B

Type

Plans

BLD 15-1223

Permit Number

21780

Street Number

Hwy 1

Street Name

TIM

Community Code

109-070-009

APN

Statement of Special Inspections

CNI-033

THESE ATTACHMENTS ARE PART OF THE APPROVED PLANS. * DO NOT REMOVE THEM *

21780 Hwy 1
Name of Owner

Address

BLD 15-1223
Permit Number

Timber Cove Inn
Job Description

APR 17 2015
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT
BUILDING PLAN CHECK
PRELIM # B2015-1223

This Statement of Special Inspections is submitted to outline the requirements of CBC Chapter 17.

Included are:

- Schedule of special inspections and tests applicable to this project
  - Special inspections, per Section 1704
  - Special inspection for seismic resistance, per Sections 1707 and 1708
  - Structural observations, per Section 1710
  - Material testing and/or load testing, per Sections 1711 through 1716
- List of the special inspectors, testing agencies, and registered design professionals that will be retained to conduct the applicable tests, observations, and testing required.
- Contractor's statement of responsibility, per Section 1709

Special inspections and testing, and structural observations, shall be performed in accordance with the approved plans and specifications, this statement, approved testing procedures, applicable listing information for fabricated items, and CBC Section 17.

The Schedule of Special Inspections summarizes the special inspections and tests required. Special inspectors shall refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests or observations required by the approved plans, specifications, or required by the building official shall also be performed.

Interim reports will be submitted to the building official and the registered design professional in responsible charge, in accordance with CBC Sections 1704.1.2 and 1710.

At the conclusion of work included in the permit, a report of special inspections and structural observations shall be submitted to the building official. This final report shall document:

- Required special inspections
- Final results of structural testing
- Correction of discrepancies noted in inspections
- Written statement of structural observations, and identify any reported deficiencies which, to the best of the structural observer's knowledge, have not been resolved

This plan has been developed with the understanding that the building official shall:

- Review and approve the qualifications of special inspectors who shall perform required inspections
- Review submitted inspection reports
- Perform inspections as required by the locally adopted building codes

Prepared by:

KEVIN ZUCCO / ZFA

Registered Design Professional in Responsible Charge

S4861

License Number

Signature

4.16.15

Date

Owner's Authorization:

Owner

Signature Date

Building official's acceptance:

B. Walters

Building official

Signature

4/17/15

Date

Schedule of Inspections, Testing Agencies, and Inspectors

The following are the testing agencies, registered design professionals, and special inspectors that will be retained to conduct tests, inspections, and structural observations for this project:

Responsibility	Firm	Address, telephone, e-mail
1. Special Inspection (Except for Geotechnical)		
2. Material Testing		
3. Geotechnical Inspections		
4. Structural Observations		

Seismic Requirements (Section 1705.3.6):

Identify the designated seismic systems and seismic-force-resisting systems subject to special inspections, per CBC Sections 1705.3 through 1705.3.5. Identify additional special inspection and testing required, per CBC Sections 1707 and 1708.

N/A

Summary of Required Special Inspections, Structural Testing, and Structural Observations:

Brief description of required special inspections and structural observations for this project. Full schedule of inspections are those that are checked off on the following pages. Include additional sheets as necessary to identify frequency and extent of structural observations.

Items requiring special Inspection are: Field & shop welding of steel, concrete construction and Epoxy installed dowels.

-Observation and verification of bearing capacity and suitable material at (2) new proposed post foundations

Schedule of Special Inspections

Notations used in this table:

Column headers:

C: Full-time observation of work by an approved special inspector while the work is being performed.

P: Intermittent observation of work by an approved special inspector where the work has been performed and at the completion of work.

Box entries:

X: Is placed in the appropriate column denoting either "C" continuous or "P" periodic inspections.

--: Denotes an activity that is either a one-time activity or whose frequency is defined in some other manner.

Notes/Referenced Standards: Indicates the applicable reference standard applicable to the criteria, method and frequency of the special inspection or testing required. Additional notes may be included in this box denoting frequency of inspections or the special inspection agency responsible for the particular inspection item.

Additional details regarding inspections and tests are provided in the project specifications or notes on the drawings.

Verification and Inspection	C	P	X if Req'd	Notes/ Referenced Standards
1704.2 Inspection of fabricators:				
1. Fabrication and implementation procedures	--	--		
2. Fabricator approval	--	--		
1704.3 Steel construction:				
Material verification of high strength bolts, nuts, and washers:				
1. Identification markings conform to ASTM standards specified in the approved construction documents		X		AISC 360: A3.3
2. Manufacturer's certificate of compliance required	--	--		
Inspection of high strength bolting:				
1. Snug-tight bolts		X		AISC 360: M2.5 CBC 1704.3.3
2. Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation		X		
3. Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation	X			
Material verification of structural steel and cold-formed steel deck:				
1. For structural steel, identification markings to conform to AISC 360		X		AISC 360: M5.5
2. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents		X		Applicable ASTM material standards
3. Manufacturer's certified test reports		X		
Material verification of weld filler materials:				
1. Identification markings to conform to AWS specification in the approved construction documents		X	X	AISC 360: A3.5 Applicable AWS A5 documents
2. Manufacturer's certificate of compliance required		X		
Inspection of welding:				
1. Structural steel and cold-formed steel deck:				
a) Complete and partial joint penetration groove welds	X		X	AWS D1.1 CBC 1704.3.1
b) Multipass fillet welds	X			
c) Single-pass fillet welds >5/16"	X		X	
d) Plug and slot welds	X			
e) Single-pass fillet welds ≤ 5/16"		X	X	
f) Floor and roof deck welds		X		AWS D1.3

2. Reinforcing steel				
a) Verification of weldability of reinforcing steel other than ASTM A706		X		AWS D1.4 ACI 318: 3.5.2
b) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement	X			
c) Shear reinforcement	X			
d) Other reinforcing steel				
Inspection of steel frame joint details for compliance:				
1. Details such as bracing and stiffening		X		CBC 1704.3.2
2. Member locations		X		
3. Application of joint details at each connection		X		
1704.4 Concrete construction:				
Inspection of reinforcing steel, including prestressing tendons, and placement		X	X	ACI 318: 3.5, 7.1-7.7 CBC 1913.4
Inspection of reinforcing steel welding	--	--		AWS D1.4 ACI 318: 3.5.2
Inspection of bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased or where strength design is used	X		X	ACI 318: 8.1.3, 21.2.8 CBC 1911.5, 1912.1
Inspection of anchors installed in hardened concrete		X	X	ACI 318: 3.8.6, 8.1.3, 21.2.8 CBC 1912.1
Verify use of required design mix		X	X	ACI 318: Ch.4, 5.2-5.4 CBC 1904.2.2, 1913.2, 1913.3
At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete	X		X	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8 CBC 1913.10
Inspection of concrete and shotcrete placement for proper application techniques	X			ACI 318: 5.9, 5.10 CBC 1913.6-1913.8
Inspection of prestressed concrete:				
1. Application of prestressing forces	X			ACI318: 18.20
2. Grouting of bonded prestressing tendons in the seismic-force-resisting system	X			ACI 318:18.18.4
Erection of precast concrete members		X		ACI 318: Ch. 16
Verification of in-situ concrete strength, prior to stressing of tendons in posttensioned concrete and prior to removal of shores and forms from beams and structural slabs		X		ACI 318: 6.2
Inspect formwork for shape, location and dimensions of the concrete member being formed		X		ACI 318: 6.1.1
1704.5 Masonry construction:				
Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified		X		TMS 602/ACI 530.1/ASCE 6: Art.1.5
Verification of f'_m and f'_{AAC} prior to construction except where specifically exempted by this code		X		TMS 602/ACI 530.1/ASCE 6: Art.1.4B

Verification of slump flow and VSI as delivered to the site for self-consolidating grout	X			TMS 602/ACI 530.1/ASCE 6: Art.1.5B.1.b.3
As masonry construction begins, the following shall be verified to ensure compliance:				
1. Proportions of site-prepared mortar		X		TMS 602/ACI 530.1/ASCE 6: Art.2.6A
2. Construction of mortar joints		X		TMS 602/ACI 530.1/ASCE 6: Art.3.3B
3. Location of reinforcement, connectors, prestressing tendons and anchorages		X		TMS 602/ACI 530.1/ASCE 6: Art.3.4, 3.6A
4. Prestressing technique		X		TMS 602/ACI 530.1/ASCE 6: Art.3.6B
5. Grade and size of prestressing tendons and anchorages		X		TMS 602/ACI 530.1/ASCE 6: Art.2.4B, 2.4H
During construction the inspection program shall verify:				
1. Size and location of structural elements		X		TMS 602/ACI 530.1/ASCE 6: Art.3.3F
2. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction		X		TMS 402/ACI 530.1/ASCE 5: Sec. 1.2.2(e), 1.16.1
3. Specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages		X		TMS 402/ACI 530.1/ASCE 5: Sec. 1.15 TMS 602/ACI 530.1/ASCE 6: Art.2.4, 3.4
4. Welding of reinforcing bars	X			TMS 402/ACI 530.1/ASCE 5: Sec. 2.1.9.7.2, 3.3.3.4(b)
5. Preparation, construction and protection of masonry during cold weather (temp. below 40°F) or hot weather (temp. above 90°F)		X		CBC 2104.3, 2104.4 TMS 602/ACI 530.1/ASCE 6: Art.1.8C, 1.8D
6. Application and measurement of prestressing force	X			TMS 602/ACI 530.1/ASCE 6: Art.3.6B
Preparation of any required grout specimens and/or prisms shall be observed	X			CBC 2105.2.2, 2105.3 TMS 602/ACI 530.1/ASCE 6: Art.1.4
1704.7 Verification and inspection of soils:				
Verify materials below shallow foundations are adequate to achieve the design bearing capacity		X	X	At new foundations
Verify excavations are extended to proper depth and have reached proper material		X	X	
Perform classification and testing of compacted fill materials		X		
Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill	X			
Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly		X		
1704.8 Verification and inspection of driven deep foundation elements:				
Verify element materials, sizes and lengths comply with the requirements	X			
Determine capacities of test elements and conduct additional load tests, as required	X			
Observe driving operations and maintain complete and accurate records for each element	X			
Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element	X			
For steel elements, perform additional inspections in accordance with Section 1704.3	--	--		

For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1704.4	--	--		
For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge	--	--		
1704.9 Verification and inspection of cast-in-place deep foundation elements:				
Observe drilling operations and maintain complete and accurate records for each element	X			
Verify placement locations and plumbness, confirm element diameters, bell diameters, lengths, embedment into bedrock and adequate end-bearing strata capacity. Record concrete or grout volumes	X			
For concrete elements, perform additional inspections in accordance with Section 1704.4	--	--		
1704.10 Helical pile foundations				
Record installation equipment used, pile dimensions, tip elevations, final depth, final installation torque, and other pertinent data as required.	X			
1704.11 Vertical masonry foundation elements:				
Inspections shall be performed in accordance with Section 1704.5 for vertical masonry foundation elements	--	--		
1704.12 Sprayed fire-resistant materials:				
Special inspections shall include the following tests and observations to demonstrate compliance with the listing and fire resistance rating:				
1. Condition of substrate	--	--		
2. Thickness of application	--	--		CBC 1704.12.4.1-1704.12.4.3 ASTM E 605
3. Density in pounds per cubic foot	--	--		ASTM E 605
4. Bond strength adhesion/cohesion	--	--		CBC 1704.12.6.1-1704.12.6.3 ASTM E 736
5. Condition of finished application	--	--		
1704.13 Mastic and intumescent fire-resistant coatings:				
Special inspection for mastic and intumescent fire resistive coatings applied to structural elements and decks	--	--		AWCI 12-B
1704.14 Exterior insulation and finish systems (EIFS):				
Special inspection of the water-resistive barrier coating when installed over a sheathing substrate	--	--		ASTM E 2570
1704.15 Special cases:				
Construction materials and systems that are alternatives to materials and systems prescribed by the applicable code	--	--		
Unusual design applications of materials described in the applicable code	--	--		
Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in the applicable code or referenced standards	--	--		List code reports (attached to construction documents) for each applicable material/system
1704.16 Smoke control:				
During erection of ductwork and prior to concealment for the purpose of leakage testing and recording of device location	--	--		
Prior to occupancy and after sufficient completion for the purposes of pressure difference testing, flow measurements and detection and control verification	--	--		

1707 Special inspections for seismic resistance				
1707.2 Structural steel:				
Structural steel in structures not specifically detailed for seismic resistance, with a response modification coefficient, R, or 3 or less, excluding cantilever column systems	--	--		AISC 341
For ordinary moment frames, ultrasonic and magnetic particle testing of complete joint penetration groove welds are only required for demand critical welds	--	--		AISC 341
1707.3 Structural wood:				
Field gluing operations of elements of the seismic-force-resisting system	X			
Nailing, bolting, fastening, and other fastening of components within the seismic-force-resisting system, where the fastener spacing of the sheathing is 4 inches or less on center.		X		
1707.4 Cold-formed steel light-frame construction:				
Welding operations of elements of the seismic-force-resisting system		X		
Screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system where the sheathing is wood structural panels or steel sheets with fastener spacing is 4 inches or less on center		X		
1707.5 Storage racks and access floors:				
Required during the anchorage of access floors and storage racks 8 feet or greater in height		X		
1707.6 Architectural components:				
Erection and fastening of exterior cladding (more than 5 psf), interior (more than 15 psf) and exterior nonbearing walls, and interior and exterior veneer (more than 30 feet in height and more than 5 psf)		X		
1707.7 Mechanical and electrical components:				
Anchorage of electrical equipment for emergency or standby power systems		X		
Installation of anchorage of other electrical equipment		X		
Installation of piping systems intended to carry flammable, combustible, or highly toxic contents and their associated mechanical units		X		
Installation of HVAC ductwork that will contain hazardous materials		X		
Installation of vibration isolation systems where the construction documents require a nominal clearance of ¼ inch or less between the equipment support frame and restraint		X		
1707.8 Designated seismic system verifications:				
Examine designated seismic systems requiring qualification and verify that the label, anchorage or mounting conforms to the certificate of compliance	--	--		CBC 1708.4 ASCE 7: 13.2.2
1707.9 Seismic isolation system:				
Fabrication and installation of isolator units and energy dissipation devices that are part of the seismic isolation system		X		ASCE 7: 17.8
1708 Structural testing for seismic resistance				
1708.2 Concrete reinforcement:				
Mill test reports provided for each shipment of reinforcement used to resist earthquake-induced flexural and axial forces in special moment frames, special structural walls, and coupling beams connecting special structural walls.	--	--		ASTM A 615 CBC 1613 ACI 318: 21.1.5.2

Chemical tests performed to determine weldability of reinforcement complying with ASTM A615	--	--		ASTM A 615 ACI 318: 3.5.2
1708.3 Structural steel:				
Testing in accordance with the quality assurance plan requirements.	--	--		AISC 341
For ordinary moment frames, ultrasonic and magnetic particle testing of welds is only required for demand critical welds	--	--		
1708.4 Seismic certification of nonstructural components:				
Certification shall be based on an actual test on a shake table, by three-dimensional shock tests, by an analytical method using dynamic characteristics and forces, by the use of experience data, or by more rigorous analysis.	--	--		ASCE 7: 13.2.1 and 13.2.2
1708.5 Seismically isolated structures				
Required testing, per Section 17.8 of ASCE 7	--	--		ASCE 7: 17.8
1710 Structural observations				
Prior to the commencement of observations, the structural observer shall submit to the building official a written statement identifying the frequency and extent of structural observations	--	--		
At the conclusion of work included in the permit, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies which have not been resolved	--	--		
1711 Design strength of materials				
Design strengths and permissible stresses of any structural material that are identified by a manufacturer's designation as to manufacture and grade by mill tests, or otherwise confirmed to the satisfaction of the building official, shall conform to the applicable specifications	--	--		
Materials that are not specifically provided for in the applicable code shall justify design strengths and permissible stresses to the satisfaction of the building official	--	--		
1714 In-Situ load tests				
An applicable load test procedure and acceptance criteria in the standard applies	--	--		CBC Chapter 35, 1714.3.2
Standard load test procedure is not specified, existing structure is subjected to a test procedure developed by a registered design professional	--	--		CBC 1604.3, 1714.3.2
1715 Preconstruction load tests				
An applicable load test procedure and acceptance criteria in the standard applies	--	--		CBC Chapter 35, 1715.3
Standard load test procedure is not specified, existing structure is subjected to a test procedure developed by a registered design professional	--	--		CBC Chapter 35, 1715.3.1, 1604.3
Wall and partition assemblies	--	--		
Exterior window and door assemblies	--	--		

Contractor Responsibility

Per Section 1709, each contractor responsible for the construction of a main seismic-force resisting system, designated seismic system or a seismic-resisting component listed in the Statement of Special Inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the Statement of Special Inspections.

