# PROJECT TEAM

OWNER: Tom & Kim TSO 8802 SE 37th St. Mesrcer Island WA 98040 email:

**DESIGNER:** Kesh Design Lines Tel: 425.361.7325 email: kesh@keshdesignlines.com

**ENGINEERING:** As Needed

# PROPERTY DETAILS

JOB NAME: TSO ADDITION & ADU SITE ADDRESS: 8802 SE 37th ST. MERCER ISLAND WA 98040

LEGAL DISCRIPTION: MADRONA CREST ADD

ZONING: R-8.4 Single Family(Res Use/Zone)

PARCEL #: 502190-0455

# LOT COVERAGE

Α.	Gross Lot Area	12,100	Square Feet
B.	Net Lot Area	10,960	Square Feet
C.	Allowed Lot Coverage Area	4,840	Square Feet
D.	Allowed Lot Coverage	40	% of Lot
E.	Existing Lot Coverage:		
	1. Main Structure Roof Area	<del>-2,837</del> 2,873	Square Feet
	2. Accessory Building Roof Area	<del>117-</del> 94	Square Feet
	3. Vehicular Use (driveway, paved access		
	easements [portion used by the lot for access],		
	parking	790	Square Feet
	4. Covered Patios and Covered Decks	216	Square Feet
	5. Total Existing Lot Coverage Area (E1+E2+E3+E4)	) -3,996- 3,973	Square Feet
F.	(Total Lot Coverage Area Removed)	(1-1-7) (94)	Square Feet
G.	Proposed Adjustment for Single Story (Area)	0	Square Feet
Н.	Proposed Adjustment for Flag Lot	0	Square Feet
I.	Total New Lot Coverage Area:		
	1. Main Structure Roof Area	- <del>336-</del> - 340	Square Feet
	2. Accessory Structure Roof Area	0	Square Feet
	3. Vehicular Use (driveway, paved acces	S	
	easement [portion used by the lot for access]	,	
	parking)	0	Square Feet
	4. Covered Patios and Covered Decks	0	Square Feet
	5. Total New Lot Coverage Area (I1 + I2 + I3 + I4)	3 <del>36</del> - 340	
J.	Total Project Lot Coverage Area = (E5 - F) + I5	<del>4,215</del> 4,219	Square Feet
K.	Proposed Lot Coverage Area = $(J/B) \times 100$	<del>38.46</del> %- <b>38.49</b> %	% of Lot

# HARDSCAPE CALCULATIONS

1 17	TOOON LOOLATION		
A.	Gross Lot Area	12,100	Square Feet
В.	Net Lot Area	10,960	Square Feet
C.	Area Borrowed from Lot Coverage	0	Square Feet
D.	Allowed Hardscape Area = 9% of lot area + C	9	% of Lot
E.	Allowed Hardscape Area	986	Square Feet
F.	Total Existing Hardscape Area:		
	1. Uncovered Decks	0	Square Feet
	2. Uncovered Patios	0	Square Feet
	3. Walkways	<del>70</del> 3 <b>70</b> 4	Square Feet
	4. Stairs	0	Square Feet
	5. Rockeries and Retaining Walls	0	Square Feet
	6. Other	_	Square Feet
	7. Total Existing Hardscape Area		
	(F1+F2+F3+F4+F5+F6)	<del>70</del> 3 <b>7</b> 04	Square Feet
G.	(Total Hardscape Area Removed)	0	Square Feet
Н.	Total New Hardscape Area:		
	1. Uncovered Decks	0	Square Feet
	2. Uncovered Patios	0	Square Feet
	3. Walkways	94- 180	Square Feet
	4. Stairs	0	Square Feet
	5. Rockeries and Retaining Walls	0	Square Feet
	6. Other	. 0	Square Feet
	7. Total New Hardscape Area		
	(H1+H2+H3+H4+H5+H6)	94 180	Square Feet
I.	Total Project Hardscape Area = (F7 - G) + H7	<del>-800</del> 884	Square Feet
J.	Total Project Hardscape Area = (I/B)x100	<del>-7.3%</del> 8.07%	% of Lot

# LOT SLOPE

According to the Mercer Island City Code, slope is a measurement of the average incline of the lot or other piece of land calculated by subtracting the lowest elevation of the property from the highest elevation and dividing the resulting number by the shortest horizontal distance between these two points. The resulting product is multiplied by 100.

### LOT SLOPE CALCULATIONS

Highest Elevation Point of Lot:	301	Feet
Lowest Elevation Point of Lot:	302	Feet
Elevation Difference:	1	Feet
Horizontal Distance Between High and Low	Points: 110	Feet
Lot Slope*	0.91	<u> </u>

# PROJECT NARATIVE

Proposed is a 2 story Addition above and to the rear of the existing 750 SF garage. One bedroom and One bath on lower level and Master Bed and Bath on upper level -ADU totaling 899 SF.

Principal dwelling unit will be owner occupied.

New construction details will follow the existing design of the house including windows, A8 SECTION & DETAILS siding and roof pitch.

2 Additional on site parking will be designated for the ADU

No trees will be removed or disturbed

# SHEET INDEX

STRUCTURAL:

S0 GEN. NOTES

S1 FRAMING PLAN

S3 WSW DETAILS

**S2 FRAMING DETAILS** 

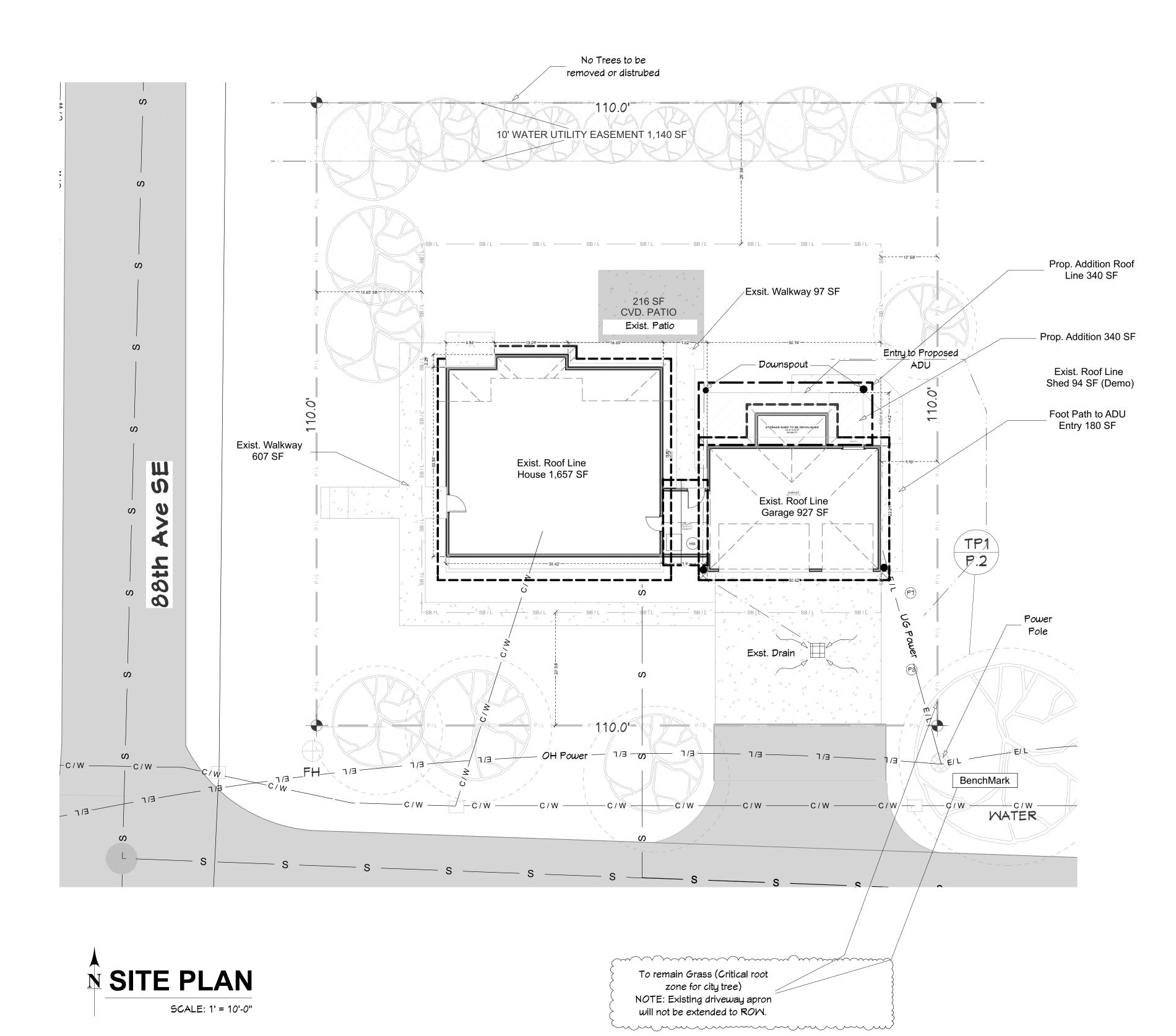
- P1 SITE PLAN
- P2 SUPP. SHEET & GFA CALCULATIONS
- A2 GENERAL NOTES
- A3 AS BUILT A4 PROPOSED MAIN & UPPER FLOOR
- A5 ELEVATIONS A6 FOUNDATION & MAIN FLOOR FRAMING
- A7 SECTIONS
- A9 FRAMING PLAN & NOTES
- A10 STAIRS & BALCONY DETAILS
- A11 ROOF PLAN
- A12 SHEARWALL DETAILS
- D1 DETAILS & NOTES D2 DETAILS & NOTES

A13 WINDOW SCHEDULE & ENERGY CALCS.

STRUCTURAL CALCULATIONS: Page 1 - 22

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K.C.

# DESIGN CRITERIA

110 mph (IBC Figure 1609A) Wind Speed:

Category C Wind Exposure:

with WA State Amendments

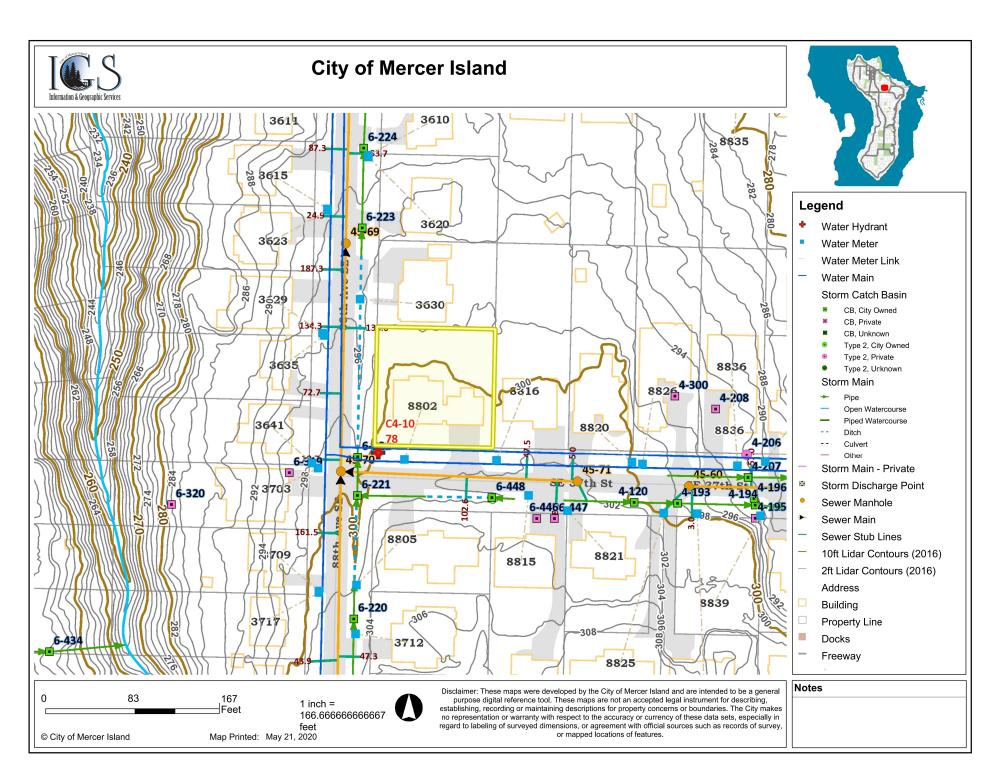
1.6 Per City of Mercer Island Wind Map Kzt Factor: Ground Snow Load: 25 psf (Snow drift per ASCE 7-10) Rain-on-Snow Surcharge: 5 psf added to flat roofs per (ASCE 7-10)

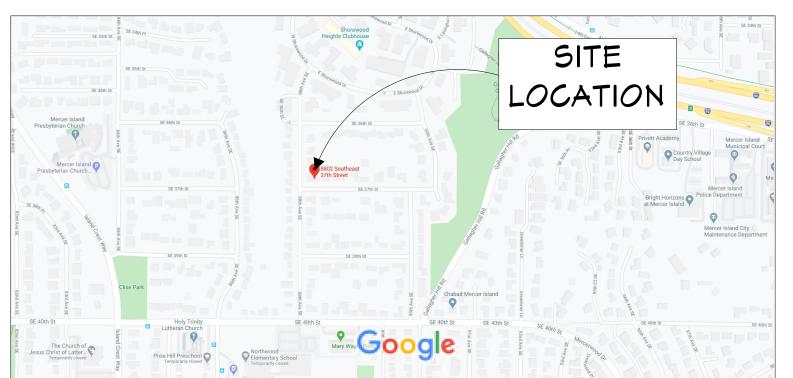
Seismic Design Category: D2

1"/Hr (UPC Table D101.1) Soil Bearing Capacity: 1500 psf (IBC Table 1806.2)

COMPLIANCE PATH PRESCRIPTIVE: International Residential Code 2018 (IRC 2018)

# TOPO & UTILITIES MAP nts





# GROSS FLOOR AREA

	<b>EXISTING ROOM AREA -</b>	LOWER LEVEL		
ROOM NAME	AREA, INTERIOR (SQ FT)	CEILING HEIGHT	DIMENSIONS	NOTES
FORMAL DINING	225	109 1/8"	16'-4" X 14'-4"	
HALL	129	109 1/8", 121 3/4"	9'-10" X 6'-10"	
(CEILING HGT. MOD. EXIST. ENTRY)	33	18.2'	4'-11" X 6'-9"	<b>GRAY AREA</b>
HALL	31	109 1/8"	4'-8" X 6'-7"	
LAUNDRY	78	109 1/8"	6'-6" X 12'-2"	
LIVING	198	109 1/8"	14'-9" X 13'-6"	
(CEILING HGT. MOD. EXIST. LIVING)	198	18.2'	13'-8" X 14'-6"	<b>GRAY AREA</b>
OFFICE	170	109 1/8"	13'-3" X 12'-11"	
POWDER	31	109 1/8"	4'-8" X 6'-9"	
STAIRWELL	53	121 3/4"	15'-5" X 3'-5"	
STORAGE	15	109 1/8"	4'-6" X 3'-5"	
UTILITY	92	112 5/8"	8'-3" X 11'-6"	
TOTALS:	1,253.0 SF			

	EXISTING ROOM ARE	A - UPPER LEVEL	1	
ROOM NAME	AREA, INTERIOR (SQ FT)	CEILING HEIGHT	DIMENSIONS	NOTES
BATH	56	121 1/2"	5'-6" X 9'-0"	
BATH	7	121 1/2"	1'-6" X 4'-10"	
BEDROOM 2	121	121 1/2"	9'-1" X 13'-6"	
BEDROOM 1	177	121 1/2"	12'-10" X 12'-11"	
BEDROOM 3	129	121 1/2"	9'-6" X 13'-6"	
CLOSET	10	121 1/2"	2'-9" X 3'-6"	
CLOSET	16	121 1/2"	2'-0" X 7'-10"	
CLOSET	30	121 1/2"	4'-11" X 6'-1"	
CLOSET	55	121 1/2"	9'-4" X 5'-11"	
CLOSET	9	121 1/2"	2'-9" X 3'-5"	
HALL	160	121 1/2"	10'-0" X 11'-4"	
MASTER BATH	130	121 1/2"	15'-2" X 7'-3"	
OPEN BELOW	198	243 1/4"	13'-8" X 14'-6"	
OPEN BELOW	42	243 1/4"	6'-2" X 6'-10"	
OPEN BELOW	53	243 1/4"	15'-8" X 3'-5"	
TOTAL 0	4 400 05			
TOTALS:	1 193 SF		1	I

G HOUSE TOTAL
AREA, INTERIOR (SQ FT)
1,253 SF
1,193 SF
2,446.0 SF
833.0 SF

# **GROSS FLOOR AREA**

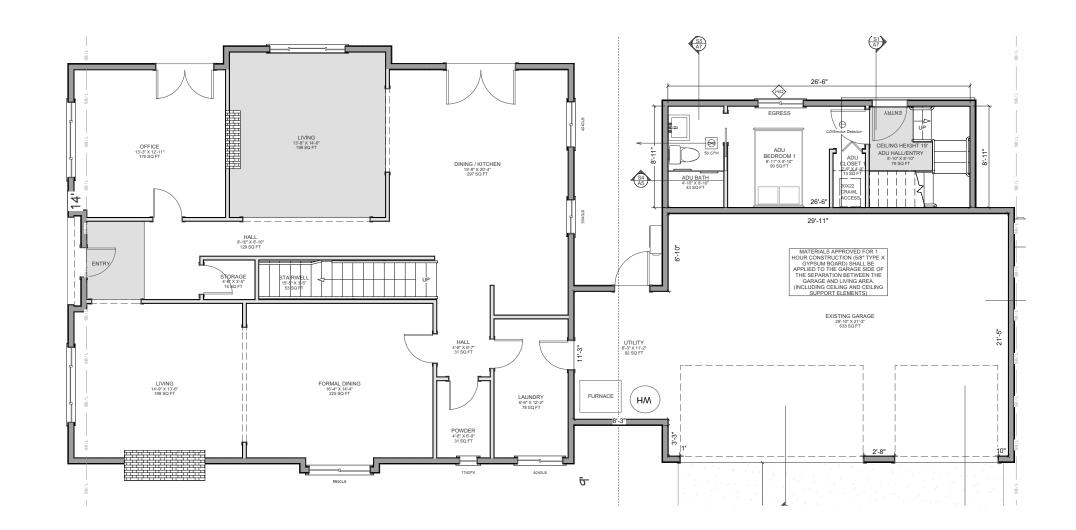
Dullullig Al Cu	LAISTI	ing Air Cu	INCHIOVE	Ancu		1011,7100110		•	Otai
Upper Floor	1,193	Sq. Ft.	0	Sq. Ft.	0		Sq. Ft.	1,193	Sq. Ft.
Main Floor	1,022	Sq. Ft.	0	Sq. Ft.	0		Sq. Ft.	1,022	 Sq. Ft.
Gross Basement Area	0	Sq. Ft.	0	Sq. Ft.	0		Sq. Ft.	0	 Sq. Ft.
Garage/ Carport	833	Sq. Ft.	0	Sq. Ft.	0		Sq. Ft.	833	 Sq. Ft.
<b>Total Floor Area</b>	3,048	Sq. Ft.	0	Sq. Ft.	0		Sq. Ft.	3,048	 Sq. Ft.
Accessory Buildings	82	Sq. Ft.	(82)	Sq. Ft.	0		Sq. Ft.	0	Sq. Ft.
Accessory Dwelling Unit	0	Sq. Ft.	0	Sq. Ft.	874		Sq. Ft.	874	Sq. Ft.
2 <sup>nd</sup> & 3 <sup>rd</sup> Story Roofed									
Decks	0	_ Sq. Ft.	0	Sq. Ft.	0		Sq. Ft.	0	Sq. F
Basement Area		Sq. Ft.		Sq. Ft.			Sq. Ft.		Sq. Ft.
Excluded	0	_	0		0			0	
150% GFA Modifier*		Sq. Ft.		Sq. Ft.			Sq. Ft.		Sq. Ft.
(main and upper floor									
x2)	0	_	0		0			0	
200% GFA Modifier*		Sq. Ft.		Sq. Ft.			Sq. Ft.		Sq. Ft.
(main and upper floor									
x2)	231	_	0		26			257	
Staircase GFA Modifier*		Sq. Ft.		Sq. Ft.			Sq. Ft.		Sq. Ft.
(x2 for a three story									
staircase, x3 for a four									
story staircase)	0	_	0		0			0	
TOTAL Building Area	3,361	_ Sq. Ft.	(82)	Sq. Ft.	900		Sq. Ft.	4,179	Sq. Ft.
*Enter the actual room a	rea								
A. Lot Area				12,	100			_ Square F	eet
B. Zone R-8.4	V	R-9.	6 🗆	R-	12		R-15		]
C. Allowed Gross Floor	r Area (re	fer to "al	lowed GFA")	4,8	40			Square F	eet
D. Allowed Gross Floor	r Area			40%	6			% of Lot	
E. Proposed Gross Flo	or Area			3,9	82			Square F	eet
F. Proposed Gross Flo	or Area			32.	90%			_ _ % of Lot	
Gross floor area calculation	ons founc	d on Plan	Sheet #	P2					
Basement exclusion calcu	ılations fo	ound on F	Plan Sheet #	N/A	4				

