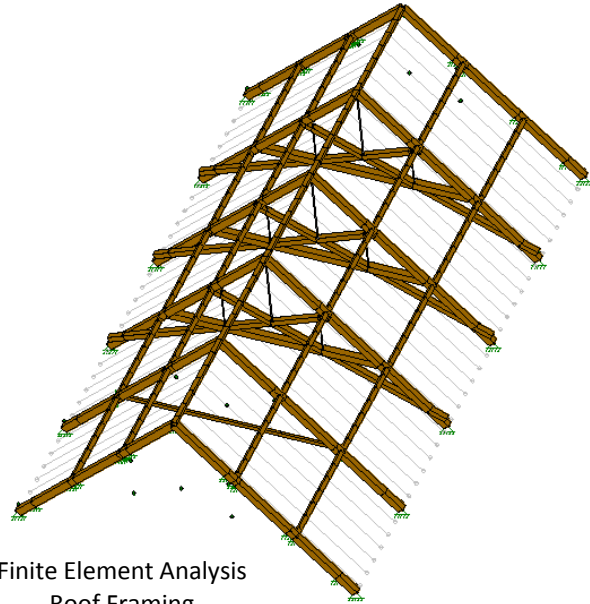
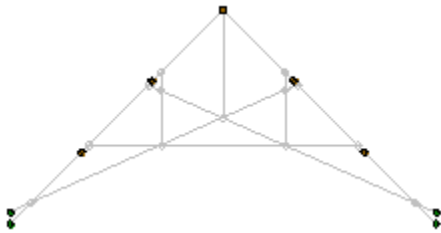


ST. MARY'S CATHOLIC CHURCH ELIZABETH, ILLINOIS

St. Mary's Church was visited to address specific crack, roof framing and masonry concerns associated with the existing building. Most of the cracks were directly or indirectly associated with the roof framing, which was repaired and possibly modified in the past. The re-application of roof loads associated with the roof reconstruction effort most likely started the ceiling cracks within the apse arch and the wall cracks above the windows. We recommended filling the cracks with a paintable caulk. Re-plastering the cracks would most-likely not be effective, because the crack would redevelop.

A three-dimensional finite element computer analysis of the roof framing indicated that a stronger ridge member directly attached to the roof trusses would enhance the strength and deflection characteristics. So, we recommended that a supplemental ridge beam be installed beneath the existing roof joists, and directly attached to the roof trusses, roof frame, and the exterior masonry wall on each end of the building.



Finite Element Analysis
Roof Framing



Existing Roof Truss



Existing Roof Frame