

AREA = 484 SQ. FT.

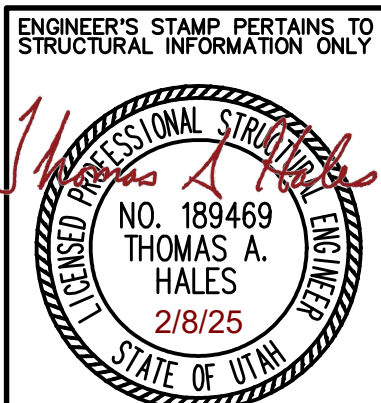
BRICK VENEER STEEL ANGLE LINTEL SCHEDULE		
OPENING SIZE	ANGLE SIZE	COMMENTS
0'-0" to 6'-1"	L3.1/2"x3.1/2"x1/4"	
7'-0" to 8'-1"	L4"x3.1/2"x1/4"	
9'-0" to 9'-1"	L5"x3.1/2"x1/4"	
10'-0" to 18'-0"	L5"x3.1/2"x1/4"	CONNECT STEEL ANGLE TO LVL BEAM WITH 1/2" DIA. x 3" LAG SCREWS AT 16" O.C.
BRICK VENEER STEEL ANGLE LINTEL NOTES:		
1. ALL STEEL LINTELS SHALL HAVE A MINIMUM BEARING LENGTH OF 1" PER FOOT OF OPENING OR 4" MINIMUM TYPICAL. MAXIMUM BEARING LENGTH NEED NOT EXCEED 12".		
2. LINTELS ARE DESIGNED TO SUPPORT UNIFORM LOADS CONSISTING ONLY OF WEIGHT OF WALL WITHIN A 60 DEGREE ISOCESLES TRIANGLE AREA ABOVE OPENING.		
3. ANGLE LINTELS WITH LONG LEG VERTICAL.		
4. ALL ANGLE LINTELS SHALL BE CORROSIVE RESISTANT.		

CONCRETE FOOTING SCHEDULE <sup>1,2,3</sup>											
MARK	WIDTH	LENGTH	THICK.	CROSSWISE REINFORCING				LENGTHWISE REINFORCING			
				NO.	SIZE	LENGTH	SPACE	NO.	SIZE	LENGTH	SPACE
CONTINUOUS FOOTINGS											
FC1.5	1'-6"	CONT.	10"	N/A	N/A	N/A	N/A	2	#4	CONT. 12"	
FC1.7	1'-8"	CONT.	10"	N/A	N/A	N/A	N/A	2	#4	CONT. 14"	
FC2.0	2'-0"	CONT.	12"	N/A	N/A	N/A	N/A	3	#4	CONT. 9"	
FC2.5	2'-6"	CONT.	12"	#4		2'-0"	12"	4	#4	CONT. 8"	
FC3.0	3'-0"	CONT.	12"	#4		2'-6"	12"	5	#4	CONT. 7.5"	
FC3.5	3'-6"	CONT.	12"	#4		3'-0"	12"	5	#4	CONT. 9"	
SQUARE FOOTINGS											
FS2.0	2'-0"	2'-0"	12"	3	#4	1'-6"	9"	3	#4	1'-6"	9"
FS2.5	2'-6"	2'-6"	12"	4	#4	2'-0"	8"	4	#4	2'-0"	8"
FS3.0	3'-0"	3'-0"	12"	5	#4	2'-6"	7.5"	5	#4	2'-6"	7.5"
FS3.5	3'-6"	3'-6"	12"	5	#4	3'-0"	9"	5	#4	3'-0"	9"
FS4.0	4'-0"	4'-0"	12"	6	#4	3'-6"	8.4"	6	#4	3'-6"	8.4"
FS4.5	4'-6"	4'-6"	12"	7	#4	4'-0"	8"	7	#4	4'-0"	8"
FS5.0	5'-0"	5'-0"	14"	8	#4	4'-6"	7.7"	8	#4	4'-6"	7.7"
CONCRETE FOOTING NOTES:											
1. PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER UNLESS NOTED OTHERWISE.											
2. ALSO PROVIDE SCHEDULED REINFORCING AT TOP OF FOOTING WHEN NOTED ON PLANS											
3. FC - CONTINUOUS FOOTING; FS - SQUARE FOOTING											

METAL CONNECTOR SCHEDULE				
MARK	SIMPSON CONNECTOR	ATTACHMENT <sup>1</sup>	COMMENTS	
A34	A34 ANCHOR	(8)-8d NAILS		
A35	A35 ANCHOR	(12)-8d NAILS		
CS14x40	CS14x40" LONG STRAP	FILL HOLES WITH 10d NAILS		
CS14x48	CS14x48" LONG STRAP	FILL HOLES WITH 10d NAILS		
CS16x40	CS16x40" LONG STRAP	FILL HOLES WITH 8d NAILS		
CS16x48	CS16x48" LONG STRAP	FILL HOLES WITH 8d NAILS		
DSC5R <sup>2</sup>	DSC5R/L-SDS3 TWIST STRAP	(24)-SDS 1/4"x3"		
H1	H1 ANCHOR	(10)-8d NAILS		
HTS30C <sup>2</sup>	HTS30C TWIST STRAP	(20)- 10d NAILS		
LTP4	LTP4 ANCHOR	(12)-8d NAILS		
MST37	MST37 STRAP	(42)- 16d NAILS		
MST48	MST48 STRAP	(34)- 16d NAILS		
MSTA21	MSTA21 STRAP	(16)- 10d NAILS		
MSTC48B3	MSTC48B3 STRAP	(54)- 10d NAILS	SEE DETAIL 6/SS.2	
MTS24C <sup>2</sup>	MTS24C TWIST STRAP	(14)- 10d NAILS		
MTS30C <sup>2</sup>	MTS30C TWIST STRAP	(14)- 10d NAILS		
METAL CONNECTOR NOTES:				
1. USE 1 1/2" LONG NAILS WHEN INSTALLED IN 1 1/2" WOOD THICKNESS. OTHERWISE USE FULL LENGTH NAILS.				
2. STRAP MAY BE REQUIRED TO BE INSTALLED PRIOR TO INSTALLATION OF WALL SHEATHING, AND/OR ADJACENT FRAMING, AND/OR SETTING TRUSSES. COORDINATE AS NECESSARY.				

WALL LEGEND AND ABBREVIATIONS			
SYMBOL ABBREVIATION	DESCRIPTION	SYMBOL ABBREVIATION	DESCRIPTION
A.B.	"ANCHOR BOLT"		PREFAB STONE
ABV.	"ABOVE"		BRICK/NATURAL STONE
A.P.O.	"AS PER OWNER"		NOTCH IN TOP OF FDTN. WALL
BLW.	"BELOW"		CONC. FDTN. WALL
B.R.G.	"BEARING"		CONC. FOOTING
C.J.	"CONTROL/CONSTRUCTION JOINT"		STEPPED FOOTING
CONC.	"CONCRETE"		2x6 BEARING WALL
CONT.	"CONTINUOUS"		2x4 BEARING WALL
DET.	"DETAIL"		2x6 NON-BEARING WALL
EA.	"EACH"		2x4 NON-BEARING WALL
FDTN.	"FOUNDATION"		2x6 NON-BEARING SHEAR WALL
FTG.	"FOOTING"		2x4 NON-BEARING SHEAR WALL
G.L.B.	"GLU-LAM BEAM"		HEADER/BEAM
MAX.	"MAXIMUM"		6x6 POST
MIN.	"MINIMUM"		4x4 POST
O.C.	"ON CENTER"		
OPP.	"OPPOSITE"		
SIM.	"SIMILAR"		
TYP.	"TYPICAL"		
U.N.O.	"UNLESS NOTED OTHERWISE"		

SHEET INDEX	
SHEET	DESCRIPTION
S1.1	INDEX, GENERAL NOTES, SCHEDULES
S2.1	ELEVATIONS AND PLAN LAYOUTS
S3.1	DETAILS



CONTRACTOR & OWNER SHALL VERIFY ALL DIMENSIONS, AREAS, AND CONDITIONS, READ ALL NOTES AND BECOME THOROUGHLY FAMILIAR WITH THE DRAWINGS PRIOR TO CONSTRUCTION.

