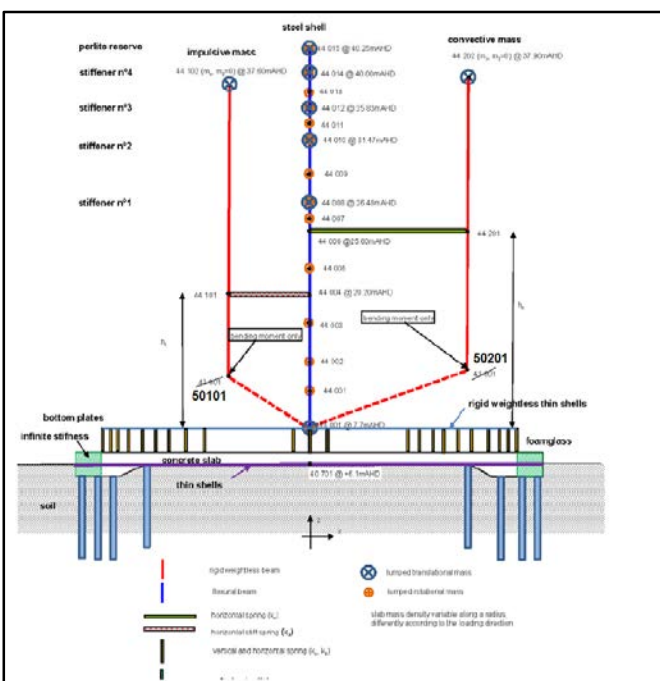
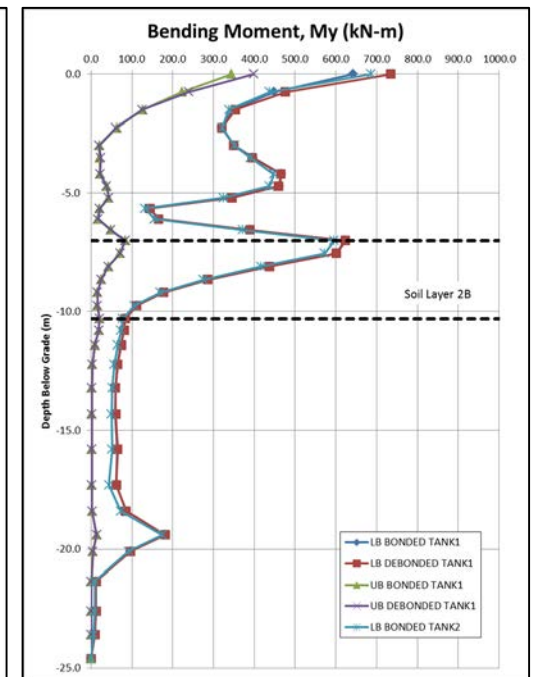
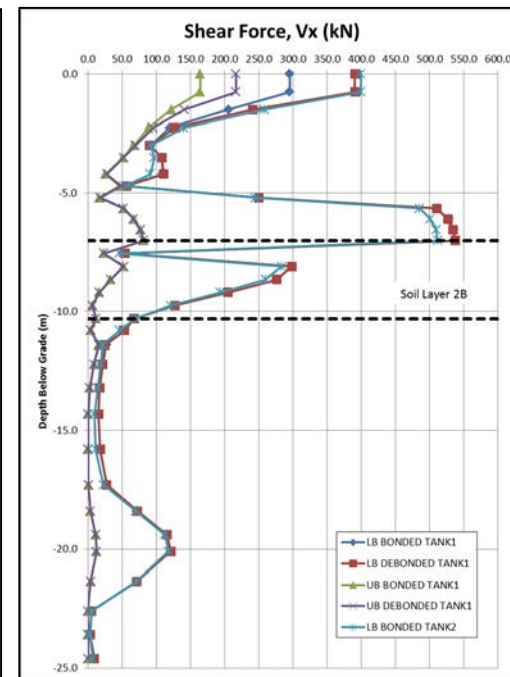
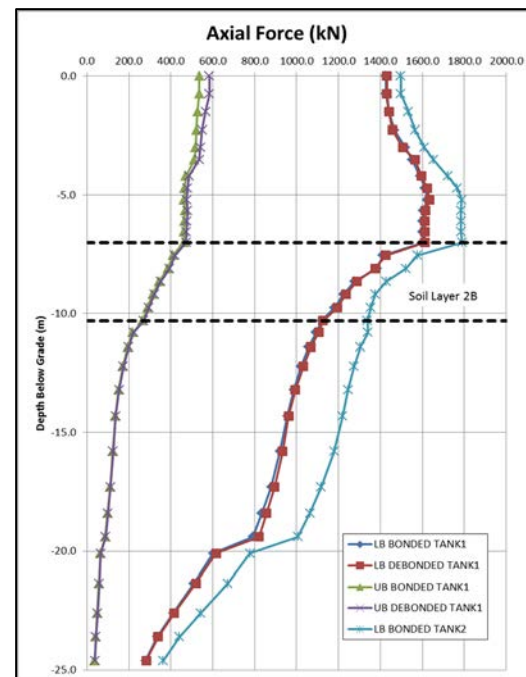
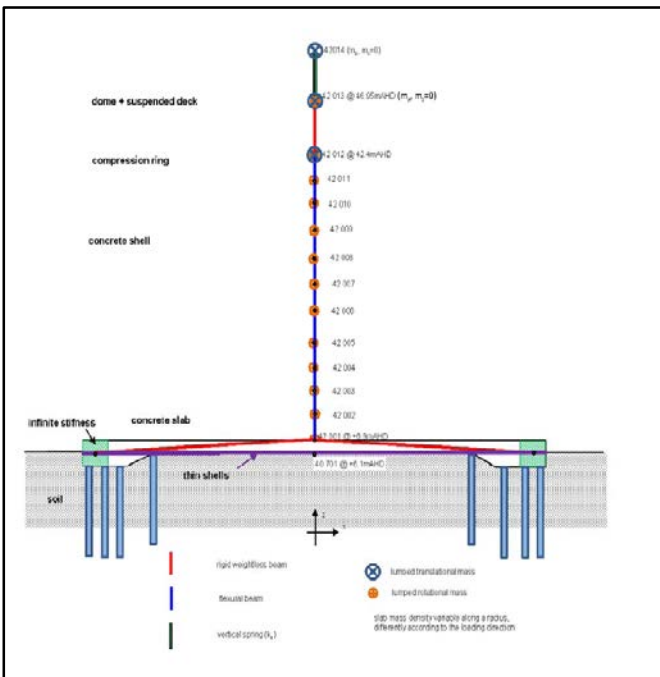
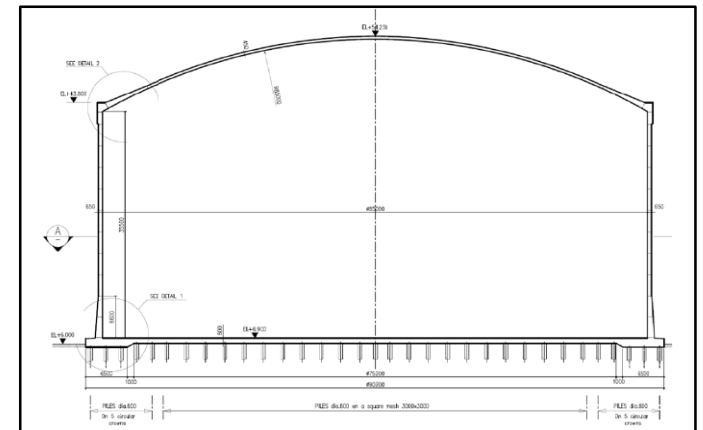
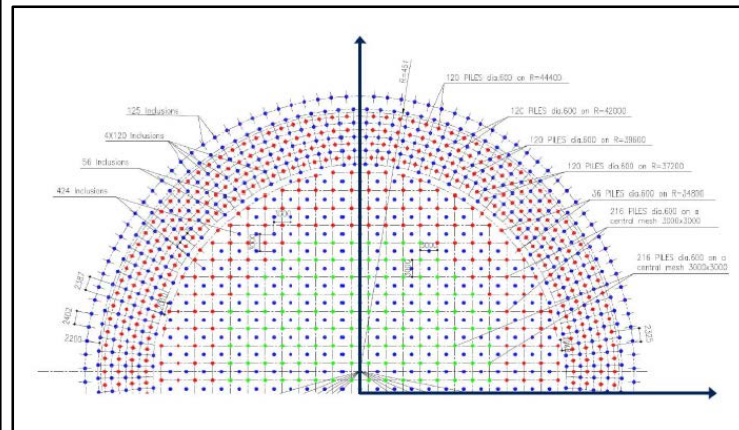
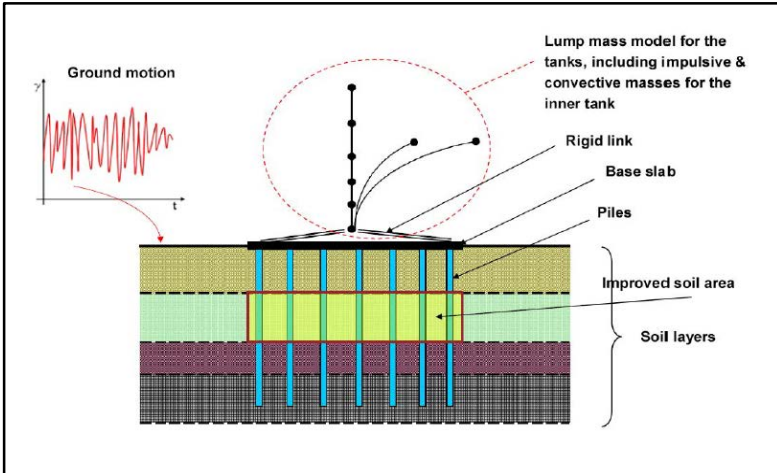
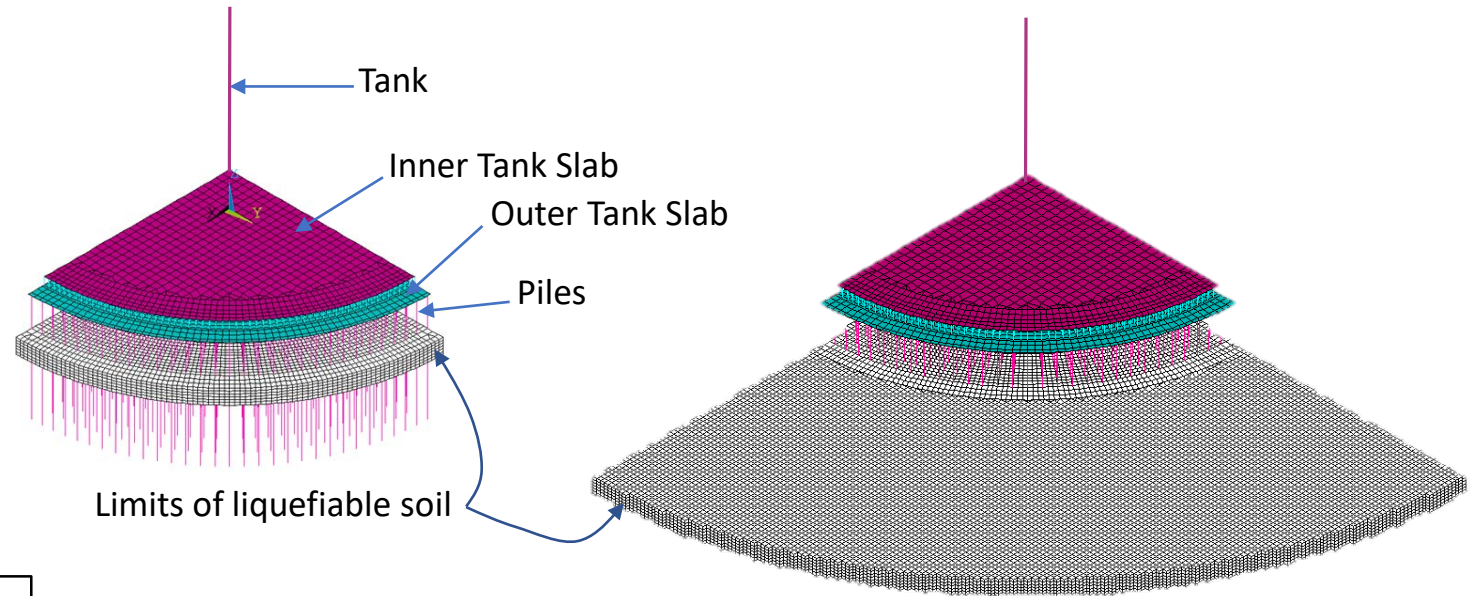


# Seismic SSI Analysis of Pile-Supported LNG Tank underlain by Liquefiable Soils



MTR/SASSI was used to analyze seismic performance of two LNG tanks underlain by liquefiable soils. At Tank 1, the liquefiable layer was limited to within the tank foundation footprint. At Tank 2, however, liquefaction potential also extended beyond the tank footprint. To mitigate soil liquefaction, the soil layer is improved by soil densification method under both LNG tanks. This is expected to prevent liquefaction at Tank 1 site but at Tank 2 site, liquefaction may occur outside the tank footprint. In the SSI analyses, it is assumed that the limits of liquefiable soil layer extend to only one diameter beyond the edge of Tank 2 foundation. This was a reasonable assumption given the mapped limits of liquefiable soil layer. With that, the portion of soil layer consisting of improved section inside and liquefiable section outside the tank footprint were modeled as part of the tank structure, leaving the free-field soil model free of liquefaction at both tank sites.