

PROJECT TEAM

OWNER:
Tom & Kim TSO
8802 SE 37th St.
Mercer 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

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 603 SF.
Principal dwelling unit will be owner occupied.
New construction details will follow the existing design of the house including windows,
siding and roof pitch.
2 Additional on site parking will be designated for the ADU
No trees will be removed or disturbed

SHEET INDEX

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P2 SUPP. SHEET & GFA CALCULATIONS
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D1 DETAILS & NOTES
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STRUCTURAL:
S0 GEN. NOTES
S1 FRAMING PLAN
S2 FRAMING DETAILS
S3 WSW DETAILS

STRUCTURAL CALCULATIONS:
Page 1 - 22

LOT COVERAGE

A. 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	2,827 2,873	Square Feet
2. Accessory Building Roof Area	417 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)	(147) (94)	Square Feet
G. Proposed Adjustment for Single Story (Area)	0	Square Feet
H. Proposed Adjustment for Flag Lot	0	Square Feet
I. Total New Lot Coverage Area:		
1. Main Structure Roof Area	336 340	Square Feet
2. Accessory Structure Roof Area	0	Square Feet
3. Vehicular Use (driveway, paved access 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)	336 340	Square Feet
J. Total Project Lot Coverage Area = (E5 - F) + I5	4,216 4,219	Square Feet
K. Proposed Lot Coverage Area = (I/B) x 100	38.46% 38.49% 35.87%	% of Lot

HARDSCAPE CALCULATIONS

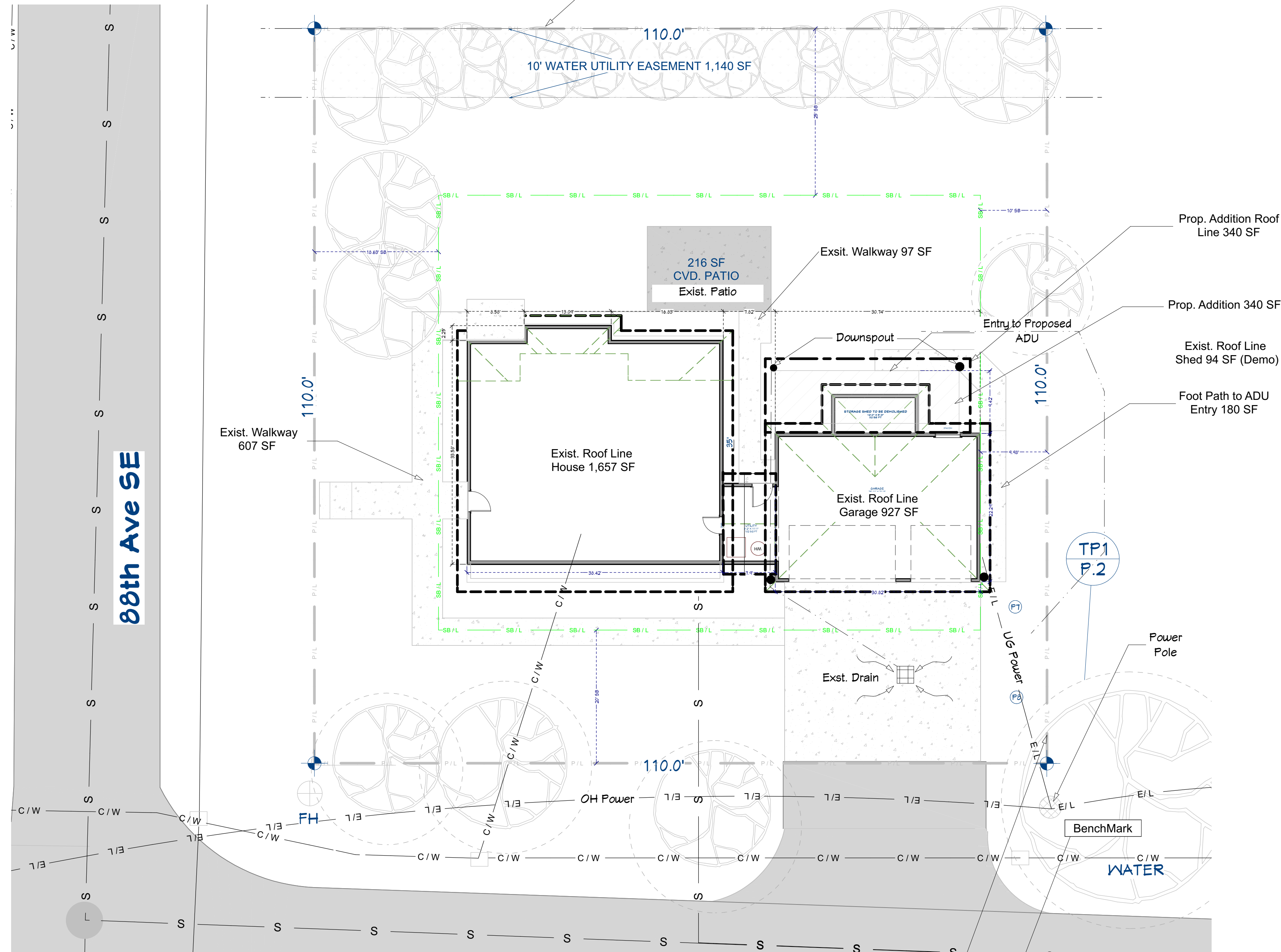
A. Gross Lot Area	12,100	Square Feet
B. Net Lot Area	10,960	Square Feet
C. Area Borrowed from Lot Coverage	0	Square Feet
D. Allowed Hardscape Area = 9% of lot area + C	9	% of Lot
E. Allowed Hardscape Area	986	Square Feet
F. Total Existing Hardscape Area:		
1. Uncovered Decks	0	Square Feet
2. Uncovered Patios	0	Square Feet
3. Walkways	703 704	Square Feet
4. Stairs	0	Square Feet
5. Rockeries and Retaining Walls	0	Square Feet
6. Other	0	Square Feet
7. Total Existing Hardscape Area (F1+F2+F3+F4+F5+F6)	703 704	Square Feet
G. (Total Hardscape Area Removed)	0	Square Feet
H. 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	800 884	Square Feet
J. Total Project Hardscape Area = (I/B)x100	7.3% 8.07% 7.31%	% 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	%



SITE PLAN
SCALE: 1" = 10'-0"

To remain Grass (Critical root zone for city tree)
NOTE: Existing driveway apron will not be extended to ROW.

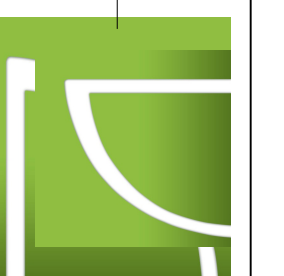
SHEET NUMBER
P1
Revision # 10

DATE: 03.19.24
DRAWN BY: K.C.

SITE PLAN
SCALE: 1" = 10'-0"

TOM & KIM TSO
ADDITION & ADU
8802 SE 37th ST. MERCER ISLAND WA 98040

Kesh Design Lines
425 361 7325



APPLICABLE CODES

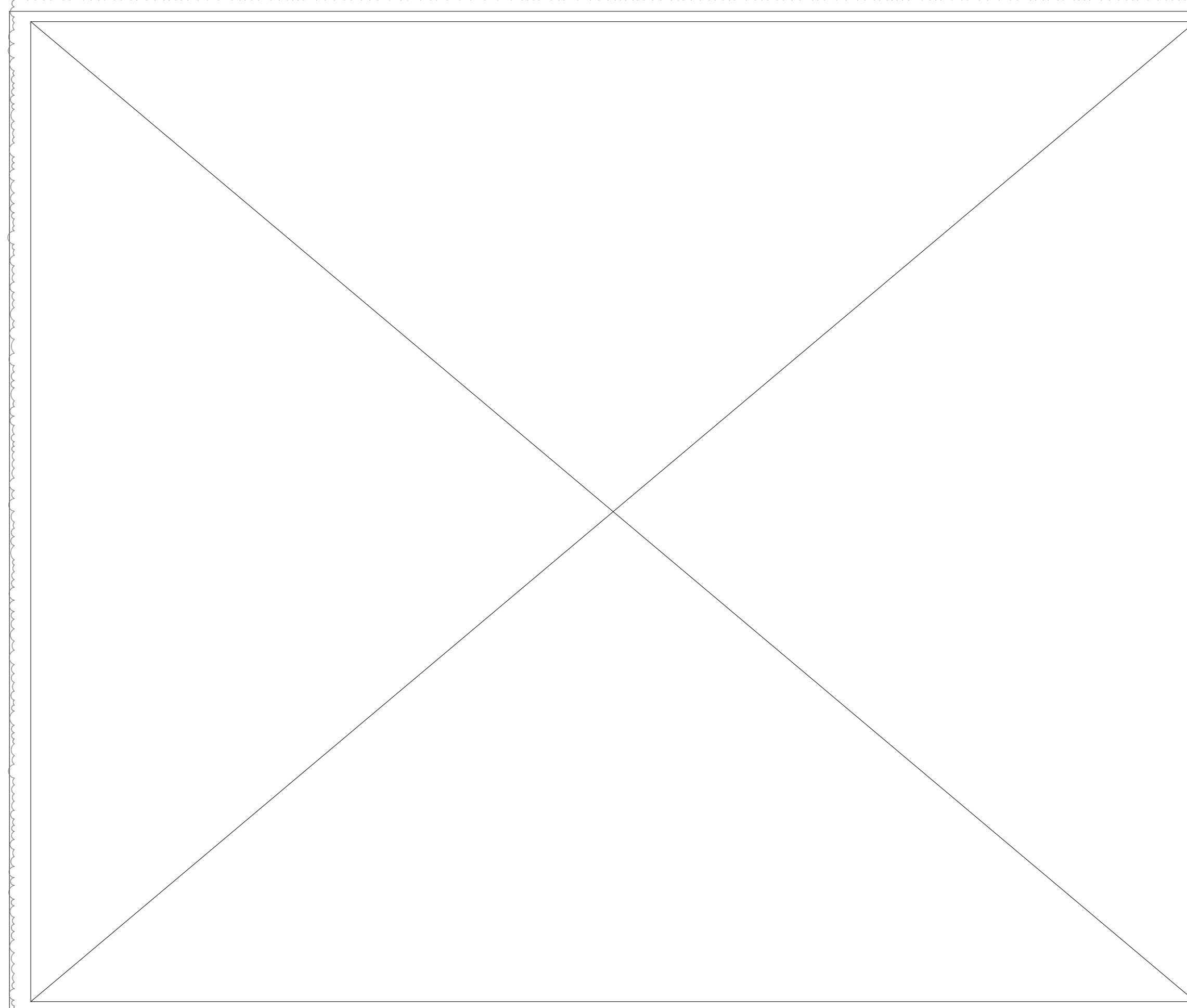
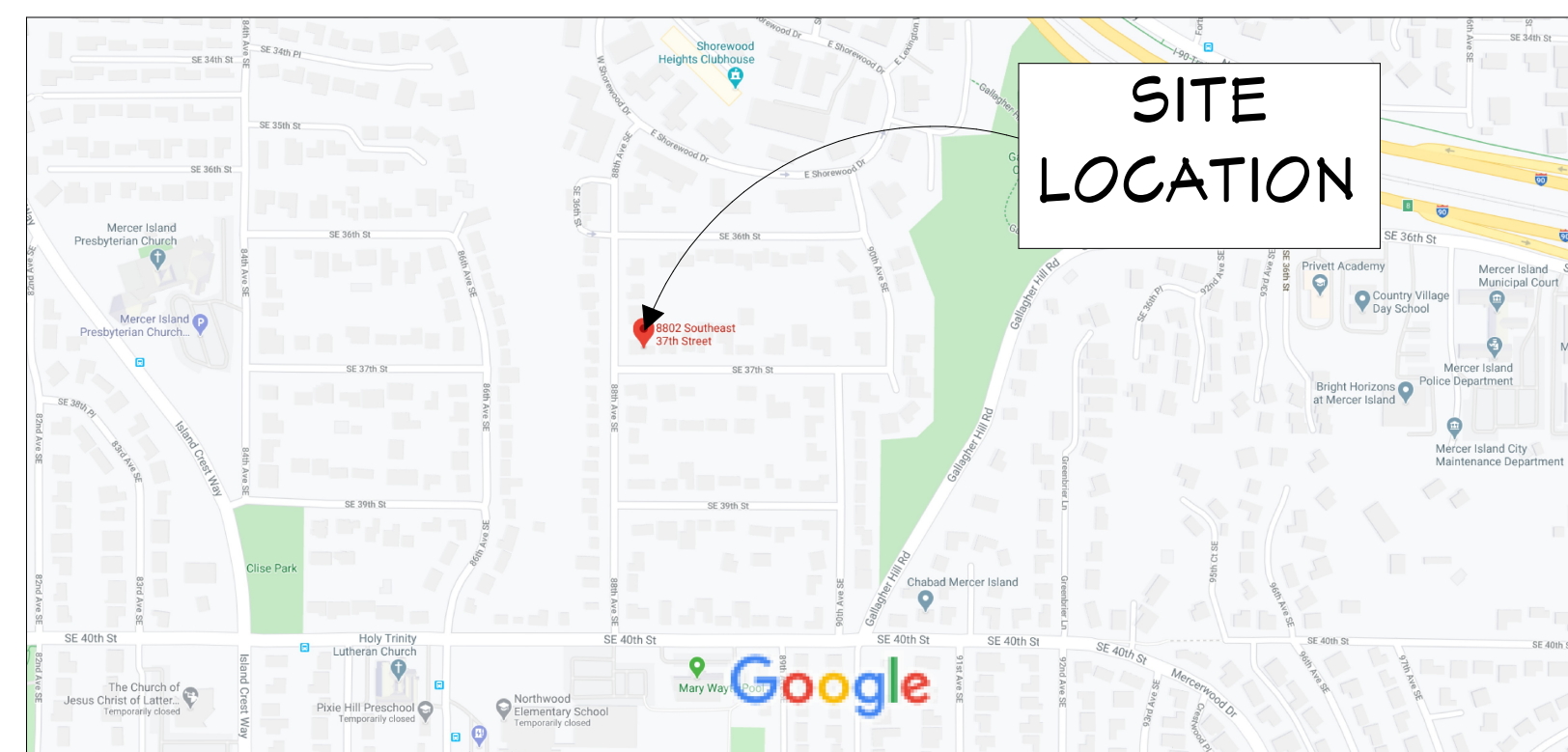
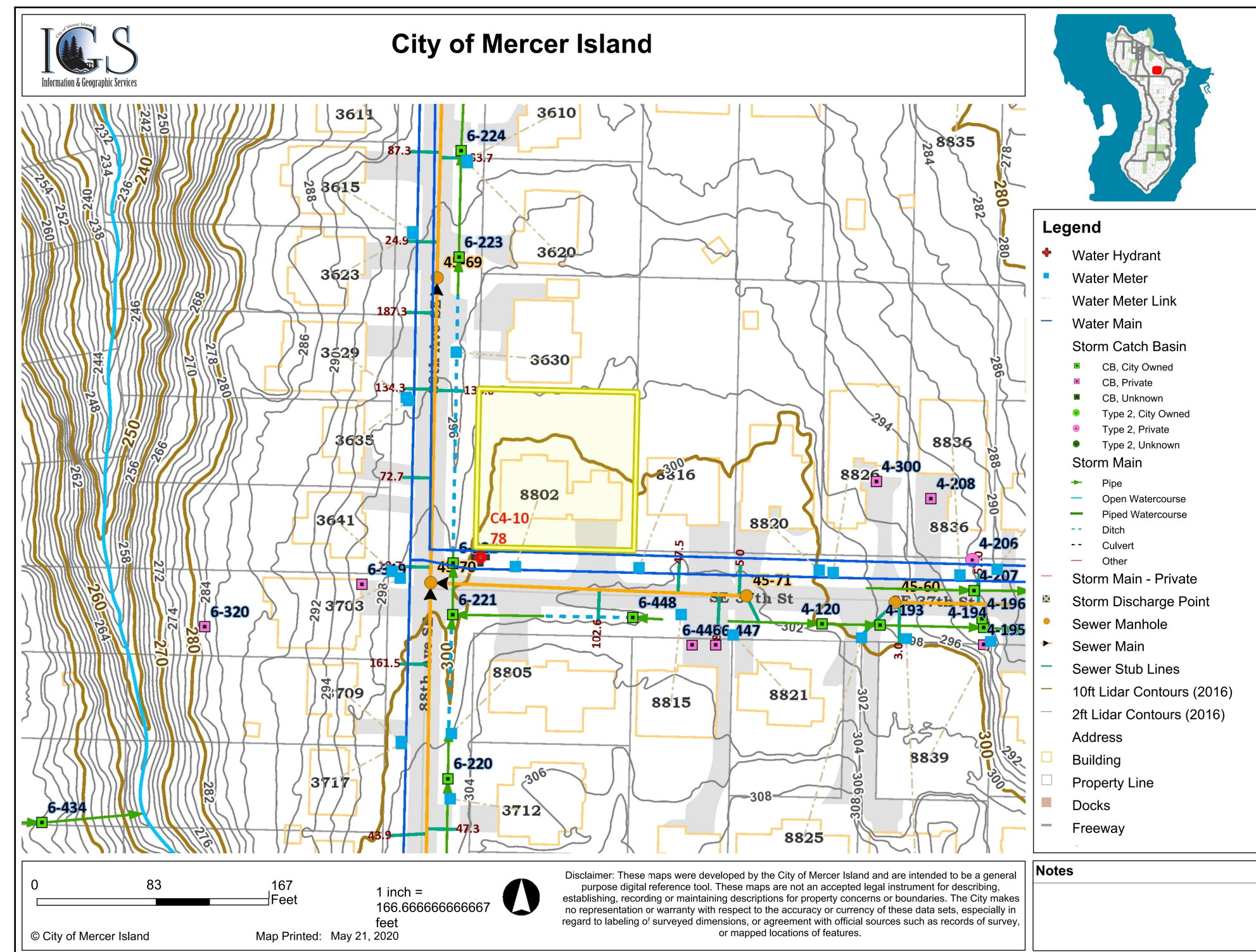
CITY OF MERCER ISLAND MUNICIPAL CODE
 2018 INTERNATIONAL BUILDING CODE
 2018 INTERNATIONAL RESIDENTIAL CODE
 2015 INTERNATIONAL FIRE CODE
 2015 INTERNATIONAL MECHANICAL CODE
 2015 INTERNATIONAL FUEL AND GAS CODE
 2015 UNIFORM PLUMBING CODE
 2012 WASHINGTON CITIES ELECTRICAL CODE
 CITY OF MERCER ISLAND ELECTRICAL CODE
 STATE ENVIRONMENTAL POLICY ACT (SEPA)
 WASHINGTON STATE ENERGY CODE

DESIGN CRITERIA

Wind Speed: 110 mph (IBC Figure 1609A)
 Wind Exposure: Category C
 Kzt Factor: 1.6 Per City of Mercer Island Wind Map
 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
 Rainfall: 1"/Hr (UPC Table D101.1)
 Soil Bearing Capacity: 1500 psf (IBC Table 1806.2)

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

TOPO & UTILITIES MAP nts



ADU LOWER FLOOR		
ROOM NAME	AREA, INC. WALLS	NOTES
ADU BATH	45.35	
ADU BEDROOM 1	78.47	
ADU CLOSET 1	6.39	
ADU HALL/ENTRY	129.09	
(CEILING HEIGHT MODIFIER)	31.18	GRAY AREA
TOTALS:	290.48 SQ. FT.	

ADU UPPER FLOOR	
ROOM NAME	AREA, INC. WALLS
ADU BATH	71.18
ADU BEDROOM 1	142.27
ADU CLOSET	14.58
ADU GREAT	291.40
ADU LAUNDRY	15.36
ADU STORAGE	22.75
ADU OPEN BELOW	33% 46.00
TOTALS:	603.54 SF

ADU TOTAL	
ROOM NAME	AREA, (INC WALLS)
LOWER FLOOR	290.48 SF
UPPER FLOOR	603.54 SF
TOTAL:	894.02 SF

GFA TOTAL	
EXISTING	NEW ADU
2,446 SF	3,219 SF
	894.02 SF
TOTAL:	4,130 SF
4,130 / 12,100 = 34.13%	

GROSS FLOOR AREA

Building Area	Existing Area	Removed Area	New/Addition Area	Total
Upper Floor	1,253 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	1,253 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.
Total Floor Area	3,279 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	3,279 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 nd & 3 rd Story Roofed Decks	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
Basement Area	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.	0 Sq. Ft.
Excluded	0	0	0	0
150% GFA Modifier* (main and upper floor x2)	0	0	0	0
200% GFA Modifier* (main and upper floor x2)	231	0	26	257
Staircase GFA Modifier* (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.	851 Sq. Ft.	4,179 Sq. Ft.

