



MAKING A  
GLOBAL IMPACT

## Project Report

<b>EQUIPMENT</b>	RIC
<b>LOCATION</b>	Chilliwack Fire Department, Chilliwack B.C.
<b>PURPOSE</b>	Industrial Development



**Subgrade soils for this site consisted of silty sands and sand with silt. The Rapid Impact Compactor was used as a remedial ground improvement option, with the expectation that the upper 10 to 15 feet would be treated, with a cone depth of about 12 inches.**

However, typical cone depth (depth of impact crater) was on the order of 3 feet, with an improvement in the blow count from 12 to 20 at a depth of 30 feet! Average overall ground deformation (subsidence) resulting from the RIC process averaged 18 inches. As a result, the building's foundation design was modified, resulting in a significant cost savings for the project.

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**Dynamic compaction with the Rapid Impact Compactor was used to improve approximately 300,000 square feet of building pad subgrade at this Southern California commercial site.**

fill that had been placed in an old quarry over several years. The RIC method demonstrated its value as a “proofing” tool, with its ability to identify and simultaneously treat pockets of loose material.

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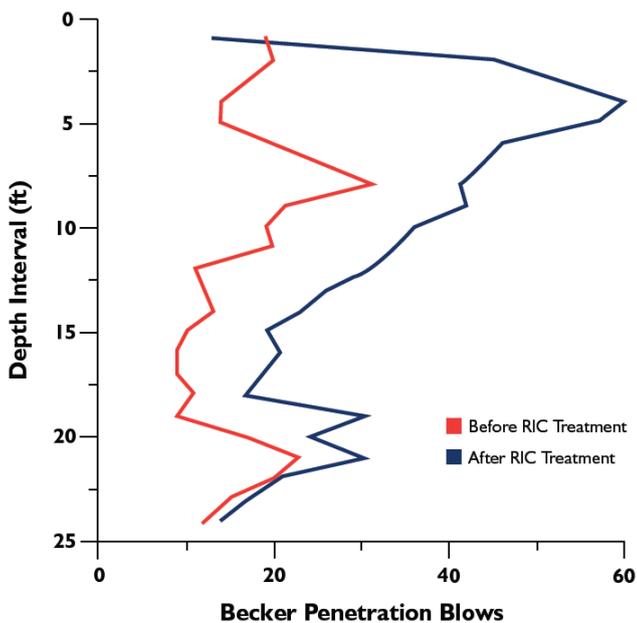
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**A Rapid Impact Compactor is shown above densifying an area filled with loose sands and gravels (with some silt and wood fragments) in the area of a future parkade, or "parking structure".**

The on-board computer was on a set of 3mm. The original compaction pass was on a 20-foot spacing, followed by a second pass at the intermediate impact points. The number of blows varied from 40 to 65 on the first pass, with the count dropping to 20 to 35 on the secondary pass. Depth of penetration per location averaged about 12 to 18 inches. The test results allowed the owner to use RIC to densify the subgrade in-situ, saving a substantial amount of time and money over the alternative of subexcavation, recompaction, and casting of a raft foundation.

The following is a graph of comparative Becker penetration test results, showing significant improvement in the posttreatment profile:



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