

# STRUCTURAL GENERAL NOTES

## DESIGN LOADS:

- DESIGN LOADS: 2015 INTERNATIONAL BUILDING CODE WITH ROUTT COUNTY AMENDMENTS, ASCE 7-10
- RISK CATEGORY: II STANDARD
- SITE LOCATION:
- ELEVATION: 7070.0'
- ROOFS:
  - ROOF DEAD LOAD 20 PSF
  - ROOF LIVE LOAD 20 PSF, 300 LBS
  - GROUND SNOW LOAD,  $P_g$  85 PSF (PER SEAC 2016 SNOW LOAD REPORT)
  - FLAT-ROOF SNOW LOAD,  $P_f$  90 PSF (FOR DESIGN)
  - SNOW EXPOSURE FACTOR,  $C_e$  1.0
  - SNOW IMPORTANCE FACTOR,  $I_s$  1.0
  - THERMAL FACTOR,  $C_t$  1.0
- FLOOR LOADS:

Routt County Regional Building Department uses specific Ground Snow Load design requirements based on the geographical location and elevation of the property. Roof snow load appears OK.

| OCCUPANCY OR USE              | UNIFORMLY DISTRIBUTED (PSF)                     | CONCENTRATED LOAD (LBS) | LIVE LOAD REDUCTION |
|-------------------------------|-------------------------------------------------|-------------------------|---------------------|
| RESIDENTIAL LIVE LOAD         | 40                                              | N/A                     | YES                 |
| BALCONIES & DECKS (COVERED)   | 1.5 TIMES LL FOR THE OCCUPANCY SERVED (100 MAX) | N/A                     | NO                  |
| BALCONIES & DECKS (UNCOVERED) | 90                                              | N/A                     | NO                  |
| RESIDENTIAL DEAD LOAD         | 20 (NO GYPCRETE)                                | N/A                     | NO                  |
| RESIDENTIAL DECK DEAD LOAD    | 15                                              | N/A                     | NO                  |
| RESIDENTIAL GARAGE LIVE LOAD  | 40                                              | 3000                    | NO                  |
| RESIDENTIAL GARAGE DEAD LOAD  | 65                                              | N/A                     | NO                  |

## 6. WIND:

- ULTIMATE DESIGN WIND SPEED,  $V_{ult}$ , (3-SECOND GUST) 115 MPH
- NOMINAL DESIGN WIND SPEED,  $V_{ASD}$ , (3-SECOND GUST) 90 MPH
- INTERNAL PRESSURE COEFFICIENT 0.18 (ENCLOSED)
- WIND EXPOSURE
- AIR DENSITY COEFFICIENT .81
- F. COMBINATIONS AND CLADDING ULTIMATE DESIGN WIND PRESSURES

- WALLS:
  - WITHIN 12 FEET OF CORNERS +23 PSF -31 PSF
  - AWAY FROM CORNERS +23 PSF -25 PSF
- ROOFS:
  - WITHIN 12 FEET OF CORNERS +16 PSF -43 PSF
  - WITHIN 12 FEET OF EDGES +16 PSF -38 PSF
  - AWAY FROM EDGES +16 PSF -28 PSF
- OVERHANGS:
  - WITHIN 6 FEET OF CORNERS +16 PSF -36 PSF
  - AWAY FROM CORNERS +16 PSF -23 PSF
- PRESSURES MAY BE REDUCED FOR EFFECTIVE WIND AREAS LARGER THAN 10 SQUARE FEET, BUT NOT BELOW 16 PSF

## 7. SEISMIC:

### A. SPECTRAL RESPONSE ACCELERATION PARAMETERS

- SHORT PERIOD
  - $S_s$  0.27g
  - $S_{DS}$  0.285g
- ONE SECOND
  - $S_1$  0.074g
  - $S_{D1}$  0.119g
- SOILS SITE CLASS D
- SEISMIC IMPORTANCE FACTOR 1.0
- SEISMIC DESIGN CATEGORY B
- BASIC SEISMIC FORCE-RESISTING SYSTEMS
  - PER IBC SECTION 1613.1 EXCEPT 1- SEISMIC DESIGN NOT REQUIRED
- ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE

## FOUNDATION DESIGN:

- REFER TO SOILS REPORT NO. 17-10640 BY NORTHEAST COLORADO CONSULTANTS (NWCC), DATED SEPTEMBER 5, 2017.
- GEOTECHNICAL ENGINEER SHALL VERIFY SOIL CONDITIONS AND TYPES DURING EXCAVATION AND PRIOR TO PLACEMENT OF FORMWORK OR CONCRETE.
- MINIMUM FROST DEPTH SHALL BE 4'-0" BELOW EXTERIOR GRADE.

## FOOTINGS:

- DESIGN OF FOOTINGS IS BASED ON
  - A. MAXIMUM ALLOWABLE BEARING PRESSURE 3,000 PSF
  - B. MINIMUM DEAD LOAD PRESSURE 700 PSF
- BEAR ON THE NATURAL UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL. EXTERIOR FOOTINGS SHALL BEAR BELOW FROST DEPTH.

## EARTH RETAINING STRUCTURES:

- EARTH EQUIVALENT FLUID LATERAL PRESSURE:
  - WALLS RESTRAINED AT TOP (AT REST) 65 PCF - ON-SITE SOILS
  - WALLS RESTRAINED AT TOP (AT REST) 45 PCF - IMPORTED FREE DRAINING MATERIAL
- CANTILEVERED WALLS (ACTIVE) 45 PCF - ON-SITE SOILS
- CANTILEVERED WALLS (ACTIVE) 35 PCF - IMPORTED FREE DRAINING MATERIAL
- PASSIVE RESISTING 250 PCF (ASSUMED)
- COEFFICIENT OF SLIDING FRICTION 0.4

## REINFORCED CONCRETE:

- DESIGN IS BASED ON ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
- CONCRETE WORK SHALL CONFORM TO ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE."
- STRUCTURAL CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

| INTENDED USE           | EXPOSURE CLASS | $f'_c$ PSI | W/C RATIO | MAXIMUM AGGREGATE | SUMP, INCHES (+/- 1") | AIR CONTENT PERCENT (+/- 1.5%) | CEMENT TYPE | ADMIXTURES/ COMMENTS |
|------------------------|----------------|------------|-----------|-------------------|-----------------------|--------------------------------|-------------|----------------------|
| FOOTINGS               | F2-SO-WD-C1    | 3000       | 0.52      | 3/4" STONE        | 5                     | 2%                             | III         |                      |
| STEM WALLS             | F2-SO-WD-C1    | 4500       | 0.45      | 3/4" STONE        | 4                     | 6%                             | III         |                      |
| WALLS                  | F0-SO-WD-C0    | 4000       | 0.45      | 3/4" STONE        | 4                     | 3%                             | VII         |                      |
| INTERIOR SLAB ON GRADE | F0-SO-WD-C0    | 4000       | 0.45      | 3/4" STONE        | 4                     | 3%                             | VII         | FIBER                |
| EXTERIOR SLAB ON GRADE | F3-SO-WD-C2    | 5000       | 0.40      | 3/4" STONE        | 4                     | 6%                             | VII         | 25% MAX FLY ASH      |

- DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 318 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185
- REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT TIES OR BARS SHOWN TO BE FIELD-BENT, WHICH SHALL BE GRADE 40.
- EPOXY COATED REINFORCING BARS SHALL CONFORM TO ASTM A775 (STRAIGHT BARS) AND ASTM A934 (PRE-FABRICATED BARS).
- ZINC COATED (GALVANIZED) REINFORCING BARS SHALL CONFORM TO ASTM A767.
- BARS TO BE WELDED SHALL CONFORM TO ASTM A706
- UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, LAP BARS 50 DIAMETERS (MINIMUM).
- AT CORNERS AND INTERSECTIONS, MAKE HORIZONTAL BARS CONTINUOUS OR PROVIDE MATCHING CORNER BARS FOR EACH LAYER OF REINFORCEMENT.
- TRIM OPENINGS IN WALLS AND SLABS WITH (2) #5 FOR EACH LAYER OF REINFORCEMENT, FULLY DEVELOPED BY EXTENSION OR HOOK.
- IN CONTINUOUS MEMBERS, SPLICE TOP BARS AT MID-SPAN AND SPLICE BOTTOM BARS OVER SUPPORTS.
- FORM INTERMITTENT SHEAR KEYS AT ALL CONSTRUCTION JOINTS AND AS SHOWN ON THE STRUCTURAL DRAWINGS.
- EXCEPT AS NOTED ON THE DRAWINGS, CONCRETE PROTECTION FOR REINFORCEMENT IN CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
  - CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
    - EXPOSED TO EARTH OR WEATHER:
      - #6 THROUGH #18 BARS 2"
      - #5 BAR, W31 OR D31 WIRE, AND SMALLER 1-1/2"
  - NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
    - SLABS, WALLS, JOISTS: #11 BARS AND SMALLER 3/4"
    - BEAMS AND COLUMNS:
      - PRIMARY REINFORCEMENT 1-1/2"
      - STIRRUPS, TIES, SPIRALS 1-1/2"
- FIBER ADMIXTURE SHALL BE 100% VIRGIN POLYPROPYLENE, FIBRILLATED FIBERS, TYPE III 4.1.3, PERFORMANCE LEVEL ONE, PER ASTM C1116.
- ANCHOR BOLTS AND RODS FOR BEAM AND COLUMN-BEARING PLATES SHALL BE PLACED WITH SETTING TEMPLATES.

## POST-INSTALLED ANCHORS

- ALL CAST IN PLACE ANCHORS DESIGNED IN ACCORDANCE WITH ACI 318.
- POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
- CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. EXISTING REINFORCING BARS SHALL NOT BE CUT UNLESS APPROVED BY THE EOR.
- ALL ANCHORS MUST BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION (MPI) IN CONJUNCTION WITH EDGE DISTANCE, SPACING, AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MPI.
- SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. REGISTRATION MUST BE IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO THE ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE EOR/ SPECIAL INSPECTOR AS REQUESTED.
- ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION THAT SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACICRSI (ACI 318-11 D 9.2.2, ACI 318-14 17.8.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE EOR FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
- ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D.2.2, ACI 318-14 17.1.2).
- ALL POST INSTALLED ANCHORS SHALL BE INSTALLED IN DRY HOLES THAT HAVE BEEN DRILLED, CLEANED, AND PREPARED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION AND THE RESPECTIVE ICC-ES EVALUATION REPORTS.
- TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO THE ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE EOR/ SPECIAL INSPECTOR AS REQUESTED.
- ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D.2.2, ACI 318-14 17.1.2).
- ALL POST INSTALLED ANCHORS SHALL BE INSTALLED IN DRY HOLES THAT HAVE BEEN DRILLED, CLEANED, AND PREPARED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION AND THE RESPECTIVE ICC-ES EVALUATION REPORTS.
- TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO THE ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE EOR/ SPECIAL INSPECTOR AS REQUESTED.
- ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D.2.2, ACI 318-14 17.1.2).

| CONCRETE POST INSTALLED ANCHORS |                               |                             |                              |
|---------------------------------|-------------------------------|-----------------------------|------------------------------|
| ANCHOR TYPE                     | DEWALT                        | HILTI                       | SIMPSON                      |
| EXPANSION                       | POWER-STUD-SD2 (ICC ESR-2502) | KWIK BOLT TZ (ICC ESR-1917) | STRONG-BOLT Z (ICC ESR-3037) |
| CONCRETE SCREW                  | SCREW-BOLT+ (ICC ESR 3889)    | KWIK HUS-EZ (ICC ESR-3027)  | TITEN HD (ICC ESR 2713)      |
| ADHESIVE                        | AC208+ (ICC ESR-4027)         | HIT-HY 200 (ICC ESR-3187)   | AT-XP (UES ESR-263)          |

| MASONRY POST INSTALLED ANCHORS |                               |                            |                          |
|--------------------------------|-------------------------------|----------------------------|--------------------------|
| ANCHOR TYPE                    | DEWALT                        | HILTI                      | SIMPSON                  |
| EXPANSION                      | POWER-STUD-SD1 (ICC ESR-2966) | KWIK BOLT 3 (ICC ESR-1385) | WEDGE-ALL (ICC ESR-1396) |
| SCREW                          | SCREW-BOLT+ (ICC ESR-4042)    | HUS-EZ (ICC ESR-3056)      | TITEN HD (ICC ESR-1056)  |
| ADHESIVE                       | AC108+ GOLD (ICC ESR-3200)    | HIT-HY 70 (ICC ESR-2682)   | AT-XP (UES ESR-281)      |

## STRUCTURAL STEEL:

- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 360) AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303) BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
- STRUCTURAL STEEL WELD PLANTING SHALL CONFORM TO ASTM A585, GRADE 50, S1 YIELD.
- ROLLED STEEL FLOOR PLATES SHALL CONFORM TO ASTM A786, COMMERCIAL GRADE.
- OTHER ROLLED SHAPES, INCLUDING PLATES, CHANNELS, WTS, AND ANGLES SHALL CONFORM TO ASTM A36, 36 KSI YIELD.
- HOLLOW STRUCTURAL SECTION (HSS) RECTANGULAR SHAPES SHALL CONFORM TO ASTM A500, GRADE C, 50 KSI YIELD.
- HSS ROUND SHAPES SHALL CONFORM TO ASTM A500, GRADE C, 46 KSI YIELD.
- PIPE SHAPES SHALL CONFORM TO ASTM A53, GRADE B, 35 KSI YIELD.
- EXCEPT AS NOTED, FRAMED BEAM CONNECTIONS SHALL BE BEARING-TYPE WITH 3/4" DIAMETER, SNUG TIGHT, ASTM A325 BOLTS, DETAILED IN CONFORMANCE WITH THE STRUCTURAL DRAWINGS AND THE "STEEL CONSTRUCTION MANUAL" BY THE AISC. INSTALL BOLTS IN ACCORDANCE WITH AISCS "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS."
- ALL BEAMS SHALL HAVE FULL DEPTH WEB STIFFENERS EACH SIDE OF WEBS ABOVE AND BELOW COLUMNS.
- ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE 36, 55 WITH WELDABILITY SUPPLEMENT S1, AND/OR 105) AS NOTED ON THE STRUCTURAL DRAWINGS.
- HEADED ANCHOR STUDS (HAS) SHALL CONFORM TO ASTM A108 AND SHALL BE CONNECTED TO STRUCTURAL STEEL WITH EQUIPMENT APPROVED BY THE STUD MANUFACTURER ACCORDING TO THE STUD MANUFACTURER'S RECOMMENDATIONS.
- WELDING SHALL BE DONE BY A CERTIFIED WELDER IN ACCORDANCE WITH THE AISC DOCUMENTS LISTED ABOVE. THE AMERICAN WELDING SOCIETY (AWS) D1:1. STRUCTURAL WELDING CODE, AND THE RECOMMENDATIONS FOR USE OF WELD E70 ELECTRODES. WHERE NOT SPECIFICALLY NOTED, MINIMUM WELD SHALL BE 3/16" FILLET BY LENGTH OF CONTACT EDGE.
- GROUT BENEATH COLUMN BASE AND BEAM BEARING PLATES SHALL HAVE A MINIMUM 28-DAY, COMPRESSIVE STRENGTH OF 7,500 PSI AND SHALL BE NON-SHRINK, NON-METALLIC, AND TESTED IN ACCORDANCE WITH ASTM C1107.

