BASIC PERMIT PACKAGE
REVIEWED FOR CODE COMPLIANCE
WITH IRC 2015
KITSAP COUNTY BUILDING DEPARTMENT

Project: FnC plan 2800

07/30/2018 11:31:49 AM
#[18-02763]

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Location: DINING RM. WINDOW HEADER
Combination Roof And Floor Beam
[2015 International Building Code(2012 NDS)]
3.5 IN x 9.25 IN x 6.0 FT
#1 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 1.6%
Controlling Factor: Moment

StruCalc Version 9.0.2.5 6/6/2018 10:22:24 AM

DEFLECTIONS

	Center	
Live Load	0.06	IN L/1235
Dead Load	0.03	in
Total Load	0.09	IN L/772

Live Load Deflection Criteria: L/480 Total Load Deflection Criteria: L/240

REACTIONS

	A		B	
Live Load	2355	lb	2355	lb
Dead Load	1410	lb	1410	lb
Total Load	3765	lb	3765	lb
Bearing Length	1.72	in	1.72	in

BEAM DATA

	Center	
Span Length	6	ft
Unbraced Length-Top	0	ft
Roof Pitch	6	:12
Floor Duration Factor	1.00	
Roof Duration Factor	1.15	
Notch Depth	0.00	

MATERIAL PROPERTIES

#1 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 1000	psi	Fb' = 1380	psi
	Cd=1.15 CF=1.20			
Shear Stress:	Fv = 180	psi	Fv' = 207	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1700	ksi	E' = 1700	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 5648 ft-lb
3.0 ft from left support
Created by combining all dead and live loads.

Controlling Shear: -3765 lb
At support.
Created by combining all dead and live loads.

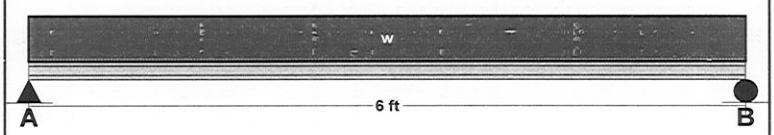
Comparisons with required sections:	Req'd	Provided
Section Modulus:	49.11 in3	49.91 in3
Area (Shear):	27.28 in2	32.38 in2
Moment of Inertia (deflection):	89.75 in4	230.84 in4
Moment:	5648 ft-lb	5740 ft-lb
Shear:	-3765 lb	4468 lb

LOADING DIAGRAM

CHANGES
MUST Be Approved Prior
To Performing Work

Reviewed for code compliance
with IRC 2015
Kitsap County Building Department
jbowling@co.kitsap.wa.us
07/21/2020

Subject To Field Inspection



ROOF LOADING

		Side 1		Side 2	
Roof Live Load	RLL =	25	psf	25	psf
Roof Dead Load	RDL =	12	psf	12	psf
Roof Tributary Width	RTW =	2	ft	15	ft

FLOOR LOADING

		Side 1		Side 2	
Floor Live Load	FLL =	40	psf	40	psf
Floor Dead Load	FDL =	15	psf	15	psf
Floor Tributary Width	FTW =	2	ft	7	ft

Wall Load WALL = 100 plf

BEAM LOADING

Roof Uniform Live Load:	wL-roof =	425	plf
Roof Uniform Dead Load:	wD-roof =	228	plf
Floor Uniform Live Load:	wL-floor =	360	plf
Floor Uniform Dead Load:	wD-floor =	135	plf
Beam Self Weight:	BSW =	7	plf
Combined Uniform Live Load:	wL =	785	plf
Combined Uniform Dead Load:	wD =	470	plf
Combined Uniform Total Load:	wT =	1255	plf
Controlling Total Design Load:	wT-cont =	1255	plf

NOTES

Permit Number: 20-01956

Project: FnC plan 2800

Location: FLOOR BEAM AT DINING / LIVING
Uniformly Loaded Floor Beam
[2015 International Building Code(2012 NDS)]
5.5 IN x 9.5 IN x 8.5 FT
#1 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 31.9%
Controlling Factor: Moment

