



MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING

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CALCULATION PACKAGE

Revised: July 17, 2024

JayMarc Homes

4104 83rd Ave SE

Mercer Island, WA

MULHERN & KULP STRUCTURAL ENGINEERING, INC.

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Project Manager + Director of Engineering



Signature, Seal & Date



MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING

PROJECT NAME: 4104 83RD AVE SE
JAYMARC HOMES
M&K PROJECT #: 154-23017
ENGINEER: BFD
DATE: 12-JAN-24

BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: TYP. HDR (WORST CASE LOAD)

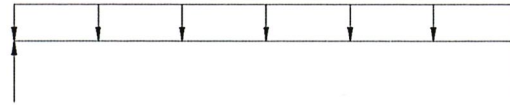
B1

PARAMETERS:

L = 6 FT

W = 0.76 KLF

P = — K



ANALYSIS:

R_{MAX} = 2.3 K

V_D = — K

< V_{ALL} = 4.5 K

☒ ADEQUATE

M_{MAX} = 2.9 K-FT

< M_{ALL} = 5.2 K-FT

☒ ADEQUATE

Δ_{TL} = 0.05 IN.

L/ 999+ < L/240

☒ ADEQUATE

4x10 DF #2

BEAM DESCRIPTION: TYP. HDR (WORST CASE LENGTH)

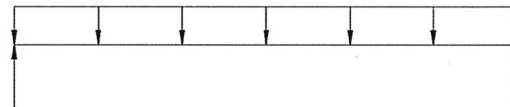
B1

PARAMETERS:

L = 8 FT

W = 0.27 KLF

P = — K



ANALYSIS:

R_{MAX} = 1.1 K

V_D = — K

< V_{ALL} = 4.5 K

☒ ADEQUATE

M_{MAX} = 2.2 K-FT

< M_{ALL} = 5.2 K-FT

☒ ADEQUATE

Δ_{TL} = 0.07 IN.

L/ 999+ < L/240

☒ ADEQUATE

4x10 DF #2

BEAM DESCRIPTION: ROOF FRMG - HDR @ BATH 5

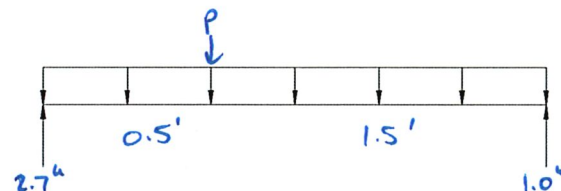
B2

PARAMETERS:

L = 2 FT

W = 0.17 KLF

P = 3.4 K



ANALYSIS:

R_{MAX} = 2.7 K

V_D = — K

< V_{ALL} = 4.5 K

☒ ADEQUATE

M_{MAX} = 1.3 K-FT

< M_{ALL} = 5.2 K-FT

☒ ADEQUATE

Δ_{TL} = 0.01 IN.

L/ 999+ < L/240

☒ ADEQUATE

4x10 DF #2



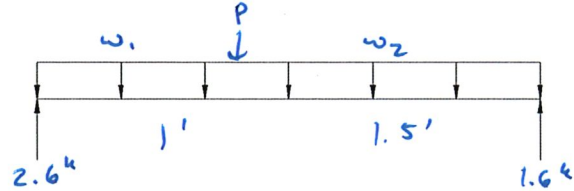
BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: ROOF FRMB - HDK BED 3/BONUS

183

PARAMETERS:

L = 2.5 FT
W₁ = 0.78 KLF, W₂ = 0.17 klf
P = 3.1 K



ANALYSIS:

R_{MAX} = 2.6 K V_D = - K < V_{ALL} = 4.5 K ☒ ADEQUATE
M_{MAX} = 2.2 K-FT < M_{ALL} = 5.2 K-FT ☒ ADEQUATE
Δ_{TL} = 0.01 IN. L/ 999.5 < L/240 ☒ ADEQUATE

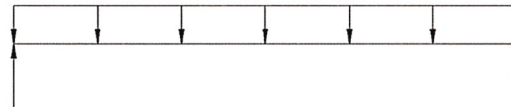
4x10 DF #2

BEAM DESCRIPTION: UPPER FLR FRMB - TYP. INT. HDK / FUSH BOT. BM / DROPPED BM (WALK CASE)

184

PARAMETERS:

L = 4.25 FT
W = 1.0 KLF
P = - K



ANALYSIS:

R_{MAX} = 2.1 K V_D = - K < V_{ALL} = 3.9 K ☒ ADEQUATE
M_{MAX} = 2.3 K-FT < M_{ALL} = 4.5 K-FT ☒ ADEQUATE
Δ_{TL} = 0.02 IN. L/ 999.1 < L/240 ☒ ADEQUATE

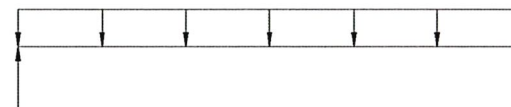
4x10 DF #2

BEAM DESCRIPTION: UPPER FLR FRMB - DROPPED BM @ KITCHEN / GREAT ROOM

185

PARAMETERS:

L = 16.17 FT
W = 1.1 KLF
P = - K



ANALYSIS:

R_{MAX} = 8.9 K V_D = - K < V_{ALL} = 16.0 K ☒ ADEQUATE
M_{MAX} = 36.0 K-FT < M_{ALL} = 49.3 K-FT ☒ ADEQUATE
Δ_{TL} = 0.46 IN. L/ 424 < L/240 ☒ ADEQUATE

5 1/2' x 16 1/2" GLB



BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: UPPER FLR FRMB - SGD HDR @ NOOK

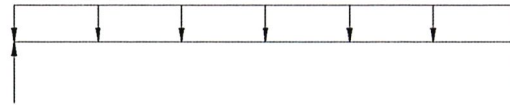
136

PARAMETERS:

L = 12 FT

W = 0.47 KLF

P = - K



ANALYSIS:

R_{MAX} = 2.8 K

V_D = - K

< V_{ALL} = 15.1 K

☒ ADEQUATE

M_{MAX} = 8.5 K-FT

< M_{ALL} = 38.4 K-FT

☒ ADEQUATE

Δ_{TL} = 0.11 IN.

L/ 999+ < L/240

☒ ADEQUATE

5 1/2" x 13 1/2" GLB

BEAM DESCRIPTION: UPPER FLR FRMB - SGD HDR @ DINING

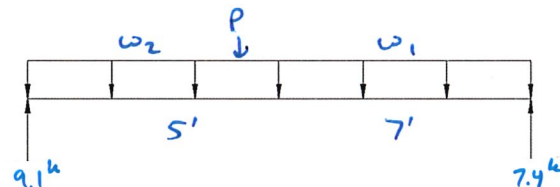
137

PARAMETERS:

L = 12 FT

W₁ = 1.1 KLF, W₂ = 1.4 klf

P = 1.2 K



ANALYSIS:

R_{MAX} = 9.1 K

V_D = - K

< V_{ALL} = 21.8 K

☒ ADEQUATE

M_{MAX} = 25.0 K-FT

< M_{ALL} = 79.6 K-FT

☒ ADEQUATE

Δ_{TL} = 0.10 IN.

L/ 799+ < L/240

☒ ADEQUATE

5 1/2" x 19 1/2" GLB

BEAM DESCRIPTION: UPPER FLR FRMB - HDR @ ADU SUITE

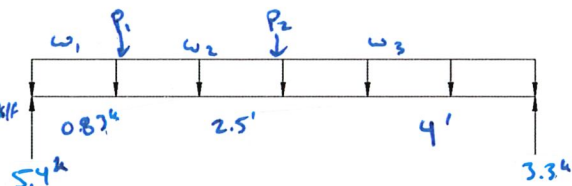
138

PARAMETERS:

L = 7.33 FT

W₁ = 1.2 KLF, W₂ = 0.55 klf, W₃ = 0.69 klf

P₁ = 2.6 K, P₂ = 1.6 K



ANALYSIS:

R_{MAX} = 5.4 K

V_D = - K

< V_{ALL} = 8.2 K

☒ ADEQUATE

M_{MAX} = 7.8 K-FT

< M_{ALL} = 10.2 K-FT

☒ ADEQUATE

Δ_{TL} = 0.08 IN.

L/ 999+ < L/240

☒ ADEQUATE

6x12 DF#2



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JAYMARC HOMES

M&K PROJECT #: 154-23017

ENGINEER: BFD

DATE: 12-JAN-24

BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: UPPER FLR FRMB - GARAGE POOL HDR @ PORTAL FRAME

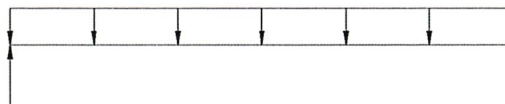
B9

PARAMETERS:

L = 8.17 FT

W = 0.21 KLF

P = - K



ANALYSIS:

$R_{MAX} = 0.86$ K

$V_D = -$ K

$< V_{ALL} = 5.4$ K

☒ ADEQUATE

$M_{MAX} = 1.8$ K-FT

$< M_{ALL} = 7.0$ K-FT

☒ ADEQUATE

$\Delta_{TL} = 0.01$ IN.

$L/999+ < L/240$

☒ ADEQUATE

4x12 DF #2

BEAM DESCRIPTION: UPPER FLR FRMB - FURTH BM @ COVERED PATIO (PERP. TO FRMB)

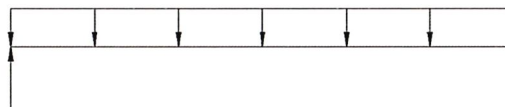
B10

PARAMETERS:

L = 2.33 FT

W = 0.4 KLF

P = - K



ANALYSIS:

$R_{MAX} = 0.47$ K

$V_D = -$ K

$< V_{ALL} = 12.8$ K

☒ ADEQUATE

$M_{MAX} = 0.27$ K-FT

$< M_{ALL} = 43.5$ K-FT

☒ ADEQUATE

$\Delta_{TL} = 2.01$ IN.

$L/999+ < L/240$

☒ ADEQUATE

3 1/2" x 18" GLB

BEAM DESCRIPTION: UPPER FLR FRMB - FURTH BM @ COVERED PATIO (PARA. TO FRMB)

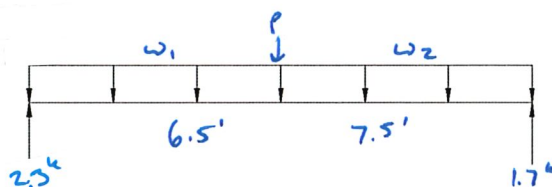
B11

PARAMETERS:

L = 14 FT

$W_1 = 0.34$ KLF, $W_2 = 0.17416$

P = 0.47 K



ANALYSIS:

$R_{MAX} = 2.3$ K

$V_D = -$ K

$< V_{ALL} = 6.9$ K

☒ ADEQUATE

$M_{MAX} = 7.7$ K-FT

$< M_{ALL} = 30.8$ K-FT

☒ ADEQUATE

$\Delta_{TL} = 0.19$ IN.

$L/899 < L/240$

☒ ADEQUATE

(3) 1 3/4" x 1 1/8" LVL

(SLOPE CUT TO 6" MIN. DEPTH)



BEAM & HEADER CALCULATIONS

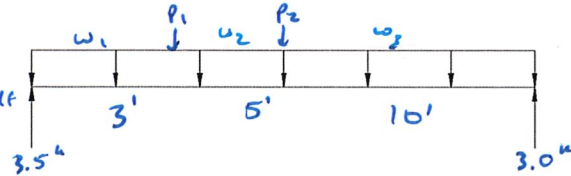
BEAM DESCRIPTION: UPPER FLR FRMB- TYP. DROPPED BM @ COVERED PORCH (WORST CASE) (B12)

PARAMETERS:

L = 18 FT

W₁ = 0.08 KLF, w₂ = 0.17 klf, w₃ = 0.24 klf

P₁ = 1.7 K, P₂ = 0.8 k



ANALYSIS:

R_{MAX} = 3.5 K

V_D = - K

< V_{ALL} = 15.1 K

☒ ADEQUATE

M_{MAX} = 15.6 K-FT

< M_{ALL} = 35.3 K-FT

☒ ADEQUATE

Δ_{TL} = 0.45 IN.

L/ 462 < L/240

☒ ADEQUATE

5 1/2" x 13 1/2" GLB

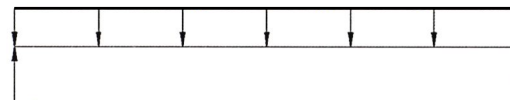
BEAM DESCRIPTION: UPPER FLR FRMB- FUSH BM @ LAUNCH (B13)

PARAMETERS:

L = 6 FT

W = 0.320 KLF

P = K



ANALYSIS:

R_{MAX} = 0.96 K

V_D = - K

< V_{ALL} = 20.1 K

☒ ADEQUATE

M_{MAX} = 1.44 K-FT

< M_{ALL} = 68.3 K-FT

☒ ADEQUATE

Δ_{TL} = 0.002 IN.