A. Lot Area	12,100	Square Feet
B. Zone R-8.4	<input checked="" type="checkbox"/> R-9.6	<input type="checkbox"/> R-15
C. Allowed Gross Floor Area (refer to "allowed GFA")	4,840	Square Feet
D. Allowed Gross Floor Area	40%	% of Lot
E. Proposed Gross Floor Area	3,982	Square Feet
F. Proposed Gross Floor Area	32.90%	% of Lot

Gross floor area calculations found on Plan Sheet # P2

Basement exclusion calculations found on Plan Sheet # N/A



SHEET NUMBER

P2

Revision # 10

DATE: 03.19.24

DRAWN BY: K.C.

SUPPLEMENTAL SHEET
GFA CALCULATIONS

TOM & KIM TSO
ADDITION & ADU
 8802 SE 9th ST, MERCER ISLAND WA 98040

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 425 361 7325

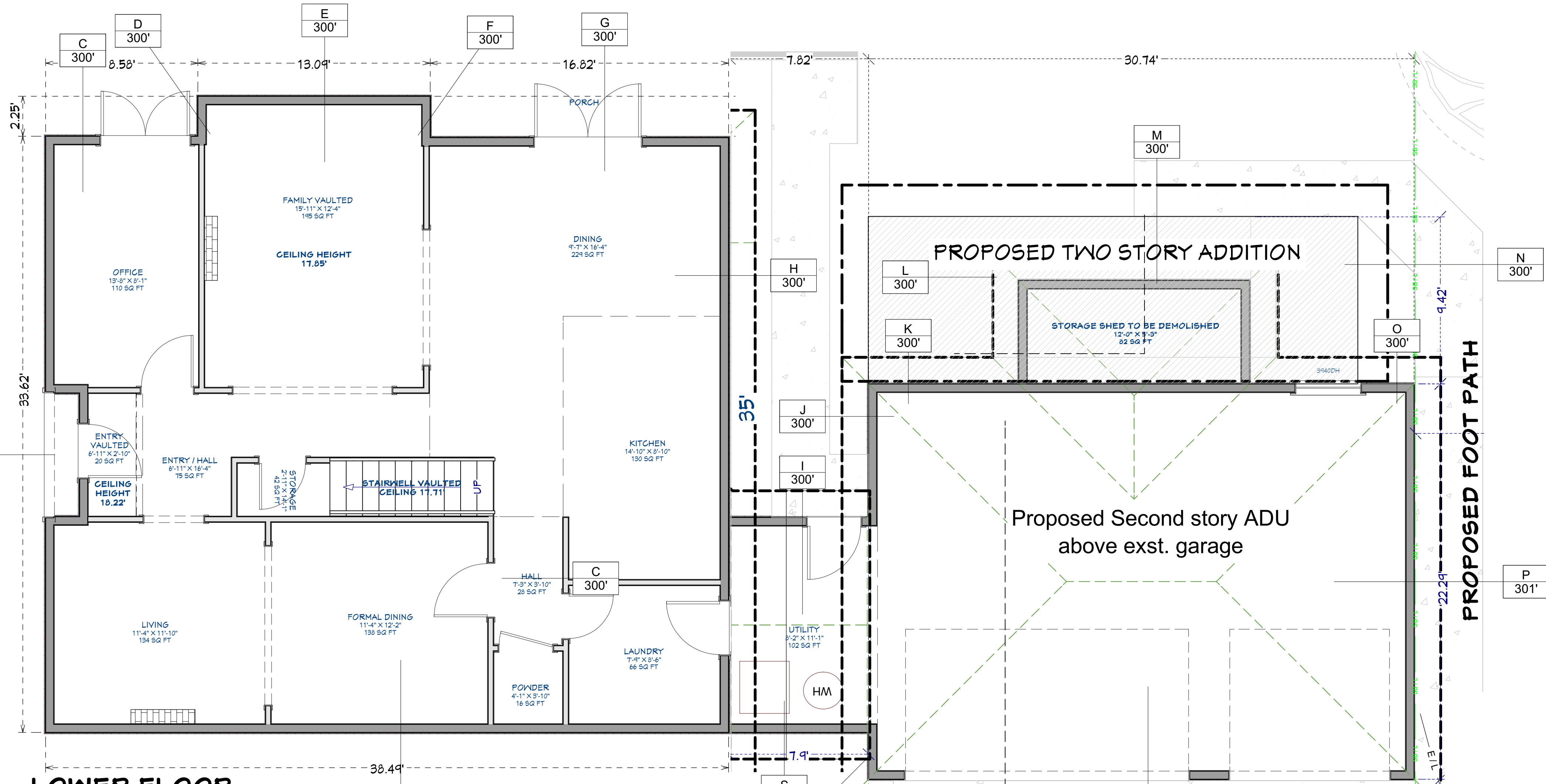
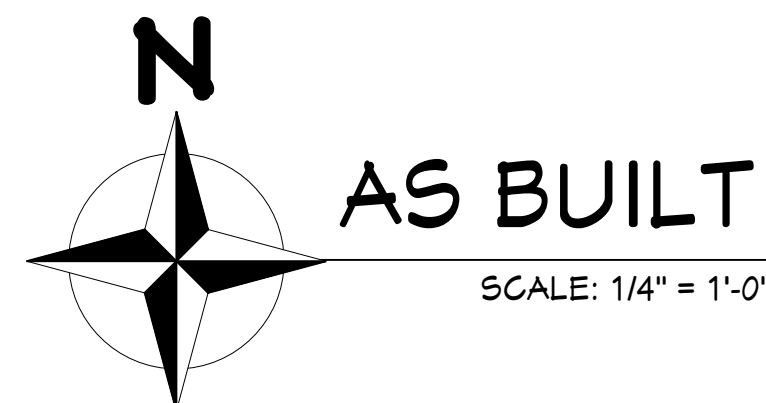


ROOM SIZE SCHEDULE (LOWER FLOOR)		
ROOM NAME	AREA, INTERIOR (SQ FT)	CEILING FINISH HEIGHT
ENTRY VAULTED	20	120 1/4"
FAMILY VAULTED	195	120 1/4"
STORAGE	42	107 5/8", 120 1/4"
DINING	229	107 5/8"
ENTRY / HALL	75	107 5/8"
FORMAL DINING	138	107 5/8"
HALL	28	107 5/8"
KITCHEN	130	107 5/8"
LAUNDRY	66	107 5/8"
LIVING	134	107 5/8"
OFFICE	110	107 5/8"
POWDER	16	107 5/8"
TOTALS:	1182	

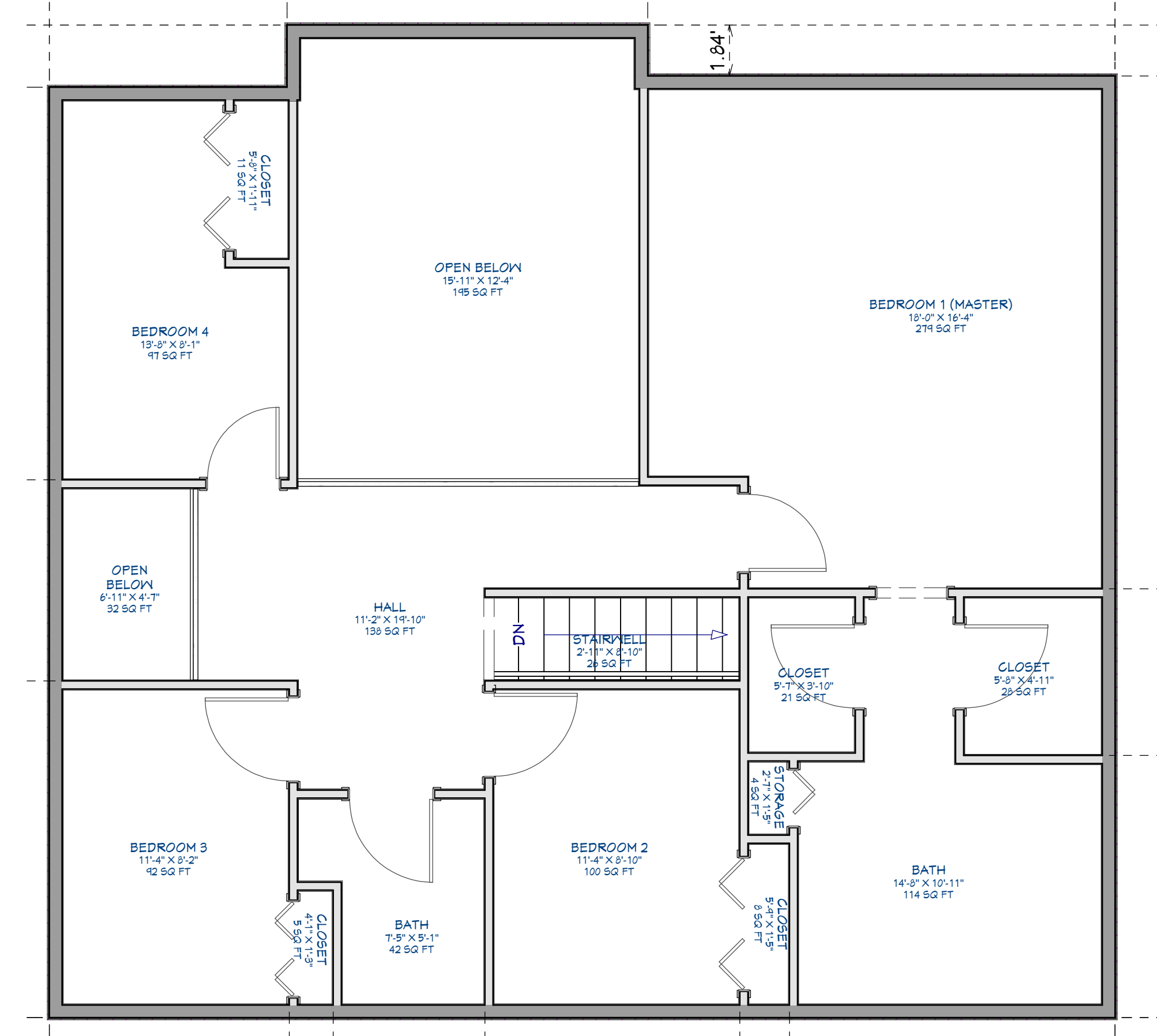
GARAGE SIZE		
ROOM NAME	AREA, INTERIOR (SQ FT)	CEILING HEIGHT
GARAGE	635	109 1/8"
STORAGE SHED TO BE DEMOLISHED	63	109 1/8"
UTILITY	90	97 1/2"
TOTALS:	789	

No change proposed to main house lower & upper floors

ROOM FINISH SCHEDULE (UPPER FLOOR)		
ROOM NAME	AREA, INTERIOR (SQ FT)	CEILING FINISH HEIGHT
OPEN BELOW	32	218 1/8"
OPEN BELOW	195	
STAIRWELL	26	
BATH	42	96 3/8"
BATH	114	96 3/8"
BEDROOM 1 (MASTER)	279	96 3/8"
BEDROOM 2	100	96 3/8"
BEDROOM 3	92	96 3/8"
BEDROOM 4	97	96 3/8"
CLOSET	21	96 3/8"
CLOSET	28	96 3/8"
CLOSET	8	96 3/8"
CLOSET	5	96 3/8"
CLOSET	11	96 3/8"
HALL	138	96 3/8"
STORAGE	4	96 3/8"
TOTALS:	1192	



LOWER FLOOR



UPPER FLOOR

BUILDING HEIGHT CALCS.

HEIGHT CALCULATIONS			
BENCHMARK: POWER POLE 100'			
LABEL	MIDPOINT ELV. *	WALL SEG.**	* X **
A	101'	39.49'	3,988
B	100'	33.62'	3,362
C	100'	8.58'	858
D	100'	2.25'	225
E	100'	13.09'	1309
F	100'	2.25'	225
G	100'	16.82'	1582
H	100'	33.62'	3362
I	100'	7.82'	782
J	100'	6.91'	691
K	100'	4.25'	425
L	100'	9.34'	934
M	100'	23.17'	2317
N	100'	9.34'	934
O	100'	3.38'	338
P	101'	21.82'	2204
Q	101'	30.80'	3111
R	101'	2.91'	294
S	101'	7.74'	782
TOTAL:	1,905'	277.20'	27723
(A) X (B) =	27723		
DIVIDE WALL SEG. =	277.20'		
ABE =	100' + 30' =	130'	
EXIST. HOUSE HEIGHT:	127.21'	CONFORMS	
PROPOSED ADU HEIGHT:	124.38'	CONFORMS	

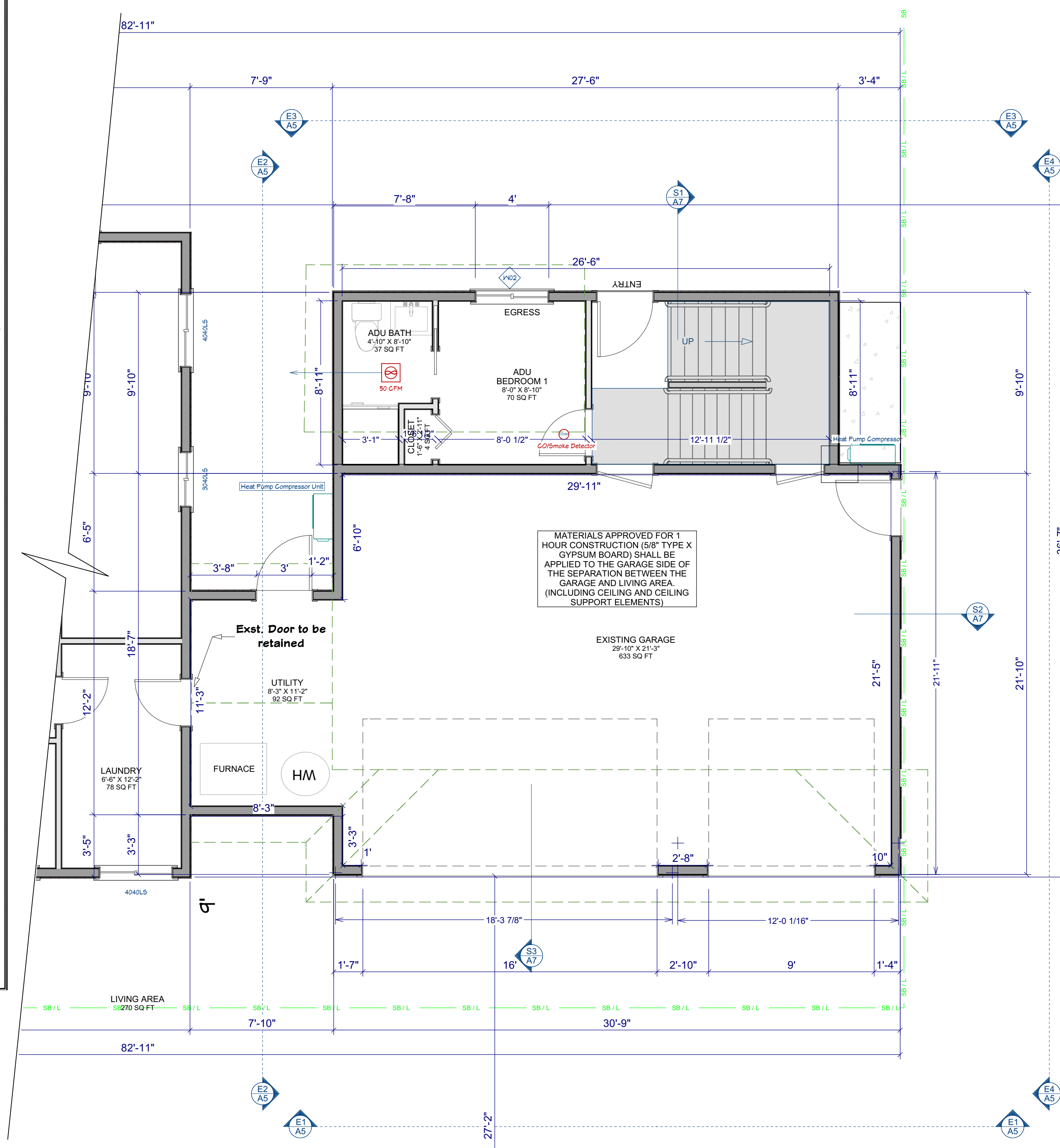
A. Average Building Elevation (ABE) calculations located on sheet #:
 B. Allowable Building Height (ABE + 30 ft.)
 C. Proposed Building Height
 D. Benchmark Elevation*
 E. Describe Benchmark Location (must be undisturbed throughout project)

