DEI engineers

Memo | 14 Dec 2023

To	Washoe County Planning Department 1001 E. Ninth St. Bldg. A Reno, NV 89512	From	Erika Hull-Stancliff
Project	B23320 | Heyrman Residence Garage Addition		
Subject	WDADAR23-0010 DADAR - 16185 N Timberline Drive: Revised Floor Plan per Article 306.25		

Erika Hull-Stancliff
12/20/2023
EXP. 6-3
CIVIL

Comments

DEI Engineers has made revisions to the floor plan to fit within the allowable square footage of 50% of the existing residence's living space. The calculation of existing living space is based on 2,215 square feet of recorded square footage plus 189 square feet of new living space from permit number WBLD21-104220 (recently finaled). The existing square footage comes to 2,404 square feet. Therefore, the maximum allowable square footage for the DADAR comes to 1,202 square feet. The revisions are as follows:

1) The mudroom has been removed and converted to additional deck area. The wall line of the previous mudroom to the interior has been squared off to decrease square footage to fall within allowable limits. Refer to Sheet A1.1.

2) The garage layout has been revised to remove any areas of possible living space. The bathroom options have been removed. A dog washing station and laundry sink have been added in their place that are not within finished living space. A man door has been added along Grid 2 to access the garage. Refer to Sheet A1.1.

3) The stairway is accessible only from the garage and from the deck. This area will not be conditioned and is not part of the DADAR living space. Refer to Sheet A1.1.

4) The master bedroom and bathroom layout, kitchen layout, and living area have been updated. Refer to Sheet A1.1.

5) The framing plans, strucutral plans, and foundation plan have been revised according to the updated calculations in accordance to the changes made to the architectural plans. Refer to Sheets S1.1, S1.2, S2.2, and S2.3 along with the revised Structural Calculations.
6) Additional details have been added for the revised framing and structural design. Details 7, 8, and 9 on Sheet S0.7 are new. Detail 6/S0.8 is new. Detail 3/S0.7 has been modified. Please refer to Sheets S0.7 and S0.8.

7) The sections, elevations, and electrical plans have been updated as needed for the floor plan changes. Refer to Sheets A1.3 through A1.6.

Please contact us with any questions or concerns.

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Mail: 4790 Caughlin Pkwy #766 Reno, NV 89519 www.DElengineers.com

HEYRMAN RESIDENCE DETACHED GARAGE

ABBREVIATIONS:

ADD'L	ADDITIONAL
ALT	ALTERNATE
A.B.	ANCHOR BOLT
APPROX	APPROXIMATE
BM	BEAM
BRG	BEARING
BEL	BELOW
BET	BETWEEN
BLK	BLOCK
B/S	BOTH SIDES
BOT	BOTTOM
B.N.	BOUNDARY NAILING
BLDG	BUILDING
CANT	CANTILEVER
C.B.	CARRIAGE BOLT
CLG	CEILING
CL	CENTERLINE
CHNL	CHANNEL
CLR	CLEAR
COL	COLUMN
CP	COMPLETE PENETRATION
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONT	CONTINUOUS
CJ	CONTROL JOINT
C.M.J.	CONTROL MASONRY JOINT
C/S	COUNTERSINK
D.L.	DEAD LOAD
DET	DETAIL
DIA.	DIAMETER
DIM	DIMENSION
DO	DITTO
DJ	DOWEL JOINT
DBL	DOUBLE
DF	DOUGLAS FIR
DWG	DRAWING
EA	EACH
EE	EACH END
EF	EACH FACE
ES	EACH SIDE
EW	EACH WAY
E.N.	EDGE NAIL
ELEV	ELEVATION
EMBED	EMBEDMENT
EQ	EQUAL
(E)	EXISTING
EXP	EXPANSION
E.B.	EXPANSION BOLT
EJ	EXPANSION JOINT
EXT	EXTERIOR
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
F.N.	FIELD NAIL/FACE NAIL
FIN FLR	FINISH FLOOR
FTG	FOOTING
FEF	FORCED-ENTRY FASTNERS
FDN	FOUNDATION
GA	GAGE
GALV	GALVANIZED
G.L.	GLU-LAM
G.L.B.	GLUED-LAMINATED BEAM
GYP BD	GYPSUM BOARD
HGR	HANGER
HSA	HEADED STUD ANCHOR
HDR	HEADER
HT	HEIGHT
HF	HEM-FIR
HSB	HIGH-STRENGTH BOLT
HORIZ	HORIZONTAL
INFO	INFORMATION
ID	NSIDE DIAMETER
INT	INTERIOR
IF	ISOLATION
JST	JOINT
KD	JOIST KILN DRIED
KING	KING STUD
LVL	LAMINATED VENEER LUMBER
LT	LIGHT
LL	LIVE LOAD
LG	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MB	MACHINE BOLT
MW	MALLEABLE IRON WASHER
MANUF.	MANUFACTURER
MAX	MAXIMUM
MECH	MECHANICAL
ML	MICRO-LAM (BY TRUS JST)
MIN	MINIMUM
MISC	MISCELLANEOUS
(N)	NEW
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
#	NUMBER/POUNDS
O.C.	ON CENTER
O/S	ONE SIDE
OPP	OPPOSITE
OH	OPPOSITE HAND
O.S.B.	ORIENTED STRAND BOARD
OD	OUTSIDE DIAMETER
o/	OVER
PSL	PARALLAM (BY TRUS JST)
PARL or //	PARALLEL
PP	PARTIAL PENETRATION
PEN	PENETRATION
PL	PLATE
PLY	PLYWOOD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
P.A.F.	POWER ACTUATED FASTENER
PDF	POWER DRIVEN FASTENER
PT	PRESSURE TREATED
PRT	PRESERVATIVE TREATED
PL	PROPERTY LINE or PLATE
R.	RADIUS
RWD	REDWOOD
REF.	REFERENCE
REQ'D	REQUIRED
RMT.	ROSBORO MFG. TIMBER
SCHED	SCHEDULE
SAD	SEE ARCHITECTURAL DWGS
SMD	SEE MECHANICAL DWGS
STS	SELF-TAPPING SCREW
SW	SHEAR WALL
SIM	SIMILAR
SJ	SLAB JOINT
S.O.G.	SLAB ON GRADE
SB	SOLID BLOCK
SPEC	SPECIFICATION
SQ	SQUARE
STD	STANDARD
STL	STEEL
SYM	SYMMETRICAL
THRD	THREADED
T.N.	TOE NAIL
T&G	TONGUE & GROOVE
T&B	TOP & BOTTOM
T.O.	TOP OF
TS	TUBE STEEL
TRMR.	TRIMMER
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WT	WEIGHT
WS	WELDED STUD/WOOD SCREW
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

PROPERTY OWNER:

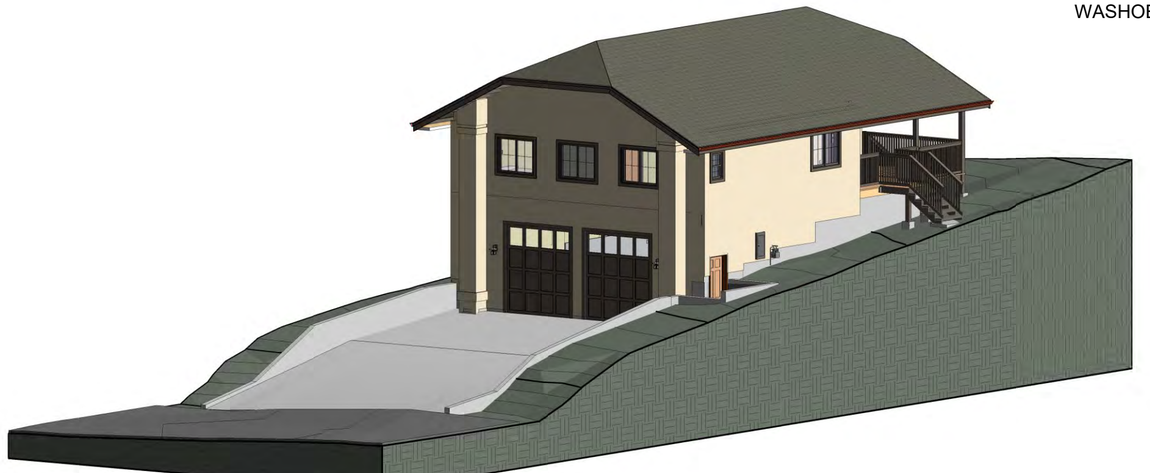
JULIE & MARK HEYRMAN
16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

ENGINEER OF RECORD:

DEI engineers
Dunagan Engineering, Inc.
4790 Caughlin Parkway #766, Reno, NV 89519
P. 775.329.2733 | F. 888.873.0790 | W. DElengineers.com

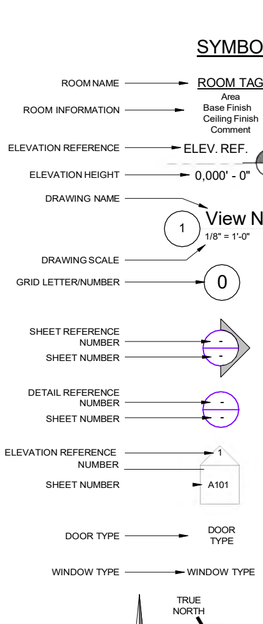
GENERAL CONTRACTOR:

FIVE ACRE CONSTRUCTION INC
P.O. BOX 19652
RENO, NV 89511
P. 775.815.3317
NV LICENSE # 0088416B
WASHOE COUNTY LICENSE: W004164A



SHEET INDEX

SYMBOLS



ROOM DESIGNATION

DATUM / ELEVATION

DRAWING TITLE

GRID BUBBLE

SECTION DESIGNATION

DETAIL DESIGNATION

EXTERIOR ELEVATION DESIGNATION

DOOR DESIGNATION

WINDOW DESIGNATION

NORTH ARROW

PROJECT DATA

PROPERTY OWNER	JULIE & MARK HEYRMAN
PROPERTY LOCATION	16185 N TIMBERLINE DR. RENO, NV 89511
PROPERTY INFORMATION	TIMBERLINE ESTATES PHASE 1 LT 2 BLK C 1.006 ACRES APN: 049-222-02 ZONING LDS
OCCUPANCY GROUP	R-3 (HOUSE) S-2 (GARAGE)
FIRE SPRINKLERS	NONE - NOT REQUIRED PER 2018 INTERNATIONAL RESIDENTIAL CODE
NUMBER OF STORIES	2
CODE EDITIONS	2018 INTERNATIONAL RESIDENTIAL CODE (IRC) 2018 INTERNATIONAL BUILDING CODE (IBC) 2018 UNIFORM MECHANICAL CODE 2018 UNIFORM PLUMBING CODE 2017 NATIONAL ELECTRICAL CODE 2018 INTERNATIONAL WILDLAND URBAN INTERFACE CODE (IWUIC) ANSI 2017 2018 IECC 2018 NORTHERN NEVADA AMENDMENTS
IGNITION RESISTANCE CONSTRUCTION TYPE	HIGH FIRE HAZARD IR1: CONFORMING WATER SUPPLY w/ FIRE HYDRANT WITHIN 1000 FEET AND NON-CONFORMING 50 FT. DEFENSIBLE SPACE

1

SCOPE OF WORK:

New two story wood structure detached garage w/ living space at upper level.

DESIGN CRITERIA
2018 International Building Code (IBC)
Local Building Department Standards
Soil Bearing (IBC Table 1806.2)

WIND DESIGN DATA
Ultimate Design Wind Speed, Vu = 120 m.p.h. (3-Second Gust)
Risk Category II
Wind Importance Factor, Iw = 1.00
Wind Exposure C
Internal Pressure Coefficient = +/- 0.18
Components & Cladding Design Pressures (ASCE 7 Section 30.4.2):
a = 3.5 ft (ASCE 7 Figure 30.4-1)

Refer to ASCE 7-16 Figure 30.4-1 for layout.

Roof/Wall	Zone	Effective Wind Area (ft^2)	Design Wind Pressure, P_{net} (psf)
Roof > 10 to 27°	1	10	50.2
	1	20	50.2
	1	50	42.5
	1	100	36.8
	2	10	79.9
	2	20	79.0
	2	50	57.0
	2	100	47.9
	3	10	103.0
	3	20	84.1
	3	50	59.1
	3	100	59.1
Wall	4	10	38.2
	4	20	36.6
	4	50	34.5
	4	100	32.9
	5	10	47.2
	5	20	44.0
	5	50	39.8
	5	100	36.6

SEISMIC DESIGN DATA
Importance Factor, Ie = 1.00 (Risk Category II)
Ss = 1.992 g and S1 = 0.716 g
Site class: = D
SDs = 1.594 g , SD1 = 0.811 g
Seismic design category: = D
Basic seismic-force-resisting system(s): =
Light-Framed Walls Sheathed with Wood Structural Panels Rated for Shear Resistance, R = 6.5
N/S Design Base Shear (LRFD) = 38.9 kips (R = 6.5)
E/W Design Base Shear (LRFD) = 38.9 kips (R = 6.5)
Cs (LRFD)= 0.2451 (R = 6.5)
Analysis Procedure Used = Equivalent Lateral Force Procedure

SNOW LOAD DATA:

Site Elevation	5880	FT.	
Ground Snow Load	Pg =	129	psf
Flat-Roof Snow Load	Pf =	89	psf
Snow Exposure Factor	Ce =	0.9	
Snow Importance Factor	Is =	1.0	
Thermal Factor	Ct =	1.1 (Typical Roof) and 1.2 (Deck Roof)	

FLOOR FRAMING DESIGN LOADS

	UPPER:	DECK:
Floor Live Load =	40 PSF	60 PSF
Floor Dead Load =	15 PSF	15 PSF
Total Floor Load =	55 PSF	75 PSF

Digitally signed by Erika Hull-Stancliff
DN: C=US, E=ehull-stancliff@dei-engineers.com, O=DEI Engineers, CN=Erika Hull-Stancliff
Reason: I have reviewed this document
Contact Info: 775.813.1591
Date: 2023.12.20 09:29:26-08'00'

Erika Hull-Stancliff

SUBMITTAL SET

REVISIONS

#	Date	Description	By
1	11-27-23	DADAR REVISIONS	KMD

NEVADA PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HULL-STANCLIFF
EXP. 6-30-25
CIVIL
NO. 27423

12/20/2023 9:21:04 AM

COVER SHEET

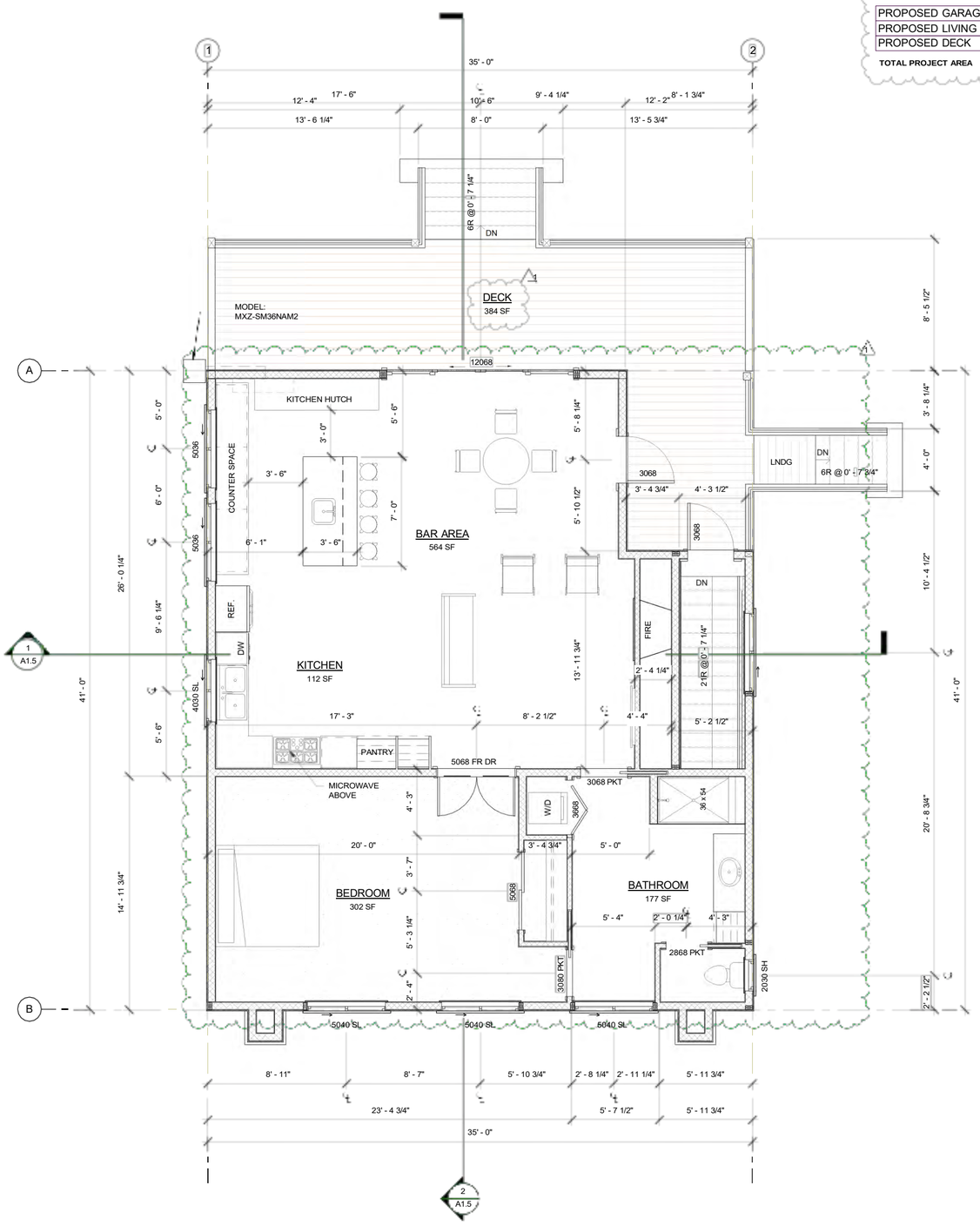
A0.0
SHEET of SHEETS

PLEASE RECYCLE

PROJECT AREAS (OUTER FACE OF WALL)	
AREA NAME	AREA SIZE
PROPOSED GARAGE AREA	1435 SF
PROPOSED LIVING AREA	1202 SF
PROPOSED DECK	384 SF
TOTAL PROJECT AREA	**3021 SF**

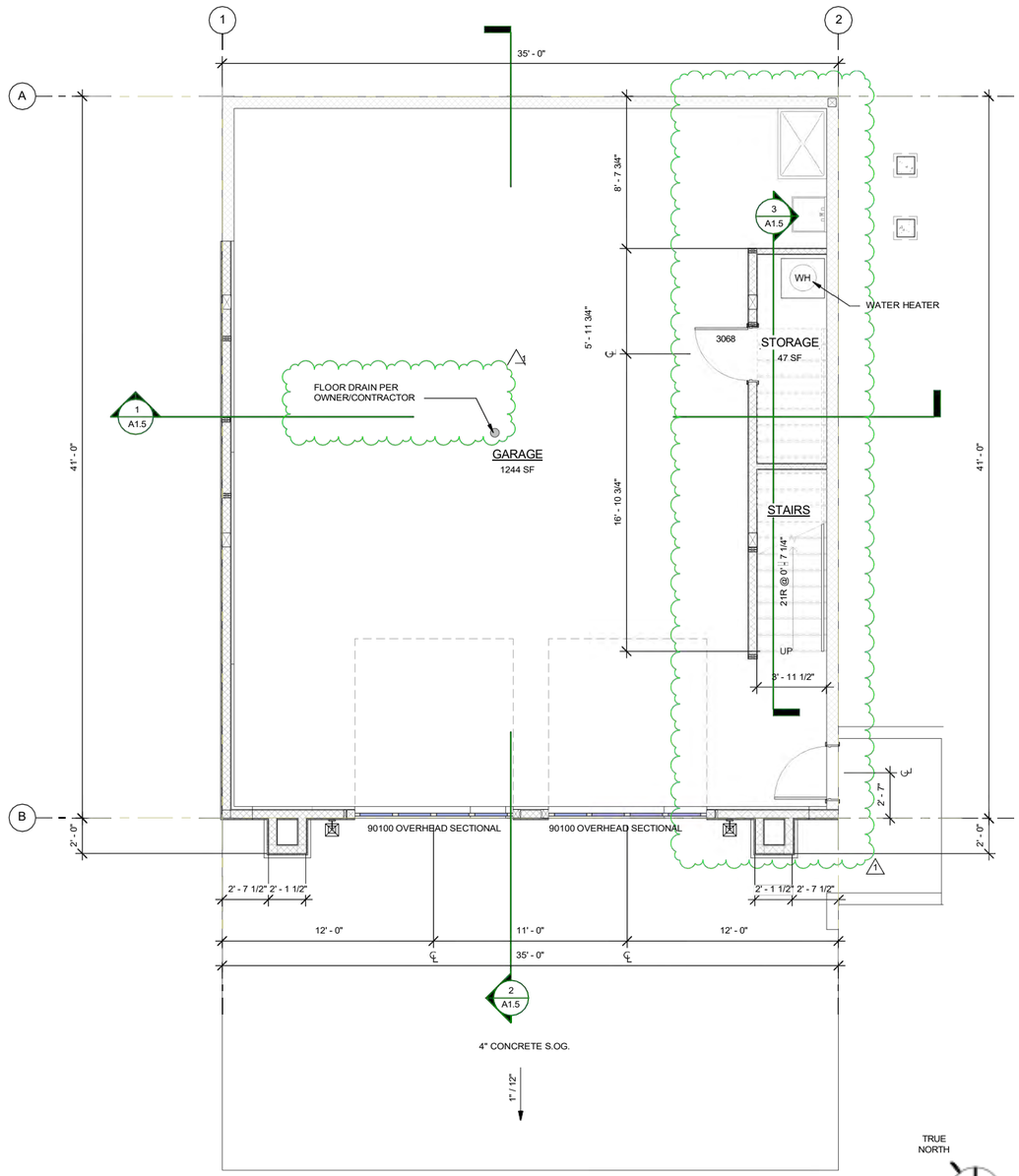
TYPICAL FLOOR PLAN NOTES:

1. GYP. BOARD CEILINGS: 5/8" GYP. BD. CEILINGS TO HAVE FRAMING MEMBERS AT 24" o.c., 1/2" GYP.BD. CEILINGS TO HAVE FRAMING MEMBERS AT 16" o.c.
2. PROVIDE 5/8" GYP.BD. CONTINUOUS ON GARAGE FACE OF HOUSE/GARAGE COMMON WALLS. PROVIDE 5/8" GYP.BD. ON GARAGE CEILING AT HOUSE / GARAGE AS REQUIRED BY LOCAL GOVERNING CODES.
3. SLOPE GARAGE FLOOR DOWNWARD 2" TO GARAGE DOOR.
4. WATER HEATER: PROVIDE ELEVATED PLATFORM (18" A.F.F.) AND SEISMIC ANCHORAGE PER 2018 IRC, PROVIDE TEMPERATURE AND PRESSURE RELIEF VALVE W/DRAIN TO EXTERIOR. SUPPLY WATER PRESSURE THROUGH BUILDING. SUPPLY NOT TO EXCEED PRESSURE RELIEF RATING. PROVIDE COMBUSTION AIR. HOT WATER LINES TO HAVE CIRCULATION PUMP OR HOT WATER LINES TO BE MAX. 1/2" DIAMETER.INSULATE ALL HOT WATER LINES TO W/MIN. R-2 INSULATION.
5. EXTERIOR HOSE BIBS TO BE FROST FREE WITH NON-REMOVABLE BACKFLOW PREVENTION DEVICES.
6. EMERGENCY EGRESS IN SLEEPING ROOMS SHALL COMPLY WITH GOVERNING FIRE AND BUILDING CODES, MAXIMUM SILL HEIGHT AT EGRESS WINDOW SHALL NOT EXCEED 44" A.F.F. CLEAR OPENING OF 24" HIGH MIN. X 20" WIDE MIN.
7. SHOWER AND TUB/SHOWER COMBINATIONS SHALL HAVE A SMOOTH HARD, NON-ABSORBENT SURFACE OVER MOISTURE RESISTANT GYP. BD. TO A HEIGHT OF 70" MIN. DRAIN INLET.
8. ALL DIMENSIONS ARE FROM FACE OF STUD TO FACE OF STUD U.N.O.
9. ALL EXTERIOR WALLS AND INTERIOR PLUMBING WALLS TO BE INSULATED.
10. ALL EXTERIOR DOORS SHALL HAVE A LANDING A MIN. 36" IN THE DIRECTION OF TRAVEL BY WIDTH OF THE DOOR. EXTERIOR DOORS SHALL BE APROVED NONCOMBUSTIBLE CONSTRUCTION WITH SOLID CORE NOT LESS THA 1 3/4" THICK OR HAVE FIRE PROTECTION RATING NOT LESS THAN 20 MIN. COMPLY WITH REQUIREMENTS OF THE 2018 IWUIC SECTION 504.9.
11. PROVIDE FIRE-BLOCKING AT 10' MAX.
12. ALL APPLIANCES, MECHANICAL UNITS, PLUMBING FIXTURES, LIGHTING FIXTURES, FIREPLACE, ETC. WITH BRAND, MODEL NUMBER AND SIZE TO BE SUPPLIED TO CONTACTOR, BY OWNER, PRIOR TO CONSTRUCTION.
13. MIN. CLEARANCE FOR STUCCO WEEP SCREED TO BE 4" MIN. AT EARTH AND 2" MIN. AT CONC./ASPHALT/PAVERS. PROVIDE WATER RESISTANT BARRIER PER R703.2/R703.63
14. PRESSURE REDUCING VALVES REQUIRED ON INCOMING WATER SERVICE.
15. WHERE WATER HEATER VENTS PASS THROUGH INSULATION ASSEMBLIES AND INSULATION SHIELD CONSTRUCTED OF NOT LESS THAN 26 GA. SHEET METAL AND EXTENDING 2" ABOVE INSULATION SHALL BE INSTALLED AS PER 2018 IRC SECT. G2426.4.
16. DESIGNATE SAFTY GLAZING PER IRC R308.
17. WINDOW U-FACTOR 0.30 MIN. AL WINDOW GLAZING SHALL MEET THE REQUIREMENTS TO SECTION 504.8 OF THE 2018 IWUIC OR HAVE FIRE RATING OF 20 MIN.
18. FIRSTOP ANY ROOF PROFILE WITH SPACE BETWEEN ROOF DECKING AND ROOF COVERING PER SECTION 504.2 OF THE 2018 IWUIC.