## STRUCTURAL WOOD FRAMING:

- IN-GRADE BASE VALUES HAVE BEEN USED FOR DESIGN.
- DIMENSIONAL LUMBER FRAMING SHALL BE S4S HEM FIR NO. 2 AND BETTER UNO.
- SOLID TIMBER BEAMS AND POSTS SHALL BE DOUGLAS FIR-LARCH NO. 1 AND BETTER UNO.
- STUDS SHALL BE HEM FIR STUD GRADE AND BETTER UNO.
- TOP AND BOTTOM PLATES SHALL BE DOUGLAS FIR-LARCH NO. 2 AND BETTER UNO.
- ALL LUMBER SHALL BE 19% MAXIMUM MOISTURE CONTENT AT THE TIME OF INSTALLATION UNO.
- ALL WOOD EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR-LARCH OR SOUTHERN YELLOW PINE. PRESERVATIVE-TREATED WOOD SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARDS U1 AND M4. TREATMENTS SHALL HAVE NO AMMONIA ADDED AND SHALL BE THE FOLLOWING USE CATEGORY:
  - UC2 AT INTERIOR
  - UC3B AT EXTERIOR WITH NO GROUND CONTACT
  - UC4B AT EXTERIOR WITH GROUND CONTACT
- FASTENERS FOR USE WITH TREATED WOOD SHALL BE CORROSION RESISTANT IN ACCORDANCE WITH SECTION 2304.5.5 (2304.5.5 IN 2015 IBC) OF THE IBC.
- ALL CONNECTORS USED WITH PRESSURE-TREATED MATERIAL SHALL BE STAINLESS STEEL ASTM 304 OR 316, OR HAVE A SIMPSON Z-MAX (G185) OR HDG COATING. STANDARD COATING (G90) IS ACCEPTABLE AT INTERIOR CONDITIONS WITH NON PRESSURE-TREATED LUMBER ONLY. CONNECTORS ARE TO BE IN ACCORDANCE WITH ASTM A653 OR ASTM 123.
- ALL IRON AND STEEL PRODUCTS ATTACHED TO TREATED LUMBER SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 OR SHALL BE TYPE 304 OR 316 STAINLESS STEEL.
- STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY NOTED OR DETAILED ON THE STRUCTURAL DRAWINGS.
- ALL BOLTS SHALL BE RETIGHTENED PRIOR TO CLOSING IN OF WALLS, FLOORS, AND ROOFS.
- ALL BOLTS BEARING ON WOOD SHALL HAVE STANDARD CUT WASHERS UNDER HEAD AND/OR NUT. UNO.
- METAL FRAMING ANCHORS SHOWN OR REQUIRED, SHALL BE SIMPSON STRONG-TIE OR EQUAL CODE APPROVED CONNECTORS AND INSTALLED WITH ALL HOLES FILLED (ROUND AND TRIANGULAR) WITH THE MAXIMUM SIZE NAIL RECOMMENDED BY THE MANUFACTURER TO DEVELOP THE MAXIMUM RATED CAPACITY.
- CONNECTOR BOLTS AND LAG SCREWS SHALL CONFORM TO ANSIAISME B18.2.1 AND ASTM SAE J429 GRADE 1.
- NAILS AND SPIKES SHALL CONFORM TO ASTM F1667.
- WOOD SCREWS SHALL CONFORM TO ANSIAISME B18.6.1.
- LEAD HOLES FOR LAG SCREWS SHALL BE 40%-75% OF THE SHANK DIAMETER AT THE THREADED SECTION AND EQUAL TO THE SHANK DIAMETER AT THE UNTHREADED SECTION.
- CONVENTIONAL LIGHT FRAMING SHALL COMPLY WITH IBC SECTION 2308.
- COLUMNS/ MULTIPLE STUDS IN BEARING WALLS SUPPORTING ALL BEAMS AND HEADERS SHALL OCCUR CONTINUOUSLY THROUGH EACH FLOOR LEVEL DOWN TO THE FOUNDATION OR ANOTHER SUPPORT BEAM. SOLID SQUASH BLOCKING EQUIVALENT IN AREA TO THE COLUMN/MULTIPLE STUDS ABOVE SHALL BE PROVIDED WITHIN THE JOIST SPACE BETWEEN THE COLUMN/MULTIPLE STUDS.
- ALL BEAMS AND TRUSSES SHALL BE BRACED AGAINST ROTATION AT POINTS OF BEARING.
- 2X BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS, UNO.
- CROSS-BRIDGING OR SOLID BLOCKING SHALL BE PROVIDED AT 8'-0" MAX. FOR ALL JOISTS AND RAFTERS MORE THAN 10' IN DEPTH, 2X3 OR APPROVED METAL TYPE BRIDGING MAY BE USED.
- PROVIDE A MINIMUM OF (3) STUDS AT EACH CORNER.
- ALL JOISTS AND BEAMS (EXCLUDING JOISTS) SHALL BE SEAT-CUT FOR FULL UNIFORM BEARING AT SUPPORTS, SEATS, CAPS, ETC.
- VENTING IS REQUIRED IN ALL ENCLOSED ROOF AND CRAWL SPACE FRAMING CAVITIES. SEE ARCHITECTURAL DRAWINGS.
- EXCEPT AS NOTED OTHERWISE, MINIMUM NAILING SHALL BE PROVIDED AS SPECIFIED IN TABLE 2304.3.1 "FASTENING SCHEDULE" (2304.3.1 IN 2015 IBC) OF THE IBC.
- ALL MULTIPLE MEMBER BEAMS SHALL BE NAILED TOGETHER WITH MAX NUMBER OF 100 NAILS VERTICALLY @ 3" AND HORIZONTALLY @ 12" PER PLY.
- TONGUE AND GROOVE DECKING SHALL BE INSTALLED IN ACCORDANCE WITH THE "STANDARD FOR TONGUE AND GROOVE HEAVY TIMBER ROOF DECKING", ATC 112. WHERE DECKING MUST BE NAILED FROM THE BOTTOM SIDE, USE (2) 16D GALVANIZED FINISH NAILS AT EACH SUPPORT, COUNTERSUNK AND FILLED.
- ALL ROOF RAFTERS, JOISTS, TRUSSES, AND BEAMS SHALL BE ANCHORED TO SUPPORTS WITH H2.5A METAL FRAMING ANCHORS UNO. PROVIDE (2) WITHIN 4'-0" OF ALL CORNERS.

## WOOD SHEATHING:

- PLYWOOD AND ORIENTED STRAND BOARD (OSB) FLOOR AND ROOF SHEATHING SHALL BE APA RATED WITH STAMP INCLUDING APA TRADEMARK AND PANEL SPAN RATING.
  - MINIMUM FLOOR SHEATHING: 23/32" APA STURD-I-FLOOR RATED 24 INCH O.C. TONGUE & GROOVE, GLUED AND NAILED.
  - MINIMUM ROOF SHEATHING: 15/32" OSB OR CDX PLYWOOD, APA 32/16, NAILED.
  - MINIMUM WALL SHEATHING: 7/16" OSB OR CDX PLYWOOD, APA 24/16, BLOCKED AND NAILED.
- NAIL WALL SHEATHING WITH MINIMUM 80 COMMON OR 10D BOX AT 6" AT PANEL EDGES, AND 12" AT INTERMEDIATE FRAMING EXCEPT AS NOTED. BLOCK AND NAIL ALL EDGES BETWEEN STUDS.
- MINIMUM (3) 8D NAILS PER STUD. NAIL ALL PLATES USING EDGE NAIL SPACING INDICATED.
- SHEATH ALL EXTERIOR WALLS. SHEATH INTERIOR WALLS AS DESIGNATED ON THE DRAWINGS.
- SHEATHING SHALL BE CONTINUOUS FROM BOTTOM PLATE TO TOP PLATE. CUT IN "L" AND "T" SHAPES AROUND OPENINGS. LAP SHEATHING OVER SINGLE 2X PLATE MEMBER AT RIM JOIST. AT RIM JOIST PROVIDE A MINIMUM OF 3" BETWEEN SHEATHING EDGE AND TOP/BOTTOM EDGE OF RIM.
- MINIMUM HEIGHT OF SHEATHING PANELS SHALL BE 16" TO ENSURE THAT PLATES ARE TIED TO STUDS.
- ALL SHEATHING SHEETS SHALL HAVE 1/8" GAP AT ALL EDGES AND JOINTS.
- FULLY NAIL FLOOR SHEATHING IMMEDIATELY AFTER GLUING (DO NOT SPOT NAIL).
- PROVIDE (1) PANEL SHEATHING CLIP AT ALL UNSUPPORTED ROOF SHEATHING PANEL EDGES. WHERE SPANS ARE GREATER THAN 32' PROVIDE (2) CLIPS.

## ENGINEERED LUMBER:

- STRUCTURAL CAPACITIES OF STRUCTURAL COMPOSITE LUMBER SHALL BE IN CONFORMANCE WITH SECTION 2303.1.9 (2303.1.10 OF THE 2015 IBC) OF THE IBC.
- MANUFACTURER OF STRUCTURAL COMPOSITE LUMBER PRODUCTS SHALL HAVE PROPER CODE EVALUATION REPORTS FOR ALL PRODUCTS AND SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
- THE CONTRACTOR SHALL NOT CUT, NOTCH, OR OTHERWISE ALTER STRUCTURAL COMPOSITE LUMBER MEMBERS WITHOUT WRITTEN PERMISSION OF THE STRUCTURAL ENGINEER AND THE MANUFACTURER; HOWEVER, HOLES MAY BE CUT IN MEMBERS IN ACCORDANCE WITH THE MANUFACTURER'S ALLOWABLE HOLE CHART.
- MEMBERS NOTED AS LVL (LAMINATED VENEER LUMBER) ON PLAN SHALL BE 1-3/4" WIDE X DEPTH INDICATED, PLANT-FABRICATED, AND HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN VALUES:
  - $F_b$  = 2600 PSI
  - $F_v$  = 285 PSI
  - $C_{Fmax}$  = 2460 PSI
  - $F_{perp}$  = 750 PSI
  - $E$  = 1900 KSI
- MEMBERS NOTED AS PSL (PARALLEL STRAND LUMBER) ON PLAN SHALL BE PLANT-FABRICATED AND HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN VALUES:
  - $F_b$  = 2900 PSI
  - $F_v$  = 290 PSI
  - $C_{Fmax}$  = 2900 PSI
  - $F_{perp}$  = 750 PSI
  - $E$  = 2000 KSI
- MEMBERS NOTED AS LSL (LAMINATED STRAND LUMBER) ON PLAN SHALL BE PLANT-FABRICATED AND HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN VALUES:
  - $F_b$  = 1700 PSI
  - $F_v$  = 400 PSI
  - $C_{Fmax}$  = 1400 PSI
  - $F_{perp}$  = 680 PSI
  - $E$  = 1300 KSI
- BRIDGINGS AND BLOCKING SHALL BE INSTALLED ACCORDING TO THE FABRICATOR'S REQUIREMENTS.
- WOOD JOISTS SHALL HAVE THE DEPTH, SPACING, SPAN, AND LAYOUT SHOWN ON THE DRAWINGS. MEMBERS SHALL BE FACTORY MANUFACTURED WITH TUBULAR STEEL WEBS, AND LAMINATED VENEER LUMBER (LVL) OR MACHINE STRESS RATED (MSR) LUMBER CHORDS PER CODE APPROVAL BY ICB OR NER.
- OPEN WEB JOISTS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED TO CARRY THE LOADS INDICATED ON THE STRUCTURAL DRAWINGS.
- MEMBER FORCES SHALL BE DETERMINED BY THE FABRICATOR. STRESSES SHALL NOT EXCEED THOSE ALLOWED BY THE IBC.
- DEFLECTION LIMITS FOR WOOD JOISTS AND OPEN WEB JOISTS SHALL NOT EXCEED THE FOLLOWING DEFLECTION CRITERIA:
  - ROOF LIVE LOAD =  $L/360$
  - ROOF TOTAL LOAD =  $L/240$  (1" MAXIMUM)
  - FLOOR LIVE LOAD =  $L/480$
  - FLOOR TOTAL LOAD =  $L/240$  (1" MAXIMUM)

## STRUCTURAL GLUED LAMINATED TIMBER:

- MATERIALS, MANUFACTURE, AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH ANSIAITC A 190.1 "STRUCTURAL GLUED LAMINATED TIMBER" AND AITC 117 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES, DESIGN AND MANUFACTURING REQUIREMENTS."
- GLUED LAMINATED DOUGLAS FIR BEAMS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN VALUES:
  - $F_b$  = 2400 PSI
  - $F_v$  = 190 PSI
  - $C_{Fmax}$  = 1600 PSI
  - $F_{perp}$  = 650 PSI
  - $E$  = 1800 KSI
- SIMPLE SPAN BEAMS SHALL BE COMBINATION SYMBOL 24F-V4 WITH <NO CAMBER> <CAMBER TO 100-FOOT RADIUS>.
- CONTINUOUS AND CANTILEVERED MEMBERS SHALL BE COMBINATION SYMBOL 24F-V8 WITH NO CAMBER.
- COLUMNS SHALL BE COMBINATION #2 OR BETTER.
- MEMBERS SHALL BE ARCHITECTURAL APPEARANCE GRADE.
- ADHESIVES SHALL MEET THE REQUIREMENTS FOR WET CONDITIONS OF SERVICE.
- SEAL CUT EDGES AND ENDS EXPOSED TO WEATHERING.
- THE FABRICATOR SHALL FURNISH ALL ITEMS OF CONNECTION STEEL AND HARDWARE FOR JOINING TIMBER MEMBERS TO EACH OTHER AND TO THEIR SUPPORTS, EXCLUSIVE OF ANCHORAGE EMBEDDED IN MASONRY, SETTING PLATES, AND ITEMS FIELD-WELDED TO STRUCTURAL STEEL.

## SHOP DRAWINGS:

- THE STRUCTURAL DRAWINGS ARE COPYRIGHTED AND SHALL NOT BE COPIED FOR USE AS ERECTION PLANS OR SHOP DETAILS. USE OF JVA'S ELECTRONIC FILES AS THE BASIS FOR SHOP DRAWINGS REQUIRES PRIOR APPROVAL BY JVA. A SIGNED RELEASE OF LIABILITY BY THE GENERAL CONTRACTOR AND/OR HIS SUBCONTRACTORS, AND DELETION OF JVA'S NAME AND LOGO FROM ALL SHEETS SO USED.
- THE GENERAL CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO MODIFY THE STRUCTURAL DRAWINGS OR PROJECT SPECIFICATIONS.
- ALL SHOP AND ERECTION DRAWINGS SHALL BE CHECKED AND STAMPED (AFTER HAVING BEEN CHECKED) BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION FOR STRUCTURAL ENGINEER'S REVIEW. SHOP DRAWING SUBMITTALS NOT CHECKED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION TO THE STRUCTURAL ENGINEER WILL BE RETURNED WITHOUT REVIEW.
- FURNISH ELECTRONIC VERSION (PDF) OF SHOP AND ERECTION DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION FOR:
  - COLD-FORMED STEEL FRAMING
  - CONCRETE MIX DESIGNS
  - CONCRETE REINFORCING STEEL
  - GLUED-LAMINATED TIMBER
  - MASONRY REINFORCING STEEL
  - PLANT FABRICATED WOOD JOISTS
  - POST-TENSIONING TENDONS AND SUPPORTS
  - PRECAST CONCRETE
  - PRE-ENGINEERED WOOD TRUSSES
  - PRE-ENGINEERED COLD-FORMED STEEL TRUSSES
  - K STRUCTURAL STEEL
  - STEEL JOISTS AND JOIST GIRDERS
  - M. STEEL FLOOR, FLOOR, AND ROOF DECK
  - N. TILT-UP CONCRETE
  - TIMBER LOGS
- SUBMIT IN A TIMELY MANNER TO PERMIT 10 WORKING DAYS FOR REVIEW BY THE STRUCTURAL ENGINEER.
- SHOP DRAWINGS SUBMITTED FOR REVIEW DO NOT CONSTITUTE "REQUEST FOR CHANGE IN WRITING" UNLESS SPECIFIC SUGGESTED CHANGES ARE CLEARLY MARKED. IN ANY EVENT, CHANGES MADE BY MEANS OF THE SHOP DRAWING SUBMITTAL PROCESS BECOME THE RESPONSIBILITY OF THE ONE INITIATING THE CHANGE.

JVA RESPONSE 10.1.19:  
AN OPTIONAL WALL ZIP SHEATHING WALL SECTION HAS BEEN INCLUDED UNDER C6. SEE ATTACHED SHEET

## STRUCTURAL ERECTION AND BRACING REQUIREMENTS:

- THE STRUCTURAL DRAWINGS ILLUSTRATE AND DESCRIBE THE COMPLETED STRUCTURE WITH ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED, CONNECTED, AND/OR BRACED.
- THE STRUCTURAL DRAWINGS ILLUSTRATE TYPICAL AND REPRESENTATIVE DETAILS TO ASSIST THE GENERAL CONTRACTOR. DETAILS SHOWN APPLY AT ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED. ALTHOUGH DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT EVERY DETAIL IS ILLUSTRATED AND NOT EVERY EXCEPTIONAL CONDITION IS ADDRESSED.
- ALL PROPRIETARY CONNECTIONS AND ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ALL WORK SHALL BE ACCOMPLISHED IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH THE APPLICABLE CODES AND LOCAL ORDINANCES.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL WORK, INCLUDING LAYOUT AND DIMENSION VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF SUBCONTRACTORS. ANY DISCREPANCIES OR OMISSIONS DISCOVERED IN THE COURSE OF THE WORK SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR RESOLUTION.
- CONTINUATION OF WORK WITHOUT NOTIFICATION OF DISCREPANCIES RELIEVES THE ARCHITECT AND STRUCTURAL ENGINEER FROM ALL CONSEQUENCES.
- UNLESS OTHERWISE SPECIFICALLY INDICATED, THE STRUCTURAL DRAWINGS DO NOT DESCRIBE METHODS OF CONSTRUCTION.
- THE GENERAL CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO TEMPORARY BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
- DO NOT BACKFILL AGAINST BASEMENT OR RETAINED WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE TEMPORARY BRACING IS PROVIDED.
- TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND ANY OTHER SUPPORTING ELEMENTS ARE IN PLACE.
- THE ARCHITECT AND STRUCTURAL ENGINEER BEAR NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND OBSERVATION VISITS TO THE SITE DO NOT IN ANY WAY INCLUDE INSPECTIONS OF THESE ITEMS.

## PRECAUTIONARY NOTES ON STRUCTURAL BEHAVIOR:

- INTERIOR ARCHITECTURAL FINISH DETAILING MUST ACCOMMODATE THE RELATIVE DIFFERENTIAL MOVEMENTS OF SUPPORTING STRUCTURAL ELEMENTS.
- WHERE THE ROOF FRAMING ELEMENT SPANS ARE LONG, APPLIED LOADING WILL NATURALLY CAUSE SUBSTANTIAL DEFLECTION. INTERIOR ELEMENTS HUNG FROM THE ROOF STRUCTURE WILL DEFLECT WITH THE ROOF.
- THE FLOOR IS A FLOATING CONCRETE SLAB-ON-GRADE AND MAY EXPERIENCE MOVEMENTS INDEPENDENT OF THE STRUCTURAL FOUNDATIONS. INTERIOR ELEMENTS SUPPORTED ON THE SLAB-ON-GRADE FLOOR WILL MOVE WITH THE FLOOR. INTERIOR ELEMENTS SUPPORTED ON FOUNDATIONS AND COLUMNS WILL NOT EXPERIENCE SIMILAR OR MEASURABLE MOVEMENTS.
- EXTERIOR/PERIMETER WALL ASSEMBLIES HUNG FROM THE EDGE OF THE BUILDING STRUCTURE WILL BE DIRECTLY AFFECTED (TO SOME DEGREE) BY CHANGES IN EXTERNAL TEMPERATURE AND FLOOR DEFLECTION.
- EXTERIOR/PERIMETER AND INTERIOR ARCHITECTURAL FINISH DETAILS SHOULD ALLOW FOR RELATIVE MOVEMENTS BETWEEN ELEMENTS WITH DIFFERENT SUPPORT CONDITIONS.

## LETTERS OF CONSTRUCTION COMPLIANCE:

- THE GENERAL CONTRACTOR SHALL DETERMINE FROM THE LOCAL BUILDING AUTHORITY, AT THE TIME THE BUILDING PERMIT IS OBTAINED, WHETHER ANY LETTERS OF CONSTRUCTION COMPLIANCE WILL BE REQUESTED FROM THE STRUCTURAL ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ALL SUCH REQUIREMENTS IN WRITING PRIOR TO THE START OF CONSTRUCTION.
- TWO-DAY ADVANCE NOTICE SHALL BE GIVEN WHEN REQUESTING SITE VISITS NECESSARY AS THE BASIS FOR THE COMPLIANCE LETTER.
- THE GENERAL CONTRACTOR SHALL PROVIDE COPIES OF ALL THIRD-PARTY TESTING AND INSPECTION REPORTS TO THE ARCHITECT AND STRUCTURAL ENGINEER A MINIMUM OF ONE WEEK PRIOR TO THE DATE THAT THE COMPLIANCE LETTER IS NEEDED.

