



West Linn

DEVELOPMENT REVIEW APPLICATION

B

MI-09-11

TYPE OF REVIEW (Please check all boxes that apply):

- | | | | |
|--------------------------|--|-------------------------------------|--|
| <input type="checkbox"/> | Annexation | <input checked="" type="checkbox"/> | Non-Conforming Lots, Uses & Structures |
| <input type="checkbox"/> | Appeal and Review * | <input type="checkbox"/> | One-Year Extension * |
| <input type="checkbox"/> | Conditional Use | <input type="checkbox"/> | Planned Unit Development |
| <input type="checkbox"/> | Design Review | <input type="checkbox"/> | <u>Pre-Application Meeting *</u> |
| <input type="checkbox"/> | Easement Vacation | <input type="checkbox"/> | Quasi-Judicial Plan or Zone Change |
| <input type="checkbox"/> | Extraterritorial Ext. of Utilities | <input type="checkbox"/> | Street Vacation |
| <input type="checkbox"/> | Final Plat or Plan | <input type="checkbox"/> | Subdivision |
| <input type="checkbox"/> | Flood Plain Construction | <input type="checkbox"/> | Temporary Uses * |
| <input type="checkbox"/> | Hillside Protection and Erosion Control | <input type="checkbox"/> | Tualatin River Greenway |
| <input type="checkbox"/> | Historic District Review | <input type="checkbox"/> | Variance |
| <input type="checkbox"/> | Legislative Plan or Change | <input type="checkbox"/> | Water Resource Area Protection/Wetland |
| <input type="checkbox"/> | Lot Line Adjustment * /** | <input type="checkbox"/> | Willamette River Greenway |
| <input type="checkbox"/> | Minor Partition (Preliminary Plat or Plan) | <input type="checkbox"/> | Other/Misc |

Home Occupation / Pre-Application / Sidewalk Use Application * / Permanent Sign Review * / Temporary Sign Application require individual application forms available in the forms and application section of the City Website or at City Hall.

TOTAL FEES/DEPOSIT _____ * No CD required/** Only one copy needed

Richard AHYOU 2155 5th Ave West Linn 97068

OWNER'S	ADDRESS	CITY	ZIP	PHONE(res.& bus.)
Todd LARIOS	4804 Ne 7th Ave	Portland	OR	503-888-9419

APPLICANT'S	ADDRESS	CITY	ZIP	PHONE(res.& bus.)

CONSULTANT	ADDRESS	CITY	ZIP	PHONE

SITE LOCATION 2155 5th Ave West Linn 97068

Assessor's Map No.: _____ Tax Lot(s): _____ Total Land Area: _____

- All application fees are non-refundable (excluding deposit).
- The owner/applicant or their representative should be present at all public hearings.
- A denial or grant may be reversed on appeal. No permit will be in effect until the appeal period has expired.

4. **Four (4) complete hard-copy sets (single sided) of application materials must be submitted with this application. One (1) complete set of digital application materials must also be submitted on CD in PDF format.**

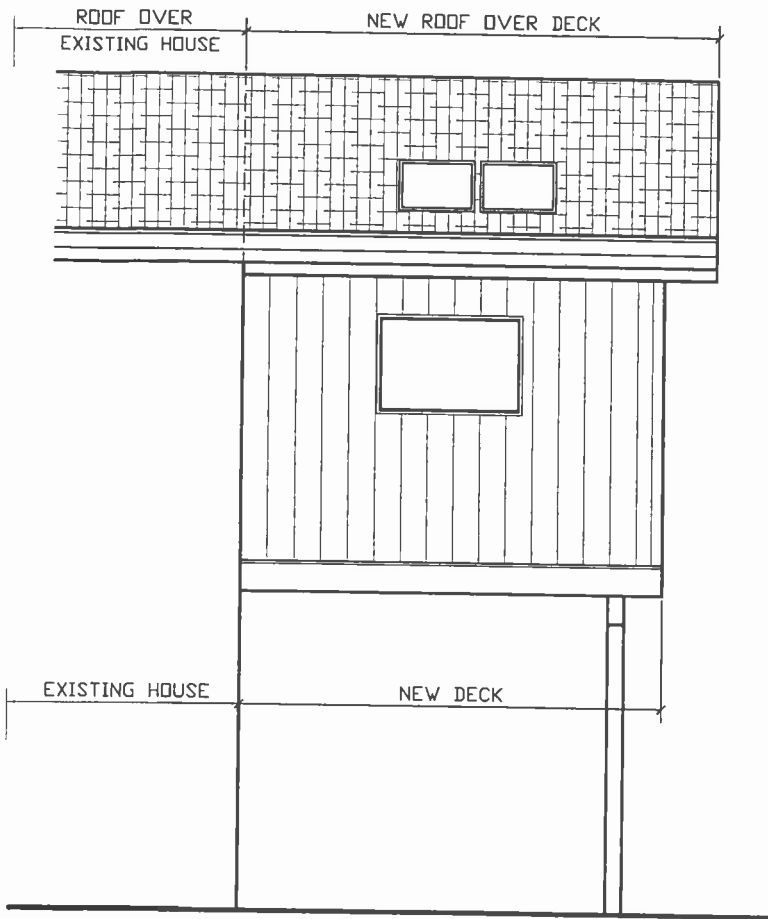
The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application.

SIGNATURE OF PROPERTY OWNER(S)
 X Richard Ayou Date Aug 5 09

SIGNATURE OF APPLICANT(S)
 X Todd Larios Date Aug 25, 09

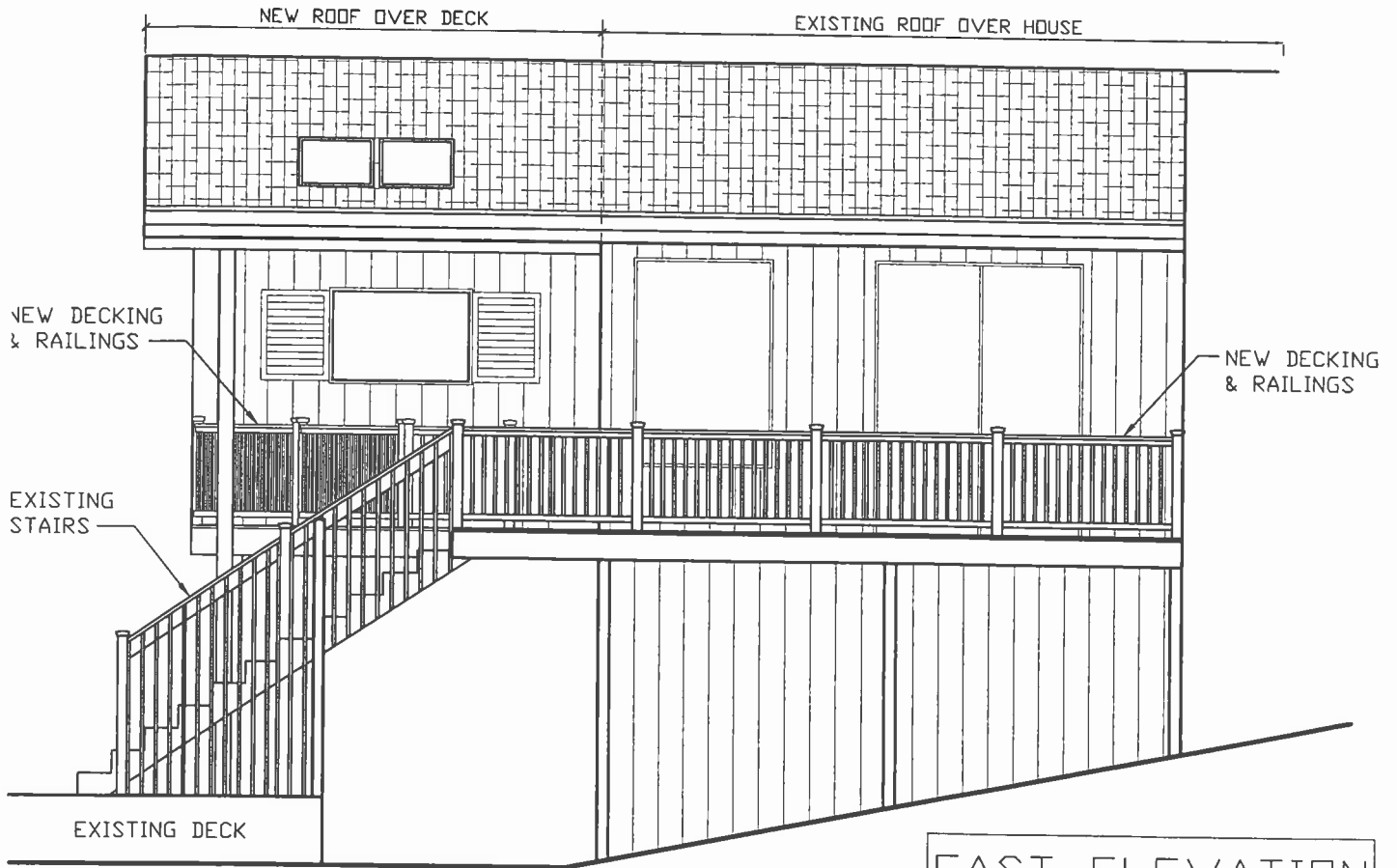
BY SIGNING THIS APPLICATION, THE CITY IS AUTHORIZED REASONABLE ACCESS TO THE PROPERTY. ACCEPTANCE OF THIS APPLICATION DOES NOT INFER A COMPLETE SUBMITTAL. COMPLETENESS WILL BE DETERMINED WITHIN 30 DAYS OF SUBMITTAL.

