



MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING

7220 Trade Street, Suite 350, San Diego, CA 92121 ▶ p 619-650-0010 ▶ mulhernkulp.com

CALCULATION PACKAGE

May 20, 2022

JayMarc Homes
Ross Residence

Mercer Island, Washington

MULHERN & KULP STRUCTURAL ENGINEERING, INC.

Prepared By:

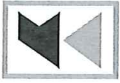
John C. Leone, E.I.T.

Staff Engineer

Richard J. Zabel, P.E.

Project Manager + Director of Engineering





BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: TYP EXT HDR - WORST CASE LOAD

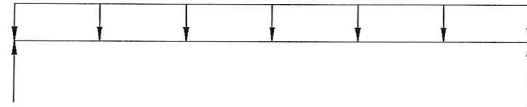
B1

PARAMETERS:

L = FT

W = KLF

P = K



ANALYSIS:

R_{MAX} = K

V_D = K

< V_{ALL} = K

ADEQUATE

M_{MAX} = K-FT

< M_{ALL} = K-FT (C_D=1.0)

ADEQUATE

Δ_{TL} = IN.

L/ < L/240

ADEQUATE

BEAM DESCRIPTION: TYP EXT HDR - WORST CASE LENGTH

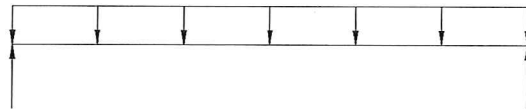
B1

PARAMETERS:

L = FT

W = KLF

P = K



ANALYSIS:

R_{MAX} = K

V_D = K

< V_{ALL} = K

ADEQUATE

M_{MAX} = K-FT

< M_{ALL} = K-FT (C_D=1.0)

ADEQUATE

Δ_{TL} = IN.

L/ < L/240

ADEQUATE

BEAM DESCRIPTION: TYP INT HDR - WORST CASE

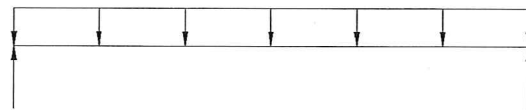
B2

PARAMETERS:

L = FT

W = KLF

P = K



ANALYSIS:

R_{MAX} = K

V_D = K

< V_{ALL} = K

ADEQUATE

M_{MAX} = K-FT

< M_{ALL} = K-FT (C_D=1.0)

ADEQUATE

Δ_{TL} = IN.

L/ < L/240

ADEQUATE



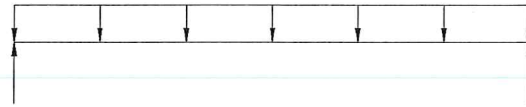
BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: 2ND FRMG - FLUSH BM @ F.P.

B3

PARAMETERS:

L = FT
W = KLF
P = K



ANALYSIS:

R_{MAX} = K V_D = K < V_{ALL} = K
M_{MAX} = K-FT < M_{ALL} = K-FT (C_D=1.15)
Δ_{TL} = IN. L/ < L/240

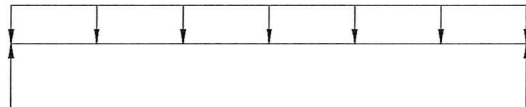
ADEQUATE
 ADEQUATE
 ADEQUATE

BEAM DESCRIPTION: 2ND FRMG - FLUSH BM @ NOOK

B4

PARAMETERS:

L = FT
W = KLF
P = K



ANALYSIS:

R_{MAX} = K V_D = K < V_{ALL} = K
M_{MAX} = K-FT < M_{ALL} = K-FT (C_D=1.0)
Δ_{TL} = IN. L/ < L/240

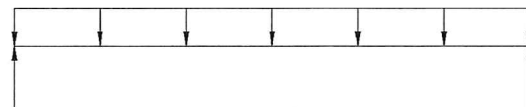
ADEQUATE
 ADEQUATE
 ADEQUATE

BEAM DESCRIPTION: 2ND FRMG - FLUSH BM @ KITCHEN

B5

PARAMETERS:

L = FT
W = KLF
P = K



ANALYSIS:

R_{MAX} = K V_D = K < V_{ALL} = K
M_{MAX} = K-FT < M_{ALL} = K-FT (C_D=1.0)
Δ_{TL} = IN. L/ < L/240

ADEQUATE
 ADEQUATE
 ADEQUATE



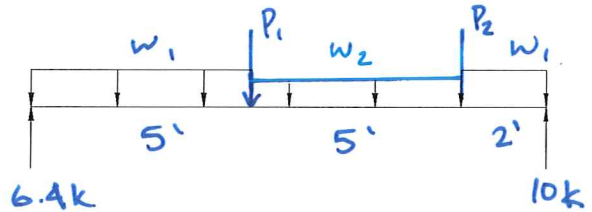
BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: 2ND FRMG - SGD HDR @ NOOK

B6

PARAMETERS:

L = FT
 $w_1 =$ KLF $w_2 = 0.1$
 $P_1 =$ K $P_2 = 7.5$



ANALYSIS:

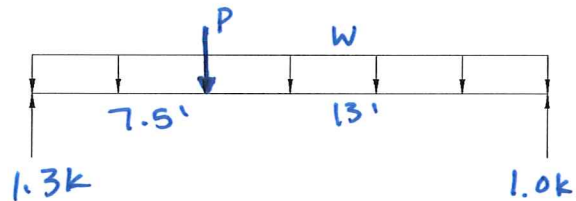
$R_{MAX} =$ K $V_D =$ K $< V_{ALL} =$ K ADEQUATE
 $M_{MAX} =$ K-FT $< M_{ALL} =$ K-FT ($C_D = 1.0$) ADEQUATE
 $\Delta_{TL} =$ IN. $L/$ $< L/240$ ADEQUATE

BEAM DESCRIPTION: 2ND FRMG - FLUSH BM @ STAIRS (WORST CASE)

B7

PARAMETERS:

L = FT
 $w =$ KLF
 $P =$ K



ANALYSIS:

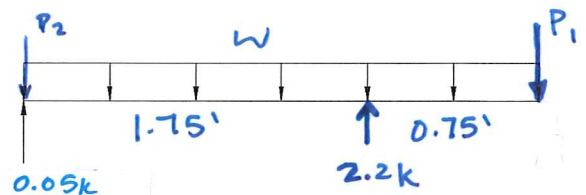
$R_{MAX} =$ K $V_D =$ K $< V_{ALL} =$ K ADEQUATE
 $M_{MAX} =$ K-FT $< M_{ALL} =$ K-FT ($C_D = 1.0$) ADEQUATE
 $\Delta_{TL} =$ IN. $L/$ $< L/240$ ADEQUATE

BEAM DESCRIPTION: 2ND FRMG - FLUSH BM CANT'D @ STAIRS

B8

PARAMETERS:

L = FT
 $w =$ KLF
 $P_1 =$ K $P_2 = 0.24$



ANALYSIS:

$R_{MAX} =$ K $V_D =$ K $< V_{ALL} =$ K ADEQUATE
 $M_{MAX} =$ K-FT $< M_{ALL} =$ K-FT ($C_D = 1.0$) ADEQUATE
 $\Delta_{TL} =$ IN. $2 L/$ $< L/240$ ADEQUATE



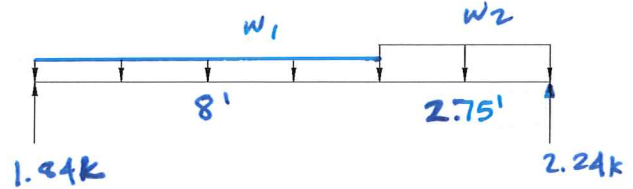
BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: 2ND FRMG - DROPPED BM @ DINING / FOYER

B9

PARAMETERS:

L = 10.75 FT
W₁ = 0.33 KLF W₂ = 0.523
P = / K



ANALYSIS:

R_{MAX} = 2.24 K V_D = K < V_{ALL} = 3.9 K
M_{MAX} = 5.13 K-FT < M_{ALL} = 4.47 K-FT (C_D=1.0)
Δ_{TL} = 0.289 IN. L/ 446 < L/240

- ADEQUATE
- ADEQUATE
- ADEQUATE

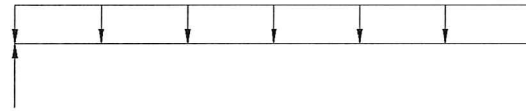
4x10

BEAM DESCRIPTION: 2ND FRMG - DROPPED BM @ PORCH (WORST CASE)

B10

PARAMETERS:

L = 10.25 FT
W = 0.26 KLF
P = / K



ANALYSIS:

R_{MAX} = 0.65 K V_D = K < V_{ALL} = 4.5 K
M_{MAX} = 1.65 K-FT < M_{ALL} = 5.2 K-FT (C_D=1.0)
Δ_{TL} = 0.084 IN. L/ 994 < L/240

- ADEQUATE
- ADEQUATE
- ADEQUATE

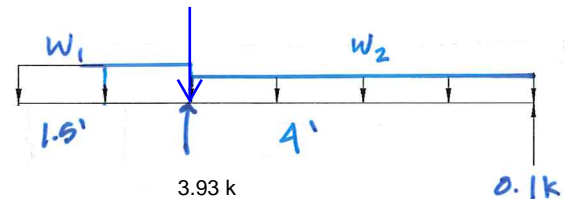
4x10

BEAM DESCRIPTION: 2ND FRMG - FLUSH BM CANT'D @ GARAGE

B11

PARAMETERS:

L = 5.5 FT
W₁ = 0.304 KLF W₂ = 0.165
P = 3.1 K



ANALYSIS:

R_{MAX} = 3.93 K V_D = K < V_{ALL} = 11.13 K
M_{MAX} = 0.33 K-FT < M_{ALL} = 37.8 K-FT (C_D=1.0)
Δ_{TL} = 0.001 IN. 2 L/ 999+ < L/240

- ADEQUATE
- ADEQUATE
- ADEQUATE

3 1/2 x 18 GLB

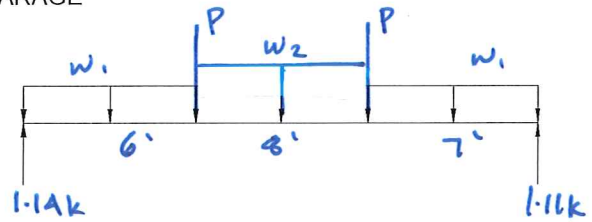
BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: 2ND FRMG - FLUSH BM @ GARAGE

B12

PARAMETERS:

L = 21 FT
 $W_1 = 0.073$ KLF $w_2 = 0.138$
 P = 0.1 K



ANALYSIS:

$R_{MAX} = 1.14$ K $V_D =$ [] K $< V_{ALL} = 11.13$ K ADEQUATE
 $M_{MAX} = 6.9$ K-FT $< M_{ALL} = 37.8$ K-FT ($C_D = 1.0$) ADEQUATE
 $\Delta_{TL} = 0.179$ IN. $L/999+$ $< L/240$ ADEQUATE

