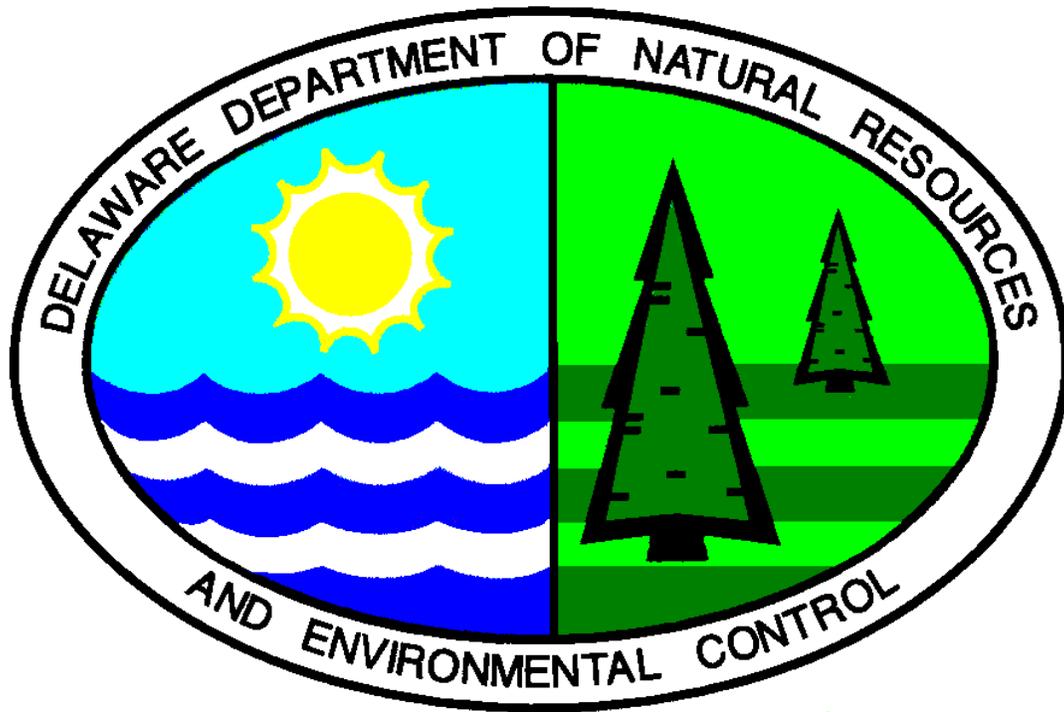


FINAL PLAN OF REMEDIAL ACTION



MARTIN LUTHER KING, Jr. BOULEVARD
Wilmington, Delaware

DNREC Project No. DE-1155

June 2000

Department of Natural Resources and Environmental Control
Division of Air and Waste Management
Site Investigation and Restoration Branch

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I INTRODUCTION

As part of the redevelopment of the Christina River riverfront area in Wilmington, Delaware traffic improvements are underway on the Martin Luther King, Jr. Boulevard project. This final Plan of Remedial Action covers environmental contaminants at the Project.

Because of past industrial uses in the Wilmington area, the subsurface soils have been impacted by a variety of industrial residues including petroleum hydrocarbons and other organic compounds and metals. The Delaware Department of Transportation entered into a Voluntary Cleanup Program (“VCP”) Agreement with the Department of Natural Resources and Environmental Control’s Site Investigation and Restoration Branch (“Department” or “DNREC-SIRB”). The purposes of the VCP Agreement were to:

1. Identify potential sources of contamination within the improvement area, and
2. Develop remedial alternatives for the detected contamination that would protect human health and the environment during and after construction.

To accomplish these purposes EA Engineering, Science, and Technology, Inc. was contracted by the Riverfront Development Corporation to perform a Remedial Investigation to characterize the existing levels of contaminants from past industrial practices. The Remedial Investigation included soil drilling, sampling, and analysis in and along the planned improvements. The collection and analysis of these soil samples was performed in accordance with the Hazardous Substance Cleanup Act (“HSCA”), the Delaware Regulations Governing Hazardous Substance Cleanup (“Regulations”), Delaware Standard Operating Procedures for Chemical Analytical Programs, guidance documents, and other Department policies and procedures.