PLANNING AND BUILDING; 22500 SALAMO RD #1000; WEST LINN, OR 97068; PHONE: 656-4211 FAX: 656-4106



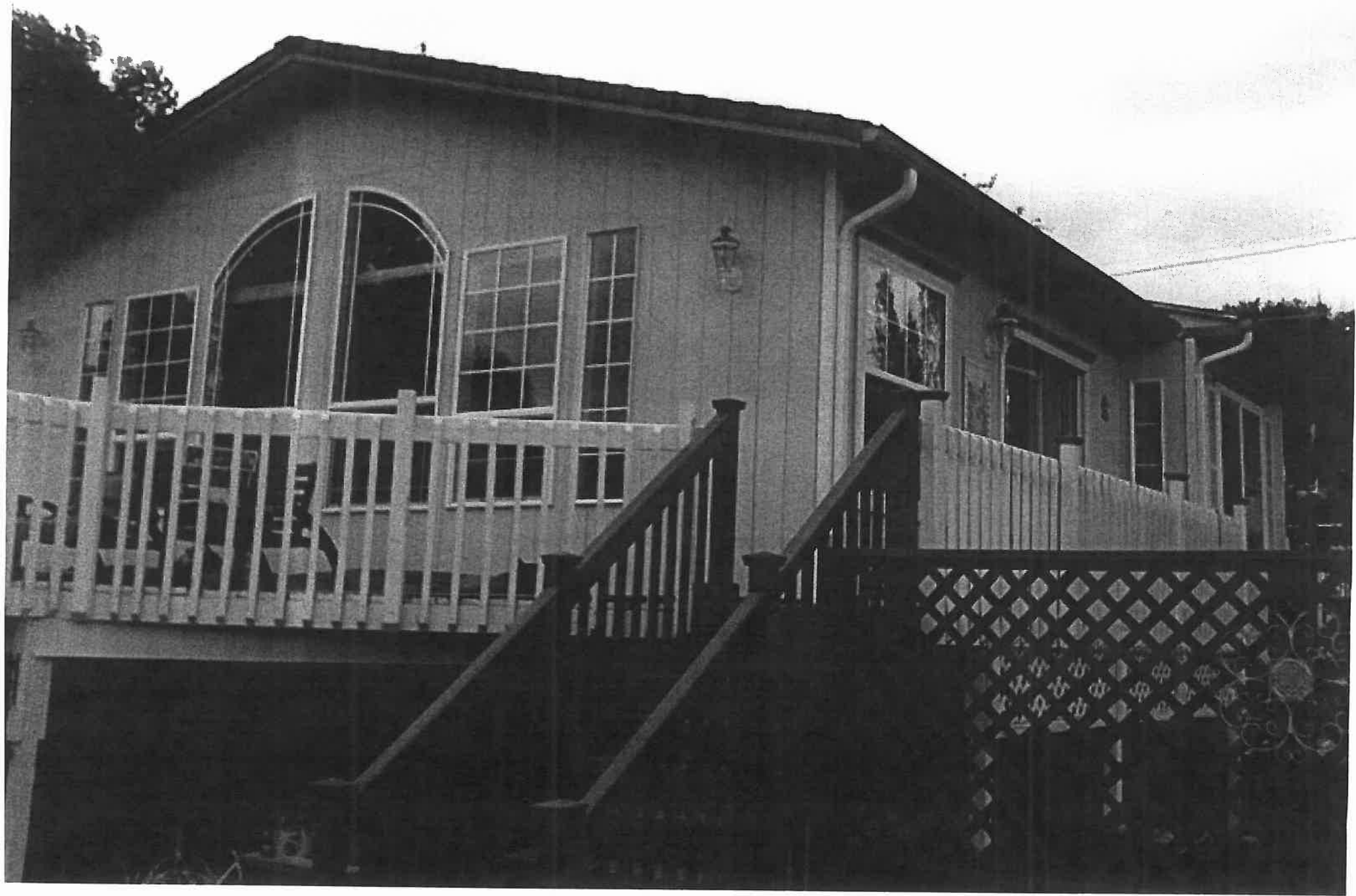
WEST ELEVATION
SCALE: 1/4" = 1'-0"

2155 5TH AVE
WEST LINN, OR 97068



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

2155 5TH AVE
WEST LINN, OR 97068

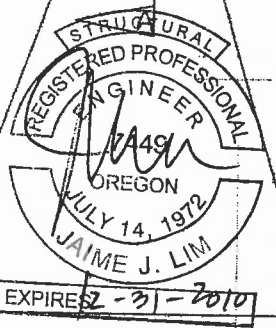
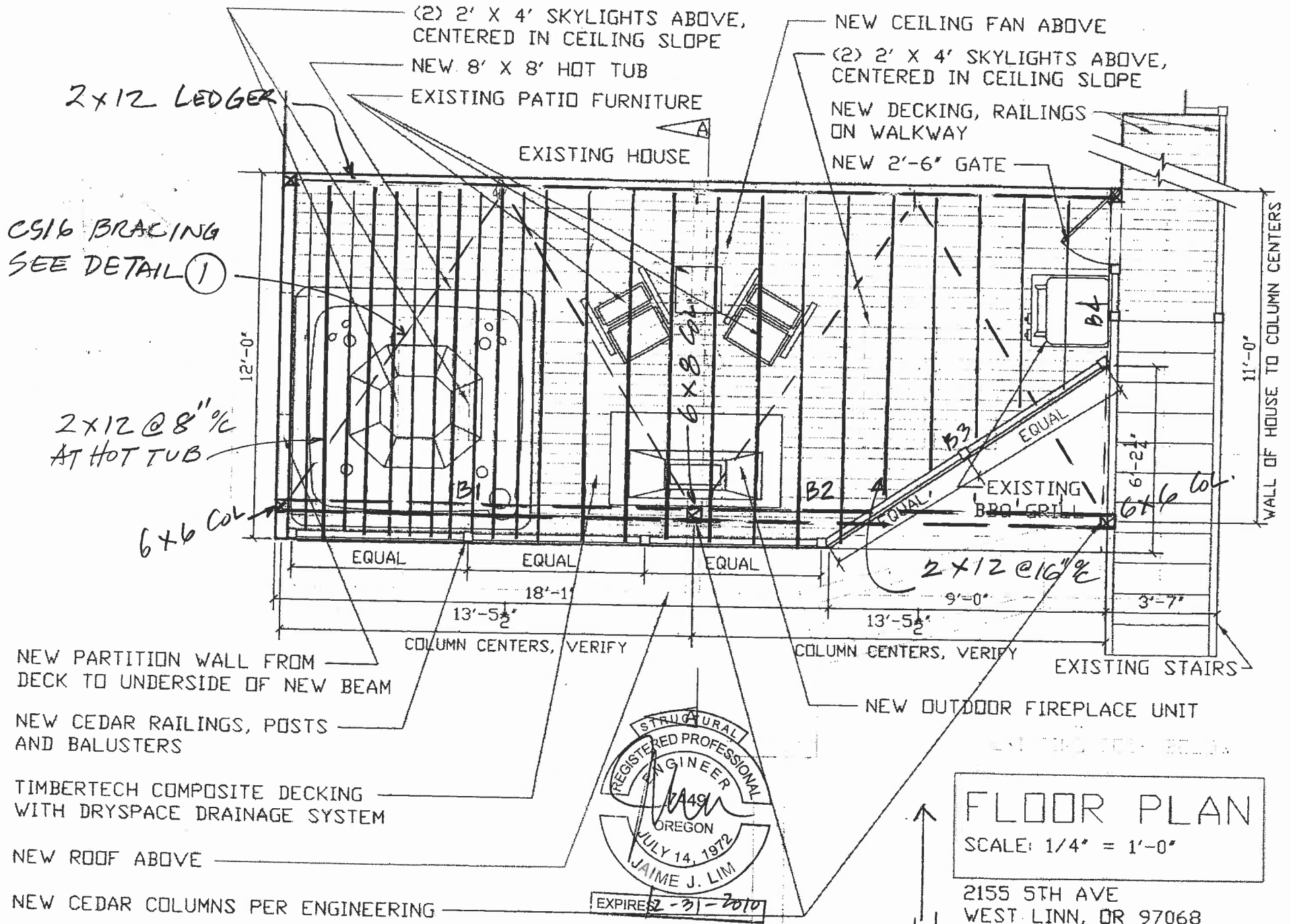








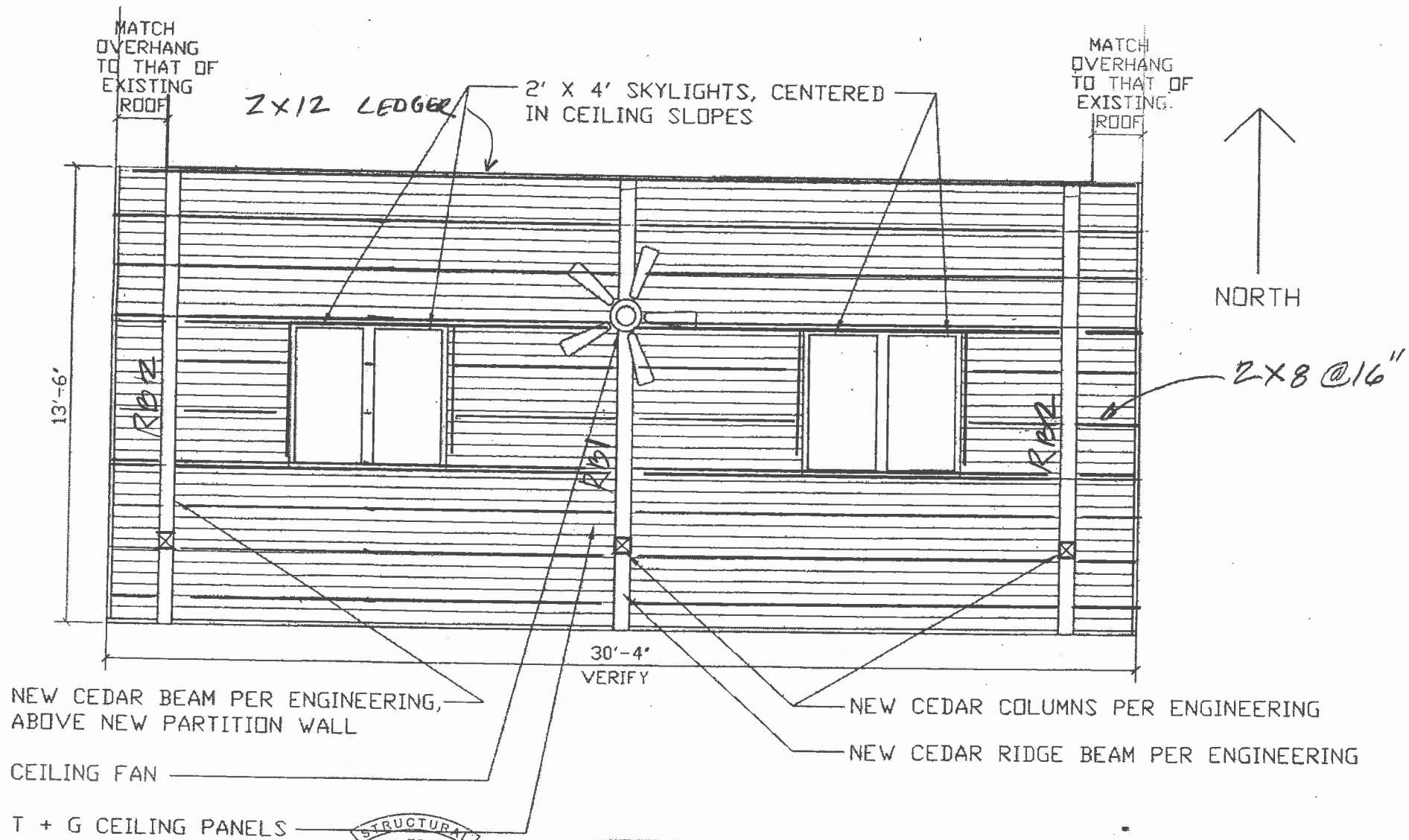




FLOOR PLAN
 SCALE: 1/4" = 1'-0"

