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## Three-dimensional FEM Analysis for Liquefaction Countermeasure

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In order to confirm the validity of liquefaction countermeasures selected for the integration of roads and housing in an existing housing area, three dimensional FEM analyses (LIQCA3D11) were conducted.

The entire model in which all blocks are modeled is used when taking measures using main construction methods only. The partial model in which four housing areas are selected from all blocks is used when taking measures by a combination of main and sub construction methods.

The dewatering method and the grid-form deep mixing wells method were selected as the main construction methods in the entire model.

It was confirmed that the effects of the countermeasures of the grid-form deep mixing wells method are limited by the analysis of the entire model and it is most effective to set all blocks including those just below the housing in the countermeasure region by analytical results of the partial model.