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DEFLECTIONS Center

Live Load	0.10	IN L/975
Dead Load	0.04	in
Total Load	0.15	IN L/699

Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240

REACTIONS

	A		B	
Live Load	2380	lb	2380	lb
Dead Load	941	lb	941	lb
Total Load	3321	lb	3321	lb
Bearing Length	0.97	in	0.97	in

BEAM DATA Center

Span Length	8.5	ft
Unbraced Length-Top	0	ft
Floor Duration Factor	1.00	
Notch Depth	0.00	

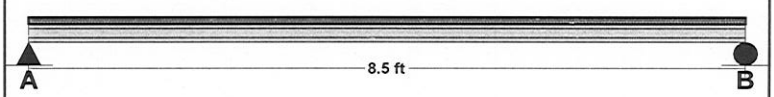
MATERIAL PROPERTIES
#1 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 1350	psi	Fb' = 1350	psi
	Cd=1.00 CF=1.00			
Shear Stress:	Fv = 170	psi	Fv' = 170	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 7056 ft-lb
4.25 ft from left support
Created by combining all dead and live loads.
Controlling Shear: -3321 lb
At support.
Created by combining all dead and live loads.

Comparisons with required sections:	Req'd	Provided
Section Modulus:	62.72 in3	82.73 in3
Area (Shear):	29.3 in2	52.25 in2
Moment of Inertia (deflection):	145.06 in4	392.96 in4
Moment:	7056 ft-lb	9307 ft-lb
Shear:	-3321 lb	5922 lb

LOADING DIAGRAM



FLOOR LOADING

		Side 1		Side 2	
Floor Live Load	FLL =	40	psf	40	psf
Floor Dead Load	FDL =	15	psf	15	psf
Floor Tributary Width	FTW =	7	ft	7	ft
Wall Load	WALL =	0	plf		

BEAM LOADING

Beam Total Live Load:	wL =	560	plf
Beam Total Dead Load:	wD =	210	plf
Beam Self Weight:	BSW =	11	plf
Total Maximum Load:	wT =	781	plf

NOTES

Permit Number: 20-01956

Project: FnC plan 2800

Location: FRONT PORCH ROOF BEAM
Roof Beam
[2015 International Building Code(2012 NDS)]
5.5 IN x 7.25 IN x 14.25 FT
#1 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 2.6%
Controlling Factor: Moment

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DEFLECTIONS Center

Live Load	0.41	IN L/412
Dead Load	0.29	in
Total Load	0.71	IN L/242

Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/180

REACTIONS

	A		B	
Live Load	891	lb	891	lb
Dead Load	625	lb	625	lb
Total Load	1516	lb	1516	lb
Bearing Length	0.44	in	0.44	in

BEAM DATA

Span Length	14.3	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	0	ft
Roof Pitch	4	:12
Roof Duration Factor	1.15	

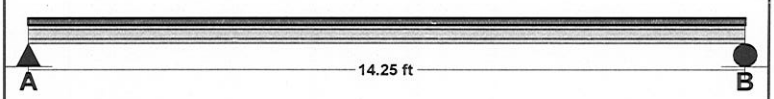
MATERIAL PROPERTIES
#1 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 1200	psi	Fb' = 1380	psi
	Cd=1.15 CF=1.00			
Shear Stress:	Fv = 170	psi	Fv' = 196	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 5399 ft-lb
7.125 ft from left support
Created by combining all dead and live loads.
Controlling Shear: -1515 lb
At support.
Created by combining all dead and live loads.

