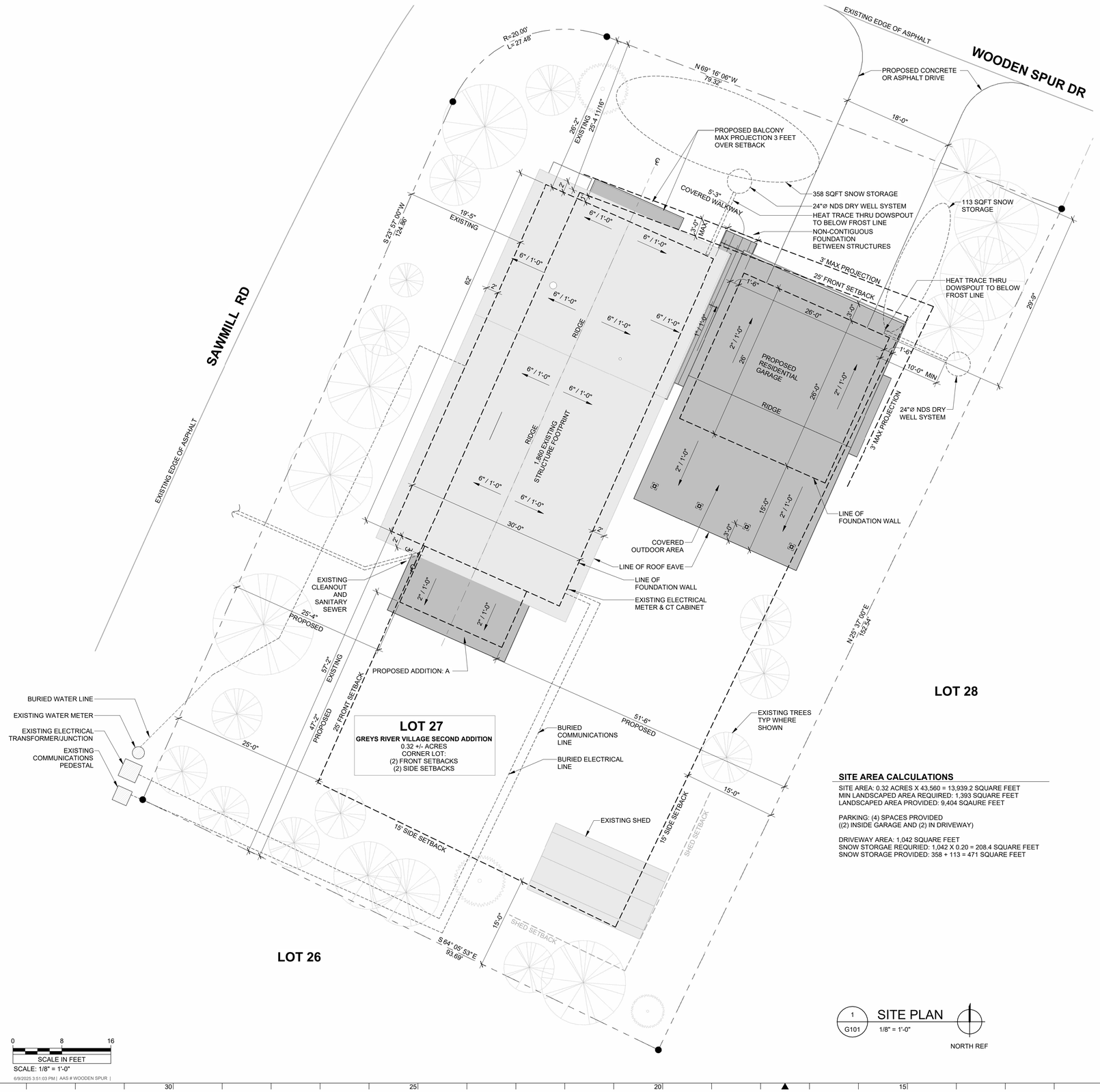
Authorization to Proceed:

Authorization Completed By:	Dee J. Rammell	
Status of Authorization:	Approved	As Noted

- A101 – NEC 2023 is the applicable electrical code per the Wyoming State Fire Marshall
- S1 – Structural drawings need updated to the 2021 IRC (2018 IRC is referenced, calcs are based off 2021)
- S1 – Ground snow load needs updated to 143 psf per Alpine Land Use and Regulations
- Additional plan review is not required; notes to be updated in the issued permit set

Permit Issuance:

Town Clerk: Signature		Date:



6/9/2025 3:51:03 PM | AAS # WOODEN SPUR |

1 G101 SITE PLAN
1/8" = 1'-0"

NORTH REF

SITE AREA CALCULATIONS

SITE AREA: 0.32 ACRES X 43,560 = 13,939.2 SQUARE FEET
MIN LANDSCAPED AREA REQUIRED: 1,393 SQUARE FEET
LANDSCAPED AREA PROVIDED: 9,404 SQAURE FEET

PARKING: (4) SPACES PROVIDED
((2) INSIDE GARAGE AND (2) IN DRIVEWAY)

DRIVEWAY AREA: 1,042 SQUARE FEET
SNOW STORGAE REQURIED: 1,042 X 0.20 = 208.4 SQUARE FEET
SNOW STORAGE PROVIDED: 358 + 113 = 471 SQUARE FEET

ARCHITECT
ALPINE ARCHITECTURAL STUDIO, LLC
PO BOX 3975
ALPINE, WY 83128
bbennett@alpinearchstudio.com

STRUCTURAL ENGINEER
TSE ENGINEERS
136 S. STATE ST.
SHELLY, ID 83274
office@tetoneng.com

SHEET INDEX

CODES UTILIZED
IRC 2021
TOWN OF ALPINE LAND USE DEVELOPMENT CODE

PROJECT DESCRIPTION
RESIDENTIAL GARAGE AND RENOVATION OF EXISTING SINGLE FAMILY DWELLING

OCCUPANCY
R101.2: ONE FAMILY DWELLING & ACCESSORY STRUCTURE

FIRE SPRINKLER SYSTEM
EXISTING: NO
PROPOSED: NO

FLOOR AREAS IN GROSS SQUARE FEET
ONE FAMILY DWELLING GROSS FLOOR AREAS:
EXISTING 1ST FLOOR DWELLING AREA: 1,216 SQFT
EXISTING ATTACHED GARAGE AREA: 528 SQFT
EXISTING 2ND FLOOR AREA: 295 SQFT
EXISTING 1ST COVERED PORCH: 132 SQFT

PROPOSED 1ST FLOOR ADDITION: 180 SQFT
COVERED PORCH TO LIVING ROOM: 132 SQFT
EXISTING GARAGE TO LIVING ROOM: 515 SQFT
PROPOSED DETACHED GARAGE: 676 SQFT
PROPOSED COVERED OUTDOOR AREA: 150 SQFT AT ENTRY + 312 SQFT AT DETACHED GARAGE

GENERAL CONSTRUCTION NOTES

1. THIS PROJECT SHALL COMPLY WITH THE 2021 VERSION OF THE INTERNATIONAL RESIDENTIAL CODE INCLUDING ALL AMENDMENTS & THE TOWN OF ALPINE LAND USE DEVELOPMENT CODE. ANY BUILDING OFFICIAL, SUBCONTRACTOR OR TRADES PERSON NOTING DISCREPANCIES SHALL NOTIFY THE ARCHITECT IMMEDIATELY UPON DISCOVERY.
2. CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS BY THE TOWN OF ALPINE AND ANY OTHER GOVERNING AUTHORITIES, AS NECESSARY.
3. ALL CONSTRUCTION DEBRIS IS TO BE STOCKPILED NEATLY ON SITE UNTIL DISPOSAL, WHICH SHALL BE DONE AT COUNTY LANDFILL OR RECYCLING FACILITY ONLY. NO DEBRIS IS TO BE DISPOSED OF IN LOCAL WASTE COLLECTION FACILITIES.
4. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE GIVEN TO FACE OF ROUGH FRAMING, CENTERLINE OF COLUMNS, OR FACE OF CONCRETE AND C.M.U. WALL.
5. CONTRACTOR SHALL PROVIDE STORAGE FOR ALL BUILDING MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. STORAGE OF SUPPLIES SHALL REMAIN DRY.
6. ALL SUBSTITUTIONS ARE TO BE APPROVED BY ARCHITECT/OWNER. ALONG WITH WRITTEN REQUESTS CONTRACTOR SHALL PROVIDE ALL INFORMATION REGARDING THE SUBSTITUTION IN QUESTION, INCLUDING COST, AVAILABILITY AND REASON FOR SUBSTITUTION.
7. NON-COMBUSTIBLE BLOCKING, INSULATION OR OTHER FIRESTOP MATERIAL IS TO BE PROVIDED BETWEEN STORIES, BETWEEN TOP STORY AND ROOF SPACE, BETWEEN STAIR STRINGERS AT TOP AND BOTTOM, BETWEEN STUDS ALONG STAIR RUNS AND AT ALL OTHER PLACES THAT COULD ALLOW THE PASSAGE OF FLAME.
8. CONTRACTOR SHALL PROVIDE SAMPLES OF ALL FINISHES AND STAIN COLORS FOR APPROVAL BY ARCHITECT/OWNER. THIS INCLUDES BUT IS NOT LIMITED TO INTERIOR AND EXTERIOR STAINS, INTERIOR PAINT, SHEETROCK TEXTURES, CHEMICALLY APPLIED METAL PATINAS, AND STONE VENEER MATERIAL & MASONRY TECHNIQUE.
9. ALL ELECTRICAL WORK TO BE PERFORMED BY WY LICENSED ELECTRICIAN.
10. ALL MATERIALS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH WARRANTY GUIDELINES.
11. REFER TO GEOTECHNICAL REPORT PROVIDED BY OWNER.
12. CONTRACTOR RESPONSIBLE FOR PROVIDING, COORDINATION AND SUPERVISING TRENCHING OF UTILITIES AND SERVICES TO AND FROM BUILDING. LOCATE ALL UTILITIES PRIOR TO EXCAVATION. COORDINATION SHALL INCLUDE CONTRACTOR'S REASONABLE EFFORTS TO COMBINE AS MANY DIFFERENT UTILITIES IN COMMON TRENCHES AS PRACTICAL AND GOOD PRACTICE PERMIT.
13. VERIFY EXISTING BUILDING DIMENSIONS
14. VERIFY ALL BURIED UTILITIES PRIOR TO EXCAVATION.

VICINITY MAP: NTS

PROJECT LOCATION

alpine
architectural studio

WOODEN SPUR RENOVATION

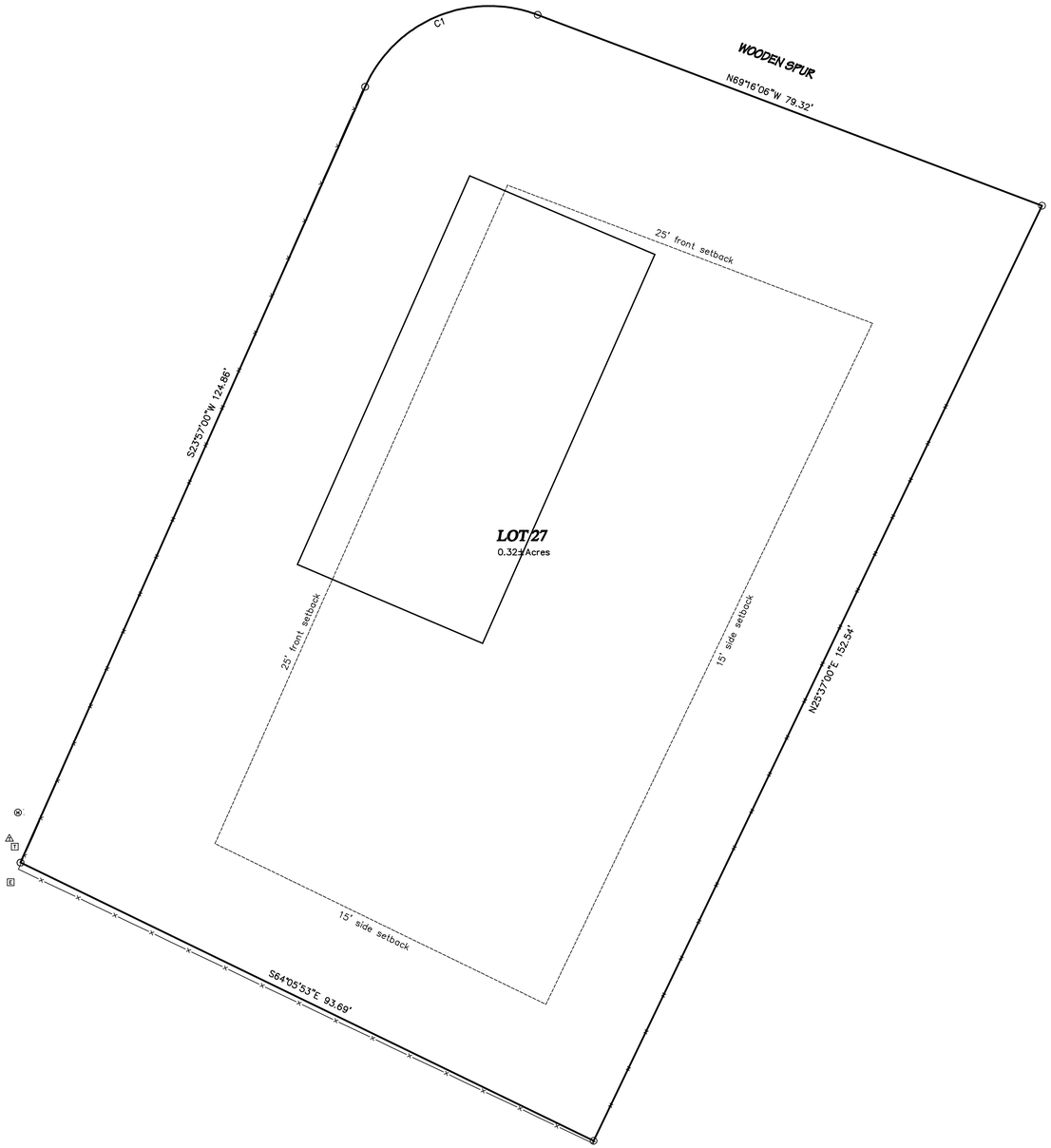
ALPINE, WY 83128
368 WOODEN SPUR DR

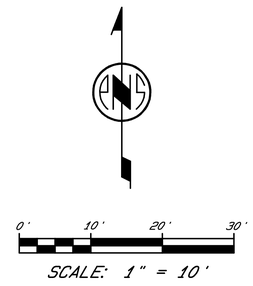
PERMIT DRAWINGS

6.9.2025
DRAWN BY | BENNETT
CHECKED BY | BENNETT
REVISIONS

COVER SHEET & SITE PLAN

G101





CURVE	LENGTH	DELTA	RADIUS	CHORD BEARING	CHORD	TANGENT
C1	30.29'	86°46'54"	20.00'	S67°20'27"W	27.48'	18.91'

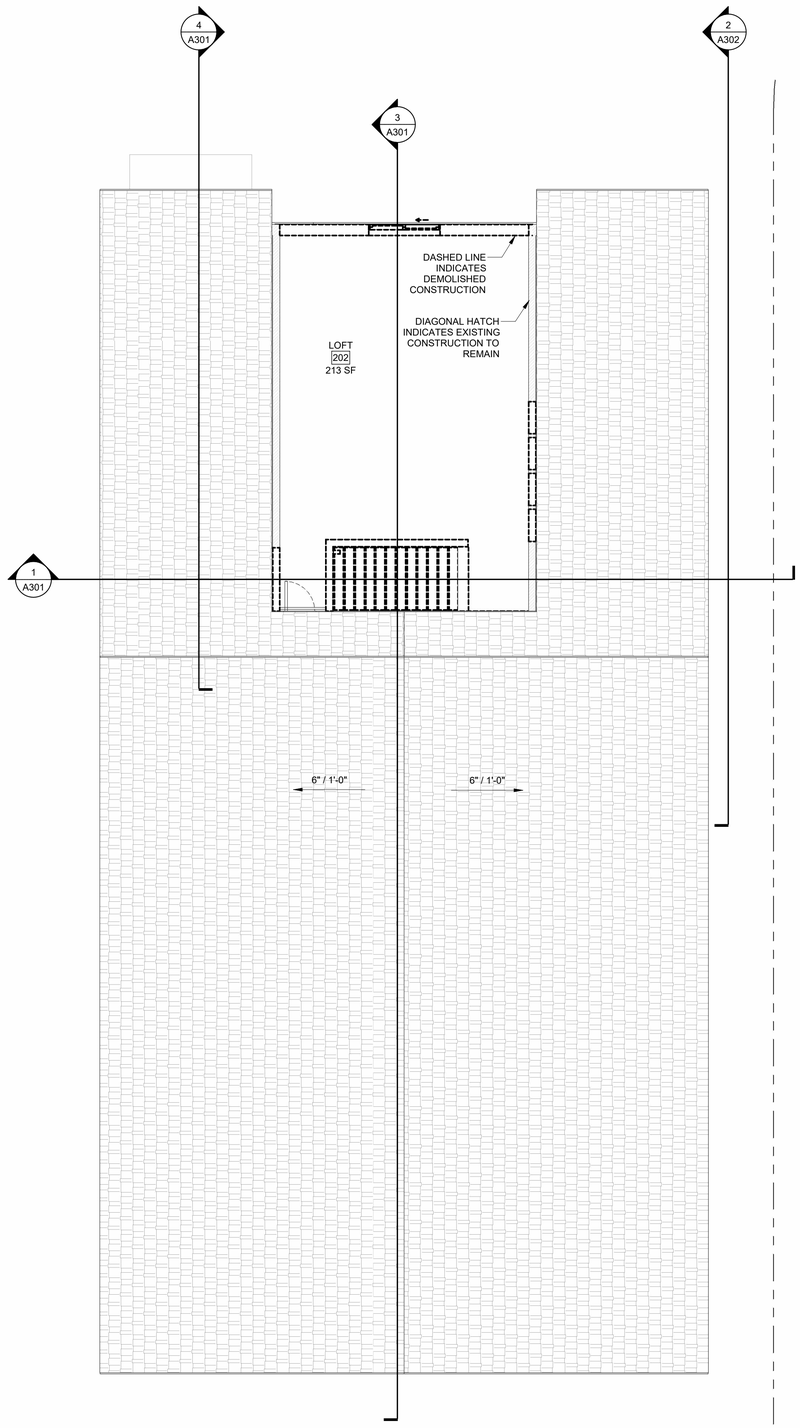
MAP OF
GREYS RIVER VILLAGE
SECOND ADDITION
LOT 27
FOR
BRETT BENNETT
TOWN OF ALPINE
LINCOLN COUNTY, WYOMING

DATE: 5 September 2024
DRAWN BY: Kori F. Scherbel
CALCULATED BY: Kori F. Scherbel
CATEGORY/PART: Site Plan/Alpine
FIELD BOOK:
COMPUTER FILE: GR12-27TOPO.pro

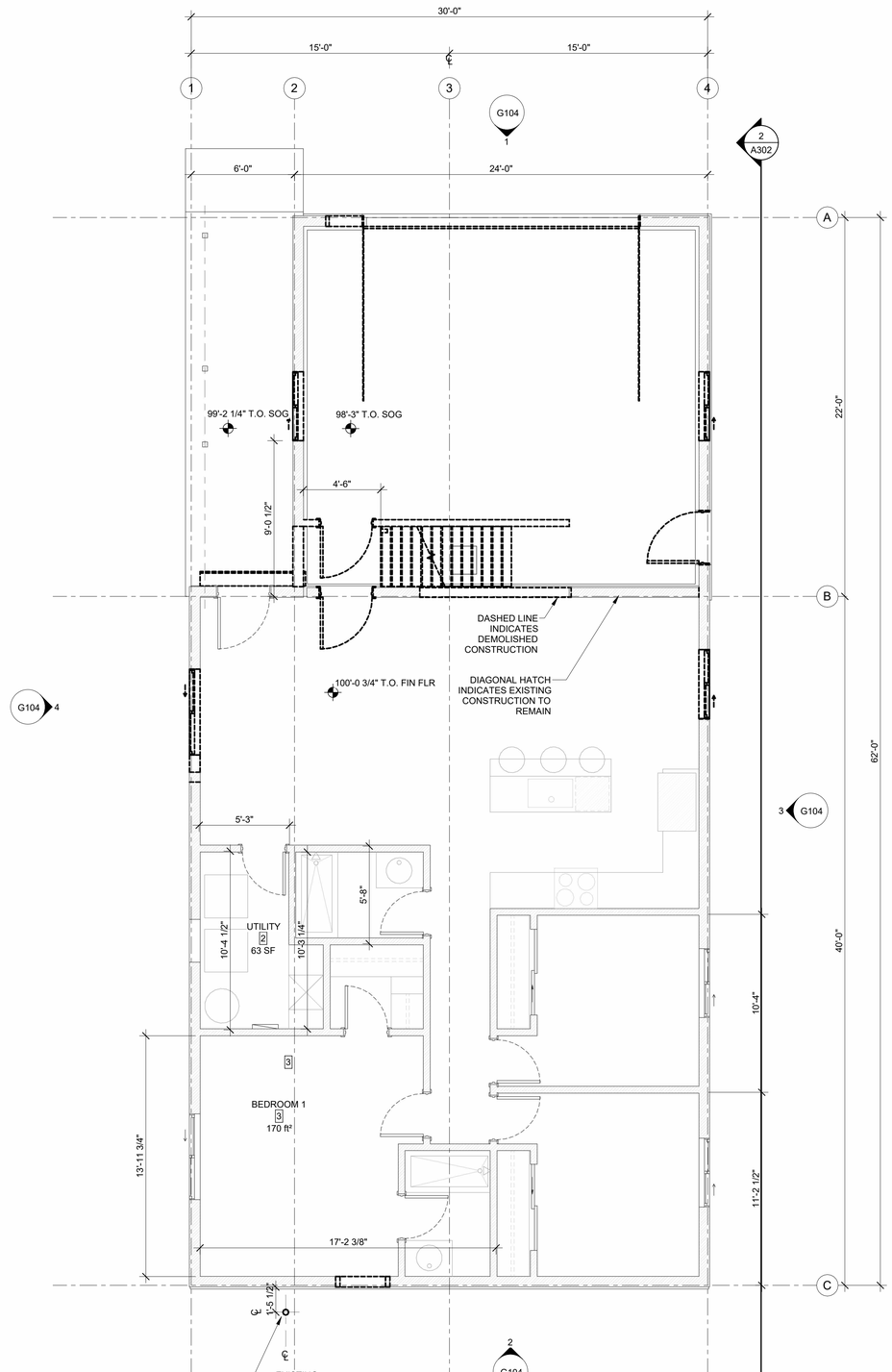
SURVEYOR SCHERBEL, LTD.
PROFESSIONAL LAND SURVEYORS
BOX 96 BIG PINEY-MARBLETON, WYO. 83113 TEL 307-276-3347
BOX 725 AFTON, WYO. 83110 TEL 307-885-9319; ALPINE, WYO. 83128 TEL 307-885-9318
JACKSON, WYO. TEL 307-733-5983; LAVA, ID TEL 208-776-5930; MONTPELIER, ID TEL 208-847-2800

REVISIONS:

PLOT DATE: 5 September 2024



2 G103 2ND FLOOR PLAN EXISTING & DEMOLITION
1/4" = 1'-0"



1 G103 1ST FLOOR PLAN EXISTING & DEMOLITION
1/4" = 1'-0"

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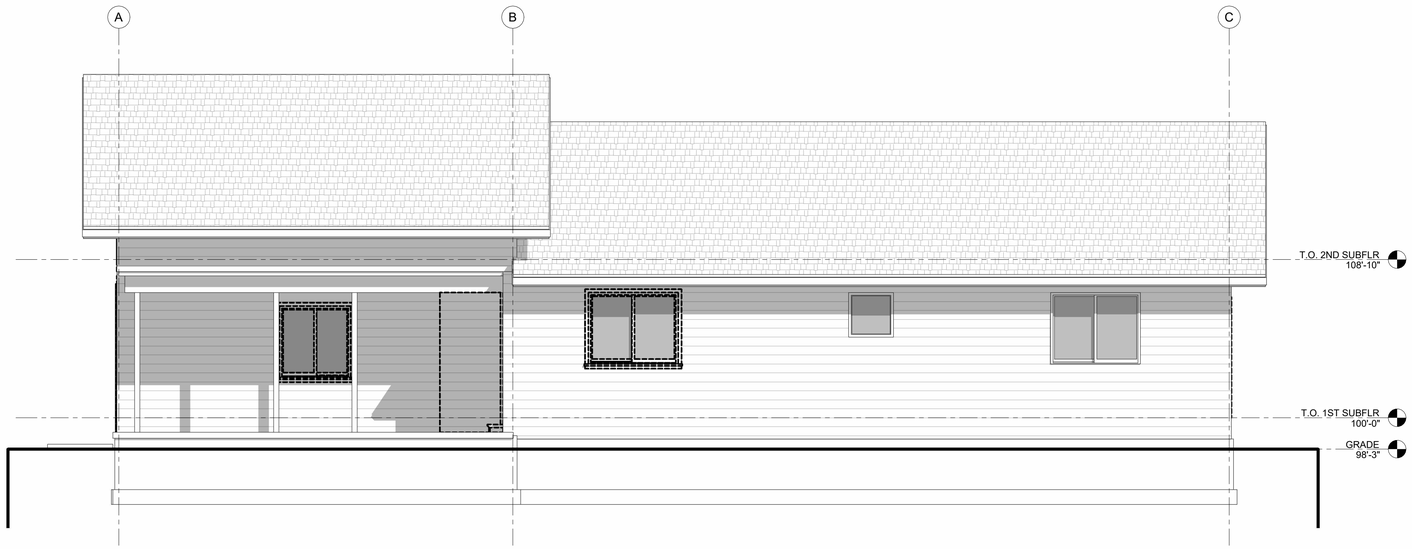
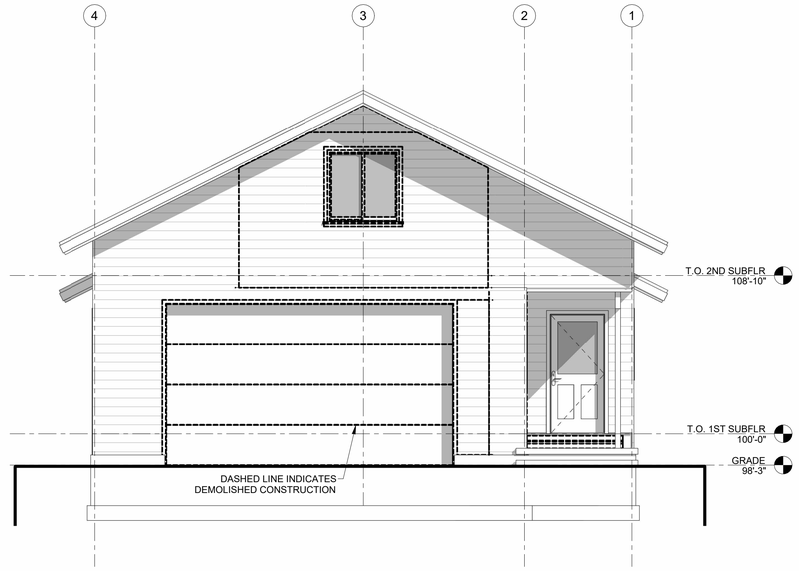
EXISTING & DEMOLITION FLOOR PLANS

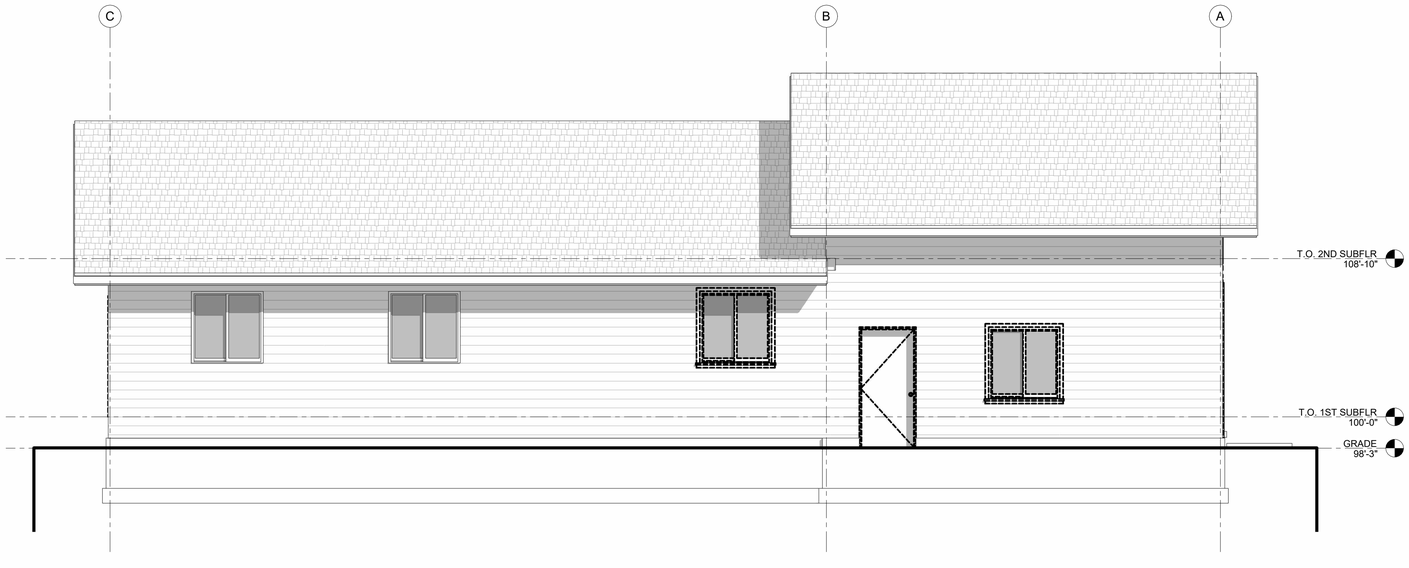
G103



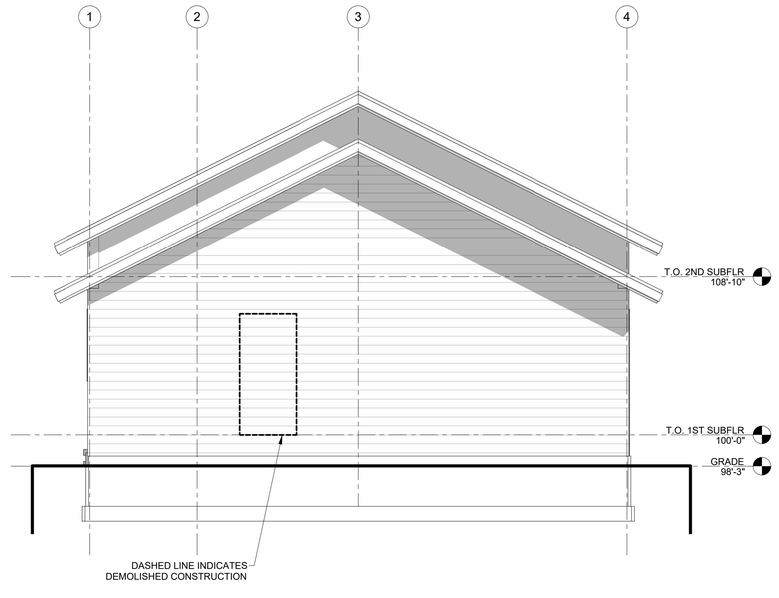
4 G104 WEST EXTERIOR ELEVATION EXISTING
1/4" = 1'-0"



1 G104 NORTH EXTERIOR ELEVATION EXISTING
1/4" = 1'-0"



3 G104 EAST EXTERIOR ELEVATION EXISTING
1/4" = 1'-0"



2 G104 SOUTH EXTERIOR ELEVATION EXISTING
1/4" = 1'-0"

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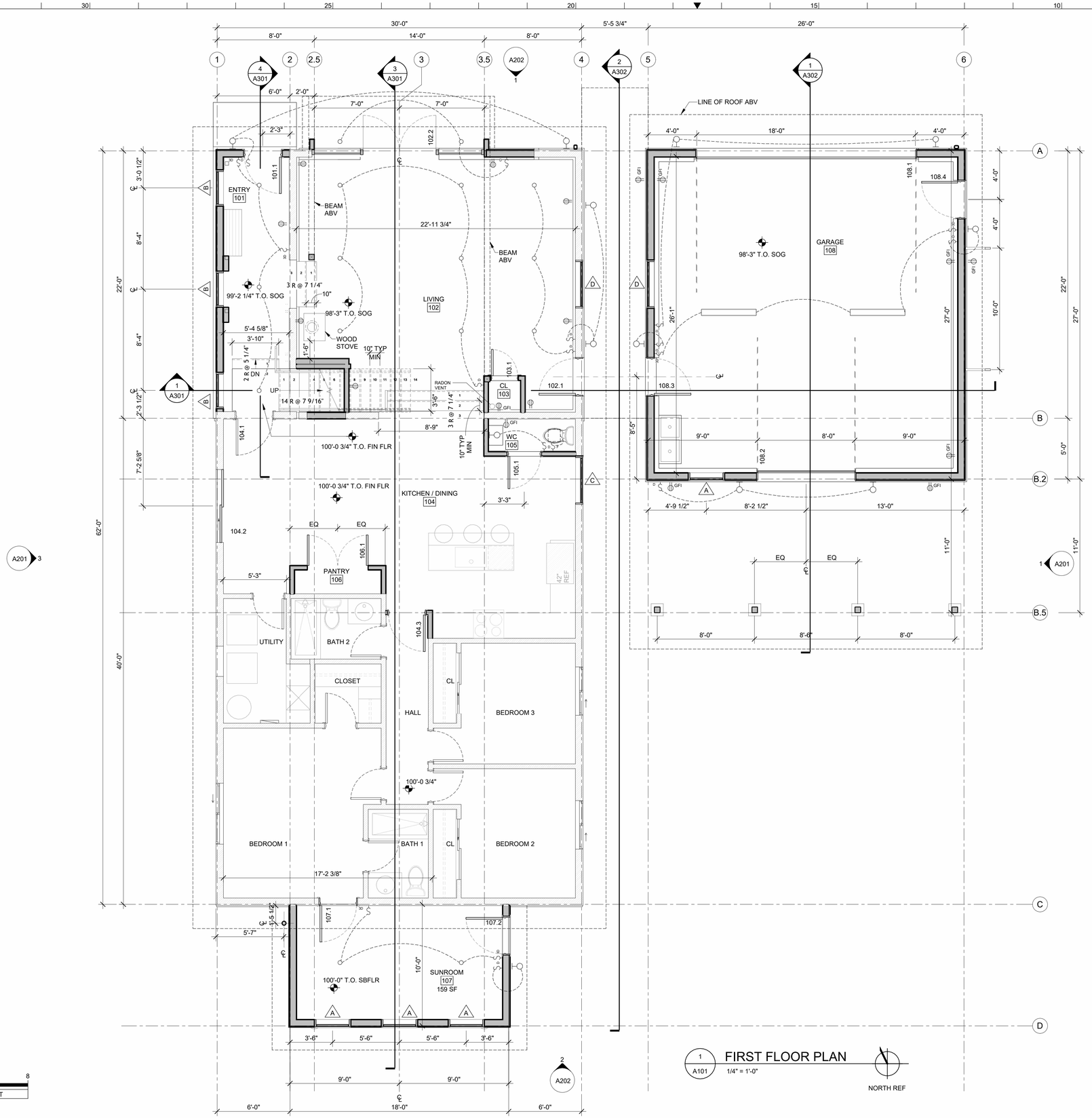
EXISTING &
DEMOLITION
EXTERIOR
ELEVATIONS

G104



POWER LEGEND

- SPECIAL RECEPTACLE: VERIFY EQUIPMENT
- DUPLEX RECEPTACLE: 18" AFFL UNO
- GFI — DUPLEX RECEPTACLE: GROUND FAULT CIRCUIT INTERRUPTER
- GFI — DUPLEX RECEPTACLE HALF SWITCHED: GROUND FAULT CIRCUIT INTERRUPTER
- DOUBLE DUPLEX RECEPTACLE: 18" AFFL UNO
- S_D — LIGHT SWITCH AT 46" ABV FFL UNO: DAMNABLE
- S_{3D} — 3-WAY LIGHT SWITCH AT 46" ABV FFL UNO: DAMNABLE
- S_F — FAN SWITCH WITH TIMER AT 46" ABV FFL
- VENTILATION FAN
- T — THERMOSTAT

LIGHT FIXTURE LEGEND

ALL LIGHT FIXTURES TO BE LED: COLOR 3000K

- SUSPENDED PENDANT LIGHT FIXTURE
- RECESSED LIGHT FIXTURE: CEILING MOUNTED / 4" MAX DIAMETER / PROVIDE SLOPED TRIM IN VAULTED CEILINGS
- WALL SCONCE
- UTILITY LIGHT FIXTURE
- UNDER CABINET TASK LIGHTING: 0.69" HEIGHT
- MONOPOINT (ART LIGHT) SURFACE MOUNTED

GENERAL NOTES

1: ALL WORK TO BE PERFORMED BY LICENSED ELECTRICIAN PER IRC 2021 AND NEC 2020

2: ALL LIGHT FIXTURES AND SWITCHING TO BE DAMNABLE UN LESS NOTED OTHERWISE.

3: PROVIDE SERVICE, FEEDER, AND GROUNDING PER IRC 2021 AND NEC 2020

4: ALL EXTERIOR AND SHOWER LIGHTING RATED WET LOCATION

5: PROVIDE ELECTRIC COVE BY LICENSED ELECTRICIAN THROUGHOUT ALL HABITABLE SPACES. VERIFY THERMOSTAT LOCATIONS WITH OWNER.

6: PROVIDE ADDITIONAL POWER AND RECESSED TV MEDIA BOX KIT FOR ALL TV'S. VERIFY WALL MOUNTED TV LOCATIONS WITH OWNER.

7: VERIFY LIGHT FIXTURES, FINISH, AND TRIM WITH OWNER.

8: ALL RECESSED LIGHTING TO BE IC RATED FOR DIRECT CONTACT WITH SPRAY FOAM INSULATION. VERIFY WITH MANUF.

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

NORTH REF

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

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WOODEN SPUR RENOVATION

PERMIT DRAWINGS

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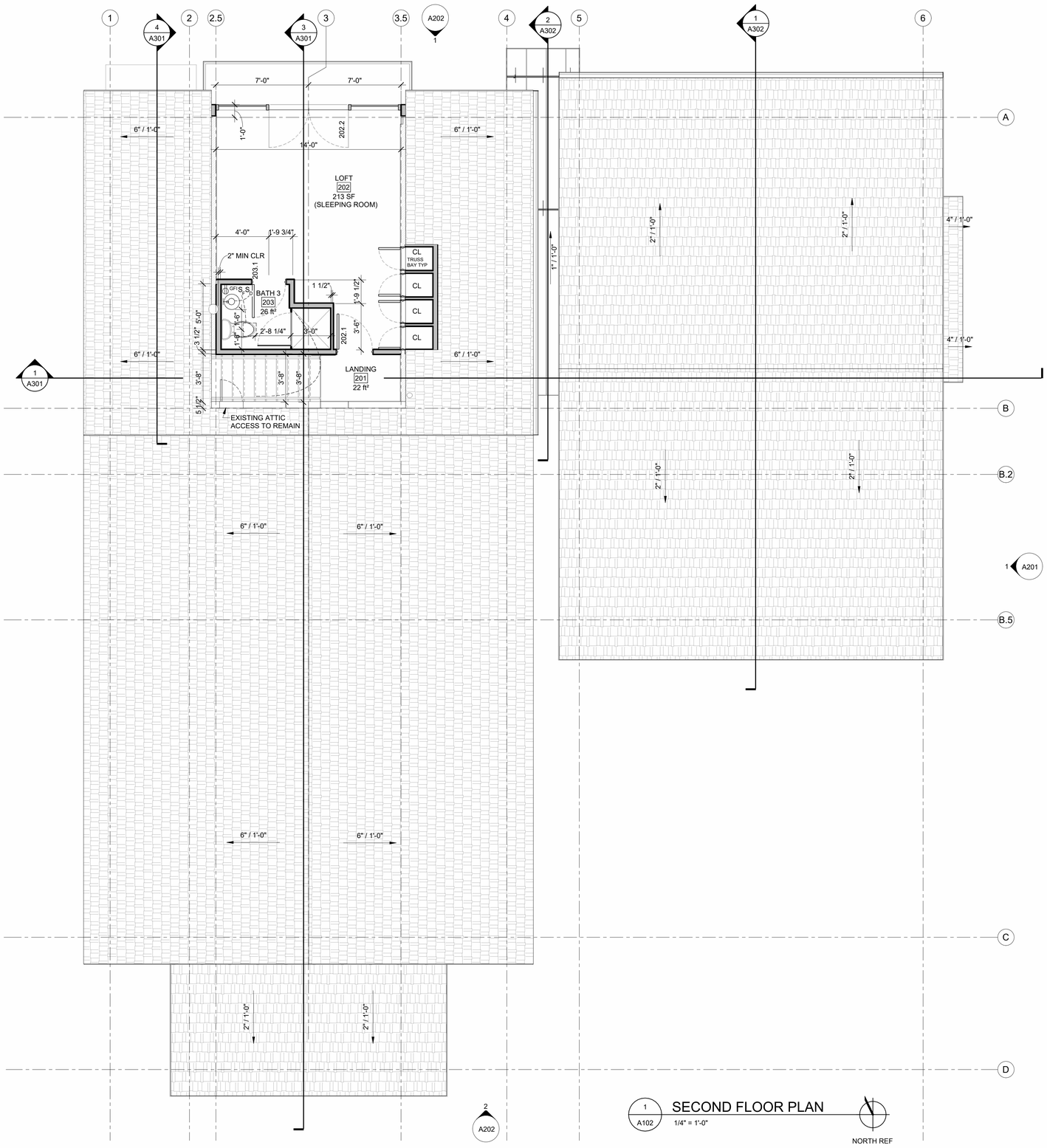
FIRST FLOOR PLAN

A101



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

6/9/2025 3:51:22 PM | AAS # WOODEN SPUR |

1 A102 SECOND FLOOR PLAN

1/4" = 1'-0"

NORTH REF

2 A202

POWER LEGEND

- SPECIAL RECEPTACLE: VERIFY EQUIPMENT
- DUPLEX RECEPTACLE: 18" AFFL UNO
- GFI DUPLEX RECEPTACLE: GROUND FAULT CIRCUIT INTERRUPTER
- GFI DUPLEX RECEPTACLE HALF SWITCHED: GROUND FAULT CIRCUIT INTERRUPTER
- DOUBLE DUPLEX RECEPTACLE: 18" AFFL UNO
- S_D LIGHT SWITCH AT 46" ABV FFL UNO: DAMNABLE
- S_{3D} 3-WAY LIGHT SWITCH AT 46" ABV FFL UNO: DAMNABLE
- S_F FAN SWITCH WITH TIMER AT 46" ABV FFL
- VENTILATION FAN
- T THERMOSTAT

LIGHT FIXTURE LEGEND

ALL LIGHT FIXTURES TO BE LED: COLOR 3000K

- SUSPENDED PENDANT LIGHT FIXTURE
- RECESSED LIGHT FIXTURE: CEILING MOUNTED / 4" MAX DIAMETER / PROVIDE SLOPED TRIM IN VAULTED CEILINGS
- WALL SCONCE
- UTILITY LIGHT FIXTURE
- UNDER CABINET TASK LIGHTING: 0.69" HEIGHT
- MONOPOINT (ART LIGHT) SURFACE MOUNTED

GENERAL NOTES

1: ALL WORK TO BE PERFORMED BY LICENSED ELECTRICIAN PER IRC 2021 AND NEC 2020

2: ALL LIGHT FIXTURES AND SWITCHING TO BE DAMNABLE UN LESS NOTED OTHERWISE.

3: PROVIDE SERVICE, FEEDER, AND GROUNDING PER IRC 2021 AND NEC 2020

4: ALL EXTERIOR AND SHOWER LIGHTING RATED WET LOCATION

5: PROVIDE ELECTRIC COVE BY LICENSED ELECTRICIAN THROUGHOUT ALL HABITABLE SPACES. VERIFY THERMOSTAT LOCATIONS WITH OWNER.

6: PROVIDE ADDITIONAL POWER AND RECESSED TV MEDIA BOX KIT FOR ALL TV'S. VERIFY WALL MOUNTED TV LOCATIONS WITH OWNER.

7: VERIFY LIGHT FIXTURES, FINISH, AND TRIM WITH OWNER.

8: ALL RECESSED LIGHTING TO BE IC RATED FOR DIRECT CONTACT WITH SPRAY FOAM INSULATION. VERIFY WITH MANUF.