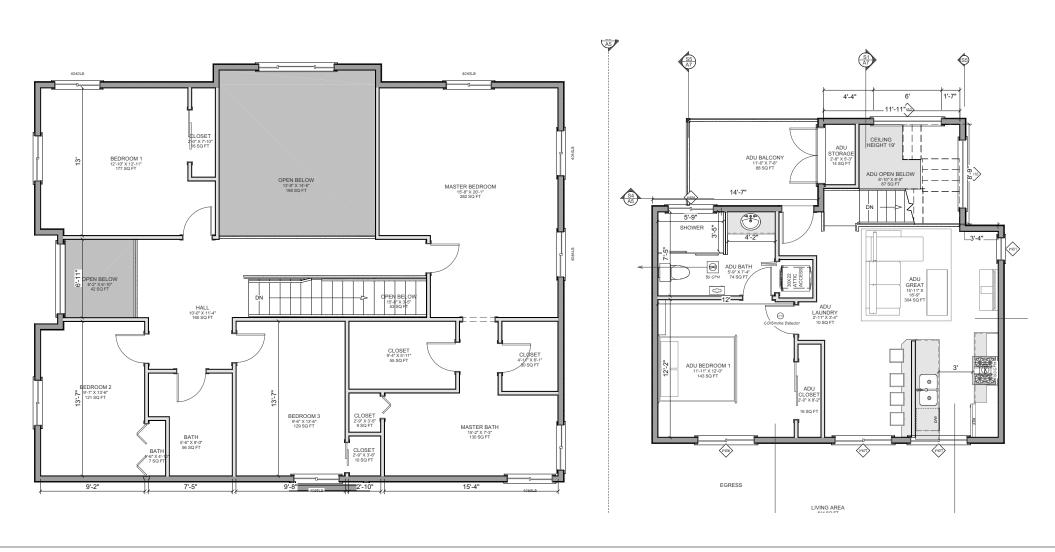
ADU LOWE	R FLOOR	
ROOM NAME	AREA, INTERIOR (SQ FT)	NOTES
ADU BATH	43.0	
ADU BEDROOM 1	90.0	
ADU CLOSET 1	13.0	
ADU HALL/ENTRY	78.0	
(CEILING HEIGHT MODIFIER)	26.0	GRAY AREA
TOTALS:	250.00	

ADU UPPER FLOOR			
ROOM NAME	AREA, INTERIOR (SQ FT)		
ADU BALCONY	88.0		
ADU BATH	72.0		
ADU BEDROOM 1	143.0		
ADU CLOSET	16.0		
ADU GREAT	307.0		
ADU LAUNDRY	10.0		
ADU STORAGE	14.0		
TOTALS:	650.0		

ADU TOTAL				
OOM NAME AREA, INTERIOR (SQ FT)				
OWER FLOOR	250.0 SF			
PPER FLOOR	650.0 SF			
OTAL:	900.0 SF			
OMPLIES				
	•			

GFA	TOTAL
EXISTING	NEW ADU
2,446 SF	900 SF
TOTAL:	3,346.0 SF
3,346 / 12,100 = 27.65%	COMPLIES







SHEE TIONS

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**HEAT PUMP SPECS: CREDITS CLAIMED** 

Make: MRCOOL

Model: DIY-18-HPWMAH-230C25

Energy Star Rated: HSPF 9

APPLIANCE SPECS.

Vent-less Dryer: Samsung DVE456100P Clothes Washer: Samsung WF45R6100AP Frigidaire FFEH3054U S/W/B Stove: Frigidaire FFHB2750T D/S/P/E Refrigerator: Frigidaire FFID2426T D/S Dish Washer:

Note: All Electric & Energy Star Rated

WATER HEATER SPECS.

Make: Rheem Model: RTEX-24

Type: Electric Tank less

**EFFICENT BUILDING ENVALOPE:** 1.00

TOTAL: 3.00 (Required 3.00)

Specification Sheets for all provided

**CHAPTER 1: ADMINISTRATION** 

### TITLE, SCOPE AND PURPOSE

- THIS COVERSHEET HAS BEEN PREPARED IN A GENERIC OUTLINE FORM FOLLOWING THE STANDARDS SET BY THE INTERNATIONAL RESIDENTIAL CODE (IRC). NOT ALL ITEMS ARE NECESSARILY REQUIRED TO COMPLETE THIS SPECIFIC PROJECT, COORDINATE PLANS
- THIS SET OF WORKING DRAWINGS IS CONSIDERED A "BUILDER SET" AND DOES NOT INCLUDE SPECIFICATIONS OR BUILDING MATERIALS LIST. THEREFORE IT IS THE CONTRACTOR/OWNER RESPONSIBILITY TO PROVIDE AND COORDINATE SPECIFICATIONS, INCLUDING PRODUCT SELECTION AND INSTALLATION OR ASSEMBLY. ITEMS CALLED OUT ARE DONE SO FOR CONVENIENCE ONLY.
- DO NOT SCALE THESE DRAWINGS FOR CRITICAL DIMENSIONS. VERIFY ALL DIMENSIONS AND DATUM'S BEFORE COMMENCING WORK AND BE RESPONSIBLE FOR THEIR ACCURACY AND REPORT DISCREPANCIES / OMISSIONS TO THE ARCHITECT

#### CHAPTER 3: BUILDING PLANNING

#### **DESIGN CRITERIA**

[B] R301.2 CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA. BUILDINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE IRC. ADDITIONAL CRITERIA SHALL BE ESTABLISHED BY THE LOCAL JURISDICTION AND SET FORTH IN TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA.

GROUND SNOW LOAD:	25
WIND SPEED:	DED CEDILOT
SEISMIC DESIGN CATEGORY:	PER STRUCT
SUBJECT TO DAMAGE FROM:	
WEATHERING:	MODERATE
FROST LINE DEPTH:	18"
TERMITE:	MODERATE
WINTER DESIGN TEMP:	26
ICE SHIELD UNDERLAYMENT REQUIRED:	NO
FLOOD HAZARDS:	
AIR FREEZING INDEX:	175
MEAN ANNUAL TEMP:	50.5

#### 301.4 DEAD LOAD.

THE ACTUAL WEIGHTS OF MATERIALS AND CONSTRUCTION SHALL BE USED FOR DETERMINING DEAD LOAD. DEAD LOADS USED FOR THIS PROJECT ARE AS FOLLOWS

	15 PSF
	12 PSF
	10 PSF
BO1.5 LIVE LOAD.	

#### THE MINIMUM UNIFORMLY DISTRIBUTED LIVE LOAD SHALL BE AS PROVIDED IN

TABLE R301.5 MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS

ATTICS WITH STORAGE:	20 PSF
WITHOUT STORAGE:	10 PSF
	40 PSF
EXTERIOR BALCONIES:	60 PSF
FIRE ESCAPES:	40 PSF
GUARDRAILS AND HANDRAILS:	200 PLF
GUARDRAIL IN-FILL COMPONENTS:	200 PLF
PASSENGER VEHICLE GARAGES:	200 PSF
ROOMS OTHER THAN SLEEPING ROOMS:	40 PSF
SLEEPING ROOMS:	30 PSF
	40 PSF

#### 301.6 ROOF LOAD. ROOF SHALL BE DESIGNED FOR THE LIVE LOAD INDICATED IN TABLE R301.6 THE SNOW LOAD INDICATED IN TABLE R301.2(1), WHICHEVER IS GREATER.

#### TABLE R301.6 MINIMUM ROOF LIVE LOADS IN POUNDS-FORCE PER SQUARE

ROOF SLOPF:	TRIBUTARY LOAD	DED AREA IN SQUAF	RE FEET FOR ANY
NOOT SECTE.	0 to 200	2001 to 600	Over 600
FLAT OR RISE LESS THAN 4" PER FOOT (1:3).	20	16	12
RISE LESS 4" PER FLOOR (1:3) to 12" PER FOOT (1:1).	16	14	12
RISE 12" PER FOOT (1:1) AND GREATER.	12	12	12

### 301.8 NOMINAL SIZES.

.WHERE DIMENSIONS OF LUMBER ARE SPECIFIED, THEY SHALL BE DEEMED TO BE NOMINAL DIMENSIONS UNLESS SPECIFICALLY DESIGNATED AS ACTUAL DIMENSIONS.

### 317.1 LOCATION REQUIRED.

IN AREAS SUBJECT TO DECAY DAMAGE AS ESTABLISHED BY TABLE R301.2(1)-LOCATIONS — REQUIRED BY SECTION R317.1, SHALL BE PRESERVATIVE-TREATED IN ACCORDANCE WITH AWPA U1 FOR THE SPECIES, PRODUCT, PRESERVATIVE AND END USE. PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AWPA U1 317.1.1 FIELD TREATMENT

FIELD-CUT ENDS, NOTCHES AND DRILLED HOLES OF PRESERVATIVE-TREATED WOOD SHALL BE TREATED IN THE FIELD IN ACCORDANCE WITH AWPA M4.

- 6.1 GENERAL ALL CUTS, HOLES AND INJURIES SUCH AS ABRASIONS OR HOLES FROM REMOVAL OF NAILS AND SPIKES WHICH MAY PENETRATE THE TREATED ZONE SHALL BE FIELD TREATED. AN AWPA ACCEPTED PRESERVATIVE SYSTEM,
- DETERMINED APPROPRIATE IN ACCORDANCE WITH AWPA M4 SECTION 7, SHALL BE USED FOR FIELD TREATMENT. APPLY PRESERVATIVES IN ACCORDANCE WITH THE PRODUCT LABEL. COAT ANY SURFACE THAT IS EXPOSED BY DAMAGE OR FIELD FABRICATION
- ANY EXCESS PRESERVATIVE NOT ABSORBED BY THE WOOD PRODUCT SHALL BE CLEANED FROM THE SURFACE PRIOR TO THE USE OF THE PRODUCT. BORED HOLES FOR CONNECTORS OR BOLTS MAY BE TREATED BY PUMPING COAL- TAR ROOFING CEMENT MEETING ASTM D5643 INTO HOLES USING A GREASE GUN OR SIMILAR DEVICE.
- CAREFUL ATTENTION SHOULD BE GIVEN TO MATERIALS PLACED INTO WET
- AREA TO BE TREATED SHALL BE CLEAN, DRY AND FREE OF EXCESS **PRESERVATIVE**

ARE SUITABLE ALTERNATIVES WHEN NO MATCH CAN BE FOUND.

WHILE NOT USING EXCESS PRESERVATIVE.

### 7.1 PRESERVATIVES

THE PRESERVATIVE SYSTEM FOR FIELD TREATMENT SHALL BE DETERMINED BY THE TYPE OF PRESERVATIVE ORIGINALLY USED TO PROTECT THE PRODUCT. THE PRESERVATIVES DESIGNATED IN AWPA M4 SECTIONS 7.1.1, AND 7.1.2

317.1.2 GROUND CONTACT

ALL WOOD IN CONTACT WITH THE GROUND SHALL BE APPROVED PRESSURE-PRESERVATIVE-TREATED WOOD SUITABLE FOR GROUND CONTACT USE

OF HOT-DIPPED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.

- ONE-HALF-INCH DIAMETER OR GREATER STEEL BOLTS.
  - FASTENERS OTHER THAN NAILS AND TIMBER RIVETS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B 695, CLASS 55 MINIMUM

#### **CHAPTER 4: FOUNDATIONS**

#### GENERAL

The Provisions set forth in Chapter 4 of the IRC shall control the design and CONSTRUCTION OF THE FOUNDATION AND FOUNDATION SPACES FOR ALL BUILDINGS. IN ADDITION TO THE PROVISIONS OF THIS CHAPTER, THE DESIGN AND CONSTRUCTION OF FOUNDATIONS IN AREAS PRONE TO FLOODING AS ESTABLISHED BY TABLE R301.2(1) SHALL MEET THE PROVISIONS OF SECTION R322.

#### 401.4 SOIL TESTS. IN AREAS LIKELY TO HAVE EXPANSIVE, COMPRESSIBLE, SHIFTING OR OTHER UNKNOWN SOIL CHARACTERISTICS, THE BUILDING OFFICIAL SHALL DETERMINE WHETHER TO REQUIRE A SOIL TEST TO DETERMINE THE SOIL'S CHARACTERISTICS AT A PARTICULAR LOCATION.

401.4.1 GEOTECHNICAL EVALUATION IN LIEU OF A COMPLETE GEOTECHNICAL EVALUATION, THE LOAD-BEARING VALUES IN TABLE R401.4.1 SHALL BE USED. TABLE R401.4.1 PRESUMPTIVE LOAD-BEARING VALUES OF FOUNDATIONS MATERIALS

CLASS OF MATERIAL	LOAD BEARING PRESSURE (PSF)
CRYSTALLINE BEDROCK	12,000
SEDIMENTARY AND FOLIATED ROCK	4,000
SANDY GRAVEL AND/OR GRAVEL (GW AND GP)	3,000
SAND, SILTY SAND, CLAYEY SAND, SILTY GRAVEL AND CLAYEY GRAVEL (SW,SP,SM,SC,GM & GC)	2,000***
CLAY, SANDY CLAY, SILTY CLAY, CLAYEY SILT, SILT AND SANDY SILT (CI,ML,MH & CH)	1,500

\*\*\*U.N.O. 2,000 PSF SOIL BEARING IS ASSUMED FOR THIS PROJECT. VERIFY WITH STRUCTURAL NOTES

#### R402 MATERIALS

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH AS SHOWN IN TABLE R402.2 . CONCRETE SUBJECT TO WEATHERING AS INDICATED IN TABLE R301.2(1) SHALL BE AIR ENTRAINED AS SPECIFIED IN TABLE R402.2

#### MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE

WINNIVION SI ECII IED COMI RESSIVE STRENGTH O	1 CONCILIE		
TYPE OF LOCATIONS OF CONC. CONSTRUCTION		ADED AREA IN STRUCTURAL	
	NEGLIGIBLE	MODERATE	SEVERE
BASEMENT WALLS, FNDN'S EXPOSED TO WEATHER.	2,500 psi	2,500 psi	2,500 psi
BASEMENT SLABS & INTERIOR SLABS ON GRADE, EXCEPT GAR. FLOOR SLABS.	2,500 psi	2,500 psi	2,500 psi
BASEMENT WALLS, FNDN WALLS, EXTERIOR WALLS EXPOSED TO WEATHER.	2,500 psi	3,000 psi	3,000 psi
PORCHES, CARPORT SLABS & STEPS EXPOSED TO WEATHER & GARAGE FLOOR SLABS.	2,500 psi	3,000 psi	3,500 psi

# **FOOTINGS**

ALL EXTERIOR WALLS SHALL BE SUPPORTED ON CONTINUOUS SOLID OR FULLY GROUTED MASONRY OR CONCRETE FOOTINGS, WOOD FOUNDATIONS, OR OTHER APPROVED STRUCTURAL SYSTEMS, WHICH SHALL BE OF SUFFICIENT DESIGN TO ACCOMMODATE ALL LOADS ACCORDING TO SECTION R301 AND BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R403, OF THE IRC . FOOTINGS SHALL BE SUPPORTED ON

### 403.1.4.1 FROST PROTECTION.

UNDISTURBED NATURAL SOILS OR ENGINEERED FILL.

FOOTINGS THAT EXTEND BELOW THE FROST LINE.

FOUNDATION WALLS, PIERS AND OTHER PERMANENT SUPPORTS OF BUILDINGS AND STRUCTURES SHALL BE PROTECTED FROM FROST BY EXTENDING FOOTINGS BELOW THE FROST LINE AS SPECIFIED IN TABLE R301.2(1);. EXCEPTION: DECKS NOT SUPPORTED BY A DWELLING NEED NOT BE PROVIDED WITH

# 403.1.6 FOUNDATION ANCHORAGE.

WHEN BRACED WALL PANELS ARE SUPPORTED DIRECTLY ON CONTINUOUS FOUNDATIONS, THE WALL WOOD SILL PLATE SHALL BE ANCHORED TO THE FOUNDATION IN ACCORDANCE WITH SECTION 403.1.6, OF THE IRC.

- SILL PLATE SHALL BE ANCHORED TO THE FOUNDATION WITH ANCHOR BOLTS SPACED A MAXIMUM OF 6 FEET ON CENTER. THERE SHALL BE A MINIMUM OF TWO BOLTS PER PLATE SECTION WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES FROM EACH END OF THE PLATE SECTION.
- BOLTS SHALL BE AT LEAST 1/2 INCH IN DIAMETER AND SHALL EXTEND A MINIMUM OF 7 INCHES INTO MASONRY OR CONCRETE SILLS AND SOLE PLATES SHALL BE PROTECTED AGAINST DECAY AND TERMITES
- WHERE REQUIRED BY SECTIONS R318 AND R319, OF THE IRC. EXCEPTION: FOUNDATION ANCHOR STRAPS, SPACED AS REQUIRED TO PROVIDE

### EQUIVALENT ANCHORAGE TO 1/2-INCH-DIAMETER ANCHOR BOLTS.

403.1.6.1 FOUNDATION ANCHORAGE IN SEISMIC DESIGN CATEGORIES DO, D1, D2, AND E. IN ADDITION TO THE REQUIREMENTS OF SECTION R403.1.6, THE FOLLOWING REQUIREMENTS SHALL APPLY TO WOOD LIGHT-FRAME STRUCTURES IN SEISMIC DESIGN

- CATEGORIES D1 AND D2. • 1/4" X 3" X 3" PLATE WASHERS CONFORMING TO <u>SECTION R602.11.1</u> SHALL BE
- USED ON EACH BOLT. INTERIOR BRACED WALL PLATES SHALL HAVE ANCHOR BOLTS SPACED AT NOT MORE THAN 6 FEET ON CENTER AND LOCATED WITHIN 12 INCHES FROM THE ENDS OF

EACH PLATE SECTION WHEN SUPPORTED ON A CONTINUOUS FOUNDATION.

- INTERIOR BEARING WALL SOLE PLATES SHALL HAVE ANCHOR BOLTS SPACED AT NOT MORE THAN 6 FEET ON CENTER AND LOCATED WITHIN 12 INCHES FROM THE ENDS OF EACH PLATE SECTION WHEN SUPPORTED ON A CONTINUOUS FOUNDATION. THE MAXIMUM ANCHOR BOLT SPACING SHALL BE 4 FEET FOR BUILDINGS OVER TWO
- STORIES IN HEIGHT. STEPPED CRIPPLE WALLS SHALL CONFORM TO <u>SECTION R602.11.3</u>

### FOUNDATION WALLS

CONCRETE AND MASONRY FOUNDATION WALLS SHALL BE SELECTED AND CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF <u>SECTION R404.1.3</u> OF THE IRC OR IN ACCORDANCE WITH ACI 318, NCMA TR68-A OR ACI 530/ASCE 5/TMS 402 OR OTHER APPROVED STRUCTURAL STANDARDS

**CHAPTER 5: FLOORS** 

WOOD SILL PLATES SHALL BE A MINIMUM OF 2-INCH BY 4-INCH NOMINAL LUMBER. SILL PLATE ANCHORAGE SHALL BE IN ACCORDANCE WITH SECTIONS R403.1.6 AND R602.11

#### R501

GENERAL

#### FLOOR CONSTRUCTION SHALL BE IN ACCORDANCE TO THE PROVISIONS SET FORTH IN CHAPTER 5 OF THE IRC.

FOR FLOOR CONSTRUCTION LOADING, SEE SECTION R301

#### CHAPTER 6: WALL CONSTRUCTION

WALL CONSTRUCTION SHALL BE IN ACCORDANCE TO THE PROVISIONS SET FORTH IN CHAPTER 6 OF THE IRC.

### FOR WALL CONSTRUCTION LOADING, SEE SECTION R301.

# R602.3. DESIGN & CONSTRUCTION

# SEE TABLE R602.3(1) ON THIS SHEET FOR FASTENER / NAILING SCHEDULE

#### EXTERIOR WINDOWS AND GLASS DOORS

THE PROVISIONS SET FORTH IN SECTION 613 OF THE IRC, SHALL CONTROL THE PERFORMANCE AND CONSTRUCTION REQUIREMENTS FOR EXTERIOR WINDOW SYSTEMS INSTALLED IN WALL SYSTEMS. WATERPROOFING, SEALING AND FLASHING SYSTEMS ARE NOT INCLUDED IN THE SCOPE OF THIS SECTION.