2155 5TH AVE
 WEST LINN, OR 97068

2

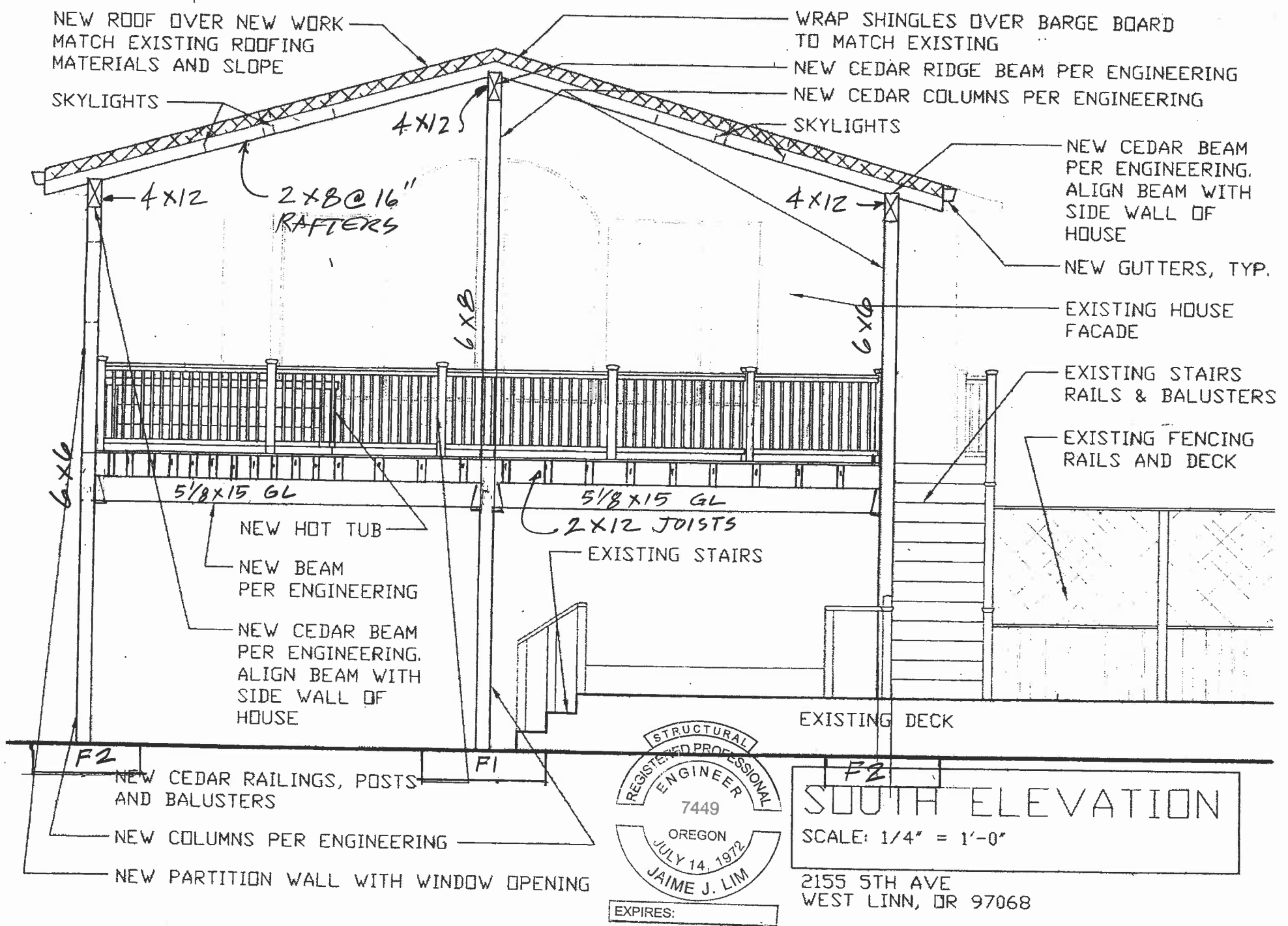


STRUCTURAL
REGISTERED PROFESSIONAL
ENGINEER
7449
OREGON
JULY 14, 1972
JAIME J. LIM
EXPIRES: _____

REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

2155 5TH AVE
WEST LINN, OR 97068

W



STRUCTURAL
REGISTERED PROFESSIONAL
ENGINEER
7449
OREGON
JULY 14, 1972
JAIME J. LIM
EXPIRES:

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

2155 5TH AVE
WEST LINN, OR 97068

A

UNITED ENGINEERING, INC.

Consulting Engineering * Civil * Structural * Environmental Engineering * Planning



922 N. Killingsworth St. - Suite: 1A
 Portland, OR 97217 USA
 Email : jaimelim@asianreporter.com

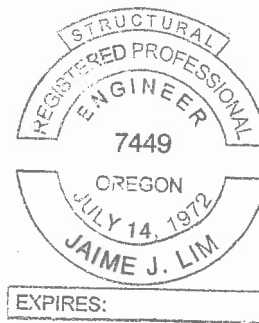
Telephone : (503) 289-7775
 Fax : (503) 283-4445

BEAM SCHEDULE

MARK	SIZE	END CONNECTION
B1	5/8x15 GLULAM	HU 5.25/16
B2	5/8x15 GLULAM	HU 5.25/16
B3	4x12	HU 4x12
B4	4x12	HU 4x12
RB1	4x12	HU 4x12
RB2	4x12	HU 4x12
TST 1	2x12	@ 16" o/c
TST 2	2x12	@ 8" o/c

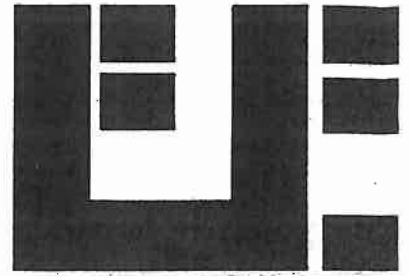
FOOTING SCHEDULE

MARK	SIZE	REINFORCING
F1	48" x 48" x 12"	#4 @ 7" EW
F2	36" x 36" x 12"	#4 @ 6" EW



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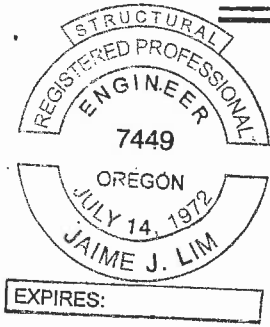
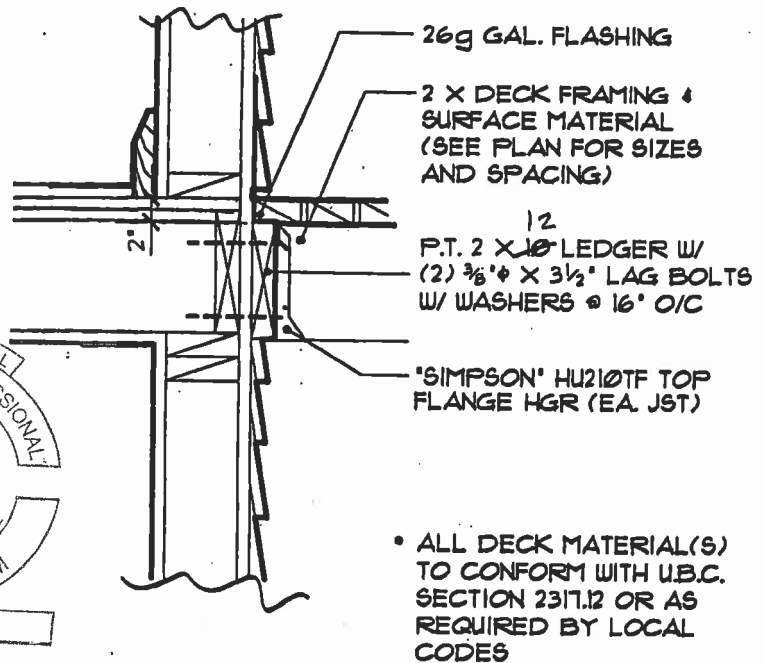
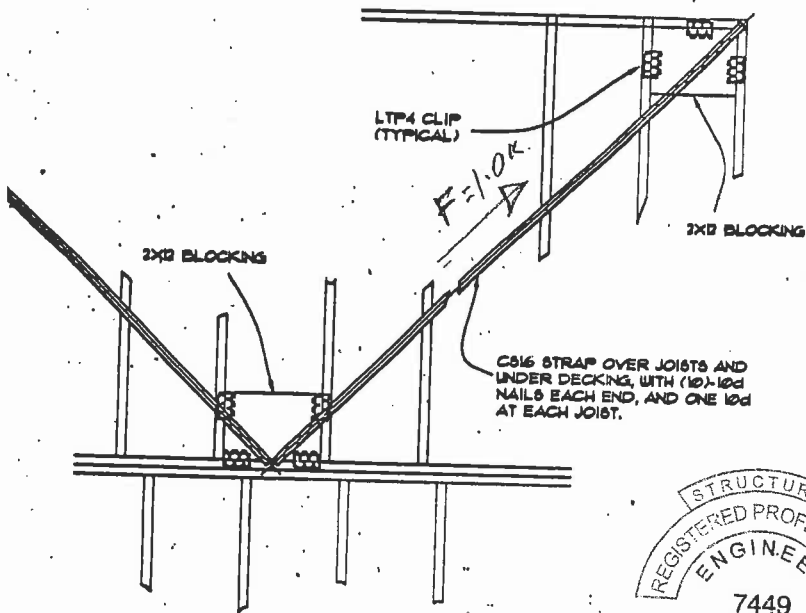
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RICHARD AAYOU



1 PLAN VIEW OF DECK BRACING

2 DECK LEDGER
 3/4" = 1'-0"

SEISMIC

DEAD LOAD = $10 \text{ PSF} \times 13' \times 27' = 3510^{\#} + 12,000^{\text{K}}$
 SEISMIC BASE SHEAR $V = .20(3510 + 12000) = 15.5^{\text{K}}$
 BRACING $F = \sqrt{2} (15.5^{\text{K}}) = 3.1^{\text{K}}$
 USE SIMPSON CS16 STRAP BRACING (2 SETS)