## GENERAL STRUCTURAL NOTES

### I. CONCRETE, FOOTINGS, AND FOUNDATIONS:

- SOIL BEARING PRESSURE (SBP) IS ASSUMED TO BE AT LEAST 1500 PSF BY OWNER. NOTIFY THE ENGINEER IF THE SOIL IS FOUND TO BE LESS THAN 1500 PSF.
- ALL FOOTINGS SHALL BE ESTABLISHED ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL. ALL EXTERIOR FOOTINGS SHALL HAVE A MINIMUM DEPTH OF 30", OR THE LOCAL FROST DEPTH, WHICHEVER IS GREATER, BELOW FINISHED GRADE.
- THE NATURAL UNDISTURBED SOIL BELOW ALL FOOTINGS SHALL BE VERIFIED FOR BEARING STABILITY. REMOVE ALL SOFT SPOTS AND REPLACE WITH COMPACTED STRUCTURAL FILL.
- COMPACTED STRUCTURAL FILL: ALL FILL MATERIAL SHALL BE A WELL-GRADED GRANULAR MATERIAL WITH A MAXIMUM SIZE LESS THAN 4 INCHES AND WITH NOT MORE THAN 10 PERCENT PASSING A NO. 20 SIEVE. THE FILL SHALL BE COMPACTED TO 95 PERCENT OF THE MAXIMUM LABORATORY DENSITY AS DETERMINED BY ASTM D 1557. ALL FILLS SHALL BE TESTED. COMPACTED STRUCTURAL FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN UNCOMPACTED THICKNESS.
- PROVIDE CODE-APPROVED FOOTING DRAIN SYSTEM TO DRAIN WATER AWAY FROM ALL BASEMENT AREAS.
- EXTERIOR GRADE SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS WITH A MINIMUM OF 6 INCH FALL WITHIN THE FIRST 10 FEET. IMPERVIOUS SURFACES WITHIN 10 FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED 2 PERCENT MINIMUM AWAY FROM THE BUILDING.
- ALL CONCRETE SLABS SHALL BE PLACED OVER 4" MINIMUM FREE DRAINING GRANULAR BASE OVER UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL.
- SLABS ON GRADE SHALL HAVE CONTROL OR CONSTRUCTION JOINTS AS PER DETAILS.
- THE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE FOR FOOTINGS AND FOUNDATIONS SHALL BE 2500 PSI FOR COMMERCIAL OR NON-RESIDENTIAL STRUCTURES AND 3000 PSI FOR RESIDENTIAL STRUCTURES. USE 4000 PSI FOR SUSPENDED SLABS AND ALL OTHER CONCRETE.
- REINFORCEMENT STEEL SHALL BE GRADE 60 ( $F_y = 60$  KSI).
- SUSPENDED SLABS AND ANY SUPPORTING STEEL BEAMS SHALL BE APPROPRIATELY FULLY SHORED 14 DAYS MINIMUM.
- AT CONTRACTOR'S AND/OR OWNER'S OPTION USE EPOXY COATED REBAR IN SUSPENDED SLABS FOR EXTENDED SLAB LIFE.
- EPOXY BOLTS SHALL BE ALL-THREAD GRADE A307 MIN. SMOOTH SHANK OR EXPANSION BOLTS (WEDGE ANCHORS) SHALL NOT BE USED.
- REINFORCEMENT STEEL SHALL MEET THE FOLLOWING CONCRETE COVER REQUIREMENTS:
  - CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ----- 3"
  - FORMED CONCRETE EXPOSED TO EARTH OR WEATHER ----- 1 1/2"
  - FORMED CONCRETE NOT EXPOSED TO EARTH OR WEATHER ----- 3/4"
- REINFORCEMENT STEEL SHALL HAVE THE FOLLOWING MINIMUM LAP SPICE LENGTHS, UNLESS NOTED OTHERWISE ON DRAWINGS:
  - 30 BAR DIA. FOR #3 AND #4 BARS
  - 40 BAR DIA. FOR #5 THRU #8 BARS
- FOR ALL OPENINGS LESS THAN 6'-6" IN CONCRETE FOUNDATION WALLS, PROVIDE A 10" DEEP CONCRETE HEADER WITH (2)-#4 BARS MINIMUM, UNLESS NOTED OTHERWISE. EXTEND BARS 24" MINIMUM BEYOND EDGE OF OPENINGS AND PLACE BARS 2" ABOVE TOP OF OPENING. CONTACT THE ENGINEER FOR REINFORCING OF OPENINGS GREATER THAN 6'-6" IF NOT NOTED ON PLANS.
- FOUNDATION ANCHOR BOLTS SHALL BE 5/8" DIA. x12" MIN. FOR COMMERCIAL OR NON-RESIDENTIAL STRUCTURES AND 3/4" DIA. x10" MIN. FOR RESIDENTIAL STRUCTURES UNLESS NOTED OTHERWISE. SPACING OF ANCHOR BOLTS SHALL BE 32" O.C. MAX. WITH ONE LOCATED AT LEAST WITHIN 4" TO 12" OF EACH END OF SILL PLATE. SEE SHEAR WALL SCHEDULE FOR MORE STRINGENT ANCHOR BOLT REQUIREMENTS AT SPECIFIC SHEAR WALLS.
  - PROVIDE 7" MIN. EMBEDMENT INTO CONCRETE.
  - USE 0.225"x3"x3" PLATE WASHERS AT BOLTS FOR PLATE ANCHORAGE.
  - EPOXY BOLTS MAY BE USED IN LIEU OF ANCHOR BOLTS (SEE DETAIL 3/S3.1).
- ALL WOOD IN CONTACT WITH CONCRETE, MASONRY, OR SOIL SHALL CONSIST OF TREATED WOOD OR HAVE A MOISTURE BARRIER PLACED BETWEEN WHICH MEETS THE CODE REQUIREMENTS. FASTENERS INTO TREATED WOOD SHALL BE OF HOT-DIPPED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE, OR COPPER.

### II. WOOD FRAMING:

#### A. MATERIALS:

- GLU-LAM TIMBER: 24F-V4 DF/DF
  - FRAMING LUMBER: DOUGLAS FIR-LARCH NO. 2 OR BETTER
  - SHEATHING: APA RATED (INT. GRADE WITH EXT. GLUE) AS FOLLOWS WITH THE FOLLOWING MINIMUM NAILING REQUIREMENTS, U.N.O. PLACE ROOF AND FLOOR SHEATHING IN STAGGERED LAYOUT.

ROOF: 5/8" THICK OSB PANELS WITH A 32/16 SPAN RATING (7/16" THICK PANELS WITH 24/16 SPAN RATING MAY BE USED FOR RESIDENTIAL BUILDINGS WITH SNOW LOADS NOT MORE THAN 40 PSF). NAIL ALL PANELS WITH 10d COMMON NAILS AT 6" O.C. AT ALL SUPPORTED EDGES, BLOCKING, TRUSS DRAG STRUTS, AND GABLE END WALLS/TRUSSES, AND AT 12" O.C. AT INTERMEDIATE SUPPORTS. PLACE PANELS WITH LONG DIMENSIONS PERPENDICULAR TO SUPPORTS CONTINUOUS OVER TWO OR MORE SPANS. (8d NAILS MAY BE USED WITH 7/16" PANELS).

FLOOR: 7/16" THICK TONGUE AND GROOVE OSB PANELS, GLUE AND NAIL ALL PANELS WITH 10d COMMON NAILS AT 6" O.C. AT ALL SUPPORTED EDGES AND BLOCKING, AND AT 10" O.C. AT ALL INTERMEDIATE SUPPORTS. PLACE PANELS WITH LONG DIMENSIONS PERPENDICULAR TO SUPPORTS CONTINUOUS OVER TWO OR MORE SPANS.

WALLS: 7/16" THICK OSB PANELS, UNLESS NOTED OTHERWISE IN THE SHEAR WALL SCHEDULE, NAIL ALL PANELS WITH 8d COMMON NAILS AT 4" O.C. AT ALL EDGES AND AT 12" O.C. AT ALL INTERMEDIATE SUPPORTS.
  - 16 GAGE STAPLES WITH 7/16" MIN. CROWN WIDTH AND 1" MIN. PENETRATION INTO SUPPORTING FRAMING MEMBERS MAY BE USED IN LIEU OF NAILS AT A SPACING OF ONE-HALF THAT DESIGNATED FOR NAILS.
- PROVIDE SUPPORT STUDS AT THE ENDS OF ALL BEAMS, HEADERS, AND GIRDER TRUSSES AS FOLLOWS, UNLESS NOTED OTHERWISE:
- SPANS LESS THAN 5'-0": 1 SUPPORT STUD MINIMUM.  
SPANS 5'-0" TO 10'-0": 2 SUPPORT STUDS MINIMUM.  
SPANS 10'-0" TO 14'-0": 3 SUPPORT STUDS MINIMUM.  
SPANS GREATER THAN 14'-0": 4 SUPPORT STUDS MINIMUM.
- ADDITIONALLY, SUPPORT STUDS SHALL AT LEAST MATCH THE WIDTH OF THE BEAM, HEADER, AND GIRDER TRUSS AND THE WIDTH OF THE SUPPORTING WALL.
- FOR SPANS OF 6'-0" AND GREATER, AT EXTERIOR WALLS, PROVIDE A MINIMUM OF 2 FULL HEIGHT KING STUDS TOP PLATE TO BOTTOM PLATE AT THE ENDS OF ALL BEAMS, UNLESS NOTED OTHERWISE. FOR SPANS LESS THAN 6'-0", PROVIDE A MINIMUM OF 1 FULL HEIGHT KING STUD.
  - USE APPROPRIATE SIMPSON POST CAPS / TIES TO CONNECT BEAMS TO POSTS / STUDS FOR SPANS OF 6'-0" AND GREATER.
  - ALL WOOD POSTS SHALL HAVE APPROPRIATE SIMPSON POST CAPS AND BASE CONNECTORS INSTALLED GOOD FOR AT LEAST 800 POUNDS PER UPSET WOOD POSTS. THE CONNECTOR SHALL HAVE AT LEAST A 1" STANDOFF BASE. WHERE POSTS ARE INSTALLED ON CONC. PIERS OR FOOTINGS.
  - USE APPROPRIATE SIMPSON HANGERS WHERE JOISTS AND BEAMS NEED TO HANG FROM SUPPORTING BEAMS. USE TOP FLANGE HANGERS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

- ALL METAL CONNECTORS, STRAPS, HOLDOWNS, HANGERS, ETC. CALLED OUT ON THE DRAWINGS SHALL BE INSTALLED WITH APPROPRIATE NAILS, SCREWS, BOLTS, ATTACHMENTS, ETC. AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- 2-PLY AND 3-PLY MEMBER BEAMS AND HEADERS SHALL BE NAILED TOGETHER WITH A MINIMUM OF 2 ROWS OF 16d NAILS AT 12" O.C. FOR BEAM DEPTHS 12 INCHES OR LESS. USE 3 ROWS OF 16d NAILS AT 12" O.C. FOR BEAM DEPTHS GREATER THAN 12 INCHES. 4-PLY MEMBER BEAMS SHALL HAVE 2 ROWS OF 16d NAILS AT 12" O.C. WITH WASHERS AT 12" O.C. IN ADDITION TO THE NAILING SPECIFIED ABOVE.
- BEARING AND EXTERIOR WALLS SHALL BE CAPPED WITH DOUBLE TOP PLATES. END JOINTS OF SPLICES IN DOUBLE TOP PLATES SHALL BE OFFSET AT LEAST 48" O.C. AND NAILING SHALL BE 16d NAILS AT 12" O.C. WITHIN THE OVERLAPPED LENGTH. OVERLAP THE PLATES AT CORNERS AND AT INTERSECTIONS.
- EXTERIOR WALLS SHALL HAVE SHEATHING PROVIDED AND NAILED AS PER THE SHEAR WALL SCHEDULE AND GENERAL NOTES TO FUNCTION AS SHEAR OR BRACED WALLS.
- ALL BEARING, SHEAR, AND BRACED WALLS SHALL HAVE STUDS PLACED AT 16" O.C. MAXIMUM, UNLESS NOTED OTHERWISE.
- ATTACH ALL ROOF TRUSSES AND RAFTERS TO ALL BEARING WALLS AND BEAMS WITH SIMPSON HT ANCHORS, U.N.O. PROVIDE SOLID BLOCKING BETWEEN TRUSSES.
- UNLESS NOTED OTHERWISE, ON DRAWINGS, NAILING OF ALL STRUCTURAL MEMBERS SHALL COMPLY WITH TABLES R602.3(1) TO R602.3(5).

### III. PRE-FABRICATED WOOD TRUSSES:

- THE TRUSS MANUFACTURER IS RESPONSIBLE FOR THE DESIGN AND FABRICATION OF THE TRUSSES. THE TRUSSES SHALL BE DESIGNED TO MEET THE MINIMUM LOAD AND CODE REQUIREMENTS FOR THE GIVEN DESIGN AND CONSTRUCTION AND SHALL BE APPROVED BY A LICENSED ENGINEER.
- IF TRUSSES ARE UNABLE TO BE DESIGNED TO WORK WITH THE LAYOUT AS SHOWN IN THE DRAWINGS (INCLUDING ATTIC BONUS ROOMS, VAULTED CEILINGS, RAISED CEILINGS, ETC.), NOTIFY THE ENGINEER AND CONTRACTOR FOR RESOLUTION BEFORE PROCEEDING WITH FABRICATION OF TRUSSES.
- THE DESIGN AND BEARING OF TRUSSES SHALL BE COORDINATED WITH THE DRAWINGS. SEE WALL LEGEND ON SHEET S1.1 AND OTHER NOTES ON DRAWINGS FOR LOCATIONS OF BEARING WALLS. DO NOT DESIGN TRUSSES TO BEAR ON NON-BEARING WALLS.
- TRUSSES THAT EXTEND OUT OVER EXTERIOR BEARING WALLS TO COVER A PORCH, PATIO, OR DECK SHALL BE DESIGNED TO BEAR ON THE EXTERIOR BEARING WALLS TO TRANSFER LOAD AWAY FROM THE PORCH, PATIO, OR DECK BEAMS, U.N.O.
- AT ROOF OVERBUILD AREAS PROVIDE OVERBUILD TRUSSES AS PER TRUSS MANUFACTURER OR STICK FRAME.
- TRUSSES NOTED AS DRAG STRUTS SHALL BE DESIGNED FOR A 200 PLF MIN. IN-PLANE HORIZ. SEISMIC LOAD APPLIED AT THE TRUSS TOP CHORD UNLESS NOTED OTHERWISE.
- SHOP DRAWING SUBMITTAL: CONTRACTOR SHALL SUBMIT COMPLETE CALCULATIONS AND CODE REQUIREMENTS FOR THE DESIGN OF TRUSSES. THE REVIEW PERFORMED BY THE ENGINEER BEFORE FABRICATION. THE REVIEW COMPLETED BY THE ENGINEER SHALL BE GENERAL CONFORMANCE TO THE DESIGN CONCEPT. ANY CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THE REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE PLANS OR OF THE TRUSS MANUFACTURER. ALSO, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY PROPOSED DEVIATIONS FROM THE DESIGN CONCEPT SHOWN IN THESE PLANS.