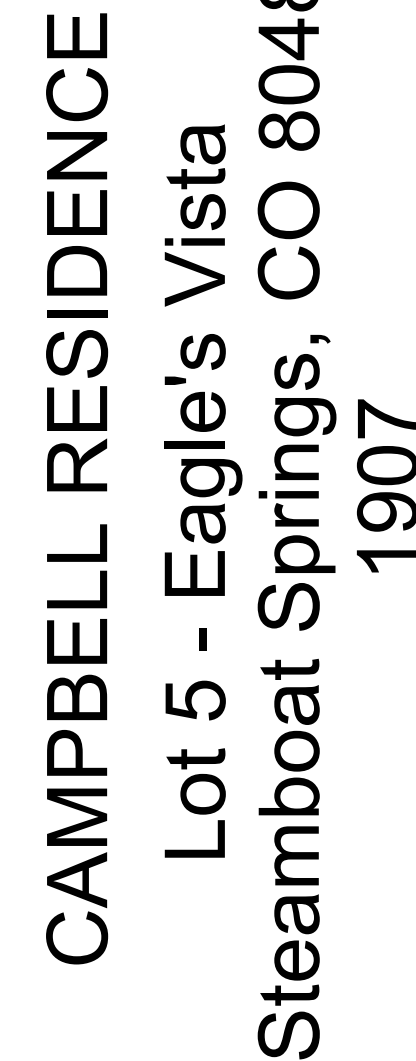
## SPECIAL INSPECTIONS - 2012:

- THE FOLLOWING SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY A QUALIFIED SPECIAL INSPECTOR, RETAINED BY THE OWNER, IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF IBC CHAPTER 17:
  - SECTION 1704 SPECIAL INSPECTIONS, CONTRACTOR RESPONSIBILITY, AND STRUCTURAL OBSERVATIONS AND THE FOLLOWING SUB-SECTIONS:
    - 1704.2 SPECIAL INSPECTIONS
    - 1704.3 STATEMENT OF SPECIAL INSPECTIONS
  - SECTION 1705 REQUIRED VERIFICATION AND INSPECTION AND THE FOLLOWING SUB-SECTIONS:
    - 1705.1.1 SPECIAL CASES
    - 1705.2 STEEL CONSTRUCTION
    - 1705.3 CONCRETE CONSTRUCTION
    - 1705.4 MASONRY CONSTRUCTION, LEVEL <A, B, OR C> SPECIAL INSPECTION
    - 1705.5 WOOD CONSTRUCTION
    - 1705.6 SOILS
    - 1705.7 DRIVEN DEEP FOUNDATIONS
    - 1705.8 CAST-IN-PLACE DEEP FOUNDATIONS
    - 1705.9 HELICAL PILE FOUNDATIONS
  - SECTION 1705.10 SPECIAL INSPECTIONS FOR WIND RESISTANCE AND THE FOLLOWING SUB-SECTIONS:
    - 1705.10.1 STRUCTURAL WOOD
    - 1705.10.2 COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION
    - 1705.10.3 WIND-RESISTING COMPONENTS
  - SECTION 1705.11 SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE AND THE FOLLOWING SUB-SECTIONS:
    - 1705.11.1 STRUCTURAL STEEL
    - 1705.11.2 STRUCTURAL WOOD
    - 1705.11.3 COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION
    - 1705.11.4 DESIGNATED SEISMIC SYSTEM
    -



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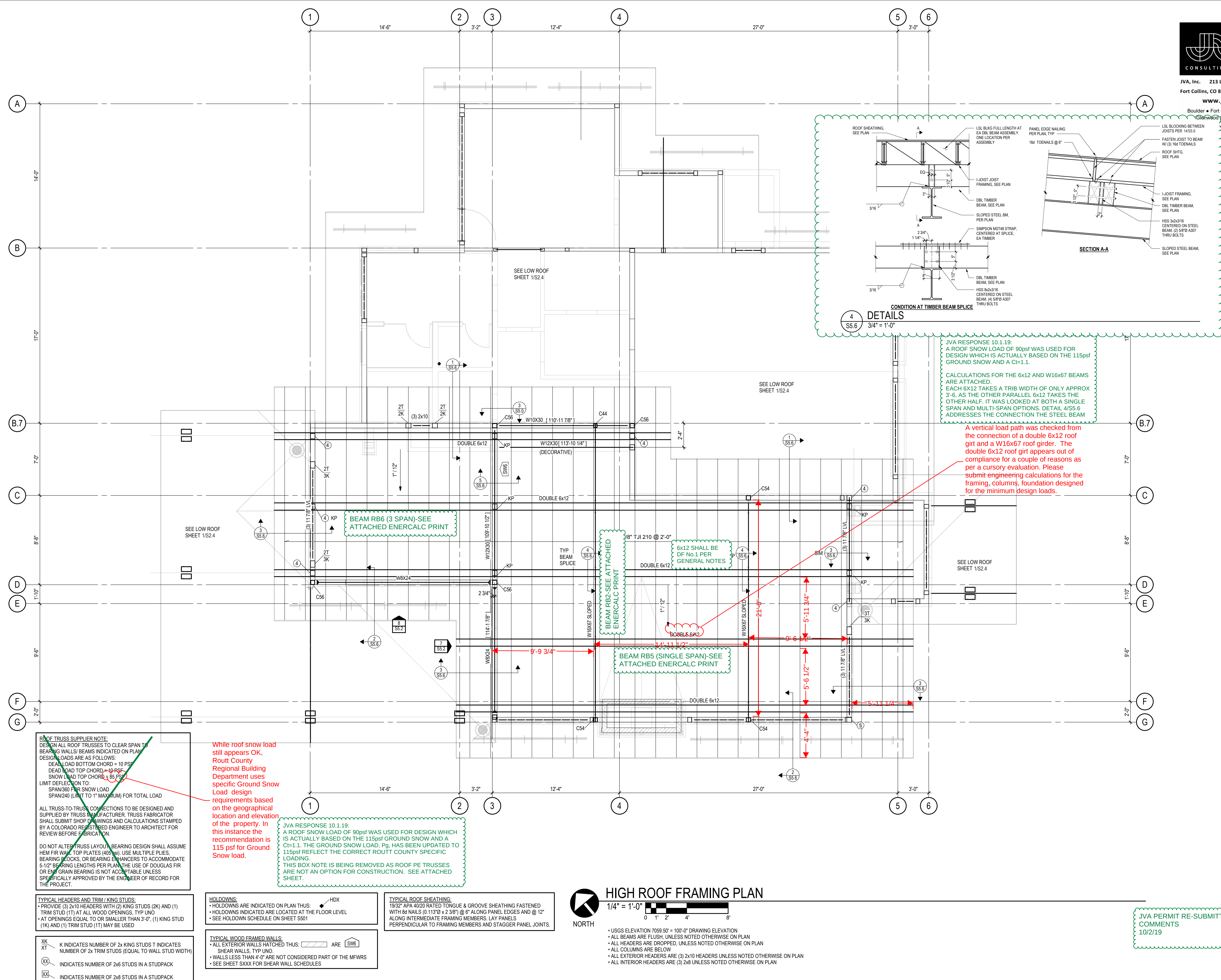
DRAWING TITLE

HIGH ROOF FRAMING  
PLAN

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Date: 09/01/19 Job No.: 19872

Client: VERTICAL ARTS

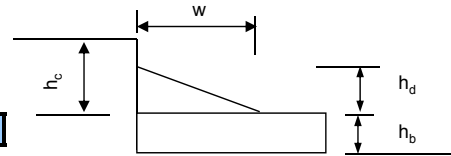
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## SNOW DRIFT - ASCE 7-10 referenced by 2012 IBC

Definitions and variables are as listed in ASCE 7-10.

Impact is included for sloping roofs.

Valley Design Coefficients ARE NOT included.



Location of Roof Snow Load: SHED ROOF

### DRIFTS ON MULTILEVEL ROOFS - Section 7.7

|                                                           |                              |           |              |
|-----------------------------------------------------------|------------------------------|-----------|--------------|
| Prescriptive Roof Snow Load not based on Ground Snow Load | $p_b$                        |           | psf          |
| Basic Ground Snow Load                                    | $p_g$                        | 115.00    | psf          |
| Density of Snow                                           | $.13 \cdot p_g + 14 \leq 30$ | $\gamma$  | 29.0 pcf     |
| Exposure                                                  | Partially Exposed            |           |              |
| Terrain Category - See Sec. 6.5.6.1                       | C                            |           |              |
| Exposure Factor                                           | Table 7-2                    | $C_e$     | 1.0          |
| Thermal Factor                                            | Table 7-3                    | $C_t$     | 1.1          |
| Importance Factor                                         | Tables 1-1 & 7-4             | I         | 1.0          |
| Flat Roof Snow Load (slope $\leq 5^\circ$ )               | $.7 C_e C_t I p_g$           | $p_f$     | 88.6 psf     |
| Reduce Load due to Slope?                                 | No                           |           |              |
| Surface                                                   | other                        |           |              |
| Roof Slope Ratio                                          |                              |           | 1:12         |
| Roof Slope                                                | a                            |           | 4.8°         |
| Roof Slope-Reduction Factor                               |                              | $C_s$     | 1.00         |
| Sloped Roof Snow Load                                     | $p_f C_s$                    | $p_s$     | 88.6 psf     |
| Height of Balanced Snow Load                              | $p_s / \gamma$               | $h_b$     | 3.06 ft      |
| Length of Upper Roof                                      | $25 \leq l_u$                | $l_u$     | 23 ft        |
| Length of Lower Roof                                      |                              |           | 33 ft        |
| Height to Upper Roof                                      |                              |           | 3.5 ft       |
| Clear Height from $h_b$ to Upper Roof                     |                              | $h_c$     | 0.44 ft      |
| Design Drift Height                                       |                              | $h_d$     | No Drift     |
| Separation to High Roof                                   |                              | S         | 0 ft         |
| Drift Height at Separation                                |                              | $h_d @ S$ | No Drift     |
| Maximum Drift Load                                        | $\gamma(h_d + h_b)$          | $p_m$     | No Drift psf |
| Drift Load - Balanced Snow Load                           | $p_m - p_s$                  |           | No Drift psf |
| Width of Drift w/respect to $p_s$                         |                              | w         | No Drift ft  |
| Drift Load - Design Uniform Load                          | $p_m - p_b$                  |           | No Drift psf |
| Width of Drift w/respect to $p_d$                         |                              |           | No Drift ft  |

DESIGNED FOR 90psf

### SLIDING SNOW LOAD - Section 7.9

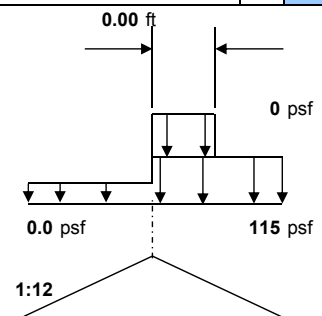
|                        |   |          |
|------------------------|---|----------|
| Eave to Ridge Distance | W | 3 ft     |
| $p_{sliding}$          |   | 0 psf    |
| $p_{sliding} + p_f$    |   | 88.6 psf |

### UNBALANCED SNOW LOAD - Section 7.6

|                                   |   |       |
|-----------------------------------|---|-------|
| Eave to Ridge Distance            | W | 13 ft |
| Roof Length Parallel to Ridgeline | L | 55 ft |

### DRIFT FROM PROJECTIONS & PARAPET WALLS - ASCE 7 Section 7.8

|                                                  |                        |                |              |
|--------------------------------------------------|------------------------|----------------|--------------|
| Length of Roof Upwind of Projection              |                        | $l_u$          | ft           |
| Length of Side of Projection                     |                        |                | ft           |
| Height to Parapet or Projection                  |                        |                | ft           |
| Clear Height from $h_b$ to Parapet or Projection |                        | $h_c$          | -3.06 ft     |
| Projection Drift Height                          | $.75 h_d$              | $h_{dp}$       | No Drift     |
| Maximum Drift Load                               | $\gamma(h_{dp} + h_b)$ | $p_{mp}$       | No Drift psf |
| Drift Load - Balanced Snow Load                  |                        | $p_{mp} - p_s$ | No Drift psf |
| Width of Drift w/respect to $p_s$                |                        | w              | No Drift ft  |
| Drift Load - Design Uniform Load                 |                        | $p_{mp} - p_b$ | No Drift psf |
| Width of Drift w/respect to $p_d$                |                        |                | No Drift ft  |



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Engineer:  
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## Wood Beam

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JVA

DESCRIPTION: RB6 - 3 SPAN

### CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10

Load Combination Set : ASCE 7-10

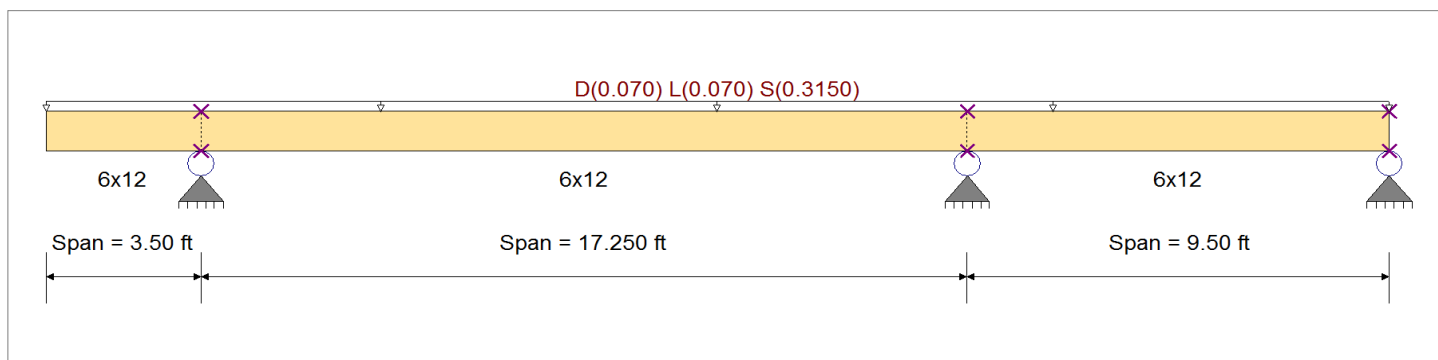
### Material Properties

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

Wood Species : Douglas Fir - Larch  
Wood Grade : No.1

Beam Bracing : Completely Unbraced

Fb + 1,350.0 psi E : Modulus of Elasticity  
Fb - 1,350.0 psi Ebend- xx 1,600.0 ksi  
Fc - Prll 925.0 psi Eminbend - xx 580.0 ksi  
Fc - Perp 625.0 psi  
Fv 170.0 psi  
Ft 675.0 psi Density 31.210pcf



### Applied Loads

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

Beam self weight calculated and added to loads

Loads on all spans...

Uniform Load on ALL spans : D = 0.020, L = 0.020, S = 0.090 ksf, Tributary Width = 3.50 ft

### DESIGN SUMMARY

Design OK

|                                   |   |             |                             |   |            |
|-----------------------------------|---|-------------|-----------------------------|---|------------|
| Maximum Bending Stress Ratio      | = | 0.677 : 1   | Maximum Shear Stress Ratio  | = | 0.431 : 1  |
| Section used for this span        | = | 6x12        | Section used for this span  | = | 6x12       |
|                                   | = | 1,026.81psi |                             | = | 84.23 psi  |
|                                   | = | 1,517.49psi |                             | = | 195.50 psi |
| Load Combination                  | = | +D+S+H      | Load Combination            | = | +D+S+H     |
| Location of maximum on span       | = | 17.250ft    | Location of maximum on span | = | 16.380 ft  |
| Span # where maximum occurs       | = | Span # 2    | Span # where maximum occurs | = | Span # 2   |
| <b>Maximum Deflection</b>         |   |             |                             |   |            |
| Max Downward Transient Deflection |   | 0.277 in    | Ratio =                     |   | 747 >=480  |
| Max Upward Transient Deflection   |   | -0.168 in   | Ratio =                     |   | 498 >=480  |
| Max Downward Total Deflection     |   | 0.351 in    | Ratio =                     |   | 590 >=360  |
| Max Upward Total Deflection       |   | -0.213 in   | Ratio =                     |   | 394 >=360  |

### Maximum Forces & Stresses for Load Combinations

| Load Combination          | Segment Length | Span # | Max Stress Ratios |       |                |                  |                |                |                |                | Moment Values  |      |        | Shear Values |      |       |        |
|---------------------------|----------------|--------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|------|--------|--------------|------|-------|--------|
|                           |                |        | M                 | V     | C <sub>d</sub> | C <sub>F/V</sub> | C <sub>i</sub> | C <sub>r</sub> | C <sub>m</sub> | C <sub>t</sub> | C <sub>L</sub> | M    | fb     | F'b          | V    | fv    | F'v    |
| +D+H                      |                |        |                   |       |                |                  |                |                |                |                |                |      |        | 0.00         | 0.00 | 0.00  |        |
| Length = 3.50 ft          | 1              |        | 0.042             | 0.086 | 0.90           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 0.51 | 50.75  | 1211.32      | 0.55 | 13.11 | 153.00 |
| Length = 17.250 ft        | 2              |        | 0.180             | 0.116 | 0.90           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.18 | 215.58 | 1195.22      | 0.75 | 17.68 | 153.00 |
| Length = 9.50 ft          | 3              |        | 0.179             | 0.116 | 0.90           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.18 | 215.58 | 1204.79      | 0.55 | 17.68 | 153.00 |
| +D+L+H, LL Comb Run (**L) |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |      |        | 0.00         | 0.00 | 0.00  |        |
| Length = 3.50 ft          | 1              |        | 0.038             | 0.075 | 1.00           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 0.51 | 50.75  | 1345.43      | 0.54 | 12.72 | 170.00 |
| Length = 17.250 ft        | 2              |        | 0.184             | 0.117 | 1.00           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.46 | 243.34 | 1324.80      | 0.84 | 19.96 | 170.00 |
| Length = 9.50 ft          | 3              |        | 0.182             | 0.117 | 1.00           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.46 | 243.34 | 1337.18      | 0.84 | 19.96 | 170.00 |
| +D+L+H, LL Comb Run (*L*) |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |      |        | 0.00         | 0.00 | 0.00  |        |
| Length = 3.50 ft          | 1              |        | 0.038             | 0.139 | 1.00           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 0.51 | 50.75  | 1345.43      | 1.00 | 23.67 | 170.00 |
| Length = 17.250 ft        | 2              |        | 0.288             | 0.193 | 1.00           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 3.86 | 381.78 | 1324.80      | 1.39 | 32.87 | 170.00 |
| Length = 9.50 ft          | 3              |        | 0.286             | 0.193 | 1.00           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 3.86 | 381.78 | 1337.18      | 0.72 | 32.87 | 170.00 |