L/ 999+ < L/240

☒ ADEQUATE

5 1/2" x 18" GLB

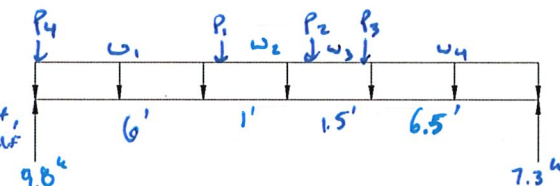
BEAM DESCRIPTION: UPPER FLR FRMB- FUSH BM @ STUDY (B14)

PARAMETERS:

L = 15 FT

W₁ = 1.3 KLF, w₂ = 0.59 klf, w₃ = 0.51 klf, w₄ = 0.65 klf

P₁ = 2.6 K, P₂ = 0.5 k, P₃ = 1.6 k



ANALYSIS:

R_{MAX} = 9.8 K

V_D = - K

< V_{ALL} = 12.8 K

☒ ADEQUATE

M_{MAX} = 36.2 K-FT

< M_{ALL} = 43.5 K-FT

☒ ADEQUATE

Δ_{TL} = 0.46 IN.

L/ 387 < L/240

☒ ADEQUATE

3 1/2" x 18" GLB



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DATE: 12-JAN-24

BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: UPPER FLR FRM - FLUSH BM @ FOYER / STUDY

B15

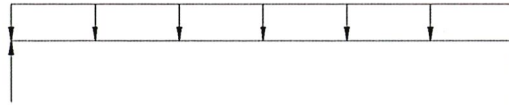
PARAMETERS:

L = 11 FT

W = KLF

P = K

SEE
ENERCALC
OUTPUT



ANALYSIS:

R_{MAX} = K

V_D = K

< V_{ALL} = K

☒ ADEQUATE

M_{MAX} = K-FT

< M_{ALL} = K-FT

☒ ADEQUATE

Δ_{TL} = IN.

L/ < L/240

☒ ADEQUATE

3 1/2" x 18" GLB

BEAM DESCRIPTION: UPPER FLR FRM - FLUSH BM @ GREAT ROOM

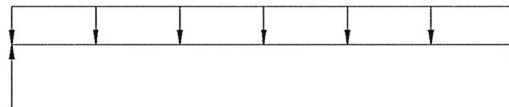
B16

PARAMETERS:

L = 20 FT

W = 0.74 KLF

P = - K



ANALYSIS:

R_{MAX} = 7.4 K

V_D = - K

< V_{ALL} = 20.1 K

☒ ADEQUATE

M_{MAX} = 36.8 K-FT

< M_{ALL} = 65.5 K-FT

☒ ADEQUATE

Δ_{TL} = 0.55 IN.

L/ 433 < L/240

☒ ADEQUATE

5 1/2" x 18" GLB

BEAM DESCRIPTION: UPPER FLR FRM - DROPPED BM @ FOYER / GREAT ROOM

B17

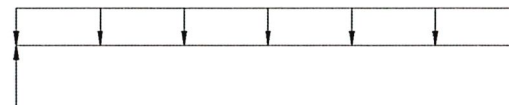
PARAMETERS:

L = 11 FT

W = KLF

P = K

SEE
ENERCALC
OUTPUT



ANALYSIS:

R_{MAX} = K

V_D = K

< V_{ALL} = K

☒ ADEQUATE

M_{MAX} = K-FT

< M_{ALL} = K-FT

☒ ADEQUATE

Δ_{TL} = IN.

L/ < L/240

☒ ADEQUATE

5 1/2" x 12" GLB



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M&K PROJECT #: 154-23017
ENGINEER: BFD
DATE: 12-JAN-24

BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: UPPER FLR FRMG - FLUSH BM @ GARAGE (PARA. TO FRMG)

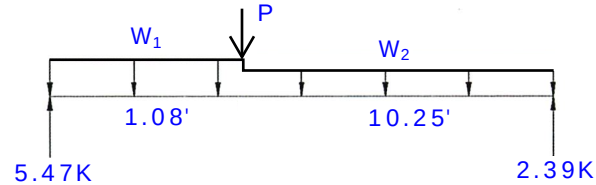
B18

PARAMETERS:

L = 11.33 FT

W₁ = 0.462 KLF W₂ = 0.359

P = 3.68 K



ANALYSIS:

R_{MAX} = 5.47 K V_D = - K < V_{ALL} = 20.1 K ☒ ADEQUATE

M_{MAX} = 7.95 K-FT < M_{ALL} = 66.3 K-FT ☒ ADEQUATE

Δ_{TL} = 0.038 IN. L/ 999+ < L/240 ☒ ADEQUATE

5 1/2" x 10" GLB

BEAM DESCRIPTION: UPPER FLR FRAMING - FLUSH BM. @ GARAGE (PERP. TO FRMG)

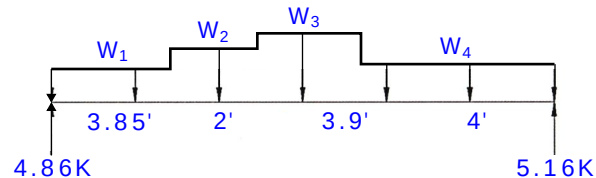
B19

PARAMETERS:

L = 13.75 FT

W₁ = 0.618 KLF W₂ = 0.768
W₃ = 0.85
W₄ = 0.7

P = K



ANALYSIS:

R_{MAX} = 5.16 K V_D = - K < V_{ALL} = 12.8 K ☒ ADEQUATE

M_{MAX} = 18.3 K-FT < M_{ALL} = 43.5 K-FT ☒ ADEQUATE

Δ_{TL} = 0.203 IN. L/ 813 < L/240 ☒ ADEQUATE

3 1/2" x 10" GLTS

BEAM DESCRIPTION: UPPER FLR FRMG - HDR @ GARAGE

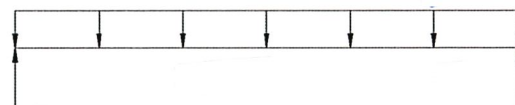
B20

PARAMETERS:

L = 16.17 FT

W = 0.17 KLF

P = - K



ANALYSIS:

R_{MAX} = 1.4 K V_D = - K < V_{ALL} = 5.4 K ☒ ADEQUATE

M_{MAX} = 5.6 K-FT < M_{ALL} = 7.0 K-FT ☒ ADEQUATE

Δ_{TL} = 0.40 IN. L/ 481 < L/240 ☒ ADEQUATE

4 x 12 DF #2



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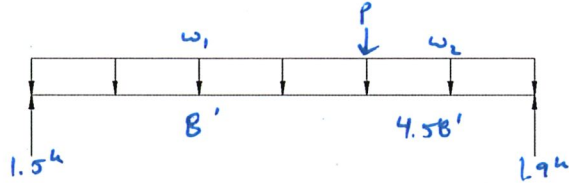
PROJECT NAME: 4104 83RD AVE SE
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ENGINEER: BFD
DATE: 12-JAN-24

BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: UPPER FLR FRM 6- TYP. DROPPED BM @ FRONT PORCH (WORST CASE LOAD) (B21)

PARAMETERS:

L = 12.58 FT
W₁ = 0.17 KLF, w₂ = 0.21 klf
P = 1.0 K



ANALYSIS:

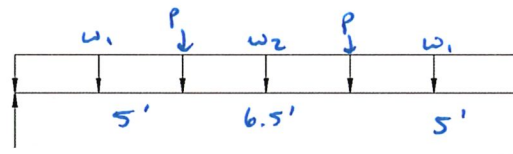
R_{MAX} = 1.9 K V_D = — K < V_{ALL} = 8.2 K ☒ ADEQUATE
M_{MAX} = 6.3 K-FT < M_{ALL} = 10.2 K-FT ☒ ADEQUATE
Δ_{TL} = 0.18 IN. L/ 818 < L/240 ☒ ADEQUATE

6x12 DF #2

BEAM DESCRIPTION: UPPER FLR FRM 6- TYP. DROPPED BM @ FRONT PORCH (WORST CASE LENGTH) (B21)

PARAMETERS:

L = 16.5 FT
W = 0.11 KLF, w₂ = 0.19 klf
P = 0.4 K



ANALYSIS:

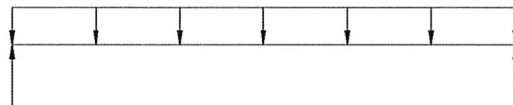
R_{MAX} = 1.5 K V_D = — K < V_{ALL} = 8.2 K ☒ ADEQUATE
M_{MAX} = 7.4 K-FT < M_{ALL} = 10.2 K-FT ☒ ADEQUATE
Δ_{TL} = 0.4 IN. L/ 414 < L/240 ☒ ADEQUATE

6x12 DF #2

BEAM DESCRIPTION: MAIN FLR FRM 6- TYP. DROPPED BM (WORST CASE) (B22)

PARAMETERS:

L = 6.5 FT
W = 0.75 KLF
P = — K



ANALYSIS:

R_{MAX} = 2.4 K V_D = — K < V_{ALL} = 3.9 K ☒ ADEQUATE
M_{MAX} = 4.0 K-FT < M_{ALL} = 4.5 K-FT ☒ ADEQUATE
Δ_{TL} = 0.08 IN. L/ 947 < L/240 ☒ ADEQUATE

4x10 DF #2



BEAM & HEADER CALCULATIONS

BEAM DESCRIPTION: MAINFLR FRMB- FLUSH BM @ B.W.A. (WORST CASE)

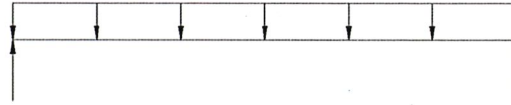
B23

PARAMETERS:

L = 5 FT

W = 1.1 KLF

P = - K



ANALYSIS:

R_{MAX} = 2.8 K

V_D = - K

< V_{ALL} = 7.9 K

☒ ADEQUATE

M_{MAX} = 3.4 K-FT

< M_{ALL} = 17.9 K-FT

☒ ADEQUATE

Δ_{TL} = 0.02 IN.

L/ 999+ < L/240

☒ ADEQUATE

(2) 1 3/4"x11 7/8" LVL

BEAM DESCRIPTION: UPPER FLR FRMB- HDR @ FOYER/ COVERED PORCH

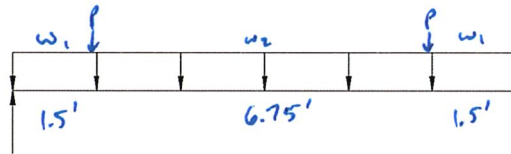
B24

PARAMETERS:

L = 9.75 FT

W₁ = 0.23 KLF, W₂ = 0.42 klf

P = 0.4 K



ANALYSIS:

R_{MAX} = 2.1 K

V_D = - K

< V_{ALL} = 6.8 K

☒ ADEQUATE

M_{MAX} = 5.3 K-FT

< M_{ALL} = 6.9 K-FT

☒ ADEQUATE

Δ_{TL} = 0.18 IN.

L/ 645 < L/240

☒ ADEQUATE

6x10 DF#2

BEAM DESCRIPTION: VOID

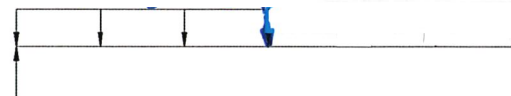
B25

PARAMETERS:

L =

W₁ =

P =



ANALYSIS:

R_{MAX} =

V_D =

< V_{ALL} =

☒ ADEQUATE

M_{MAX} =

< M_{ALL} =

☒ ADEQUATE

Δ_{TL} =

L/ < L/240

☒ ADEQUATE



Beam & Header Calculations

B26

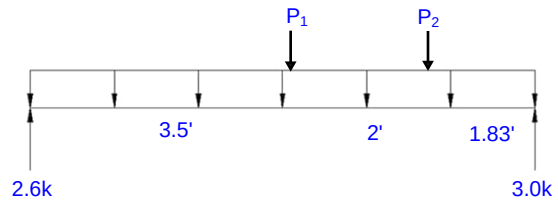
Beam Description: UPPER FLR FRMG - HDR @ NOOK

Parameters:

L = 7.33 ft

W = 0.27 kl f

P₁ = 2.7 k, P₂ = 1.0k



Analysis:

R_{max} = 3.0 K V_d = - K < V_{all} = 8.2 K ☒ Adequate

M_{max} = 7.6 k-ft < M_{all} = 10.2 k-ft ☒ Adequate

Δ_{tl} = 0.07 in. L/ 999+ < L/240 ☒ Adequate

6x12 DF #2

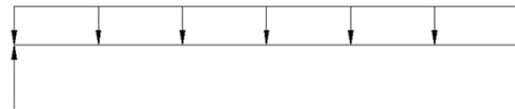
Beam Description:

Parameters:

L = ft

W = kl f

P = k



Analysis:

R_{max} = K V_d = K < V_{all} = K ☐ Adequate

M_{max} = k-ft < M_{all} = k-ft ☐ Adequate

Δ_{tl} = in. L/ < L/240 ☐ Adequate

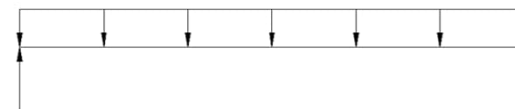
Beam Description:

Parameters:

L = ft

W = kl f

P = k



Analysis:

R_{max} = K V_d = K < V_{all} = K ☐ Adequate

M_{max} = k-ft < M_{all} = k-ft ☐ Adequate

Δ_{tl} = in. L/ < L/240 ☐ Adequate

Wood Beam

Project File: 4104 83rd Ave SE.ec6

LIC# : KW-06017913, Build:20.23.08.01

MULHERN & KULP STRUCTURAL ENGINEERING INC

(c) ENERCALC INC 1983-2023

DESCRIPTION: B15

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Stress Design

Load Combination : ASCE 7-16

Wood Species : DF/DF

Wood Grade : 24F - V4

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb + 2,880.0 psi

Fb - 2,220.0 psi

Fc - Prll 1,980.0 psi

Fc - Perp 780.0 psi

Fv 318.0 psi

Ft 1,320.0 psi

E : Modulus of Elasticity

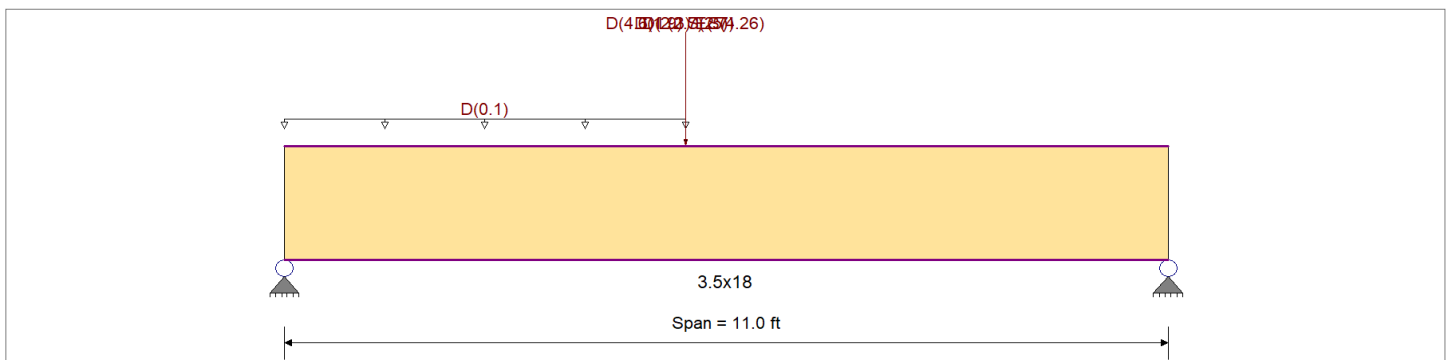
Ebend- xx 1,800.0ksi

Eminbend - xx 950.0ksi

Ebend- yy 1,600.0ksi

Eminbend - yy 850.0ksi

Density 31.210pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading

Load for Span Number 1

Uniform Load : D = 0.10 k/ft, Extent = 0.0 --> 5.0 ft, Tributary Width = 1.0 ft, (wall)

Point Load : D = 1.90, S = 2.70 k @ 5.0 ft, (g.t.)

Point Load : D = 4.60, L = 2.70, S = 4.260 k @ 5.0 ft, (B14)

Point Load : D = 2.30, E = 5.0 k @ 5.0 ft, (OS)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.853	1	Maximum Shear Stress Ratio	=	0.589	1
Section used for this span		3.5x18		Section used for this span		3.5x18	
fb: Actual	=	2,826.08psi		fv: Actual	=	215.34 psi	
F'b	=	3,312.00psi		F'v	=	365.70 psi	
Load Combination		+D+0.750L+0.750S+H		Load Combination		+D+0.750L+0.750S+H	
Location of maximum on span	=	5.018ft		Location of maximum on span	=	0.000 ft	
Span # where maximum occurs	=	Span # 1		Span # where maximum occurs	=	Span # 1	
Maximum Deflection							
Max Downward Transient Deflection		0.108 in	Ratio =	1218	>=360	Span: 1 : S Only	
Max Upward Transient Deflection		-0.078 in	Ratio =	1695	>=360	Span: 1 : E Only * -1.0	
Max Downward Total Deflection		0.297 in	Ratio =	444	>=300	Span: 1 : +D+0.750L+0.750S+0.5250E+H	
Max Upward Total Deflection		0 in	Ratio =	0	<300	n/a	

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	CD	CM	C _t	CLx	C _v	C _{fu}	C _i	C _r	M	fb	F'b	V	fv	F'v
+D+H														0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.608	0.424	0.90	1.00	1.00	1.00	1.000	1.00	1.00	1.00	24.81	1,575.3	2,592.0	5.09	121.3	286.2
+D+L+H														0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.709	0.492	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	32.15	2,041.5	2,880.0	6.57	156.3	318.0
+D+Lr+H														0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.438	0.305	1.25	1.00	1.00	1.00	1.000	1.00	1.00	1.00	24.81	1,575.3	3,600.0	5.09	121.3	397.5
+D+S+H														0.0	0.00	0.0	0.0

Wood Beam

Project File: 4104 83rd Ave SE.ec6

LIC# : KW-06017913, Build:20.23.08.01

MULHERN & KULP STRUCTURAL ENGINEERING INC

(c) ENERCALC INC 1983-2023

DESCRIPTION: B15

Maximum Forces & Stresses for Load Combinations

Load Combination	Max Stress Ratios											Moment Values			Shear Values		
	Segment Length	Span #	M	V	CD	CM	C _t	CLx	C _V	C _{fu}	C _i	C _r	M	fb	F'b	V	fv
Length = 11.0 ft	1	0.838	0.579	1.15	1.00	1.00	1.00	1.000	1.00	1.00	1.00	43.74	2,776.9	3,312.0	8.89	211.6	365.7
+D+0.750Lr+0.750L+H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.535	0.371	1.25	1.00	1.00	1.00	1.000	1.00	1.00	1.00	30.32	1,924.9	3,600.0	6.20	147.6	397.5
+D+0.750L+0.750S+H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.853	0.589	1.15	1.00	1.00	1.00	1.000	1.00	1.00	1.00	44.51	2,826.1	3,312.0	9.04	215.3	365.7
+D+0.60W+H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.342	0.238	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	24.81	1,575.3	4,608.0	5.09	121.3	508.8
+D-0.60W+H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.342	0.238	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	24.81	1,575.3	4,608.0	5.09	121.3	508.8
+D+0.750Lr+0.750L+0.450W-					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.418	0.290	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	30.32	1,924.9	4,608.0	6.20	147.6	508.8
+D+0.750Lr+0.750L-0.450W+					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.418	0.290	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	30.32	1,924.9	4,608.0	6.20	147.6	508.8
+D+0.750L+0.750S+0.450W+					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.613	0.423	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	44.51	2,826.1	4,608.0	9.04	215.3	508.8
+D+0.750L+0.750S-0.450W+					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.613	0.423	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	44.51	2,826.1	4,608.0	9.04	215.3	508.8
+0.60D+0.60W+0.60H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.205	0.143	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	14.89	945.2	4,608.0	3.06	72.8	508.8
+0.60D-0.60W+0.60H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.205	0.143	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	14.89	945.2	4,608.0	3.06	72.8	508.8
+D+0.70E+0.60H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.473	0.328	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	34.33	2,179.6	4,608.0	7.00	166.7	508.8
+D-0.70E+0.60H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.211	0.149	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	15.30	971.1	4,608.0	3.18	75.8	508.8
+D+0.750L+0.750S+0.5250E-					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.712	0.490	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	51.65	3,279.2	4,608.0	10.48	249.4	508.8
+D+0.750L+0.750S-0.5250E+					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.515	0.356	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	37.37	2,372.9	4,608.0	7.61	181.3	508.8
+0.60D+0.70E+H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.336	0.232	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	24.40	1,549.4	4,608.0	4.96	118.2	508.8
+0.60D-0.70E+H					1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.074	0.054	1.60	1.00	1.00	1.00	1.000	1.00	1.00	1.00	5.37	341.0	4,608.0	1.15	27.3	508.8

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.750L+0.750S+0.5250E+H	1	0.2968	5.339		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	10.645	8.675
Max Upward from Load Combinations	10.645	8.675
Max Upward from Load Cases	5.261	4.189
Max Downward from all Load Conditions	-2.727	-2.273
Max Downward from Load Cases (Resis)	-2.727	-2.273
+D+H	5.261	4.189
+D+L+H	6.734	5.416
+D+Lr+H	5.261	4.189
+D+S+H	9.058	7.352
+D+0.750Lr+0.750L+H	6.366	5.109
+D+0.750L+0.750S+H	9.213	7.482

Wood Beam

Project File: 4104 83rd Ave SE.ec6

LIC# : KW-06017913, Build:20.23.08.01

MULHERN & KULP STRUCTURAL ENGINEERING INC

(c) ENERCALC INC 1983-2023

DESCRIPTION: B15

Vertical Reactions

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
+D+0.60W+H	5.261	4.189
+D-0.60W+H	5.261	4.189
+D+0.750Lr+0.750L+0.450W+H	6.366	5.109
+D+0.750Lr+0.750L-0.450W+H	6.366	5.109
+D+0.750L+0.750S+0.450W+H	9.213	7.482
+D+0.750L+0.750S-0.450W+H	9.213	7.482
+0.60D+0.60W+0.60H	3.157	2.513
+0.60D-0.60W+0.60H	3.157	2.513
+D+0.70E+0.60H	7.171	5.780
+D-0.70E+0.60H	3.352	2.598
+D+0.750L+0.750S+0.5250E+H	10.645	8.675
+D+0.750L+0.750S-0.5250E+H	7.781	6.289
+0.60D+0.70E+H	5.066	4.104
+0.60D-0.70E+H	1.248	0.922
D Only	5.261	4.189
L Only	1.473	1.227
S Only	3.796	3.164
E Only	2.727	2.273
E Only * -1.0	-2.727	-2.273
H Only		

Wood Beam

Project File: 4104 83rd Ave SE.ec6

LIC# : KW-06017913, Build:20.23.08.01

MULHERN & KULP STRUCTURAL ENGINEERING INC

(c) ENERCALC INC 1983-2023

DESCRIPTION: B17

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Stress Design

Load Combination : ASCE 7-16

Wood Species : DF/DF

Wood Grade : 24F - V4

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb + 2,880.0 psi

Fb - 2,220.0 psi

Fc - Prll 1,980.0 psi

Fc - Perp 780.0 psi

Fv 318.0 psi

Ft 1,320.0 psi

E : Modulus of Elasticity

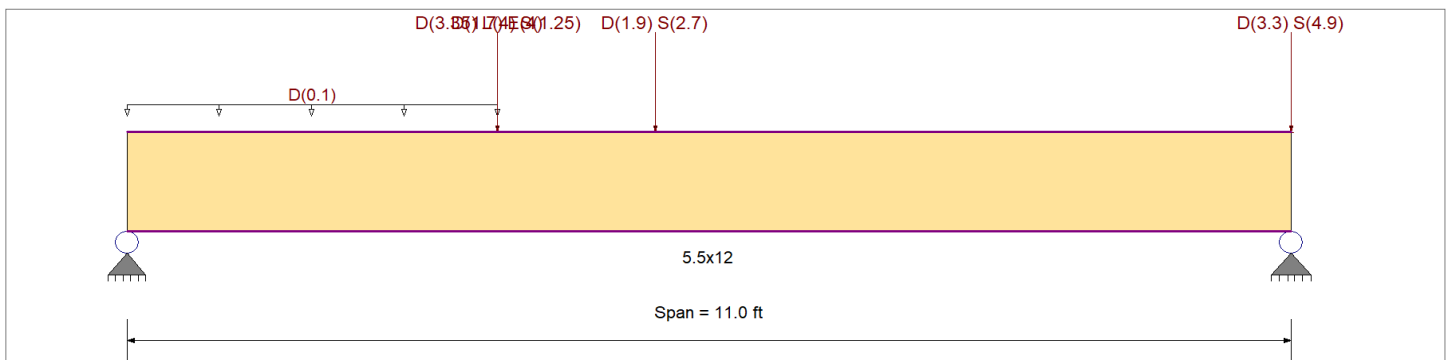
Ebend- xx 1,800.0ksi

Eminbend - xx 950.0ksi

Ebend- yy 1,600.0ksi

Eminbend - yy 850.0ksi

Density 31.210pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading

Load for Span Number 1

Uniform Load : D = 0.10 k/ft, Extent = 0.0 --> 3.50 ft, Tributary Width = 1.0 ft, (wall)

Point Load : D = 1.90, S = 2.70 k @ 5.0 ft, (g.t.)