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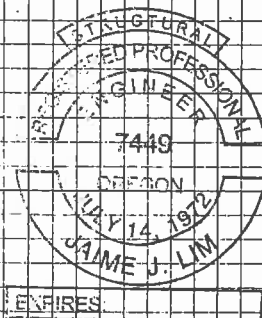
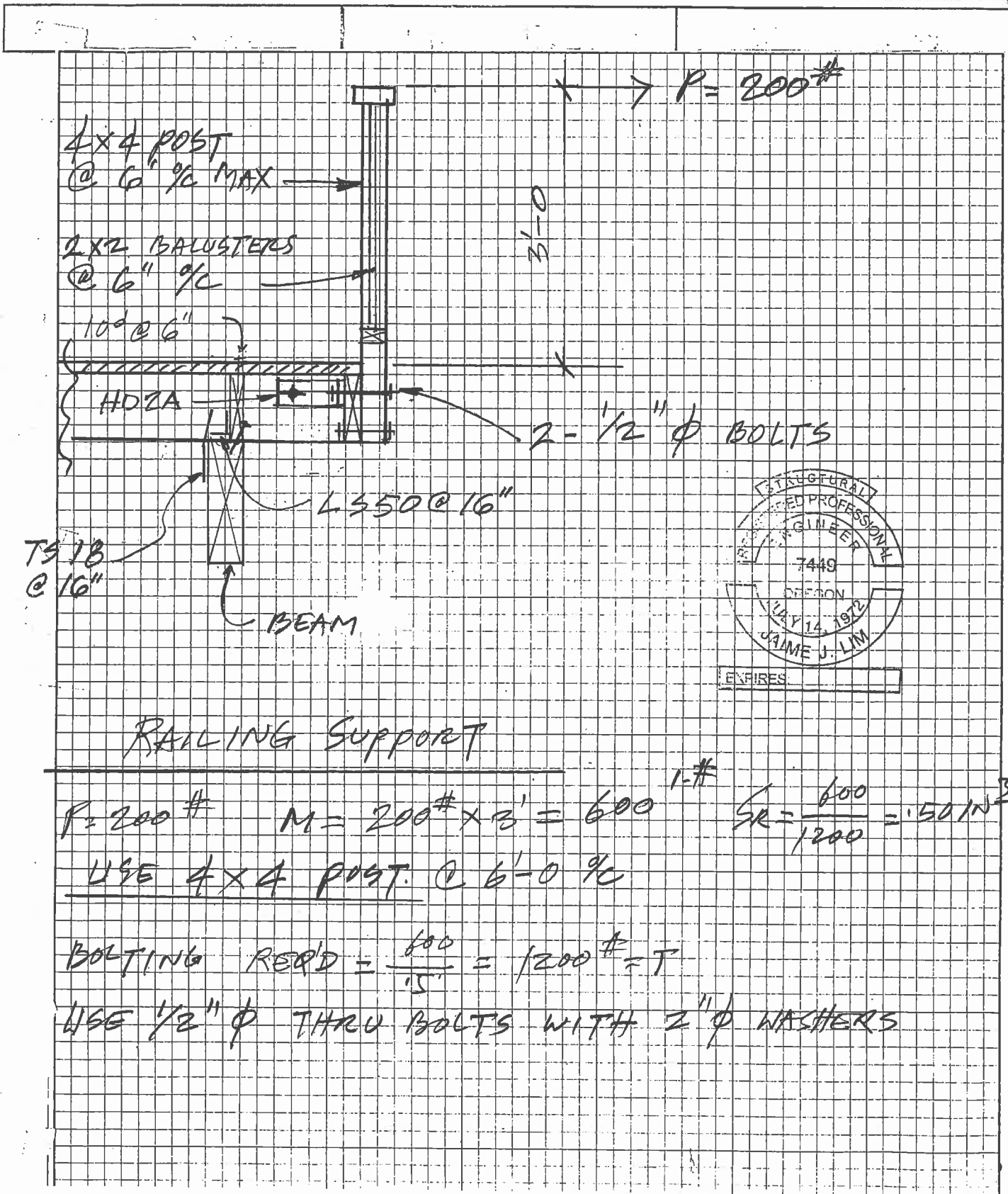
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Fax : (503) 283-4445



RAILING Support

$P = 200 \#$ $M = 200 \# \times 3' = 600 \# \cdot \text{ft}$ $S_R = \frac{600}{1200} = .50 \text{ IN}^3$

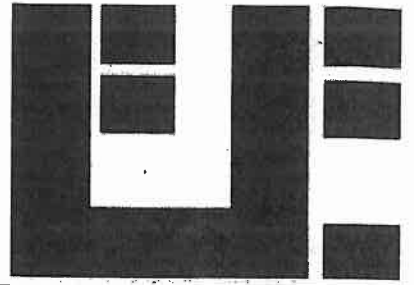
USE 4x4 POST @ 6'-0" OC

BOLTING REQ'D = $\frac{600}{.5} = 1200 \# = T$

USE 1/2" ϕ THRU BOLTS WITH 2" ϕ WASHERS

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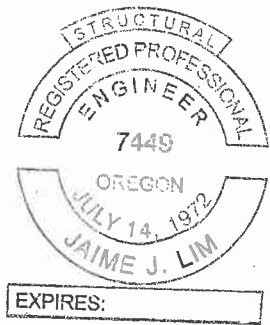
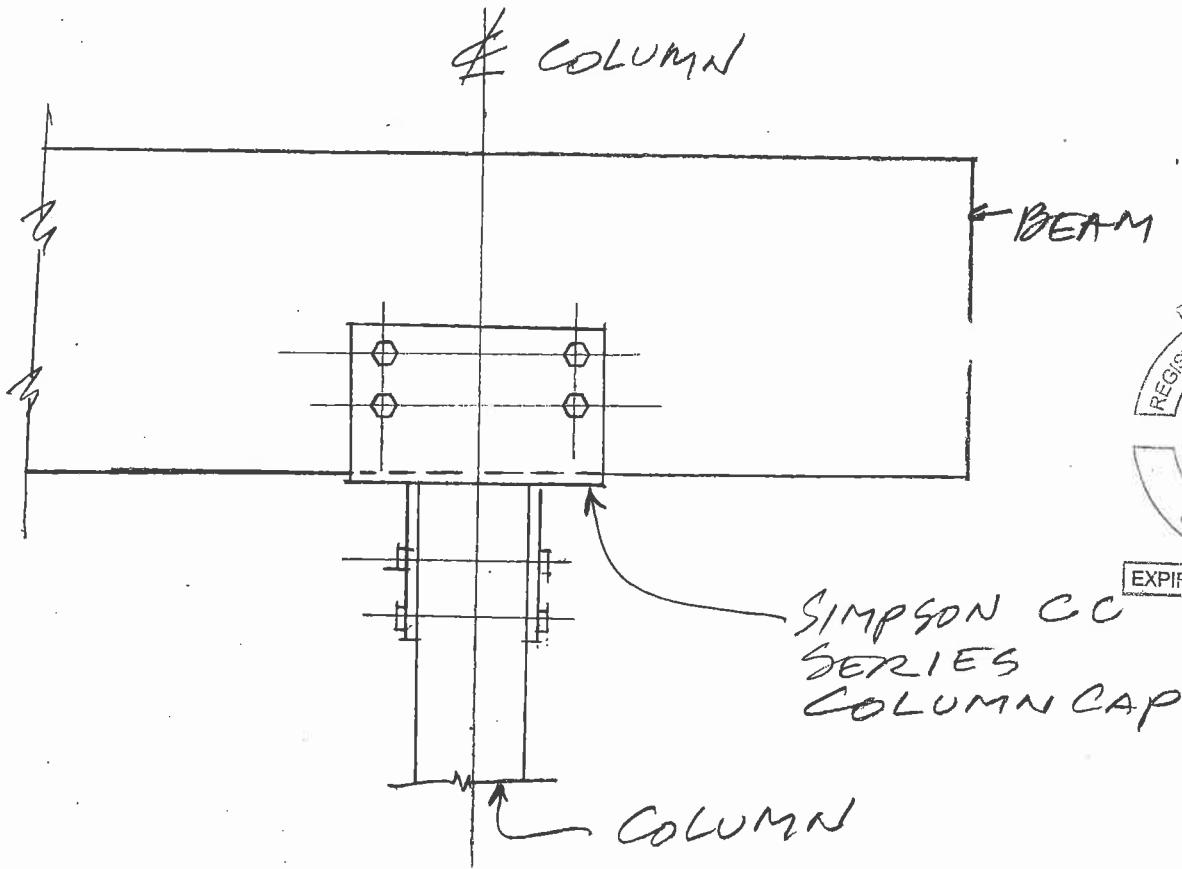
Portland, OR 97217 USA

Email : jaimelim@asianreporter.com

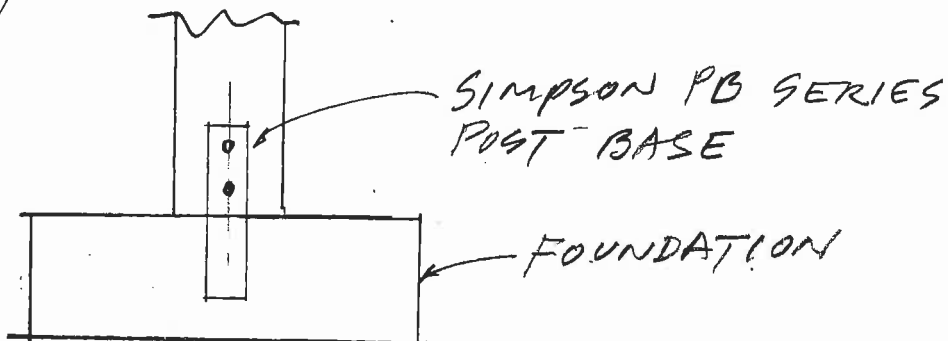
Telephone : (503) 289-7775

Fax : (503) 283-4445

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(X) BEAM COLUMN DETAIL



Project: Richard Ahyou
 Location: Floor Beam B1
 Uniformly Loaded Floor Beam
 [2006 International Building Code(2005 NDS)]
 5.125 IN x 15.0 IN x 13.5 FT
 24F-E4 - E-Rated Western Species - Dry Use
 Section Adequate By: 0.1%
 Controlling Factor: Moment



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 Portland, Oregon 97217

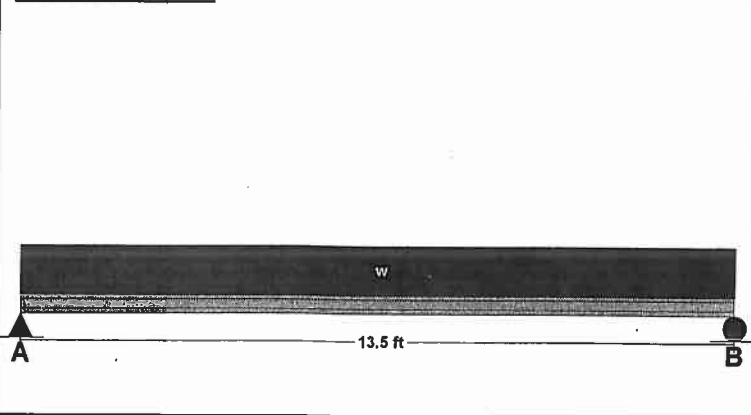
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LOADING DIAGRAM