EXTERIOR WINDOWS AND DOORS SHALL BE DESIGNED TO RESIST THE DESIGN WIND LOADS SPECIFIED IN TABLE R301.2(2) ADJUSTED FOR HEIGHT AND EXPOSURE PER TABLE R301.2(3).

#### CHAPTER 7: WALL COVERING

#### R701 GENERAL

THE PROVISIONS SET FORTH IN CHAPTER 7 OF THE IRC, SHALL CONTROL THE DESIGN AND CONSTRUCTION OF THE INTERIOR AND EXTERIOR WALL COVERING FOR ALL BUILDINGS.

#### PRODUCTS SENSITIVE TO ADVERSE WEATHER SHALL NOT BE INSTALLED UNTIL ADEQUATE WEATHER PROTECTION FOR THE INSTALLATION IS PROVIDED. EXTERIOR SHEATHING SHALL BE DRY BEFORE APPLYING EXTERIOR COVER.

# CHAPTER 8: ROOF-CEILING CONSTRUCTION

# GENERAL

801.1 APPLICATION. THE PROVISIONS SET FORTH IN CHAPTER 8 OF THE IRC, SHALL CONTROL THE DESIGN AND CONSTRUCTION OF THE ROOF-CEILING SYSTEM FOR ALL BUILDINGS.

### 801.2 REQUIREMENTS

801.3 ROOF DRAINAGE.

ROOF AND CEILING CONSTRUCTION SHALL BE CAPABLE OF ACCOMMODATING ALL LOADS IMPOSED ACCORDING TO SECTION R301 AND OF TRANSMITTING THE RESULTING LOADS TO THE SUPPORTING STRUCTURAL ELEMENTS.

IN AREAS WHERE EXPANSIVE OR COLLAPSIBLE SOILS ARE KNOWN TO EXIST, ALL DWELLINGS

# SHALL HAVE A CONTROLLED METHOD OF WATER DISPOSAL FROM ROOFS THAT WILL

#### COLLECT AND DISCHARGE ALL ROOF DRAINAGE TO THE GROUND SURFACE AT LEAST 5 FEET FROM FOUNDATION WALLS OR TO AN APPROVED DRAINAGE SYSTEM. CHAPTER 9: ROOF ASSEMBLIES

### GENERAL

THE PROVISIONS SET FORTH IN CHAPTER 9 OF THE IRC, SHALL GOVERN THE DESIGN, MATERIALS, CONSTRUCTION AND QUALITY OF ROOF ASSEMBLIES.

### 2015 UNIFORM PLUMBING CODE

PROTECTION OF PIPING, MATERIALS, AND STRUCTURES

### SECTION 313.12 RATPROOFING

- STRAINER PLATES ON DRAIN INLETS SHALL HAVE 1/2-INCH OPENINGS MAX. METER BOXES SHALL BE CONSTRUCTED IN SUCH A MANNER THAT RATS CANNOT ENTER A BLDG BY FOLLOWING THE SERVICE PIPES FROM THE BOX INTO THE BLDG.
- WHERE OPENINGS HAVE BEEN MADE IN WALLS, FLOORS, OR CLGS FOR THE PASSAGE OF PIPES, SUCH OPENINGS SHALL BE CLOSED AND PROTECTED BY THE INSTALLATION OF APPROVED METAL COLLARS SECURELY FASTENED TO THE ADJOINING STRUCTURE.
- TUB WASTE OPENINGS IN FRAMED CONSTRUCTION TO CRAWL SPACES AT OR BELOW THE FIRST FLOOR SHALL BE PROTECTED BY THE INSTALLATION OF APPROVED METAL COLLARS OR METAL SCREEN, WITH 1/2-INCH OPENINGS MAX, AND SECURELY FASTENED TO THE ADJOINING STRUCTURE.

COMPLIANCE PATH PRESCRIPTIVE:

International Residential Code 2018 (IRC 2018) with MA State Amendments



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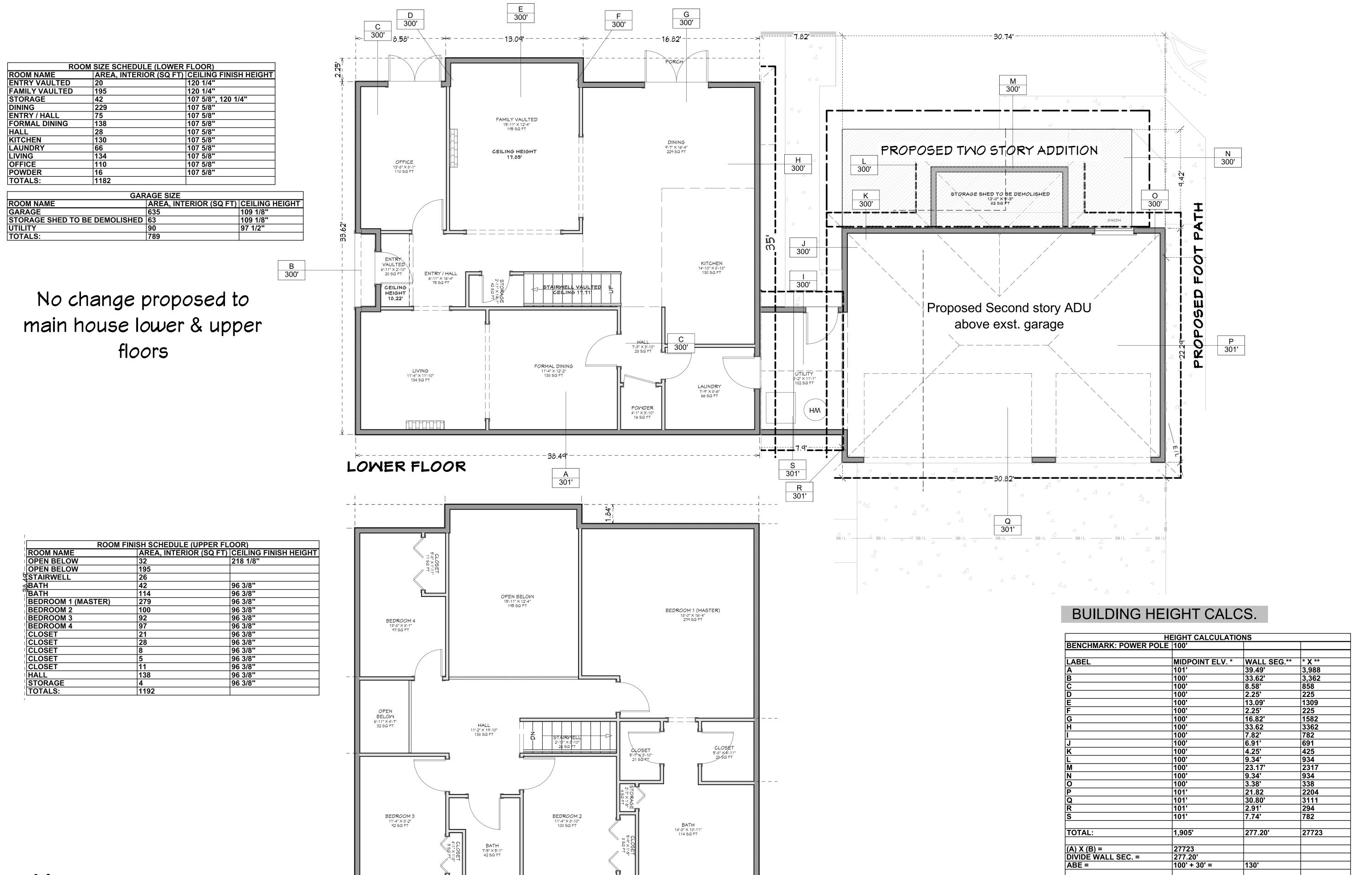
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UPPER FLOOR

AS BUILT

AS BUILT HEIGHT CALCULATIONS

**X** 

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A. Average Building Elevation (ABE) calculations located on sheet #:

127.21'

B. Allowable Building Height (ABE + 30 ft.)

C. Proposed Building Height D. Benchmark Elevation\*

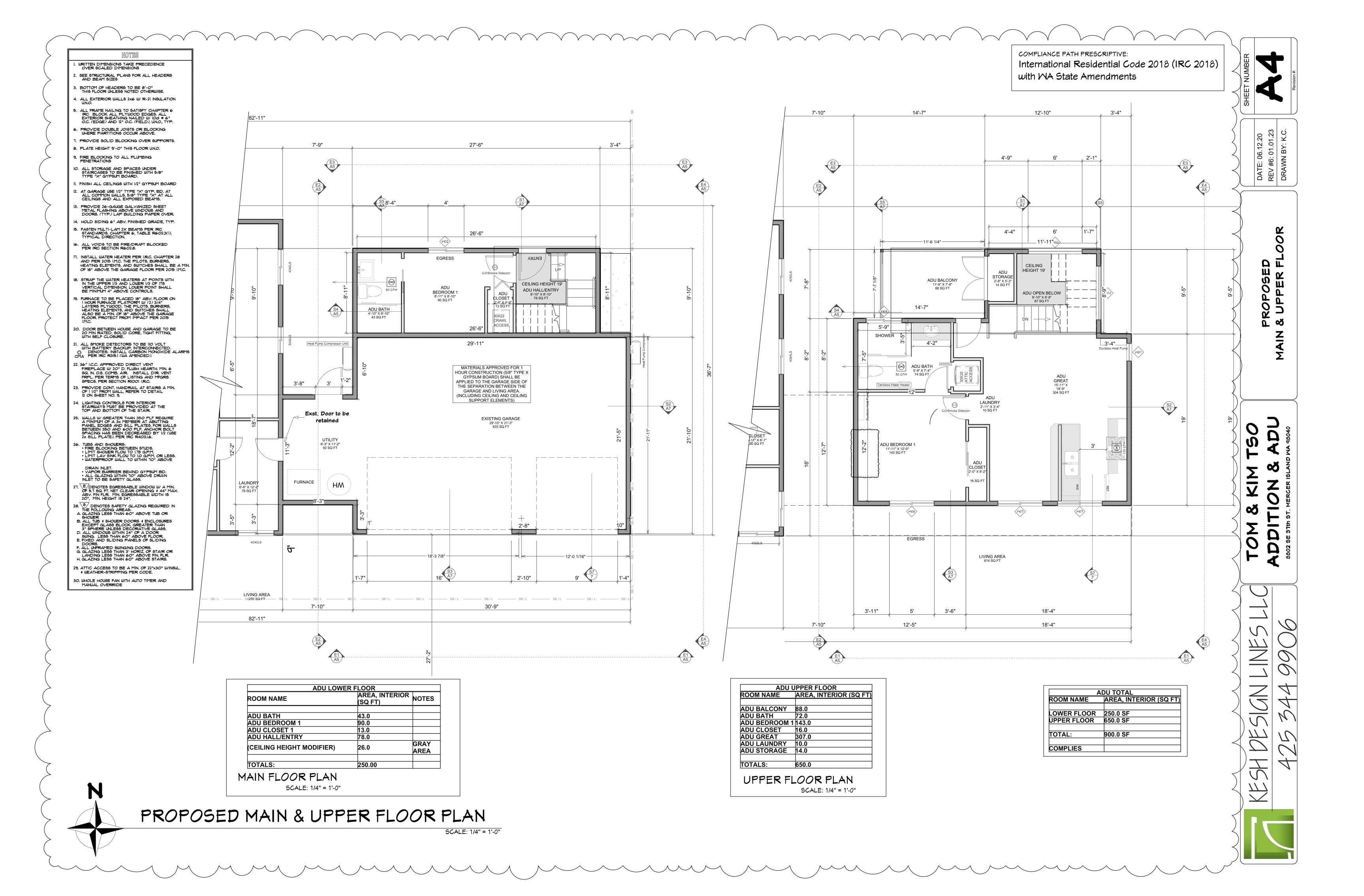
**EXIST. HOUSE HEIGHT:** 

PROPOSED ADU HEIGHT:

E. Describe Benchmark Location (must be undisturbed throughout project) Power Pole

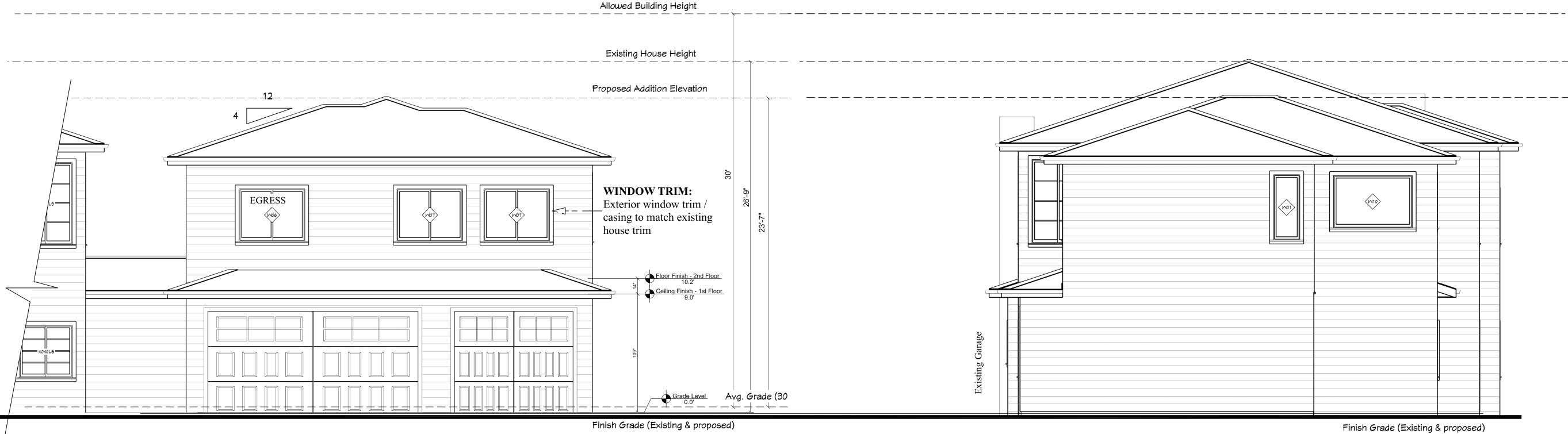
Feet 124.28 Feet

CONFORMS CONFORMS

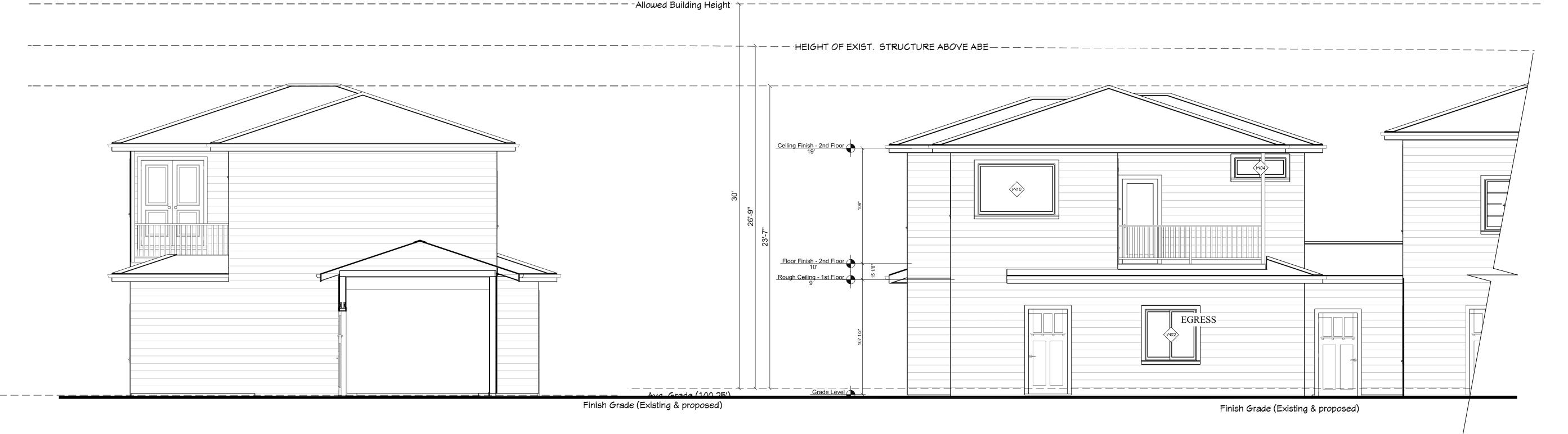








WEST ELEVATION SOUTH ELEVATION SCALE: 1/4" = 1'-0"



