

Executive summary

This proposal includes encompasses a redesign of the gravity system of Lancaster County Bible Church. The existing open-web steel joist floor framing system will be replaced by composite steel on metal deck design. While the steel framing will remain it will be redesigned using the LRFD design method. Existing foundations should not be affected due to the minimal impact of the redesign. However, all footings will be checked for their ability to resist column loads. Cross-bracing in the later system will be redesigned using the new loads but the existing lateral system layout will remain.

Two breadth studies will be performed. The first of the two breadth studies will explore the architectural impact the new floor framing system has on the ceiling. Possible alternative ceiling systems will be selected and compared. Lastly, a new ceiling system will be chosen to replace the existing ceiling system. The second breadth topic will explore the impact that the proposed structural system has on cost and the construction schedule. Original construction schedules and cost estimates will need to be obtained and analyzed. A cost estimate and construction schedule will be developed for the proposed structural system. Then a comparison will be made between the existing structural system and the proposed structural system.