Each contractor responsible for the construction of the applicable system or component as specified above shall use the following lines to enter their name, signature, company, license number, date, and particular system or component that they are taking responsibility for prior to commencement of work on the indicated system or component. A copy of this page shall be presented to the building official, and it is the contractor's responsibility to also provide the owner a copy of this document.

Name

Signature

Company

License Number

Date

Main seismic-force resisting system or designated seismic system or seismic-force resisting component

Name

Signature

Company

License Number

Date

Main seismic-force resisting system or designated seismic system or seismic-force resisting component

2013 CALGreen Checklist for Residential Additions and Alterations

BPC-36

THESE ATTACHMENTS ARE PART OF THE APPROVED PLANS.
* DO NOT REMOVE THEM *

This checklist is effective January 1, 2014 and applies to Additions and Alterations of low-rise residential buildings including hotels, motels, lodging houses, dwellings, dormitories, condominiums, shelters, congregate residences, employee housing, factory-built housing and other types of dwellings with sleeping accommodations. Detached "U" occupancy buildings are not subject to the requirements of CALGreen. Existing site and landscaping improvements that are not otherwise disturbed are also not subject to the requirements of CALGreen.

RECEIVED
2015
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT
BUILDING PLAN CHECK

APPENDIX A4

PERMIT # B2015-1223

Project Name: TIMBER COVE INN: 400/500 WING REPAIRS

Project Address: 21780 COAST HIGHWAY 1, JENNER, CA 95450

Project Description: REPAIR/REPLACEMENT OF DAMAGED BEAMS & POSTS

INSTRUCTIONS:

A. For **Owner-Builder permits** – The Owner ***or*** the Owner's agent shall:

1. Complete the project information above.
2. Read this checklist and understand the project requirements.
3. Consult with PRMD Plan Check staff to determine if any mandatory CALGreen measure(s) is not applicable to the project and mark accordingly in **Column 2** of the checklist. Provide an explanation for why each measure to be marked "N/A" is not applicable to the project.
4. Complete the CALGreen acknowledgement in Section 1 on the last page of the checklist.
5. Submit the entire form to PRMD along with the building permit application.

B. For **permits issued to Licensed Contractors** – The Owner ***and*** the Contractor shall:

1. Be sure that the project information above is completed.
2. Read this checklist and understand the project requirements.
3. Consult with Plan Check staff to determine if any mandatory CALGreen measure(s) is not applicable to the project and mark accordingly in Column 2 of the checklist. Provide an explanation for why each measure to be marked "N/A" is not applicable to the project.
4. Complete and sign (both Owner and Contractor or their authorized agents) the CALGreen acknowledgement in Section 1 on the last page of the checklist.
5. Be sure that the entire CALGreen Checklist is submitted to PRMD with the building permit application.

C. In **Column 3**, PRMD Building Inspection staff will verify those measures checked in Column 3 of the checklist under the "County Staff" heading.

Column 1 Feature or Measure	Column 2 Project Requirements *Must be incorporated into project unless measure is not applicable (N/A).*	Column 3 Compliance Verified *Complete after implementation and prior to final inspection approval*
See Chapter 4 of the 2013 California Green Building Code for complete descriptions of features or measures listed here.	**Mandatory Prerequisites**	**Building Inspector**
4.1 PLANNING AND DESIGN	*All checked items are required for the project*	*Complete prior to Final Inspection*
4.106.2 A plan is developed and implemented to manage storm water drainage during construction. See Sonoma County Code Chapter 11A (Stormwater Quality) for additional requirements.	☒ or ☐ N/A	☐
4.106.3 Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.	☒ or ☐ N/A	☐
4.2 ENERGY EFFICIENCY	*All checked items are required*	*Complete prior to Final Inspection*
4.201.1 Building meets or exceeds the requirements of the California Building Energy Efficiency Standards [1].	☒ or ☐ N/A	☐
4.3 WATER EFFICIENCY AND CONSERVATION	*All checked items are required unless N/A*	*Complete prior to Final Inspection*
4.303.1 Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) installed in residential buildings shall comply with the prescriptive requirements of Sections 4.303.1.1 through 4.303.1.4.4.	☒ or ☐ N/A	☐
4.303.2 Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the California Plumbing Code, and shall meet the applicable referenced standards.	☒ or ☐ N/A	☐
4.304.1 Automatic irrigation systems installed at the time of final inspection shall be weather- or soil moisture-based.	☒ or ☐ N/A	☐
4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY	*All checked items are required*	*Complete prior to Final Inspection*
4.406.1 Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the enforcing agency.	☒ or ☐ N/A	☐
4.408.1 Construction waste generated at the site is diverted to recycle or salvage in compliance with at least a 50 percent reduction.	☒ or ☐ N/A	☐

[1] Provisions of the 2013 Cal Energy Code (CEC) and the 2013 Building Energy Efficiency Standards (BEES) become effective July 1, 2014. From January 30, 2014, the 2010 CEC and 2008 BEES shall be used for Residential and Non-Residential portions of this code for Energy Efficiency, exclusive of Tier 1 requirements.

Column 1 Feature or Measure	Column 2 Project Requirements *Must be incorporated into project unless measure is not applicable (N/A).*	Column 3 Compliance Verified *Complete after implementation and prior to final inspection approval*
See Chapter 4 of the 2013 California Green Building Code for complete descriptions of features or measures listed here.	**Mandatory Prerequisites**	**Building Inspector**
4.410.1 An operation and maintenance manual shall be provided to the building occupant or owner.	☒ or ☐ N/A	☐
4.5 ENVIRONMENTAL QUALITY	*All checked items are required*	*Complete prior to Final Inspection*
4.503.1 Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove, meeting the requirements of Sonoma County Code Chapter 7C (Wood-Burning Appliances) [2].	☒ or ☐ N/A	☐
4.504.1 Duct openings and other related air distribution component openings shall be covered during construction.	☒ or ☐ N/A	☐
4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.	☒ or ☐ N/A	☐
4.504.2.2 Paints, stains and other coatings shall be compliant with VOC limits.	☒ or ☐ N/A	☐
4.504.2.3 Aerosol paints and other coatings shall be compliant with product weighted MIR Limits for ROC and other toxic compounds.	☒ or ☐ N/A	☐
4.504.2.4 Documentation shall be provided to verify that compliant VOC limit finish materials have been used.	☒ or ☐ N/A	☐
4.504.3 Carpet and carpet systems shall be compliant with VOC limits.	☒ or ☐ N/A	☐
4.504.5 Particleboard, medium density fiberboard (MDF), and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.	☒ or ☐ N/A	☐
4.505.2 Vapor retarder and capillary break is installed at slab on grade foundations.	☒ or ☐ N/A	☐
4.505.3 Moisture content of building materials used in wall and floor framing is checked before enclosure.	☒ or ☐ N/A	☐

[2] Modified to conform with Chapter 7C of the Sonoma County Code

Column 1 Feature or Measure	Column 2 Project Requirements *Must be incorporated into project unless measure is not applicable (N/A).*	Column 3 Compliance Verified *Complete after implementation and prior to final inspection approval*
See Chapter 4 of the 2013 California Green Building Code for complete descriptions of features or measures listed here.	**Mandatory Prerequisites**	**Building Inspector**
4.506.1 Humidity controlled exhaust fans which terminate outside the building are provided in every bathroom unless otherwise a component of a whole house ventilation system.	☒ or ☐ N/A	☐
4.507.2. Duct systems are sized and designed and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ANSI/ACCA Manual J-2004 or equivalent. 2. Size duct systems according to ANSI/ACCA 1 Manual D - 2009 or equivalent. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2004 or equivalent.	☒ or ☐ N/A	☐
Items necessary to address innovative concepts or local environmental conditions.		
Item 1:		☐
Item 2:		☐
Item 3:		☐
INSTALLER QUALIFICATIONS		*Complete prior to Final Inspection*
702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	☒ or ☐ N/A	☐
703.1 Verification of compliance with CALGreen may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance. Implementation verification shall be submitted to the Building Department after implementation of all required measures and prior to final inspection approval.	☒	☐

Green Building Acknowledgments

Project Address: 21780 COAST HWY 1 TIMBER COVE INN

Project Description: STRUCTURAL REPAIRS

Section 1 – Design Verification

Complete all lines of Section 1 – "Design Verification" and submit the completed checklist (Columns 1 and 2) with the plans and building permit application to the Building Department.

The owner, design professional *and* the Sonoma approved CALGreen special inspector have reviewed the plans and certify that the items checked above are hereby incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2013 California Green Building Standards Code as amended by Chapter 14.10 of the Sonoma Municipal Code.

Owner's Signature — Date

Owner Name *(Please Print)*

Design Professional's Signature — Date 4/14/15

MICHAEL SINGER ARCHITECT

Design Professional's Name *(Please Print)*

Section 2 – Implementation Verification

Complete, sign and submit the completed checklist, including Column 4, together with all original signatures in this Section 2 – "Implementation Verification" to PRMD Building Inspection concurrently with final inspection.

I have inspected the work have received sufficient documentation to verify and certify that the project identified above was constructed in accordance with this Green Building Checklist and in accordance with the requirements set forth in the 2013 California Green Building Standards Code as amended by Chapter 7 of the Sonoma County Code.

Inspector Signature — Date

Inspector's Name *(Please Print)*

ZFA STRUCTURAL ENGINEERS

Timber Cove Inn - 400/500 Wing Repair
Structural Calculations – Plan Check Response

Jenner, California

ZFA Project Number: 15017

April 2015

Prepared For

Ironstate Development

Hoboken, NJ

Prepared By

Luke S. Wilson, Engineer

Kevin G. Zucco, Principal-in-Charge

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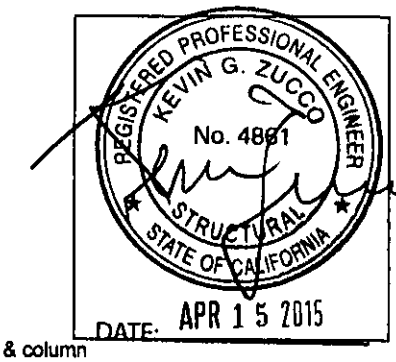
DESIGN CRITERIA



Stamp

Material (unless noted otherwise)

Concrete: f'c = 2,500 psi @28 days (3,000 psi min for DSA)
Masonry: ASTM C90, f'm = 1,500 psi @ 28 days.
Reinf. Steel: ASTM A615, Grade 60 UNO, Grade 40 #3 and smaller.
Lumber: W.C.D.F Grades as follows:

Joists, Plates & Studs	No. 2 (No. 1 for DSA)
Beams & Headers	No. 1
Plywood / OSB	PS 1 / PS 2
Glued-Laminated Beam (GLB)	24F V4 (DF/DF) simple span
	24F V8 (DF/DF) cant. or cont. beam & column
Exterior Glued-Laminated Beam (GLB - EXT)	20F V13 (AC/AC) tension lams top and bottom

Structural Steel:

WF Shapes	ASTM A-992
C and L Shapes, and Plates	ASTM A-36 or A-572 Gr.50
Pipes	ASTM A-53 Grade B fy=35ksi
Round HSS	ASTM A-500 Grade B fy=42ksi
Square and Rectangular HSS	ASTM A-500 Grade B fy=46ksi

DESIGN LOADING

	ROOF*	FLOOR	FLOOR (EXT)	FLOOR (CORRIDOR)	INTERIOR WALLS	EXTERIOR WALLS
LIVE LOADS (PSF)	20.0	40.0	100.0	40.0		
DEAD LOADS (PSF)						
Roofing** mbrn/gravel	6.0					
Fin. Floor carpet,		1.5				
Sheathing ply o/ 2x deck, 2x deck	6.0	4.3	4.3	4.3		
Joists/Truss (2)4x6@8', 2x10-14@16"	1.2	3.8	2.8	2.8		
Beams (2)4x14@12'	2.0	2.0	2.0	2.0		
Ceiling exposed						
Insulation rigid	1.0					
HVAC misc	1.0	1.0				
Partitions						
Sprinklers yes	1.5	1.5				
Misc.	1.3	1.9	0.9	0.9		
DEAD LOADS (PSF)	**20.0**	**16.0**	**10.0**	**10.0**		**15.0**
TOTAL LOADS (PSF)	**40.0**	**56.0**	**110.0**	**50.0**		

*25% stress increase for load duration on wood roof member and connections. **For DSA: wt. Includes 1 re-roof.

Design Code: 2013 CBC Risk Category = II

The scope of work for this project primarily consists of replacing deteriorated or damaged exterior columns and beams (primarily at the roof overhangs) for the 400/500 wing at Timber Cove Inn. Concrete pedestals will be added to lift the bottom of the posts out of the water etc. to improve durability. All bolts washers etc. in the scope are being replaced with hot dipped galvanized elements.