DEFLECTIONS		Center
Live Load	0.00	IN L/MAX
Dead Load	0.44	in
Total Load	0.44	IN L/371
Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240		

REACTIONS		A	B
Live Load	0	lb	0 lb
Dead Load	10237	lb	10237 lb
Total Load	10237	lb	10237 lb
Bearing Length	3.07	in	3.07 in

BEAM DATA		Center
Span Length	13.5	ft
Unbraced Length-Top	0	ft
Floor Duration Factor	1.00	
Camber Adj. Factor	1	
Camber Required	0.44	
Notch Depth	0.00	

MATERIAL PROPERTIES

24F-E4 - E-Rated Western Species

	Base Values	Adjusted
Bending Stress:	Fb = 2400 psi	Controlled by:
	Fb_cmpr = 1450 psi	Fb' = 2160 psi
	Cd=0.90	
Shear Stress:	Fv = 265 psi	Fv' = 239 psi
	Cd=0.90	
Modulus of Elasticity:	E = 1800 ksi	E' = 1800 ksi
Min. Mod. of Elasticity:	E_min = 930 ksi	E_min' = 930 ksi
Comp. ⊥ to Grain:	Fc ⊥ = 650 psi	Fc ⊥' = 650 psi

Controlling Moment: 34552 ft-lb

6.75 ft from left support
 Created by dead loads only on all span(s).

Controlling Shear: 8395 lb

At a distance d from support.
 Created by dead loads only on all span(s).

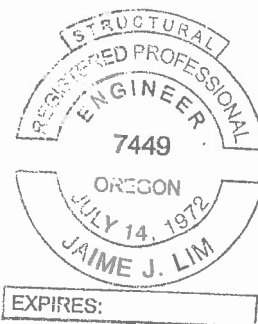
Comparisons with required sections:	Req'd	Provided
Section Modulus:	191.95 in3	192.19 in3
Area (Shear):	52.8 in2	76.88 in2
Moment of Inertia (deflection):	932.74 in4	1441.41 in4
Moment:	34552 ft-lb	34594 ft-lb
Shear:	8395 lb	12223 lb

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 =	0 ft	0 ft
Wall Load	WALL =	1500 plf	

BEAM LOADING

Beam Total Live Load:	wL =	0 plf
Beam Total Dead Load:	wD =	1500 plf
Beam Self Weight:	BSW =	17 plf
Total Maximum Load:	wT =	1517 plf



EXPIRES:

NOTES

Project: Richard Ahyou
 Location: Floor Beam B2
 Uniformly Loaded Floor Beam
 [2006 International Building Code(2005 NDS)]
 5.125 IN x 15.0 IN x 13.5 FT
 24F-E4 - E-Rated Western Species - Dry Use
 Section Adequate By: 134.8%
 Controlling Factor: Moment



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DEFLECTIONS		Center
Live Load	0.00	IN L/MAX
Dead Load	0.19	in
Total Load	0.19	IN L/870
Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240		

REACTIONS		A	B
Live Load	0	lb	0 lb
Dead Load	4365	lb	4365 lb
Total Load	4365	lb	4365 lb
Bearing Length	1.31	in	1.31 in

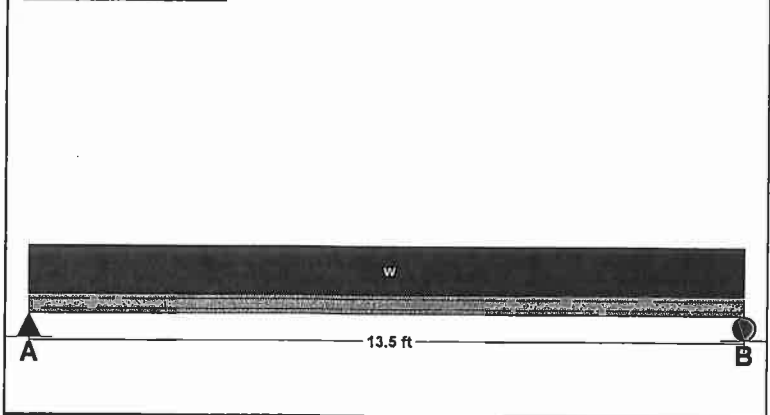
BEAM DATA		Center
Span Length	13.5	ft
Unbraced Length-Top	0	ft
Floor Duration Factor	1.00	
Camber Adj. Factor	1	
Camber Required	0.19	
Notch Depth	0.00	

MATERIAL PROPERTIES			
24F-E4 - E-Rated Western Species			
	Base Values	Adjusted	Controlled by:
Bending Stress:	Fb = 2400 psi	Fb' = 2160 psi	
	Fb_cmpr = 1450 psi	Fb' = 2160 psi	
	Cd=0.90		
Shear Stress:	Fv = 265 psi	Fv' = 239 psi	
	Cd=0.90		
Modulus of Elasticity:	E = 1800 ksi	E' = 1800 ksi	
Min. Mod. of Elasticity:	E_min = 930 ksi	E_min' = 930 ksi	
Comp. ⊥ to Grain:	Fc ⊥ = 650 psi	Fc ⊥' = 650 psi	

Controlling Moment: 14732 ft-lb
 6.75 ft from left support
 Created by dead loads only on all span(s).
Controlling Shear: -3579 lb
 At a distance d from support.
 Created by dead loads only on all span(s).

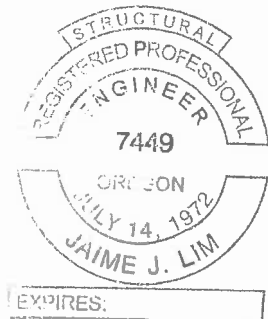
Comparisons with required sections:	Req'd	Provided
Section Modulus:	81.84 in ³	192.19 in ³
Area (Shear):	22.51 in ²	76.88 in ²
Moment of Inertia (deflection):	397.7 in ⁴	1441.41 in ⁴
Moment:	14732 ft-lb	34594 ft-lb
Shear:	-3579 lb	12223 lb

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 =	0 ft	0 ft
Wall Load	WALL =	630 plf	

BEAM LOADING			
Beam Total Live Load:	wL =	0 plf	
Beam Total Dead Load:	wD =	630 plf	
Beam Self Weight:	BSW =	17 plf	
Total Maximum Load:	wT =	647 plf	



NOTES

Project: Richard Ahyou
 Location: Multi-Span Roof Beam RB1
 Multi-Span Roof Beam
 [2006 International Building Code(2005 NDS)]
 3.5 IN x 11.5 IN x 13.5 FT (10 + 3.5)
 #2 - Douglas-Fir-Larch - Dry Use
 Section Adequate By: 13.3%
 Controlling Factor: Moment



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 Portland, Oregon 97217

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DEFLECTIONS	Center	Right
Live Load	0.11 IN L/1082	-0.12 IN L/338
Dead Load	0.05 in	-0.03 in
Total Load	0.16 IN L/750	-0.15 IN L/273
Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/180		

REACTIONS	A	B
Live Load	1750 lb	3189 lb
Dead Load	963 lb	2000 lb
Total Load	2713 lb	5189 lb
Bearing Length	1.24 in	2.37 in

BEAM DATA	Center	Right
Span Length	10 ft	3.5 ft
Unbraced Length-Top	0 ft	0 ft
Unbraced Length-Bottom	10 ft	3.5 ft
Roof Pitch	1	:12
Roof Duration Factor	1.15	
Notch Depth	0.00	

MATERIAL PROPERTIES

#2 - Douglas-Fir-Larch

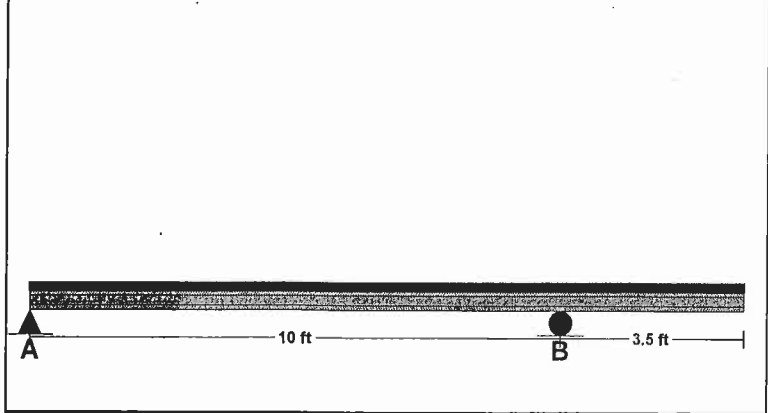
	Base Values	Adjusted
Bending Stress:	Fb = 900 psi Cd=1.15 CF=1.10	Fb' = 1139 psi
Shear Stress:	Fv = 180 psi Cd=1.15	Fv' = 207 psi
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Min. Mod. of Elasticity:	E_min = 580 ksi	E_min' = 580 ksi
Comp. ⊥ to Grain:	Fc ⊥ = 625 psi	Fc ⊥' = 625 psi

Controlling Moment: 6462 ft-lb
 4.8 Ft from left support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2

Controlling Shear: -2684 lb
 At a distance d from right support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2, 3

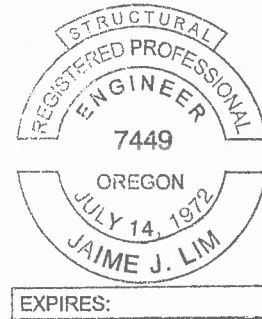
Comparisons with required sections:	Req'd	Provided
Section Modulus:	68.11 in ³	77.15 in ³
Area (Shear):	19.45 in ²	40.25 in ²
Moment of Inertia (deflection):	157.48 in ⁴	443.59 in ⁴
Moment:	6462 ft-lb	7319 ft-lb
Shear:	-2684 lb	5555 lb

LOADING DIAGRAM



ROOF LOADING	Center	Right
Roof Live Load	RLL = 25 psf	25 psf
Roof Dead Load	RDL = 15 psf	15 psf
Roof Tributary Width Side One	TW1 = 7 ft	7 ft
Roof Tributary Width Side Two	TW2 = 7 ft	7 ft
Wall Load	WALL = 0 plf	0 plf

BEAM LOADING	Center	Right
Total Live Load	350 plf	350 plf
Total Dead Load (Adjusted for Roof Pitch)	211 plf	211 plf
Beam Self Weight	9 plf	9 plf
Total Load	569 plf	569 plf