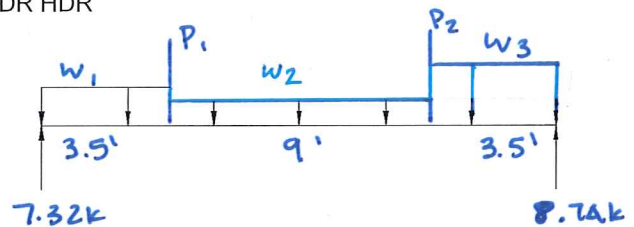
3 1/2 x 18 GLB

BEAM DESCRIPTION: 2ND FRMG - EXT GARAGE DR HDR

B13

PARAMETERS:

L = 16 FT
 $W_1 = 0.62$ KLF $w_2 = 0.364$
 $w_3 = 0.976$
 $P_1 = 3.2$ K $P_2 = 4.0$



ANALYSIS:

$R_{MAX} = 8.74$ K $V_D =$ [] K $< V_{ALL} = 16.76$ K ADEQUATE
 $M_{MAX} = 27.02$ K-FT $< M_{ALL} = 47.45$ K-FT ($C_D = 1.15$) ADEQUATE
 $\Delta_{TL} = 0.447$ IN. $L/429$ $< L/240$ ADEQUATE

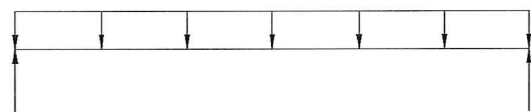
5 1/2 x 15 GLB

BEAM DESCRIPTION: 1ST FRMG - DROPPED CRAWL GRDR NO BRG

B14

PARAMETERS:

L = 7.5 FT
 $W = 0.59$ KLF
 P = [] K



ANALYSIS:

$R_{MAX} = 2.06$ K $V_D =$ [] K $< V_{ALL} = 3.89$ K ADEQUATE
 $M_{MAX} = 3.86$ K-FT $< M_{ALL} = 4.49$ K-FT ($C_D = 1.0$) ADEQUATE
 $\Delta_{TL} = 0.106$ IN. $L/850$ $< L/240$ ADEQUATE

4 x 10

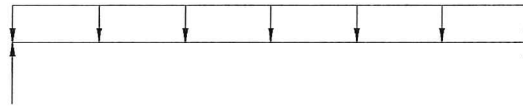
BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: 1ST FRMG - DROPPED CRAWL GRDR W/ BRG

B15

PARAMETERS:

L = 4.5 FT
W = 1.15 KLF
P = / K



ANALYSIS:

$R_{MAX} = 2.4$ K $V_D =$ [] K $< V_{ALL} = 3.89$ K ADEQUATE
 $M_{MAX} = 2.91$ K-FT $< M_{ALL} = 4.49$ K-FT ($C_D=1.0$) ADEQUATE
 $\Delta_{TL} = 0.028$ IN. $L/999+$ $< L/240$ ADEQUATE

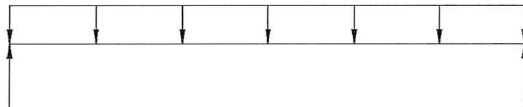
4 x 10

BEAM DESCRIPTION: 2ND FRMG - FLUSH BM @ GARAGE EXT REAR WALL

B16

PARAMETERS:

L = 10.5 FT
W = 0.661 KLF
P = / K



ANALYSIS:

$R_{MAX} = 3.47$ K $V_D =$ [] K $< V_{ALL} = 11.13$ K ADEQUATE
 $M_{MAX} = 9.11$ K-FT $< M_{ALL} = 37.8$ K-FT ($C_D=1.0$) ADEQUATE
 $\Delta_{TL} = 0.059$ IN. $L/999+$ $< L/240$ ADEQUATE

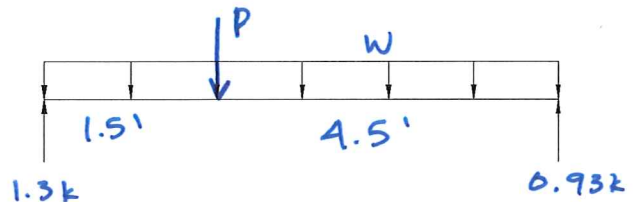
3 1/2 x 18 GLB

BEAM DESCRIPTION: 2ND FRMG - DROPPED BM @ PORCH SIDE

B17

PARAMETERS:

L = 6 FT
W = 0.252 KLF
P = 0.7 K



ANALYSIS:

$R_{MAX} = 1.3$ K $V_D =$ [] K $< V_{ALL} = 4.5$ K ADEQUATE
 $M_{MAX} = 1.72$ K-FT $< M_{ALL} = 5.2$ K-FT ($C_D=1.15$) ADEQUATE
 $\Delta_{TL} = 0.03$ IN. $L/999+$ $< L/240$ ADEQUATE

4 x 10



BEAM & HEADER CALCULATIONS

B18

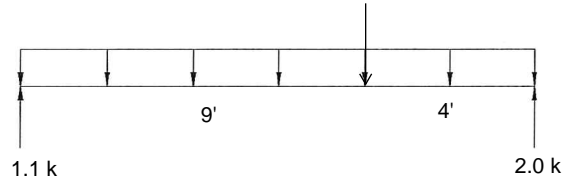
BEAM DESCRIPTION: 1ST FRMG - FLUSH BM @ STAIRS P.A.

PARAMETERS:

L = 13' FT

W = 0.067 KLF

P = 2.2 K



ANALYSIS:

R_{MAX} = 2.0 K

V_D = [] K < V_{ALL} = 7.9 K

ADEQUATE

M_{MAX} = 7.46 K-FT

< M_{ALL} = 17.85 K-FT (C_D=1.0)

ADEQUATE

Δ_{TL} = 0.2 IN.

L/ 782 < L/240

ADEQUATE

3 1/2"x11 7/8" LVL

JAYMARC HOMES
ROSS RESIDENCE

MERCER ISLAND, WA

SHEAR WALL CALCULATIONS - WIND

REVIEWED BY: RJZ

MAY 11, 2022

PARAMETERS:

SINGLE FAMILY HOME

DESIGN WIND SPEED: 100 MPH

WIND EXPOSURE CATEGORY: B

SEISMIC DESIGN CATEGORY: D

CODE & DESIGN STANDARD: 2018 IBC CH. 1609, ASCE 7-16 CH. 26-30



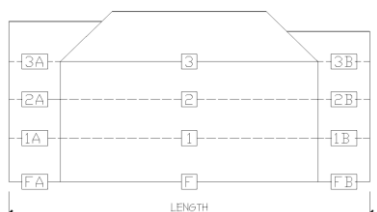
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RESIDENTIAL STRUCTURAL ENGINEERING

WIND DESIGN SUMMARY PER ASCE 7-16

PARAMETERS:		ROOF GEOMETRY:		BUILDING GEOMETRY:	
WIND SPEED	100	TRANS. ROOF PITCH	4.0 :12	LENGTH	55 FT
EXPOSURE CATEGORY	B	LONG. ROOF PITCH	8.0 :12	WIDTH	43 FT
RISK CATEGORY	II	MEAN ROOF HEIGHT, H	24.00 FT	NUMBER OF STORIES	2
WIND DIRECTIONALITY FACTOR, K_D	0.85				
TOPOGRAPHIC FACTOR, K_{ZT}	1.30				
GUST FACTOR, G	0.85				
GROUND ELEV. ABOVE SEA LEVEL (FT)	0				
DESIGN TYPE	ASD <input type="checkbox"/> 0.60				

TRANSVERSE DIRECTION (PERPENDICULAR TO MAIN RIDGE LINE)

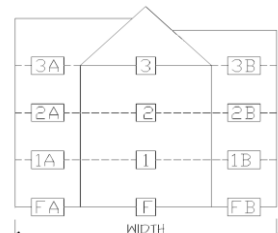
DIAPHRAGM LEVEL	FLOOR-TO-FLOOR HEIGHT	SURFACE	SECTION			sq ft
			A	O	B	
2	9.1 FT	Roof Surface	0	255	0	sq ft
		Wall surface	0	342	0	sq ft
1	11.5 FT	Roof Surface	0	0	0	sq ft
		Wall surface	0	568	0	sq ft
FND		Roof Surface	0	0	0	sq ft
		Wall surface	0	0	0	sq ft



TRIBUTARY DESIGN LOADS: (0.6W)				
	SECTION			kips
	A	O	B	
Story Shear	0.00	5.47	0.00	kips
Total Shear	0.00	5.47	0.00	kips
5.47				kips
Story Shear	0.00	6.46	0.00	kips
Total Shear	0.00	11.93	0.00	kips
11.93				kips
Story Shear	0.00	0.00	0.00	kips
Total Shear	0.00	11.93	0.00	kips
11.93				kips

LONGITUDINAL DIRECTION (PARALLEL TO MAIN RIDGE LINE)

DIAPHRAGM LEVEL	FLOOR-TO-FLOOR HEIGHT	SURFACE	SECTION			sq ft
			A	O	B	
2	9.1 FT	Roof Surface	0	53	0	sq ft
		Wall surface	0	327	0	sq ft
1	11.5 FT	Roof Surface	0	0	0	sq ft
		Wall surface	0	457	0	sq ft
FND		Roof Surface	0	0	0	sq ft
		Wall surface	0	0	0	sq ft



TRIBUTARY DESIGN LOADS: (0.6W)				
	SECTION			kips
	A	O	B	
Story Shear	0.00	4.21	0.00	kips
Total Shear	0.00	4.21	0.00	kips
4.21				kips
Story Shear	0.00	4.96	0.00	kips
Total Shear	0.00	9.16	0.00	kips
9.16				kips
Story Shear	0.00	0.00	0.00	kips
Total Shear	0.00	9.16	0.00	kips
9.16				kips

Issue	Issue Date	By	Description
△			
△			

4040 Island Crest Way
 Mercer Island, WA
 Ross Family New Home

job Number

Project Identification

project name:	...
marketing name:	...
plan number:	...
mark system name:	...

Conditions not specifically represented graphically or in writing or which conflict with the 2018 International Residential Code (IRC) and/or those of the local municipality then the current standards and requirements of each respectively shall govern.

The drawings in this set are instruments of service and shall remain the property of JayMarc Homes, LLC.

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30.MAR.2022
 Submittal Date

Sheet Title/Description

Design Firm

Drawn by:

Checked by:

Primary Scale

A5
 of .

MAIN FLOOR PLAN NOTES

PLAN SPECIFIC 2018 WSEC, SECTION R06
 R406.2 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS (MANDATORY). THIS RESIDENTIAL DWELLING SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 TO ACHIEVE THE FOLLOWING MIN. NUMBER OF CREDITS:
 6 FOR A 1501sf to 4,999sf HOME.

OPT. 1.3: 0.5 CREDITS
 BUILDING ENVELOPE. COMPLIANCE IS BASED ON TABLE R402.1.1 WITH LOWNING MODIFICATIONS:
 OPTICAL FENESTRATION U = 0.28 WINDOWS
 GLAZING TO BE R-36 and SLAB ON GRADE TO BE R-10 PERIMETER and ENTIRE SLAB BELOW GRADE.