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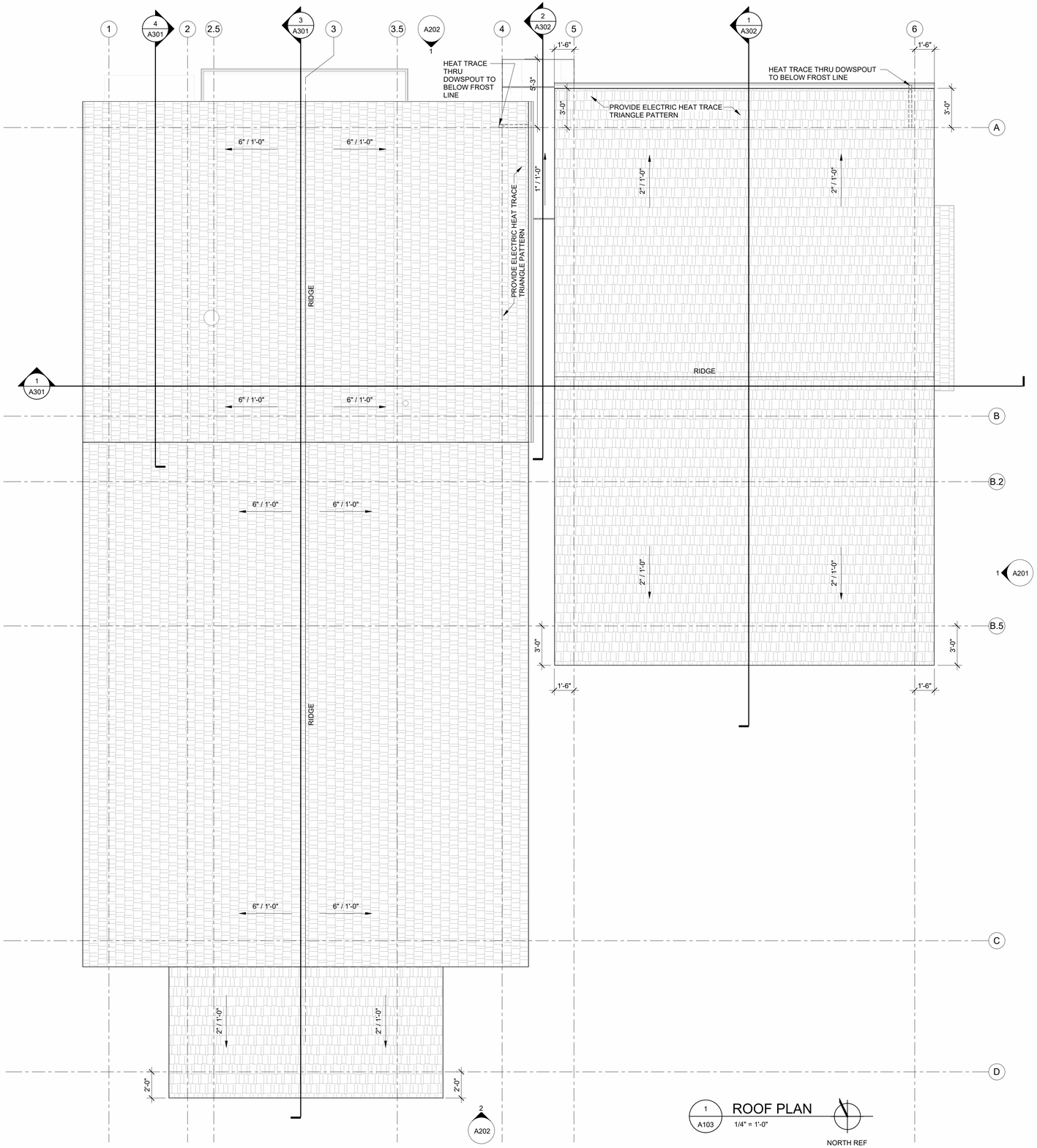
SECOND FLOOR PLAN

A102



1 A103 ROOF PLAN
1/4" = 1'-0"

NORTH REF

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:26 PM | AAS # WOODEN SPUR |

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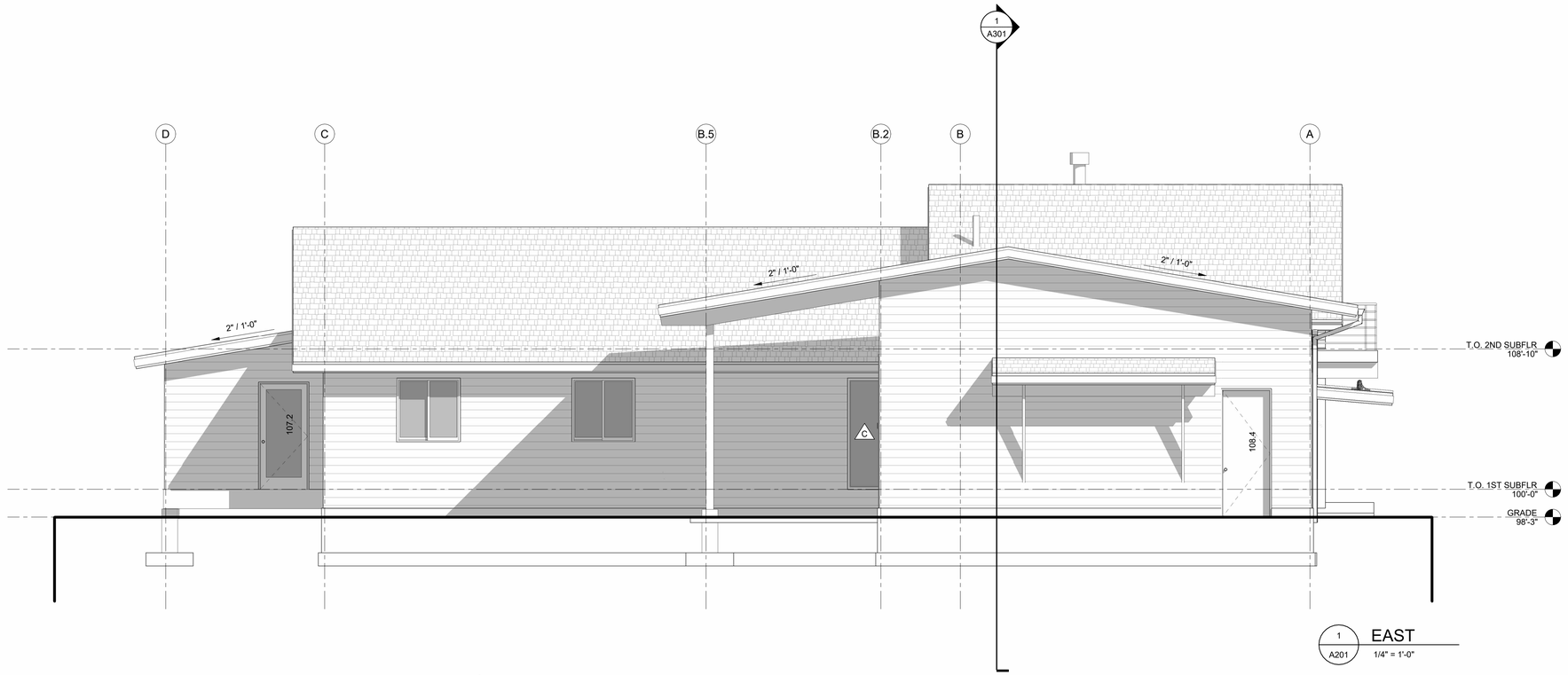
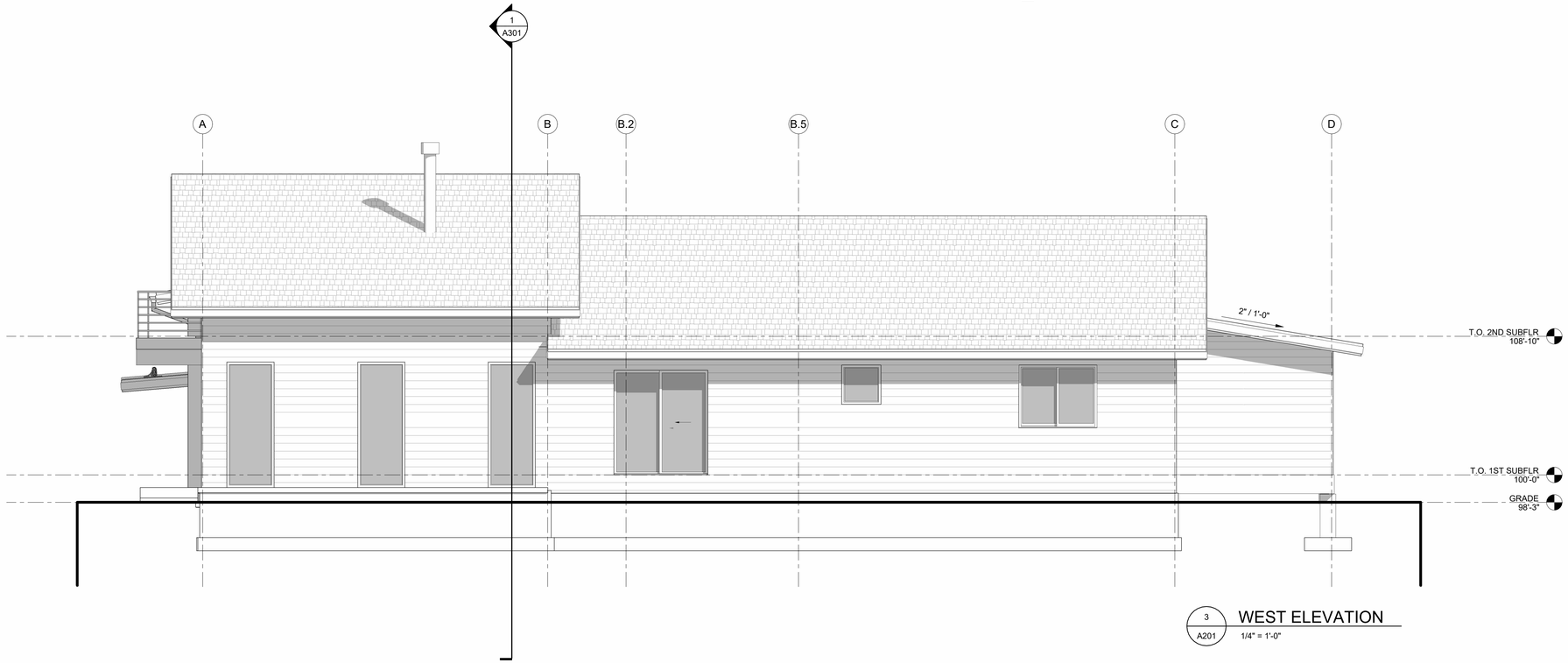
ROOF PLAN

A103



1 A201 EAST
1/4" = 1'-0"



3 A201 WEST ELEVATION
1/4" = 1'-0"

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:32 PM | AAS # WOODEN SPUR |

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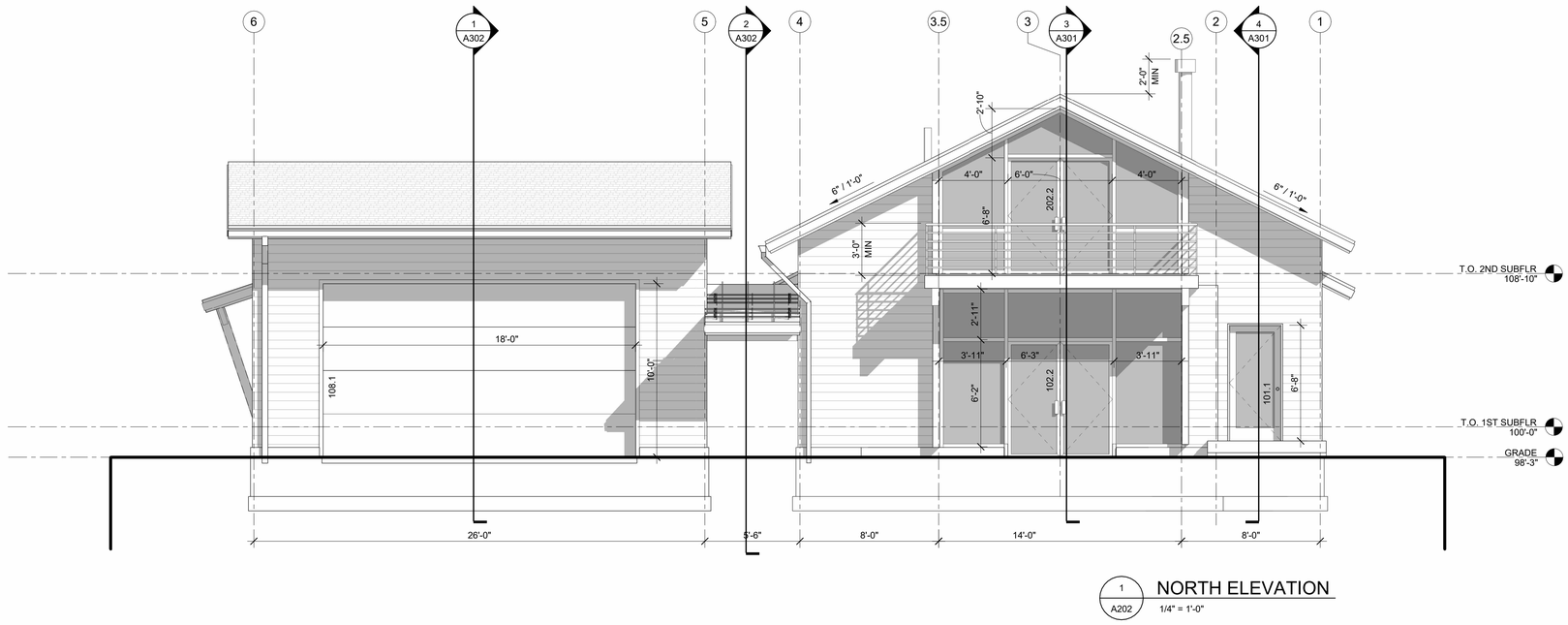
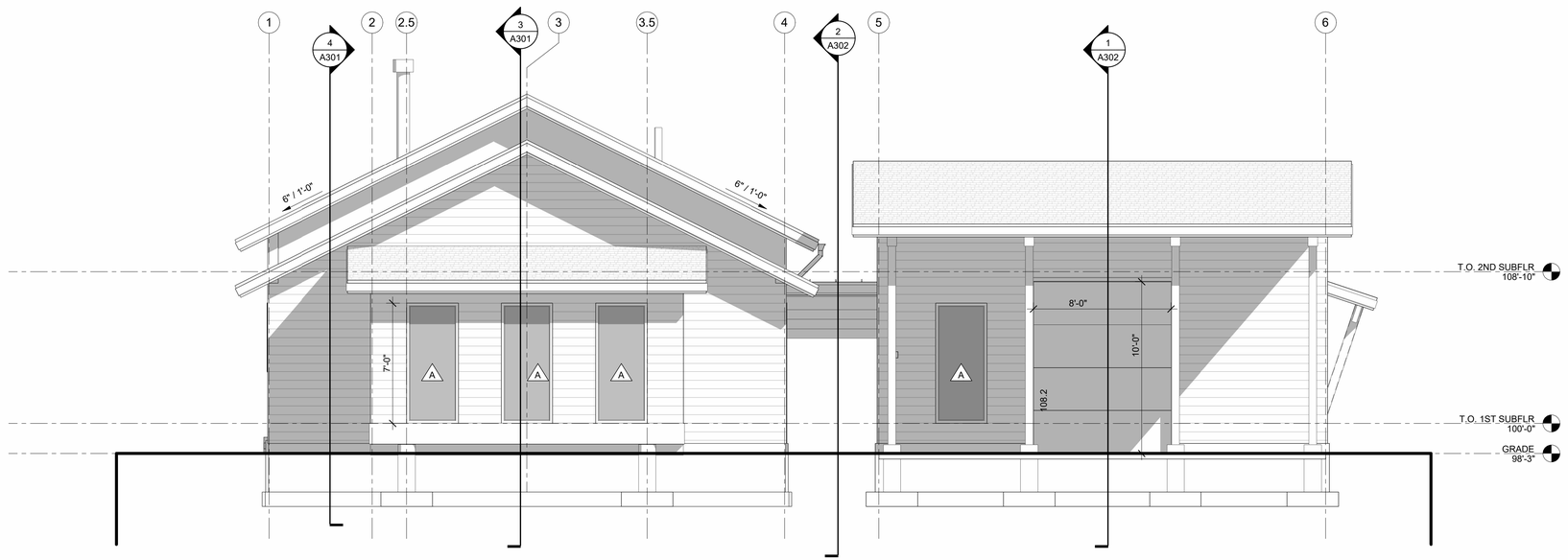
REVISIONS

EXTERIOR
ELEVATIONS

A201



1 A202 NORTH ELEVATION
1/4" = 1'-0"



2 A202 SOUTH ELEVATION
1/4" = 1'-0"

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:38 PM | AAS # WOODEN SPUR |

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WOODEN SPUR RENOVATION

PERMIT DRAWINGS

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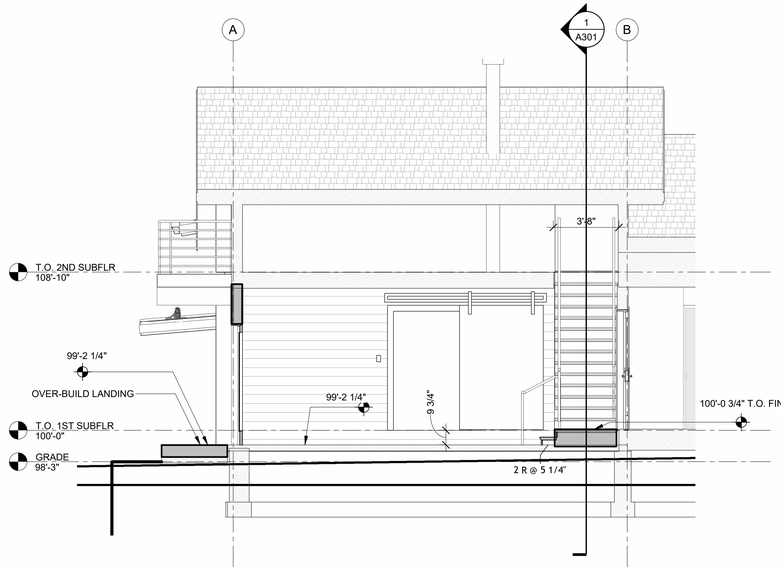
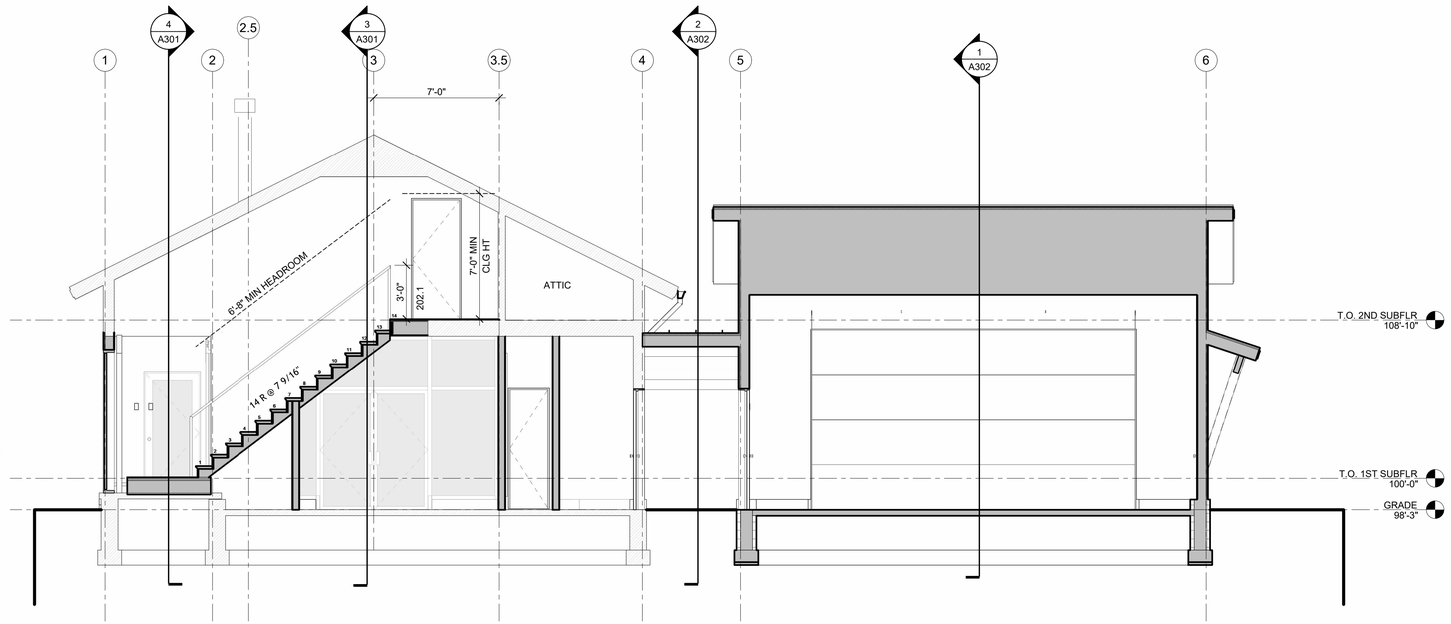
REVISIONS

EXTERIOR ELEVATIONS

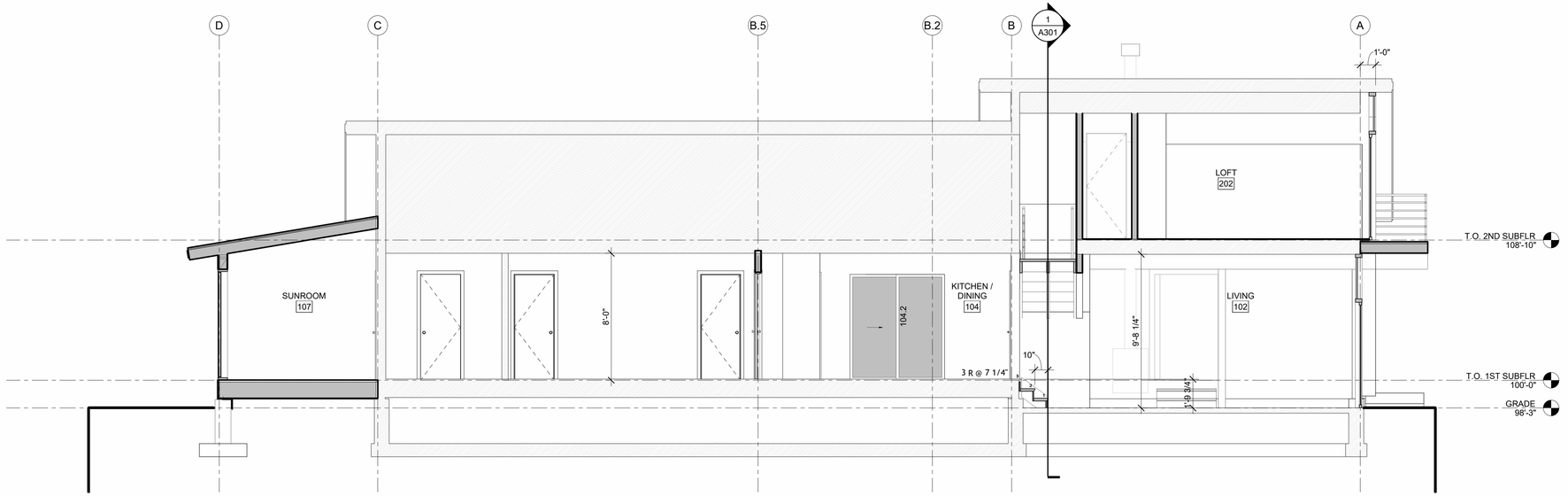
A202



4 A301 BUILDING SECTION - C
1/4" = 1'-0"



1 A301 BUILDING SECTION - A
1/4" = 1'-0"



3 A301 BUILDING SECTION - B
1/4" = 1'-0"

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:44 PM | AAS # WOODEN SPUR |

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REVISIONS

BUILDING SECTIONS

A301

INSULATION SCHEDULE

LOCATION	R-VALUE	DESCRIPTION
1. SOIL GAS BARRIER/RADON MITIGATION: NEW CONSTRUCTION ONLY	N/A	1. INSTALL 4" PERF. PIPE IN PEA GRAVEL BED (NO FINES). 2. COVER GRAVEL BED WITH CONTINUOUS 10 MIL POLYETHYLENE SHEET SOIL GAS BARRIER ADHERED TO FOOTINGS. 3. PROVIDE VENT STACK THROUGH HEATED SPACE AND POWER IN CRAWL SPACE FOR EXHAUST FAN IF NECESSARY.
2. SLABS ON GRADE	0	UNHEATED CONCRETE SLAB
3. EXTERIOR FRAMED WALL CAVITIES	R-30	INSTALL CLOSED CELL SPRAY FOAM INSULATION IN STUD CAVITIES. R6.5 PER INCH = 4.6" INSUL DEPTH. SPRAY URETHANE (CLOSED CELL) SWD QUICK-SHIELD 112 SPRAY FOAM INSULATION OR EQUAL.
4. CONCRETE STEMWALLS IN CRAWLSPACE	R-15	POLY ISO RIGID INSULATION OR ICF FORMS
5. FLOOR JOISTS OVER CONDITIONED SPACE	R-39	MIN 13" (R3 PER INCH) FORMALDEHYDE FREE BATT INSULATION.
6. SOUND ISOLATION AT ALL INTERIOR WALLS.	N/A	FILL SPACE WITH FRICTION-FIT FORMALDEHYDE FREE FIBERGLASS SOUND-ATTENUATION BATTS.
7. CEILINGS	R-60	PROVIDE 17.14" BLOWN-IN CELLULOSE INSULATION (R3.5 PER INCH)
9. EXTERIOR DOORS AND WINDOWS	MAX U=0.30	FILL RO SPACE WITH LOW EXPANDING SPRAY URETHANE (CLOSED CELL) INSULATION.
10. MECHANICAL AND ELECTRICAL PENETRATIONS	N/A	FILL RO SPACE WITH LOW EXPANDING SPRAY URETHANE (CLOSED CELL) INSULATION.
11. MECHANICAL AND ELECTRICAL PENETRATIONS	N/A	FILL RO SPACE WITH LOW EXPANDING SPRAY URETHANE (CLOSED CELL) INSULATION.

1.
- PROVIDE "TYVEK DRAINWRAP" OR EQUAL HOUSE WRAP OVER PLYWOOD SHEATHING AT ALL FRAMED EXTERIOR WALLS - TAPE ALL SEAMS WITH "TYVEK TAPE".
- AT WINDOW AND DOOR ROUGH OPENINGS, CUT HOUSEWRAP IN A MODIFIED - I PATTERN PRIOR TO INSTALLING UNIT.
- USE "TYVEK FLEXWRAP" OR EQUAL FOR FLASHING AT PANS & "TYVEK STRAIGHT FLASH" @ HEADS & LEGS.
- PROVIDE APPROPRIATE "QUICKFLASH" OR EQUAL PRODUCT TO SEAL HOUSEWRAP AT ALL OTHER PENETRATIONS.

2.
- ALL FIBERGLASS BATTS TO FILL SPACE WITH NO GAPS. SEE BUILDERS GUIDE TO COLD CLIMATES.
- TRIM BATTS TO FIT AROUND AND BEHIND OBJECTS IN WALL AND ROOF CAVITIES SUCH AS ELECTRICAL JUNCTION BOXES.

3. SPRAY URETHANE (CLOSED CELL) SWD QUICK-SHIELD 112 SPRAY INSULATION TO BE USED AT ALL FLOOR RIM AND ROOF RIM SPACES.

4. CAULK ALL PLATES. CAULK ALL CRACKS (TRIMMERS, PANEL JOINTS, ETC...) TO ENSURE AIR TIGHTNESS.

5. CONTRACTOR TO ARRANGE INSPECTION AT COMPLETION OF INSULATION INSTALLMENT AND PRIOR TO THE INSTALLATION OF ANY GYPSUM BOARD OR INTERIOR FINISH TRIM.

6. PROVIDE INSULATION WRAP (R-5) ON ALL HOT WATER PIPING.

7. EXPOSED SPRAY FOAM INSULATION IN CRAWLSPACE TO BE APPROVED IGNITION BARRIER OR PROTECTED WITH APPROVED THERMAL IGNITION BARRIER.

8. INSTALL 6 MIL. POLYETHYLENE VAPOR RETARDER AT THE INTERIOR OF ALL EXTERIOR WALLS AND ROOFS. TRIM AND SEAL VAPOR RETARDER TO ALL PENETRATIONS.

9. CONTRACTOR TO ENSURE AIR-TIGHTNESS OF THERMAL ENVELOPE AND AIR BARRIER. CONTRACTOR SHALL BE RESPONSIBLE FOR PASSING BLOWER DOOR TEST AS REQUIRED IN 2021 IECC CHAPTER 4 AND 2021 IRC CHAPTER 11.

MECHANICAL AND ELECTRICAL NOTES

1. MECHANICAL PLANS INCLUDING HEAT-LOSS ANALYSIS PROVIDED BY DESIGN-BUILD MECHANICAL HVAC CONTRACTOR AS REQUIRED. PROVIDE FORCED AIR HEATING AND COOLING. DWELLING HEAT PROVIDED BY EXISTING ELECTRIC FURNACE.
2. ELECTRICAL POWER & LIGHTING INCLUDING SERVICE TO SITE TO BE COORDINATED AND INSTALLED BY LICENSED ELECTRICIAN.
5. GROUNDING ELECTRODE CONDUCTOR REQUIRED PER IRC 2021 CHAPTER 36.
6. ALL LED LIGHTING: COLOR TEMPERATURE: 3000K MAX

IRC STAIR AND GUARD REQUIREMENTS
STAIRWAYS SHALL BE NOT LESS THAN 36 INCHES (914 MM) IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT.

THE HEADROOM IN STAIRWAYS SHALL BE NOT LESS THAN 6 FEET 8 INCHES (2032 MM) MEASURED VERTICALLY FROM THE SLOPED LINE ADJOINING THE TREAD NOSING OR FROM THE FLOOR SURFACE OF THE LANDING OR PLATFORM ON THAT PORTION OF THE STAIRWAY.

THE RISER HEIGHT SHALL BE NOT MORE THAN 7-3/4 INCHES (196 MM). THE RISER HEIGHT SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8 INCH (9.5 MM).

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

NOSINGS AT TREADS, LANDINGS AND FLOORS OF STAIRWAYS SHALL HAVE A RADIUS OF CURVATURE AT THE NOSING NOT GREATER THAN 9/16 INCH (14 MM) OR A BEVEL NOT GREATER THAN 1/2 INCH (12.7 MM). A NOSING PROJECTION NOT LESS THAN 3/4 INCH (19 MM) AND NOT MORE THAN 1 1/4 INCHES (32 MM) SHALL BE PROVIDED ON STAIRWAYS. THE GREATEST NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN 3/8 INCH (9.5 MM) WITHIN A STAIRWAY.

THERE SHALL BE A FLOOR OR LANDING AT THE TOP AND BOTTOM OF EACH STAIRWAY. THE WIDTH PERPENDICULAR TO THE DIRECTION OF TRAVEL SHALL BE NOT LESS THAN THE WIDTH OF THE FLIGHT SERVED.

HANDRAILS SHALL BE PROVIDED ON NOT LESS THAN ONE SIDE OF EACH FLIGHT OF STAIRS WITH FOUR OR MORE RISERS.

HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE NOT LESS THAN 34 INCHES (864 MM) AND NOT MORE THAN 38 INCHES (965 MM).

HANDRAILS SHALL NOT PROJECT MORE THAN 41/2 INCHES (114 MM) ON EITHER SIDE OF THE STAIRWAY.

HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF NOT LESS THAN 11/2 INCHES (38 MM) BETWEEN THE WALL AND THE HANDRAILS.

HANDRAILS SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE FLIGHT, FROM A POINT DIRECTLY ABOVE THE TOP RISER OF THE FLIGHT TO A POINT DIRECTLY ABOVE THE LOWEST RISER OF THE FLIGHT. HANDRAIL ENDS SHALL BE RETURNED TOWARD A WALL, GUARD WALKING SURFACE CONTINUOUS TO ITSELF, OR TERMINATE TO A POST.

TYPE I. HANDRAILS WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF NOT LESS THAN 1-1/4 INCHES (32 MM) AND NOT GREATER THAN 2 INCHES (51 MM).

STAIRWAYS SHALL BE PROVIDED WITH ILLUMINATION IN ACCORDANCE WITH SECTIONS R303.7 AND R303.8.

GUARDS SHALL BE PROVIDED FOR THOSE PORTIONS OF OPEN-SIDED WALKING SURFACES, INCLUDING FLOORS, STAIRS, RAMPS AND LANDINGS THAT ARE LOCATED MORE THAN 30 INCHES (762 MM) MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES (914 MM) HORIZONTALLY TO THE EDGE OF THE OPEN SIDE. INSECT SCREENING SHALL NOT BE CONSIDERED AS A GUARD.

REQUIRED GUARDS AT OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, PORCHES, BALCONIES OR LANDINGS, SHALL BE NOT LESS THAN 36 INCHES (914 MM) IN HEIGHT AS MEASURED VERTICALLY ABOVE THE ADJACENT WALKING SURFACE OR THE LINE CONNECTING THE NOSINGS.

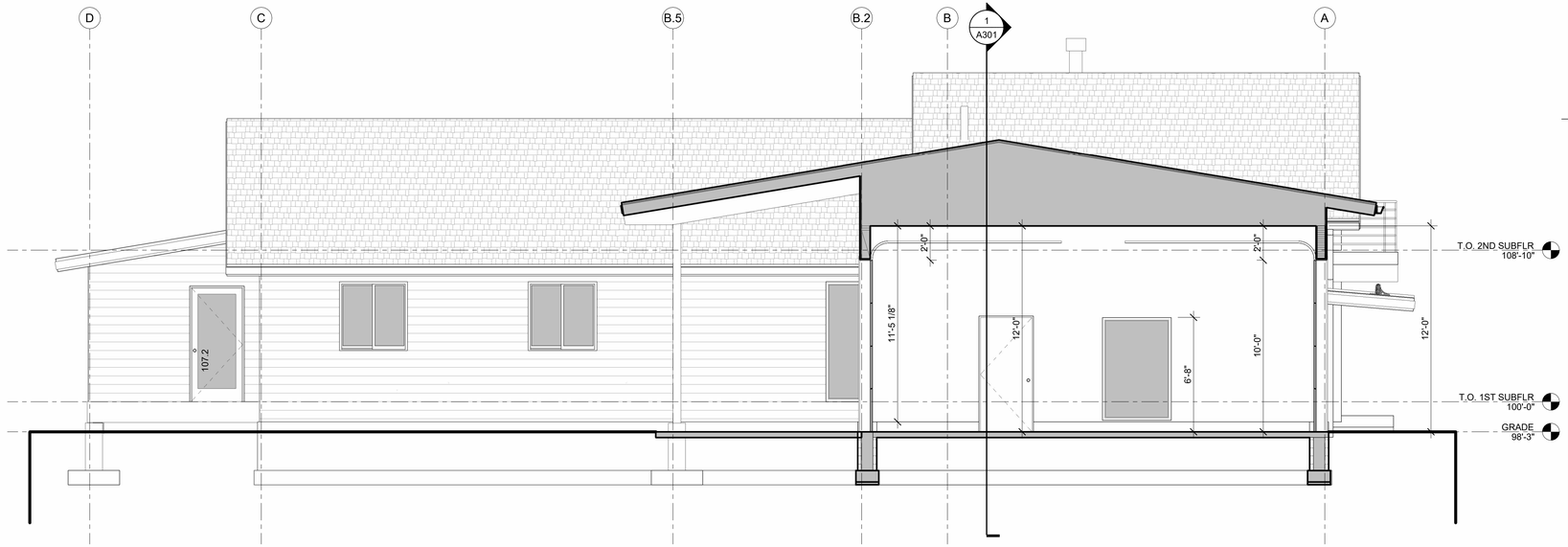
EXCEPTIONS:
GUARDS ON THE OPEN SIDES OF STAIRS SHALL HAVE A HEIGHT OF NOT LESS THAN 34 INCHES (864 MM) MEASURED VERTICALLY FROM A LINE CONNECTING THE NOSINGS.
WHERE THE TOP OF THE GUARD SERVES AS A HANDRAIL ON THE OPEN SIDES OF STAIRS, THE TOP OF THE GUARD SHALL BE NOT LESS THAN 34 INCHES (864 MM) AND NOT MORE THAN 38 INCHES (965 MM) AS MEASURED VERTICALLY FROM A LINE CONNECTING THE NOSINGS.

REQUIRED GUARDS SHALL NOT HAVE OPENINGS FROM THE WALKING SURFACE TO THE REQUIRED GUARD HEIGHT THAT ALLOW PASSAGE OF A SPHERE 4 INCHES (102 MM) IN DIAMETER.

EXCEPTIONS:
THE TRIANGULAR OPENINGS AT THE OPEN SIDE OF STAIR, FORMED BY THE RISER, TREAD AND BOTTOM RAIL OF A GUARD, SHALL NOT ALLOW PASSAGE OF A SPHERE 6 INCHES (153 MM) IN DIAMETER.
GUARDS ON THE OPEN SIDE OF STAIRS SHALL NOT HAVE OPENINGS THAT ALLOW PASSAGE OF A SPHERE 4-3/8 INCHES (111 MM) IN DIAMETER.

0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

6/9/2025 3:51:51 PM | AAS # WOODEN SPUR |



1 A302 BUILDING SECTION - D
1/4" = 1'-0"

TEMPERED GLAZING REQUIRED IN HAZARDOUS LOCATIONS:

GLAZING IN FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BIFOLD DOORS SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.

GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES (1524 MM) ABOVE THE FLOOR OR WALKING SURFACE AND IT MEETS EITHER OF THE FOLLOWING CONDITIONS:
WHERE THE GLAZING IS WITHIN 24 INCHES (610 MM) OF EITHER SIDE OF THE DOOR IN THE PLANE OF THE DOOR IN A CLOSED POSITION.
WHERE THE GLAZING IS ON A WALL LESS THAN 180 DEGREES (3.14 RAD) FROM THE PLANE OF THE DOOR IN A CLOSED POSITION AND WITHIN 24 INCHES (610 MM) OF THE HINGE SIDE OF AN IN-SWINGING DOOR.

R310.1 EMERGENCY ESCAPE AND RESCUE OPENING REQUIRED:
BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL HAVE NOT LESS THAN ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, AN EMERGENCY ESCAPE AND RESCUE OPENING SHALL BE REQUIRED IN EACH SLEEPING ROOM. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL OPEN DIRECTLY INTO A PUBLIC WAY, OR TO A YARD OR COURT HAVING A MINIMUM WIDTH OF 36 INCHES (914 MM) THAT OPENS TO A PUBLIC WAY.

R310.1.1 OPERATIONAL CONSTRAINTS AND OPENING CONTROL DEVICES:
EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE. WINDOW OPENING CONTROL DEVICES AND FALL PREVENTION DEVICES COMPLYING WITH ASTM F2090 SHALL BE PERMITTED FOR USE ON WINDOWS SERVING AS A REQUIRED EMERGENCY ESCAPE AND RESCUE OPENING AND SHALL BE NOT MORE THAN 70 INCHES (178 CM) ABOVE THE FINISHED FLOOR.

R310.2 EMERGENCY ESCAPE AND RESCUE OPENINGS:
EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE MINIMUM DIMENSIONS IN ACCORDANCE WITH SECTIONS R310.2.1 THROUGH R310.2.4.

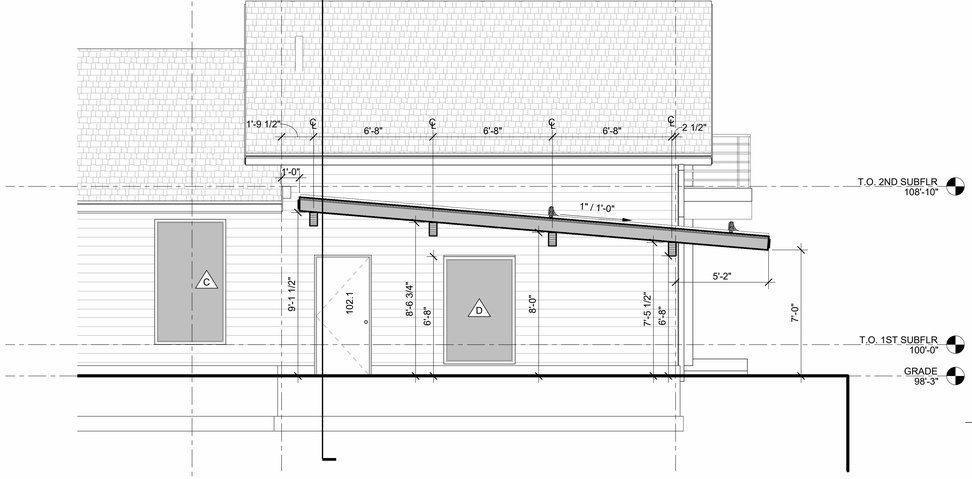
R310.2.1 MINIMUM SIZE:
EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5.7 SQUARE FEET (0.530 M2).

EXCEPTION: THE MINIMUM NET CLEAR OPENING FOR GRADE-FLOOR EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE 5 SQUARE FEET (0.465 M2).

R310.2.2 MINIMUM DIMENSIONS:

THE MINIMUM NET CLEAR OPENING HEIGHT DIMENSION SHALL BE 24 INCHES (610 MM). THE MINIMUM NET CLEAR OPENING WIDTH DIMENSION SHALL BE 20 INCHES (508 MM). THE NET CLEAR OPENING DIMENSIONS SHALL BE THE RESULT OF NORMAL OPERATION OF THE OPENING.

R310.2.3 MAXIMUM HEIGHT FROM FLOOR:
EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE THE BOTTOM OF THE CLEAR OPENING NOT GREATER THAN 44 INCHES (1118 MM) ABOVE THE FLOOR.



2 A302 BUILDING SECTION - E
1/4" = 1'-0"

WINDOW SCHEDULE

TYPE MK	UNIT SIZE W	UNIT SIZE H	MAT'L	FINISH	GLAZING THICKNESS	GLAZING TYPE	COMMENTS
A	3'-0"	7'-0"	WOOD CLAD		3/4"	DOUBLE PANE LOW- E	
B	3'-0"	8'-0"	WOOD CLAD		3/4"	DOUBLE PANE LOW- E	
C	4'-0"	7'-0"	WOOD CLAD		3/4"	DOUBLE PANE LOW- E	
D	4'-0"	6'-0"	WOOD CLAD		3/4"	DOUBLE PANE LOW- E	

PROVIDE WINDOW SHOP DRAWINGS FOR OWNER/ARCH REVIEW
WINDOW GLAZING & FRAMED COLOR TO MATCH DOOR UNITS

DOOR, FRAME AND HARDWARE SCHEDULE

DOOR NUMBER	ROOM NUMBER	ROOM NAME	DOOR SIZE W	DOOR SIZE H	DOOR SIZE T	DOOR MTL	DOOR GLAZE	DOOR NOTES	FRAME MTL	FRAME THRES	HARDWARE LOCK	HARDWARE STOP HOLD	HARDWARE WTHR	HARDWARE NOTES
101.1	101	ENTRY	3'-0"	6'-8"	1 3/4"	WOOD CLAD	YES / TEMPERED	DOUBLE PANE LOW-E	WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	YES	YES	
102.1	102	LIVING	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	YES	YES	
102.2	102	LIVING	6'-0"	6'-8"	1 3/4"	WOOD CLAD	YES / TEMPERED	DOUBLE PANE LOW-E	WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	NO	YES	
103.1	103	CL	2'-2"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	DUMMY LEVERSET W/ROLLER CATCH	NO	NO	
104.1	101	ENTRY	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PASSAGE LEVERSET	YES	NO	
104.2	104	KITCHEN / DINING	6'-0"	6'-8"	1 3/4"	COMPOSITE	YES / TEMPERED	DOUBLE PANE LOW-E	COMPOSITE	YES	BY MANUF	NO	YES	
104.3	104	KITCHEN / DINING	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PASSAGE LEVERSET	YES	NO	
105.1	105	WC	2'-8"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PRIVACY LEVERSET W/EMERGENCY RELEASE	NO	NO	
106.1	106	PANTRY	5'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	DUMMY LEVERSET W/ROLLER CATCH	NO	NO	
107.1	107	SUNROOM	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	YES	YES	
107.2	107	SUNROOM	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	YES / TEMPERED	DOUBLE PANE LOW-E	WOOD-ALUM CLAD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	YES	YES	
108.1	108	GARAGE	18'-0"	10'-0"	1 1/2"	ALUMINUM	NO		METAL	NO	BY MANUF	NO	YES	PROVIDE ELEC OVERHEAD OPEN W/REMOTE
108.2	108	GARAGE	8'-0"	10'-0"	1 1/2"	ALUMINUM	NO		METAL	NO	BY MANUF	NO	YES	PROVIDE ELEC OVERHEAD OPEN W/REMOTE
108.3	108	GARAGE	3'-0"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	NO	YES	
108.4	108	GARAGE	3'-0"	8'-0"	1 3/4"	WOOD SOLID CORE	NO		WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	NO	YES	
202.1	202	LOFT	2'-8"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PRIVACY LEVERSET W/EMERGENCY RELEASE	YES	NO	
202.2	202	LOFT	6'-0"	6'-8"	1 3/4"	WOOD CLAD	YES / TEMPERED	DOUBLE PANE LOW-E	WOOD	YES	KEYED ENTRANCE LEVERSET & KEYED DEADBOLT	NO	YES	
203.1	203	BATH 3	2'-6"	6'-8"	1 3/4"	WOOD SOLID CORE	NO		WOOD	NO	PRIVACY LEVERSET W/EMERGENCY RELEASE	YES	NO	

PROVIDE DOOR SHOP DRAWINGS FOR OWNER/ARCH REVIEW
DOOR GLAZING & FRAME COLOR TO MATCH WINDOW UNITS

alpine
architectural studio

WOODEN SPUR RENOVATION

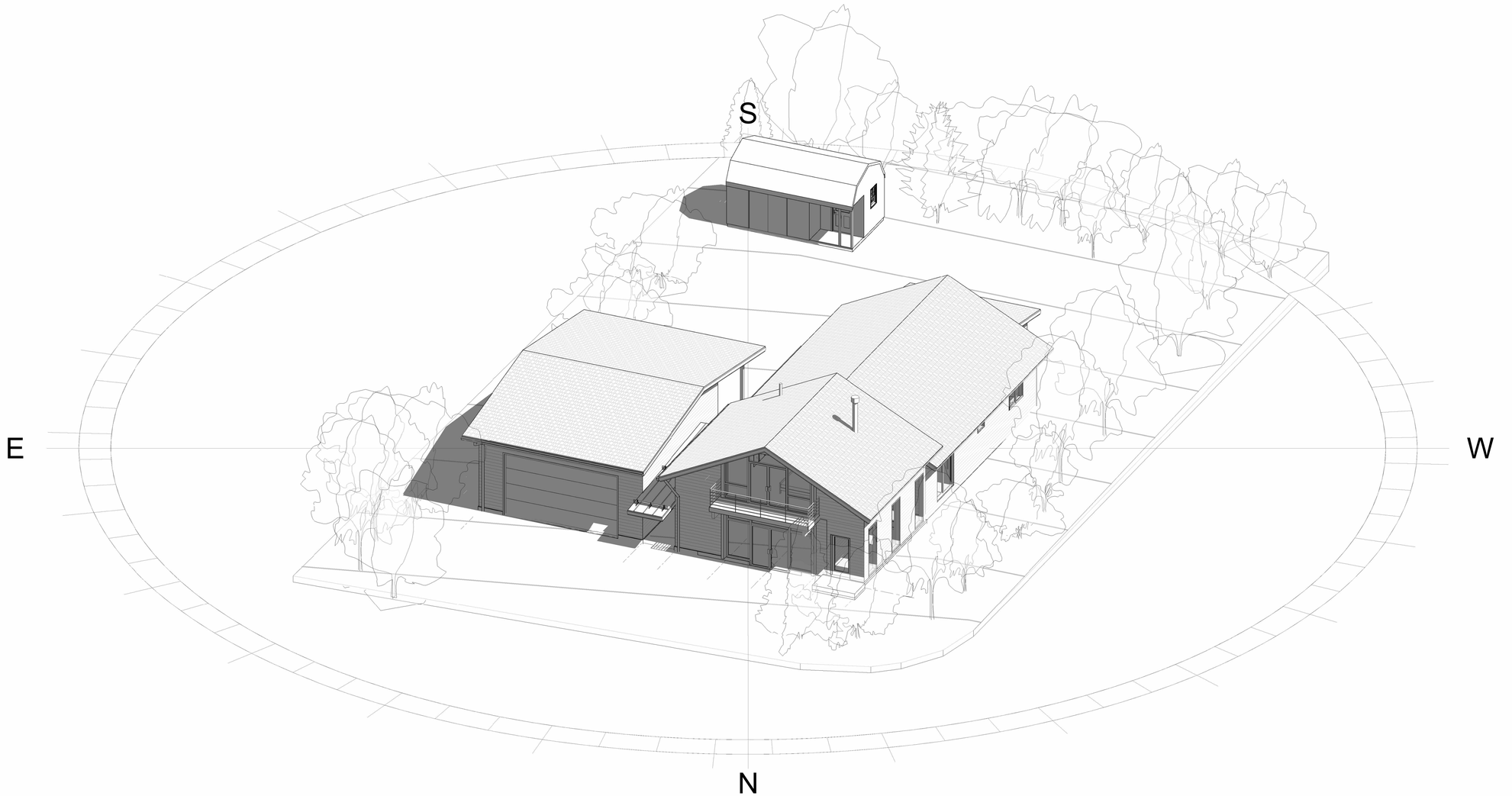
ALPINE, WY 83128
368 WOODEN SPUR DR

PERMIT DRAWINGS

6.9.2025
DRAWN BY | BENNETT
CHECKED BY | BENNETT
REVISIONS

BUILDING SECTIONS & SCHEDULES

A302



1 A303 NORTH SITE PERSPECTIVE

alpine
architectural studio

ALPINE, WY 83128
368 WOODEN SPUR DR

WOODEN SPUR RENOVATION

PERMIT DRAWINGS

6.9.2025
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CHECKED BY | BENNETT
REVISIONS

PERSPECTIVE

A303

JELD-WEN WINDOWS & DOORS

Installation Instructions for Vinyl Flush Fin Windows and Vinyl Windows with Nailing Fin

The flush fin window is a retro-fit product designed for installation into an existing window frame with a 3/8" or wider return that protrudes past or is flush with the exterior siding. There cannot be any fins or lips that extend past this vertical plane. The flush fin window will be sealed to this surface.

Vinyl Flush Fin Windows

The attached are JELD-WEN's recommended installation instructions for vinyl windows which incorporate an integral nail fin. These installation instructions do not supersede any national, provincial, or local building codes. While the use of these installation instructions is recommended, in Canada, installation in strict compliance with CSA A440-4 is an alternate method of window installation and will not affect the application of the JELD-WEN limited warranty.

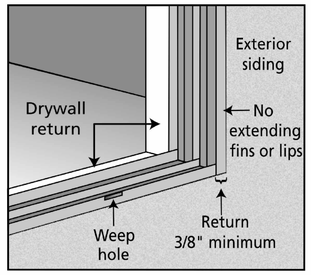
Vinyl Windows with Nailing Fin

Newer construction methods have led to an increase in air and water tightness in buildings. This frequently leads to negative air pressure inside the home, which can draw water through very small openings. Our installation method integrates the window with the weather barrier (typically building wrap).

***These installation instructions do not supercede any national, provincial or local building codes. They are meant as a guideline and reflect good installation practices.**

RELIABILITY *for* real life® JW

INSTALLATION PREREQUISITES
for Vinyl Flush Fin Windows



The lack of an adequate return significantly adds to the complexity of a long-term, water-tight installation. If the existing window frame does not have a sufficient return, consult an installation professional to design an installation that completely seals the new window in a weatherproof manner.

IMPORTANT INFORMATION

Vinyl Flush Fin Windows
This installation assumes that the existing frame has a water-tight installation into the structure.

Vinyl Windows with nailing Fin and flush Fin
This instruction is based on CSA A440.4, for any specific details (ex: different siding type) that maybe different please contact your supplier for recommendations.

If installing in an area of high winds, see the structural engineering report of the product for specific fastening requirements.

Any local building code requirements supersede the recommended installation instructions. Failure to install square, level and plumb could result in denial of warranty claims for operational or performance problems.

Please Note! Installation such that the window sill is higher than 35 feet above ground level or any window installation into a wall condition not specifically addressed in this poster must be designed by an architect or structural engineer.

Vinyl Flush Fin Windows

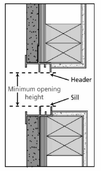
Vinyl Windows with Nailing Fin

GLOSSARY

Flush Fin Window: A vinyl window used for retro-fit installation into an existing window frame. The integral exterior trim is decorative and covers the gap between the new window and the existing siding.

Meeting Stile: A vertical frame member of a window that sits in the center of the exterior sill track and either holds one side of the fixed glass or keeps the stationary sash from moving.

Minimum Opening Width/Height: Measurements taken to determine the size of window that will fit into a retro-fit opening. For example, the minimum opening height is the distance between the highest frame point on the sill to the lowest frame point on the header.



Return: The exterior face of an existing window frame that helps tie the window to the siding.

Mulled Unit: Two or more window units structurally joined together.

Shiplap: The layering method in which each layer overlaps the layer below it so that water runs down the outside.

Weep Hole (weep channel): The visible exit or entry part of a water drainage system used to drain water out of a window.

SAFETY & HANDLING

Please Note!
For a detailed list of safety and handling recommendations, refer to the full set of installation instructions at our website: www.jeld-wen.com/resources.

SAFETY

- Do not work alone.
- Use caution when handling glass. Broken or cracked glass can cause serious injury.
- Wear protective gear as necessary.
- Read and fully understand ALL manufacturers' instructions before beginning.

WINDOW HANDLING

- Do not put stress on joints, corners or frames.

Vinyl Flush Fin Windows and Vinyl Windows with Nailing Fin

- Make sure the window is locked prior to installation.
- Read material manufacturers' handling and application instructions.
- Properly dispose of unused products and waste material per federal, provincial, and local environmental protection rules.
- Handle in vertical position; do not drag on floor.
- Store window in dry, well-ventilated area in vertical, leaning position to allow air circulation; do not stack horizontally.
- Protect from exposure to direct sunlight.
- Install only when conditions and sheathing are completely dry.