NOTES

Project: Richard Ahyou
 Location: Multi-Span Roof Beam RB2
 Multi-Span Roof Beam
 [2006 International Building Code(2005 NDS)]
 3.5 IN x 11.5 IN x 13.5 FT (10 + 3.5)
 #2 - Douglas-Fir-Larch - Dry Use
 Section Adequate By: 5.9%
 Controlling Factor: Moment



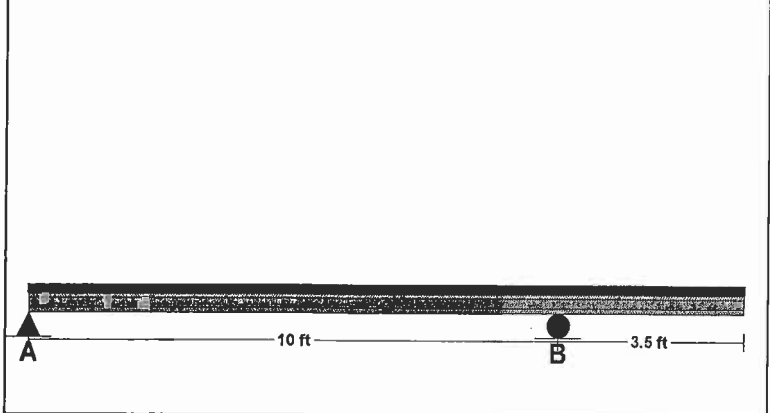
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 First United Engineering
 922 N. Killingsworth St.
 Portland, Oregon 97217

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LOADING DIAGRAM



DEFLECTIONS	Center	Right
Live Load	0.11 IN L/1082	-0.12 IN L/338
Dead Load	0.06 in	-0.06 in
Total Load	0.17 IN L/689	-0.19 IN L/225
Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/180		

REACTIONS	A	B
Live Load	1750 lb	2161 lb
Dead Load	1055 lb	1381 lb
Total Load	2805 lb	3542 lb
Bearing Length	1.28 in	1.62 in

BEAM DATA	Center	Right
Span Length	10 ft	3.5 ft
Unbraced Length-Top	0 ft	0 ft
Unbraced Length-Bottom	10 ft	3.5 ft
Roof Pitch	1	:12
Roof Duration Factor	1.15	
Notch Depth	0.00	

MATERIAL PROPERTIES

#2 - Douglas-Fir-Larch

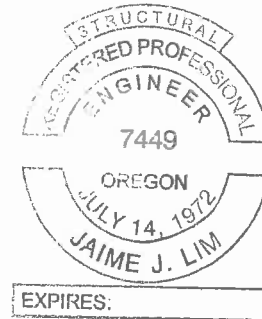
	Base Values	Adjusted
Bending Stress:	Fb = 900 psi Cd=1.15 CF=1.10	Fb' = 1139 psi
Shear Stress:	Fv = 180 psi Cd=1.15	Fv' = 207 psi
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Min. Mod. of Elasticity:	E_min = 580 ksi	E_min' = 580 ksi
Comp. ⊥ to Grain:	Fc-⊥ = 625 psi	Fc-⊥' = 625 psi

ROOF LOADING	Center	Right
Roof Live Load	RLL = 25 psf	25 psf
Roof Dead Load	RDL = 15 psf	15 psf
Roof Tributary Width Side One	TW1 = 7 ft	2 ft
Roof Tributary Width Side Two	TW2 = 7 ft	2 ft
Wall Load	WALL = 0 plf	0 plf

BEAM LOADING	Center	Right
Total Live Load	350 plf	100 plf
Total Dead Load (Adjusted for Roof Pitch)	211 plf	60 plf
Beam Self Weight	9 plf	9 plf
Total Load	569 plf	169 plf

Controlling Moment: 6908 ft-lb
 4.9 Ft from left support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -2438 lb
 At a distance d from right support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2, 3

Comparisons with required sections:	Req'd	Provided
Section Modulus:	72.82 in3	77.15 in3
Area (Shear):	17.67 in2	40.25 in2
Moment of Inertia (deflection):	177.78 in4	443.59 in4
Moment:	6908 ft-lb	7319 ft-lb
Shear:	-2438 lb	5555 lb



NOTES

Project: Richard Ahyou
 Location: Column 1
 Column
 [2006 International Building Code(2005 NDS)]
 5.5 IN x 5.5 IN x 8.0 FT
 #2 - Douglas-Fir-Larch - Dry Use
 Section Adequate By: 16.4%



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 First United Engineering
 922 N. Killingsworth St.
 Portland, Oregon 97217

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VERTICAL REACTIONS

Live Load: Vert-LL-Rxn = 10000 lb
 Dead Load: Vert-DL-Rxn = 5052 lb
 Total Load: Vert-TL-Rxn = 15052 lb

COLUMN DATA

Total Column Length: 8 ft
 Unbraced Length (X-Axis) Ly: 8 ft
 Unbraced Length (Y-Axis) Ly: 8 ft
 Column End Condition-K (e): 1
 Axial Load Duration Factor 1.00

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	<u>Base Values</u>	<u>Adjusted</u>
Compressive Stress:	Fc = 700 psi Cd=1.00 Cp=0.85	Fc' = 595 psi
Bending Stress (X-X Axis):	Fbx = 750 psi Cd=1.00 CF=1.00	Fbx' = 750 psi
Bending Stress (Y-Y Axis):	Fby = 750 psi Cd=1.00 CF=1.00	Fby' = 750 psi
Modulus of Elasticity:	E = 1300 ksi	E' = 1300 ksi
Min. Mod. of Elasticity:	E_min = 470 ksi	E_min' = 470 ksi
Column Section (X-X Axis):	dx = 5.5 in	
Column Section (Y-Y Axis):	dy = 5.5 in	
Area:	A = 30.25 in ²	
Section Modulus (X-X Axis):	Sx = 27.73 in ³	
Section Modulus (Y-Y Axis):	Sy = 27.73 in ³	
Slenderness Ratio:	Lex/dx = 17.45 Ley/dy = 17.45	

LOADING DIAGRAM



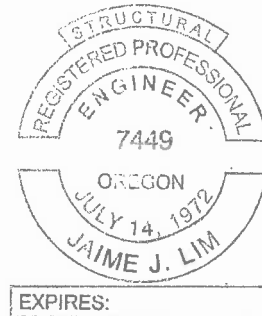
AXIAL LOADING

Live Load: PL = 10000 lb
 Dead Load: PD = 5000 lb
 Column Self Weight: CSW = 52 lb
 Total Load: PT = 15052 lb

Column Calculations (Controlling Case Only):

Controlling Load Case: Axial Total Load Only (L + D)
 Actual Compressive Stress: Fc = 498 psi
 Allowable Compressive Stress: Fc' = 595 psi
 Eccentricity Moment (X-X Axis): Mx-ex = 0 ft-lb
 Eccentricity Moment (Y-Y Axis): My-ey = 0 ft-lb
 Moment Due to Lateral Loads (X-X Axis): Mx = 0 ft-lb
 Moment Due to Lateral Loads (Y-Y Axis): My = 0 ft-lb
 Bending Stress Lateral Loads Only (X-X Axis): Fbx = 0 psi
 Allowable Bending Stress (X-X Axis): Fbx' = 750 psi
 Bending Stress Lateral Loads Only (Y-Y Axis): Fby = 0 psi
 Allowable Bending Stress (Y-Y Axis): Fby' = 750 psi
 Combined Stress Factor: CSF = 0.84

NOTES



Project: Richard Ahyou
 Location: Column 2
 Column
 [2006 International Building Code(2005 NDS)]
 5.5 IN x 5.5 IN x 8.0 FT
 #2 - Douglas-Fir-Larch - Dry Use
 Section Adequate By: 10.8%



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VERTICAL REACTIONS

Live Load: Vert-LL-Rxn = 10000 lb
 Dead Load: Vert-DL-Rxn = 6052 lb
 Total Load: Vert-TL-Rxn = 16052 lb

COLUMN DATA

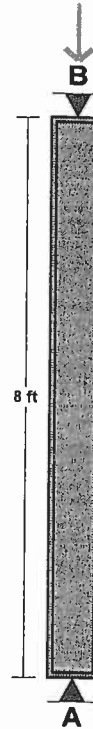
Total Column Length: 8 ft
 Unbraced Length (X-Axis) Ly: 8 ft
 Unbraced Length (Y-Axis) Ly: 8 ft
 Column End Condition-K (e): 1
 Axial Load Duration Factor 1.00

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	<u>Base Values</u>	<u>Adjusted</u>
Compressive Stress:	Fc = 700 psi Cd=1.00 Cp=0.85	Fc' = 595 psi
Bending Stress (X-X Axis):	Fbx = 750 psi Cd=1.00 CF=1.00	Fbx' = 750 psi
Bending Stress (Y-Y Axis):	Fby = 750 psi Cd=1.00 CF=1.00	Fby' = 750 psi
Modulus of Elasticity:	E = 1300 ksi	E' = 1300 ksi
Min. Mod. of Elasticity:	E_min = 470 ksi	E_min' = 470 ksi
Column Section (X-X Axis):	dx = 5.5 in	
Column Section (Y-Y Axis):	dy = 5.5 in	
Area:	A = 30.25 in ²	
Section Modulus (X-X Axis):	Sx = 27.73 in ³	
Section Modulus (Y-Y Axis):	Sy = 27.73 in ³	
Slenderness Ratio:	L _{ex} /dx = 17.45 L _{ey} /dy = 17.45	

LOADING DIAGRAM



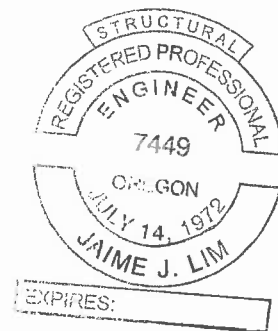
AXIAL LOADING

Live Load: PL = 10000 lb
 Dead Load: PD = 6000 lb
 Column Self Weight: CSW = 52 lb
 Total Load: PT = 16052 lb

Column Calculations (Controlling Case Only):

Controlling Load Case: Axial Total Load Only (L + D)
 Actual Compressive Stress: Fc = 531 psi
 Allowable Compressive Stress: Fc' = 595 psi
 Eccentricity Moment (X-X Axis): Mx-ex = 0 ft-lb
 Eccentricity Moment (Y-Y Axis): My-ey = 0 ft-lb
 Moment Due to Lateral Loads (X-X Axis): Mx = 0 ft-lb
 Moment Due to Lateral Loads (Y-Y Axis): My = 0 ft-lb
 Bending Stress Lateral Loads Only (X-X Axis): Fbx = 0 psi
 Allowable Bending Stress (X-X Axis): Fbx' = 750 psi
 Bending Stress Lateral Loads Only (Y-Y Axis): Fby = 0 psi
 Allowable Bending Stress (Y-Y Axis): Fby' = 750 psi
 Combined Stress Factor: CSF = 0.89

