



Project Title	Covered Space, Market Square, Roscommon
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Author	Peter Brunner
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INTRODUCTION:

This report considers the structural design of the proposed covered event space proposed by GKMP Architects for Market Square, Roscommon. The proposal is being submitted to Roscommon County Council for a Part 8 application.

STRUCTURE:

The structure of the proposed covered space will be in the form of a roof plate supported from a portalised beam & post frame. The posts provide stability to the structure by means of shear & bending action. Loads are transferred to ground via the concrete posts to foundations. Foundations will be sized for both gravity and wind uplift load cases. The concrete foundations will be designed to limit the impact on existing finishes.

We are proposing structural materials consisting of cross laminated timber (CLT) roof plates applied in an inclined fashion which are supported from glulam (glulam) timber beams on concrete posts. Ballast will be provided in the form of concrete benches connected to the base of the posts.

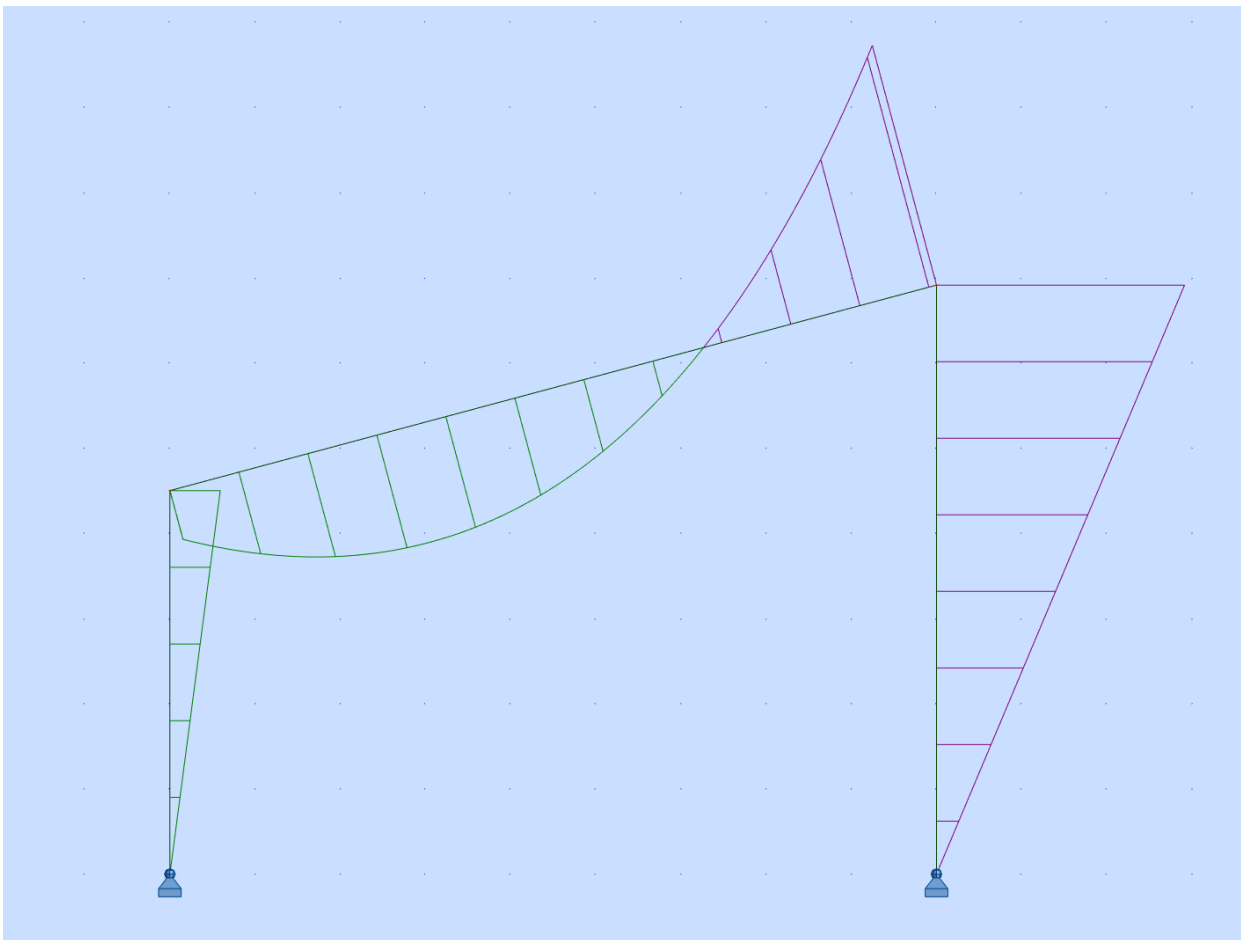


Fig. 1 Portalised bending moment diagram for single wind load case

The portalisation of the timber will require bending moment forces to be transmitted between concrete columns and glulam beams by means of steel or aluminium plates – example illustrated below in Fig. 2



Fig. 2 Concrete post to glulam rafter connection examples

The timber structure will be designed for the external environment in which it will reside. The timber will be treated and its protection from weathering will be important to maintain the integrity of the structure. Prevention of standing water on any surfaces will be prioritised.