Point Load : D = 3.350, L = 4.0, S = 1.250 k @ 3.50 ft, (B16)

Point Load : D = 1.70, E = 4.0 k @ 3.50 ft, (OS)

Point Load : D = 3.30, S = 4.90 k @ 11.0 ft, (G.T.)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio				Maximum Shear Stress Ratio			
Section used for this span				Section used for this span			
fb: Actual	=	2,343.35psi		f _v : Actual	=	169.77 psi	
F'b	=	2,880.00psi		F'v	=	318.00 psi	
Load Combination	=	+D+L+H		Load Combination	=	+D+L+H	
Location of maximum on span	=	3.493ft		Location of maximum on span	=	0.000 ft	
Span # where maximum occurs	=	Span # 1		Span # where maximum occurs	=	Span # 1	
Maximum Deflection							
Max Downward Transient Deflection	0.125 in	Ratio =	1052 >=240	Span: 1 : S Only			
Max Upward Transient Deflection	-0.113 in	Ratio =	1168 >=240	Span: 1 : E Only * -1.0			
Max Downward Total Deflection	0.452 in	Ratio =	291 >=180	Span: 1 : +D+0.750L+0.750S+0.5250E+H			
Max Upward Total Deflection	0 in	Ratio =	0 <180	n/a			

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values		
Segment Length	Span #	M	V	CD	CM	C _t	CLx	C _v	C _{fu}	C _i	C _r	M	fb	F'b	V	f _v	F'v
+D+H														0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.570	0.377	0.90	1.00	1.00	1.00	1.000	1.00	1.00	1.00	16.26	1,478.6	2,592.0	4.74	107.8	286.2
+D+L+H														0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.814	0.534	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	25.78	2,343.3	2,880.0	7.47	169.8	318.0
+D+Lr+H														0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.411	0.271	1.25	1.00	1.00	1.00	1.000	1.00	1.00	1.00	16.26	1,478.6	3,600.0	4.74	107.8	397.5

Wood Beam

Project File: 4104 83rd Ave SE.ec6

LIC# : KW-06017913, Build:20.23.08.01

MULHERN & KULP STRUCTURAL ENGINEERING INC

(c) ENERCALC INC 1983-2023

DESCRIPTION: B17

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios										Moment Values			Shear Values			
Segment	Length	Span #	M	V	CD	CM	C _t	CLx	C _V	C _{fu}	C _i	C _r	M	fb	F'b	V	fv	F'v
+D+S+H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.689	0.439	1.15	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	25.11	2,282.9	3,312.0	7.07	160.6	365.7
+D+0.750Lr+0.750L+H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.591	0.388	1.25	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	23.40	2,126.9	3,600.0	6.79	154.3	397.5
+D+0.750L+0.750S+H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.810	0.530	1.15	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	29.52	2,683.8	3,312.0	8.53	193.9	365.7
+D+0.60W+H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.321	0.212	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	16.26	1,478.6	4,608.0	4.74	107.8	508.8
+D-0.60W+H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.321	0.212	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	16.26	1,478.6	4,608.0	4.74	107.8	508.8
+D+0.750Lr+0.750L+0.450W-						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.462	0.303	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	23.40	2,126.9	4,608.0	6.79	154.3	508.8
+D+0.750Lr+0.750L-0.450W+						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.462	0.303	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	23.40	2,126.9	4,608.0	6.79	154.3	508.8
+D+0.750L+0.750S+0.450W+						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.582	0.381	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	29.52	2,683.8	4,608.0	8.53	193.9	508.8
+D+0.750L+0.750S-0.450W+						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.582	0.381	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	29.52	2,683.8	4,608.0	8.53	193.9	508.8
+0.60D+0.60W+0.60H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.193	0.127	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	9.76	887.1	4,608.0	2.85	64.7	508.8
+0.60D-0.60W+0.60H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.193	0.127	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	9.76	887.1	4,608.0	2.85	64.7	508.8
+D+0.70E+0.60H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.452	0.297	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	22.92	2,083.6	4,608.0	6.65	151.2	508.8
+D-0.70E+0.60H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.198	0.127	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	10.02	910.9	4,608.0	2.83	64.4	508.8
+D+0.750L+0.750S+0.5250E-						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.681	0.445	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	34.51	3,137.4	4,608.0	9.96	226.4	508.8
+D+0.750L+0.750S-0.5250E+						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.484	0.317	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	24.53	2,230.2	4,608.0	7.10	161.4	508.8
+0.60D+0.70E+H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.324	0.212	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	16.42	1,492.6	4,608.0	4.75	108.1	508.8
+0.60D-0.70E+H						1.00	1.00	1.00	1.000	1.00	1.00	1.00			0.0	0.00	0.0	0.0
Length = 11.0 ft	1	0.076	0.042	1.60	1.00	1.00	1.00	1.00	1.000	1.00	1.00	1.00	3.87	351.5	4,608.0	0.94	21.3	508.8

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.750L+0.750S+0.5250E+H	1	0.4524	5.139		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	10.074	12.430
Max Upward from Load Combinations	10.074	12.430
Max Upward from Load Cases	4.853	6.525
Max Downward from all Load Conditions	-2.727	-1.273
Max Downward from Load Cases (Resis)	-2.727	-1.273
+D+H	4.853	5.905
+D+L+H	7.580	7.178
+D+Lr+H	4.853	5.905
+D+S+H	7.178	12.430
+D+0.750Lr+0.750L+H	6.898	6.859

Wood Beam

Project File: 4104 83rd Ave SE.ec6

LIC# : KW-06017913, Build:20.23.08.01

MULHERN & KULP STRUCTURAL ENGINEERING INC

(c) ENERCALC INC 1983-2023

DESCRIPTION: B17

Vertical Reactions

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
+D+0.750L+0.750S+H	8.642	11.753
+D+0.60W+H	4.853	5.905
+D-0.60W+H	4.853	5.905
+D+0.750Lr+0.750L+0.450W+H	6.898	6.859
+D+0.750Lr+0.750L-0.450W+H	6.898	6.859
+D+0.750L+0.750S+0.450W+H	8.642	11.753
+D+0.750L+0.750S-0.450W+H	8.642	11.753
+0.60D+0.60W+0.60H	2.912	3.543
+0.60D-0.60W+0.60H	2.912	3.543
+D+0.70E+0.60H	6.762	6.796
+D-0.70E+0.60H	2.943	5.014
+D+0.750L+0.750S+0.5250E+H	10.074	12.421
+D+0.750L+0.750S-0.5250E+H	7.210	11.085
+0.60D+0.70E+H	4.821	4.434
+0.60D-0.70E+H	1.002	2.652
D Only	4.853	5.905
L Only	2.727	1.273
S Only	2.325	6.525
E Only	2.727	1.273
E Only * -1.0	-2.727	-1.273
H Only		



Overstrength Calculations

Wall Description/SW #:

201

Parameters:

L = 20.1 ft

H = 10.1 ft

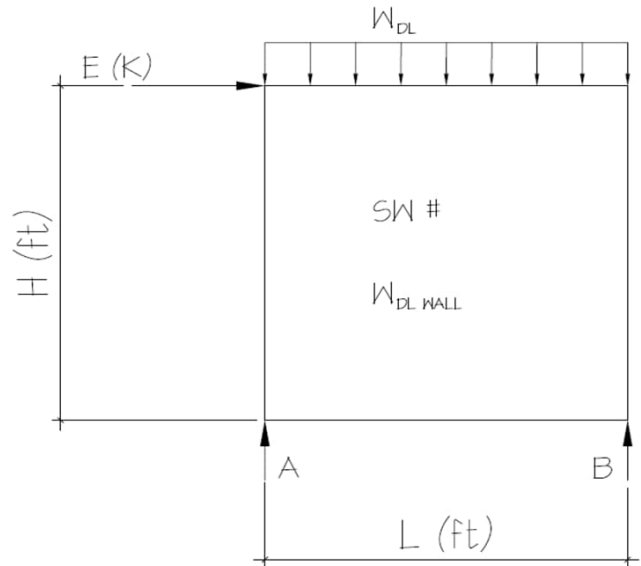
E = 2.00 k

W_{DLWall} = 0.10 klf

W_{DL} = 0.068 klf

Ω_0 = 2.5 (ASCE TABLE 12.2.1 FOOTNOTE)

SDS = 1.134



analysis:

E (unfactored) = 2.86

$E_{mh} = \Omega_0 * E = 7.14$ K

$E_v = 0.2 * SDS * DL = 0.766$ K

$E_m = E_{mh} + E_v$

$E_m = E_{mh} + E_v = 7.909$ K

$E_m = E_{mh} - E_v$

$E_m = E_{mh} - E_v = 6.377$ K

$E_m (\max) = \sum M_A = 0 = 7.91(10.1) + 0.168(20.1)(10.05) - R_b(20.1)$

$R_b = 1.7DL + 4.0E$

$R_a = 1.7DL - 4.0E$

$E_m (\min) = \sum M_A = 0 = 6.38(10.1) + 0.168(20.1)(10.05) - R_b(20.1)$

$R_b = 1.7DL + 3.2E$

$R_a = 1.7DL - 3.2E$

check beams for axial forces shown using load combos per section 12.4.3.1 (asd)

allowable stress permitted to be increased by 1.2

see following beam
calcs for load
application



Overstrength Calculations

Wall Description/SW #:

202

Parameters:

L = 15.5 ft

H = 9.1 ft

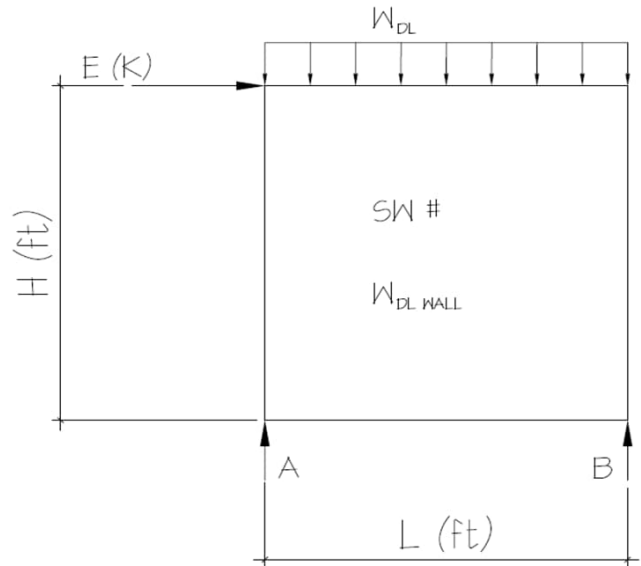
E = 2.10 k

W_{DLWall} = 0.10 klf

W_{DL} = 0.193 klf

Ω_0 = 2.5 (ASCE TABLE 12.2.1 FOOTNOTE)

SDS = 1.134



analysis:

E (unfactored) = 3.00

$E_{mh} = \Omega_0 * E = 7.50$ K

$E_v = 0.2 * SDS * DL = 1.030$ K

$E_m = E_{mh} + E_v$

$E_m = E_{mh} + E_v = 8.530$ K

$E_m = E_{mh} - E_v$

$E_m = E_{mh} - E_v = 6.470$ K

$E_m (\max) = \sum M_A = 0 = 8.53(9.1) + 0.293(15.5)(7.75) - R_b(15.5)$

$R_b = 2.3DL + 5.0E$

$R_a = 2.3DL - 5.0E$

$E_m (\min) = \sum M_A = 0 = 6.47(9.1) + 0.293(15.5)(7.75) - R_b(15.5)$

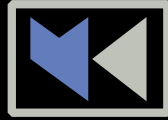
$R_b = 2.3DL + 3.8E$

$R_a = 2.3DL - 3.8E$

check beams for axial forces shown using load combos per section 12.4.3.1 (asd)

allowable stress permitted to be increased by 1.2

see following beam
calcs for load
application



MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING

Shear Wall Calculations - Wind

JayMarc Homes

4104 83rd Ave SE

Mercer Island, WA

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 STRUCTURAL ENGINEERING, INC.

Richard J. Zabel, P.E., Project Manager

Blake F. Durham, Staff Engineer



WIND DESIGN SUMMARY PER ASCE 7-16

M+K Project #: 154-23017
Engineer: BFD

Parameters:

Wind Speed	100
Exposure Category	B
Risk Category	II
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

0.60

Roof Geometry:

Trans. Roof Pitch	3.0	:12
Long. Roof Pitch	3.0	:12
Mean Roof Height, H	24.00	ft

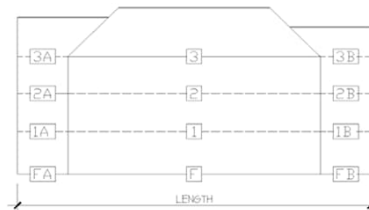
Building Geometry:

length	78	ft
Width	55	ft
Number of stories	2	

Transverse Direction (Perpendicular to Main Ridge Line)

Tributary Design Areas:

		Tributary Design Areas:					
Diaphragm Level	Floor-to-Floor Height		Section				
			A	O	B		
2	9.1	ft	Roof Surface	0	232	0	sq ft
		Wall surface	0	271	0	sq ft	
1	11.56	ft	Roof Surface	0	138	0	sq ft
		Wall surface	0	660	0	sq ft	
FND			Roof Surface	0	0	0	sq ft
			Wall surface	0	0	0	sq ft



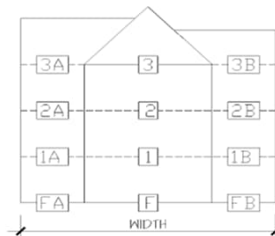
Tributary Design Loads: (0.6W)

	Section			
	A	O	B	
Story Shear	0.00	4.33	0.00	kips
Total Shear	0.00	4.33	0.00	kips
		4.33		kips
Story Shear	0.00	8.15	0.00	kips
Total Shear	0.00	12.48	0.00	kips
		12.48		kips
Story Shear	0.00	0.00	0.00	kips
Total Shear	0.00	12.48	0.00	kips
		12.48		kips

Longitudinal Direction (Parallel to Main Ridge Line)