### IV. STRUCTURAL STEEL:

#### A. MATERIALS:

- WIDE FLANGE SECTIONS: ASTM A572 (50 ksi)
- TUBES: ASTM A500 (45 ksi)
- PIPE COLUMNS: ASTM A53, TYPES E OR S, GRADE B
- ANCHOR BOLTS: ASTM A307
- DEFORMED BAR ANCHORS (DBA): ASTM A496
- HEADED STUD ANCHORS (HSA): ASTM A108
- ROD CONNECTIONS: ASTM A325
- ANCHOR BOLTS: ASTM A307

#### B. FABRICATION / CONSTRUCTION SHALL COMPLY WITH THE LATEST IBC AND AISC CODES.

### V. BRICK VENEER:

- BRICK VENEER SHALL BE ATTACHED TO THE SUPPORTING WALL WITH CORROSION-RESISTANT METAL TIES. WHERE VENEER IS ANCHORED THROUGH THE USE OF CORRUGATED SHEET METAL TIES, THE TIES SHALL BE NO. 10 U.S. GAGE BY 7/8" MINIMUM AND THE DISTANCE SEPARATING THE VENEER FROM THE FACE OF THE SUPPORTING WALL SHALL BE MAXIMUM 16 INCH. WHERE THE VENEER IS ANCHORED THROUGH THE USE OF METAL STRAND TIES, THE TIES SHALL BE NO. 9 U.S. GAGE WITH MINIMUM AND THE DISTANCE SEPARATING THE VENEER FROM THE FACE OF THE SUPPORTING WALL SHALL BE MAXIMUM OF 4.5 INCHES. TIES SHALL BE SPACED SO THEY INDIVIDUALLY SUPPORT NOT MORE THAN 2 SQUARE FEET OF VENEER. EACH WALL AND SHOWN SHALL BE SPACED MORE THAN 24 INCHES ON CENTER HORIZONTALLY AND VERTICALLY.
- SEE THE BRICK VENEER STEEL ANGLE LINTEL SCHEDULE FOR BRICK SUPPORT OVER WALL OPENINGS.
- PROVIDE FOR BRICK OR STONE VENEER INSTALLATIONS AT THE FOUNDATION CORROSION RESISTANT FLASHING EXTENDING UP A MINIMUM OF 3 COURSES WITH 3/16" WEEP. THE FLASHING SHALL BE 1/2" MIN. AND SUCH FLASHING MUST EXTEND 1/2" BEYOND THE FOUNDATION. THIS FLASHING IS REQUIRED WHERE STUCCO WEEP SCREEDS DO NOT EXTEND PAST FOUNDATION. FLASHING WHICH DO NOT EXTEND BEYOND OR BELOW FOUNDATION WILL NOT BE ACCEPTABLE. (ICE & WATER SHIELD OR SIMILAR MATERIALS).

### VI. SPECIAL NOTES:

- ALL WORK IS TO BE CONSISTENT WITH BEST BUILDING PRACTICES AND CONFORM TO LOCAL BUILDING CODE REQUIREMENTS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE STARTING CONSTRUCTION.
- THE OWNER AND ALL CONTRACTORS INVOLVED WITH THE PROJECT SHALL THOROUGHLY REVIEW AND BECOME FAMILIAR WITH THESE DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION.
- ALL OMISSIONS OR CONFLICTS, INCLUDING DIMENSIONS, BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS, DETAILS, AND/OR NOTES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW THE MOST STRINGENT REQUIREMENT SHOWN.
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### VII. ADDITIONS AND REMODELS:

- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING CONSTRUCTION. DIMENSIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND MAY NEED TO BE ADJUSTED WITHIN REASON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND SUPPLYING THE MATERIALS, METHODS, CONDITIONS, AND CONDITIONS OF CONSTRUCTION, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
- ALL THE NEW AREAS OF CONSTRUCTION HAVE BEEN CHECKED TO MEET LOCAL STRUCTURAL CODES. THERE HAS BEEN NO ATTEMPT TO CHECK THE EXISTING STRUCTURE FOR INADEQUACIES OR WHETHER THEY MEET LOCAL STRUCTURAL CODES. THE OWNER ASSUMES ALL LIABILITIES OR RISKS ASSOCIATED WITH THE EXISTING STRUCTURE AND ITS INTEGRATION WITH NEW AREAS OF CONSTRUCTION.
- CIE THE ALL NEW FOOTING AND FOUNDATION WALLS TO EXISTING FOOTING AND FOUNDATION WALLS WITH EPOXY DOWELED REBAR. - SEE DETAIL 3/S3.1.
- CONTRACTOR SHALL FIELD VERIFY THAT EXISTING ROOF FRAMING IS IN GOOD CONDITION BEFORE STARTING CONSTRUCTION. NOTIFY THE ENGINEER IF STRUCTURAL CONCERNS EXIST.

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OGDEN CITY

FOR:

304 WEST PLEASANT VIEW DR.  
OGDEN, UTAH 84414  
PHONE: (801)-782-8631  
WWW.LOMONDVIEW.COM

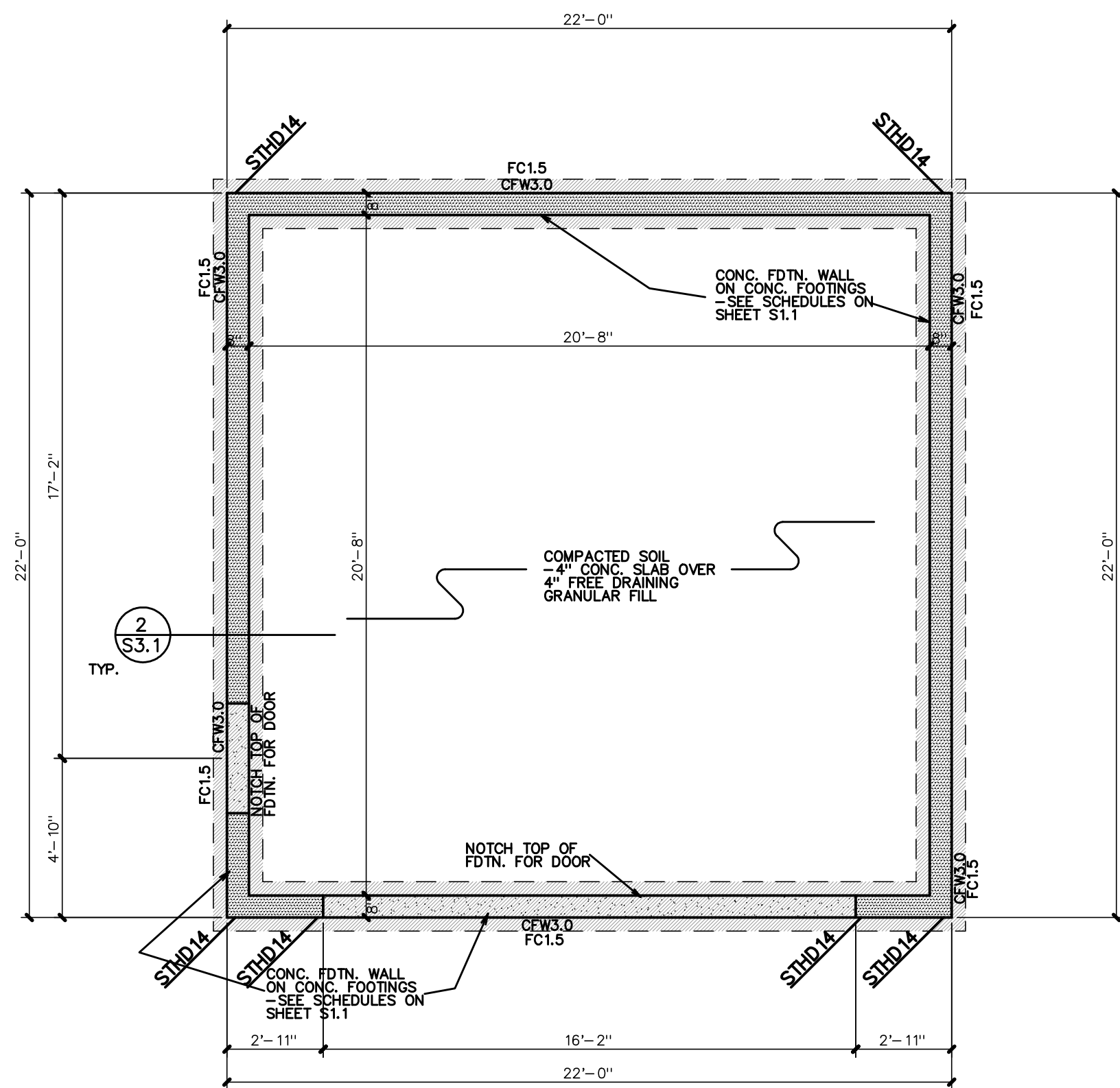
LOmond View  
DESIGN S I L I C

INDEX, GENERAL NOTES, SCHEDULES

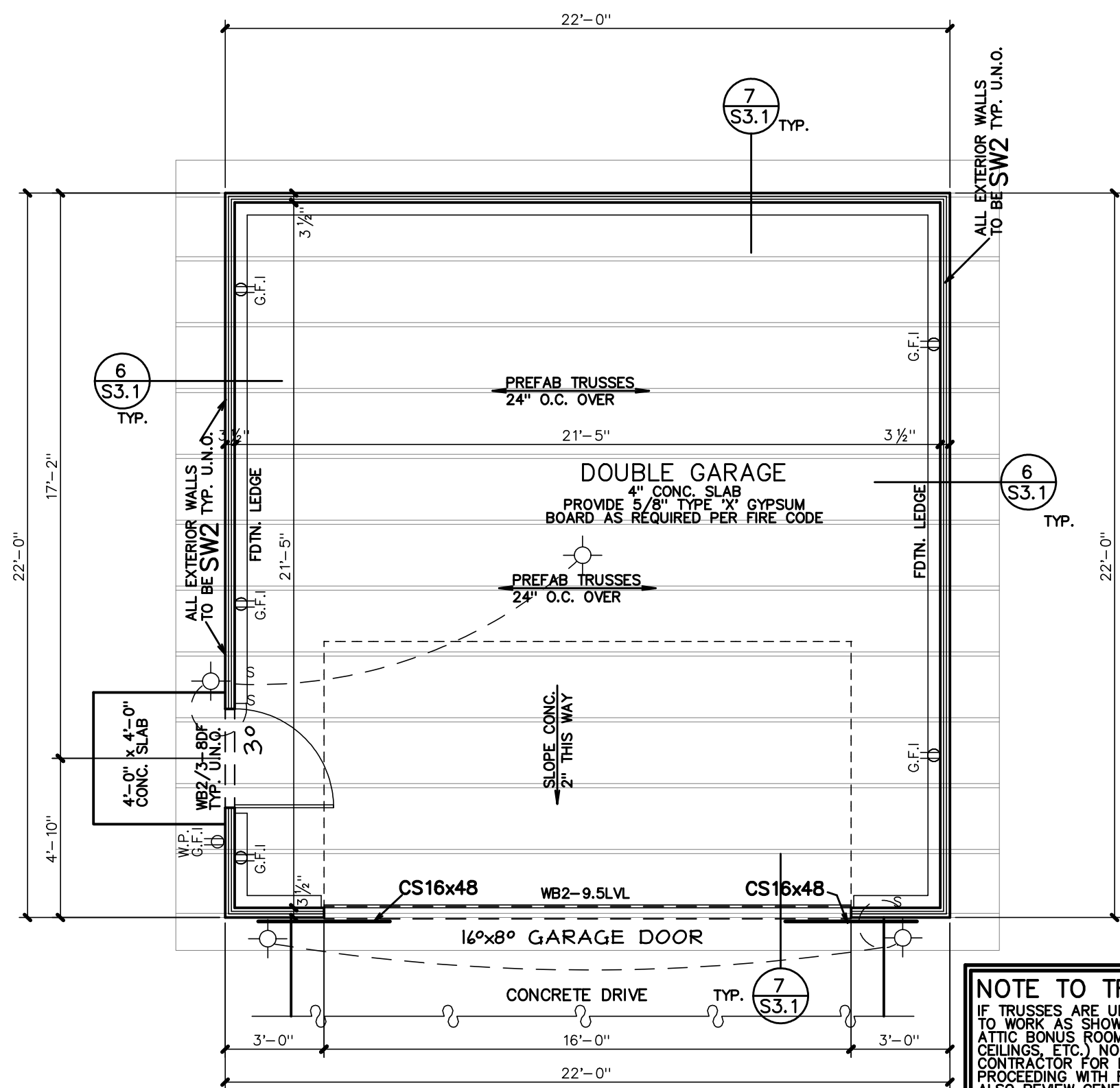
SHEET

S1.1

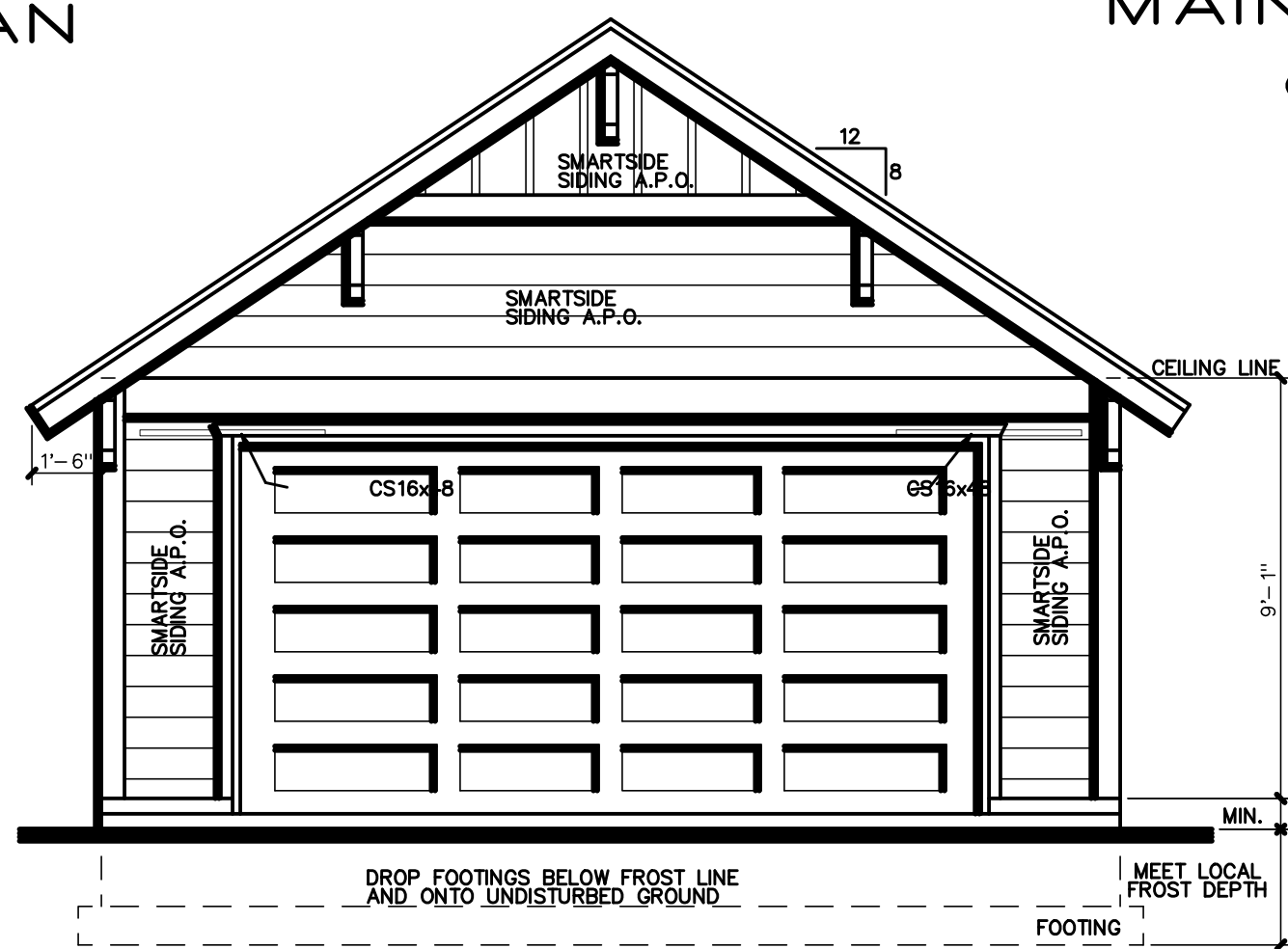




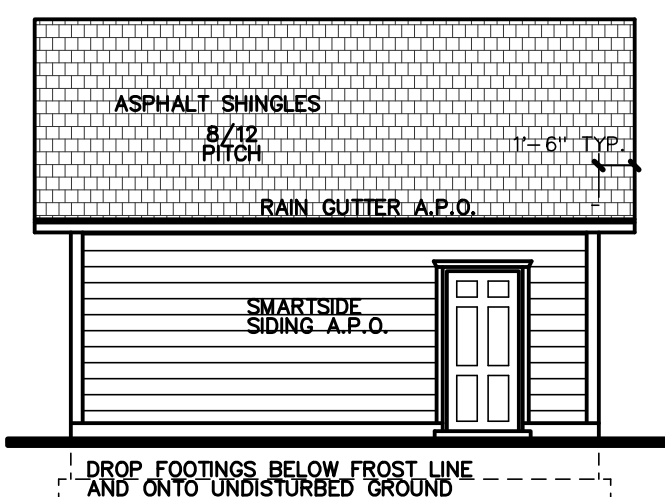
FOUNDATION PLAN  
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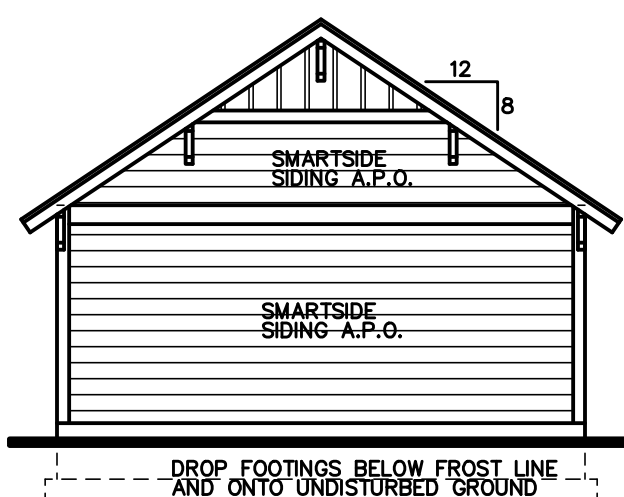
MAIN FLOOR PLAN  
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GARAGE AREA = 484 SQ. FT.



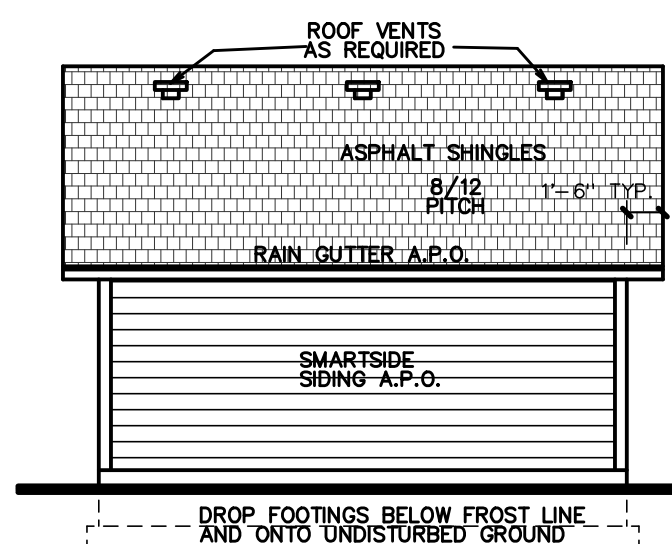
FRONT ELEVATION  
SCALE: 1/4"=1'-0"



LEFT ELEVATION  
SCALE: 1/8"=1'-0"



REAR ELEVATION  
SCALE: 1/8"=1'-0"



RIGHT ELEVATION  
SCALE: 1/8"=1'-0"

**SURFACE DRAINAGE:**  
EXTERIOR GRADE SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS WITH A MINIMUM OF 6 INCH FALL WITHIN THE FIRST 10 FEET. IMPERVIOUS SURFACES WITHIN 10 FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED 2 PERCENT MINIMUM AWAY FROM THE BUILDING.

**CONSTRUCTION COST NOTE:**  
THE BUILDING DESIGN SHOWN IN THESE PLANS IS BASED ON THE BUILDING PROVIDED TO US BY THE OWNER AND/OR GENERAL CONTRACTOR. WE HAVE NOT ATTEMPTED TO PROVIDE A COST ESTIMATE SERVICES FOR THE CONSTRUCTION OF THIS BUILDING AND ASSOCIATED SITE IMPROVEMENTS OR TO PROVIDE A DESIGN THAT IS SUITABLE FOR THE COST RESPONSIBILITY OF THE OWNER AND/OR GENERAL CONTRACTOR TO THE BEST OF THE COST OF THE BUILDING AND ASSOCIATED SITE IMPROVEMENTS WILL BE SATISFACTORY TO THE OWNER'S EXPECTATIONS.