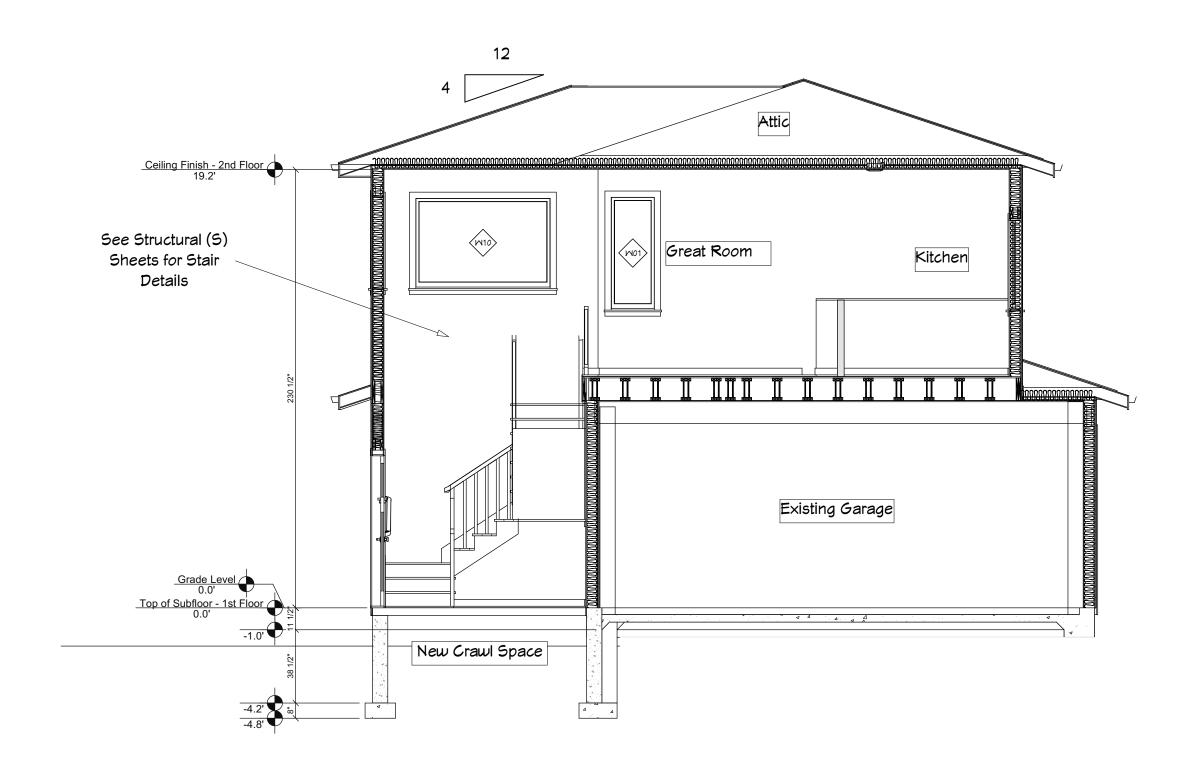




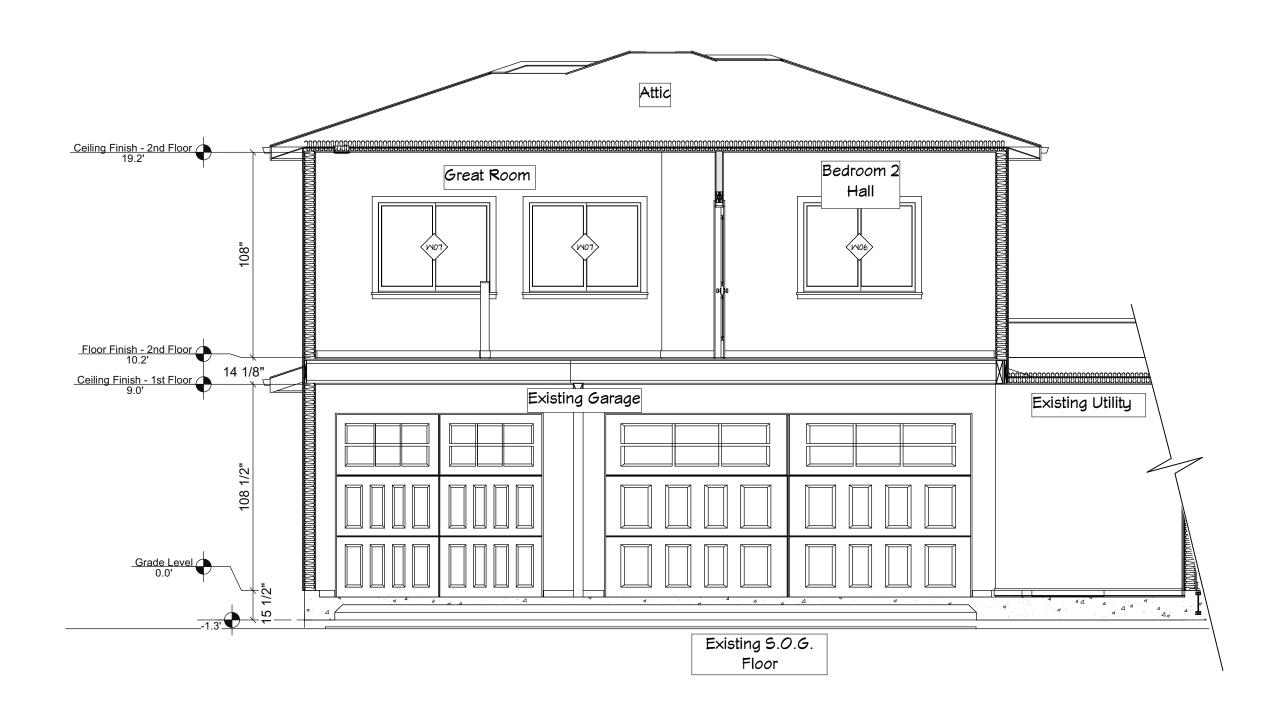
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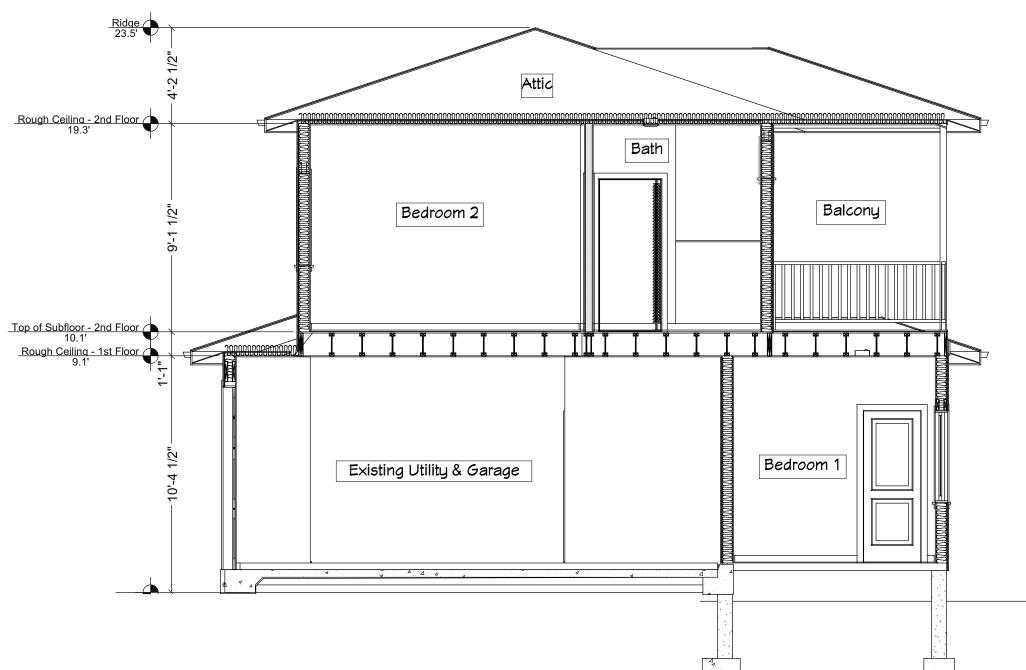
COMPLIANCE PATH PRESCRIPTIVE: International Residential Code 2018 (IRC 2018) with MA State Amendments



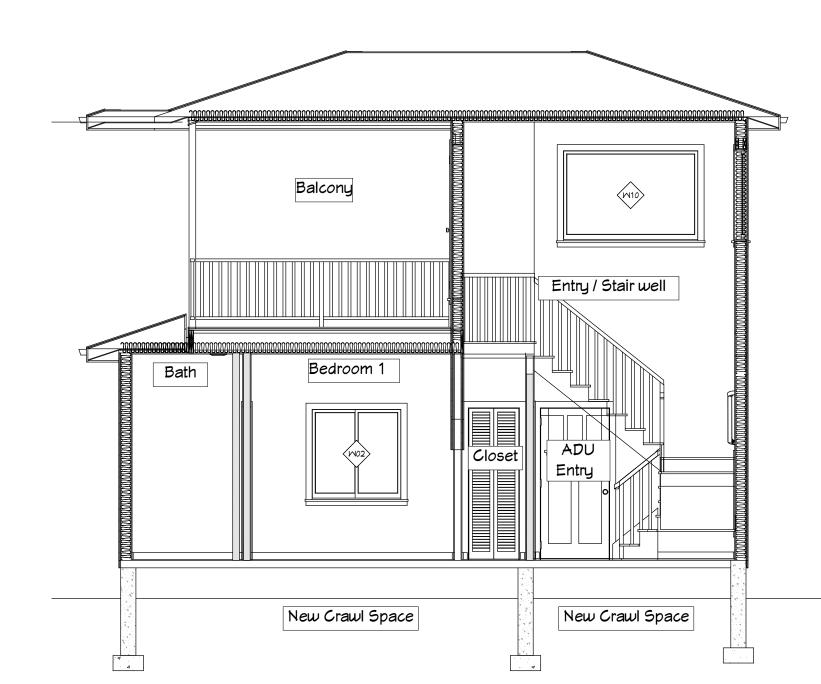














TYP. ROOF CONSTRUCTION:
Comp. Shingles to match existing house roof

1/2" CDX Plywood Per Manufactured Trusses @ 24" O.C.

er Manufactured Trusses @ 24 O.C.

R-49 Batt Insulation

Insulation Baffle Extended 12" Abv. Insul. 1 1/2" Clr. Airspace Provide Intake Vents (as detailed or similar)

Vented 2x Blocking w/ Toe Nail (Per IRC R806)

Hurricane Ties per Truss Manuf. Specs @ each truss Provide Screened soffit vents 1 sq.ft. per 150

Sq.ft. of attic area.( sq.ft).

# -UPPER FLOOR CEILING ASSEMBLY:

Bottom Truss Ceiling Min. R-49 Batt Insulation 1/2" GWB

# TYP. EXTERIOR WALL CONSTRUCTION:

Siding to match existing Wood Lap house siding.

5# felt building wrap

2x6 studs @ 16 OC (std framing)

Min. R-21 Batt Insulation (Heated Spaces)

1/2" GWB @ inside face per plan

# **-UPPER FLOOR ASSEMBLY:**

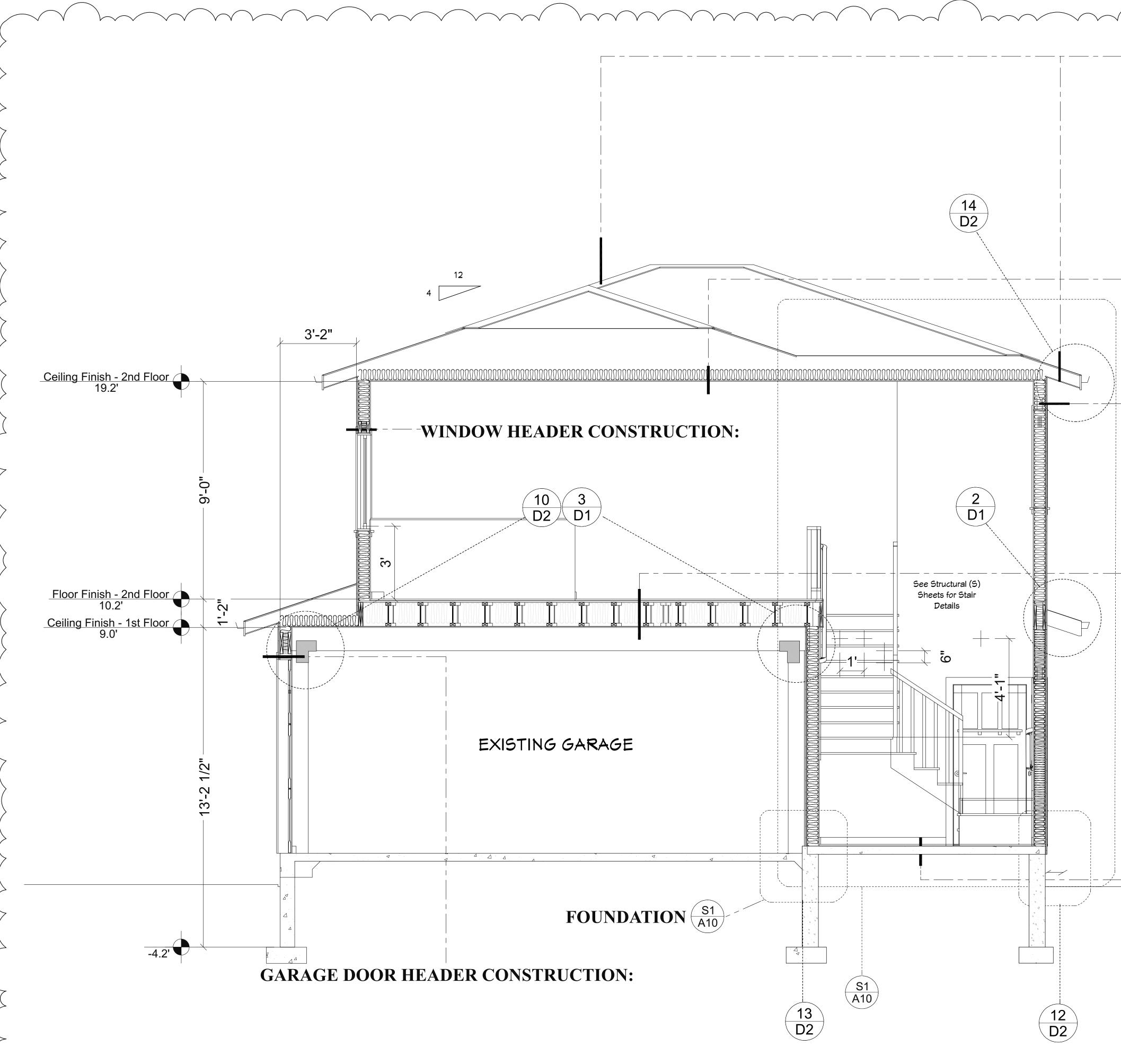
2x12 Floor Joists @ 24" O.C. per plan 5/8" T&G Plywood subfloor

# 1HR U311 STC 50 - CEILING ASSEMBLY

U311: Resilient furring channels attached 24" o.c. horizontally to one side of 2x4 wood studs 16" or 24" o.c. with 1-1/4" type W screws. 1/2" x 3" gypsum board filler strips attached to floor and ceiling plates with 1-1/4" type W screws 3'-0" o.c. 5/8" (15.9 mm) Fire-Shield C Gypsum Board applied horizontally to channel with 1" type S screws 12" o.c. on all edges and intermediate channels and attrached to top and bottom plates with 1-7/8" type S screws 12" o.c. Vertical butt joints between studs back-blocked with 20" long piece of resilient channel. 5/8" (15.9 mm) Fire-Shield C Gypsum Board applied horizontally on opposite side directly to wood studs with 1-1/4" type W screws spaced 12" o.c. Horizontall joints in line, vertical joints staggered each side. Mineral wool insulation 3" thick friction fit between studs.

# **FLOOR ASSEMBLY:**

Finish floor by owner
New S.O.G. Concrete floor
Min. R10 Rigid Insulation
Compact Crushed Rock

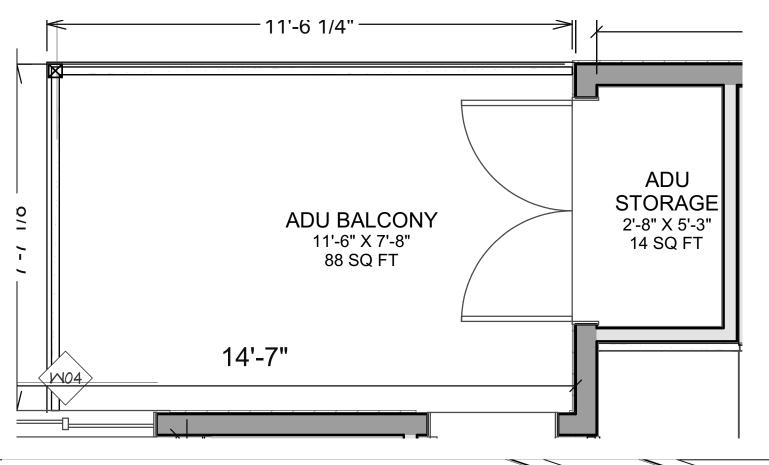


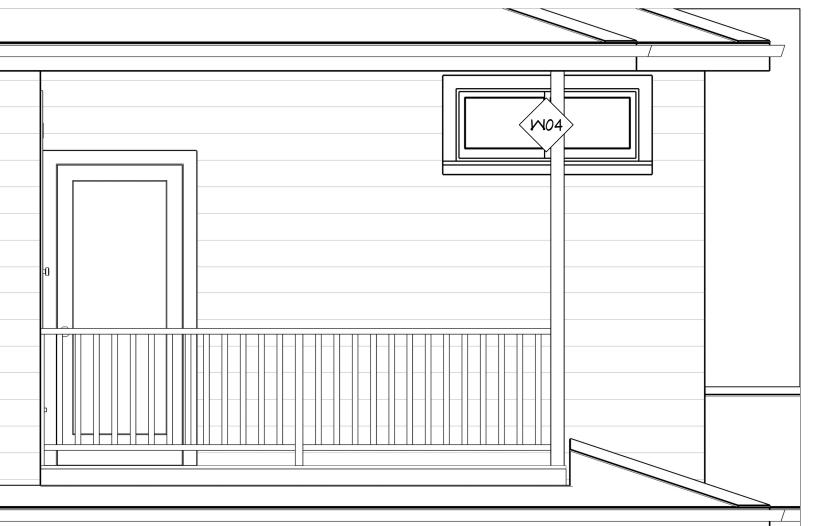
SECTION

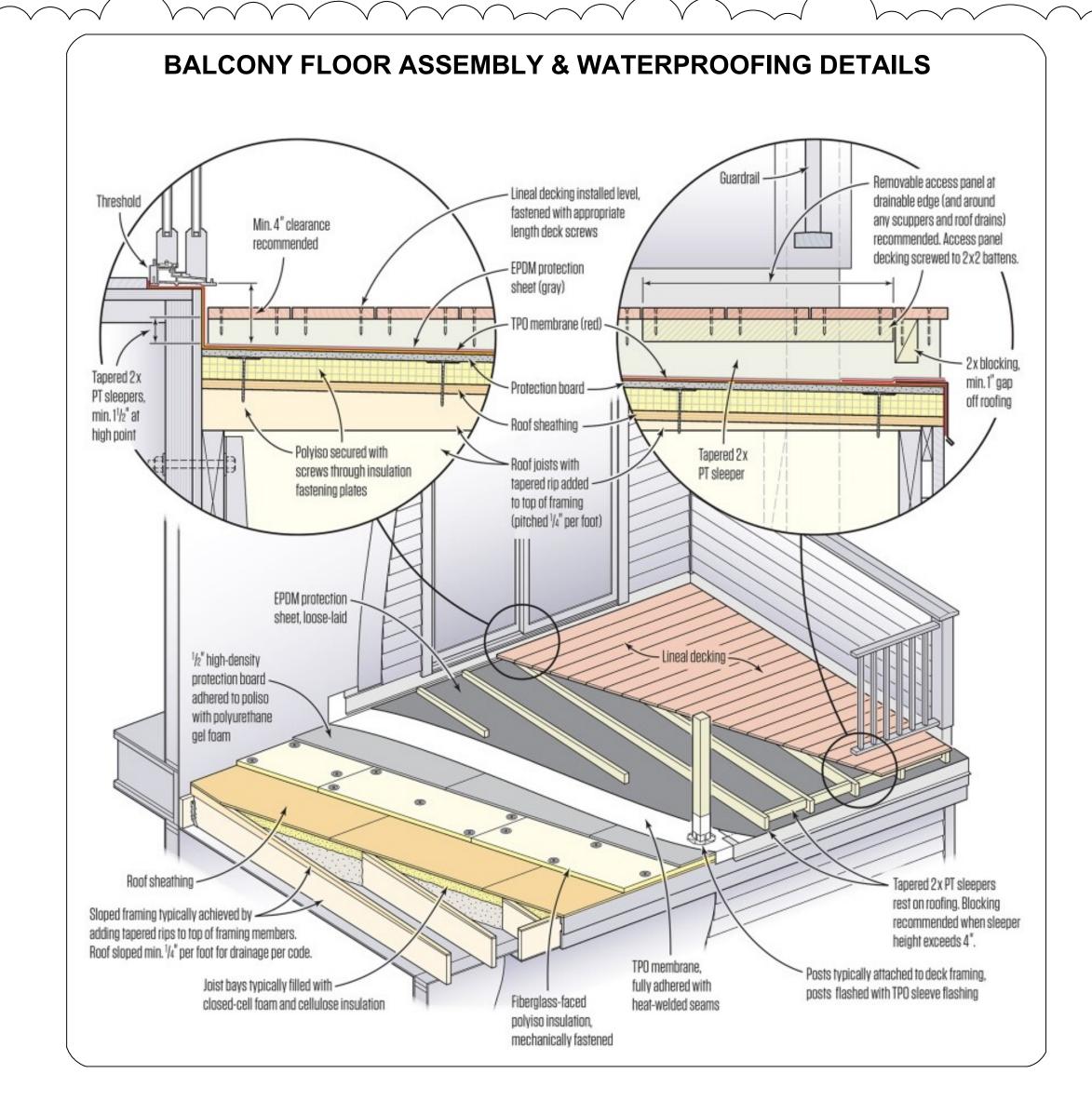
SCALE: 1/2" = 1'-0"

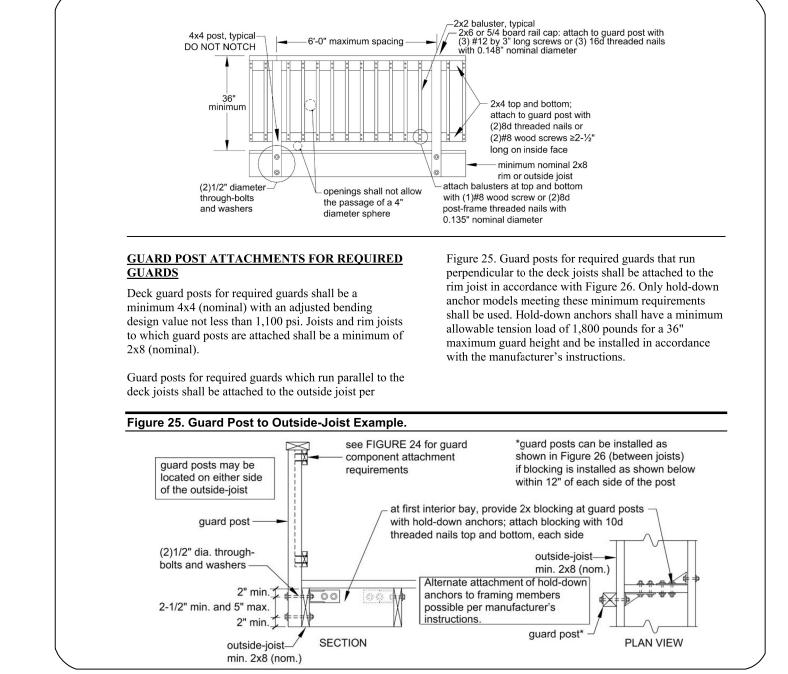
COMPLIANCE PATH PRESCRIPTIVE:
International Residential Code 2018 (IRC 2018)
with MA State Amendments

SEE NEW STRUCTURAL (S) SHEETS











1. GUARDRAILS TO BE 36" MIN. ABOVE FINISH FLOOR.

2. HANDRAILS TO BE 34" - 38" ABOVE NOSING, WITH HANDGRIP OF 1 1/2" - 2" IN

3. OPEN GUARDRAILS SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL PATTERN SUCH THAT A SPHERE 4" IN DIAMETER CANNOT PASS THROUGH.