OPT. 2.1: 0.5 CREDITS
 EFFICIENT VENTILATION. TEST THE TESTED AIR LEAKAGE TO 3.0 AIR CHANGES PER HOUR (ACH) @ 50 PASGALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M507.3 OF THE I.R.C. OR SECTION 404.8 OF THE IMC SHALL BE MET WITH A HIGH EFFICIENCY FAN (MAXIMUM OF 0.25 WATTS/CFM), NOT INTERLOCKED WITH THE RANGE FAN (IF PRESENT). VENTILATION SYSTEMS USING A FURNACE INCLUDING AN EMC MOTOR ARE ALLOWED, PROVIDED THAT THEY ARE CONTROLLED TO OPERATE AT LOW SPEED IN THE VENTILATION ONLY MODE.

OPT. 3.5a: 1.5 CREDITS
 HIGH EFFICIENCY HVAC EQUIPMENT. AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 10.0. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFICALLY IDENTIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT EFFICIENCY. EXTERIOR LOCATED EQUIPMENT SHOULD ALSO BE REPRESENTED ON SITE PLAN.

OPT. 4.2: 1.0 CREDITS
 HIGH EFFICIENCY HVAC DISTRIBUTION. HVAC EQUIPMENT AND ASSOCIATED DUCT SYSTEMS(S) SHALL COMPLY WITH THE REQUIREMENTS OF SECT R408.3.1. LOCATING SYSTEM COMPONENTS IN UNCONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.

5.5: 2.0 CREDITS
 EFFICIENT WATER HEATING. WATER HEATING SYSTEMS SHALL INCLUDE ONE OF THE FOLLOWING: ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFICALLY IDENTIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.

WHOLE HOUSE VENTILATION
 PROVIDE WHOLE HOUSE VENTILATION per 2018 IRC, M507 and IMC R403.8 USING WHOLE HOUSE VENTILATION SYSTEM USING CENTRAL EXHAUST FAN, CONTINUOUSLY OPERATING - WALL SWITCH LABELED "WHOLE HOUSE FAN. LEAVE ON UNLESS OUTDOOR AIR QUALITY IS POOR".

SYMBOL	LOCATION	MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTSIDE)
BATH & POWDER	Min. 50cfm	INTERMITTENT at .025mg per TABLE M507.4
KITCHEN	Min. 100cfm	INTERMITTENT at .025mg per TBL. M507.4
RANGE HOOD	DOWN DRAFT EXHAUST FAN RATED AT MIN. 100cfm, at 0.10mg may be used FOR EXHAUST FAN REGMT. EXHAUST HOODS IN EXCESS OF 400cfm SHALL BE INTERLOCKED AND PROVIDE MAKE UP AIR per M505.4	
LAUNDRY ROOM	FINAL ADJUSTED RATE = 145 CFM (90 CFM PER TABLE 1505.4.3), ADJUSTED BY FACTOR OF 1.5 PER TABLE 1505.4.3(2) FOR NON-BALANCED, NOT DISTRIBUTED SYSTEM.	

PER IRC M505.4.1.1 WHOLE HOUSE VENTILATION FANS MUST BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN KG. STATIC PRESSURE IN ACCORDANCE WITH HVF PROCEDURES SPECIFIED IN IRC M505.4.1.2 AND M505.4.1.3.

CARBON MONOXIDE ALARMS/ DETECTORS ARE REQUIRED TO BE INTERCONNECTED PER IRC 315.5

SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	1,561 S.F.
UPPER FLOOR AREA	1,889 S.F.
TOTAL CONDITIONED AREA	3,450 S.F.
3 CAR GARAGE	635 S.F.
COVID ENTRY PORCH	134 S.F.
COVID REAR PORCH	0 S.F.
TOTAL ENCL. AREA UNDER ROOF	5.F.

OVERALL WIDTH 55'-0"
 OVERALL DEPTH 47'-8"
 Updated: 03/02/2022 CB

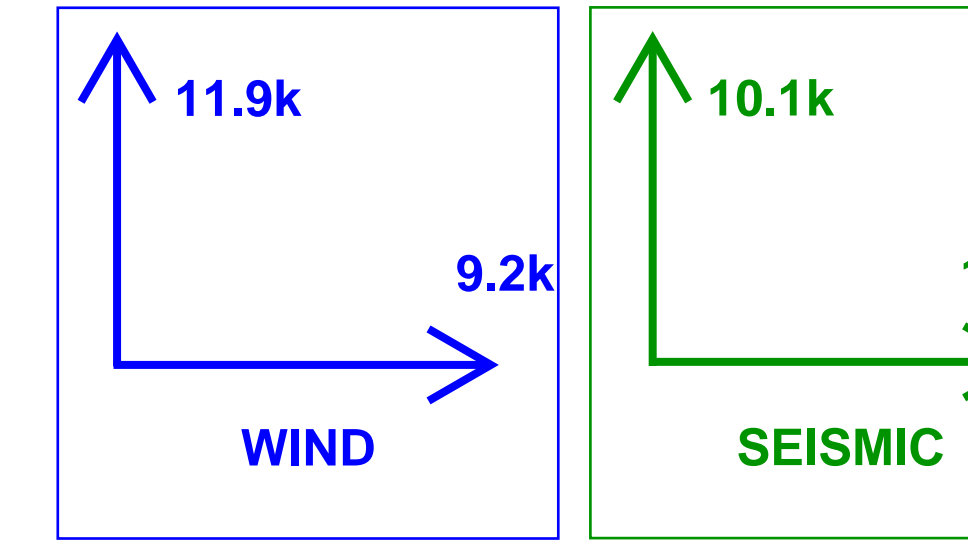
FLOOR AREA RATIO (FAR) SUMMARY

MAIN FLOOR AREA	1,561 S.F.
UPPER FLOOR AREA	1,444 S.F.
CONDITIONED AREAS	3,510 S.F.
3 CAR GARAGE	635 S.F.
COVID ENTRY PORCH (FAR Exempt)	134'
COVID REAR PORCH (FAR Exempt)	0 S.F.
TOTAL AREA UNDER "FAR"	5.F.

Updated: 03/24/2022

FAR SUMMARY: Lot Area 10,400sf
 Per M.C.C. Chap. 19.02.20(D): Allowable House GFA up to 40% 4160 SF.

For the purposes of calculating GFA as it applies to FAR guidelines:
 • All spaces including garages and ADU's are measured to exterior face of the exterior walls.
 • Areas where rooms have ceiling height between 12' to 16', GFA shall be 150% of floor area.
 • Areas where rooms have ceiling height greater than 16', GFA shall be 200% of floor area.
 • Staircases are counted as single floor area for first two stories.
 • Main level exterior covered spaces are not included in GFA, exterior covered spaces above first level are included in GFA.



4.6 k (50% total, 50% story)
 5.05k (50% total, 50% story)

SW #101
 5.95k W
 (214 PLF)
 5.05k S
 (181 PLF)

4.6 k (50% total, 50% story)
 5.05k (50% total, 50% story)

SW #106
 1.95k W
 (91 PLF)
 1.95k S
 (91 PLF)

SW #105
 1.25k W
 (100 PLF)
 1.5k S
 (120 PLF)

SW #104
 1.4k W
 (100 PLF)
 1.6k S
 (114 PLF)

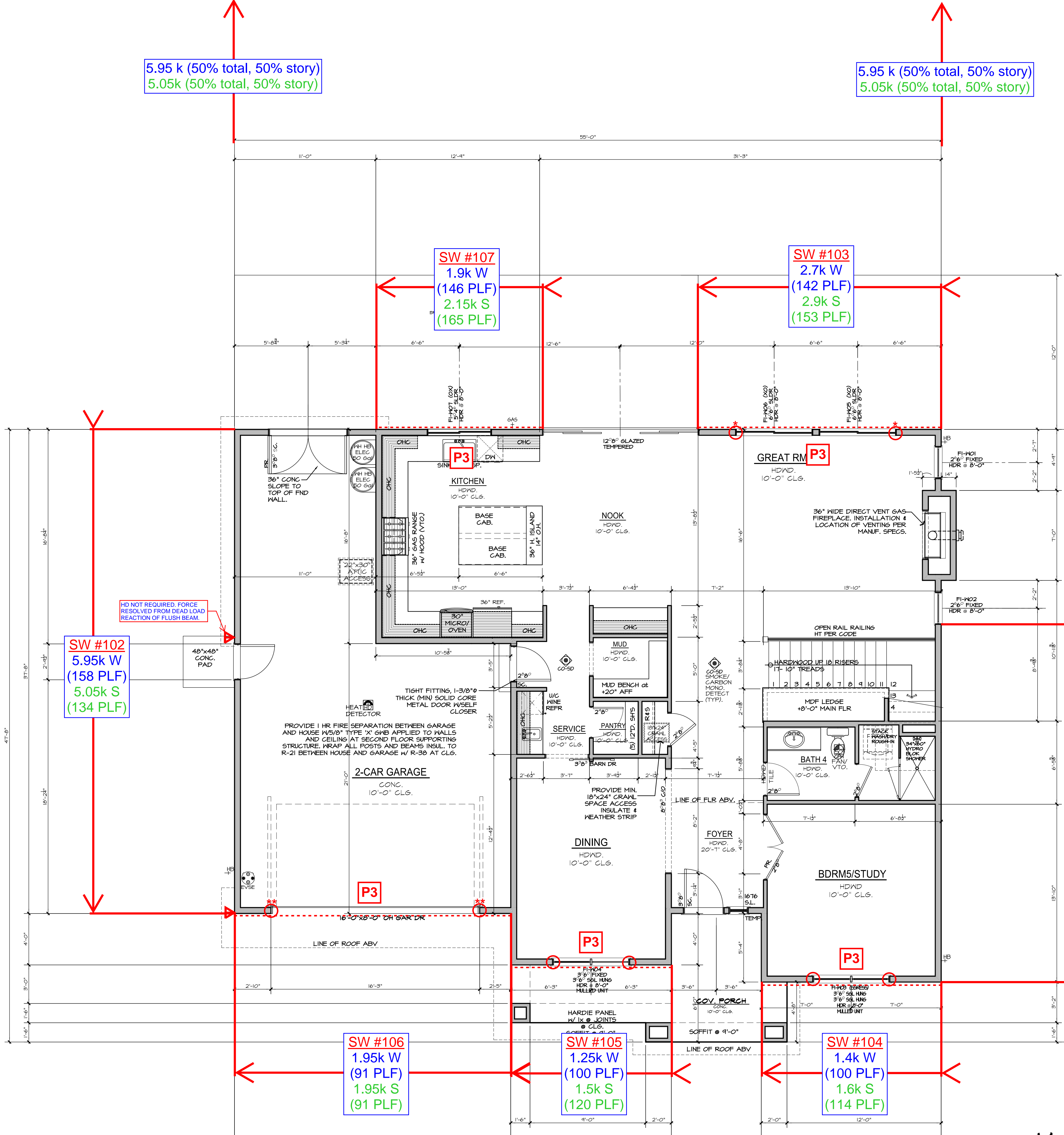
SW #107
 1.9k W
 (146 PLF)
 2.15k S
 (165 PLF)

SW #103
 2.7k W
 (142 PLF)
 2.9k S
 (153 PLF)

5.95 k (50% total, 50% story)
 5.05k (50% total, 50% story)

5.95 k (50% total, 50% story)
 5.05k (50% total, 50% story)

SW #102
 5.95k W
 (158 PLF)
 5.05k S
 (134 PLF)



IT IS OUR OPINION THAT THE UNIT SHEARS PROVIDED ARE WITHIN AN ACCEPTABLE RANGE & WITH THE GEOMETRY OF THE WALLS, THE UNIT SHEAR WILL RESULT IN SIMILAR STIFFNESSES.