Comparisons with required sections:	Req'd	Provided
Section Modulus:	46.95 in3	48.18 in3
Area (Shear):	11.63 in2	39.88 in2
Moment of Inertia (deflection):	129.81 in4	174.66 in4
Moment:	5399 ft-lb	5541 ft-lb
Shear:	-1515 lb	5197 lb

LOADING DIAGRAM



ROOF LOADING

Side One:			
Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	15	psf
Tributary Width:	TW =	2	ft
Side Two:			
Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	15	psf
Tributary Width:	TW =	3	ft
Wall Load:	WALL =	0	plf

SLOPE/PITCH ADJUSTED LENGTHS AND LOADS

Adjusted Beam Length:	Ladj =	14.25	ft
Beam Self Weight:	BSW =	9	plf
Beam Uniform Live Load:	wL =	125	plf
Beam Uniform Dead Load:	wD_adj =	88	plf
Total Uniform Load:	wT =	213	plf

NOTES

Permit Number: 20-01956

Project: FnC plan 2800

Location: FRONT PORCH ROOF BEAM 'B'
Roof Beam
[2015 International Building Code(2012 NDS)]
5.5 IN x 7.25 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 70.8%
Controlling Factor: Moment

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DEFLECTIONS Center

Live Load	0.06	IN L/1577
Dead Load	0.04	in
Total Load	0.10	IN L/933

Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/180

REACTIONS

	A	B
Live Load	600 lb	600 lb
Dead Load	414 lb	414 lb
Total Load	1014 lb	1014 lb
Bearing Length	0.29 in	0.29 in

BEAM DATA

Span Length	8 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	0 ft
Roof Pitch	4 :12
Roof Duration Factor	1.15

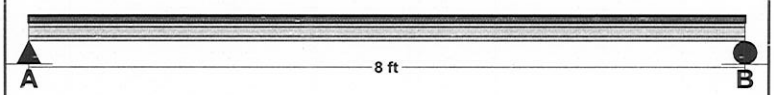
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Bending Stress:	Fb = 750 psi	Fb' = 863 psi
	Cd=1.15 CF=1.00	
Shear Stress:	Fv = 170 psi	Fv' = 196 psi
	Cd=1.15	
Modulus of Elasticity:	E = 1300 ksi	E' = 1300 ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625 psi	Fc - ⊥' = 625 psi

Controlling Moment: 2028 ft-lb
4.0 ft from left support
Created by combining all dead and live loads.
Controlling Shear: 1014 lb
At support.
Created by combining all dead and live loads.

Comparisons with required sections:	Req'd	Provided
Section Modulus:	28.22 in3	48.18 in3
Area (Shear):	7.78 in2	39.88 in2
Moment of Inertia (deflection):	33.69 in4	174.66 in4
Moment:	2028 ft-lb	3463 ft-lb
Shear:	1014 lb	5197 lb

LOADING DIAGRAM



ROOF LOADING

Side One:			
Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	15	psf
Tributary Width:	TW =	2	ft
Side Two:			
Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	15	psf
Tributary Width:	TW =	4	ft
Wall Load:	WALL =	0	plf

SLOPE/PITCH ADJUSTED LENGTHS AND LOADS

Adjusted Beam Length:	Ladj =	8	ft
Beam Self Weight:	BSW =	9	plf
Beam Uniform Live Load:	wL =	150	plf
Beam Uniform Dead Load:	wD_adj =	104	plf
Total Uniform Load:	wT =	254	plf

NOTES

Permit Number: 20-01956

Project: FnC plan 2800

Location: GIRDER TRUSS 'A' AT GARAGE
Footing
[2015 International Building Code(2012 NDS)]
Footing Size: 3.0 FT x 3.0 FT x 10.00 IN
Reinforcement: #4 Bars @ 9.00 IN. O.C. E/W / (4) min.
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs = 1500	psf
Concrete Compressive Strength:	F'c = 2500	psi
Reinforcing Steel Yield Strength:	Fy = 40000	psi
Concrete Reinforcement Cover:	c = 3	in

FOOTING SIZE

Width:	W = 3	ft
Length:	L = 3	ft
Depth:	Depth = 10	in
Effective Depth to Top Layer of Steel:	d = 6.25	in