**SITE AND LOT NOTE:**  
THE BUILDING DESIGN SHOWN IN THESE PLANS IS REFLECTIVE OF SITE CONDITIONS PROVIDED TO US BY THE OWNER AND/OR GENERAL CONTRACTOR. WE HAVE NOT ATTEMPTED TO PROVIDE A DESIGN THAT IS SUITABLE FOR THE COST RESPONSIBILITY OF THE OWNER AND/OR GENERAL CONTRACTOR TO THE BEST OF THE COST OF THE BUILDING AND ASSOCIATED SITE IMPROVEMENTS WILL BE SATISFACTORY TO THE OWNER'S EXPECTATIONS.

DESIGN LOADS	
ROOF:	SNOW - 30 psf DEAD - 17 psf
CONTRACTOR/OWNER SHALL VERIFY ACCURACY OF SNOW LOADS WITH BUILDING OFFICIAL (NO CITY-CRETE OR LIGHTWEIGHT CONCRETE HAS BEEN INCLUDED IN THE FLOOR DESIGN).	

**NOTICE AND WARNING**  
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THESE DRAWINGS & DESIGNS MAY BE USED FOR THE CONSTRUCTION OF A SINGLE BUILDING LOCATED AS FOLLOWS:  
LOT # 4  
SUBDIVISION: SYCAMORE COVE  
ADDRESS: 866 CAHOON CIRCLE  
CITY: OGDEN STATE: UTAH  
ANY OTHER USE OF THESE DRAWINGS & DESIGNS IS STRICTLY FORBIDDEN AND VIOLATORS WILL BE PROSECUTED.  
DATE: 2/8/2025

**CONTRACTOR & OWNER SHALL VERIFY ALL DIMENSIONS, AREAS, AND CONDITIONS, READ ALL NOTES AND BECOME THOROUGHLY FAMILIAR WITH THE DRAWINGS PRIOR TO CONSTRUCTION.**

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**OGDEN CITY**  
LOT 4, SYCAMORE COVE  
866 CAHOON CIRCLE  
OGDEN, UTAH

FOR: 304 WEST PLEASANT VIEW DR.  
OGDEN, UTAH 84414  
PHONE: (801) 782-0484  
FAX: (801) 782-8631  
WWW.LOMONDVIEW.COM

**PLANS AND ELEVATIONS**  
DRAWN: KEH  
DATE: 2/8/2025  
JOB NO.: 250019  
TYPE: CHG TO 0484180129, #18006  
PLAN INFO: 484 SQ. FT. GARAGE