IF INJURY OCCURS, IMMEDIATELY SEEK MEDICAL ATTENTION!

NEEDED MATERIALS & TOOLS

MATERIALS

- 3 1/2" corrosion-resistant, pan head screws; screws must penetrate at least 1" into framing
- Solid wood (sloped sill); dimensions should be 1/4" shorter than the length of the sill and 3/8" taller than the depth of the track by a minimum of 3 1/4" wide.
- Sealant (polyurethane if painted, Thermoplastic sealant if left exposed) and backer rod
- Low expansion foam or/and fiberglass insulation

Please see your local retailer for appropriate foam expansion properties.

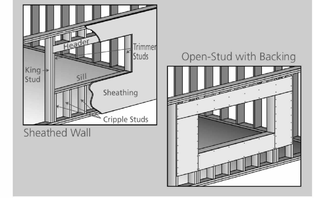
- 1 3/4" galvanized roofing nails; nails must penetrate at least 1" into framing
- Shims
- JELD-WEN 6" wide self-adhesive flashing (part #08987) or equivalent, or flexible flashing (Width requirement may vary according to local code)
- 3/8" stainless steel square wire staples

Note!
Follow all material manufacturers' instructions for proper use and compatibility.

TOOLS

- Tape measure
- Level
- Screwdriver
- Hacksaw
- Cloth
- Hammer
- J-roller
- Caulking gun
- Putty knife
- Drill with 1/8" tapered drill bit and 3/8" countersink
- Construction stapler

ROUGH OPENINGS
for Vinyl Windows with Nailing Fin



FULLY SHEATHED WALL CONSTRUCTION

The wall framing is covered by sheathing and the window will be mounted with the nailing fin flush against the sheathing.

OPEN-STUD INSTALLATION

The wall framing needs to be covered by backing support before the window can be installed. The window will be mounted with the nailing fin flush against the applied backing support. This backing support should be a non water-degradable, thin (max. 1/8" thick) sheet material such as vinyl sheeting. Completely surround the rough opening with the backing support as shown. Backing support must be applied before building wrap. Note! For curved windows, ensure framing is sufficient around window perimeter to allow nailing fin to be nailed every 8" to the framing.

1 REMOVE PACKAGING & INSPECT YOUR WINDOW

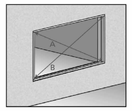
REMOVE PACKAGING

Remove shipping materials such as corner covers, shipping blocks or pads. If there is a protective film on the glass, do not remove it until installation and construction are complete.

INSPECT YOUR WINDOW

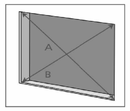
- Cosmetic damage
- Product squareness (diagonal measurements no more than 1/4" difference)
- Correct product (size, color, grid pattern, handing, glazing, energy-efficiency requirements, etc.)
- Cracked frame
- Splits, cracks or missing sections in nailing fin longer than 6"
- Cracks, holes or other damage to nailing fin within 1/2" of window frame

2 INSPECT EXISTING FRAME OR ROUGH OPENING



For Vinyl Flush Fin Windows

- **Verify width/height of new window are each 3/4" smaller than minimum opening width/ height of the existing frame.**
- **Verify the existing opening is square. The "A" and "B" measurements above should be the same. Maximum allowable deviation from square is 1/8" for windows 20 sq. ft. and smaller, and 1/4" for windows larger than 20 sq. ft.**
- **Verify the existing frame is level and plumb. The maximum allowable deviation is 1/16" for every 2' (not to exceed 1/8").**
- **The exterior face of the rough opening must be in a single plane with less than 1/8" twist from corner to corner.**
- **Signs of water leakage near the existing frame must be investigated and corrected prior to installing the new flush fin window.**

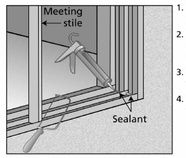


For Vinyl Windows with Nailing Fin

- Verify the width and height of the window are each 1/2" smaller than the rough opening width/ height.
- Verify the rough opening is square. The "A" and "B" measurements above should be the same. Maximum allowable deviation from square is 1/8" for windows 20 sq. ft. and smaller, and 1/4" for windows larger than 20 sq. ft.
- Verify the rough opening is level and plumb. The maximum allowable deviation is 1/16" for every 2' of rough opening (not to exceed 1/8").
- The rough opening sill must not be crowned or sagged.
- The exterior face of the rough opening must be in a single plane with less than 1/8" twist from corner to corner.
- The header must be supported by trimmer studs.
- Signs of water leakage near the existing frame must be investigated and corrected prior to installing the new window.

3 PREPARE EXISTING WINDOW FRAME
for Vinyl Flush Fin Windows

PREPARE THE FRAME



1. Remove the sashes and/or glass in the existing window.
2. Remove the meeting stile (if a slider) with a screwdriver or hacksaw.
3. Seal all four corners of the window frame.
4. Remove all existing window frame cladding.

APPLY THE SLOPED SILL

5. Sloped sill must be continuous with a minimum of 3/8" in height inside to 0° outside.
6. Test fit new window into place and then remove.

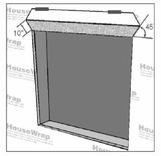
3 PREPARE ROUGH OPENING
for Vinyl Windows with Nailing Fin

FOR RETROFIT INSTALLATIONS

- After removing sufficient siding to expose at least 9" of intact building wrap, remove old window.
- If damaged, apply new building wrap in shiplap manner.
- Verify trimmer studs/header are structurally sound.
- Continue with the instructions.

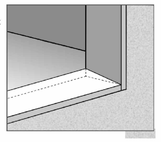
PREPARE BUILDING WRAP

1. Trim building wrap flush at rough opening head, sides and sill. Check with your building wrap manufacturer to verify that this does not void their product warranty.
2. At the head, cut building wrap 10" at 45 degrees. Tape up as shown.

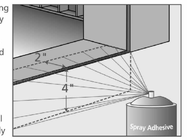


PREPARE SILL

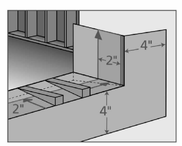
3. Sloped sill must be continuous with a minimum of 3/8" in height inside to 0° outside.



4. If using self-adhesive flashing in extreme conditions, apply spray adhesive/primer per manufacturer's instructions to nailing fin, sheathing and building wrap at the sides and head of the window as shown.

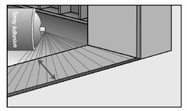


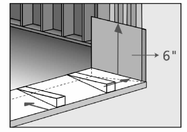
5. Cut a piece of self-sealing adhesive flashing to the sill length and jambs and apply it as shown.
6. Apply sill shims in the following manner: Apply one shim at 1" from each window corner. Apply one shim under any mullion or meeting rail or at centre for any window exceeding 24" in width.



7. Fold the drain mat down onto the sheathing.

4 INSTALL WINDOW
for Vinyl Flush Fin Windows

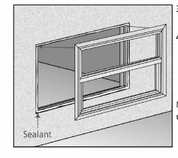




PREPARE SILL

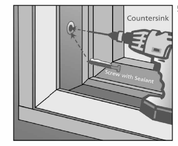
1. Cut a piece of self-sealing adhesive flashing to the sill length and jambs and apply it as shown.
2. Apply sill shims in the following manner: Apply one shim at 1" from each window corner. Apply one shim under any mullion or meeting rail or at centre for any window exceeding 24" in width.

INSTALL WINDOW



3. Make sure prepared slope sill is level.
4. From the exterior, place the new flush window into the existing frame making sure the window sill rests completely on the shims.

Note! Hold window in place until fully fastened.

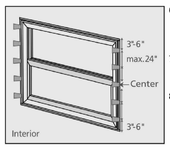


5. Fasten window temporarily through the predrilled holes in jamb 3"-6" from one upper corner as follows: (if there is no predrilled holes do step a.)

a. Use a 1/8" tapered drill bit with 3/8" countersink to drill a screw hole through the side jamb and into the buck (on the interior, or exterior if insufficient space). Countersink should not penetrate the back wall of the frame.

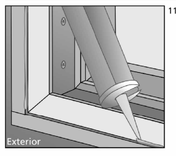
b. Apply sealant to the threads of a 3 1/2" screw and drive into the side jamb.

4 INSTALL WINDOW (CONTINUED)
for Vinyl Flush Fin Windows



6. Shim the side jambs aligned with the predrilled holes or 3"-6" from the corners and at 24" maximum intervals.
7. Inspect window for square, level, plumb. Adjust as needed with shims.
8. Fasten window through side jambs and shims.
9. If the window is higher than 3', fasten the side jambs at 24" maximum intervals. If the window is wider than 3', fasten the head jamb at 24" maximum intervals with a free flowing screw. Do not shim the head.
10. Install vinyl plugs supplied or available through suppliers if desired.

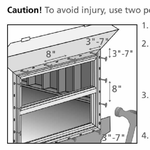
SEAL BETWEEN REPLACEMENT WINDOW AND EXISTING FRAME



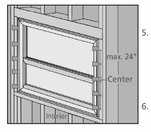
11. Apply back rod and a continuous bead of thermoplastic sealant between the new window frame and the existing frame around the window. Leave 2" x 1/2" gaps in your back rod and sealant at sill to allow for proper water drainage.

4 INSTALL WINDOW
for Vinyl Windows with Nailing Fin

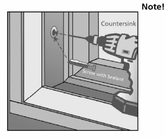
Caution! To avoid injury, use two people to install.



1. Place window into the rough opening.
2. Temporarely fasten window with a galvanized roofing nail through a nailing fin hole between 3"-7" from one top corner.
3. Shim the side jambs aligned with the predrilled holes or 3"-6" from the corners and at 24"maximum intervals.
4. Inspect window for square, level, plumb. Adjust as needed with shims. Fasten window through side jambs predrilled holes and shims.



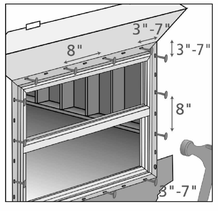
5. If the window is taller than 3', fasten the side jambs at 24"maximum intervals. If the window is wider than 3', fasten the head jamb at 24" maximum intervals with a free flowing screw. Do not shim the head.
6. Install vinyl plugs supplied or available through suppliers if desired.



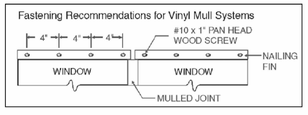
Note! a. Use a 1/8" tapered drill bit with 3/8" countersink to drill a screw hole through the side jamb and into the buck (on the interior, or exterior if insufficient space). Countersink should not penetrate the back wall of the frame.

b. Apply sealant to the threads of a 3 1/2" screw and drive into the side jamb.

Note! Fastener heads must be flush. Do not dent nailing fin.



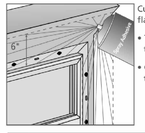
Fastening Recommendations for Vinyl Mull Systems



- For any product B4 or above, fastener spacing is 4".
- For mulled units, fastener spacing is 4" around the mulled joint as shown.

5 FLASH WINDOW
for Vinyl Windows with Nailing Fin only

CUT FLASHING



Cut three pieces of 6" self-adhesive flashing as follows:

- Two side pieces 12" longer than the side
- One header piece 14" longer than the header

PRIMER

If using self-adhesive flashing in extreme conditions, apply spray adhesive/primer per manufacturer's instructions to nailing fin, sheathing and building wrap at the sides and head of the window as shown.

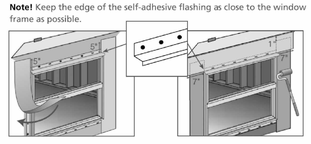
- Protect window from overspray. Concrete, on damp surfaces and/or where frost is present.
- The flashing manufacturer's recommended primer is Protecto Wrap Safseal Systems 5500.

Note! Extreme conditions exist where the outside temperature is at or below 32° F (0° C), on excessively dirty surfaces, on Dens-Glass Gold, on concrete, on damp surfaces and/or where frost is present.

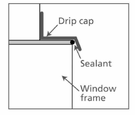
- The flashing manufacturer's recommended primer is Protecto Wrap Safseal Systems 5500 primer.

APPLY SELF-ADHESIVE FLASHING IN THIS ORDER

Note! Keep the edge of the self-adhesive flashing as close to the window frame as possible.

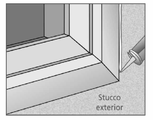


1. Apply the side pieces starting 5" above the header
2. Install drip cap (should extend 1/2" on each side)
3. Center and apply the header piece above the drip cap
4. Press the flashing down with a j-roller
5. Apply a bead of sealant all along between the drip cap and the window head



6 COMPLETE INSTALLATION
for Vinyl Flush Fin Windows

INSULATION



1. Insulate with fiberglass batting or low expansion foam. Fill gap with low expansion foam around window perimeter at the sash position. Fill remaining cavity with fiberglass batting. Use as per manufacturers instructions.

AFTER INSTALLATION

2. Apply interior trim as desired.
3. Adjust window for best operation (if applicable).
4. Protect recently installed units from damage from plaster, paint, etc. by covering the units with plastic.
5. For casement window, remove the shipping block (cork) underneath the sash.

Please visit our website at www.jeld-wen.ca/eng/resources to download a copy of the complete guide to care and maintenance for your window.

Thank you for choosing

JELD-WEN WINDOWS & DOORS

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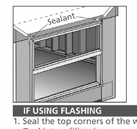
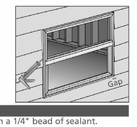
6 COMPLETE INSTALLATION
for Vinyl Windows with Nailing Fin





IF USING FLASHING

1. Seal the top corners of the window with a 1/4" bead of sealant. Tool into a fillet shape.
2. Release the building wrap from above the header (previously taped up) and overlap the header flashing. Seal the ends with self-sealing flashing or building wrap tape.
3. Ensure weep holes/ channels are clear of debris for proper water drainage; do not seal weep holes/channels if present.

IS USING FLEXIBLE FLASHING

- Mechanically fasten flashing.
- Apply sealant down sides where the window meets the flashing. "Tool" or smooth out the sealant.

AFTER INSTALLATION

1. Install exterior wall surface within seven days of window installation.
2. Maintain gap of 1/4"-3/8" between window frame and final exterior wall surface (siding, stucco, etc.).
3. Seal the gap with backer rod and sealant. Do not apply sealant on top of window frame or drip cap if present.
4. On the interior, seal the void between the rough opening and the window frame with backer rod and sealant, or with low expansion foam. Do not use high-expansion foam as this may cause frame deflection.
5. Adjust window for best operation.
6. Protect recently installed units from damage from plaster, paint, etc. by covering the unit with plastic.
7. For casement window, remove the shipping block (cork) underneath the sash.

Note! For integral J-channel vinyl product installed into a structure with shiplap siding, no expansion/contraction joint is needed.

alpine **architectural** studio

WOODEN SPUR RENOVATION

ALPINE, WY 83128
368 WOODEN SPUR DR

PERMIT DRAWINGS

6.9.2025

REVISIONS

DOOR & WINDOW INSTALLATION

A601

GENERAL STRUCTURAL NOTES (DRAWING NOTES)

A. CODES AND SPECIFICATIONS
1. International Building Code (IBC) - 2018 Edition
2. ACI 318-14 Building Code Requirements for Reinforced Concrete
3. ANSI/AWC National Design Specification (NDS) & Suppl. for Wood Const. - 2018 Edition
4. ASCE 7-16 Min. Design Loads for Buildings and other Structures.

B. DESIGN LOADS UNIFORM (PSF)

	Uniform
1. Floor Loads	
a. Main Live =	40
Dead =	10
b. Upper Live =	40
Dead =	10
2. Roof Loads	
a. Live Load	20 PSF
b. Snow Load	
Design Snow Load	100.0 PSF
Flat Roof Snow Load	Pf = 98.0
Ce = 1.0; Ct = 1.0; Is = 1.0	
Ground Snow Load	140.0
Sloped Roof	Ps = 98.0; Cs = 1.0
c. Rain Load =	N/A
3. Lateral Loads	
a. Wind Load 115 MPH (3 Sec Gust) Risk Cat= II; EXP = C	
Encl. Cat. - Enclosed Building	
Internal Pressure Coef. +/- 0.18	
Components & Cladding - 13.3 PSF	
b. Seismic Load: Risk Cat: II Importance Factor = 1.0	
Ss = 110.9% G; S1 = 34.10% G	
Site Class = D	
Sds = 0.887; Sd1 = 0.445	
Seismic Design Category = D	
Basic Seismic System = Bearing wall System	
Design Base Shear V = 0.136 W	
Seismic Response Coef. Cs = 0.136	
Response Modification Factor R = 6.5	
Analysis Procedure = Equivalent Lateral - Force Analysis	

C. FOUNDATIONS
1. Bearing pressure taken as 1500 PSF for column and wall footings, based on a sand, silty sand, clayey sand, silty gravel, and clayey gravel (Table 1806.2, Class of Materials #4). Notify Engineer if conditions encountered are different.
2. Bear footing on same type of undisturbed soil or rock throughout the entire structure.

D. MATERIALS

1. Dimensional Lumber	#2 Douglas Fir
2. Glulam Beams (GLB)	24FV4
3. Laminated Veneer Lumber (LVL)	E = 1.9E6 PSI Fb=2600
4. Concrete f'c - Ftgs, Walls	3500 PSI Exposure Class = F1 Air Content 5%
- Garage & Exterior Slabs	4500 PSI Exposure Class = F2 Air Content 6%
Max Water-Cement Ratio	0.55
Max Aggregate size	3/4"
5. Reinforcing Steel	ASTM A615 - Grade 60
6. Anchor Bolts	A36 / F1554 GRADE 36

E. REINFORCED CONCRETE
1. Concrete shall be of ready mix type conforming to ASTM C94.
2. Portland Cement to comply with ASTM C150
3. Comply with ACI 306 Cold Weather Concrete standards if the mean daily temperature is expected to drop below 40° F for 3 or more successive days. Place no concrete against frozen earth.
4. Comply with ACI 305 Hot Weather Concrete Standards.
5. Conduct all compression tests according to ACI Standard Recommended Practice for Evaluation of Compression Test Results of Field Concrete (ACI 214)
6. Control joints in large areas of slab on grade shall be placed in checkerboard fashion in lengths not to exceed 20 feet in any direction.
7. All construction joints shall be located so as not to impair the strength of the structure. Unless noted on the drawings, all reinforcement shall be continuous through the joints. Each construction joint shall be keyed.
8. No aluminum products shall be embedded in the concrete. Electrical conduit shall be placed at mid-height of the slabs and shall have an O.D. less that one-third the slab thickness.
9. Add 2-#5 reinforcing bars around all opening (unless noted otherwise) and extend 24" beyond the corner of the openings.
10. Unless otherwise noted, reinforce all concrete wall as follows:

Wall Size	Horizontal Reinforcement	Vertical Reinforcement
6"	#4 @ 18" O.C.	#4 @ 18" O.C.

F. REINFORCING STEEL
1. All detailing, fabrication and placing of reinforcing bars shall conform to the ACI Manual of Standard Practice for Detailing Reinforced Concrete Structures (ACI 315). All reinforcement to be supported in the forms and space with wire or plastic bar supports. Reinforcement in footings shall be supported on precast concrete block supports conforming to the Concrete Reinforcing Steel Institute Manual of Standard Practice.
2. Splice of reinforcement at points of maximum stress shall be avoided wherever possible. See Table.
3. All continuous reinforcement shall terminate with 90 degree return or hook or separatecorner bar.
4. All vertical reinforcement in columns and walls shall be doweled from the footing or structure below with rebar of the same size and spacing as required above.
5. Minimum concrete cover for reinforcing bars shall be as specified in Building Code Requirements for Reinforced Concrete (ACI 318)
6. Welding or tack welding of reinforcing bars is prohibited unless specifically approved by the Engineer.

G. LUMBER
1. Do not notch any structural wood member unless shown on the drawings.
2. Install and follow all manufacturers guidelines for Engineered Wood I members and LVL products. --Do not notch or cut flanges of Eng. Wood I Members.--
3. All nails shall be common wire nails. Any nails exposed to weather or moisture shall be of stainless steel or shall be galvanized.
4. Nailing to conform to IBC Table 2304.10.1 unless noted otherwise (See Nailing Schedule).
5. Wherever possible nails should be driven perpendicular to the grain instead of toe nail.
6. Where wood tends to split, holes for nails shall be bored a diameter smaller that of the nails.
7. Plywood face grain must be perpendicular to its supports.
8. Any wood members in contact with concrete or earth shall be pressure-treated wood or wood that is decay resistant (redwood or cedar).
9. Wet use adhesives shall be used on all glulam members subjected to possible moisture.
10. Roof trusses to be designed and engineered by supplier to meet the design loads herein indicated in addition to any and all drifting loads, wind loads, equipment loads and other loads as indicated on framing plan. Submit shop drawings and calculations for review.
11. Truss manufacturer to provide truss to truss connection details.

NAILING SCHEDULE

19/32" APA Rated 40/20 Roof Sheathing No blocking required unless shown on framing plan. See typical detail. use panel clips at unsupported edges.	Boundary nailing - 10d @ 6" o.c. End nailing - 10d @ 6" o.c. Side nailing - 10d @ 6" o.c. Intermediate nailing - 10d @ 12" o.c.
23/32 APA Rated 48/24 Floor Sheathing Use tongue and groove wood panels or block all panel edges.	Boundary nailing - 10d @ 6" o.c. End nailing - 10d @ 6" o.c. Side nailing - 10d @ 6" o.c. Intermediate nailing - 10d @ 10" o.c.

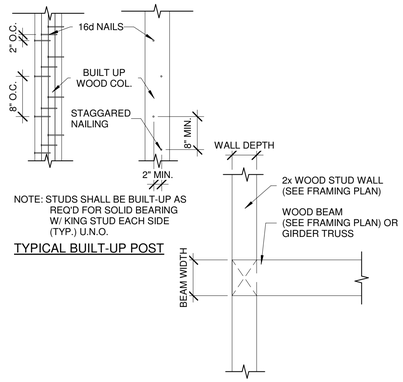
SHEAR WALLS
See Shear Wall Schedule

H. DEFERRED SUBMITTALS
List of deferred submittals (shop drawings) that require Architectural and/or Engineering review and approval before fabrication or installation begins:
1. Engineered Roof Trusses

GENERAL NOTES
1. Adequate shoring and bracing of all structural members during construction shall be provided.
2. Any proposed field changes shall have prior approval from the Engineer.
3. Contractor shall verify all dimensions in the field. Any variation from the drawings shall be brought to the attention of the Engineer.
4. Install Simpson hardware as per Manufacturers requirements.
5. Details are representations/ depictions only. Follow written callouts.
6. NO CHANGES PERMITTED WITHOUT EXPRESS WRITTEN PERMISSION OF ENGINEER

WIND COMPONENT AND CLADDING SCHEDULE

WIND PRESSURE (PSF)	10 SF	50 SF	100 SF
ROOF AT LEAST 3'-0" AWAY FROM ANY EDGE	+10.0, -29.1	+10.0, -17.7	+10.0, -10.0
ROOF WITHIN 3'-0" OF ANY EDGE	+10.0, -50.5	+10.0, -33.7	+10.0, -26.4
WALL AT LEAST 3'-0" AWAY FROM ANY CORNER	+14.4, -15.6	+12.9, -14.1	+12.3, -13.5
WALL WITHIN 3'-0" OF ANY CORNER	+14.4, -19.2	+12.9, -16.3	+12.3, -15.0

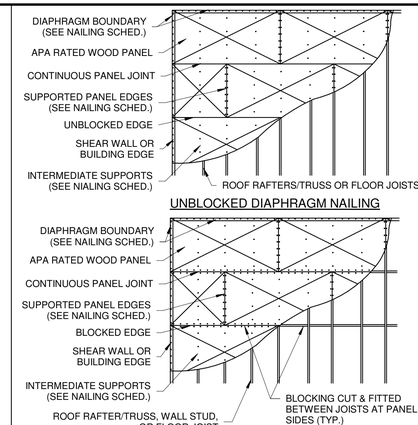


NOTE: STUDS SHALL BE BUILT-UP AS REQ'D FOR SOLID BEARING W/ KING STUD EACH SIDE (TYP.) U.N.O.

TYPICAL BUILT-UP POST

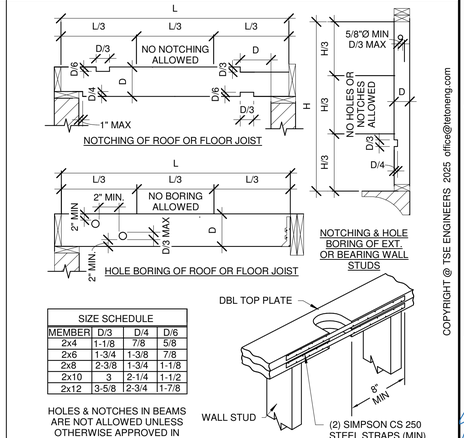
MINNIMUM COLUMN = BEAM WIDTH x WALL DEPTH

F / S1 SECTION DO NOT SCALE — MINIMUM COLUMN DETAIL



C / S1 SECTION DO NOT SCALE

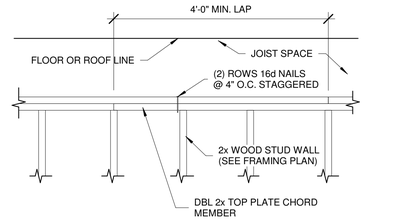
APA RATED PLYWOOD DEPICTED (HORIZONTAL ONLY)
OSB APA RATED SHEATHING CAN BE ORIENTED EITHER HORIZONTAL OR VERTICAL



SIZE SCHEDULE			
MEMBER	D/3	D/4	D/6
2x4	1-1/8	7/8	5/8
2x6	1-3/4	1-3/8	7/8
2x8	2-3/8	1-3/4	1-1/8
2x10	3	2-1/4	1-1/2
2x12	3-5/8	2-3/4	1-7/8

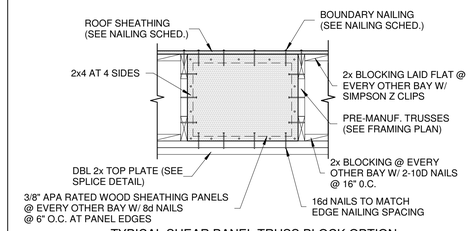
HOLES & NOTCHES IN BEAMS ARE NOT ALLOWED UNLESS OTHERWISE APPROVED IN WRITING BY ENGINEER

B / S1 SECTION DO NOT SCALE



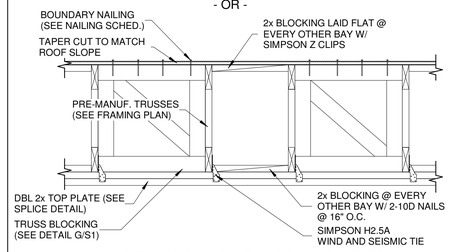
SPLICE DETAIL

E / S1 SECTION DO NOT SCALE



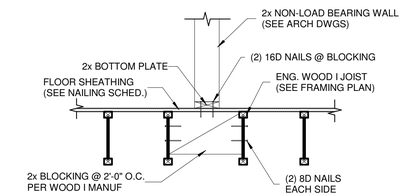
TYPICAL SHEAR PANEL TRUSS BLOCK OPTION

- OR -

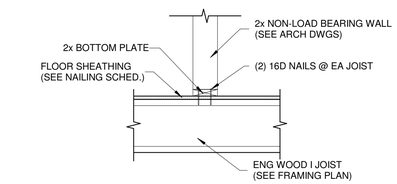


TYPICAL MANUF. BLOCKING PANELS OPTION

G / S1 SECTION DO NOT SCALE

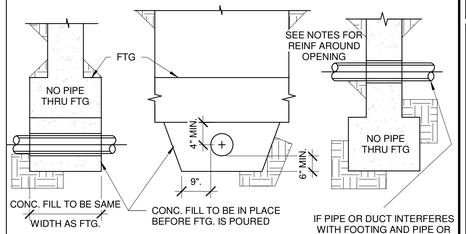


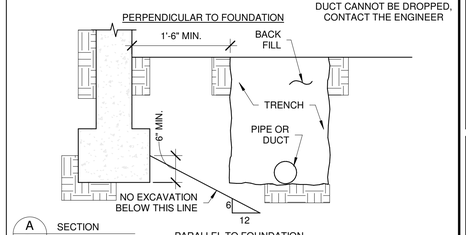
JOIST PARALLEL TO WALL



JOIST PERPENDICULAR TO WALL

D / S1 SECTION DO NOT SCALE





A / S1 SECTION DO NOT SCALE

BRETT BENNETT REMODEL
368 WOODEN SPUR
ALPINE, WY

DRAWN BY:LBG	CHECKED BY:EVB
DATE	REVISIONS
	BY
	DATE: 06/09/25

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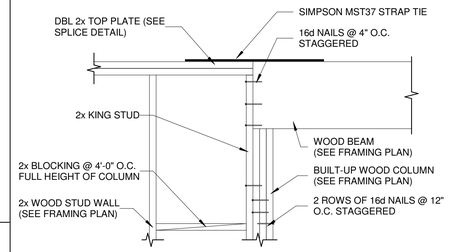
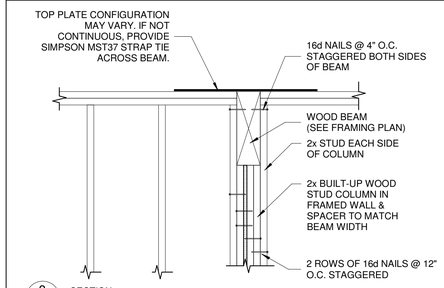
PROJECT NO. 225112

SHEET NO. S1

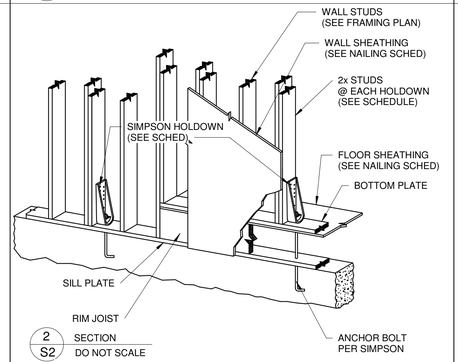
OF FIVE



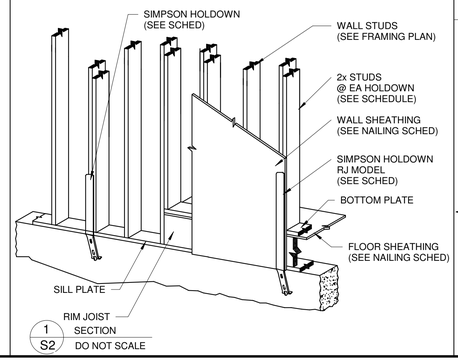
4 S2 SECTION
DO NOT SCALE



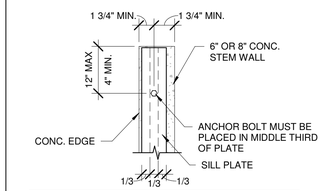
3 S2 SECTION
DO NOT SCALE



2 S2 SECTION
DO NOT SCALE



1 S2 SECTION
DO NOT SCALE



SILL PLATE ANCHORAGE OF SHEAR WALLS

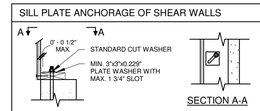
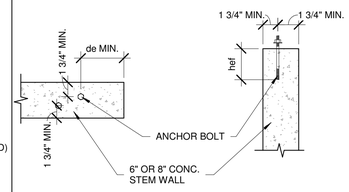
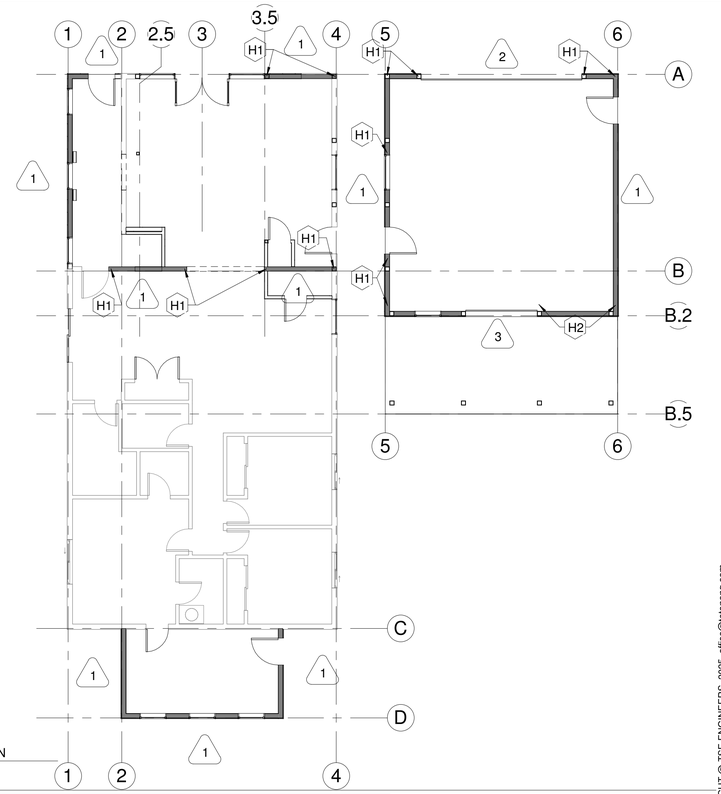


PLATE WASHERS MUST BE A MIN. OF 0.229"x3"x3" AND MUST EXTEND TO WITHIN 1/2" OF THE SHEATHED EDGE OF THE SILL PLATE. SLOTS ARE PERMITTED IN THE PLATE WASHER TO ALLOW FOR A TOLERANCE IN ANCHOR ROD PLACEMENT.

EPOXY ANCHOR BOLT OPTION			
SIZE	de	hef	EPOXY
1/2"	8 1/2"	5"	SIMPSON SET EPOXY SYSTEM OR EQUIV.
5/8"	10"	5"	SIMPSON SET EPOXY SYSTEM OR EQUIV.



POST INSTALLED SHEAR WALL ANCHORS ONLY.



FIRST FLOOR SHEAR WALL PLAN
1/8" = 1'-0"

HOLDOWN SCHEDULE

LABEL	HOLDOWN OR STRAP		WOOD WALL		CONCRETE WALL	HOLDOWN ANCHOR BOLTS			DETAILS
	AT FDTN	FLOOR TO FLOOR	# STUDS	FASTENERS	WALL SIZE	BOLT Ø	HOLDOWN EMBED. (hef)	HOOK LENGTH (eh)	
H1	[A]LSTHD8 -OR- HDU2		2 2	(20) 16d SINKERS (6) SDS 1/4X2 1/2" SCREWS	8" 8"	- 5/8"	8" [B]14"	- 3"	1/S2 2/S2
H2	HDU4		2	(10) SDS 1/4X2 1/2 SCREWS	8"	5/8"	[B]14"	3"	2/S2

A. USE RJ MODEL WHERE FLOOR SYSTEM OCCURS
B. USE SIMPSON SET EPOXY SYSTEM OR EQUIV. W/ 8" MIN. EMBED

SHEAR WALL SCHEDULE

MARK	WOOD PANEL SHEATHING			FASTENERS - EDGE NAILING[C]		FRAMING MEMBER SIZE		ANCHOR BOLTS		
	GRADE	MINIMUM NOMINAL THICKNESS	# OF LAYERS	NAILS (SEE NOTE 1)	STAPLES (7/16" MIN. CROWN)	WALL STUDS	SILL PLATE (P.T.)	BOLT Ø	SPACING	SHEAR WALL EMBED. (hef)
1	APA RATED	7/16"	1	8d @ 6" O.C.	1 1/2" 16 GA. @ 4" O.C.	2x	2x	5/8"	4'-0"	[D]7"
2	APA RATED	7/16"	1	8d @ 4" O.C.	1 1/2" 16 GA. @ 3" O.C.	2x	2x	5/8"	4'-0"	[D]7"
3	APA RATED	7/16"	1	8d @ 3" O.C.	NOT ALLOWED	2x	2x	5/8"	3'-0"	[D]7"

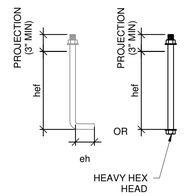
C. SEE INTERMEDIATE NAILING SCHED
D. SEE EPOXY ANCHOR BOLT OPTION

NOTES:
1. NAILS TO BE COMMON OR GALV. BOX NAILS ONLY. (GALV. NAILS MUST BE HOT DIPPED OR TUMBLED). NON-GALV. BOX NAILS, SINKERS, ETC. ARE NOT ALLOWED.
2. FOUNDATION SILL PLATE SHALL BE ATTACHED PER DETAIL
3. ALL EXTERIOR WALLS TO BE ⚠1 U.N.O.
4. ▬ DENOTES A SHEAR WALL
5. LOCATE HOLDOWNS AT CORNERS AND ADJACENT TO DOOR/WINDOW OPENINGS. (SEE ARCH DRAWINGS)
6. ALL ANCHOR BOLTS TO BE A36/F1554 GRADE 36

NOTE: BLOCK ALL SHEAR WALL PANEL EDGES. SEE DETAIL C/S1

[C]INTERMEDIATE NAILING (FIELD)

STUD SPACING	MINIMUM PANEL THICKNESS	FASTNERS - FIELD NAILING	
		NAILS	STAPLES (7/16" MIN. CROWN)
16" O.C.	7/16"	8d @ 12" O.C.	8" O.C.
24" O.C.	7/16"	8d @ 6" O.C.	4" O.C.
24" O.C.	15/32"	8d @ 12" O.C.	8" O.C.



BRETT BENNETT REMODEL
368 WOODEN SPUR
ALPINE, WY

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DRAWN BY: LBG

DATE	REVISIONS	BY
06/09/25		

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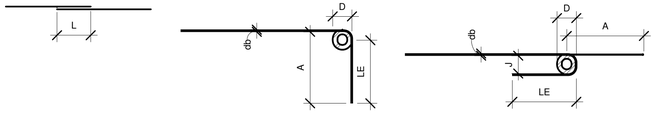
PROJECT NO. 225112
SHEET NO. S2
OF FIVE

REBAR LAP SPLICE SCHEDULE		
BAR SIZE		min. f'c = 3000 PSI
		TYP. SPLICES
NO.	DIA.	LENGTH (L)
4	0.500	22"
5	0.625	28"
6	0.750	33"

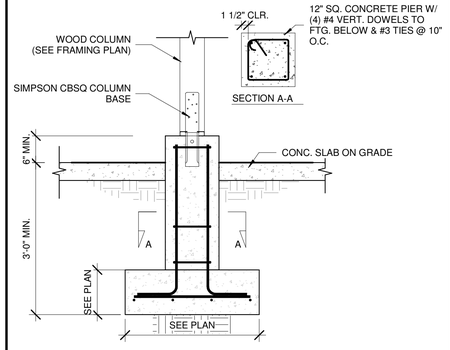
90° HOOK DIMMENSIONS			
BAR SIZE	A	D	LE
#4	8"	3"	6"
#5	10"	3 3/4"	7 1/2"
#6	1'-0"	4 1/2"	9"

180° HOOK DIMMENSIONS				
BAR SIZE	A	J	D	LE
#4	6"	4"	3"	2 1/2"
#5	7"	5"	3 3/4"	2 1/2"
#6	8"	6"	4 1/2"	3"



STANDARD HOOK DETAILS

CONCRETE FOOTING SCHEDULE						
				REINFORCEMENT*		
TYPE	DEPTH	WIDTH	LENGTH	LONGITUDINAL	TRANSVERSE	REMARKS
F24	0' - 10"	2' - 0"	CONT.	(3) - #4	-	-
F20	0' - 10"	1' - 8"	CONT.	(3) - #4	-	-
F16	0' - 8"	1' - 4"	CONT.	(2) - #4	-	-
F3.0	0' - 10"	3' - 0"	3'-0"	(4) - #4	(4) - #4	-
F2.5	0' - 10"	2' - 6"	2'-6"	(3) - #4	(3) - #4	-



4 / S3 SECTION
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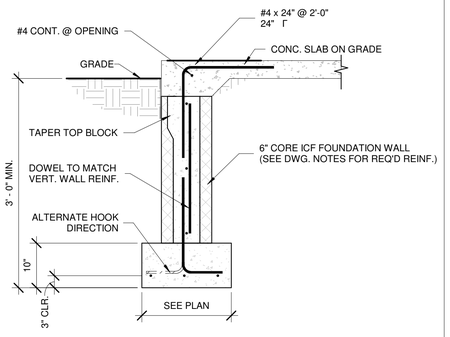

2 / S3 SECTION
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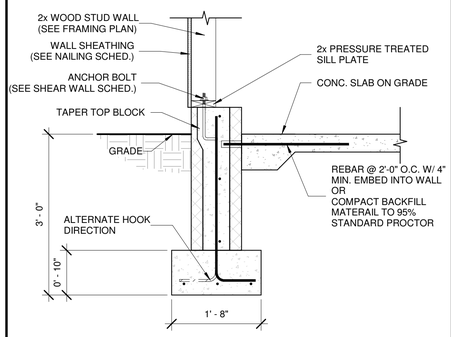

3 / S3 SECTION
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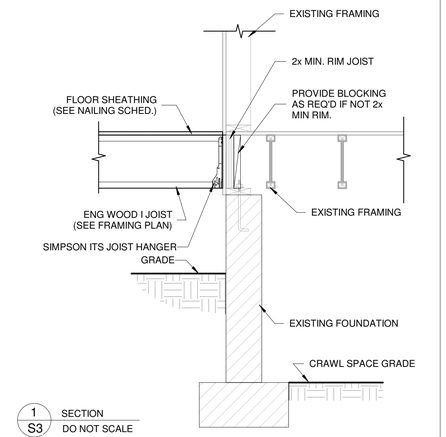

1 / S3 SECTION
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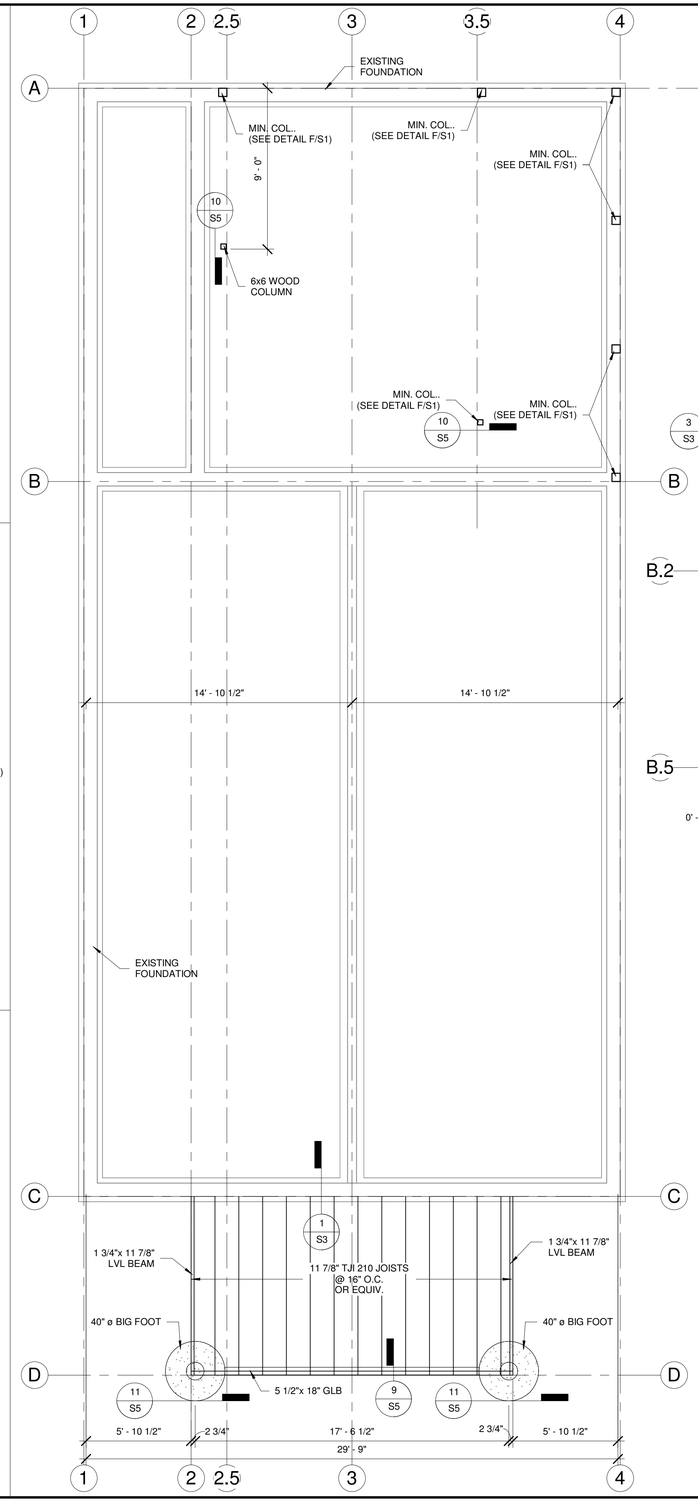
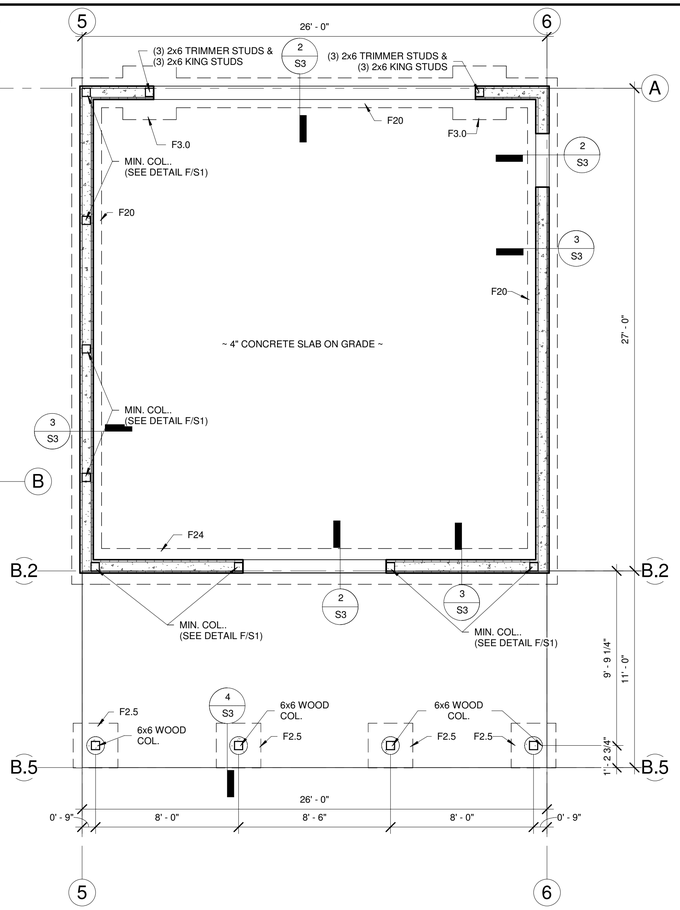


NOTE: HOLDDOWNS SHOWN FOR CONTRACTORS CONVENIENCE.
REFER TO SHEET S2 FOR SHEAR WALL DETAILS AND PLACEMENT.