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## Wood Beam

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### DESCRIPTION: RB6 - 3 SPAN

| Load Combination<br>Segment Length |   | Span # |  | Max Stress Ratios |       |       |       |      |      |      |      |      |      |      |       | Moment Values |         |      | Shear Values |        |        |
|------------------------------------|---|--------|--|-------------------|-------|-------|-------|------|------|------|------|------|------|------|-------|---------------|---------|------|--------------|--------|--------|
|                                    |   |        |  |                   |       |       |       |      |      |      |      |      |      |      |       | M             | fb      | F'b  | V            | fv     | F'v    |
| +D+L+H, LL Comb Run (*LL)          |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.038             | 0.137 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.51  | 50.75         | 1345.43 | 0.98 | 23.29        | 170.00 | 170.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.309             | 0.196 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 4.14  | 409.54        | 1324.80 | 1.40 | 33.25        | 170.00 | 170.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.306             | 0.196 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 4.14  | 409.54        | 1337.18 | 1.02 | 33.25        | 170.00 | 170.00 |
| +D+L+H, LL Comb Run (L**)          |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.069             | 0.082 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.94  | 93.19         | 1345.43 | 0.59 | 13.89        | 170.00 | 170.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.152             | 0.099 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 2.04  | 201.89        | 1324.80 | 0.71 | 16.91        | 170.00 | 170.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.151             | 0.099 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 2.04  | 201.89        | 1337.18 | 0.53 | 16.91        | 170.00 | 170.00 |
| +D+L+H, LL Comb Run (L*L)          |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.069             | 0.079 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.94  | 93.19         | 1345.43 | 0.57 | 13.50        | 170.00 | 170.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.173             | 0.115 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 2.32  | 229.66        | 1324.80 | 0.83 | 19.61        | 170.00 | 170.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.172             | 0.115 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 2.32  | 229.66        | 1337.18 | 0.83 | 19.61        | 170.00 | 170.00 |
| +D+L+H, LL Comb Run (LL*)          |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.069             | 0.144 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.94  | 93.19         | 1345.43 | 1.03 | 24.45        | 170.00 | 170.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.278             | 0.189 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 3.72  | 368.09        | 1324.80 | 1.35 | 32.09        | 170.00 | 170.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.275             | 0.189 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 3.72  | 368.09        | 1337.18 | 0.71 | 32.09        | 170.00 | 170.00 |
| +D+L+H, LL Comb Run (LLL)          |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.069             | 0.142 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.94  | 93.19         | 1345.43 | 1.01 | 24.07        | 170.00 | 170.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.299             | 0.191 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 4.00  | 395.85        | 1324.80 | 1.37 | 32.47        | 170.00 | 170.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.296             | 0.191 | 1.00  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 4.00  | 395.85        | 1337.18 | 1.00 | 32.47        | 170.00 | 170.00 |
| +D+Lr+H, LL Comb Run (**L)         |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.030             | 0.062 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.51  | 50.75         | 1680.25 | 0.55 | 13.11        | 212.50 | 212.50 |
| Length = 17.250 ft                 | 2 |        |  | 0.131             | 0.083 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 2.18  | 215.58        | 1644.72 | 0.75 | 17.68        | 212.50 | 212.50 |
| Length = 9.50 ft                   | 3 |        |  | 0.129             | 0.083 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 2.18  | 215.58        | 1666.59 | 0.55 | 17.68        | 212.50 | 212.50 |
| +D+Lr+H, LL Comb Run (L*L)         |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.030             | 0.062 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.51  | 50.75         | 1680.25 | 0.55 | 13.11        | 212.50 | 212.50 |
| Length = 17.250 ft                 | 2 |        |  | 0.131             | 0.083 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 2.18  | 215.58        | 1644.72 | 0.75 | 17.68        | 212.50 | 212.50 |
| Length = 9.50 ft                   | 3 |        |  | 0.129             | 0.083 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 2.18  | 215.58        | 1666.59 | 0.55 | 17.68        | 212.50 | 212.50 |
| +D+Lr+H, LL Comb Run (LL*)         |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.030             | 0.062 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.51  | 50.75         | 1680.25 | 0.55 | 13.11        | 212.50 | 212.50 |
| Length = 17.250 ft                 | 2 |        |  | 0.131             | 0.083 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 2.18  | 215.58        | 1644.72 | 0.75 | 17.68        | 212.50 | 212.50 |
| Length = 9.50 ft                   | 3 |        |  | 0.129             | 0.083 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 2.18  | 215.58        | 1666.59 | 0.55 | 17.68        | 212.50 | 212.50 |
| +D+Lr+H, LL Comb Run (LLL)         |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.030             | 0.062 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.51  | 50.75         | 1680.25 | 0.55 | 13.11        | 212.50 | 212.50 |
| Length = 17.250 ft                 | 2 |        |  | 0.131             | 0.083 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 2.18  | 215.58        | 1644.72 | 0.75 | 17.68        | 212.50 | 212.50 |
| Length = 9.50 ft                   | 3 |        |  | 0.129             | 0.083 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 2.18  | 215.58        | 1666.59 | 0.55 | 17.68        | 212.50 | 212.50 |
| +D+S+H                             |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.156             | 0.319 | 1.15  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.44  | 241.73        | 1546.40 | 2.63 | 62.43        | 195.50 | 195.50 |
| Length = 17.250 ft                 | 2 |        |  | 0.677             | 0.431 | 1.15  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 10.37 | 1,026.81      | 1517.49 | 3.55 | 84.23        | 195.50 | 195.50 |
| Length = 9.50 ft                   | 3 |        |  | 0.669             | 0.431 | 1.15  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 10.37 | 1,026.81      | 1535.11 | 2.60 | 84.23        | 195.50 | 195.50 |
| +D+0.750Lr+0.750L+H, LL Comb R     |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.030             | 0.060 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.51  | 50.75         | 1680.25 | 0.54 | 12.82        | 212.50 | 212.50 |
| Length = 17.250 ft                 | 2 |        |  | 0.144             | 0.086 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 2.39  | 236.40        | 1644.72 | 0.77 | 18.21        | 212.50 | 212.50 |
| Length = 9.50 ft                   | 3 |        |  | 0.142             | 0.086 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 2.39  | 236.40        | 1666.59 | 0.77 | 18.21        | 212.50 | 212.50 |
| +D+0.750Lr+0.750L+H, LL Comb R     |   |        |  |                   |       | 1.000 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 |       |               |         | 0.00 | 0.00         | 0.00   | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.030             | 0.099 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.51  | 50.75         | 1680.25 | 0.89 | 21.03        | 212.50 | 212.50 |
| Length = 17.250 ft                 | 2 |        |  | 0.207             | 0.137 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 3.44  | 340.23        | 1644.72 | 1.23 | 29.07        | 212.50 | 212.50 |
| Length = 9.50 ft                   | 3 |        |  | 0.204             | 0.137 | 1.25  | 1.000 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 3.44  | 340.23        | 1666.59 | 0.68 | 29.07        | 212.50 | 212.50 |

Title Block Line 1  
 You can change this area  
 using the "Settings" menu item  
 and then using the "Printing &  
 Title Block" selection.  
 Title Block Line 6

Project Title:  
 Engineer:  
 Project ID:  
 Project Descr:

Printed: 1 OCT 2019, 5:47PM

## Wood Beam

File = Y:\19872C-1\CALCUL-1\19872 - Campbell Residence.ec6 .  
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Lic. # : KW-06003165

JVA

### DESCRIPTION: RB6 - 3 SPAN

| Load Combination               | Segment Length | Span # | Max Stress Ratios |       | C <sub>d</sub> | C <sub>F/V</sub> | C <sub>i</sub> | C <sub>r</sub> | C <sub>m</sub> | C <sub>t</sub> | C <sub>L</sub> | Moment Values |        |         | Shear Values |       |        |
|--------------------------------|----------------|--------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|---------------|--------|---------|--------------|-------|--------|
|                                |                |        | M                 | V     |                |                  |                |                |                |                |                | M             | fb     | F'b     | V            | fv    | F'v    |
| +D+0.750Lr+0.750L+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.030             | 0.098 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 0.51          | 50.75  | 1680.25 | 0.87         | 20.74 | 212.50 |
| Length = 17.250 ft             | 2              |        | 0.220             | 0.138 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.97           | 3.65          | 361.05 | 1644.72 | 1.24         | 29.36 | 212.50 |
| Length = 9.50 ft               | 3              |        | 0.217             | 0.138 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 3.65          | 361.05 | 1666.59 | 0.90         | 29.36 | 212.50 |
| +D+0.750Lr+0.750L+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.049             | 0.064 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 0.83          | 82.58  | 1680.25 | 0.58         | 13.69 | 212.50 |
| Length = 17.250 ft             | 2              |        | 0.125             | 0.080 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.97           | 2.07          | 205.32 | 1644.72 | 0.72         | 17.10 | 212.50 |
| Length = 9.50 ft               | 3              |        | 0.123             | 0.080 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.07          | 205.32 | 1666.59 | 0.54         | 17.10 | 212.50 |
| +D+0.750Lr+0.750L+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.049             | 0.063 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 0.83          | 82.58  | 1680.25 | 0.57         | 13.40 | 212.50 |
| Length = 17.250 ft             | 2              |        | 0.137             | 0.084 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.97           | 2.28          | 226.14 | 1644.72 | 0.76         | 17.95 | 212.50 |
| Length = 9.50 ft               | 3              |        | 0.136             | 0.084 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28          | 226.14 | 1666.59 | 0.76         | 17.95 | 212.50 |
| +D+0.750Lr+0.750L+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.049             | 0.102 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 0.83          | 82.58  | 1680.25 | 0.91         | 21.62 | 212.50 |
| Length = 17.250 ft             | 2              |        | 0.201             | 0.134 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.97           | 3.33          | 329.96 | 1644.72 | 1.20         | 28.49 | 212.50 |
| Length = 9.50 ft               | 3              |        | 0.198             | 0.134 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 3.33          | 329.96 | 1666.59 | 0.67         | 28.49 | 212.50 |
| +D+0.750Lr+0.750L+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.049             | 0.100 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 0.83          | 82.58  | 1680.25 | 0.90         | 21.33 | 212.50 |
| Length = 17.250 ft             | 2              |        | 0.213             | 0.135 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.97           | 3.54          | 350.78 | 1644.72 | 1.21         | 28.78 | 212.50 |
| Length = 9.50 ft               | 3              |        | 0.210             | 0.135 | 1.25           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 3.54          | 350.78 | 1666.59 | 0.89         | 28.78 | 212.50 |
| +D+0.750Lr+0.750S+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.125             | 0.255 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 1.96          | 193.99 | 1546.40 | 2.10         | 49.81 | 195.50 |
| Length = 17.250 ft             | 2              |        | 0.557             | 0.347 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.53          | 844.83 | 1517.49 | 2.86         | 67.89 | 195.50 |
| Length = 9.50 ft               | 3              |        | 0.550             | 0.347 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 8.53          | 844.83 | 1535.11 | 2.31         | 67.89 | 195.50 |
| +D+0.750Lr+0.750S+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.125             | 0.297 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 1.96          | 193.99 | 1546.40 | 2.45         | 58.02 | 195.50 |
| Length = 17.250 ft             | 2              |        | 0.625             | 0.404 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.58          | 948.65 | 1517.49 | 3.33         | 78.98 | 195.50 |
| Length = 9.50 ft               | 3              |        | 0.618             | 0.404 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 9.58          | 948.65 | 1535.11 | 2.22         | 78.98 | 195.50 |
| +D+0.750Lr+0.750S+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.125             | 0.295 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 1.96          | 193.99 | 1546.40 | 2.43         | 57.73 | 195.50 |
| Length = 17.250 ft             | 2              |        | 0.639             | 0.405 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.79          | 969.47 | 1517.49 | 3.34         | 79.27 | 195.50 |
| Length = 9.50 ft               | 3              |        | 0.632             | 0.405 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 9.79          | 969.47 | 1535.11 | 2.44         | 79.27 | 195.50 |
| +D+0.750Lr+0.750S+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.146             | 0.259 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 2.28          | 225.82 | 1546.40 | 2.14         | 50.68 | 195.50 |
| Length = 17.250 ft             | 2              |        | 0.536             | 0.343 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.22          | 813.74 | 1517.49 | 2.83         | 67.01 | 195.50 |
| Length = 9.50 ft               | 3              |        | 0.530             | 0.343 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 8.22          | 813.74 | 1535.11 | 2.08         | 67.01 | 195.50 |
| +D+0.750Lr+0.750S+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.146             | 0.258 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 2.28          | 225.82 | 1546.40 | 2.12         | 50.39 | 195.50 |
| Length = 17.250 ft             | 2              |        | 0.550             | 0.344 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.43          | 834.56 | 1517.49 | 2.84         | 67.30 | 195.50 |
| Length = 9.50 ft               | 3              |        | 0.544             | 0.344 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 8.43          | 834.56 | 1535.11 | 2.30         | 67.30 | 195.50 |
| +D+0.750Lr+0.750S+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.146             | 0.300 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 2.28          | 225.82 | 1546.40 | 2.47         | 58.61 | 195.50 |
| Length = 17.250 ft             | 2              |        | 0.618             | 0.401 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.48          | 938.39 | 1517.49 | 3.31         | 78.40 | 195.50 |
| Length = 9.50 ft               | 3              |        | 0.611             | 0.401 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 9.48          | 938.39 | 1535.11 | 2.21         | 78.40 | 195.50 |
| +D+0.750Lr+0.750S+H, LL Comb R |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.146             | 0.298 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 1.00           | 2.28          | 225.82 | 1546.40 | 2.46         | 58.32 | 195.50 |
| Length = 17.250 ft             | 2              |        | 0.632             | 0.402 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.69          | 959.21 | 1517.49 | 3.32         | 78.69 | 195.50 |
| Length = 9.50 ft               | 3              |        | 0.625             | 0.402 | 1.15           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 9.69          | 959.21 | 1535.11 | 2.43         | 78.69 | 195.50 |
| +D+0.60W+H                     |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.024             | 0.048 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.51          | 50.75  | 2147.87 | 0.55         | 13.11 | 272.00 |
| Length = 17.250 ft             | 2              |        | 0.104             | 0.065 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 2.18          | 215.58 | 2080.60 | 0.75         | 17.68 | 272.00 |
| Length = 9.50 ft               | 3              |        | 0.102             | 0.065 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.18          | 215.58 | 2123.55 | 0.55         | 17.68 | 272.00 |
| +D-0.60W+H                     |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.024             | 0.048 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.51          | 50.75  | 2147.87 | 0.55         | 13.11 | 272.00 |
| Length = 17.250 ft             | 2              |        | 0.104             | 0.065 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 2.18          | 215.58 | 2080.60 | 0.75         | 17.68 | 272.00 |
| Length = 9.50 ft               | 3              |        | 0.102             | 0.065 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.18          | 215.58 | 2123.55 | 0.55         | 17.68 | 272.00 |
| +D+0.70E+H                     |                |        |                   |       |                | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |        | 0.00    | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft               | 1              |        | 0.024             | 0.048 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.51          | 50.75  | 2147.87 | 0.55         | 13.11 | 272.00 |
| Length = 17.250 ft             | 2              |        | 0.104             | 0.065 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 2.18          | 215.58 | 2080.60 | 0.75         | 17.68 | 272.00 |
| Length = 9.50 ft               | 3              |        | 0.102             | 0.065 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.18          | 215.58 | 2123.55 | 0.55         | 17.68 | 272.00 |

Title Block Line 1  
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 using the "Settings" menu item  
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 Title Block" selection.  
 Title Block Line 6

Project Title:  
 Engineer:  
 Project ID:  
 Project Descr:

Printed: 1 OCT 2019, 5:47PM

## Wood Beam

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JVA

### DESCRIPTION: RB6 - 3 SPAN

| Load Combination               | Segment Length | Span # | Max Stress Ratios |       | C <sub>d</sub> | C <sub>F/V</sub> | C <sub>i</sub> | C <sub>r</sub> | C <sub>m</sub> | C <sub>t</sub> | C <sub>L</sub> | Moment Values |                |                 | Shear Values |                |                 |
|--------------------------------|----------------|--------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|-----------------|--------------|----------------|-----------------|
|                                |                |        | M                 | V     |                |                  |                |                |                |                |                | M             | f <sub>b</sub> | F' <sub>b</sub> | V            | f <sub>v</sub> | F' <sub>v</sub> |
| +D+0.750Lr+0.750L+0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.024             | 0.047 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.51          | 50.75          | 2147.87         | 0.54         | 12.82          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.114             | 0.067 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 2.39          | 236.40         | 2080.60         | 0.77         | 18.21          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.111             | 0.067 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.39          | 236.40         | 2123.55         | 0.77         | 18.21          | 272.00          |
| +D+0.750Lr+0.750L+0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.024             | 0.077 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.51          | 50.75          | 2147.87         | 0.89         | 21.03          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.164             | 0.107 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 3.44          | 340.23         | 2080.60         | 1.23         | 29.07          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.160             | 0.107 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 3.44          | 340.23         | 2123.55         | 0.68         | 29.07          | 272.00          |
| +D+0.750Lr+0.750L+0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.024             | 0.076 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.51          | 50.75          | 2147.87         | 0.87         | 20.74          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.174             | 0.108 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 3.65          | 361.05         | 2080.60         | 1.24         | 29.36          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.170             | 0.108 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 3.65          | 361.05         | 2123.55         | 0.90         | 29.36          | 272.00          |
| +D+0.750Lr+0.750L+0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.038             | 0.050 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.83          | 82.58          | 2147.87         | 0.58         | 13.69          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.099             | 0.063 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 2.07          | 205.32         | 2080.60         | 0.72         | 17.10          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.097             | 0.063 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.07          | 205.32         | 2123.55         | 0.54         | 17.10          | 272.00          |
| +D+0.750Lr+0.750L+0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.038             | 0.049 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.83          | 82.58          | 2147.87         | 0.57         | 13.40          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.109             | 0.066 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 2.28          | 226.14         | 2080.60         | 0.76         | 17.95          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.106             | 0.066 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.28          | 226.14         | 2123.55         | 0.76         | 17.95          | 272.00          |
| +D+0.750Lr+0.750L+0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.038             | 0.079 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.83          | 82.58          | 2147.87         | 0.91         | 21.62          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.159             | 0.105 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 3.33          | 329.96         | 2080.60         | 1.20         | 28.49          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.155             | 0.105 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 3.33          | 329.96         | 2123.55         | 0.67         | 28.49          | 272.00          |
| +D+0.750Lr+0.750L+0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.038             | 0.078 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.83          | 82.58          | 2147.87         | 0.90         | 21.33          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.169             | 0.106 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 3.54          | 350.78         | 2080.60         | 1.21         | 28.78          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.165             | 0.106 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 3.54          | 350.78         | 2123.55         | 0.89         | 28.78          | 272.00          |
| +D+0.750Lr+0.750L-0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.024             | 0.047 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.51          | 50.75          | 2147.87         | 0.54         | 12.82          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.114             | 0.067 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 2.39          | 236.40         | 2080.60         | 0.77         | 18.21          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.111             | 0.067 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.39          | 236.40         | 2123.55         | 0.77         | 18.21          | 272.00          |
| +D+0.750Lr+0.750L-0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.024             | 0.077 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.51          | 50.75          | 2147.87         | 0.89         | 21.03          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.164             | 0.107 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 3.44          | 340.23         | 2080.60         | 1.23         | 29.07          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.160             | 0.107 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 3.44          | 340.23         | 2123.55         | 0.68         | 29.07          | 272.00          |
| +D+0.750Lr+0.750L-0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.024             | 0.076 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.51          | 50.75          | 2147.87         | 0.87         | 20.74          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.174             | 0.108 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 3.65          | 361.05         | 2080.60         | 1.24         | 29.36          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.170             | 0.108 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 3.65          | 361.05         | 2123.55         | 0.90         | 29.36          | 272.00          |
| +D+0.750Lr+0.750L-0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.038             | 0.050 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.83          | 82.58          | 2147.87         | 0.58         | 13.69          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.099             | 0.063 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 2.07          | 205.32         | 2080.60         | 0.72         | 17.10          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.097             | 0.063 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.07          | 205.32         | 2123.55         | 0.54         | 17.10          | 272.00          |
| +D+0.750Lr+0.750L-0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.038             | 0.049 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.83          | 82.58          | 2147.87         | 0.57         | 13.40          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.109             | 0.066 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 2.28          | 226.14         | 2080.60         | 0.76         | 17.95          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.106             | 0.066 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 2.28          | 226.14         | 2123.55         | 0.76         | 17.95          | 272.00          |
| +D+0.750Lr+0.750L-0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.038             | 0.079 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.83          | 82.58          | 2147.87         | 0.91         | 21.62          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.159             | 0.105 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 3.33          | 329.96         | 2080.60         | 1.20         | 28.49          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.155             | 0.105 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 3.33          | 329.96         | 2123.55         | 0.67         | 28.49          | 272.00          |
| +D+0.750Lr+0.750L-0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.038             | 0.078 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.83          | 82.58          | 2147.87         | 0.90         | 21.33          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.169             | 0.106 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 3.54          | 350.78         | 2080.60         | 1.21         | 28.78          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.165             | 0.106 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 3.54          | 350.78         | 2123.55         | 0.89         | 28.78          | 272.00          |
| +D+0.750Lr+0.750S+0.450W+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00            | 0.00         | 0.00           | 0.00            |
| Length = 3.50 ft               | 1              |        | 0.090             | 0.183 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 1.96          | 193.99         | 2147.87         | 2.10         | 49.81          | 272.00          |
| Length = 17.250 ft             | 2              |        | 0.406             | 0.250 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 8.53          | 844.83         | 2080.60         | 2.86         | 67.89          | 272.00          |
| Length = 9.50 ft               | 3              |        | 0.398             | 0.250 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.53          | 844.83         | 2123.55         | 2.31         | 67.89          | 272.00          |

Title Block Line 1  
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 and then using the "Printing &  
 Title Block" selection.  
 Title Block Line 6

Project Title:  
 Engineer:  
 Project ID:  
 Project Descr:

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## Wood Beam

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JVA

### DESCRIPTION: RB6 - 3 SPAN

| Load Combination<br>Segment Length |   | Span # |  | Max Stress Ratios |       |                |                  |                |                |                |                |                |      | Moment Values |         |      | Shear Values |       |        |
|------------------------------------|---|--------|--|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|------|---------------|---------|------|--------------|-------|--------|
|                                    |   |        |  | M                 | V     | C <sub>d</sub> | C <sub>F/V</sub> | C <sub>i</sub> | C <sub>r</sub> | C <sub>m</sub> | C <sub>t</sub> | C <sub>L</sub> |      | M             | fb      | F'b  | V            | fv    | F'v    |
| +D+0.750L+0.750S+0.450W+H, LL      |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.090             | 0.213 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 1.96 | 193.99        | 2147.87 |      | 2.45         | 58.02 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.456             | 0.290 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.58 | 948.65        | 2080.60 |      | 3.33         | 78.98 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.447             | 0.290 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.58 | 948.65        | 2123.55 |      | 2.22         | 78.98 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL      |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.090             | 0.212 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 1.96 | 193.99        | 2147.87 |      | 2.43         | 57.73 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.466             | 0.291 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.79 | 969.47        | 2080.60 |      | 3.34         | 79.27 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.457             | 0.291 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.79 | 969.47        | 2123.55 |      | 2.44         | 79.27 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL      |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.105             | 0.186 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28 | 225.82        | 2147.87 |      | 2.14         | 50.68 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.391             | 0.246 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 8.22 | 813.74        | 2080.60 |      | 2.83         | 67.01 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.383             | 0.246 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.22 | 813.74        | 2123.55 |      | 2.08         | 67.01 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL      |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.105             | 0.185 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28 | 225.82        | 2147.87 |      | 2.12         | 50.39 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.401             | 0.247 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 8.43 | 834.56        | 2080.60 |      | 2.84         | 67.30 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.393             | 0.247 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.43 | 834.56        | 2123.55 |      | 2.30         | 67.30 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL      |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.105             | 0.215 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28 | 225.82        | 2147.87 |      | 2.47         | 58.61 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.451             | 0.288 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.48 | 938.39        | 2080.60 |      | 3.31         | 78.40 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.442             | 0.288 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.48 | 938.39        | 2123.55 |      | 2.21         | 78.40 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL      |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.105             | 0.214 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28 | 225.82        | 2147.87 |      | 2.46         | 58.32 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.461             | 0.289 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.69 | 959.21        | 2080.60 |      | 3.32         | 78.69 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.452             | 0.289 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.69 | 959.21        | 2123.55 |      | 2.43         | 78.69 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL (    |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.090             | 0.183 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 1.96 | 193.99        | 2147.87 |      | 2.10         | 49.81 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.406             | 0.250 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 8.53 | 844.83        | 2080.60 |      | 2.86         | 67.89 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.398             | 0.250 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.53 | 844.83        | 2123.55 |      | 2.31         | 67.89 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL (    |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.090             | 0.213 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 1.96 | 193.99        | 2147.87 |      | 2.45         | 58.02 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.456             | 0.290 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.58 | 948.65        | 2080.60 |      | 3.33         | 78.98 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.447             | 0.290 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.58 | 948.65        | 2123.55 |      | 2.22         | 78.98 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL (    |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.090             | 0.212 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 1.96 | 193.99        | 2147.87 |      | 2.43         | 57.73 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.466             | 0.291 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.79 | 969.47        | 2080.60 |      | 3.34         | 79.27 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.457             | 0.291 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.79 | 969.47        | 2123.55 |      | 2.44         | 79.27 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL (    |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.105             | 0.186 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28 | 225.82        | 2147.87 |      | 2.14         | 50.68 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.391             | 0.246 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 8.22 | 813.74        | 2080.60 |      | 2.83         | 67.01 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.383             | 0.246 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.22 | 813.74        | 2123.55 |      | 2.08         | 67.01 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL (    |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.105             | 0.185 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28 | 225.82        | 2147.87 |      | 2.12         | 50.39 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.401             | 0.247 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 8.43 | 834.56        | 2080.60 |      | 2.84         | 67.30 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.393             | 0.247 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.43 | 834.56        | 2123.55 |      | 2.30         | 67.30 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL (    |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.105             | 0.215 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28 | 225.82        | 2147.87 |      | 2.47         | 58.61 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.451             | 0.288 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.48 | 938.39        | 2080.60 |      | 3.31         | 78.40 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.442             | 0.288 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.48 | 938.39        | 2123.55 |      | 2.21         | 78.40 | 272.00 |
| +D+0.750L+0.750S+0.450W+H, LL (    |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.105             | 0.214 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28 | 225.82        | 2147.87 |      | 2.46         | 58.32 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.461             | 0.289 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.69 | 959.21        | 2080.60 |      | 3.32         | 78.69 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.452             | 0.289 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.69 | 959.21        | 2123.55 |      | 2.43         | 78.69 | 272.00 |
| +D+0.750L+0.750S+0.5250E+H, LL     |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.090             | 0.183 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 1.96 | 193.99        | 2147.87 |      | 2.10         | 49.81 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.406             | 0.250 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 8.53 | 844.83        | 2080.60 |      | 2.86         | 67.89 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.398             | 0.250 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.53 | 844.83        | 2123.55 |      | 2.31         | 67.89 | 272.00 |
| +D+0.750L+0.750S+0.5250E+H, LL     |   |        |  |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |      |               |         | 0.00 | 0.00         | 0.00  | 0.00   |
| Length = 3.50 ft                   | 1 |        |  | 0.090             | 0.213 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 1.96 | 193.99        | 2147.87 |      | 2.45         | 58.02 | 272.00 |
| Length = 17.250 ft                 | 2 |        |  | 0.456             | 0.290 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.58 | 948.65        | 2080.60 |      | 3.33         | 78.98 | 272.00 |
| Length = 9.50 ft                   | 3 |        |  | 0.447             | 0.290 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.58 | 948.65        | 2123.55 |      | 2.22         | 78.98 | 272.00 |

Title Block Line 1  
 You can change this area  
 using the "Settings" menu item  
 and then using the "Printing &  
 Title Block" selection.  
 Title Block Line 6

Project Title:  
 Engineer:  
 Project ID:  
 Project Descr:

Printed: 1 OCT 2019, 5:47PM

## Wood Beam

File = Y:\19872C-1\CALCUL-1\19872 - Campbell Residence.ec6 .  
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JVA

### DESCRIPTION: RB6 - 3 SPAN

| Load Combination               | Segment Length | Span # | Max Stress Ratios |       | C <sub>d</sub> | C <sub>F/V</sub> | C <sub>i</sub> | C <sub>r</sub> | C <sub>m</sub> | C <sub>t</sub> | C <sub>L</sub> | Moment Values |                |                | Shear Values |                |                |
|--------------------------------|----------------|--------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|--------------|----------------|----------------|
|                                |                |        | M                 | V     |                |                  |                |                |                |                |                | M             | f <sub>b</sub> | F <sub>b</sub> | V            | f <sub>v</sub> | F <sub>v</sub> |
| +D+0.750L+0.750S+0.5250E+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00           | 0.00         | 0.00           | 0.00           |
| Length = 3.50 ft               | 1              |        | 0.090             | 0.212 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 1.96          | 193.99         | 2147.87        | 2.43         | 57.73          | 272.00         |
| Length = 17.250 ft             | 2              |        | 0.466             | 0.291 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.79          | 969.47         | 2080.60        | 3.34         | 79.27          | 272.00         |
| Length = 9.50 ft               | 3              |        | 0.457             | 0.291 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.79          | 969.47         | 2123.55        | 2.44         | 79.27          | 272.00         |
| +D+0.750L+0.750S+0.5250E+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00           | 0.00         | 0.00           | 0.00           |
| Length = 3.50 ft               | 1              |        | 0.105             | 0.186 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28          | 225.82         | 2147.87        | 2.14         | 50.68          | 272.00         |
| Length = 17.250 ft             | 2              |        | 0.391             | 0.246 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 8.22          | 813.74         | 2080.60        | 2.83         | 67.01          | 272.00         |
| Length = 9.50 ft               | 3              |        | 0.383             | 0.246 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.22          | 813.74         | 2123.55        | 2.08         | 67.01          | 272.00         |
| +D+0.750L+0.750S+0.5250E+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00           | 0.00         | 0.00           | 0.00           |
| Length = 3.50 ft               | 1              |        | 0.105             | 0.185 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28          | 225.82         | 2147.87        | 2.12         | 50.39          | 272.00         |
| Length = 17.250 ft             | 2              |        | 0.401             | 0.247 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 8.43          | 834.56         | 2080.60        | 2.84         | 67.30          | 272.00         |
| Length = 9.50 ft               | 3              |        | 0.393             | 0.247 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 8.43          | 834.56         | 2123.55        | 2.30         | 67.30          | 272.00         |
| +D+0.750L+0.750S+0.5250E+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00           | 0.00         | 0.00           | 0.00           |
| Length = 3.50 ft               | 1              |        | 0.105             | 0.215 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28          | 225.82         | 2147.87        | 2.47         | 58.61          | 272.00         |
| Length = 17.250 ft             | 2              |        | 0.451             | 0.288 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.48          | 938.39         | 2080.60        | 3.31         | 78.40          | 272.00         |
| Length = 9.50 ft               | 3              |        | 0.442             | 0.288 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.48          | 938.39         | 2123.55        | 2.21         | 78.40          | 272.00         |
| +D+0.750L+0.750S+0.5250E+H, LL |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00           | 0.00         | 0.00           | 0.00           |
| Length = 3.50 ft               | 1              |        | 0.105             | 0.214 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 2.28          | 225.82         | 2147.87        | 2.46         | 58.32          | 272.00         |
| Length = 17.250 ft             | 2              |        | 0.461             | 0.289 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 9.69          | 959.21         | 2080.60        | 3.32         | 78.69          | 272.00         |
| Length = 9.50 ft               | 3              |        | 0.452             | 0.289 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 9.69          | 959.21         | 2123.55        | 2.43         | 78.69          | 272.00         |
| +0.60D+0.60W+0.60H             |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00           | 0.00         | 0.00           | 0.00           |
| Length = 3.50 ft               | 1              |        | 0.014             | 0.029 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.31          | 30.45          | 2147.87        | 0.33         | 7.86           | 272.00         |
| Length = 17.250 ft             | 2              |        | 0.062             | 0.039 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 1.31          | 129.35         | 2080.60        | 0.45         | 10.61          | 272.00         |
| Length = 9.50 ft               | 3              |        | 0.061             | 0.039 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 1.31          | 129.35         | 2123.55        | 0.33         | 10.61          | 272.00         |
| +0.60D-0.60W+0.60H             |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00           | 0.00         | 0.00           | 0.00           |
| Length = 3.50 ft               | 1              |        | 0.014             | 0.029 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.31          | 30.45          | 2147.87        | 0.33         | 7.86           | 272.00         |
| Length = 17.250 ft             | 2              |        | 0.062             | 0.039 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 1.31          | 129.35         | 2080.60        | 0.45         | 10.61          | 272.00         |
| Length = 9.50 ft               | 3              |        | 0.061             | 0.039 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 1.31          | 129.35         | 2123.55        | 0.33         | 10.61          | 272.00         |
| +0.60D+0.70E+0.60H             |                |        |                   |       | 1.000          | 1.00             | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           |               |                | 0.00           | 0.00         | 0.00           | 0.00           |
| Length = 3.50 ft               | 1              |        | 0.014             | 0.029 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.99           | 0.31          | 30.45          | 2147.87        | 0.33         | 7.86           | 272.00         |
| Length = 17.250 ft             | 2              |        | 0.062             | 0.039 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.96           | 1.31          | 129.35         | 2080.60        | 0.45         | 10.61          | 272.00         |
| Length = 9.50 ft               | 3              |        | 0.061             | 0.039 | 1.60           | 1.000            | 1.00           | 1.00           | 1.00           | 1.00           | 0.98           | 1.31          | 129.35         | 2123.55        | 0.33         | 10.61          | 272.00         |

### Overall Maximum Deflections

| Load Combination | Span | Max. "-" Defl | Location in Span | Load Combination                 | Max. "+" Defl | Location in Span |
|------------------|------|---------------|------------------|----------------------------------|---------------|------------------|
| +D+S+H           | 1    | 0.0000        | 0.000            | +D+0.750L+0.750S+0.5250E+H, LL C | -0.2129       | 0.000            |
|                  | 2    | 0.3506        | 7.973            |                                  | 0.0000        | 0.000            |
|                  | 3    | 0.0000        | 7.973            |                                  | -0.0382       | 3.034            |