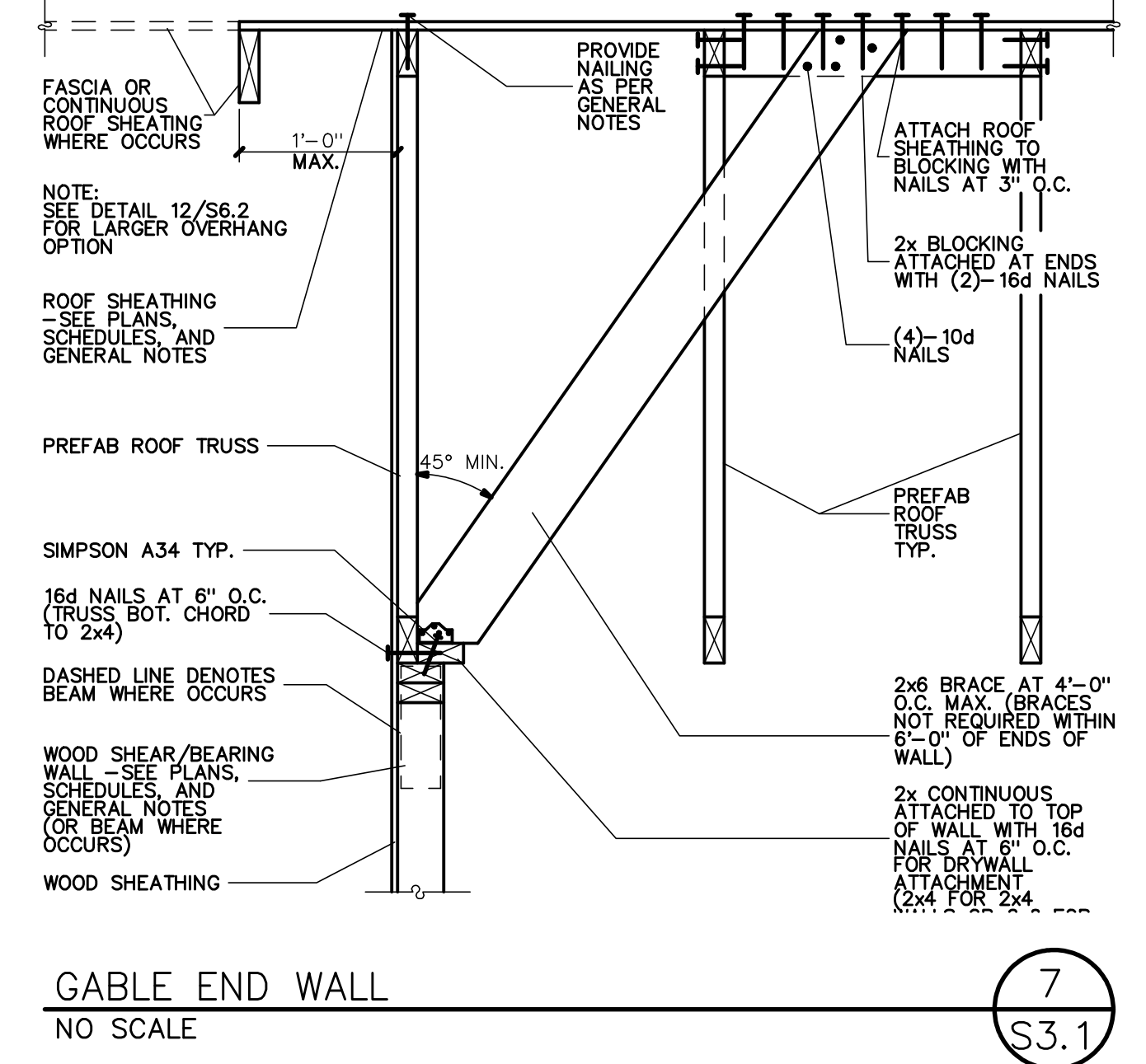
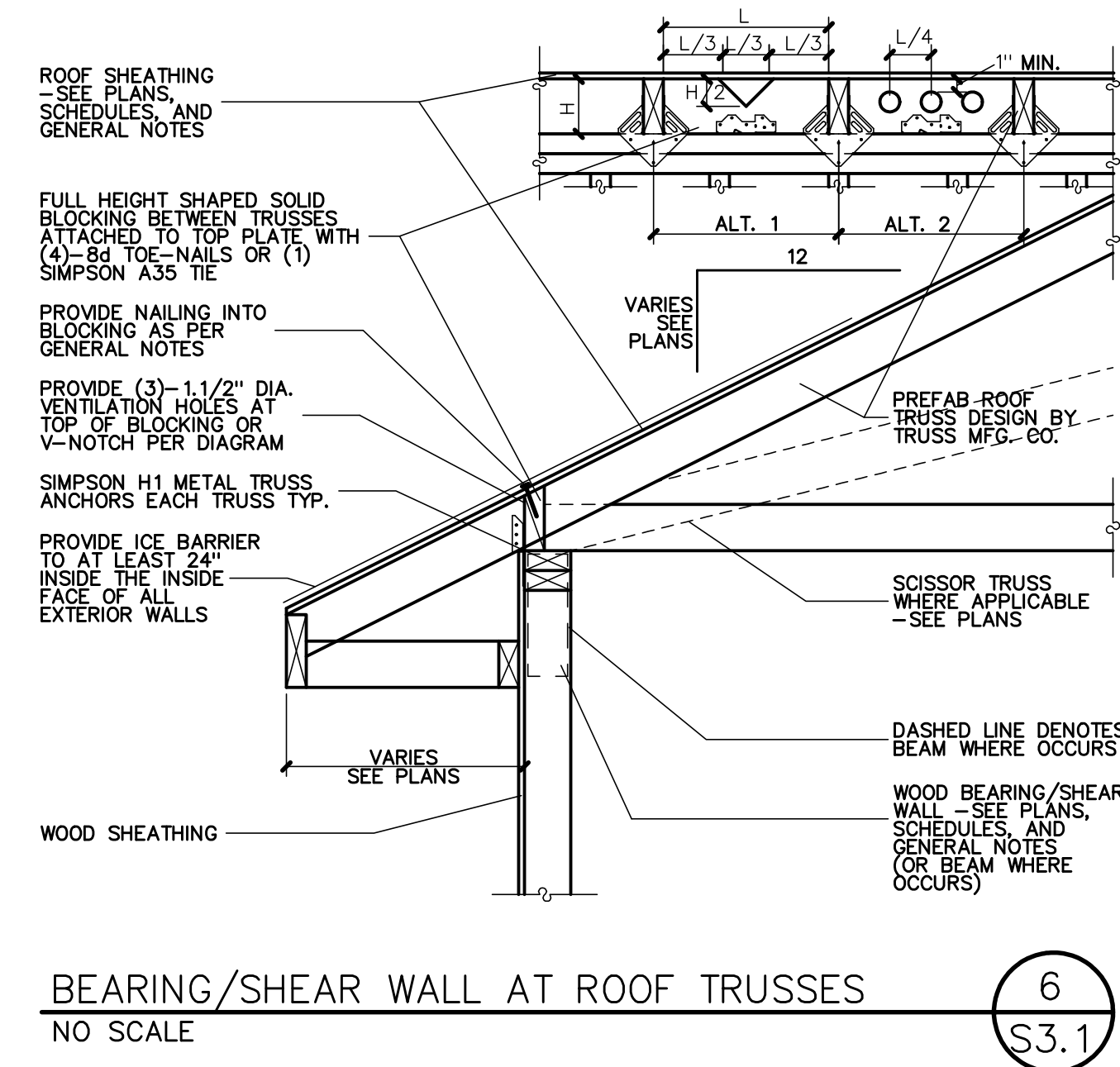
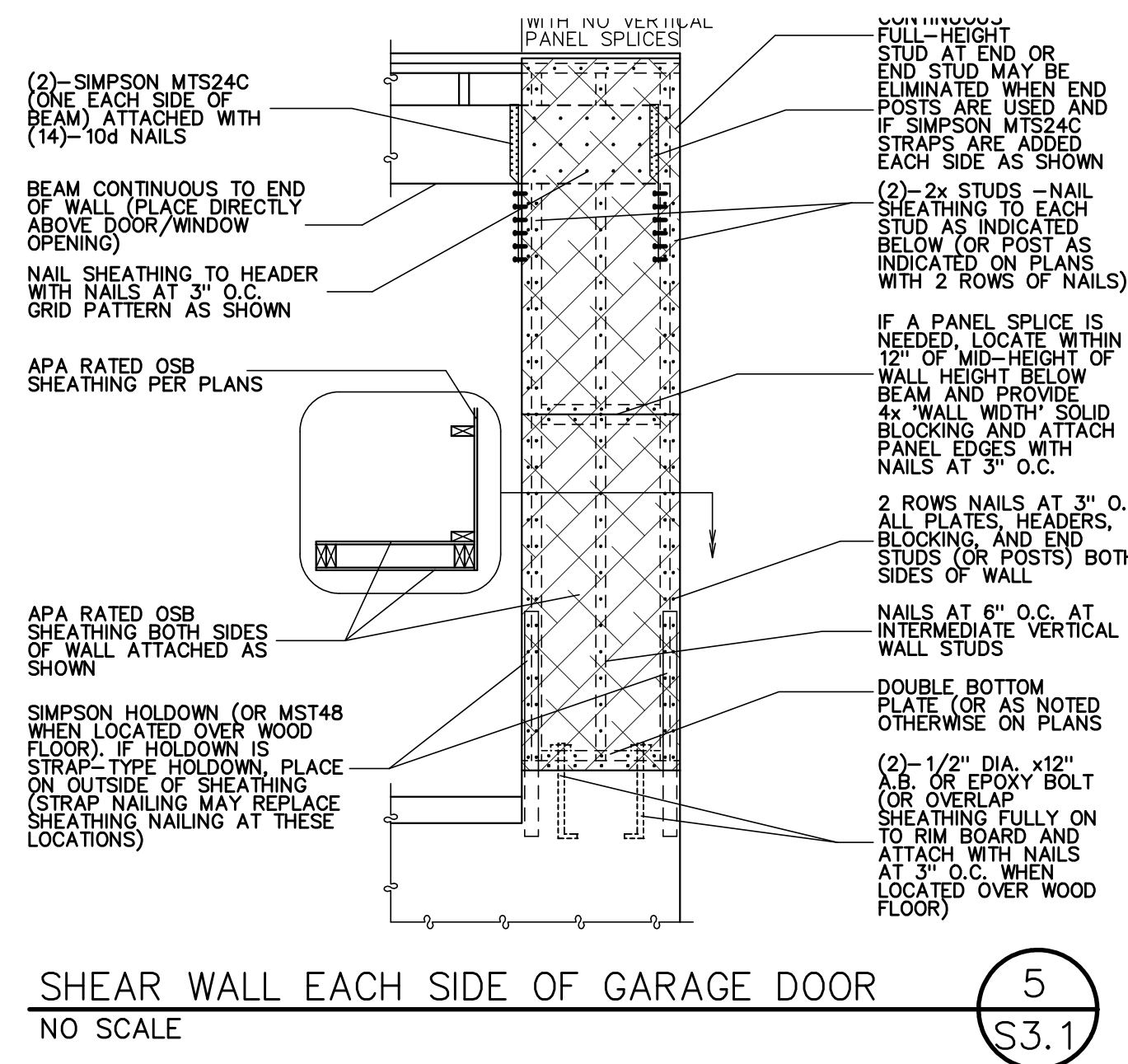
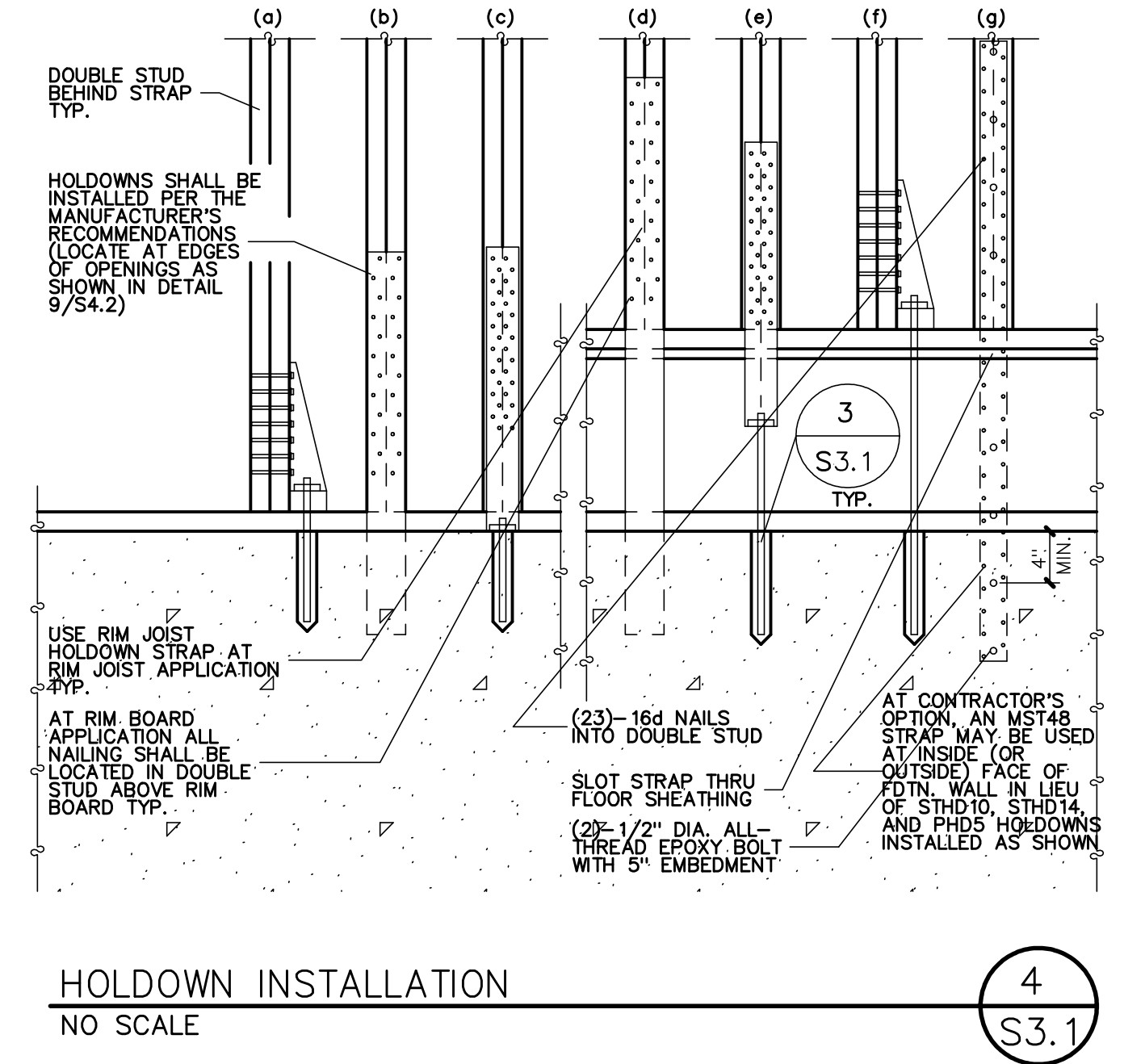
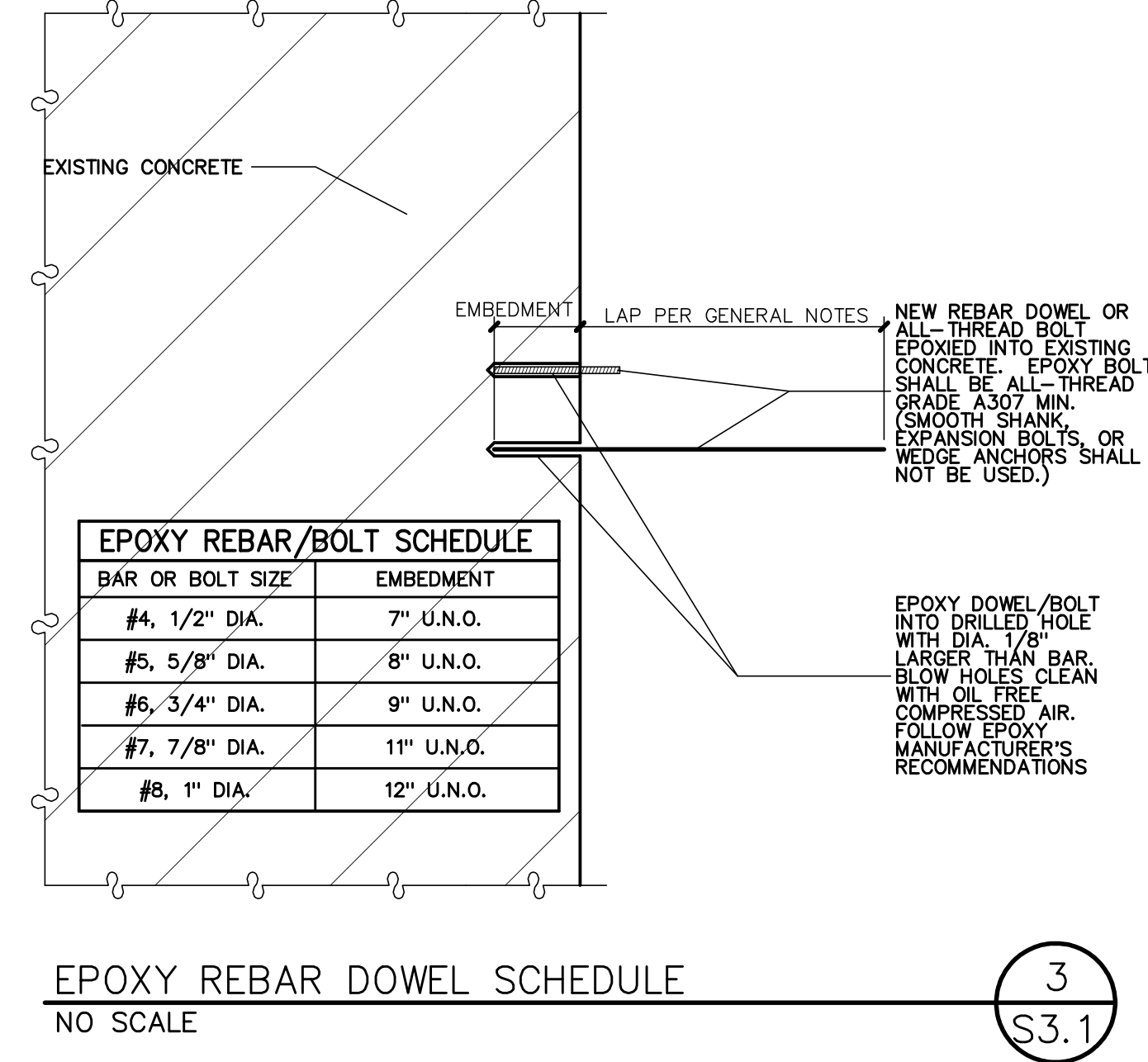
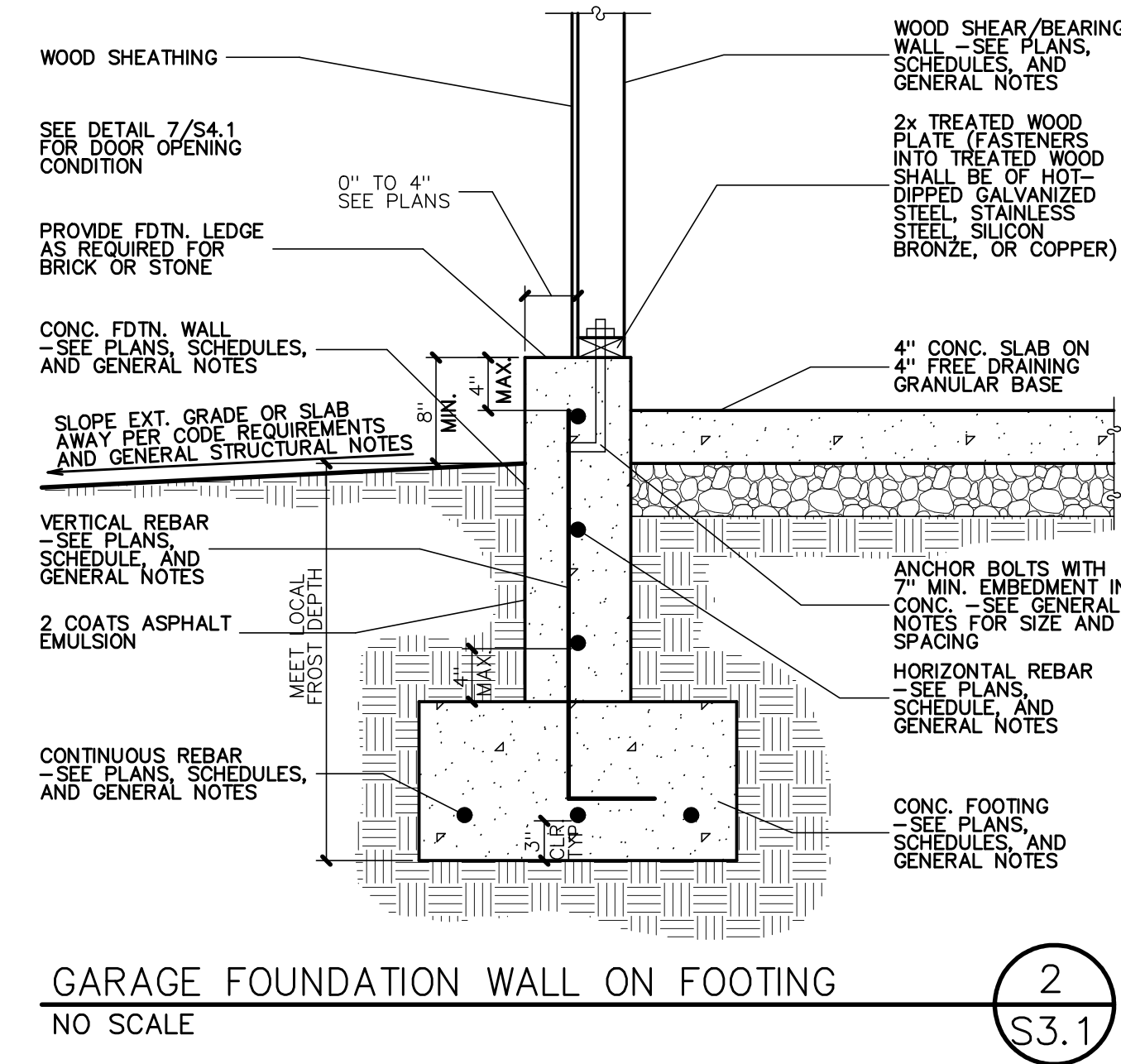
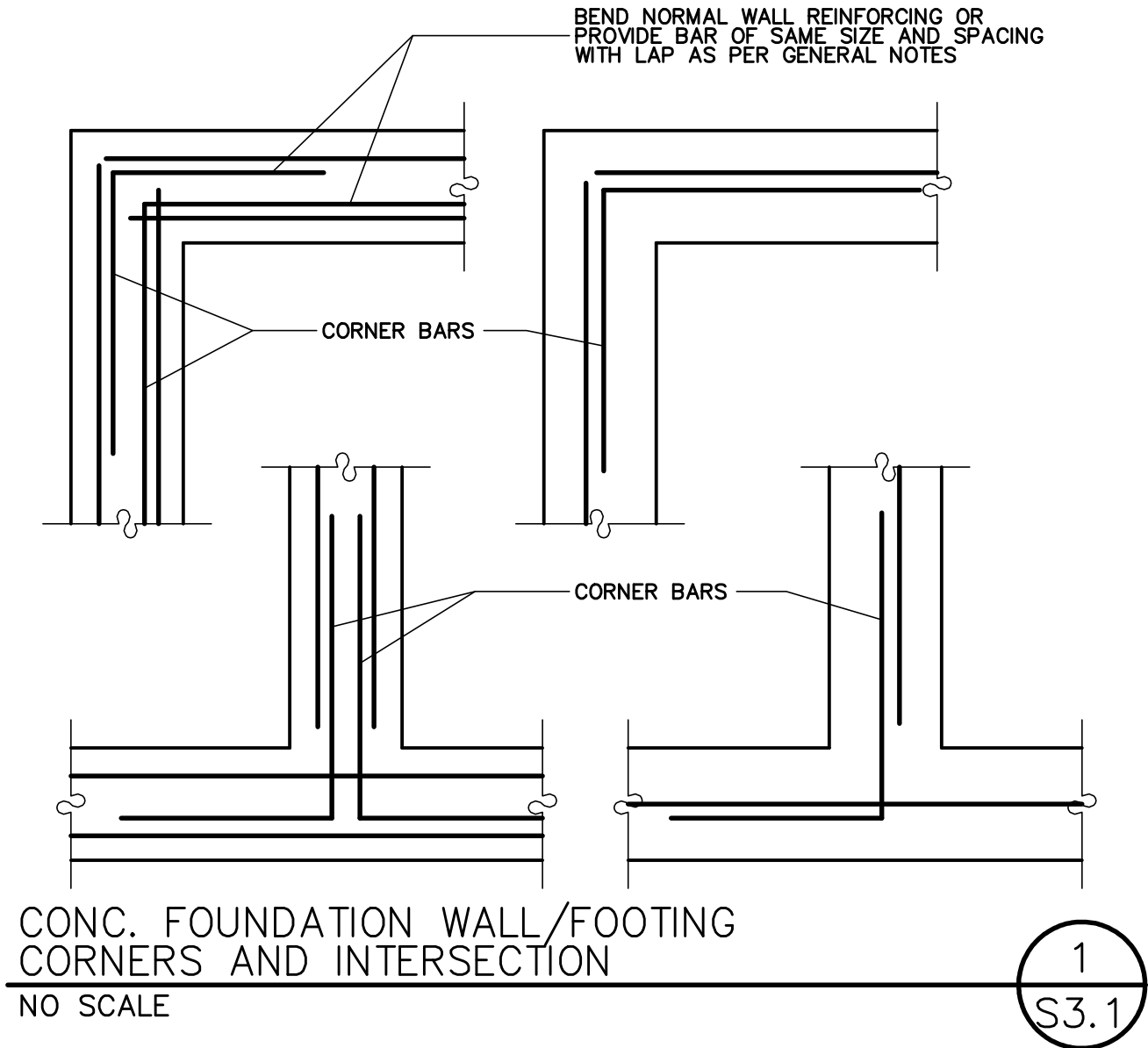
**ENGINEER'S STAMP PERTAINS TO STRUCTURAL INFORMATION ONLY**  
1/ PROFESSIONAL SEAL  
NO. 189469  
THOMAS A. HALES  
2/8/25  
STATE OF UTAH