PROPOSED UPPER LEVEL FLOOR PLAN

1/4" = 1'-0"



LOWER LEVEL FLOOR PLAN

1/4" = 1'-0"

TRUE NORTH

REVISIONS			
#	Date	Description	By
1	11-27-23	DADAR REVISIONS	KMD

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Dunagan Engineering, Inc.
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PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
EXP. 6-30-25
CIVIL
No. 27423

12/20/2023 9:21:06 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

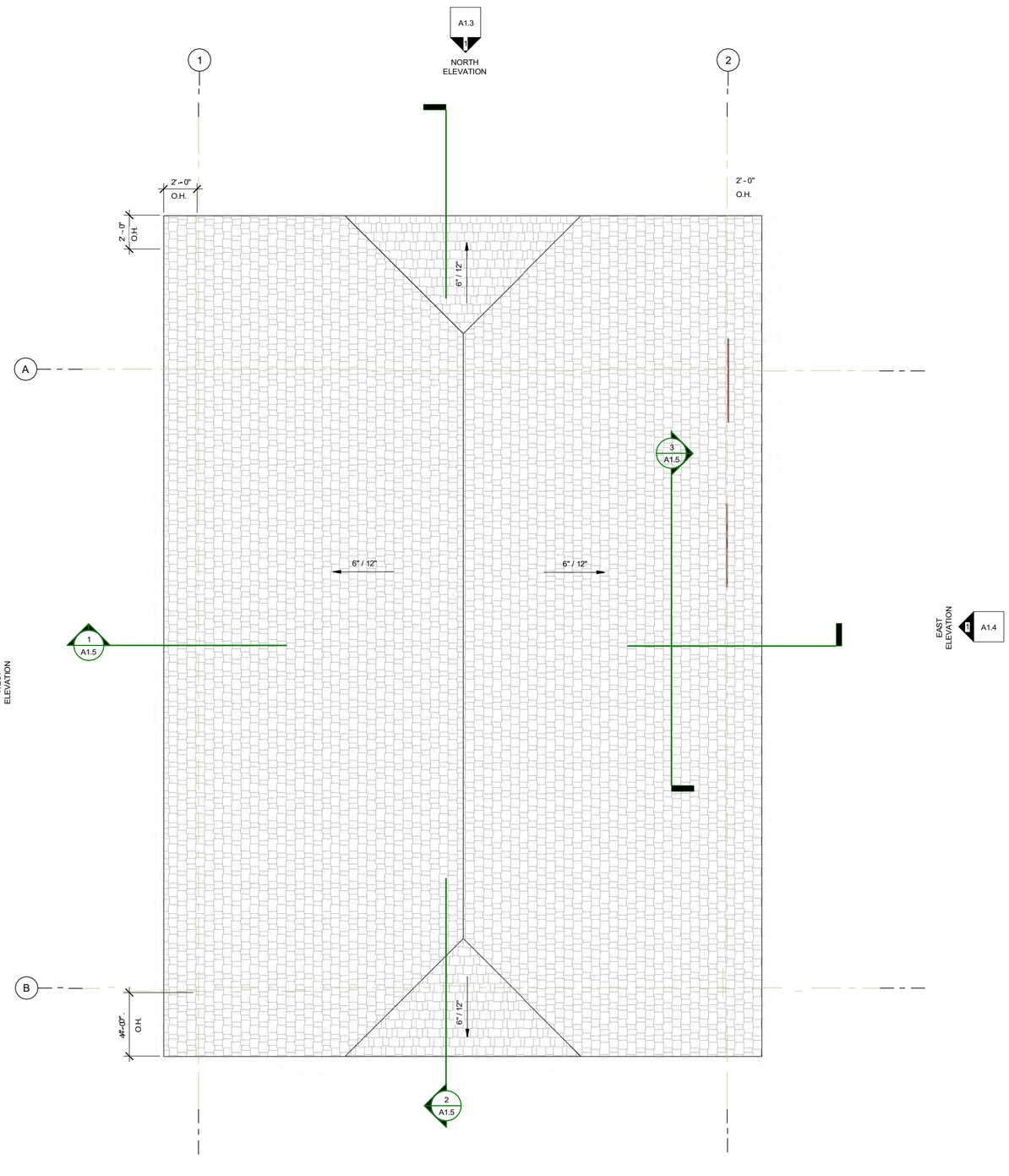
SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
	FLOOR PLANS

A1.1

SHEET of SHEETS

PLEASE RECYCLE



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2. PROVIDE 1/2" GYP.BD. CONTINUOUS ON GARAGE FACE OF HOUSE/GARAGE COMMON WALLS. PROVIDE 1/2" GYP.BD. ON GARAGE CEILING AT HOUSE / GARAGE AS REQUIRED BY LOCAL GOVERNING CODES.
3. SLOPE GARAGE FLOOR DOWNWARD 2" TO GARAGE DOOR.
4. WATER HEATER: PROVIDE ELEVATED PLATFORM (18" A.F.F.) AND SEISMIC ANCHORAGE PER 2018 IRC, PROVIDE TEMPERATURE AND PRESSURE RELIEF VALVE W/DRAIN TO EXTERIOR. SUPPLY WATER PRESSURE THROUGH BUILDING. SUPPLY NOT TO EXCEED PRESSURE RELIEF RATING. PROVIDE COMBUSTION AIR. HOT WATER LINES TO HAVE CIRCULATION PUMP OR HOT WATER LINES TO BE MAX. 1/2" DIAMETER.INSULATE ALL HOT WATER LINES TO W/MIN. R-2 INSULATION.
5. EXTERIOR HOSE BIBS TO BE FROST FREE WITH NON-REMOVABLE BACKFLOW PREVENTION DEVICES.
6. EMERGENCY EGRESS IN SLEEPING ROOMS SHALL COMPLY WITH GOVERNING FIRE AND BUILDING CODES, MAXIMUM SILL HEIGHT AT EGRESS WINDOW SHALL NOT EXCEED 44" A.F.F. CLEAR OPENING OF 24" HIGH MIN. X 20" WIDE MIN.
7. SHOWER AND TUB/SHOWER COMBINATIONS SHALL HAVE A SMOOTH HARD, NON-ABSORBENT SURFACE OVER MOISTURE RESISTANT GYP. BD. TO A HEIGHT OF 70" MIN. DRAIN INLET.
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11. PROVIDE FIRE-BLOCKING AT 10' MAX.
12. ALL APPLIANCES, MECHANICAL UNITS, PLUMBING FIXTURES, LIGHTING FIXTURES, FIREPLACE, ETC. WITH BRAND, MODEL NUMBER AND SIZE TO BE SUPPLIED TO CONTACTOR, BY OWNER, PRIOR TO CONSTRUCTION.
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18. FIRSTOP ANY ROOF PROFILE WITH SPACE BETWEEN ROOF DECKING AND ROOF COVERING PER SECTION 504.2 OF THE 2018 IWUIC.

NOTES:

1. PROVIDE 2' - 0" O.H., U.N.O.

PROPOSED ROOF PLAN

1/4" = 1'-0"

REVISIONS			
#	Date	Description	By

Dunagan Engineering, Inc.
4790 Caughlin Parkway #766, Reno, NV 89519
P.775.329.2733|F. 888.873.0790|W.DEengineers.com

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
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12/20/2023 9:21:08 AM

HEYRMAN RESIDENCE DETACHED GARAGE

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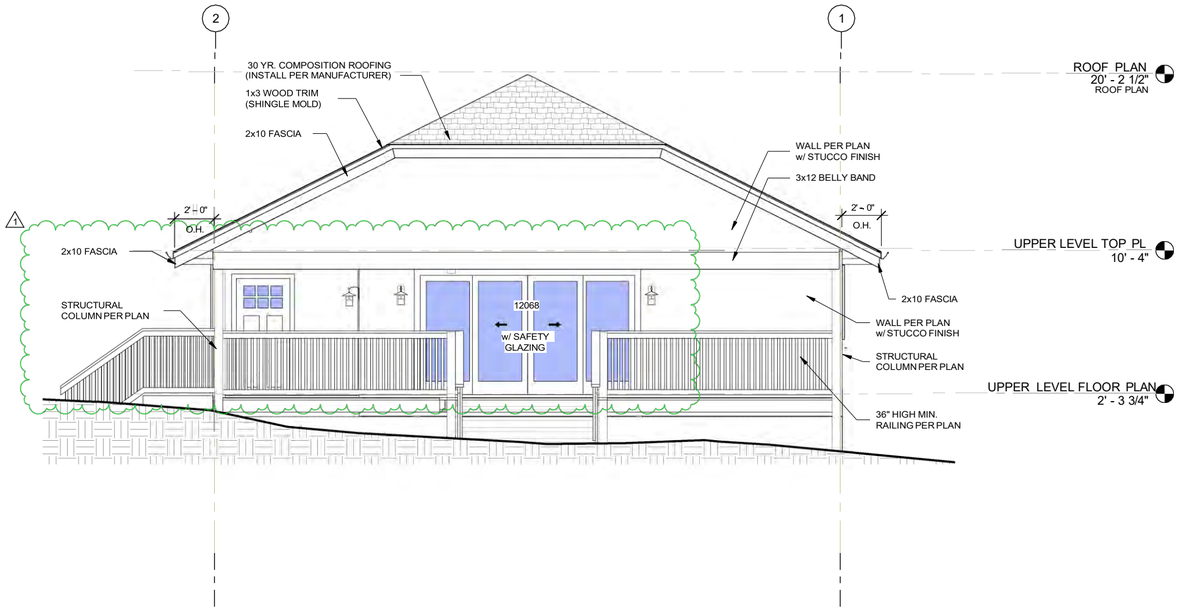
SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
ROOF PLAN	

A1.2

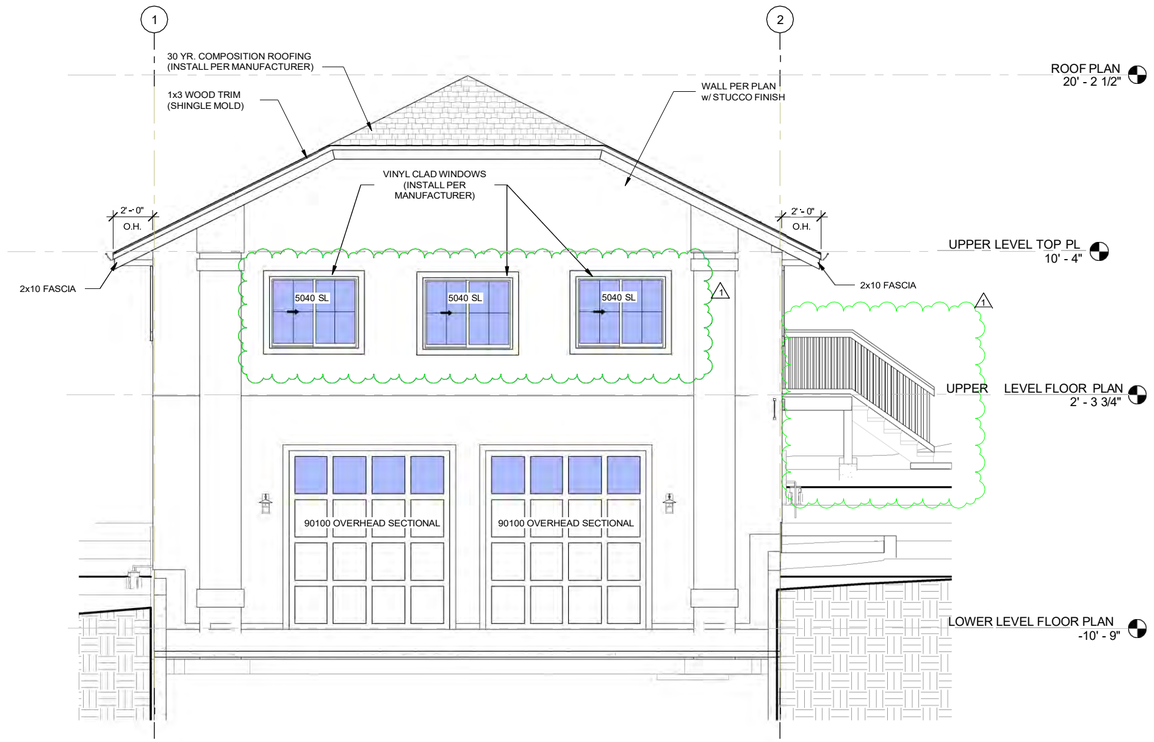
SHEET of SHEETS

PLEASE RECYCLE



NORTH ELEVATION

1/4" = 1'-0"



SOUTH ELEVATION

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10. ALL EXTERIOR DOORS SHALL HAVE A LANDING A MIN. 36" IN THE DIRECTION OF TRAVEL BY WIDTH OF THE DOOR. EXTERIOR DOORS SHALL BE APROVED NONCOMBUSTIBLE CONSTRUCTION WITH SOLID CORE NOT LESS THA 1 3/4" THICK OR HAVE FIRE PROTECTION RATING NOT LESS THAN 20 MIN. COMPLY WITH REQUIREMENTS OF THE 2018 IWUIC SECTION 504.9.
11. PROVIDE FIRE-BLOCKING AT 10' MAX.
12. ALL APPLIANCES, MECHANICAL UNITS, PLUMBING FIXTURES, LIGHTING FIXTURES, FIREPLACE, ETC. WITH BRAND, MODEL NUMBER AND SIZE TO BE SUPPLIED TO CONTACTOR, BY OWNER, PRIOR TO CONSTRUCTION.
13. MIN. CLEARANCE FOR STUCCO WEEP SCREED TO BE 4" MIN. AT EARTH AND 2" MIN. AT CONC./ASPHALT/PAVERS. PROVIDE WATER RESISTANT BARRIER PER R703.2/R703.63
14. PRESSURE REDUCING VALVES REQUIRED ON INCOMING WATER SERVICE.
15. WHERE WATER HEATER VENTS PASS THROUGH INSULATION ASSEMBLIES AND INSULATION SHIELD CONSTRUCTED OF NOT LESS THAN 26 GA. SHEET METAL AND EXTENDING 2" ABOVE INSULATION SHALL BE INSTALLED AS PER 2018 IRC SECT. G2426.4.
16. DESIGNATE SAFTY GLAZING PER IRC R308.
17. WINDOW U-FACTOR 0.30 MIN. AL WINDOW GLAZING SHALL MEET THE REQUIREMENTS TO SECTION 504.8 OF THE 2018 IWUIC OR HAVE FIRE RATING OF 20 MIN.
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2018 IWUIC COMPLIANCE NOTES:

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3. PROVIDE PROTECTION OF EAVES PER SECTION 504.3.
4. ALL GUTTERS AND DOWNSPOUTS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 504.4.
5. UNDERFLOOR AREAS SHALL BE ENCLOSED TO THE GROUND IN ACCORDANCE WITH SCTION 504.6.
6. ALL WINDOWS SHALL BE TEMPERED GLASS OR HAVE A MIN. FIRE RATING OF 20 MIN. PER SECTION 504.8.
7. EXTERIOR DOOR SHALL BE APPROVED NON-COMBUSTIBLE MATERIAL, SOLID CORE WITH 1-3/4" MIN. THICKNESS, OR HAVE A 20 MIN. FIRE RATING PER SECTION 504.9.
8. ATTIC AND FOUNDATION VENTS SHALL NOT EXCEED 144 SQ. IN. EACH AND SHALL BE COVERED WITH NON-COMBUSTIBLE, CORROSION RESISTANT MESH WITH OPENINGS 1/4" OR SMALLER PER SECTION 504.10.
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REVISIONS			
#	Date	Description	By
1	11-27-23	DADAR REVISIONS	KMD

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4790 Caughlin Parkway #766, Reno, NV 89519
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PROFESSIONAL ENGINEER STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
EXP. 6-30-25
CIVIL
NO. 27423

12/20/2023 9:21:11 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

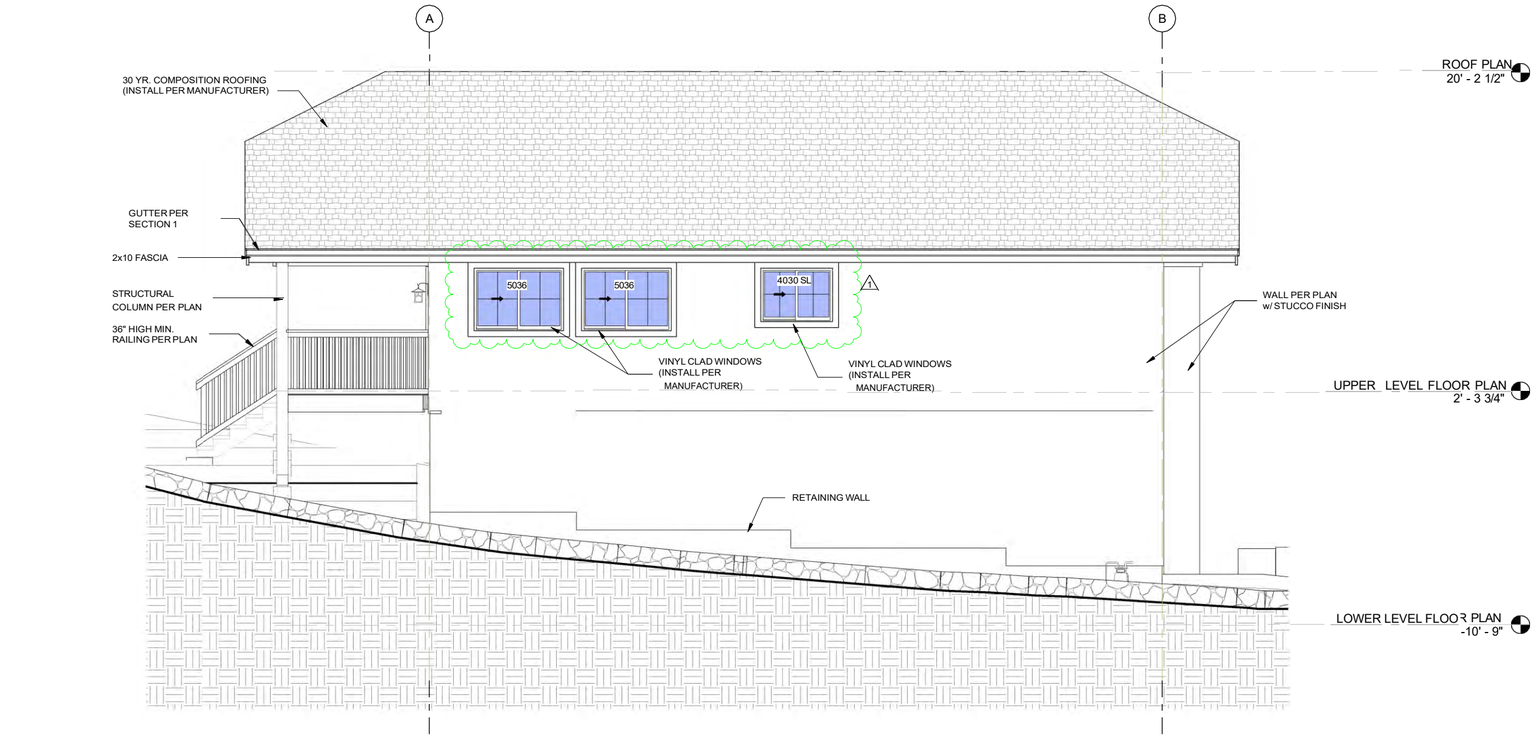
SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
ELEVATIONS NORTH/SOUTH	

A1.3

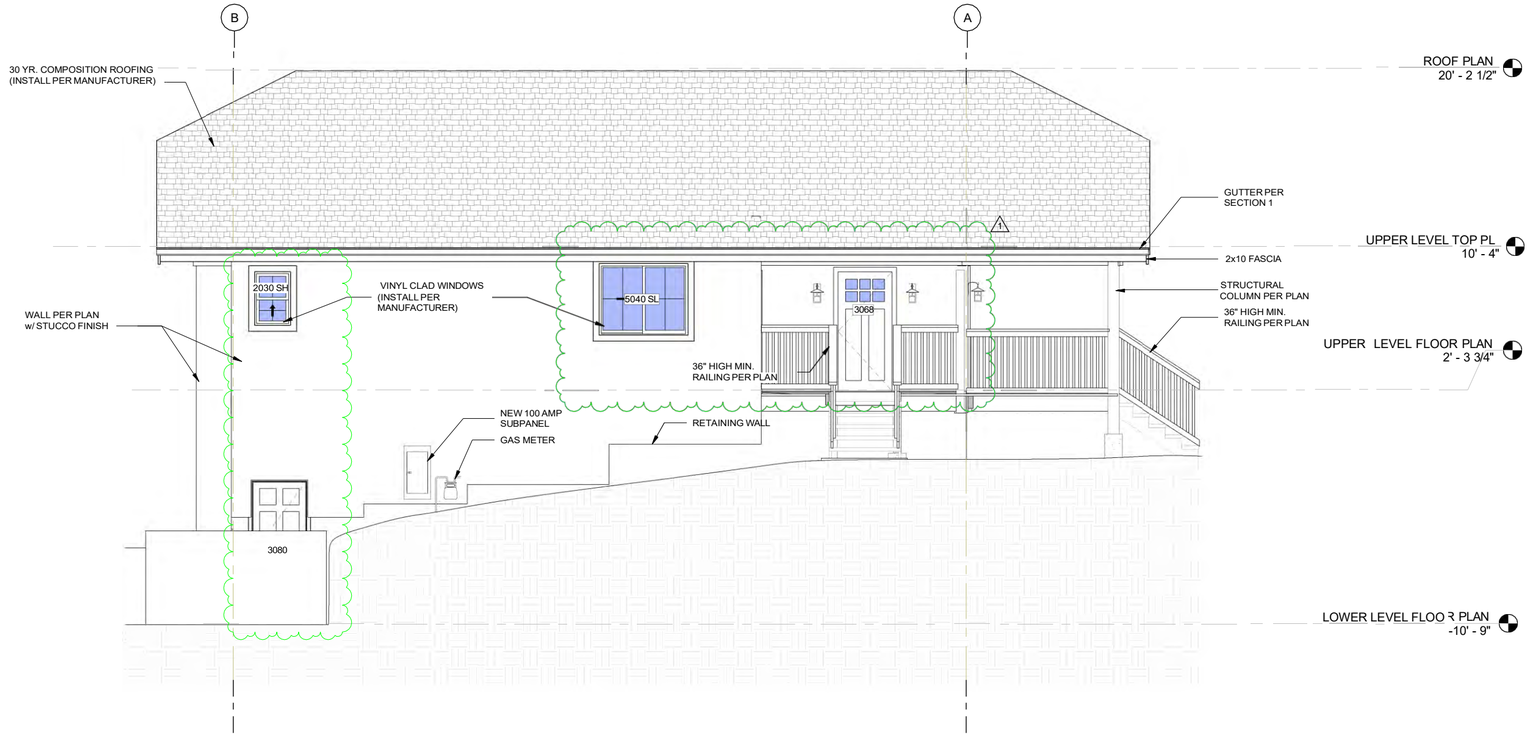
SHEET of SHEETS

PLEASE RECYCLE



WEST ELEVATION

1/4" = 1'-0"



EAST ELEVATION

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TYPICAL FLOOR PLAN NOTES:

1. GYP. BOARD CEILINGS: 5/8" GYP. BD. CEILINGS TO HAVE FRAMING MEMBERS AT 24" o.c., 1/2" GYP.BD. CEILINGS TO HAVE FRAMING MEMBERS AT 16" o.c.
2. PROVIDE 1/2" GYP.BD. CONTINUOUS ON GARAGE FACE OF HOUSE/GARAGE COMMON WALLS. PROVIDE 1/2" GYP.BD. ON GARAGE CEILING AT HOUSE / GARAGE AS REQUIRED BY LOCAL GOVERNING CODES.
3. SLOPE GARAGE FLOOR DOWNWARD 2" TO GARAGE DOOR.
4. WATER HEATER: PROVIDE ELEVATED PLATFORM (18" A.F.F.) AND SEISMIC ANCHORAGE PER 2018 IRC, PROVIDE TEMPERATURE AND PRESSURE RELIEF VALVE W/DRAIN TO EXTERIOR. SUPPLY WATER PRESSURE THROUGH BUILDING. SUPPLY NOT TO EXCEED PRESSURE RELIEF RATING. PROVIDE COMBUSTION AIR. HOT WATER LINES TO HAVE CIRCULATION PUMP OR HOT WATER LINES TO BE MAX. 1/2" DIAMETER.INSULATE ALL HOT WATER LINES TO W/MIN. R-2 INSULATION.
5. EXTERIOR HOSE BIBS TO BE FROST FREE WITH NON-REMOVABLE BACKFLOW PREVENTION DEVICES.
6. EMERGENCY EGRESS IN SLEEPING ROOMS SHALL COMPLY WITH GOVERNING FIRE AND BUILDING CODES, MAXIMUM SILL HEIGHT AT EGRESS WINDOW SHALL NOT EXCEED 44" A.F.F. CLEAR OPENING OF 24" HIGH MIN. X 20" WIDE MIN.
7. SHOWER AND TUB/SHOWER COMBINATIONS SHALL HAVE A SMOOTH HARD, NON-ABSORBENT SURFACE OVER MOISTURE RESISTANT GYP. BD. TO A HEIGHT OF 70" MIN. DRAIN INLET.
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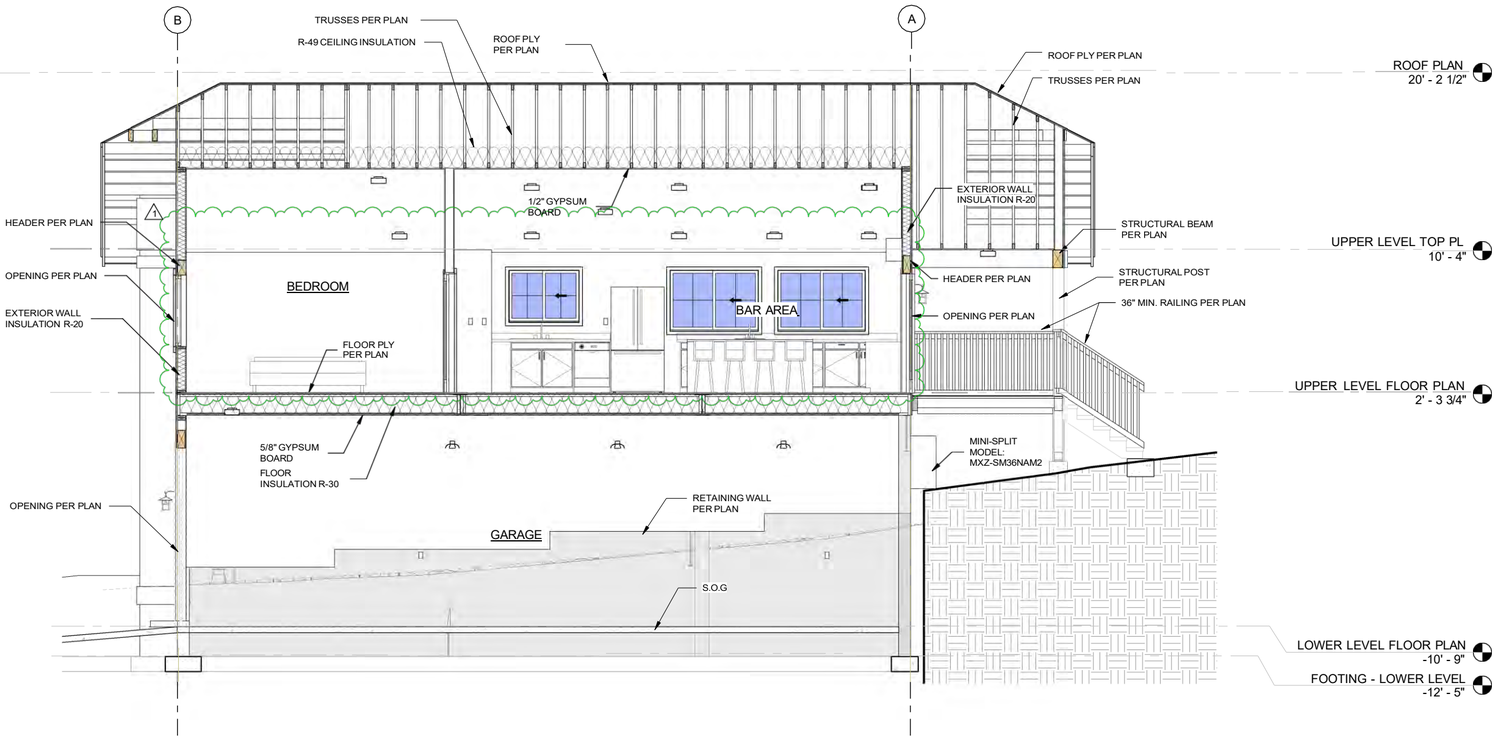
SHEET NO.	
ELEVATIONS EAST/WEST	