A3
130
124.28
100
Power Pole

Feet
Feet
Feet

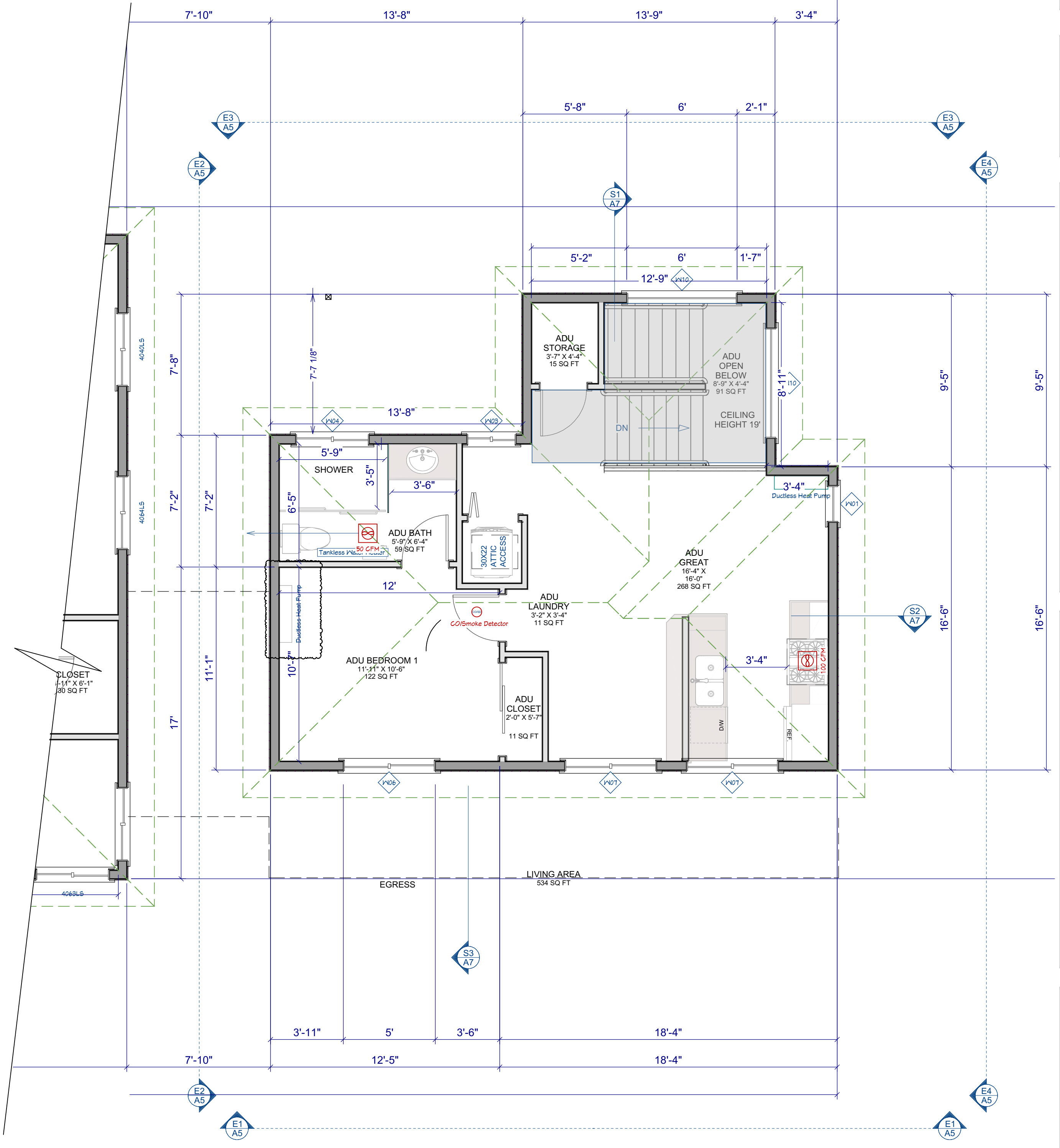


- NOTES**
- WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
 - SEE STRUCTURAL PLANS FOR ALL HEADERS AND BEAM SIZES.
 - BOTTOM OF HEADERS TO BE 8'-0" THIS FLOOR UNLESS NOTED OTHERWISE.
 - ALL EXTERIOR WALLS 2x6 W/ R-21 INSULATION UNO.
 - ALL FRAME NAILING TO SATISFY CHAPTER 6 IRC. BLOCK ALL FINISHED EDGES. ALL EXTERIOR SHEATHING NAILED W/ 10d @ 6" O.C. (EDGE) AND 12" O.C. (FIELD) UNO, TYP.
 - PROVIDE DOUBLE JOISTS OR BLOCKING WHERE PARTITIONS OCCUR ABOVE.
 - PROVIDE SOLID BLOCKING OVER SUPPORTS.
 - PLATE HEIGHT 9'-0" THIS FLOOR UNO.
 - FIRE BLOCKING TO ALL PLUMBING PENETRATIONS.
 - STAIRS AND SPACES UNDER STAIRCASES TO BE FINISHED WITH 5/8" TYPE "X" GYPSUM BOARD.
 - FINISH ALL CEILINGS WITH 1/2" GYPSUM BOARD.
 - AT GARAGE USE 1/2" TYPE "X" GYP. BD. AT ALL CORNER WALLS 18" TYPE "X" AT ALL CEILINGS AND ALL EXPOSED BEAMS.
 - PROVIDE 26-GAUGE GALVANIZED SHEET METAL FLASHING ABOVE WINDOWS AND DOORS. (TYP) LAP BUILDING PAPER OVER.
 - HOLD SIDING 6" ABV. FINISHED GRADE, TYP.
 - FASTEN MULTI-LAM 2x BEAMS PER IRC STANDARDS, CHAPTER 6, TABLE R602.3(1), TYPICAL DIRECTION.
 - ALL VOIDS TO BE FIRE/DRAFT BLOCKED PER IRC SECTION R602.2.
 - INSTALL WATER HEATER PER IRC, CHAPTER 28 AND PER 2018 IMC. THE PILOTS, BURNERS, HEATING ELEMENTS, AND SWITCHES SHALL BE A MIN. OF 18" ABOVE THE GARAGE FLOOR PER 2018 IMC.
 - STRAP THE WATER HEATERS AT POINTS WITH THE UPPER 1/3 AND LOWER 1/3 OF ITS VERTICAL DIMENSION. LOWER POINT SHALL BE MINIMUM 4" ABOVE CONTROLS.
 - FURNACE TO BE PLACED 18" ABV. FLOOR ON 1 HOUR RATED PLATFORM W/ 3/4" LAYERS PLYWOOD. THE PILOTS, BURNERS, HEATING ELEMENTS AND SWITCHES SHALL ALSO BE A MIN. OF 18" ABOVE THE GARAGE FLOOR. PROTECT FROM IMPACT PER 2018 IMC.
 - DOOR BETWEEN HOUSE AND GARAGE TO BE 20 MIN RATED, SOLID CORE, TIGHT FITTING, WITH SELF CLOSURE.
 - ALL SMOKE DETECTORS TO BE 10 VOLT WITH BATTERY BACKUP, INTERCONNECTED. DENOTES: INSTALL CARBON MONOXIDE ALARMS PER IRC R310 (UNLESS OTHERWISE SPECIFIED).
 - 36" I.C.C. APPROVED DIRECT VENT FIREPLACE W/ 20" D. FLUSH HEARTH MIN. 6 SQ. IN. O.S. COMB. AIR. INSTALL DIR. VENT FRPL. PER TERMS OF LISTING AND FIGS. SPEC. PER SECTION R901.1.2.
 - PROVIDE CONT. HANDRAIL AT STAIRS A MIN. OF 1/2" FROM WALL.
 - LIGHTING CONTROLS FOR INTERIOR STAIRWAYS MUST BE PROVIDED AT THE TOP AND BOTTOM OF THE STAIR.
 - WALLS W/ GREATER THAN 350 PLF REQUIRE A MINIMUM OF A 3x MEMBER AT ABUTTING PANEL EDGES AND BIL. PLATES FOR WALLS BETWEEN 350 AND 600 PLF. ANCHOR BOLT SPACING HAS BEEN DECREASED BY 1/2" (USE 2x BIL. PLATE) PER IRC R403.6.
 - TUBS AND SHOWERS:
 - FIRE BLOCKING BETWEEN STUDS.
 - LIMIT SHOWER FLOW TO 1.5 GPM.
 - LIMIT LAV SINK FLOW TO 1.0 GPM, OR LESS.
 - WATERPROOF WALL TO WITHIN 10" ABOVE DRAIN INLET.
 - VAPOR BARRIER BEHIND GYPSUM BD.
 - ALL GLAZING WITHIN 10" ABOVE DRAIN INLET TO BE SAFETY GLASS.
 - OF 5.7 SQ. FT. NET CLEAR OPENING 4.44" MAX. ABV. FIN. FLR. MIN. EGRESSABLE WIDTH IS 20". MIN. HEIGHT IS 24".
 - SAFETY GLAZING REQUIRED IN THE FOLLOWING AREAS:
 - A. GLAZING LESS THAN 60" ABOVE TUB OR SHOWER.
 - B. ALL TUB & SHOWER DOORS & ENCLOSURES EXCEPT GLASS BLOCK, GREATER THAN 3" SPHERE UNLESS DECORATIVE GLASS.
 - C. ALL WINDOWS WITHIN 24" OF A DOOR SWING, LESS THAN 60" ABOVE FLOOR.
 - D. FIXED AND SLIDING PANELS OF SLIDING DOORS.
 - E. ALL UNFRAMED SLIDING DOORS.
 - F. ALL GLAZING LESS THAN 3' HORIZ. OF STAIR OR LANDING LESS THAN 60" ABOVE FIN. FLR. H. GLAZING LESS THAN 60" ABOVE STAIRS.
 - ATTIC ACCESS TO BE A MIN. OF 22"x30" W/INBL. & WEATHER-STRIPPING PER CODE.
 - WHOLE HOUSE FAN WITH AUTO TIMER AND MANUAL OVERRIDE.



ADU LOWER FLOOR		
ROOM NAME	AREA, INC. WALLS	NOTES
ADU BATH	45.35	
ADU BEDROOM 1	78.47	
ADU CLOSET 1	6.39	
ADU HALL/ENTRY	129.09	
(CEILING HEIGHT MODIFIER)	31.18	GRAY AREA
TOTALS:	290.48 SQ. FT.	

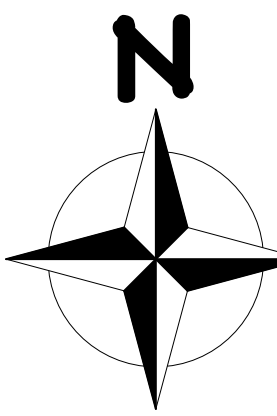
MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"



ADU UPPER FLOOR	
ROOM NAME	AREA, INC. WALLS
ADU BATH	71.18
ADU BEDROOM 1	142.27
ADU CLOSET	14.59
ADU GREAT	291.40
ADU LAUNDRY	15.36
ADU STORAGE	22.75
ADU OPEN BELOW 33%	46.00
TOTALS:	603.54 SF

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

ADU TOTAL	
ROOM NAME	AREA, (INC WALLS)
LOWER FLOOR	290.48 SF
UPPER FLOOR	603.54 SF
TOTAL:	894.02 SF



PROPOSED MAIN & UPPER FLOOR PLAN

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

SHEET NUMBER
A4
Revision #:

DATE: 06.12.20
REV #10: 07.17.23
DRAWN BY: K.C.

**PROPOSED
MAIN & UPPER FLOOR**

**TOM & KIM TSO
ADDITION & ADU**
8802 SE 9TH ST, MERCER ISLAND WA 98040

KESH DESIGN LINES LLC
425 344 9906

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

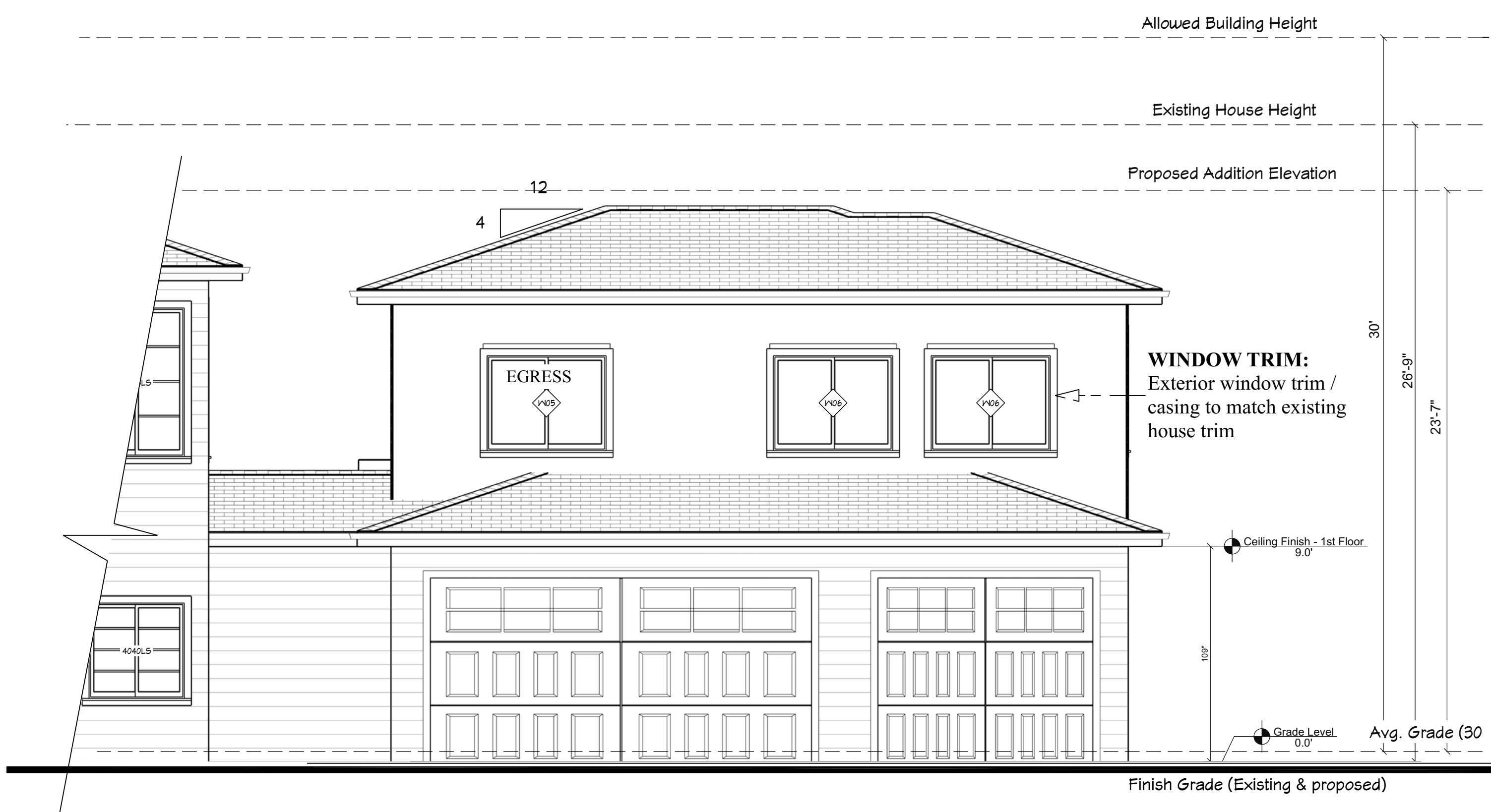
SHEET NUMBER
A5
Revision #:

DATE: 06.12.20
REV #12: 01.24.24
DRAWN BY: K.C.

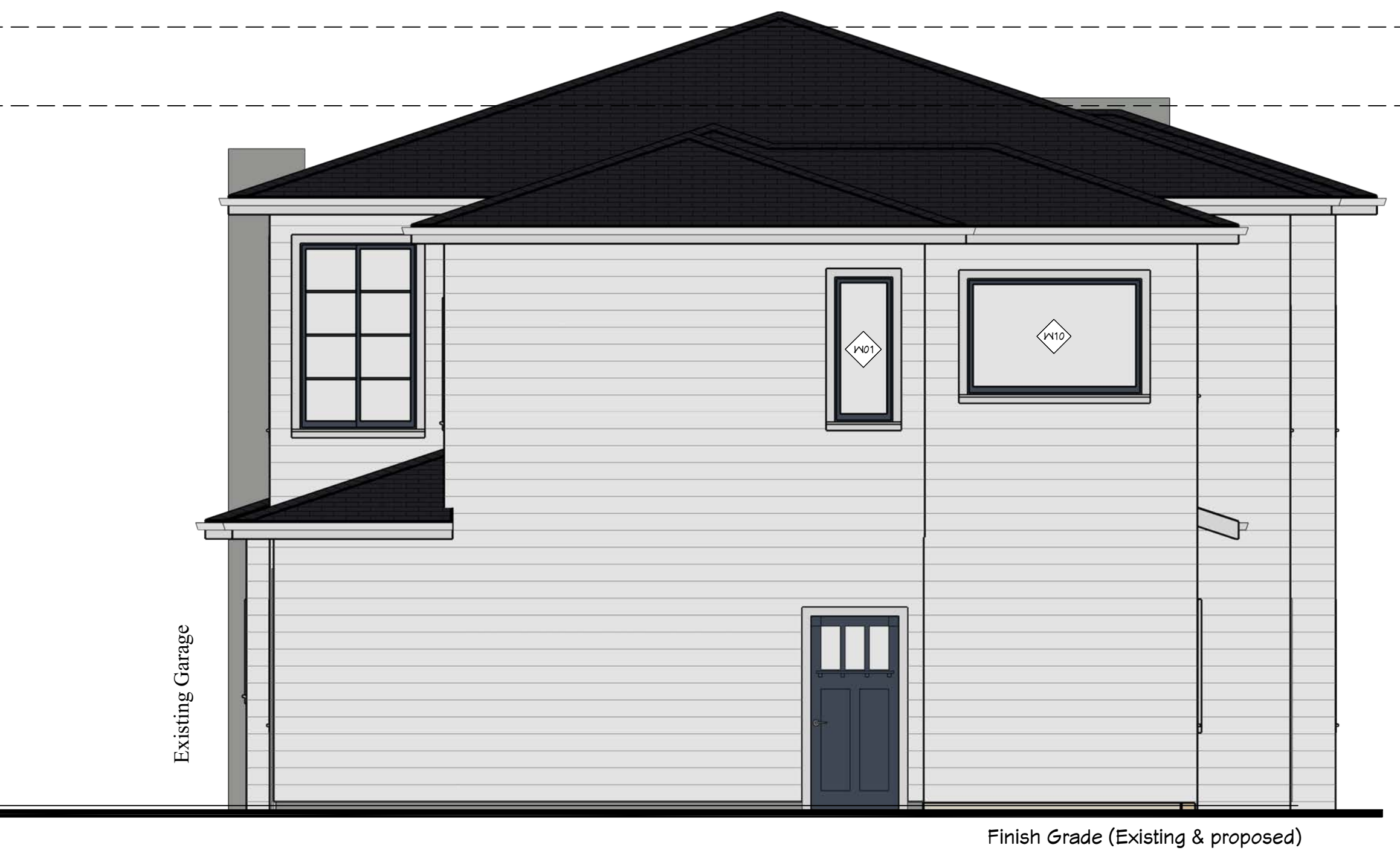
ELEVATIONS

TOM & KIM TSO
ADDITION & ADU
8802 SE 9TH ST. MERCER ISLAND WA 98040

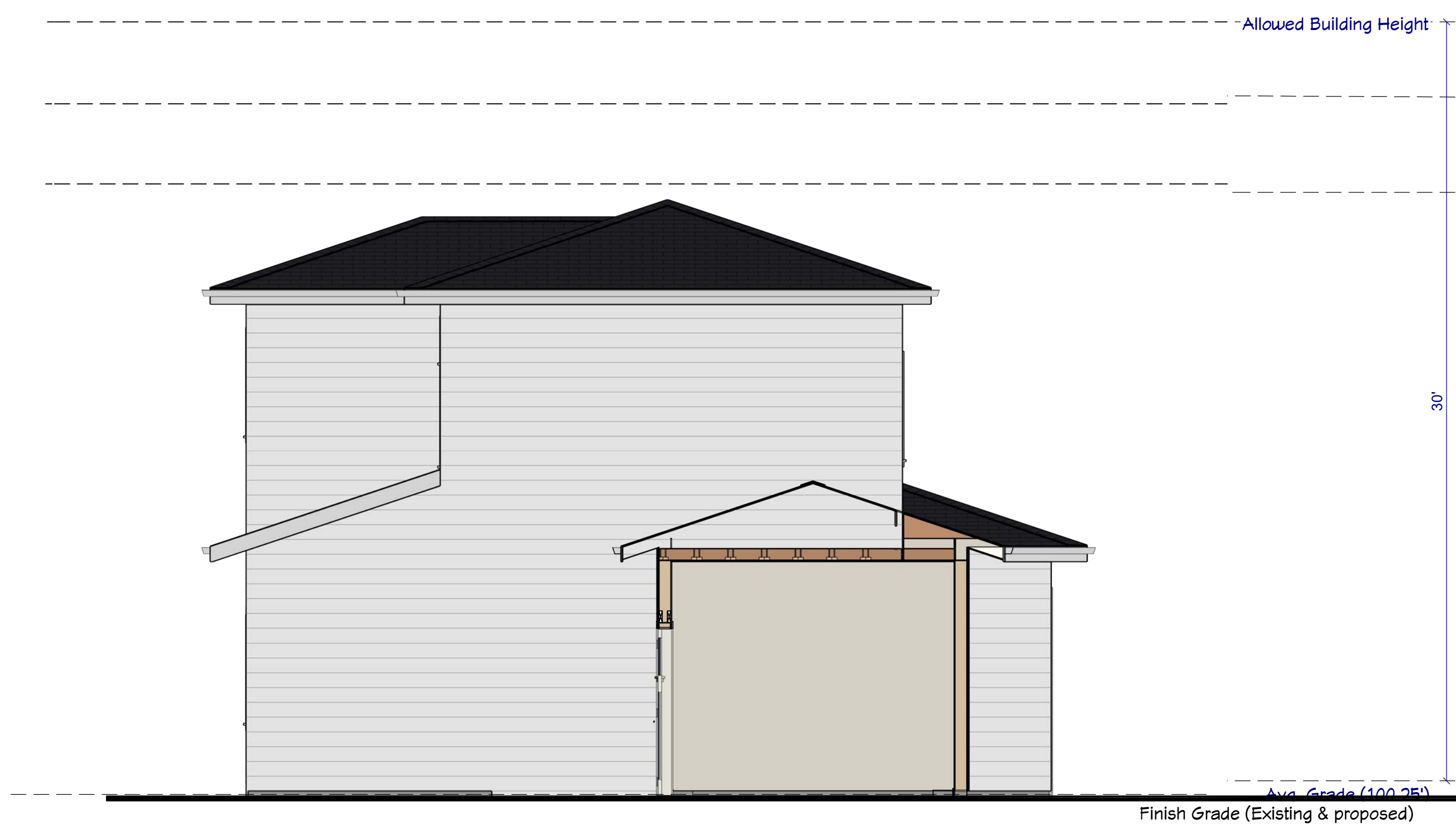
KESH DESIGN LINES LLC
425 344 9906



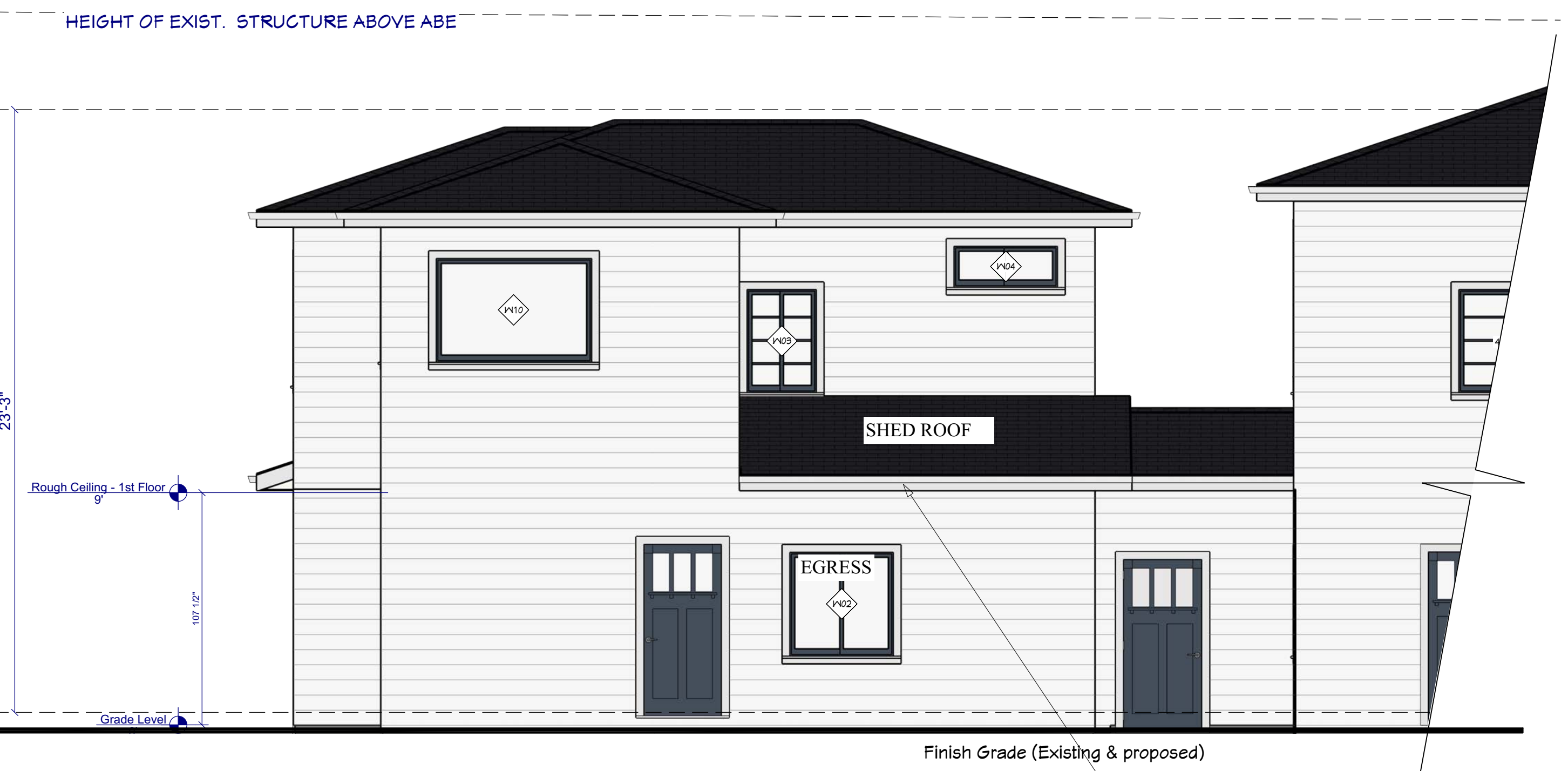
E1 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