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



BRETT BENNETT REMODEL
368 WOODEN SPUR
ALPINE, WY

DATE: 06/09/25
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DRAWN BY: LBG

DATE	REVISIONS	BY

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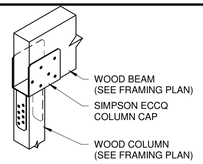
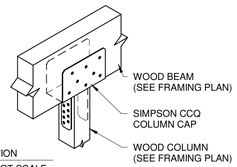
PROJECT NO.
225112
SHEET NO.
S3
OF FIVE





8 / S4 SECTION
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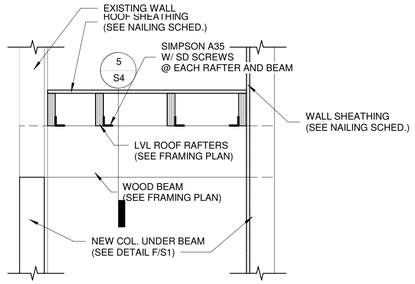

4 / S4 SECTION
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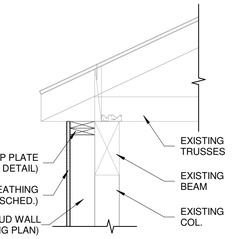

7 / S4 SECTION
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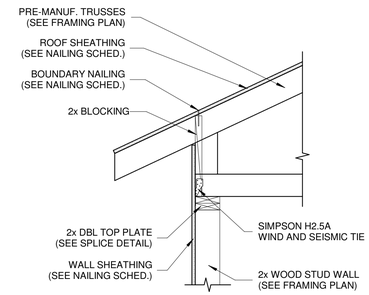

3 / S4 SECTION
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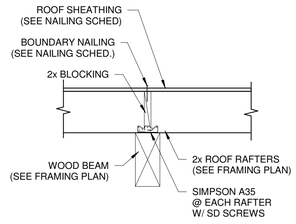

6 / S4 SECTION
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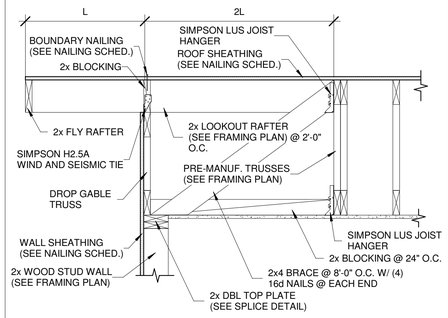

2 / S4 SECTION
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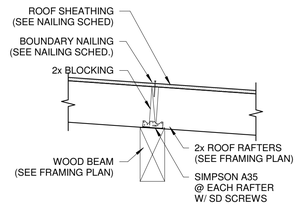
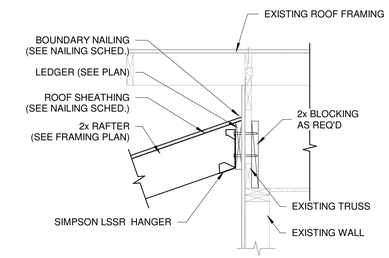
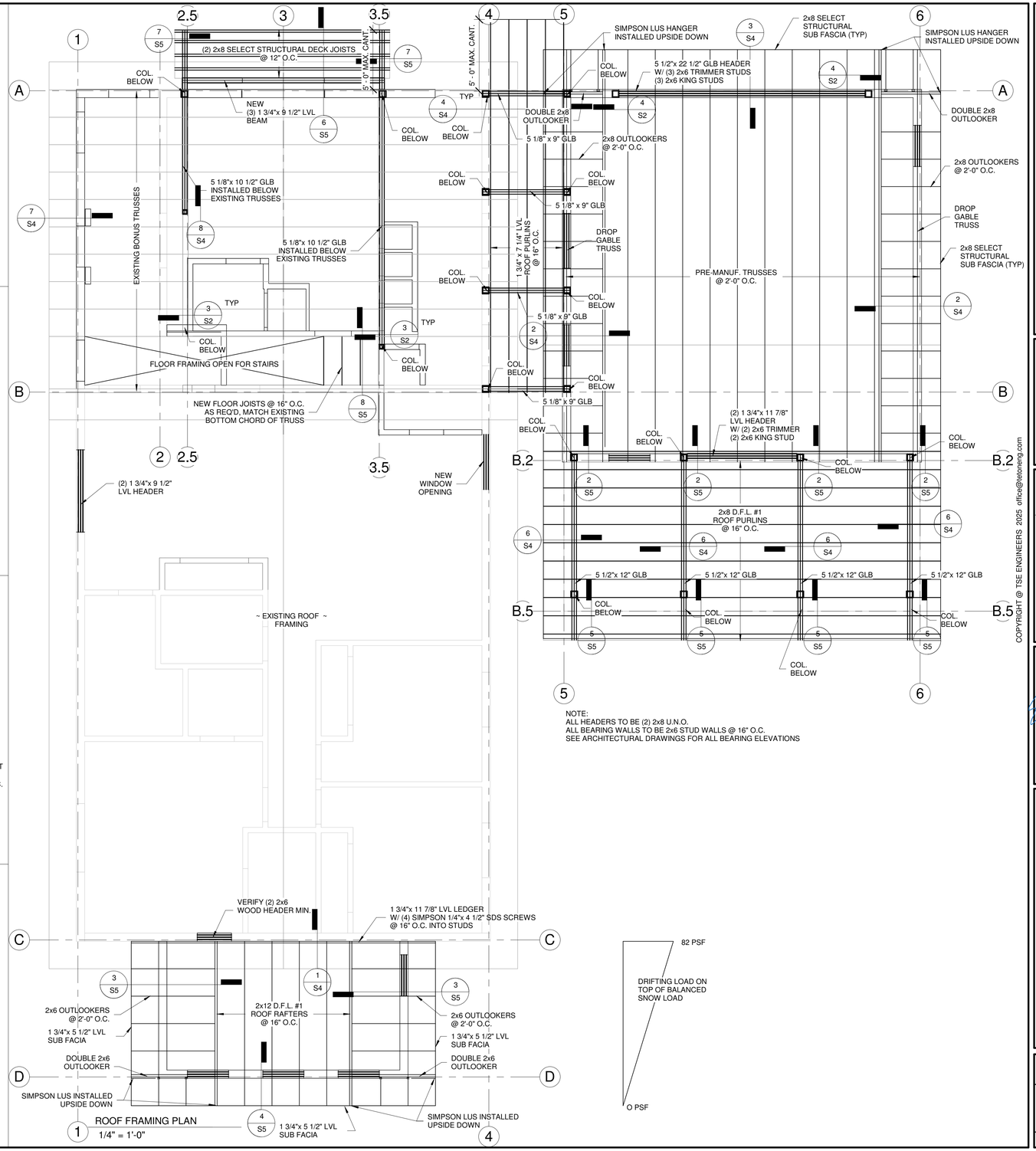


5 / S4 SECTION
DO NOT SCALE



1 / S4 SECTION
DO NOT SCALE



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

NOTE:
ALL HEADERS TO BE (2) 2x8 U.N.O.
ALL BEARING WALLS TO BE 2x6 STUD WALLS @ 16" O.C.
SEE ARCHITECTURAL DRAWINGS FOR ALL BEARING ELEVATIONS

BRETT BENNETT REMODEL
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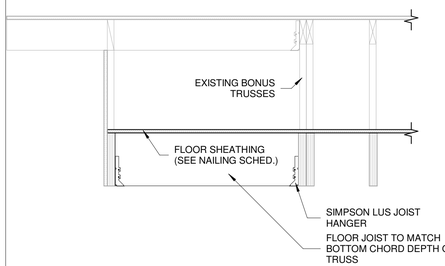
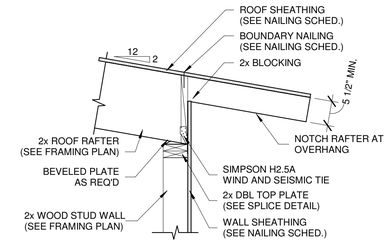


8 / S5 SECTION DO NOT SCALE



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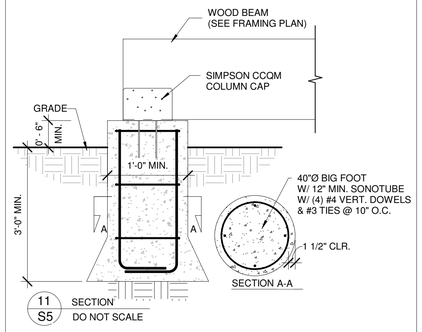

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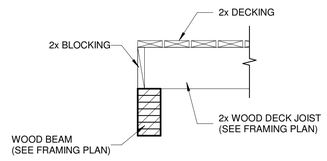

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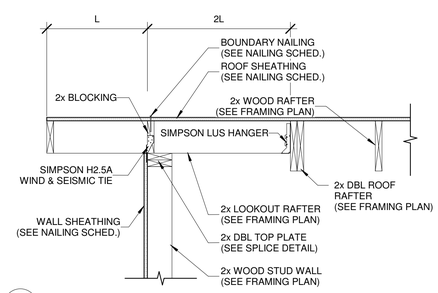

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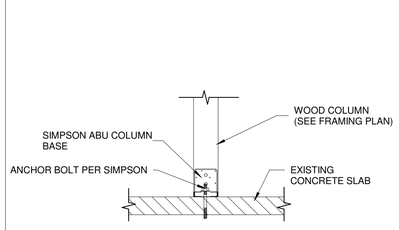

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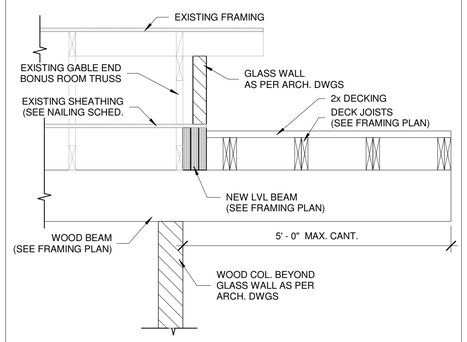

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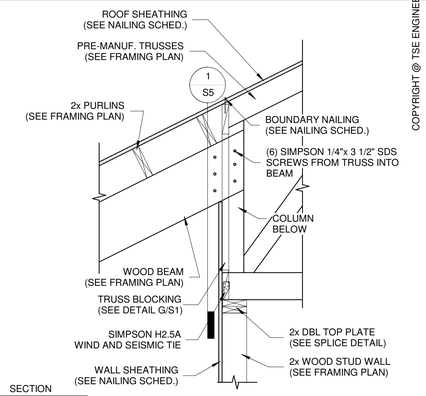

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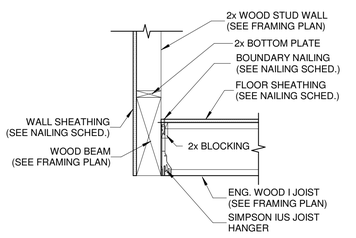

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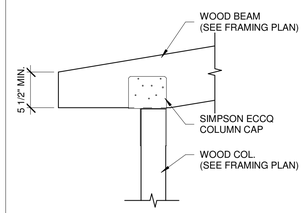

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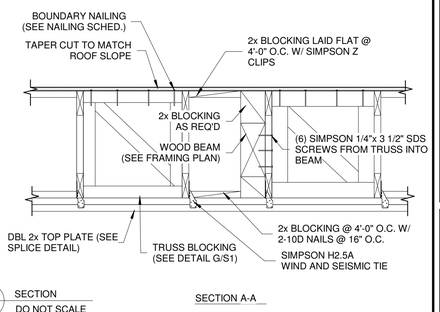

1 / S5 SECTION DO NOT SCALE

BRETT BENNETT REMODEL
368 WOODEN SPUR
ALPINE, WY

DATE: 06/09/25
CHECKED BY: EVB
DRAWN BY: LBG

REVISIONS	BY	DATE

Professional Engineer
ERIC BOLANDER
17088
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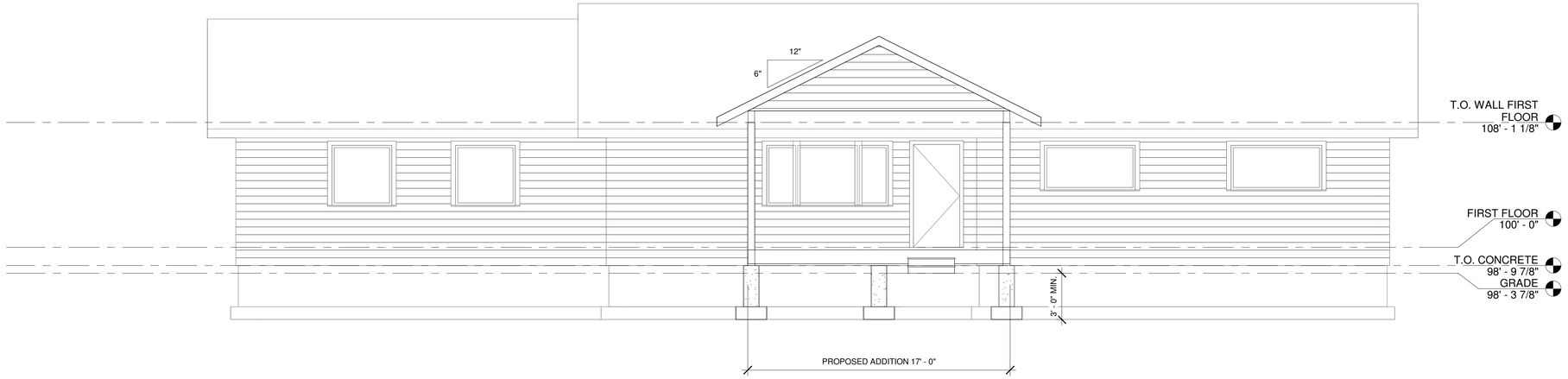
TSE ENGINEERS

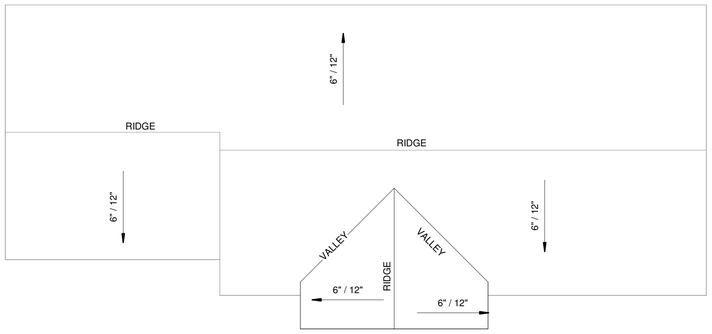
PROJECT NO. 225112

SHEET NO. S5

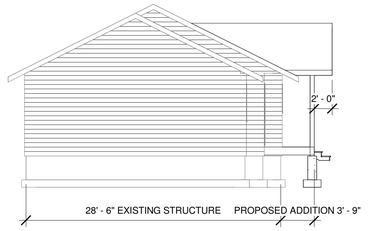
OF FIVE



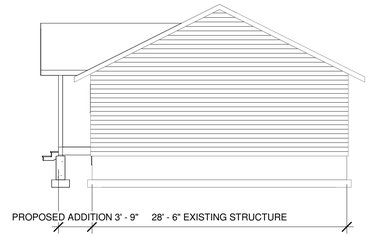
FRONT ELEVATION
1/4" = 1'-0"



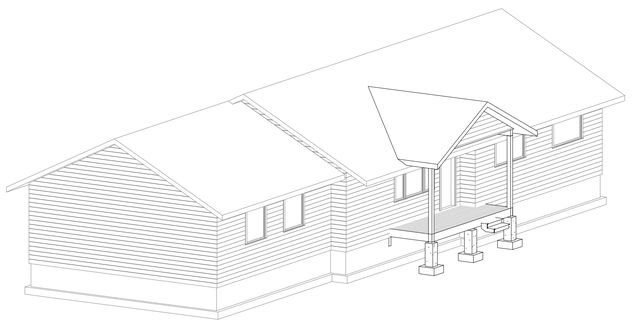
ROOF PLAN
1/8" = 1'-0"

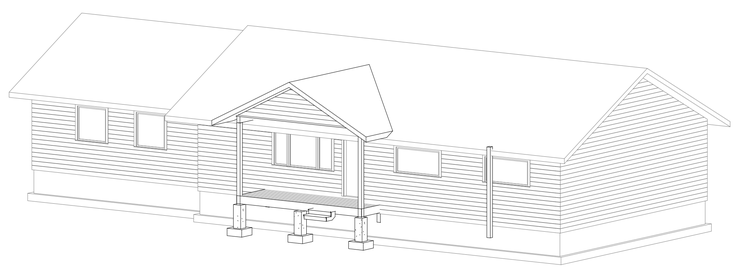


LEFT ELEVATION
1/8" = 1'-0"

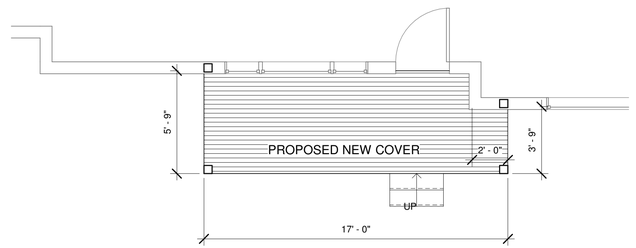


RIGHT ELEVATION
1/8" = 1'-0"





EXISTING STRUCTURE



FIRST FLOOR PLAN
1/4" = 1'-0"

MIKE MULLER GABLE ADDITION
437 MEADOWS DRIVE
ALPINE, WYOMING

DATE: 06/25/25		
CHECKED BY:EVB DRAWN BY:EVB	REVISIONS	BY
DATE		

TETON DRAFTING SERVICES
136 SOUTH STATE STREET SHELLEY, IDAHO 83274
PHONE (208)-357-2420 FAX (208)-357-2419

PROJECT NO.
222039

SHEET NO.
A1

OF ONE

GENERAL STRUCTURAL NOTES (DRAWING NOTES)

A. CODES AND SPECIFICATIONS
1. International Building Code (IBC) - 2021 Edition
2. ACI 318-19 Building Code Requirements for Reinforced Concrete
3. ANSI/AWC National Design Specification (NDS) & Suppl. for Wood Const. - 2018 Edition
4. ASCE 7-16 With Supplement 1 Min. Design Loads for Buildings and other Structures.

B. DESIGN LOADS UNIFORM (PSF)
1. Floor Loads — Uniform
   a. Deck Live = 60
      Dead = 10
2. Roof Loads
   a. Live Load — 20 PSF
   b. Snow Load
      Design Snow Load 100.0 PSF
      Flat Roof Snow Load Pf = 100.1
      Ce = 1.0; Ct = 1.0; Is = 1.0
      Ground Snow Load 143.0
      Sloped Roof Ps = 100.1; Cs = 1.0
   c. Rain Load = N/A
3. Lateral Loads
   a. Wind Load 115 MPH (3 Sec Gust) Risk Cat= II; EXP = C
      Encl. Cat. - Open Building
      Internal Pressure Coef. +/- 0.00
      Components & Cladding - 13.0PSF
   b. Seismic Load: Risk Cat: II Importance Factor = 1.0
      Ss = 111.3% G; S1 = 34.3% G
      Site Class = D
      Sds = 0.890; Sd1 = 0.448
      Seismic Design Category = D
      Basic Seismic System = Bearing wall System
      Design Base Shear V = 0.137 W
      Seismic Response Coef. Cs = 0.137
      Response Modification Factor R = 6.5
      Analysis Procedure = Equivalent Lateral - Force Analysis

C.FOUNDATIONS
1. Bearing pressure taken as 1500 PSF for column and wall footings, based on a sand, silty sand, clayey sand, silty gravel, and clay gravel (Table 1806.2, Class of Materials #4). Notify Engineer if conditions encountered are different.
2. Bear footing on same type of undisturbed soil or rock throughout the entire structure.

D. MATERIALS
1. Dimensional Lumber — #2 Douglas Fir
2. Glulam Beams (GLB) — 24FV4
3. Concrete f'c - Ftgs, Walls — 3500 PSI Exposure Class = F1 Air Content 5%
   - Garage & Exterior Slabs — 4500 PSI Exposure Class = F2 Air Content 6%
   Max Water-Cement Ratio 0.55
   Max Aggregrate size 3/4"
4. Reinforcing Steel — ASTM A615 - Grade 60
5. Anchor Bolts — A36 / F1554 GRADE 36

E. REINFORCED CONCRETE
1. Concrete shall be of ready mix type conforming to ASTM C94.
2. Portland Cement to comply with ASTM C150
3. Comply with ACI 306 Cold Weather Concrete standards if the mean daily temperature is expected to drop below 40° F for 3 or more successive days. Place no concrete against frozen earth.
4. Comply with ACI 305 Hot Weather Concrete Standards.
5. Conduct all compression tests according to ACI Standard Recommended Practice for Evaluation of Compression Test Results of Field Concrete (ACI 214)
6. Control joints in large areas of slab on grade shall be placed in checkerboard fashion in lengths not to exceed 20 feet in any direction.
7. All construction joints shall be located so as not to impair the strength of the structure. Unless noted on the drawings, all reinforcement shall be continuous through the joints. Each construction joint shall be keyed.
8. No aluminum products shall be embedded in the concrete. Electrical conduit shall be placed at mid-height of the slabs and shall have an O.D. less that one-third the slab thickness.
9. Add 2-#5 reinforcing bars around all opening (unless noted otherwise) and extend 24" beyond the corner of the openings.
10. Unless otherwise noted, reinforce all concrete wall as follows:

Wall Size	Horizontal Reinforcement	Vertical Reinforcement
8"	#4 @ 24" O.C.	#4 @ 24" O.C.

F. REINFORCING STEEL
1. All detailing, fabrication and placing of reinforcing bars shall conform to the ACI Manual of Standard Practice for Detailing Reinforced Concrete Structures (ACI 315). All reinforcement to be supported in the forms and space with wire or plastic bar supports. Reinforcement in footings shall be supported on precast concrete block supports conforming to the Concrete Reinforcing Steel Institute Manual of Standard Practice.
2. Splice of reinforcement at points of maximum stress shall be avoided wherever possible. See Table.
3. All continuous reinforcement shall terminate with 90 degree return or hook or separate corner bar.
4. All vertical reinforcement in columns and walls shall be doweled from the footing or structure below with rebar of the same size and spacing as required above.
5. Minimum concrete cover for reinforcing bars shall be as specified in Building Code Requirements for Reinforced Concrete (ACI 318)
6. Welding or tack welding of reinforcing bars is prohibited unless specifically approved by the Engineer.

G. LUMBER
1. Do not notch any structural wood member unless shown on the drawings.
2. Install and follow all manufacturers guidelines for Engineered Wood I members and LVL products. --Do not notch or cut flanges of Eng. Wood I Members.--
3. All nails shall be common wire nails. Any nails exposed to weather or moisture shall be of stainless steel or shall be galvanized.
4. Nailing to conform to IBC Table 2304.10.2 unless noted otherwise (See Nailing Schedule).
5. Wherever possible nails should be driven perpendicular to the grain instead of toe nail.
6. Where wood tends to split, holes for nails shall be bored a diameter smaller that of the nails.
7. Plywood face grain must be perpendicular to its supports.
8. Any wood members in contact with concrete or earth shall be pressure-treated wood or wood that is decay resistant (redwood or cedar).
9. Wet use adhesives shall be used on all glulam members subjected to possible moisture.
10. Roof trusses to be designed and engineered by supplier to meet the design loads herein indicated in addition to any and all drifting loads, wind loads, equipment loads and other loads as indicated on framing plan. Submit shop drawings and calculations for review.
11. Truss manufacturer to provide truss to truss connection details.

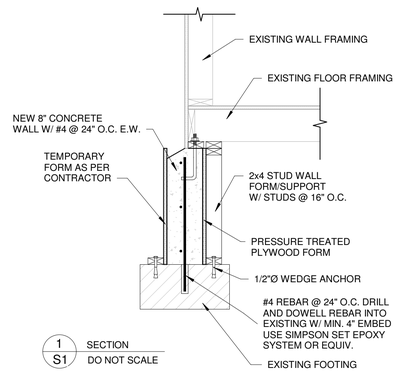
NAILING SCHEDULE

19/32" APA Rated 40/20 Roof Sheathing — Boundary nailing - 10d @ 6" o.c.
No blocking required unless shown on framing plan. See typical detail. use panel clips at unsupported edges. — End nailing - 10d @ 6" o.c. Side nailing - 10d @ 6" o.c. Intermediate nailing - 10d @ 12" o.c.

SHEAR WALLS
See Shear Wall Schedule

H. DEFERRED SUBMITTALS
List of deferred submittals (shop drawings) that require Architectural and/or Engineering review and approval before fabrication or installation begins:
1. Engineered Roof Trusses

GENERAL NOTES
1. Adequate shoring and bracing of all structural members during construction shall be provided.
2. Any proposed field changes shall have prior approval from the Engineer.
3. Contractor shall verify all dimensions in the field. Any variation from the drawings shall be brought to the attention of the Engineer.
4. Install Simpson hardware as per Manufacturers requirements.
5. Details are representations/ depictions only. Follow written callouts.
6. NO CHANGES PERMITTED WITHOUT EXPRESS WRITTEN PERMISSION OF ENGINEER



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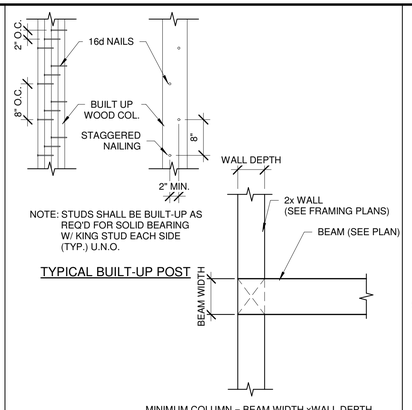
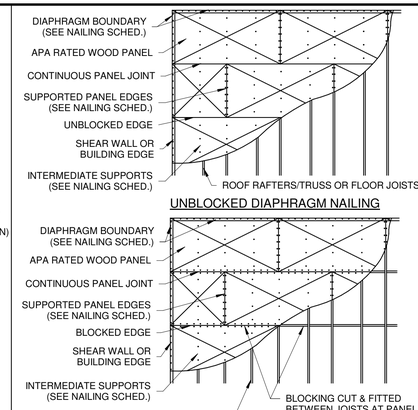


TYPICAL BUILT-UP POST

MINIMUM COLUMN DETAIL

F / S1 SECTION — DO NOT SCALE



UNBLOCKED DIAPHRAGM NAILING

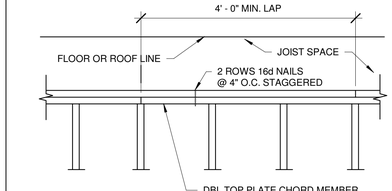
BLOCKED DIAPHRAGM NAILING

C / S1 SECTION — DO NOT SCALE

APA RATED PLYWOOD DEPICTED (HORIZONTAL ONLY)
OSB APA RATED SHEATHING CAN BE ORIENTED EITHER HORIZONTAL OR VERTICAL

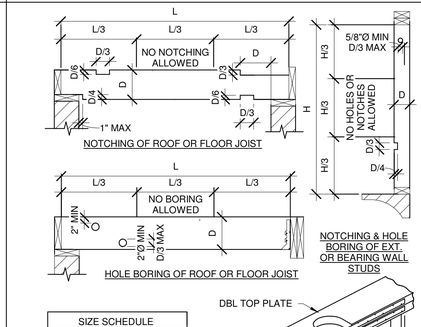
WIND COMPONENT AND CLADDING SCHEDULE

WIND PRESSURE (PSF)	10 SF	50 SF	100 SF
ROOF AT LEAST 3'-0" AWAY FROM ANY EDGE	-10.0, -17.9	-10.0, -15.1	-10.0, -25.9
ROOF WITHIN 3'-0" OF ANY EDGE	-10.0, -35.1	-10.0, -21.5	-10.0, -42.9
WALL AT LEAST 3' -0" AWAY FROM ANY CORNER	+10.7, -10.7	+10.0, -10.1	+10.0, -10.0
WALL WITHIN 3' -0" OF ANY CORNER	+10.7, -21.5	+10.0, -18.8	+10.0, -16.7



SPLICE DETAIL

E / S1 SECTION — DO NOT SCALE



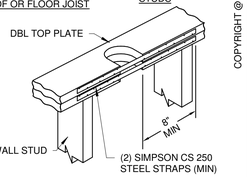
NOTCHING OF ROOF OR FLOOR JOIST

NOTCHING & HOLE BORING OF EXT. OR BEARING WALL STUDS

HOLE BORING OF ROOF OR FLOOR JOIST

SIZE SCHEDULE			
MEMBER	D/3	D/4	D/6
2x4	1-1/8	7/8	5/8
2x6	1-3/4	1-3/8	7/8
2x8	2-3/8	1-3/4	1-1/8
2x10	3	2-1/4	1-1/2
2x12	3-5/8	2-3/4	1-7/8

HOLES & NOTCHES IN BEAMS ARE NOT ALLOWED UNLESS OTHERWISE APPROVED IN WRITING BY ENGINEER

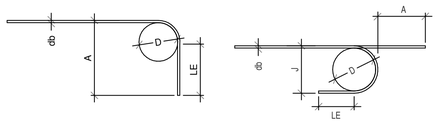


NOTCHING OF DOUBLE TOP PLATE

B / S1 SECTION — DO NOT SCALE

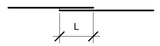
90° HOOK DIMMENSIONS			
BAR SIZE	A	D	LE
#4	8"	3"	6"
#5	10"	3 3/4"	7 1/2"
#6	1'-0"	4 1/2"	9"

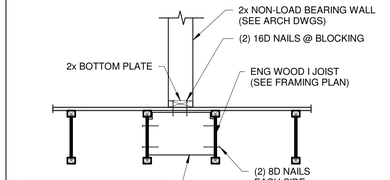
180° HOOK DIMMENSIONS				
BAR SIZE	A	J	D	LE
#4	6"	4"	3"	2 1/2"
#5	7"	5"	3 3/4"	2 1/2"
#6	8"	6"	4 1/2"	3"



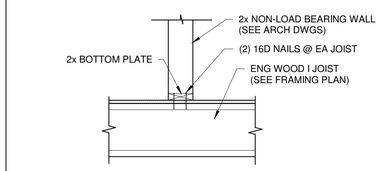
STANDARD HOOK DETAILS

REBAR LAP SPLICE SCHEDULE		
BAR SIZE	min. f'c = 3000 PSI	
	TYP. SPLICES	
NO.	DIA.	LENGTH (L)
4	0.500	22"
5	0.625	28"
6	0.750	33"



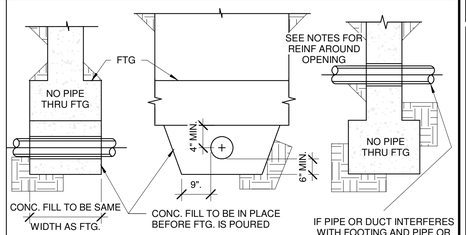


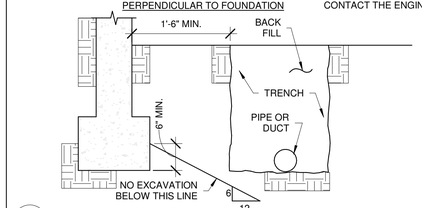
JOIST PARALLEL TO WALL



JOIST PERPENDICULAR TO WALL

D / S1 SECTION — DO NOT SCALE





PARALLEL TO FOUNDATION

A / S1 SECTION — DO NOT SCALE

MIKE MULLER GABLE ADDITION
437 MEADOWS DRIVE
ALPINE, WYOMING

DATE: 06/25/25
BY
REVISIONS
DATE
DRAWN BY:EVB
CHECKED BY:EVB

Professional Engineer
ERIC BOLANDER
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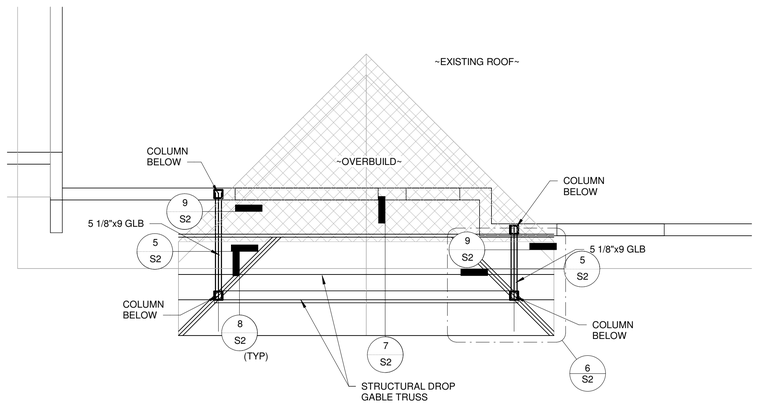
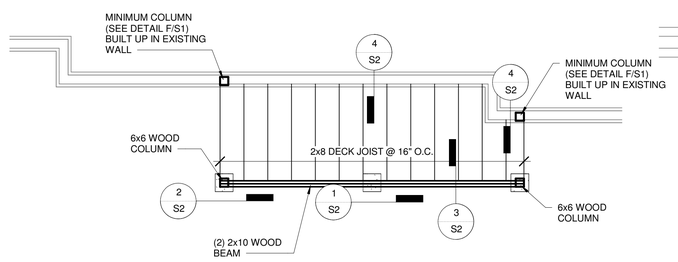
PROJECT NO. 222039

SHEET NO. S1

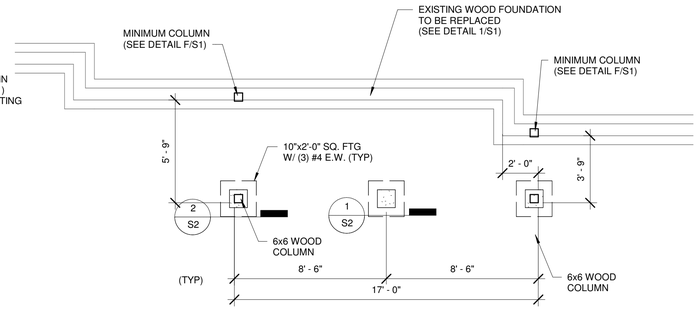
OF TWO



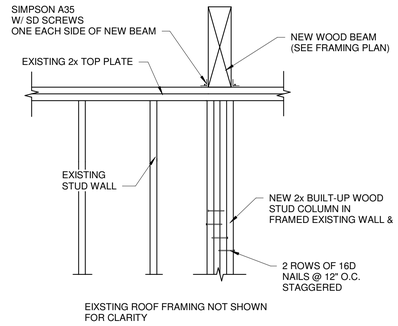
ROOF FRAMING PLAN
1/4" = 1'-0"



FIRST FLOOR FRAMING
1/4" = 1'-0"

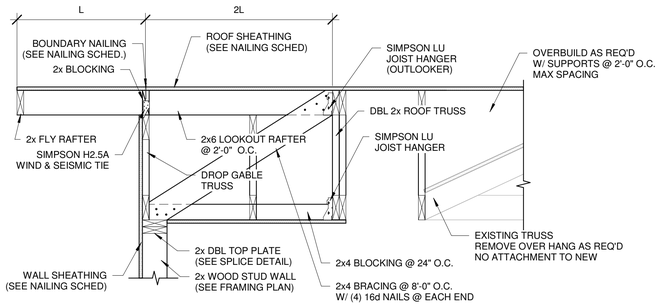


FOUNDATION PLAN
1/4" = 1'-0"



9 S2 SECTION
DO NOT SCALE

8 S2 SECTION
DO NOT SCALE



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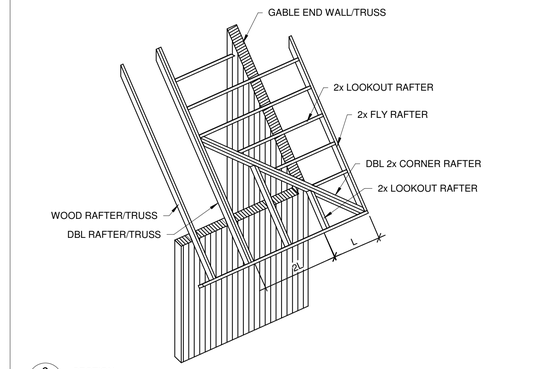

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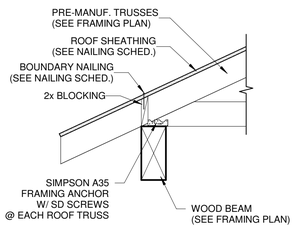

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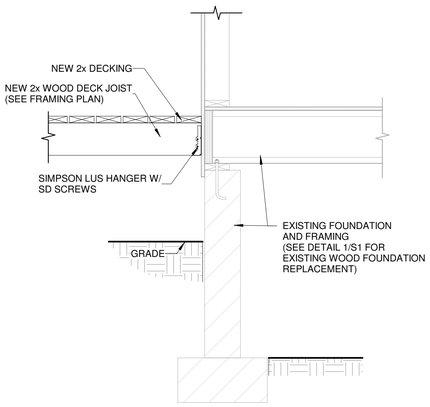

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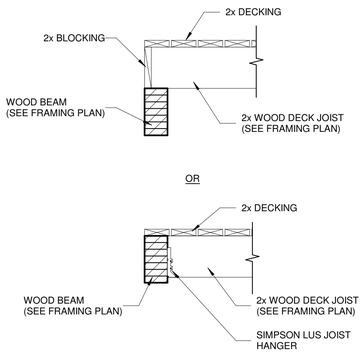

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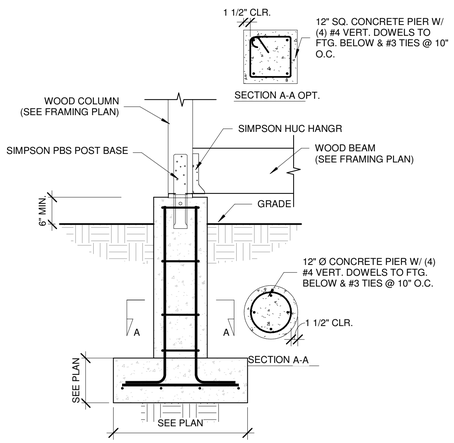
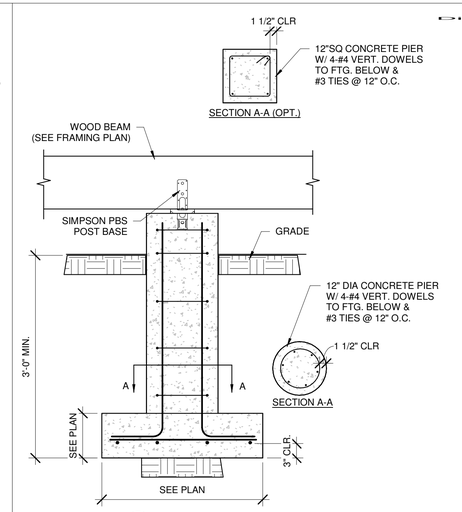


2 S2 SECTION
DO NOT SCALE



1 S2 SECTION
DO NOT SCALE

MIKE MULLER GABLE ADDITION
437 MEADOWS DRIVE
ALPINE, WYOMING

DATE: 06/25/25
BY
REVISIONS
DATE
CHECKED BY: EVB
DRAWN BY: EVB

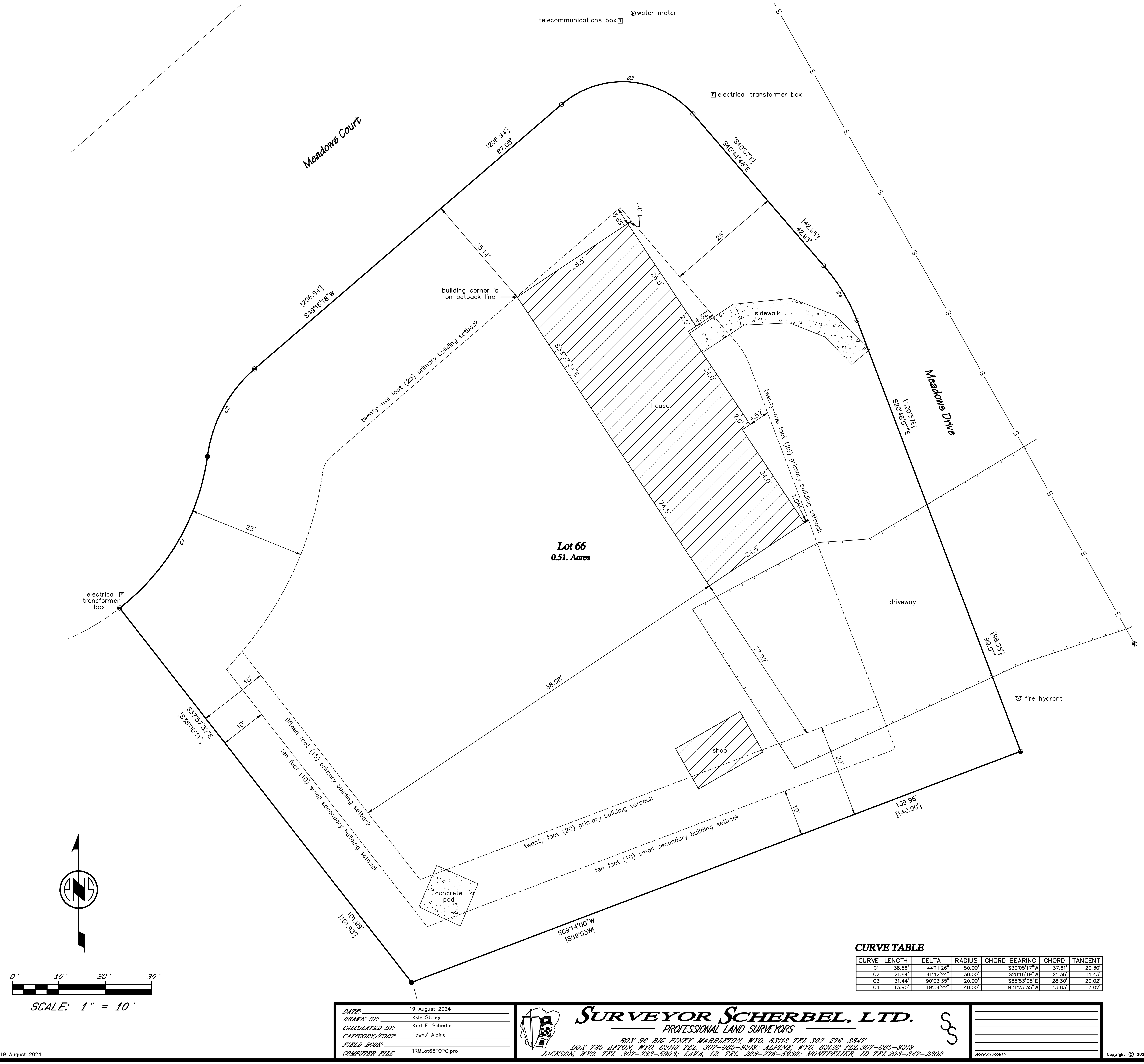
Professional Engineer
ERIC BOLANDER
17088
STATE OF WYOMING
Oct.2.2025

136 SOUTH STATE STREET
SHELLEY, IDAHO 83274
PHONE (208)-357-2420
FAX (208)-357-2419
office@tetoneng.com
TSE ENGINEERS

PROJECT NO.
222039

SHEET NO.
S2

OF TWO



CERTIFICATE OF SURVEYOR

I, Karl F. Scherbel, of Afton, Wyoming, hereby certify that this map was made from notes taken during an actual survey made by me and by persons under my supervision during August 2024 and from records in the Office of the Cleark of Lincoln County and that it correctly represents that survey and those records.

Professional Land Surveyor
Karl F. Scherbel
11810
Date
WYOMING

-ADVANCE PLAT-
SUBJECT TO CORRECTION AND APPROVAL

LEGEND

- indicates a 5/8" X 24" steel reinforcing rod, found.
- Indicates a 1" pipe with or without a yellow plastic cap inscribed: PE/LS698, found or of record.
- Indicates a 5/8" x 24" steel reinforcing rod with 2" aluminum cap inscribed "SURVEYOR SCHERBEL LTD" found.
- Indicates a 5/8" x 24" steel reinforcing rod with 2" aluminum cap inscribed "SURVEYOR SCHERBEL LTD" set this survey.
- indicates right-of-way of road
- indicates a lot line of record.
- S — indicates approximate location of underground sewer lines
- indicates edge of gravel.
- {206.94'} indicates record dimension from plat titled, "THREE RIVERS MEADOWS ESTATES SUBDIVISION 'B'" of record in the Office of the Clerk of Lincoln County with Accession No. 472173

CURVE TABLE

CURVE	LENGTH	DELTA	RADIUS	CHORD BEARING	CHORD	TANGENT
C1	38.56'	44°11'26"	50.00'	S30°05'17"W	37.61'	20.30'
C2	21.84'	41°42'24"	30.00'	S28°16'19"W	21.36'	11.43'
C3	31.44'	90°03'35"	20.00'	S85°53'05"E	28.30'	20.02'
C4	13.90'	19°54'22"	40.00'	N31°25'35"W	13.83'	7.02'

SITE PLAN FOR MIKE MULLER
THREE RIVER MEADOWS ESTATES SUBDIVISION "B"
LOT 66
IN THE TOWN OF ALPINE WITHIN THE
SW1/4SW1/4 SECTION 28
T37N R118W
LINCOLN COUNTY, WYOMING

DATE: 19 August 2024
DRAWN BY: Kyle Staley
CALCULATED BY: Karl F. Scherbel
CATEGORY/PORT: Town/ Alpine
FIELD BOOK:
COMPUTER FILE: TRMLot66TOPO.pro

SURVEYOR SCHERBEL, LTD.
PROFESSIONAL LAND SURVEYORS
BOX 96 BIG PINEY-MARBLETON, WYO. 83113 TEL 307-276-3347
BOX 725 AFTON, WYO. 83110 TEL 307-885-9319; ALPINE, WYO. 83128 TEL 307-885-9319
JACKSON, WYO. TEL 307-733-5903; LAVA, ID. TEL 208-776-5930; MONTPELIER, ID TEL 208-847-2800

REVISIONS:

|| mail:PO Box 4260, Bedford, WY 83112 || ph:916-838-1973 or 307-883-6515 ||
|| web:covenantengineers.com || email:merritt@covenantengineers.com ||

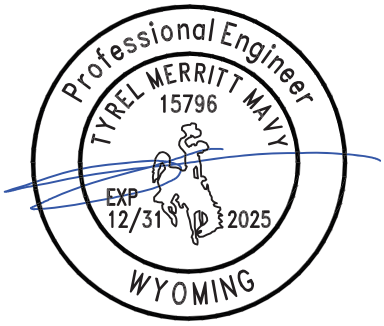
Covenant Engineering

"WHEN INTEGRITY COUNTS…"

STRUCTURAL CALCULATIONS

FOR

672 Sunset Dr.
(N) Residence
Alpine, WY



Job #P25006
March 12, 2025

2021 International Building Code

INDEX

SUMMARY

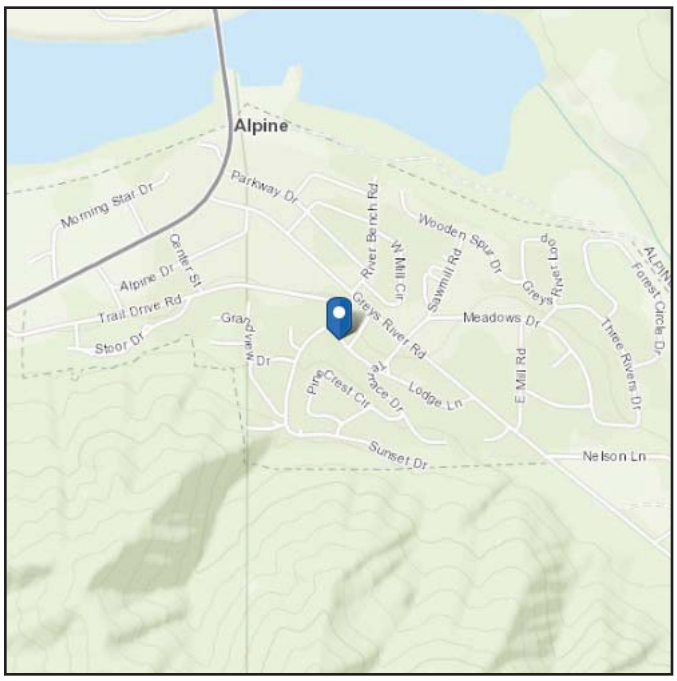
This set of structural calculations is being provided in support of the proposed new residence to be constructed at the referenced project address. Based on the enclosed calculations, it appears that the structural plans and details provided are adequate to address the required site conditions.

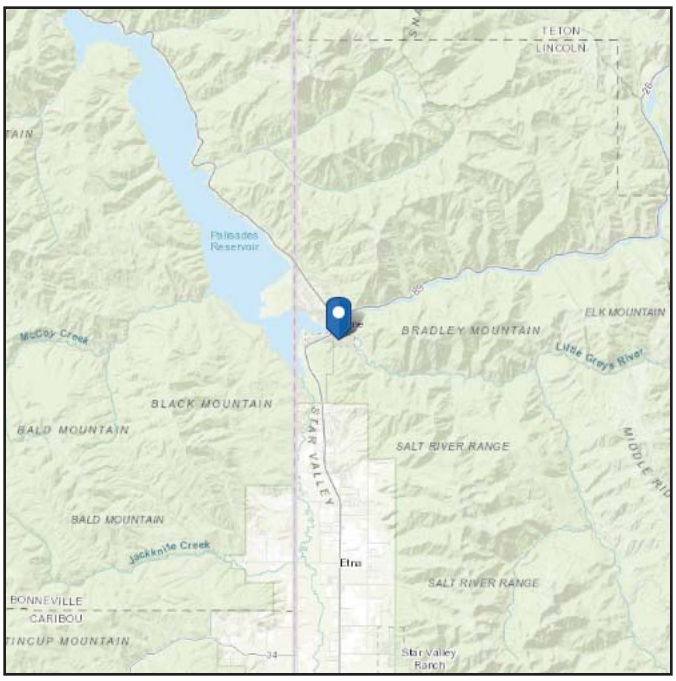
ASCE Hazards Report

Address:
672 Sunset Dr
Alpine, Wyoming
83128

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Latitude: 43.159887
Longitude: -111.013363
Elevation: 5696.35845 ft (NAVD 88)





Wind

Results:

Wind Speed	105 Vmph
10-year MRI	75 Vmph
25-year MRI	81 Vmph
50-year MRI	86 Vmph
100-year MRI	91 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Mon Mar 10 2025

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

Seismic

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	1.109	S_{D1} :	N/A
S_1 :	0.341	T_L :	6
F_a :	1.2	PGA :	0.477
F_v :	N/A	PGA_M :	0.572
S_{MS} :	1.331	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1
S_{DS} :	0.887	C_v :	1.322

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Mon Mar 10 2025

Date Source: USGS Seismic Design Maps

Snow

Results:

Mapped Elevation:	5696.4 ft
Data Source:	ASCE/SEI 7-16, Table 7.2-8
Date Accessed:	Mon Mar 10 2025

In "Case Study" areas, site-specific case studies are required to establish ground snow loads. Extreme local variations in ground snow loads in these areas preclude mapping at this scale.

Ground snow load determination for such sites shall be based on an extreme value statistical analysis of data available in the vicinity of the site using a value with a 2 percent annual probability of being exceeded (50-year mean recurrence interval).

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

Snow load values are mapped to a 0.5 mile resolution. This resolution can create a mismatch between the mapped elevation and the site-specific elevation in topographically complex areas. Engineers should consult the local authority having jurisdiction in locations where the reported ‘elevation’ and ‘mapped elevation’ differ significantly from each other.