A1.4

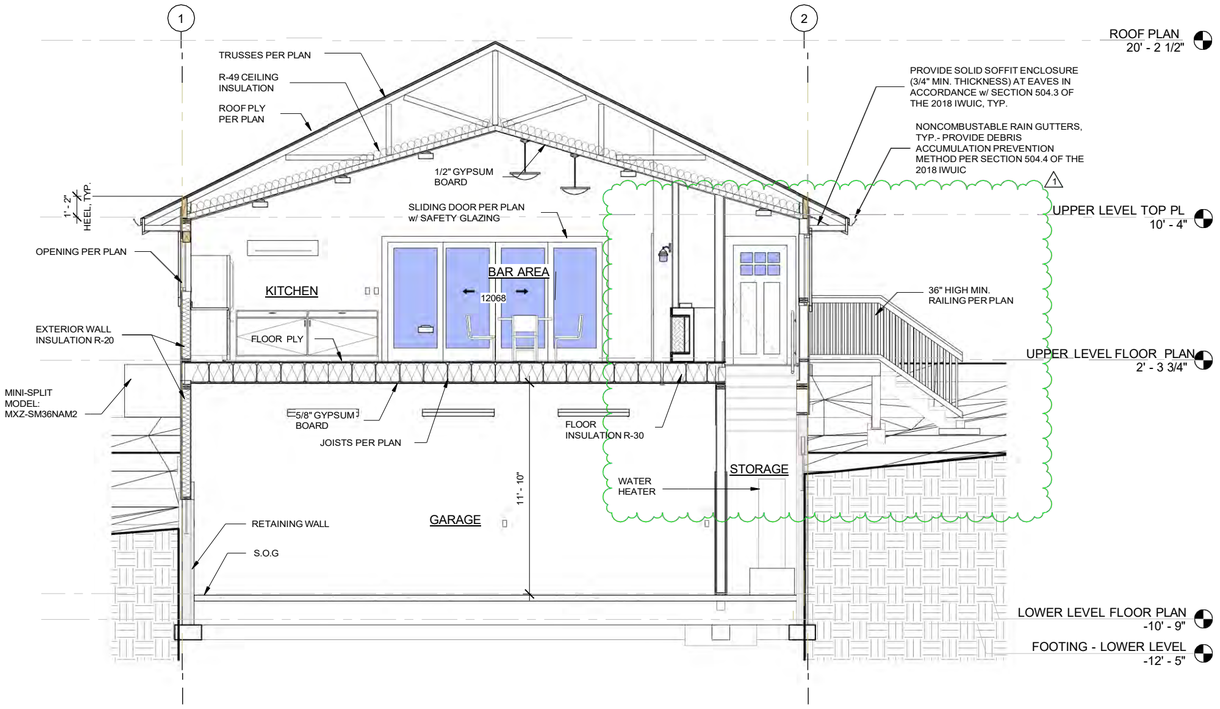
SHEET of SHEETS

PLEASE RECYCLE



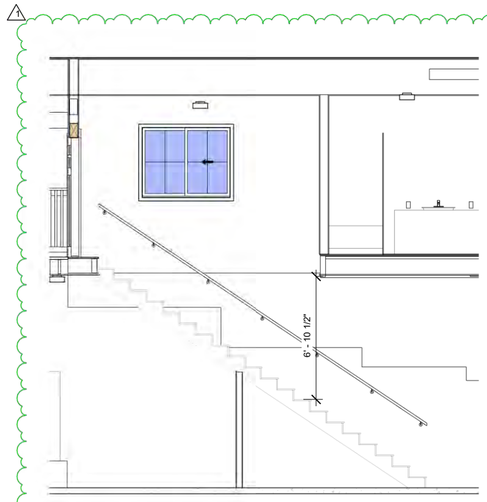
2 SECTION 2

1/4" = 1'-0"



1 SECTION 1

1/4" = 1'-0"



3 STAIRWAY SECTION

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ROOF VENTILATION NOTES

ALL ROOF VENTILATION SHALL COMPLY W/ IRC, SECTION 806

REQUIRED	PROVIDED
ROOF AREA 1729/150 = 11.53 SF	RIDGE VENTING 40' OF COR-A-VENT V-300 RIDGE VENT (0.09 SF/FT) NET AREA = 40 (0.09) = 3.6 SF EAVE VENTING - **BRANDGUARD VENTS** FIRE-RATED UNDEREAVE VENT - 5 1/2" x 14" SOFFIT VENT (0.16 SF NET FREE VENT AREA EACH) PROVIDE MIN. (50) NET FREE VENT AREA = 50 (0.16) SF = 8 SF TOTAL NET FREE VENT AREA = 3.6 SF + 8.0 SF = 11.6 SF > 11.53 SF

NOTE:
AT CONTRACTOR'S OPTION, ALTERNATIVE VENTILATION METHODS MAY BE USED PROVIDED THAT THE METHODS COMPLY WITH THE OVERALL VENTILATION REQUIREMENTS.

ARCHITECURAL NOTE(S):

INSULATION SCHEDULE:

1. CEILING - OPTIMA BLOWN -IN INSULATION R-49.
2. EXTERIOR WALLS - 2X6 PLUMBING - R-20 BATT INSULATION or LOOSE FILL INSULATION
3. UPPER FLOOR - R-30 BATT INSULATION

DOOR & WINDOW NOTES:

1. THE NEW EXTERIOR DOORS WITH MORE THAN 50% GLAZING MUST HAVE A MINIMUM R = 3.33 (U = 0.30 EQUIVALENT). SOLID DOORS ARE REQUIRED TO HAVE A MINIMUM R = 3.33 (U = 0.30 EQUIVALENT).
2. ALL NEW EXTERIOR WINDOWS MUST CONSIST OF DOUBLE PANE INSULATING GLASS, SUSPENDED FILM AND LOW-E w/ A MINIMUM R=3.33 (U=0.30 EQUIVALENT).

REVISIONS

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16185 N TIMBERLINE DR.
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SUBMITTAL SET

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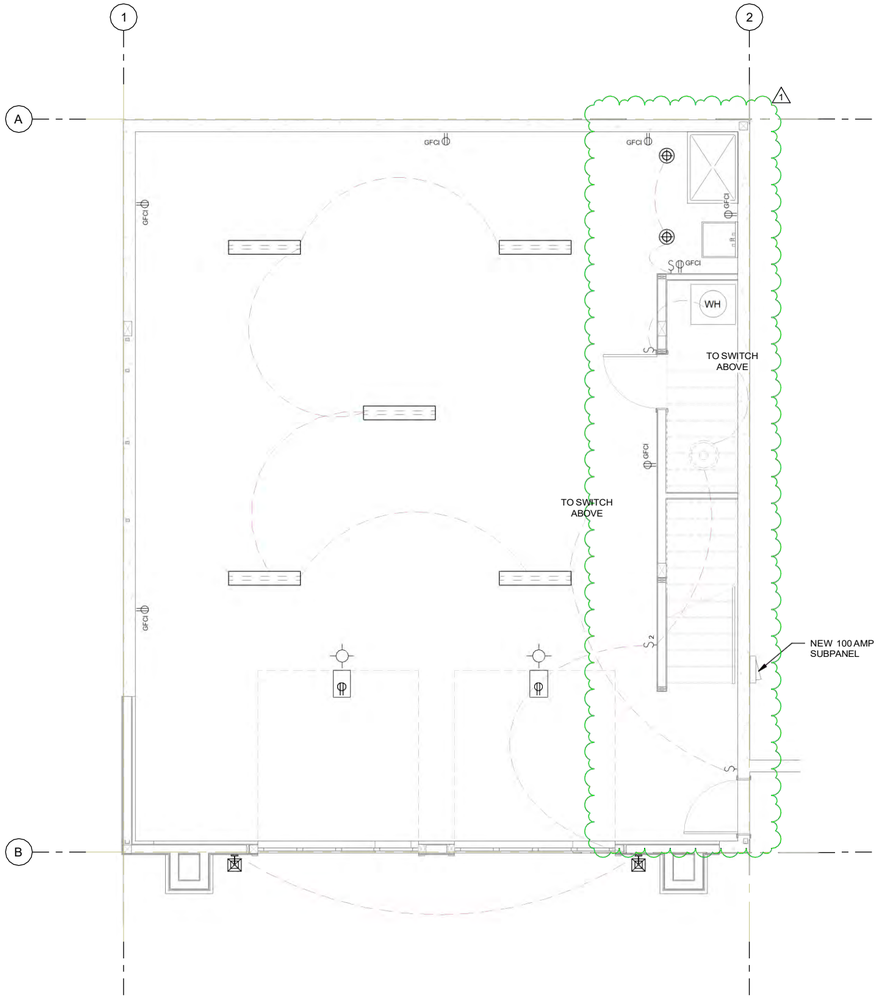
SHEET NO.	
SECTIONS	

A1.5

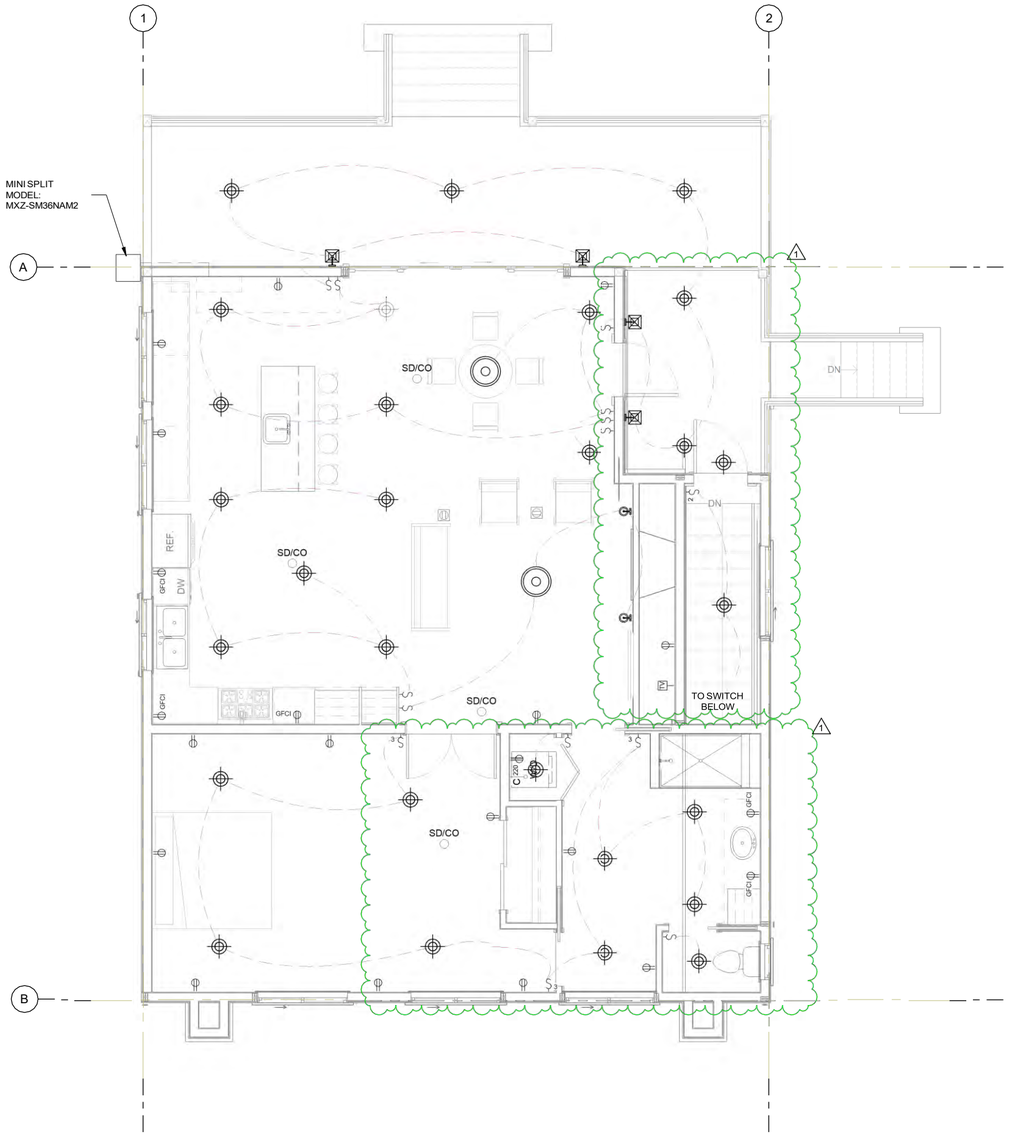
SHEET of SHEETS

PLEASE RECYCLE



GARAGE ELECTRICAL

1/4" = 1'-0"



UPPER LEVEL ELECTRICAL

1/4" = 1'-0"

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
F	EXHAUST FAN		DUPLEX FLOOR OUTLET
SD/CO	COMBINATION 120V SMOKE DETECTOR / CARBON MONOXIDE ALARM - HARD WIRED w/ BATTERY BACKUP (ALL DETECTORS SHALL BE INTERCONNECTED)		GAS SEVICE AND METER
	SURFACE MOUNT CEILING LIGHT	S	SWITCH
	INTERIOR SURFACE MOUNT WALL FIXTURE	S_2	2-WAY SWITCH
	FLUORESCENT LIGHT	TV	CABLE TV / MEDIA
	EXTERIOR SURFACE MOUNT WALL FIXTURE		GARAGE DOOR OPENER
	DUPLEX OUTLET		INTERIOR SURFACE MOUNT WALL FIXTURE
220	220V OUTLET / CONNECTION		PENDANT LIGHT
GFCI	GROUND-FAULT CIRCUIT-INTERRUPTER DUPLEX OUTLET		

NOTES:

1. ALL BEDROOM, FAMILY ROOM, DINING, LIVING, HALLWAYS, ETC. OUTLETS (E.G. RECEPTACLE, LIGHTING, AND SMOKE DETECTOR) REQUIRE ARC-FAULT CIRCUIT-INTERRUPTER PROTECTION PER IRC E3902.12
2. RECEPTACLE OUTLET DISTRIBUTION SHALL COMPLY w/ IRC, E3901.2.
3. EXHAUST FAN TO HAVE MIN. 51 CFM, MAXIMUM .25WATTS/CFM, AND 1 SOUND LEVEL FOR MAKE UP AIR.
4. CEILING FAN MOUNTING BOXES SHOULD STRUCTURALLY SUPPORT FAN IN MOTION. FANS WILL HAVE VARIABLE SPEED SWITCH CONTROL.
5. PROVIDE ELECTRICAL DISCONNECT AT A READILY ACCESSIBLE LOCATION OUTSIDE OF THE BUILDING NEAREST TO THE POINT OF ENTRANCE OF THE SERVICE CONDUCTORS
6. FURNACE AND WATER COMBUSTION AIR TO COMPLY w/ IRC M1402.3.
7. PROVIDE GFI PROTECTION TO ALL KITCHEN COUNTER RECEPTACLES.
8. PROVIDE MINIMUM SPACING OF KITCHEN COUNTER RECEPTACLES PER IRC E3901.4.1.
9. ALL BATHROOM SHOWER AND TUB FIXTURES SHALL BE LISTED FOR WET OR DAMP LOCATIONS.
10. LAMPS IN PERMANENTLY INSTALLED LIGHT FIXTURES TO BE HIGH EFFICACY LAMPS PER 2018 IECC SECTION 404.1.
11. SMOKE DETECTORS MUST BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL THE ALARMS IN THE DWELLING.
12. VERIFY IF EXTERIOR LIGHTS TO BE ON PHOTO CELL OR TIMER.
13. VERIFY ELECTRICAL REQUIREMENTS OF LANDSCAPING LIGHTS, TIMER, ETC.
14. PROVIDE LIGHT AND SWITCH FOR ATTIC ACCESS.
15. ALL NEW OUTLETS THAT ARE 5'-6" OR LESS OFF OF THE FINISHED FLOOR ARE TO BE TAMPER-RESISTANT PER 2018 IRC SECTION E4002.14

CO2 /SMOKE DETECTORS:
The code requires the following:

1. One in each sleeping room .
2. One outside each sleeping area and in the immediate vicinity of the sleeping rooms.
3. One at each level of the building.

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ELECTRICAL PLANS	

A1.6

SHEET of SHEETS

PLEASE RECYCLE

ABBREVIATIONS:

ADD'L	ADDITIONAL
ALT	ALTERNATE
A.B.	ANCHOR BOLT
APPROX.	APPROXIMATE
BM	BEAM
BRG	BEARING
BEL	BELOW
BET	BETWEEN
BLK	BLOCK
BS	BOTH SIDES
BOT	BOTTOM
B.N.	BOUNDARY NAILING
BLDG	BUILDING
CANT	CANTILEVER
C.B.	CARRIAGE BOLT
CLG	CEILING
CL	CENTERLINE
C-CHNL	CHANNEL
CLR	CLEAR
COL	COLUMN
CP	COMPLETE PENETRATION
CONC.	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONT	CONTINUOUS
CJ	CONTROL JOINT
C.M.J.	CONTROL MASONRY JOINT
CS	COUNTERSINK
D.L.	DEAD LOAD
DET	DETAIL
DIA.	DIAMETER
DIM	DIMENSION
DO	DITTO
DJ	DOWEL JOINT
DBL	DOUBLE
DF	DOUGLAS FIR
DWG	DRAWING
EA	EACH
EE	EACH END
EF	EACH FACE
ES	EACH SIDE
EW	EACH WAY
E.N.	EDGE NAIL
ELEV	ELEVATION
EMBED	EMBEDMENT
EQ	EQUAL
(E)	EXISTING
EXP	EXPANSION
E.B.	EXPANSION BOLT
EJ	EXPANSION JOINT
EXT	EXTERIOR
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
F.N.	FIELD NAIL/FACE NAIL
FIN FLR	FINISH FLOOR
FTG	FOOTING
FEF	FORCED-ENTRY FASTNERS
FDN	FOUNDATION
GA	GAGE
GALV	GALVANIZED
GL	GLU-LAM
G.L.B.	GLUED-LAMINATED BEAM
GYP BD	GYPSUM BOARD
HGR	HANGER
HSA	HEADED STUD ANCHOR
HDR	HEADER
HT	HEIGHT
HF	HEM-FIR
HSB	HIGH-STRENGTH BOLT
HORIZ	HORIZONTAL
INFO	INFORMATION
ID	NSIDE DIAMETER
INT	INTERIOR
IF	ISOLATION
JST	JOINT
KD	JOIST KILN DRIED
KING	KING STUD
LVL	LAMINATED VENEER LUMBER
LT	LIGHT
LL	LIVE LOAD
LG	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MB	MACHINE BOLT
MW	MALLEABLE IRON WASHER
MANUF.	MANUFACTURER
MAX	MAXIMUM
MECH	MECHANICAL
ML	MICRO-LAM (BY TRUS JST)
MIN	MINIMUM
MISC	MISCELLANEOUS
(N)	NEW
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
#	NUMBER/POUNDS
O.C.	ON CENTER
O/S	ONE SIDE
OPP	OPPOSITE
OH	OPPOSITE HAND
O.S.B.	ORIENTED STRAND BOARD
OD	OUTSIDE DIAMETER
o/	OVER
PSL	PARALLAM (BY TRUS JST)
PARL or //	PARALLEL
PP	PARTIAL PENETRATION
PEN	PENETRATION
PL	PLATE
PLY	PLYWOOD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
P.A.F.	POWER ACTUATED FASTENER
PDF	POWER DRIVEN FASTENER
PT	PRESSURE TREATED
PRT	PRESERVATIVE TREATED
PL	PROPERTY LINE or PLATE
R	RADIUS
RWD	REDWOOD
REF	REFERENCE
REQD	REQUIRED
RMT.	ROSBORO MFG. TIMBER
SCHED	SCHEDULE
SAD	SEE ARCHITECTURAL DWGS
SMD	SEE MECHANICAL DWGS
STS	SELF-TAPPING SCREW
SW	SHEAR WALL
SIM	SIMILAR
SJ	SLAB JOINT
S.O.G.	SLAB ON GRADE
SB	SOLID BLOCK
SPEC	SPECIFICATION
SQ	SQUARE
STD	STANDARD
STL	STEEL
SYM	SYMMETRICAL
THRD	THREADED
T.N.	TOE NAIL
T&G	TONGUE & GROOVE
T&B	TOP & BOTTOM
T.O.	TOP OF
TS	TUBE STEEL
TRMR.	TRIMMER
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WT	WEIGHT
WS	WELDED STUD/WOOD SCREW
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

GENERAL NOTES AND SPECIFICATIONS:

DIVISION 1 - GENERAL:

a. All work shall conform to the 2018 International Building Code (IBC) and applicable local codes.
b. Where applicable allowable stresses have been increased 15% (Except Alpine and Placer Counties) for short duration and 60% for seismic and wind loading.
c. Dunagan Engineering, Inc. is responsible for the structural items in the plans only. Should any changes be made, or should the results of these calculations not be fully or properly transferred to the plans by others, Dunagan Engineering, Inc. assumes no responsibility for the structure. No deviation from structural details shall be made without the written approval of the Structural Engineer. Approval by governing agency does not constitute authority to deviate from plans or specifications.
d. All codes and standards shall be the most current edition as of the date of the calculations.
e. The details shown on the drawings are typical. Similar details apply to similar conditions.
f. The calculations are based upon a complete structure. Should an unfinished structure be subjected to loads, Dunagan Engineering, Inc. should be consulted for an interim design or if not, will assume no liability.
g. Temporary supports, etc., are the sole responsibility of the framing contractor and have not been considered by the structural engineer. Framing contractor is responsible for the stability of the structure prior to the application of shear walls, roof and floor diaphrams and finish materials. He shall provide the necessary bracing to provide stability prior to the application of the aforementioned materials. Observation visits to the site by field representative of the Structural Engineer do not include inspections of construction means and methods. Observation performed by Architect and/or Structural Engineer during construction are not continuous and detailed inspection services are performed by others. Observations performed by Structural Engineer are performed solely for the purpose of determining if contractor understands design intent conveyed in the contract documents. Observations do not guarantee contractor's performance and are not to be construed as supervision of construction.
h. Dunagan Engineering, Inc. expressly reserves its common law copyright and other property rights in these plans. These plans are not to be reproduced, changed or copied in any manner whatsoever, nor are to be assigned to a third party without first obtaining the written permission and consent of Dunagan Engineering, Inc. In the event of unauthorized reuse of these plans by a third party, the third party shall hold Dunagan Engineering, Inc. harmless.
i. These drawings and all written material herein are instruments of service and constitute original and unpublished work of the Engineer. They remain the property of the Engineer whether the project for which they are made be executed or not. They may not be duplicated, used on other projects or by other than the original Owner whose name appears herein without the express written consent of the Engineer.
j. Adhesive anchors shall be Simpson AT-XP Epoxy per ESR-2508 with ASTM A36 threaded rod or approved equal, U.N.O., Expansion anchors shall be Simpson Strong Bolts per ESR-3037, U.N.O., Adhesive anchors shall not be installed without authorization by Structural Engineer and until concrete and masonry has cured to design strength.

DIVISION 2 - FOUNDATION:

a. Building sites are assumed to be cleared and free of clay or expansive soil. Any other conditions should be brought to the attention of Dunagan Engineering, Inc.
b. These calculations assume stable, undisturbed soils and level or stepped footings. Any other conditions should be reported to Dunagan Engineering, Inc.
c. All footings shall bear on undisturbed soil with a footing depth 24" below frostline.
d. All finish grade shall slope away from foundation for a minimum of 10'-0".
e. An assumed soil bearing pressure is determined and will be increased in accordance with IBC Table 1806.2.
f. Fill material shall be free from debris, vegetation, and other foreign substances.
g. Backfill trenches shall be compacted to 90% relative density per ASTM D1557 to within 12" of finished grade. The top 12" shall be landscape fill.
h. Backfill at pipe trenches shall be compacted on both sides of pipe in 6" lifts.
i. Waterproof exterior faces of all foundation walls adjacent to usable spaces. Waterproofing of all foundation and retaining walls to be the responsibility of the owner and/or contractor.
j. All backfill against foundation walls must be compacted to 90% relative density, unless otherwise directed by a soils report.
k. Perforated pipe sub-drain typical behind all retaining walls. Use 4" diameter PVC except where noted otherwise. Slope pipe to drain to daylight and drywell.

