*Design - Planning - Inspection*
Andy Vanasse, P.E.
PO Box 1892
Wells, ME 04090

7/6/2016

Chris Marshall
190 Coyle St
Portland, ME

**RE: 190 Coyle St- Second Floor Beam Design**

Dear Chris,

As requested, a beam was designed to replace a section of the first floor bearing wall. Below describes the 24' +/- long continuous spanning, glulam beam and intermittent glulam column support. The beam was designed to provide adequate support of the second floor, including the transfer of loads from the above floors and roof structure. The design assumed an approximate 10' span distance from the end of the interior bearing wall to the exposed glulam intermittent column and continuing to the third support column to be located within the kitchen's exterior wall. The end supports are assumed to be located within fire rated walls, while the intermittent post will be exposed on all four of its sides. The beam and column have been sized to meet a 1-hour fire rating using NDS, Section M16: Fire Design, from the ASD/LRFD Manual for Engineered Wood Construction, Table M16.2-5 Design Load Ratios for Compression Members Exposed on Four Sides, and Table M16.2-2 Design Loads for Bending Members Exposed on Three Sides. Fire rated glulam's need to be constructed differently than non-rated glulam's to meet IBC. When ordering these products, it critical that they be special ordered as a Fire Rated product so that they be fabricated correctly to meet code requirements. Also, it is strongly recommended that you request a signed letter of certification, stating the glulam's where constructed to meet the IBC code for continuous beam Fire Rated construction, and file it for your reference. The manufacture typically submits this letter free of charge.

- Beam: 24F-V5 STK G-LAM, 8 ¾" x 16 ½", 1 PLY, (Anthony Forest Products, Architectural Grade)
- Colum: 8 ¾" x 11" G-LAM, 1 PLY (Anthony Forest Products, Architectural Grade)

As you are aware, the beam and column are only a part of the necessary structural system. Attached to this letter are several conceptual sketches to help plan for the renovation project. Please keep in mind, the connections may need to be revised to meet the fire rating requirement. Attached are American Forest & Paper Association approved suggestion details to help in this matter. You must confirm all measurements prior to ordering any material. At this point, no additional work will be completed unless requested. Feel free to call me anytime should you have any questions at 207-641-9298.

Best Regards,

Andy Vanasse, P.E.