Roof Uniform Snow Load = 100 psf per Jurisdiction

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

Dead Loads for: (N) Residence

Typ Roof Dead Load	psf
Roofing	4.0
Shtg	1.9
Mfr Trusses @ 24"	2.5
Clng	2.8
Misc	0.8
	12.0

Ext Wall Dead Load	psf
Siding	4.0
Wall Sht'g	1.5
Studs	1.6
Gyp Board	2.2
Misc	2.7
	12.0

Porch Roof Dead Load	psf
Roofing	4.0
Shtg	1.9
Rafters @ 24"	1.4
Misc	0.7
	8.0

Interior Wall Dead Load	psf
Framing	1.6
Gyp Board x 2	5.6
Misc	2.8
	10.0

Other

Roof Live, 10.00:12	14.0
Roof Uniform Snow	100.0

Seismic Mass

Roof Mass

$Slope_{Roof}$ = 10.00:12
$Dl_{add'l\ (part)}$ = 5.0 psf
$Snow_{(20\%)}$ = 20.0 psf
Roof Area = 858 sf
Perimeter = 106 ft
$h\text{-}trib_{wall}$ = 5.0 ft
W_{EQ} = 49.6 k

Porch Roof Mass

$Slope_{Roof}$ = 0.25:12
$Dl_{add'l\ (part)}$ = 0.0 psf
$Snow_{(20\%)}$ = 20.0 psf
Roof Area = 306 sf
Perimeter = 0.0 ft
$h\text{-}trib_{wall}$ = 0.0 ft
W_{EQ} = 8.6 k

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

Seismic Demand for: (N) Residence

LFRS: All other bldgs	S_S = 1.109	T_{modal} = 0.00 sec	☐ Extreme Torsion Irregularity?
Occupancy: I	S_1 = 0.341	T_L = 6.00 sec	☑ >35%V Complies w/Table 12.3-3?
Site Class: D-Default	F_a = 1.200	T_a = 0.10 sec	☑ Regular in plan at all levels?
I_{EQ} = 1.00	F_v = 1.000	T_{Max} = 0.13 sec	☐ 2 bays ES Ea Direction?
R-Factor = 6.50	S_{DS} = 0.887	T_S = 0.256	$C_{s,Design}$ (12.8-2) = **0.136**
Ω_0 = 3.00	S_{D1} = 0.227	T_o = 0.051	$C_{s,Max}$ (12.8-3 & 4) = 0.368
C_d = 4.00	$S_{DS,Des}$ = 0.887	☑ No Irregularities?	$C_{s,Min}$ (12.8-5) = 0.010
			$C_{s,Min,.6g}$ (12.8-6) = 0.000

Base Shear & Story Distribution

SEISMIC DESIGN CATEGORY 'D' (Dynamic Procedure Not Required) ρ = 1.0 Exp 'k' = 1.00

$Level_x$	$h_{x\ (ft)}$	$W_{x\ (k)}$	$W_x h_x^k$	$W_x h_x^k / \Sigma W_i h_i^k$	**$F_{x\ (k)}$**	**$F_{x\ (ASD)}$**	A_{flr} (sf)	w_{EQ} (psf)	$w_{EQ\ (ASD)}$
Roof	8.0	58.2	465	100.0%	**7.94**	**5.67**	682	11.6	8.3
	Σ=	58.2	465	100%	**7.94**	**5.67**			

Diaphragm Loading

$Level_x$	$F_{px\ (k)}$	$F_{px\text{-}min}$	$F_{px\text{-}max}$	$F_{px\ (k)}$	$F_{px\ (ASD)}$	w_{EQ} (psf)	$w_{EQ\ (ASD)}$	$Diaph/_{Base}$
Roof	7.94	10.32	20.64	**10.32**	**7.37**	15.1	10.8	1.30

Vertical Seismic Demand

$E_v = 0.2 \times S_{DS} \times D = 0.18 \times D$

Out-Of-Plane Demand

☐ Conc./Masonry Walls
☐ Flexible Diaphragm

	Walls	Anchorage	Anchorage to Concrete
LRFD	0.35Wp	0.35Wp	0.89Wp (444 plf min)
ASD	0.25Wp	0.25Wp	0.63Wp (317 plf min)

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

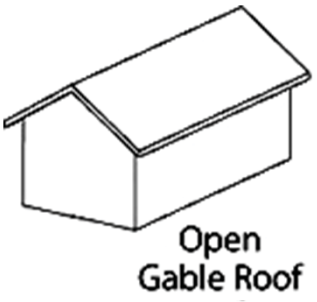
LRFD Wind Design - MWFRS For: (N) Residence

Structure Criteria

Structure Type: All other structural systems
Roof Type: Gable, Open
Roof Pitch: 10.0:12
Structure Ht AGL: 22.3 ft
Mean Rf Ht AGL: 16.5 ft
Add'l Floors AGL: 0 Floors
Least Plan Dim: 22.0 ft
Greatest Plan Dim: 31.0 ft
f_0, (Manual): 0.00 Hz
f_0, (Approx): 6.11 Hz
Flexibility Class: Rigid
Building Class: Class 1
Enclosure Class: Enclosed

Roof Ht: 22.3 ft
Eave Ht: 10.8 ft

Roof Type



Site Criteria

Basic Wind Speed: 110 mph
Exposure Category: C
Directionality Factor, K_d: 0.85
Topographic Factor, K_{zt}: 1.00
Gust Effect Factor, G: 1.00
Internal Press. Coeff, GC_{pi}: 0.18

Procedure Checks:

Torsionally Regular: Yes
Simple Diaphragm: Yes
Aprox. Symetrical: Yes
Flat, Gable Or Hip Roof: Yes

Ch. 27 Part 1 Allowed
Ch. 27 Part 2 Allowed
Ch. 28 Part 1 Allowed
Ch. 28 Part 2 Allowed

Definitions (Reference ASCE 7-10, 26.2)

Flexible: Slender buildings that have a fundamental natural frequency less than 1 Hz.

Low Rise: Enclosed or partially enclosed buildings that comply with the following conditions:
1. Mean roof height *h* less than or equal to 60 ft.
2. Mean roof height *h* does not exceed least horizontal dimension.

Simple Diaphragm: A building in which both windward and leeward wind loads are transmitted by roof and vertically spanning wall assemblies, through continuous floor and roof diaphragms, to the MWFRS.

Torsionally Regular: A bullding with the MWFRS about each principal axis proportioned so that the maximum displacement at each story under Case 2, the torsional wind load case, does not exceed the maximum displacement at the same location under Case 1, the basic wind load case.

Open: A building having each wall at least 80 percent open.

Enclosed: A building that does not comply with the requirements for open or partially enclosed buildings.

Partially Enclosed: A building that complies with both of the following conditions:
1. The total area of openings in a wall that receives positive external pressure exceeds the sum of the areas of openings in the balance of the building envelope (walls and roof) by more than 10 percent.
2. The total area of openings in a wall that receives positive external pressure exceeds 4 ft^2 or 1 percent of the area of that wall, whichever is smaller, and the percentage of openings in the balance of the building envelope does not exceed 20 percent.

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

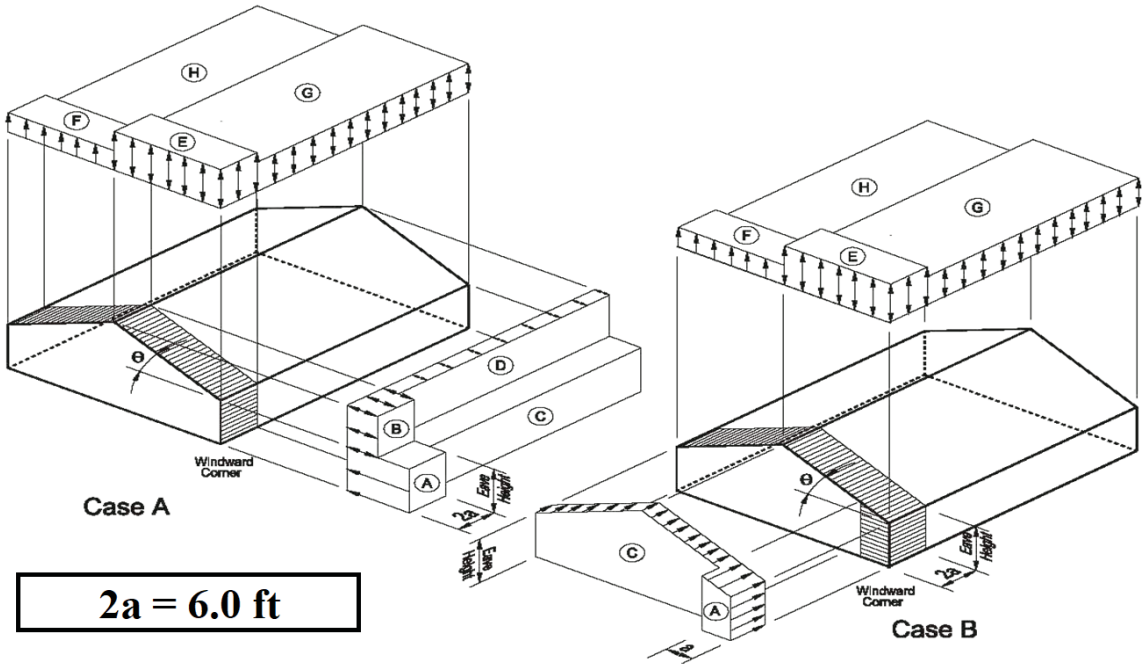
ASCE 7-27 Part 2 Enclosed Simple Diaphragm Buildings For: (N) Residence

Wind Zone Pressure Factors	
Basic Wind Speed: 110 mph	Mean Roof Ht: 22.3 ft
Exposure Category: C	Roof Slope: 39.8°
Topographic Factor, K_{zt}: 1.00	Adjustment Factor, λ : 1.32

Ht	λ
20.0 ft	1.29
22.3 ft	1.32
25.0 ft	1.35

Load Case: 1

Maximum Envelope Pressures		Horizontal Pressures				Vertical Roof Pressures				Eave Overhangs	
		End Zones		Interior Zones		End Zones		Interior Zones		End	Interior
		Wall	Pitched Rf	Wall	Pitched Rf	Windward	Leeward	Windward	Leeward	Zone	Zone
Wind Zones:		A	B	C	D	E	F	G	H	E_{OH}	G_{OH}
(Below)	45.1°	21.6	14.8	17.2	11.8	1.7	-13.1	0.6	-11.3	-7.6	-8.7
P_{S30} (psf)	39.8°	21.6	14.8	17.2	11.8	1.7	-13.1	0.6	-11.3	-7.6	-8.7
(Abv)	45.1°	21.6	14.8	17.2	11.8	1.7	-13.1	0.6	-11.3	-7.6	-8.7
P_S (psf) =		**28.4**	**19.5**	**22.7**	**15.5**	**2.2**	**-17.3**	**0.8**	**-14.9**	**-10.0**	**-11.5**



2a = 6.0 ft

Notes:
1. Pressures shown are applied to the horizontal and vertical projections, for exposure B, at h=30 ft (9.1m). Adjust to other exposures and heights with adjustment factor λ.
2. The load patterns shown shall be applied to each corner of the building in turn as the reference corner. (See Figure 28.4-1)
3. For Case B use $\theta = 0°$.
4. Load cases 1 and 2 must be checked for $25° < \theta \leq 45°$. Load case 2 at 25° is provided only for interpolation between 25° and 30°.
5. Plus and minus signs signify pressures acting toward and away from the projected surfaces, respectively.
6. For roof slopes other than those shown, linear interpolation is permitted.
7. The total horizontal load shall not be less than that determined by assuming $p_S = 0$ in zones B & D.
8. Where zone E or G falls on a roof overhang on the windward side of the building, use E_{OH} and G_{OH} for the pressure on the horizontal projection of the overhang. Overhangs on the leeward and side edges shall have the basic zone pressure applied.
9. Notation:
   a: 10 percent of least horizontal dimension or 0.4h, whichever is smaller, but not less than either 4% of least horizontal dimension or 3 ft (0.9 m).
   h: Mean roof height, in feet (meters), except that eave height shall be used for roof angles <10°.
   θ: Angle of plane of roof from horizontal, in degrees.

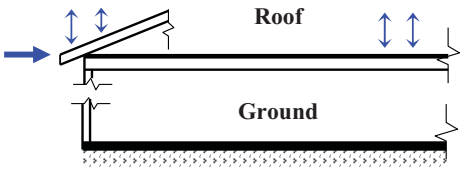
Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

ASCE 7-27 Part 2 Enclosed Simple Diaphragm Buildings For: (N) Residence

This sheet provides a summary of all wind forces at the levels indicated, based on Part 2 of the envelope procedure as indicated in the previous pages. Gable or parapet loads, where applicable, are included in the main roof level loads.

	LRFD	ASD	Uplift End Zone	Uplift Typ Int
Gable End Int	**130 plf**	**78 plf (71 plf)**	**2.2 psf**	**0.8 psf**
Gable End EZ Add'l	**200 lbs**	**120 lbs (109 lbs)**	**1.3 psf (ASD)**	**0.5 psf (ASD)**
Roof Typ Int	**300 plf**	**180 plf (164 plf)**		
Roof EZ Add'l	**460 lbs**	**276 lbs (251 lbs)**		



OK To Reduce To Match Actual Wind Speed By [105/110]^2 = 0.91

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

Typical Solid Wood Framing Checks

(See NDS For Solid Beam Design Equations)

MEMBER DATA	Mark/Descr	**Rafter**		**Gable 4-8**	**Gable 4-8**	**Eave 3-0**	**Eave 3-0**
	Material	DF-L No. 2		DF-L No. 2	DF-L No. 2	DF-L No. 2	DF-L No. 2
	Section	2x6		4x8	2x8	4x8	2x8
	Lams	1		1	2	1	2
	Span	**4.00 ft**		**4.83 ft**	**4.83 ft**	**3.25 ft**	**3.25 ft**
	Fix	None		None	None	None	None
	Duration	Snow		Snow	Snow	Snow	Snow
	Repetetive	Yes		No	No	No	No
	Incised	No		No	No	No	No
	Weak Axis	No		No	No	No	No
	Self-Wt	No		Yes	Yes	Yes	Yes
LOADS	ROOF DL	**8.00 psf**		**12.00 psf**	**12.00 psf**	**12.00 psf**	**12.00 psf**
	ROOF LL	**120.00 psf**		**100.00 psf**	**100.00 psf**	**100.00 psf**	**100.00 psf**
	ROOF Trib	**2.00 ft**		**3.00 ft**	**3.00 ft**	**13.00 ft**	**13.00 ft**
	FLR DL	0.00 psf		0.00 psf	0.00 psf	0.00 psf	0.00 psf
	FLR LL	0.00 psf		0.00 psf	0.00 psf	0.00 psf	0.00 psf
	FLR Trib	0.00 ft		0.00 ft	0.00 ft	0.00 ft	0.00 ft
	OTH DL	0.00 psf		**12.00 psf**	**12.00 psf**	**12.00 psf**	**12.00 psf**
	OTH Trib	0.00 ft		**5.00 ft**	**5.00 ft**	**2.00 ft**	**2.00 ft**
DESIGN CHECKS	w_u	256.0 plf		402.4 plf	401.5 plf	1486.4 plf	1485.5 plf
	Gov Load	D+Lr/S		D+Lr/S	D+Lr/S	D+Lr/S	D+Lr/S
	V	512.0 lbs		971.8 lbs	969.6 lbs	2415.4 lbs	2413.9 lbs
	f_v	93.1 psi		57.4 psi	66.9 psi	142.8 psi	166.5 psi
	F_v'	207.0 psi		207.0 psi	207.0 psi	207.0 psi	207.0 psi
	$f_v<F_v'$?	**OK**		**OK**	**OK**	**OK**	**OK**
	M	512.0 ft-lb		1173.4 ft-lb	1170.8 ft-lb	1962.5 ft-lb	1961.3 ft-lb
	f_b	812.4 psi		459.2 psi	534.6 psi	768.1 psi	895.5 psi
	F_b'	1547.3 psi		1345.5 psi	1242.0 psi	1345.5 psi	1242.0 psi
	$f_b<F_b'$?	**OK**		**OK**	**OK**	**OK**	**OK**
	Δ_L	0.04 in		0.02 in	0.02 in	0.02 in	0.02 in
		L/1155		L/2806	L/2405	L/2125	L/1822
	$\Delta_{L,allow}$	**L/240**		**L/240**	**L/240**	**L/360**	**L/360**
	Δ_{Tot}	0.05 in		0.03 in	0.04 in	0.02 in	0.03 in
		L/1050		L/1856	L/1595	L/1749	L/1501
	$\Delta_{Tot,allow}$	**L/180**		**L/180**	**L/180**	**L/240**	**L/240**
	$\Delta<\Delta_{Allow}$?	**OK**		**OK**	**OK**	**OK**	**OK**
SUPPORT DATA	b	1.50 in		3.50 in	3.00 in	3.50 in	3.00 in
	d	5.50 in		7.25 in	14.50 in	7.25 in	14.50 in
	A_s	8.25 in²		25.38 in²	21.75 in²	25.38 in²	21.75 in²
	S	7.56 in³		30.66 in³	26.28 in³	30.66 in³	26.28 in³
	I	20.80 in⁴		111.15 in⁴	95.27 in⁴	111.15 in⁴	95.27 in⁴
	w_{self}	2.1 plf		6.4 plf	5.5 plf	6.4 plf	5.5 plf
	F_v	180 psi		180 psi	180 psi	180 psi	180 psi
	F_b	900 psi		900 psi	900 psi	900 psi	900 psi
	E	1.60E+06 psi		1.60E+06 psi	1.60E+06 psi	1.60E+06 psi	1.60E+06 psi
	E'	1.60E+06 psi		1.60E+06 psi	1.60E+06 psi	1.60E+06 psi	1.60E+06 psi
	C_D	1.15		1.15	1.15	1.15	1.15
	C_r	1.15		1.00	1.00	1.00	1.00
	C_{fu}	1.00		1.00	1.00	1.00	1.00
	$C_{F/V}$	1.30		1.30	1.20	1.30	1.20
	C_i	1.00		1.00	1.00	1.00	1.00
	$C_{i,E}$	1.00		1.00	1.00	1.00	1.0

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

Typical Solid Wood Framing Checks

(See NDS For Solid Beam Design Equations)

MEMBER DATA		Mark/Descr	**Eave 6-0**	**Eave 6-0**	**Gable 12-0**	**Gable 12-0**	**Porch 12-6**	**Porch 12-6**
		Material	24F-V4 DF/DF	2.0E LVL	24F-V4 DF/DF	2.0E LVL	24F-V4 DF/DF	VLAM 2.0 3100
		Section	GLB 3.125x10.5	LVL 1.75x9.25	GLB 3.125x15	LVL 1.75x14	GLB 3.125x15	VLAM 3.5x14
		Lams	1	2	1	2	1	1
		Span	**6.25 ft**	**6.25 ft**	**12.00 ft**	**12.00 ft**	**12.50 ft**	**12.50 ft**
		Fix	None	None	None	None	None	None
		Duration	Snow	Snow	Snow	Snow	Snow	Snow
		Repetetive	No	No	No	No	No	No
		Incised	No	No	No	No	No	No
		Weak Axis	No	No	No	No	No	No
		Self-Wt	Yes	Yes	Yes	Yes	Yes	Yes
LOADS	ROOF	DL	**12.00 psf**	**12.00 psf**	**12.00 psf**	**12.00 psf**	**8.00 psf**	**8.00 psf**
		LL	**100.00 psf**	**100.00 psf**	**100.00 psf**	**100.00 psf**	**120.00 psf**	**120.00 psf**
		Trib	**13.00 ft**	**13.00 ft**	**6.00 ft**	**6.00 ft**	**5.00 ft**	**5.00 ft**
	FLR	DL	0.00 psf	0.00 psf	0.00 psf	0.00 psf	0.00 psf	0.00 psf
		LL	0.00 psf	0.00 psf	0.00 psf	0.00 psf	0.00 psf	0.00 psf
		Trib	0.00 ft	0.00 ft	0.00 ft	0.00 ft	0.00 ft	0.00 ft
	OTH	DL	**12.00 psf**	**12.00 psf**	**12.00 psf**	**12.00 psf**	0.00 psf	0.00 psf
		Trib	**2.00 ft**	**2.00 ft**	**2.50 ft**	**2.50 ft**	0.00 ft	0.00 ft
DESIGN CHECKS		w_u	1488.3 plf	1488.2 plf	713.8 plf	714.3 plf	651.8 plf	652.6 plf
		Gov Load	D+Lr/S	D+Lr/S	D+Lr/S	D+Lr/S	D+Lr/S	D+Lr/S
		V	4650.8 lbs	4650.5 lbs	4282.9 lbs	4286.1 lbs	4073.8 lbs	4078.8 lbs
		f_v	212.6 psi	215.5 psi	137.1 psi	131.2 psi	130.4 psi	124.9 psi
		F_v'	264.5 psi	327.8 psi	264.5 psi	327.8 psi	264.5 psi	327.8 psi
		$f_v<F_v'$?	**OK**	**OK**	**OK**	**OK**	**OK**	**OK**
		M	7266.9 ft-lb	7266.4 ft-lb	12848.6 ft-lb	12858.3 ft-lb	12730.7 ft-lb	12746.1 ft-lb
		f_b	1518.6 psi	1747.0 psi	1315.7 psi	1349.6 psi	1303.6 psi	1337.8 psi
		F_b'	2127.5 psi	3097.7 psi	2075.4 psi	2928.0 psi	2075.4 psi	3049.1 psi
		$f_b<F_b'$?	**OK**	**OK**	**OK**	**OK**	**OK**	**OK**
		Δ_L	0.09 in	0.10 in	0.20 in	0.17 in	0.23 in	0.21 in
			L/811	L/776	L/723	L/823	L/640	L/728
		$\Delta_{L,allow}$	**L/360**	**L/360**	**L/240**	**L/240**	**L/360**	**L/360**
		Δ_{Tot}	0.11 in	0.12 in	0.26 in	0.22 in	0.26 in	0.23 in
			L/666	L/637	L/563	L/640	L/567	L/644
		$\Delta_{Tot,allow}$	**L/240**	**L/240**	**L/180**	**L/180**	**L/240**	**L/240**
		$\Delta<\Delta_{Allow}$?	**OK**	**OK**	**OK**	**OK**	**OK**	**OK**
SUPPORT DATA		b	3.13 in	3.50 in	3.13 in	3.50 in	3.13 in	3.50 in
		d	10.50 in	18.50 in	15.00 in	28.00 in	15.00 in	14.00 in
		A_s	32.81 in²	32.38 in²	46.88 in²	49.00 in²	46.88 in²	49.00 in²
		S	57.42 in³	49.91 in³	117.19 in³	114.33 in³	117.19 in³	114.33 in³
		I	301.46 in⁴	230.84 in⁴	878.91 in⁴	800.33 in⁴	878.91 in⁴	800.33 in⁴
		w_{self}	8.3 plf	8.2 plf	11.8 plf	12.3 plf	11.8 plf	12.6 plf
		F_v	230 psi	285 psi	230 psi	285 psi	230 psi	285 psi
		F_b	1850 psi	2600 psi	1850 psi	2600 psi	1850 psi	3100 psi
		E	1.60E+06 psi	2.00E+06 psi	1.60E+06 psi	2.00E+06 psi	1.60E+06 psi	2.00E+06 psi
		E'	1.60E+06 psi	2.00E+06 psi	1.60E+06 psi	2.00E+06 psi	1.60E+06 psi	2.00E+06 psi
		C_D	1.15	1.15	1.15	1.15	1.15	1.15
		C_r	1.00	1.00	1.00	1.00	1.00	1.00
		C_{fu}	1.00	1.00	1.00	1.00	1.00	1.00
		$C_{F/V}$	1.00	1.04	0.98	0.98	0.98	0.86
		C_i	1.00	1.00	1.00	1.00	1.00	1.00
		$C_{i,E}$	1.00	1.00	1.00	1.00	1.00	1.0

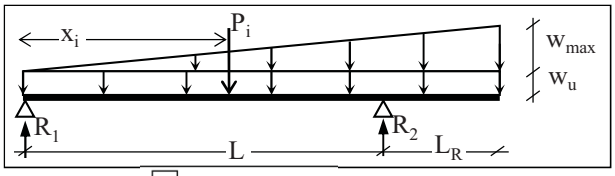
Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

Beam Calculation For: ***Porch 12-6 GLB***

EI = 1.41E+09 lb-in^2
w_u = 653 plf
w_{max} = 0 plf
P_1 = 0 lbs @ 0.00 ft
P_2 = 0 lbs @ 0.00 ft
P_3 = 0 lbs @ 0.00 ft
P_4 = 0 lbs @ 0.00 ft
P_5 = 0 lbs @ 0.00 ft
P_6 = 0 lbs @ 0.00 ft
P_7 = 0 lbs @ 0.00 ft
P_8 = 0 lbs @ 0.00 ft
P_9 = 0 lbs @ 0.00 ft
Σ_{loads} = **10775 lbs**
Σ_{rxns} = **10775 lbs**

L_C = 12.50 ft
L_R = 4.00 ft

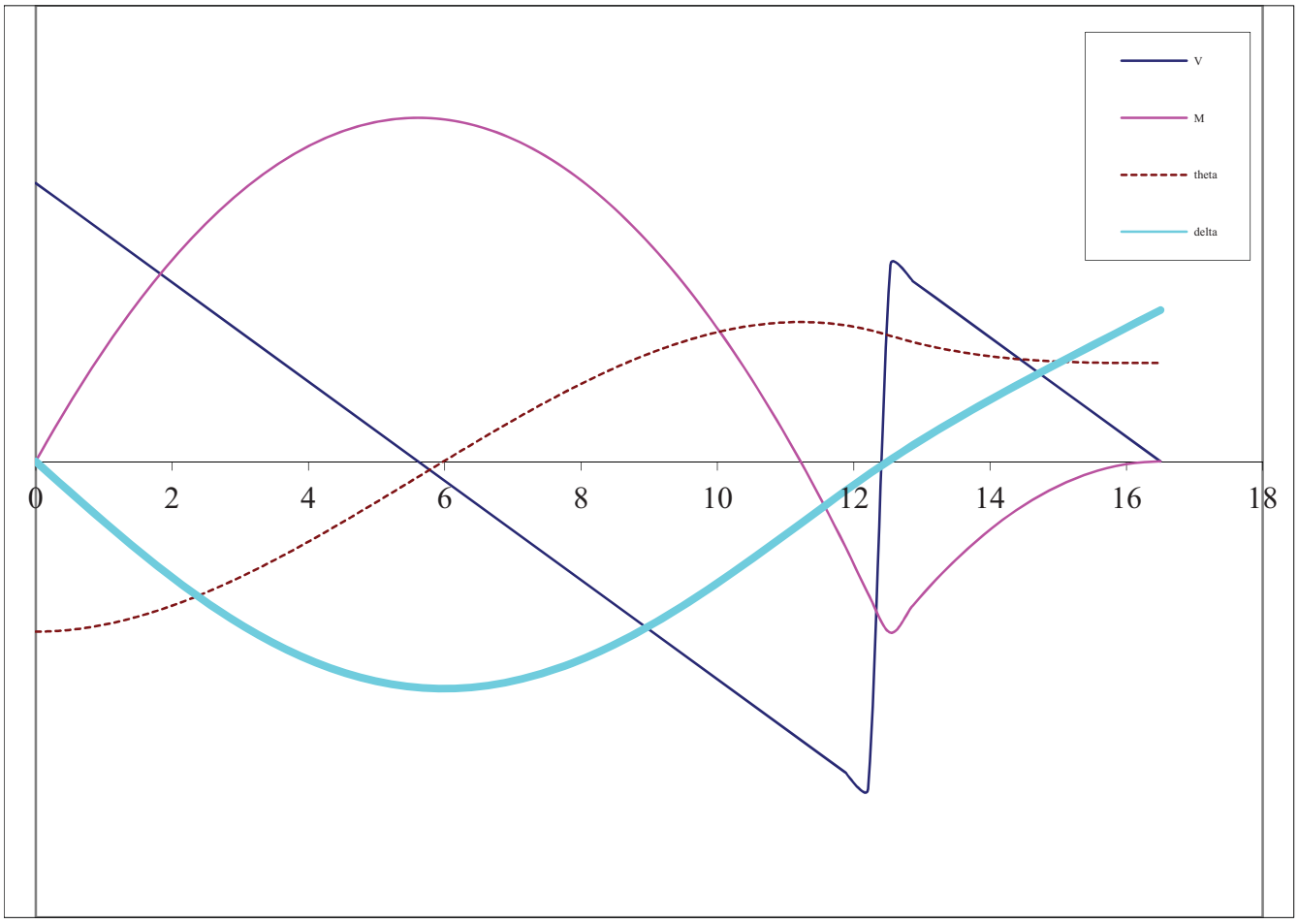


Left: Pin
Alt. Support? ☐
Right: Pin

Δ = 0.19″ (Left)
Δ = 0.13″ (Right)

R_1 = **3663 lbs**
R_2 = **7111 lbs**

θ_{max} = **4.33E-03**
Δ_{max} = **0.19"**
L/Δ_{max} = **L/747**
V_{max} = **4482 lbs**
M_{min} = **-5206 lb-ft**
M_{max} = **10276 lb-ft**



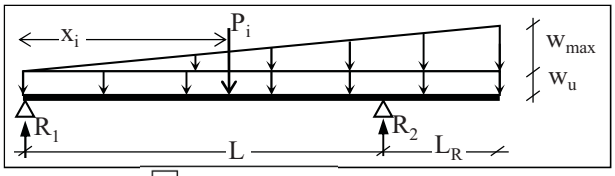
Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

Beam Calculation For: ***Porch 12-6 VLAM***

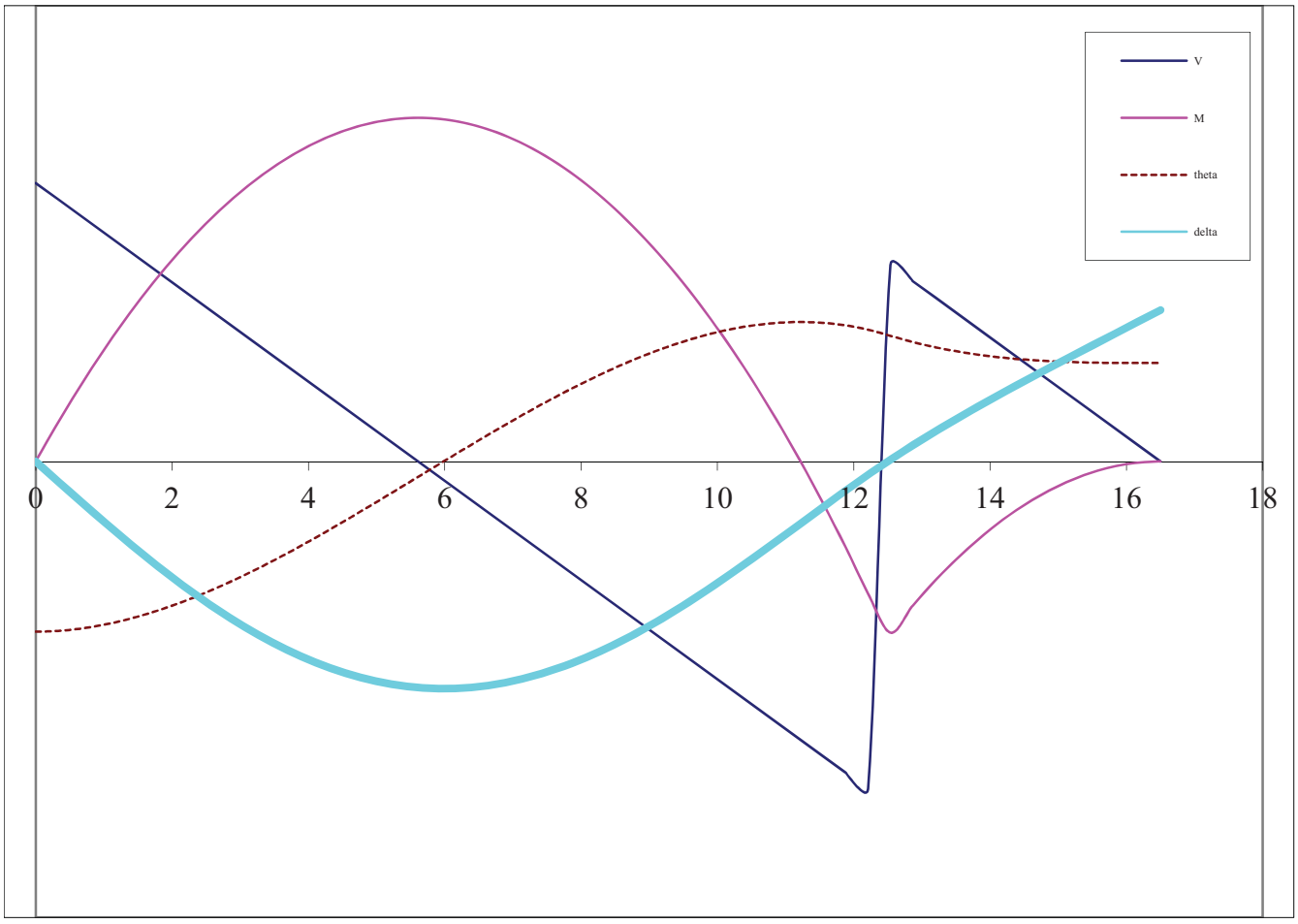
EI = 1.60E+09 lb-in^2
w_u = 653 plf
w_{max} = 0 plf
P_1 = 0 lbs @ 0.00 ft
P_2 = 0 lbs @ 0.00 ft
P_3 = 0 lbs @ 0.00 ft
P_4 = 0 lbs @ 0.00 ft
P_5 = 0 lbs @ 0.00 ft
P_6 = 0 lbs @ 0.00 ft
P_7 = 0 lbs @ 0.00 ft
P_8 = 0 lbs @ 0.00 ft
P_9 = 0 lbs @ 0.00 ft
Σ_{loads} = **10775 lbs**
Σ_{rxns} = **10775 lbs**

L_C = 12.50 ft
L_R = 4.00 ft



Left: Pin — R_1 = **3663 lbs** — Δ = 0.17″
Alt. Support?
Right: Pin — R_2 = **7111 lbs** — Δ = 0.11″

θ_{max} = **3.80E-03**
Δ_{max} = **0.17"**
L/Δ_{max} = **L/850**
V_{max} = **4482 lbs**
M_{min} = **-5206 lb-ft**
M_{max} = **10276 lb-ft**



Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

Continuous Foundations (ASD)

Allowable Brng Pressures D+L: 1500 psf D+E_v: 2000 psf Seismic S_{DS}: **0.887** Ftg Width Increment: **1 in**

Line/Descr		Typ Eave	Max Eave	Typ Gable	Max Gable			
ROOF	D	**12.00 psf**	**12.00 psf**	**12.00 psf**	**12.00 psf**			
	L_r/S/R	**100.00 psf**	**100.00 psf**	**100.00 psf**	**100.00 psf**			
	Trib	**13.00 ft**	**13.00 ft**	**3.00 ft**	**9.25 ft**			
FLR	D	0.00 psf	0.00 psf	0.00 psf	0.00 psf			
	L	0.00 psf	0.00 psf	0.00 psf	0.00 psf			
	Trib	0.00 ft	0.00 ft	0.00 ft	0.00 ft			
OTH	D	0.00 psf	**8.00 psf**	0.00 psf	**8.00 psf**			
	Lr/S/R	0.00 psf	**120.00 psf**	0.00 psf	**120.00 psf**			
	Trib	0.00 ft	**3.00 ft**	0.00 ft	**3.00 ft**			
OTH	DL	**12.00 psf**	**12.00 psf**	**12.00 psf**	**12.00 psf**			
	Trib	**10.00 ft**	**10.00 ft**	**10.00 ft**	**10.00 ft**			
UNIF	w_{Max}	1576.0 plf	1960.0 plf	456.0 plf	1540.0 plf			
	Gov Load	D+Lr	D+Lr	D+Lr	D+Lr			
	b_{min}	1.05 ft	1.31 ft	0.30 ft	1.03 ft			
EQ	w_{D+Ev}	310.3 plf	337.3 plf	175.4 plf	286.7 plf			
	b_{min}	0.16 ft	0.17 ft	0.09 ft	0.14 ft			
Min Ftg Width		**1.08 ft**	**1.33 ft**	**0.33 ft**	**1.08 ft**			

Line/Descr								
ROOF	D							
	L_r/S/R							
	Trib							
FLR	D							
	L							
	Trib							
OTH	D							
	L							
	Trib							
OTH	DL							
	Trib							
UNIF	w_u							
	Gov Load							
	b_{min}							
EQ	w_{D+Ev}							
	b_{min}							
Use Ftg Width								

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

Pad Foundations (ASD) based on entering point loads (i.e. post/beam reactions)

Allowable Brng Pressures D+L: 1500 psf D+E_v: 2000 psf Seismic S_{DS}: **0.887** Ftg Width Increment: **1 in**

Loc/Descr		Post Pad	Mid Pad	Corner Pad				
RF	P_D	**444 lbs**	**387 lbs**	**255 lbs**				
	$P_{Lr/S/R}$	**6666 lbs**	**5805 lbs**	**3825 lbs**				
FLR	P_D	0 lbs	0 lbs	0 lbs				
	P_L	0 lbs	0 lbs	0 lbs				
OTH	P_{D1}	0 lbs	0 lbs	0 lbs				
	P_{D2}	0 lbs	0 lbs	0 lbs				
	P_L	0 lbs	0 lbs	0 lbs				
E/W	$P_{E/W}$	0 lbs	0 lbs	0 lbs				
UNIF	P_{Max}	7110 lbs	6192 lbs	4080 lbs				
	Gov Load	D+Lr	D+Lr	D+Lr				
	A_{min}	4.7 sf	4.1 sf	2.7 sf				
E/W	$P_{D+E/W}$	499 lbs	387 lbs	255 lbs				
	A_{min}	0.2 sf	0.2 sf	0.1 sf				
Sq Ftg Dim		2.25 ft	2.08 ft	1.67 ft				

Loc/Descr								
RF	P_D							
	$P_{Lr/S/R}$							
FLR	P_D							
	P_L							
OTH	P_{D1}							
	P_{D2}							
	P_L							
EQ	P_{EQ}							
UNIF	P_{Max}							
	Gov Load							
	A_{min}							
EQ	P_{D+Ev}							
	A_{min}							
Sq Ftg Dim								

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

Lateral Shearwall Design Summary

Level	Line	Method	v_{SW} (plf)	SW	v_{Dia} (plf)	F_{HD} (lbs)	HD	F_{strap} (lbs)	Strap	Orient
Roof	1	FTAO	375	B	230	1783	LSTHD8-6	1414	CS16	Horiz
"	3	FTAO	501	C	106	2048	LSTHD8-6	948	CS16	Horiz
"	A	SEGMENT	167	A	108	1673	LSTHD8-6	n/a	n/a	n/a
"	B	SEGMENT	343	B	115	0	LSTHD8-6	2879	n/a	n/a

SHEARWALLS

A	(260 plf)	7/16 Thk w/8d @ 6/12"
B	(380 plf)	7/16 Thk w/8d @ 4/12
C	(640 plf)	7/16 Thk w/8d @ 2/12 o/3" Nom, Blk All Panel Edges

ROD HOLD-DOWNS

LSTHD8-6	(2250 lbs)	LSTHD8 w/(16) 0.148 x 3 1/4 To Dbl 2x in 6" Min Stemwall
HTT4-2x	(3000 lbs)	HTT4 w/(18) 0.148 x 1 1/2 To 2x & 5/8 Rod

STRAPS

CS20	(1030 lbs)	CS20 w/(12) 0.148 x 2 1/2 (6") or (14) 0.131 x 2 1/2 (9")
CS16	(1705 lbs)	CS16 w/(20) 0.148 x 2 1/2 (11") or (22) 0.131 x 2 1/2 (13")
CS14	(2490 lbs)	CS14 w/(26) 0.148 x 2 1/2 (15") or (30) 0.131 x 2 1/2 (16")
CMSTC16	(4690 lbs)	CMSTC16 w/(50) 0.148 x 3 1/4 (20")
CMST14	(6475 lbs)	CMST14 w/(56) 0.162 x 2 1/2 (26")or (66) 0.148 x 2 1/2 (30")

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

ASD Lateral Load Line Reactions - Based On Assumed Relative Stiffness

*Story shears are worst-case demands, considering both directions independently to determine the critical load values. Distribution of total shear has been performed approximately equally based on total shearwall lengths for each principal direction. The individual shearwall reactions have been linked to this overall summary page, and are based on the average shearwall demand times the total shearwall length for each shearwall line. Observed differences in shearwall types & nailing is due in large part to the variations in shearwall design methods, in order to reduce the number of hold-downs required.

Level: Roof

$V_{E\text{-}W,W}$ = 5.59 k $V_{E\text{-}W,EQ}$ = 5.67 k

Line	Σ_{SW}	V_W	V_{EQ}
1	12.08 ft	3821 lbs	3878 lbs
3	5.58 ft	1765 lbs	1792 lbs

$\Sigma_{SW,\ E\text{-}W}$ = 17.66 ft
$v_{E\text{-}W,W}$ = 316.3 plf
$v_{E\text{-}W,EQ}$ = 321.1 plf

Wind - Critical Case, Plan E-W
Width = 31 ft
w_{unif} = 164 plf
P_{EZ} = 251 lbs
$V_{E\text{-}W,W}$ = 5.59 k

$V_{N\text{-}S,W}$ = 1.78 k $V_{N\text{-}S,EQ}$ = 5.67 k

Line	Σ_{SW}	V_W	V_{EQ}
A	24.75 ft	921 lbs	2934 lbs
B	23.08 ft	859 lbs	2736 lbs

$\Sigma_{SW,\ N\text{-}S}$ = 47.83 ft
$v_{N\text{-}S,W}$ = 37.2 plf
$v_{N\text{-}S,EQ}$ = 118.5 plf

Wind - Critical Case, Plan N-S
Width = 22 ft
w_{unif} = 71 plf
P_{EZ} = 109 lbs
$V_{N\text{-}S,W}$ = 1.78 k

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

ASD Diaphragm/ASD Shearwall Design for Grid Line 1 @ Roof, See FTAO

ASD Diaphragm/ASD Shearwall Design for Grid Line **1** @ **Roof, See FTAO**

EQ Modifiers	Roof, See FTAO		Level(s) Above	
ρ = **1.00**	V_{wind} = **3821#**	DL_{wall} = **12.0 psf**	V_{wind} = **0#**	H_{wall} = **0.0 ft**
$^{diaph}/_{base}$ = **1.30**	V_{EQ} = **3878#**	DL_{story} = **12.0 psf**	V_{EQ} = **0#**	DL_{story} = **0.0 psf**
RM_{Factor} = **0.6D**	H_{plate} = **10.0 ft**	$Trib_{story}$ = **4.0 ft**	$H_{plate-eff}$ = **0.0 ft**	$Trib_{story}$ = **0.0 ft**

◉ Segmented ○ Perforated
C_0 = 1.00
bays = 2.4

SW ☐ LRFD?
Diaph ☐ LRFD?

Diaphragm:	Shearwall:
l_{dia} = 21.92 ft	l_{sw} = 12.08 ft
v_{dia} = **230 plf**	v_{sw} = **321 plf**
$F_{coll-max}$ = **558#**	Δ_{sw} = #N/A

Diaphragm: **Unblocked (Case 1), C-C, C-D 15/32 w/8d o/2x Nom. Framing, BN@6", EN@6" (240plf)**

Shear Wall: ########

	ID/ SW?	Length (ft)	SW_{Ratio} 3.5:1	F_{Coll} (#)	$H_{open(ft)}$ / $P_{DL-Add'l(\#)}$	Unfct'd $RM_{(k-ft)}$	Wind $OTM_{(k-ft)}$	Wind $P_{up-Add'l(\#)}$	Wind $*F_{HD(\#)}$	EQ $OTM_{(k-ft)}$	EQ $P_{up-Add'l(\#)}$	EQ $*F_{HD(\#)}$	Minimum Holdown Type: Anchor-Bolt	Foundation Strap	Floor Strap
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Shear Wall	--- ☑	2.17	NG!	313	--- ---	0.40	6.86	--- ---	3968 3897	6.97	--- ---	4030 3959			
Open		4.92	---	-558	---	---	---	---	---	---	---	---	---	---	---
Shear Wall	--- ☑	7.08	OK	463	--- ---	4.21	22.39	--- ---	2949 2949	22.73	--- ---	3000 3000			
Open		4.92	---	-408	---	---	---	---	---	---	---	---	---	---	---
Shear Wall	--- ☑	2.83	NG!	0	--- ---	0.67	8.95	--- ---	3598 3669	9.09	--- ---	3656 3726			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---

Section 4, Itema.

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

ASD Diaphragm/ASD Shearwall Design for Grid Line 3 @ Roof, See FTAO

ASD Diaphragm/ASD Shearwall Design for Grid Line **3** @ **Roof, See FTAO**

EQ Modifiers	Roof, See FTAO		Level(s) Above	
ρ = **1.00**	V_{wind} = **1765#**	DL_{wall} = **12.0 psf**	V_{wind} = **0#**	H_{wall} = **0.0 ft**
$^{diaph}/_{base}$ = **1.30**	V_{EQ} = **1792#**	DL_{story} = **12.0 psf**	V_{EQ} = **0#**	DL_{story} = **0.0 psf**
RM_{Factor} = **0.6D**	H_{plate} = **10.0 ft**	$Trib_{story}$ = **4.0 ft**	$H_{plate-eff}$ = **0.0 ft**	$Trib_{story}$ = **0.0 ft**

◉ Segmented ○ Perforated
SW ☐ LRFD?
Diaph ☐ LRFD?
C_0 = 1.00
bays = 1.1

Diaphragm:	Shearwall:
l_{dia} = 21.91 ft	l_{sw} = 5.58 ft
v_{dia} = **106 plf**	v_{sw} = **321 plf**
$F_{coll-max}$ = **1070#**	Δ_{sw} = #N/A

Diaphragm: **Unblocked, C-C, C-D 15/32 w/8d o/2x Nom. Framing, BN@6", EN@6" (180plf)**

Shear Wall: ########

	ID/ SW?	Length (ft)	SW_{Ratio} 3.5:1	F_{Coll} (#)	$H_{open(ft)}$ / $P_{DL-Add'l(\#)}$	Unfct'd $RM_{(k-ft)}$	Wind $OTM_{(k-ft)}$	Wind $P_{up-Add'l(\#)}$	Wind $*F_{HD(\#)}$	EQ $OTM_{(k-ft)}$	EQ $P_{up-Add'l(\#)}$	EQ $*F_{HD(\#)}$	Minimum Holdown Type: Anchor-Bolt	Foundation Strap	Floor Strap
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.83	---	-68	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		12.25	---	-1070	---	---	---	---	---	---	---	---	---	---	---
Shear Wall	--- ☑	3.25	OK	-292	--- ---	0.89	10.28	--- ---	3368 3498	10.43	--- ---	3424 3554			
Open		3.25	---	-558	---	---	---	---	---	---	---	---	---	---	---
Shear Wall	--- ☑	2.33	NG!	0	--- ---	0.46	7.37	--- ---	3831 3878	7.48	--- ---	3892 3938			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

ASD Diaphragm/ASD Shearwall Design for Grid Line A @ Roof

ASD Diaphragm/ASD Shearwall Design for Grid Line **A** @ **Roof**

EQ Modifiers	Roof		Level(s) Above	
ρ = **1.00**	V_{wind} = **921#**	DL_{wall} = **12.0 psf**	V_{wind} = **0#**	H_{wall} = **0.0 ft**
$^{diaph}/_{base}$ = **1.30**	V_{EQ} = **2934#**	DL_{story} = **12.0 psf**	V_{EQ} = **0#**	DL_{story} = **0.0 psf**
RM_{Factor} = **0.6D**	H_{plate} = **10.0 ft**	$Trib_{story}$ = **13.0 ft**	$H_{plate\text{-}eff}$ = **0.0 ft**	$Trib_{story}$ = **0.0 ft**

○ Segmented
◉ Perforated
C_0 = 0.71
bays = 5.0

SW ☐ LRFD?
Diaph ☐ LRFD?

Diaphragm:	Shearwall:
l_{dia} = 35.17 ft	l_{sw} = 24.75 ft
v_{dia} = **108 plf**	v_{sw} = **167 plf**
$F_{coll\text{-}max}$ = **504#**	Δ_{sw} = 0.26 in

Diaphragm: **Unblocked, C-C, C-D 15/32 w/8d o/2x Nom. Framing, BN@6", EN@6" (180plf)**
Shear Wall: **Other Grades 7/16 w/8d, EN@6"oc, (260plf)**

	ID/ SW?	Length (ft)	SW_{Ratio} 2.0:1	F_{Coll} (#)	$H_{open(ft)}$ $P_{DL\text{-}Add'l(\#)}$	Unfct'd $RM_{(k\text{-}ft)}$	Wind $OTM_{(k\text{-}ft)}$	Wind $P_{up\text{-}Add'l(\#)}$	Wind $*F_{HD(\#)}$	EQ $OTM_{(k\text{-}ft)}$	EQ $P_{up\text{-}Add'l(\#)}$	EQ $*F_{HD(\#)}$	Minimum Holdown Type: Anchor-Bolt	Foundation Strap	Floor Strap
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Shear Wall	--- ☑	10.17	OK	504	--- ---	---	13.00	--- ---	525 ---	41.40	--- ---	1673 ---			
Open		6.25	---	-232	---	---	---	---	---	---	---	---	---	---	---
Shear Wall	--- ☑	14.58	OK	491	--- ---	---	13.00	--- ---	--- 525	41.40	--- ---	--- 1673			
Open		0.00	---	491	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	4.17	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---

Section 4, Itema.

Covenant Engineering

Date: **3/10/2025**
Engineer: **TMM**
Project #: **P25006**
Project Name: **Eplin 672 Sunset Dr. Alpine Residence**

ASD Diaphragm/ASD Shearwall Design for Grid Line B @ Roof

ASD Diaphragm/ASD Shearwall Design for Grid Line **B** @ **Roof**

EQ Modifiers	Roof		Level(s) Above	
ρ = **1.00**	V_{wind} = **859#**	DL_{wall} = **12.0 psf**	V_{wind} = **0#**	H_{wall} = **0.0 ft**
$^{diaph}/_{base}$ = **1.30**	V_{EQ} = **2736#**	DL_{story} = **12.0 psf**	V_{EQ} = **0#**	DL_{story} = **0.0 psf**
RM_{Factor} = **0.6D**	H_{plate} = **10.0 ft**	$Trib_{story}$ = **13.0 ft**	$H_{plate-eff}$ = **0.0 ft**	$Trib_{story}$ = **0.0 ft**

○ Segmented
◉ Perforated
C_0 = 0.85
bays = 4.6

SW ☐ LRFD?
Diaph ☐ LRFD?