DIVISION 3 - CONCRETE:

a. All concrete shall have a minimum 28 day compressive strength of 3000 psi. To accommodate the "Severe Weather for Concrete" category, concrete shall have a minimum 28 day compressive strength of 3000 psi for foundation walls and other vertical concrete exposed to weather and a minimum compressive strength of 3500 psi for slabs, porches and other horizontal work, including garage slabs, exposed to weather as recommended by Table R402.2 of the IRC and Section1904.1 of the IBC. **No Special Inspection is required as design assumes 2500 psi.**
b. Reinforcement shall be per ASTM A615 grade 60 ksi, U.N.O.
c. Lap reinforcing Per Detail S/S0.2, U.N.O.
d. Reinforcement cover in cast-in-place concrete shall be as follows: (ACI Table 20.6.1.3.1)
   - 3" Concrete cast against and permanently exposed to earth.
   - 1 1/2" Concrete exposed to earth or weather with #5 bars or smaller.
   - 0 3/4" Concrete not exposed to weather or in contact with ground, #11 bars and smaller, slabs, joists and walls.
   - 1 1/2" Concrete not exposed to weather, beams, columns and pilaster, cover over ties.
   - 1 1/2" Clear to top for reinforcement in slabs on grade.
e. All slabs on grade, S.O.G., shall have a minimum thickness of 4" and be reinforced with #3 at 18" o.c., or with Fibermesh as per manufacturers specifications equivalent to reinforcement specified above, U.N.O.
f. Concrete shall be air-entrained to 6% +/- 1%. (For exterior slabs only)
g. Provide slab control joints (saw cut or plastic inserts) at 10'-0" maximum spacing each way for 4" slab. Joint depth to be 1/4 of slab depth.

DIVISION 5 - METALS:

a. All hardware called for shall be Simpson Strong-Tie Co, Inc. and installed per the manufacturer's specifications, U.N.O.
b. Structural steel shall conform to ASTM A992, grade 50 U.N.O. Miscellaneous steel such as plates, channels and angles may be ASTM A36. Steel pipe columns shall conform to ASTM A53, Type E or S. Steel tube sections shall conform to ASTM A500, Grade B.
c. Where finish is attached to steel provide 1/2" dia bolt holes at 36" o.c., U.N.O.. For attachment of nailers see architectural drawings for finishes. (alternate 1/2" dia. x 3" nelson studs at 36" o.c., U.N.O.)
d. All grout under steel bearing plates shall be solid drypack or non-shrink grout placed as directed by the manufacturer.
e. Shop drawings shall be submitted to the Structural Engineer for review and comment prior to fabrication.
f. All nails specified are common nails. No substitutions unless approved in writing by Dunagan Engineering, Inc. or specifically addressed in these calculations or the plans. All nails exposed to weather shall be galvanized. Fasteners for pressure-preservative treated and fire-retardant treated wood shall be of hot-dipped zinc coated galvanized, stainless steel, silicon bronze or copper.
g. The minimum nailing for all framing shall conform to IBC Table 2304.10.1.
h. All bolts specified must meet ASTM A307. Bolt holes to be 1/32" to 1/16" larger than specified bolt. Washers shall be used at each bolt head and nut next to wood. All washers to be not less than standard cut washers.
i. Wood plates or sills shall be bolted to the foundation or foundation wall. Steel bolts with a minimum nominal diameter of 1/2" shall be used. Bolts shall be embedded at least 7 inches into the concrete or masonry. In a two pour system embedment shall be into the first pour. There shall be a minimum of two bolts per piece with one bolt located not more than 12 inches or less than 7 bolt diameters from each end of the piece.
j. Plate washers a minimum of 3"x3"x1/4" thick shall be used on each bolt. See IBC section 2308.3.1.1 for alternate.

DIVISION 6 - WOOD:

a. All lumber framing shall be Douglas Fir Larch (DOC PS20) with moisture content < 19% at time of covering, U.N.O.
b. Glu-Lams listed for simple spans shall be 24F-V4 U.N.O. Glu-Lams used for continuous spans or cantilever shall be 24F-V8, U.N.O. Glu-Lams exposed to weather shall be rated for exterior use by manufacturer or approved protection from exposure to be provided.
c. All plywood shall conform to APA DOC PS1 or DOC PS2. All shear plywood shall be C-D, C-C, 303 (T1-11), or approved equal.
d. Where multiple trimmers or studs are specified, those trimmers are to be stacked in all wall framing and solid blocking to be provided at all floors down to the foundation.
e. Where posts with column caps, straps, or bearing plates are called for, the load is to be transferred to the foundation with posts as specified in the plans and solid vertical grain blocking at all floors, U.N.O.
f. All studs to be stud grade or better, U.N.O. In no instance shall a stud wall be used to resist lateral pressures due to snow or soil. It is the owner and/or contractor's responsibility to eliminate snow and/or soil to stud wall contact.
g. All laminated veneer lumber (LVL) and parallel strand lumber (PSL) specified shall have the following minimum design strengths: 1 3/4" wide: Fb=2600 psi, Fv=285 psi, E=1,900,000 psi. 3 1/2" wide and greater: Fb=2900 psi, Fv=290 psi, E=2,000,000 psi.
h. All multiple-ply LVL members to be attached with (3) rows of 16d common nails at 12" o.c. for entire length of member. For a three piece member the nailing is from each side.
i. Foundation sill plates, nailers, and ledgers in direct contact with concrete and within 6 1/2" of ground to be preservative treated Douglas Fir.
j. Fasteners for preservative treated and fire treated wood shall be of hot dipped, zinc coated, galvanized steel, silicon, bronze or copper. The coating weights for zinc coated fasteners shall be in accordance with ASTM A153.
k. All framing members specified in these calculations and/or plans are minimums, and larger members of equal or better grade may be substituted.
l. All floor openings shall be between joists, U.N.O.
m. Do NOT notch beams, joists, and studs, U.N.O.
n. Provide double joists below all parallel partition walls.
o. No green lumber at time of covering shall be used on this project.
p. No framing of any type shall be concealed prior to inspection by governing agencies.
q. Sawn lumber shall have the following minimum grades (U.N.O.):
   - all 4x12 & smaller framing members.....#2
   - all 4x14, 4x16, 6 & 8x framing members.....#1
   - 4x4 posts.....#2
   - all other joists and timbers.....#3
   - all 2x joists and rafters.....#2
   - all 2x & 3x studs (unbraced length up to 10').....stud or construction
   - all 2x & 3x studs (unbraced length exceeding 10').....#2
   - all 2x top plates.....standard
   - all 2x and 3x sills.....standard
   - manuf. truss components.....grade per manuf.
r. All resawn and roughsawn beams are to be free of heart center.
s. Double joists shall be attached with (2) rows of 16d's at 12" o.c. edge distance of nailing to be 2".
t. All multiple studs to be attached with 16d's at 12" o.c.

THESE NOTES APPLY TO ALL SHEETS:

1. It shall be the contractor's direct responsibility to comply with typical details and general notes as delineated or defined on the typical detail drawings of these contract documents regardless of specific flagging or reference to applicable note or detail.
2. It shall be the contractor's responsibility to coordinate with all trades regarding utilities passing through and under footings. Structural requirements for these conditions are delineated in typ. details.
3. Top of footing elevations noted are minimum. See note 2 for additional requirements.
4. Contractor to verify and coordinate all locations and sizes of openings in slabs, slab depressions, and curbs for all related construction prior to floor layout or construction. Contractor shall then use appropriate details or appropriate wall section for each applicable condition.
5. Contractor to verify dimensions with architect prior to construction.
6. Drawings are diagrammatic in nature and are not intended to indicate every opening or penetration in roof or other structure. Contractor shall coordinate and verify location and size of all such openings and penetrations with related subcontractors prior to roof or other framing layout or construction. Contractor shall then use appropriate typical or referenced details for each opening or penetration.
7. Contractor to verify with appropriate sub-contractors the exact location, weight, and intended method of attachment of all items to be suspended from or in any way attached to any roof framing or other structural member unless such item(s) are clearly addressed by the structural construction documents. This information shall be transmitted in writing to structural engineer prior to final design or fabrication of structural framing members.
8. Contractor to verify all existing conditions and dimensions and notify the architect in writing of any discrepancies.

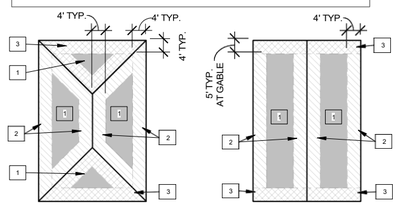
SPECIAL INSPECTIONS AND DEFERRED SUBMITTALS:

a. Special inspection, per the International Building Code chapter 17, AISC 360 and Table 1705.2.3 for steel and 1705.3 for concrete shall be required for the following types of work. See project Specifications for specified requirements:
b. All concrete work for strengths greater than 2500 psi, except for slabs on grade, footings and non structural concrete.
c. All reinforcing steel for concrete strengths greater than 2500 psi.
d. All field welding (except metal studs, furring channels, etc.). Shop welding for procedures and multiple pass welds.
e. All full penetration welds shall be specially inspected in accordance with AWS and the current International Building Code.
f. All fillet welds shall be visually inspected in accordance with AWS and the current International Building Code.
g. All masonry work, see notes under 'MASONRY' for requirements. All masonry inspection shall also comply with the National Concrete Masonry Institute.
h. Bolts installed in conc. or masonry. Does not include sill PL, anchor bolts and Holdown anchor bolts.
i. All ASTM A-325 and/or ASTM A-490 High Strength Bolts.
j. All expansion bolts and adhesive anchors.
k. All grouted dowels.
l. All insulating concrete.

ROOF SHEATHING FASTENING SCHEDULE

NAILS	PANEL LOCATION	ROOF FASTENING ZONE		
		ZONE 1	ZONE 2	ZONE 3
		FASTENER SCHEDULE (INCHES ON CENTER)		
SEE NOTE #2	PANEL EDGES	6	6	4
SEE NOTE #2	PANEL FIELD	12	6	6

1. BLOCKING NOT REQUIRED, UNLESS NOTED OTHERWISE ON PLANS.
2. USE 8d NAILS FOR 1/2" ROOF PLY & 10d NAILS FOR 5/8" ROOF PLY.



ROOF SHEATHING:

5/8" CDX APA Rated (40/20) or OSB equivalent, Apply face grain perpendicular to framing. Stagger panels and nail with 10d's common at 6" o.c. at edges and boundaries (blocking, drag trusses, shear blocks, etc.), and 12" o.c. field. U.N.O. (See special diaphragm nailing requirements this sheet)

FRAMING MATERIAL:

ROOF HEADERS:
6x10 D.F. #1 (4x8 D.F. #2 at 2x4 walls) or RMT U.N.O. Provide (2) Trimmers at openings greater than 5'-0" U.N.O.
FLOOR HEADERS:
6x10 D.F. #1 (4x10 D.F. #2 at 2x4 walls) or RMT U.N.O. Provide (2) Trimmers at openings greater than 5'-0" U.N.O.
WALL FRAMING
Use 2x6 or 2x4 D.F. Stud or Construction Grade at 16" o.c. as occurs Typ. U.N.O.
FLOOR PLYWOOD
3/4" T & G APA rated plywood (or OSB). Apply face grain perpendicular to framing. Stagger panels and nail with 10d's at 6" o.c. at all edges and boundaries (blocking at interior shear walls, drag members, etc.), and 10" o.c. field.
FLOOR JOISTS
Use Truss Joist MacMillan TJI I-joists or approved equal as specified in the plans. Install I-joists per manufacturer's specifications.

DESIGN CRITERIA
2018 International Building Code (IBC)
Local Building Department Standards
Soil Bearing (IBC Table 1806.2)

WIND DESIGN DATA
Ultimate Design Wind Speed, Vu = 120 m.p.h. (3-Second Gust)
Risk Category II
Wind Importance Factor, Iw = 1.00

Wind Exposure C
Internal Pressure Coefficient = +/- 0.18
Components & Cladding Design Pressures (ASCE 7 Section 30.4.2):
a = 3.5 ft (ASCE 7 Figure 30.4-1)

Refer to ASCE 7-16 Figure 30.4-1 for layout.

Roof/Wall	Zone	Effective Wind Area (ft²)	Design Wind Pressure, P_{net} (psf)
Roof > 20 to 27°	1	10	50.2
	1	20	50.2
	1	50	42.5
	1	100	36.8
	2	10	79.9
	2	20	70.0
	2	50	57.0
	2	100	47.0
	3	10	103.0
	3	20	84.1
	3	50	59.1
	3	100	59.1
Wall	4	10	38.2
	4	20	36.6
	4	50	34.5
	4	100	32.9
	5	10	47.2
	5	20	44.0
	5	50	39.8
	5	100	36.6

SEISMIC DESIGN DATA
Importance Factor, Ie = 1.00 (Risk Category II)
Ss = 1.992 g and S1 = 0.716 g
Site class: = D
SDs = 1.594 g , SD1 = 0.811 g
Seismic design category: = D

Basic seismic-force-resisting system(s): =
Light-Framed Walls Sheathed with Wood Structural Panels Rated
for Shear Resistance (LRFD) = 38.9 kips (R = 6.5)

E/W Design Base Shear (LRFD) = 38.9 kips (R = 6.5)
Cs (LRFD)= 0.2451 (R = 6.5)
Analysis Procedure Used = Equivalent Lateral Force Procedure

SNOW LOAD DATA:

Site Elevation	5880	FT.	
Ground Snow Load	Pg =	129	psf
Flat Roof Snow Load	Pf =	90	psf
Snow Exposure Factor	Ce =	0.9	
Snow Importance Factor	Is =	1.0	
Thermal Factor	Ct =	1.1 (Typical Roof) and 1.2 (Deck Roof)	

FLOOR FRAMING DESIGN LOADS

	UPPER:	DECK:
Floor Live Load =	40 PSF	60 PSF
Floor Dead Load =	15 PSF	15 PSF
Total Floor Load =	55 PSF	75 PSF

TRUSSES
- Engineering to be provided by truss manufacturer.
- The truss manufacturer shall provide shop drawings for approval by this engineer and shall be responsible for the design and certification of the trusses.

TRUSS REVIEW APPROVAL:
CONTRACTOR: FIVE ACRE CONSTRUCTION INC.
DATE: 08/22/2023

TRUSS MANUFACTURER: PIEDMONT TRUSS & LUMBER, INC.
This letter is to confirm that Dunagan Engineering, Inc. has reviewed the above referenced truss calculations for use at the above address, prior to submittal to the Building Dept., and find them to be in general compliance w/ the plans and specifications (including but not limited to drag trusses, connections, loading, and load paths). The contractor is responsible for dimensions, which shall be confirmed and collaborated at the job site, fabrication processes and techniques of construction, the coordination of his work with that of all other trades, and the satisfactory performance of his work.

DUNAGAN ENGINEERING INC. Erika Stanclift DATE: 08/25/2023

- Truss Manufacturer to design "shear" trusses to resist the lateral load indicated on plans (minimum shear load = 1500 lbs).
- Truss Manufacturer to verify location of and provide reinforced trusses for the support of any mechanical equipment where occurring.
- Truss Manufacturer to verify location of and design for all ceiling height changes, attic accesses, return air grills, etc as required by the Architect.
- Approved truss shop drawings shall be a part of these construction documents. They shall be attached to these drawings and shall be on the construction site for duration of the project.
- Each truss shall be legibly branded, marked or otherwise have permanently affixed thereto the following information located within 2 feet of the center of the span on the face of the bottom chord:
  a. identity of the company manufacturing the truss.
  b. the design load.
  c. the spacing of trusses.
- It is the responsibility of the truss manufacturer to conform the truss design according to the loading conditions as called for in the structural calculations, such as (1) snow, live and dead loads; (2) truss spacing; (3) spans and eave overhangs and their loading; (4) roof pitch; and (5) bearing points of all trusses.
- When trusses are spaced at 16"o.c. the truss manufacturer shall provide a means of attic access.
- When snow loads exceed 30 psf the trusses shall be designed to stack over wall studs at bearing points unless truss manufacturer provides alternate design.
- All girder trusses are to be supported by multiple studs, U.N.O.
- Gable end trusses shall be structural; designed to support the overhang and to allow a top chord notch of 1 1/2". Use min. drag load of 200 P.L.F.
- All non bearing walls are to have a 1/4" gap to the bottom chord of the trusses. Secure bottom chord to wall with Simpson STC clip.
- Trusses are to be handled, installed, and braced in accordance with BCSI-B1 of the Truss Plate Institute (TPI).
- Truss Spacing = 16" o.c.

TRUSS LOADING:

	TYPICAL	
Top Chord Live/Snow Load =	89	PSF
Top Chord Dead Load =	15	PSF
Bottom Chord Live Load =	0	PSF
Bottom Chord Dead Load =	10	PSF
Total Load=	114	PSF

(10 psf. NON-CONCURRENT Per IBC Table 1607.1)

CONNECTION CROSS REFERENCE

Simpson Strong-Tie Product Number	USP Structural Connectors Product Number	Simpson Strong-Tie Product Number	USP Structural Connectors Product Number	Simpson Strong-Tie Product Number	USP Structural Connectors Product Number	Simpson Strong-Tie Product Number	USP Structural Connectors Product Number
SSTB16	STB16	CB66	KCB666	HU410	HD410	HGUS26-3	THDH26-3
SSTB24	STB24	CB68	KCB668	HU412	HD412	HGUS28-3	THDH28-3
HDU5-SDS2.5	PHD5	HUCQ1.81/9-SDS	HDQ179IF	HU68	HD68	TJC37	SNP3
HDQ8-SDS3	UPHD8	HUCQ1.81/11-SDS	HDQ17112IF	HU610	HD610	THJA26	HJC26
HHDQ11-SDS2.5	UPHD11	---	HDQ17148IF	HU612	HD612	MTHM	HJHC26
HHDQ14-SDS2.5	UPHD14	HUCQ310-SDS	HDQ310IF	LSU26	LSSH15-TZ	DSC4R/L-SDS3	DSC4R/L
HD15	TD15	HUCQ210-2-SDS	HDQ210-2IF	LSSU28	---	ST6224	KST224
ABU44	PAU44	HUCQ410-SDS	HDQ410IF	LSSU210	LSSH210	CS16	RS150
ABU46	PAU46	HUCQ412-SDS	HDQ412IF	SURL24	SKH24R/L	MSTC48B3	---
ABU66	PAU66	HUCQ210-3-SDS	HDQ210-3IF	SURL26	SKH26R/L	H1	RT15
ABU88	PAU88	HUCQ5.25/9-SDS	HDQ5210IF	SUR/L210	SKH210R/L	H2.5A	RT7A
PB44	WE44	HUCQ5.25/11-SDS	HDQ5212IF	IUS	THF	H2A	RT10
PB46	WE46	HUCCQ610-SDS	HDQ610IF	HU11	HD17112	HGA10KT	HGA10
PB66	WE66	HUCQ612-SDS	HDQ612IF	IUT	THF	A34	MP34
CBQ44	KCBQ44	LUS24	JUS24	ITS	THO/TFL	A35	MPA1
CBQ46	KCBQ46	LUS26	JUS26	ITT	THO/TFL	LTP4	MP4F
CBQ66	KCBQ66	LUS28	JUS28	LUS26-2	JUS26-2	LS50	MP5
CB44	KCB44	LUS210	JUS210	HHUS26-2	THD26-2	LS70	MP7
CB46	KCB46	LUS46	JUS46	HGUS26-2	THDH26-2	LS90	MP9
CB48	KCB48	HU46	HD46	HHUS28-2	THD28-2	CCQ/ECCQ	KCCQ/KECCQ

HOLDOWN SPECIFICATION TABLE

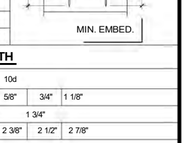
(ALSO SEE SIMPSON STRONG-TIE CATALOG)

HOLDOWN	CL	POST MIN. THICKNESS	SCREWS, BOLTS OR NAILS	THREADED ROD EMBEDMENT			SSTB BOLT	
				A.B. DIA.	8" STEM WALL	FOOTING	SGL. POUR	DBL. POUR
HTT4	1 5/16"	3"	(18) 16d's x 2 1/2"	5/8"	18"	-	SSTB24	SSTB24
HTT5	1 5/16"	3"	(26) 16d's x 2 1/2"	5/8"	24"	-	SSTB28	SSTB28
HDU5	1 5/16"	3"	(14) SDS 1/4"x2 1/2"	5/8"	SEE HOLDOWN SCHEDULE PER PLAN	SEE HOLDOWN SCHEDULE PER PLAN	SSTB28	THRD. ROD OPTION ONLY
HDU8	1 3/8"	4 1/2"	(20) SDS 1/4"x2 1/2"	7/8"	SEE HOLDOWN SCHEDULE PER PLAN	SEE HOLDOWN SCHEDULE PER PLAN	N/A	N/A
HDQ8	1 1/4"	4 1/2"	(20) SDS 1/4"x3"	7/8"	SEE HOLDOWN SCHEDULE PER PLAN	SEE HOLDOWN SCHEDULE PER PLAN	N/A	N/A
HHDQ11	1 1/2"	5 1/2"	(24) SDS 1/4"x2 1/2"	1"	SEE HOLDOWN SCHEDULE PER PLAN	SEE HOLDOWN SCHEDULE PER PLAN	N/A	N/A
HHDQ14	1 1/2"	5 1/2"	(30) SDS 1/4"x2 1/2"	1"	SEE HOLDOWN SCHEDULE PER PLAN	SEE HOLDOWN SCHEDULE PER PLAN	N/A	N/A
HDU14	1 9/16"	5 1/2"	(36) SDS 1/4"x2 1/2"	1"	SEE HOLDOWN SCHEDULE PER PLAN	SEE HOLDOWN SCHEDULE PER PLAN	N/A	N/A
HD19	2 1/8"	5 1/2"x5 1/2"	(5) 1" DIA. BOLTS	1 1/4"	SEE HOLDOWN SCHEDULE PER PLAN	SEE HOLDOWN SCHEDULE PER PLAN	N/A	N/A

NAIL SPECIFICATIONS

NAIL TYPE	NOMINAL DIAMETER (GAGE)	NOMINAL LENGTH	MIN. EMBED FOR P.W. SHEATHING
6d COMMON	0.113" (11 ga.)	2"	1 3/8"
8d COMMON	0.131" (10 1/4 ga.)	2 1/2"	1 3/8"
10d COMMON	0.148" (9 ga.)	3"	1 3/4"
12d COMMON	0.148" (9 ga.)	3 1/2"	-
16d COMMON	0.162" (8 ga.)	3 1/4"	-
16d G.V. SINKER	0.148" (9 ga.)	3 1/4"	-

MIN. NAIL LENGTH



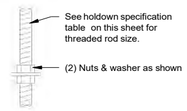
DETERMINE REQ'D NAIL DIAMETER AND LENGTH

REQUIRED COMMON NAIL	8d					10d				
PLYWOOD THICKNESS	3/8"	1/2"	5/8"	3/4"	1 1/8"	3/8"	1/2"	5/8"	3/4"	1 1/8"
MINIMUM EMBEDMENT	1 3/8"					1 3/4"				
MIN. NAIL LENGTH REQ'D	2"	2 1/8"	2 1/4"	2 3/8"	2 3/4"	2 1/8"	2 1/4"	2 3/8"	2 1/2"	2 7/8"
MIN. DIAMETER REQ'D	0.131" (10 1/4" ga.)					0.148" (10 1/4" ga.)				

FOOTING AND STEMWALL REQUIREMENTS
- 8" Wide w/ (1) #4 continuous top and #4 at 48" o.c. vertical, hook at footing (alternate hooks). Locate vertical at all Holdown Anchor Bolts. If top of stemwall exceeds 36" above top of footing, use #4 at 18" o.c. horizontal continuous and #4 at 24" o.c. vertical.
- All footings shall bear on undisturbed soil. Assumed soil bearing pressure is determined & increased in accordance w/ IBC Table 1806.2.
- Exterior footings to be placed 24" below grade minimum, U.N.O.

HOLDOWN INFORMATION
- See holdown schedule above and per plan.

THREADED ROD END CONDITION AT HOLDOWNS



SOILS & FOUNDATIONS:
Dunagan Engineering, Inc. has not made a geotechnical review of the building site and is not responsible for general site stability or soil suitability for the proposed project. A review by a geological engineer or qualified civil engineer may be desirable. Foundation design is based on minimum footing dimensions and bearing capacities set forth in Table 1806.2 of Chapter 18 in the 2018 International Building Code. Assume Class 5 soil with allowable soil bearing pressure of 1500 psf., with a constant expansion index less than 20. Footings shall extend 24" (minimum) below grade.