II PURPOSE

This document is the Department’s Final Plan of Remedial Action for the site. It is based on the technical reports of sampling, the Interim Action remedial measure, and the Regulations. The Final Plan presents the Department’s assessment of human health and environmental risks associated with the site.

The Department provided the public with notice and opportunity to comment on the Proposed Plan of Remedial Action in accordance with Section 12 of the Regulations. At the conclusion of the comment period. The Department reviewed and considered any comments received. This Final Plan of Remedial Action, the Proposed Plan of Remedial Action, the comments received from the public, the Department’s response to the comments, the drafted Final Plan of Remedial Action, and all of the documents which formed the basis for the Proposed and Final Plans of Remedial Action will constitute the “Remedial Decision Record.”

III SITE DESCRIPTION AND HISTORY

Site Location

The project area is located in the South Wilmington area of New Castle County. The project is between the eastbound lanes of Martin Luther King, Jr. Boulevard and West Street to Shipley Street.

The project is approximately 0.4 miles south-southwest of downtown Wilmington. The immediate surrounding area is a mixture of commercial, industrial, and residential properties.

Site History

The project area was historically comprised of commercial and residential properties. Parking lots, vacant land, and road surface now occupy the area.

IV INVESTIGATION RESULTS

The findings of the Remedial Investigation conducted by EA Engineering, Science, and Technology, Inc. showed that defined areas of soil were impacted above the DNREC-SIRB Uniform Risk Based Remediation Standards (“URS”) for unrestricted use surface and subsurface soil. The contaminants included metals (particularly lead and arsenic) and polynuclear aromatic hydrocarbons (“PAHs”).

An Interim Remedial Action was performed to remove all impacted soil from the site that exhibited contaminant concentrations over the DNRC-SIRB URS for unrestricted use surface and subsurface soil.

The information gathered during the Remedial Investigation was used to develop this Final Plan of Remedial Action.

V REMEDIAL ACTION OBJECTIVES

According to HSCA regulation 8.4(1), remedial action objectives must be established during a remedial investigation. They were designed based on the following factors:

- The site is currently a road and parking areas.
- The future site use is to be a road and parking.
- The media has been impacted by PAHs, and metals.
- The primary exposure pathways are air inhalation, direct contact and incidental ingestion with/of impacted soil.

- The impacted soil as been removed through an Interim Remedial Measure.

Qualitative Remedial Objectives

Based on the above factors, the following qualitative remedial action objectives were developed:

- Control potential human contact (dermal and ingestion) with contaminated soil.

Quantitative Remedial Objectives

Based on the above qualitative remedial action objective, the following quantitative remedial action objectives were developed:

- Prevent human contact with soil having an arsenic concentration greater than 60 mg/Kg.
- Prevent human contact with soil having a lead concentration greater than 400 mg/Kg.
- Prevent human contact with soil having a PAH concentration greater than individual PAH compound URS concentrations.

VI FINAL REMEDIAL ACTION PLAN

The final remedial actions were based upon the Remedial Action Objectives.

Potential Remedial Alternatives

Since all impacted soil has been removed from the site during the Interim Remedial Measure, no further remedial action is being considered.

VII FINAL PLAN OF REMEDIAL ACTION

Based on the information and results of the Interim Action performed at the site, the Department recommends no further action. Since the impacted soil exhibiting contaminant concentrations above the Uniform Risk Based Remediation Standards has been removed, no unacceptable risk to public health or the environment remains.

VIII PUBLIC PARTICIPATION

The Department actively solicited public comments or suggestions on the Proposed Plan of Remedial Action and welcomed opportunities to answer questions. The comment period began Wednesday May 17, 2000 and ended Tuesday June 6, 2000. No comments were received.

IX DECLARATION

This Final Plan of Remedial Action for the Christina River Pedestrian Walkway site is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

Denise Ferguson-Southard
Director, Division of Air and Waste Management

Date

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