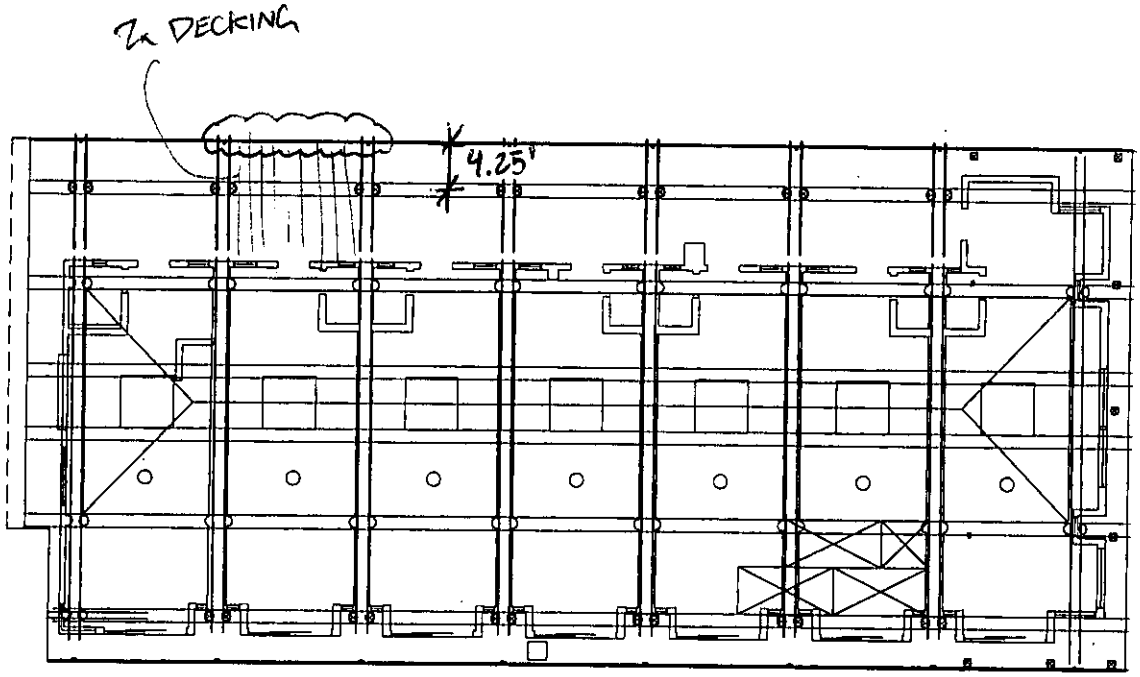
Voluntary lateral upgrades will be completed where the scope of work permits; adding plywood over the 2x decking at the roof level, providing PEN to perimeter and demising walls at the roof level and adding plywood on the east and west elevations where the siding is being replaced.

4x FASCIA @ ROOF:

$DL = 20^{PSF} - (2^{PSF}\ BM's) = 18^{PSF}$

$L_r = 20^{PSF}$

(SEE ENERCALC FOR DESIGN)



SHEET NAME: KEY PLAN - ROOF	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
ZFA STRUCTURAL ENGINEERS 1212 fourth street | suite z santa rosa ca 95404 | 707.526.0992 | www.zfa.com		SHEET NO.: KP - ROOF

Wood Beam

Description : 4x Roof Fascia

CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method : Allowable Stress Design
Load Combination ASCE 7-10

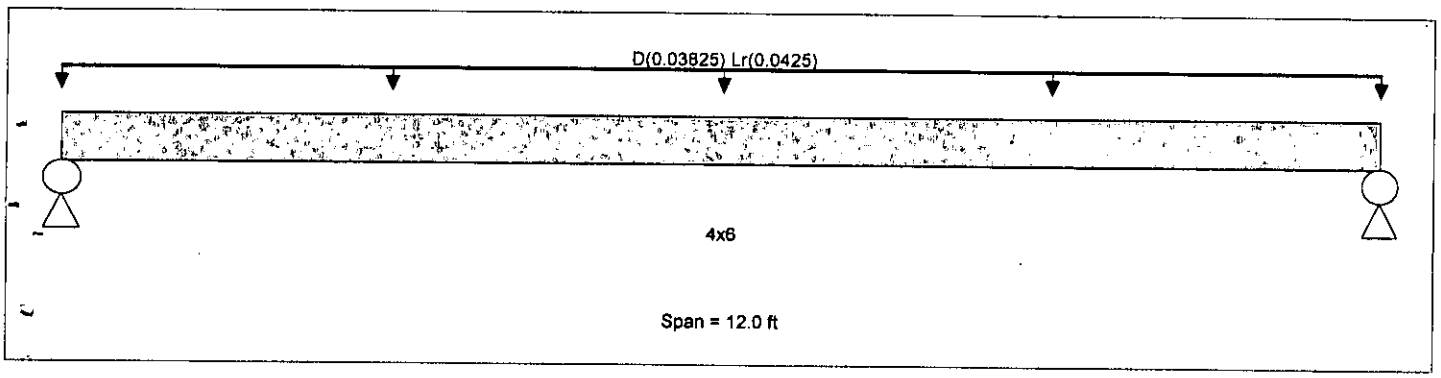
Wood Species : Redwood
Wood Grade : No.1

Beam Bracing : Completely Unbraced

Fb - Tension	975.0 psi
Fb - Compr	975.0 psi
Fc - Prll	1,200.0 psi
Fc - Perp	650.0 psi
Fv	160.0 psi
Ft	575.0 psi

E : Modulus of Elasticity

Ebend- xx	1,300.0 ksi
Eminbend - xx	470.0 ksi
Density	25.770 pcf



Applied Loads

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

Uniform Load : D = 0.0180, Lr = 0.020 ksf, Tributary Width = 2.125 ft, (roof)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.741 : 1	Maximum Shear Stress Ratio	=	0.180 : 1
Section used for this span		4x6	Section used for this span		4x6
fb : Actual	=	988.45 psi	fv : Actual	=	35.00 psi
FB : Allowable	=	1,333.09 psi	Fv : Allowable	=	194.00 psi
Load Combination		+D+Lr+H	Load Combination		+D+Lr+H
Location of maximum on span	=	6.000 ft	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	0.316 in	Ratio =	455
Max Upward Transient Deflection	0.000 in	Ratio =	0 <180
Max Downward Total Deflection	0.601 in	Ratio =	239
Max Upward Total Deflection	0.000 in	Ratio =	0 <120

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+H													0.00	0.00	0.00	0.00
Length = 12.0 ft	1	0.486	0.119	0.90	1.300	1.00	1.00	0.85	1.00	0.99	0.69	468.21	962.91	0.21	16.58	139.68
+D+Lr+H					1.300	1.00	1.00	0.85	1.00	0.99			0.00	0.00	0.00	0.00
Length = 12.0 ft	1	0.741	0.180	1.25	1.300	1.00	1.00	0.85	1.00	0.99	1.45	988.45	1333.09	0.45	35.00	194.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+Lr+H	1	0.6007	6.044		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	0.485	0.485

Wood Beam

Description : 4x Roof Fascia

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MINimum	0.230	0.230
+D+Lr+H	0.485	0.485
D Only	0.230	0.230
Lr Only	0.255	0.255

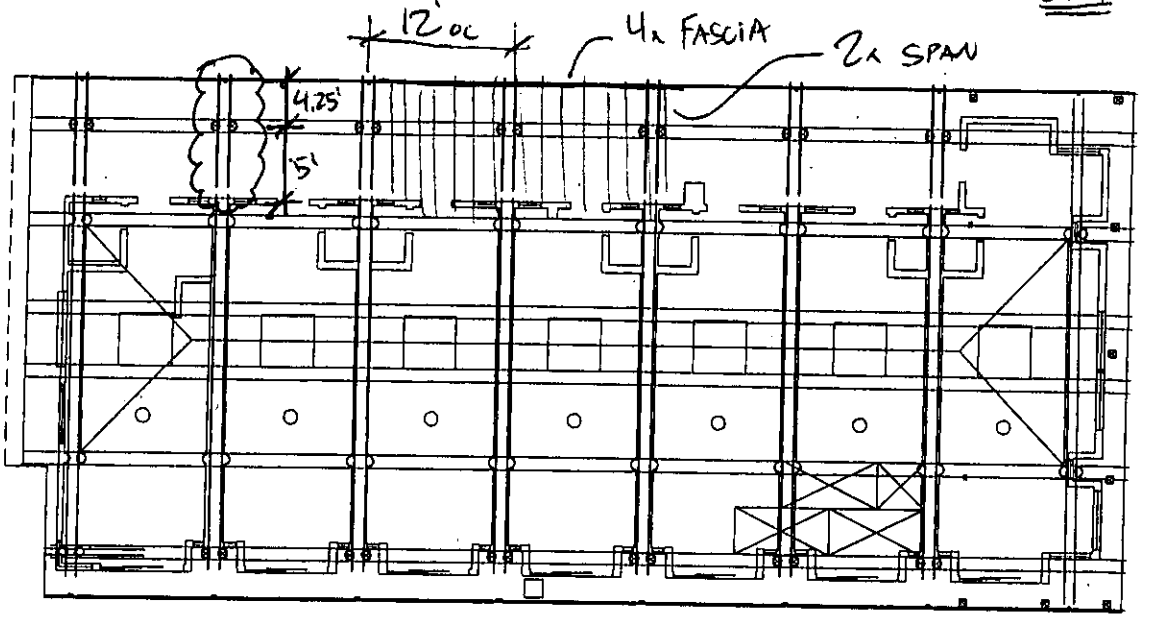
(2) 4x 12 ROOF OVERHANG SUPPORT:

DL = 20 PSF

Lr = 20 PSF

(SEE ENERCALC FOR DESIGN)

∴ POINT LOAD ON CANT = (12'/2)(4.25'/2)20 = 255# (2)
= 0.51K



SHEET NAME: KEY PLAN - ROOF	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
ZFA STRUCTURAL ENGINEERS 1212 fourth street | suite z santa rosa ca 95404 | 707.526.0992 | www.zfa.com		SHEET NO.: KP - ROOF

Wood Beam

File = W:\2015\15017T~1\CALCUL~1\TIMBER~1.EC6
ENERCALC, INC. 1983-2015, Build:6.15.1.19, Ver:6.15.1.19
Lic. # : KW-06007171 Licensee : ZFA STRUCTURAL ENGINEERS

Description : (2)4x12@12'oc Roof Support

CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method : Allowable Stress Design
Load Combination ASCE 7-10

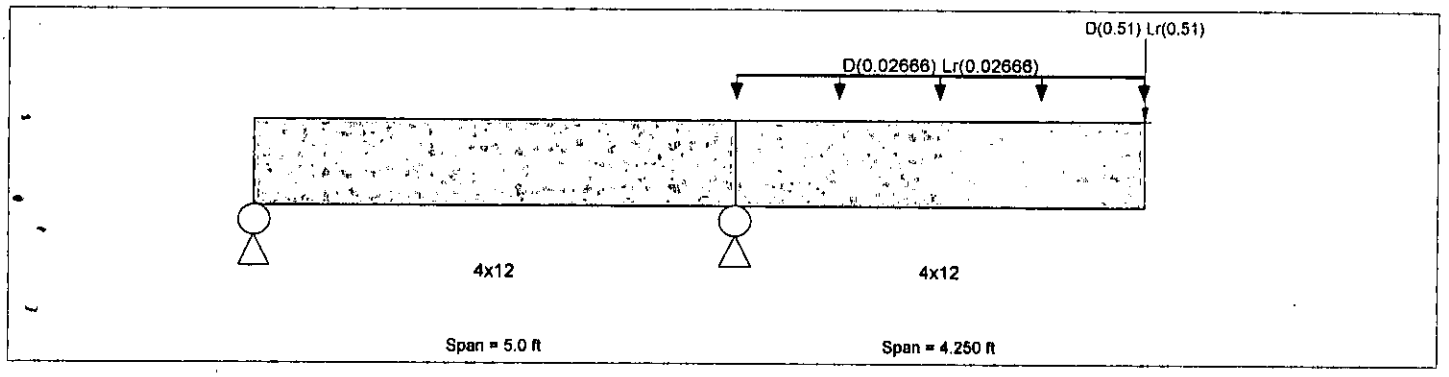
Wood Species : Redwood
Wood Grade : No.1

Beam Bracing : Completely Unbraced

Fb - Tension	975.0 psi
Fb - Compr	975.0 psi
Fc - Prll	1,200.0 psi
Fc - Perp	650.0 psi
Fv	160.0 psi
Ft	575.0 psi

E : Modulus of Elasticity

Ebend- xx	1,300.0 ksi
Eminbend - xx	470.0 ksi
Density	25.770 pcf



Applied Loads

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

Load for Span Number 2
Uniform Load : D = 0.020, Lr = 0.020 ksf, Tributary Width = 1.333 ft, (roof)
Point Load : D = 0.510, Lr = 0.510 k @ 4.250 ft, (fascia)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.692 1	Maximum Shear Stress Ratio	=	0.235 : 1
Section used for this span		4x12	Section used for this span		4x12
fb : Actual	=	782.88 psi	fv : Actual	=	45.61 psi
FB : Allowable	=	1,131.61 psi	Fv : Allowable	=	194.00 psi
Load Combination		+D+Lr+H, LL Comb Run (*L)	Load Combination		+D+Lr+H, LL Comb Run (*L)
Location of maximum on span	=	5.000 ft	Location of maximum on span	=	5.000 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.100 in	Ratio =	1022
Max Upward Transient Deflection	-0.012 in	Ratio =	4818
Max Downward Total Deflection	0.199 in	Ratio =	510
Max Upward Total Deflection	-0.025 in	Ratio =	2409

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+H													0.00	0.00	0.00	0.00
Length = 5.0 ft	1	0.479	0.163	0.90	1.100	1.00	1.00	0.85	1.00	1.00	2.41	391.44	816.49	0.60	22.80	139.68
Length = 4.250 ft	2	0.479	0.163	0.90	1.100	1.00	1.00	0.85	1.00	1.00	2.41	391.44	817.13	0.60	22.80	139.68
+D+Lr+H, LL Comb Run (*L)					1.100	1.00	1.00	0.85	1.00	1.00			0.00	0.00	0.00	0.00
Length = 5.0 ft	1	0.692	0.235	1.25	1.100	1.00	1.00	0.85	1.00	0.99	4.82	782.88	1131.61	1.20	45.61	194.00
Length = 4.250 ft	2	0.691	0.235	1.25	1.100	1.00	1.00	0.85	1.00	0.99	4.82	782.88	1132.92	1.20	45.61	194.00
+D+Lr+H, LL Comb Run (L*)					1.100	1.00	1.00	0.85	1.00	0.99			0.00	0.00	0.00	0.00
Length = 5.0 ft	1	0.346	0.118	1.25	1.100	1.00	1.00	0.85	1.00	0.99	2.41	391.44	1131.61	0.60	22.80	194.00
Length = 4.250 ft	2	0.346	0.118	1.25	1.100	1.00	1.00	0.85	1.00	0.99	2.41	391.44	1132.92	0.60	22.80	194.00
+D+Lr+H, LL Comb Run (LL)					1.100	1.00	1.00	0.85	1.00	0.99			0.00	0.00	0.00	0.00

Wood Beam

Description : (2)4x12@12'oc Roof Support

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	C_{FV}	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
Length = 5.0 ft	1	0.692	0.235	1.25	1.100	1.00	1.00	0.85	1.00	0.99	4.82	782.88	1131.61	1.20	45.61	194.00
Length = 4.250 ft	2	0.691	0.235	1.25	1.100	1.00	1.00	0.85	1.00	0.99	4.82	782.88	1132.92	1.20	45.61	194.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000	+D+Lr+H, LL Comb Run (LL)	-0.0249	2.905
+D+Lr+H, LL Comb Run (LL)	2	0.1993	4.250		0.0000	2.905