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

UPPER FLOOR PLAN NOTES

PLAN SPECIFIC 2018 IMSEC SECTION R406
R406.2 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS (MANDATORY). THIS RESIDENTIAL DWELLING SHALL COMPLY w/SUFFICIENT OPTIONS FROM TABLE R406.2 TO ACHIEVE THE FOLLOWING MIN. NUMBER OF CREDITS: 6 FOR a 1501sf to 4,999sf HOME.
CREDITS PROVIDED IN THIS HOME AS FOLLOWS:
EFFICIENT BUILDING ENVELOPE OPT. 1.3: 0.5 CREDITS
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH FOLLOWING MODIFICATIONS:
VERTICAL FENESTRATION U = 0.28 WINDOWS
FLOORS TO BE R-38 and SLAB ON GRADE TO BE R-10 PERIMETER and UNDER ENTIRE SLAB BELOW GRADE.
AIRLEAKAGE & EFFICIENT VENTILATION OPT. 2.1: 0.5 CREDITS
REDUCE THE TESTED AIR LEAKAGE TO 3.0 AIR CHANGES PER HOUR MAXIMUM @ 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M507.3 OF THE I.R.C. OR SECTION 404.B OF THE I.M.C. SHALL BE MET WITH A HIGH EFFICIENCY FAN(S) (MAXIMUM OF 0.35 WATTS/CFM); NOT INTERLOCKED WITH THE FURNACE FAN (PRESENT). VENTILATION SYSTEMS USING A FURNACE INCLUDING AN ECM MOTOR ARE ALLOWED, PROVIDED THAT THEY ARE CONTROLLED TO OPERATE AT LOW SPEED IN THE VENTILATION ONLY MODE.
HIGH EFFICIENCY HVAC EQUIPMENT OPT. 3.5g: 1.5 CREDITS
AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 11.0, TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT EFFICIENCY. EXTERIOR LOCATED EQUIPMENT SHOULD ALSO BE REPRESENTED ON SITE PLAN.
HIGH EFFICIENCY HVAC DISTRIBUTION OPT. 4.2: 1.0 CREDITS
HVAC EQUIPMENT AND ASSOCIATED DUCT SYSTEM(S) SHALL COMPLY WITH THE REQUIREMENTS OF SECT R403.3.1. LOCATING SYSTEM COMPONENTS IN CONDITIONED CRUIAL SPACES IS NOT PERMITTED UNDER THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.
EFFICIENT WATER HEATING 5.5: 2.0 CREDITS
WATER HEATING SYSTEMS SHALL INCLUDE ONE OF THE FOLLOWING: ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.

WHOLE HOUSE VENTILATION
PROVIDE WHOLE HOUSE VENTILATION per 2018 IRC M507 and IMC R403.8 USING WHOLE HOUSE VENTILATION SYSTEM USING CENTRAL EXHAUST FAN, CONTINUOUSLY OPERATING - WALL SWITCH LABELED "WHOLE HOUSE FAN, LEAVE ON UNLESS OUTDOOR AIR QUALITY IS POOR".

SYMBOL	LOCATION	MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTSIDE)
	BATH #	Min. 50cfm. INTERMITTENT at .025mg per TABLE M507.4
	KITCHEN	Min. 100cfm. INTERMITTENT at .025mg per TBL. M507.4
	RANGE HOOD	DOWN DRAFT EXHAUST FAN RATED at min. 100cfm. at 0.10mg MAY BE USED FOR EXHAUST FAN REQMT. EXHAUST HOODS IN EXCESS OF 400cfm. SHALL BE INTERLOCKED AND PROVIDE MAKE UP AIR per M507.4
	LAUNDRY ROOM	FINAL ADJUSTED RATE = 145 CFM (90 CFM PER TABLE M507.4(2)), ADJUSTED BY FACTOR OF 1.5 PER TABLE M505.4(3)(2) FOR NON-BALANCED, NOT DISTRIBUTED SYSTEM.

PROVIDE CONTROLS FOR WHF per M507.3.2 AFFIX LABEL TO CONTROLS THAT READS "WHOLE HOUSE VENTILATION - SEE OPERATING INSTRUCTIONS"

PER IRC M505.4.1, WHOLE HOUSE VENTILATION FANS MUST BE RATED FOR SOUND AT A MAXIMUM OF 10 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN KG. STATIC PRESSURE IN ACCORDANCE WITH HVF PROCEDURES SPECIFIED IN IRC M505.4.1.2 AND M505.4.1.3.

CARBON MONOXIDE ALARMS/ DETECTORS ARE REQUIRED TO BE INTERCONNECTED PER IRC 315.5

SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	1,561 S.F.
UPPER FLOOR AREA	1,884 S.F.
TOTAL CONDITIONED AREA	3,445 S.F.
3 CAR GARAGE	635 S.F.
COVID ENTRY PORCH	134 S.F.
COVID BACK PORCH	0 S.F.
TOTAL ENCL. AREA UNDER ROOF	5.F.

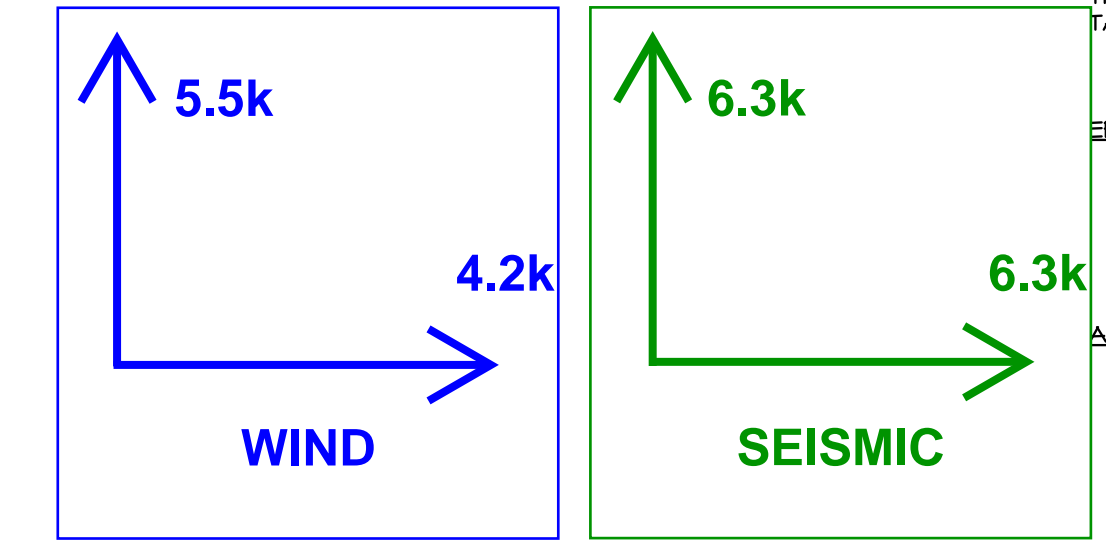
FLOOR AREA RATIO (FAR) SUMMARY

MAIN FLOOR AREA	1,561 S.F.
UPPER FLOOR AREA	1,884 S.F.
CONDITIONED AREAS	3,445 S.F.
3 CAR GARAGE	635 S.F.
COVID ENTRY PORCH (FAR Exempt)	134 S.F.
COVID REAR PATIO (FAR Exempt)	0 S.F.
TOTAL AREA UNDER "FAR"	S.F.

Updated: 03/24/2022

FAR SUMMARY: Lot Area 10,400sf.
Per M.C.C. Chap. 14.02.20(D): Allowable House GFA to 40% 4,160 SF.

For the purposes of calculating GFA as it applies to FAR guidelines:
• All spaces including garages and ADU's are measured to exterior face of the exterior walls.
• Areas where rooms have ceiling height between 12' to 16', GFA shall be 150% of floor area.
• Areas where rooms have ceiling height greater than 16', GFA shall be 200% of floor area.
• Staircases are counted as single floor area for first two stories.
• Main level exterior covered spaces are not included in GFA, exterior covered spaces above first level are included in GFA.



2.2 k (50%)
3.15k (50%)

SW #201
2.75k W (72 PLF)
3.15k S (82 PLF)

2.2 k (50%)
3.15k (50%)

UPPER FLOOR PLAN

UPPER FLOOR PLAN

2.75 k (50%)
3.15k (50%)

2.75 k (50%)
3.15k (50%)

SW #203
2.1k W (75 PLF)
3.15k S (113 PLF)

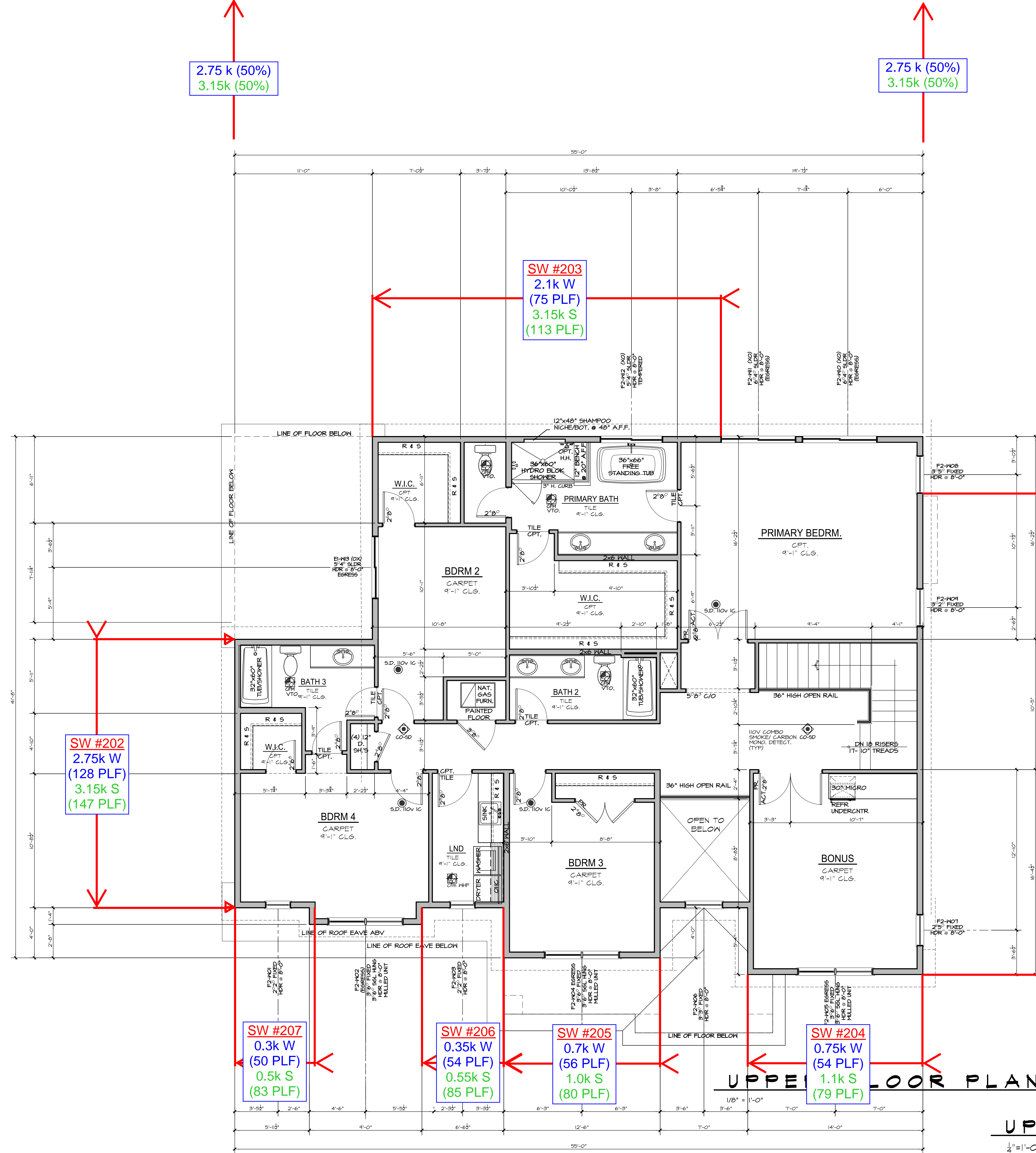
SW #202
2.75k W (128 PLF)
3.15k S (147 PLF)