SHEET INDEX

REVISIONS

#	Date	Description	By
1	11-27-23	DAZAIR REVISIONS	NMD

DEI engineers
Dunagan Engineering, Inc.
4790 Caughlin Parkway #166, Reno, NV 89519
P.775.329.2733 F. 888.873.0790 | W. DEengineers.com

PROFESSIONAL ENGINEER - STATE OF NEVADA - ERIKA K. STANCLIFF - No. 27423 - CIVIL - EXP. 8-30-25

12/20/2023 9:21:25 AM

HEYRMAN RESIDENCE DETACHED GARAGE
16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
GENERAL NOTES & TYPICAL DETAILS	

S0.1

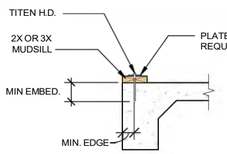
SHEET of SHEETS

PLEASE RECYCLE

SIMPSON STRONG-TIE TITEN HD AS A 1 TO 1 REPLACEMENT FOR MUDSILL ANCHOR BOLTS FOR SHEAR LOAD APPLICATIONS

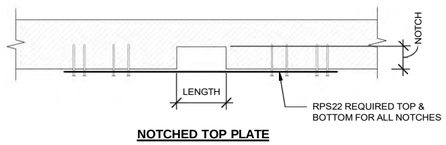
CAST-IN-PLACE MUDSILL BOLT DIA (in)	TITEN HD MODEL #	DRILL BIT DIAMETER (in)	MINIMUM EMBEDMENT (in)	SILL PLATE SIZE	MIN. EDGE DISTANCE (in)	MIN. END DISTANCE (in)	MIN. STEM WALL WIDTH (in)
1/2	THD50600H	1/2	3 1/4	2x, 3x	1 3/4	8	6
1/2	THD50800H	1/2	3 1/4	DOUBLE 2x	1 3/4	8	6
5/8	THD62600H	5/8	3 3/4	2x	1 3/4	10	6
5/8	THD62612H	5/8	3 3/4	3x	1 3/4	10	6
5/8	THD62800H	5/8	3 3/4	DOUBLE 2x	1 3/4	10	6

1. ICC-ES CODE REPORT ESR-2713.
2. SPECIAL INSPECTION IS NOT REQUIRED FOR TITEN HD INSTALLATIONS RESISTING ONLY SHEAR LOADS.
3. MINIMUM EDGE AND END DISTANCES ARE BASED ON DISTANCE FROM EDGE (OR END) OF CONCRETE TO CENTER OF BOLT.
4. MINIMUM CONCRETE THICKNESS IS 1.5 TIMES THE TITEN HD ANCHOR EMBEDMENT.
5. DIRECT 1 TO 1 REPLACEMENT IS BASED ON PARALLEL AND PERPENDICULAR TO PLATE SHEAR CAPACITIES THAT MEET OR EXCEED THE BOLT DESIGN VALUES FOR SINGLE SHEAR CONNECTIONS IN TABLE 12A OF THE 2018 NDS EDITION FOR WOOD CONSTRUCTION FOR CAST-IN-PLACE ANCHOR BOLTS USED TO ANCHOR FOUNDATION PLATES OR SILLS TO CONCRETE FOUNDATIONS PER THE FOLLOWING SECTIONS OF THE CODE:
   - 1997 UBC SECTION 1806.6
   - 2000, 2003, 2006, 2012 AND 2018 IBC SECTIONS 2304.3.1
   - 2000, 2003, 2006, 2012 AND 2018 IRC SECTION R403.1.6
6. DRILL THE HOLE TO THE SPECIFIED EMBEDMENT DEPTH PLUS 1/2" TO ALLOW THE THREAD TAPPING DUST TO SETTLE AND BLOW IT CLEAN USING COMPRESSED AIR. ALTERNATIVELY, IN LIEU OF BLOWING THE HOLE CLEAN, DRILL THE HOLE DEEP ENOUGH TO ACCOMMODATE EMBEDMENT DEPTH AND DUST FROM DRILLING AND TAPPING.
7. FOR ACQ-C, ACQ-D, CA-B AND CBA-A PRESSURE-TREATED WOOD, USE MECHANICALLY GALVANIZED TITEN HD. FOR ADDITIONAL INFORMATION CORROSION AND PRESSURE TREATED WOOD SEE
8. SEE SIMPSON STRONG-TIE ANCHORING AND FASTENING SYSTEMS CATALOG FOR COMPLETE INFORMATION ON THE TITEN HD.

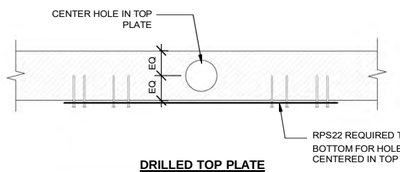


TITEN HD IN NORMAL-WEIGHT CONCRETE SLAB-ON-GRADE. (INSTALLATION IN STEMWALL SIMILAR)

14 RETRO FIT SILL PL w/ TITEN
3/4" = 1'-0"



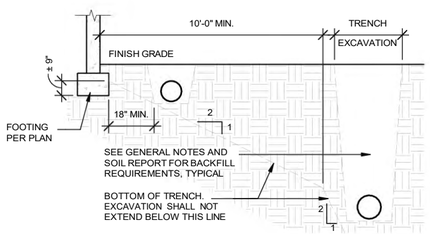
NOTCHED TOP PLATE



DRILLED TOP PLATE

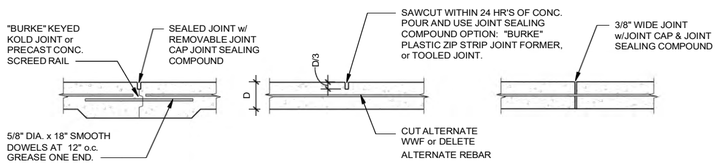
WALL TYPE	MAX. NOTCH	MAX. DRILLED HOLE
2x4 BEARING	1 1/2" x 5 1/2"	1 1/2" DIA AT CL.
2x4 NON-BEARING	2 1/2" x 5 1/2"	2 1/2" DIA AT CL.
2x6 BEARING	2 1/2" x 5 1/2"	3 1/2" DIA AT CL.
2x6 NON-BEARING	3 1/2" x 5 1/2"	4" DIA AT CL.

13 NOTCH IN TOP PLATE
1 1/2" = 1'-0"



NOTE:
1. THE CONTRACTOR SHALL COORDINATE ALL EXCAVATION OPERATIONS WITH BUILDING FOUNDATION REQUIREMENTS.

12 EXCAVATION PARALLEL TO FOOTING
3/4" = 1'-0"

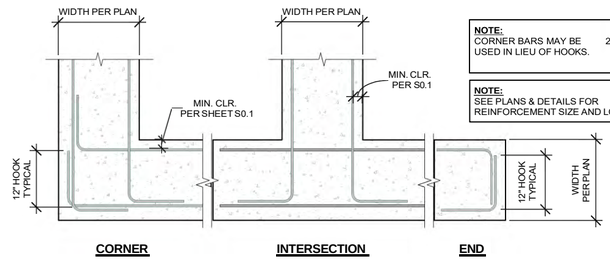


DOWEL JOINT (DJ) **CONTROL JOINT (CJ)** **ISOLATION JOINT (IJ)**

*SEE NOTE 1

11 SLAB JOINTS
3/4" = 1'-0"

NOTE:
1. PLACE CONCRETE SLAB ON GRADE IN MONOLITHIC POURS IN LARGEST AREAS FEASABLE. WHERE POURS AND THUS COLD JOINTS OCCUR, USE DOWEL JOINT SEE (DJ) ABOVE

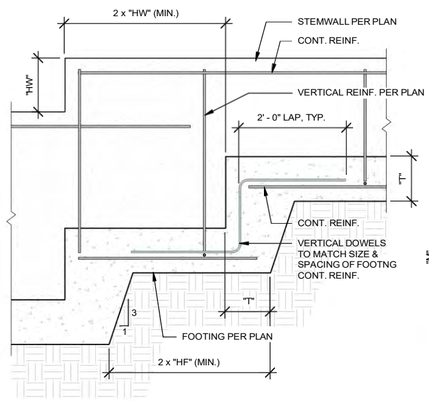


CORNER **INTERSECTION** **END**

NOTE: CORNER BARS MAY BE USED IN LIEU OF HOOKS. 24" / 24"

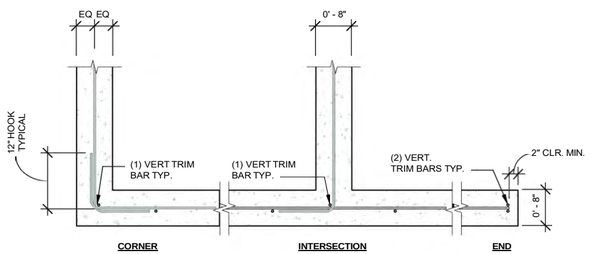
NOTE: SEE PLANS & DETAILS FOR REINFORCEMENT SIZE AND LOCATION.

10 LAP FOOTING REINFORCING
3/4" = 1'-0"



1. MAINTAIN THICKNESS OF FOOTING ("T") IN VERTICAL STEP.
2. SEE THE PROJECT SOILS REPORT FOR ALL SOILS REQUIREMENTS INCLUDING COMPACTION, FILL AND ALL OTHER REQUIREMENTS.
3. USE MODULAR DIMENSIONS FOR CONCRETE BLOCK FOUNDATION WALLS
4. VERIFY MAXIMUM ALLOWABLE HEIGHT ("M") WITH STRUCTURAL DRAWINGS AND/OR ENGINEER'S CALCULATIONS

9 STEPPED FOOTING
3/4" = 1'-0"

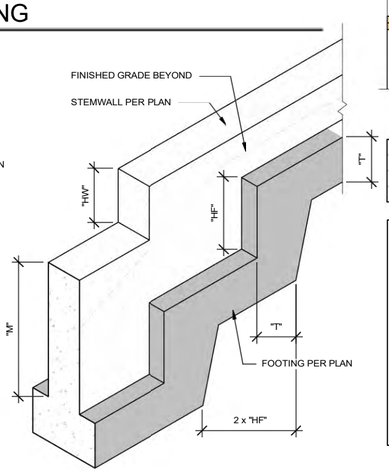


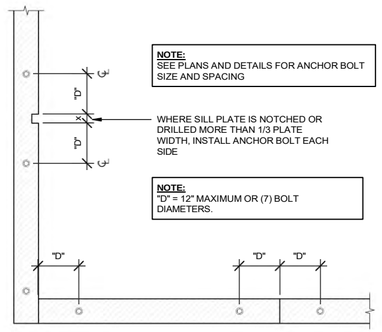
CORNER **INTERSECTION** **END**

NOTE: SEE PLANS & DETAILS FOR REINFORCEMENT SIZE AND LOCATION.

NOTE: CORNER BARS MAY BE USED IN LIEU OF HOOKS. 24" / 24"

8 STEMWALL REINFORCING
3/4" = 1'-0"



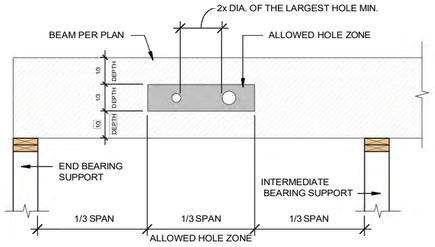


NOTE: SEE PLANS AND DETAILS FOR ANCHOR BOLT SIZE AND SPACING

WHERE SILL PLATE IS NOTCHED OR DRILLED MORE THAN 1/3 PLATE WIDTH, INSTALL ANCHOR BOLT EACH SIDE

NOTE: "D" = 12" MAXIMUM OR (7) BOLT DIAMETERS.

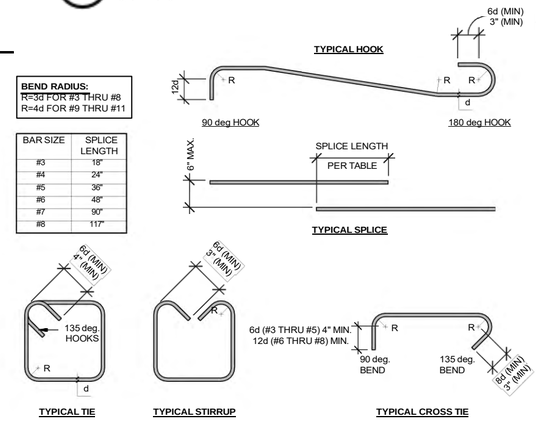
7 SILL PLATE DETAIL
3/4" = 1'-0"



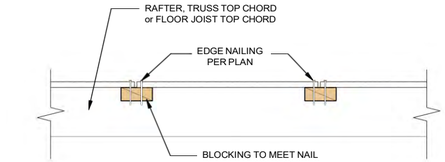
BEAM DEPTH	MAX DIA. HOLE SIZE
5-1/2"	3/4"Ø
7-1/4"	1"Ø
9-1/4" & GREATER	2"Ø

NOTES:
1. DO NOT CUT, NOTCH, OR DRILL BEAM, EXCEPT AS INDICATED WITHOUT PRIOR APPROVAL FROM THE ENGINEER OF RECORD.
2. SQUARE & RECTANGULAR HOLES ARE NOT PERMITTED.
3. ROUND HOLES MAY BE DRILLED OR CUT WITH A HOLE SAW ANYWHERE WITHIN THE ALLOWED HOLE ZONE OF THE BEAM.
4. THE HORIZONTAL DISTANCE BETWEEN ADJACENT HOLES MUST BE AT LEAST TWO TIMES THE SIZE OF THE LARGER HOLE.
5. DO NOT CUT MORE THAN THREE ACCESS HOLES IN ANY FOUR FOOT LONG SECTION OF BEAM
6. THESE LIMITATIONS APPLY TO HOLES DRILLED FOR PLUMBING OR WIRING ACCESS ONLY. THE SIZE AND LOCATION OF HOLES DRILLED FOR FASTENERS ARE GOVERNED BY THE PROVISIONS OF THE NDS FOR WOOD CONSTRUCTION.
7. BEAMS DEFLECT UNDER LOAD. SIZE HOLES TO PROVIDE CLEARANCE WHERE REQUIRED.
8. THE HOLE CHART IS VALID FOR BEAMS SUPPORTING UNIFORM LOAD ONLY. FOR BEAMS SUPPORTING CONCENTRATED LOADS OR FOR BEAMS WITH LARGER HOLES, CONTACT ENGINEER OF RECORD.
9. DO NOT PLACE HOLES BELOW POSTS ABOVE ON BEAMS.
10. HOLES IN CANTILEVERS REQUIRE ADDITIONAL ANALYSIS.

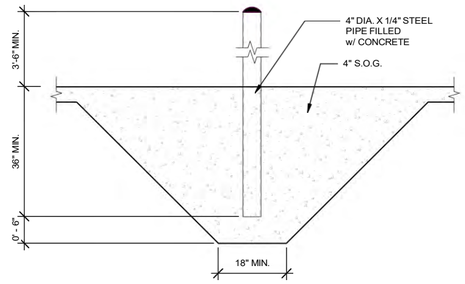
6 HOLES IN BEAM
3/4" = 1'-0"



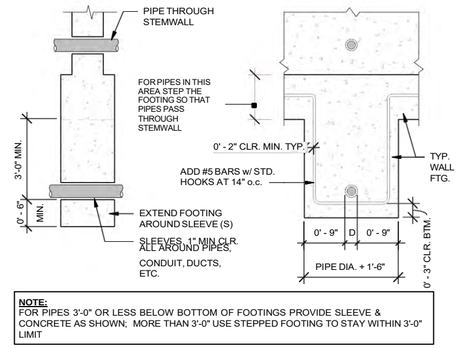
5 REBAR BENDS & LAP REQUIREMENTS
3/4" = 1'-0"



4 BLOCKED DIAPHRAGM
1 1/2" = 1'-0"

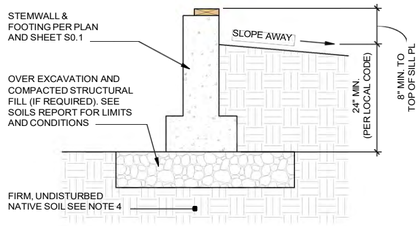


3 PIPE BOLLARD
3/4" = 1'-0"



NOTE: FOR PIPES 3'-0" OR LESS BELOW BOTTOM OF FOOTINGS PROVIDE SLEEVE & CONCRETE AS SHOWN; MORE THAN 3'-0" USE STEPPED FOOTING TO STAY WITHIN 3'-0" LIMIT

2 PIPE THRU STEMWALL & REINFORCING
3/4" = 1'-0"



NOTES:
1. REFERENCE FOUNDATION NOTES ON SHEET S0.1 FOR ALL SOILS AND FOUNDATION REQUIREMENTS.
2. PROVIDE COMPACTED STRUCTURAL FILL BENEATH CONTINUOUS AND SPREAD FOOTINGS IF REQUIRED (SEE SOILS REPORT)
3. SEE THE PROJECT SOILS REPORT, GRADING PLANS AND SHEET S0.1 FOR ALL SOILS REQUIREMENTS INCLUDING COMPACTION, FILL AND ALL OTHER REQUIREMENTS.
4. NATIVE SOIL SHOULD BE SCARIFIED A MINIMUM OF 12" AND BROUGHT TO NEAR OPTIMUM MOISTURE CONTENT AND COMPACTED TO AT LEAST 90% OF RELATIVE COMPACTION.

1 TYPICAL SOIL PREPARATION
3/4" = 1'-0"

REVISIONS

#	Date	Description	By

DEI engineers
Dunagan Engineering, Inc.
4790 Caughlin Parkway #766, Reno, NV 89519
p.775.329.2713 | f. 888.873.0790 | W. DEengineers.com

PROFESSIONAL ENGINEER STATE OF NEVADA ERIKA K. HILL-STANCLIFF Erika Stancliff EXP. 6-30-25 CIVIL No. 27423

12/20/2023 9:21:28 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
TYPICAL DETAILS	

S0.2

SHEET of SHEETS

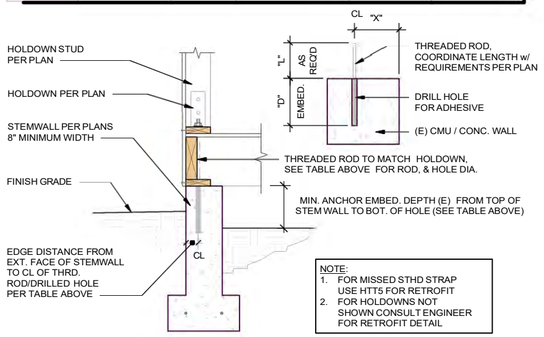
PLEASE RECYCLE

ANCHOR DIA.	HOLE DIA.	"X" MIN.	"D" MIN.	COMMENTS
1/2" DIA.	5/8"	1-3/4"	4-1/2"	DO NOT DRILL THRU REBAR. CONTACT THE STRUCURAL ENGINEER IF REBAR IS ENCOUNTERED
5/8" DIA.	3/4"	1-3/4"	5"	

HOLDOWN	THR'D. ROD DIA.	HOLE DIA.	MINIMUM EMBED (E)	EDGE DISTANCE		SIMPSON EPOXY SYSTEM TO BE USED
				2x4	2x6	
PHD2 / HDU5 HTT4/HTT5	5/8"	3/4"	12"	1-3/4"	2-3/4"	SET - XP *
HDU8	7/8"	1"	16"	1-3/4"	2-3/4"	SET - XP *

- SEE CURRENT SIMPSON STRONG-TIE CATALOG - INSTALLATION PER MANUF. SPECIFICATIONS

SIMPSON TITEN H.D. (HOLDOWN BOLT OPTION)					
HOLDOWN	ANCHOR SIZE	EMBED.	FOUNDATION TYPE	TITEN H.D. MODEL #	COMMENTS
HTT4, HTT5	1/2" DIA. x 15"	10" MIN.	SLAB ON GRADE	THD501500H	INSTALL PER MANUF. SPECS
HTT4, HTT5	1/2" DIA. x 10 3/8"	10" MIN.	RAISED FLOOR	THD501038C	INSTALL PER MANUF. SPECS

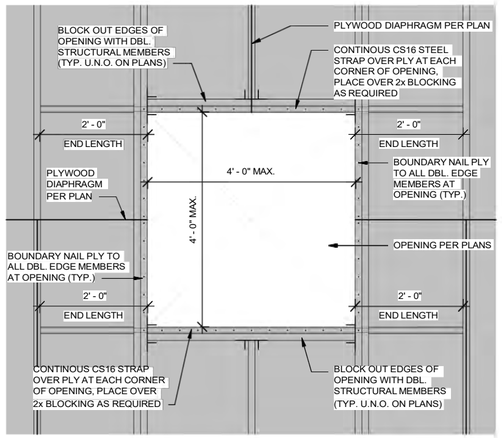


NOTE:
1. FOR MISSED STHD STRAP USE HTT5 FOR RETROFIT
2. FOR HOLDOWNS NOT SHOWN CONSULT ENGINEER FOR RETROFIT DETAIL

1. ADHESIVE SPECIFICATIONS: ADHESIVE ANCHORS SHALL BE SIMPSON SET-XP EPOXY PER ICBO ESR-2508 WITH ASTM A36 THREADED ROD OR APPROVED EQUAL, U.N.O. ADHESIVE ANCHORS SHALL NOT BE INSTALLED WITHOUT AUTHORIZATION BY THE STRUCTURAL ENGINEER AND UNTIL THE CONCRETE HAS CURED TO DESIGN STRENGTH.
2. DRILLING HOLES: HOLES FOR ADHESIVE CONNECTIONS SHALL BE DRILLED WITH A ROTARY DRILL.
3. CLEANING HOLES: HOLES FOR ADHESIVE CONNECTIONS SHALL BE THOROUGHLY CLEANED WITH THE FOLLOWING PROCEDURE:
   a. BLOW OUT ALL DUST AND LOOSE MATERIAL WITH COMPRESSED AIR.
   b. CLEAN HOLE SURFACE WITH WIRE BOTTLE BRUSH WHICH IS SLIGHTLY LARGER THAN THE HOLE DIAMETER THEN USE A DOWEL WRAPPED WITH A MOIST RAG TO REMOVE REMAINING DUST.
   c. BLOW OUT HOLE COMPRESSED AIR.
   d. REPEAT PROCEDURE AS REQUIRED UNTIL ALL SURFACES ARE CLEAN.
4. INSTALLATION: ADHESIVE SHALL BE INSTALLED INTO THE BACK OF THE HOLE USING SIMPSON "MIXING NOZZLE". INSTALL PER MANUFACTURER'S RECOMMENDATIONS. DUCT TAPE HOLE AS REQUIRED TO CONTAIN ADHESIVE.
5. CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR ALL ADHESIVE CONNECTIONS AND SHALL BE PERFORMED PER CBC SECTION 1704 AND THE MANUFACTURER'S SPECIFICATIONS. THE SPECIAL INSPECTOR SHALL VERIFY:
   a. HOLES ARE CORRECT DIAMETER AND DEPTH.
   b. HOLES ARE CLEAN.
   c. PROPER ADHESIVE IS USED.
   d. ADHESIVE IS CORRECTLY INSTALLED PER MANUFACTURE'S RECOMMENDATION.
   e. BOLTS ARE CORRECT DIAMETER AND LENGTH.
   f. TEMPERATURE OF MATERIALS TO BE BONDED ARE WITHIN THE RANGE ALLOWED BY THE MANUFACTURER'S SPECIFICATIONS.
6. THE ADHESIVE HAS A "GEL TIME" OF 4 MINUTES AND A "CURE TIME" OF APPROXIMATELY 24 HOURS. THUS THE DOWEL SHALL BE INSTALLED AND ANY ADJUSTMENTS TO THE ANGLE OF THE DOWEL WITHIN THE FIRST 4 MINUTES ("GEL TIME") AFTER INJECTING THE ADHESIVE. AFTER THE FIRST 4 MINUTES THE DOWEL SHALL REMAIN UNDISTURBED FOR 24 HOURS ("CURE TIME").

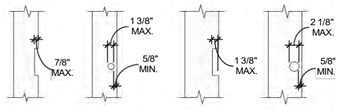
11 THREADED ROD RETROFIT

3/4" = 1'-0"

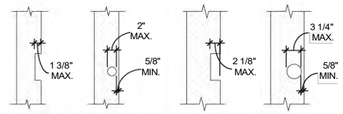


10 HOLE IN DIAPHRAM

3/4" = 1'-0"



BEARING CONDITION

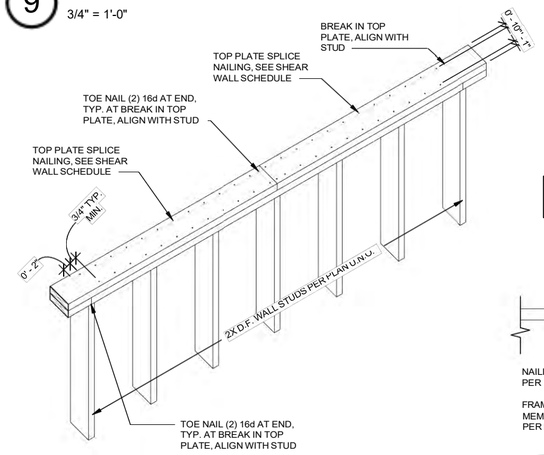


NON-BEARING CONDITION

NOTE:
BEARING or NON-BEARING WALLS MAY BE DRILLED 2" FOR 2x4 AND 3 1/4" FOR 2x6 WALLS, w/ 5/8" EDGE DISTANCE, IF STUDS ARE DOUBLED AND NOT MORE THAN (2) SUCCESSIVE DOUBLED STUDS ARE DRILLED.