Diaphragm:	Shearwall:
l_{dia} = 30.91 ft	l_{sw} = 23.08 ft
v_{dia} = **115 plf**	v_{sw} = **140 plf**
$F_{coll-max}$ = **582#**	Δ_{sw} = 0.22 in

Diaphragm: **Unblocked, C-C, C-D 15/32 w/8d o/2x Nom. Framing, BN@6", EN@6" (180plf)**

Shear Wall: **Other Grades 7/16 w/8d, EN@6"oc, (260plf)**

	ID/ SW?	Length (ft)	SW_{Ratio} 2.0:1	F_{Coll} (#)	$H_{open(ft)}$ / $P_{DL-Add'l(\#)}$	Unfct'd $RM_{(k-ft)}$	Wind $OTM_{(k-ft)}$	Wind $P_{up-Add'l(\#)}$	Wind $*F_{HD(\#)}$	EQ $OTM_{(k-ft)}$	EQ $P_{up-Add'l(\#)}$	EQ $*F_{HD(\#)}$	Minimum Holdown Type: Anchor-Bolt	Foundation Strap	Floor Strap
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Shear Wall	--- ☑	16.33	OK	578	--- ---	---	10.12	--- ---	438 ---	32.23	--- ---	1396 ---			
Open		2.25	---	343	---	---	---	---	---	---	---	---	---	---	---
Shear Wall	--- ☑	6.75	OK	582	--- ---	---	10.12	--- ---	--- 286	32.23	--- ---	--- 1244			
Open		3.25	---	243	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	2.33	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---
Wall	--- ☐	0.00	---	0	--- ---	---	---	--- ---	--- ---	---	--- ---	--- ---			
Open		0.00	---	0	---	---	---	---	---	---	---	---	---	---	---

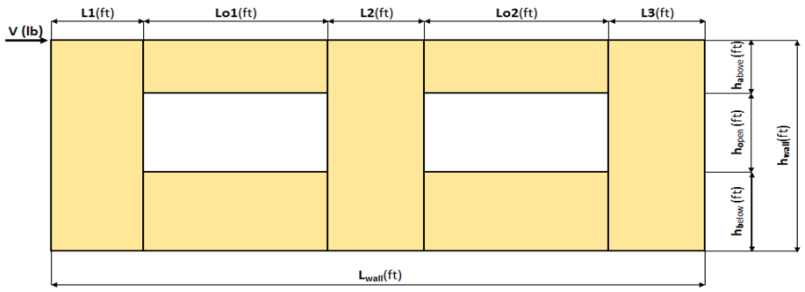
Force Transfer Around Openings Calculator

TWO OPENINGS

The force transfer around openings (FTAO) method of shear wall analysis is an approach that aims to reinforce the wall such that it performs as if there was no opening. This approach lends certain advantages over segmented shear walls: more versatility, because it allows for narrower wall segments while still meeting the height-to-width ratios and, often, fewer required hold-downs.

Project Information

Code:	2021 IBC	**Date:**	
Designer:	TMM		
Client:	Eplin		
Project:	672 Sunset Dr. Alpine Residence		
Wall Line:	Line 1		



Shear Wall Calculation Variables

V	3878 lbf		Opening 1		Opening 2	Adj. Factor Method =	1.25-0.125h/bs
L1	2.17 ft	h_a1	2.08 ft	h_a2	2.08 ft	Wall Pier Aspect Ratio	Adj. Factor
L2	7.08 ft	h_o1	5.33 ft	h_o2	5.33 ft	P1=h_o/L1= 2.46	0.943
L3	2.83 ft	h_b1	2.67 ft	h_b2	2.67 ft	P2=h_o/L2= 0.75	N/A
h_{wall}	10.08 ft	Lo1	4.92 ft	Lo2	4.92 ft	P3=h_o/L3= 1.88	N/A
L_{wall}	21.92 ft						

1. Hold-down forces: $H = Vh_{wall}/L_{wall}$ 1783 lbf

2. Unit shear above + below opening

First opening: $va1 = vb1 = H/(h_a1+h_b1)$ = 375 plf

Second opening: $va2 = vb2 = H/(h_a2+h_b2)$ = 375 plf

3. Total boundary force above + below openings

First opening: O1 = va1 x (Lo1) = 1847 lbf

Second opening: O2 = va2 x (Lo2) = 1847 lbf

4. Corner forces

F1 = O1(L1)/(L1+L2) = 433 lbf

F2 = O1(L2)/(L1+L2) = 1414 lbf

F3 = O2(L2)/(L2+L3) = 1320 lbf

F4 = O2(L3)/(L2+L3) = 527 lbf

5. Tributary length of openings

T1 = (L1*Lo1)/(L1+L2) = 1.15 ft

T2 = (L2*Lo1)/(L1+L2) = 3.77 ft

T3 = (L2*Lo2)/(L2+L3) = 3.51 ft

T4 = (L3*Lo2)/(L2+L3) = 1.41 ft

6. Unit shear beside opening

v1 = (V/L)(L1+T1)/L1 = 271 plf

v2 = (V/L)(T2+L2+T3)/L2 = 359 plf

v3 = (V/L)(T4+L3)/L3 = 265 plf

Check v1*L1+v2*L2+v3*L3=V? 3878 lbf **OK**

7. Resistance to corner forces

R1 = v1*L1 = 588 lbf

R2 = v2*L2 = 2541 lbf

R3 = v3*L3 = 749 lbf

8. Difference corner force + resistance

R1-F1 = 155 lbf

R2-F2-F3 = -193 lbf

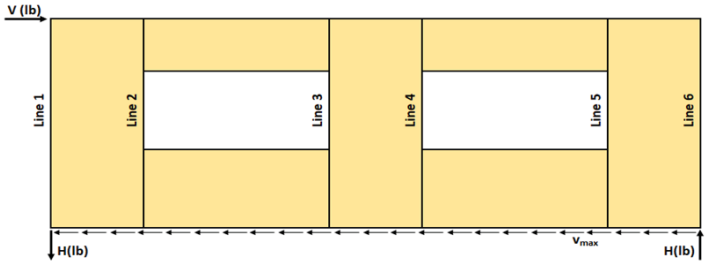
R3-F4 = 222 lbf

9. Unit shear in corner zones

vc1 = (R1-F1)/L1 = 71 plf

vc2 = (R2-F2-F3)/L2 = -27 plf

vc3 = (R3-F4)/L3 = 78 plf



Check Summary of Shear Values for Two Openings

Line 1: $vc1(h_a1+h_b1)+v1(h_o1)=H$?		339	1445	1783 lbf
Line 2: $va1(h_a1+h_b1)-vc1(h_a1+h_b1)-v1(h_o1)=0$?	1783	339	1445	0
Line 3: $vc2(h_a1+h_b1)+v2(h_o1)-va1(h_a1+h_b1)=0$?	-129	1913	1783	0
Line 4: $va2(h_a2+h_b2)-v2(h_o2)-vc2(h_a2+h_b2)=0$?	1783	1913	-129	0
Line 5: $va2(h_a2+h_b2)-vc3(h_a2+h_b2)-v3(h_o2)=0$?	1783	372	1411	0
Line 6: $vc3(h_a2+h_b2)+ v3(h_o2) = H$?		372	1411	1783 lbf

Design Summary*

Req. Sheathing Capacity	375 plf	**4-Term Deflection**		**3-Term Deflection**	
Req. Strap Force	1414 lbf	**4-Term Story Drift %**		**3-Term Story Drift %**	
Req. HD Force	1783 lbf				
Req. Shear Wall Anchorage Force	177 plf				

***The Design Summary assumes that the shear wall is designed as blocked.**

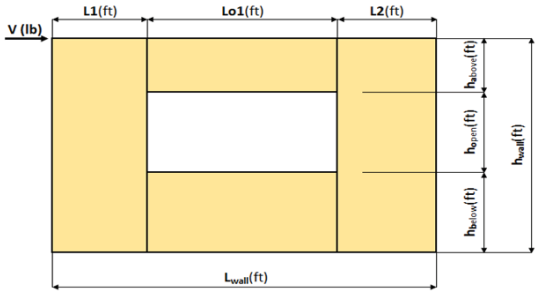
Force Transfer Around Openings Calculator

ONE OPENING

The force transfer around openings (FTAO) method of shear wall analysis is an approach that aims to reinforce the wall such that it performs as if there was no opening. This approach lends certain advantages over segmented shear walls: more versatility, because it allows for narrower wall segments while still meeting the height-to-width ratios and, often, fewer required hold-downs.

Project Information

Code:	2021 IBC	**Date:**	
Designer:	TMM		
Client:	Eplin		
Project:	672 Sunset Dr. Alpine Residence		
Wall Line:	Line 3		



Shear Wall Calculation Variables

V	1792 lbf	Opening 1	
L1	3.25 ft	h_a	2.17 ft
L2	2.33 ft	h_o	6.00 ft
h_{wall}	10.09 ft	h_b	1.92 ft
L_{wall}	8.83 ft	Lo1	3.25 ft

Adj. Factor Method =	1.25-0.125h/bs	
Wall Pier Aspect Ratio		Adj. Factor
P1=h_o/L1=	1.85	N/A
P2=h_o/L2=	2.58	0.928

1. Hold-down forces: $H = Vh_{wall}/L_{wall}$ 2048 lbf

2. Unit shear above + below opening

First opening: $va1 = vb1 = H/(h_a+h_b)$ = 501 plf

3. Total boundary force above + below openings

First opening: O1 = va1 x (Lo1) = 1627 lbf

4. Corner forces

F1 = O1(L1)/(L1+L2) = 948 lbf

F2 = O1(L2)/(L1+L2) = 679 lbf

5. Tributary length of openings

T1 = (L1*Lo1)/(L1+L2) = 1.89 ft

T2 = (L2*Lo1)/(L1+L2) = 1.36 ft

6. Unit shear beside opening

v1 = (V/L)(L1+T1)/L1 = 321 plf

v2 = (V/L)(T2+L2)/L2 = 321 plf

Check v1*L1+v2*L2=V? 1792 lbf **OK**

7. Resistance to corner forces

R1 = v1*L1 = 1044 lbf

R2 = v2*L2 = 748 lbf

8. Difference corner force + resistance

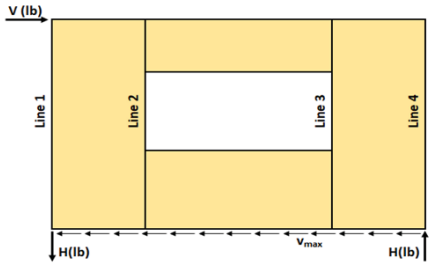
R1-F1 = 96 lbf

R2-F2 = 69 lbf

9. Unit shear in corner zones

vc1 = (R1-F1)/L1 = 30 plf

vc2 = (R2-F2)/L2 = 30 plf



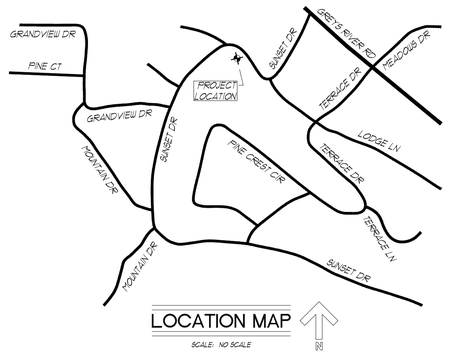
Check Summary of Shear Values for One Opening

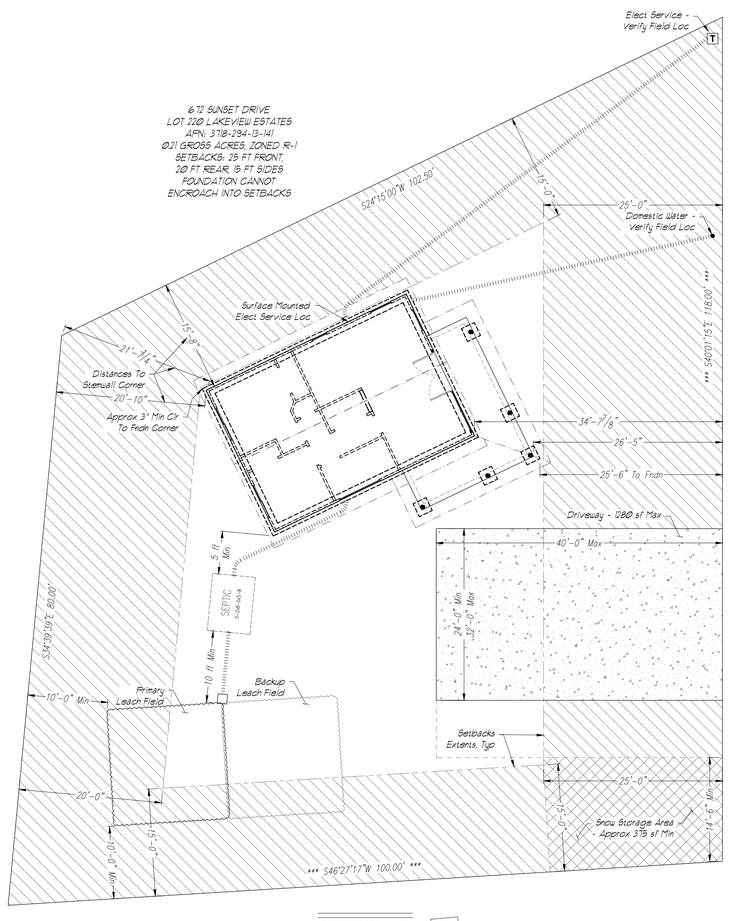
Line 1: $vc1(h_a+h_b)+v1(h_o)=H$?		121	1927	2048 lbf
Line 2: $va1(h_a+h_b)-vc1(h_a+h_b)-v1(h_o)=0$?	2048	121	1927	0
Line 3: $va1(h_a+h_b)-vc2(h_a+h_b)-v1(h_o)=0$?	2048	121	1927	0
Line 4: $vc2(h_a+h_b)+v2(h_o)=H$?		121	1927	2048 lbf

Design Summary*

Req. Sheathing Capacity	501 plf	**4-Term Deflection**		**3-Term Deflection**	
Req. Strap Force	948 lbf	**4-Term Story Drift %**		**3-Term Story Drift %**	
Req. HD Force (H)	2048 lbf				
Req. Shear Wall Anchorage Force (v_{max})	203 plf				

***The Design Summary assumes that the shear wall is designed as blocked.**





RESIDENTIAL PLUMBING NOTES

1. Domestic water shall be piped in either:
   - 1.1. Type L copper w/sweat fittings with non-lead solder, or
   - 1.2. Flex-type water lines and fittings as allowed by the local building official
6. For hot water (see plans for type 4 location,) maintain minimum manufacturer-recommended clearances for either:
   - 12.2. Tank-less water heater with manufacturer's specifications and gas pipe diagram with demand calculations for review and approval, or
   - 12.3. Tank water heater with recovery rating in accordance with IPC. First hour recovery shall not be less than 40 gallons.
     - 12.3.1. Tank water heater shall be raised at least 18" AFF and shall be strapped at upper and lower third points, w/pressure-temperature relief valve with continuous downward slope and downward oriented drain terminating at least 6" above finish grade.
13. Provide new angle stop valves at all new fixtures, faucets, etc.
14. Provide new brass hose bibs at exterior locations as required.
15. Provide dielectric unions at connections between dissimilar materials.
16. Provide recessed cold water outlet with water hammer arrester in wall at refrigerator, and cold & hot water outlets w/hammer arrester & drain inlet at clothes washer.
17. Showers shall be finished with a nonabsorbent finish to a height not less than 72" AFF, w/glass mat gypsum board or similar water resistant backer where applicable, and shall be at least 32" x 32" or 1024 in² with width not less than 30".
13. Provide 30" wide x 24" front clearance for all water closets.
14. All new sanitary sewer piping or venting shall be sized and installed in conformance with the current adopted IPC.

FINISH NOTES

All exterior and interior finish shall be installed per manufacturer recommendations, industry standards and any applicable code requirements. All materials used for installation shall comply with the CGBSC, referenced elsewhere in these notes. All colors, styles, models, textures, moldings, trim, etc. shall be coordinated with owner.

1. Exterior
   - 1.1. Roofing (as indicated in plans and/or elevations)
     - 1.1.1. Asphalt Composition Shingles Or Standing Seam Metal Roofing
       - 1.1.1.1. Roofing o/(2) layers 15# roofing paper
     - 1.1.2. Flashing
       - 1.1.2.1. Provide flashing at all roofing edges
   - 1.2. Walls (as indicated in plans and/or elevations)
     - 1.1.1. Cement Or Lap Board Siding
       - 1.1.1.1. Install over properly prepared sheathed and waterproofed substrate as required (1)# building paper o/Tyvek house wrap o/wood substrate, min).
     - 1.1.2. Stonework, brick & other similar exterior wall finish
       - 1.1.2.1. Install over properly prepared sheathed and waterproofed substrate as required (1)# building paper & lath o/wood substrate, min, or directly to finished concrete.)
2. Interior
   - 2.1. Walls & Ceiling
     - 2.1.1. All interior wall and ceiling finish shall be ½" Min gypsum board, with taped and finished joints. See plans and 'FIRE SAFETY NOTES' for locations with more stringent requirements, where occurs.
   - 2.2. Flooring
     - 2.2.1. All interior flooring finish and extents, including carpeting, hard-wood flooring, flat stonework, tiling and manufactured flooring products shall be coordinated with owner. All flooring products shall be installed with appropriate underlay/substrate preparation as per code requirements, industry standards and manufacturer recommendations.
     - 2.2.2. Radiant floor heating, if installed (at owners' direction) shall comply with all applicable safety codes and manufacturer recommendations for installation and control systems.

ELECTRICAL NOTES - GENERAL

1. Main Electrical Panel
   - 1.1. Service panels shall be multi-breaker type, flush or surface mounted with steel door equipped with latch, w/all circuits plainly marked at completion.
   - 1.2. Wire lighting and convenience receptacles separately. Provide (2) spare circuits.
   - 1.3. *Provide grounding connection to either Ufer grounding (concrete-encased electrode), or Copper grounding rod
2. All conductors shall be copper.
3. Provide or verify bonding of water piping and above-ground metal gas piping to the service ground.
4. Provide combo-type AFCI protection to all branch circuits that supply 125-volt, single-phase, 15- and 20-Amp outlets (lighting, smoke detector, receptacles) installed in dwelling unit bedrooms, family rooms, dining rooms, living rooms, dens, closets, hallways or similar rooms.
5. All multi-wire circuits shall have a means of simultaneously disconnecting all ungrounded conductors at the breaker panel. All conductors for multi-wire circuits shall be grouped with wire ties within the breaker panel.
6. All new hard-wired smoke and carbon monoxide alarm circuits shall be AFCI protected.
7. Provide a tamper-resistant wall receptacle:
   - 7.1. In habitable rooms, spaced no greater than 12' oc, and no greater than 6' from any openings & at walls longer than 2'
   - 7.2. In new hallways longer than 10'
   - 7.3. Within 6' of new laundry sinks/wet bars
   - 7.4. In garage, basement, crawl space or other damp areas
8. Provide a GFCI protected, tamper-resistant receptacle with weather-proof enclosure at:
   - 8.1. Front & back yards
   - 8.2. Decks, balconies or porches greater than 20 sf
9. Provide an accessible 15 amp (Min) rated receptacle outlet, installed on the same level and within 25' of heating and air conditioning equipment. This service receptacle shall not be connected to the load side of the equipment.

ELECTRICAL NOTES - BATHROOM

1. Provide a 20 amp dedicated circuit for each bathroom. Other bathroom equipment (i.e. lighting, exhaust fans) within the same bathroom may be supplied by the same branch circuit where the branch circuit supplies a single bathroom.
2. Provide a GFCI protected, tamper-resistant receptacle within 3' of each bathroom lavatory, or on the side of vanity cabinets within 12" of the top.

ELECTRICAL NOTES - LAUNDRY

1. Provide a 30 amp dedicated circuit with GFCI-protected, tamper-resistant receptacle for the laundry.
2. Electric clothes dryer(s) shall be supplied with 4-wire grounded electrical outlet(s)

LIGHTING NOTES - GENERAL

1. Recessed lighting in insulated ceilings shall be air-tight, rated for zero insulation contact clearance and shall be sealed between the housing and ceiling with a gasket or caulking.
2. Permanent fixtures, lamp holders and receptacles shall be securely supported. Any fixtures in excess of 6 lbs or in excess of 16" in length in any dimension shall not be supported solely by the fixture mounting screws unless so permitted by the manufacturer. Outlet boxes shall not be used as the sole support for ceiling fans.
3. Lighting fixtures located in wet or damp locations shall be installed such that water cannot enter or accumulate in the wiring compartments, lamp holders or other electrical parts. All fixtures installed in such locations shall be marked "SUITABLE FOR WET LOCATIONS" (or similar).

MECHANICAL NOTES

1. All mechanical shall be design-build by mechanical contractor.
2. The point of all exhaust discharges shall be at least 3'-0" from any opening into the building. Exhaust vents shall be equipped with a backdraft damper.
3. Provide smooth metal duct with back draft damper for dryer exhaust extending exterior to the occupied living space. This duct shall not exceed a total combined horizontal and vertical length of 14', including (2) 6.0" elbows. 2' shall be deducted for each 6.0" elbow in excess of (2).
4. Provide new gas lines & sediment traps in accordance with manufacturer's instructions, standard industry practice and applicable code requirements. Provide new gas valves and flexible line connections to all new gas appliances.

GLAZING NOTES

1. Provide glazing on all exterior non-decorative glasswork at:
   - 1.1. Swinging, sliding & bi-fold doors not less than 3" in the shortest pane dimension
   - 1.2. Window with the lower pane edge less than 60" AFF and less than 60" horizontal from tubs, showers, pools or other similar wet-use facilities
   - 1.3. Window within 48" of entry/exit doors, or adjacent to stairs and landings with the bottom edge less than 36" vertical from the walking surface and lacking proper railing protection

PROJECT DESCRIPTION

This project is intended to construct a new single-story single-family wood-framed residence.

CONSTRUCTION TYPE

Construction Type:: V-B

OCCUPANCY

Building Occupancy/Groups: R-3/U

STRUCTURE AREAS

Dwelling	Area (sf)
Conditioned	683
Porch	201
Roof	1118

DESIGN REFERENCES

***** All work to be performed under these project plans shall conform to the following applicable structural codes and any applicable supplements and amendments:

1. 2021 International Building Code
2. 2021 International Mechanical Code
3. 2021 International Plumbing Code
4. 2021 International Building Code
5. 2021 International Electrical Code
6. 2021* International Residential Code

*Not Applicable to Structural Per R301.1)

RESIDENTIAL ACCESS & EGRESS NOTES

1. Residential dwelling units (i.e. bedrooms) where no direct exit to the exterior exists shall have at least one (1) window compliant with all of the following:
   - 1.1. Net clear opening width at least 20", net clear opening height at least 24", 5.7 sf minimum clear opening area, w/R.O. window opening height no more than 44" AFF
2. Stairways shall comply with the following:
   - 2.1. Width not less than 36", headroom clearance no less than 80", riser height not more than 7 3/4", tread depth not less than 10", winding not less than 9 1/2" nor more than 11 1/2" where solid risers are provided and tread depth is less than 11"

FIRE SAFETY NOTES

1. Provide (1) layer 5/8" Min standard Type 'X' gypsum board sheathing, with all joints taped and finished in accordance with industry standards to achieve at least (1) Hr fire rating, to:
   - 1.1. Interior Walls, Ceilings, Soffits, Enclosed Usable Spaces - on all occupied interior surfaces
   - 1.2. Residential Unit Separation Walls - on each side of separation walls between residential units and garages/common access corridors or stairs/other residential units. Install over any sheawall sheathing where occurs.
2. Provide 20-minute rated solid wood core or steel doors between residential units and corridor/stair/garage accesses.
3. Smoke Alarms
   - 3.1. Smoke alarms shall sound an audible alarm in all bedrooms of the house (i.e. interconnect all smoke alarms.)
   - 3.2. *Smoke alarms shall receive their power from the primary wiring and shall have a battery backup.
4. Carbon-Monoxide Alarms
   - 4.1. Carbon-monoxide alarms shall be installed outside each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units and on every level f including basements) within which fuel-fired appliances are installed, and in dwelling units that have attached garages.
   - 4.2. *Carbon-monoxide alarms shall receive their power from the primary wiring and shall have a battery backup

*Exception: In existing residences where electrical wiring is not being replaced, it shall be permitted to install battery-operated smoke and carbon monoxide alarms.

VENTILATION NOTES

1. Kitchen range ventilation hoods shall be 100 cfm or sized per range manufacturer's specifications. Kitchen range ventilation shall be vented to the exterior.
2. Bathroom ventilation shall be supplied with a backdraft damper, and shall be switched separately from lighting. Provide intermatic step timer switch for each bathroom exhaust fan. Bathroom ventilation shall be sized to exhaust the air in each bathroom served 6 times per hour, but no less than 50 cfm.

SHEET INDEX

STAMP:

Professional Engineer
TYREL MERRITT MAY
15796
Exp: 12/31/2025
WYOMING

PROJECT:

672 SUNSET DR.
(N) RESIDENCE

OWNERS: CHERI EPLIN
841 REDWOOD DR.
DANVILLE, CA 94506

CONSULTANTS:

Covenant Engineering
PO Box 4260
Bedford, WY 83112
ph: 916-838-1973
web: covenantengineers.com

ISSUES: REVISIONS:

NO.	DATE	BY	DESCRIPTION
1	03/12/25	TMM	BUILDING PERMIT
1	05/22/25	TMM	COVER SITE PLAN & ETC.

SHEET DESCRIPTION:
DIMENSION PLAN

JOB NUMBER: P25006
SCALE: AS NOTED
DATE: 28 FEB 2025
DRAWN BY: TMM
CHECKED BY:
SHEET NUMBER: C0.0
1 OF 1 COVER SHEETS
CADD FILE NUMBER: P25006.dwg

672 SUNSET DR. (N) RESIDENCE - 22 MAY 2025 - COVER SITE PLAN & ETC.

FASTENER SCHEDULE

The following are minimum fastener requirements for the conditions specified. Other nailing and/or fastening conditions may govern (i.e. top plate splices for shearwalls). See plans and other notes for conditions locations and/or requirements which may exceed the minimums provided by this table. For fastening of manufactured products, refer to mfr recommendations.

1. Jst to sill, bm or girder, TN ..... (3) 8d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
2. Bridging to jst, TN & Ea end ..... (2) 8d, (2) Ø.131" x 3" nails, (2) 14 Ga x 3" staples
3. 1x6 or less subflr to Ea jst, FN ..... (2) 8d
4. Wider than 1x6 subflr to Ea jst, FN ..... (3) 8d
5. 2x subflr to jst, bm or girder, blind ¢ FN ..... (2) 16d
6. Sill ℄ to jst or blkg, FN ..... 16d @ 16", Ø.131" x 3" nails @ 8", 14 Ga x 3" staples @ 12"
   Sill ℄ to jst or blkg at braced wall panels ..... (3) 16d @ 16", (4) Ø.131" x 3" nails @ 16", (4) 14 Ga x 3" staples @ 16"
7. Top ℄ to stud, EN ..... (2) 16d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
8. Stud to sill ℄, TN ..... (4) 8d, (4) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
   Stud to sill ℄, EN ..... (2) 16d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
9. Dbl studs, FN ..... 16d @ 24", Ø.131" x 3" nails @ 8", 14 Ga x 3" staples @ 8"
10. Dbl top ℄'s, FN ..... 16d @ 16", Ø.131" x 3" nails @ 12", 14 Ga x 3" staples @ 12"
    Dbl top ℄'s, lap splice ..... (8) 16d, (12) Ø.131" x 3" nails, (12) 14 Ga x 3" staples
11. Blkg btwn jsts or rafters to top ℄, TN ..... (3) 8d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
12. Rim jst to top ℄, TN ..... 8d @ 6", Ø.131" x 3" nails @ 6", 14 Ga x 3" staples @ 6"
13. Top ℄'s, laps & intersections, FN ..... (2) 16d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
14. Cont hdr, (2) pieces ..... 16d @ 16" along edge
15. Cing jst to ℄, TN ..... (3) 8d, (5) Ø.131" x 3" nails, (5) 14 Ga x 3" staples
16. Cont hdr to stud, TN ..... (4) 8d
17. Cing jst, laps o/partitions, FN ..... (3) 16d, (4) Ø.131" x 3" nails, (4) 14 Ga x 3" staples
18. Cing jst to parallel rafters, FN ..... (3) 16d, (4) Ø.131" x 3" nails, (4) 14 Ga x 3" staples
19. Rafter to ℄, TN ..... (3) 8d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
20. 1x diag brace to Ea stud ¢ ℄, FN ..... (2) 8d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
21. 1x8 shtg to Ea brng, FN ..... (3) 8d
    Wider than 1x8 shtg to Ea brng, FN ..... (3) 8d
22. Built-up corner studs ..... 16d @ 24", Ø.131" x 3" nails @ 16", 14 Ga x 3" staples @ 16"
23. Built-up girders & bms, FN T4B, stgd, OS ..... 20d @ 32", Ø.131" x 3" nails @ 24", 14 Ga x 3" staples @ 24"
    Built-up girders & bms, FN @ ends & Ea splice ..... (2) 20d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
24. 2x planks @ Ea brng 16d
25. Collar tie to rafter, FN ..... (3) 10d, (4) Ø.131" x 3" nails, (4) 14 Ga x 3" staples
26. Jack rafter to hip, TN ..... (3) 10d, (4) Ø.131" x 3" nails, (4) 14 Ga x 3" staples
    Jack rafter to hip, FN ..... (2) 16d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
27. Rfr rafter to 2x ridge bm, TN or FN ..... (2) 16d, (3) Ø.131" x 3" nails, (3) 14 Ga x 3" staples
28. Jst to band jst, FN ..... (3) 16d, (4) Ø.131" x 3" nails, (4) 14 Ga x 3" staples
29. Ledger strip, FN ..... (3) 16d, (4) Ø.131" x 3" nails, (4) 14 Ga x 3" staples
30. Wd struct panels & particleboard[a], subflr, rf & wall shtg to framing
    1/2 thk & less ..... 6d[a,g], Ø.113" x 2 3/8" nail[f], 16 Ga x 1 3/4" staple[g]
    19/32 to 3/4 thk ..... 8d or 6d def, Ø.113" x 2 3/8" nail @ 4"/8", 16 Ga x 2" staple @ 4"/8"
    7/8 to 1" thk ..... 8d common or def
    1 1/8 to 1 1/4 thk ..... 10d or 8d
    Wd struct panels & particleboard, single flr
    3/4 thk & less ..... 6d def
    7/8 to 1" thk ..... 8d def
    1 1/8 to 1 1/4 thk ..... 10d common or 8d def
31. Panel siding to framing
    1/2 thk or less ..... 6d corrosion-resistant siding or casing nail
    5/8 thk ..... 8d corrosion-resistant siding or casing nail
32. Fiberboard shtg to framing
    1/2 thk[i] ..... 11 Ga x 1 1/2" roofing nail[j], 6d common, 16 Ga x 1 1/8" staple[j]
    29/32 thk[i] ..... 11 Ga x 1 3/4" roofing nail[j], 8d common, 16 Ga x 1 1/2" staple[j]
33. Interior panneling to framing
    1/4 thk ..... 4d casing or finish nails @ 6" EN/12" FN
    5/8 thk ..... 6d Panel supports @ 24", casing or finish nails @ 6" EN/12" FN

NOTES:
a. Where EN ¢ FN are noted, such nail may be designated as 8-12" (EN @ 6", FN @ 12" Unless otherwise noted, common or box nails permitted for all conditions. All staples shall have 7/16 min crown width.
b. Unless otherwise noted, common or box nails permitted for all conditions. All staples shall have 7/16 min crown width.
c. Nails spaced 6" EN/12" FN except 4" FN where FN supports span 48" or more.
d. Common or deformed shank.
e. 8d nails req'd min for wood struct panel rf shtg.
f. Fasteners spaced @ 4" EN, 8" FN, for rf shtg.
g. Fasteners spaced @ 4" EN/8" FN, for subflr & wall shtg, @ 3" EN/6" FN for rf shtg
h. Corrosion-resistant roofing nails w/7/16 ø head
i. Corrosion-resistant staples w/7/16 crown. FN supports @ 16".
j. Fasteners spaced @ 3" EN/6" FN, when used as structural shtg. Spacing shall be @ 6" EN/12" FN for non-struct application.

TYPICAL CONSTRUCTION NOTES

1. *All manufactured hardware and framing materials identified in these plans may be substituted for similar materials manufactured by others, provided all such substitutions are with materials of at least equal capacity as those specified in these plans. All such substitutions shall be submitted to the EOR prior to their use and/or installation*.*

   **Hardware manufactured by USP Structural Connectors may be used without prior approval of the Engineer-Of-Record, provided the strength requirements as previously described are met.*

2. *As a minimum, the following shall be used, unless otherwise noted within these plans:*

   2.1. *Sill Plates*

   2.1.1. *All sill plates in contact with concrete shall be PT DF #2 (Min.) with a bolt between 6" and 9" from the end of each piece of sill plate, with two (2) bolts (Min) per sill plate. Sill plates of other wood products are prohibited.*

   2.1.2. *Sill plates shall be anchored to concrete w/5/8"ø (min) anchor bolts embedded at least 10" and spaced at no more than 48" oc.*

   2.2. *Double top plates shall be spliced with a minimum of (8) 10d nails at each side of each top- and bottom-piece joint splice. Concurrent splice joints shall be no closer than 48".*

   2.3. *Shearwalls: All exterior walls shall be sheathed and nailed to match the minimum shearwall type per the shearwall schedule or plan notes, as applicable.*

   2.4. *Post Alternate - Unless otherwise noted, it is acceptable to use built-up 2x studs in place of solid-sawn posts not exposed to weather, provided the following criteria are met:*

   2.4.1. *The built-up section members are of the same material & grade as the post required, including pressure-treated where specified (see 'TIMBER SPECIFICATIONS,' this sheet.).*

   2.4.2. *The built-up section is at least as large as the identified post section.*

   2.4.3. *The built-up section members are sistered together with 16d nails spaced at no more than 12" oc staggered, and driven at varying angles to 'tie' each 2x ply to adjacent plys.*

   2.4.4. *The ends of the built-up member are cut flush for full and uniform bearing.*

   2.4.5. *Where a mechanical base or cap is required, the built-up section shall be either routed or shaved for proper fit-up.Another suitable base or cap may be used, provided capacities meet or exceed those of the base or cap specified.*

   2.4.6. *Construction adhesive is applied between plys in addition to the sistering nails.*

TIMBER SPECIFICATIONS

1. *All timber grades as specified in theses notes are minimum grades. It is acceptable to use grades of better quality (i.e. higher strength) without first obtaining approval from the EOR for any such variance.*

2. *Timbers of nominal width equal to or larger than 4" shall not contain boxed heart (i.e. "free-of-heart-center," or FOHC), unless noted 'No FOHC OK' in these plans.*

3. *All Douglas-Fir (DF) Products shall be graded by the Western Wood Products Association Grading Rules and any applicable ASTM standards (i.e. ASTM D245.).*

4. *All load-bearing and shearwall framing shall be no less than Douglas-Fir #2. All studs 10'-0" to 14'-0" shall be Douglas-Fir #1. All studs 14'-0" and longer shall be manufactured 2.0E grade or equivalent.*

5. *All sawn beams & headers less than 10'-0" shall be Douglas-Fir #2 or Douglas-Fir #1 for spans 10'-0" or longer, unless noted otherwise.*

6. *All glue-laminated beams shall be 24F-V4 DF/DF. All multi-span & cantilever GLB's shall be 24F-V8 DF/DF.*

7. *All posts shall be Douglas-Fir #1 or Better, or manufactured 2.0E equivalent where manufactured studs are required.*

8. *No notching of timber products is allowed, unless otherwise noted in these plans or subsequently-issued via approved addendums or sketches. Any such addendums or sketches shall be accompanied by the wet stamp and signature of the EOR.*

9. *Fasteners in preservative-treated and fire-retardent-treated wood shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper.*

10. *Steel washers shall be provided under heads and nuts of all lag screws and bolts which bear on wood. The following minimum requirements shall be followed for sizing of washers to be used in sill plate applications*:*

Bolt/Lag Diameter	Steel PL Washer Size	Malleable Iron Washer Size
1/2"	2" Sq x 1/4"	2 1/2" Dia x 1/4"
5/8"	2 1/2" Sq x 1/4"	2 3/4" Dia x 5/16"
3/4"	3" Sq x 5/16"	3" Dia x 7/16"
7/8"	3 1/2" Sq x 5/16"	3 1/2" Dia x 7/16"
1"	3 3/4" Sq x 3/8"	4" Dia x 1/2"

For structures classified as 'Seismic Design Category' D, E or F (See 'General Notes' this page), or for shearwalls where the design load exceeds 480 pounds per linear foot (plf), washers shall not be smaller than 3" Sq x 5/16" PL.

**Standard cut washers may be used for all other applications, unless noted otherwise in these plans.*

MFR WOOD ROOF TRUSSES

1. *Contractor/Fabricator shall field verify all structural dimensions prior to fabrication of any structural elements as required by these plans.*

2. *Trusses shall be designed in accordance with the latest IBC and all other applicable reference documents.*

3. *Design Load*

   3.1. *Top Chords:* Dead 12 psf; Live 14 psf; Snow (Uniform) 100 psf

   3.2. *Bottom Chords:* Dead 10 psf; Mech 10 psf; Storage 20 psf

   3.2.1. *Dead Loads may be assumed to include the weight of the trusses.*

   3.2.2. *Live & Mechanical Loads may be considered to act independently (i.e. not concurrently).*

4. *All top & bottom chords shall meet a minimum specific gravity 'G' = 0.50 (Douglas-Fir Larch)*

5. *Truss calculations shall include calculations for bearing stress to ensure that the allowable bearing stresses are not exceeded. Truss plans & calculations shall be prepared under the direction of and stamped by a professional or structural engineer registered in the State.*

6. *The trusses shall be designed as a complete system, including all bracing and connections not shown or noted on these plans. Truss framing shall be similar to the framing as indicated in these plans. Alternate framing layouts may be submitted for approval (which may result in delays).*

CONCRETE NOTES

1. *Concrete mixing, placing and pouring shall be in accordance with ACI 318 and the project specifications. Mix design shall be in accordance with the applicable sections of the CBC and these plans. Mix designs must be submitted for approval prior to placement of concrete.*

2. *All pipes and conduits passing through walls and footings shall utilize sleeves affixed prior to placing of concrete.*

3. *Concrete shall not be permitted to drop from a full height of more than six (6) vertical feet. Hoppers and/or vertical chutes shall be used to avoid segregation in and around reinforcing steel (i.e. in formed cast-in-place concrete walls.)*

4. *Footings (spread & continuous) are centered under posts, columns and walls, UNO.*

5. *The finished surface of all horizontal construction joints shall be removed so as to expose clean, solidly embedded aggregate. All reinforcing steel dowels used at horizontal construction joints shall be free of flaking oxidation (rust) and any cured concrete (i.e. hard concrete adhered to the surface of the reinforcing dowels) prior to placement of new concrete at the construction joint.*

6. *Footings shall bear on firm undisturbed native soil or compacted engineered fill.*

7. *Unless otherwise noted in these plans, concrete mixes shall meet the criteria as listed in the table titled 'CONCRETE MIX REQUIREMENTS' elsewhere within these plans.*

REINFORCING STEEL NOTES

1. *Reinforcing placement and splicing shall be in accordance with the 'Manual of Standard Practice' by the Concrete Reinforcing Steel Institute.*

2. *Non-coated reinforcing steel shall be kept clean and free of corrosion or rust prior to placement of concrete.*

3. *Splices of continuous steel reinforcement bars shall use Class 'B' lap splices (1'-6" min) with adjacent splices spaced at no less than 5'-0".*

4. *Welded wire fabric lap splices shall be lapped a minimum of 12".*

5. *Provide any and all accessories necessary to support the reinforcing steel and hardware in place as shown in these plans.*

6. *Wet-stabbing of reinforcing steel dowels or embedded anchor bolts shall not be permitted.*

7. *Protection (clearance from edge or face of concrete) for reinforcing steel shall conform to the following:*

   7.1. Concrete poured against earth ..... 3"
   7.2. Concrete formed but exposed to earth or weather ..... 2"
   7.3. #5 & smaller ..... 1 1/2"
   7.4. #6 & larger ..... 2"
   7.5. Columns & beams ..... 1 1/2"
   7.6. Interior walls & slabs ..... 1 1/2"
   7.7. Slab-on-Grade - from bottom ..... 2"
   7.8. Structural - from top ..... 1 1/2"
   7.9. Non-structural - from top ..... 2"

8. *Each bar shall be wire-tied or attached by other approved method to ties, stirrups or cross-bars at a maximum of 24".*

9. *Welding of steel reinforcing bars shall comply with requirements of The American Welding Society (AWS) D1.1 2008 and the following:*

   9.1. Rebar to ASTM A36 ..... E70XX electrodes
   9.2. Rebar to A50 or stronger ..... E80XX electrodes
   9.3. Rebar to Rebar ..... E80XX electrodes

10. *Reinforcing steel shall meet the following requirements:*

    10.1. Welded Wire Fabric ASTM185
    10.2. Ties or stirrups ..... ASTM A615, Grade 60
    10.3. Other bars (not welded) ..... ASTM A615, Grade 60
    10.4. Welded bars ..... ASTM A706

GENERAL STRUCTURAL NOTES

1. *The Contractor shall verify all field dimensions prior to fabrication & erection.*

2. *If there are any omissions, errors or discrepancies discovered within these plans (i.e. dimension conflicts), contact the Architect or Engineer of Record for clarification and/or correction prior to continuing with construction.*

3. *All plan dimensions as indicated on these plans or on architectural plans are assumed to be from face of studs or face of concrete UNO.*

4. *Design Loading Criteria*

   4.1. Roof: Dead 12 psf; Live (10:12) 14 psf; Snow (10:12) 100 psf
   [1] Per Jurisdiction
   Walls: Exterior & Thermal: 12 psf; Interior 10 psf

   4.2. Risk Cat: II

   4.3. Wind: Ult Speed: 105 mph; Exposure C; Roof Pitch 10:12; K_{zt} = 1.00; I_w = 1.00

   4.4. Seismic: Lat: 43.139887° N Long: 111.013363° W; Site Class = D; Des. Cat. = D; S_s = 1.109; S_{DS} = 0.887; S_1 = 0.341; S_{D1} = 0.227; I_e = 1.00; I_P = 1.00; $R_{wd\ sw}$ = 6.5; $C_{s\ wd\ sw}$ = 0.136

FOUNDATION NOTES

1. *Minimum allowable soil pressures, per IBC/CBC:*

   1.1. Dead + Live ..... 1500 psf
   1.2. Dead + Live + Wind/Earthquake ..... 2000 psf

All recommendations shall be implemented as indicated within the Geotechnical report in it's entirety. Covenant Engineering shall not be responsible for any negative effects, damage or other detrimental results related to inadequate or unconpacted soil and/or backfill conditions or failure to properly implement Geotechnical recommendations.

SAFETY NOTES

1. *It is the Contractors' responsibility to comply with all federal and state regulations regarding maintaining a safe work environment and performing work in a safe manner. It is the Contractors' responsibility to be aware and comply with all OSHA requirements that may apply to this construction project.*

STRUCTURAL REFERENCE CODES

***** *All work to be performed under these project plans shall conform to the following applicable codes and any applicable supplements and amendments:*

1. *2021 International Building Code*
2. *ASCE 7-16 'Minimum Design Loads for Buildings and Other Structures'*
3. *ACI 318-19 Building Code And Commentary (Concrete)*
4. *ANSI/AF&PA NDS-2018 National Design Specification for Wood Construction*
5. *ANSI/AF&PA SDPWS 2015 Special Design Provisions For Wind & Seismic*

STRUCTURAL SHEET INDEX

TYPICAL STRUCTURAL ABBREVIATIONS

AB	Anchor Bolt	Dtl	Detail	LLV	Long Leg Vertical	SDST	Self Drilling Self Tapping Screw
Abv	Above	(E)	Existing	LP	Louisiana Pacific Corp.		
Adh	Adhesive	Ea	Each	Lt	Light	Sht	Sheet
Adj	Adjacent, Adjust	Elev	Elevation	LWC	Lt Weight Concrete	Shtg	Sheathing
Addtl	Additional	EN	Edge or End Nailing	MB	Machine Bolt	Sim	Similar
AFF	Above Finish Flr	Engr	Engineer(ed)	Max	Maximum	SLV	Short Leg Vertical
Arch	Architect(ural)	EO	Edge Of	Mfr	Manufacturer, Manufactured	SMS	Sheet Metal Screw
BCI	Boise Cascade Inc.	EOR	Engineer Of Record			SOG	Slab-On-Grade
Bldg	Building	Eq	Equal	Min	Minimum	Spec	Specification(s)
Blk	Block	ES	Each Side	Mtl	Metal	SS	Stainless Steel
Blkg	Blocking	EW	Each Way	(N)	New	Std	Standard
Blw	Below	Exp	Expansion	No.#	Number	Stgr	Stagger(ed)
BFF	Below Finish Flr	Ext	Exterior	NS	Near Side	StlTnr	SteelTenar
Bm	Beam	FF	Finish Floor	NTS	Not To Scale	Stl	Steel
BN	Boundary Nailing	FG	Finish Grade	NWC	Normal Weight Concrete	Struct	Structural
BO	Bottom Of	Flr	Floor	oc	On Center	Sq	Square
Bott	Bottom	FN	Field or Face Nailing	OD	Outside Diameter	T&B	Top & Bottom
Brg	Bearing	Fndn	Foundation	Opn	Open(ing)	T&G	Tongue & Groove
Btwn	Between	FO	Face Of	Opp	Opposite	TF	Top Flange
Bynd	Beyond	FOHC	Free Of Heart Center	OS	Opposite Side(s)	Thk	Thick(enedness)
c	Camber	Frm	Frame, Framing	Par	Parallel	TJI	Trus-Joist Inc.
CJ	Construction Joint	FS	Far Side	Perp	Perpendicular	TO	Top Of
℄, CL	Center Line	Ftg	Footing	PDF	Powder Driven Fastener	Trans	Transition, Transverse
Clng	Ceiling	Gā	Gage	PL, PL	Plate	Trans'v	
Clr	Clear	GLB	Glu-Laminated Beam	Ply	Plywood	Typ	Typical
CMU	Concrete Masonry Unit	(HI)	Hilti Corp	Press	Pressure	(U)	Unistrut Corp.
Col	Column	HD	Hold-Down	psf	Pounds per Square Foot	UNO	Unless Noted Otherwise
Conc	Concrete	Hdr	Header			URM	Unreinforced Masonry
Conn	Connect, Connection	Hgr	Hanger	psi	Pounds per Square Inch	OWJ	Open Web Joist
Cont	Continuous	Hk	Hook	PT	Pressure Treated, Post Tension	Vert	Vertical
Ctsnk	Countersink	Horiz	Horizontal			w/	With
ø, Dia	Diameter	Ht	Height	Pur	Purlin	w/o	Without
Diag	Diagonal	ID	Inside Diameter	Rad	Radius	WF	Wide Flange
Dbl	Double	Incl	Included	Reinf	Reinforcing, Reinforcement	WP	Work Point
Demo	Demolition	Int	Interior			WS	Wood Screw
Det	Detail	ITW	ITW Red Head Corp.	Reqd	Required	Wt	Weight
DF	Douglas Fir	JH	Joist Hanger	(S)	Simpson Strong Tie	WWF	Welded Wire Fabric
Diag	Diagonal	Jnt	Joint	SC	Saw Cut, Slip-Critical	Wd	Wood
Dim(s)	Dimension(s)	Jst	Joist	Sched	Schedule	Wy	Way

TYPICAL SYMBOLS

1. Detail Callout — Direction Of View For Section/Detail; # / S## — Detail Number Callout / Sheet Where Detail Is Located; Specific Location Of Detail
3. Section Callout — Section Number Callout; # / S#.# — Sheet Where Detail Is Located
4. Detail/Section Label — Detail Number / Detail Title (If Utilized); DETAIL TITLE; S## / S## SCALE: 1" = 1'-0"; Referenced From Sheet / Sheet Number; Detail Scale
5. Hold-Down Callout — HD# — Hold-Down Per Schedule; Approximate Location Of Hold-Down
6. Strap Callout — ST# — Strap Per Schedule; Approximate Location Of Strap

LUMBER LEGEND

ROUGH-SAWN & DIMENSION LUMBER, CONTINUOUS (SECTION)

LAMINATED BEAM, CONTINUOUS

BLOCKING (SECTION)

BLOCKING (END OR SIDE)

CONCRETE MIX DESIGN

TYPE or USE	28-DAY STRENGTH	MAX AGGREGATE	MAX SLUMP
Piers, Footings, Stemwalls & Garage Slabs	3000 psi	3/4"	6"
Concrete Not Otherwise Specified	2500 psi	1"	6"

DEFERRED APPROVAL ITEMS

1. *Deferred approval items shall be reviewed and approved by the Architect/Engineer of Record and by the building official prior to installation. the following items shall be permitted to be submitted for deferred approval:*

   1.1. *Manufactured Roof Trusses*

STAMP:

Professional Engineer — TYREL MERRITT MAY — 15796 — EXP 12/31/2025 — WYOMING

PROJECT:

672 SUNSET DR.
(N) RESIDENCE

OWNERS: CHERI EPLIN
841 REDWOOD DR.
DANVILLE, CA 94506

CONSULTANTS:

Covenant Engineering
PO Box 4260
Bedford, WY 83112
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ISSUES: REVISIONS:

NO.	DATE	BY	DESCRIPTION
1	03/12/25	TMM	BUILDING PERMIT

SHEET DESCRIPTION: STRUCTURAL NOTES + REFERENCES

JOB NUMBER:	P25006
SCALE:	AS NOTED
DATE:	28 FEB 2025
DRAWN BY:	TMM
CHECKED BY:	

SHEET NUMBER: S0.0

1 OF 4 STRUCTURAL SHEETS

CADD FILE NUMBER: P25006.dwg

672 SUNSET DR. (N) RESIDENCE - 12 MAR 2025 - BUILDING PERMIT

ROOF DIAPHRAGM SCHEDULE

MARK	MATERIAL	TYPE	FASTENERS	EN	FN	NOTES
RD	WOOD	5/8" Min Wd Struct Panel Sthg	8d w/l 3/8" Min Penetr	6" oc Max	12" oc	Blkg/Plywd Clip @ All Unsupported Panel Edges

FRAMING SCHEDULE

MARK	MEMBER SIZE	SUPPORT TYPE	NOTES
B1	4x8 Or Dbl 2x8	Double Cripple & Single King Studs	n/a
B2	3 1/8 x 10 1/2 24F-V4 GLB Or Dbl 1 3/4 x 9 1/4 2.0E LVL	Triple Cripple & Single King Studs	n/a
B3	3 1/8 x 15 24F-V4 GLB Or 3 1/2 x 14 2.0E VLAM 3100	Post & Cap Per Plan	n/a
LG	2x Or LVL, Match Jst/Rafter Depth, Min	(2) (S) SDS 1/4 x 4 1/2 Ea Stud Contact	TLOK/Equiv OK
RFT	2x8 @ 24" oc Max	Brng On Bm, Hngr To Ledger	n/a
TR	Mfr Trusses @ 24" oc Max	Top & Brng, See Details	n/a

NOTES:
1. All sizes and grades are req'd minims. See sheet S0.0 for material specifications.
2. Solid Sawn beams may be replaced w/engineered built-up multi-ply sections as follows:
   2.1. DFL 4x may be replaced w/equivalent solid sawn Dbl 2x DF-L No. 1/Btr
   2.2. DFL 6x may be replaced w/equivalent solid sawn Trpl 2x DF-L
   2.3. Mfr 6x nominal GLB/VLAM may be replaced w/equivalent Trpl 1 3/4 x 12E LVL

POST SCHEDULE

MARK	POST	CAP	NOTES
P4A	Wood 4 x 4	(2) (S) LCE Or Sim @ Int Posts, (S) CCQ/ECCQ @ Ext Loc	PT @ Ext Loc

NOTES:
1. All sizes and grades are req'd minims. See sheet S0.0 for wood specifications.
2. Solid posts may be replaced with built-up stud posts. See sheet S0.0 for requirements.