E3 WEST ELEVATION
SCALE: 1/4" = 1'-0"



E2 EAST ELEVATION
SCALE: 1/4" = 1'-0"



E4 NORTH ELEVATION
SCALE: 1/4" = 1'-0"

SEE NEW STRUCTURAL (S) SHEETS



KESH DESIGN LINES LLC

425 344 9906

TOM & KIM TSO
ADDITION & ADU
2802 SE 9TH ST. MERCER ISLAND WA 98040

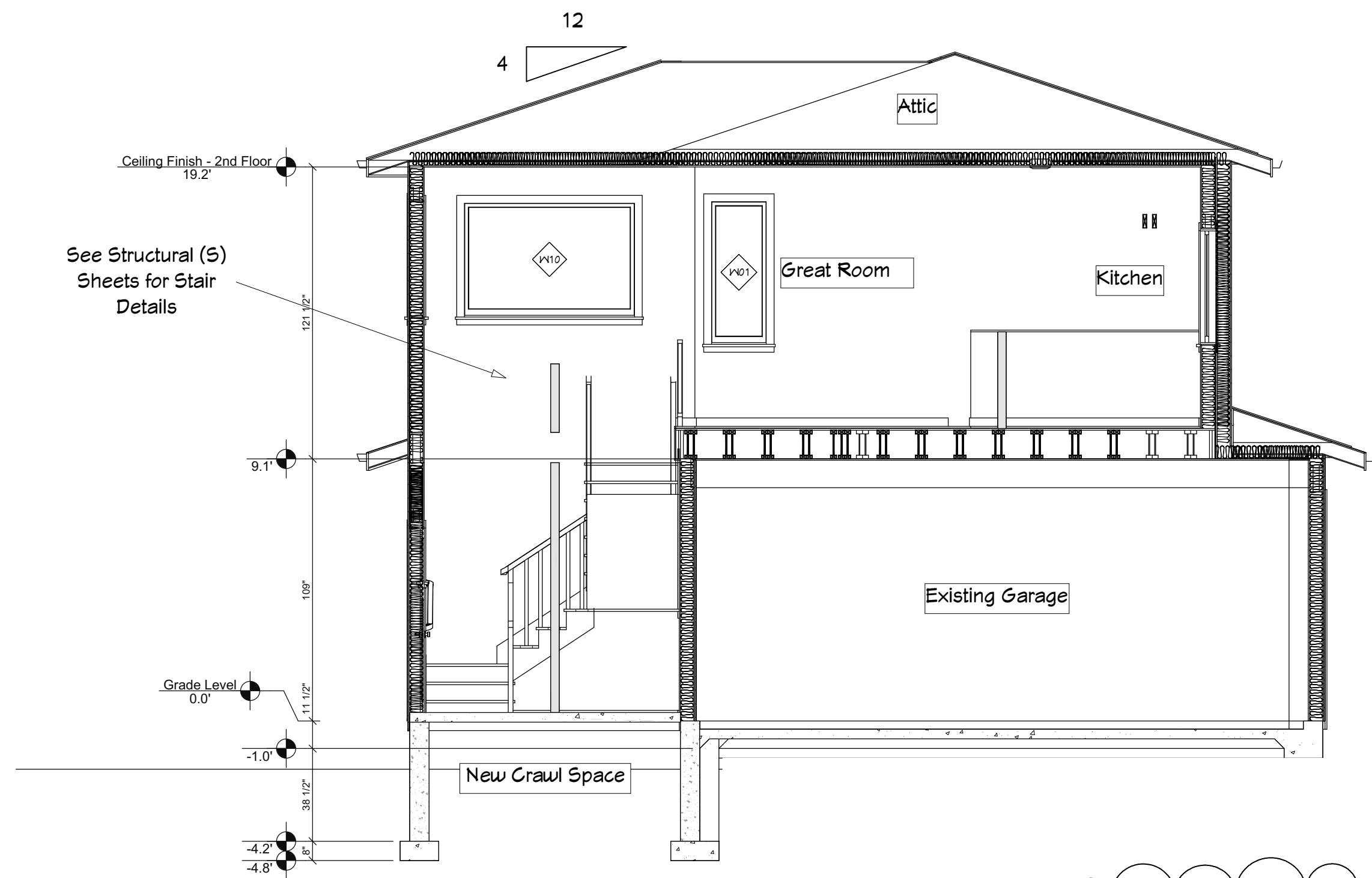
FOUNDATION and 1st FLOOR
FRAMING PLAN

DATE: 06.12.20
REV #12: 01.24.24
DRAWN BY: K.C.

SHEET NUMBER

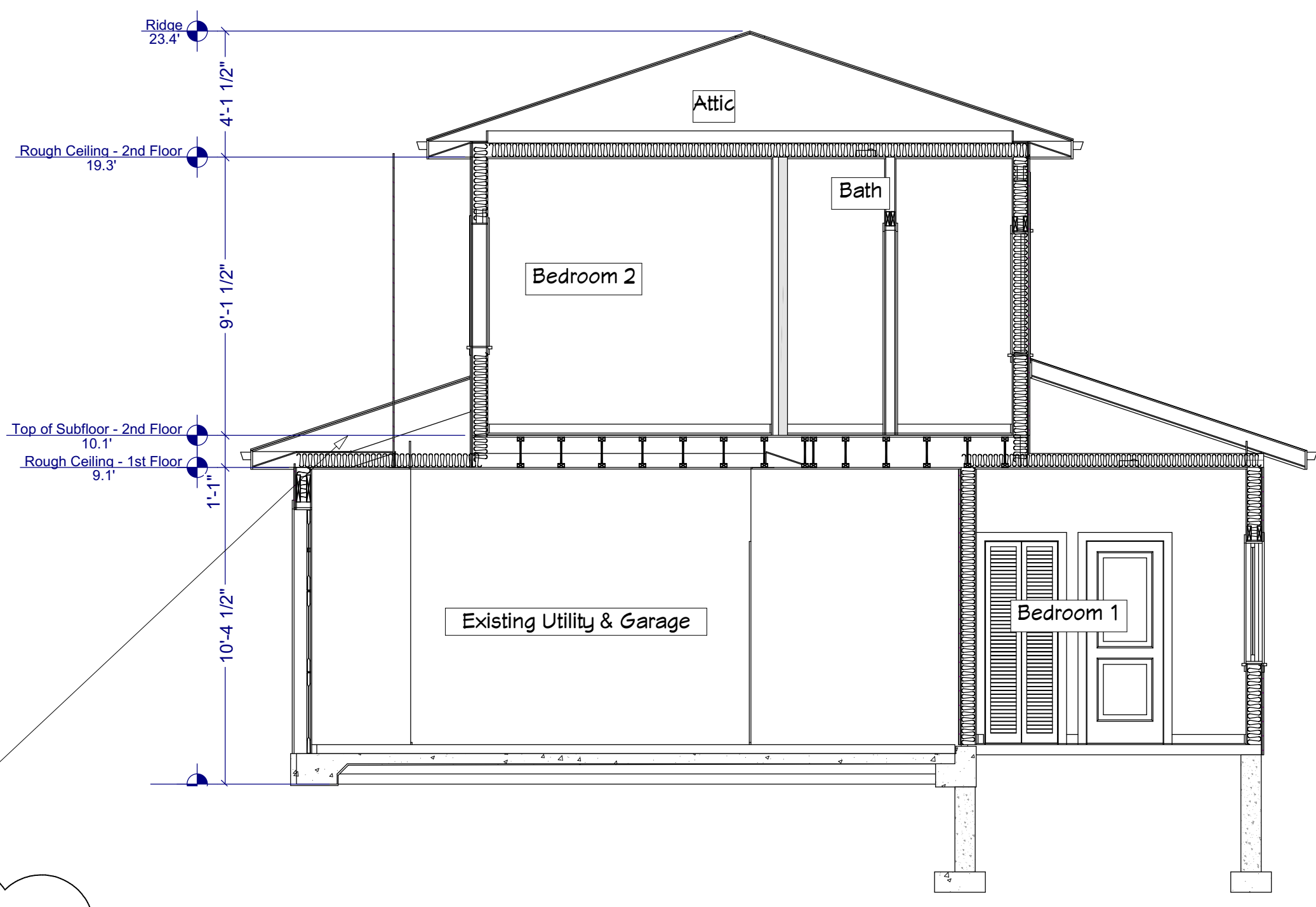
A6

Revision #:

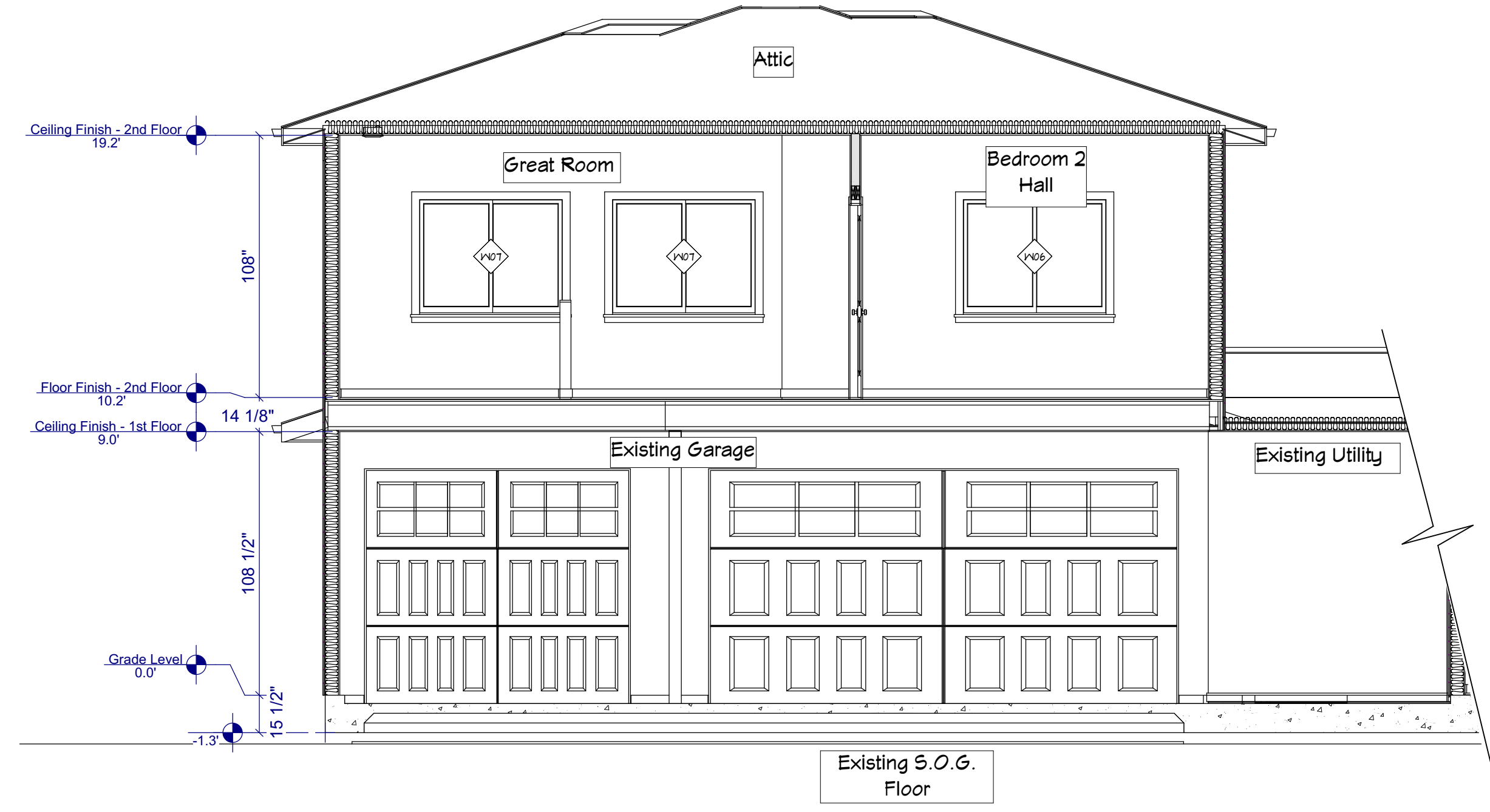


S1 SECTION
SCALE: 1/4" = 1'-0"

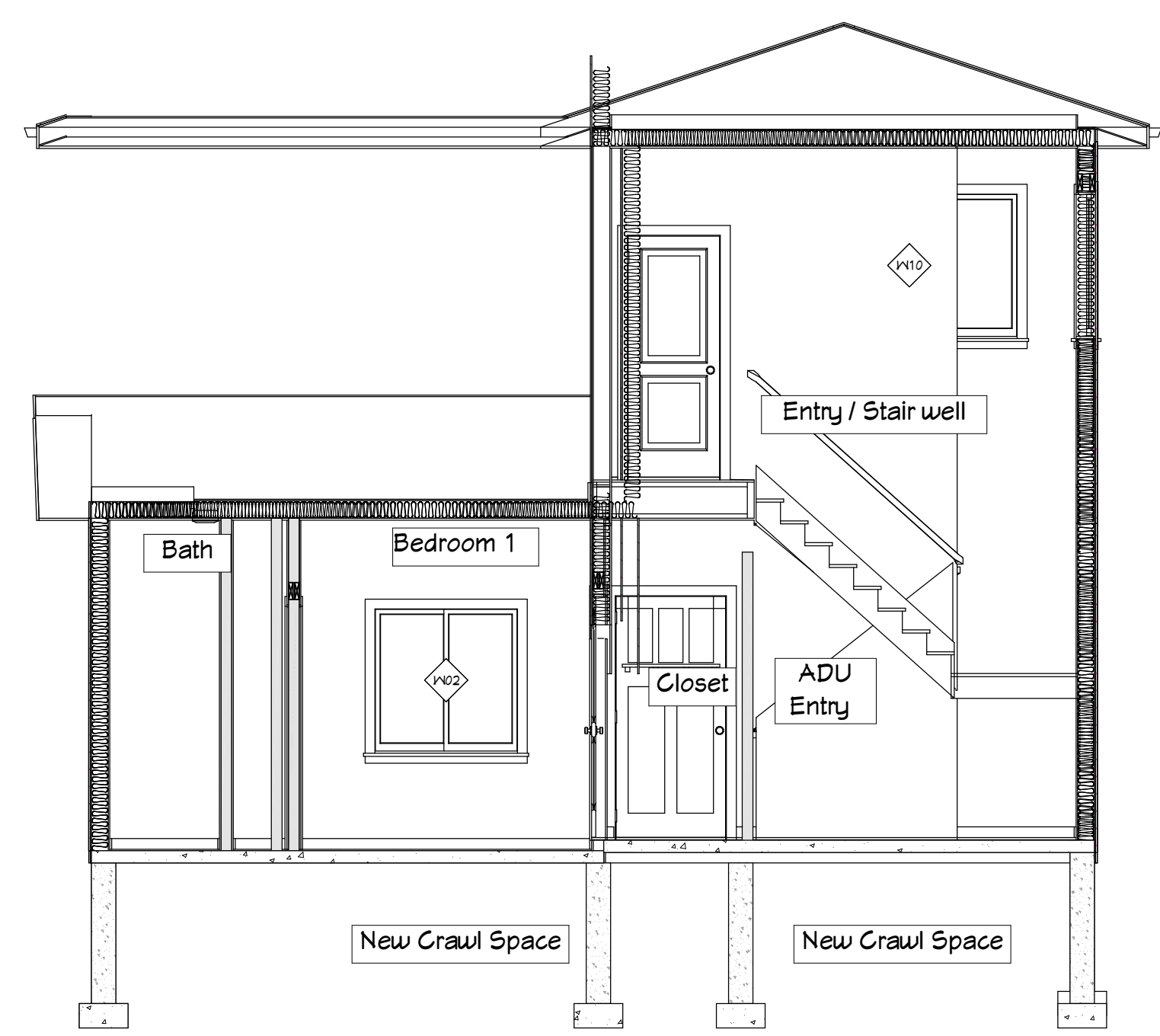
SHED ROOF ASSEMBLY:
 1. Intake Vents: Eave venting (3) 2" Dia. "Bird Holes" Per Eave block)7 1/2" sq. in. per block
 2. Exhaust Vents: Off Ridge vent per manufactures installation instructions
 3. Insulation: Provide R-49 Batt Insulation.



S3 SECTION
SCALE: 1/4" = 1'-0"

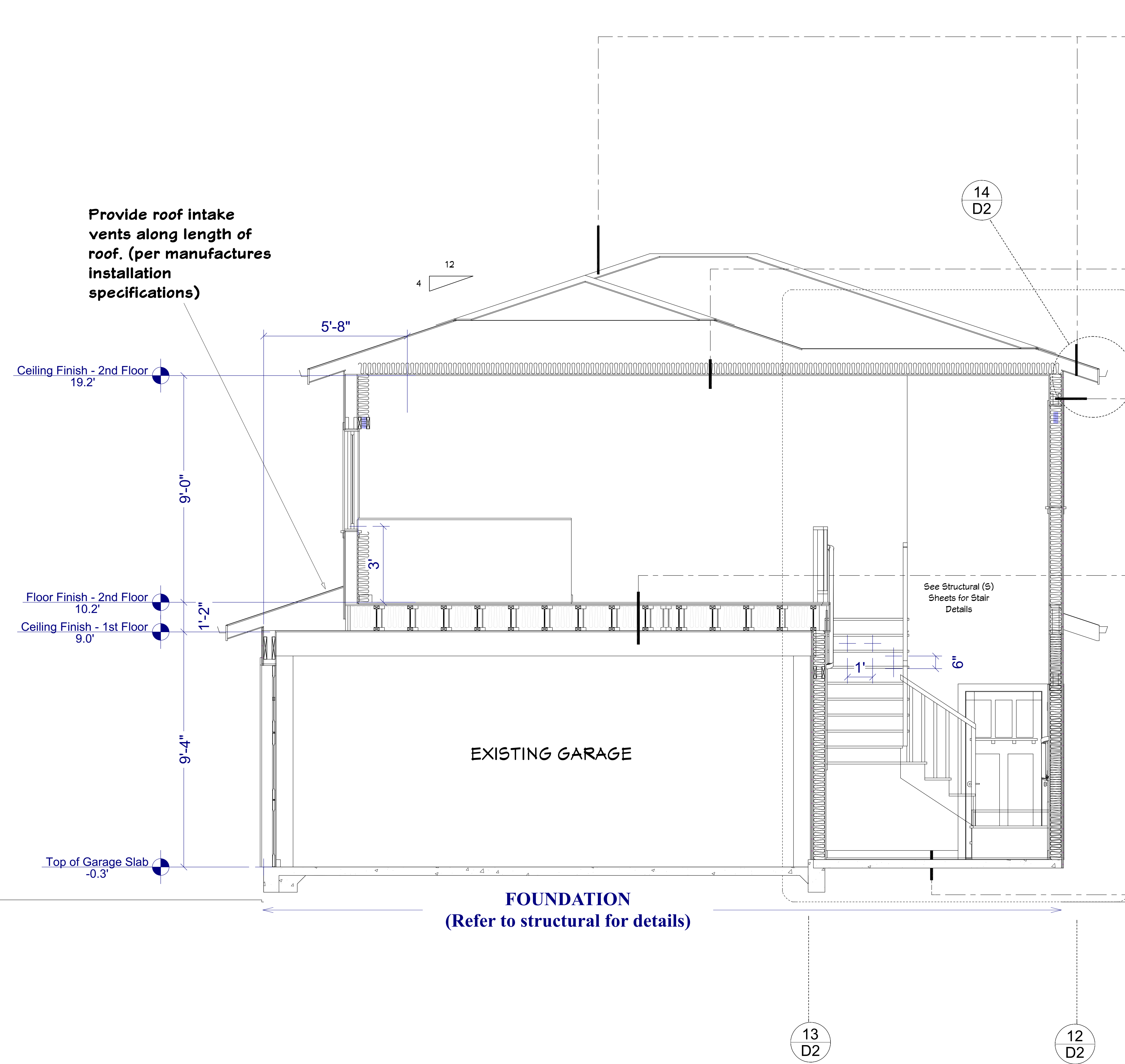


S2 SECTION
SCALE: 1/4" = 1'-0"



S4 SECTION
SCALE: 1/4" = 1'-0"





Provide roof intake vents along length of roof. (per manufactures installation specifications)

TYP. ROOF CONSTRUCTION:
 Comp. Shingles to match existing house roof
 1/2" CDX Plywood
 Per 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

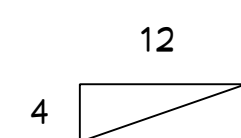
TYP. EXTERIOR WALL CONSTRUCTION:
 Siding to match existing Wood Lap house siding.
 5# felt building wrap
 2x6 studs @ 16 OC (std framing)
 Min. R-21 Batt Insulation (Heated Spaces)
 1/2" GWB @ inside face per plan

UPPER FLOOR ASSEMBLY:
 See Structural for Floor Joists & subfloor details
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 attached 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. Horizontal 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

FOUNDATION
 (Refer to structural for details)

Ceiling Finish - 2nd Floor 19.2'
 9'-0"
 Floor Finish - 2nd Floor 10.2'
 Ceiling Finish - 1st Floor 9.0'
 1'-2"
 9'-4"
 Top of Garage Slab -0.3'



13
D2

12
D2

14
D2

See Structural (S)
 Sheets for Stair
 Details

EXISTING GARAGE

S3 SECTION
 SCALE: 1/2" = 1'-0"

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

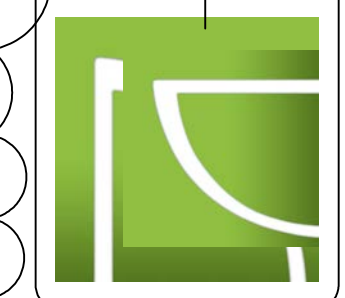
SHEET NUMBER
A8
 Revision #:

DATE: 06.12.20
 REV #12: 01.24.24
 DRAWN BY: K.C.

