
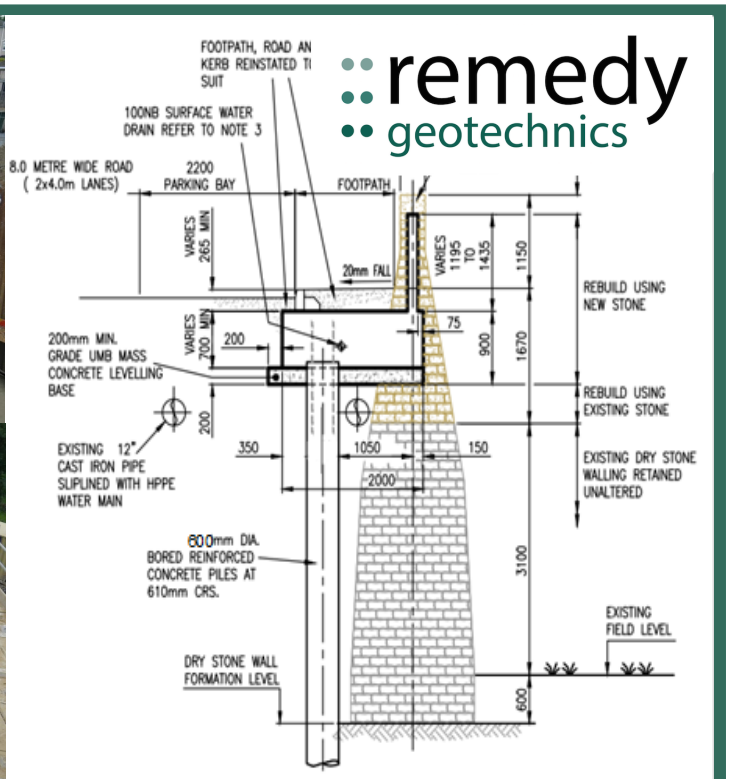


## CASE STUDY

# B6143, Oakworth Road

### THE PROJECT

A burst water main led to collapsed dry stone retaining wall, impairing traffic flows along the B6143.

### THE PROBLEM

Support for the repaired road was urgently needed, complicated by special constraints and tight timescales.

### REMEDY'S SOLUTION

Design of a bored pile retaining wall using 600mm diameter bored concrete piles 12.5m long, installed with a restricted access mini piling rig.

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## Bored Pile Retaining Wall & Restraint Parapet

Remedy were called in to develop a permanent retaining solution to support the B6143, Oakworth Road into Keighley. An existing 5m high, dry stone retaining wall had collapsed as the result of a burst water main, leading to lane closures and traffic control impacting traffic flows. Although only a short length of retaining wall had collapsed, the design solution was complicated by the need to re-open an adjacent layby and the restricted and unstable slope meant only small restricted access piling rigs could be deployed.

Based on the site constraints, Remedy helped design the preferred option for repair as a bored pile retaining wall to support the concrete capping beam and new parapet. In order to achieve a robust solution with a finish compatible with the area's dry stone wall style, Remedy proposed 600mm diameter bored concrete piles 12.5m long. By using their expertise in retaining wall design and restricted access piling techniques, they designed a system whereby the supported footway and restraint parapet could be cantilevered over the top of the piles - all designed to rigorous highway standards. The stone wall was then rebuilt, but in a way that shielded it from the new loading from the rebuilt lay-by. Large forces were generated in the piles, derived from both normal and accidental loading conditions. Because of the high loads, the reinforcement cage comprised ten 40mm diameter longitudinal bars with 10mm diameter helical shear reinforcement extending to the pile toe.

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