SW #207
0.3k W (50 PLF)
0.5k S (83 PLF)

SW #206
0.35k W (54 PLF)
0.55k S (85 PLF)

SW #205
0.7k W (56 PLF)
1.0k S (80 PLF)

SW #204
0.75k W (54 PLF)
1.1k S (79 PLF)



1/8" = 1'-0"



SHEARWALL DESIGN SUMMARY

SHEARWALL 201: 2ND - SIDE EXT BONUS / STAIRS

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 202: 2ND - SIDE EXT BED 4 / BATH 3

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 203: 2ND - REAR EXT PRIMARY BED / BATH

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="4.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="27.9"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="22.9"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="2100"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="7673"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="423"/>	PLF	OVERTURNING MOMENT	<input type="text" value="19.1"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1000"/>	LBS	RESISTIVE MOMENT	<input type="text" value="115.1"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 204: 2ND - FRONT EXT BONUS

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="6.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="14.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="8.0"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="750"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="2686"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="134"/>	PLF	OVERTURNING MOMENT	<input type="text" value="6.8"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="700"/>	LBS	RESISTIVE MOMENT	<input type="text" value="13.8"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 205: 2ND - FRONT EXT BED 3

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="6.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="12.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="6.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="134"/>	PLF	OVERTURNING MOMENT	<input type="text" value="6.4"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1000"/>	LBS	RESISTIVE MOMENT	<input type="text" value="13.8"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 206: 2ND - FRONT EXT LAUNDRY

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="2.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="6.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="4.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="423"/>	PLF	OVERTURNING MOMENT	<input type="text" value="3.2"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1200"/>	LBS	RESISTIVE MOMENT	<input type="text" value="10.0"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 207: 2ND - FRONT EXT BED 4

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL XXX: - NOT USED

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS ####! ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P0 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED
#DIV/0!

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 101: 1ST - SIDE EXT BED 5 / STAIRS

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="27.8"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="27.8"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="5950"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="9345"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="324"/>	PLF	OVERTURNING MOMENT	<input type="text" value="59.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="280"/>	LBS	RESISTIVE MOMENT	<input type="text" value="80.0"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 102: 1ST - SIDE EXT GARAGE

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="11.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="37.7"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="37.7"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="5950"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="12650"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="194"/>	PLF	OVERTURNING MOMENT	<input type="text" value="65.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="470"/>	LBS	RESISTIVE MOMENT	<input type="text" value="93.2"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 103: 1ST - REAR EXT GREAT ROOM

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="6.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="19.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="6.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P3"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="2700"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="4096"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="538"/>	PLF	OVERTURNING MOMENT	<input type="text" value="27.0"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="400"/>	LBS	RESISTIVE MOMENT	<input type="text" value="62.8"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 104: 1ST - FRONT EXT BED 5

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="6.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="14.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="8.0"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P3"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1400"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="5042"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="249"/>	PLF	OVERTURNING MOMENT	<input type="text" value="14.0"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1200"/>	LBS	RESISTIVE MOMENT	<input type="text" value="24.7"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 105: 1ST - FRONT EXT DINING

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="6.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="12.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="6.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P3"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1250"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="4096"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="249"/>	PLF	OVERTURNING MOMENT	<input type="text" value="12.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1200"/>	LBS	RESISTIVE MOMENT	<input type="text" value="20.7"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 106: 1ST - FRONT EXT GARAGE

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="11.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="8.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="21.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="5.2"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P3"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1950"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="2731"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="479"/>	PLF	OVERTURNING MOMENT	<input type="text" value="21.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1200"/>	LBS	RESISTIVE MOMENT	<input type="text" value="81.9"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 107: 1ST - REAR EXT KITCHEN

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL XXX: - NOT USED

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS **###** ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P0 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED
#DIV/0!

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

JAYMARC HOMES
ROSS RESIDENCE

MERCER ISLAND, WA

SHEAR WALL CALCULATIONS - SEISMIC

REVIEWED BY: RJZ

MAY 11, 2022

PARAMETERS:

SINGLE FAMILY HOME

DESIGN WIND SPEED: 100 MPH

WIND EXPOSURE CATEGORY: B

SEISMIC DESIGN CATEGORY: D

CODE & DESIGN STANDARD: 2018 IBC CH. 1609, ASCE 7-16 CH. 26-30



MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING

SEISMIC CALCULATION - ASCE 7-16

SEISMIC DESIGN CATEGORY:

USER INPUTS:

SITE CLASS	D
SPECTRAL RESPONSE ACCELERATION 0.2 SEC, S_s	1.415
SPECTRAL RESPONSE ACCELERATION 1.0 SEC, S₁	0.492
OCCUPANCY CATEGORY	II

VARIABLES:

SITE COEFFICIENT, F _A	1.20
SITE COEFFICIENT, F _V	1.81

CALCULATED VALUES:

MAXIMUM SPECTRAL RESPONSE ACCELERATION, S_{M0}	1.698
MAXIMUM SPECTRAL RESPONSE ACCELERATION, S_{M1}	0.890
DESIGN SPECTRAL RESPONSE ACCELERATION, S_{D0}	1.132
DESIGN SPECTRAL RESPONSE ACCELERATION, S_{D1}	0.593
SEISMIC DESIGN CATEGORY (SHORT TERM)	D
SEISMIC DESIGN CATEGORY (1.0 SECOND TERM)	D

BUILDING PERIOD DETERMINATION:

USER INPUTS:

BUILDING PERIOD COEFFICIENT, C _T	0.020
LONG-PERIOD TRANS PERIOD, T _L (SEC)	6
HT. ABV BASE TO HIGHEST LEVEL, h _N	21

CALCULATED VALUES:

APPROXIMATE FUNDAMENTAL PERIOD, T _a	0.193
T ₀	0.105
T _s	0.524
SPECTRAL RESPONSE ACC., S _a (g)	1.132

SITE CLASS ASSUMPTION

YES PER ASCE 7-16 SECTION 11.4.3 THE SITE CLASS MAY BE ASSUMED TO BE D

EQUIVALENT LATERAL FORCE PROCEDURE

DEAD LOAD CALCULATION:

LEVEL	STORY HT. (FT.)	AREA (FT ²)	DEAD LOAD (PSF)	DL OF EXT WALL TRIB. TO LEVEL (KIPS)	TOTAL LEVEL DL
1	11.5	2146	15	10.8	43 K
2	9.1	2032	17	5.4	40 K
3	0.0	0	0	0.0	0 K
4	0.0	0	0	0.0	0 K
5	0.0	0	0	0.0	0 K
6	0.0	0	0	0.0	0 K
7	0.0	0	0	0.0	0 K
8	0.0	0	0	0.0	0 K
9	0.0	0	0	0.0	0 K
10	0.0	0	0	0.0	0 K
11	0.0	0	0	0.0	0 K
12	0.0	0	0	0.0	0 K
13	0.0	0	0	0.0	0 K
14	0.0	0	0	0.0	0 K
15	0.0	0	0	0.0	0 K
16	0.0	0	0	0.0	0 K
17	0.0	0	0	0.0	0 K
18	0.0	0	0	0.0	0 K
19	0.0	0	0	0.0	0 K
20	0.0	0	0	0.0	0 K

TOTAL DEAD LOAD OF STRUCTURE 83 KIPS

SEISMIC RESPONSE COEFFICIENT:

	TRANSVERSE	LONGITUDINAL
RESPONSE MODIFICATION FACTOR, R	6.5	6.5
OCCUPANCY IMPORTANCE FACTOR, I _e	1.00	1.00
SEISMIC RESPONSE COEFFICIENT, C _s	0.174	0.174

BASE SHEARS:

ULTIMATE LOADS

x 0.7 =

ALLOWABLE LOADS

TRANSVERSE	LONGITUDINAL	TRANSVERSE	LONGITUDINAL
14 K	14 K	10.1 K	10.1 K

STORY SHEAR CALCULATION:

DISTRIBUTION EXPONENT, **γ** 1.00

ULTIMATE LOADS

x 0.7 =

ALLOWABLE LOADS

LEVEL	VERT. DIST. FACTOR, C _{vk}	TRANSVERSE		LONGITUDINAL		TRANSVERSE		LONGITUDINAL	
		STORY SHEAR, F _x	STORY SHEAR, F _y	STORY SHEAR, F _x	STORY SHEAR, F _y	STORY SHEAR, F _x	STORY SHEAR, F _y	STORY SHEAR, F _x	STORY SHEAR, F _y
1	0.375	5.4	5.4	3.8	3.8	10.1	10.1	3.8	3.8
2	0.625	9.0	9.0	6.3	6.3	6.3	6.3	6.3	6.3
3	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Issue	Issue Date	By	Description
△			
△			

4040 Island Crest Way
Mercer Island, WA
Ross Family New Home

job Number

Project Identification

project name:	...
marketing name:	...
plan number:	...
mark system name:	...

Conditions not specifically represented graphically or in writing or which conflict with the 2018 International Residential Code (IRC) and/or those of the local municipality then the current standards and requirements of each respectively shall govern.

The drawings in this set are instruments of service and shall remain the property of JayMarc Homes, LLC.