SECTION & DETAILS

TOM & KIM TSO
 ADDITION & ADU
 8802 SE 9TH ST. MERCER ISLAND WA 98040

KESH DESIGN LINES LLC
 425 344 9906



SEE NEW STRUCTURAL (S) SHEETS



KESH DESIGN LINES LLC

425 344 9906

TOM & KIM TSO
ADDITION & ADU

8802 SE 9TH ST. MERCER ISLAND WA 98040

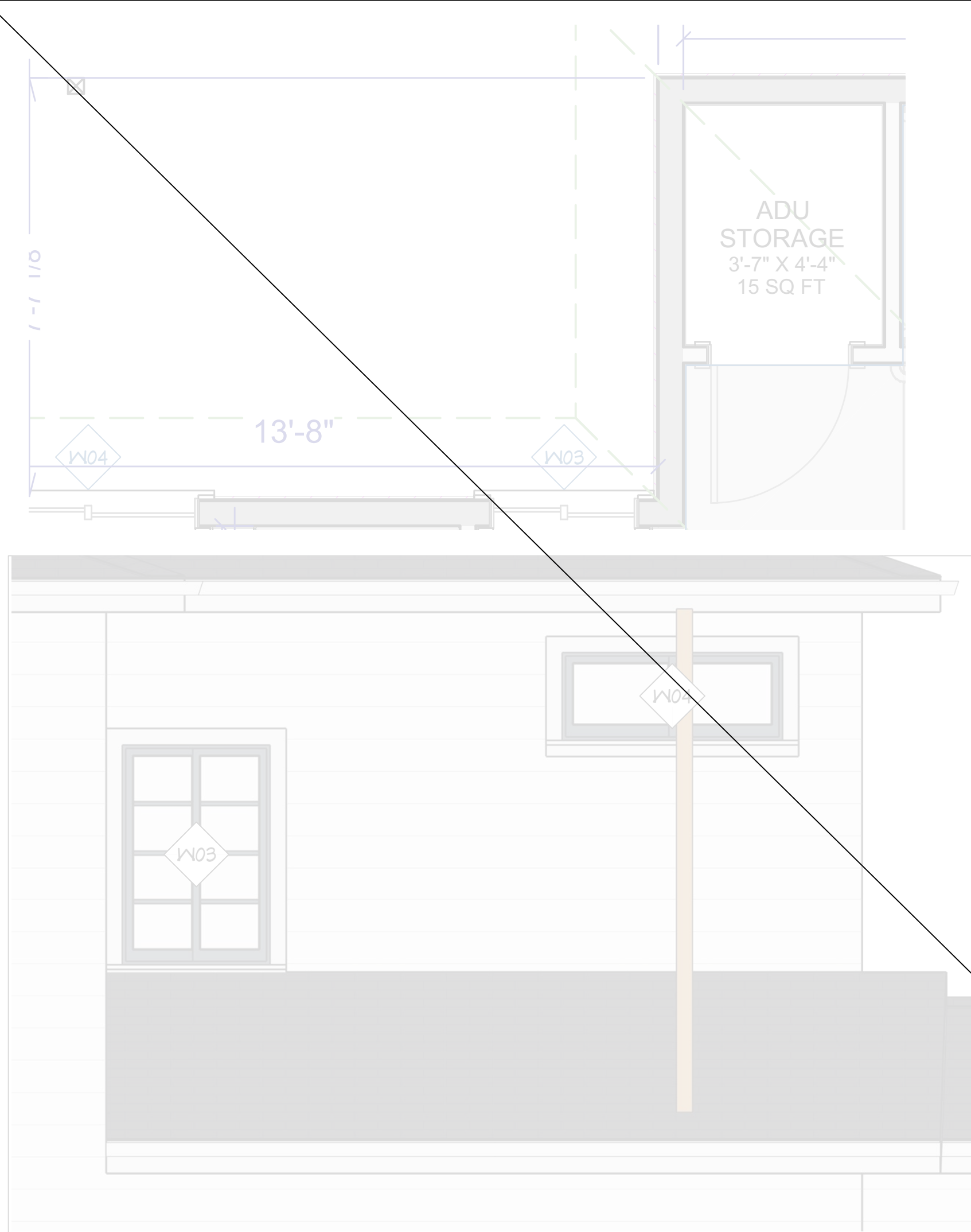
FRAMING PLAN & NOTES

DATE: 06.12.20
REV #12: 01.24.24
DRAWN BY: K.C.

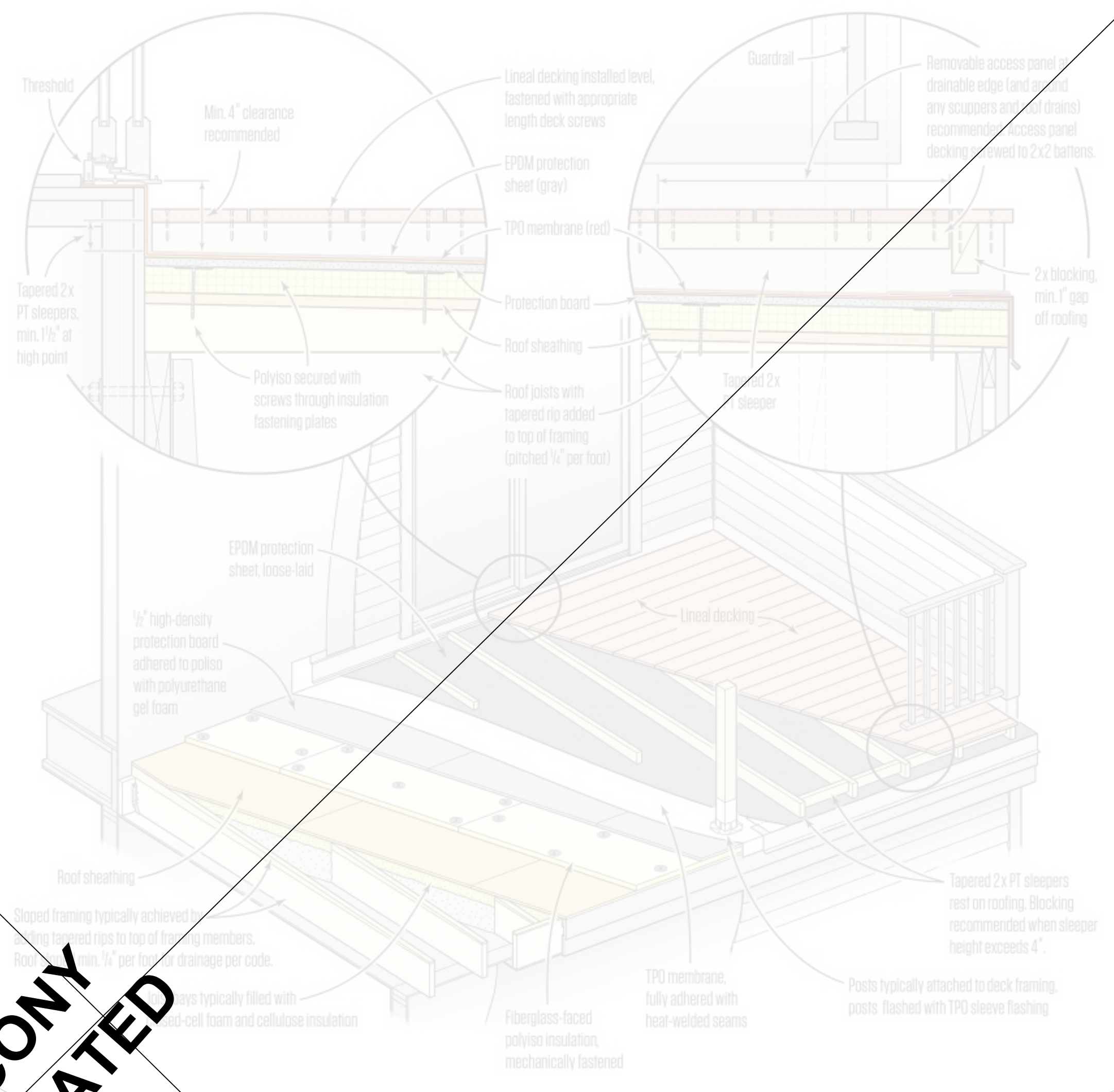
SHEET NUMBER

A9

Revision #:



BALCONY FLOOR ASSEMBLY & WATERPROOFING DETAILS



**BALCONY
ELIMINATED**

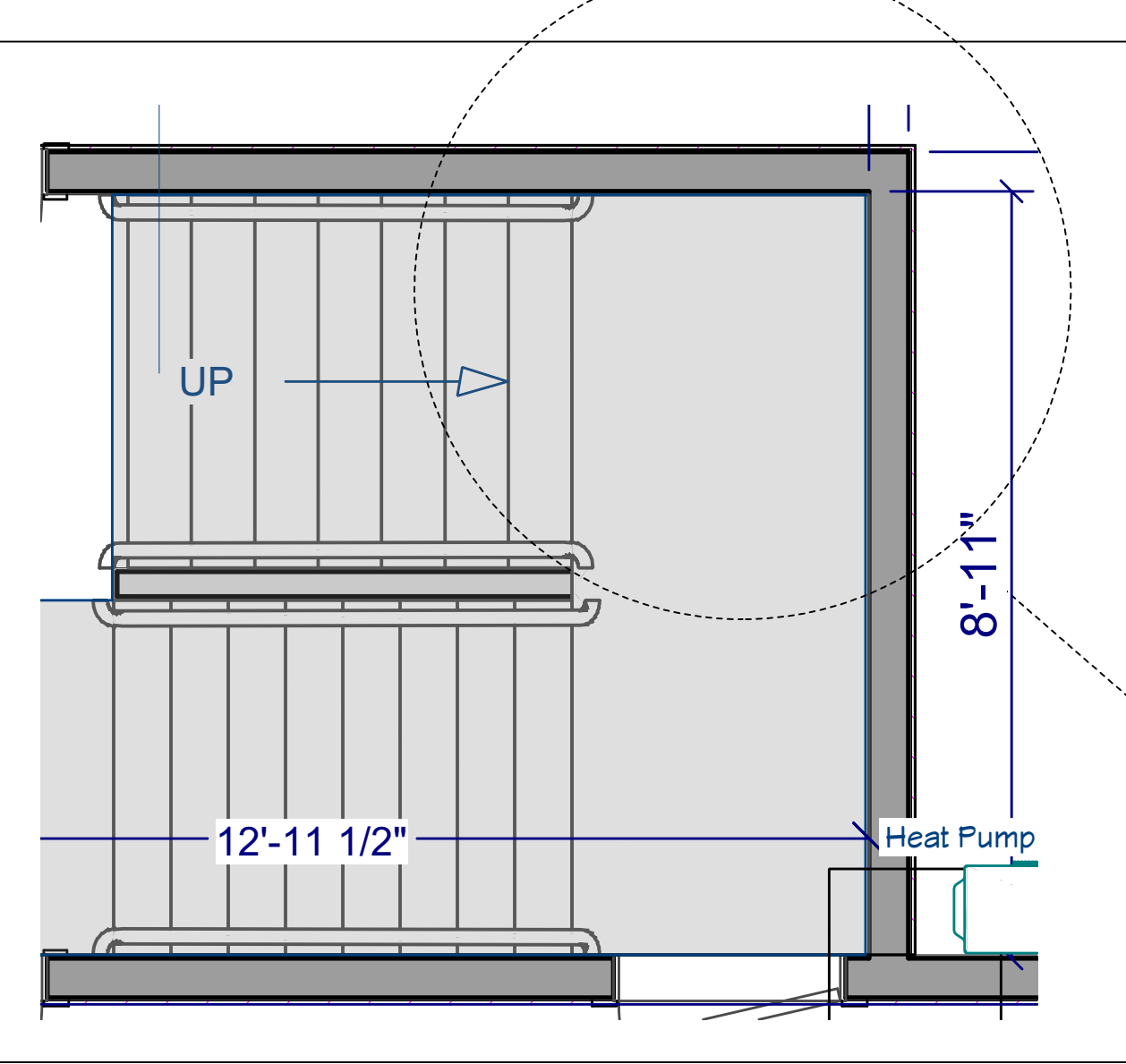
MISCELLANEOUS NOTES

1. GUARDRAILS TO BE 36" MIN. ABOVE FINISH FLOOR.
2. HANDRAILS TO BE 34" - 38" ABOVE NOSING, WITH HANDGrips 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. STAIR 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. SMOKE DETECTORS SHALL BE PROVIDED W/ A BATTERY BACK-UP. PER SEC. (F) R313 AND, LOCATED PER SECTION (F) R313.
7. ANCHORED VENEER SHALL BE PROVIDED WITH #2 GA. X 3/4" CORROSION RESISTANT ANCHOR TIES. THE ANCHORS SHALL BE SPACED A MAX. OF 24" O.C. AND SUPPORT NO MORE THAN 2 SQ. FT. OF VENEER. IN SEISMIC ZONE 3 - 4.4 THE EXTENDED LEG OF THE ANCHOR TIE SHALL LOOP AROUND #3 GA. CONT. HORIZ. JOINT REINFORCEMENT WIRE.

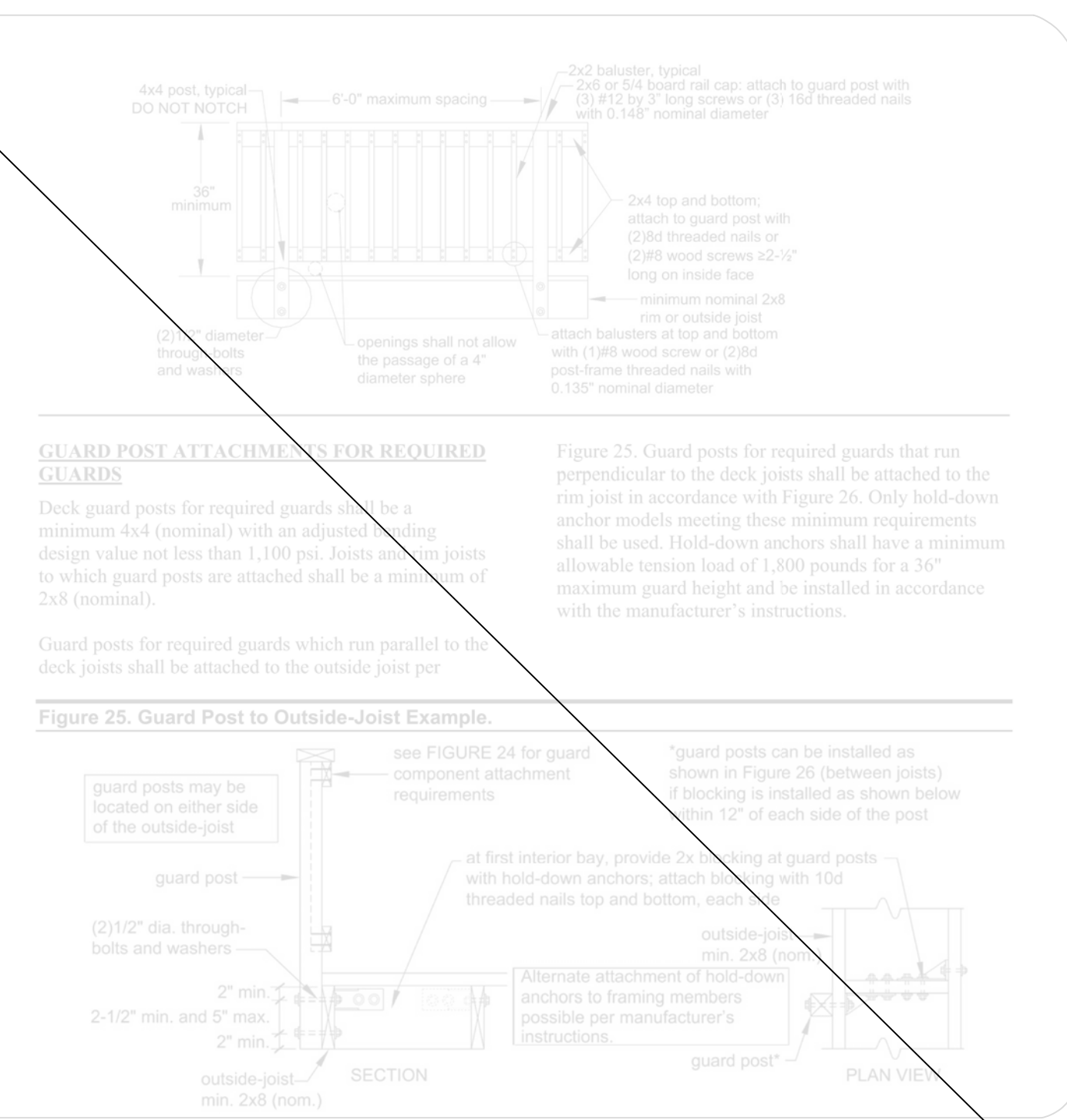
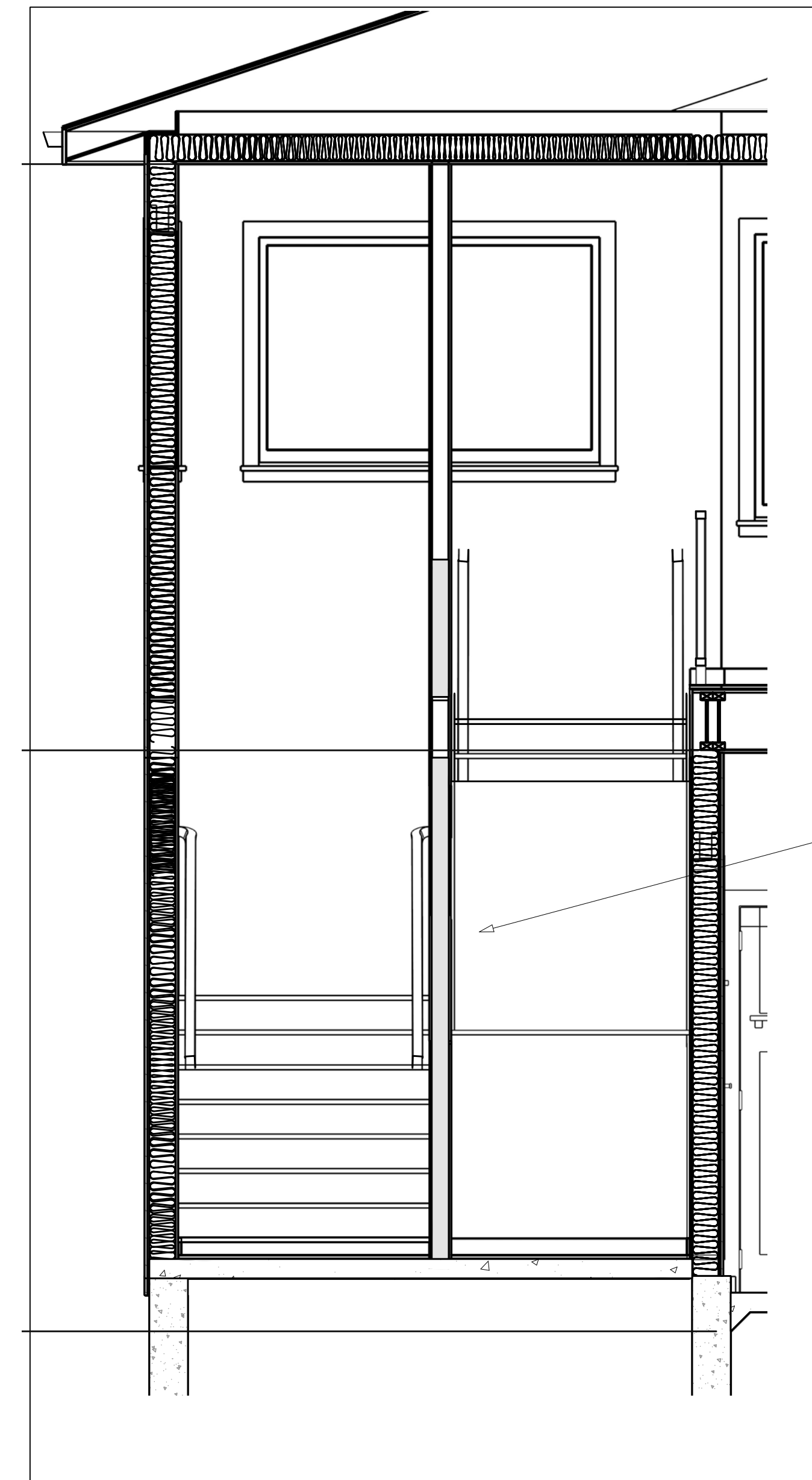
BALCONY GUARD RAIL DETAILS

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

B1



11
D2
5
D1



GUARD POST ATTACHMENTS FOR REQUIRED GUARDS

Deck guard posts for required guards shall be a minimum 4x4 (nominal) with an adjusted holding design value not less than 1,100 lbs. Joists and joists to which guard posts are attached shall be a minimum of 2x8 (nominal).