BASE SCHEDULE

MARK	Type	BASE	Anchorage	NOTES
ST	Standoff Base	(S) ABA Or Sim	Wedge AB Per Mfr Kit	n/a
E	Wood Sill E	Wood Sill E	n/a	Set Post w/In Stud Wall Framg o/Sill E

NOTES:
1. All specified sizes and grades are req'd minims. See sheet S0.0 for material specifications.

CONCRETE WALL SCHEDULE

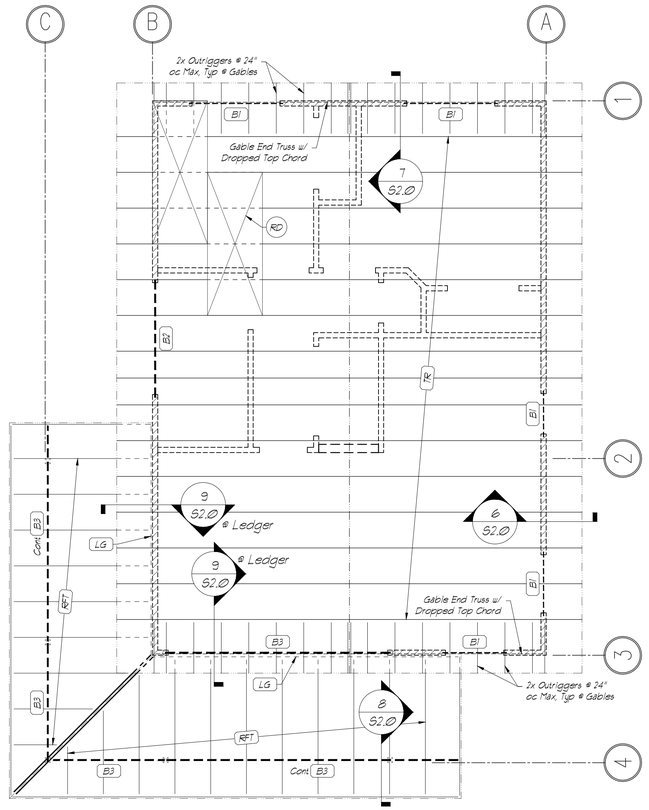
MARK	MATERIAL	DESCRIPTION	NOTES
C6	CONC	6" Thk w/#4 @ 18" EW & (2) #5 @ T.O. Wall	6" Min Conc Stemwall

NOTES:
1. See sheet S0.0 for concrete, reinforcing & wood specifications. See lateral plans for shearwall requirements.
2. It is permissible to use larger sizes, better grades or reduced stud spacing w/out prior approval.

FOUNDATION SCHEDULE

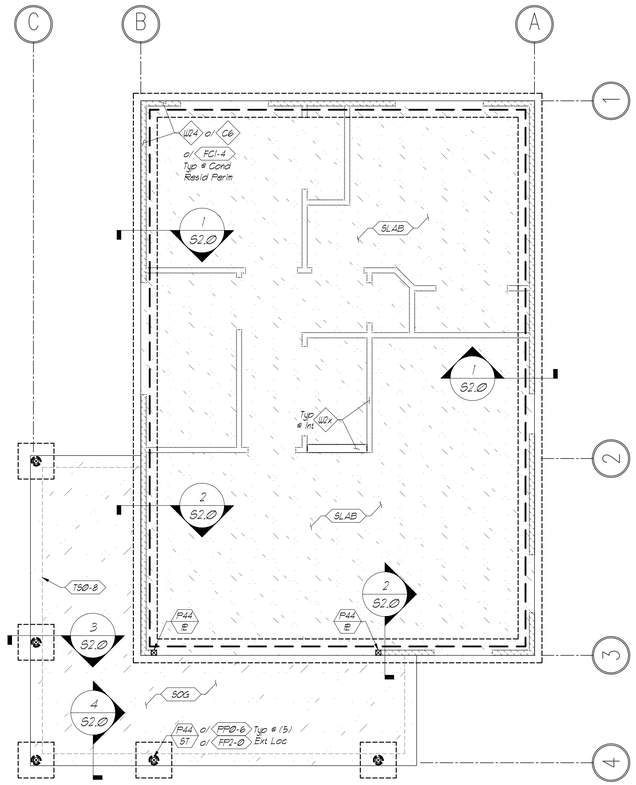
MARK	TYPE	SIZE	REINFORCING	NOTES
FC1-4	CONT	1'-4" W x 0'-10" Thk	(2) #4 Cont w/ #3 Transv @ 32" oc Max	n/a
FP2-0	PAD	2'-0 SQ x 10" Thk	(3) #4 EW Centered Vert	n/a
FP0-6	PIER	0'-6 ø	(2) #4 Or (3) #3	n/a
SLAB	STRUCT SLAB	5" Min Thk	6x6x10 Ga WLF Or #3 @ 18" oc, Centered Vert	Underlay: 2" Crushed Gravel o/6 Mil Vapor Barrier o/Compacted Fsd
SOG	EXT SLAB	4" Min Thk	6x6x10 Ga WLF Or #3 @ 24" oc, Centered Vert	Underlay: 2" o/Compacted Fsd
TS0-8	THKD SLAB	0'-8" x 8" Thk Cont	(2) #5 Cont, Centered Vert	n/a

NOTES:
1. All sizes & quantities are req'd minims. UNO, it is acceptable to substitute larger sizes and/or more reinforcing w/out prior approval.
2. See sheet S0.0 for concrete and reinforcing specifications.



FRAMING PLAN

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



FOUNDATION PLAN

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

STAMP:

Professional Engineer
TYREL MERRITT MAY
15796
EXP 12/31/2025
WYOMING

PROJECT:

672 SUNSET DR. (N) RESIDENCE - 12 MAR 2025 - BUILDING PERMIT

672 SUNSET DR.
(N) RESIDENCE
OWNERS: CHERI EPLIN
841 REDWOOD DR.
DANVILLE, CA 94506

CONSULTANTS:

Covenant Engineering
PO Box 4260
Bedford, WY 83112
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ISSUES: REVISIONS:

NO.	DATE	BY	DESCRIPTION
1	03/12/25	TMM	BUILDING PERMIT

SHEET DESCRIPTION:
FOUNDATION + FRAMING PLANS

JOB NUMBER:	P25006
SCALE:	AS NOTED
DATE:	28 FEB 2025
DRAWN BY:	TMM
CHECKED BY:	

SHEET NUMBER:
S1.0

2 OF 4 STRUCTURAL SHEETS

CADD FILE NUMBER: P25006.dwg

STUD WALL SCHEDULE

MARK	MATERIAL	DESCRIPTION	NOTES
W24	WOOD STUD	2x4 Studs @ 16" oc Max w/Dbl Top ℄	Typ Perim Struct Wall Stud Walls
W2x	WOOD STUD	2x Studs @ 16" oc Max Single Top ℄ OK	Non-Struct Stud Walls 2x6 Req'd @ Plumbing

NOTES:
1. See sheet S0.0 for concrete, reinforcing & wood specifications. See lateral plans for shearwall requirements.
2. It is permissible to use larger sizes, better grades or reduced stud spacing without prior approval.

SHEARWALL SCHEDULE

MARK	SHEATHING	EDGE NAILING	FIELD NAILING	[2] FNDN ℄	[3] SILL NAILING	[3,5] SILL BOLTING	[5] SHEAR TRANSFER	CAPACITY	NOTES
A	7/16 Wd Struct Panel	Bd @ 6" o.c.	Bd @ 12" o.c.	2x DF℄	n/a	5/8"ø @ 48"	TN For Full Rf Diaph Length OK	260 plf	n/a
B	7/16 Wd Struct Panel	Bd @ 4" o.c.	Bd @ 12" o.c.	2x DF℄	n/a	5/8"ø @ 32"	TN For Full Rf Diaph Length OK	380 plf	n/a
C	7/16 Wd Struct Panel	Bd @ 2" o.c.	Bd @ 12" o.c.	2x DF℄	n/a	5/8"ø @ 16"	TN For Full Rf Diaph Length OK	640 plf	Stgd EN o/3" Nom Framing @ Panel Edges

NOTES:
1. All exterior walls shall be sheathed & nailed to match minimum shearwall requirements UNO.
2. Foundation ℄ (B) ℄ is contact with concrete or masonry shall be pressure-treated.
3. Anchor bolts shall have 3" Sq x ½" washers, Typ UNO.
4. Fastener and spacing is based on shearwall demand, and is only required to be installed for the shearwall design lengths and locations as indicated per plan.
5. Fastener and spacing is based on diaphragm demand and continuous plates, and shall be installed for full length of continuous wall line w/o average spacing no more than that indicated.

STRAP SCHEDULE

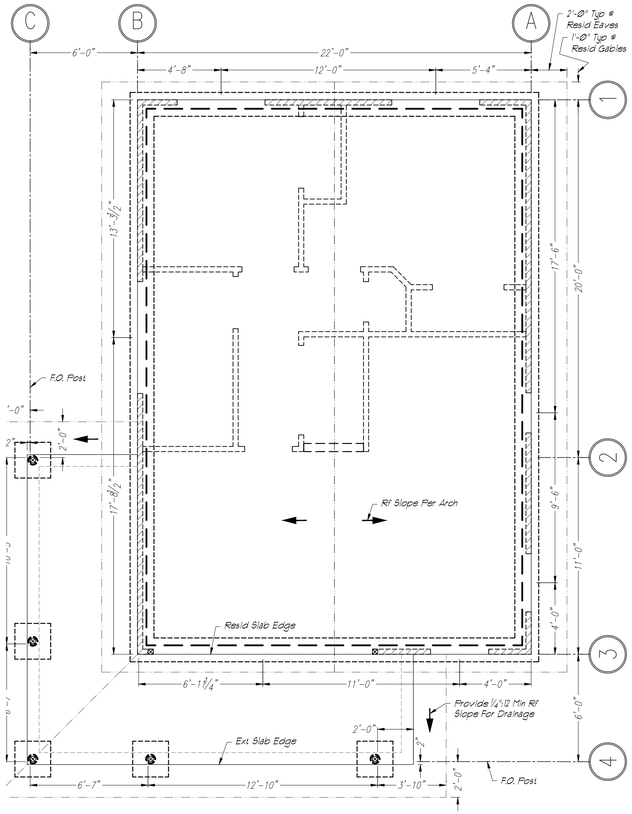
STRAP	CAPACITY	FASTENERS	NOTES
CS16	1705#	(20) Ø.148 O" (22) Ø.131 x 2½	EL + 13" Ea End - OK To Stgr Nails Btwn @ 6" oc Max

NOTES:
1. All straps are req'd minimum. Larger straps and/or more fasteners OK w/o prior approval.

HOLD-DOWN SCHEDULE

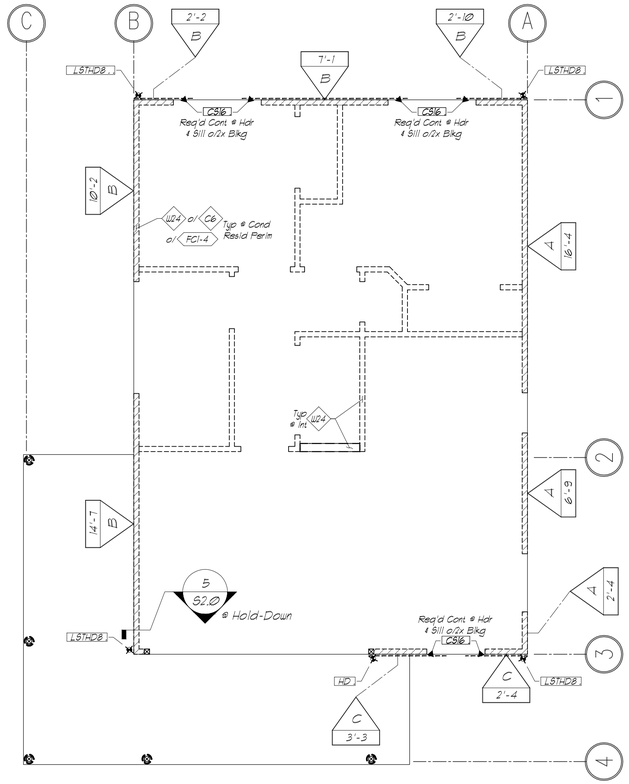
HOLD-DOWN	FASTENERS	[1] ROD/ANCHOR/ STRAP EL	WOOD VERT	CAPACITY	NOTES
LSTHD8	(16) Ø.148 x 3¼ Nails	n/a	Dbl 2x (19"H)	2250#	n/a

NOTES:
1. Unless noted otherwise, orient all concrete anchor embed ends approx. centered within concrete walls, stemwalls & footings.
2. Prior approval by Engineer-of-Record is required for any substitutions for or alterations to this table.



DIMENSION PLAN

SCALE: ¼" = 1'-0"



LATERAL PLAN

SCALE: ¼" = 1'-0"

STAMP:

Professional Engineer
TYREL MERRITT MAY
15796
EXP 12/31/2025
WYOMING

PROJECT:

672 SUNSET DR.
(N) RESIDENCE

OWNERS: CHERI EPLIN
841 REDWOOD DR.
DANVILLE, CA 94506

CONSULTANTS:

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PO Box 4260
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ISSUES: REVISIONS:

NO.	DATE	BY	DESCRIPTION
1	03/12/25	TMM	BUILDING PERMIT

SHEET DESCRIPTION:
LATERAL + DIMENSION PLANS

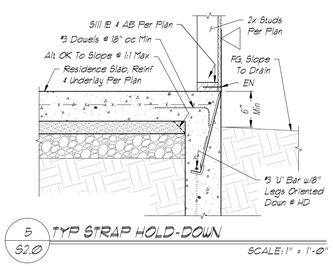
JOB NUMBER:	P25006
SCALE:	AS NOTED
DATE:	28 FEB 2025
DRAWN BY:	TMM
CHECKED BY:	

SHEET NUMBER:
S1.1

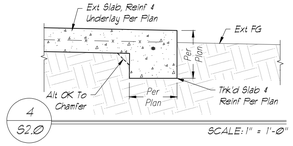
3 OF 4 STRUCTURAL SHEETS

CADD FILE NUMBER: P25006.dwg

672 SUNSET DR. (N) RESIDENCE - 12 MAR 2025 - BUILDING PERMIT



5 S2.0 TYP STRAP HOLD-DOWN SCALE: 1" = 1'-0"



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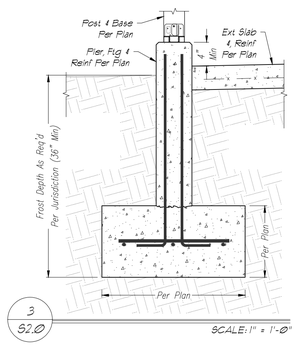

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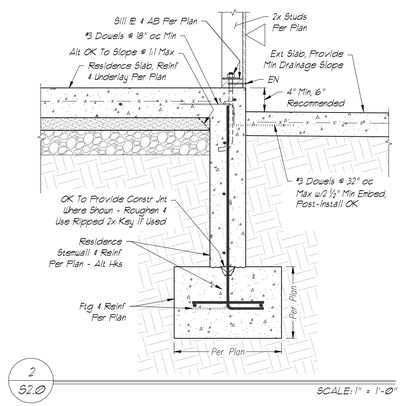

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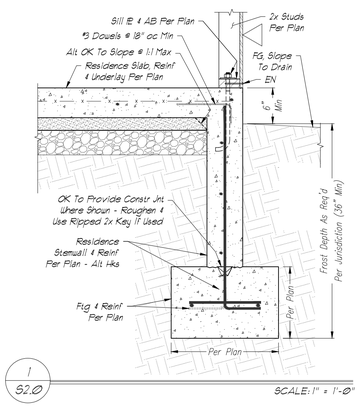
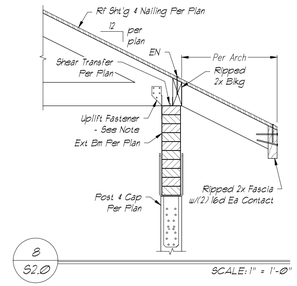


1 S2.0 SCALE: 1" = 1'-0"

9 S2.0 SCALE: 1" = 1'-0"



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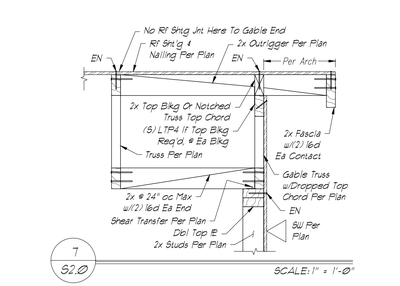
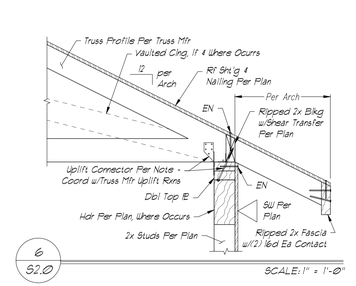


7 S2.0 SCALE: 1" = 1'-0"



6 S2.0 SCALE: 1" = 1'-0"

STAMP:

PROJECT:

672 SUNSET DR. (N) RESIDENCE

OWNERS: CHERI EPLIN
841 REDWOOD DR.
DANVILLE, CA 94506

CONSULTANTS:

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ISSUES: REVISIONS:

NO.	DATE	BY	DESCRIPTION
1	03/12/25	TMM	BUILDING PERMIT

SHEET DESCRIPTION: STRUCTURAL DETAILS

JOB NUMBER:	P25006
SCALE:	AS NOTED
DATE:	28 FEB 2025
DRAWN BY:	TMM
CHECKED BY:	
SHEET NUMBER:	S2.0

4 OF 4 STRUCTURAL SHEETS

CADD FILE NUMBER: P25006.dwg

672 SUNSET DR. (N) RESIDENCE - 12 MAR 2025 - BUILDING PERMIT

GENERAL NOTES & DESIGN CRITERIA

DESIGN LOADS:
* Floor: 40 psf. live 15 psf. dead Roof: 30 psf. live 10 psf. dead Ceiling: 10 psf. live 10 psf. dead
* Soil bearing Capacity - 1500 PSF
* Live loads, dead loads, wind loads, snow loads, lateral loads, seismic zoning and any specialty loading conditions will need to be confirmed before construction and adjustments to plans made accordingly. See your local building officials for verification of your specific load data, zoning restrictions and site conditions.

CONCRETE AND FOUNDATIONS:
* All foundation walls and slabs on grade shall be 3000 PSI (28-day compressive strength concrete), unless noted otherwise.
* All interior slabs on grade shall bear on 4" compacted granular fill with 6 mil. polyethylene vapor barrier underneath.
* Provide proper expansion and control joints as per local requirements.
* All 36" x 36" x 18" concrete pads to have (3) #5 rods each way.
* All 48" x 48" x 18" concrete pads to have (4) #5 rods each way.
* Foundation walls are not to be back filled until properly braced.
* Verify depth of frost footings with your local codes.
* Provide termite protection as required by HUD minimum property standards.
* Foundation bolts must be anchored to sill plate with 5/8" bolts embedded 12" in concrete walls.

REBAR & BOLT SCHEDULE: reinforcing must

be located 2" from inside face of wall

BAR SIZE AND SPACING	VERTICAL	HORIZONTAL
8" Wall thickness	#5 @ 15" o.c.	#5 @ 18" o.c.
10" Wall thickness (w-brick)	#5 @ 16" o.c.	#5 @ 16" o.c.

A-615 Grade 60.
* Provide steel shimns in all beam pockets.
* Steel columns are to be 3" I.D. (inside diameter) unless noted otherwise.

FRAMING MEMBERS:
* Unless noted otherwise, all framing lumber shall have the following characteristics:
  Fb = 1,000 psi Fv = 75 psi E = 1,400,000 psi
* Contractor to confirm the size, spacing and stress characteristics of all framing and structural members to meet your local code requirements.
* Hole sizes and locations in GluLam or Laminated Veneered Lumber members are to be confirmed by a professional engineer.
* Any structural or framing members not indicated on the plan are to be sized by contractor.
* Double floor joists under all partition walls, unless noted otherwise.
* All subflooring is assumed to be 3/4" thick.-Glued&Nailed
* All exterior walls are dimensioned to outside of 1/2" sheathing.
* All exterior walls are 4" (3 1/2" stud plus 1/2" sheathing), All interior walls are 3 1/2" unless otherwise shown.
* Calculated dimensions have precedence over scaled dimensions.
* All Main level walls are 9'-1 1/8" high unless otherwise noted or implied.
* All angled walls on floor plans are at 45 degree angle, unless otherwise noted.

FRAMING MEMBERS (continued):
* Any wall 12'-0" high or higher shall be 2x6 and balloon framed.
* Unless noted otherwise, above all openings that are:
  (1) Load bearing and less than or equal to 3 ft. ..... use 4x6.
  (2) Load bearing and more that 3 ft. ..... use (2) 2x12 w/1/2" Plywood between.
  (3) Non-load bearing and less than or equal to 6 ft.....use 4x6.
  (4) Non-load bearing and more than 6 ft. ..... use (2) 2x12 w/1/2" Plywood between.
  (5) All exterior openings use (2) 2x12 w/1/2" plywood between.
* All trusses to be engineered by truss manufacturer according to the loading indicated on this plan.
* All exterior corners shall be braced in each direction with let-in diagonal bracing or plywood.
* Place (1) row of 1" x 3" cross-bridging on all spans over 8'-0" and (2) rows of 1" x 3" cross-bridging on all spans over 16'-0".
* Collar ties are to be spaced 4'-0" o.c.
* All purlins and kickers are to be 2x6's, unless noted otherwise.
* Any hip or valley rafters over a 28'-0" span are to be Laminated Veneer Lumber (L.V.L.).

MISC. NOTES:
* Prefabricated fireplaces and flues are to be U.L. approved and installed as per manufacturer's specifications.
* All materials, supplies and equipment to be installed as per manufacturer's specifications and as per local codes and requirements.
* Note: Provide proper insulation for all plumbing.
* 1/2" water-resistant drywall around showers, tubs and whirlpools.
* 1/2" drywall on interior walls and ceilings.
* 5/8" type "X" fire code drywall on garage walls and ceilings.
* Windows are called out by glass size only.
* Windows, if not noted, are assumed to be casements.

covenants and codes.
* Typical overhang sizes unless noted otherwise on drawing are as follows:
  On pitches of 4/12 - 5/12 - 6/12 = 24" overhang
  7/12 = 20" overhang
  8/12 = 16" overhang
  9/12 = 16" overhang
  10/12 - 11/12 - 12/12 = 12" overhang
* Note: Adjust overhangs to provide clearance for windows to open. Adjust overhangs to maintain a consistent level when the plans call for (2) different pitches at a hip.
* Minor alterations to this plan can be made by builder. Please contact our drafting department for information and price quotes if major changes are required.
* Design Basics, LLC. determines finished square footage by measuring to the outside of all walls. We include: interior fireplaces and every location in which the floor joists project from the foundation. We do not include: window boxes where the floor joists do not project from the foundation; 2-story entries; exterior fireplaces; garage; decks; patios; porches; unfinished storage areas; basements or any other unfinished areas.

DESIGN BASICS, LLC. IS A PROFESSIONAL RESIDENTIAL DESIGN FIRM LOCATED IN OMAHA, NE. BECAUSE SITE CONDITIONS MAY VARY DESIGN BASICS, LLC. CANNOT WARRANT THE SUITABILITY OF THESE PLANS FOR USE ON YOUR SPECIFIC SITE. CONSTRUCTION FROM THESE PLANS SHOULD NOT BE UNDERTAKEN WITHOUT THE ASSISTANCE OF A CONSTRUCTION PROFESSIONAL.

ABBREVIATIONS

A/C	Air Conditioner	DISH	Dishwasher	INSUL	Insulation	PROJ	Projection	TRAP	Trapezoid
ADJ	Adjustable	DN	Down	INT	Interior	RAD	Radius	U.L.	Underlayment
AWN	Awning	DRY	Dryer	JST	Joist	RAFT'S	Rafters	UNEX	Unexcavated
BLDG	Building	EA	Each	LVL	Laminated Veneer Lumber	REFRIG	Refrigerator	WASH	Washer
BSMT	Basement	ENT	Entertainment	LIN	Linen	RM	Room	WD	Wood
BTM	Bottom	EXP	Exposure	MAX	Maximum	SEC	Second	WH	Water Heater
BTW	Between	EXT	Exterior	MBR	Master Bedroom	SHWR	Shower	W.W.M.	Welded Wire Mesh
CANT	Cantilever	FIN	Finished	MICRO	Microwave	S.L.	Side Lite		
C.J.	Ceiling Joist	F.J.	Floor Joist	MIN	Minimum	SPP	Sump Pump Pit	@	At
CLG	Ceiling	FLUOR	Fluorescent	MISC	Miscellaneous	STA	Stationary	℄	Line
CEIL	Ceiling	FTG	Footing	O.C.	On Center	STD	Standard	2W	Two Wide
CMU	Concrete Masonry Unit	GALV	Galvanized	O.H.D.	Overhead Door	STL	Steel	3W	Three Wide
C.O.	Cased Opening	GARB	Garbage Disposal	OPNG	Opening	STRUCT	Structural	4W	Four Wide
CONC	Concrete	G & N	Glued & Nailed	PC	Pull Chord	T.C.	Trash Compactor	℄	Center Line
DBL	Double	G.L.	Gluelam Header	PICT	Picture	T & G	Tongue & Groove	W/	With
DH	Double Hung	HDR	Header	POLY	Polyethylene	TRANS	Transom	Ø	Diameter

ARTIST CONCEPTION ONLY

Militta Abode

ARTWORK NOT TO SCALE

SYMBOLS

- Detail Number
- Section Number
- Direction of Section
- Square Footage
- Roof Pitch Ratio (12 / 8 or 8/12)
- Ceiling Pattern Detail W/Height (8⁰ / 7⁰)
- Roof Louver
- Wood Frame Wall
- Concrete
- Brick or Stone
- Earth
- Granular or Gravel Fill
- Batt Insulation
- Blown Insulation
- Minimum 3"x3" Solid Bearing or as required
- Sillcock
- Furnace
- Flue & Duct
- Floor Drain
- Supply Air (Floor)
- Supply Air (Ceiling)
- Shower Head

ELECTRICAL LEGEND

110V OUTLET	FLOOD LIGHT
HALF SWITCHED 110V OUTLET	FLUORESCENT LIGHT
220V OUTLET	TRACK LIGHT
WEATHERPROOF 110V OUTLET	UNDER COUNTER LIGHT
GROUND FAULT 110 V. OUTLET	EXHAUST FAN
FLOOR 110V OUTLET	EXHAUST FAN/LIGHT COMBO
SURFACE MOUNT LIGHT	PADDLE FAN/LIGHT FIXTURE
RECESSED CAN LIGHT	PADDLE FAN
WALL MOUNT LIGHT	SMOKE DETECTOR (WALL)
PULL-CORD SURFACE MOUNT LIGHT	SMOKE DETECTOR (CEILING)
THERMOSTAT	TWO-WAY SWITCH
CHIMES	THREE-WAY SWITCH
	FOUR-WAY SWITCH

NOTE: WIRE SMOKE DETECTORS IN SERIES

DESIGN BASICS
HOUSE PLANS

AREA	SQ. FT.
FIRST FLOOR	682
SECOND FLOOR	
TOTAL LIVING	682
BASEMENT FLOOR	
GARAGE	
FRONT PORCH	189
DECK	
OPT. BONUS ROOM	

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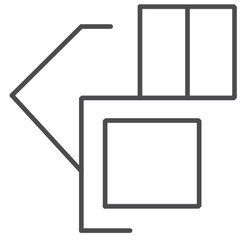

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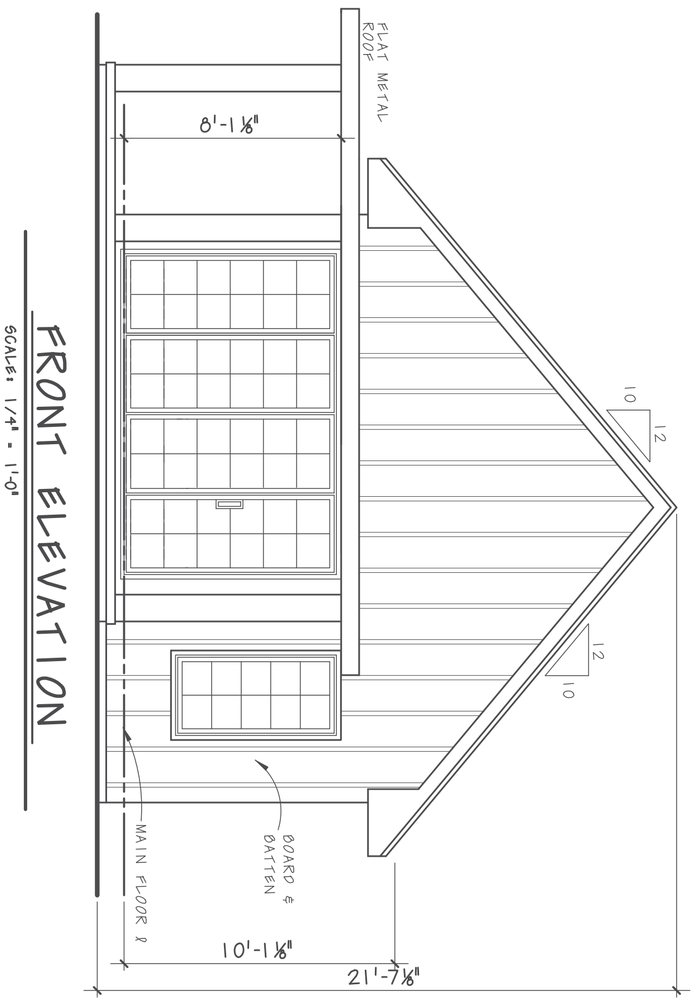
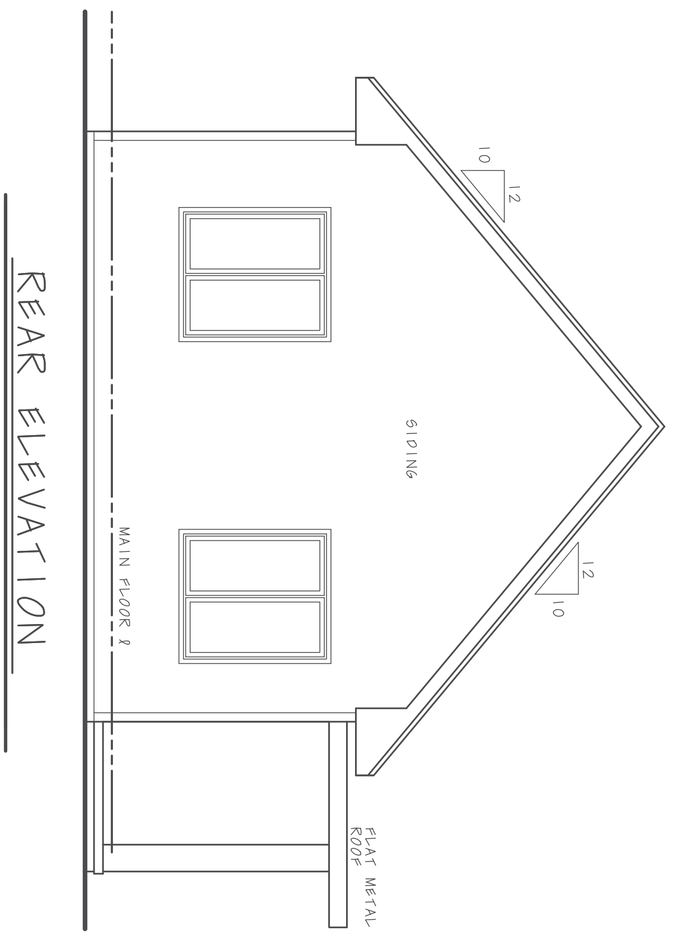
SHEET 1 of 5



FRONT ELEVATION

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



REAR ELEVATION

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

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PLAN ALTERATIONS

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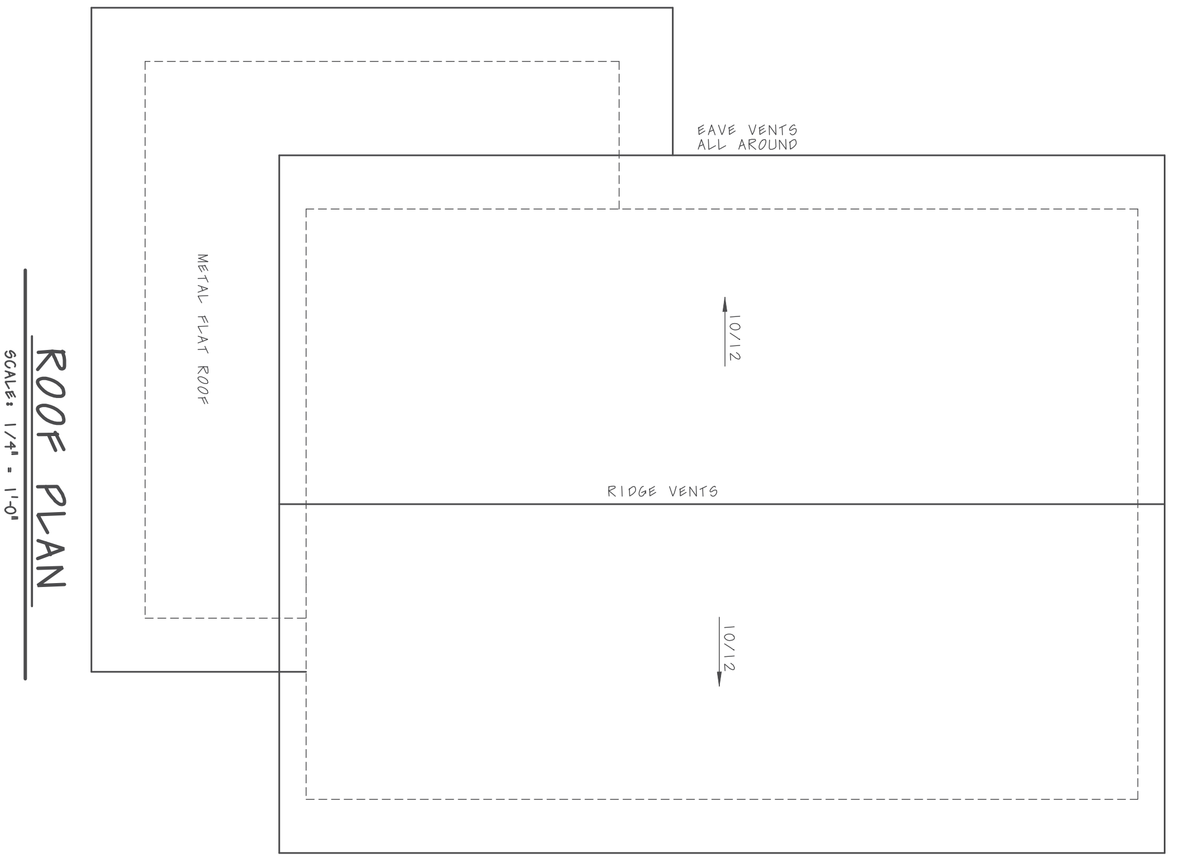
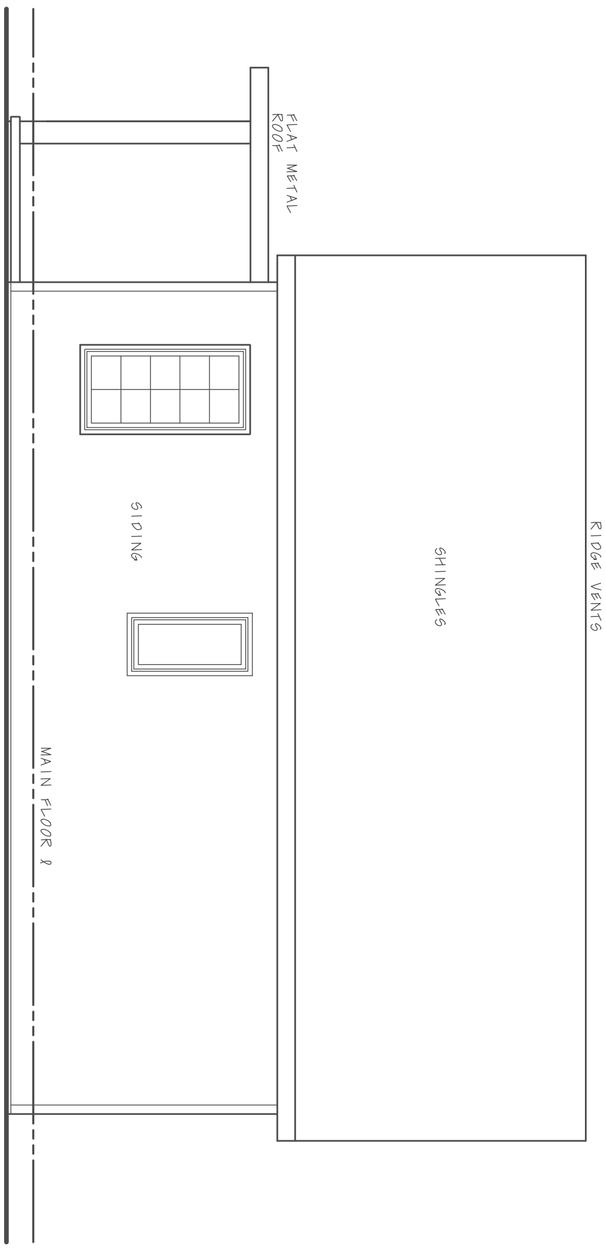


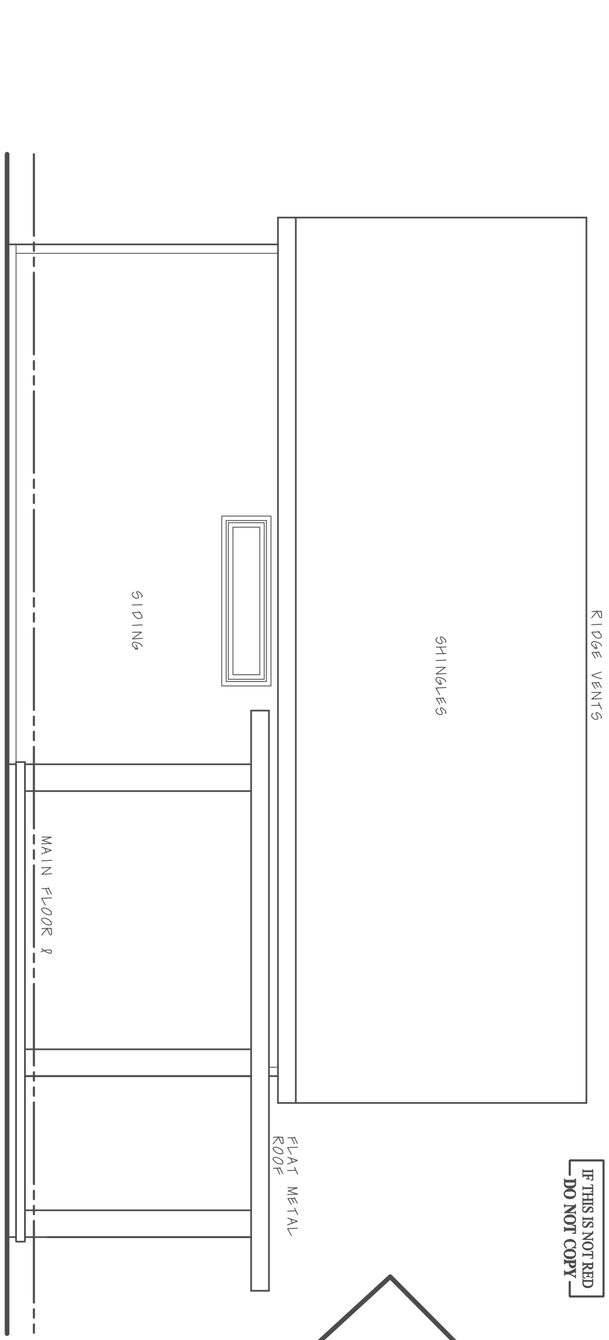
ROOF PLAN

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



RIGHT SIDE ELEVATION

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



LEFT SIDE ELEVATION

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

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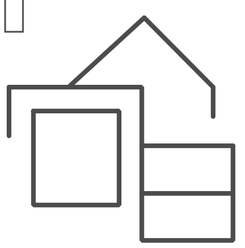

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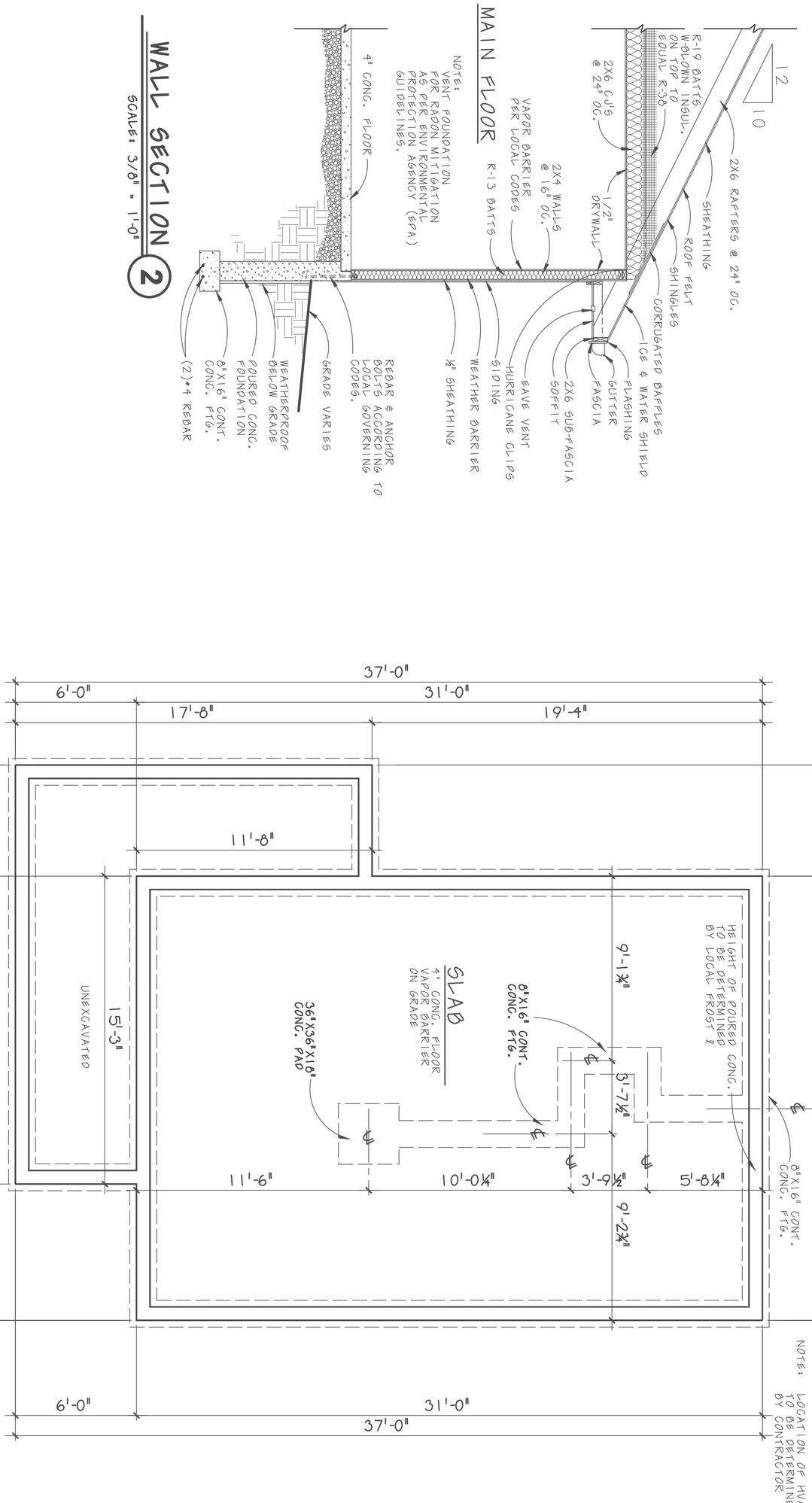

WALL SECTION 2

SCALE: 3/8" = 1'-0"

SLAB FOUNDATION

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

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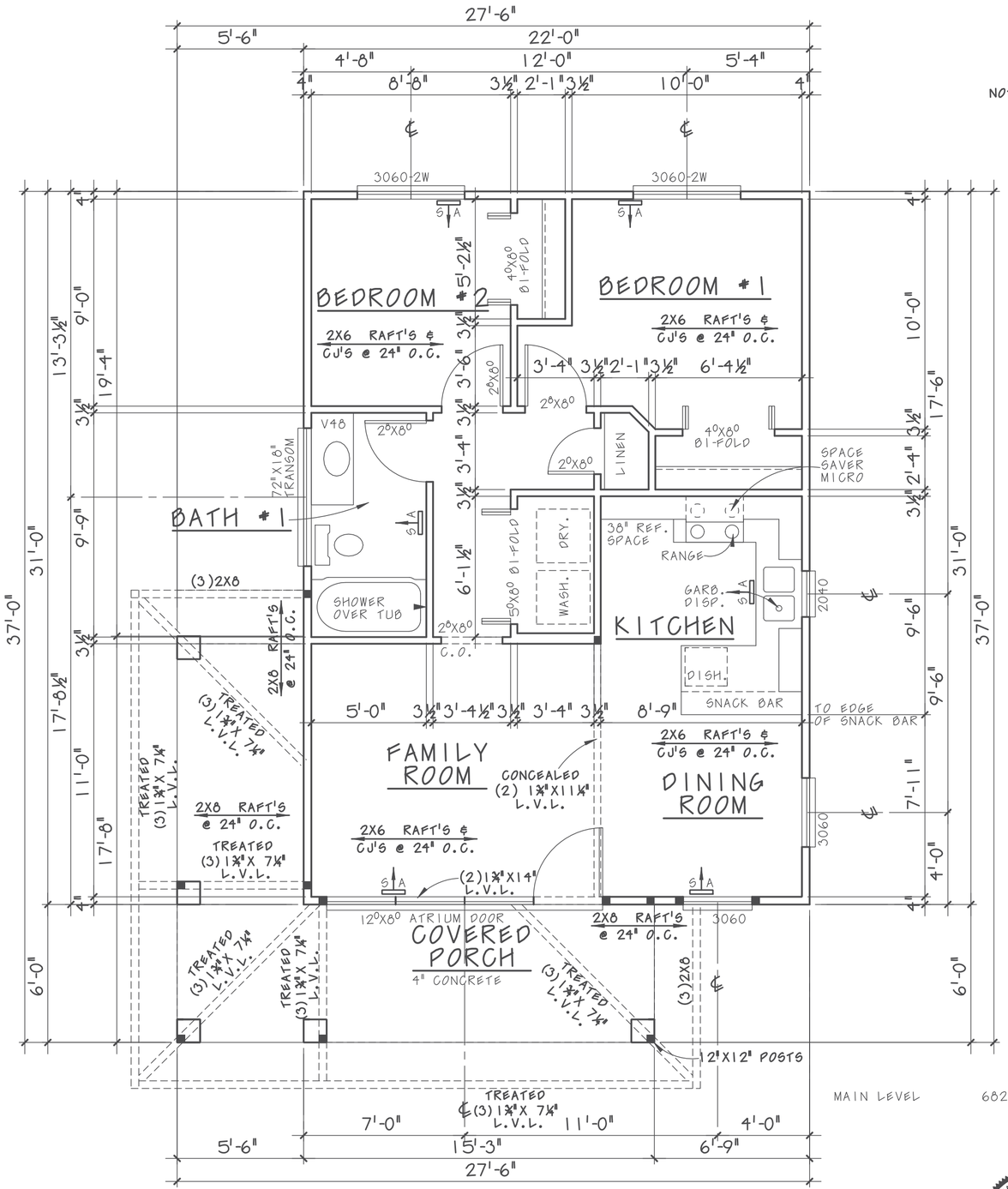
NOTE: ALL EXTERIOR WALLS ARE 4" (3½" STUD +½" RIGID INSUL.) ALL INTERIOR WALLS ARE 3½" UNLESS OTHERWISE SHOWN

NOTE: ALL MAIN FLOOR WALLS ARE 10'-1⅛" HIGH UNLESS NOTED OTHERWISE

NOTE: ALL ANGLED WALLS ARE @ 45°

NOTE: ALL LVL'S ARE 1.9E OR BETTER

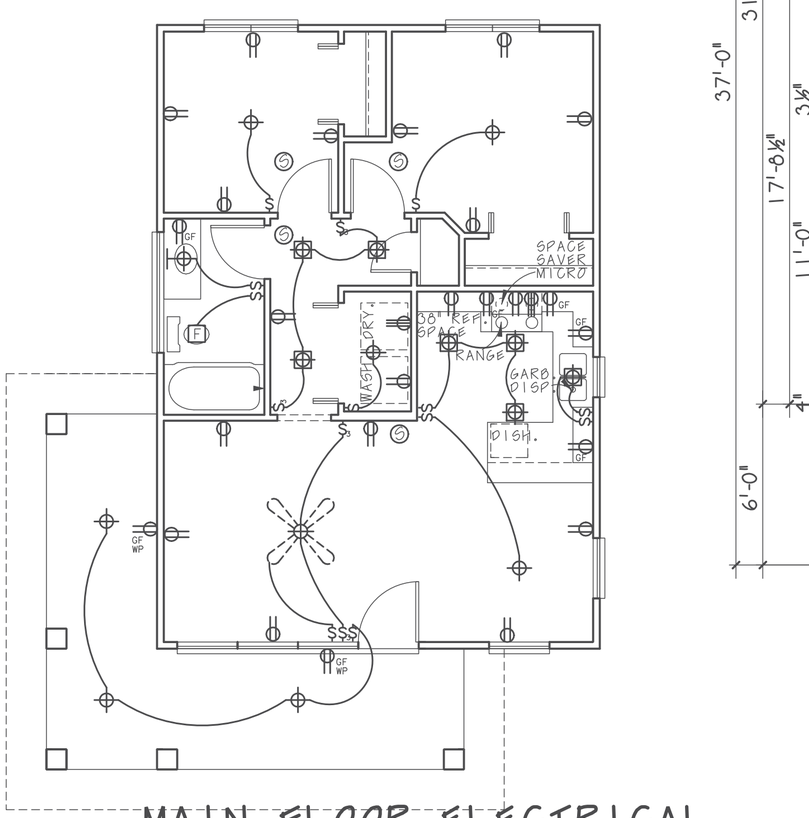
NOTE: ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED WITH O.S.B. SHEETING. BRACED WALL PANELS AS PER 2018 IRC R601.2 AND TABLE R602.10.5



MAIN FLOOR PLAN

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

MAIN LEVEL 682 ☐



MAIN FLOOR ELECTRICAL

SCALE: 3/16" = 1'-0"

AREA	SQ. FT.
FIRST FLOOR	682
SECOND FLOOR	
TOTAL LIVING	682
BASEMENT FLOOR	
GARAGE	
FRONT PORCH	189
DECK	
OPT. BONUS ROOM	

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SHEET 5 of 5

Gmail

Kurt Linford <kllinford@gmail.com>

Ticket 20252301308 for LV2 - Status Change

lvenergyprs@korweb.com <lvenergyprs@korweb.com> Wed, Jun 4, 2025 at 11:43 AM
To: KLLINFORD@gmail.com

Our records indicate you called in dig request **20252301308** at **DEER LN, ALPINE, WY**.