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2	Support 3
Overall MAXimum	-0.963	2.210	
Overall MINimum	-0.482	1.105	
+D+Lr+H, LL Comb Run (*L)	-0.963	2.210	
+D+Lr+H, LL Comb Run (L*)	-0.482	1.105	
+D+Lr+H, LL Comb Run (LL)	-0.963	2.210	
D Only	-0.482	1.105	
Lr Only, LL Comb Run (*L)	-0.482	1.105	
Lr Only, LL Comb Run (L*)			
Lr Only, LL Comb Run (LL)	-0.482	1.105	

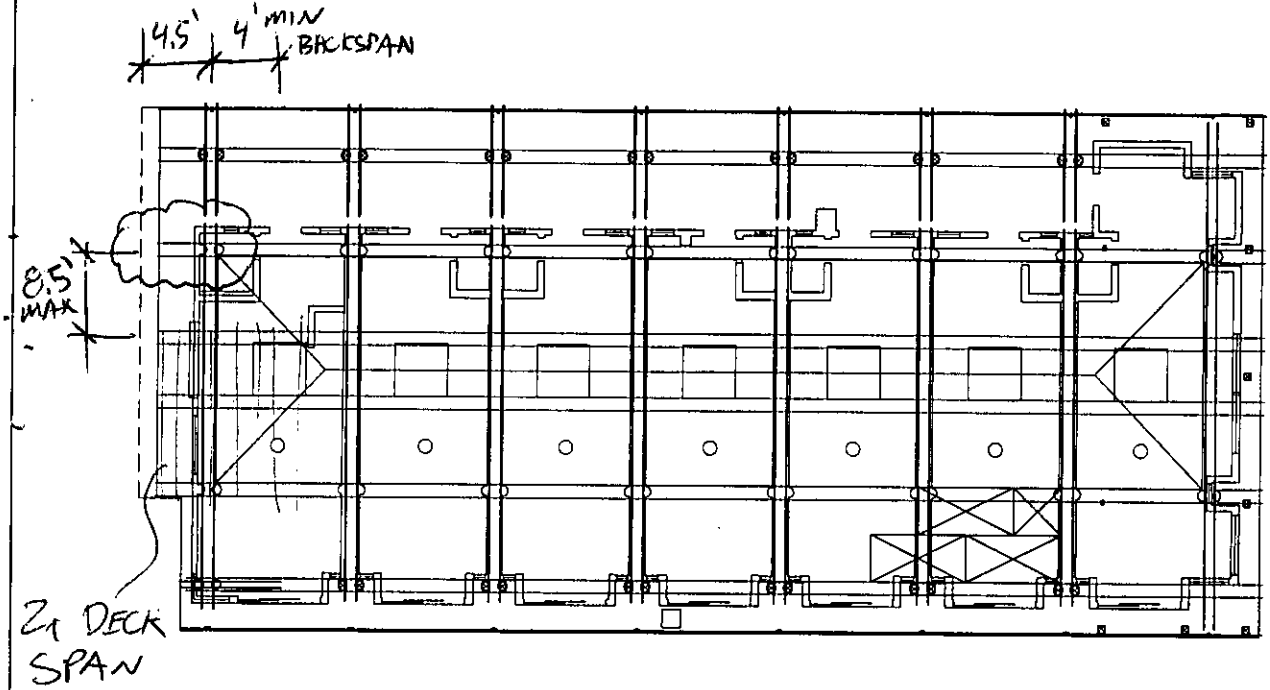
(2) 4x6 ROOF OVERHANG SUPPORT:

$DL = 20^{PSF} (-2^{PSF}\ Bm's) = 18^{PSF}$

$L_r = 20^{PSF}$

(SEE ENERCALC FOR DESIGN)

$A_{TRIB} = 8.5'/2\ Bm's = 4.25'$



SHEET NAME: KEY PLAN - ROOF	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
ZFA STRUCTURAL ENGINEERS 1212 fourth street | suite z santa rosa ca 95404 | 707.526.0992 | www.zfa.com		SHEET NO.: KP - ROOF

Wood Beam

File = W:\2015\15017T~1\CALCUL~1\TIMBER~1.EC6
ENERCALC, INC. 1983-2015, Build:6.15.1.19, Ver:6.15.1.19
Lic. # : KW-06007171 Licensee : ZFA STRUCTURAL ENGINEERS

Description : (2)4x6 @ 8'oc Roof Support

CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method : Allowable Stress Design
Load Combination ASCE 7-10

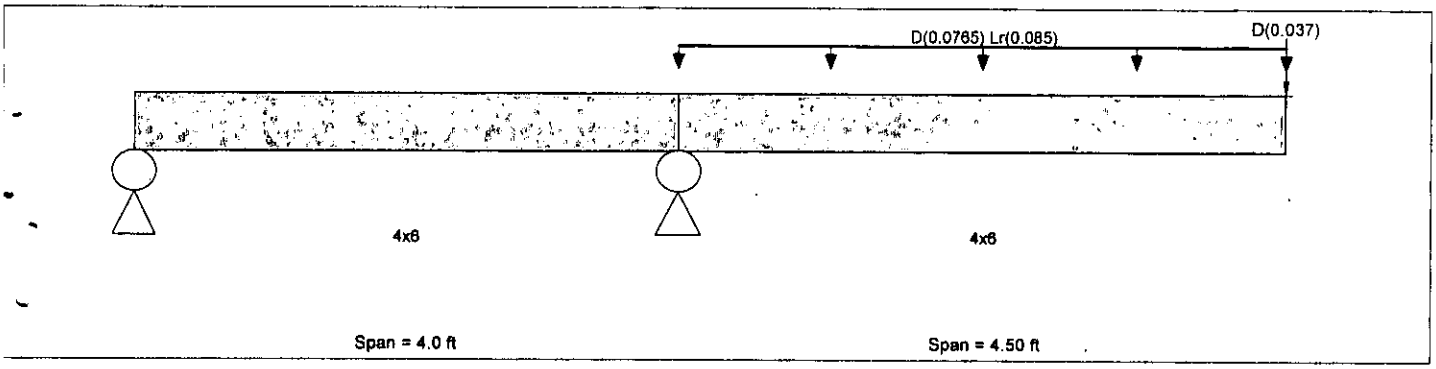
Wood Species : Redwood
Wood Grade : No.2

Beam Bracing : Completely Unbraced

Fb - Tension	925.0 psi
Fb - Compr	925.0 psi
Fc - Prll	950.0 psi
Fc - Perp	650.0 psi
Fv	160.0 psi
Ft	525.0 psi

E : Modulus of Elasticity

Ebend- xx	1,200.0 ksi
Eminbend - xx	440.0 ksi
Density	25.770 pcf



Applied Loads

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

Load for Span Number 2
Uniform Load : D = 0.0180, Lr = 0.020 ksf, Tributary Width = 4.250 ft, (roof)
Point Load : D = 0.0370 k @ 4.50 ft, (fascia)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.962 1	Maximum Shear Stress Ratio	=	0.277 : 1
Section used for this span		4x6	Section used for this span		4x6
fb : Actual	=	1,225.23 psi	fv : Actual	=	53.82 psi
FB : Allowable	=	1,273.23 psi	Fv : Allowable	=	194.00 psi
Load Combination		+D+Lr+H	Load Combination		+D+Lr+H
Location of maximum on span	=	0.000 ft	Location of maximum on span	=	4.000 ft
Span # where maximum occurs	=	Span # 2	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.282 in	Ratio =	382
Max Upward Transient Deflection	-0.026 in	Ratio =	1817
Max Downward Total Deflection	0.599 in	Ratio =	180
Max Upward Total Deflection	-0.055 in	Ratio =	868

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
+D+H					1.300	1.00	1.00	0.85	1.00	1.00			0.00	0.00	0.00	0.00
Length = 4.0 ft	1	0.697	0.193	0.90	1.300	1.00	1.00	0.85	1.00	1.00	0.94	639.97	917.92	0.35	27.01	139.68
Length = 4.50 ft	2	0.697	0.193	0.90	1.300	1.00	1.00	0.85	1.00	1.00	0.94	639.97	917.66	0.35	27.01	139.68
+D+Lr+H					1.300	1.00	1.00	0.85	1.00	1.00			0.00	0.00	0.00	0.00
Length = 4.0 ft	1	0.962	0.277	1.25	1.300	1.00	1.00	0.85	1.00	1.00	1.80	1,225.23	1273.75	0.69	53.82	194.00
Length = 4.50 ft	2	0.962	0.277	1.25	1.300	1.00	1.00	0.85	1.00	1.00	1.80	1,225.23	1273.23	0.69	53.82	194.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
-	1	0.0000	0.000	+D+Lr+H	-0.0553	2.324

Wood Beam

Description : (2)4x6 @ 8'oc Roof Support

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+Lr+H	2	0.5987	4.500		0.0000	2.324

Vertical Reactions

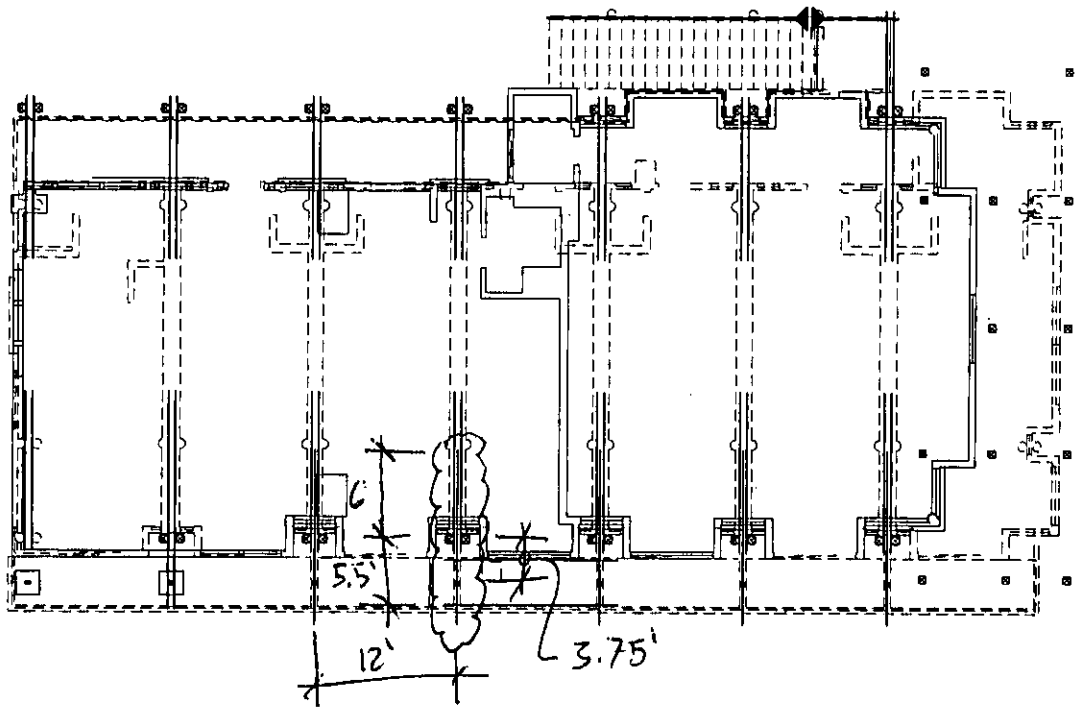
Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2	Support 3
Overall MAXimum	-0.450	1.214	
Overall MINimum	-0.215	0.598	
+D+Lr+H	-0.450	1.214	
D Only	-0.235	0.617	
Lr Only	-0.215	0.598	

(E) 4x14 BEAM @ 3RD FLR W/ ROOF SUPPORT POST ABV:

$DL_{ROOF} = 20^{PSF}$ $L_r = 20^{PSF}$ (SEE EVERCALC FOR DESIGN)

$DL_{FLR,EXT} = 10^{PSF}$ $LL = 40^{PSF}$



$$POST_{,DL} = POST_{,L_r} = (12')(3.75'/2)\,20 = \underline{450^{\#}}$$

SHEET NAME: KEY PLAN - 3rd FLOOR	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
ZFA STRUCTURAL ENGINEERS 1212 fourth street | suite z santa rosa ca 95404 | 707.526.0992 | www.zfa.com		SHEET NO.: KP - 3rd

Wood Beam

Description : (E)4x14@12'oc 3rd Flr Support w/ roof post

CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method : Allowable Stress Design
Load Combination ASCE 7-10

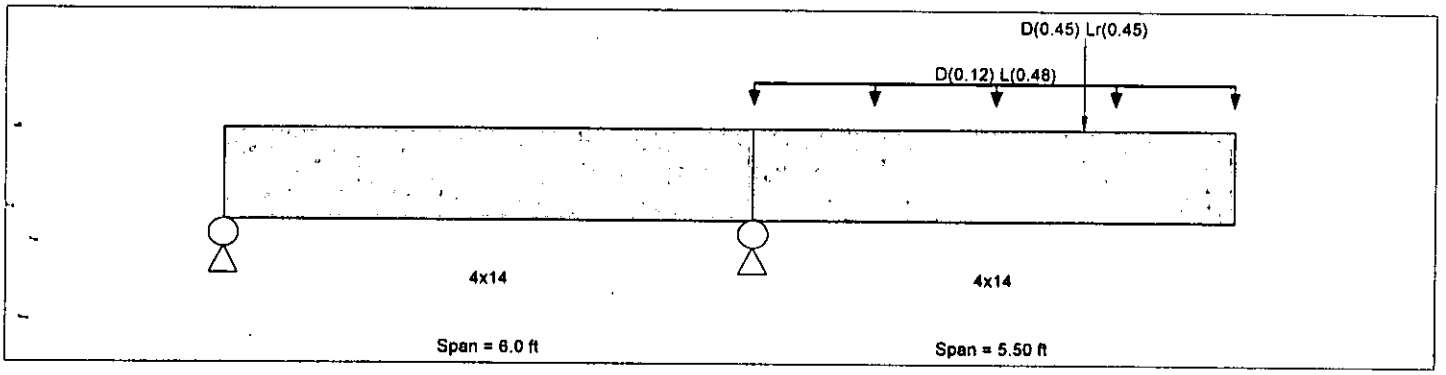
Wood Species : Redwood
Wood Grade : Select structural

Beam Bracing : Completely Unbraced

Fb - Tension	1350 psi
Fb - Compr	1350 psi
Fc - Prll	1500 psi
Fc - Perp	650 psi
Fv	160 psi
Ft	800 psi