Guard posts for required guards which run parallel to the deck joists shall be attached to the outside joist per Figure 25. Guard Post to Outside-Joist Example.

Figure 25. Guard Post to Outside-Joist Example.

see FIGURE 24 for guard component attachment requirements.

guard posts may be located on either side of the outside-post.

guard post

outside-post - min. 2x8 (nom.)

at first interior bay, provide 2x blocking at guard posts with hold-down anchors; attach to joists with 10d threaded nails top and bottom, each.

Alternate attachment of hold-down anchors to framing members possible per manufacturer's instructions.

guard post

PLAN VIEW

S1 STAIR DETAILS

SCALE: = 1'-0"

S1

SHEET NUMBER
A10

DATE: 06.12.20
REV #12: 01.24.24
DRAWN BY: K.C.

STAIR & BALCONY DETAILS

**TOM & KIM TSO
ADDITION & ADU**
8802 SE 9th ST. MERCER ISLAND WA 98040

KESH DESIGN LINES LLC
425 344 9906



ROOF FRAMING NOTES

1. USE 4x10 OR 6x8 DF #2 FOR BEAMS AND HEADERS UNO.
2. ALL RAFTERS TO BE 2x12 HF #2 AT 24" O.C. TYPICAL UNO.
3. ALL TRUSSES TO BE AT 24" O.C. TYPICAL UNO.
4. PROVIDE ROOF VENTS PER SEC. R806 IRC.
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.
7. 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. VENTED BLOCKING OVER SUPPORTS.
9. CHIMNEY HEIGHT TO BE 2'-0" MIN. ABOVE ANY PORTION OF BUILDING WITHIN 10'-0" PER IRC SECTION R1001.6
10. 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'-0", TYP. UNO.
 - UPPER FLOOR 9'-0", TYP. UNO.
12. TRUSSES:
 - CARRY MFR. STAMP.
 - DO NOT ALTER WITHOUT BUILDING DEPARTMENT APPROVAL.
 - INSTALL AND BRACE PER MFR. 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.

NOTE

VENTILATION CALCULATIONS AND REQUIREMENTS

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

PER IRC 806.1 ENCLOSED ATTICS AND ENCLOSED RAFTER SPACES FOR WHERE CEILING ARE AT LEAST 12" 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 1/8" MIN. & 1/2" MAX. OPENINGS.

IF EAVE VENTS ARE INSTALLED INSULATION SHALL NOT OBSTRUCT THE FREE FLOW OF AIR (MIN. 1" SPACE BETWEEN INSULATION AND ROOF SHEATHING • VENT 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-COMPRESSIBLE INSULATION. VERTICALLY ABOVE LOOSE FILL INSULATION. (ALL CALCULATIONS WILL BE NET FREE AREA.)

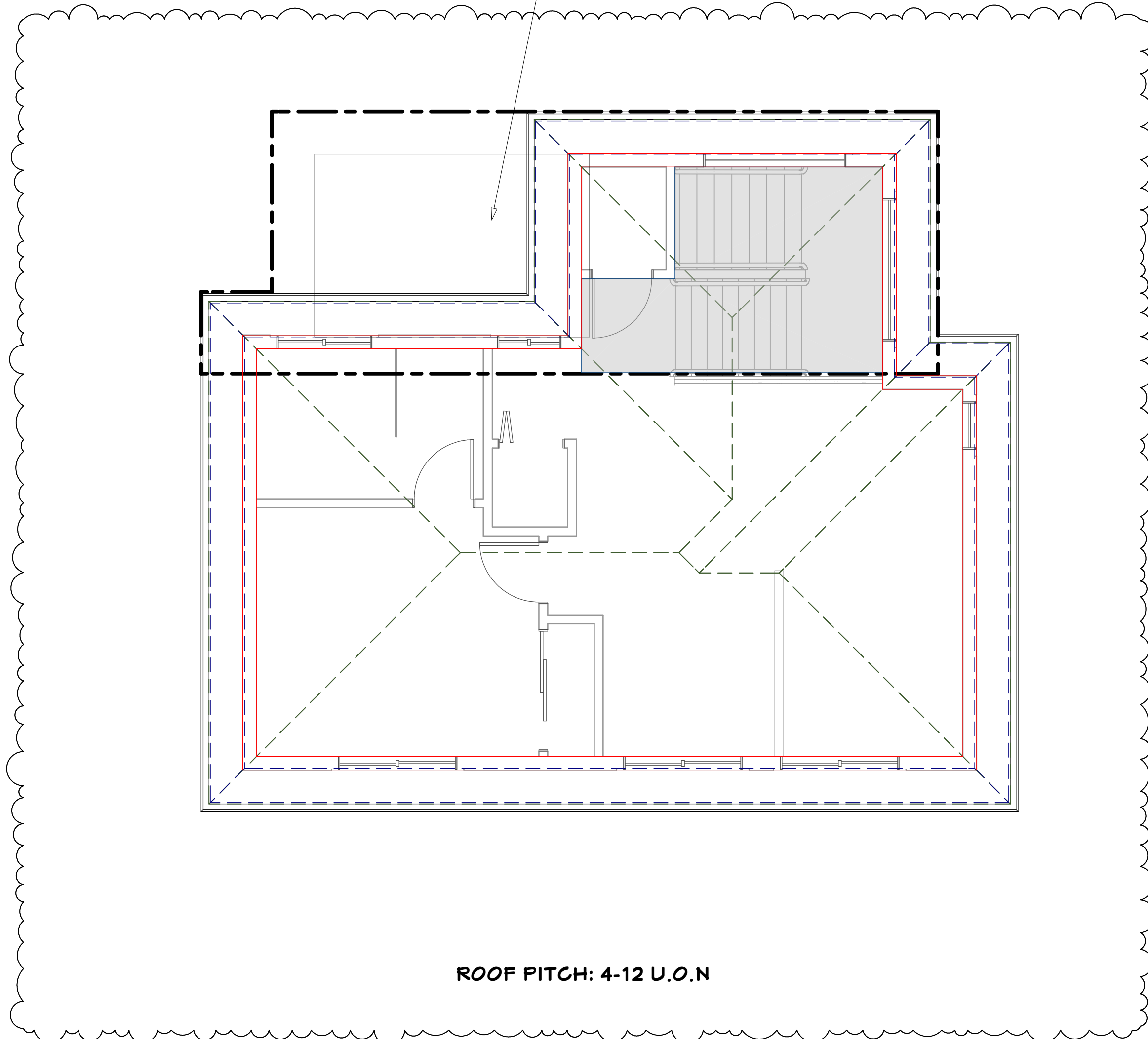
1444 SQ. FT. OF ATTIC AREA/300+481 SQ. FT. OF VENTILATION REQUIRED (694 SQ. INCHES)
 HIGH VENT • 341 SQ. IN.
 LOW VENT • 341 SQ. IN.

NOTE: EAVE VENTING PROVIDED BY 1 1/2" DIAMETER "BIRD HOLES" PER EAVE BLOCK (1 1/2" sq. in. PER BLOCK).

NOTE: UPPER ROOF VENTING PROVIDED BY 1"x1" ROOF VENTS. (49 # IN. PER VENT)

SHED ROOF ASSEMBLY:

1. Intake Vents: Eave venting (3) 2" Dia. "Bird Holes" Per Eave block)71/2"" sq. in. per block
2. Exhaust Vents: Off Ridge vent per manufactures installation instructions
3. Insulation: Provide R-49 Batt Insulation.



ROOF PLAN

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

FIREBLOCKING AND DRAFTSTOPPING

PER IRC SECTION R602.8 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 ROOF SPACE. FIREBLOCKING SHALL BE PROVIDED IN WOOD FRAME CONSTRUCTION IN THE FOLLOWING LOCATIONS:

- 1) IN CONCEALED SPACES 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 10 FEET.
- 2) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR IN SOFFITS, DROP CEILING, AND COVE CEILING.
- 3) IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R312.2.
- 4) AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION.
- 5) FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES SEE IRC SECTION R1003.9.
- 6) FIREBLOCKING OF CORNICES OF A TWO FAMILY DWELLING IS REQUIRED AT THE LINE OF DWELLING UNIT SEPERATION. FIREBLOCKING MATERIALS SHALL CONSIST OF MATERIAL LISTED IN IRC SECTION R602.8.1. LOOSE FILL INSULATION 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.

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 1000 SF. DRAFTSTOPPING SHALL DIVIDE THE CONCEALED SPACE INTO APPROX. 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:

- 1) CEILING IS SUSPENDED UNDER THE FLOOR FRAMING.
- 2) FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN-WEBS OR PERFORATED MEMBERS.

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

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
 TIE ROOF 45 PSF TOP CHORD AND 5 PSF BOTTOM CHORD

5/8" FORE CLAY (OR EQUIVALENT) PER IRC SECTION R1001.8

Per R802.10 Wood Trusses

ATTIC VENTILATION: AREA / 300

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

PROVIDE GABLE VENTS ALL GABLE ENDS.

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 SPECIFICATIONS.
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 FRAMING INSPECTION.
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".

SHEET NUMBER
A11

DATE: 06.12.20
 REV #10: 07.17.23
 DRAWN BY: K.C.

ROOF PLAN

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SEE NEW STRUCTURAL (S) SHEETS



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SHEARWALL DETAILS

DATE: 06.12.20
REV #12: 01.24.24
DRAWN BY: K.C.

SHEET NUMBER

A12

Revision #:

WINDOW SCHEDULE										
ROOM NAME	NUMBER	QTY	FLOOR	WIDTH	HEIGHT	EGR ESS	TEM PERE D	DESCRIPTION	U-FACTOR	3D EXTERIOR ELEVATION
ADU GREAT	W01	1	2	24"	60"			SINGLE CASEMENT-HR	0.28	
ADU BEDROOM 1	W02	1	1	48"	48"	YES		LEFT SLIDING	0.28	
ADU GREAT	W03	1	2	32 1/8"	48"			LEFT SLIDING	0.28	
ADU BATH	W04	1	2	48"	19"			LEFT SLIDING	0.28	
ADU BEDROOM 1	W06	1	2	60"	48"	YES		RIGHT SLIDING	0.28	
ADU GREAT	W07	2	2	60"	48"	YES		RIGHT SLIDING	0.28	
ADU OPEN BELOW	W10	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 W503C TABLE 6-1 UNLESS NOTED OTHERWISE.
 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 TOP OPERABLE SASH PERIMETER AS TESTED BY STANDARD ASTM E 283.73. 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:
 1. INGRESS AND EGRESS DOORS
 2. SLIDING GLASS DOORS, SUNGLASS GLASS DOORS
 3. SHOWER AND BATH TUB ENCLOSURES
 4. GLAZING W/ THE EXPOSED EDGE WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF A DOOR IN THE CLOSED POSITION. 4 BOTTOM EDGE IS LESS THAN 60" ABOVE THE WALKING SURFACE
 5. GLAZING GREATER THAN 9 SF, 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 W503C TABLE 6-1
 INSULATION BATTERIES TO MAINTAIN 1" ABOVE INSULATION
 BATTERIES TO EXTEND 6" ABOVE BATT INSULATION
 BATTERIES TO EXTEND 12" ABOVE LOOSE FILL INSULATION.
 INSULATE BEHIND TUBS/SHOWERS, PARTITIONS AND CORNERS.
 FACE STAPLE BATT
 FRICTION FIT FACED BATT
 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 UNO.
 - FLOORS ABY CRAWL SPACES, GARAGE, OR AT CANTILEVERS OVER GRADE HAVE TO HAVE R-30 UNO
 - ALL ATTIC AT CEILING HAVE TO HAVE R-38 (MIN) UNO.
 - DUCTS IN UNHEATED SPACES HAVE TO HAVE R-8
 - GAS WATER HEATERS SHALL MEET REQUIREMENTS OF 202 UPC AND BE 60 LABELED.

MISCELLANEOUS NOTES

- GUARDRAILS TO BE 36" MIN. ABOVE FINISH FLOOR.
- HANDRAILS TO BE 34" - 38" ABOVE NOSING, WITH HANDGRIP OF 1 1/2" - 2" IN
- OPEN GUARDRAILS SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL PATTERN SUCH THAT A SPHERE 4" IN DIAMETER CANNOT PASS THROUGH.
- ONE HOUR FIRE SEPARATIONS BETWEEN GARAGE AND DWELLING. INSTALL 1/2" TYPE-X ON ALL WALLS AND CEILING. BEARING WALLS. STAGGER JOINTS FROM PLYWOOD BELOW WHERE APPLICABLE.
- BEDROOM EMERGENCY EGRESS WINDOWS: MINIMUM NET CLEAR OPENING OF 5.7 SQ. FT. WIDTH OF 20" AND MINIMUM 24". MAXIMUM FINISHED BILL HEIGHT OF 44" ABOVE
- 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.
- ANCHORED VENEER SHALL BE PROVIDED WITH #2 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 #3 GA. CONT. HORIZ. 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) Version 1.1

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
	425 344 9906

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 Date: 04/12/2022

All Climate Zones (Table R402.1.1)	
R-Value ^a	U-Factor ^a
Fenestration U-Factor ^b	n/a
Skylight U-Factor ^b	0.30
Glazed Fenestration SHGC ^{b,c}	n/a
Ceiling ^a	49
Wood Frame Wall ^{a,b}	21 int
Floor	30
Below Grade Wall ^{a,b}	10/15/21 int + TB
Slab ^{a,b} R-Value & Depth	10, 2 ft

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

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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 of operation.

- 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.
- Medium Dwelling Unit: 6 credits**
All dwelling units that are not included in #1 or #3
- Large Dwelling Unit: 7 credits**
Dwelling units exceeding 5,000 sf of conditioned floor area
- 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.

Summary of Table R406.2 and 406.3			
Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option	User Notes
1	Combustion heating minimum NAECA ^a	0.0	<input type="checkbox"/>
2	Heat pump ^a	1.0	<input type="checkbox"/>
3	Electric resistance heat only - furnace or zonal	-1.0	<input type="checkbox"/>
4	DHP with zonal electric resistance per option 3.4	0.5	<input type="checkbox"/>
5	All other heating systems	-1.0	<input type="checkbox"/>
Energy Options	Energy Credit Option Descriptions	Credits - select ONE energy option from each category ^b	User Notes
1.1	Efficient Building Envelope	0.5	<input type="checkbox"/>
1.2	Efficient Building Envelope	1.0	<input type="checkbox"/>
1.3	Efficient Building Envelope	0.5	<input type="checkbox"/>
1.4	Efficient Building Envelope	1.0	<input type="checkbox"/>
1.5	Efficient Building Envelope	2.0	<input type="checkbox"/>
1.6	Efficient Building Envelope	3.0	<input type="checkbox"/>
1.7	Efficient Building Envelope	0.5	<input type="checkbox"/>
2.1	Air Leakage Control and Efficient Ventilation	0.5	<input type="checkbox"/>
2.2	Air Leakage Control and Efficient Ventilation	1.0	<input type="checkbox"/>
2.3	Air Leakage Control and Efficient Ventilation	1.5	<input type="checkbox"/>
2.4	Air Leakage Control and Efficient Ventilation	2.0	<input type="checkbox"/>
3.1 ^a	High Efficiency HVAC	1.0	<input type="checkbox"/>
3.2	High Efficiency HVAC	1.0	<input type="checkbox"/>
3.3 ^a	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.4	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.5	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.6 ^a	High Efficiency HVAC	2.0	<input type="checkbox"/>
4.1	High Efficiency HVAC Distribution System	0.5	<input type="checkbox"/>
4.2	High Efficiency HVAC Distribution System	1.0	<input type="checkbox"/>

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Summary of Table R406.2 (cont.)			
Energy Options	Energy Credit Option Descriptions (cont.)	Credits - select ONE energy option from each category ^b	User Notes
5.1 ^d	Efficient Water Heating	0.5	<input type="checkbox"/>
5.2	Efficient Water Heating	0.5	<input type="checkbox"/>
5.3	Efficient Water Heating	1.0	<input type="checkbox"/>
5.4	Efficient Water Heating	1.5	<input type="checkbox"/>
5.5	Efficient Water Heating	2.0	<input type="checkbox"/>
5.6	Efficient Water Heating	2.5	<input type="checkbox"/>
6.1 ^a	Renewable Electric Energy (3 credits max)	1.0	<input type="checkbox"/>
7.1	Appliance Package	0.5	<input type="checkbox"/>
Total Credits		3.0	<input type="checkbox"/> Calculate Total <input type="button" value="Clear Form"/>

- 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.
- Equipment listed in Table C403.3.2(4) or C403.3.2(5)
- Equipment listed in Table C403.3.2(1) or C403.3.2(2)
- 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.
- 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.
- Use the single radiobutton in the upper right of the second column to deselect radiobuttons in that group.

Please print only pages 1 through 3 of this worksheet for submission to your building official.

For Building Officials Only

NOTE: See Sheet A.02 for:
 APPLIANCE SPECS.
 HEAT PUMP SPECS.
 WATER HEATER SPECS.