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**S2.1**





**Lomond View Designs, LLC**

304 W. Pleasant View Dr.

Ogden, UT 84414

phone: 801-782-0484

**Structural Calculations**

for

**Ogden City Garage**

for

**Lot #4, Sycamore Cove**

**866 Cahoon Circle**

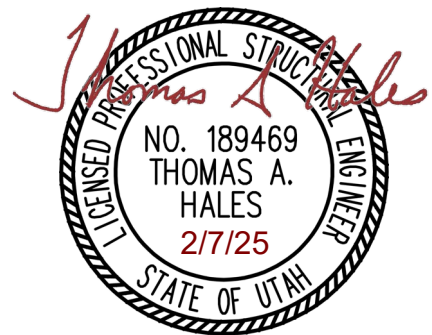
**Ogden, Utah**

February 7, 2025

Note: These calculations are to be used only for the plan number and the building lot and/or address shown above. Use of these calculations for any other plan or location is prohibited unless written/signed agreement is obtained from Thomas A. Hales indicating otherwise.

Prepared By:

**Thomas A. Hales, P.E.**



Job #25009 (Repeat #16006, #15063 & #14044)

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WOOD FRAMING DESIGN	WF-1 TO WF-2
LATERAL ANALYSIS	L-1 TO L-2

## DESIGN CRITERIA:

- A. GOVERNING BUILDING CODE: 2021 INTERNATIONAL BUILDING CODE (IBC) AND 2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
- B. GRAVITY LIVE LOADING:
  - 1. ROOF: 30 PSF SNOW LOAD
  - 2. FLOOR: 40 PSF LIVE LOAD
- C. EARTHQUAKE:  $V = S_{ds} * I * W / R = 2/3 * S_{ms} * I * W / R$ 
  - 1.  $S_{ms}$  = USE 1.6 (SDC = 'D2')
  - 2. I, IMPORTANCE FACTOR = 1.0
  - 3. R, BUILDING TYPE = 6.5 (USE 6)
  - 4. W, WEIGHT OF STRUCTURE
- D. WIND:
  - 1. VELOCITY: 115 MPH (LRF) \* 0.775 → 90 MPH (ASD), BASIC WIND SPEED (IBC 1609.3.1)
  - 2. EXPOSURE: TYPE C
  - 3. IMP. FACTOR: 1.0, STANDARD OCCUPANCY
- E. SOIL BEARING PRESSURE: 1500 PSF ASSUMED BY OWNER
- F: SEE DRAWINGS FOR GENERAL NOTES AND CONSTRUCTION REQUIREMENTS

# COLUMN AND FOOTING LOADS AND SIZES

Project: **OGDEN CITY GARAGE**  
 Allow. Soil Bearing Press. **1500 psf**

Date: 1/29/2016  
 Engineer: Tom Hales

## CONTINUOUS FOOTINGS

Footing/Column Location: **TYP. EXTERIOR WALL**  
 Alt. Soil Bearing Pressure

COMMENT	TRIBUTARY AREA		WEIGHT	SUB TOTAL	CUM. TOT.
	LENGTH 1	PER 1 FT.			
ROOF SNOW LOAD	13.0 ft		30 psf	390 plf	390 plf
ROOF DEAD LOAD	13.0 ft		17 psf	221 plf	611 plf

TOTAL LOAD	611 plf
REQ'D FTG. WIDTH	0.4 ft

**USE FC1.5**

Footing/Column Location:  
 Alt. Soil Bearing Pressure

COMMENT	TRIBUTARY AREA		WEIGHT	SUB TOTAL	CUM. TOT.
	LENGTH 1	PER 1 FT.			