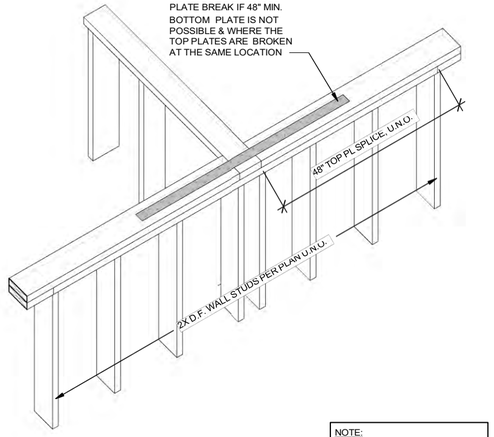
9 STUD WALL NOTCH & DRILL

3/4" = 1'-0"



8 TOP PLATE SPLICE

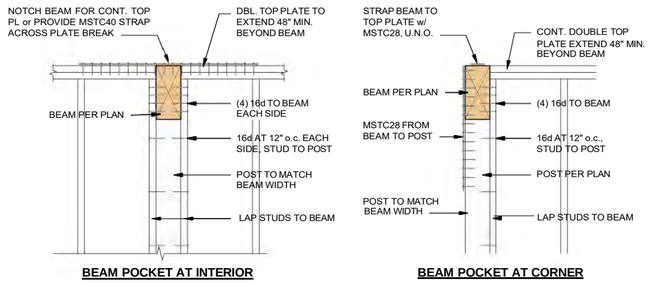
3/4" = 1'-0"



7 TOP PLATE BREAKS

3/4" = 1'-0"

NOTE:
SEE TOP PLATE SPLICE DETAIL FOR INFO NOT SHOWN



BEAM POCKET AT INTERIOR

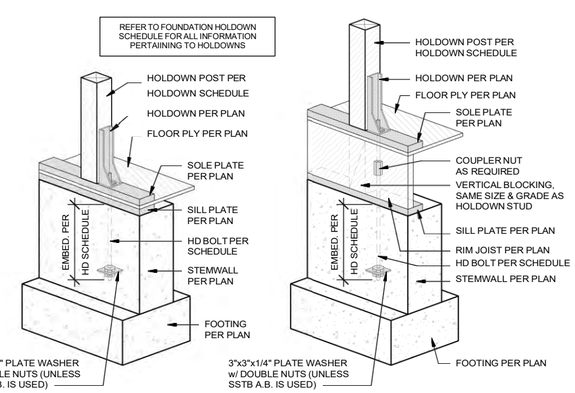
BEAM POCKET AT CORNER

6 BEAM POCKET

3/4" = 1'-0"

HD INSTALLATION AT GARAGE WALL

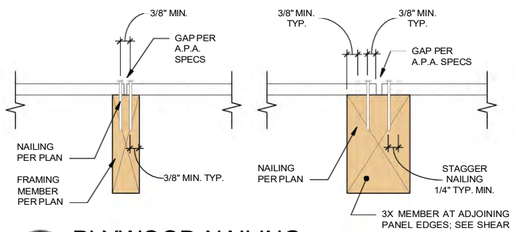
REFER TO FOUNDATION HOLDOWN SCHEDULE FOR ALL INFORMATION PERTAIINING TO HOLDOWNS



HD INSTALLATION AT RAISED STEMWALL

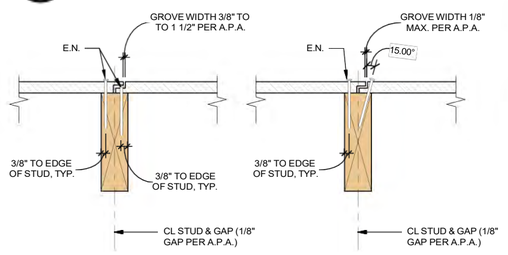
HD INSTALLATION AT RAISED FLOOR

NOTE:
PLYWOOD SHEETS ARE TO BE AS LARGE AS POSSIBLE (MIN. 2'x4'). NAIL HEADS SHALL BE DRIVEN FLUSH WITH TOP OF LAMINATION



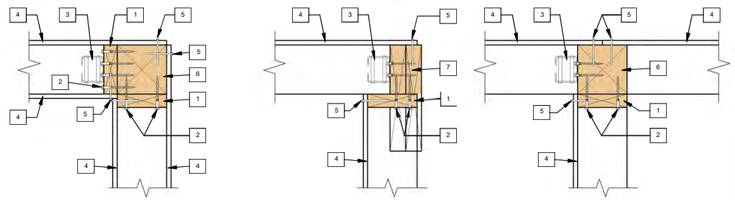
5 PLYWOOD NAILING

3" = 1'-0"



4 SIDING NAILING

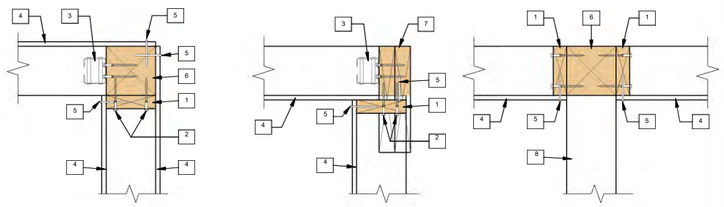
3" = 1'-0"



DOUBLE TO DOUBLE

SINGLE TO SINGLE

OPPOSITE SHEAR



DOUBLE TO SINGLE

REENTRANT CORNER

INTERRUPTED SHEARWALL

LEGEND:

1	2x OR 3x MEMBER RECEIVING SHEARWALL, EDGE NAIL (SEE SHEAR WALL SCHEDULE)
2	- FOR TYPE "6" & "4" SHEARWALLS, USE (2) 16d NAILS AT 6" o.c. - ALL OTHER SHEARWALL TYPES USE SDS 1/4"Ø x 4.5" SCREWS AT 4" o.c. STAGGERED ABOUT CENTERLINE OF STUD
3	HOLDOWN PER PLAN
4	SHEAR PLY PER PLAN
5	EDGE NAILING (SEE SHEAR WALL SCHEDULE)
6	SOLID FRAMING
7	HOLDOWN POSTS / STUDS PER PLAN (SEE SHEARWALL SCHEDULE)
8	CROSS WALL INTERRUPTING SHEARWALL

NOTES:

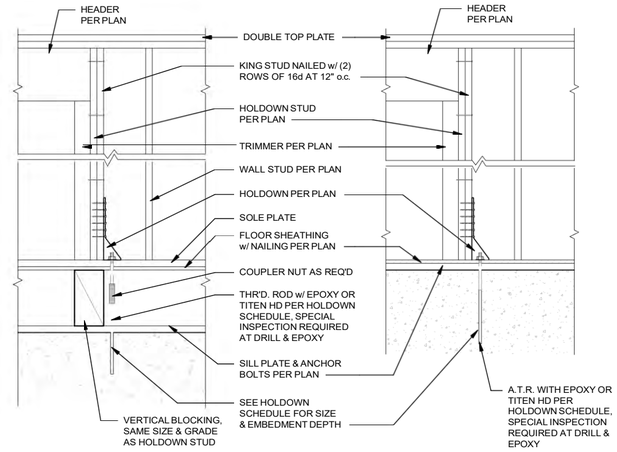
1. THIS DETAIL SUPERCEDES HOLDOWN SCHEDULE, i.e. NO DOUBLE STUDS PER HOLDOWN SCHEDULE, CONNECT HOLDOWNS AS SHOWN.
2. SIMILAR SITUATIONS GET SIMILAR CONNECTIONS.
3. EVERY EXTERIOR / PERIMETER / LOAD BEARING CORNER GETS MINIMUM (3) STUDS OR (1) HOLDOWN POST & (1) STUD

2 HOLDOWN INSTALLATION

3/4" = 1'-0"

3 FOUNDATION HOLDOWN

3/4" = 1'-0"



RAISED FLOOR INSTALLATION

STEMWALL INSTALLATION

1 HOLDOWN IN CORNER

1 1/2" = 1'-0"

REVISIONS			
#	Date	Description	By

DEI engineers
Dunagan Engineering, Inc.
4790 Caughlin Parkway #766, Reno, NV 89519
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STATE OF NEVADA — PROFESSIONAL ENGINEER — ERIKA K. HILL-STANCLIFF — EXP. 8-30-25 — CIVIL — No. 27423

12/20/2023 9:21:31 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8 25 23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	

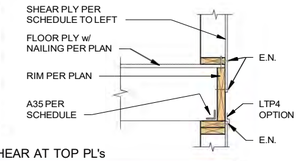
TYPICAL DETAILS

S0.3

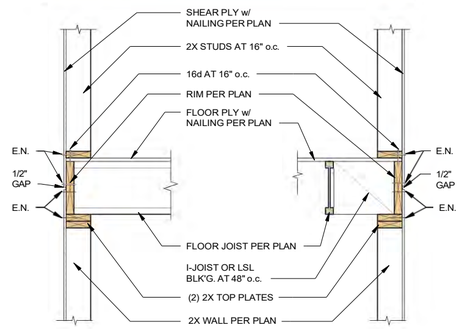
SHEET of SHEETS

PLEASE RECYCLE

SHEARWALL CALLOUT	A35 OR LTP4 SPACING
6 L6 L4	16" o.c.
4 L3	16" o.c.
3 L2	12" o.c.
2	8" o.c.



OPTION TO BREAK SHEAR AT TOP PL's

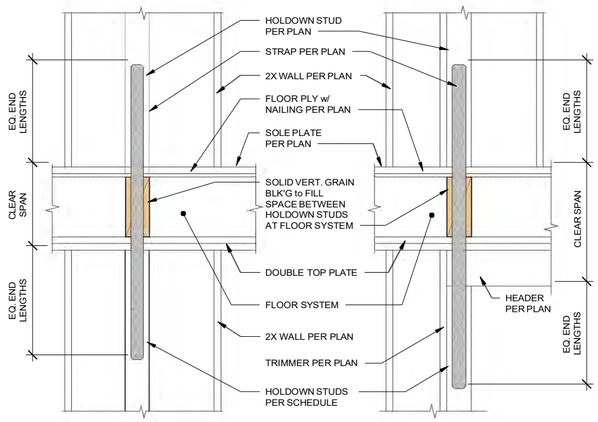


NOTE:
USE OPTION ABOVE TO BREAK SHEAR AT TOP PL's

9 SHEAR TRANSFER ACCROSS FLOOR

3/4" = 1'-0"

210-001

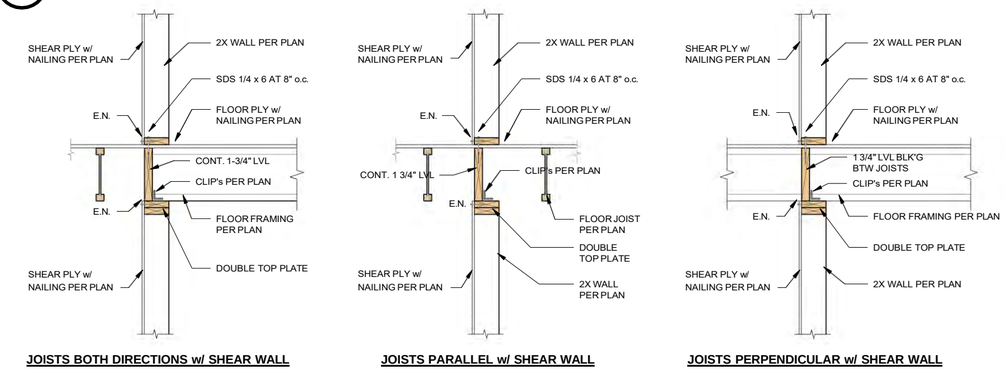


10 SHEAR TRANSFER AT BEAM

3/4" = 1'-0"

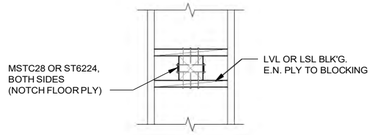
8 STRAP ACROSS FLOOR

3/4" = 1'-0"

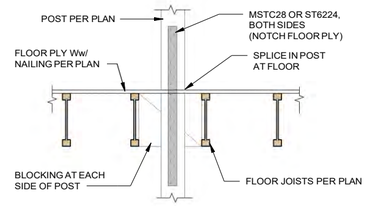


7 UPPER FLOOR INTERIOR SHEAR TRANSFER

3/4" = 1'-0"



PLAN VIEW

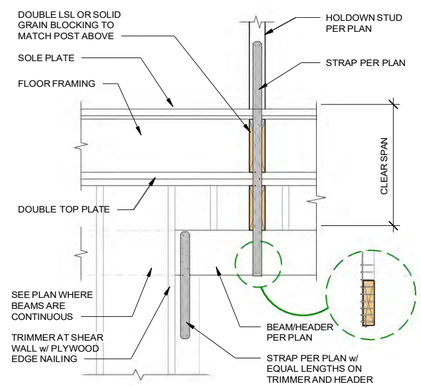


ELEVATION VIEW

6 POST SPLICE AT FLOOR

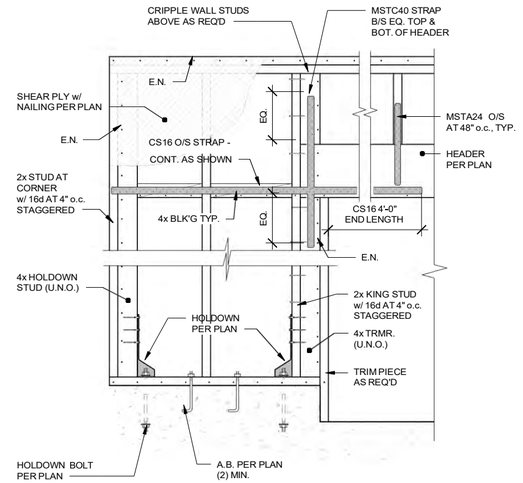
3/4" = 1'-0"

NOTE:
RESPONSIBILITY TO COMPLY WITH TYPICAL DETAILS AND GENERAL NOTES AS DELINEATED or DEFINED ON THE TYPICAL DETAIL DRAWINGS OF THESE CONTRACT DOCUMENTS REGARDLESS OF SPECIFIC FLAGGING or REFERENCE TO APPLICABLE NOTE or DETAIL.



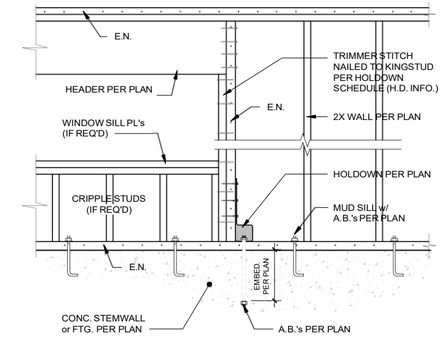
5 STRAP CONNECTION TO HEADER/ BEAM

3/4" = 1'-0"



4 TYP. SHEAR PANEL AT GARAGE

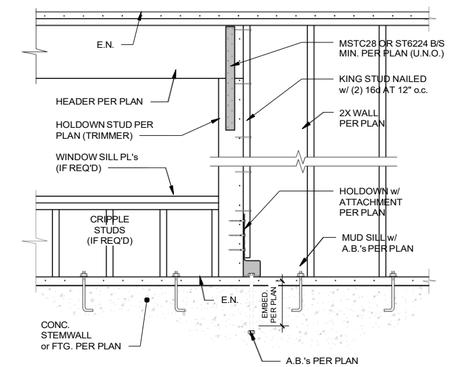
3/4" = 1'-0"



3 HD AT OPENING TO TRIMMER-KING STUD

3/4" = 1'-0"

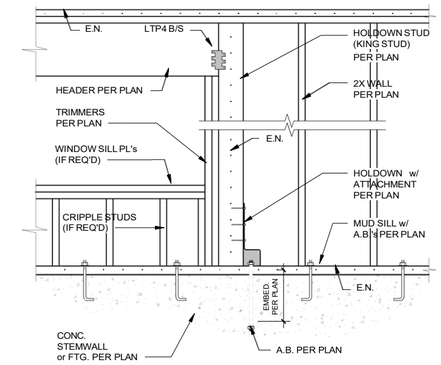
CONDITION 'G'



2 HD AT OPENING TO TRIMMER

3/4" = 1'-0"

CONDITION 'F'



1 HD AT OPENING TO KING STUD

3/4" = 1'-0"

CONDITION 'E'

REVISIONS

#	Date	Description	By

DEI engineers
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4790 Caughlin Parkway #166, Reno, NV 89519
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PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HOLL-STANCLIFF
EXP. 6-30-25
CIVIL
NO. 27423

12/20/2023 9:21:33 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	

TYPICAL DETAILS

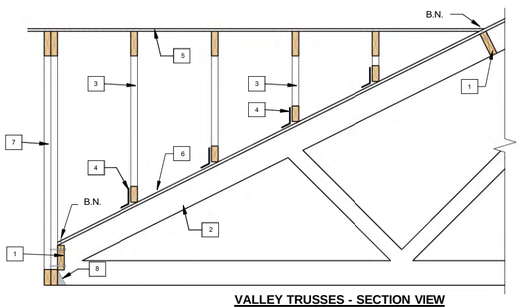
S0.4

SHEET of SHEETS

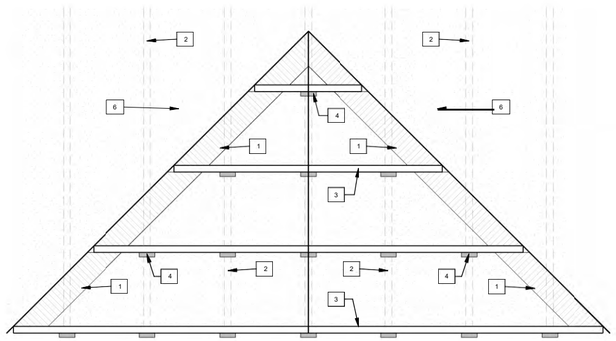
PLEASE RECYCLE

VALLEY TRUSS LEGEND:

1	2x6 DF #2 BLOCKING BTW TRUSSES
2	TRUSSES BY OTHERS
3	VALLEY TRUSSES BY OTHERS, BEVELED BOTTOM CHORD TO MATCH ROOF PITCH
4	VTCR VALLEY TRUSS CLIP's AT 24" o.c.. TO TRUSSES BELOW
5	ROOF PLY w/ NAILING PER PLAN
6	CONTINUE MAIN ROOF SHEATING BELOW FALSE FRAMING
7	GIRDER TRUSS BY OTHERS AS OCCURS
8	HANGERS PER PLAN AS OCCURS



VALLEY TRUSSES - SECTION VIEW

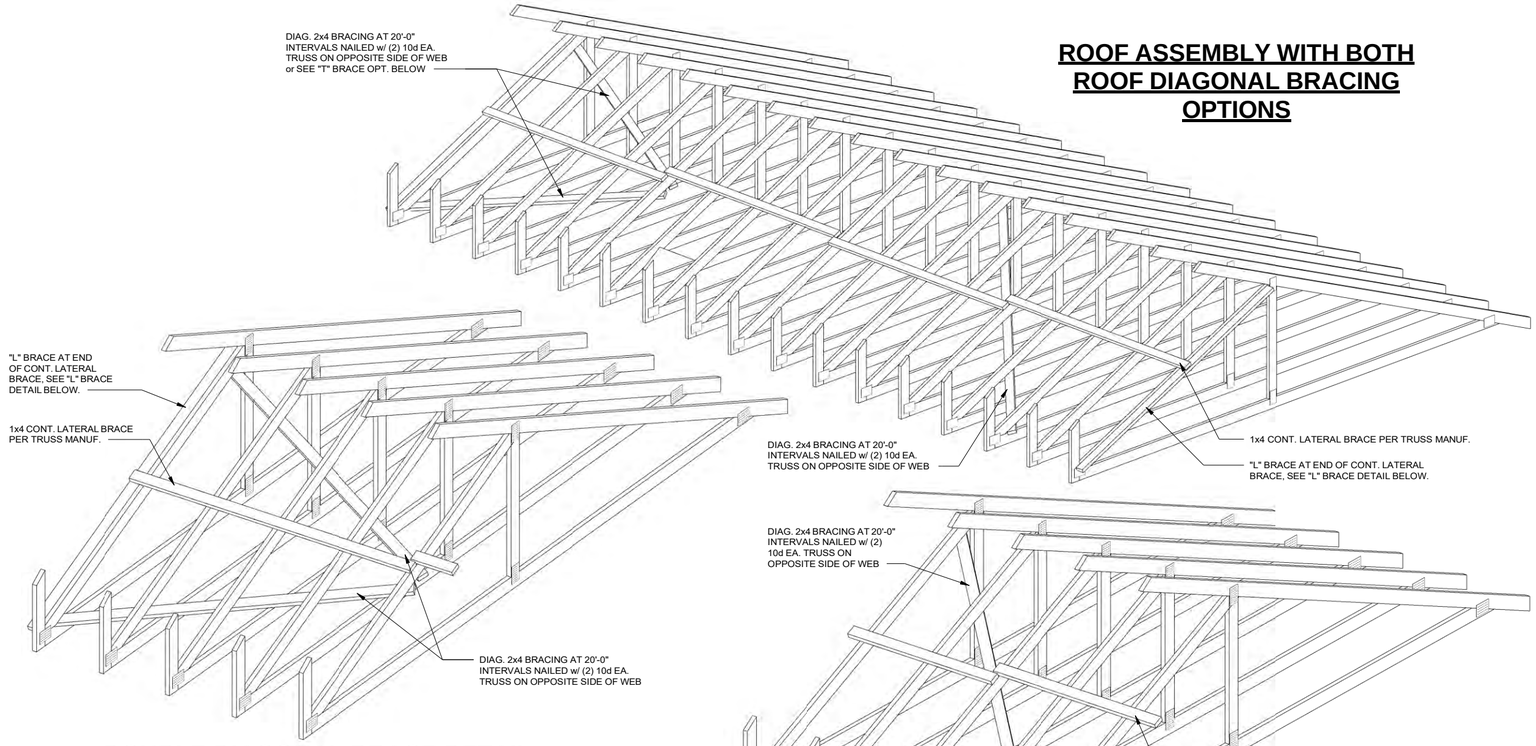


VALLEY TRUSSES - PLAN VIEW

3 VALLEY TRUSS CONNECTION

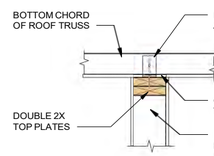
3/4" = 1'-0"

ROOF ASSEMBLY WITH BOTH ROOF DIAGONAL BRACING OPTIONS

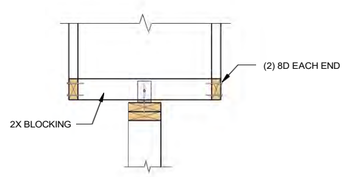


DOUBLE DIAGONAL BRACE DETAIL

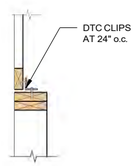
SINGLE DIAGONAL BRACE DETAIL



WALL PERPENDICULAR TO TRUSS



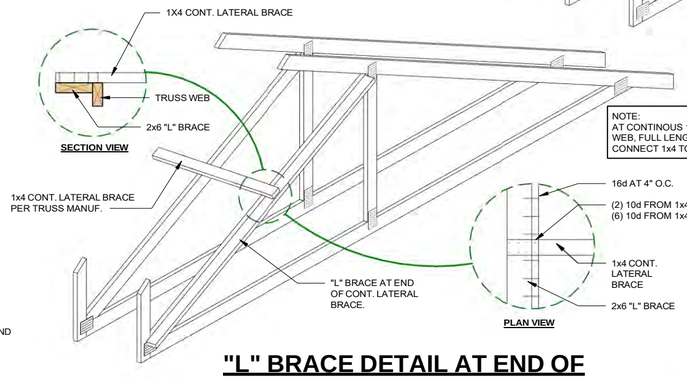
WALL PARALEL BETWEEN TRUSSES



WALL UNDER TRUSS

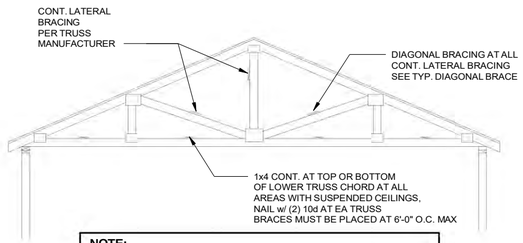
2 TRUSS TO WALL

1" = 1'-0"

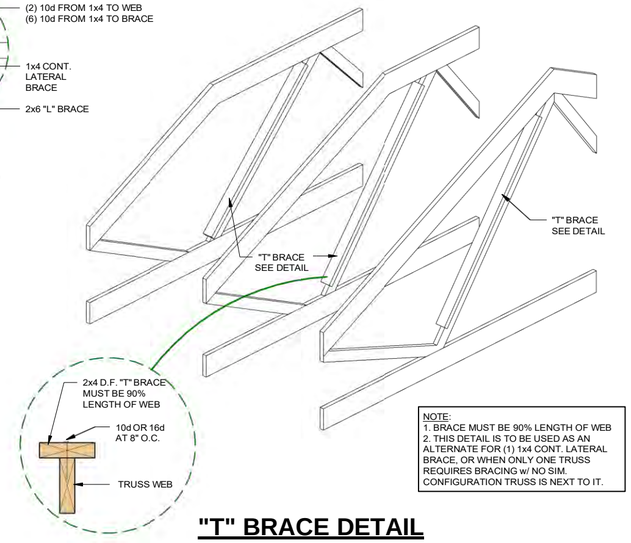


NOTE:
AT CONTINOUS 1x4, INSTALL 2x6 "L" BRACE TO TRUSS WEB, FULL LENGTH. NAIL TO WEB w/ 16d's AT 4" o.c. CONNECT 1x4 TO 2x6 w/ (6) 10d NAILS.

"L" BRACE DETAIL AT END OF TYP. CONT. LATERAL BRACE



NOTE:
1. 1x4 CONT. LATERAL BRACE IS THE MIN. TO BE USED UNLESS REQ'D TO BE GREATER BY THE TRUSS MANUFACTURER.
2. THIS DETAIL DOES NOT APPLY AT THE CONDITION w/ GABLE TRUSS



NOTE:
1. BRACE MUST BE 90% LENGTH OF WEB
2. THIS DETAIL IS TO BE USED AS AN ALTERNATE FOR (1) 1x4 CONT. LATERAL BRACE, OR WHEN ONLY ONE TRUSS REQUIRES BRACING w/ NO SIM. CONFIGURATION TRUSS IS NEXT TO IT.