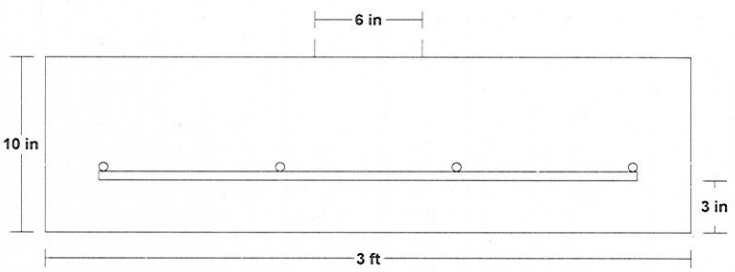
COLUMN AND BASEPLATE SIZE

Column Type:	Wood
Column Width:	m = 6 in
Column Depth:	n = 6 in

FOOTING CALCULATIONS

Bearing Calculations:			
Ultimate Bearing Pressure:	Qu =	1105	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1375	psf
Required Footing Area:	Areq =	7.23	sf
Area Provided:	A =	9.00	sf
Baseplate Bearing:			
Bearing Required:	Bear =	15914	lb
Allowable Bearing:	Bear-A =	99450	lb
Beam Shear Calculations (One Way Shear):			
Beam Shear:	Vu1 =	5194	lb
Allowable Beam Shear:	Vc1 =	16875	lb
Punching Shear Calculations (Two Way Shear):			
Critical Perimeter:	Bo =	49	in
Punching Shear:	Vu2 =	14071	lb
Allowable Punching Shear (ACI 11-35):	vc2-a =	68906	lb
Allowable Punching Shear (ACI 11-36):	vc2-b =	81563	lb
Allowable Punching Shear (ACI 11-37):	vc2-c =	45938	lb
Controlling Allowable Punching Shear:	vc2 =	45938	lb
Bending Calculations:			
Factored Moment:	Mu =	71611	in-lb
Nominal Moment Strength:	Mn =	170825	in-lb
Reinforcement Calculations:			
Concrete Compressive Block Depth:	a =	0.41	in
Steel Required Based on Moment:	As(1) =	0.32	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.72	in2
Controlling Reinforcing Steel:	As-reqd =	0.72	in2
Selected Reinforcement:	#4's @ 9.0 in. o.c. e/w (4) Min.		
Reinforcement Area Provided:	As =	0.79	in2
Development Length Calculations:			
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	15	in

LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL =	9946	lb
Dead Load:	PD =	0	lb
Total Load:	PT =	9946	lb
Ultimate Factored Load:	Pu =	15914	lb
Weight to resist uplift w/ 1.5 F.S.:	U.R. =	725	lb

NOTES

Permit Number: 20-01956

Project: FnC plan 2800

Location: MAIN LEVEL 5' WINDOW HEADER
Combination Roof And Floor Beam
[2015 International Building Code(2012 NDS)]
3.5 IN x 9.25 IN x 5.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 18.4%
Controlling Factor: Moment

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DEFLECTIONS	Center	
Live Load	0.03	IN L/1888
Dead Load	0.02	in
Total Load	0.05	IN L/1129

Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240

REACTIONS	A	B
Live Load	2088 lb	2088 lb
Dead Load	1402 lb	1402 lb
Total Load	3490 lb	3490 lb
Bearing Length	1.60 in	1.60 in

BEAM DATA	Center
Span Length	5 ft
Unbraced Length-Top	0 ft
Roof Pitch	6 :12
Floor Duration Factor	1.00
Roof Duration Factor	1.15
Notch Depth	0.00

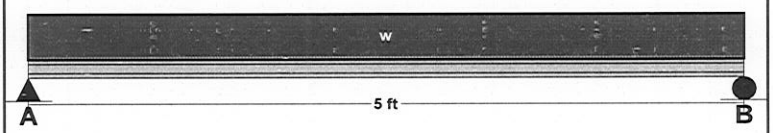
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Bending Stress:	Fb = 900 psi	Fb' = 1242 psi
	Cd=1.15 CF=1.20	
Shear Stress:	Fv = 180 psi	Fv' = 207 psi
	Cd=1.15	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625 psi	Fc - ⊥' = 625 psi

Controlling Moment: 4361 ft-lb
2.5 ft from left support
Created by combining all dead and live loads.
Controlling Shear: -3489 lb
At support.
Created by combining all dead and live loads.