TOTAL LOAD	0 plf
REQ'D FTG. WIDTH	0.0 ft

Footing/Column Location:  
 Alt. Soil Bearing Pressure

COMMENT	TRIBUTARY AREA		WEIGHT	SUB TOTAL	CUM. TOT.
	LENGTH 1	PER 1 FT.			

TOTAL LOAD	0 plf
REQ'D FTG. WIDTH	0.0 ft

# WOOD BEAM DESIGN FOR UNIFORM LOADING CONDITIONS

Project: **OGDEN CITY GARAGE**  
Description: **3'-0" DOOR HEADER**

Date: 1/29/2016  
Engineer: TAH

## INPUT:

Length of Span - L (ft): **3.5**  
Distance from Support to Calc. Shear - d (in) **7**

### Roof Loads:

Trib. Length (ft): **13**  
Snow Load (psf): **30**  
Dead Load (psf): **17**

### Linear Loads:

Snow Load (plf): **0**  
Live Load (plf): **0**  
Dead Load (plf): **0**

### Floor Loads:

Trib. Length (ft): **0**  
Live Load (psf): **40**  
Dead Load (psf): **15**

Total Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **240**  
Live Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **360**

Total Load (plf): 611 plf  
Total Live Load (plf): 390 plf

Beam	DL=	386.75 lbs
Reactions:	LL=	682.5 lbs
	TL=	1069.3 lbs

## OUTPUT:

### DOUGLAS FIR-LARCH

Allowable Shear Stress - Fv (psi): **95**  
Modulus of Elasticity - E (ksi): **1600**  
Allowable Bending Stress - Fb (psi): **1313** 2x4  
**1139** 2x6  
**1052** 2x8  
**961** 2x10  
**845** 2x12

I (TL) (in<sup>4</sup>): **7.37**  
I (LL) (in<sup>4</sup>): **7.05**  
A (in<sup>2</sup>): **11.26**  
S (in<sup>3</sup>) 2x4: **8.55**  
2x6: **9.86**  
2x8: **10.67**  
2x10: **11.68**  
2x12: **13.29**

**3-2x4's (0.93)**  
**2-2x6's (0.68)**  
**2-2x8's (0.52)**  
**1-2x10's (0.81)**  
**1-2x12's (0.67)**

### GLUED-LAMINATED (24F-V4)

Allowable Shear Stress - Fv (psi): **190**  
Modulus of Elasticity - E (ksi): **1800**  
Allowable Bending Stress - Fb (psi): **2400**

I (TL) (in<sup>4</sup>): **6.55**  
I (LL) (in<sup>4</sup>): **6.27**  
A (in<sup>2</sup>): **5.63**  
S (in<sup>3</sup>): **4.68**

**3.125 x 6 GLB (0.3)**  
**5.125 x 6 GLB (0.18)**

### MICRO-LAM

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **1900**  
Allowable Bending Stress - Fb (psi): **2600**

EI (TL) k-in<sup>2</sup>: **11788**  
EI (LL) (k-in<sup>2</sup>): **11287**  
Shear (lbs): **713**  
Moment (ft-lb): **936**

**(2)-1.75 x 5.5 M-L (0.22)**

### VERSA-LAM

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **2000**  
Allowable Bending Stress - Fb (psi): **2800**

EI (TL) k-in<sup>2</sup>: **11788**  
EI (LL) (k-in<sup>2</sup>): **11287**  
Shear (lbs): **713**  
Moment (ft-lb): **936**

**(2)-1.75 x 5.5 V-L (0.21)**

NOTE: A LOAD DURATION FACTOR OF 1.0 IS USED FOR ALL BEAMS



# WOOD BEAM DESIGN FOR UNIFORM LOADING CONDITIONS

Project: **OGDEN CITY GARAGE**  
Description: **16'-0" GARAGE DOOR HEADER**

Date: 1/29/2016  
Engineer: TAH

## INPUT:

Length of Span - L (ft): **16.5**  
Distance from Support to Calc. Shear - d (in): **7**

### Roof Loads:

Trib. Length (ft): **3**  
Snow Load (psf): **30**  
Dead Load (psf): **17**

### Linear Loads:

Snow Load (plf): **0**  
Live Load (plf): **0**  
Dead Load (plf): **0**

### Floor Loads:

Trib. Length (ft): **0**  
Live Load (psf): **40**  
Dead Load (psf): **15**

Total Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **240**  
Live Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **360**

Total Load (plf): **141 plf**  
Total Live Load (plf): **90 plf**

Beam	DL=	420.75 lbs
Reactions:	LL=	742.5 lbs
	TL=	1163.3 lbs

## OUTPUT:

### DOUGLAS FIR-LARCH

Allowable Shear Stress - Fv (psi): **95**  
Modulus of Elasticity - E (ksi): **1600**  
Allowable Bending Stress - Fb (psi): **1313** 2x4  
**1139** 2x6  
**1052** 2x8  
**961** 2x10  
**845** 2x12

I (TL) (in<sup>4</sup>): **178.14**  
I (LL) (in<sup>4</sup>): **170.56**  
A (in<sup>2</sup>): **17.07**  
S (in<sup>3</sup>) 2x4: **43.85**  
2x6: **50.55**  
2x8: **54.73**  
2x10: **59.92**  
2x12: **68.14**

**3-2x10's (0.93)**  
**3-2x12's (0.72)**

### GLUED-LAMINATED (24F-V4)

Allowable Shear Stress - Fv (psi): **190**  
Modulus of Elasticity - E (ksi): **1800**  
Allowable Bending Stress - Fb (psi): **2400**

I (TL) (in<sup>4</sup>): **158.35**  
I (LL) (in<sup>4</sup>): **151.61**  
A (in<sup>2</sup>): **8.53**  
S (in<sup>3</sup>): **23.99**

**3.125 x 9 GLB (0.83)**  
**5.125 x 7.5 GLB (0.88)**

### MICRO-LAM

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **1900**  
Allowable Bending Stress - Fb (psi): **2600**

EI (TL) k-in<sup>2</sup>: **285025**  
EI (LL) (k-in<sup>2</sup>): **272897**  
Shear (lbs): **1081**  
Moment (ft-lb): **4798**

**(2)-1.75 x 9.5 M-L (0.6)**  
**(3)-1.75 x 7.25 M-L (0.89)**

### VERSA-LAM

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **2000**  
Allowable Bending Stress - Fb (psi): **2800**

EI (TL) k-in<sup>2</sup>: **285025**  
EI (LL) (k-in<sup>2</sup>): **272897**  
Shear (lbs): **1081**  
Moment (ft-lb): **4798**

**(2)-1.75 x 9.25 V-L (0.62)**  
**(3)-1.75 x 7.25 V-L (0.85)**

NOTE: A LOAD DURATION FACTOR OF 1.0 IS USED FOR ALL BEAMS

## IBC LATERAL ANALYSIS

**Project:** OGDEN CITY GARAGE  
**Description:** MAIN LATERAL

**Date:** 1/29/2016  
**Engineer:** Tom Hales

### Seismic ( $V=2/3 \cdot S_{ms} \cdot I \cdot W/R \cdot (1/1.4)$ )

$I = 1$   
 $S_{ms} = F_a \cdot S_s = 1.6$  NOTE: Site Class D is assumed  
 $R = 6$   
 $2/3 \cdot S_{ms} \cdot I / R / 1.4 = 0.1270$  (ASD)

**Wind** 90 mph Basic Wind Speed  
 Exposure = C  
 Exp Coef = 1.21  
 $K_{zt} = 1$   
 $I_w = 1$   
 roof height = 10.0 ft (top of wall to ridge)

	$P_{s30}$	$P_s$
A =	14.4 psf	17.4 psf
B =	9.9 psf	12.0 psf
C =	11.5 psf	13.9 psf
D =	7.9 psf	9.6 psf

### Building Info.

Wall Weight = 12 psf  
 Roof Weight = 17 psf  
 Seismic snow =  
 Total Roof Weight = 17 psf  
 Floor to Roof Height = 10 ft  
 Building Width = 22 ft  
 Building Length = 22 ft  
 Building Height = 20 ft  
 a = 3.0 ft

### Veneer

	Weights (pounds)	Veneer	Total Weights (pounds)	
Wall	1320	0	10868	Dir. perp. to width
Wall	1320	0	10868	Dir. perp. to length
Roof	8228		13508	Tot. Building Wt.
		Vmid =	1715.3	

### Seismic Shear Forces

Diaphragm Shears: (per side)	pounds	plf
Walls perpendicular to building width:	690	31
Walls perpendicular to building length:	690	31

Mid-Ht Wall Shears: (per side)	pounds	plf
Walls perpendicular to building width:	858	39
Walls perpendicular to building length:	858	39

**USE 7/16" SHEATHING w/8d NAILS @ 6" o.c. G.F. 170plf**

### **SHEARWALLS**

350 plf
req'd length
2.0 ft
2.0 ft

### Wind Shear Forces

Diaphragm Shears: (per side)	pounds	plf	
Walls perpendicular to building width:	2033	92	CONTROLS=>
Walls perpendicular to building length:	2033	92	CONTROLS=>

Mid-Ht Wall Shears: (per side)	pounds	plf	
Walls perpendicular to building width:	2033	92	CONTROLS=>
Walls perpendicular to building length:	2033	92	CONTROLS=>

**USE 7/16" SHEATHING w/8d NAILS @ 6" o.c. G.F. 240plf**

### **SHEARWALLS**

490 plf
req'd length
4.1 ft
4.1 ft

Note: Veneer is assumed to resist it's own in-plane shear.



## SHEAR & OVERTURNING ANALYSIS

**Project:** OGDEN CITY GARAGE  
**Description:** MAIN LATERAL

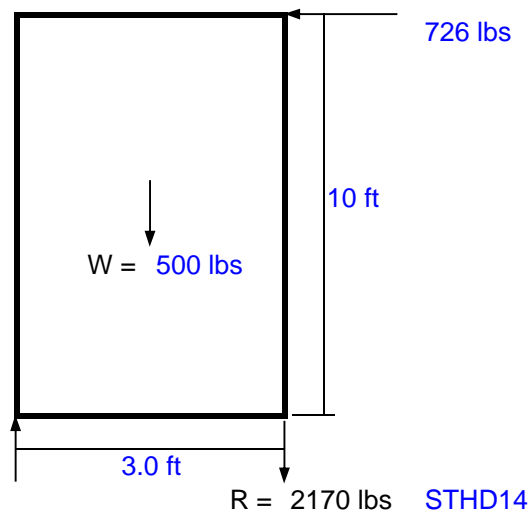
**Date:** 1/29/2016  
**Engineer:** Tom Hales

### SHEAR WALL CHECK

Shear Wall Capacity: 350 plf 4"O.C. EDGE NAILING  
Total Shear: 1452 lbs  
Req'd Wall Lngth: 4 ft PLENTY OF WALL AVAILABLE

### WALL OVERTURNING

**Description:** 3'-0" FRONT WALL PIECE



### WALL OVERTURNING

**Description:** 15'-0" SIDE WALL PIECE