E : Modulus of Elasticity

Ebend- xx	1400 ksi
Eminbend - xx	510 ksi
Density	25.77 pcf



Applied Loads

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

Load for Span Number 2
Uniform Load : D = 0.010, L = 0.040 ksf, Tributary Width = 12.0 ft, (Deck)
Point Load : D = 0.450, Lr = 0.450 k @ 3.750 ft, (roof post)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.944 : 1	Maximum Shear Stress Ratio	=	0.628 : 1
Section used for this span		4x14	Section used for this span		4x14
fb : Actual	=	1,261.09 psi	fv : Actual	=	100.42 psi
FB : Allowable	=	1,336.31 psi	Fv : Allowable	=	160.00 psi
Load Combination		+D+L+H	Load Combination		+D+L+H
Location of maximum on span	=	6.000 ft	Location of maximum on span	=	6.000 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.245 in	Ratio =	538
Max Upward Transient Deflection	-0.031 in	Ratio =	2343
Max Downward Total Deflection	0.364 in	Ratio =	362
Max Upward Total Deflection	-0.046 in	Ratio =	1580

Maximum Forces & Stresses for Load Combinations

Load Combination		Max Stress Ratios									Moment Values			Shear Values		
Segment Length	Span #	M	V	C_d	C_{FV}	C_i	C_r	C_m	C_t	C_L	M	fb	F'b	V	fv	F'v
+D+H													0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.341	0.220	0.90	1.000	1.00	1.00	1.00	1.00	0.99	3.50	410.40	1204.11	0.98	31.73	144.00
Length = 5.50 ft	2	0.341	0.220	0.90	1.000	1.00	1.00	1.00	1.00	0.99	3.50	410.40	1205.14	0.98	31.73	144.00
+D+L+H					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.944	0.628	1.00	1.000	1.00	1.00	1.00	1.00	0.99	10.76	1,261.09	1336.31	3.10	100.42	160.00
Length = 5.50 ft	2	0.943	0.628	1.00	1.000	1.00	1.00	1.00	1.00	0.99	10.76	1,261.09	1337.64	3.10	100.42	160.00
+D+Lr+H					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.365	0.231	1.25	1.000	1.00	1.00	1.00	1.00	0.99	5.19	608.14	1665.12	1.43	46.28	200.00
Length = 5.50 ft	2	0.365	0.231	1.25	1.000	1.00	1.00	1.00	1.00	0.99	5.19	608.14	1667.37	1.43	46.28	200.00
+D+0.750Lr+0.750L+H					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00

Wood Beam

Description : (E)4x14@12'oc 3rd Flr Support w/ roof post

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
Length = 6.0 ft	1	0.719	0.471	1.25	1.000	1.00	1.00	1.00	1.00	0.99	10.21	1,196.72	1665.12	2.91	94.17	200.00
Length = 5.50 ft	2	0.718	0.471	1.25	1.000	1.00	1.00	1.00	1.00	0.99	10.21	1,196.72	1667.37	2.91	94.17	200.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000	+D+L+H	-0.0455	3.486
+D+L+H	2	0.3641	5.500		0.0000	3.486

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2	Support 3
Overall MAXimum	-1.794	5.544	
Overall MINimum	-0.584	1.694	
+D+L+H	-1.794	5.544	
+D+Lr+H	-0.865	2.425	
+D+0.750Lr+0.750L+H	-1.702	5.130	
D Only	-0.584	1.694	
L Only	-1.210	3.850	

2ND FLOOR (2)4x14 @ BREEZEWAY:

$DL = 16^{PSF}$ $DL_{WALL} = 15^{PSF}$

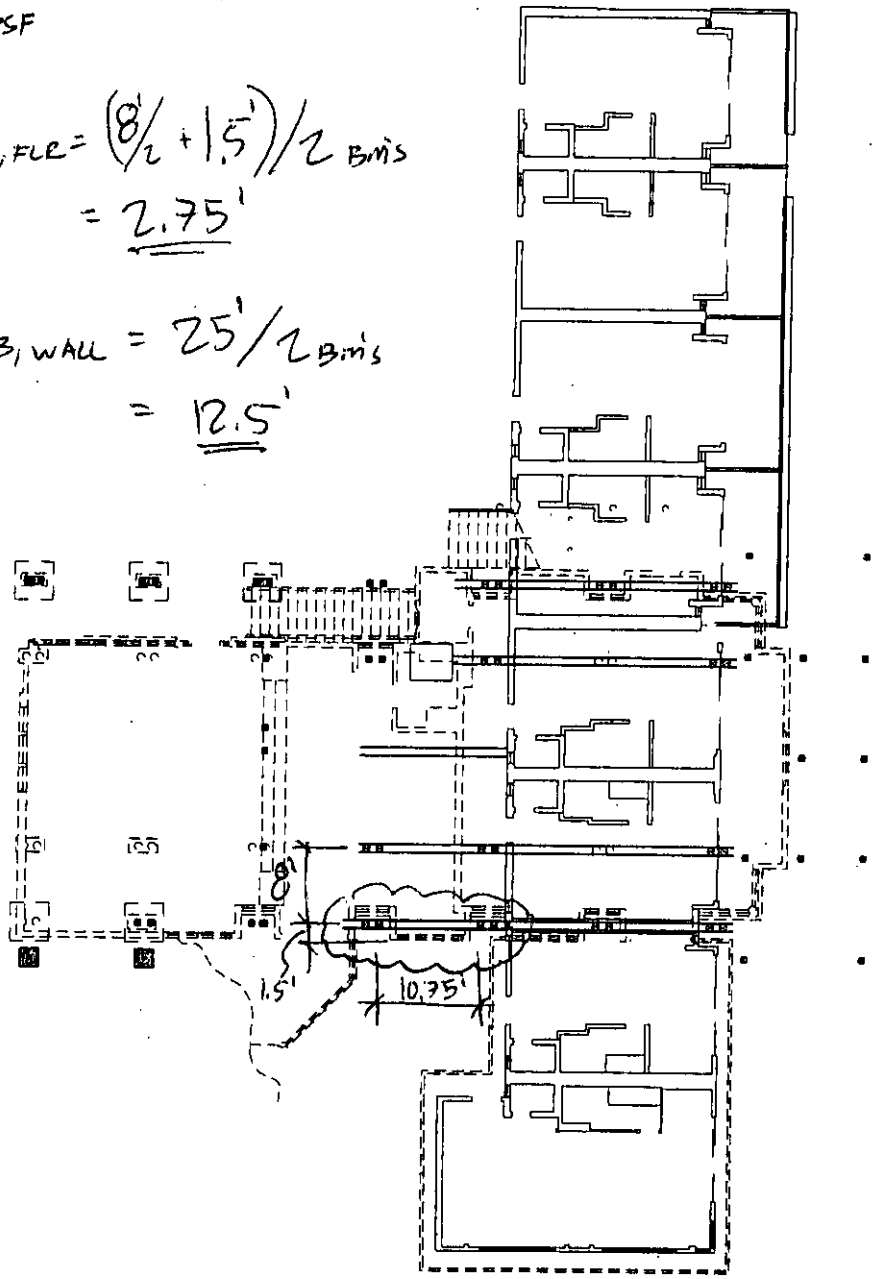
$LL = 40^{PSF}$

$A_{TRIB,FLR} = (8'/2 + 1.5')/2\ BM's$

$= 2.75'$

$A_{TRIB,WALL} = 25'/2\ BM's$

$= 12.5'$



SHEET NAME: KEY PLAN - 2nd FLOOR	STAMP:	DATE: 03/09/15
		SCALE: 1" = 20'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
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Wood Beam

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ENERCALC, INC. 1983-2015, Build:6.15.1.19, Ver:6.15.1.19

Lic. # : KW-06007171 — Licensee : ZFA STRUCTURAL ENGINEERS

Description : 2nd Floor (2)4x14 at breezeway

CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method : Allowable Stress Design
Load Combination ASCE 7-10

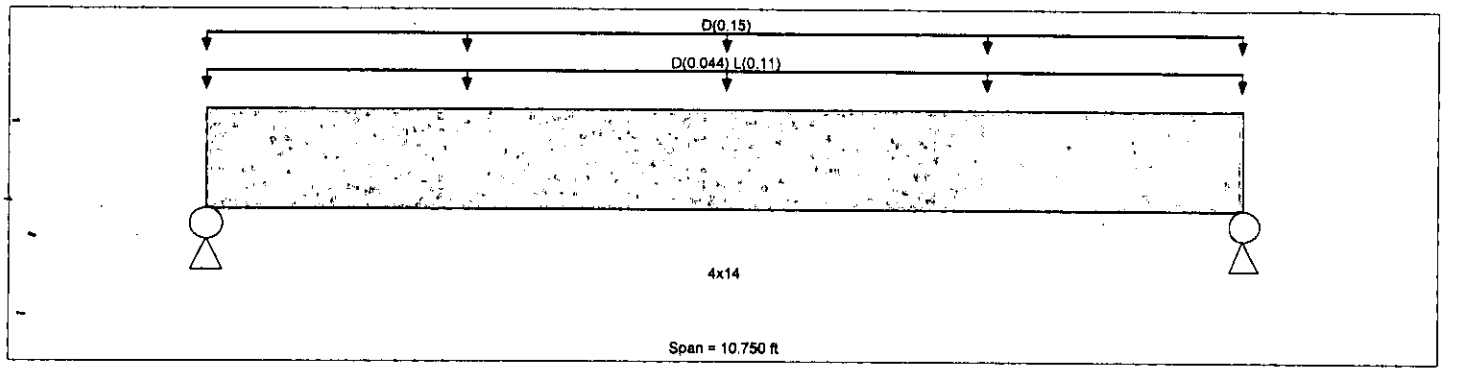
Wood Species : Redwood
Wood Grade : No.1

Beam Bracing : Completely Unbraced

Fb - Tension	975.0 psi
Fb - Compr	975.0 psi
Fc - Prll	1,200.0 psi
Fc - Perp	650.0 psi
Fv	160.0 psi
Ft	575.0 psi

E : Modulus of Elasticity

Ebend- xx	1,300.0 ksi
Eminbend - xx	470.0 ksi
Density	25.770 pcf



Applied Loads

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

Uniform Load : D = 0.0160, L = 0.040 ksf, Tributary Width = 2.750 ft, (FLOOR)
Uniform Load : D = 0.0120 ksf, Tributary Width = 12.50 ft, (WALL)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.630 : 1	Maximum Shear Stress Ratio	=	0.271 : 1
Section used for this span		4x14	Section used for this span		4x14
fb : Actual	=	514.56 psi	fv : Actual	=	42.05 psi
FB : Allowable	=	816.92 psi	Fv : Allowable	=	155.20 psi
Load Combination		+D+L+H	Load Combination		+D+L+H
Location of maximum on span	=	5.375 ft	Location of maximum on span	=	9.651 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.038 in	Ratio =	3422
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.104 in	Ratio =	1238
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+H													0.00	0.00	0.00	0.00
Length = 10.750 ft	1	0.446	0.192	0.90	1.000	1.00	1.00	0.85	1.00	0.99	2.80	328.37	736.53	0.83	26.83	139.68
+D+L+H					1.000	1.00	1.00	0.85	1.00	0.99			0.00	0.00	0.00	0.00
Length = 10.750 ft	1	0.630	0.271	1.00	1.000	1.00	1.00	0.85	1.00	0.99	4.39	514.56	816.92	1.30	42.05	155.20

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L+H	1	0.1042	5.414		0.0000	0.000

Wood Beam

Description : 2nd Floor (2)4x14 at breezeway

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	1.634	1.634
Overall MINimum	0.591	0.591
+D+L+H	1.634	1.634
D Only	1.043	1.043
L Only	0.591	0.591

$\times 2$ BMS $= 3.27^{k}$

(2) $\frac{7}{8}''\phi$ DBL SHEAR BOLTS
W/ 4x SIDES + 8x MAIN

$\therefore R_{ALL} = (2)\,1{,}640^{\#} = 3.28^{k}$ (2 Hs)

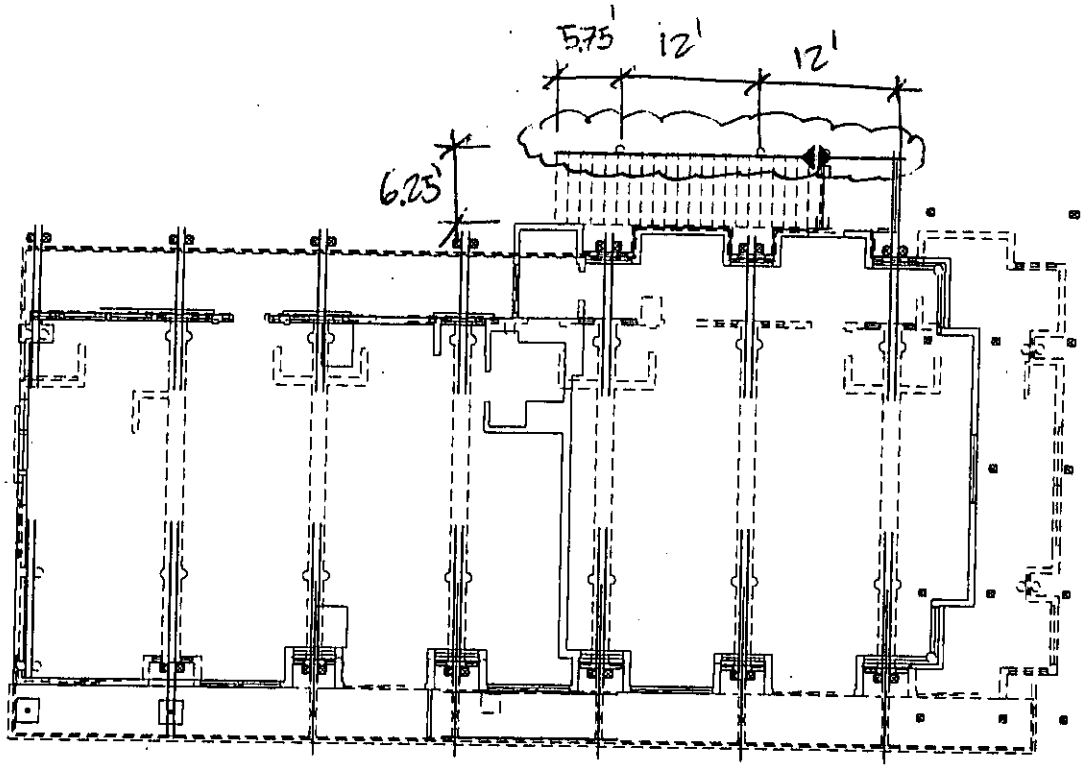
$> R$ ✓

USE (2) $\frac{7}{8}''\phi$ MB EA COLUMN

HSS STAIR STRINGER:

DL = 10 PSF
LL = 100 PSF

(SEE ENERCALC FOR DESIGN)



MAX REACTION = 5 K

Z11 1/4" ø 7½" MAIN = 2,920# (¾" ø)
DBL SHEAR REDWOOD = 3,880# (⅞" ø)

∴ USE (2) ¾" ø MB TO (E) TIMBER POST W/ ¼" A36 STL PL EACH SIDE

USE HSS10x2x⅛ MIN
INCREASE SIZE AS REQD FOR STAIR GEOM

SHEET NAME: KEY PLAN - 3rd FLOOR	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
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Steel Beam