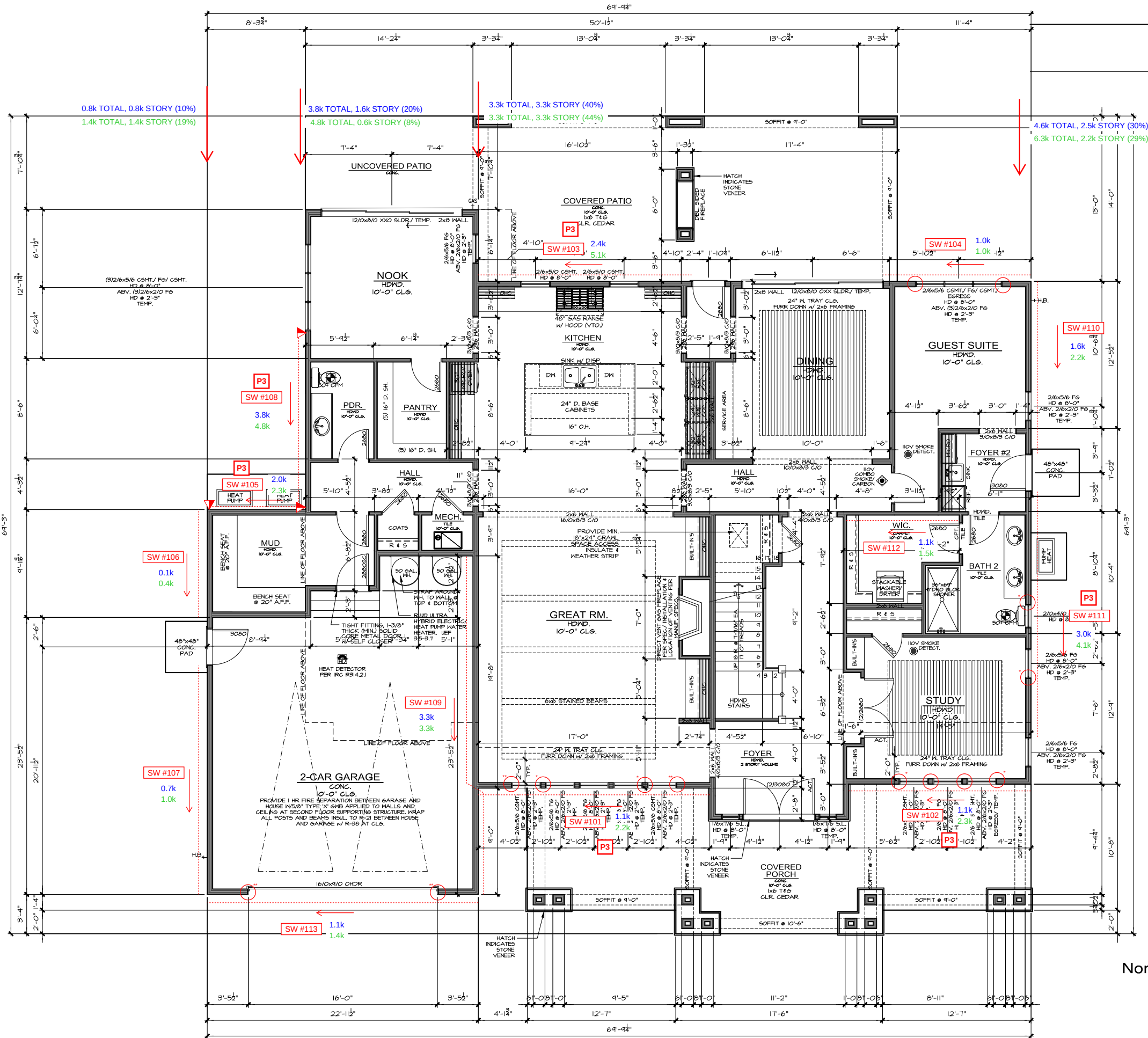
Tributary Design Areas:

<u>Diaphragm Level</u>		<u>Floor-to-Floor Height</u>		<u>Section</u>			
				A	O	B	
2	9.1	ft	Roof Surface	0	181	0	sq ft
			Wall surface	0	248	0	sq ft
1	11.56	ft	Roof Surface	0	99	0	sq ft
			Wall surface	0	541	0	sq ft
FND			Roof Surface	0	0	0	sq ft
			Wall surface	0	0	0	sq ft



Tributary Design Loads: (0.6W)

	Section			
	A	O	B	
Story Shear	0.00	3.59	0.00	kips
Total Shear	0.00	3.59	0.00	kips
		3.59		kips
Story Shear	0.00	6.17	0.00	kips
Total Shear	0.00	9.76	0.00	kips
		9.76		kips
Story Shear	0.00	0.00	0.00	kips
Total Shear	0.00	9.76	0.00	kips
		9.76		kips



MAIN FLOOR
PLAN NOTES

PLAN SPECIFIC 2018 WSEC, 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. 1.2: 0.5 CREDITS
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH FOLLOWING MODIFICATIONS:
VERTICAL PENETRATION U = 0.28 WINDOWS
FLOORS TO BE R-38 and SLAB ON GRADE TO BE R-10 PERIMETER and UNDER ENTIRE SLAB BELOW GRADE.

HIGH EFFICIENCY HVAC EQUIPMENT OPT. 3.5a: 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 SYSTEMS(S) SHALL COMPLY WITH THE REQUIREMENTS OF SECT R403.3.1. LOCATING SYSTEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT COMBUSTION WITH AFUE LESS THAN 80% IS NOT PERMITTED

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, M505.4.3(1) and IMC R403.8. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M505.4.3(1) OR EQUATION 15.

SYMBOL	LOCATION	MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTSIDE)
--------	----------	--

BATH #1 FAN Min. 50cfm, INTERMITTENT at 0.25mg per TABLE M507.4

MECH. ROOM FAN Min. 360cfm, INTERMITTENT at 0.25mg per TABLE M507.4

LAUNDRY ROOM FAN Min. 360cfm, INTERMITTENT at 0.25mg per TABLE M507.4

MECH. ROOM FAN Min. 360cfm, INTERMITTENT at 0.25mg per TABLE M507.4

MECH. ROOM FAN Min. 360cfm, INTERMITTENT at 0.25mg per TABLE M507.4

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MECH. ROOM FAN Min. 360cfm, INTERMITTENT at 0.25mg per TABLE M507.4

MAIN FLOOR PLAN

1/4" = 1'-0"

3.3k TOTAL, 1.5k STORY (24%)
5.9k TOTAL, 1.8k STORY (24%)

CONSTRUCTION AREAS:
SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	2,569 S.F.
UPPER FLOOR AREA	2,284 S.F.
TOTAL CONDITIONED AREA	4,853 S.F.
2 CAR GARAGE	587 S.F.
COVERED PATIO	450 S.F.
COVERED PORCH	500 S.F.
TOTAL AREA UNDER ROOF	6,345 S.F.

OVERALL WIDTH 51'-10"
OVERALL DEPTH 51'-10"

Method for Calculation: Square Footage - ANSI Z165-2013 except, no separate distinction of 'above grade' and 'below-grade' areas and each level is measured to the exterior finished surface.

Square Footage calculations for this house were made based on plan dimensions only and may vary from the finished square footage of the house as built.

See Sheet "CODES" for additional Zoning required Area Calculations.

WIND 9.8k

SEISMIC 15.8k



7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

Issue Description
Issue Date By

07/15/24
CITY PLAN REVIEW COMMENTS

4104 83rd Ave SE
MERCER ISLAND, WA.
Job Number:
MIS075

plan name: -
marketing name: ASTORIA
plan number: MIS075
mark sys. number: -

Conditions not specifically represented graphically or in writing or which conflict with the current International Residential Code (IRC), 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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02.21.24
Submission Date

Sheet Title/Description

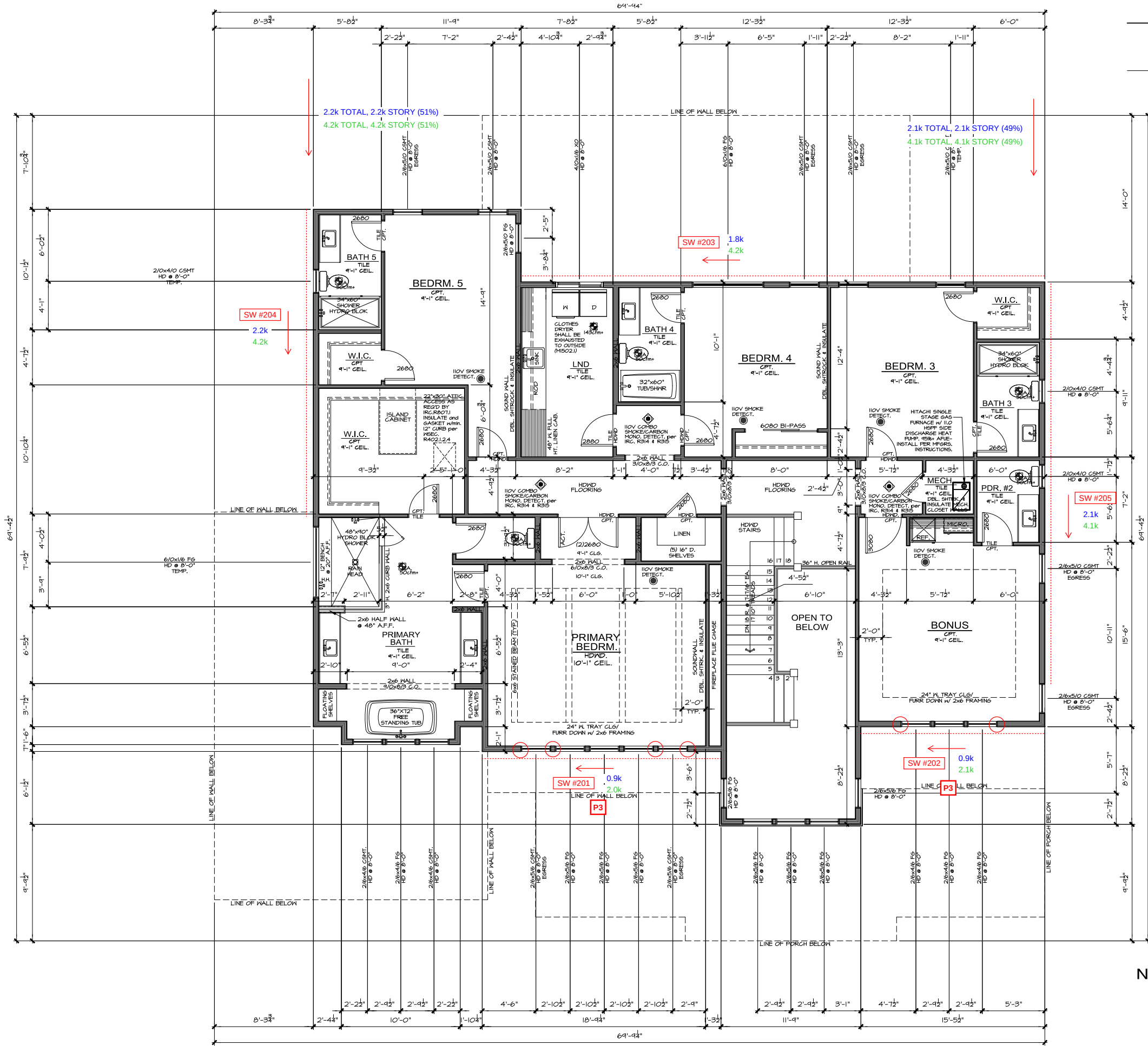
JAYMARC HOMES
Design Firm

R.R.
Drawn by:

R.R./S.K.
Checked by:

Primary Scale

A5
of: .



UPPER FLOOR PLAN NOTES:

PLAN SPECIFIC 2018 WSEC. 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.
HIGH EFFICIENCY HVAC EQUIPMENT OPT. 3.5a: 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
1.8k TOTAL, 1.8k STORY (50%) IF ASSOCIATED DUCT SYSTEM(S) SHALL COMPLY WITH THE REQUIREMENTS OF SECT R403.3.1. LOCATING SYSTEM UNLESS THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT CONVECTION 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, M1505.4.3(1) and IMC R403.9. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(1) OR EQUATION 15.
SYMBOL LOCATION MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTSIDE)
BATH #1 50cfm Min. 50cfm. INTERMITTENT at .025mg per TABLE M1507.4
KITCHEN 100cfm Min. 100cfm. INTERMITTENT at .025mg per TBL. M1507.4
RANGE HOOD or DOWN DRAFT EXHAUST FAN RATED at min. 100cfm. at 0.10mg MAY BE USED FOR EXHAUST FAN REQ. EXHAUST HOODS IN EXCESS OF 400cfm SHALL BE INTERLOCKED AND PROVIDE MAKE UP AIR per M1505.4
LAUNDRY ROOM 145cfm Min. 360cfm. INTERMITTENT at .025mg TO FUNCTION AS WHOLE HOUSE FAN (WHF.)
MECHANICAL CONTRACTOR TO SIZE WHF. FAN and SET OPERATING TIMER per TABLE M1507.3(1) FOR A 4501-5000sf. DWELLING w/ 5 OR MORE BEDRMS. TO OPERATE INTERMITTENTLY and CONTINUOUSLY per TABLE M1507.3(2)
*PROVIDE CONTROLS FOR WHF. per M1507.3.2 AFFIX LABEL TO CONTROLS THAT READS "WHOLE HOUSE VENTILATION - SEE OPERATING INSTRUCTIONS"

UPPER FLOOR PLAN
1/4" = 1'-0"
1.8k TOTAL, 1.8k STORY (50%)
4.1k TOTAL, 4.1k STORY (49%)

CONSTRUCTION AREAS: SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	2,564	S.F.
UPPER FLOOR AREA	2,281	S.F.
TOTAL CONDITIONED AREA	4,845	S.F.
2 CAR GARAGE	587	S.F.
COVID PATIO	450	S.F.
COVID PORCH	500	S.F.
TOTAL AREA UNDER ROOF	6,345	S.F.
OVERALL WIDTH	71'-9"	
OVERALL DEPTH	51'-7"	
Updated: 10/16/2017		
Method for Calculating 4.3k sq Footage - ANSI Z169-2013 except, no separate distinction of above-grade and below-grade areas and each level is measured to the outside of studs not the exterior finished surface.		
Square Footage calculations for this house were made based on plan dimensions only and may vary from the finished square footage of the house as built.		
See Sheet "CODES" for additional required Area Calculations		
WIND	3.6k	
SEISMIC	8.3k	



7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

Issue	Issue Date	By
		Description
	07.15.24	
	CITY PLAN REVIEW COMMENTS	

4104 83rd Ave SE
MERCER ISLAND, WA.
Job Number:
MIS075

plan name:
marketing name: ASTORIA
plan number: MIS075
mark sys. number: --

Conditions not specifically represented graphically or in writing or which conflict with the current International Residential Code (IRC), 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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02.21.24
Submission Date

Sheet Title/Description
JAYMARC HOMES
Design Firm
R.R.
Drawn by:
R.R./S.K.
Checked by:
Primary Scale

A7
of: .



