

Research regarding sewage treatment plants liquefaction measure

[Point]

Regarding earthquake damage of sewage treatment plants, the most cause of the damage is liquefaction, however, in the present design standard, concrete measure method isn't found, and therefore practical measure construction is required. In this research, by damage sample analysis, we examined topographic and geologic factors effect on liquefaction damages, as well as examined backfilling construction management standard as a liquefaction measure for sewage pipeline infrastructures by pipeline infrastructures' actual construction condition research and centrifuge model test.

As a result, a direct factor of sewage treatment plants' liquefaction damage is backfilling soil liquefaction, especially soft and sticky soil ground, damp ground can make damage larger, was clarified. And also, regarding tamping management standard, we clarified, at least 90% of tamping rate can avoid large uplift of pipe lines, based on these result, we proposed the tamping construction management standard, from a prospect of liquefaction damage prevention

Keyword : sewage pipeline infrastructure, liquefaction, uplift, sheet-pile cofferdam, centrifuge model test