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30.MAR.2022
Submitted Date

Sheet Title/Description

Design Firm

Drawn by:

Checked by:

Primary Scale

A5
of .

MAIN FLOOR PLAN NOTES

PLAN SPECIFIC 2018 WSEC, SECTION R406.2
R406.2 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS (MANDATORY). THIS RESIDENTIAL DWELLING SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 TO ACHIEVE THE FOLLOWING MIN. NUMBER OF CREDITS:
6 FOR A 1501sf to 4,999sf HOME.

OPT. 1.3: 0.5 CREDITS
BUILDING ENVELOPE. COMPLIANCE IS BASED ON TABLE R402.1.1 WITH LOWNING MODIFICATIONS:
OPTICAL FENESTRATION U = 0.28 WINDOWS
GLAZING TO BE R-36 and SLAB ON GRADE TO BE R-10 PERIMETER and ENTIRE SLAB BELOW GRADE.

OPT. 2.1: 0.5 CREDITS
EFFICIENT VENTILATION. TEST THE TESTED AIR LEAKAGE TO 3.0 AIR CHANGES PER HOUR (ACH) @ 50 PASGALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M507.3 OF THE I.R.C. OR SECTION 404.8 OF THE I.M.C. SHALL BE MET WITH A HIGH EFFICIENCY FAN (MAXIMUM OF 0.25 WATTS/CFM), NOT INTERLOCKED WITH THE RANGE FAN (IF PRESENT). VENTILATION SYSTEMS USING A FURNACE INCLUDING AN EMC MOTOR ARE ALLOWED, PROVIDED THAT THEY ARE CONTROLLED TO OPERATE AT LOW SPEED IN THE VENTILATION ONLY MODE.

OPT. 3.5a: 1.5 CREDITS
HIGH EFFICIENCY HVAC EQUIPMENT. AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 10.0. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFICALLY IDENTIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT EFFICIENCY. EXTERIOR LOCATED EQUIPMENT SHOULD ALSO BE REPRESENTED ON SITE PLAN.

OPT. 4.2: 1.0 CREDITS
HIGH EFFICIENCY HVAC DISTRIBUTION. HVAC EQUIPMENT AND ASSOCIATED DUCT SYSTEMS(S) SHALL COMPLY WITH THE REQUIREMENTS OF SECT R408.3.1. LOCATING SYSTEM COMPONENTS IN UNCONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.

5.5: 2.0 CREDITS
EFFICIENT WATER HEATING. WATER HEATING SYSTEMS SHALL INCLUDE ONE OF THE FOLLOWING:
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION.
TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFICALLY IDENTIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.

WHOLE HOUSE VENTILATION
PROVIDE WHOLE HOUSE VENTILATION per 2018 IRC, M507 and IMC R403.8 USING WHOLE HOUSE VENTILATION SYSTEM USING CENTRAL EXHAUST FAN, CONTINUOUSLY OPERATING - WALL SWITCH LABELED "WHOLE HOUSE FAN. LEAVE ON UNLESS OUTDOOR AIR QUALITY IS POOR".

SYMBOL	LOCATION	MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTSIDE)
	BATH & POWDER	Min. 50cfm, INTERMITTENT at .025mg per TABLE M507.4
	KITCHEN	Min. 100cfm, INTERMITTENT at .025mg per TBL. M507.4
	RANGE HOOD	DOWN DRAFT EXHAUST FAN RATED AT MIN. 100cfm, at 0.10mg MAY BE USED FOR EXHAUST FAN REGM. EXHAUST HOODS IN EXCESS OF 400cfm, SHALL BE INTERLOCKED AND PROVIDE MAKE UP AIR per M505.4
	LAUNDRY ROOM	FINAL ADJUSTED RATE = 145 CFM (90 CFM PER TABLE 1505.4.3), ADJUSTED BY FACTOR OF 1.5 PER TABLE 1505.4.3(2) FOR NON-BALANCED, NOT DISTRIBUTED SYSTEM.

PER IRC M505.4.1, WHOLE HOUSE VENTILATION FANS MUST BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN KG. STATIC PRESSURE IN ACCORDANCE WITH HVF PROCEDURES SPECIFIED IN IRC M505.4.1.2 AND M505.4.1.3.

CARBON MONOXIDE ALARMS/ DETECTORS ARE REQUIRED TO BE INTERCONNECTED PER IRC 315.5

SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	1,561 S.F.
UPPER FLOOR AREA	1,889 S.F.
TOTAL CONDITIONED AREA	3,450 S.F.
3 CAR GARAGE	635 S.F.
COVID ENTRY PORCH	134 S.F.
COVID REAR PORCH	0 S.F.
TOTAL ENCL. AREA UNDER ROOF	5.F.

OVERALL WIDTH 55'-0"
OVERALL DEPTH 47'-8"
Updated: 03/02/2022 CB

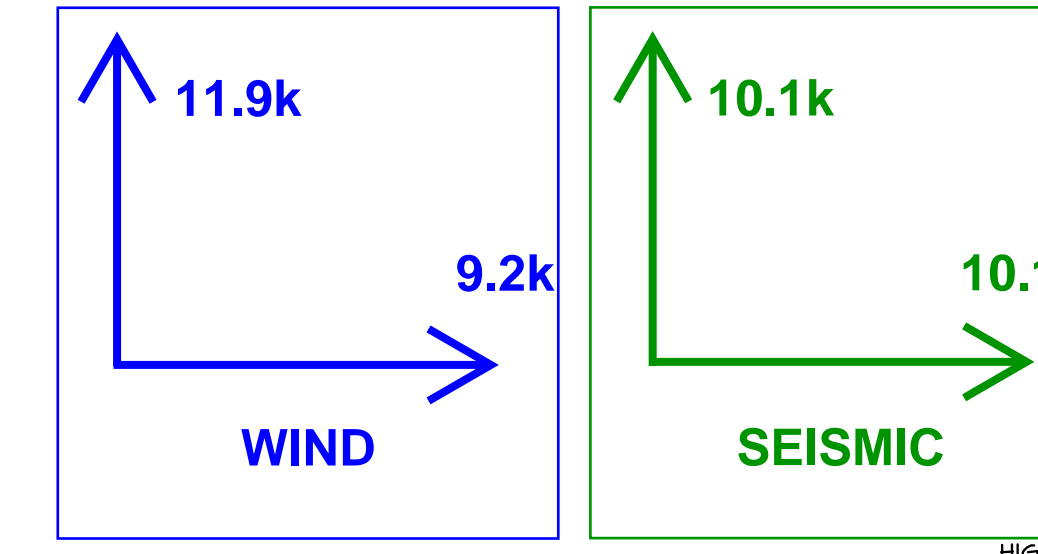
FLOOR AREA RATIO (FAR) SUMMARY

MAIN FLOOR AREA	1,561 S.F.
UPPER FLOOR AREA	1,444 S.F.
CONDITIONED AREAS	3,510 S.F.
3 CAR GARAGE	635 S.F.
COVID ENTRY PORCH (FAR Exempt)	134'
COVID REAR PORCH (FAR Exempt)	0 S.F.
TOTAL AREA UNDER "FAR"	5.F.

Updated: 03/24/2022

FAR SUMMARY: Lot Area 10,400sf
Per M.C.C. Chap. 19.02.20(D): Allowable House GFA up to 40% 4160 SF.

For the purposes of calculating GFA as it applies to FAR guidelines:
• All spaces including garages and ADU's are measured to exterior face of the exterior walls.
• Areas where rooms have ceiling height between 12' to 16', GFA shall be 150% of floor area.
• Areas where rooms have ceiling height greater than 16', GFA shall be 200% of floor area.
• Staircases are counted as single floor area for first two stories.
• Main level exterior covered spaces are not included in GFA, exterior covered spaces above first level are included in GFA.



4.6 k (50% total, 50% story)
5.05k (50% total, 50% story)

SW #101
5.95k W
(214 PLF)
5.05k S
(181 PLF)

4.6 k (50% total, 50% story)
5.05k (50% total, 50% story)

5.95 k (50% total, 50% story)
5.05k (50% total, 50% story)

SW #103
2.7k W
(142 PLF)
2.9k S
(153 PLF)

SW #107
1.9k W
(146 PLF)
2.15k S
(165 PLF)

SW #102
5.95k W
(158 PLF)
5.05k S
(134 PLF)

SW #106
1.95k W
(91 PLF)
1.95k S
(91 PLF)

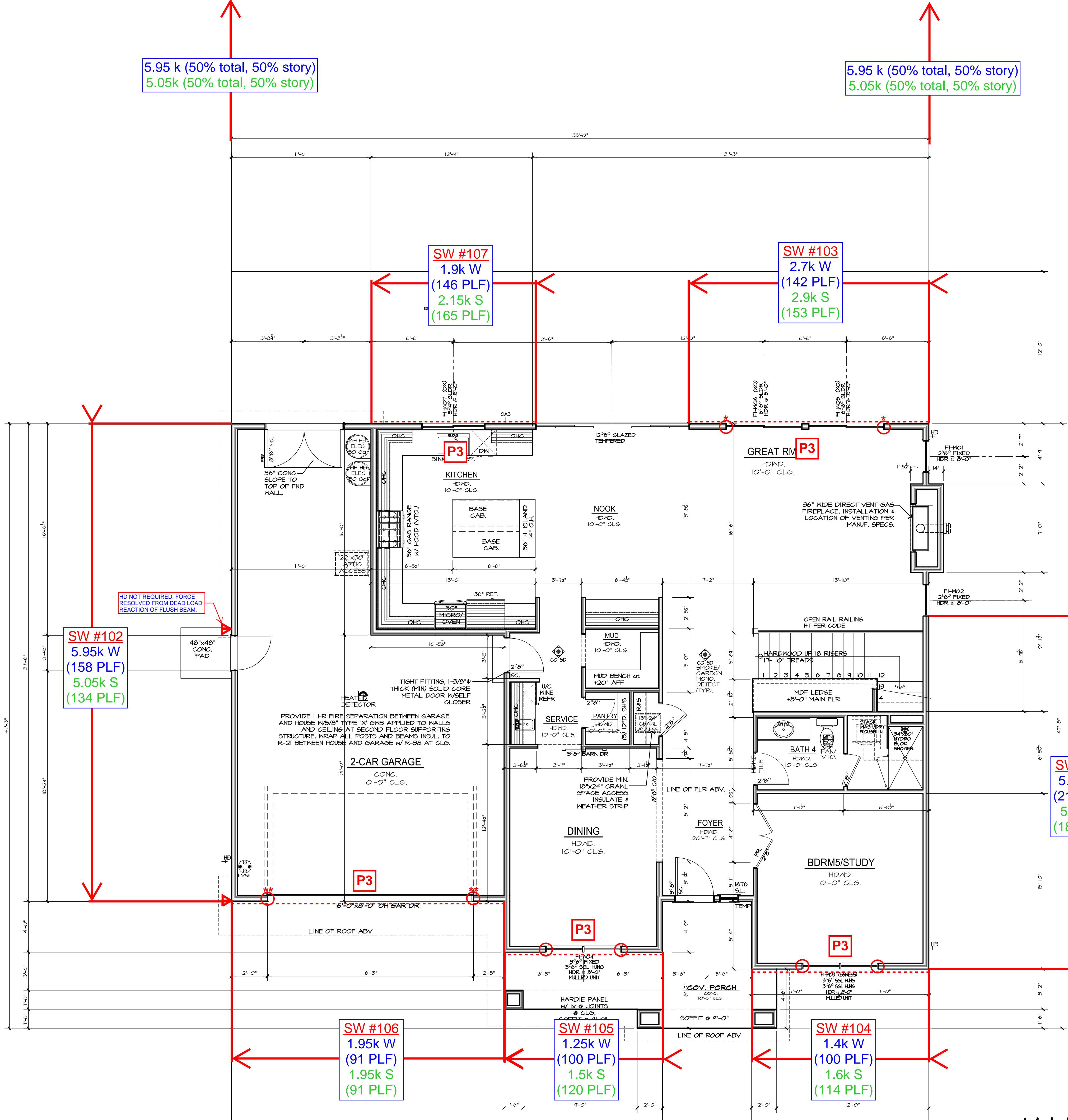
SW #105
1.25k W
(100 PLF)
1.5k S
(120 PLF)

SW #104
1.4k W
(100 PLF)
1.6k S
(114 PLF)

IT IS OUR OPINION THAT THE UNIT SHEARS PROVIDED ARE WITHIN AN ACCEPTABLE RANGE & WITH THE GEOMETRY OF THE WALLS, THE UNIT SHEAR WILL RESULT IN SIMILAR STIFFNESSES.