Shearwall Design Summary

M+K Project #: 154-23017

Engineer: BFD

Shearwall 201: 2nd - Front Ext. Wall @ Primary Bed

Shearwall Properties:

Wall height, H	10.1 ft.	Max wall opening ht, H _c	5.5 ft.	Shearwall Assembly	P3
Wall Length, L	20.1 ft.	Qualifying Wall Length, L	6.1 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
900 lbs	<	3819 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	168 plf	Overturning Moment	9.1 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	37.6 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holddown Required

Shearwall 202: 2nd - Front Ext. Wall @ Bonus

Shearwall Properties:

Wall height, H	9.1 ft.	Max wall opening ht, H _c	4.5 ft.	Shearwall Assembly	P3
Wall Length, L	15.5 ft.	Qualifying Wall Length, L	7.4 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
900 lbs	<	4651 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	293 plf	Overturning Moment	8.2 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	37.1 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holddown Required



Shearwall Design Summary

M+K Project #: 154-23017
Engineer: BFD

Shearwall 203: 2nd - Rear Ext. Wall @ Laundry/Bed 3/4

Shearwall Properties:

Wall height, H	9.1 ft.	Max wall opening ht, H _c	5.0 ft.	Shearwall Assembly	P1
Wall Length, L	44.0 ft.	Qualifying Wall Length, L	24.9 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
1800 lbs	<	8327 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	368 plf	Overturning Moment	16.4 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	336.2 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holdown Required

Shearwall 204: 2nd - Side Ext. Wall @ Primary Bath/WIC/Bath 5

Shearwall Properties:

Wall height, H	9.1 ft.	Max wall opening ht, H _c	4.0 ft.	Shearwall Assembly	P1
Wall Length, L	25.8 ft.	Qualifying Wall Length, L	23.8 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
2200 lbs	<	8005 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	202 plf	Overturning Moment	20.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	70.0 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holdown Required



Shearwall Design Summary

M+K Project #: 154-23017
Engineer: BFD

Shearwall 205: 2nd - Side Ext. Wall @ Bath 3/Bonus

Shearwall Properties:

Wall height, H	9.1	ft.	Max wall opening ht, H _c	5.0	ft.	Shearwall Assembly	P1
Wall Length, L	33.8	ft.	Qualifying Wall Length, L	27.3	ft.		

Capacity Evaluation:

Total Shear load on Wall	2100	lbs	<	Allowable Shearwall Capacity	9151	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	168	plf	Overturning Moment	19.1	k-ft	Hold Down Design Load	0	lbs
DL at ends of wall	200	lbs	Resistive Moment	92.2	k-ft	Holddown Capacity	0	lbs

Hold-down Specification

No Holdown Required

Shearwall : Basement - Not Used

Shearwall Properties:

Wall height, H	0.0	ft.	Max wall opening ht, H _c	0.0	ft.	Shearwall Assembly	P1
Wall Length, L	0.0	ft.	Qualifying Wall Length, L	0.0	ft.		

Capacity Evaluation:

Total Shear load on Wall	0	lbs	###	Allowable Shearwall Capacity	#DIV/0!	lbs
--------------------------	---	-----	-----	------------------------------	---------	-----

Shearwall Assembly Specification

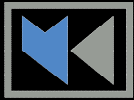
P1 - 1-side 7/16" OSB
fastened w/ 8d nails at 6"o.c. panel edges & 12"o.c. panel field - edges blocked
#DIV/0!

Overturning Evaluation:

Resistive DL	0	plf	Overturning Moment	#DIV/0!	k-ft	Hold Down Design Load	0	lbs
DL at ends of wall	0	lbs	Resistive Moment	0.0	k-ft	Holddown Capacity	0	lbs

Hold-down Specification

No Holdown Required



Shearwall Design Summary

M+K Project #: 154-23017
Engineer: BFD

Shearwall 101: 1st - Front Ext. Wall @ Great Room

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	7.5 ft.	Shearwall Assembly	P3
Wall Length, L	19.6 ft.	Qualifying Wall Length, L	5.6 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
1100 lbs	<	3238 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	134 plf	Overturning Moment	11.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	30.2 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holdown Required

Shearwall 102: 1st - Front Ext. Wall @ Study

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	7.5 ft.	Shearwall Assembly	P3
Wall Length, L	15.5 ft.	Qualifying Wall Length, L	7.2 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
1100 lbs	<	4415 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	168 plf	Overturning Moment	11.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	1000 lbs	Resistive Moment	32.0 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holdown Required



Shearwall Design Summary

M+K Project #: 154-23017
Engineer: BFD

Shearwall 103: 1st - Rear Ext. Wall @ Kitchen/Patio

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	5.0 ft.	Shearwall Assembly	P3
Wall Length, L	18.1 ft.	Qualifying Wall Length, L	13.1 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
2400 lbs	<	8243 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	737 plf	Overturning Moment	24.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	114.9 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holddown Required

Shearwall 104: 1st - Rear Ext. Wall @ ADU Suite

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	7.5 ft.	Shearwall Assembly	P1
Wall Length, L	12.5 ft.	Qualifying Wall Length, L	5.2 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
1000 lbs	<	1508 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	418 plf	Overturning Moment	10.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	800 lbs	Resistive Moment	38.4 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holddown Required



Shearwall Design Summary

M+K Project #: 154-23017
Engineer: BFD

Shearwall 105: 1st - Rear Ext. Wall @ Mech/Launch

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	0.0 ft.	Shearwall Assembly	P1
Wall Length, L	8.3 ft.	Qualifying Wall Length, L	8.3 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
2000 lbs	<	2790 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	168 plf	Overturning Moment	20.0 k-ft	Hold Down Design Load	1059 lbs
DL at ends of wall	800 lbs	Resistive Moment	11.2 k-ft	Holddown Capacity	4935 lbs

Hold-down Specification

SIMPSON STHD14RJ HOLDOWN

Shearwall 106: 1st - Side Ext. Wall @ Mech

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	0.0 ft.	Shearwall Assembly	P1
Wall Length, L	9.1 ft.	Qualifying Wall Length, L	9.1 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
100 lbs	<	3066 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	168 plf	Overturning Moment	1.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	9.6 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holdown Required



Shearwall Design Summary

M+K Project #: 154-23017
Engineer: BFD

Shearwall 107: 1st - Side Ext. Wall @ Garage

Shearwall Properties:

Wall height, H	10.9 ft.	Max wall opening ht, H _c	8.0 ft.	Shearwall Assembly	P1
Wall Length, L	19.4 ft.	Qualifying Wall Length, L	19.4 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
700 lbs	<	6508 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	238 plf	Overturning Moment	7.6 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	47.2 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holddown Required

Shearwall 108: 1st - Side Ext. Wall @ Pantry/Nook

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	0.0 ft.	Shearwall Assembly	P3
Wall Length, L	15.2 ft.	Qualifying Wall Length, L	15.2 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
3800 lbs	<	9548 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	317 plf	Overturning Moment	38.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	800 lbs	Resistive Moment	43.6 k-ft	Holddown Capacity	4935 lbs

Hold-down Specification

No Holddown Required



Shearwall Design Summary

M+K Project #: 154-23017
Engineer: BFD

Shearwall 109: 1st - Side Ext./Int. Wall @ Garage/Great Room

Shearwall Properties:

Wall height, H	10.9 ft.	Max wall opening ht, H _c	0.0 ft.	Shearwall Assembly	P1
Wall Length, L	23.0 ft.	Qualifying Wall Length, L	23.0 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
3300 lbs	<	7707 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	120 plf	Overturning Moment	35.9 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	1000 lbs	Resistive Moment	49.1 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holddown Required

Shearwall 110: 1st - Side Ext. Wall @ ADU Suite

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	7.5 ft.	Shearwall Assembly	P1
Wall Length, L	14.6 ft.	Qualifying Wall Length, L	12.1 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
1600 lbs	<	3994 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	283 plf	Overturning Moment	16.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	32.5 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holddown Required



Shearwall Design Summary

M+K Project #: 154-23017
Engineer: BFD

Shearwall 111: 1st - Side Ext. Wall @ Bath 2/Study

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	7.5 ft.	Shearwall Assembly	P3
Wall Length, L	20.8 ft.	Qualifying Wall Length, L	14.6 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
3000 lbs	<	9176 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	283 plf	Overturning Moment	30.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	400 lbs	Resistive Moment	62.8 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holddown Required

Shearwall 112: 1st - Front Int. Wall @ WIC/ADU Suite

Shearwall Properties:

Wall height, H	10.0 ft.	Max wall opening ht, H _c	0.0 ft.	Shearwall Assembly	P1
Wall Length, L	9.5 ft.	Qualifying Wall Length, L	9.5 ft.		

Capacity Evaluation:

Total Shear load on Wall		Allowable Shearwall Capacity
1100 lbs	<	3204 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	380 plf	Overturning Moment	11.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	1000 lbs	Resistive Moment	24.2 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holddown Required



Shearwall Design Summary

M+K Project #: 154-23017
Engineer: BFD

Shearwall 113: 1st - Front Ext. Wall @ Garage

Shearwall Properties:

Wall height, H	10.9 ft.	Max wall opening ht, H _c	9.0 ft.	Shearwall Assembly	P1
Wall Length, L	23.0 ft.	Qualifying Wall Length, L	7.0 ft.		

Capacity Evaluation:

Total Shear load on Wall	1100 lbs	<	Allowable Shearwall Capacity	2166 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	168 plf	Overturning Moment	12.0 k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	536 lbs	Resistive Moment	50.9 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holdown Required

Shearwall : Basement - Not Used

Shearwall Properties:

Wall height, H	0.0 ft.	Max wall opening ht, H _c	0.0 ft.	Shearwall Assembly	P0
Wall Length, L	0.0 ft.	Qualifying Wall Length, L	0.0 ft.		

Capacity Evaluation:

Total Shear load on Wall	0 lbs	###	Allowable Shearwall Capacity	#DIV/0! lbs
--------------------------	------------------------------------	-----	------------------------------	--

Shearwall Assembly Specification

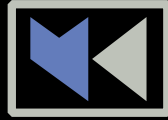
P0 - 1-side 7/16" OSB
fastened w/ 8d nails at 6"o.c. panel edges & 12"o.c. panel field - UNBLOCKED
#DIV/0!

Overturning Evaluation:

Resistive DL	0 plf	Overturning Moment	#DIV/0! k-ft	Hold Down Design Load	0 lbs
DL at ends of wall	0 lbs	Resistive Moment	0.0 k-ft	Holddown Capacity	0 lbs

Hold-down Specification

No Holdown Required



MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING

Shear Wall Calculations - Seismic

JayMarc Homes

4104 83rd Ave SE

Mercer Island, WA

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 STRUCTURAL ENGINEERING, INC.

