NRC·CNRC
Institute for Research in Construction

Bringing quality to the built environment

Restoration of Utility Cuts

Objective
To develop effective restoration techniques for road utility cuts.

Background
Cutting and restoration of road pavements for the repair or replacement of buried utilities aggravate the deterioration of urban streets, causing substantial loss of serviceability and increased maintenance costs.

Statement of Work
In the course of this project we have undertaken:
- Analytical investigations to identify variables that influence the performance of the reinstated utility cuts and of nearby sections of the road
- Laboratory investigations to characterize all the materials used in the restoration process, including native soils, sand, granular materials, flowable fill, Portland cement concrete and bituminous materials
- Field investigations in five instrumented test sites to examine current construction techniques and quality control measures, and to gather data
- Accelerated loading tests on controlled experimental sections to validate the accuracy of our analytical tools.

Outcomes
- A research and development report, together with a restoration guide, five field investigation studies, and documents verifying the analytical tools, have been delivered to the Partners.
- RUC software to help decision-makers to perform structural design and analysis of pavement, to assess alternative restoration options and to conduct other management tasks, is being evaluated.

Partners
A consortium consisting of the U.S. Army Corps of Engineers, the Departments of Transportation of seven U.S. states, thirteen Canadian and U.S. municipalities and eight utility companies.

Start/Expected Completion Dates
This project began in May 2000 and was completed in 2006.

Project Manager
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For more information, see http://irc.nrc-cnrc.gc.ca/ui/ur/utilitycuts_e.html

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A typical section of repaired pavement