MAIN FLOOR PLAN

1/4" = 1'-0"



HD NOT REQUIRED, FORCE RESOLVED FROM DEAD LOAD REACTION OF FLUSH BEAM.

PROVIDE 1 HR FIRE SEPARATION BETWEEN GARAGE AND HOUSE W/5/8\"/>

PROVIDE MIN. 10\"/>

UPPER FLOOR PLAN NOTES

PLAN SPECIFIC 2018 IMSEC SECTION R406
R406.2 ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS (MANDATORY). THIS RESIDENTIAL DWELLING SHALL COMPLY w/SUFFICIENT OPTIONS FROM TABLE R406.2 TO ACHIEVE THE FOLLOWING MIN. NUMBER OF CREDITS: 6 FOR a 1501sf to 4,999sf HOME.
CREDITS PROVIDED IN THIS HOME AS FOLLOWS:
EFFICIENT BUILDING ENVELOPE OPT. 1.3: 0.5 CREDITS
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH FOLLOWING MODIFICATIONS:
VERTICAL FENESTRATION U = 0.28 WINDOWS
FLOORS TO BE R-38 and SLAB ON GRADE TO BE R-10 PERIMETER and UNDER ENTIRE SLAB BELOW GRADE.
AIRLEAKAGE & EFFICIENT VENTILATION OPT. 2.1: 0.5 CREDITS
REDUCE THE TESTED AIR LEAKAGE TO 3.0 AIR CHANGES PER HOUR MAXIMUM @ 50 PASCALS AND ALL WHOLE HOUSE VENTILATION REQUIREMENTS AS DETERMINED BY SECTION M507.3 OF THE I.R.C. OR SECTION 404.B OF THE I.M.C. SHALL BE MET WITH A HIGH EFFICIENCY FAN(S) (MAXIMUM OF 0.35 WATTS/CFM); NOT INTERLOCKED WITH THE FURNACE FAN (PRESENT). VENTILATION SYSTEMS USING A FURNACE INCLUDING AN ECM MOTOR ARE ALLOWED, PROVIDED THAT THEY ARE CONTROLLED TO OPERATE AT LOW SPEED IN THE VENTILATION ONLY MODE.
HIGH EFFICIENCY HVAC EQUIPMENT OPT. 3.5g: 1.5 CREDITS
AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPFF OF 11.0, TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE HEATING EQUIPMENT EFFICIENCY. EXTERIOR LOCATED EQUIPMENT SHOULD ALSO BE REPRESENTED ON SITE PLAN.
HIGH EFFICIENCY HVAC DISTRIBUTION OPT. 4.2: 1.0 CREDITS
HVAC EQUIPMENT AND ASSOCIATED DUCT SYSTEM(S) SHALL COMPLY WITH THE REQUIREMENTS OF SECT R403.3.1. LOCATING SYSTEM COMPONENTS IN CONDITIONED CRUIAL SPACES IS NOT PERMITTED UNDER THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.
EFFICIENT WATER HEATING 5.5: 2.0 CREDITS
WATER HEATING SYSTEMS SHALL INCLUDE ONE OF THE FOLLOWING: ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER III OF NEEA'S ADVANCED WATER HEATING SPECIFICATION. TO QUALIFY TO CLAIM THIS CREDIT, THE BUILDING PERMIT DRAWINGS SHALL SPECIFY THE OPTION BEING SELECTED AND SHALL SPECIFY THE WATER HEATER EQUIPMENT TYPE AND THE MINIMUM EQUIPMENT EFFICIENCY.

WHOLE HOUSE VENTILATION
PROVIDE WHOLE HOUSE VENTILATION per 2018 IRC M507 and IMC R403.B USING WHOLE HOUSE VENTILATION USING CENTRAL EXHAUST FAN, CONTINUOUSLY OPERATING - WALL SWITCH LABELED "WHOLE HOUSE FAN, LEAVE ON UNLESS OUTDOOR AIR QUALITY IS POOR".
SYMBOL LOCATION MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTSIDE)
BATH # FINDER Min. 50cfm. INTERMITTENT at .025mg per TABLE M507.4
KITCHEN Min. 100cfm. INTERMITTENT at .025mg per TBL. M507.4
RANGE HOOD 2" DOWN DRAFT EXHAUST FAN RATED at min. 100cfm. at 0.10mg MAY BE USED FOR EXHAUST FAN REQMT. EXHAUST HOODS IN EXCESS OF 400cfm. SHALL BE INTERLOCKED AND PROVIDE MAKE UP AIR per IMC503.4
LAUNDRY ROOM FINAL ADJUSTED RATE = 145 CFM (90 CFM PER TABLE IM505.4.1(1), ADJUSTED BY FACTOR OF 1.5 PER TABLE IM505.4.1(2) FOR NON-BALANCED, NOT DISTRIBUTED SYSTEM.
PROVIDE CONTROLS FOR HFF, per M507.3.2 AFFIX LABEL TO CONTROLS THAT READS "WHOLE HOUSE VENTILATION - SEE OPERATING INSTRUCTIONS"
PER IRC M505.4.1.1, WHOLE HOUSE VENTILATION FANS MUST BE RATED FOR SOUND AT A MAXIMUM OF 10 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN KG. STATIC PRESSURE IN ACCORDANCE WITH HVF PROCEDURES SPECIFIED IN IRC M505.4.1.2 AND M505.4.1.3.