Richard J. Zabel, P.E., Project Manager

Blake F. Durham, Staff Engineer



SEISMIC CALCULATION - ASCE 7-16

M+K Project #: 154-23017
Engineer: BFD

Seismic Design Category:

User Inputs:

Site Class	D
Spectral Response Acceleration 0.2 sec, S_s	1.418
Spectral Response Acceleration 1.0 sec, S₁	0.493
Occupancy Category	II

Variables:

Site coefficient, F_a	1.20
Site coefficient, F_v	1.81

Calculated Values:

Maximum spectral response acceleration, S_{ms}	1.702
Maximum spectral response acceleration, S_{m1}	0.891
Design spectral response acceleration, S_{ds}	1.134
Design spectral response acceleration, S_{d1}	0.594
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	0.194
T₀	0.105
T_s	0.524
Spectral Response Acc., S_a (g)	1.134

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	11.6	4354	15	14.6	80 k
2	9.1	2568	17	5.6	49 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

Total Dead Load Of Structure = 129 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	0.175	0.175

Base Shears:

Ultimate Loads

x 0.7 =

Allowable Loads

Transverse	Longitudinal	Transverse	Longitudinal
23 k	23 k	15.8 k	15.8 k

Story Shear Calculation:

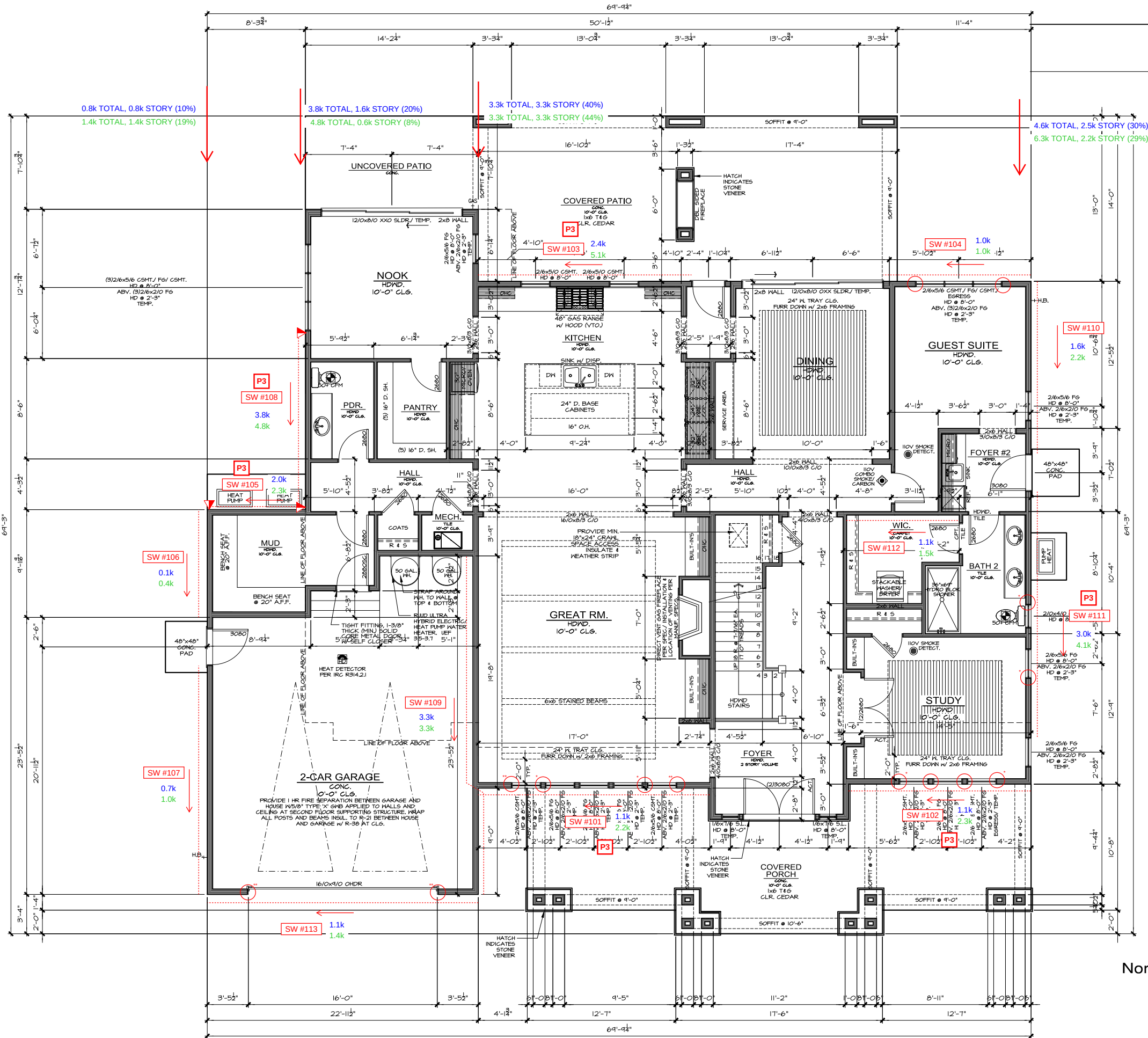
Distribution exponent, **n** = 1.00

Ultimate Loads

x 0.7 =

Allowable Loads

Level	Vert. Dist. Factor, C_{vx}	Transverse Story Shear, F_x	Longitudinal Story Shear, F_x	Transverse Story Shear, F_x	Longitudinal Story Shear, F_x
1	0.476	10.7 k	10.7 k	7.5 k	15.8 k
2	0.524	11.8 k	11.8 k	8.3 k	8.3 k
3	0.000	0.0 k	0.0 k	0.0 k	0.0 k
4	0.000	0.0 k	0.0 k	0.0 k	0.0 k
5	0.00	0.0 k	0.0 k	0.0 k	0.0 k
6	0.00	0.0 k	0.0 k	0.0 k	0.0 k
7	0.00	0.0 k	0.0 k	0.0 k	0.0 k
8	0.00	0.0 k	0.0 k	0.0 k	0.0 k
9	0.00	0.0 k	0.0 k	0.0 k	0.0 k
10	0.00	0.0 k	0.0 k	0.0 k	0.0 k
11	0.00	0.0 k	0.0 k	0.0 k	0.0 k
12	0.00	0.0 k	0.0 k	0.0 k	0.0 k
13	0.00	0.0 k	0.0 k	0.0 k	0.0 k
14	0.00	0.0 k	0.0 k	0.0 k	0.0 k
15	0.00	0.0 k	0.0 k	0.0 k	0.0 k



MAIN FLOOR
PLAN NOTES

PLAN SPECIFIC 2018 WSEC, 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. 1.2: 0.5 CREDITS
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH FOLLOWING MODIFICATIONS:
VERTICAL PENETRATION U = 0.28 WINDOWS
FLOORS TO BE R-38 and SLAB ON GRADE TO BE R-10 PERIMETER and UNDER ENTIRE SLAB BELOW GRADE.

HIGH EFFICIENCY HVAC EQUIPMENT OPT. 3.5a: 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 SYSTEMS(S) SHALL COMPLY WITH THE REQUIREMENTS OF SECT R403.3.1. LOCATING SYSTEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT COMBUSTION WITH AFUE LESS THAN 80% IS NOT PERMITTED

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, M1505.4.3(1) and IMC R403.8. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(1) OR EQUATION 15.

SYMBOL	LOCATION	MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTSIDE)
--------	----------	--

BATH #1 FAN Min. 50cfm, INTERMITTENT at .025mg per TABLE M1507.4
FAN, INTERMITTENT at .025mg per TABLE M1507.4

MECH. ROOM MIN. 360cfm, INTERMITTENT at .025mg to FUNCTION AS WHOLE HOUSE FAN (WHF)
MECH. CONTRACTOR TO SIZE WHF, FAN and SET OPERATING TIMER per TABLE M1507.3.3(1) FOR A 4,501-5,000sf DWELLING w/ 5 OR MORE BEDRMS. TO OPERATE INTERMITTENTLY and CONTINUOUSLY per TABLE M1507.3.3(2)

PROVIDE CONTROLS FOR WHF, per M1507.3.2 AFFIX LABEL TO CONTROLS THAT READS "WHOLE HOUSE VENTILATION - SEE OPERATING INSTRUCTIONS"

MAIN FLOOR PLAN

1/4" = 1'-0"

CONSTRUCTION AREAS:
SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	2,569 S.F.
UPPER FLOOR AREA	2,284 S.F.
TOTAL CONDITIONED AREA	4,853 S.F.
2 CAR GARAGE	587 S.F.
COVD PATIO	450 S.F.
COVD PORCH	500 S.F.
TOTAL AREA UNDER ROOF	6,345 S.F.

OVERALL WIDTH 51'-10"
OVERALL DEPTH 51'-10"

Method for Calculating Square Footage - ANSI Z165-2013 except, no separate distinction of 'above grade' and 'below-grade' areas and each level is measured to the exterior finished surface.
Square Footage calculations for this house were made based on plan dimensions only and may vary from the finished square footage of the house as built.

See Sheet "CODES" for additional Zoning required Area Calculations.

WIND 9.8k

SEISMIC 15.8k



7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

Issue Description
Issue Date By

07/15/24
CITY PLAN REVIEW COMMENTS

4104 83rd Ave SE
MERCER ISLAND, WA.
Job Number:
MIS075

plan name:
marketing name: ASTORIA
plan number: MIS075
mark sys. number: -

Conditions not specifically represented graphically or in writing or which conflict with the current International Residential Code (IRC), 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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02.21.24
Submittal Date

Sheet Title/Description

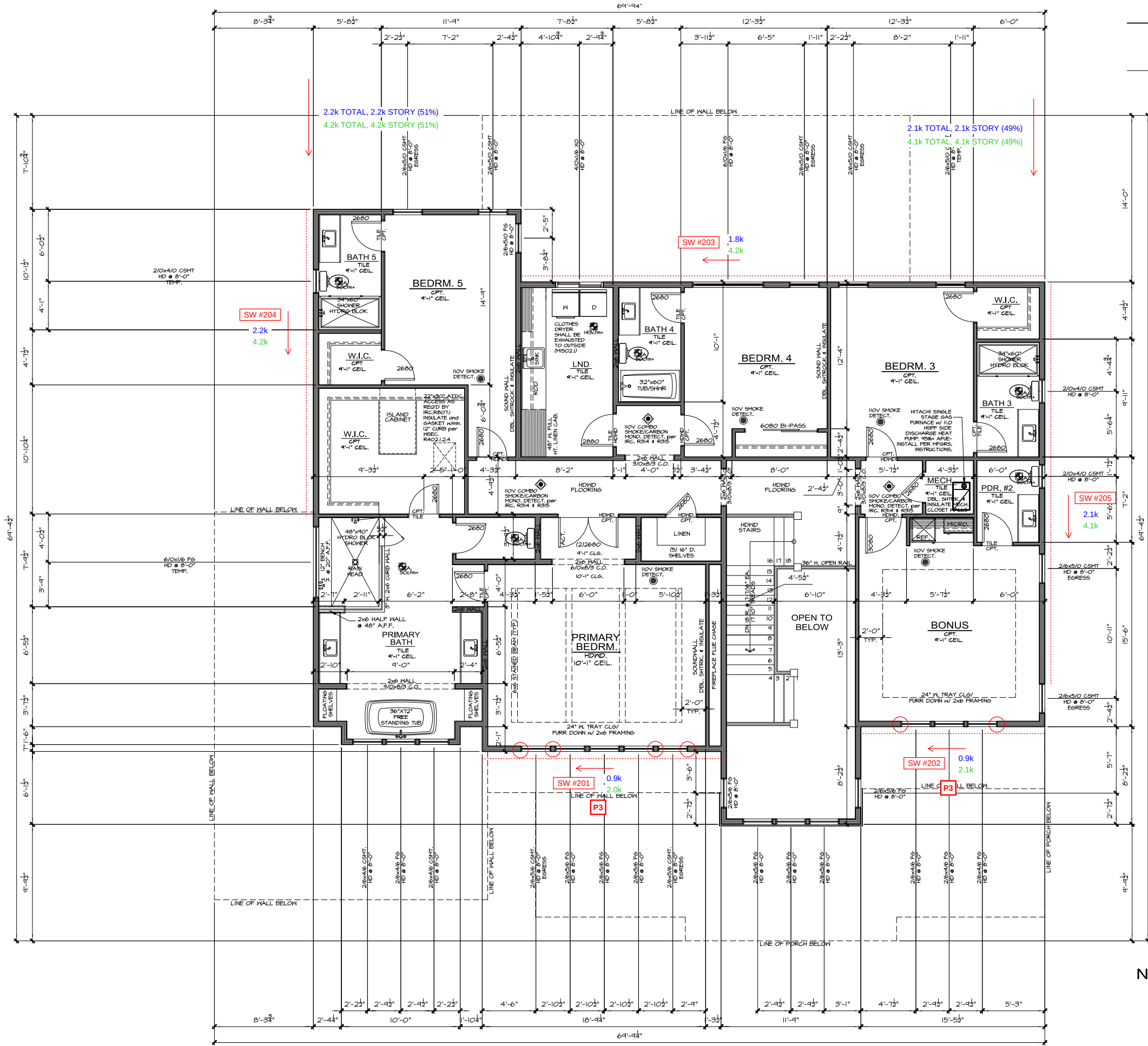
JAYMARC HOMES
Design Firm

R.R.
Drawn by:

R.R./S.K.
Checked by:

Primary Scale

A5
of: .