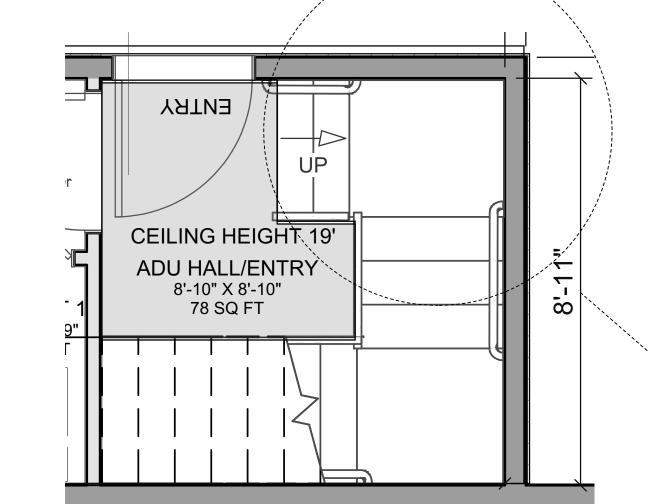
4. ONE HOUR FIRE SEPARATIONS BETWEEN GARAGE AND DWELLING: INSTALL 1/2" TYPE-X ON ALL WALLS AND CEILINGS, BEARING WALLS. STAGGER JOINTS FROM PLYWOOD BELOW WHERE APPLICABLE.

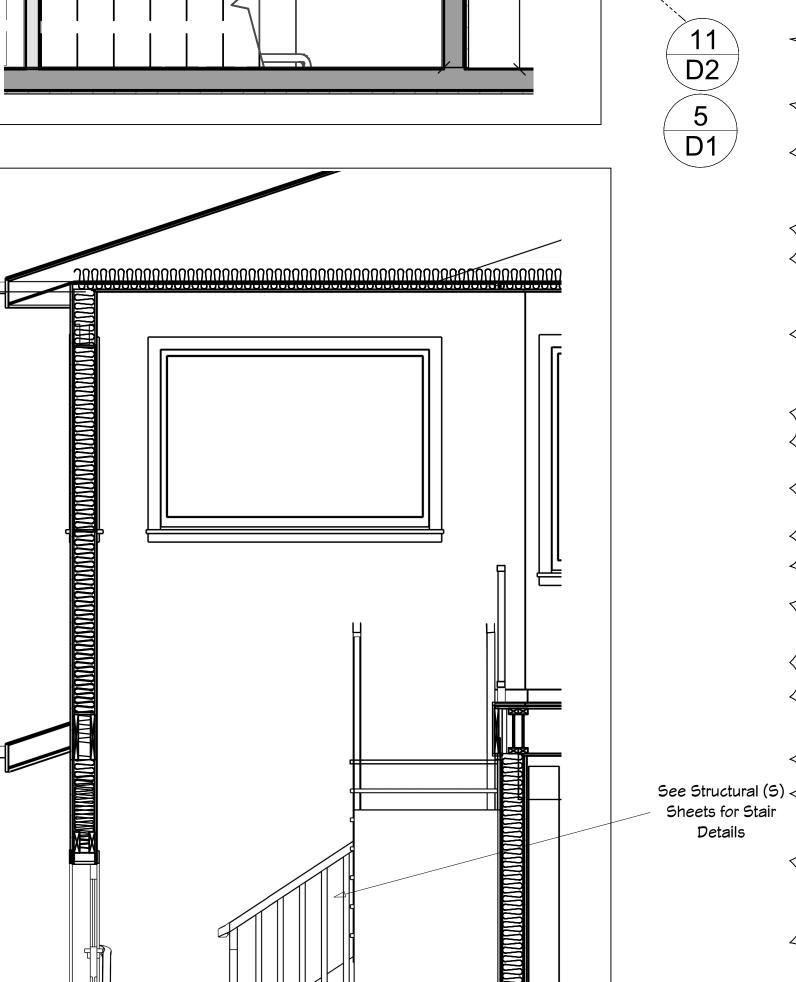
5. BEDROOM EMERGENCY EGRESS WINDOWS: MINIMUM NET CLEAR OPENING OF 5.7 SQ. FT., WIDTH OF 20" AND MINIMUM 24". MAXIMUM FINISHED SILL HEIGHT OF 44" ABOVE

6. EACH SLEEPING ROOM SHALL BE PROVIDED W/ A SMOKE DETECTOR (INTERCONNECTED) PER SECTION (F) R313.1. SMOKE DETECTORS SHALL BE PROVIDED W/ A BATTERY BACK-UP. PER SEC. (F) R313.1 AND, LOCATED PER SECTION (F) R313.1.

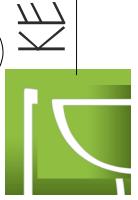
7. ANCHORED VENEER SHALL BE PROVIDED WITH #22 GA. X 3/4" CORROSION RESISTANT ANCHOR TIES. THE ANCHOR TIES SHALL BE SPACED A MAX. OF 24" O.C. AND SUPPORT NO MORE THAN 2 SQ. FT. OF VENEER. IN SEISMIC ZONE 3 & 4 THE EXTENDED LEG OF THE ANCHOR TIE SHALL LOOP AROUND A #9 GA. CONT. HORZ. JOINT REINFORCEMENT WIRE.







STAIR DETAILS



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- 2. ALL RAFTERS TO BE: 2x12 HF \*2 AT 24" O.C. TYPICAL UN.O.
- 3. ALL TRUSSES TO BE AT 24" O.C. TYPICAL UN.O.
- 4. PROVIDE ROOF VENTS PER SEC.
- 5. ROOF PITCH TO BE 4:12 PICAL
- UNLESS OTHERWISE NOTED. 6. 36" O.H. TYPICAL @ EAVES 4 6" O.H. TYPICAL @ GABLE ENDS, RAKES.
- · APPROVED ANCHORS SHALL BE USED AT ALL CONNECTIONS OF RAFTERS, JACK OR HIP TRUSSES TO MAIN GIRDER TRUSS (PER TRUSS MANUF.) WHERE APPLICABLE. PROVIDE "SIMPSON" HI FRAMING ANCHORS AT EVERY RAFTER/TRUSS AT EACH END AND AT GABLE END TRUSSES.
- 8. YENTED BLOCKING OVER SUPPORTS.
- 9. CHIMNEY HEIGHT TO BE 2'-O" MIN. ABOVE ANY PORTION OF BUILDING WITHIN 10'-O" PER IRC SECTION
- 0. Bracing: (STICK FRAMED AREAS ONLY) + (2) 2x4 UP TO 10' LONG.
- \* (2) 2x6 10' TO 14' LONG.
- \* (3) 2x6 OVER 14' LONG.
- 11. PLATE HEIGHTS:
- \* MAIN FLOOR 9'-O", TYP. UN.O. \* UPPER FLOOR 9'-O", TYP. U.N.O

#### 12. TRUSSES:

- \* CARRY MFGR. STAMP. \* DO NOT ALTER WITHOUT BUILDING
- DEPARTMENT APPROVAL \* INSTALL AND BRACE PER MFGR. SPEC. \* NON-BEARING WALLS SHALL BE HELD DOWN FROM THE TRUSS BOTTOM CHORDS WITH AN APPROVED FASTENER (SUCH AS SIMPSON STC).
- 13. CONTRACTOR TO VERIFY LOCATION OF ALL ROOF SUPPORT BRACING OR POSTING AND PROVIDE ADEQUATE BEARING TO FOUNDATION.
- 14. HANGERS AT POSITIVE CONNECTIONS TO BE SIMPSON OR EQUAL.

### TRUSS FRAMING NOTES

TRUSS ENGINEERING: PER IRC R802.10.1 TRUSS ENGINEER OF RECORD WHO WILL REVIEW, APPROVE AND NOTE ON THE DOCUMENTS THAT THEY HAVE FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE ENGINEER-APPROVED DOCUMENTS WILL THEN BE FORWARDED TO THE BUILDING OFFICIAL FOR REVIEW AND APPROVAL 'PRIOR TO FRAMING INSPECTION'. CITY APPROVED DOCUMENTS SHALL BE ON THE JOB SITE AT INSPECTIONS. TRUSS ENGINEERING SHALL INCLUDE SPECIFIC TRUSS BRACING REQUIREMENTS.

VENTILATION GALCULATIONS AND REQUIREMENTS

AT LEAST 40% & NOT MORE THAN 50% OF REQUIRED YENTS SHALL BE IN UPPER PORTION OF VENTILATED ROOF SPACE (MIN. 3' ABOVE EAVE OR CORNICE VENTS) WITH THE BALANCE OF REQUIRED YENTILATION PROVIDED BY EAVE VENTING.

PER IRC 806.1 ENCLOSED ATTICS AND ENCLOSED RAFTER SPACES FOR WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS SHALL HAVE CROSS VENTILATION OF EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW, VENTILATING OPENINGS SHALL BE PROVIDED WITH CORROSION RESISTANT WIRE MESH, WITH & "MIN & & "MAX OPENINGS" 1/8" MIN. \$ 1/4" MAX. OPENINGS.

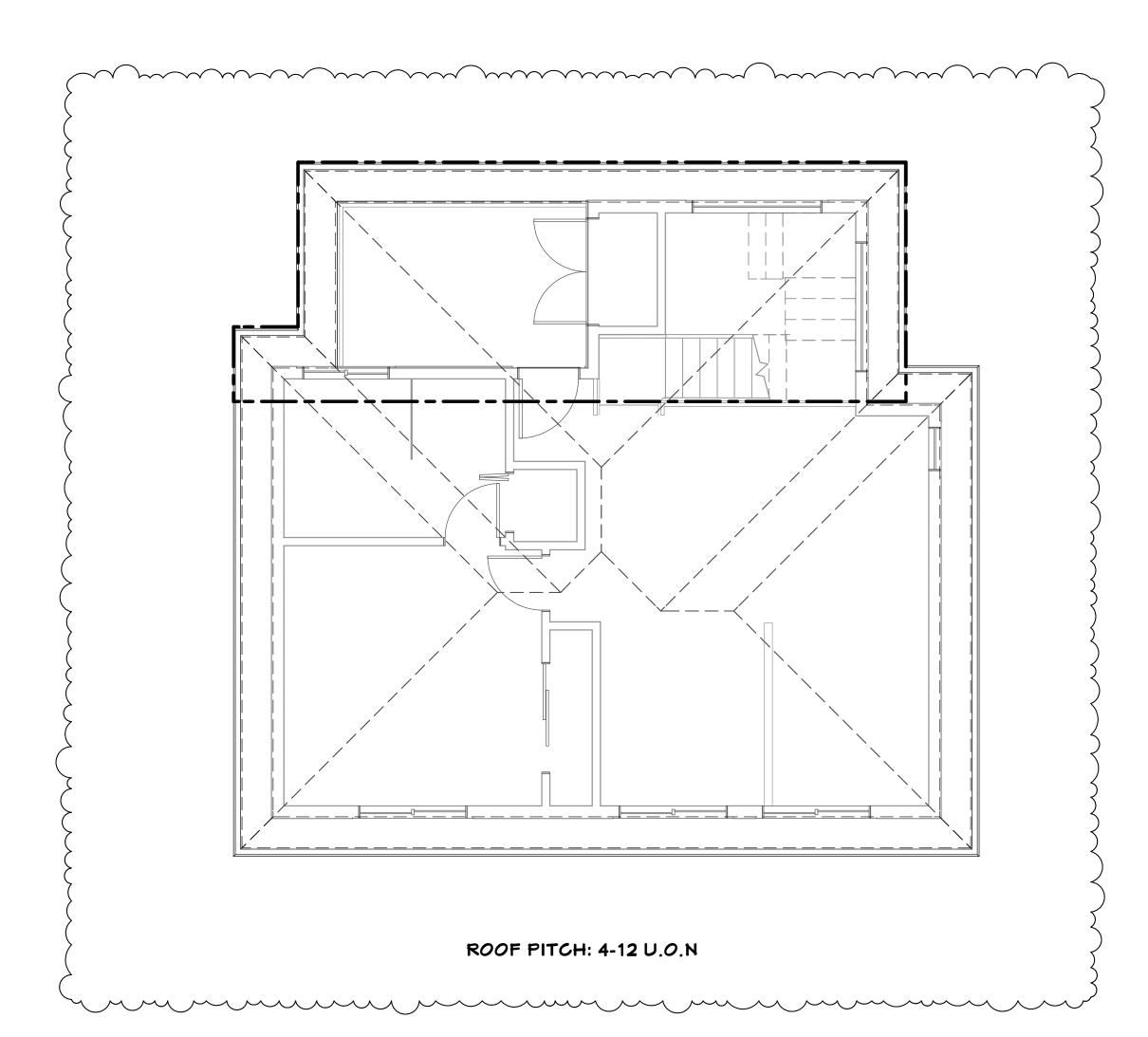
IF EAVE VENTS ARE INSTALLED INSULATION SHALL NOT OBSTRUCT THE FREE FLOW OF AIR (MIN. 1" SPACE BETWEEN INSULATION AND ROOF SHEATHING. OVENT LOCATION.

BAFFLING OF THE VENT OPENINGS SHALL BE INSTALLED. BAFFLES SHALL BE RIGID AND WIND-DRIVEN MOISTURE RESISTANT. IF FEASIBLE BAFFLES SHOULD BE INSTALLED FROM THE TOP OF THE OUTSIDE OF THE EXTERIOR WALL, EXTENDING INWARD, TO A POINT 6" VERTICALLY ABOVE THE HEIGHT OF NON-COMPRESSED INSULATION, \$ 12" VERTICALLY ABOVE LOOSE FILL INSULATION. (ALL CALCULATIONS WILL BE NET FREE AREA)

1444 \$Q. FT. OF ATTIC AREA/300=481 \$Q. FT. OF VENTILATION REQUIRED (694 \$Q. INCHES) HIGH VENT = 347 \$q. In. LOW VENT = 347 \$q. In.

NOTE: EAVE VENTING PROVIDED BY (3)-2" DIAMETER "BIRD HOLES" PER EAVE BLOCK (71/2" Sq. In. PER BLOCK).

NOTE: UPPER ROOF VENTING PROVIDED BY 1"X1" ROOF VENTS. (49 # IN. PER VENT)



SEE NEW STRUCTURAL (S) SHEETS

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# Per R802.10 Wood Trusses

SPECIFICATIONS.

#### ATTIC VENTILATION: AREA / 300

PROVIDE 1" MIN. AIR GAP AT **EAVES WITH INSULATION** BAFFLES TYP. AT ALL TRUSS BAYS.

GABLE ENDS.

PROVIDE GABLE VENTS ALL

PROVIDE GALV. ROOF **VENTS ON BACKSIDE OF** ROOFLINE ABOVE CONDITIONED AREA.

1. ALL TRUSSES SHALL CARRY MANUFACTURERS STAMP. 2. ALL TRUSSES SHALL BE INSTALLED & BRACED TO MANUFACTURERS

3. ALL TRUSSES WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPT. APPROVAL OF ENGINEERING CALCULATIONS. 4. ALL TRUSSES SHALL HAVE DESIGN DETAILS & DRAWINGS ON SITE FOR

5. NON BEARING WALLS SHOULD BE HELD DOWN FROM THE TRUSS BOTTOM CHORD W/ SIMPSON STC TO INSURE THAT THE TRUSS BOTTOM CHORD WILL

NOT BEAR ON THE WALL. 6. ALL CONNECTIONS OF RAFTERS, JACK OR HIP TRUSSES TO MAIN GIRDER

TO BE PROVIDED BY TRUSS MANUFACTURE.

7. ALL ROOF FRAMING 24" O.C.

8. ALL ROOF PITCH 8:12

9. SCISSORS TRUSS CEILING PITCH 2:12.

10. TRUSSES MANUFACTURED BY (TO BE DETERMINED) 11. ALL OVERHANGS 16".

FIREBLOCKING AND DRAFTSTOPPING

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

**ROOF PLAN** 

ROOF SPACE. FIREBLOCKING SHALL BE PROVIDED IN WOOD FRAME. CONSTRUCTION IN THE FOLLOWING LOCATIONS: 1) IN CONCEALED SPACED OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS AS FOLLOWS: A) VERTICALLY AT THE CEILING AND FLOOR LEVELS. B) HORIZONTALLY AT INTERVALS NOT EXCEEDING IO FEET.

2) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR IN SOFFITS, DROP CEILINGS, AND COVE CEILINGS. 3) IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R311.22. 4) AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APROVED

5) FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES SEE IRC SECTION RIOO3.19 FIREBLOCKING MATERIALS SHALL CONSIST OF MATERIAL LISTED IN IRC SECTION R602.8.1. LOOSE FILL INSULATION

PER IRC SECTION R502.12 DRAFTSTOPPING: WHEN THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED SPACE OF A FLOOR/CEILING ASSEMBLY, DRAFTSTOPS SHALL BE INSTALLED SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT EXCEED 1,000 SF. DRAFTSTOPPING SHALL DIVIDE THE CONCEALED SPACE INTO APROX. EQUAL AREAS. WHERE THE ASSEMBLY IS ENCLOSED BY A FLOOR MEMBRANE ABOVE AND A CEILING MEMBRANE BELOW DRAFTSTOPPING SHALL BE PROVIDED IN FLOOR/CEILING ASSEMBLIES UNDER THE FOLLOWING CIRCUMSTANCES:

2) FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN-WEB OR PERFORATED MEMBERS.

WOOD TRUSSES

TRUSSES SHALL BE DESIGNED BY A REGISTERED WASHINGTON STATE ENGINEER AND FABRICATED FROM ONLY THESE DESIGNS. TRUSSES TO BE STAMPED BY THE MANUFACTURER OR BY A QUALITY CONTROL AGENCY SUCH AS THE WASHINGTON STATE TRUSS FABRICATORS COUNCIL. ROOF TRUSS DESIGN SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION. NON-BEARING WALLS SHALL BE HELD AWAY FROM THE TRUSS BOTTOM CHORD WITH AN APPROVED FASTENER (SUCH AS SIMPSON STC) TO ENSURE THAT THE TRUSS BOTTOM CHORD WILL NOT BEAR ON THE WALL. APPROVED HANGERS SHALL BE USED AT ALL CONNECTIONS OF RAFTERS, JACK OR HIP TRUSSES TO THE MAIN GIRDER TRUSS. ALL ROOF TRUSSES SHALL BE FRAMED AND TIED INTO THE FRAME WORK AND SUPPORTING WALLS SO AS TO FORM AN INTEGRAL PART OF THE WHOLE BUILDING. ROOF TRUSSES SHALL HAVE JOINTS WELL FITTED AND SHALL HAVE ALL TENSION MEMBERS WELL TIGHTENED BEFORE ANY LOAD IS PLACED UPON THE TRUSS. DIAGONAL AND SWAY BRACING SHALL BE USED TO BRACE ALL TRUSSES. TRUSSES SHALL BE DESIGNED FOR UNIFORM LOADING AS FOLLOWS:

TOP CHORD 35 PSF OF TRIBUTARY AREA BOTTOM CHORD 10 PSF OF TRIBUTARY AREA 45 PSF TOP CHORD AND 5 PSF BOTTOM CHORD TILE ROOF

5/8" FORE CLAY (OR EQUIVALENT) PER IRC SECTION RIOO1.8

PER IRC SECTION R602.6 FIREBLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED VERTICAL AND HORIZONTAL DRAFT OPENINGS AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES AND BETWEEN A TOP STORY AND THE

MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION.

6) FIREBLOCKING OF CORNICES OF A TWO FAMILY DWELLING IS REQUIRED AT THE LINE OF DWELLING UNIT SEPERATION. MATERIAL SHALL NOT BE USED AS A FIREBLOCK UNLESS SPECIFICALLY TESTED IN THE FORM AND MANNER INTENDED. THE INTEGRITY OF ALL FIREBLOCKS SHALL BE MAINTAINED.

1) CEILING IS SUSPENDED UNDER THE FLOOR FRAMING.

DRAFTSTOPING MATERIALS SHALL CONSIST OF MATERIALS LISTED IN IRC SECTION R502.12.1.

SEE NEW STRUCTURAL (S) SHEETS

ROOM NAME	NUMBER	QTY	FL00R	MIDTH		EGK	TEM		U-FACTOR	3D EXTERIOR ELEVATION
ADU GREAT	M01	1	2	24"	60"			SINGLE CASEMENT-HR	0.28	
ADU BEDROOM 1	M02	1	1	48"	48"	YES		LEFT SLIDING	0.28	
ADU BATH/ADU BALCONY	M04	1	2	48"	19"			LEFT SLIDING	0.28	
ADU BEDROOM 1	M06	1	2	60"	48"	YES		RIGHT SLIDING	0.28	
ADU GREAT	MOT	2	2	60"	48"	YES		RIGHT SLIDING	0.28	
ADU OPEN BELOW	M10	2	2	72"	48"		YES	FIXED GLASS	0.28	

DOORS AND WINDOWS

DOORS TO THE EXTERIOR SHALL HAVE MAX. 7 3/4" STEP TO MIN 36" DEEP X ( 12" + OPERABLE DOOR WIDTH) MIN. LANDING ALL GLAZING TO BE PER WSEC TABLE 6-1 UNLESS NOTED

ALL SKYLIGHTS AND SKYWALLS TO BE SAFETY LAMINATED GLASS UNLESS NOTED OTHERWISE. FRENCH DOORS TO BE DOUBLE GLAZED NON TESTED ASSUMED U VALUE OF .90, UNLESS NOTED OTHERWISE, WITH SAFETY GLAZING.