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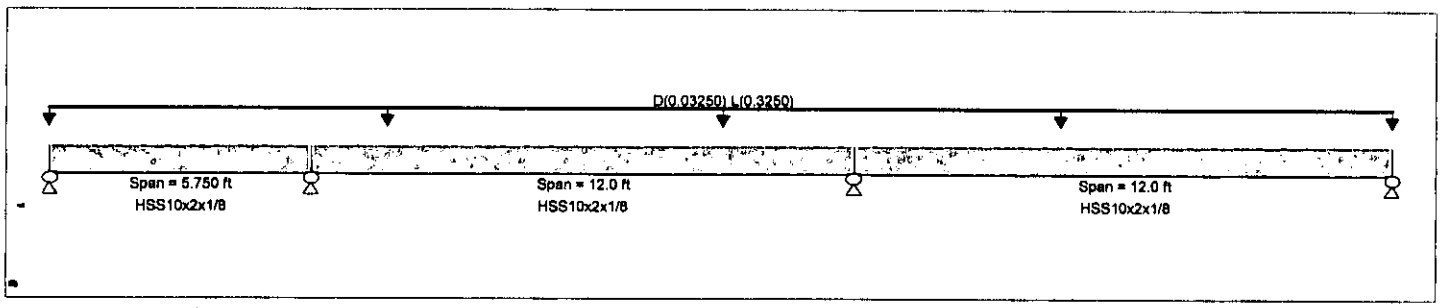
Description : Stair Stringer

CODE REFERENCES

Calculations per AISC 360-10, IBC 2012, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method :	Allowable Strength Design	Fy : Steel Yield :	46.0 ksi
Beam Bracing :	Completely Unbraced	E: Modulus :	29,000.0 ksi
Bending Axis :	Major Axis Bending		
Load Combination	ASCE 7-10		



Applied Loads

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

Beam self weight NOT internally calculated and added
Loads on all spans...
Uniform Load on ALL spans : D = 0.010, L = 0.10 ksf, Tributary Width = 3.250 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.349 : 1	Maximum Shear Stress Ratio =	0.103 : 1
Section used for this span	HSS10x2x1/8	Section used for this span	HSS10x2x1/8
Ma : Applied	5.710 k-ft	Va : Applied	2.621 k
Mn / Omega : Allowable	16.339 k-ft	Vn/Omega : Allowable	25.443 k
Load Combination	+D+L+H	Load Combination	+D+L+H
Location of maximum on span	12.000ft	Location of maximum on span	12.000 ft
Span # where maximum occurs	Span # 2	Span # where maximum occurs	Span # 2

Maximum Deflection

Max Downward Transient Deflection	0.088 in	Ratio =	1,630
Max Upward Transient Deflection	-0.003 in	Ratio =	22,504
Max Downward Total Deflection	0.097 in	Ratio =	1482
Max Upward Total Deflection	-0.003 in	Ratio =	20459

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	Summary of Moment Values Mmax +	Mmax -	Ma - Max	Mnx	Mnx/Omega	Cb	Rm	Summary of Shear Values Va Max	Vnx	Vnx/Omega
+D+H													
Dsgn. L = 5.75 ft	1	0.016	0.007	0.03	-0.26	0.26	27.29	16.34	3.00	1.00	0.17	42.49	25.44
Dsgn. L = 12.00 ft	2	0.032	0.009	0.20	-0.52	0.52	27.29	16.34	2.60	1.00	0.24	42.49	25.44
Dsgn. L = 12.00 ft	3	0.032	0.009	0.35	-0.52	0.52	27.29	16.34	1.79	1.00	0.24	42.49	25.44
+D+L+H													
Dsgn. L = 5.75 ft	1	0.177	0.075	0.38	-2.90	2.90	27.29	16.34	3.00	1.00	1.91	42.49	25.44
Dsgn. L = 12.00 ft	2	0.349	0.103	2.21	-5.71	5.71	27.29	16.34	2.60	1.00	2.62	42.49	25.44
Dsgn. L = 12.00 ft	3	0.349	0.103	3.90	-5.71	5.71	27.29	16.34	1.79	1.00	2.62	42.49	25.44

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L+H	1	0.0000	0.509	+D+L+H	-0.0034	4.367
+D+L+H	2	0.0412	5.468	+D+L+H	-0.0012	11.544
+D+L+H	3	0.0972	6.835		0.0000	11.544

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

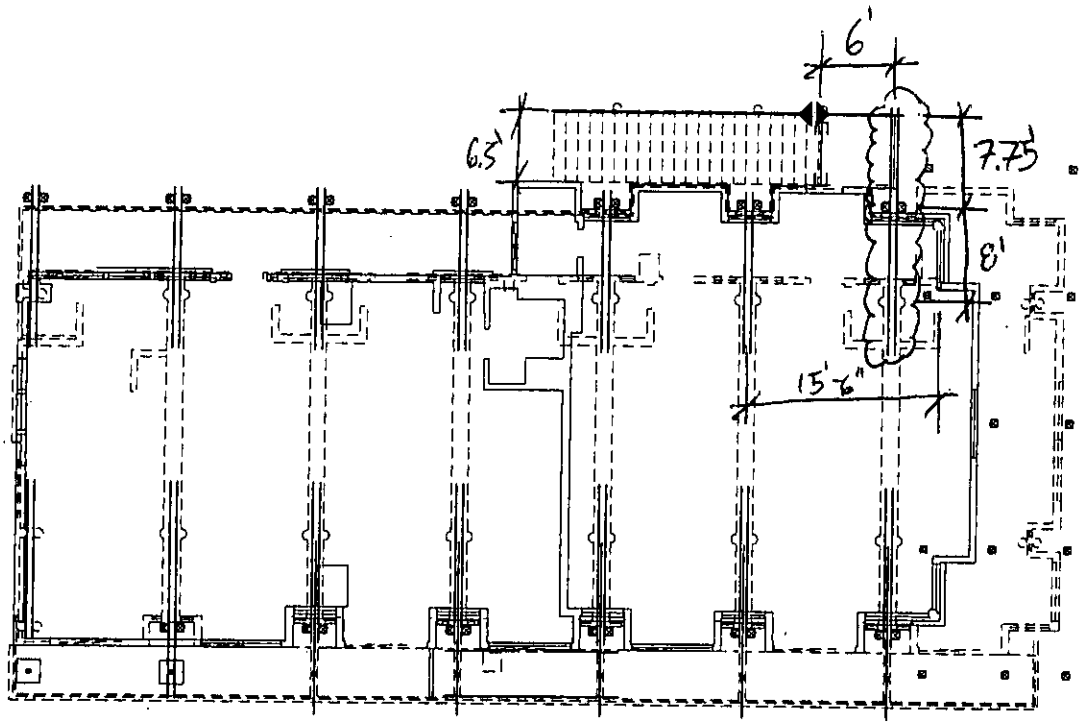
Load Combination	Support 1	Support 2	Support 3	Support 4
Overall MAXimum	0.524	3.443	5.000	1.669
Overall MINimum	0.048	0.313	0.455	0.152
+D+L+H	0.524	3.443	5.000	1.669
D Only	0.048	0.313	0.455	0.152
L Only	0.476	3.130	4.546	1.517

1/2 FOR STAIR STRINGER
(E)(2)4x14 SUPPORT LOADING

(E) (2) 4x14 STAIR STRINGER SUPPORT:

DL = 10 PSF
LL = 100 PSF

(SEE ENERCALC FOR DESIGN)



BACKSPAN TRIB WIDTH = (15.5'/2)/2 BMS = 3.875'

SPAN TRIB WIDTH (FROM ½ OF STAIR WIDTH) = (6'/2)/2 BMS = 1.5'

POINT LOAD FROM STRINGER = DL = 0.15 K/2 BMS = 0.075 K
LL = 1.52 K/2 BMS = 0.76 K

SHEET NAME: KEY PLAN - 3rd FLOOR	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
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Wood Beam

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Description : (E) (2)4x14 Stair Support

CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-10

Material Properties

Analysis Method : Allowable Stress Design
Load Combination ASCE 7-10

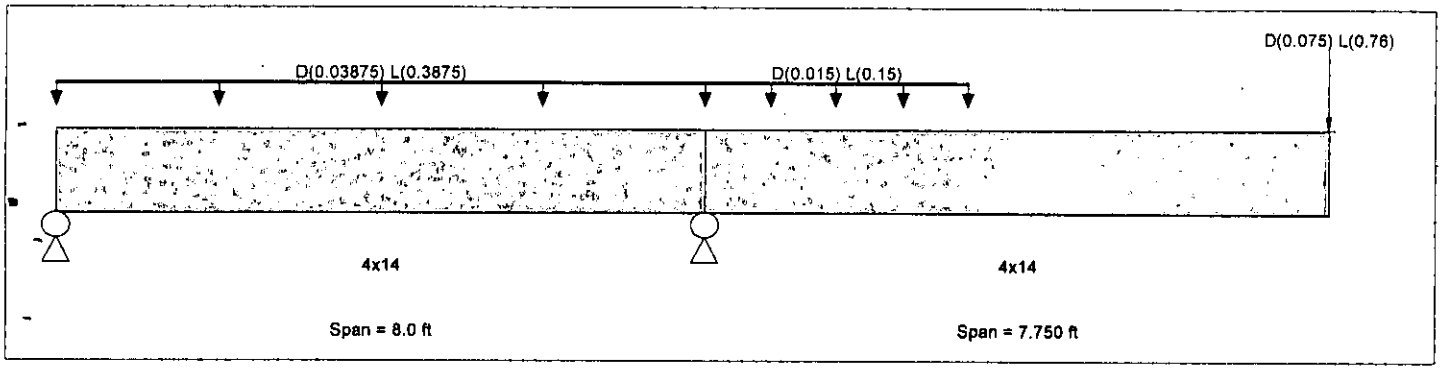
Wood Species : Redwood
Wood Grade : No.1

Beam Bracing : Completely Unbraced

Fb - Tension	975.0 psi
Fb - Compr	975.0 psi
Fc - Prll	1,200.0 psi
Fc - Perp	650.0 psi
Fv	160.0 psi
Ft	575.0 psi

E : Modulus of Elasticity

Ebend- xx	1,300.0ksi
Eminbend - xx	470.0ksi
Density	25.770pcf



Applied Loads

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

Load for Span Number 1
Uniform Load : D = 0.010, L = 0.10 ksf, Tributary Width = 3.875 ft, (corridor)
Load for Span Number 2
Point Load : D = 0.0750, L = 0.760 k @ 7.750 ft, (stair stringer)
Uniform Load : D = 0.010, L = 0.10 ksf, Extent = 0.0 -->> 3.250 ft, Tributary Width = 1.50 ft, (stair stringer)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.892 1	Maximum Shear Stress Ratio	=	0.438 : 1
Section used for this span		4x14	Section used for this span		4x14
fb : Actual	=	860.37psi	fv : Actual	=	70.05 psi
FB : Allowable	=	964.59psi	Fv : Allowable	=	160.00 psi
Load Combination		+D+L+H	Load Combination		+D+L+H
Location of maximum on span	=	8.000ft	Location of maximum on span	=	6.927 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.387 in	Ratio =	480
Max Upward Transient Deflection	-0.017 in	Ratio =	5623
Max Downward Total Deflection	0.425 in	Ratio =	436
Max Upward Total Deflection	-0.019 in	Ratio =	5127

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	C_{FV}	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+H													0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.089	0.044	0.90	1.000	1.00	1.00	1.00	1.00	0.99	0.66	77.39	869.22	0.20	6.34	144.00
Length = 7.750 ft	2	0.089	0.044	0.90	1.000	1.00	1.00	1.00	1.00	0.99	0.66	77.39	869.52	0.11	6.34	144.00
+D+L+H					1.000	1.00	1.00	1.00	1.00	0.99			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.892	0.438	1.00	1.000	1.00	1.00	1.00	1.00	0.99	7.34	860.37	964.59	2.17	70.05	160.00
Length = 7.750 ft	2	0.892	0.438	1.00	1.000	1.00	1.00	1.00	1.00	0.99	7.34	860.37	964.97	1.19	70.05	160.00

Title Block Line 6

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Wood Beam

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Description : (E) (2)4x14 Stair Support

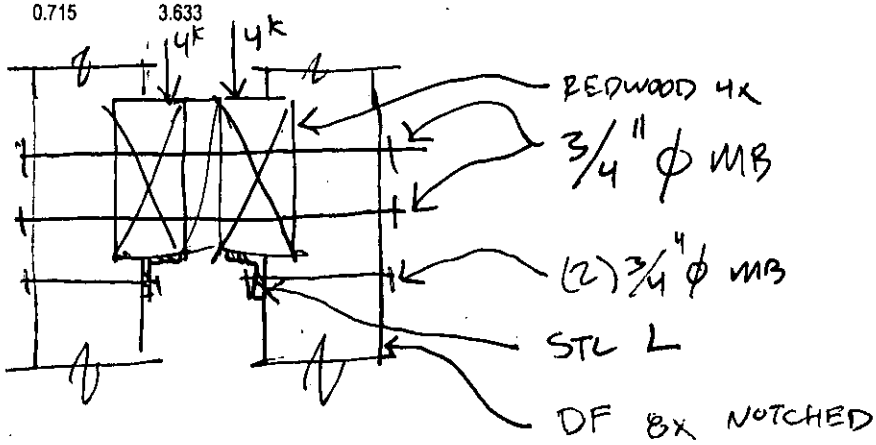
Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000	+D+L+H	-0.0187	5.855
+D+L+H	2	0.4248	7.750		0.0000	5.855

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2	Support 3
Overall MAXimum	0.787	3.994	
Overall MINimum	0.072	0.361	
+D+L+H	0.787	3.994	
D Only	0.072	0.361	
L Only	0.715	3.633	



SINGLE SHEAR

$Z_{LS,\ REDWOOD\ 4x} = 650^{\#}$

$Z_{11,\ DF\ 6x} = 1{,}670^{\#}$

$Z_{TOTAL} = (2)(Z_{LS}) + (2)(Z_{11})$

$= 2(650) + 2(1{,}670)$

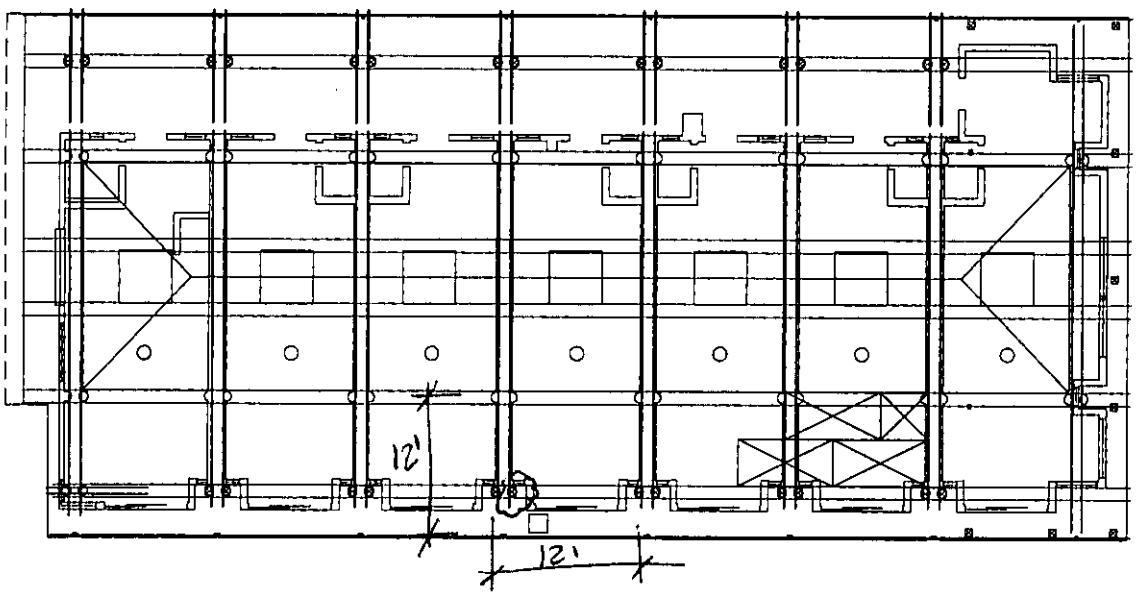
$= 4{,}640^{\#} > 4^{k}$ ✓

USE (4) 3/4" ϕ MB

EXTERIOR 8x8 COLUMN (ROOF):