### Maximum Deflections for Load Combinations

| Load Combination                       | Span | Max. Downward Defl | Location in Span | Max. Upward Defl | Location in Span |
|----------------------------------------|------|--------------------|------------------|------------------|------------------|
| +D+H                                   | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+L+H, LL Comb Run (**L)              | 2    | 0.0657             | in 7.828 ft      | 0.0000           | in 0.000 ft      |
| +D+L+H, LL Comb Run (**L)              | 3    | 0.0048             | in 6.307 ft      | -0.0021          | in 1.277 ft      |
| +D+L+H, LL Comb Run (*L*)              | 2    | 0.1520             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+L+H, LL Comb Run (*LL)              | 2    | 0.1441             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+L+H, LL Comb Run (L**)              | 2    | 0.0647             | in 8.263 ft      | 0.0000           | in 0.000 ft      |
| +D+L+H, LL Comb Run (L*L)              | 2    | 0.0567             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+L+H, LL Comb Run (L*L)              | 3    | 0.0059             | in 6.147 ft      | -0.0014          | in 1.038 ft      |
| +D+L+H, LL Comb Run (LL*)              | 2    | 0.1431             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+L+H, LL Comb Run (LLL)              | 2    | 0.1351             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+Lr+H, LL Comb Run (**L)             | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+Lr+H, LL Comb Run (*L*)             | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+Lr+H, LL Comb Run (*LL)             | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+Lr+H, LL Comb Run (L**)             | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+Lr+H, LL Comb Run (L*L)             | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+Lr+H, LL Comb Run (LL*)             | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+Lr+H, LL Comb Run (LLL)             | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+S+H                                 | 2    | 0.3506             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+H, LL Comb Run (**L) | 2    | 0.0677             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+H, LL Comb Run (**L) | 3    | 0.0028             | in 6.706 ft      | -0.0030          | in 1.597 ft      |

Title Block Line 1  
 You can change this area  
 using the "Settings" menu item  
 and then using the "Printing &  
 Title Block" selection.  
 Title Block Line 6

Project Title:  
 Engineer:  
 Project ID:  
 Project Descr:

Printed: 1 OCT 2019, 5:47PM

## Wood Beam

File = Y:\19872C-1\CALCUL-1\19872 - Campbell Residence.ec6 .  
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JVA

DESCRIPTION: RB6 - 3 SPAN

### Maximum Deflections for Load Combinations

| Load Combination                              | Span | Max. Downward Defl | Location in Span | Max. Upward Defl | Location in Span |
|-----------------------------------------------|------|--------------------|------------------|------------------|------------------|
| +D+0.750Lr+0.750L+H, LL Comb Run (*L*)        | 2    | 0.1324             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+H, LL Comb Run (*LL)        | 2    | 0.1265             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+H, LL Comb Run (L**)        | 2    | 0.0669             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+H, LL Comb Run (L*L)        | 2    | 0.0609             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+H, LL Comb Run (L*L)        | 3    | 0.0035             | in 6.466 ft      | -0.0024          | in 1.437 ft      |
| +D+0.750Lr+0.750L+H, LL Comb Run (LL*)        | 2    | 0.1257             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+H, LL Comb Run (LLL)        | 2    | 0.1198             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+H, LL Comb Run (**L)         | 2    | 0.2754             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+H, LL Comb Run (*L*)         | 2    | 0.3401             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+H, LL Comb Run (*LL)         | 2    | 0.3342             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+H, LL Comb Run (L**)         | 2    | 0.2746             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+H, LL Comb Run (L*L)         | 2    | 0.2686             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+H, LL Comb Run (LL*)         | 2    | 0.3334             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+H, LL Comb Run (LLL)         | 2    | 0.3275             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.60W+H                                    | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.70E+H                                    | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb Run (**L) | 2    | 0.0677             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb Run (**L) | 3    | 0.0028             | in 6.706 ft      | -0.0030          | in 1.597 ft      |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb Run (*L*) | 2    | 0.1324             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb Run (*LL) | 2    | 0.1265             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb Run (L**) | 2    | 0.0669             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb Run (L*L) | 2    | 0.0609             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb Run (L*L) | 3    | 0.0035             | in 6.466 ft      | -0.0024          | in 1.437 ft      |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb Run (LL*) | 2    | 0.1257             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb Run (LLL) | 2    | 0.1198             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.450W+H, LL Comb Run (**L)  | 2    | 0.2754             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.450W+H, LL Comb Run (*L*)  | 2    | 0.3401             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.450W+H, LL Comb Run (*LL)  | 2    | 0.3342             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.450W+H, LL Comb Run (L**)  | 2    | 0.2746             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.450W+H, LL Comb Run (L*L)  | 2    | 0.2686             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.450W+H, LL Comb Run (LL*)  | 2    | 0.3334             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.450W+H, LL Comb Run (LLL)  | 2    | 0.3275             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.5250E+H, LL Comb Run (**L) | 2    | 0.2754             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.5250E+H, LL Comb Run (*L*) | 2    | 0.3401             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.5250E+H, LL Comb Run (*LL) | 2    | 0.3342             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.5250E+H, LL Comb Run (L**) | 2    | 0.2746             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.5250E+H, LL Comb Run (L*L) | 2    | 0.2686             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.5250E+H, LL Comb Run (LL*) | 2    | 0.3334             | in 8.118 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.5250E+H, LL Comb Run (LLL) | 2    | 0.3275             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +0.60D+0.60W+0.60H                            | 2    | 0.0442             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| +0.60D+0.70E+0.60H                            | 2    | 0.0442             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| D Only                                        | 2    | 0.0736             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (**L)                     | 1    | 0.0044             | in 0.000 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (**L)                     | 3    | 0.0092             | in 4.950 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (*L*)                     | 2    | 0.0784             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (*LL)                     | 2    | 0.0706             | in 7.828 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (L**)                     | 1    | 0.0133             | in 0.000 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (L**)                     | 3    | 0.0013             | in 4.071 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (L*L)                     | 1    | 0.0176             | in 0.000 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (L*L)                     | 3    | 0.0104             | in 4.870 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (LL*)                     | 2    | 0.0695             | in 8.263 ft      | 0.0000           | in 0.000 ft      |
| L Only, LL Comb Run (LLL)                     | 2    | 0.0615             | in 7.973 ft      | 0.0000           | in 0.000 ft      |
| S Only                                        | 2    | 0.2770             | in 7.973 ft      | 0.0000           | in 0.000 ft      |

### Vertical Reactions

Support notation : Far left is #1

Values in KIPS

| Load Combination          | Support 1 | Support 2 | Support 3 | Support 4 |
|---------------------------|-----------|-----------|-----------|-----------|
| Overall MAXimum           |           | 4.375     | 6.884     | 0.882     |
| Overall MINimum           |           | 3.456     | 5.439     | 0.634     |
| +D+L+H, LL Comb Run (**L) |           | 0.902     | 1.824     | 0.471     |
| +D+L+H, LL Comb Run (*L*) |           | 1.425     | 2.323     | -0.008    |

Title Block Line 1  
 You can change this area  
 using the "Settings" menu item  
 and then using the "Printing &  
 Title Block" selection.  
 Title Block Line 6

Project Title:  
 Engineer:  
 Project ID:  
 Project Descr:

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## Wood Beam

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JVA

DESCRIPTION: RB6 - 3 SPAN

### Vertical Reactions

Support notation : Far left is #1

Values in KIPS

| Load Combination                     | Support 1 | Support 2 | Support 3 | Support 4 |
|--------------------------------------|-----------|-----------|-----------|-----------|
| +D+L+H, LL Comb Run (*LL)            |           | 1.409     | 2.701     | 0.295     |
| +D+L+H, LL Comb Run (L**)            |           | 1.196     | 1.398     | 0.183     |
| +D+L+H, LL Comb Run (L*L)            |           | 1.180     | 1.776     | 0.486     |
| +D+L+H, LL Comb Run (LL*)            |           | 1.703     | 2.276     | 0.006     |
| +D+L+H, LL Comb Run (LLL)            |           | 1.686     | 2.654     | 0.309     |
| +D+Lr+H, LL Comb Run (**L)           |           | 0.918     | 1.445     | 0.168     |
| +D+Lr+H, LL Comb Run (*L*)           |           | 0.918     | 1.445     | 0.168     |
| +D+Lr+H, LL Comb Run (*LL)           |           | 0.918     | 1.445     | 0.168     |
| +D+Lr+H, LL Comb Run (L**)           |           | 0.918     | 1.445     | 0.168     |
| +D+Lr+H, LL Comb Run (L*L)           |           | 0.918     | 1.445     | 0.168     |
| +D+Lr+H, LL Comb Run (LL*)           |           | 0.918     | 1.445     | 0.168     |
| +D+Lr+H, LL Comb Run (LLL)           |           | 0.918     | 1.445     | 0.168     |
| +D+S+H                               |           | 4.375     | 6.884     | 0.802     |
| +D+0.750Lr+0.750L+H, LL Comb Run (*) |           | 0.906     | 1.729     | 0.396     |
| +D+0.750Lr+0.750L+H, LL Comb Run (*) |           | 1.298     | 2.104     | 0.036     |
| +D+0.750Lr+0.750L+H, LL Comb Run (*) |           | 1.286     | 2.387     | 0.263     |
| +D+0.750Lr+0.750L+H, LL Comb Run (L  |           | 1.127     | 1.410     | 0.179     |
| +D+0.750Lr+0.750L+H, LL Comb Run (L  |           | 1.115     | 1.694     | 0.407     |
| +D+0.750Lr+0.750L+H, LL Comb Run (L  |           | 1.507     | 2.068     | 0.047     |
| +D+0.750Lr+0.750L+H, LL Comb Run (L  |           | 1.494     | 2.352     | 0.274     |
| +D+0.750L+0.750S+H, LL Comb Run (**  |           | 3.498     | 5.808     | 0.871     |
| +D+0.750L+0.750S+H, LL Comb Run (*L  |           | 3.890     | 6.183     | 0.511     |
| +D+0.750L+0.750S+H, LL Comb Run (*L  |           | 3.878     | 6.467     | 0.738     |
| +D+0.750L+0.750S+H, LL Comb Run (L*  |           | 3.719     | 5.489     | 0.654     |
| +D+0.750L+0.750S+H, LL Comb Run (L*  |           | 3.707     | 5.773     | 0.882     |
| +D+0.750L+0.750S+H, LL Comb Run (LL  |           | 4.099     | 6.147     | 0.522     |
| +D+0.750L+0.750S+H, LL Comb Run (LL  |           | 4.087     | 6.431     | 0.749     |
| +D+0.60W+H                           |           | 0.918     | 1.445     | 0.168     |
| +D-0.60W+H                           |           | 0.918     | 1.445     | 0.168     |
| +D+0.70E+H                           |           | 0.918     | 1.445     | 0.168     |
| +D-0.70E+H                           |           | 0.918     | 1.445     | 0.168     |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb  |           | 0.906     | 1.729     | 0.396     |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb  |           | 1.298     | 2.104     | 0.036     |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb  |           | 1.286     | 2.387     | 0.263     |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb  |           | 1.127     | 1.410     | 0.179     |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb  |           | 1.115     | 1.694     | 0.407     |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb  |           | 1.507     | 2.068     | 0.047     |
| +D+0.750Lr+0.750L+0.450W+H, LL Comb  |           | 1.494     | 2.352     | 0.274     |
| +D+0.750Lr+0.750L-0.450W+H, LL Comb  |           | 0.906     | 1.729     | 0.396     |
| +D+0.750Lr+0.750L-0.450W+H, LL Comb  |           | 1.298     | 2.104     | 0.036     |
| +D+0.750Lr+0.750L-0.450W+H, LL Comb  |           | 1.286     | 2.387     | 0.263     |
| +D+0.750Lr+0.750L-0.450W+H, LL Comb  |           | 1.127     | 1.410     | 0.179     |
| +D+0.750Lr+0.750L-0.450W+H, LL Comb  |           | 1.115     | 1.694     | 0.407     |
| +D+0.750Lr+0.750L-0.450W+H, LL Comb  |           | 1.507     | 2.068     | 0.047     |
| +D+0.750Lr+0.750L-0.450W+H, LL Comb  |           | 1.494     | 2.352     | 0.274     |
| +D+0.750L+0.750S+0.450W+H, LL Comb   |           | 3.498     | 5.808     | 0.871     |
| +D+0.750L+0.750S+0.450W+H, LL Comb   |           | 3.890     | 6.183     | 0.511     |
| +D+0.750L+0.750S+0.450W+H, LL Comb   |           | 3.878     | 6.467     | 0.738     |
| +D+0.750L+0.750S+0.450W+H, LL Comb   |           | 3.719     | 5.489     | 0.654     |
| +D+0.750L+0.750S+0.450W+H, LL Comb   |           | 3.707     | 5.773     | 0.882     |
| +D+0.750L+0.750S+0.450W+H, LL Comb   |           | 4.099     | 6.147     | 0.522     |
| +D+0.750L+0.750S+0.450W+H, LL Comb   |           | 4.087     | 6.431     | 0.749     |
| +D+0.750L+0.750S-0.450W+H, LL Comb   |           | 3.498     | 5.808     | 0.871     |
| +D+0.750L+0.750S-0.450W+H, LL Comb   |           | 3.890     | 6.183     | 0.511     |
| +D+0.750L+0.750S-0.450W+H, LL Comb   |           | 3.878     | 6.467     | 0.738     |
| +D+0.750L+0.750S-0.450W+H, LL Comb   |           | 3.719     | 5.489     | 0.654     |
| +D+0.750L+0.750S-0.450W+H, LL Comb   |           | 3.707     | 5.773     | 0.882     |
| +D+0.750L+0.750S-0.450W+H, LL Comb   |           | 4.099     | 6.147     | 0.522     |
| +D+0.750L+0.750S-0.450W+H, LL Comb   |           | 4.087     | 6.431     | 0.749     |
| +D+0.750L+0.750S+0.5250E+H, LL Comb  |           | 3.498     | 5.808     | 0.871     |

Title Block Line 1  
 You can change this area  
 using the "Settings" menu item  
 and then using the "Printing &  
 Title Block" selection.  
 Title Block Line 6

Project Title:  
 Engineer:  
 Project ID:  
 Project Descr:

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## Wood Beam

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JVA

DESCRIPTION: RB6 - 3 SPAN

### Vertical Reactions

Support notation : Far left is #1

Values in KIPS

| Load Combination                    | Support 1 | Support 2 | Support 3 | Support 4 |
|-------------------------------------|-----------|-----------|-----------|-----------|
| +D+0.750L+0.750S+0.5250E+H, LL Comb |           | 3.890     | 6.183     | 0.511     |
| +D+0.750L+0.750S+0.5250E+H, LL Comb |           | 3.878     | 6.467     | 0.738     |
| +D+0.750L+0.750S+0.5250E+H, LL Comb |           | 3.719     | 5.489     | 0.654     |
| +D+0.750L+0.750S+0.5250E+H, LL Comb |           | 3.707     | 5.773     | 0.882     |
| +D+0.750L+0.750S+0.5250E+H, LL Comb |           | 4.099     | 6.147     | 0.522     |
| +D+0.750L+0.750S+0.5250E+H, LL Comb |           | 4.087     | 6.431     | 0.749     |
| +D+0.750L+0.750S-0.5250E+H, LL Comb |           | 3.498     | 5.808     | 0.871     |
| +D+0.750L+0.750S-0.5250E+H, LL Comb |           | 3.890     | 6.183     | 0.511     |
| +D+0.750L+0.750S-0.5250E+H, LL Comb |           | 3.878     | 6.467     | 0.738     |
| +D+0.750L+0.750S-0.5250E+H, LL Comb |           | 3.719     | 5.489     | 0.654     |
| +D+0.750L+0.750S-0.5250E+H, LL Comb |           | 3.707     | 5.773     | 0.882     |
| +D+0.750L+0.750S-0.5250E+H, LL Comb |           | 4.099     | 6.147     | 0.522     |
| +D+0.750L+0.750S-0.5250E+H, LL Comb |           | 4.087     | 6.431     | 0.749     |
| +0.60D+0.60W+0.60H                  |           | 0.551     | 0.867     | 0.101     |
| +0.60D-0.60W+0.60H                  |           | 0.551     | 0.867     | 0.101     |
| +0.60D+0.70E+0.60H                  |           | 0.551     | 0.867     | 0.101     |
| +0.60D-0.70E+0.60H                  |           | 0.551     | 0.867     | 0.101     |
| D Only                              |           | 0.918     | 1.445     | 0.168     |
| Lr Only, LL Comb Run (**L)          |           |           |           |           |
| Lr Only, LL Comb Run (*L*)          |           |           |           |           |
| Lr Only, LL Comb Run (*LL)          |           |           |           |           |
| Lr Only, LL Comb Run (L**)          |           |           |           |           |
| Lr Only, LL Comb Run (L*L)          |           |           |           |           |
| Lr Only, LL Comb Run (LL*)          |           |           |           |           |
| Lr Only, LL Comb Run (LLL)          |           |           |           |           |
| L Only, LL Comb Run (**L)           |           | -0.016    | 0.378     | 0.303     |
| L Only, LL Comb Run (*L*)           |           | 0.506     | 0.878     | -0.177    |
| L Only, LL Comb Run (*LL)           |           | 0.490     | 1.256     | 0.126     |
| L Only, LL Comb Run (L**)           |           | 0.278     | -0.047    | 0.015     |
| L Only, LL Comb Run (L*L)           |           | 0.262     | 0.331     | 0.318     |
| L Only, LL Comb Run (LL*)           |           | 0.784     | 0.830     | -0.162    |
| L Only, LL Comb Run (LLL)           |           | 0.768     | 1.209     | 0.141     |
| S Only                              |           | 3.456     | 5.439     | 0.634     |
| W Only                              |           |           |           |           |
| -W                                  |           |           |           |           |
| E Only                              |           |           |           |           |
| E Only * -1.0                       |           |           |           |           |
| H Only                              |           |           |           |           |