FACTORY BUILT WINDOWS TO BE CONSTRUCTED TO PERMIT MAXIMUM INFILTRATION OF 0.5 CFM PER LINEAL FOOT OF OPERABLE SASH PERIMETER AS TESTED BY STANDARD ASTM E 283.13, SITE BUILT AND MILL WORK SHOP BUILT WOODEN SASH ARE EXEMPT FROM INFILTRATION CRITERIA ABOVE: BUT MUST BE MADE TIGHTLY FITTING AND WEATHER STRIPPED OR CAULKED.

SLIDING GLASS DOORS TO PERMIT MAXIMUM INFILTRATION OF 0.5 CFM INFILTRATION PER SQUARE FOOT OF DOOR AREA. EACH LIGHT SHALL BEAR THE MANUFACTURER'S LABEL DESIGNATING THE TYPE AND THICKNESS OF GLASS. IDENTIFICATION OF GLAZING, IN HAZARDOUS LOCATIONS SHALL BE IN ACCORDANCE WITH IRC, SECTION (B) 308.4

PROVIDE SOLID CORE DOORS @ ENTRY AND FROM GARAGE TO LIVING AREAS ( AS WELL AS ANY OTHER DOORS TO THE EXTERIOR: PROVIDE SELF-CLOSURE DEVICE ON DOOR TO GARAGE, PER IRC. SEE PLANS FOR:

- MAXIMUM GLAZING AREA. - GLAZING MFG. AND MODEL NUMBERS. - WEIGHTED UA CALCULATION FOR SUB-STANDARD GLAZING.

SAFETY GLAZING LOCATIONS AS PER IRC SECTION (B) 308.4:

INGRESS AND EGRESS DOORS

2. SLIDING GLASS DOORS, SWINGING GLASS DOORS 3. SHOWER AND BATHTUB ENCLOSURES 4. GLAZING W/ THE EXPOSED EDGE WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF A DOOR IN THE CLOSED POSITION, & BOTTOM EDGE IS LESS THAN 60" ABOVE THE WALKING SURFACE 5. GLAZING GREATER THAN 9 S.F. LESS THAN 18" ABOVE FINISHED FLOOR

6. GLAZING IN GUARDRAILS 7. GLAZING IN STAIRWELLS AND WITHIN 3' OF TOP / BOTTOM OF STAIRS.

UNLESS NOTED OTHERWISE, INSULATION TO BE PER WSEC TABLE 6-1 INSULATION BAFFLES TO MAINTAIN I" ABOVE INSULATION BAFFLES TO EXTEND 6" ABOVE BATT INSULATION.

BAFFLES TO EXTEND 12" ABOVE LOOSE FILL INSULATION. INSULATE BEHIND TUBS/SHOWERS, PARTITIONS AND CORNERS.

FACE STAPLE BATTS
FRICTION FIT FACED BATTS
USE 4 MIL POLY VAPOR RETARDER AT WALLS

USE PVA PAINT WITH A DRY CUP PERM RATING OF 1 MAX.

WALLS BETWEEN HOUSE AND GARAGE HAVE TO HAVE R-21 U.N.O. FLOORS ABV CRAWL SPACES, GARAGE, OR AT CANTILEVERS OVER GRADE HAVE TO HAVE

R-30 UN.O.

- ALL ATTIC AT CEILINGS HAVE TO HAVE R-38 (MIN.) UN.O.

- DUCTS IN UNHEATED SPACES HAVE TO HAVE R-8

- GAS WATER HEATERS SHALL MEET REQUIREMENTS OF 2012 UPC AND BE SO LABELED.

MISCELLANEOUS NOTES

1. GUARDRAILS TO BE 36" MIN. ABOVE FINISH FLOOR.

2. HANDRAILS TO BE 34" - 38" ABOVE NOSING, WITH HANDGRIP OF 1 1/2" - 2" IN

3. OPEN GUARDRAILS SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL PATTERN SUCH THAT A SPHERE 4" IN DIAMETER CANNOT PASS THROUGH.

4. ONE HOUR FIRE SEPARATIONS BETWEEN GARAGE AND DWELLING: INSTALL 1/2" TYPE-X ON ALL WALLS AND CEILINGS, BEARING WALLS. STAGGER JOINTS FROM PLYWOOD BELOW WHERE

5. BEDROOM EMERGENCY EGRESS WINDOWS: MINIMUM NET CLEAR OPENING OF 5,7 SQ. FT., WIDTH OF 20" AND MINIMUM 24". MAXIMUM FINISHED SILL HEIGHT OF 44" ABOVE

6. EACH SLEEPING ROOM SHALL BE PROVIDED W/ A SMOKE DETECTOR (INTERCONNECTED) PER SECTION (F) R313.1. SMOKE DETECTORS SHALL BE PROVIDED W/ A BATTERY BACK-UP. PER SEC. (F) R313.1 AND, LOCATED PER SECTION (F) R313.1.

7. ANCHORED VENEER SHALL BE PROVIDED WITH #22 G.A. X 3/4" CORROSION RESISTANT ANCHOR TIES. THE ANCHOR TIES SHALL BE SPACED A MAX. OF 24" O.C. AND SUPPORT NO MORE THAN 2 SQ. FT. OF VENEER. IN SEISMIC ZONE 3 & 4 THE EXTENDED LEG OF THE ANCHOR TIE SHALL LOOP AROUND A \*9 GA, CONT. HORZ, JOINT REINFORCEMENT WIRE.

#### 2018 Washington State Energy Code – Residential Prescriptive Energy Code Compliance for All Climate Zones in Washington Single Family – New & Additions (effective February 1, 2021)

These requirements apply to all IRC building types, including detached one- and two-family dwellings and multiple single-family dwellings (townhouses).

Project Information Contact Information 8802 SE 37th ST. MERCER ISLAND WA 98040 Kesh Chavda - KDL Designs LLC

Instructions: This single-family project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

Authorized Representative	Kesh Chavda	<b>Date</b> 04/12/2022
	All Climate Zones (Table R402.1.1)	
	R-Value a	U-Factor <sup>a</sup>
Fenestration U-Factor <sup>b</sup>	n/a	0.30
Skylight U-Factor <sup>b</sup>	n/a	0.50
Glazed Fenestration SHGC b,e	n/a	n/a
Ceiling <sup>e</sup>	49	0.026
Wood Frame Wall <sup>g,h</sup>	21 int	0.056
Floor	30	0.029
Below Grade Wall c,h	10/15/21 int + TB	0.042
Slab <sup>d,f</sup> R-Value & Depth	10, 2 ft	n/a

- R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity that is less a than the label or design thickness of the insulation, the compressed R-value of the insulation from Appendix
- Table A101.4 shall not be less than the *R*-value specified in the table.
- b The fenestration *U*-factor column excludes skylights. "10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at c the interior of the basement wall. "10/15/21 +5TB" shall be permitted to be met with R-13 cavity insulation on
- the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.
- d R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1. For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth
- extends over the top plate of the exterior wall.
- R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter f slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.
- For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for climate zone 5 of ICC 400.
- Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard h framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10

Prescriptive Path – Single Family

2018 Washington State Energy Code-R

2018 Washington State Energy Code – Residential Prescriptive Energy Code Compliance for All Climate Zones in Washington

Single Family – New & Additions (effective February 1, 2021) Each dwelling unit in a residential building shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence

1. Small Dwelling Unit: 3 credits

Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area. Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.

2. Medium Dwelling Unit: 6 credits

All dwelling units that are not included in #1 or #3 3. Large Dwelling Unit: 7 credits

Dwelling units exceeding 5,000 sf of conditioned floor area

4. Additions less than 500 square feet: 1.5 credits All other additions shall meet 1-3 above

Before selecting your credits on this Summary table, review the details in Table 406.3 (Single Family), on page 4.

Heating		Credits -	select ONE	
Options	FUEL Normalization Descriptions		g option	User Notes
1	Combustion heating minimum NAECAb	0.0		
2	Heat pump <sup>c</sup>	1.0	•	
3	Electric resistance heat only - furnace or zonal	-1.0		
4	DHP with zonal electric resistance per option 3.4	0.5		
5	All other heating systems	-1.0		
Energy Options	Energy Credit Option Descriptions	energy opti	select ONE on from each gory <sup>d</sup>	
1.1	Efficient Building Envelope	0.5		
1.2	Efficient Building Envelope	1.0		
1.3	Efficient Building Envelope	0.5	•	
1.4	Efficient Building Envelope	1.0		
1.5	Efficient Building Envelope	2.0		
1.6	Efficient Building Envelope	3.0		
1.7	Efficient Building Envelope	0.5		
2.1	Air Leakage Control and Efficient Ventilation	0.5		
2.2	Air Leakage Control and Efficient Ventilation	1.0		
2.3	Air Leakage Control and Efficient Ventilation	1.5		
2.4	Air Leakage Control and Efficient Ventilation	2.0		
3.1 <sup>a</sup>	High Efficiency HVAC	1.0		
3.2	High Efficiency HVAC	1.0		
3.3ª	High Efficiency HVAC	1.5		
3.4	High Efficiency HVAC	1.5		
3.5	High Efficiency HVAC	1.5		
3.6ª	High Efficiency HVAC □	2.0		
4.1	High Efficiency HVAC Distribution System	0.5		
4.2	High Efficiency HVAC Distribution System	1.0		

escriptive Path – Single Family	2018 Washington State Energy Code-R

2018 Washington State Energy Code – Residential Prescriptive Energy Code Compliance for All Climate Zones in Washington Single Family – New & Additions (effective February 1, 2021)

	Summary of Table	R406.2 (co	nt.)		
Energy Options	Energy Credit Option Descriptions (cont.)	energy op	elect ONE otion from tegory d	User N	otes
5.1 <sup>d</sup>	Efficient Water Heating	0.5			
5.2	Efficient Water Heating	0.5			
5.3	Efficient Water Heating	1.0	•		
5.4	Efficient Water Heating	1.5			
5.5	Efficient Water Heating	2.0			
5.6	Efficient Water Heating	2.5			
6.1 <sup>e</sup>	Renewable Electric Energy (3 credits max)	1.0			
7.1	Appliance Package	0.5	V		
	Total Credits		3.0	Calculate Total	Clear Form

- a. An alternative heating source sized at a maximum of 0.5 W/sf (equivalent) of heated floor area or 500 W, whichever is bigger, may be installed in the dwelling unit.
- b. Equipment listed in Table C403.3.2(4) or C403.3.2(5)
- c. Equipment listed in Table C403.3.2(1) or C403.3.2(2) d. You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined
- with options 5.2 through 5.6. See Table 406.3. e. 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max.
- See the complete Table R406.2 for all requirements and option descriptions. f. Use the single radiobutton in the upper right of the second column to deselect radiobuttons in that group.

ase print only pages 1 through 3 of this worksheet for submission to your building

or Building Of	fficials Only			
or Building Of	inclais Offiy			

NOTE: See Sheet A.02 for:

APPLIANCE SPECS. HEAT PUMP SPECS. WATER HEATER SPECS.



06.12.20 6: 01.01.23 IN BY: K.C.

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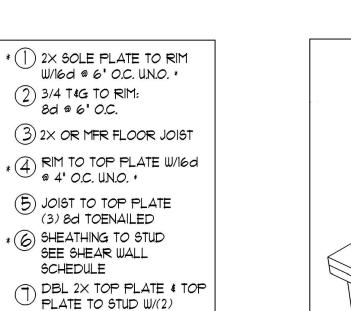


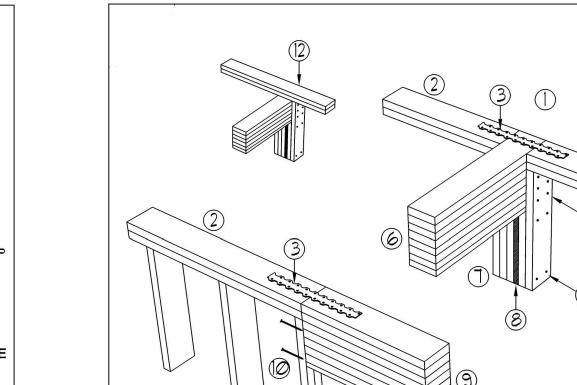


Ш 0 S

**X** Ø 10X







(8) 2× ALIGN STUD W/ FLOOR JOIST (9) MULTIPLE STUDS FOR POINT LOAD FROM ABOVE (10) SQUASH BLOCKS REQUIRED UNDER ALL

POINT LOADS (11) RIM BOARD TO FLOOR JOIST W/(3) 16d 12 LTP4 PER SHEARWALL

(2) 3/4 T&G TO RIM:

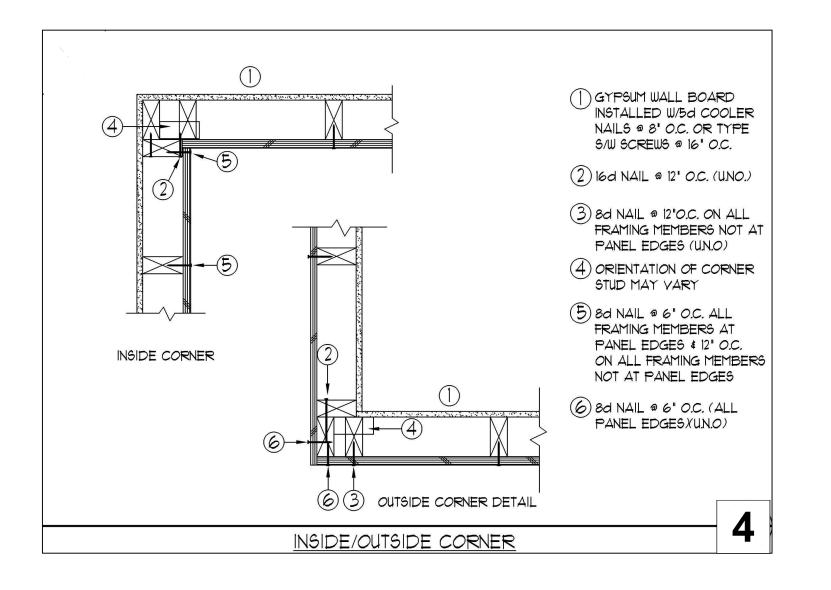
8d @ 6" O.C.

(3) 8d TOENAILED

SEE SHEAR WALL

SCHEDULE

16d a 16' O.C.



ROOF SHEATHING

PER ENGINEERING

STAGGER SHEATHING

1/8' GAP REQUIRED

BETWEEN SHEETS

(2) 8d NAILS @ 6" O.C. AT

"BIRD BLOCKING"

PLATE

SHEATHING BREAK

(3) EXTEND WALL SHEATHING

4) SIMPSON HI, SDWC 6", OR

TO TOP OF DOUBLE TOP

TLOCOG @ EACH TRUSS TO

RAFTER PERPENDICULAR

TOP PLATE INTERSECTION

U.N.O. (2) H2.5A FOR MULTI

PLY OR MULTI SDWC OR

MFR TRUSSES @ 24" O.C. W/

NAIL W/ 8d @ 6" O.C. FOR

PANEL EDGES AND 12 O.C.

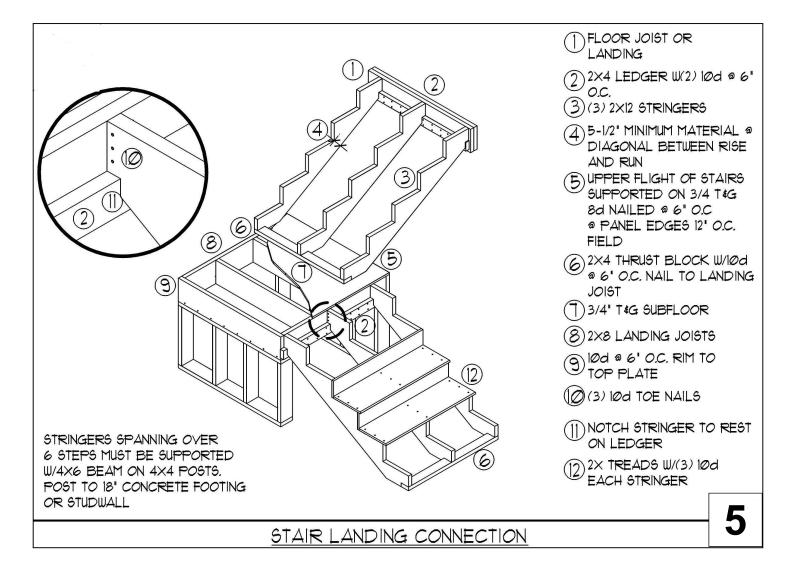
PLAN ROOF SHEATHING

(6) SHEATH ALL GABLE ENDS

TOE NAIL BIRD BLOCKING

TLOCØ6 U.N.O.