CARBON MONOXIDE ALARMS/ DETECTORS ARE REQUIRED TO BE INTERCONNECTED PER IRC 315.5

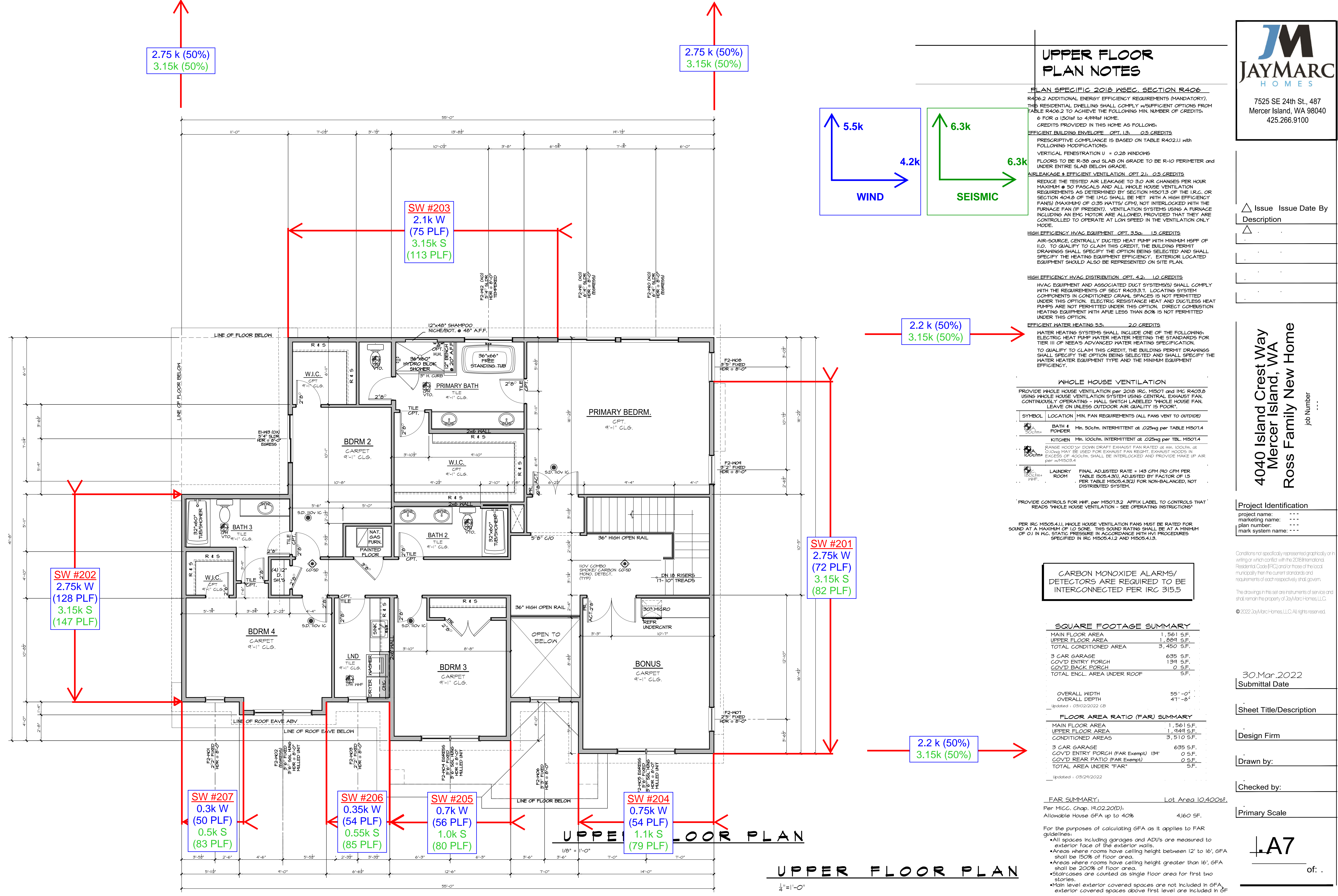
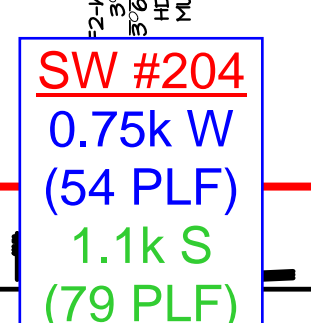
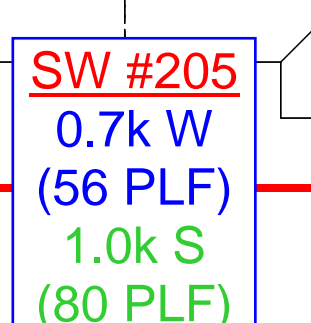
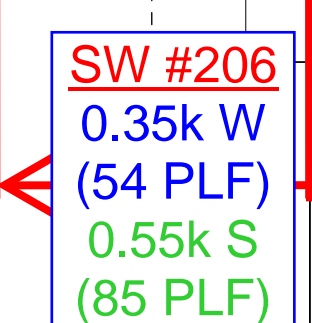
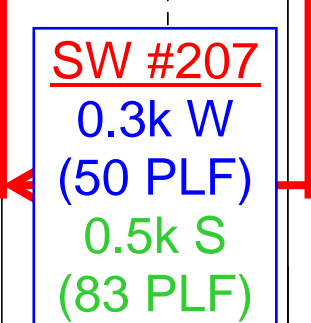
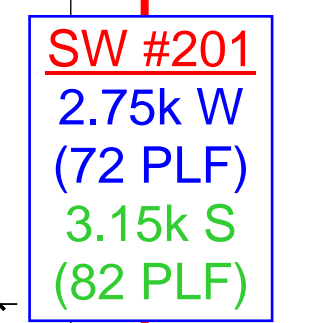
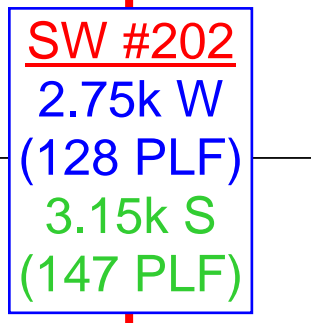
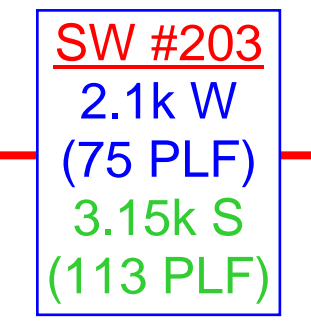
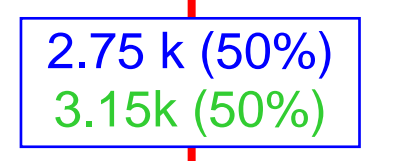
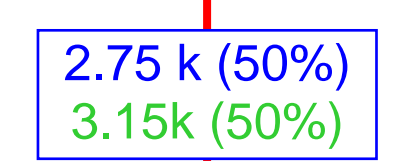
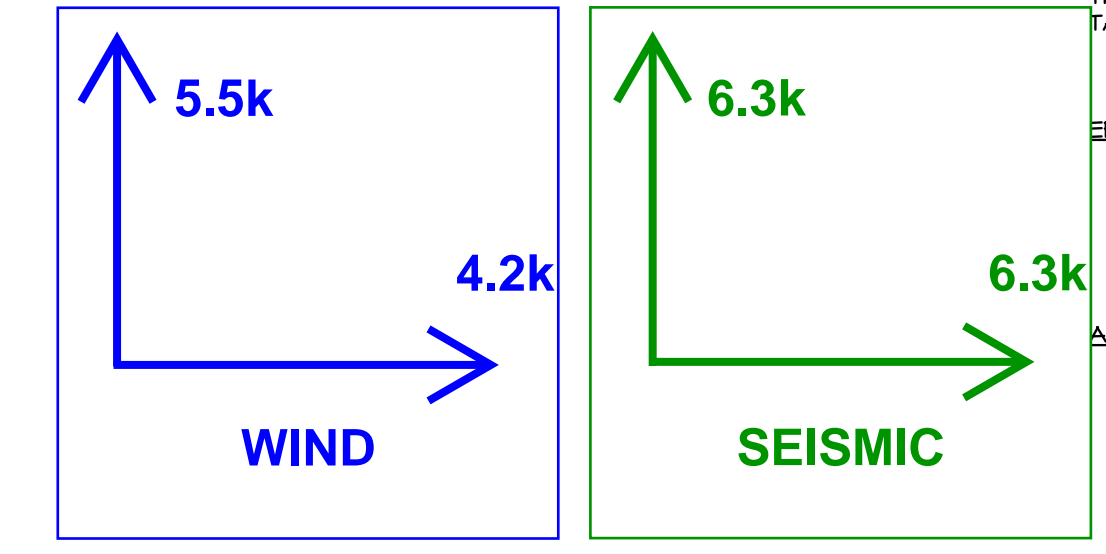
SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	1,561 S.F.
UPPER FLOOR AREA	1,884 S.F.
TOTAL CONDITIONED AREA	3,445 S.F.
3 CAR GARAGE	635 S.F.
COVID ENTRY PORCH	134 S.F.
COVID BACK PORCH	0 S.F.
TOTAL ENCL. AREA UNDER ROOF	5.F.

FLOOR AREA RATIO (FAR) SUMMARY

MAIN FLOOR AREA	1,561 S.F.
UPPER FLOOR AREA	1,884 S.F.
CONDITIONED AREAS	3,445 S.F.
3 CAR GARAGE	635 S.F.
COVID ENTRY PORCH (FAR Exempt)	134 S.F.
COVID REAR PATIO (FAR Exempt)	0 S.F.
TOTAL AREA UNDER "FAR"	S.F.

FAR SUMMARY: Lot Area 10,400sf.
Per M.C.C. Chap. 14.02.20(D): Allowable House GFA to 40% 4,160 SF.
For the purposes of calculating GFA as it applies to FAR guidelines:
• All spaces including garages and ADU's are measured to exterior face of the exterior walls.
• Areas where rooms have ceiling height between 12' to 16', GFA shall be 150% of floor area.
• Areas where rooms have ceiling height greater than 16', GFA shall be 200% of floor area.
• Staircases are counted as single floor area for first two stories.
• Main level exterior covered spaces are not included in GFA, exterior covered spaces above first level are included in GFA.



UPPER FLOOR PLAN

UPPER FLOOR PLAN

1/8" = 1'-0"



SHEARWALL DESIGN SUMMARY

SHEARWALL 201: 2ND - SIDE EXT BONUS / STAIRS

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6" O.C. PANEL EDGES & 12" O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 202: 2ND - SIDE EXT BED 4 / BATH 3

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6" O.C. PANEL EDGES & 12" O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

SIMPSON CS16 STRAP TIE (14" END LENGTH)



SHEARWALL DESIGN SUMMARY

SHEARWALL 203: 2ND - REAR EXT PRIMARY BED / BATH

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="4.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="27.9"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="22.9"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="3150"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="5481"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="423"/>	PLF	OVERTURNING MOMENT	<input type="text" value="28.7"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1000"/>	LBS	RESISTIVE MOMENT	<input type="text" value="86.9"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 204: 2ND - FRONT EXT BONUS

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="6.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="14.0"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="8.0"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1100"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="1919"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="134"/>	PLF	OVERTURNING MOMENT	<input type="text" value="10.0"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="700"/>	LBS	RESISTIVE MOMENT	<input type="text" value="10.4"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 205: 2ND - FRONT EXT BED 3

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="6.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="12.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="6.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1000"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="1559"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="134"/>	PLF	OVERTURNING MOMENT	<input type="text" value="9.1"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1000"/>	LBS	RESISTIVE MOMENT	<input type="text" value="10.4"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 206: 2ND - FRONT EXT LAUNDRY

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="9.1"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="2.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="6.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="4.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="550"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="1079"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="423"/>	PLF	OVERTURNING MOMENT	<input type="text" value="5.0"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1200"/>	LBS	RESISTIVE MOMENT	<input type="text" value="7.6"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 207: 2ND - FRONT EXT BED 4

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL XXX: - NOT USED

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS ####! ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P0 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED
#DIV/0!

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 101: 1ST - SIDE EXT BED 5 / STAIRS

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="27.8"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="27.8"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="5050"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="6675"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6" O.C. PANEL EDGES & 12" O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="324"/>	PLF	OVERTURNING MOMENT	<input type="text" value="50.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="280"/>	LBS	RESISTIVE MOMENT	<input type="text" value="60.4"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 102: 1ST - SIDE EXT GARAGE

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="11.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="0.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="37.7"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="37.7"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P1"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="5050"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="9035"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6" O.C. PANEL EDGES & 12" O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="194"/>	PLF	OVERTURNING MOMENT	<input type="text" value="55.6"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="470"/>	LBS	RESISTIVE MOMENT	<input type="text" value="70.4"/>	K-FT	HOLD DOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 103: 1ST - REAR EXT GREAT ROOM

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 104: 1ST - FRONT EXT BED 5

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 105: 1ST - FRONT EXT DINING

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="10.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="6.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="12.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="6.5"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P3"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1500"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="2926"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="249"/>	PLF	OVERTURNING MOMENT	<input type="text" value="15.0"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1200"/>	LBS	RESISTIVE MOMENT	<input type="text" value="15.6"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 106: 1ST - FRONT EXT GARAGE

SHEARWALL PROPERTIES:

WALL HEIGHT, H	<input type="text" value="11.0"/>	FT.	MAX WALL OPENING HT, H _c	<input type="text" value="8.0"/>	FT.		
WALL LENGTH, L	<input type="text" value="21.5"/>	FT.	QUALIFYING WALL LENGTH, L	<input type="text" value="5.2"/>	FT.	SHEARWALL ASSEMBLY	<input type="text" value="P3"/>

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	<input type="text" value="1950"/>	LBS	<	ALLOWABLE SHEARWALL CAPACITY	<input type="text" value="1951"/>	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL	<input type="text" value="479"/>	PLF	OVERTURNING MOMENT	<input type="text" value="21.5"/>	K-FT	HOLD DOWN DESIGN LOAD	<input type="text" value="0"/>	LBS
DL AT ENDS OF WALL	<input type="text" value="1200"/>	LBS	RESISTIVE MOMENT	<input type="text" value="61.8"/>	K-FT	HOLDDOWN CAPACITY	<input type="text" value="0"/>	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

SHEARWALL 107: 1ST - REAR EXT KITCHEN

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS < ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P3 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 3"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - EDGES BLOCKED
ADEQUATE

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL XXX: - NOT USED

SHEARWALL PROPERTIES:

WALL HEIGHT, H FT. MAX WALL OPENING HT, H_c FT.
WALL LENGTH, L FT. QUALIFYING WALL LENGTH, L FT. SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL LBS ALLOWABLE SHEARWALL CAPACITY LBS

SHEARWALL ASSEMBLY SPECIFICATION

P0 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"O.C. PANEL EDGES & 12"O.C. PANEL FIELD - UNBLOCKED
#DIV/0!

OVERTURNING EVALUATION:

RESISTIVE DL PLF OVERTURNING MOMENT K-FT HOLD DOWN DESIGN LOAD LBS
DL AT ENDS OF WALL LBS RESISTIVE MOMENT K-FT HOLDDOWN CAPACITY LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED