

In situ soil mixing method with ability of obstacle avoidance and inclined operation by using expandable/collapsible mixing blades

WinBLADE



Mixing blades

Hazard

Earthquake Land Slide

Solution Purpose

Prevention & Mitigation Recovery

Solution Theme

Infrastructure Technology Building Technology

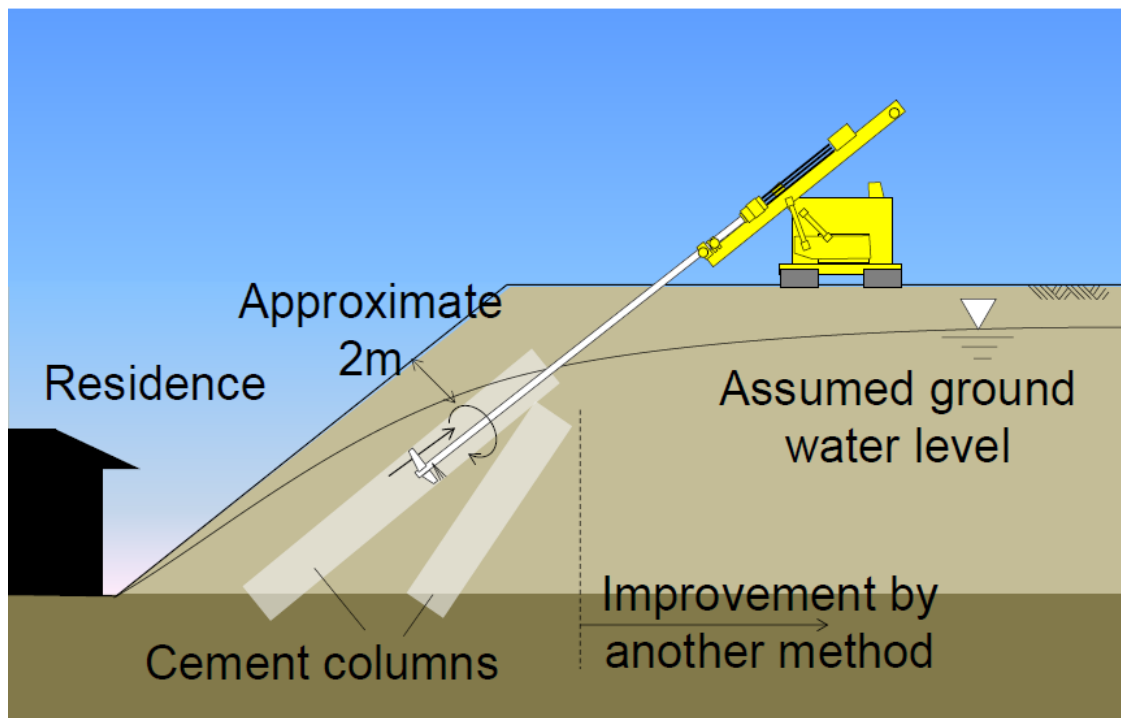
Technology Subject

Coast Road Port Urban Emergency Base & Back-up Facility Design & Construction of Resilient Building
Resilience Improvement on Existing Building

Advantages

- 1 Improve the ground beneath and beside existing structures
- 2 High applicability through diagonal mixing operation
- 3 Reliable execution using monitoring and auto control system

Solution Illustrated



Background

Soil improvement directly under existing structures was impossible with the conventional soil improvement method. WinBLADE enables diagonal construction, which was not possible with conventional construction methods, and makes it possible to construct existing structures and their surroundings.

Exposition of the Solution

1. Can be constructed under unique conditions of existing structures and their surroundings

WinBLADE is a mechanical mixing type soil improvement method in which soil in the ground and injected cement milk are agitated to form an improved column with a small mixing blade that can expand and contract the diameter. Because of the small size of the mixing blade, it is possible to improve the ground in the diagonal direction by constructing along the existing embankment surface. In addition, underground installations such as pipes and surface installations such as reinforced concrete slabs and high standard pavement can be constructed without extensive removal.

2. Providing construction methods according to application conditions

The soil improvement machine equipped with WinBLADE can be selected from three methods suitable for "diagonal construction", "construction in a building", and "construction with emphasis on efficiency limited to the vertical direction outside". Each unit is equipped with a WinBLADE dedicated control and monitoring system to manage and record the work.

Achievements of Examples

There are cases of soil improvement near the slope of the embankment adjacent to a private house and

construction in an existing building.

Corporate Profile

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