SHEET NUMBER
A13
 Revision #:

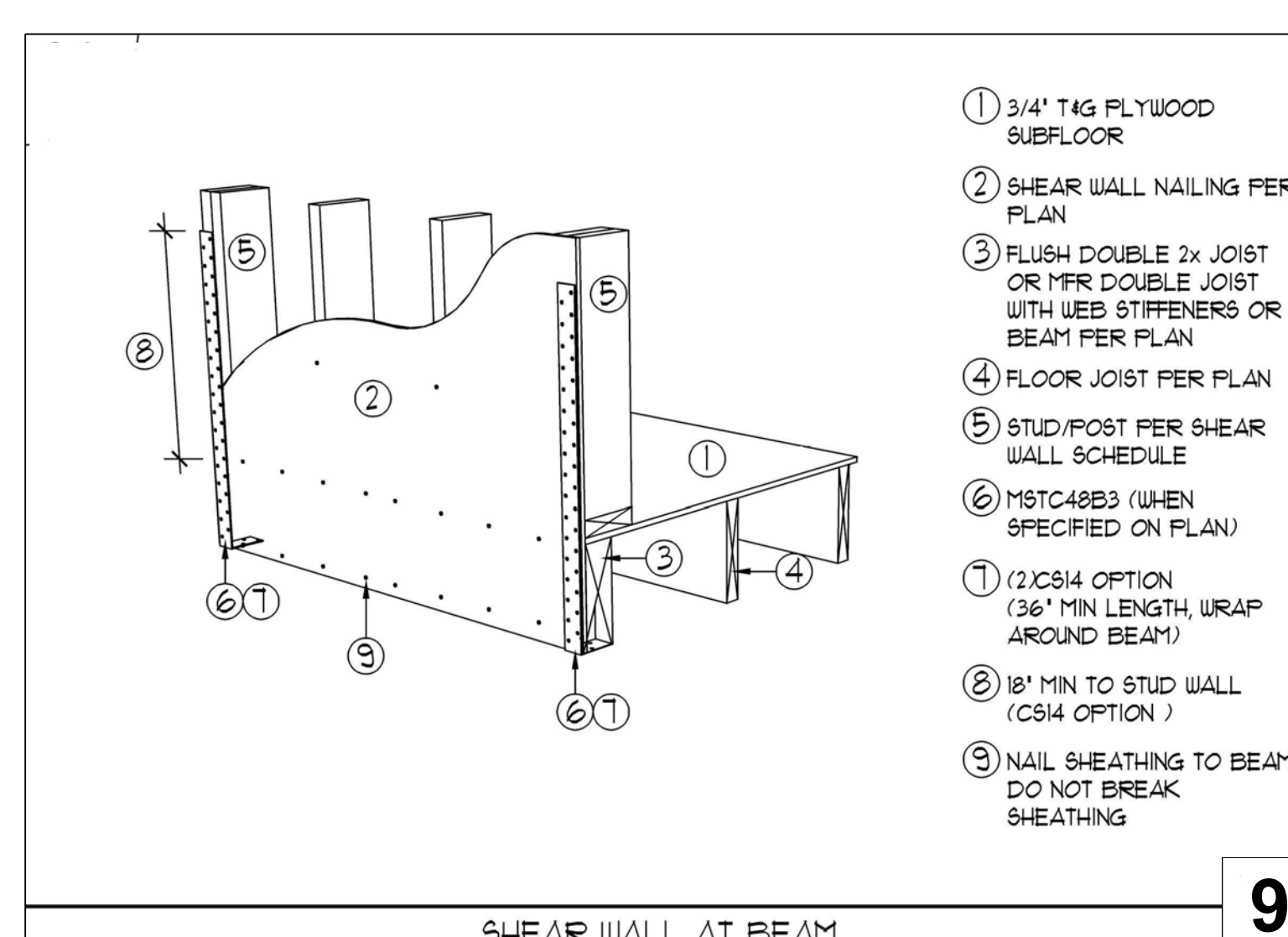
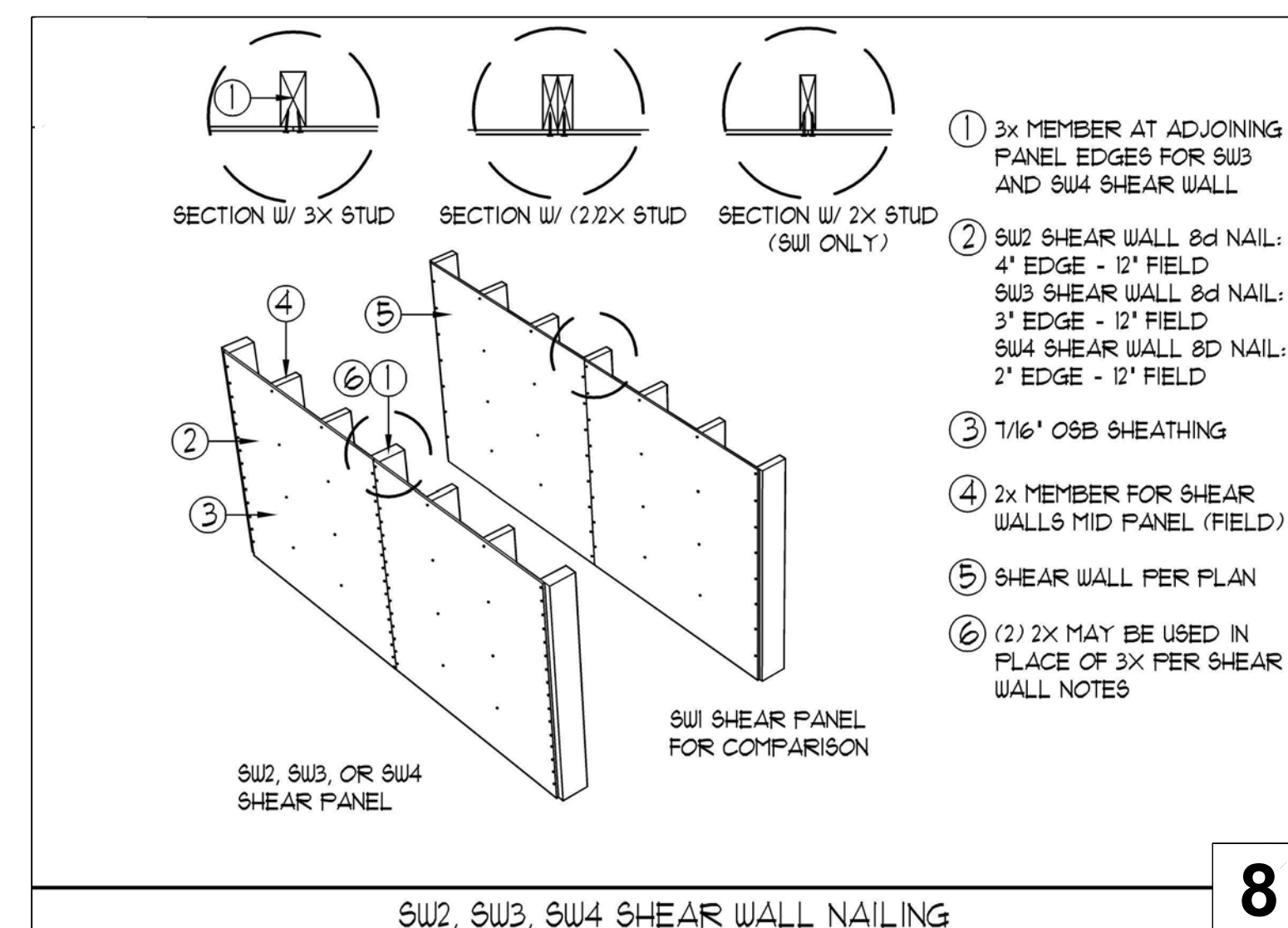
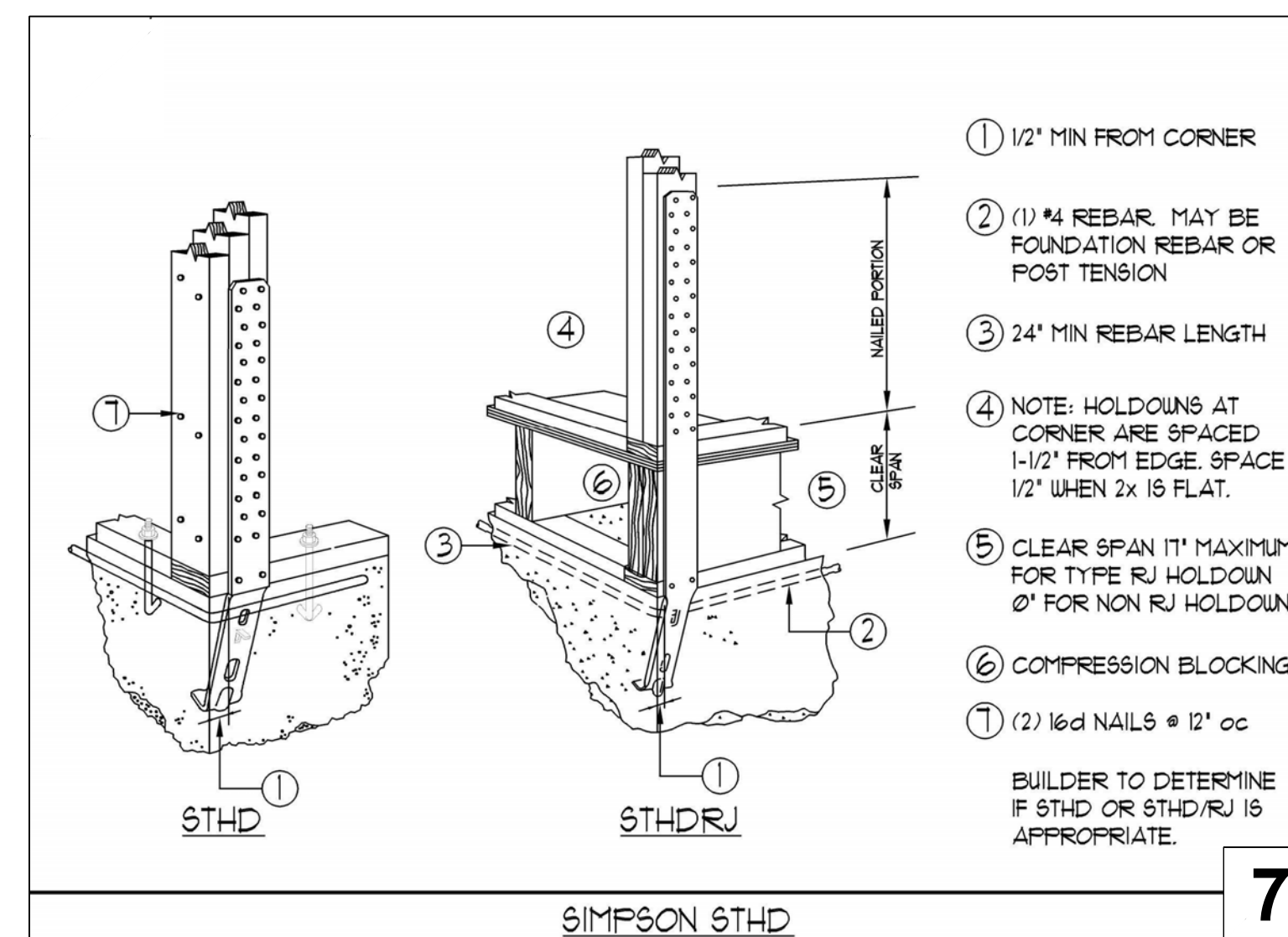
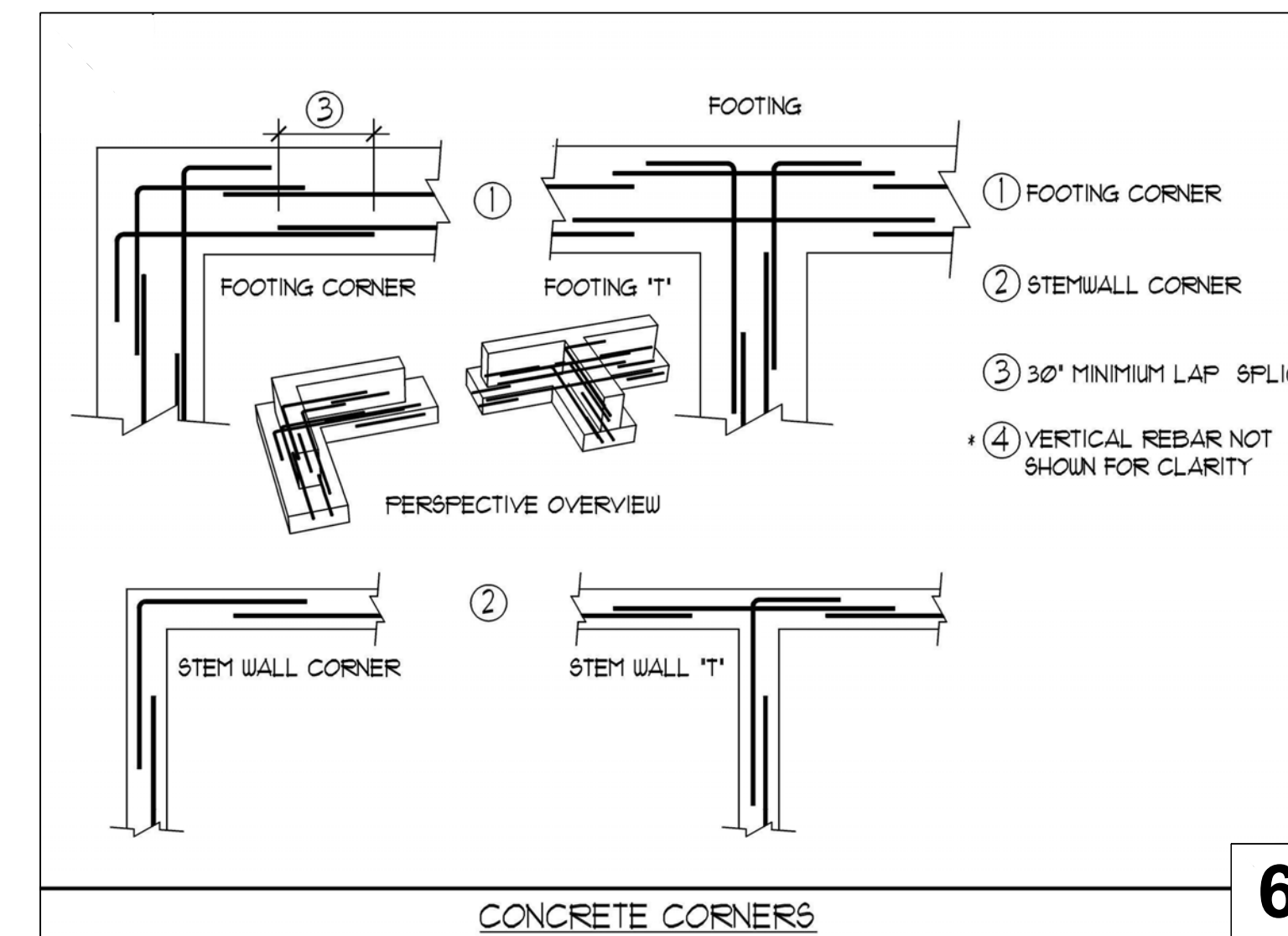
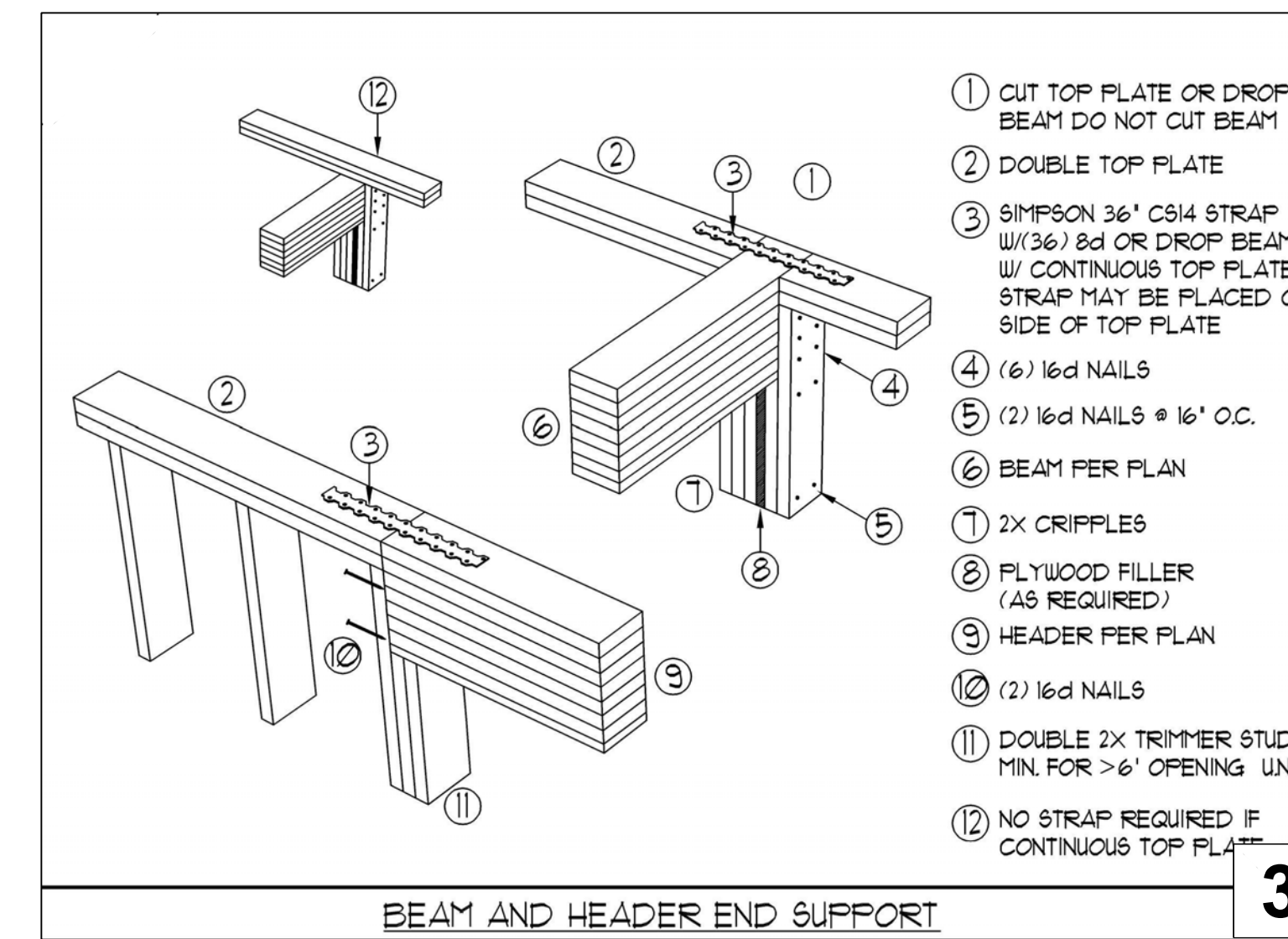
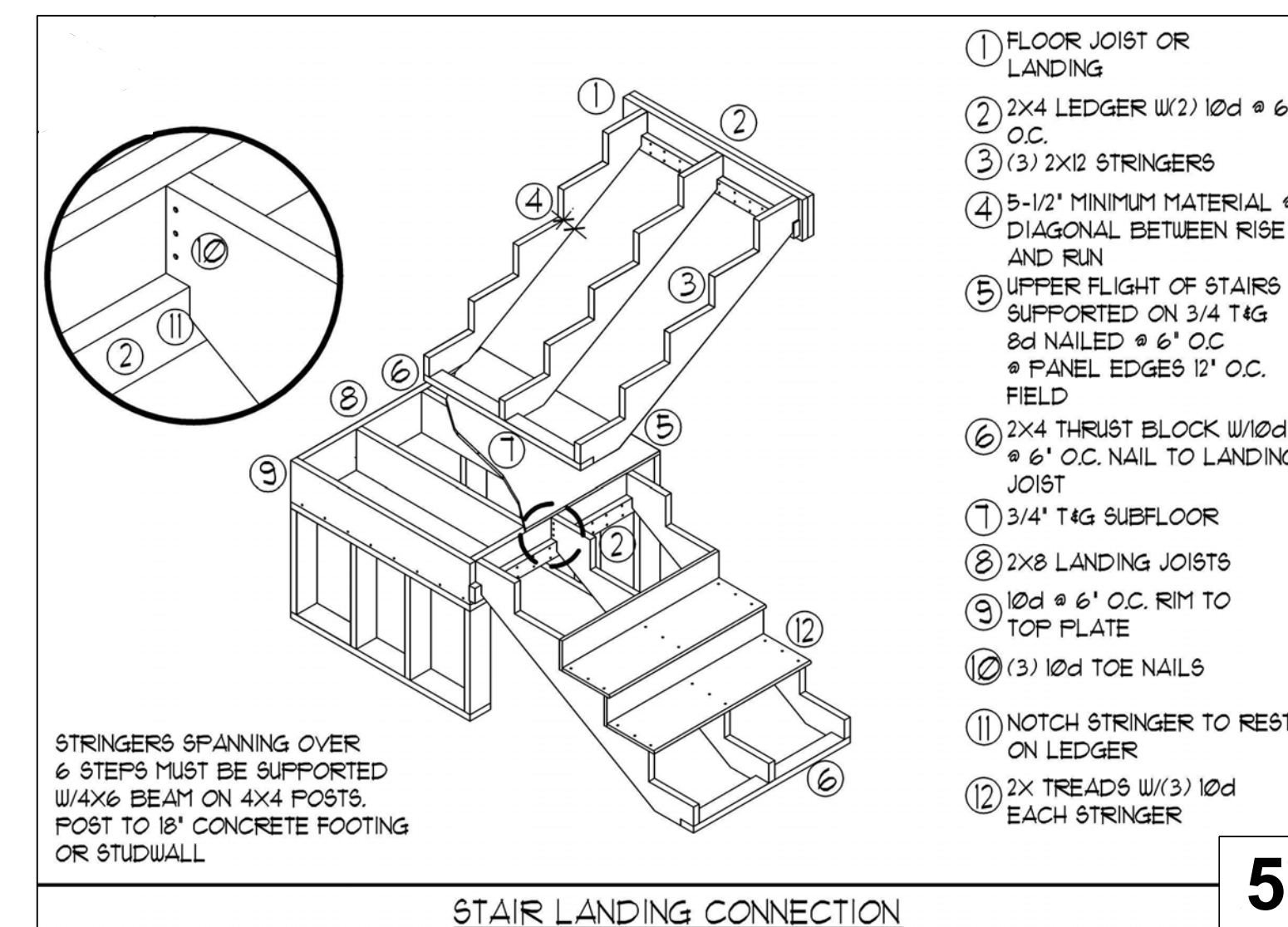
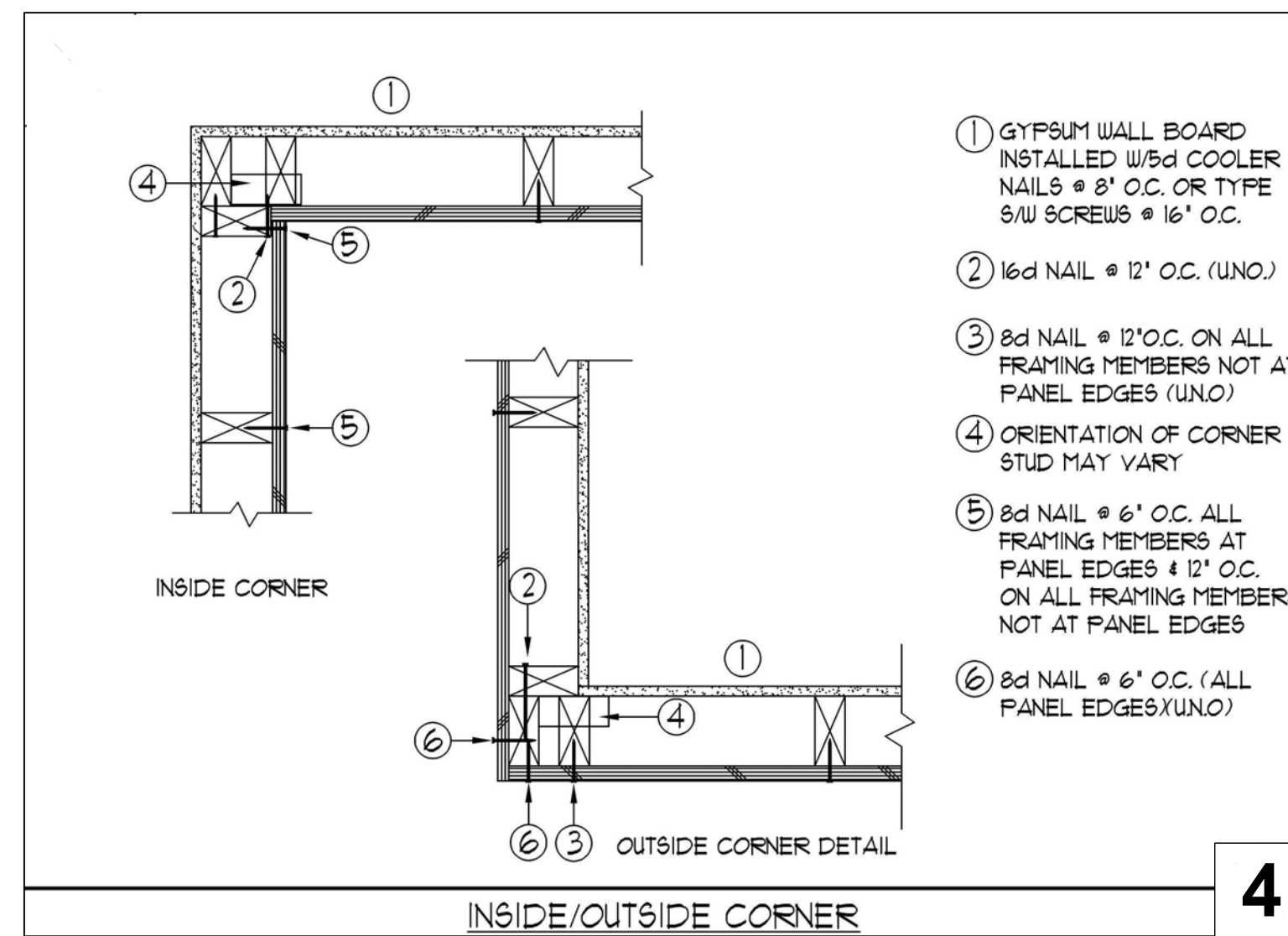
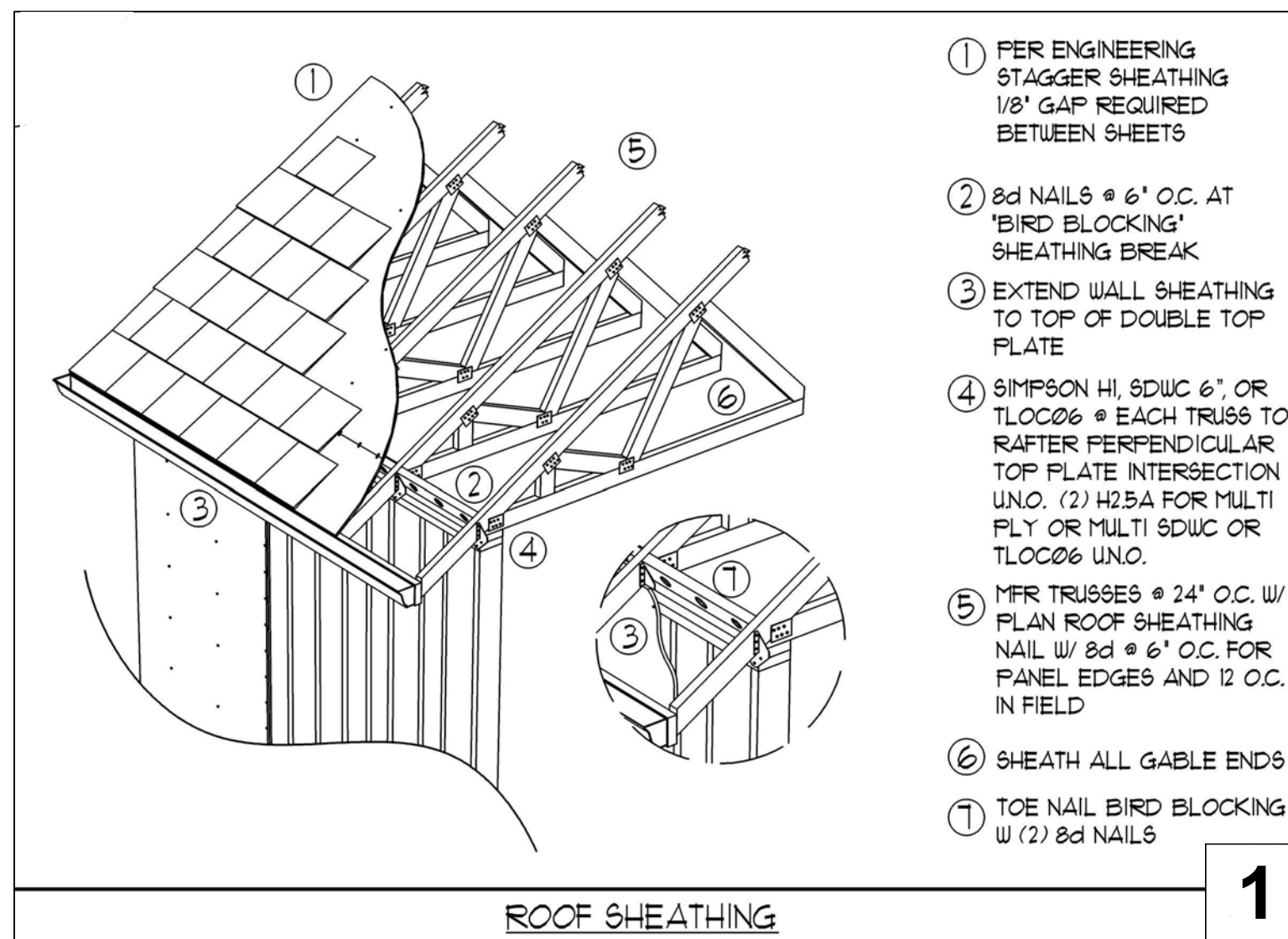
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 REV #12: 01.24.24
 DRAWN BY: K.C.