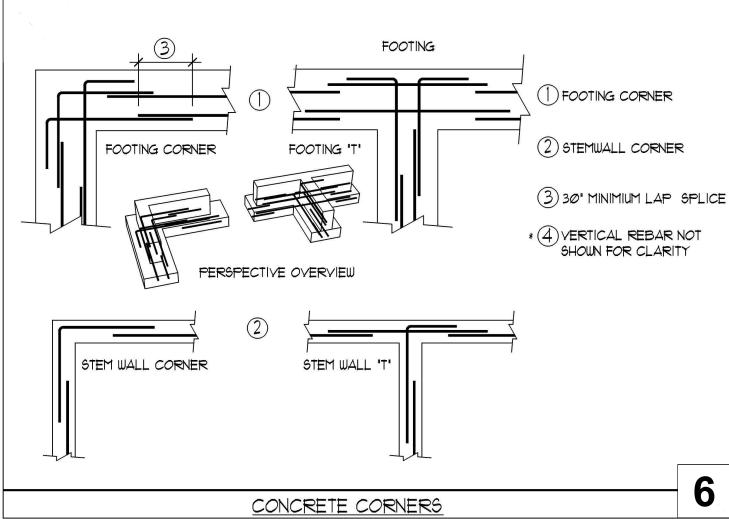
IN FIELD

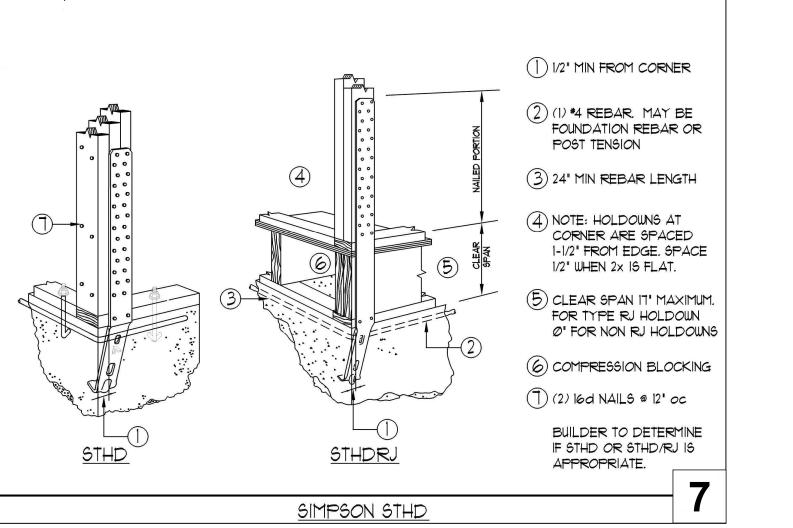


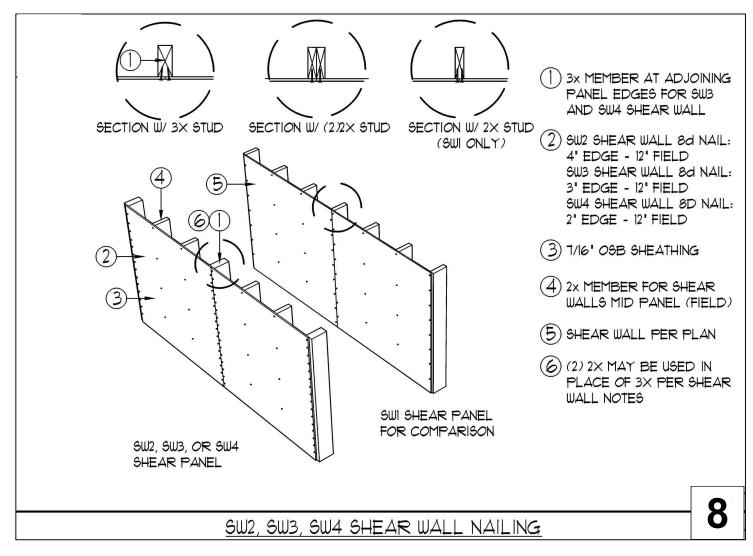
\* SEE SHEARWALL TABLE

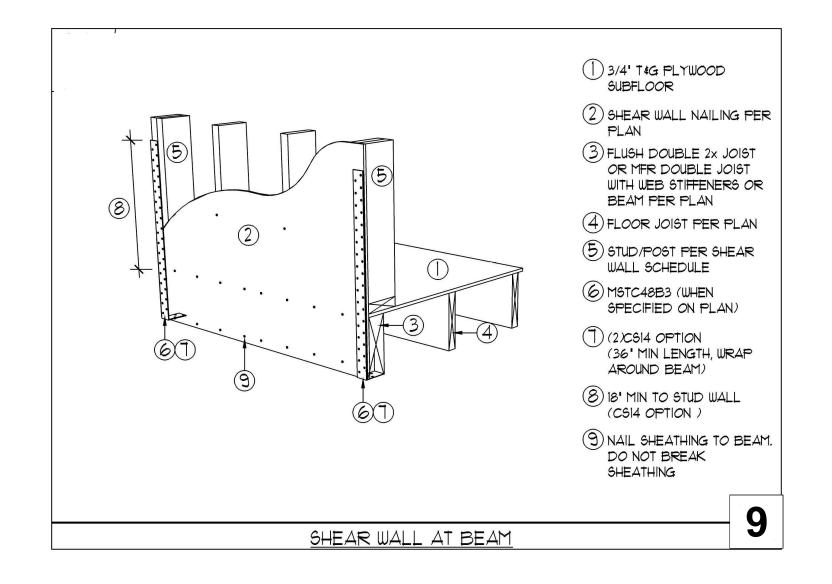
FOR ADDITIONAL NAILING

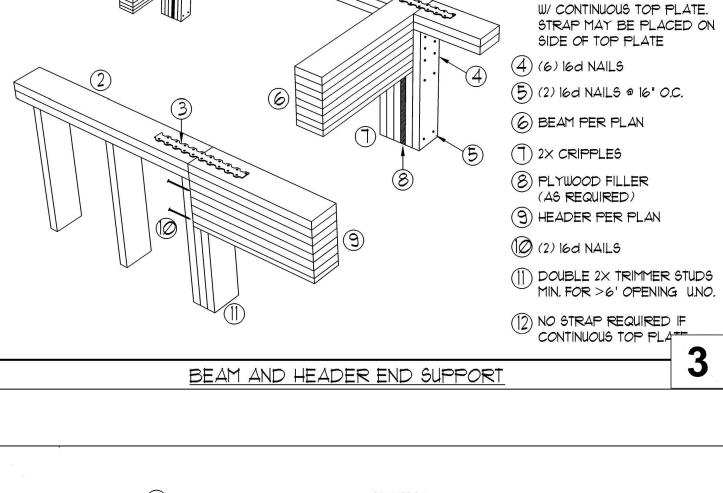
FLOOR TO FLOOR CONNECTION











() CUT TOP PLATE OR DROP

(3) SIMPSON 36" CSI4 STRAP

(2) DOUBLE TOP PLATE

BEAM DO NOT CUT BEAM

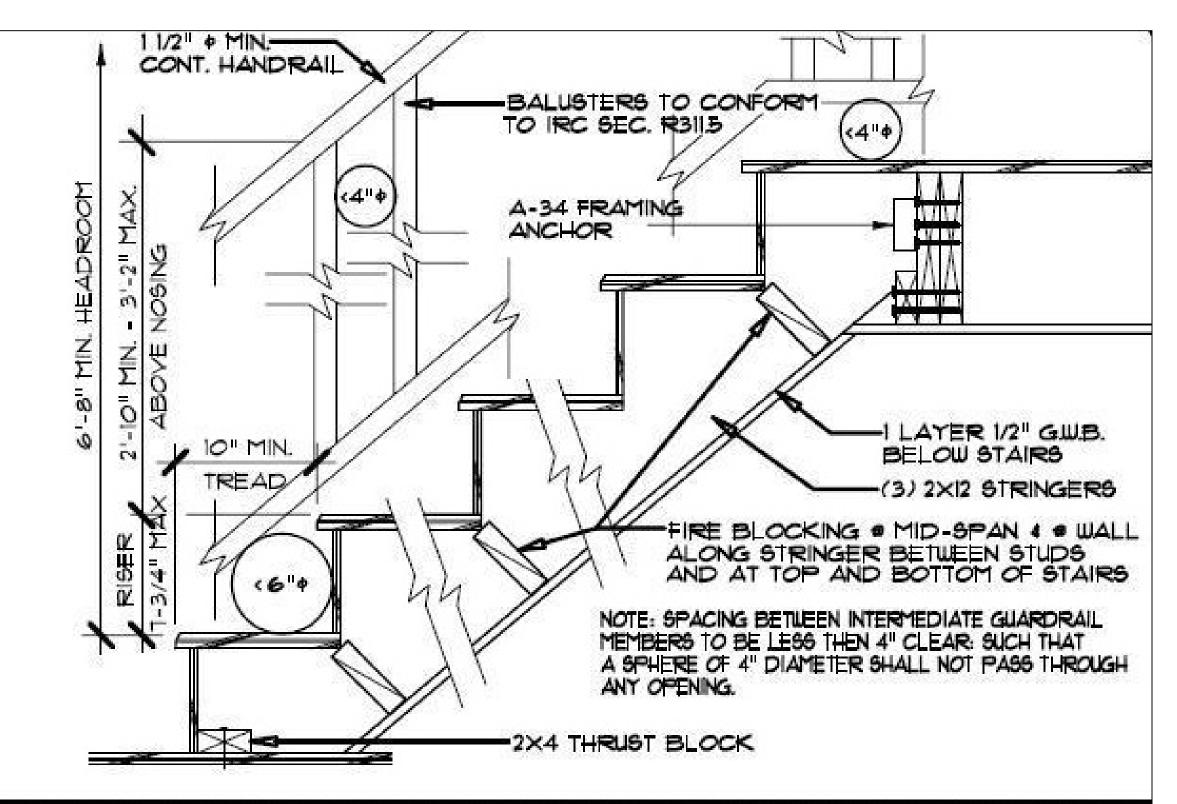
W/(36) 8d OR DROP BEAM

FRAMING, POSITIVE CONNECTION SHALL BE PROVIDED TO ENSURE AGAINST UPLIFT AND LATERAL DISPLACEMENT.

(2) ACE/LCE ELIMINATE THE NEED FOR RIGHT AND LEFTS. FOR USE W/ 4x OR 6x LUMBER (3) PC/EPC PROVIDES A CUSTOM CONNECTION FOR POST BEAM COMBINATIONS

(4) PBC/BCS OFFER A LIGHT CAP CONNECTION

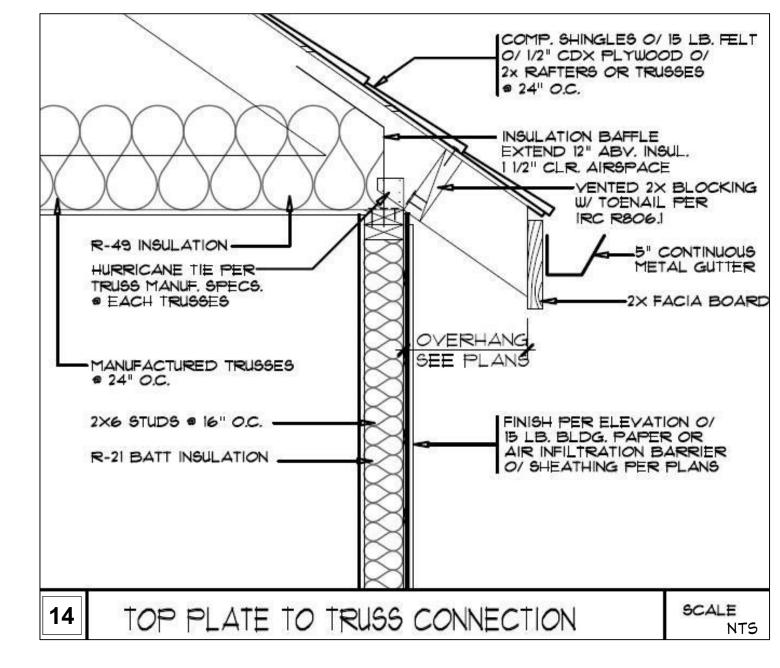
BEAM TO POST CONNECTIONS



NOTES: PER IRC SECTION 303,6, R311,5,7 ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH A MEANS TO ILLUMINATE THE STAIR INCLUDING LANDINGS & TREADS. INTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE LANDING OF THE STAIRWAY, EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH A LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE TOP OF THE LANDING OF THE STAIRWAY, LIGHTING CONTROLS SHALL BE ACCESSIBLE AT THE TOP 4 BOTTOM OF EACH STAIRWAY WITHOUT TRAVERSING ANY STEPS. 4 OR MORE RISERS TO HAVE AT LEAST ONE HANDRAIL RUNNING CONTINUOUS THROUGH FULL LENGTH OF STAIR 34" MIN. HT., 38" MAX. HEIGHT. END SHALL RETURN TO WALL OR NEWEL POST OR VOLUTE, HANDRAIL MUST BE STRONG ENOUGH TO RESIST A 200 LB, PT, LOAD IN ANY DIRECTION, HANDRAIL TO BE PRESENT ON AT LEAST ONE SIDE OF STAIR. HAND GRIP PORTION OF HANDRAILS SHALL HAVE CIRCULAR CROSS SECTION OF 11/4" MIN. 4 294" MAX. EDGES SHALL HAVE A MIN. RADIUS OF 1/6". ALL REQUIRED GUARDRAILS TO BE 36" MIN. IN HEIGHT.

WOOD STAIR DETAIL

SCALE



DATE: 06.12.20 REV #6: 01.01.23 DRAWN BY: K.C.

TES 0 ETAIL

**N** TOM

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<ul> <li>3. Special Insepctions as required by Section 1704.2.5 are not approved in accordance with IBC Section 1704.2.5.2</li> <li>4. Observe on a random basis, operations need not be delayed these tasks for each welded joint, bolted connection, or steel el</li> <li>5. NDT of welds completed in an approved fabricator's shop may when approved by the AHJ. Refer to AISC 360, N7.</li> </ul>		WALL STUDS, 2X, 3 X HF STUD GRADE WALL PLATES, 2X, 3 X HF STANDARD GRADE U.N.O JOISTS, 2 X 6
Notes:  1. The inspection and testing agent(s) shall be engaged by the not by the Contractor or Subcontractor whose work is to be inspinterest must be disclosed to the Building Official prior to comm the Special Inspector(s) and/or testing agencies may be subjective of Special and/or the Design Professional.  2. The list of Special Inspectors may be submitted as a separate		DIMENSIONAL LUMBER, ANCHOR BOLT AND NAILING SPECIFICATIONS  1. MEET REQUIREMENTS OF PS 20-70 AND NATIONAL GRADING RULES FOR SOFTWOOD DIMENSIONAL LUMBER. BEAR STAMP OF WWPA.  2. MINIMUM DIMENSIONAL LUMBER GRADES TO BE:
9. Inspection of prestressed concrete: a. Application of prestressing force b. Grouting of bonded prestressing tendons in the seismic-force 10. Erection of precast concrete members a. Inspect in accordance with construction documents b. Perform inspections of welding and bolting in accordance with 11. Verification of in-situ concrete strength, prior to stressing of and prior to removal of shores and forms from beams and structure. Inspection of formwork for shape, lines, location and dimental concrete strength testing and verification of compliance with the strength testing the	<< << << << zz zzz zz	;, AND OTHER F
reports including verification of anchor type, anchor dimensions procedures, anchor spacing, edge distances, concrete minimur tightening torque  5. Verify use of approved design mix  6. Fresh concrete sampling, perform slump and air content test concrete  7. Inspection of concrete and shotcrete placement for proper as 8. Inspection for maintenance of specified curing temperature as	ZZ ZZ	FOUNDATION  1. STRUCTURAL DESIGN COMPLIES WITH SOILS REPORT PRODUCED BY:  N.A.  FOOTING BEARING PRESSURE:  LATERAL EARTH PRESSURE ON RETAINING WALLS N.A.
1705.3 Concrete Construction  1. Inspection of reinforcing steel installation (see 1705.2.2 for w 2. Inspection of prestressing steel installation 3. Inspection of anchors cast in concrete where allowable loads 1908.5 or where strength design is used	<) <<< z zzz	10. PIPES, DUCTS, SLEEVES, OPENINGS, POCKETS, CHASES, BLOCK-OUTS, ETC., SHALL NOT BE PLACED IN SLABS, FOUNDATIONS, ETC., NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR SUCH ITEMS, UNLESS SPECIFICALLY DETAILED ON THESE STRUCTURAL DRAWINGS.  11. ALTERNATE ASSEMBLIES AND MATERIALS WILL BE CONSIDERED FOR REVIEW. ENGINEER MAY REQUEST PAYMENT FOR REVIEW.
3. Reinforcing steel a. Verification of weldability of steel other than ASTM A706 b. Reinforcing steel resisting flexural and axial forces in interme boundary elements of special concrete structural walls and she c. Shear reinforcement d. Other reinforcing steel 4. Cold-formed steel trusses spanning 60 feet or greater a. Verify temporary and permanent restraint/bracing are installed.	z zz zz	OT COVE , AND WC N CONFO BUILDING
1705.2.2 Steel Construction Other Than Structural Steel 1. Material verification of cold-formed steel deck: a. Identification markings b. Manufacturer's certified test reports 2. Connection of cold-formed steel deck to supporting structure a. Welding b. Other fasteners (in accordance with AISC 360, Section N6) 1) Verify fasteners are in conformance with approved submittal 2) Verify fastener installation is in conformance with approved secommendations	ZZZZ ZZ	THESE DRAWINGS.  6. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND THE STRUCTURAL ENGINEER OF ANY CONDITION THAT, IN HIS OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS TO THE STRUCTURE.  7. THE CONTRACTOR SHALL SUPERVISE AND DIRECT HIS WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION. NOTIFY ENGINEER OF ALL FIELD CHANGES PRIOR TO INSTALLATION.
1) Pre-tensioned and slip-critical joints a) Turn-of-nut with matching markings b) Direct tension indicator c) Twist-off type tension control bolt d) Turn-of-nut without matching markings e) Calibrated wrench 2) Snug-tight joints c. Inspection tasks After Bolting (Perform tasks for each bolted tasks listed in AISC 360, Table N5.6-3) 7. Inspection of steel elements of composite construction prior with QA tasks listed in AISC 360, Table N6.1	< < <<<<<	2. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.  3. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE THE NOTES, DRAWINGS, AND/OR SPECIFICATIONS DIFFER, THE MORE STRINGENT REQUIREMENT SHALL APPLY.  4. IF A SPECIFIC DETAIL IS NOT SHOWN FOR ANY PART OF THE WORK, THE CONSTRUCTION SHALL BE THE SAME AS FOR SIMILAR WORK.
d. Nondestructive testing (NDT) of welded joints: see Commen 1) Complete penetration groove welds 5/16" or greater in risk c 2) Complete penetration groove welds 5/16" or greater in risk c 2) Thermally cut surfaces of access holes when material t > 2" 3) Thermally cut surfaces of access holes when material t > 2" 4) Welded joints subject to fatigue when required by AISC 360, 5) Fabricator's NDT reports when fabricator performs NDT 6. Structural steel bolting: a. Inspection tasks Prior to Bolting (Observe, or perform tasks 1 accordance with QA tasks listed in AISC 360, Table N5.6-1) b.Inspection tasks During Bolting (Observe the QA tasks listed	z z zzzz	GENERAL CONDITIONS  1. THE CONTRACTOR SHALL EXAMINE THE STRUCTURAL DRAWINGS AND SHALL NOTIFY THE STRUCTURAL ENGINEER IN WRITING OF ANY DISCREPANCIES HE MAY FIND BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK.
1705.2 Steel Construction  1. Fabricator and erector documents (Verify reports and certific N, paragraph 3.2 for compliance with construction documents)  2. Material verification of structural steel  3. Embedments (Verify diameter, grade, type, length, embedments)  4. Verify member locations, braces, stiffeners, and application occuments  5. Structural steel welding:  a. Inspection tasks Prior to Welding (Observe, or perform for eattasks listed in AISC 360, Table N5.4-1)  b. Inspection tasks During Welding (Observe, or perform for eattasks listed in AISC 360, Table N5.4-1)  c. Inspection tasks After Welding (Observe, or perform for each	<pre></pre>	BUILDING CLASSIFICATION
MATERIAL / ACTIVITY  1704.2.5 Inspection of Fabricators Verify fabrication/quality control procedures  1705.1.1 Special Cases (work unusual in nature, including but and systems, unusual design applications, materials and system requirements)	REQUIRED? (Y/N)  Y N  Y N	CODE: INTERNATIONAL BUILDING CODE (IBC)  LOADINGS FLOOR LIVE LOAD

2. CONCRETE MIX SPECIFICATIONS	LOCATION	FOOTING	GRADE
		LOCATION	LOCATION COMP. SRENGTH W/C RATIO AIR CONTENT RI FOOTING 3000 PSI (MIN. OF 5.5 SACKS OF CEMENT PER CUBI SLAB ON GRADE 3000 PSI (MIN. OF 5.5 SACKS OF CEMENT PER CUBI

3. PROVIDE STANDARD CUT WASHERS FOR BOLT HEADS AND NUTS BEARING AGAINST WOOD.

CONCRETE AND REINFORCING

	γ N i. Inspection during weating operations of elements of the seismic-toice-resisting sys
ATIONS FOR STRUCTURAL CONCRETE"	seismic-force-resisting system
JIREMENTS FOR STRUCTURAL CONCRETE"	
CRETING"	
VCRETING"	STRUCTURAL AND MISCELLANEOUS STEEL
VG, MIXING, TRANSPORTING AND PLACING CONCRETE"	
	STEEL MEMBERS, HARDWARE, FASTENERS SHALL BE HOT DIPPED GALVANIZED OR EPOXY PAINTED PER ARCHITECT
	REQUIREMENTS. ALL CUT, REPAIRED AND EXPOSED SURFACE SHALL BE PAINTED WITH (2) COAT OF 95% ZINC RICH PAINT PER ASTM A780. COLOR TO MATCH EXISTING.
	- Aller - Frageries Ards. OCFOR - O MATOR FARGRESS.

STRUCTURAL STEEL WELDING  CONFORM TO THE AWS CODES D1.1 AND D1.3, AND USE ONLY CERTIFIED WEI  1/4" CONTINUOUS FILLET MINIMUM. INCREASE WELD SIZE TO AWS MINIMUM SIZES, B  ELECTRODES. ALL WELDING SHALL CONFORM TO THE AWS CODES, AND SHALL BE B  SPECIFIED SHALL BE 1/4" CONTINUOUS FILLET MINIMUM. USE DRY E70 ELECTRODES.	ALL SLIP CRITICAL CONNECTIONS SHALL BE ASTM A325 BOLTS / INDICATING TYPES, AND SHALL BE INSTALLED IN STRICT ACCORDANCE	STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS: TUBE COLUMNS: WIDE FLANGE COLUMNS / BEAMS: STEEL PIPE: ALL OTHER STEEL: BOLTS: BOLTS: ANCHOR BOLTS: ANCHOR BOLTS: ASTM A325 (S
STRUCTURAL STEEL WELDING CONFORM TO THE AWS CODES D1.1 AND D1.3, AND USE ONLY CERTIFIED WELDERS. WELDS NOT SPECIFIED ARE TO BE 1/4" CONTINUOUS FILLET MINIMUM. INCREASE WELD SIZE TO AWS MINIMUM SIZES, BASED ON PLATE THICKNESS. USE DRY E70 ELECTRODES. ALL WELDING SHALL CONFORM TO THE AWS CODES, AND SHALL BE BY CERTIFIED WELDERS. WELDS NOT SPECIFIED SHALL BE 1/4" CONTINUOUS FILLET MINIMUM. USE DRY E70 ELECTRODES.	ALL SLIP CRITICAL CONNECTIONS SHALL BE ASTM A325 BOLTS AND SHALL BE ENGINEER-APPROVED, SELF-LOAD FING TYPES, AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.	ASTANDARDS: ASTM A500, GRADE B (Fy = 46 KSI) ASTM 572 GR50 SCHEDULE 40, CONFORMING TO ASTM A53, TYPE E OR S, GRADE B (Fy = 35 KSI.) ASTM A36 (Fy = 36 KSI) OR ASTM A992 ASTM A307 (WOOD/STEEL CONN) ASTM A325/A490 WITH LOCK WASHERS (STEEL/STEEL AND STEEL/CONC CONN) ASTM A307 (WOOD FRAMING) ASTM A325 (STEEL FRAMING)

8. ALL LUMBER WITH A LEAST DIMENSION OF 2" (NOMINAL) SHALL BE STAMPED "SURFACE-DRY" AND SHALL HAVE A MOISTURE CONTENT WHEN SURFACED AND WHEN INSTALLED OF NO MORE THAN 19 PERCENT. LUMBER WITH A LEAST DIMENSION OF 4" (NOMINAL) OR GREATER SHALL BE STAMPED "SURFACE-GREEN" AND AIR-DRIED TO A MOISTURE CONTENT OF NOT MORE THAN 19 PERCENT PRIOR TO ITS USE IN FRAMING THE STRUCTURE.