**Wood Beam**  
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Engineer:  
Project ID:  
Project Descr:

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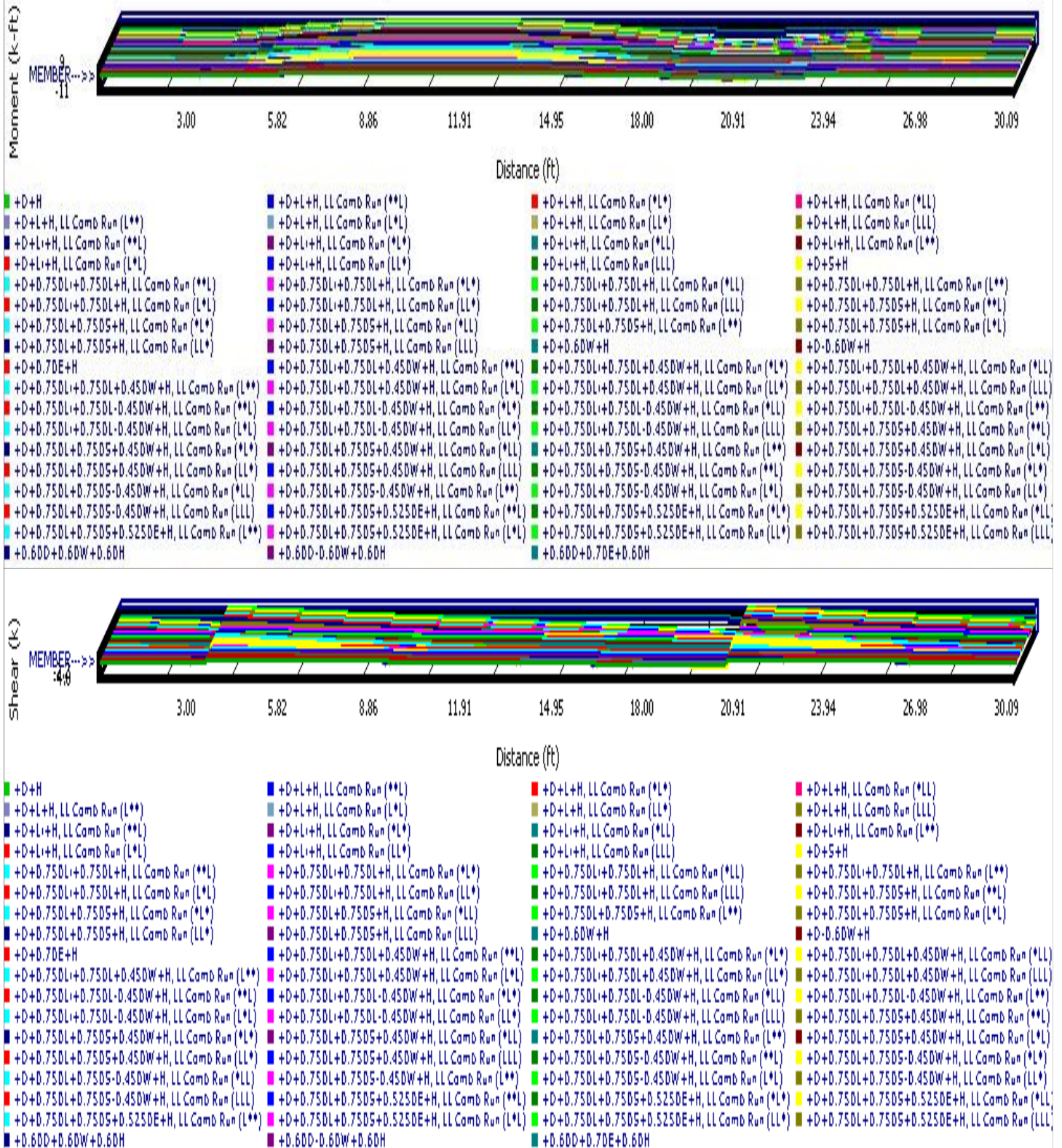
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JVA

## Wood Beam

**Lic. # : KW-06003165**

DESCRIPTION: RB6 - 3 SPAN

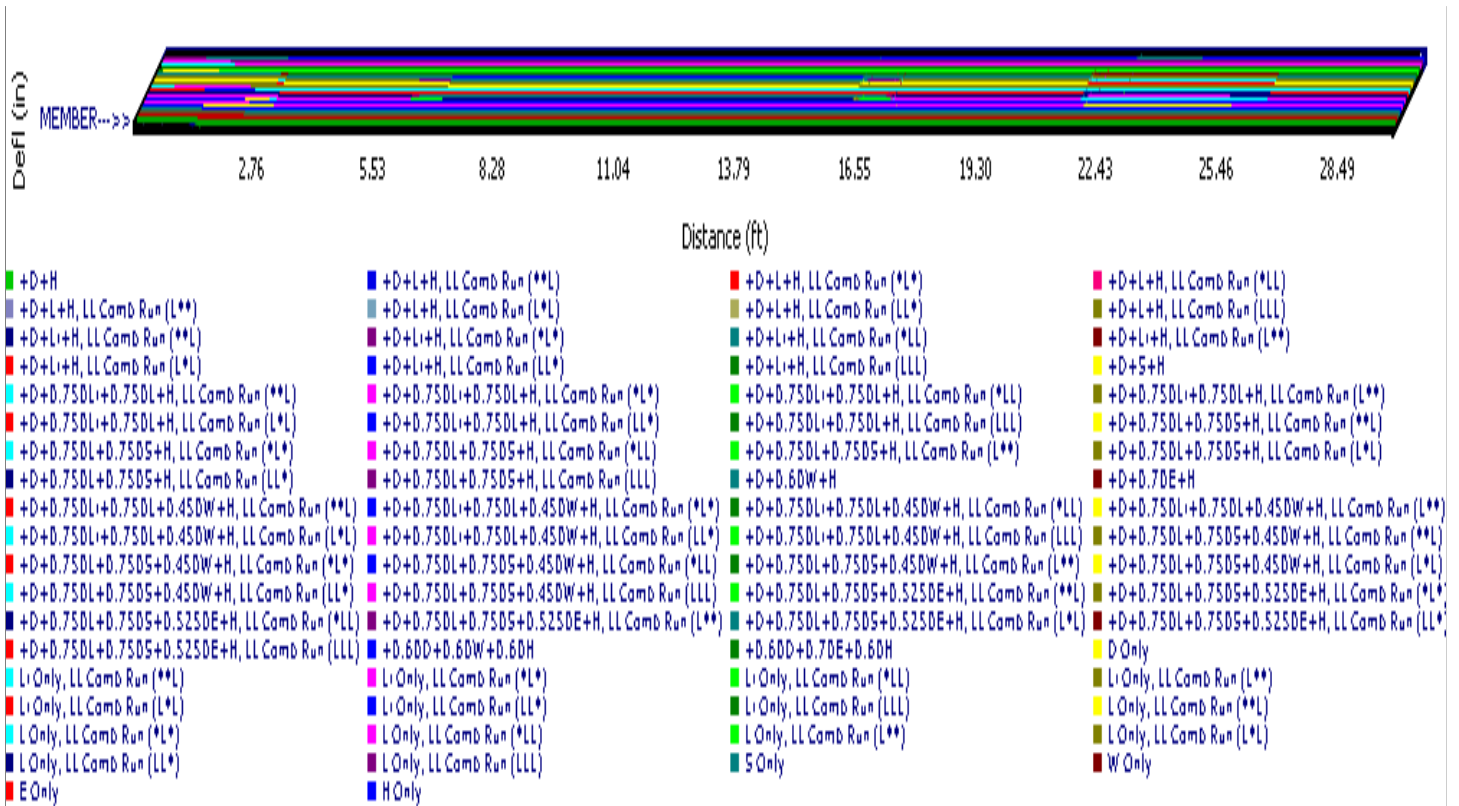


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DESCRIPTION: RB6 - 3 SPAN



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## Steel Beam

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DESCRIPTION: RB2 - POINT LOAD

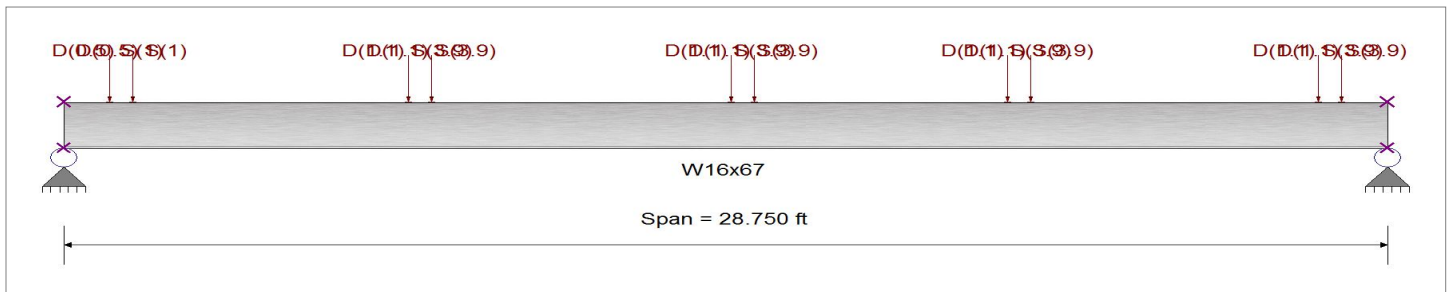
### CODE REFERENCES

Calculations per AISC 360-10, IBC 2012, CBC 2013, ASCE 7-10  
 Load Combination Set : ASCE 7-10

### Material Properties

Analysis Method : Allowable Strength Design  
 Beam Bracing : Completely Unbraced  
 Bending Axis : Major Axis Bending

Fy : Steel Yield : 50.0 ksi  
 E: Modulus : 29,000.0 ksi



### Applied Loads

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

Beam self weight calculated and added to loading

Load(s) for Span Number 1

Point Load : D = 1.10, S = 3.90 k @ 7.50 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 8.0 ft, (RB6)

Point Load : D = 0.50, S = 1.0 k @ 1.50 ft, (RB6)

Point Load : D = 0.50, S = 1.0 k @ 1.0 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 14.50 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 15.0 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 20.50 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 21.0 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 27.250 ft, (RB6)

Point Load : D = 1.10, S = 3.90 k @ 27.750 ft, (RB6)

### DESIGN SUMMARY

Design OK

|                                   |              |                              |           |
|-----------------------------------|--------------|------------------------------|-----------|
| Maximum Bending Stress Ratio =    | 0.808 : 1    | Maximum Shear Stress Ratio = | 0.200 : 1 |
| Section used for this span        | W16x67       | Section used for this span   | W16x67    |
| Ma : Applied                      | 164.567 k-ft | Va : Applied                 | 25.703 k  |
| Mn / Omega : Allowable            | 203.745 k-ft | Vn/Omega : Allowable         | 128.770 k |
| Load Combination                  | +D+S         | Load Combination             | +D+S      |
| Location of maximum on span       | 14.950 ft    | Location of maximum on span  | 28.750 ft |
| Span # where maximum occurs       | Span # 1     | Span # where maximum occurs  | Span # 1  |
| Maximum Deflection                |              |                              |           |
| Max Downward Transient Deflection | 0.639 in     | Ratio =                      | 539 >=480 |
| Max Upward Transient Deflection   | 0.000 in     | Ratio =                      | 0 <480    |
| Max Downward Total Deflection     | 0.859 in     | Ratio =                      | 401 >=360 |
| Max Upward Total Deflection       | 0.000 in     | Ratio =                      | 0 <360    |

### Maximum Forces & Stresses for Load Combinations

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 Title Block Line 6

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## Steel Beam

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JVA

DESCRIPTION: RB2 - POINT LOAD

| Load Combination<br>Segment Length | Span # | Max Stress Ratios |       | Summary of Moment Values |        |        |        |           |      |      | Summary of Shear Values |        |           |
|------------------------------------|--------|-------------------|-------|--------------------------|--------|--------|--------|-----------|------|------|-------------------------|--------|-----------|
|                                    |        | M                 | V     | Mmax +                   | Mmax - | Ma Max | Mnx    | Mnx/Omega | Cb   | Rm   | Va Max                  | Vnx    | Vnx/Omega |
| D Only<br>Dsgn. L = 28.75 ft       | 1      | 0.206             | 0.050 | 41.80                    |        | 41.80  | 339.37 | 203.21    | 1.14 | 1.00 | 6.42                    | 193.16 | 128.77    |
| +D+S<br>Dsgn. L = 28.75 ft         | 1      | 0.808             | 0.200 | 164.57                   |        | 164.57 | 340.25 | 203.75    | 1.15 | 1.00 | 25.70                   | 193.16 | 128.77    |
| +D+0.750S<br>Dsgn. L = 28.75 ft    | 1      | 0.657             | 0.162 | 133.88                   |        | 133.88 | 340.25 | 203.75    | 1.15 | 1.00 | 20.88                   | 193.16 | 128.77    |
| +0.60D<br>Dsgn. L = 28.75 ft       | 1      | 0.123             | 0.030 | 25.08                    |        | 25.08  | 339.37 | 203.21    | 1.14 | 1.00 | 3.85                    | 193.16 | 128.77    |

### Overall Maximum Deflections

| Load Combination | Span | Max. "-" Defl | Location in Span | Load Combination | Max. "+" Defl | Location in Span |
|------------------|------|---------------|------------------|------------------|---------------|------------------|
| +D+S             | 1    | 0.8594        | 14.539           |                  | 0.0000        | 0.000            |

### Maximum Deflections for Load Combinations

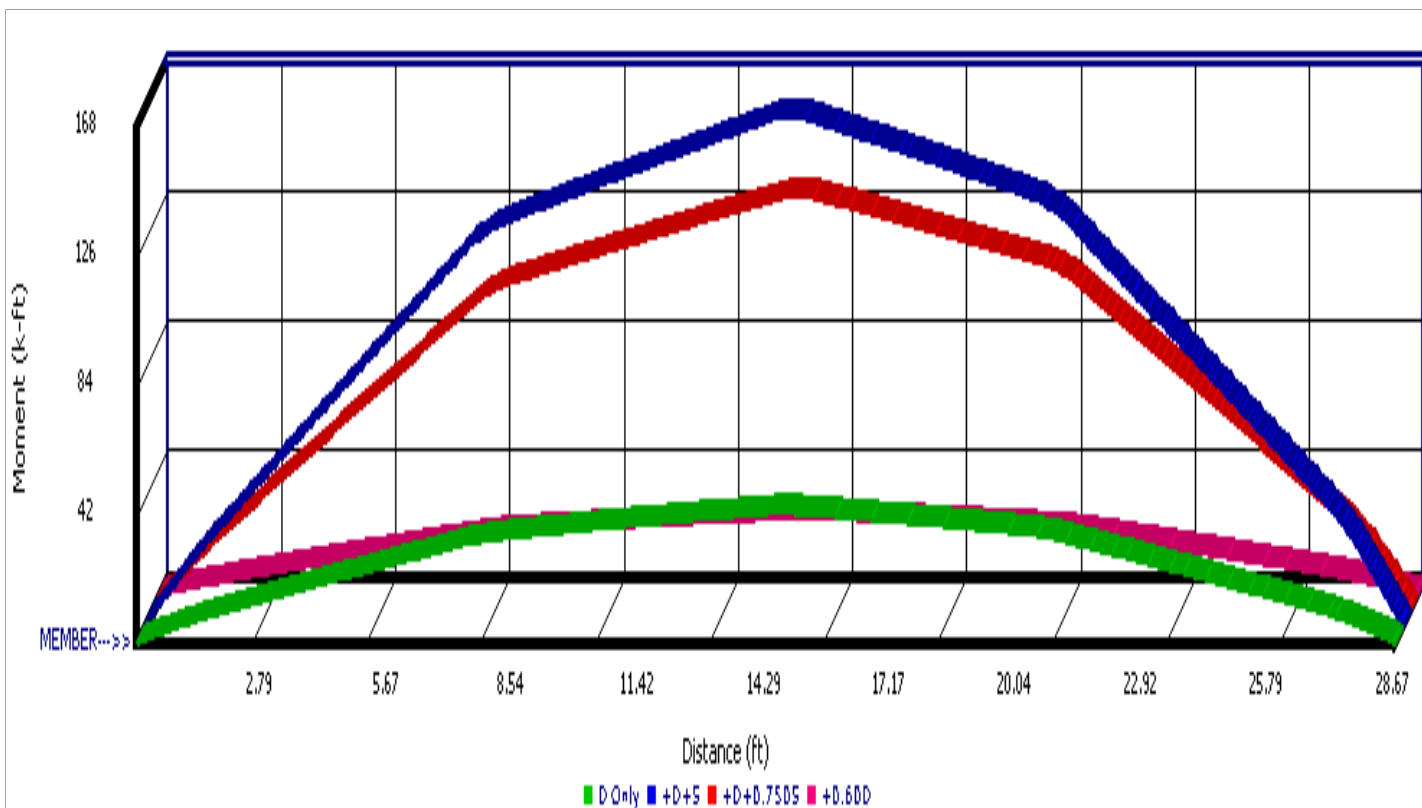
| Load Combination | Span | Max. Downward Defl | Location in Span | Span | Max. Upward Defl | Location in Span |
|------------------|------|--------------------|------------------|------|------------------|------------------|
| D Only           | 1    | 0.2196             | 14.539           |      | 0.0000           | 0.000            |
| +D+S             | 1    | 0.8594             | 14.539           |      | 0.0000           | 0.000            |
| +D+0.750S        | 1    | 0.6995             | 14.539           |      | 0.0000           | 0.000            |
| +0.60D           | 1    | 0.1318             | 14.539           |      | 0.0000           | 0.000            |
| S Only           | 1    | 0.6398             | 14.539           |      | 0.0000           | 0.000            |

### Vertical Reactions

Support notation : Far left is #1

Values in KIPS

| Load Combination | Support 1 | Support 2 |
|------------------|-----------|-----------|
| Overall MAXimum  | 19.225    | 25.703    |
| Overall MINimum  | 3.184     | 3.853     |
| D Only           | 5.307     | 6.421     |
| +D+S             | 19.225    | 25.703    |
| +D+0.750S        | 15.745    | 20.883    |
| +0.60D           | 3.184     | 3.853     |
| S Only           | 13.918    | 19.282    |