NOTES



Project: Richard Ahyou
 Location: Footing 1
 Footing
 [2006 International Building Code(2005 NDS)]
 Footing Size: 4.0 FT x 4.0 FT x 12.00 IN
 Reinforcement: #4 Bars @ 8.00 IN. O.C. E/W / (6) 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 = 4 ft
Length:	L = 4 ft
Depth:	Depth = 12 in
Effective Depth to Top Layer of Steel:	d = 8.25 in

COLUMN AND BASEPLATE SIZE	
Column Type:	Steel
Column Width:	m = 4 in
Column Depth:	n = 4 in
Baseplate Width:	bsw = 6 in
Baseplate Length:	bsl = 6 in

FOOTING CALCULATIONS

Bearing Calculations:

Ultimate Bearing Pressure:	Qu = 1313 psf
Effective Allowable Soil Bearing Pressure:	Qe = 1350 psf
Required Footing Area:	Areq = 15.56 sf
Area Provided:	A = 16.00 sf

Baseplate Bearing:

Bearing Required:	Bear = 31200 lb
Allowable Bearing:	Bear-A = 99450 lb

Beam Shear Calculations (One Way Shear):

Beam Shear:	Vu1 = 8613 lb
Allowable Beam Shear:	Vc1 = 29700 lb

Punching Shear Calculations (Two Way Shear):

Critical Perimeter:	Bo = 53 in
Punching Shear:	Vu2 = 28823 lb
Allowable Punching Shear (ACI 11-35):	vc2-a = 98381 lb
Allowable Punching Shear (ACI 11-36):	vc2-b = 134888 lb
Allowable Punching Shear (ACI 11-37):	vc2-c = 65588 lb
Controlling Allowable Punching Shear:	vc2 = 65588 lb

Bending Calculations:

Factored Moment:	Mu = 150231 in-lb
Nominal Moment Strength:	Mn = 339930 in-lb

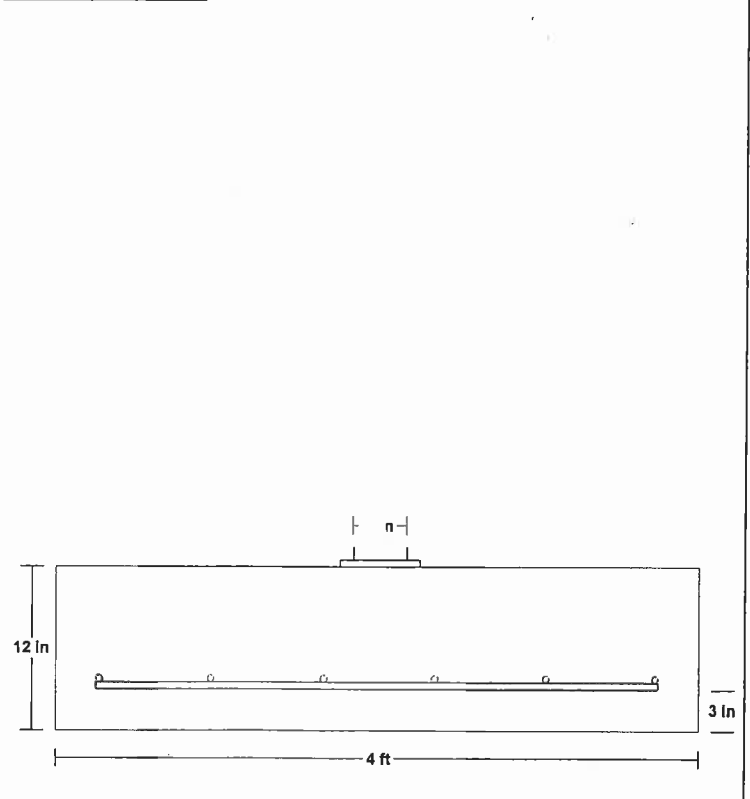
Reinforcement Calculations:

Concrete Compressive Block Depth:	a = 0.46 in
Steel Required Based on Moment:	As(1) = 0.51 in2
Min. Code Req'd Reinf. (Shrink./Temp. (ACI-10.5.4):	As(2) = 1.15 in2
Controlling Reinforcing Steel:	As-reqd = 1.15 in2
Selected Reinforcement:	#4's @ 8.0 in. o.c. e/w (6) Min.
Reinforcement Area Provided:	As = 1.18 in2

Development Length Calculations:

Development Length Required:	Ld = 15 in
Development Length Supplied:	Ld-sup = 18.5 in

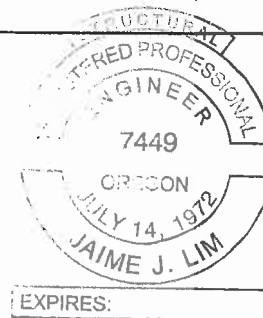
LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL = 15000 lb
Dead Load:	PD = 6000 lb
Total Load:	PT = 21000 lb
Ultimate Factored Load:	Pu = 31200 lb

NOTES



EXPIRES:

Project: Richard Ahyou
 Location: Footing 2
 Footing
 [2006 International Building Code(2005 NDS)]
 Footing Size: 2.75 FT x 2.75 FT x 12.00 IN
 Reinforcement: #4 Bars @ 6.00 IN. O.C. E/W / (5) min.
 Section Footing Design Adequate



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FOOTING PROPERTIES

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

FOOTING SIZE

Width: $W = 2.75$ ft
 Length: $L = 2.75$ ft
 Depth: $\text{Depth} = 12$ in
 Effective Depth to Top Layer of Steel: $d = 8.25$ in

COLUMN AND BASEPLATE SIZE

Column Type: Steel
 Column Width: $m = 4$ in
 Column Depth: $n = 4$ in
 Baseplate Width: $bsw = 6$ in
 Baseplate Length: $bsl = 6$ in

FOOTING CALCULATIONS

Bearing Calculations:

Ultimate Bearing Pressure: $Q_u = 1322$ psf
 Effective Allowable Soil Bearing Pressure: $Q_e = 1350$ psf
 Required Footing Area: $A_{req} = 7.41$ sf
 Area Provided: $A = 7.56$ sf

Baseplate Bearing:

Bearing Required: $Bear = 14800$ lb
 Allowable Bearing: $Bear-A = 99450$ lb

Beam Shear Calculations (One Way Shear):

Beam Shear: $V_{u1} = 2579$ lb
 Allowable Beam Shear: $V_{c1} = 20419$ lb

Punching Shear Calculations (Two Way Shear):

Critical Perimeter: $B_o = 53$ in
 Punching Shear: $V_{u2} = 12414$ lb
 Allowable Punching Shear (ACI 11-35): $vc2-a = 98381$ lb
 Allowable Punching Shear (ACI 11-36): $vc2-b = 134888$ lb
 Allowable Punching Shear (ACI 11-37): $vc2-c = 65588$ lb
 Controlling Allowable Punching Shear: $vc2 = 65588$ lb

Bending Calculations:

Factored Moment: $M_u = 43952$ in-lb
 Nominal Moment Strength: $M_n = 281545$ in-lb

Reinforcement Calculations:

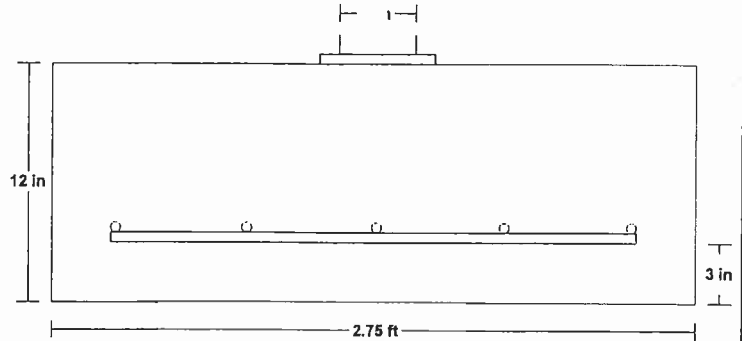
Concrete Compressive Block Depth: $a = 0.56$ in
 Steel Required Based on Moment: $A_s(1) = 0.15$ in²
 Min. Code Req'd Reinf. (Shrink./Temp. (ACI-10.5.4): $A_s(2) = 0.79$ in²
 Controlling Reinforcing Steel: $A_{s-reqd} = 0.79$ in²
 Selected Reinforcement: #4's @ 6.0 in. o.c. e/w (5) Min.
 Reinforcement Area Provided: $A_s = 0.98$ in²

Development Length Calculations:

Development Length Required: $L_d = 15$ in
 Development Length Supplied: $L_{d-sup} = 11$ in

Note: Plain concrete adequate for bending, therefore adequate development length not required.

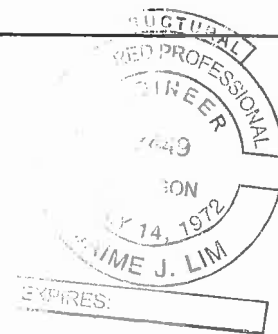
LOADING DIAGRAM



FOOTING LOADING

Live Load: $PL = 7000$ lb
 Dead Load: $PD = 3000$ lb
 Total Load: $PT = 10000$ lb
 Ultimate Factored Load: $P_u = 14800$ lb

NOTES



Project: Richard Ahyou
 Location: Roof Rafter 1
 Roof Rafter
 [2006 International Building Code(2005 NDS)]
 1.5 IN x 7.25 IN x 15.5 FT (13.5 + 2) @ 16 O.C.
 #2 - Douglas-Fir-Larch - Dry Use
 Section Adequate By: 30.9%
 Controlling Factor: Moment



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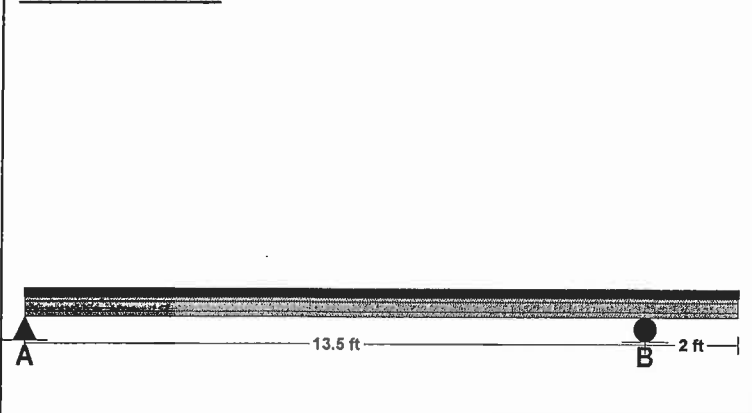
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LOADING DIAGRAM