TOPPING

9. NOTCHING AND BORING OF BEAMS AND JOISTS IS NOT ALLOWED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

3. PROVIDE GRADE 60 KSI (A615) FOR CONCRETE STEEL REINFORCING

TOTAL AIR CONTENT IS SPECIFIED IN THE TABLE ABOVE. AIR CONTENT TOLERANCE SHALL BE ± 1% AND SHALL BE MEASURED AT THE POINT OF PLACEMENT. (AFTER PUMPING IF APPLICABLE). ALL CONCRETE EXPOSED TO THE WEATHER SHALL HAVE AN APPROVED ADMIXTURE TO ENTRAIN AIR - 5% TOTAL AIR REQUIRED. CONCRETE THAT CAN BE SUBJECTED TO FREEZING AND THAWING DURING CONSTRUCTION SHALL BE AIR ENTRAINED.

	Periodic		1705.4 Masonry Construction	
materials and systems with special manufacturer's		< < z z	(A) Level A, B and C Quality Assurance:  1. Verify compliance with approved submittals (B) Level B Quality Assurance:  1. Verification of f'm and f'AAC prior to construction	Periodic Periodic
		<< zz	struction ar premixed	Periodic Continuous
reports and certificates as listed in AISC 360, chapter ruction documents)	Each submittal		delivered to the broi	Periodic
be, length, embedment. See 1705.3 for anchors)	Periodic Continuous Periodic	<< <	ability Index (VSI) of seals	Continuous  Periodic
ve, or perform for each welded joint or member, the QA	Observe or Perform as noted (4)		4. Verify grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	Periodic
or perform for each welded joint or member,	(4)		<ol><li>Verify construction of mortar joints</li><li>Verify placement of reinforcement, connectors, and prestressing tendons and anchorages</li></ol>	Periodic Level B - Periodic Level C - Continuous
or perform for each welded joint or member, the QA	Observe or Perform as noted (4)			Level C - Continuous  Level C - Continuous
oints: see Commentary " or greater in risk category III or IV " or greater in risk category II	Periodic Periodic	<<< zzz	<ul><li>8. Verify placement of grout and prestressing grout for bonded tendons</li><li>9. Verify size and location of structural masonry elements</li><li>10. Verify type, size, and location of anchors, including details of anchorage of masonry to structural</li></ul>	Continuous Periodic Level B - Periodic
/hen material t > 2" <sub>t</sub> uired by AISC 360, Appendix 3, Table A-3.1 performs NDT	Periodic Periodic Each submittal (5)		onry during cold v	Level C - Continuous Continuous Periodic
e, or perform tasks for each bolted connection, in	Observe or Perform as noted (4)		of Of	Continuous
the QA tasks listed in AISC 360, Table N5.6-2)	Observe (4)		5 5	Level B - Periodic
	Periodic Periodic Periodic		first 500 fter the	Level C - Continuous Continuous Level B - Periodic
	Continuous Continuous Periodic			Level C - Continuous Level B - Periodic Level C - Continuous
construction prior to concrete placement in accordance	Observe or Perform as noted (4)	< -		Level C - Continuous
Structural Steel			with Section 1704.2.5  2. For high-load diaphragms, verify grade and thickness of structural panel sheathing agree with	Periodic
deck:	Periodic Each submittal	≺ Z	approved building plans 3. For high-load diaphragms, verify nominal size of framing members at adjoining panel edges, nail or staple diameter and length, number of fastener lines, and that spacing between fasteners in each	Periodic
supporting structure: C 360 Section N6)	Periodic	≺ z	line and at edge margins agree with approved building plans 4. Metal-plate-connected wood trusses spanning 60 feet or greater: verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Periodic
approved submittal nce with approved submittal and manufacturer's	Periodic Periodic		1705.6 Soils  1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Desirio
an ASTM A706  tial forces in intermediate and special moment frames,	Periodic Continuous	<	s du	Periodic Periodic Periodic
clural walls and snear reinlorcement	Continuous Periodic		5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly	Periodic
et or greater l/bracing are installed in accordance with the approved	Periodic	<b>≺≺</b> ZZ	<ul><li>1705.7 Driven Deep Foundations</li><li>1. Verify element materials, sizes and lengths comply with requirements</li><li>2. Determine capacities of test elements and conduct additional load tests, as required</li></ul>	Continuous
(see 1705.2.2 for welding) n	Periodic. Periodic		<ol> <li>Observe driving operations and maintain complete and accurate records for each element</li> <li>Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip</li> </ol>	Continuous Continuous
nere allowable loads have been increased per section	as required by the research	< <b>&lt;</b> zz	5.2	See Section 1705.2
el post-installed in hardened concrete: Per research , anchor dimensions, hole dimensions, hole cleaning s, concrete minimum thickness, anchor embedment and	approved source		<ul> <li>6. For concrete elements and concrete-filled elements, perform additional inspections per Section 1705.3</li> <li>7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge</li> </ul>	In accordance with construction documents
and air content tests and determine temperature of	Periodic Continuous	≺ z	8. Perform additional inspections and tests in accordance with the construction documents	In accordance with construction documents
ement for proper application techniques uring temperature and techniques	Continuous Periodic	< < z z	1.05.8 Cast-in-Place Deep Foundations  1.Observe drilling operations and maintain complete and accurate records for each element  2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if  2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if	Continuous Continuous
s in the seismic-force-resisting system	Continuous Continuous	<< zz	pections in accord	See Section 1705.3 In accordance with construction documents
documents  In accordance with Section 1705.2  In prior to stressing of tendons in post tensioned concrete	In accordance with construction documents In accordance with Section 1705.2 Periodic		tip elevations, fin	ntinuous
om beams and structural slabs location and dimensions on of compliance with construction documents	Periodic Periodic	≺ Z	and other data as required. 2. Perform additional inspections and tests in accordance with the construction documents	In accordance with construction documents
be engaged by the Owner or the Owner's Agent, and		<< zz	<ul> <li>1705-10.1 Structural Wood Special Inspections For Wind Resistance</li> <li>1. Inspection of field gluing operations of elements of the main windforce-resisting system</li> <li>2. Inspection of nailing, bolting, anchoring and other fastening of components within the main windforce-resisting system</li> </ul>	Continuous Periodic
se work is to be inspected or lested. Any conflict of ifficial prior to commencing work. The qualifications of icies may be subject to the approval of the Building		<b>≺≺</b> ZZ	1705.10.2 Cold-formed Steel Special Inspections For Wind Resistance 1.Inspection during welding operations of elements of the main windforce-resisting system 2.Inspections for screw attachment, bolting, anchoring and other fastening of components within the	Periodic Periodic
on 1704.2.5 are not required where the fabricator is		< <b>&lt;</b> z z	1705.10.3 Wind-resisting Components  1. Roof cladding	Periodic
need not be delayed pending these inspections. Perform nnection, or steel element.			1705.11.1 Structural Steel Special Inspections for Seismic Resistance Inspection of structural steel in accordance with AISC 341	In accordance with AISC 341
fabricator's shop may be performed by that fabricator 360, N7.		<b>≺≺</b> zz	11.2 Structural Wood Special Inspections for Seism bection of field gluing operations of elements of the seix bection of nailing, bolting, anchoring and other fastening resisting system	Continuous Periodic
FERENCE CODES AND STANDARDS		<< zz	I-formed Steel Light-Frame Construiring welding operations of elements of screw attachment, bolting, anchoring	Periodic Periodic
TIRAL CONCRETE"			attachinent, botting, anchoning and other lastening of components within	

8802 SE 37TH ST MERCER ISLAND, WA 98040

TSO ADDITION

REQUIRED? (Y/N)

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structural engineers

	al: 4	Grand total: 4
04-01-23	WSW DETAILS	S-3
04-01-23	FRAMING DETAILS	S-2
04-01-23	FRAMING PLANS	S-1
04-01-23	GENERAL NOTES AND SPECIFICATIONS	S-0
ISSUE DATE	R SHEET NAME	SHEET NUMBER
	DRAWING LIST	

PROJECT NO.22126

ENGINEER

BB

REVISION SCHEDULE

DATE

DESCRIPTION

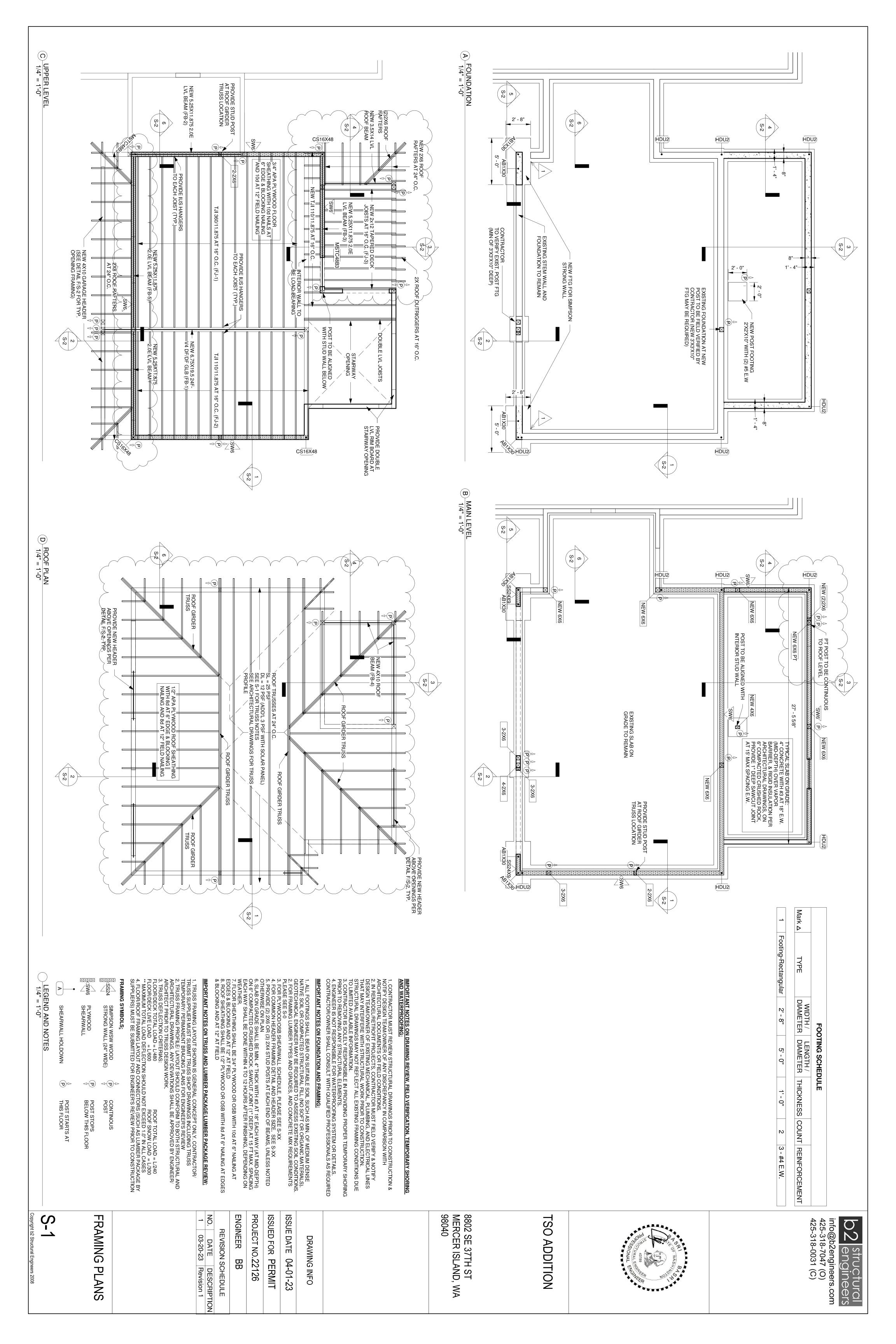
ISSUED FOR PERMIT

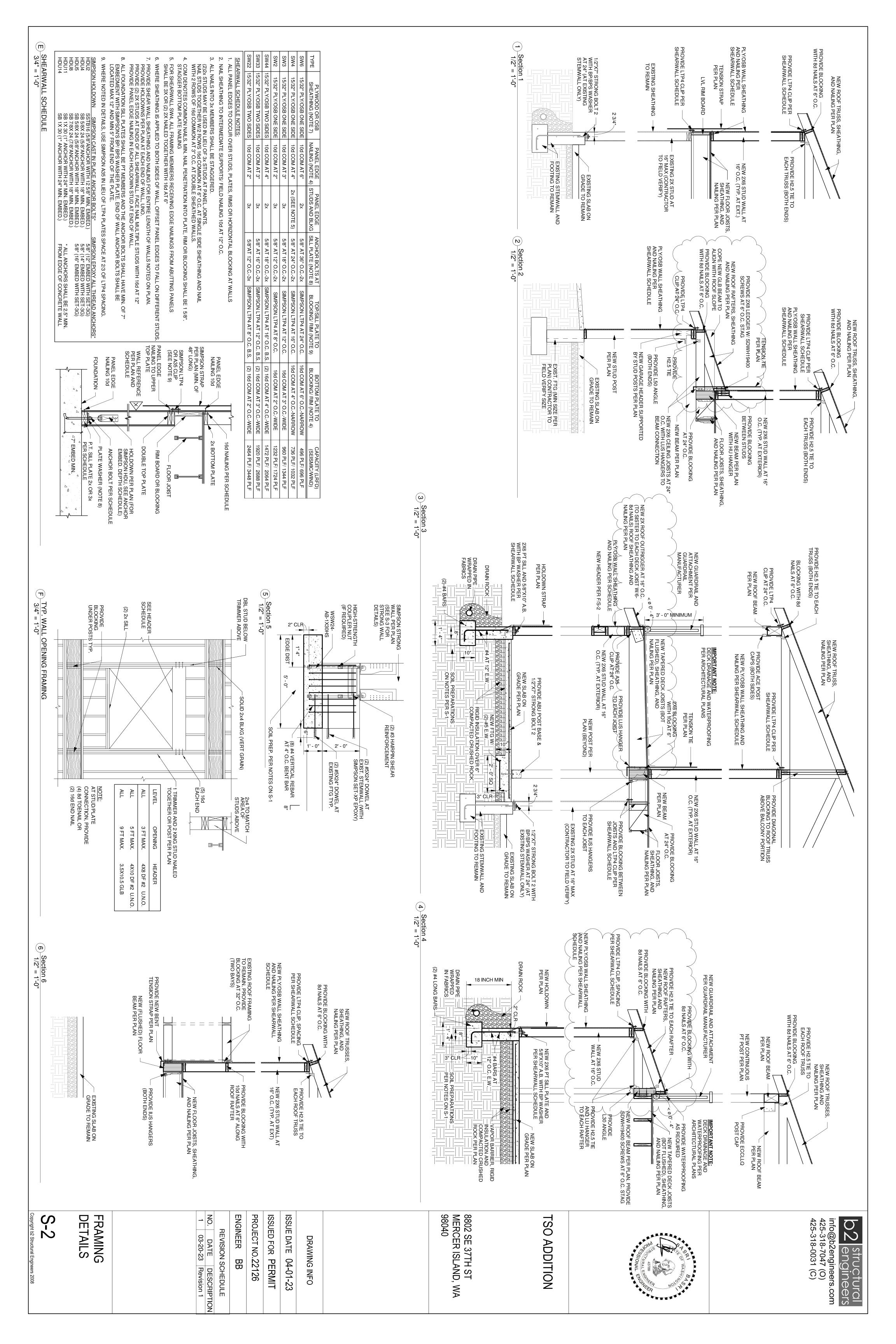
ISSUE DATE 04-01-23

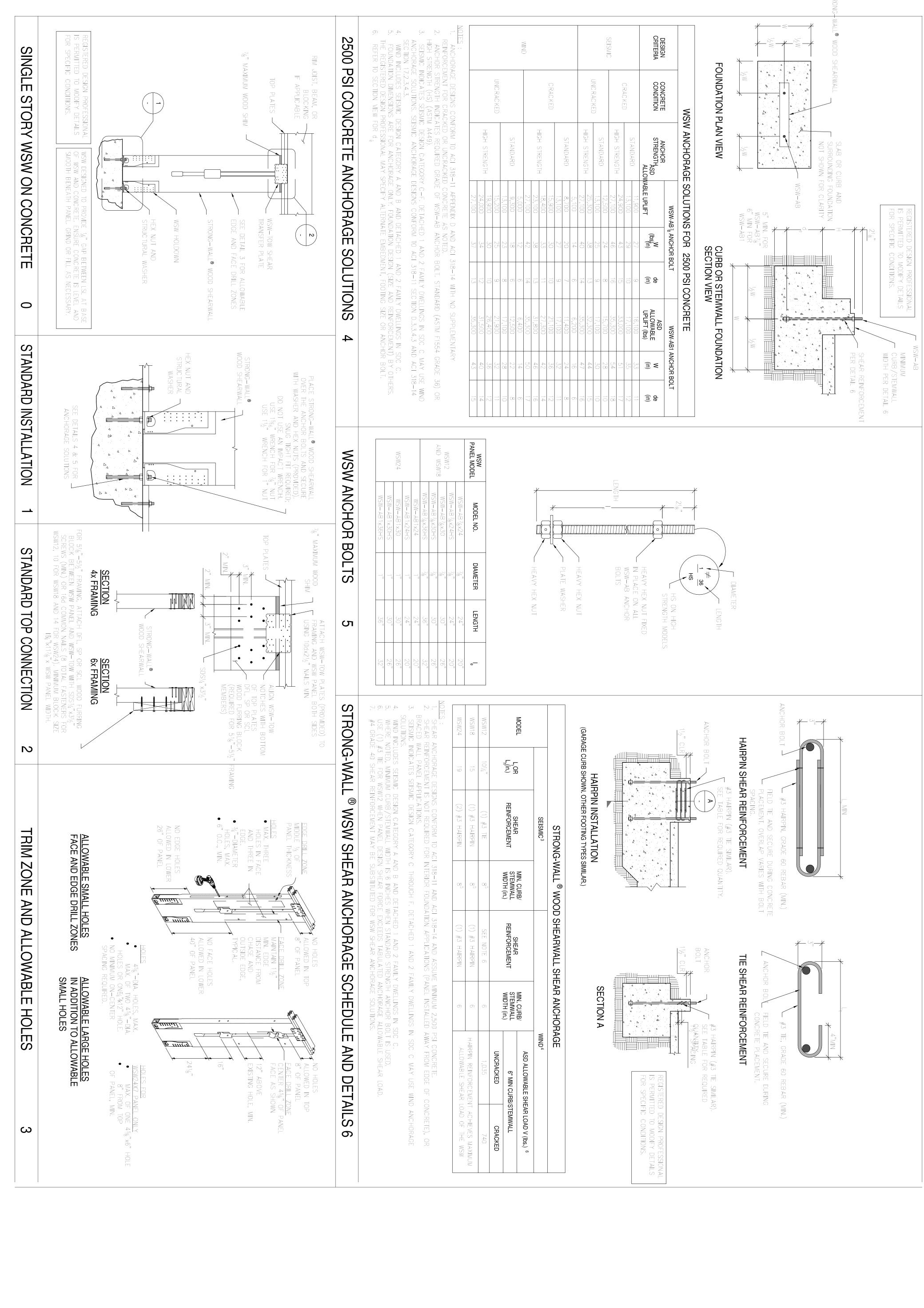
DRAWING INFO

AND **SPECIFICATIONS** ENERAL NOTES

S-0







8802 SE 37TH ST MERCER ISLAND, WA 98040

TSO ADDITION

S-3

**WSW DETAILS** 

PROJECT NO.22126

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REVISION SCHEDULE

DATE

DESCRIPTION

ISSUED FOR PERMIT

ISSUE DATE 04-01-23

**DRAWING INFO** 