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Title Block Line 6

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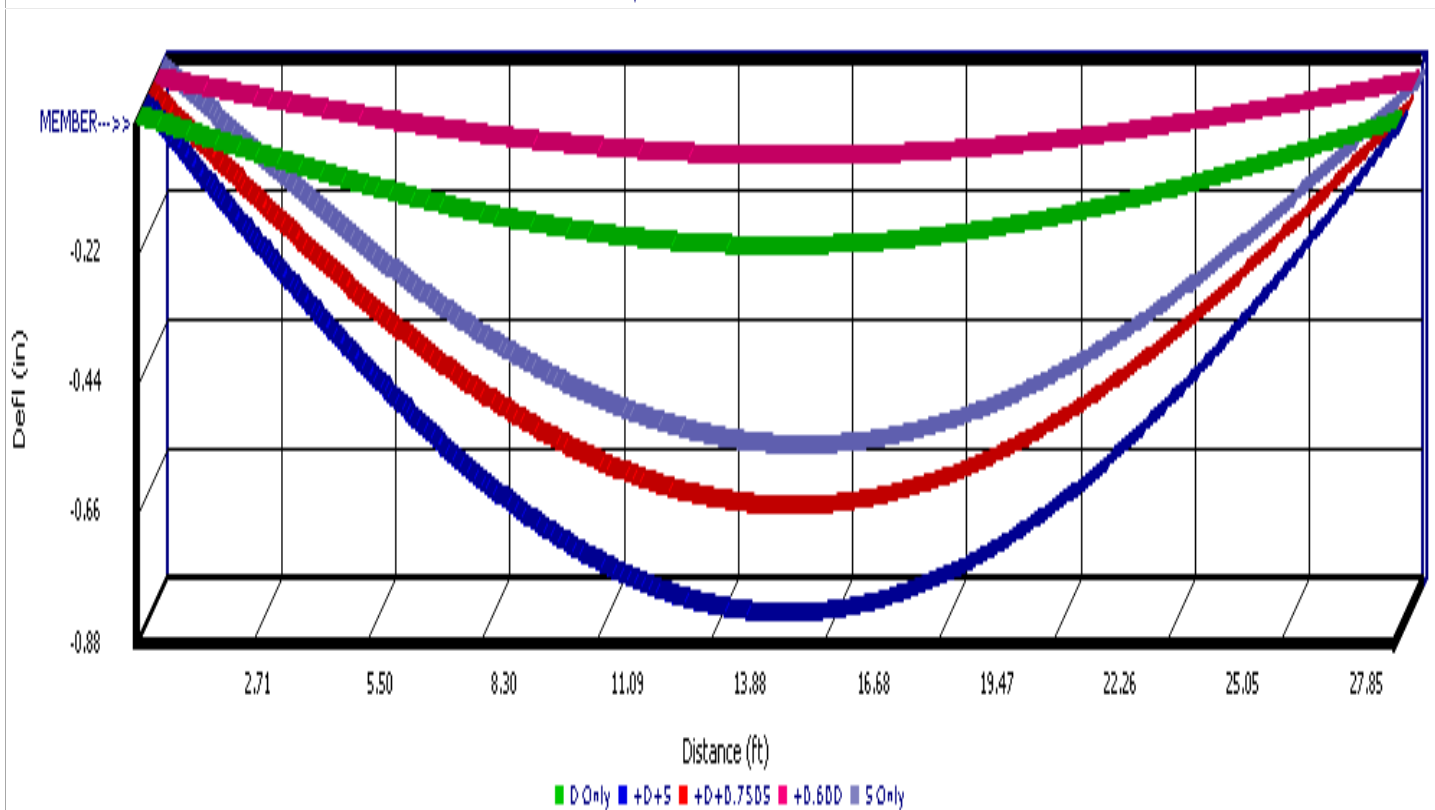
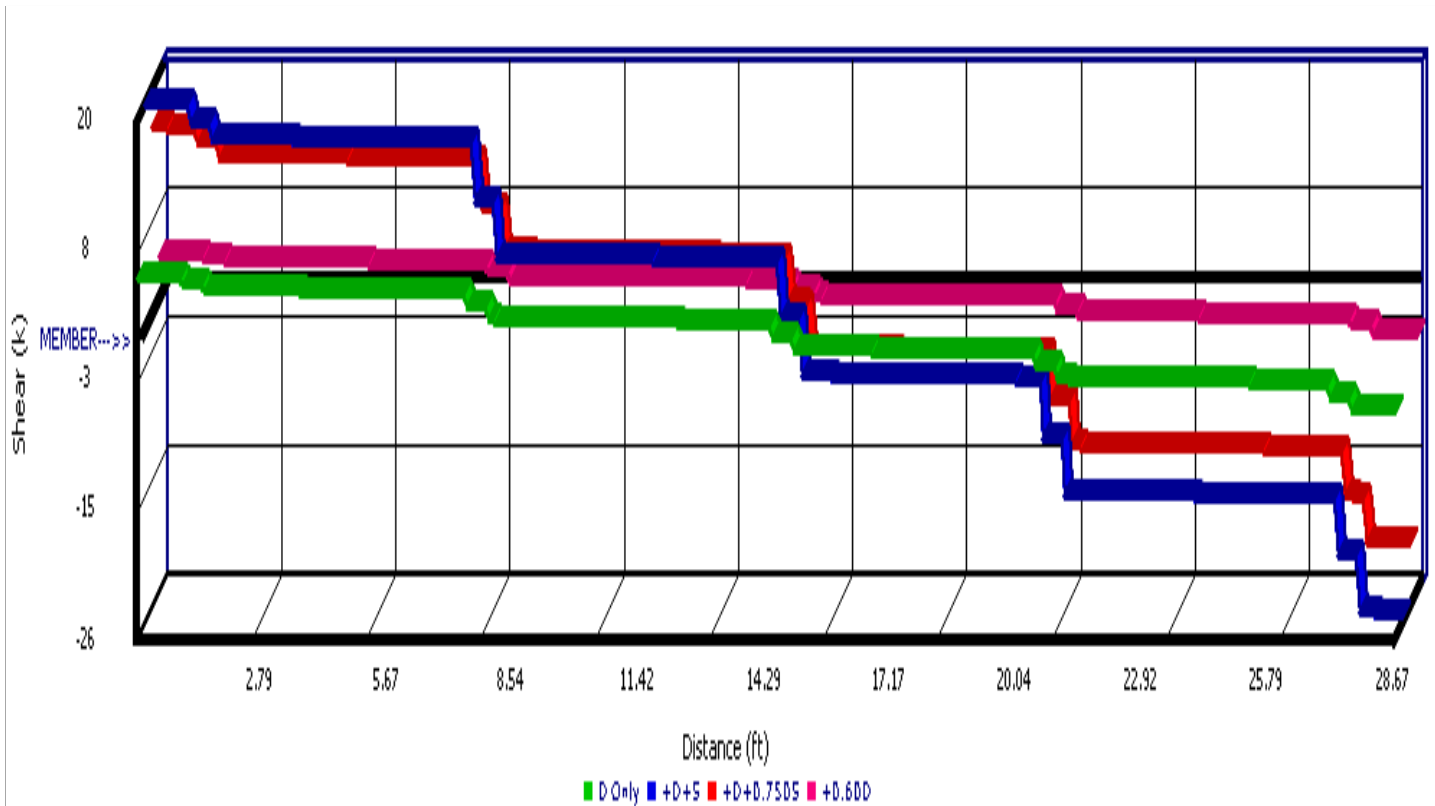
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JVA

DESCRIPTION: RB2 - POINT LOAD



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Title Block Line 6

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Project Descr:

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## Wood Beam

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JVA

DESCRIPTION: RB5-SINGLE SPAN

### CODE REFERENCES

Calculations per NDS 2012, IBC 2012, CBC 2013, ASCE 7-10

Load Combination Set : ASCE 7-10

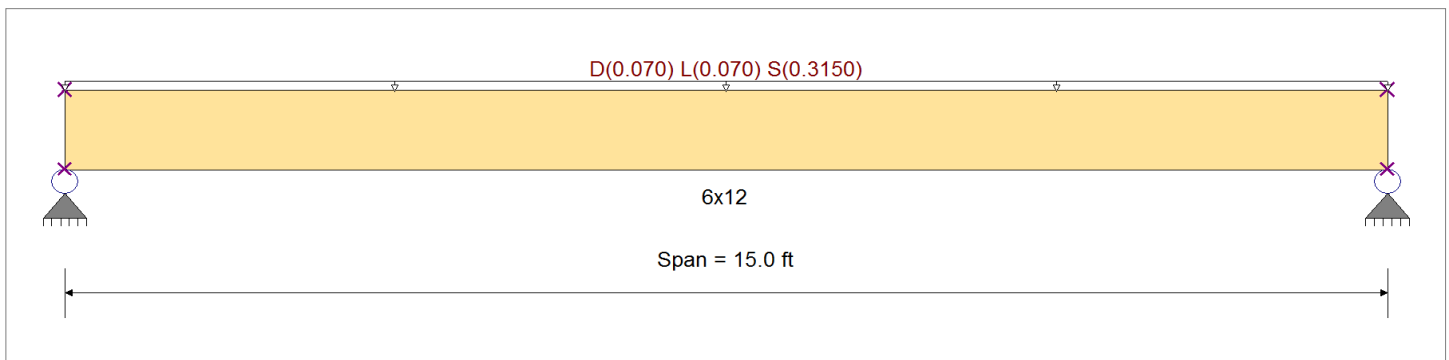
### Material Properties

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

Wood Species : Douglas Fir - Larch  
Wood Grade : No.1

Beam Bracing : Completely Unbraced

Fb + 1,350.0 psi E : Modulus of Elasticity  
Fb - 1,350.0 psi Ebend- xx 1,600.0 ksi  
Fc - Prll 925.0 psi Eminbend - xx 580.0 ksi  
Fc - Perp 625.0 psi  
Fv 170.0 psi  
Ft 675.0 psi Density 31.210pcf



### Applied Loads

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

Beam self weight calculated and added to loads

Loads on all spans...

Uniform Load on ALL spans : D = 0.020, L = 0.020, S = 0.090 ksf, Tributary Width = 3.50 ft

### DESIGN SUMMARY

Design OK

|                                   |   |             |         |                             |    |            |   |
|-----------------------------------|---|-------------|---------|-----------------------------|----|------------|---|
| Maximum Bending Stress Ratio      | = | 0.906       | 1       | Maximum Shear Stress Ratio  | =  | 0.397      | 1 |
| Section used for this span        | = | 6x12        |         | Section used for this span  | =  | 6x12       |   |
|                                   | = | 1,110.00psi |         |                             | =  | 62.12 psi  |   |
|                                   | = | 1,224.58psi |         |                             | =  | 156.40 psi |   |
| Load Combination                  | = | +D+S+H      |         | Load Combination            | =  | +D+S+H     |   |
| Location of maximum on span       | = | 7.500ft     |         | Location of maximum on span | =  | 14.069 ft  |   |
| Span # where maximum occurs       | = | Span # 1    |         | Span # where maximum occurs | =  | Span # 1   |   |
| <b>Maximum Deflection</b>         |   |             |         |                             |    |            |   |
| Max Downward Transient Deflection |   | 0.341 in    | Ratio = | 528                         | >= | 480        |   |
| Max Upward Transient Deflection   |   | 0.000 in    | Ratio = | 0                           | <  | 480        |   |
| Max Downward Total Deflection     |   | 0.431 in    | Ratio = | 417                         | >= | 360        |   |
| Max Upward Total Deflection       |   | 0.000 in    | Ratio = | 0                           | <  | 360        |   |

### Maximum Forces & Stresses for Load Combinations

| Load Combination<br>Segment Length      | Span # | Max Stress Ratios |       | C <sub>d</sub> | C <sub>F/V</sub> | C <sub>i</sub> | C <sub>r</sub> | C <sub>m</sub> | C <sub>t</sub> | C <sub>L</sub> | Moment Values |          |         | Shear Values |       |        |
|-----------------------------------------|--------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|---------------|----------|---------|--------------|-------|--------|
|                                         |        | M                 | V     |                |                  |                |                |                |                |                | M             | fb       | F'b     | V            | fv    | F'v    |
| +D+H<br>Length = 15.0 ft                | 1      | 0.242             | 0.107 | 0.90           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.99           | 2.35          | 233.04   | 961.87  | 0.00         | 0.00  | 0.00   |
| +D+L+H<br>Length = 15.0 ft              | 1      | 0.401             | 0.176 | 1.00           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.99           | 4.32          | 427.92   | 1067.23 | 0.00         | 0.00  | 0.00   |
| +D+Lr+H<br>Length = 15.0 ft             | 1      | 0.175             | 0.077 | 1.25           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 2.35          | 233.04   | 1328.97 | 0.55         | 13.04 | 170.00 |
| +D+S+H<br>Length = 15.0 ft              | 1      | 0.906             | 0.397 | 1.15           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.99           | 11.21         | 1,110.00 | 1224.58 | 0.00         | 0.00  | 0.00   |
| +D+0.750Lr+0.750L+H<br>Length = 15.0 ft | 1      | 0.285             | 0.125 | 1.25           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 3.83          | 379.20   | 1328.97 | 0.00         | 0.00  | 0.00   |
| +D+0.750L+0.750S+H<br>Length = 15.0 ft  | 1      | 0.847             | 0.371 | 1.15           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.99           | 10.48         | 1,036.92 | 1224.58 | 0.00         | 0.00  | 0.00   |

Title Block Line 1  
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DESCRIPTION: **RB5-SINGLE SPAN**

| Load Combination<br>Segment Length             | Span # | Max Stress Ratios |       | C <sub>d</sub> | C <sub>F/V</sub> | C <sub>i</sub> | C <sub>r</sub> | C <sub>m</sub> | C <sub>t</sub> | C <sub>L</sub> | Moment Values |          |         | Shear Values |       |        |
|------------------------------------------------|--------|-------------------|-------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|---------------|----------|---------|--------------|-------|--------|
|                                                |        | M                 | V     |                |                  |                |                |                |                |                | M             | fb       | F'b     | V            | fv    | F'v    |
| +D+0.60W+H<br>Length = 15.0 ft                 | 1      | 0.138             | 0.060 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.99           |               |          | 0.00    | 0.00         | 0.00  | 0.00   |
| +D-0.60W+H<br>Length = 15.0 ft                 | 1      | 0.138             | 0.060 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 2.35          | 233.04   | 1690.75 | 0.55         | 13.04 | 217.60 |
| +D+0.70E+H<br>Length = 15.0 ft                 | 1      | 0.138             | 0.060 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 2.35          | 233.04   | 1690.75 | 0.00         | 0.00  | 0.00   |
| +D+0.750Lr+0.750L+0.450W+H<br>Length = 15.0 ft | 1      | 0.138             | 0.060 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 2.35          | 233.04   | 1690.75 | 0.55         | 13.04 | 217.60 |
| +D+0.750Lr+0.750L-0.450W+H<br>Length = 15.0 ft | 1      | 0.224             | 0.098 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 3.83          | 379.20   | 1690.75 | 0.00         | 0.00  | 0.00   |
| +D+0.750L+0.750S+0.450W+H<br>Length = 15.0 ft  | 1      | 0.224             | 0.098 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 3.83          | 379.20   | 1690.75 | 0.89         | 21.22 | 217.60 |
| +D+0.750L+0.750S-0.450W+H<br>Length = 15.0 ft  | 1      | 0.613             | 0.267 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 10.48         | 1,036.92 | 1690.75 | 0.00         | 0.00  | 0.00   |
| +D+0.750L+0.750S+0.5250E+H<br>Length = 15.0 ft | 1      | 0.613             | 0.267 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 10.48         | 1,036.92 | 1690.75 | 2.45         | 58.03 | 217.60 |
| +0.60D+0.60W+0.60H<br>Length = 15.0 ft         | 1      | 0.083             | 0.036 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 1.41          | 139.83   | 1690.75 | 0.00         | 0.00  | 0.00   |
| +0.60D-0.60W+0.60H<br>Length = 15.0 ft         | 1      | 0.083             | 0.036 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 1.41          | 139.83   | 1690.75 | 0.33         | 7.82  | 217.60 |
| +0.60D+0.70E+0.60H<br>Length = 15.0 ft         | 1      | 0.083             | 0.036 | 1.60           | 1.000            | 0.80           | 1.00           | 1.00           | 1.00           | 0.98           | 1.41          | 139.83   | 1690.75 | 0.00         | 0.00  | 0.00   |

### Overall Maximum Deflections

| Load Combination | Span | Max. "-" Defl | Location in Span | Load Combination | Max. "+" Defl | Location in Span |
|------------------|------|---------------|------------------|------------------|---------------|------------------|
| +D+S+H           | 1    | 0.4311        | 7.555            |                  | 0.0000        | 0.000            |

### Maximum Deflections for Load Combinations

| Load Combination           | Span | Max. Downward Defl | Location in Span | Max. Upward Defl | Location in Span |
|----------------------------|------|--------------------|------------------|------------------|------------------|
| +D+H                       | 1    | 0.0905             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+L+H                     | 1    | 0.1662             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+Lr+H                    | 1    | 0.0905             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+S+H                     | 1    | 0.4311             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+H        | 1    | 0.1473             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+H         | 1    | 0.4027             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+0.60W+H                 | 1    | 0.0905             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+0.70E+H                 | 1    | 0.0905             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750Lr+0.750L+0.450W+H | 1    | 0.1473             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.450W+H  | 1    | 0.4027             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +D+0.750L+0.750S+0.5250E+H | 1    | 0.4027             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +0.60D+0.60W+0.60H         | 1    | 0.0543             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| +0.60D+0.70E+0.60H         | 1    | 0.0543             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| D Only                     | 1    | 0.0905             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| L Only                     | 1    | 0.0757             | in 7.555 ft      | 0.0000           | in 0.000 ft      |
| S Only                     | 1    | 0.3406             | in 7.555 ft      | 0.0000           | in 0.000 ft      |

### Vertical Reactions

Support notation : Far left is #1

Values in KIPS

| Load Combination           | Support 1 | Support 2 |
|----------------------------|-----------|-----------|
| Overall MAXimum            | 2.990     | 2.990     |
| Overall MINimum            | 2.363     | 2.363     |
| +D+L+H                     | 1.153     | 1.153     |
| +D+Lr+H                    | 0.628     | 0.628     |
| +D+S+H                     | 2.990     | 2.990     |
| +D+0.750Lr+0.750L+H        | 1.022     | 1.022     |
| +D+0.750L+0.750S+H         | 2.793     | 2.793     |
| +D+0.60W+H                 | 0.628     | 0.628     |
| +D-0.60W+H                 | 0.628     | 0.628     |
| +D+0.70E+H                 | 0.628     | 0.628     |
| +D-0.70E+H                 | 0.628     | 0.628     |
| +D+0.750Lr+0.750L+0.450W+H | 1.022     | 1.022     |
| +D+0.750Lr+0.750L-0.450W+H | 1.022     | 1.022     |

## Wood Beam

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JVA

## Vertical Reactions

Values in KIPS

[illegible]

Project Title:  
Engineer:  
Project ID:  
Project Descr:

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## JVA

DESCRIPTION: RB5-SINGLE SPAN