$DL = 20^{PSF}$

$L_r = 20^{PSF}$



$A_{TRIB} = (12'/2)(12'/2) = 36^{SF}$

$\therefore P_{DL} = \underline{0.720^{K}}$

$P_{Lr} = \underline{0.720^{K}}$

SHEET NAME: KEY PLAN - ROOF	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
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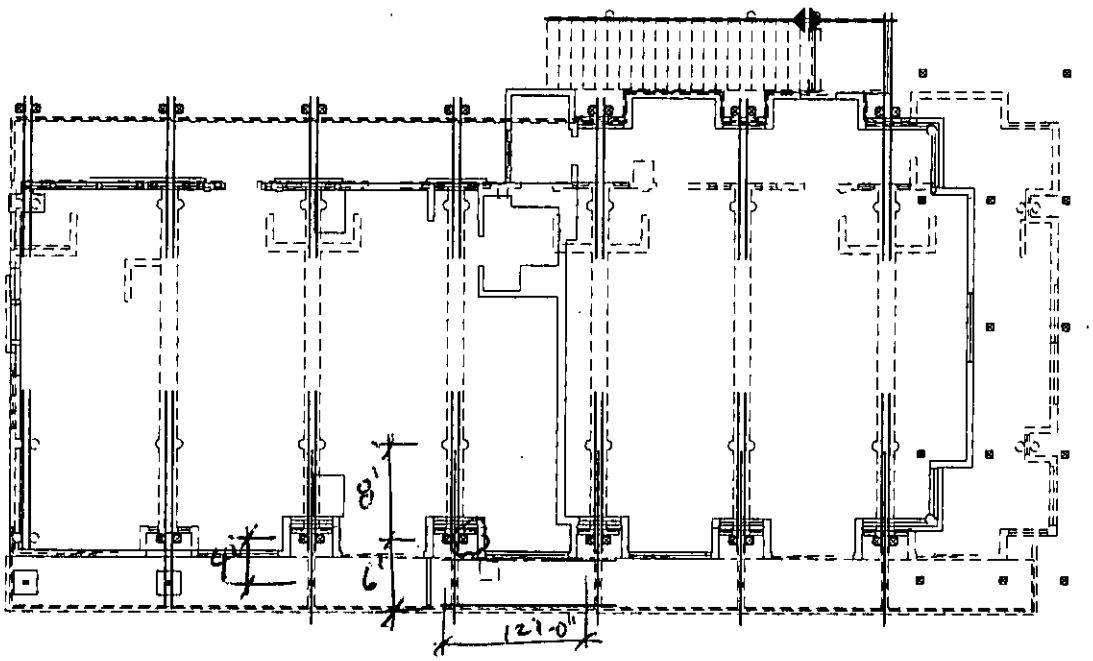
EXTERIOR 8x8 COLUMN (3RD):

$DL = 16^{PSF}$ $LL = 40^{PSF}$

$L_r = 20^{PSF}$



$A_{3RD} = (12'/2)(8'/2 + 6') = 60^{SF}$

$\therefore P_{DL} = \underline{0.96^{K}}$ $P_{LL} = \underline{2.40^{K}}$

$A_{ROOF} = (12'/2)(4'/2) = 12^{SF}$

$\therefore P_{L_r} = \underline{0.240^{K}}$

SHEET NAME: KEY PLAN - 3rd FLOOR	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
ZFA STRUCTURAL ENGINEERS 1212 fourth street | suite z santa rosa ca 95404 | 707.526.0992 | www.zfa.com		SHEET NO.: KP - 3rd

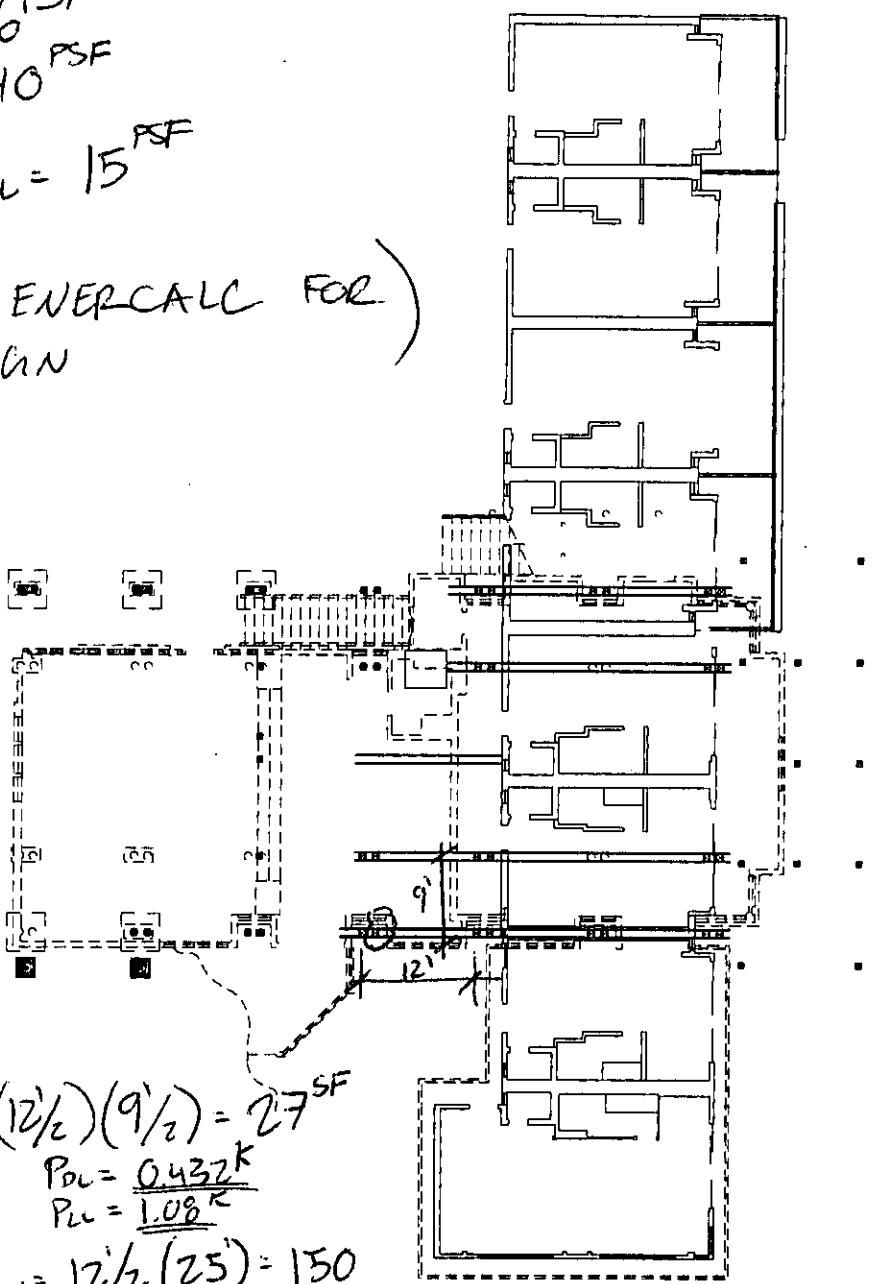
EXTERIOR C&8 COLUMN (2ND):

$DL = 16^{PSF}$

$LL = 40^{PSF}$

$DL_{WALL} = 15^{PSF}$

(SEE ENERCALC FOR DESIGN)



$A_{2ND} = (12'/2)(9'/2) = 27^{SF}$

$P_{DL} = 0.432^{K}$

$P_{LL} = 1.08^{K}$

$A_{WALL,ABV} = 12'/2\,(25') = 150$

$\therefore P_{WALL} = 2.25^{K}$

SHEET NAME: KEY PLAN - 2nd FLOOR	STAMP:	DATE: 03/09/15
		SCALE: 1" = 20'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
ZFA STRUCTURAL ENGINEERS 1212 fourth street | suite z santa rosa ca 95404 | 707.526.0992 | www.zfa.com		SHEET NO.: KP - 2nd

Wood Column

File = W:\2015\15017T~1\CALCUL~1\TIMBER~1.EC6
ENERCALC, INC. 1983-2015, Build:6.15.1.19, Ver:6.15.1.19
Lic. # : KW-06007171 Licensee : ZFA STRUCTURAL ENGINEERS

Description : Exterior 8x8 POST

Code References

Calculations per 2012 NDS, IBC 2012, CBC 2013, ASCE 7-10
Load Combinations Used : ASCE 7-10

General Information

Analysis Method :	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	34.0 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir - Larch		
Wood Grade	No.1		
Fb - Tension	1,200.0 psi	Fv	170.0 psi
Fb - Compr	1,200.0 psi	Ft	825.0 psi
Fc - Prll	1,000.0 psi	Density	32.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	8x8		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	7.50 in	Allow Stress Modification Factors	
Exact Depth	7.50 in	Cf or Cv for Bending	1.0
Area	56.250 in^2	Cf or Cv for Compression	1.0
Ix	263.672 in^4	Cf or Cv for Tension	1.0
Iy	263.672 in^4	Cm : Wet Use Factor	1.0
Incising Factors :		Ct : Temperature Factor	1.0
for Bending	0.80	Cfu : Flat Use Factor	1.0
for Elastic Modulus	0.95	Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No *(non-glb only)*

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Lu for X-X Axis buckling : 9.5 ft, 21.5 ft, 34 ft, K = 1.0
Y-Y (depth) axis : Lu for Y-Y Axis buckling : 9.5 ft, 21.5 ft, 34 ft, K = 1.0

Applied Loads

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

Column self weight included : 427.789 lbs * Dead Load Factor
AXIAL LOADS . . .
ROOF: Axial Load at 34.0 ft, D = 0.720, Lr = 0.720 k
3RD: Axial Load at 21.50 ft, D = 0.960, Lr = 0.240, L = 2.40 k
2ND: Axial Load at 9.50 ft, D = 0.4320, L = 1.080 k
WALL: Axial Load at 9.50 ft, D = 2.250 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS	Max. Axial+Bending Stress Ratio =	0.2156 : 1
	Load Combination	+D+L+H
	Governing NDS Forumla	Comp Only, fc/Fc'
	Location of max.above base	34.0 ft
	At maximum location values are . . .	
	Applied Axial	7.842 k
	Applied Mx	0.0 k-ft
	Applied My	0.0 k-ft
	Fc : Allowable	646.63 psi
PASS	Maximum Shear Stress Ratio =	0.0 : 1
	Load Combination	+D+0.750Lr+0.750L+H
	Location of max.above base	34.0 ft
	Applied Design Shear	0.0 psi
	Allowable Shear	136.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.0 k	Bottom along Y-Y	0.0 k
Top along X-X	0.0 k	Bottom along X-X	0.0 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y	0.0 in	at	0.0 ft	above base
for load combination : n/a				
Along X-X	0.0 in	at	0.0 ft	above base
for load combination : n/a				

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension
Cf or Cv : Size based factors	1.000	1.000	

Load Combination Results

Load Combination	C_D	C_P	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
+D+H	1.000	0.808	0.1199	PASS	34.0 ft	0.0	PASS	34.0 ft
+D+L+H	1.000	0.808	0.2156	PASS	34.0 ft	0.0	PASS	34.0 ft
+D+Lr+H	1.000	0.808	0.1463	PASS	34.0 ft	0.0	PASS	34.0 ft
+D+0.750Lr+0.750L+H	1.000	0.808	0.2115	PASS	34.0 ft	0.0	PASS	34.0 ft

Wood Column

Description : Exterior 8x8 POST

Maximum Reactions

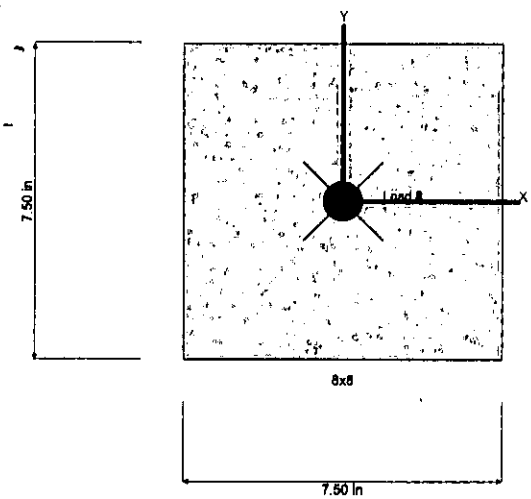
Note: Only non-zero reactions are listed.