Comparisons with required sections:	Req'd	Provided
Section Modulus:	42.14 in3	49.91 in3
Area (Shear):	25.28 in2	32.38 in2
Moment of Inertia (deflection):	49.06 in4	230.84 in4
Moment:	4361 ft-lb	5166 ft-lb
Shear:	-3489 lb	4468 lb

LOADING DIAGRAM



ROOF LOADING

		Side 1	Side 2
Roof Live Load	RLL =	25 psf	25 psf
Roof Dead Load	RDL =	15 psf	15 psf
Roof Tributary Width	RTW =	4 ft	15 ft

FLOOR LOADING

		Side 1	Side 2
Floor Live Load	FLL =	40 psf	40 psf
Floor Dead Load	FDL =	15 psf	15 psf
Floor Tributary Width	FTW =	2 ft	7 ft

Wall Load WALL = 100 plf

BEAM LOADING

Roof Uniform Live Load:	wL-roof =	475 plf
Roof Uniform Dead Load:	wD-roof =	319 plf
Floor Uniform Live Load:	wL-floor =	360 plf
Floor Uniform Dead Load:	wD-floor =	135 plf
Beam Self Weight:	BSW =	7 plf
Combined Uniform Live Load:	wL =	835 plf
Combined Uniform Dead Load:	wD =	561 plf
Combined Uniform Total Load:	wT =	1396 plf
Controlling Total Design Load:	wT-cont =	1396 plf

NOTES

Permit Number: 20-01956

Project: FnC plan 2800

Location: UPPER LEVEL 6' WINDOW HEADER
Roof Beam
[2015 International Building Code(2012 NDS)]
3.5 IN x 7.25 IN x 6.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 6.8%
Controlling Factor: Moment

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DEFLECTIONS Center

Live Load	0.07	IN L/1033
Dead Load	0.05	in
Total Load	0.12	IN L/614

Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/180

REACTIONS

	A	B
Live Load	1275 lb	1275 lb
Dead Load	872 lb	872 lb
Total Load	2147 lb	2147 lb
Bearing Length	0.98 in	0.98 in

BEAM DATA

Span Length	6 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	0 ft
Roof Pitch	6 :12
Roof Duration Factor	1.15

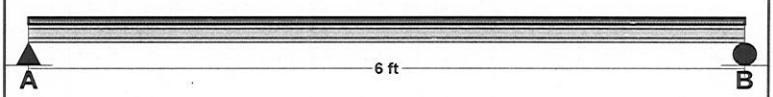
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Bending Stress:	Fb = 900 psi	Fb' = 1346 psi
	Cd=1.15 CF=1.30	
Shear Stress:	Fv = 180 psi	Fv' = 207 psi
	Cd=1.15	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625 psi	Fc - ⊥' = 625 psi

Controlling Moment: 3220 ft-lb
3.0 ft from left support
Created by combining all dead and live loads.
Controlling Shear: 2147 lb
At support.
Created by combining all dead and live loads.

Comparisons with required sections:	Req'd	Provided
Section Modulus:	28.72 in3	30.66 in3
Area (Shear):	15.56 in2	25.38 in2
Moment of Inertia (deflection):	32.6 in4	111.15 in4
Moment:	3220 ft-lb	3438 ft-lb
Shear:	2147 lb	3502 lb

LOADING DIAGRAM



ROOF LOADING

Side One:			
Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	15	psf
Tributary Width:	TW =	2	ft
Side Two:			
Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	15	psf
Tributary Width:	TW =	15	ft
Wall Load:	WALL =	0	plf

SLOPE/PITCH ADJUSTED LENGTHS AND LOADS

Adjusted Beam Length:	Ladj =	6	ft
Beam Self Weight:	BSW =	6	plf
Beam Uniform Live Load:	wL =	425	plf
Beam Uniform Dead Load:	wD_adj =	291	plf
Total Uniform Load:	wT =	716	plf

NOTES

Permit Number: 20-01956