"T" BRACE DETAIL

1 TYP. PREFAB TRUSS BRACING & TRUSS WEB BRACING

3/4" = 1'-0"

REVISIONS

#	Date	Description	By

DEI engineers
Dunagan Engineering, Inc.
4790 Caughlin Parkway #766, Reno, NV 89519
P. 775.329.2733 | F. 888.873.0790 | W. DEIengineers.com

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
EXP. 6-30-25
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12/20/2023 9:21:35 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

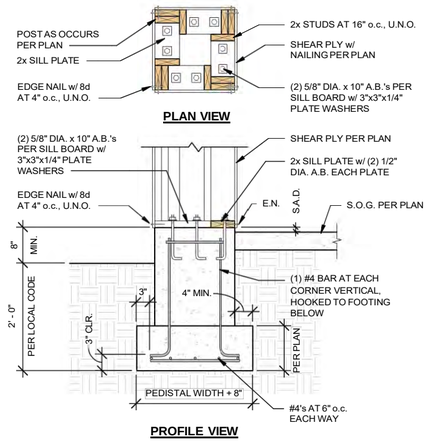
SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
TYPICAL DETAILS	

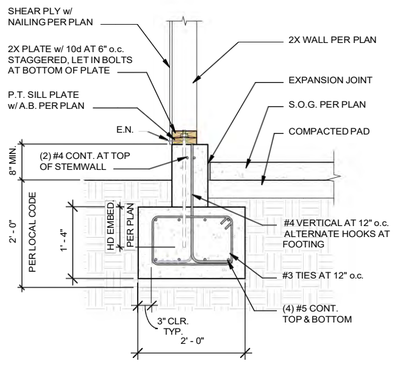
S0.5

SHEET of SHEETS

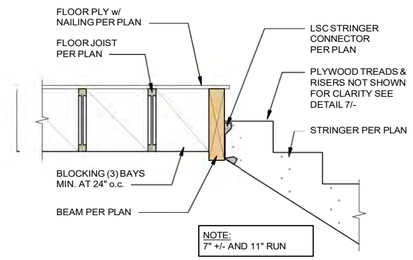
PLEASE RECYCLE



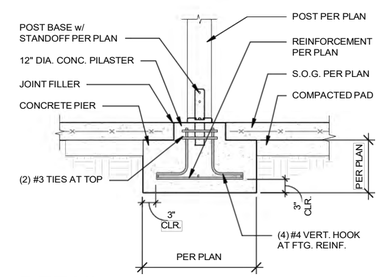
11 DETAIL
3/4" = 1'-0"
120-050



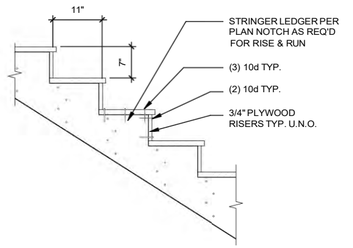
10 DETAIL
3/4" = 1'-0"
110-303GB



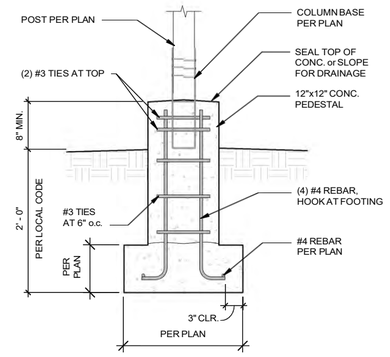
8 DETAIL
3/4" = 1'-0"
130-022



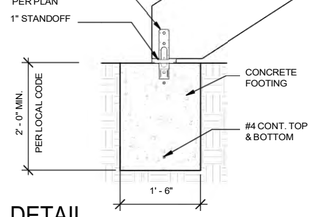
4 DETAIL
3/4" = 1'-0"
120-022



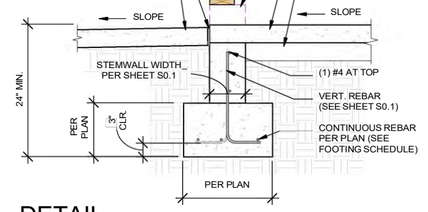
7 DETAIL
3/4" = 1'-0"
130-021



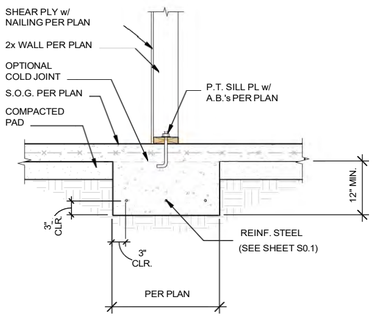
3 DETAIL
1" = 1'-0"
120-042



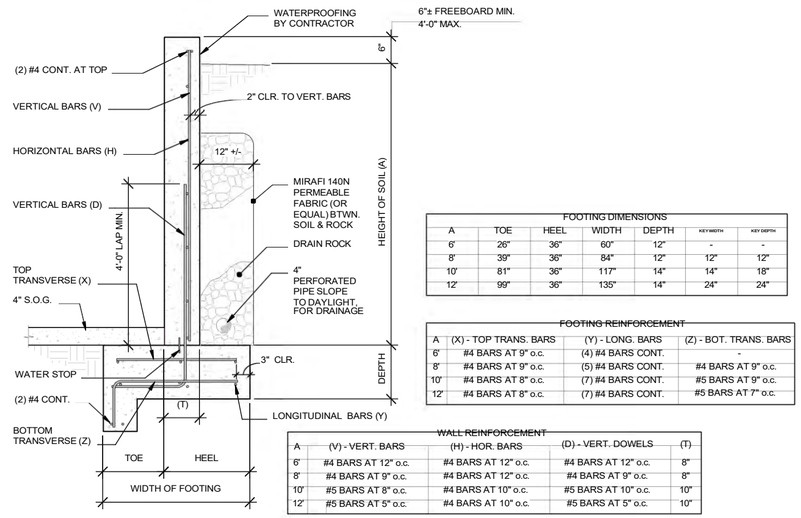
6 DETAIL
3/4" = 1'-0"
110-359



2 DETAIL
3/4" = 1'-0"
110-310



12 DETAIL
3/4" = 1'-0"
130-001



FOOTING DIMENSIONS

A	TOE	HEEL	WIDTH	DEPTH	KEY WIDTH	KEY DEPTH
6'	26"	36"	60"	12"	-	-
8'	39"	36"	84"	12"	12"	12"
10'	81"	36"	117"	14"	14"	18"
12'	99"	36"	135"	14"	24"	24"

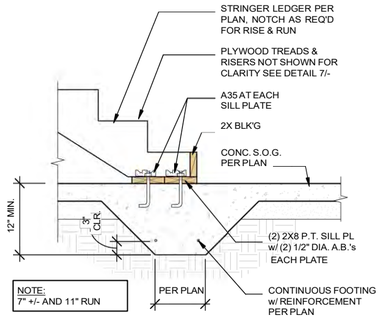
FOOTING REINFORCEMENT

A	(X) - TOP TRANS. BARS	(Y) - LONG. BARS	(Z) - BOT. TRANS. BARS
6'	#4 BARS AT 9" o.c.	(4) #4 BARS CONT.	-
8'	#4 BARS AT 9" o.c.	(5) #4 BARS CONT.	#4 BARS AT 9" o.c.
10'	#4 BARS AT 8" o.c.	(7) #4 BARS CONT.	#5 BARS AT 9" o.c.
12'	#4 BARS AT 8" o.c.	(7) #4 BARS CONT.	#5 BARS AT 7" o.c.

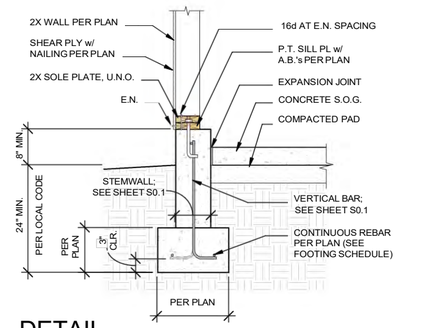
WALL REINFORCEMENT

A	(V) - VERT. BARS	(H) - HOR. BARS	(D) - VERT. DOWELS	(T)
6'	#4 BARS AT 12" o.c.	#4 BARS AT 12" o.c.	#4 BARS AT 12" o.c.	8"
8'	#4 BARS AT 9" o.c.	#4 BARS AT 12" o.c.	#4 BARS AT 9" o.c.	8"
10'	#5 BARS AT 8" o.c.	#4 BARS AT 10" o.c.	#5 BARS AT 10" o.c.	10"
12'	#5 BARS AT 5" o.c.	#4 BARS AT 10" o.c.	#5 BARS AT 5" o.c.	10"

9 RETAINING WALL DETAIL
3/4" = 1'-0"
1000-006



5 DETAIL
3/4" = 1'-0"
130-020



1 DETAIL
3/4" = 1'-0"
110-031a

REVISIONS

#	Date	Description	By

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4790 Caughlin Parkway #766, Reno, NV 89519
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PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
EXP. 8-30-25
CIVIL
No. 27423

12/20/2023 9:21:38 AM

HEYRMAN RESIDENCE DETACHED GARAGE

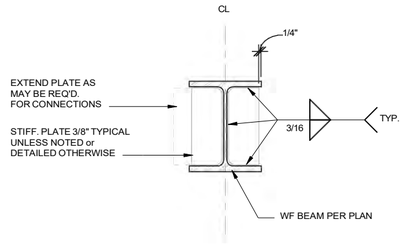
16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
DETAILS	

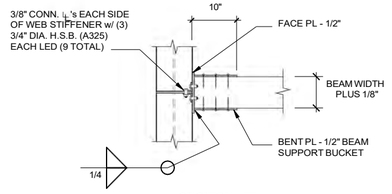
S0.6
SHEET of SHEETS

PLEASE RECYCLE

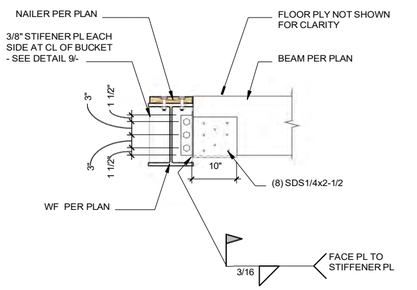


9 DETAIL
1 1/2" = 1'-0" 430-119

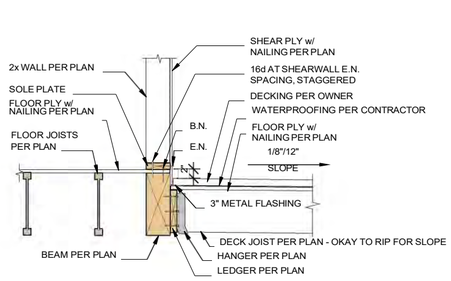
NOTE:
USE LARGER PLATE AND WELD AS MAY BE REQ'D. BY BEAM CONNECTION SCHEDULE



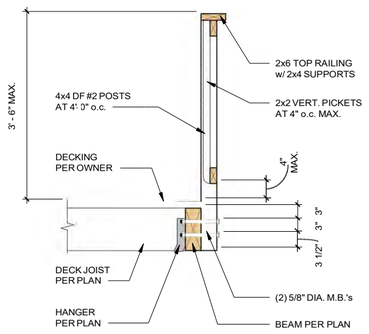
SECTION VIEW



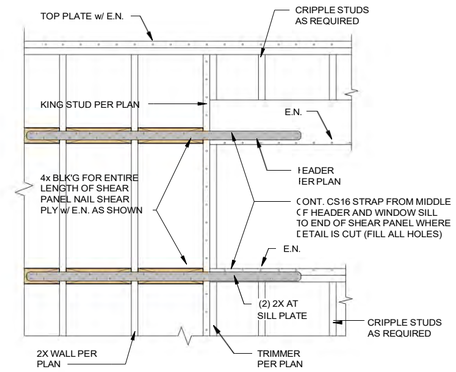
8 DETAIL
3/4" = 1'-0" 430-026



7 DETAIL
3/4" = 1'-0" 210-113

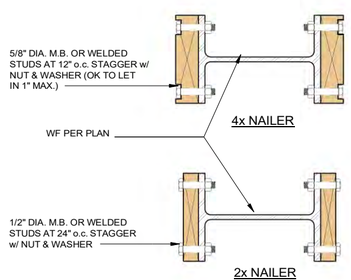


6 DETAIL
3/4" = 1'-0" 200-024

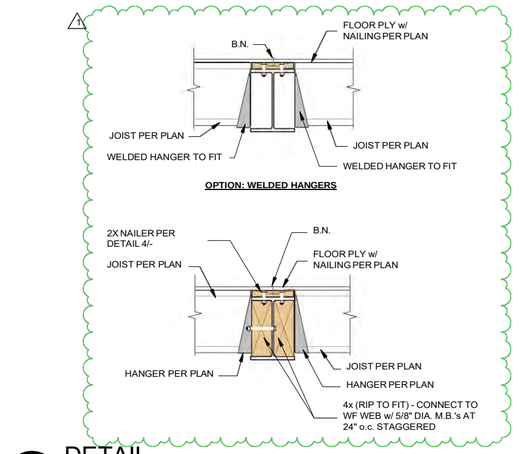


NOTE:
WHEN SHEAR IS BOTH SIDES OF WALL, DETAIL APPLIES TO BOTH FACES OF WALL.

5 DETAIL
3/4" = 1'-0" 250-015

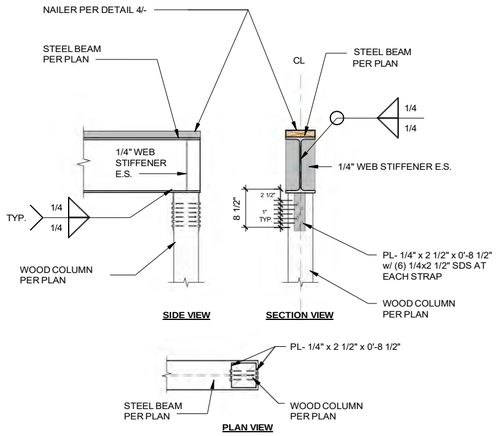


4 DETAIL
3/4" = 1'-0" 430-031

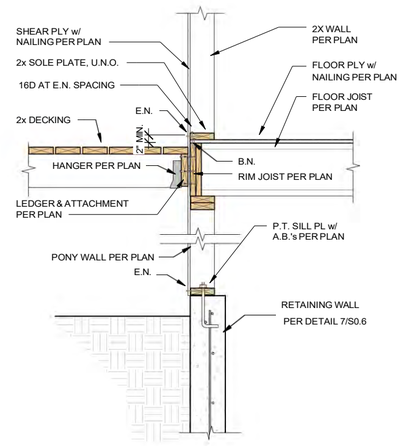


OPTION: WELDED HANGERS

3 DETAIL
3/4" = 1'-0" 430-041



2 DETAIL
3/4" = 1'-0" 430-016d



NOTE:
NO LEDGER REQUIRED
w/ SOLID RIM OR BLKG.

1 DETAIL
3/4" = 1'-0" 110-082

REVISIONS			
#	Date	Description	By
1	11-27-23	DADAR REVISIONS	KMD

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PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
EXP. 6-30-25
CIVIL
No. 27423

12/20/2023 9:21:41 AM

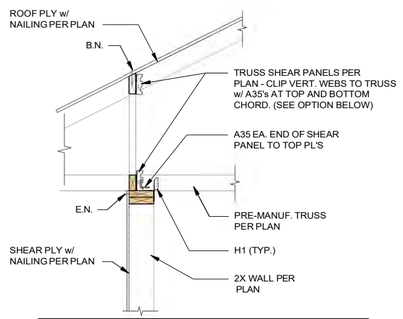
HEYRMAN RESIDENCE DETACHED GARAGE
16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
DETAILS	

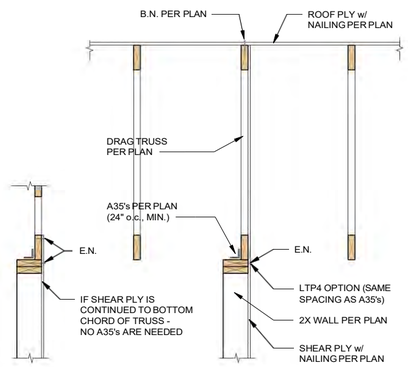
S0.7
SHEET of SHEETS

PLEASE RECYCLE



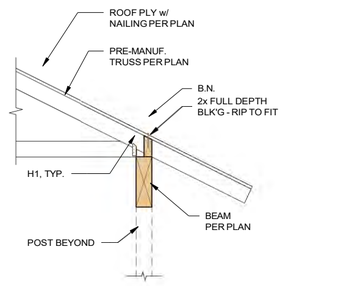
NOTE:
SHEAR BLOCK OPTION:
SPACE BETWEEN TRUSSES CAN ALSO BE FRAMED IN w/ 2x4 D.F. AND SHEARED ONE SIDE. NAIL AT EDGES AND FIELD PER SHEAR WALL NAILING OF WALL BELOW, U.N.O. - CLIP w/ A35's AS SHOWN IN DETAIL

6 DETAIL
3/4" = 1'-0" 320-232

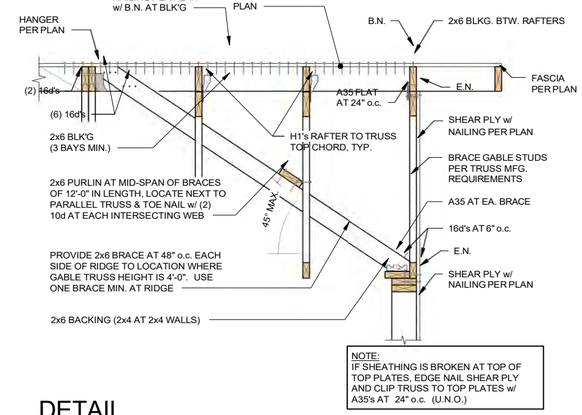


SHEAR PLY OPTION

3 DETAIL
3/4" = 1'-0" 320-263

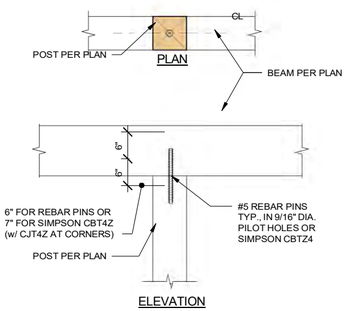


5 DETAIL
3/4" = 1'-0" 320-206

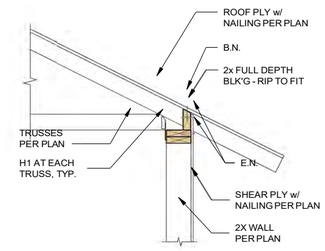


NOTE:
IF SHEATHING IS BROKEN AT TOP OF TOP PLATES, EDGE NAIL SHEAR PLY AND CLIP TRUSS TO TOP PLATES w/ A35's AT 24" o.c. (U.N.O.)

2 DETAIL
3/4" = 1'-0" 320-280M



4 DETAIL
3/4" = 1'-0" 240-016



1 DETAIL
3/4" = 1'-0" 320-200

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1	11-27-23	DADAR REVISIONS	KMD

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PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
EXP. 6-30-25
CIVIL
NO. 27423

12/20/2023 9:21:42 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
DETAILS	

S0.8
SHEET of SHEETS

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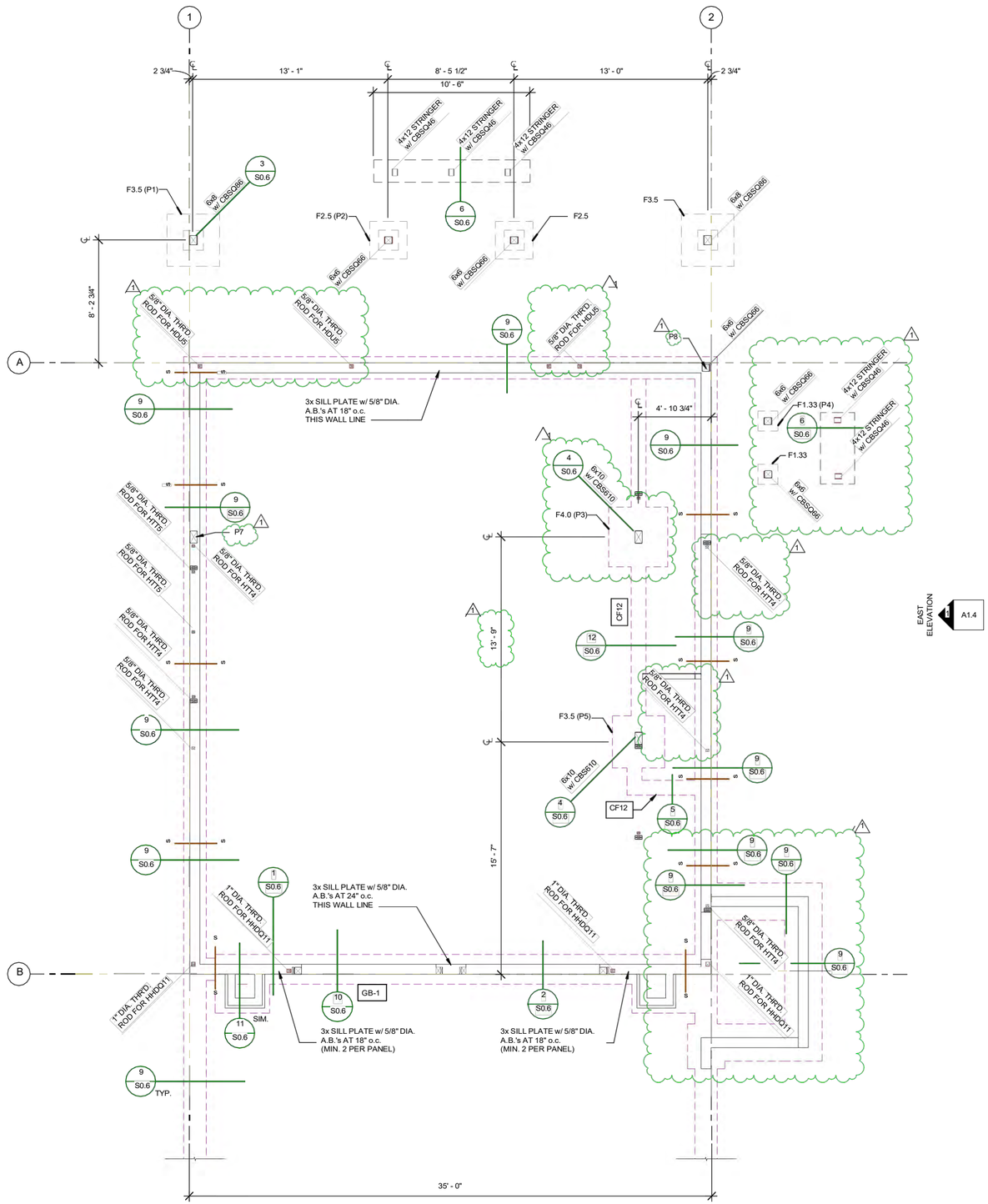

FOUNDATION PLAN

1/4" = 1'-0"

FOUNDATION NOTES

SILLS & PADS:
3x PRESSURE TREATED LUMBER, TYP., U.N.O., TIMBERSTRAND LSL TREATED SILL PL's PER ICC-ES ESR-1387.

ANCHOR BOLTS:
5/8" DIAMETER A.B. AT 4'-0" o.c. MAX., U.N.O. (2) ANCHOR BOLTS PER BOARD MIN., 12" FROM ENDS MAX. ANCHOR BOLTS EMBEDDED 7" MIN. INTO CONCRETE. SEE DETAIL 14/S0.2 FOR EXISTING CONCRETE CONDITIONS

DIMENSIONS:
BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE THE ARCHITECTURAL DRAWINGS (S.A.D.) FOR ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND ARCHITECT SO CLARIFICATION CAN BE MADE. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR AND SUBMITTED IN WRITING TO THE ENGINEER AND ARCHITECT FOR REVIEW PRIOR TO CONSTRUCTION.

NOTE: SEE STRUCTURAL FLOOR PLANS FOR LOCATION OF HOLDOWNS.

PIER SCHEDULE

MARK	WIDTH (each side)	DEPTH	STEEL (each way)
F1.33	16"	10"	(2) #4's
F2.5	30"	12"	(4) #4's
F3.0	36"	12"	(4) #4's
F3.5	42"	14"	(6) #4's or (4) #5's

CONT. FOOTING SCHEDULE

SYMBOL	WIDTH	DEPTH (u.n.o.)	STEEL (c (2) #4's)
CF12	12"	8"	(2) #4's
CF18	18"	8"	
GB1	24"	16"	#3 TIES AT 12" o.c.; (4) #5 TOP & BTM.

- 8" WIDE STEMWALL w/ (1) #4 CONTINUOUS TOP AND #4 AT 48" o.c. VERTICAL, HOOK AT FOOTING (ALTERNATE HOOKS). IF THE TOP OF STEMWALL EXCEEDS 36" ABOVE THE TOP OF FOOTING, USE #4 AT 18" o.c. HORIZONTAL CONTINUOUS AND #4 AT 24" o.c VERTICAL.
- PROVIDE #4 VERTICALS AT 48" o.c. FOR TYPICAL STEM, HOOK AT FOOTING (ALTERNATE HOOKS).
- ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL, ASSUMED SOIL BEARING PRESSURE IS DETERMINED IN ACCORDANCE w/ IBC TABLE 1806.2, UNLESS SOIL REPORT IS PROVIDED.
- EXTERIOR FOOTINGS TO BE PLACED 24" BELOW GRADE PER APPLICABLE CODES.

NOTE:
SEE DETAILS FOR SPECIAL REINFORCING OF STEMWALL AND FOOTINGS.

HOLDOWN SCHEDULE NOTES

HOLDOWN	THREADED ROD-ANCHOR BOLT	HOLDOWN STUD
HTT4	5/8" DIA. w/ 18" EMBED INTO STEMWALL	(2) 2x-, U.N.O.
HTT5	5/8" DIA. w/ 24" EMBED INTO STEMWALL	(2) 2x-, U.N.O.
HDU5	5/8" DIA. w/ 24" EMBED INTO STEMWALL	(2) 2x-, U.N.O.
HHDQ11	SB 1x30 w/ 12" EMBED INTO FOOTING	6x-, U.N.O.

HOLDOWN INFORMATION

- ALL HOLDOWNS TO BE SCREWED or NAILED TO DOUBLE STUDS, U.N.O.
- PROVIDE (1) #4 HORIZONTAL AT TOP OF STEMWALL AT ALL HOLDOWN ANCHOR BOLTS
- HOLDOWN ANCHOR BOLTS ARE DESIGNED FOR UPLIFT ONLY STANDARD MUDSILL ANCHOR BOLTS ARE REQUIRED (SPACING PER PLAN).
- USE RIM & BLOCKING OR DOUBLE SOLID BLOCKING AT HOLDOWN HTT4, HTT5, HDU5, HDU8, AND HDQ8.
- USE VERTICAL GRAIN SOLID BLOCKING TO MATCH HOLDOWN STUD AT HOLDOWN HHDQ11, HHDQ14, HDU14 AND HD19.
- NAIL (2) 2x STUDS TOGETHER w/ 16d's AT 4" o.c. STAGGERED. LOCATE NAILS 3" MIN. FROM END OF STUDS AND PROVIDE 1" MIN. EDGE DISTANCE

* SEE HOLDOWN ANCHOR BOLT SCHEDULE SHEET S0.1 FOR SIMPSON SSTB BOLTS.

