

METALS CONTAMINATED SOIL REMEDIATION:  
PROJECT DESCRIPTION AND COST COMPARISON

An Abstract of  
a Project Report  
Presented to the  
Department of Geography  
Western Illinois University

In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

by

Jeffrey D. Miller

December, 1995

## Abstract

Remediation of contaminated soils has been affected by the implementation of the Hazardous and Solid Waste Act (HSWA) Land Disposal Restrictions (LDR) as enforced by the United States Environmental Protection Agency (USEPA). The result has been that site remediations have become more complex. Minimum treatment standards must be met to complete a cleanup.

In 1995 a client approached Dames & Moore to investigate the contamination of soils as a result of paint sandblasting on a bridge over their property. This paper outlines the investigation completed by Dames & Moore and provides costs for remediation options considered. This paper is divided into five sections so that planners faced with the task of remediating site soils will have an understanding of how to go about the remediation process. Included are the state and federal regulations to be considered, the information needed to plan for a remediation, and an itinerary of how the subject property investigation progressed.

The assessment of the subject property's contamination problem and the remedial option suggested are related to the remedial requirements of LDR, remedial technologies presently available, and remedial contractors available to complete the cleanup alternatives considered. The costs estimated to complete this remediation range from \$198,000 to over \$2,000,000. Based on knowledge of the site, property usage, location adjacent to a major river, and LDR a remedial option was recommended that while not the cheapest is likely the most cost effective.

As a result, the recommended remedial alternative for the site is to stabilize site soils with cement and then cap the stabilized soils in place using a concrete cap. Cement stabilization was chosen because of its relative ease in implementation, the ability to

prevent lead from leaching out of soils and the lowering of liability. Capping the stabilized soils with a concrete cap was chosen because it effectively minimized the risk to human health.