DEFLECTIONS	Center	Right
Live Load	0.33 IN L/496	0.02 IN L/1588
Dead Load	0.19 in	0.00 in
Total Load	0.51 IN L/316	0.00 IN L/Infinity
Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/180		

RAFTER REACTIONS	LOADS	REACTIONS
Upper Live Load @ A	169 plf	225 lb
Upper Dead Load @ A	99 plf	132 lb
Upper Total Load @ A	268 plf	357 lb
Lower Live Load @ B	222 plf	297 lb
Lower Dead Load @ B	133 plf	178 lb
Lower Total Load @ B	356 plf	475 lb

RAFTER SUPPORT DATA	A	B
Bearing Length	0.38 in	0.51 in

RAFTER DATA	Interior	Eave
Span Length	13.5 ft	2 ft
Rafter Pitch	0	:12
Roof sheathing applied to top of joists-top of rafters fully braced.		
Roof Duration Factor	1.15	
Peak Notch Depth	0.00	
Base Notch Depth	0.00	

MATERIAL PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Bending Stress:	Fb = 900 psi	Fb' = 1428 psi
	Cd=1.15 CF=1.20 Cr=1.15	
Shear Stress:	Fv = 180 psi	Fv' = 207 psi
	Cd=1.15	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Min. Mod. of Elasticity:	E_min = 580 ksi	E_min' = 580 ksi
Comp. ⊥ to Grain:	Fc ⊥ = 625 psi	Fc ⊥' = 625 psi

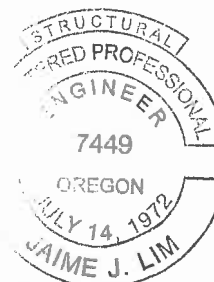
Controlling Moment: 1195 ft-lb
 6.75 Ft from left support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2

Controlling Shear: -339 lb
 At a distance d from right support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2, 3

Comparisons with required sections:	Req'd	Provided
Section Modulus:	10.04 in3	13.14 in3
Area (Shear):	2.46 in2	10.88 in2
Moment of Inertia (deflection):	27.13 in4	47.63 in4
Moment:	1195 ft-lb	1564 ft-lb
Shear:	-339 lb	1501 lb

RAFTER LOADING

Uniform Floor Loading			
Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	15	psf
Slope Adjusted Spans And Loads			
Interior Span:	L-adj =	13.5	ft
Eave Span:	L-Eave-adj =	2	ft
Rafter Live Load:	wL-adj =	33	plf
Eave Live Load:	wL-Eave-adj =	33	plf
Rafter Dead Load:	wD-adj =	20	plf
Rafter Total Load:	wT-adj =	53	plf
Eave Total Load:	wT-Eave-adj =	53	plf



EXPIRES:

NOTES

18

Project: Richard Ahyou
 Location: Deck Joist 1 2 x 12 @ 16" o/c
 Multi-Span Floor Beam
 [2006 International Building Code(2005 NDS)]
 1.5 IN x 11.25 IN x 11.0 FT (10 + 1)
 #2 - Douglas-Fir-Larch - Dry Use
 Section Adequate By: 83.1%
 Controlling Factor: Moment



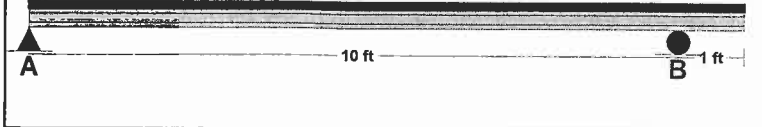
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LOADING DIAGRAM



DEFLECTIONS	Center	Right
Live Load	0.06 IN L/1889	-0.02 IN L/590
Dead Load	0.02 in	-0.01 in
Total Load	0.08 IN L/1466	-0.03 IN L/460
Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240		

REACTIONS	A	B
Live Load	402 lb	486 lb
Dead Load	118 lb	144 lb
Total Load	520 lb	630 lb
Bearing Length	0.55 in	0.67 in

BEAM DATA	Center	Right
Span Length	10 ft	1 ft
Unbraced Length-Top	0 ft	0 ft
Unbraced Length-Bottom	10 ft	1 ft
Floor Duration Factor	1.00	
Notch Depth	0.00	

MATERIAL PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Bending Stress:	Fb = 900 psi Cd=1.00 CF=1.00	Fb' = 900 psi
Shear Stress:	Fv = 180 psi Cd=1.00	Fv' = 180 psi
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Min. Mod. of Elasticity:	E_min = 580 ksi	E_min' = 580 ksi
Comp. ⊥ to Grain:	Fc ⊥ = 625 psi	Fc ⊥' = 625 psi

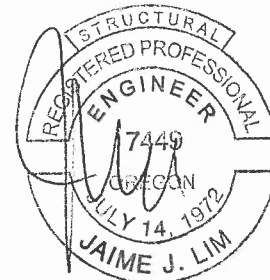
FLOOR LOADING	Center	Right
Floor Live Load	FLL = 60 psf	60 psf
Floor Dead Load	FDL = 15 psf	15 psf
Floor Tributary Width Side One	TW1 = 0.7 ft	0.7 ft
Floor Tributary Width Side Two	TW2 = 0.7 ft	0.7 ft
Wall Load	WALL = 0 plf	0 plf

BEAM LOADING	Center	Right
Reduced Floor Live Load	60 psf	60 psf
Total Live Load	80 plf	80 plf
Total Dead Load	20 plf	20 plf
Beam Self Weight	4 plf	4 plf
Total Load	104 plf	104 plf

Controlling Moment: 1296 ft-lb
 5.0 Ft from left support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -432 lb
 At a distance d from right support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2, 3

Comparisons with required sections:	Req'd	Provided
Section Modulus:	17.28 in3	31.64 in3
Area (Shear):	3.6 in2	16.88 in2
Moment of Inertia (deflection):	54.26 in4	177.98 in4
Moment:	1296 ft-lb	2373 ft-lb
Shear:	-432 lb	2025 lb

NOTES



EXPIRES:

Project: Richard Ahyou
 Location: Deck Joist 2 @ 8" o/c Hot Tub Support Joist
 Multi-Loaded Multi-Span Beam
 [2006 International Building Code(2005 NDS)]
 1.5 IN x 11.25 IN x 11.0 FT (10 + 1)
 #2 - Douglas-Fir-Larch - Dry Use
 Section Adequate By: 1.2%
 Controlling Factor: Moment



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DEFLECTIONS	Center	Right
Live Load	0.12 IN L/1000	-0.04 IN L/297
Dead Load	0.02 in	-0.01 in
Total Load	0.14 IN L/844	-0.05 IN L/252
Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240		

REACTIONS	A	B
Live Load	506 lb	956 lb
Dead Load	119 lb	176 lb
Total Load	625 lb	1132 lb
Bearing Length	0.67 in	1.21 in

BEAM DATA	Center	Right
Span Length	10 ft	1 ft
Unbraced Length-Top	0 ft	0 ft
Unbraced Length-Bottom	10 ft	1 ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

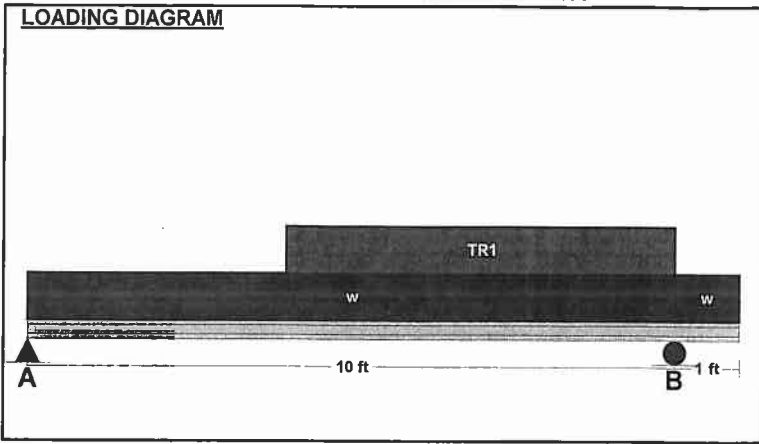
MATERIAL PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Bending Stress:	Fb = 900 psi Cd=1.00 CF=1.00	Fb' = 900 psi
Shear Stress:	Fv = 180 psi Cd=1.00	Fv' = 180 psi
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Min. Mod. of Elasticity:	E_min = 580 ksi	E_min' = 580 ksi
Comp. ⊥ to Grain:	Fc-⊥ = 625 psi	Fc-⊥' = 625 psi

Controlling Moment: 2345 ft-lb
 5.6 Ft from left support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -854 lb
 At a distance d from right support of span 2 (Center Span)
 Created by combining all dead loads and live loads on span(s) 2, 3

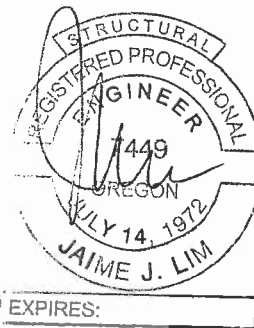
Comparisons with required sections:	Req'd	Provided
Section Modulus:	31.27 in3	31.64 in3
Area (Shear):	7.12 in2	16.88 in2
Moment of Inertia (deflection):	107.95 in4	177.98 in4
Moment:	2345 ft-lb	2373 ft-lb
Shear:	-854 lb	2025 lb



UNIFORM LOADS	Center	Right
Uniform Live Load	40 plf	40 plf
Uniform Dead Load	15 plf	15 plf
Beam Self Weight	4 plf	4 plf
Total Uniform Load	59 plf	59 plf

TRAPEZOIDAL LOADS - CENTER SPAN	
Load Number	One
Left Live Load	170 plf
Left Dead Load	15 plf
Right Live Load	170 plf
Right Dead Load	15 plf
Load Start	4 ft
Load End	10 ft
Load Length	6 ft

NOTES



OVERHEAD UTILITY LINES

POWER POLE

SIDEWALK

SITE PLAN

SCALE: 1"=10'-0"

PROPERTY ADDRESS:
2155 5TH AVE
WEST LINN
OREGON 97068

LOT SIZE: 50' X 200'

LEGEND:

--- PROPERTY LINE

--- UTILITIES

12" DBH
CHERRY

PAVED WALK

COVERED
PORCH



4" DBH
MAPLE

CONC.

PORCH

2155 5TH AVE
WEST LYNN, OR
97068

PAVED
DRIVEWAY

A.C.

168'
ELEV.

CONTAINMENT FOR
CONSTRUCTION
WASTE

EXISTING
ELEVATED
DECK
ELEVATION +10'

EXISTING
PAVED
PATIO
ELEVATION 0'

EXISTING
LOWER
DECK
ELEVATION +2'

100'
200' MARK OF
LONG PROPERTY

158'
ELEV.



36" DBH
OAK