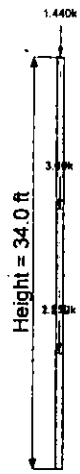
Load Combination	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Axial Reaction @ Base
+D+L+H		k		k	8.270 k
+D+Lr+H		k		k	5.750 k
+D+0.750Lr+0.750L+H		k		k	8.120 k
D Only		k		k	4.790 k
Lr Only		k		k	0.960 k
L Only		k		k	3.480 k

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection	Distance	Max. Y-Y Deflection	Distance
+D+L+H	0.0000 in	0.000 ft	0.000 in	0.000 ft
+D+Lr+H	0.0000 in	0.000 ft	0.000 in	0.000 ft
+D+0.750Lr+0.750L+H	0.0000 in	0.000 ft	0.000 in	0.000 ft
D Only	0.0000 in	0.000 ft	0.000 in	0.000 ft
Lr Only	0.0000 in	0.000 ft	0.000 in	0.000 ft
L Only	0.0000 in	0.000 ft	0.000 in	0.000 ft

Sketches



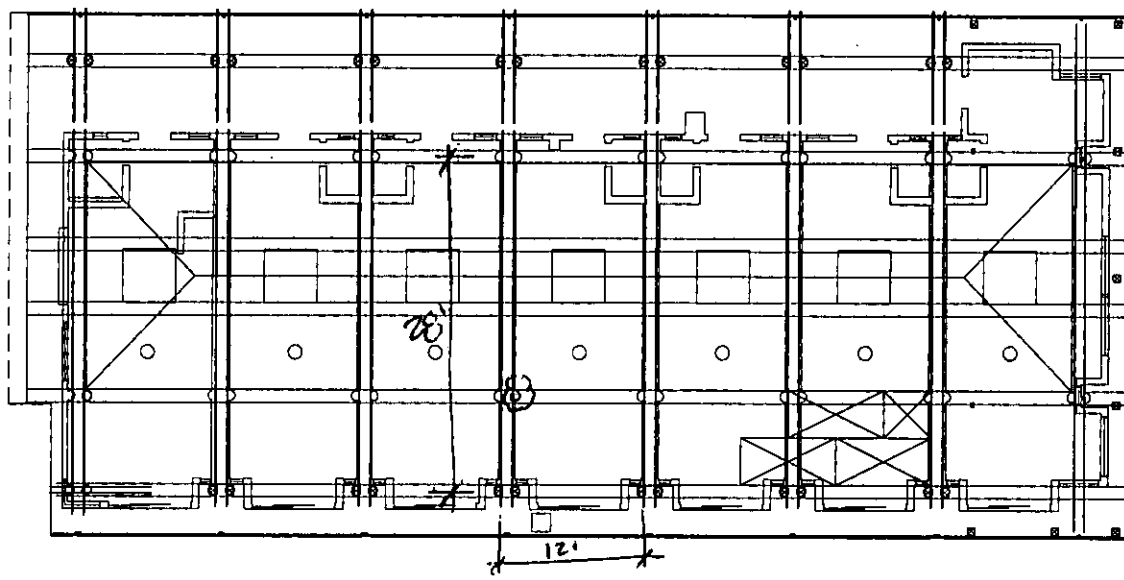


Loads are total entered value. Arrows do not reflect absolute direction.

INTERIOR 8x8 COLUMN (ROOF):

$DL = 20^{PSF}$

$L_r = 20^{PSF}$



$A_{ROOF} = (12'/2)(28'/2) = 84^{SF}$

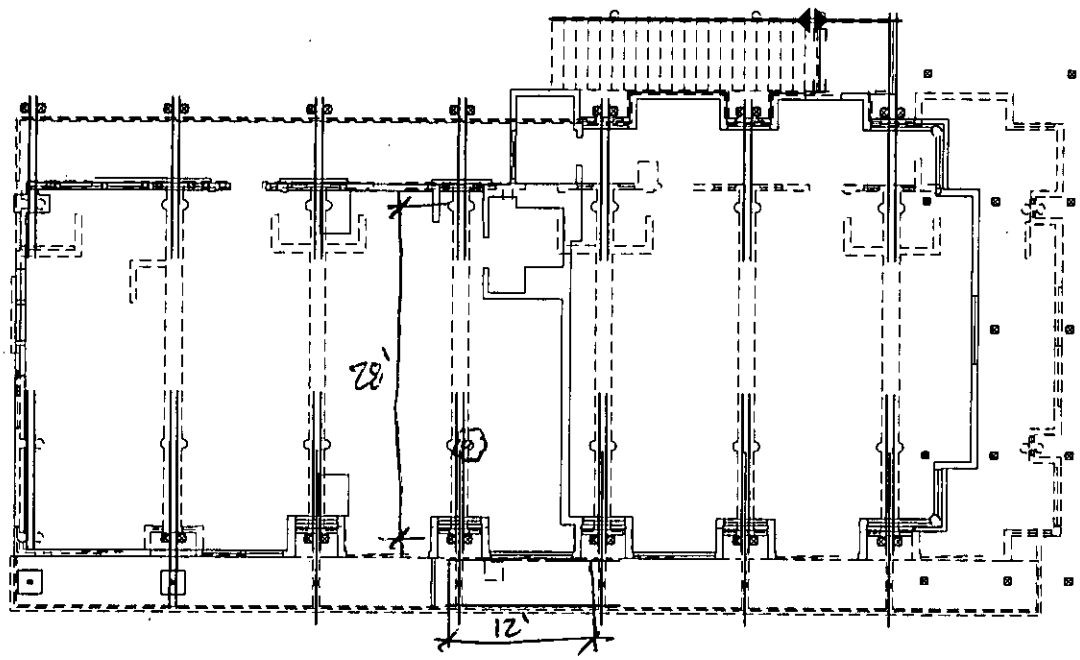
$\therefore P_{DL} = \underline{1.68^{K}}$

$P_{Lr} = \underline{1.68^{K}}$

SHEET NAME: KEY PLAN - ROOF	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
ZFA STRUCTURAL ENGINEERS 1212 fourth street | suite z santa rosa ca 95404 | 707.526.0992 | www.zfa.com		SHEET NO.: KP - ROOF

INTERIOR 8x8 COLUMN (3RD):

$DL = 16^{PSF}$ $LL = 40^{PSF}$



$A_{3RD} = (12'/2)(28'/2) = 84^{SF}$

$\therefore P_{DL} = 1.344^{K}$

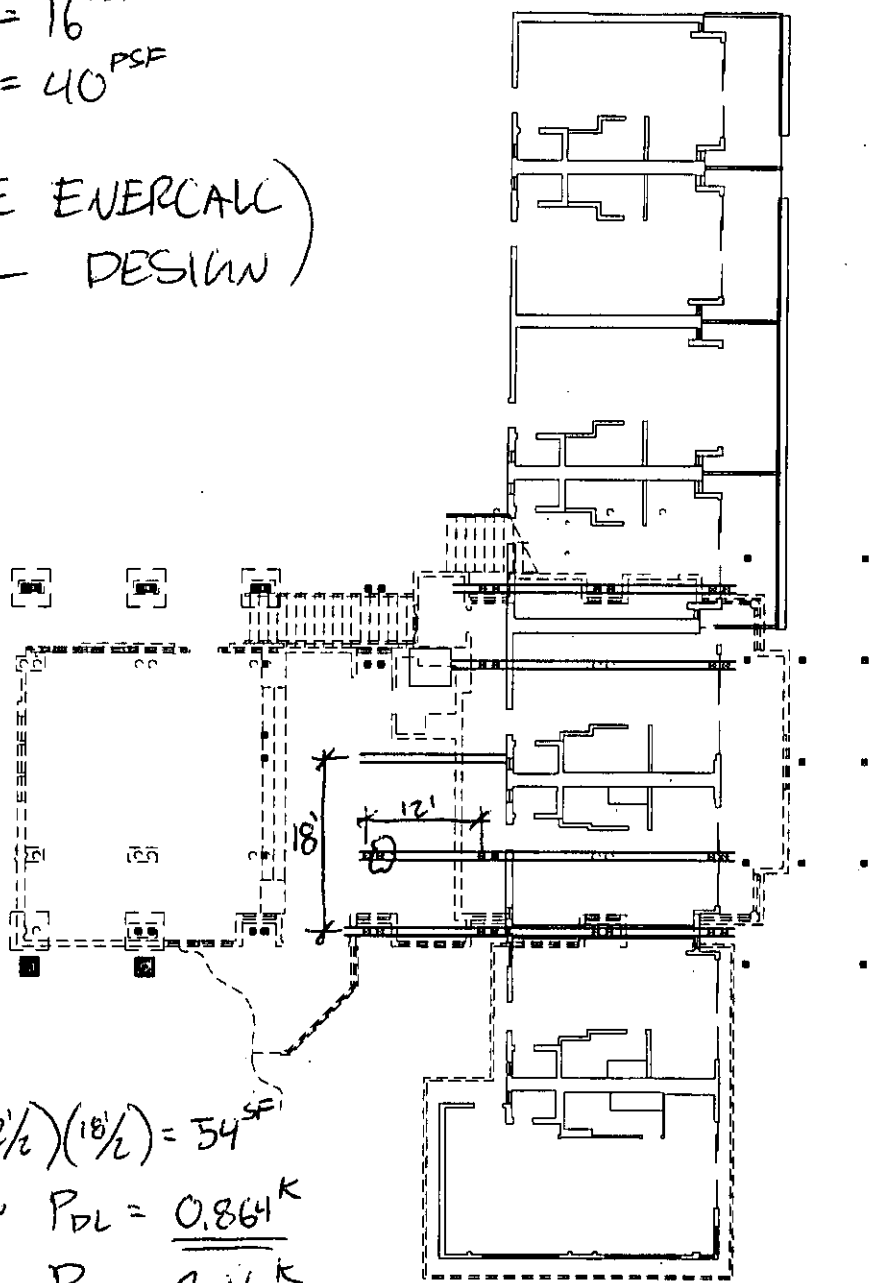
$P_{LL} = 3.36^{K}$

SHEET NAME: KEY PLAN - 3rd FLOOR	STAMP:	DATE: 03/09/15
		SCALE: 1/16" = 1'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
ZFA STRUCTURAL ENGINEERS 1212 fourth street | suite z santa rosa ca 95404 | 707.526.0992 | www.zfa.com		SHEET NO.: KP - 3rd

INTERIOR 8'x8' COLUMN (2ND):

DL = 16 PSF
LL = 40 PSF

(SEE ENERCALC FOR DESIGN)



$A_{2ND} = (12'/2)(18'/2) = 54^{SF}$

$\therefore P_{DL} = \underline{0.864^{K}}$

$P_{LL} = \underline{2.16^{K}}$

SHEET NAME: KEY PLAN - 2nd FLOOR	STAMP:	DATE: 03/09/15
		SCALE: 1" = 20'-0"
PROJECT NAME: TIMBER COVE INN - 400/500 WING REPAIRS		ENG/CKR: BMS
		JOB NO.: 15017.00
ZFA STRUCTURAL ENGINEERS 1212 fourth street | suite z santa rosa ca 95404 | 707.526.0992 | www.zfa.com		SHEET NO.: KP - 2nd

Wood Column

Description : Interoir 8x8 POST

Code References

Calculations per 2012 NDS, IBC 2012, CBC 2013, ASCE 7-10
Load Combinations Used : ASCE 7-10

General Information

Analysis Method :	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	9.50 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir - Larch		
Wood Grade	No.1		
Fb - Tension	1,200.0 psi	Fv	170.0 psi
Fb - Compr	1,200.0 psi	Ft	825.0 psi
Fc - Prll	1,000.0 psi	Density	32.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	8x8		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	7.50 in	Allow Stress Modification Factors	
Exact Depth	7.50 in	Cf or Cv for Bending	1.0
Area	56.25 in^2	Cf or Cv for Compression	1.0
Ix	263.672 in^4	Cf or Cv for Tension	1.0
Iy	263.672 in^4	Cm : Wet Use Factor	1.0
Incising Factors :		Ct : Temperature Factor	1.0
for Bending	0.80	Cfu : Flat Use Factor	1.0
for Elastic Modulus	0.95	Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No *(non-glb only)*

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Unbraced Length for X-X Axis buckling = 9.50 ft, K = 1.0
Y-Y (depth) axis : Unbraced Length for X-X Axis buckling = 9.50 ft, K = 1.0

Applied Loads

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

Column self weight included : 119.529 lbs * Dead Load Factor
AXIAL LOADS . . .
ROOF: Axial Load at 9.50 ft, D = 1.680, Lr = 1.680 k
3RD: Axial Load at 9.50 ft, D = 1.344, L = 3.360 k
2ND: Axial Load at 9.50 ft, D = 0.8640, L = 2.160 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS	Max. Axial+Bending Stress Ratio =	0.2345 : 1
	Load Combination	+D+L+H
	Governing NDS Forumla	Comp Only, fc/Fc'
	Location of max.above base	0.0 ft
	At maximum location values are . . .	
	Applied Axial	9.528 k
	Applied Mx	0.0 k-ft
	Applied My	0.0 k-ft
	Fc : Allowable	722.22 psi
PASS	Maximum Shear Stress Ratio =	0.0 : 1
	Load Combination	+D+0.750Lr+0.750L+H
	Location of max.above base	9.50 ft
	Applied Design Shear	0.0 psi
	Allowable Shear	136.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.0 k	Bottom along Y-Y	0.0 k
Top along X-X	0.0 k	Bottom along X-X	0.0 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y	0.0 in	at	0.0 ft	above base
for load combination : n/a				
Along X-X	0.0 in	at	0.0 ft	above base
for load combination : n/a				

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension
Cf or Cv : Size based factors	1.000	1.000	

Load Combination Results

Load Combination	C_D	C_P	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
+D+H	1.000	0.903	0.09865	PASS	0.0 ft	0.0	PASS	9.50 ft
+D+L+H	1.000	0.903	0.2345	PASS	0.0 ft	0.0	PASS	9.50 ft
+D+Lr+H	1.000	0.903	0.140	PASS	0.0 ft	0.0	PASS	9.50 ft
+D+0.750Lr+0.750L+H	1.000	0.903	0.2316	PASS	0.0 ft	0.0	PASS	9.50 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Axial Reaction @ Base
+D+L+H		k		k	9.528 k

Wood Column

Description : Interolr 8x8 POST

Maximum Reactions

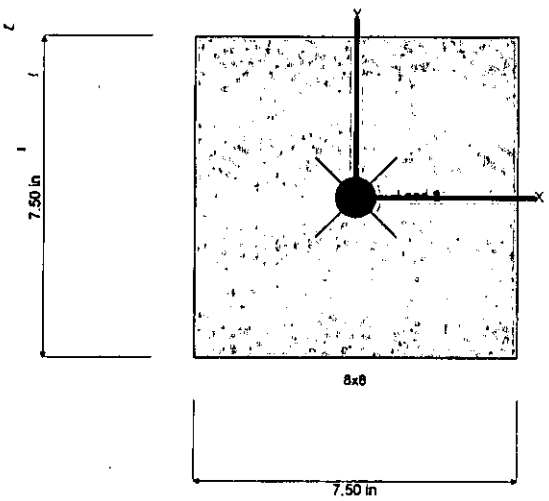
Note: Only non-zero reactions are listed.

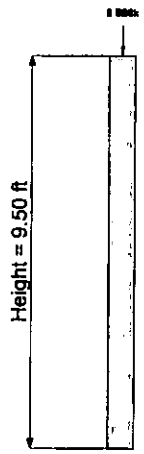
Load Combination	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Axial Reaction @ Base
+D+Lr+H		k		k	5.688 k
+D+0.750Lr+0.750L+H		k		k	9.408 k
D Only		k		k	4.008 k
Lr Only		k		k	1.680 k
L Only		k		k	5.520 k

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection	Distance	Max. Y-Y Deflection	Distance
+D+L+H	0.0000 in	0.000 ft	0.000 in	0.000 ft
+D+Lr+H	0.0000 in	0.000 ft	0.000 in	0.000 ft
+D+0.750Lr+0.750L+H	0.0000 in	0.000 ft	0.000 in	0.000 ft
D Only	0.0000 in	0.000 ft	0.000 in	0.000 ft
Lr Only	0.0000 in	0.000 ft	0.000 in	0.000 ft
L Only	0.0000 in	0.000 ft	0.000 in	0.000 ft

Sketches





Loads are total entered value. Arrows do not reflect absolute direction.