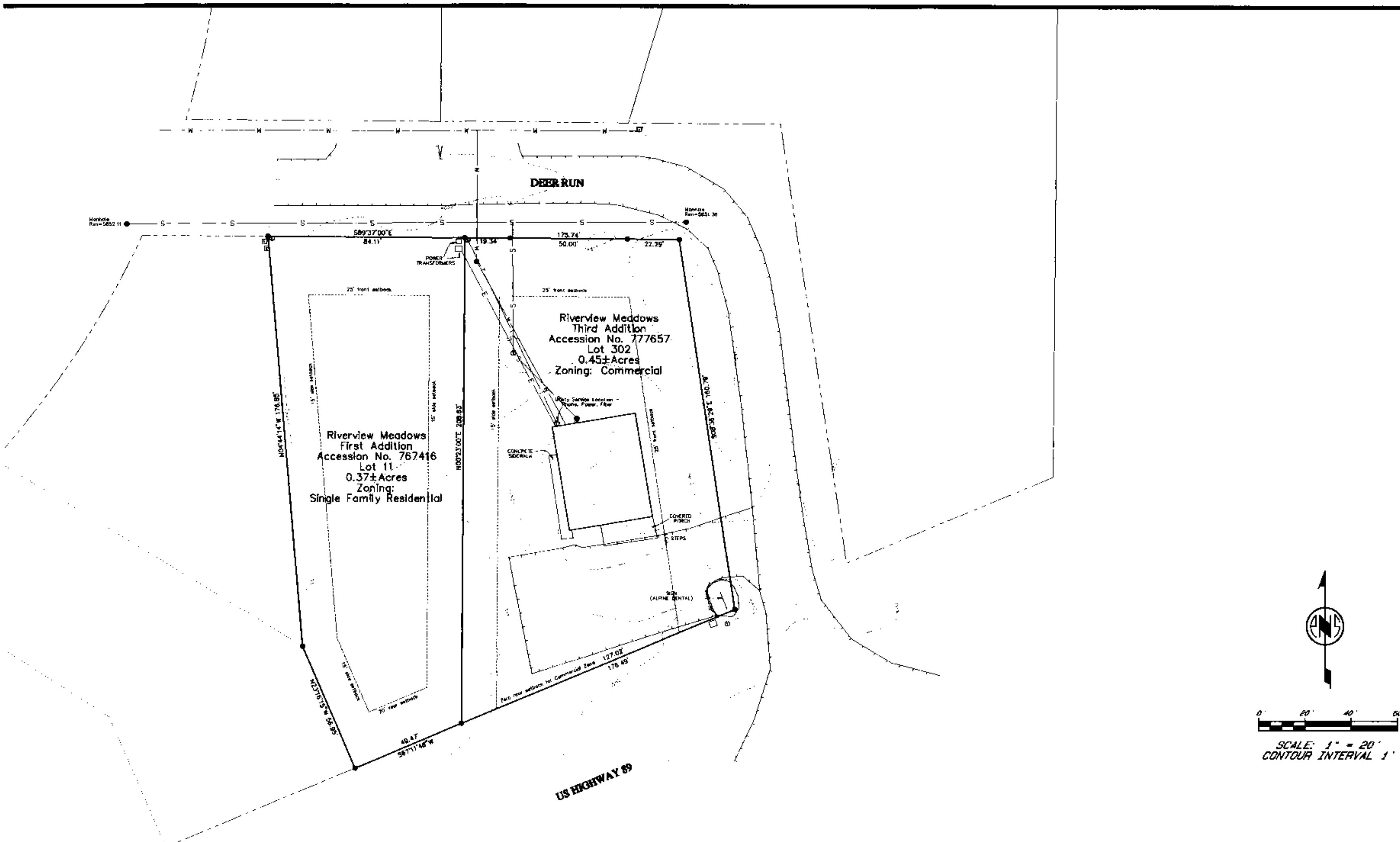
This email is a status update relating to ticket number **20252301308** for code **LV2**.

Ticket:	**20252301308**
Member Code:	**LV2**
Company:	**KLLINFORD@GMAIL.COM**
Done For:	**OTHER BUSINESS**
Work to begin on:	**6/5/2025 12:48:41 PM**
County:	
City:	**ALPINE**
Address:	**DEERLN**
Contact:	**KURT LINFORD**
Phone:	**208-351-2154**
Completed on:	**6/4/2025 11:41:37 AM**
Response:	**MARKED**

Facility	Work Performed	Action Code
ELECTRIC	**Marked**	**PAINT & FLAG**
GAS	**Cleared**	

Remarks:

Notes:



TOPOGRAPHIC MAP AND SITE PLAN
FOR
RIVERVIEW MEADOWS FIRST ADDITION
LOT 1
AND
RIVERVIEW MEADOWS THIRD ADDITION
LOT 302
IN THE TOWN OF ALPINE
LINCOLN COUNTY, WYOMING

DATE: 8 May 2023
DRAWN BY: Karl F. Scherbel
CALCULATED BY: Karl F. Scherbel
CATEGORY/PORT: Town/Alpine/Riverview Meadows
FIELD BOOK:
COMPUTER FILE: AlpineDentalTopo.pro

SURVEYOR SCHERBEL, LTD.
PROFESSIONAL LAND SURVEYORS
BOX 96 B/C PINEY-MARBLETON, WYO. 83113 TEL 307-276-3347
BOX 725 AFTON, WYO. 83110 TEL 307-885-9319; ALPINE, WYO. 83128 TEL 307-885-9319
JACKSON, WYO. TEL 307-733-5903; LAVA, ID TEL 208-776-5930; MONTPELIER, ID TEL 208-847-2800

REVISIONS

PLOT DATE: 31 May 2023

Surveyor Scherbel, Ltd.
P.O. Box 725
Afton, Wyoming 83110
(307) 885-9319

Invoice

DATE	INVOICE NO.
6/9/2025	6126-A

BILL TO:

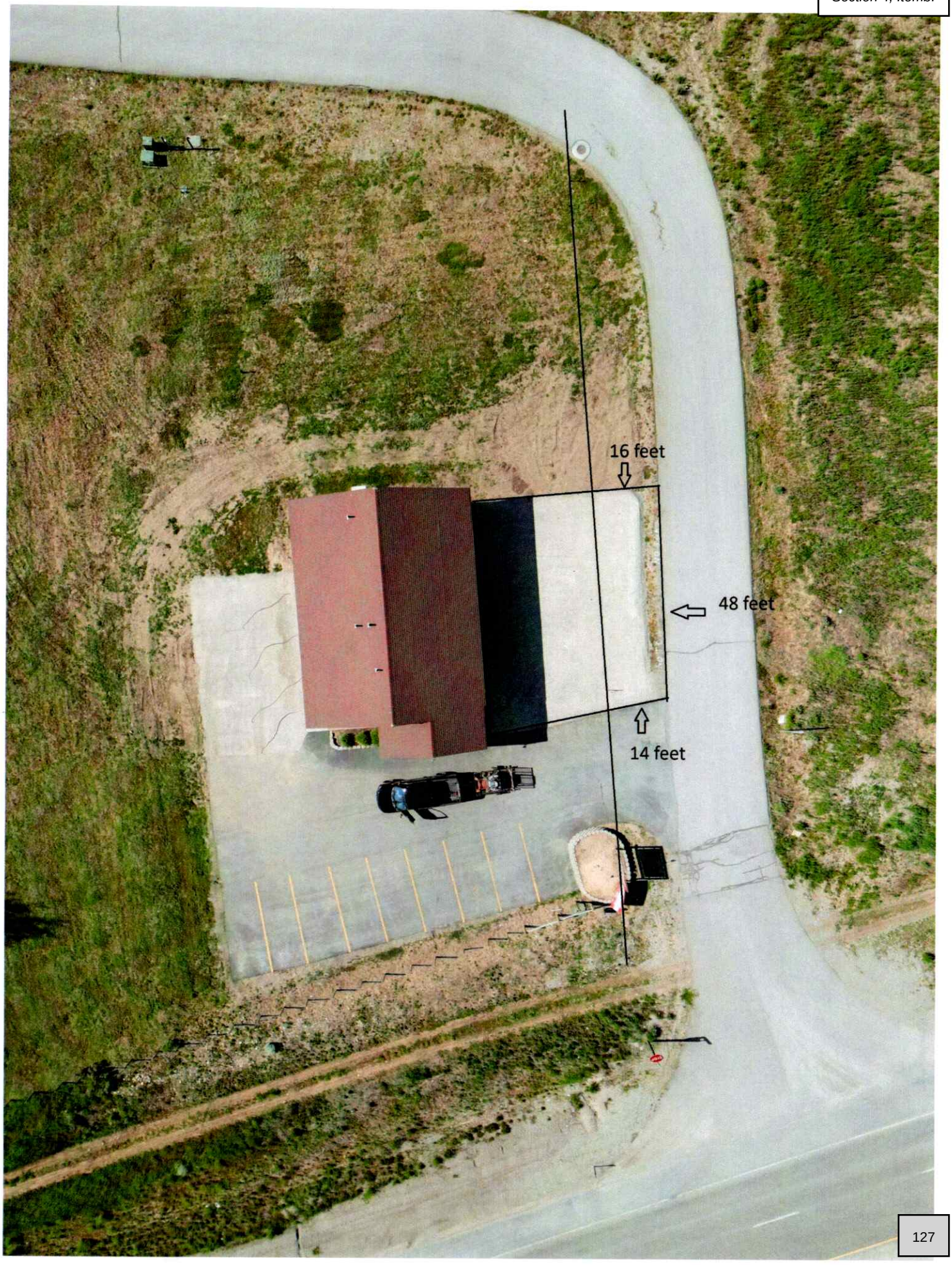
Kurt Linford
P. O. Box 3469
Alpine, Wyoming 83128

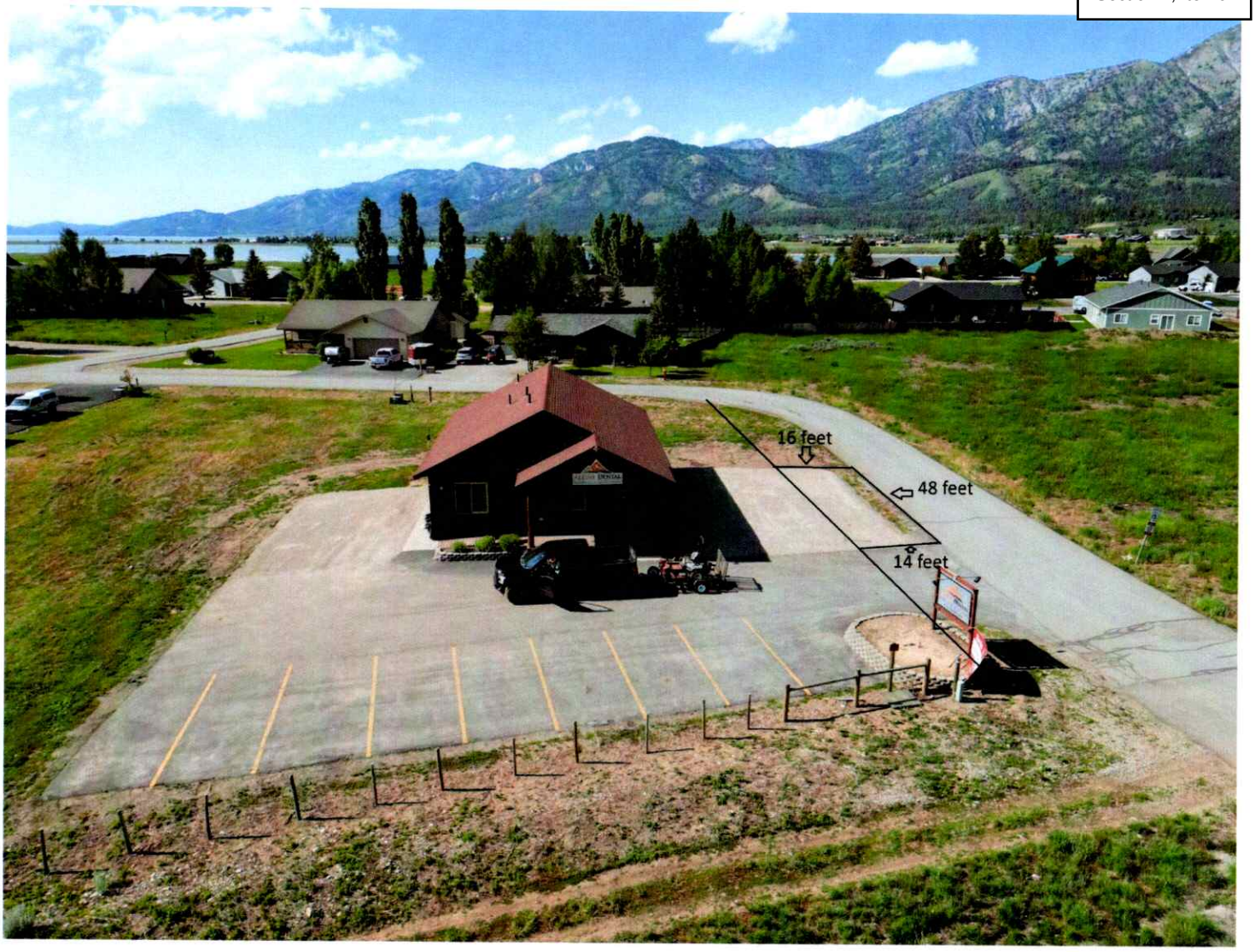
DUE DATE	PROJECT
7/9/2025	ALRVM3-302SP

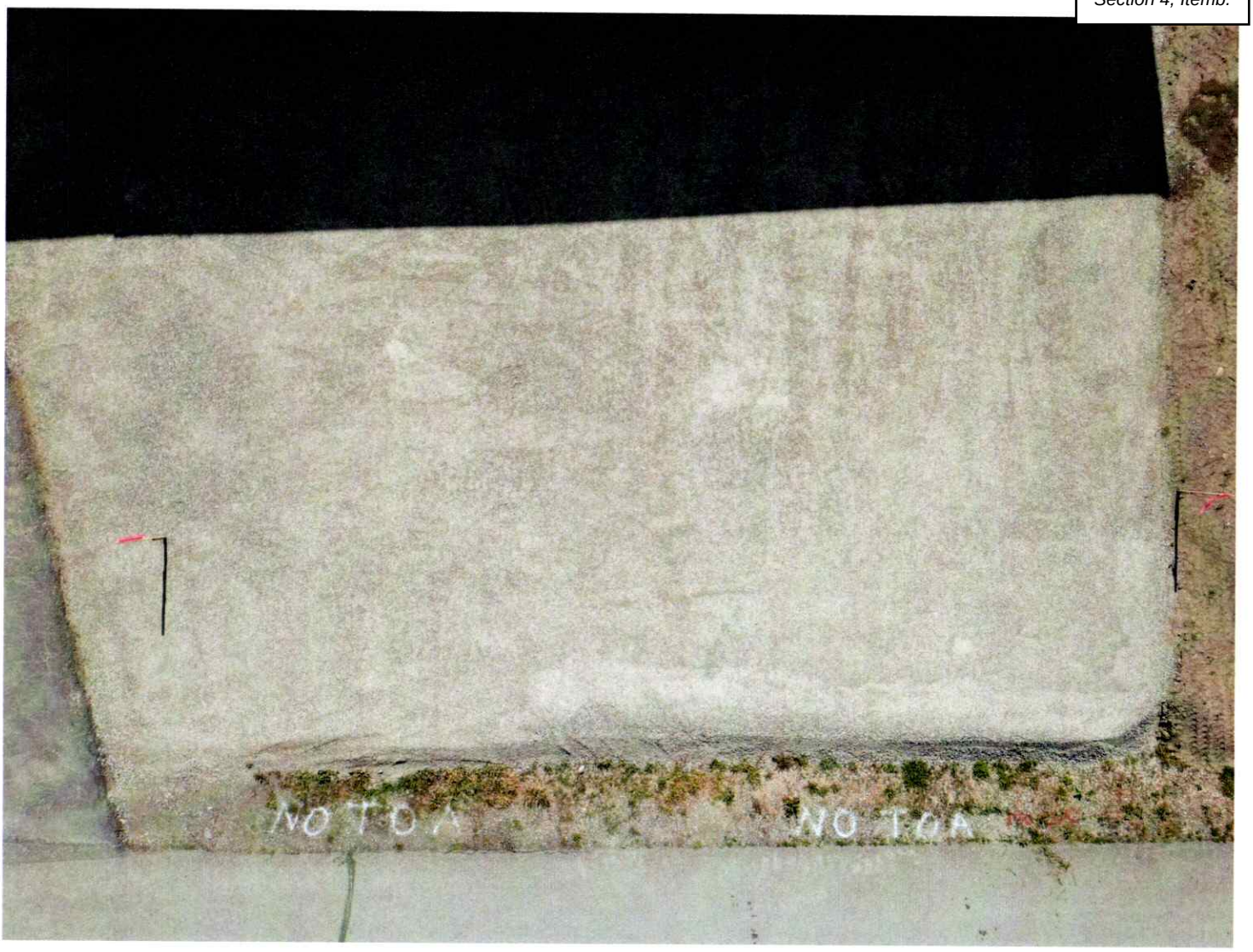
DESCRIPTION	AMOUNT
PROJECT: Kurt Linford DDS,LLC – Site Plan – Lot 302 River View Meadows Third Addition to the Town ofAlpine, Lincoln County, Wyoming	
Professional Services	277.50
A penalty of 1.5% per month is charged on all outstanding invoices.	

Scan the QR code to pay your invoice online.

Total	$277.50
Payments/Credits	$0.00
Balance Due	**$277.50**


16 feet
48 feet
14 feet


16 feet
48 feet
14 feet


NO TOA
NO TOA

Town of Alpine

250 River Circle, PO Box 3070
307-654-7757

Date: June 12, 2025

To: Dr. Kurt Linford, DDS

Subject: Reminder – Encroachment Application for Lot #302, Riverview Meadows

Dear Dr. Linford,

This letter serves as a formal reminder regarding the Planning and Zoning Commission's review of your Encroachment Application for the parking lot on Lot #302 in Riverview Meadows.

At the recent Planning and Zoning Commission meeting, the Commission recommended the following steps be completed before further consideration of your application:

1. Hire a licensed surveyor to accurately identify and stake your property lines.
2. Contact One-Call to locate all underground utilities in the area.
3. Submit a completed application for either a Special Use Permit or an Encroachment Permit, depending on what is appropriate for your intended use.

Once these steps are completed, you will need to return to a Planning and Zoning Commission meeting for a formal review. The Commission will then make a recommendation to the Town Council, which will render the final decision.

While the Commission agreed during the meeting that the parking area could remain as-is for the time being, we cannot allow the situation to remain in its current state indefinitely. Therefore, we respectfully request that you have all required items completed and submitted in time for the next Planning and Zoning Commission meeting on July 8, 2025.

Thank you for your understanding and cooperation in resolving this matter. Please contact our office if you need assistance or have any questions.
Sincerely,

Gina Corson
Acting Planning and Zoning Administrator
Town of Alpine, Wyoming
planning@alpinewy.gov
307-654-7757

LUDC Ordinances Concerns

Section	Section Name	Sub-section	Column1	PG #	Notes	Status
6.2	Rules of Interpretation and Definitions	Definitions		140	Floor Area- Does it include the floor area of all levels or just one?	
6.2	Rules of Interpretation and Definitions	Definitions		138	"Construction Site" is not defined (Construction Activities/Fences/Materials are defined) -TB	
4-401	Developement Standards	RV Parks		96	No minimum lot size is defined for RV Parks (ie could have RV park on 1/4 acre -Schou 5.13.25 P&Z meeting) -TB	
3-302	Zoning Ordinance	Nonconforming structures		86	(a) A nonconforming structure may be enlarged or expanded an accumulative amount of twenty (20) percent of the existing structure. However, no enlargement or expansion may encroach any further into setbacks than the existing structure encroaches. The cumulative total is the sum of all expansions or enlargements from the date the structure became nonconforming. **Accessory Building/Structure**. A detached building/structure located on a parcel of land that is used to support the primary use of a principal building, located on the same lot as the primary structure/building. **Attached/Attachment.** To make fast, permanently fixed; must have contiguous foundation wall; can include a covered walkway. Roof of addition and/or walkway, must be attached to the principal building.	
2-501	Building Applicaiton Processing Schedule	e		51	Issued Commercial permits are good for one (1) year with a one (1) time, one (1) year extension upon. If the project is not completed within two (2) years, applicants will have to start the process over with all new fees, filings, meetings, etc. ***ICC says they can have 2 extensions. Should we mirror that? Verify it is on all types of permits.**	Adressed
	Building Applicaiton Processing Schedule			51	Minor Construction is not listed with others on pg 51, why?	
2-301	Building Permit Requirments	c-9		37	Three (3) sets of scaled construction drawings (see application checklist) that illustrate the proposed foundation, floor plan, typical wall section, roof system, building elevations, exterior material specifications, as well as electrical, plumbing, radon and HVAC systems. All construction drawings for structures submitted with a permit application will be designed, stamped and certified by a civil or structural engineer greater than TOWN OF ALPINE LAND USE AND DEVELOPMENT CODE ADOPTED – 3/18/2025 – ORDINANCE 2024-009 Page 37 three hundred (300) square feet in size.) Along with one (1) digital copy of the construction drawings. {See permit checklist for complete details}. **Need to change to 2 paper 1 digital, like in ICC. This is in multiple section that will need to be changed.**	Addressed
					Maximum Curb Cut/Approach?	
2-501	Building Applicaiton Processing Schedule	d		51	**R105.3.2 Permit application time limits- Our language should mirror ICC?**	
2-204	Minor Subdivision Review and Approval Process	h		34	The Zoning Administrator will notify, in writing, all landowners of properties that are located within five hundred (500) feet of the proposed minor subdivision.	Adressed
N/A	N/A	N/A		N/A	There is a Tempory Use Permit Application and Fee but the LUDC does not mention temporary use in it anywhere. It talks about temporary structures. So things like tents or other items used during summer months fall under what? Minor Construction? Further, Ordinance 233 No. 2015-06 is requires a permit for to "sell, barter, or gift" any pyrotechnic device. But there was not an application for this permit and it does not fall under LUDC.	
					Site plan- is it 3d or 2D, If 3D how high and low does it extend. Update definition.	
	Required Building and Site Inspection	2-304		45	d) Upon completion of the forming of any foundation walls of the structure, a Certificate of Placement will be issued and submitted to the Zoning Administrator of the Town of Alpine. The Certificate of Placement verifies the location of the structure and the compliance, or lack of compliance, with the plot/site plan submitted with the approved building permit application. The Certificate of Placement will be completed by a land surveyor, licensed in the State of Wyoming that is retained by the building owner; the certificate is to be submitted to the Town office prior to moving forward with the project. If any work is completed prior to the certificate submittal, all work will be removed, at the owner's expense.	ok?
					Port-a-potties- are they in there? Should we add them? Case/permit specific or across the board?	
					Trash Containers- Mention Osha- Add a new Section to LUDC for Construction Site Requirments?	
					DEQ vrs Lincoln County Septic- Do we need an agreement ith Lincoln County for approval	
					Impervious service?	
					Limit on number of accessory buildings?	
					Size of accessory buildings (1200 sq ft)? It is different in R1, R2, MRC. COM and LI don't have a size limit other than setback. PFC and RC states 600 sq ft.	
		2-303	6	44	the demolition of an existing building and/or storage sheds under over three hundred (300 square feet, on an existing property;	

buildinding design standards and guidelines	4-501	b	98	Size limitations for R1 says "size Limitations: No single-family dwelling unit shall exceed eight thousand (8,000) square feet of gross floor area. No single-family dwelling unit shall be any smaller than allowed by the most recent version of the International Building Code and/or International Residential Code that has been adopted by the Town of Alpine. "
	4-502	b 6	100	States in Modular homes that they need a min. of 800 sq ft
				Look at PUD language re annexations vrs when used for property in town already. Do they need to be different?
				Put radon testing back in and get equipment for them to check out
Building Official	1-107	b 6	6	Add who can place a stop work order, and update the language in LUDC from cease and desist or add stop work.
Design Review Committie	1-108	c 7	7	update the language in DRC that they are in charge of approval not just recommendations
Affidavit Process	2-303	a 1	44	Perimeter fence definition? Because it states they can not be on the lot line. How far back do they need to be? Are they a perimeter fence at that point? What happens if they do a dog run or non non-perimeter fence? Also 2-303 a 1 specifes perimeter fences.
				Add retaining walls to the structure defin. And make sure structures are listed as not allowed in setbacks.
		g-1	122	Commerical building in PFC? No cap is listed.
				Wood foundations…should we not allow them.

TOWN OF ALPINE
ORDINANCE NO. 2025-011
LAND USE & DEVELOPMENT CODE

AN ORDINANCE REPEALING AND REPLACING CERTAIN SECTIONS OF PART 2 – PROCEDURES AND PART 4 – DEVELOPMENT STANDARDS OF THE TOWN OF ALPINE LAND USE AND DEVELOPMENT CODE AND AMENDING THE TABLE OF CONTENTS ACCORDINGLY

WHEREAS, the Town of Alpine has adopted a Land Use and Development Code to regulate land use and development activities within the town limits;

WHEREAS, the Town Council of the Town of Alpine has determined that specific updates to Part 2 – Procedures and Part 4 – Development Standards are necessary for improved clarity, accuracy, and alignment with current planning and building practices;

NOW, THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE TOWN OF ALPINE, WYOMING:

SECTION 1. REPEAL AND REPLACEMENT OF PART 2 – PROCEDURES

The following sections of the Alpine Land Use and Development Code, **Part 2 – Procedures**, are hereby repealed in their entirety and replaced with the following:

Section 2-204. Planned Unit Development Process

(f) The Zoning Administrator will, as soon as practical, place the proposed planned unit development application on the agenda of the Alpine Planning and Zoning Commission.

(g) Before any decision is reached by the Alpine Planning and Zoning Commission:

(1) The landowner(s)/applicant(s) will post a copy of the proposed planned unit development application upon the property where the planned unit development is requested. Notice shall be no less than 18” x 24” and posted on material that is visible from the property line. The costs of production of the notice and posting the notice shall be borne by the petitioner. This public notice will be made, at least, thirty (30) days before the planned unit development application is considered publicly by the Alpine Planning and Zoning Commission.

(2) The landowner(s)/applicant(s) will provide written notice, via certified mail, to all utilities effected and all owners of property within five hundred (500) feet of the property or properties under consideration for a planned unit development. The written notice will also include the date, time and place when the proposed planned unit development will be considered by the Alpine Planning and Zoning Commission. This public notice will be made, at least, thirty (30) days before the planned unit development application is considered publicly by the Alpine Planning and Zoning Commission. The landowner(s)/applicant(s) shall bear the

responsibility of paying all costs and postage fees of the certified mailing and provide proof of said mailings to the Planning and Zoning Administrator.

(3) The Alpine Planning and Zoning Commission will hold one (1) public hearing at a public facility within the Town of Alpine. Town residents and the general public will receive at least thirty (30) days' notice of the public hearing. Public notice will be advertised in one (1) newspaper of general circulation throughout Lincoln County. The Planning and Zoning Administrator will prepare the notice and provide it to the newspaper. The landowner(s)/applicant(s) shall bear the responsibility of paying all costs of this advertising. Public comments received during the meeting will be documented for subsequent reference during the zone change process.

Section 2-207.2. Minor Subdivision Review and Approval Process (Figure 2-6)

(c) Applicant will complete and file one (2) hard copies, and one (1) digital copy of a master plan report for the proposed subdivision with the Zoning Administrator. The master plan will address what municipal services the subdivision intends to use, as well as the potential impact of the proposed subdivision upon the Town of Alpine and the community. The master plan, which will contain a combination of technical narrative, statistical tables, and illustrations, will address, at least, the following issues:

(1) The purpose of the subdivision and proposed land uses.

(2) A development schedule for proposed land uses.

(3) The number of lots being created and, if applicable, the zoning designations requested for each lot.

(4) Planned water system, as well as anticipated average day and maximum day water demand.

(5) Planned wastewater system, as well as anticipated average daily flows.

(6) Planned points of access to municipal roads, Lincoln County roads, and U.S. Highway 89, as well as anticipated average and peak day traffic volumes

(7) Planned storm water management plan and anticipated storm water flows for ten (10) year storm event.

(8) Planned snow storage areas.

(9) Planned easements and facilities to accommodate access to, or the extension of, the Town of Alpine's planned community trail system.

(10) Landscape Plan

(d) Applicant will prepare and file one (1) hard copy, and <u>one (1) digital copy of a preliminary plat</u> with the Zoning Administrator that contains, at least, the following information:

(1) Proposed name of subdivision, the size of property to be subdivided (in acres), and the size of the lots or parcels being created;

(2) Name and address of the subdivision applicant, professional engineer or professional land surveyor registered in the State of Wyoming who prepared the plat, and owners of subject property;

(3) Location and boundaries of the subdivision that are tied to two (2) legal survey monuments;

(4) Date of drawing preparation and all subsequent revisions, as well as a scale (not less than one {1} inch = two hundred {200} feet) and north arrow;

(5) Boundary lines of subdivision, the location and dimensions of all existing streets, alleys, trails, paths, easements, watercourses and irrigation ditches, and structures on and within two hundred (200) feet of the subdivision;

(6) Location of existing water distribution and wastewater collection lines on and within two hundred (200) feet of the subdivision;

(7) Two (2) foot contours where ground slopes are less than ten (10) percent and five (5) foot contours where ground slopes exceed ten (10) percent.

Section 2-207.3. Major Subdivision Review and Approval Process (Figure 2-7)

(d) Applicant will complete and file two (2) hard copies, and **one (1) digital copy of a master plan report** for the proposed subdivision with the Zoning Administrator. The master plan will address what municipal services the subdivision intends to use, as well as the potential impact of the proposed subdivision upon the Town of Alpine and the community. The master plan, which will contain a combination of technical narrative, statistical tables, and illustrations, will address, at least, the following issues:

(1) The purpose of the subdivision and proposed land uses.

(2) A development schedule for proposed land uses.

(3) The number of lots being created and, if applicable, the zoning designations requested for each lot, and densities associated with residential and commercial land uses.

(4) Suitability of soils to support future land use expansion.

(5) Compatibility of proposed land uses with adjacent land uses.

(6) When applicable, the potential need for new housing in the context of anticipated housing demands for Alpine.

(7) Planned water system, as well as anticipated average day and maximum day water demand.

(8) Planned wastewater system, as well as anticipated average daily flows.

(9) Planned points of access to municipal roads, Lincoln County roads, and U.S. Highway 89, anticipated average and peak day traffic volumes.

(10) Vehicular circulation plan.

(11) Planned storm water management plan and anticipated storm water flows for ten (10) year storm event.

(12) Snow storage areas.

(13) Landscaping plan.

(14) Planned easements and facilities to accommodate access to, or the extension of, the Town of Alpine's planned community trail system.

(15) When applicable, planned covenants, contracts or deed restrictions that may be associated with a common interest development.

(e) Applicant will prepare and file two (2) hard copies to scale and one (1) digital copy of a preliminary plat with the Zoning Administrator that contains, at least, the following information:

(1) Proposed name of subdivision, the size of property to be subdivided (in acres), and the size of the lots or parcels being created;

(2) Name and address of the subdivision applicant, professional engineer or professional land surveyor registered in the State of Wyoming who prepared the plat, and owners of subject property;

(3) Location and boundaries of the subdivision that are tied to two (2) legal survey monuments;

(4) Date of drawing preparation and all subsequent revisions, as well as a scale (not less than one {1} inch = two hundred {200} feet) and north arrow;

(5) Boundary lines of subdivision, the location and dimensions of all existing streets, alleys, trails, paths, easements, watercourses and irrigation ditches, and structures on and within two hundred (200) feet of the subdivision;

(6) Location of existing water distribution and wastewater collection lines on and within two hundred (200) feet of the subdivision;

(7) Two (2) foot contours where ground slopes are less than ten (10) percent and five (5) foot contours where ground slopes exceed ten (10) percent.

(o) The applicant will prepare and file two (2) hard copies to scale and **one (1) digital copy of a final subdivision plat** application, and related filing fees, with the Zoning Administrator. The final subdivision plat application will include the final subdivision plat, a signed copy of a subdivision improvement agreement, a payment of all design costs for public improvements, and performance surety.

Section 2-301(9–11). Building Permit Requirements

(9) Two (2) hard copies to scale, a minimum of 2-foot by 3-foot, set of **scaled** construction drawings (see application checklist) that illustrate the ***proposed foundation, floor plan, typical wall section, roof system, building elevations, exterior material specifications***, ***as well as electrical, plumbing, radon and HVAC systems***. **All construction drawings for structures submitted with a permit application will be designed, stamped and certified by a civil or structural engineer greater than three hundred (300) square feet in size.) Along with one (1) digital copy of the construction drawings. {See permit checklist for complete details}.**

(10) All new buildings including additions or remodels to and existing structures, require submittal of two (2) hard copies, a minimum of 18-inches by 24-inches,

set of a scaled site/plot plan, that depicts the location of, proposed vehicular access, the finish grade of the project site, septic system or sewer connection location, water connection location, denoting all above ground and below ground utilities (power, propane) and/or easements to be located on the property, vehicle parking (garage square footage and driveway dimensions {square footage}), setbacks, onsite drainage facilities and snow storage areas (snow storage dimensions {square footage}) needs to be clearly identified. **Along with <u>one (1) digital copy</u> of the scaled site/plot plan. {See permit checklist for complete details}.**

a. Submittal of the <u>civil engineered site plan</u> is required for all Multi-Unit Residential (R-2) {including additions or remodels to existing structures}, Mixed Residential and Commercial (MRC) {including additions or remodels to existing structures} and Commercial (C) {including additions or remodels to existing structures}, Light Industrial (LI) {including additions or remodels to existing structures}, Public and Community Facilities (PCF) {including additions or remodels to existing structures} and Recreation and Conservation (RC) {including additions or remodels to existing structures} permit applications.

(11) Two (2) hard copies, scaled if applicable, set of other construction documents and/or other data that the applicant may consider relevant to the building permit application will be submitted with the building permit application. **All construction documents and/or other requested documents will be stamped and certified by a civil or structural engineer licensed in the State of Wyoming; (Stamped engineering is required on all structures greater than three hundred (300) square feet in size.**

Section 2-304. Required Building and Site Inspections

(h) Electrical permits and inspections for projects within the Town of Alpine are issued and conducted by the Wyoming Department of Fire Prevention and Electrical Safety. The homeowner or contractor is responsible for obtaining the appropriate permit and ensuring that all required inspections are completed.

(1) A copy of the approved wiring permit and any associated inspection reports must be submitted to the Town before the issuance of a Certificate of Occupancy or Certificate of Completion.

The previously included standalone sentence "NOTE: STATE TO COMPLETE ALL ELECTRICAL INSPECTIONS" is hereby struck and shall not appear in the revised section.

<u>SECTION 2. REPEAL AND REPLACEMENT OF PART 4 – DEVELOPMENT STANDARDS</u>

The following sections of **Part 4 – Development Standards** of the Alpine Land Use and Development Code are hereby **repealed and replaced**, except **Section 4-204**, which is **hereby added as a new section**:

Section 4-201. Applicable Building Codes

(a) All buildings and temporary structures built or located within the Town of Alpine on or after **November 1, 2006**, shall comply with the **most currently published version** of the *International Building Code (IBC)* or *International Residential Code (IRC)*, as published by the **International Code Council (ICC)**.

(b) The construction of all new, or the repair of any existing, plumbing, mechanical, and fuel gas systems installed in the Town of Alpine following the adoption of the **Alpine Land Use and Development Code** shall conform to the most currently published version of the following codes as published by the **International Code Council (ICC)** at the time of installation:

- *International Plumbing Code (IPC)*
- *International Mechanical Code (IMC)*
- *International Fire Code (IFC)*
- *International Fuel Gas Code (IFGC)*

(c) The construction of all new, or the repair of any existing, electrical systems installed in the Town of Alpine after the adoption of the **Alpine Land Use and Development Code** shall comply with the **most current version of the National Electrical Code (NEC)** as adopted by the **State of Wyoming** at the time of installation.

Section 4-203. Exceptions to Adopted Building Codes

(a) **When necessary, the Alpine Town Council may adopt exemptions to specific standards within any of the adopted building codes.** Refer to the most recently adopted **ICC Code Exception Ordinance(s)** for applicable details.

Section 4-204. Grace Period (NEW SECTION)

(a) A six-month grace period shall be granted from the date of publication of a new ICC version, during which time both the newly published and previously adopted versions will be accepted.

SECTION 3. AMENDMENT TO THE TABLE OF CONTENTS

The Table of Contents of the Alpine Land Use and Development Code is hereby amended accordingly to reflect the repeal and replacement of the sections listed in this ordinance.

SECTION 4. EFFECTIVE DATE

This Ordinance shall take effect and be in force from and after its passage, approval, and publication as required by law.

SECTION 5. REPEAL OF ORDINANCE NO. 1997-59 AND CONFLICTING ORDINANCES

Ordinance No. 1997-59 is hereby repealed in its entirety. All other ordinances or portions of ordinances previously enacted by the Town of Alpine that are in conflict with this Land Use and Development Code are also hereby repealed.
The language and provisions formerly adopted in Ordinance No. 1997-59 have been updated, reorganized, and incorporated into Part 3 – Zoning Ordinance of the Town of Alpine Land Use and Development Code

Passed First Reading on the 17th day of June 2025.

VOTE: 4 YES, 0 NO, 0 ABSTAIN, 0 ABSENT

Passed First Reading on the 1st day of July 2025.

VOTE: ___YES, ___ NO, ___ ABSTAIN, ___ ABSENT

Passed on Third and Final Reading 15th day of July 2025.

VOTE: ___YES, ___ NO, ___ ABSTAIN, ___ ABSENT

TOWN OF ALPINE

_____
Eric Green, Mayor of Alpine

ATTEST:

_____
Monica L. Chenault, Clerk / Treasurer

ATTESTATION OF THE TOWN CLERK

STATE OF WYOMING)
COUNTY OF LINCOLN)
TOWN OF ALPINE)

I hereby certify that the forgoing Ordinance No. 2025-011 shall be duly posted for ten (10) days in the Town Office.

I further certify that the foregoing Ordinance will be posted on the Town website in final form, upon its passing and approved by the Town Council as soon as is practicable.

I further certify that the forgoing Ordinance will be duly recorded in the BOOK OF ORDINANCES, TOWN OF ALPINE, LINCOLN COUNTY, WYOMING.

ATTEST:

_____
Monica L. Chenault, Clerk / Treasurer

Design Review Plan Checklist

Permit #: _____

Project Description: _____

Project Name: _____

Address or location of property: _____

Plan Reviewer: _____

Date: _____

PASS/ FAIL

☐ ☐ PROJECT COMPLIES WITH ZONING

☐ ☐ SITE PLAN IS NAMED AND ADDRESSED

☐ ☐ NAME, ADDRESS, TELEPHONE, AND EMAIL OF PERSON OR COMPANY RESPONSIBLE FOR THE PREPARATION OF THE SITE PLAN IS INDICATED

☐ ☐ NORTH ARROW

☐ ☐ SCALE INDICATED

☐ ☐ LOCATION OF ALL EXISTING STRUCTURES AND PROPOSED STRUCTURE

WITH DIMENSIONS ARE INDICATED

☐ ☐ PROPERTY BOUNDARIES ARE DEFINED AND HAVE DIMENSIONS

☐ ☐ LOCATION OF EXISTING AND/OR PROPOSED STRUCTURES, UTILITY LINES (WATER, SEWER, AND POWER), DRIVEWAYS, YARD HYDRANTS, PROPANE TANKS, ETC.

☐ ☐ IDENTIFICATION OF SETBACKS AND MINIMUM SETBACK REQUIREMENTS HAVE BEEN MET

☐ ☐ LOCATION/DIMENSIONS OF PARKING AREA, DRIVEWAYS ARE DEFINED

☐ ☐ SNOW STORAGE AREAS IDENTIFIED

☐ ☐ LOCATION OF THE ACCESS ROAD HAS BEEN IDENTIFIED AND LABELED

Road Name: _____

☐ ☐ IDENTIFICATION OF ANY PROPERTY EASEMENTS, SUCH AS ANY ELECTRICAL LINES (OVERHEAD AND/OR UNDERGROUND), TELEPHONE, ETC. AND HAVE BEEN LABELED

☐ ☐ LOCATION OF IRRIGATION DITCHES (EXISTING IRRIGATION DITCHES PRESERVED), if applicable

☐ ☐ DRAINAGE PLAN IS INDICATED INCLUDING THE LOCATION OF EXISTING AND/OR PROPOSED CULVERTS, DITCHES, OR FLOW OF WATER ACROSS THE SITE

☐ ☐ MAXIMUM BUILDING AREAS IDENTIFIED

NOTES:

_____

_____

_____

_____

_____

_____

PLANNING & ZONING MEETING MINUTES

June 10, 2025 at 7:00 PM

Meeting Type – Regular Meeting

1. **CALL TO ORDER:** The meeting was called to order by Chairman Melisa Wilson at 7:03 PM

2. **ROLL CALL & ESTABLISH QUORUM:**

PRESENT
Planning & Zoning Commission Member Dan Schou
Planning & Zoning Vice Chairman Rachael Stewart
Planning & Zoning Chairman Melisa Wilson

3. **TONIGHT'S APPOINTMENTS/ NEW BUSINESS:**

a. KOVAC, DUSTIN, AND MAEVE: Lot #312 Lakeview Estates, 166 Stoor Dr. (MC-0425-0002)- Retaining Wall

Plans were submitted to Jorgensen Engineering for review. Jorgensen stated they did not need to review and approve them since they have been stamped by a licensed engineer. Site plan looks good.

Motion made by Planning & Zoning Vice Chairman Stewart to approve the Minor Construction Permit for Lot #312 Lakeview Estates, 166 Stoor Dr. (MC-0425-0002) with the contingency that they provide a clearer set of plans, seconded by Planning & Zoning Commission Member Schou.
Voting Yea: Planning & Zoning Commission Member Schou, Planning & Zoning Vice Chairman Stewart, Planning & Zoning Chairman Wilson

b. AFFITTAMI, LLC AKA AUTO SERVICES ELEVATED (KRESAN, KATIE); Lot#3 Elk Meadows, 119 Sagebrush Ln. (C-0525-0003)- Commercial Building, Office, and Employee Apartments

Applicants have attended the Design Review Committee Meeting and were granted contingent approval. Ste plan looked good.

Motion made by Planning & Zoning Commission Member Schou to approve the site plan for Lot#3 Elk Meadows, 119 Sagebrush Ln. (C-0525-0003)- Commercial Building, Office, and Employee Apartments, seconded by Planning & Zoning Vice Chairman Stewart.
Voting Yea: Planning & Zoning Commission Member Schou, Planning & Zoning Vice Chairman Stewart, Planning & Zoning Chairman Wilson

c. VIGNAROLI, AMY, AND ROBERT: Lot #15 Palis Park, 180 Canyon View Dr. (R1-0625-0001)- Single-family Residential (Modular)

Mr. Shou asked if they would be using propane. They will not. Site plan looks good.

Motion made by Planning & Zoning Commission Member Schou to approve site plan for VIGNAROLI, ANY, AND ROBERT: Lot #15 Palis Park, 180 Canyon View Dr. (R1-0625-0001)- Single-family Residential (Modular), seconded by Planning & Zoning Vice Chairman Stewart.
Voting Yea: Planning & Zoning Commission Member Schou, Planning & Zoning Vice Chairman Stewart, Planning & Zoning Chairman Wilson

4. TABLED ITEMS:

a. EPLIN, CHERI: Lot #220, Lakeview Estates A, 672 Sunset Dr (R1-0425-0001) – New single-family residence

The contractor is still waiting for the engineered drawings for the septic system. The item will remain tabled.

b. KURT LINFORD DDS: Lot #302 Riverview Meadows – Encroachment Application for parking lot

Mr. Linford has had the property surveyed and staked. As of Friday, June 6, he informed the Municipal Officer that he is still waiting on One-Call before proceeding further.

Gina Corson is planning to send a reminder letter to Mr. Linford outlining the next steps and the timeframe by which the issue must be resolved.

5. UNFINISHED/ONGOING BUSINESS:

6. PLANNING/ZONING CORRESPONDENCE:

7. APPROVAL OF MINUTES:

Motion made by Planning & Zoning Vice Chairman Stewart, seconded by Planning & Zoning Commission Member Schou.
Voting Yea: Planning & Zoning Commission Member Schou, Planning & Zoning Vice Chairman Stewart, Planning & Zoning Chairman Wilson

a. Meeting Minutes May 13, 2025

8. TOWN COUNCIL ASSIGNMENT:

Chairman Wilson will attend the Town Council Meeting scheduled for June 17, 2025.

9. ADJOURN MEETING:

Motion made by Planning & Zoning Commission Member Schou to adjourn at 7:43 PM, seconded by Planning & Zoning Vice Chairman Stewart.
Voting Yea: Planning & Zoning Commission Member Schou, Planning & Zoning Vice Chairman Stewart, Planning & Zoning Chairman Wilson

** Minutes are a summary of the meeting **