REVISIONS			
#	Date	Description	By
1	11-27-23	DADAR REVISIONS	KMD

DET engineers
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12/20/2023 9:21:45 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
FOUNDATION PLAN	
	S1.1
SHEET of SHEETS	

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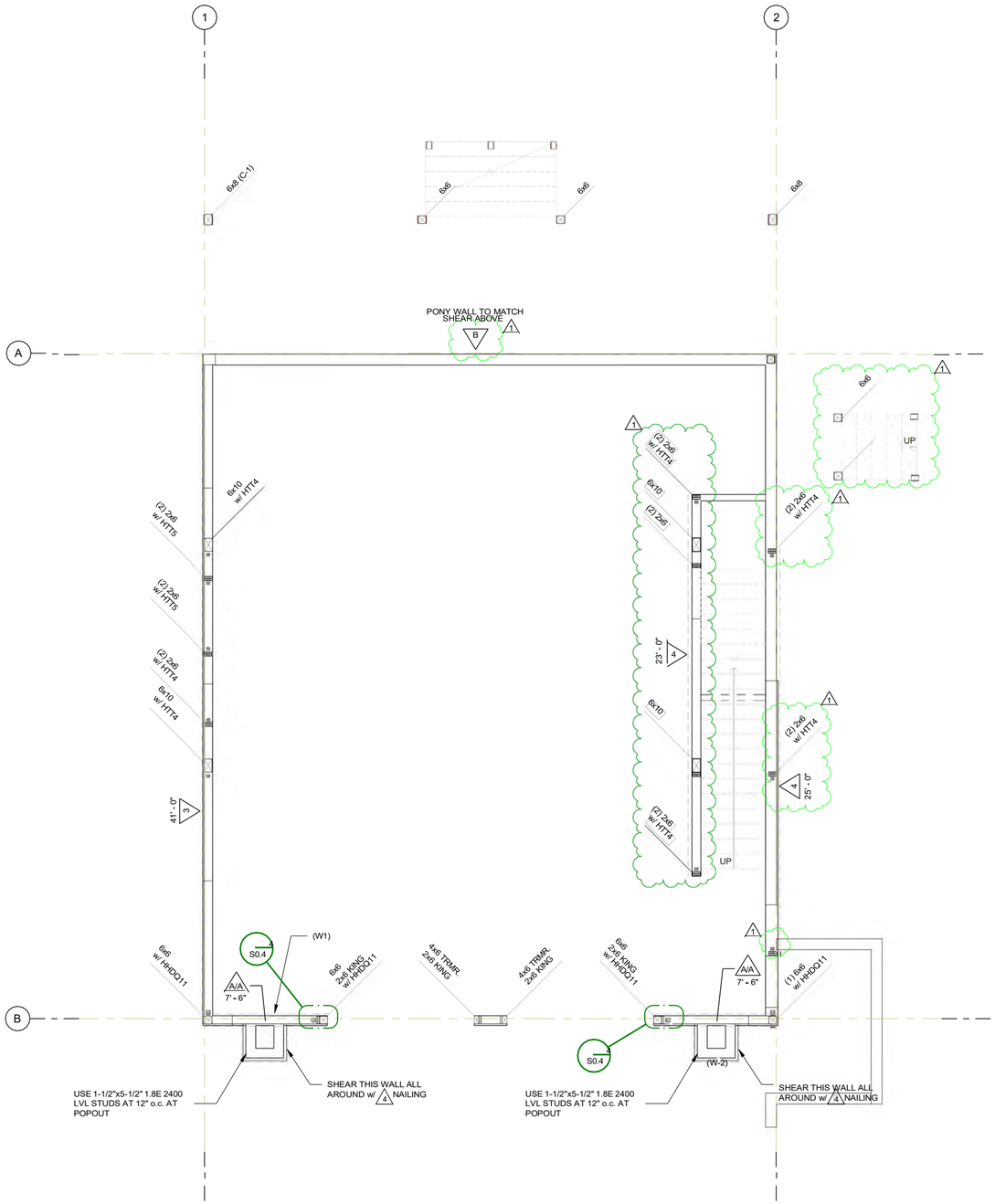

LOWER LEVEL STRUCTURAL FLOOR PLAN

1/4" = 1'-0"

SHEAR WALL SCHEDULE NOTES

SYMBOL	SHEAR PLY	E.N. SPACING	BLOCKING AT ADJOINING PANEL EDGES	ADDITIONAL AT SHEAR TRANSFER
4	3/8"	8d AT 4"	NO	4" o.c.
3	3/8"	8d AT 3"	YES	3" o.c. STAG.
2	3/8"	8d AT 2"	YES	2" o.c. STAG.
A	15/32"	10d AT 2"	YES	2" o.c. STAG.
B	19/32"	10d AT 2"	YES	2" o.c. STAG.
A/A **	(2) 15/32"	10d AT 3" B/S	YES	2" o.c. STAG.

- Use Common Nails, Field Nail AT 12" o.c., U.N.O
- Use 3/8" Shear Ply, OSB, or Rated Equivalent U.N.O.
- Edge Nail AT Top Plate, Mud Sill, All Posts, Sole Plates, & All Studs w/ Holdowns.
- Use (24) 16d Nails AT All Top Plate Splices (60" Long) U.N.O. Per Detail 8/S0.3.
- Use SIMPSON MSTC52 To Strap Top PL's Across Breaks, U.N.O. Per Detail 7/S0.3.
- Provide Blocking AT All Horizontal Edges of Shear Plywood.
- See standard details for nailing of plywood shear and siding.
- ** Double Shear Walls To Have Shear Ply Both Sides. (Offset Plywood Edges)

NOTE:
Shear wall schedule includes all shear options. See plan for specific requirements.

HOLDOWN SCHEDULE NOTES

HOLDOWN	THREADED ROD-ANCHOR BOLT	HOLDOWN STUD
HTT4	5/8" DIA. w/ 18" EMBED INTO STEMWALL	(2) 2x-, U.N.O.
HTT5	5/8" DIA. w/ 24" EMBED INTO STEMWALL	(2) 2x-, U.N.O.
HDU5	5/8" DIA. w/ 24" EMBED INTO STEMWALL	(2) 2x-, U.N.O.
HHDQ11	SB 1x30 w/ 12" EMBED INTO FOOTING	6x-, U.N.O.

HOLDOWN INFORMATION

- ALL HOLDOWNS TO BE SCREWED or NAILED TO DOUBLE STUDS, U.N.O.
- PROVIDE (1) #4 HORIZONTAL AT TOP OF STEMWALL AT ALL HOLDOWN ANCHOR BOLTS
- HOLDOWN ANCHOR BOLTS ARE DESIGNED FOR UPLIFT ONLY STANDARD MUDSILL ANCHOR BOLTS ARE REQUIRED (SPACING PER PLAN).
- USE RIM & BLOCKING OR DOUBLE SOLID BLOCKING AT HOLDOWN HTT4, HTT5, HDU5, HDU8, AND HDQ8.
- USE VERTICAL GRAIN SOLID BLOCKING TO MATCH HOLDOWN STUD AT HOLDOWN HHDQ11, HHDQ14, HDU14 AND HD19.
- NAIL (2) 2x STUDS TOGETHER w/ 16d's AT 4" o.c. STAGGERED. LOCATE NAILS 3" MIN. FROM END OF STUDS AND PROVIDE 1" MIN. EDGE DISTANCE

* SEE HOLDOWN ANCHOR BOLT SCHEDULE SHEET S0.1 FOR SIMPSON SSTB BOLTS.

REVISIONS			
#	Date	Description	By
1	11-27-23	DADAR REVISIONS	KMD

DEI engineers
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PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
EXP. 6-30-25
CIVIL
No. 27423

12/20/2023 9:21:47 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

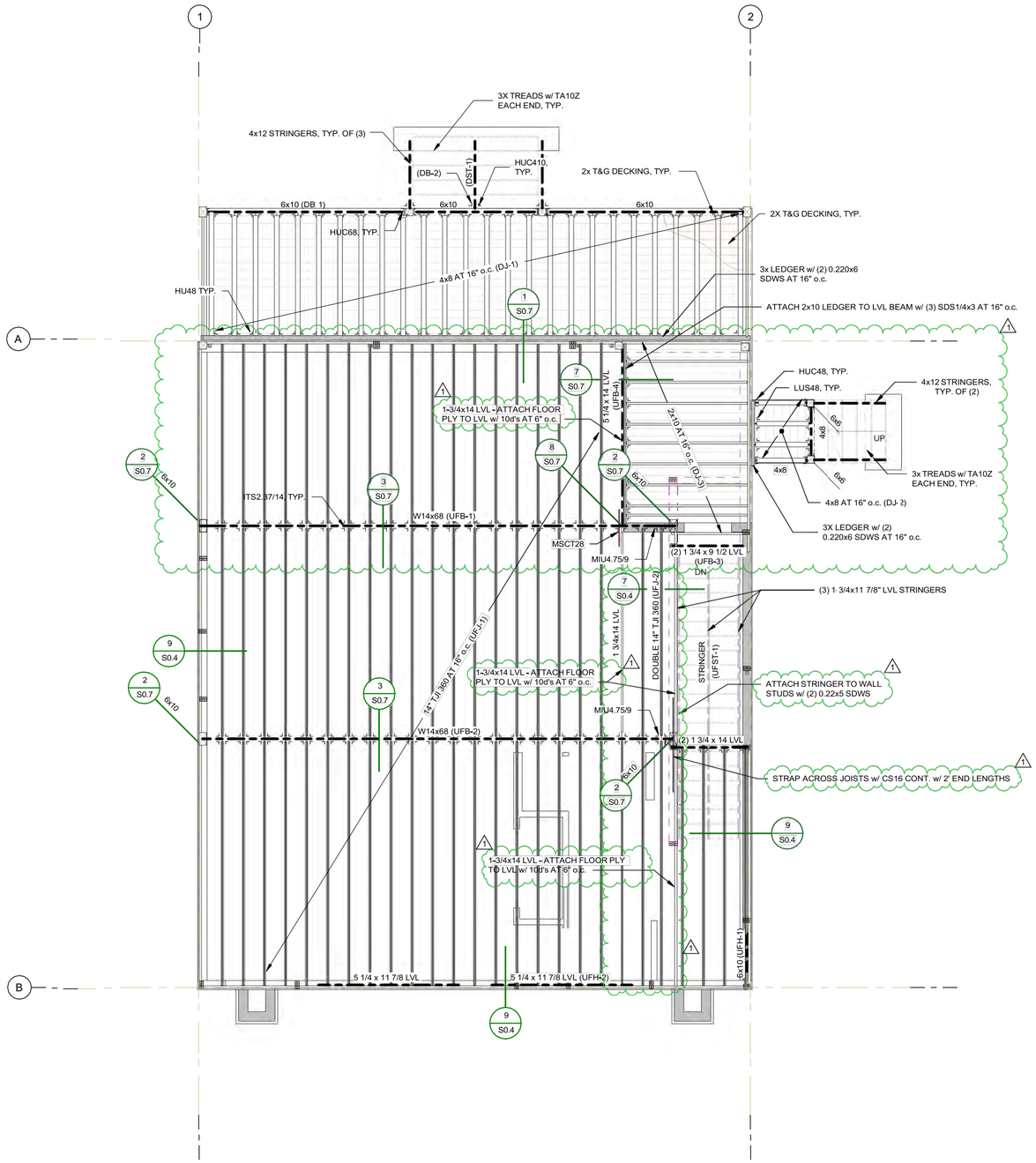
SUBMITTAL SET

DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	
LOWER LEVEL STRUCTURAL FLOOR PLAN	

S1.2

SHEET of SHEETS

PLEASE RECYCLE



UPPER LEVEL FLOOR FRAMING PLAN

1/4" = 1'-0"

UPPER FLOOR FRAMING NOTES

SUBFLOOR:
3/4" PLYWOOD SHEATHING, EXPOSURE 1, T & G UNDERLAYMENT GRADE, APA SPAN RATED 24" o.c. or EQUIVALENT, LAID AT RIGHT ANGLES OVER FLOOR JOISTS. STAGGER JOINTS, GLUE & NAIL WITH 10d's AT 6" o.c. EDGE, 10" o.c. FIELD.

FLOOR JOISTS:
14" TJI 360 I-JOISTS AT 16" o.c. w/ ITS2.37/14 OR IUS2.37/14 HANGERS, U.N.O., INSTALLED PER MANUFACTURER'S SPECIFICATIONS AT RIGHT ANGLES OVER BEARING. DOUBLE UNDER PARALLEL WALLS. MAINTAIN 18" MIN. CLEARANCE TO SOIL. BLOCK ALL JOISTS AT BEARING POINTS PER MFR. SPECIFICATIONS.

GIRDERS OR BEAMS:
LVL's, PSL's AND LSL's:
- ALL LVL's SHALL HAVE Fb= 2600 PSI, Fv= 285 PSI, AND E= 2.0x10 PSI MIN. UNLESS NOTED OTHERWISE NAIL MULTI-PLY LVL's w/(3) 16d's AT12" o.c.
- ALL PSL's SHALL HAVE Fb=2900 PSI, Fv= 290 PSI, AND E=2.0x10 PSI MIN., U.N.O.
- ALL LSL's SHALL HAVE Fb= 2325 PSI, Fv=310 PSI, AND E=1.55x10 PSI MIN. U.N.O., NAIL MULTI-PLY LVL's w/ (3) 16d's AT 12" o.c.

GLB's:
G.L.B.'s USED FOR SIMPLE SPANS TO BE 24F-V4DF/DF. G.L.B.'s USED FOR CONTINUOUS OR CANTILEVERED SPANS TO BE 24F-V8 DF/DF. BEAMS EXPOSED TO WEATHER MUST BE RATED EXTERIOR, OR PROTECTED w/ APPROPRIATE FLASHING.

RIM:
1 1/4" TIMBERSTRAND LSL 1.3E.

HEADERS:
6x10 ROSBORO MFG. TIMBER or DF #1 AT 2x6 WALLS TYP., U.N.O.
4x10 ROSBORO MFG. TIMBER or DF #2 AT 2x4 WALLS TYP., U.N.O.

TRIMMERS:
DBL. TRIMMERS AT OPENINGS GREATER THAN 5'-0" TYP., U.N.O.

POSTS:
4x D.F. #2 AND 6x D.F. #1 (LOCATE AS NOTED)

METAL CONNECTORS:
ALL HANGERS SPECIFIED ARE SIMPSON STRONG TIE OR EQUAL.

NOTE:
SEE TRUSS CALCULATIONS FOR TRUSS DESCRIPTIONS.

REVISIONS

#	Date	Description	By
1	11-27-23	DADAR REVISIONS	KMD

DEI engineers
Dunagan Engineering, Inc.
4790 Caughlin Parkway #766, Reno, NV 89519
P.775.329.2713|F. 888.873.0790|W. DEengineers.com

PROFESSIONAL ENGINEER — STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
EXP. 6-30-25
CIVIL
NO. 27423

12/20/2023 9:21:49 AM

HEYRMAN RESIDENCE DETACHED GARAGE

16185 N TIMBERLINE DR.
RENO, NV 89511
APN: 049-222-02

SUBMITTAL SET

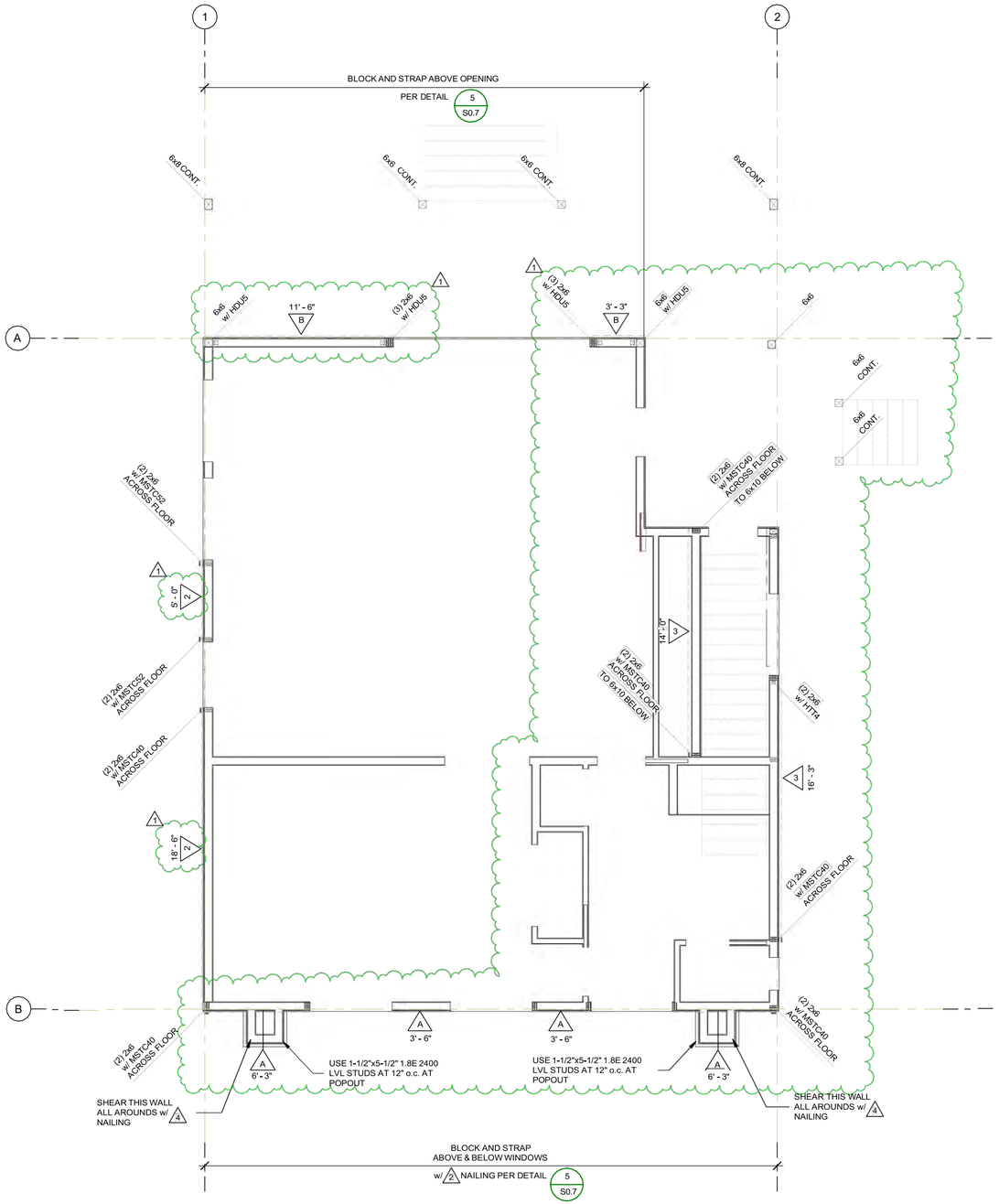
DRAWN BY	CSB
CHECKED BY	EHS
DATE	8-25-23
SCALE	AS NOTED
JOB NO.	B23320
SHEET NO.	

UPPER LEVEL FLOOR FRAMING PLAN

S2.1

SHEET of SHEETS

PLEASE RECYCLE



UPPER LEVEL STRUCTURAL FLOOR PLAN

1/4" = 1'-0"

SHEAR WALL SCHEDULE NOTES

SYMBOL	SHEAR PLY	E.N. SPACING	3x STUDS AT ADJOINING PANEL EDGES	16d SPACING AT SHEAR TRANSFER
4	3/8"	8d AT 4"	NO	4" o.c.
3	3/8"	8d AT 3"	YES	3" o.c. STAG.
2	3/8"	8d AT 2"	YES	2" o.c. STAG.
A	15/32"	10d AT 2"	YES	2" o.c. STAG.
B	19/32"	10d AT 2"	YES	2" o.c. STAG.
A/A **	(2) 15/32"	10d AT 3" B/S	YES	2" o.c. STAG.

- Use Common Nails, Field Nail AT 12" o.c., U.N.O
- Use 3/8" Shear Ply, OSB, or Rated Equivalent U.N.O.
- Edge Nail AT Top Plate, Mud Sill, All Posts, Sole Plates, & All Studs w/ Holdowns.
- Use (24) 16d Nails AT All Top Plate Splices (60" Long) U.N.O. Per Detail 8/S0.3.
- Use SIMPSON MSTC52 To Strap Top PL's Across Breaks, U.N.O. Per Detail 7/S0.3.
- Provide Blocking AT All Horizontal Edges of Shear Plywood.
- See standard details for nailing of plywood shear and siding.
- ** Double Shear Walls To Have Shear Ply Both Sides. (Offset Plywood Edges)

NOTE:
Shear wall schedule includes all shear options. See plan for specific requirements.

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PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIKA K. HILL-STANCLIFF
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HEYRMAN RESIDENCE DETACHED GARAGE

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RENO, NV 89511
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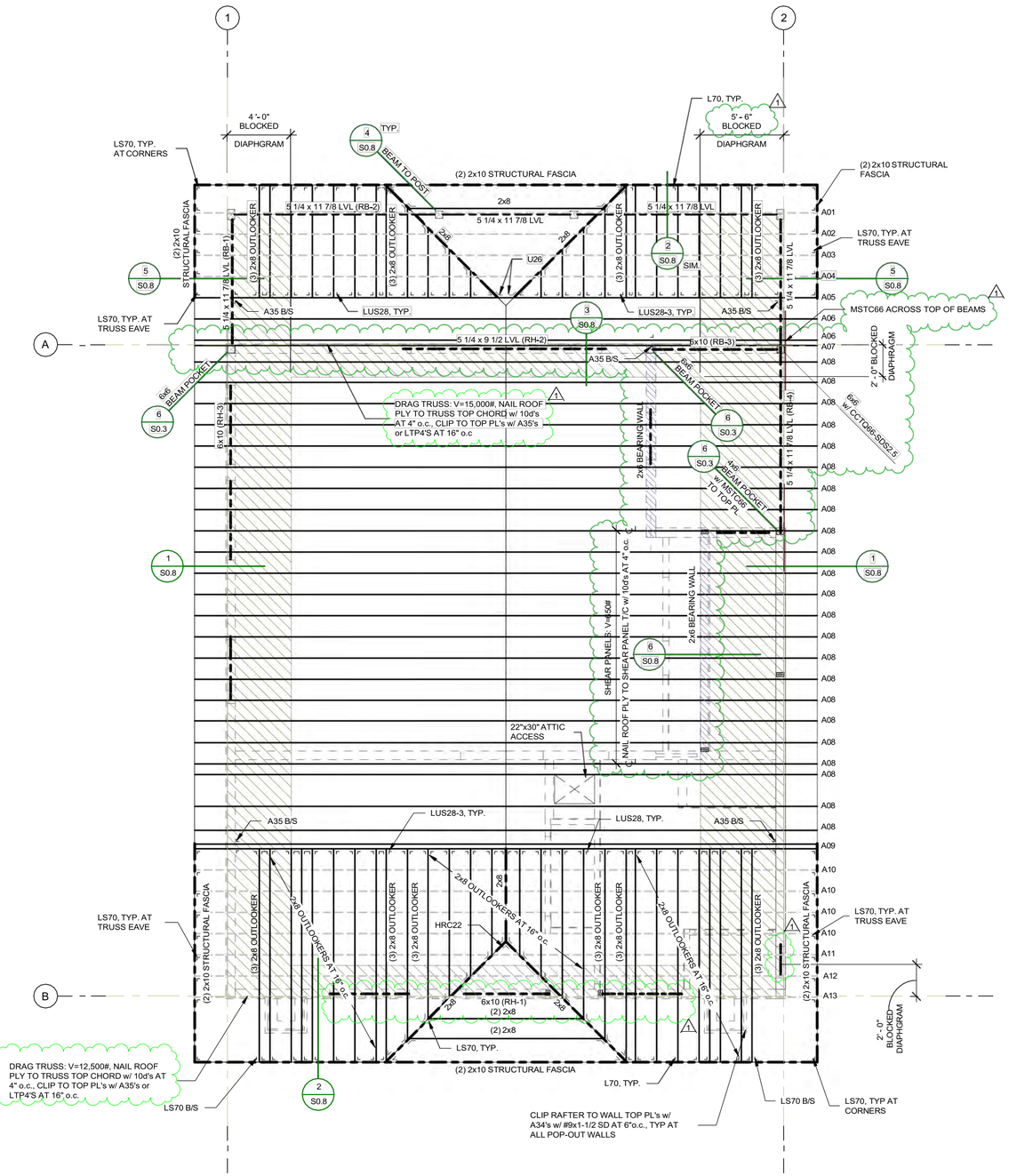
SHEET NO.	

UPPER LEVEL STRUCTURAL FLOOR PLAN

S2.2

SHEET of SHEETS

PLEASE RECYCLE



ROOF FRAMING PLAN

1/4" = 1'-0"

ROOF FRAMING NOTES

SHEATHING:
5/8" CDX PLYWOOD (or EQUAL) EXPOSURE 1, APA SPAN RATED (40/20). STAGGER JOINTS, NAIL w/ 10d AT 6" o.c ALL EDGES, GABLE ENDS AND FRIEZE BLOCKS. NAIL w/ 10d AT 12" o.c. FIELD.
ALL PLYWOOD SHALL CONFORM TO APA PS 1. ALL SHEAR PLYWOOD SHALL BE C-D, C-C, 303 (T1-11), or APPROVED EQUAL.

TRUSSES:
PRE-MFG.'d ENGINEERED TRUSSES AT 16" o.c. PROVIDE 2x STUD PER TRUSS PLY AT ALL GIRDER BRG. POINTS AT PLATES. U.N.O.

NOTE:
SEE TRUSS CALCULATIONS FOR TRUSS DESCRIPTIONS

LVL's, PSL's & LSL's:
- ALL LVL's SHALL HAVE Fb= 2600 PSI, Fv= 285 PSI, AND E=2.0x10^6 PSI MIN. UNLESS NOTED OTHERWISE NAIL MULTI-PLY LVL's w/ (3) 16d's AT 12" o.c.
- ALL PSL's SHALL HAVE Fb= 2900 PSI, Fv= 290 PSI, AND E=2.0x10^6 PSI MIN. U.N.O.
- ALL LSL's SHALL HAVE Fb= 2250 PSI, Fv= 400 PSI, AND E=1.5x10^6 PSI MIN. UNLESS NOTED OTHERWISE NAIL MULTI-PLY LVL's w/ (3) 16d's AT 12" o.c.

G.L.B.'S:
GLU-LAMS USED FOR SIMPLE SPANS SHALL BE 24F-V4 U.N.O. GLU-LAMS USED FOR CONTINUOUS SPANS or CANTILEVER SHALL BE 24F-V8, U.N.O.
GLU-LAMS EXPOSED TO WEATHER SHALL BE RATED FOR EXTERIOR USE BY MANUFACTURER or APPROVED PROTECTION FROM EXPOSURE TO BE PROVIDED.

FILL SECTIONS:

RIDGE	2x8 DF #2 OR BETTER
RAFTERS	2x6 DF#2
VALLEY KICKER	2x8 DF

HEADERS:
6x10 ROSBORO MFG. TIMBER or DF #1 TYP., U.N.O.
4x10 ROSBORO MFG. TIMBER or DF #2 AT 2x4 WALLS TYP., U.N.O.

TRIMMERS:
DBL. TRIMMERS AT OPENINGS GREATER THAN 5'-0", AT 2x6 WALLS TYP. U.N.O.
DBL. TRIMMERS AT OPENINGS GREATER THAN 4'-0", AT 2x4 WALLS TYP. U.N.O.

POSTS:
4x D.F. #2 AND 6x D.F. #1 (LOCATE AS NOTED)

METAL CONNECTORS:
(USE SIMPSON BRAND or APPROVED EQUAL).
HANGERS SHOWN AT TRUSSES ARE TYPICAL, PROVIDE HANGERS AS SPECIFIED ON THE STAMPED TRUSS CALCULATIONS.
SIMPSON H1 CLIPS AT ALL TRUSS BEARING POINTS ON PLATES & BEAMS
SIMPSON H5 CLIPS AT ALL RAFTER BEARING POINTS ON PLATES & BEAMS
SIMPSON H2.5A CLIPS (B/S) AT ALL GIRDER TRUSS BEARING POINTS.
SIMPSON POST CAPS (AS NOTED)
SIMPSON ST6224 (AS NOTED)

CALIFORNIA OVER-FRAMING AND DIAPHRAGM BLOCKING NOTES

BLOCKED DIAPHRAGM NAILED w/ 10d's AT 6" o.c. AT BOUNDARIES & PANEL EDGES, & 12" o.c. IN FIELD.

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ROOF FRAMING PLAN	

S2.3

SHEET of SHEETS

PLEASE RECYCLE