UPPER FLOOR PLAN NOTES:

PLAN SPECIFIC 2018 WSEC. 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.
HIGH EFFICIENCY HVAC EQUIPMENT OPT. 3.5a: 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
1.8k TOTAL, 1.8k STORY (50%) IF ASSOCIATED DUCT SYSTEM(S) SHALL COMPLY WITH THE REQUIREMENTS OF SECT R403.3.1. LOCATING SYSTEM UNLESS THIS OPTION. ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION. DIRECT CONVECTION 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, M1505.4.3(1) and IMC R403.3.1. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(1) OR EQUATION 15.
SYMBOL LOCATION MIN. FAN REQUIREMENTS (ALL FANS VENT TO OUTSIDE)
BATH #1 POWDER Mh. 50cfm. INTERMITTENT at .025mg per TABLE M1507.4
KITCHEN Mh. 100cfm. INTERMITTENT at .025mg per TBL. M1507.4
RANGE HOOD or DOWN DRAFT EXHAUST FAN RATED at min. 100cfm. at 0.10mg MAY BE USED FOR EXHAUST FAN REQ. EXHAUST HOODS IN EXCESS OF 400cfm. SHALL BE INTERLOCKED AND PROVIDE MAKE UP AIR per M1505.4
LAUNDRY ROOM MIN. 360cfm. INTERMITTENT at .025mg TO FUNCTION AS WHOLE HOUSE FAN (WHF.)
MECHANICAL CONTRACTOR TO SIZE WHF. FAN and SET OPERATING TIMER per TABLE M1507.3(1) FOR A 4501-5000sf. DWELLING w/ 5 OR MORE BEDRMS. TO OPERATE INTERMITTENTLY and CONTINUOUSLY per TABLE M1507.3(2)
*PROVIDE CONTROLS FOR WHF. per M1507.3.2 AFFIX LABEL TO CONTROLS THAT READS "WHOLE HOUSE VENTILATION - SEE OPERATING INSTRUCTIONS"

UPPER FLOOR PLAN
1/4" = 1'-0"
1.8k TOTAL, 1.8k STORY (50%)
4.1k TOTAL, 4.1k STORY (49%)

CONSTRUCTION AREAS: SQUARE FOOTAGE SUMMARY

MAIN FLOOR AREA	2,564	S.F.
UPPER FLOOR AREA	2,281	S.F.
TOTAL CONDITIONED AREA	4,845	S.F.
2 CAR GARAGE	587	S.F.
COVID PATIO	450	S.F.
COVID PORCH	500	S.F.
TOTAL AREA UNDER ROOF	6,345	S.F.
OVERALL WIDTH	71'-9"	
OVERALL DEPTH	51'-7"	
Updated: 10/06/2017		
Method for Calculating 4.3k sq Footage - ANSI Z169-2013 except, no separate distinction of above-grade and below-grade areas and each level is measured to the outside of studs not the exterior finished surface.		
Square Footage calculations for this house were made based on plan dimensions only and may vary from the finished square footage of the house as built.		
See Sheet "CODES" for additional required Area Calculations		
WIND	3.6k	
SEISMIC	8.3k	



7525 SE 24th St., 487
Mercer Island, WA
98040
425.266.9100

Issue	Issue Date	By
		Description
	07.15.24	CITY PLAN REVIEW COMMENTS

4104 83rd Ave SE
MERCER ISLAND, WA.
Job Number:
MIS075

plan name:
marketing name: ASTORIA
plan number: MIS075
mark sys. number: --

Conditions not specifically represented graphically or in writing or which conflict with the current International Residential Code (IRC), 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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02.21.24
Submission Date

Sheet Title/Description
JAYMARC HOMES
Design Firm
R.R.
Drawn by:
R.R./S.K.
Checked by:
Primary Scale

A7
of: .



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017

ENGINEER: BFD

SHEARWALL 201: 2ND - FRONT EXT. WALL @ PRIMARY BED

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.1	FT.	MAX WALL OPENING HT, H _c	5.5	FT.	SHEARWALL ASSEMBLY	P3
WALL LENGTH, L	20.1	FT.	QUALIFYING WALL LENGTH, L	6.1	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL		ALLOWABLE SHEARWALL CAPACITY		
2000	LBS	<	2728	LBS

SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	168	PLF	OVERTURNING MOMENT	20.2	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	27.7	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 202: 2ND - FRONT EXT. WALL @ BONUS

SHEARWALL PROPERTIES:

WALL HEIGHT, H	9.1	FT.	MAX WALL OPENING HT, H _c	4.5	FT.	SHEARWALL ASSEMBLY	P3
WALL LENGTH, L	15.5	FT.	QUALIFYING WALL LENGTH, L	7.4	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL		ALLOWABLE SHEARWALL CAPACITY		
2100	LBS	<	3322	LBS

SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	293	PLF	OVERTURNING MOMENT	19.1	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	27.3	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017
ENGINEER: BFD

SHEARWALL 203: 2ND - REAR EXT. WALL @ LAUNDRY/BED 3/4

SHEARWALL PROPERTIES:

WALL HEIGHT, H	9.1	FT.	MAX WALL OPENING HT, H _c	5.0	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	44.0	FT.	QUALIFYING WALL LENGTH, L	24.9	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	4200	LBS	<	ALLOWABLE SHEARWALL CAPACITY	5948	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	368	PLF	OVERTURNING MOMENT	38.2	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	247.3	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 204: 2ND - SIDE EXT. WALL @ PRIMARY BATH/WIC/BATH 5

SHEARWALL PROPERTIES:

WALL HEIGHT, H	9.1	FT.	MAX WALL OPENING HT, H _c	4.0	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	25.8	FT.	QUALIFYING WALL LENGTH, L	23.8	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	4200	LBS	<	ALLOWABLE SHEARWALL CAPACITY	5718	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	202	PLF	OVERTURNING MOMENT	38.2	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	51.5	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017
ENGINEER: BFD

SHEARWALL 205: 2ND - SIDE EXT. WALL @ BATH 3/BONUS

SHEARWALL PROPERTIES:

WALL HEIGHT, H	9.1	FT.	MAX WALL OPENING HT, H _c	5.0	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	33.8	FT.	QUALIFYING WALL LENGTH, L	27.3	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	4100	LBS	<	ALLOWABLE SHEARWALL CAPACITY	6536	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	168	PLF	OVERTURNING MOMENT	37.3	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	200	LBS	RESISTIVE MOMENT	67.8	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL : BASEMENT - NOT USED

SHEARWALL PROPERTIES:

WALL HEIGHT, H	0.0	FT.	MAX WALL OPENING HT, H _c	0.0	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	0.0	FT.	QUALIFYING WALL LENGTH, L	0.0	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	0	LBS	###	ALLOWABLE SHEARWALL CAPACITY	#DIV/0!	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

P1 - 1-SIDE 7/16" OSB
FASTENED W/ 8D NAILS AT 6"D.C. PANEL EDGES & 12"D.C. PANEL FIELD - EDGES BLOCKED
#DIV/0!

OVERTURNING EVALUATION:

RESISTIVE DL	0	PLF	OVERTURNING MOMENT	0.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	0	LBS	RESISTIVE MOMENT	0.0	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017
ENGINEER: BFD

SHEARWALL 101: 1ST - FRONT EXT. WALL @ GREAT ROOM

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _c	7.5	FT.	SHEARWALL ASSEMBLY	P3
WALL LENGTH, L	19.6	FT.	QUALIFYING WALL LENGTH, L	5.6	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	2200	LBS	<	ALLOWABLE SHEARWALL CAPACITY	2313	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	134	PLF	OVERTURNING MOMENT	22.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	22.2	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 102: 1ST - FRONT EXT. WALL @ STUDY

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _c	7.5	FT.	SHEARWALL ASSEMBLY	P3
WALL LENGTH, L	15.5	FT.	QUALIFYING WALL LENGTH, L	7.2	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	2300	LBS	<	ALLOWABLE SHEARWALL CAPACITY	3153	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	168	PLF	OVERTURNING MOMENT	23.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	1000	LBS	RESISTIVE MOMENT	23.5	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017
ENGINEER: BFD

SHEARWALL 103: 1ST - REAR EXT. WALL @ KITCHEN/PATIO

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _c	5.0	FT.	SHEARWALL ASSEMBLY	P3
WALL LENGTH, L	18.1	FT.	QUALIFYING WALL LENGTH, L	13.1	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	5100	LBS	<	ALLOWABLE SHEARWALL CAPACITY	5888	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	737	PLF	OVERTURNING MOMENT	51.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	84.5	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 104: 1ST - REAR EXT. WALL @ ADU SUITE

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _c	7.5	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	12.5	FT.	QUALIFYING WALL LENGTH, L	5.2	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	1000	LBS	<	ALLOWABLE SHEARWALL CAPACITY	1077	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	418	PLF	OVERTURNING MOMENT	10.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	800	LBS	RESISTIVE MOMENT	28.2	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017
ENGINEER: BFD

SHEARWALL 105: 1ST - REAR EXT. WALL @ MECH/LAUNCH

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _c	0.0	FT.
WALL LENGTH, L	8.3	FT.	QUALIFYING WALL LENGTH, L	8.3	FT.

SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL		ALLOWABLE SHEARWALL CAPACITY		
2300	LBS	<	3741	LBS

SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	168	PLF	OVERTURNING MOMENT	23.0	K-FT	HOLD DOWN DESIGN LOAD	1776	LBS
DL AT ENDS OF WALL	800	LBS	RESISTIVE MOMENT	8.2	K-FT	HOLDOWN CAPACITY	3695	LBS

HOLD-DOWN SPECIFICATION

SIMPSON STD14RJ HOLDOWN

SHEARWALL 106: 1ST - SIDE EXT. WALL @ MECH

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _c	0.0	FT.
WALL LENGTH, L	9.1	FT.	QUALIFYING WALL LENGTH, L	9.1	FT.

SHEARWALL ASSEMBLY

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL		ALLOWABLE SHEARWALL CAPACITY		
400	LBS	<	2190	LBS

SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	168	PLF	OVERTURNING MOMENT	4.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	7.1	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017
ENGINEER: BFD

SHEARWALL 107: 1ST - SIDE EXT. WALL @ GARAGE

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.9	FT.	MAX WALL OPENING HT, H _c	8.0	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	19.4	FT.	QUALIFYING WALL LENGTH, L	19.4	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	1000	LBS	<	ALLOWABLE SHEARWALL CAPACITY	4648	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	238	PLF	OVERTURNING MOMENT	10.9	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	34.7	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 108: 1ST - SIDE EXT. WALL @ PANTRY/NOOK

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _c	0.0	FT.	SHEARWALL ASSEMBLY	P3
WALL LENGTH, L	15.2	FT.	QUALIFYING WALL LENGTH, L	15.2	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	4800	LBS	<	ALLOWABLE SHEARWALL CAPACITY	6820	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	317	PLF	OVERTURNING MOMENT	48.0	K-FT	HOLD DOWN DESIGN LOAD	1050	LBS
DL AT ENDS OF WALL	800	LBS	RESISTIVE MOMENT	32.1	K-FT	HOLDOWN CAPACITY	3695	LBS

HOLD-DOWN SPECIFICATION

SIMPSON STD14RJ HOLDOWN



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017
ENGINEER: BFD

SHEARWALL 109: 1ST - SIDE EXT./INT. WALL @ GARAGE/GREAT ROOM

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.9	FT.	MAX WALL OPENING HT, H _o	0.0	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	23.0	FT.	QUALIFYING WALL LENGTH, L	23.0	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	3300	LBS	<	ALLOWABLE SHEARWALL CAPACITY	5505	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	120	PLF	OVERTURNING MOMENT	35.9	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	1000	LBS	RESISTIVE MOMENT	36.1	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 110: 1ST - SIDE EXT. WALL @ ADU SUITE

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _o	7.5	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	14.6	FT.	QUALIFYING WALL LENGTH, L	12.1	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	2200	LBS	<	ALLOWABLE SHEARWALL CAPACITY	2853	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	283	PLF	OVERTURNING MOMENT	22.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	23.9	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017
ENGINEER: BFD

SHEARWALL 111: 1ST - SIDE EXT. WALL @ BATH 2/STUDY

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _c	7.5	FT.	SHEARWALL ASSEMBLY	P3
WALL LENGTH, L	20.8	FT.	QUALIFYING WALL LENGTH, L	14.6	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	4100	LBS	<	ALLOWABLE SHEARWALL CAPACITY	6554	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	283	PLF	OVERTURNING MOMENT	41.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	400	LBS	RESISTIVE MOMENT	46.1	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL 112: 1ST - FRONT INT. WALL @ WIC/ADU SUITE

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.0	FT.	MAX WALL OPENING HT, H _c	0.0	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	9.5	FT.	QUALIFYING WALL LENGTH, L	9.5	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL	1500	LBS	<	ALLOWABLE SHEARWALL CAPACITY	2288	LBS
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SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	380	PLF	OVERTURNING MOMENT	15.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	1000	LBS	RESISTIVE MOMENT	17.8	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED



SHEARWALL DESIGN SUMMARY

M+K PROJECT #: 154-23017
ENGINEER: BFD

SHEARWALL 113: 1ST - FRONT EXT. WALL @ GARAGE

SHEARWALL PROPERTIES:

WALL HEIGHT, H	10.9	FT.	MAX WALL OPENING HT, H _c	9.0	FT.	SHEARWALL ASSEMBLY	P1
WALL LENGTH, L	23.0	FT.	QUALIFYING WALL LENGTH, L	7.0	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL		ALLOWABLE SHEARWALL CAPACITY		
1400	LBS	<	1547	LBS

SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	168	PLF	OVERTURNING MOMENT	15.3	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	536	LBS	RESISTIVE MOMENT	37.5	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED

SHEARWALL : BASEMENT - NOT USED

SHEARWALL PROPERTIES:

WALL HEIGHT, H	0.0	FT.	MAX WALL OPENING HT, H _c	0.0	FT.	SHEARWALL ASSEMBLY	PD
WALL LENGTH, L	0.0	FT.	QUALIFYING WALL LENGTH, L	0.0	FT.		

CAPACITY EVALUATION:

TOTAL SHEAR LOAD ON WALL		ALLOWABLE SHEARWALL CAPACITY		
0	LBS	####	#DIV/0!	LBS

SHEARWALL ASSEMBLY SPECIFICATION

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

OVERTURNING EVALUATION:

RESISTIVE DL	0	PLF	OVERTURNING MOMENT	0.0	K-FT	HOLD DOWN DESIGN LOAD	0	LBS
DL AT ENDS OF WALL	0	LBS	RESISTIVE MOMENT	0.0	K-FT	HOLDOWN CAPACITY	0	LBS

HOLD-DOWN SPECIFICATION

NO HOLDOWN REQUIRED