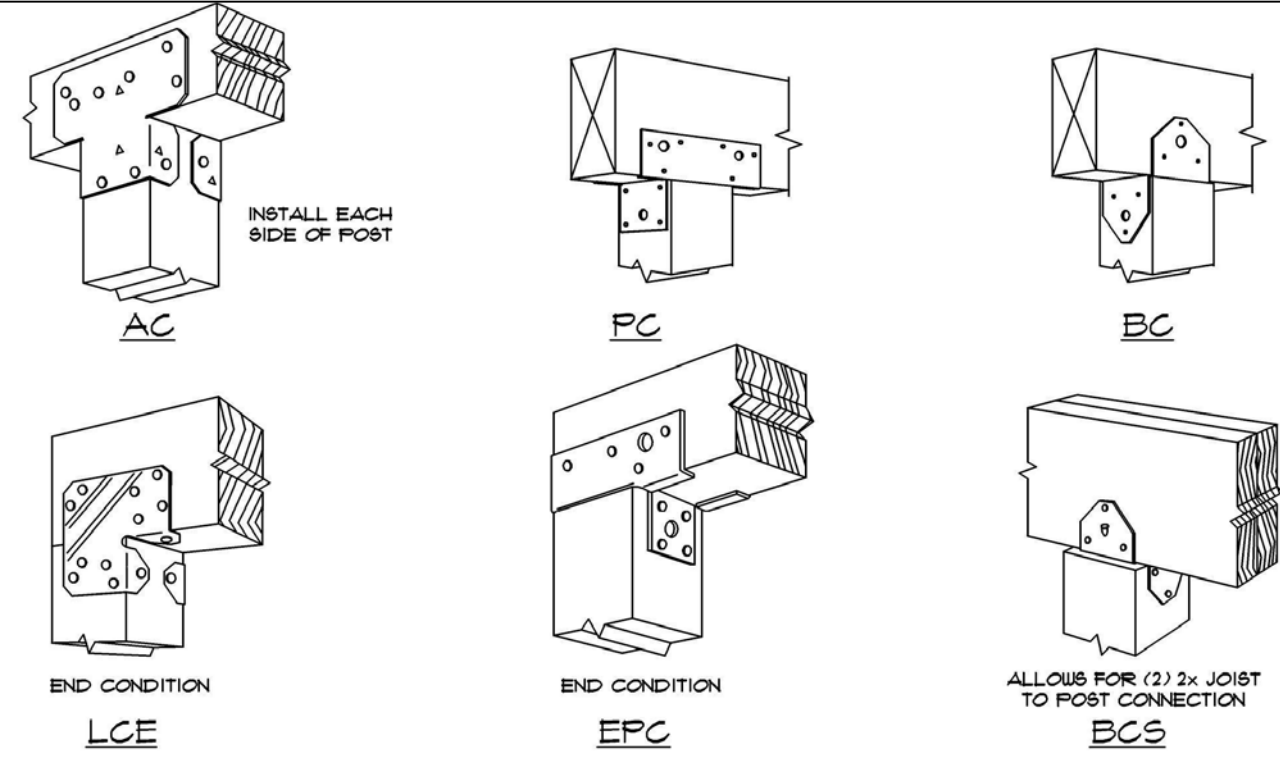
WINDOW SCHEDULE ENERGY
 CALCCS.

TOM & KIM TSO
 ADDITION & ADU
 8802 SE 37th ST. MERCER ISLAND WA 98040

KESH DESIGN LINES LLC
 425 344 9906



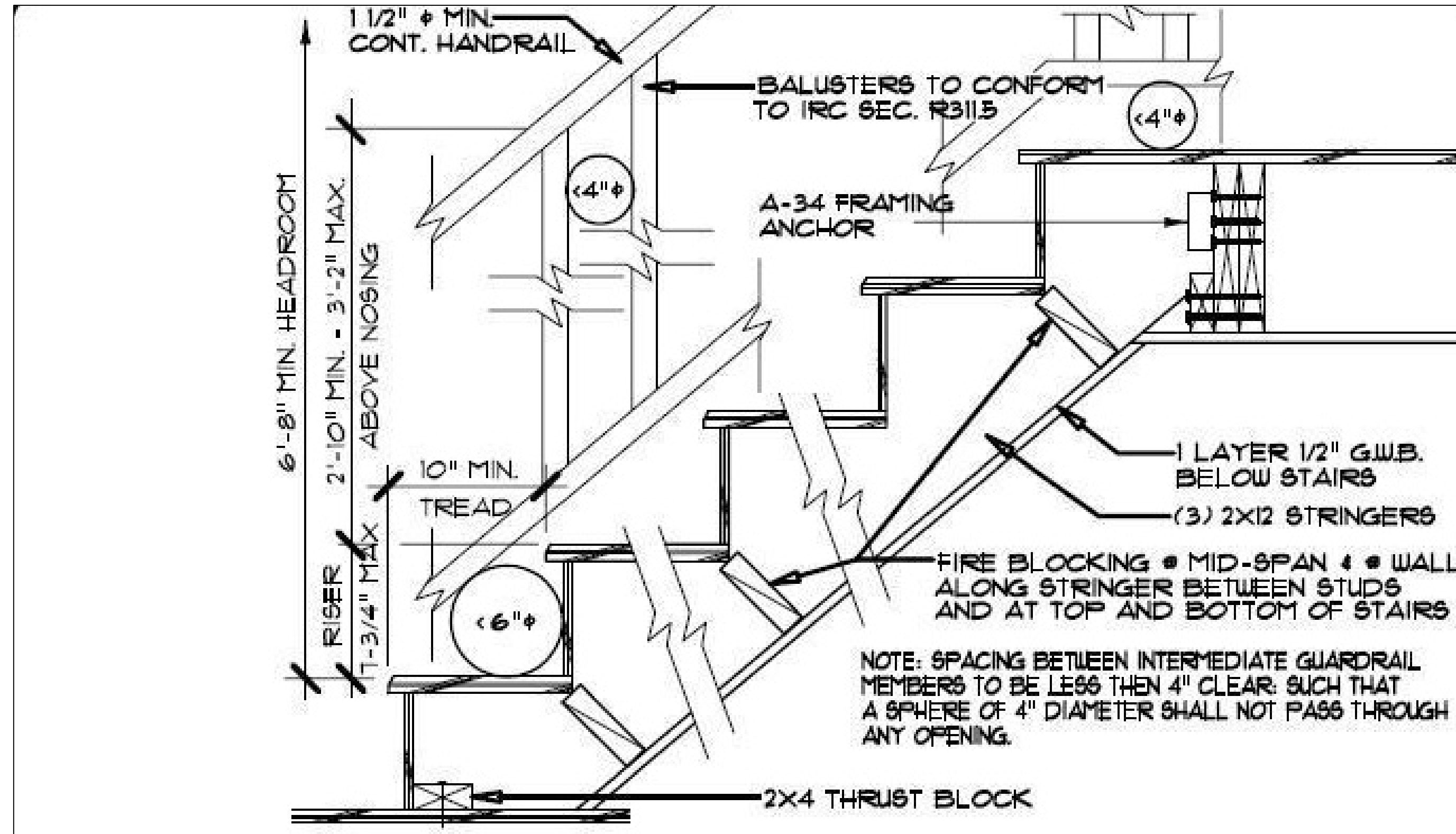




- ① WHERE POSTS AND BEAM OR GIRDER CONSTRUCTION IS USED TO SUPPORT FLOOR FRAMING, POSITIVE CONNECTION SHALL BE PROVIDED TO ENSURE AGAINST UPLIFT AND LATERAL DISPLACEMENT.
- ② ACE/LCE ELIMINATE THE NEED FOR RIGHT AND LEFTS. FOR USE W/ 4x OR 6x LUMBER
- ③ PC/EPC PROVIDES A CUSTOM CONNECTION FOR POST BEAM COMBINATIONS
- ④ PBC/ECS OFFER A LIGHT CAP CONNECTION

BEAM TO POST CONNECTIONS

10

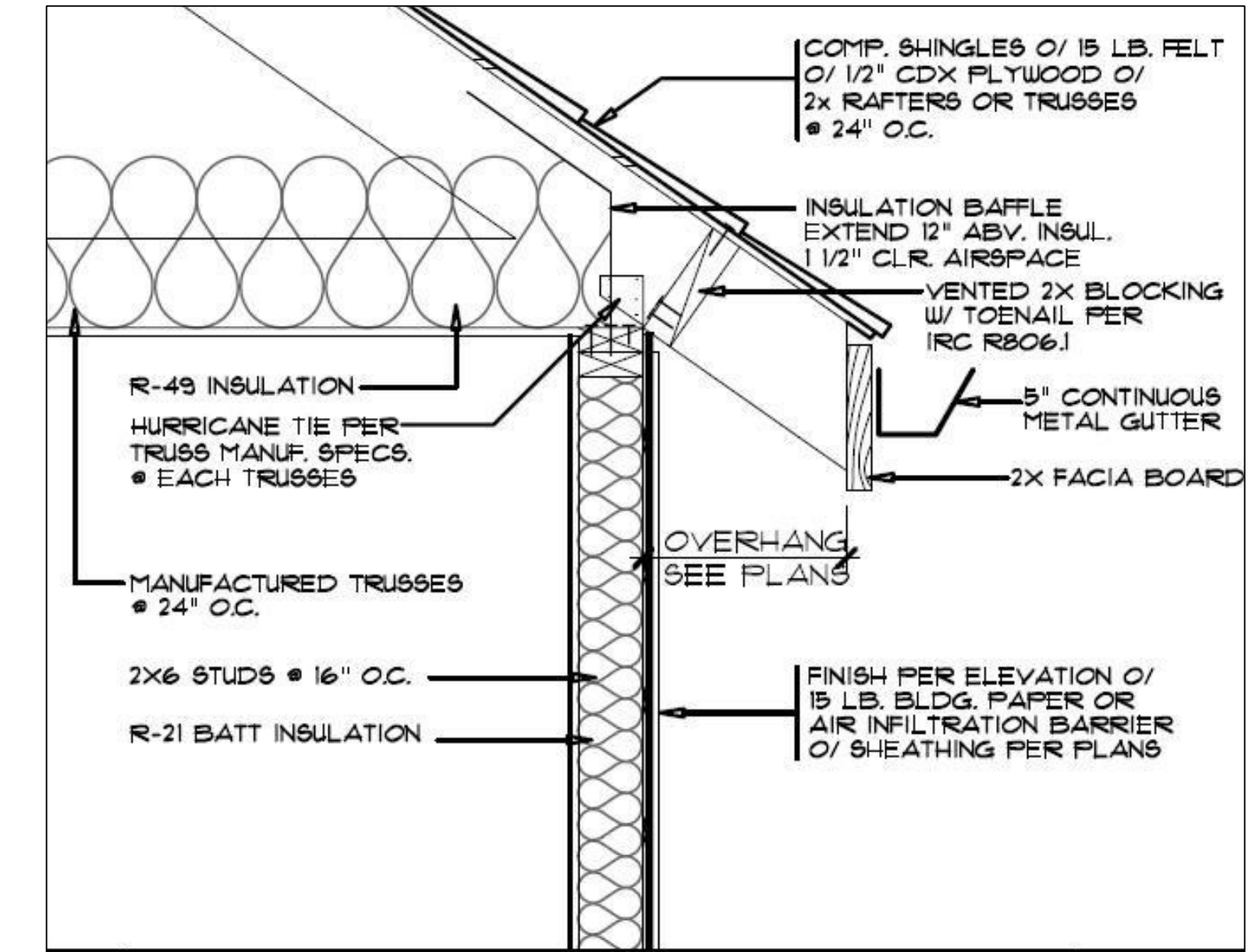


NOTES: PER IRC SECTION 309.6, R311.5.1 ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH A MEANS TO ILLUMINATE THE STAIR INCLUDING LANDINGS & TREADS. INTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE LANDING OF THE STAIRWAY. EXTERIOR 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 & 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. FT. 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 1 1/4" MIN. & 2 1/4" MAX. EDGES SHALL HAVE A MIN. RADIUS OF 1/8". ALL REQUIRED GUARDRAILS TO BE 36" MIN. IN HEIGHT.

11

WOOD STAIR DETAIL

SCALE
NTS



14 TOP PLATE TO TRUSS CONNECTION

SCALE
NTS

SHEET NUMBER
D2

DATE: 06.12.20
REV #12: 01.24.24
DRAWN BY: K.C.

DETAILS & NOTES

TOM & KIM TSO
ADDITION & ADU
8802 SE 9TH ST. MERCER ISLAND WA 98040

KESH DESIGN LINES LLC
425 344 9906

