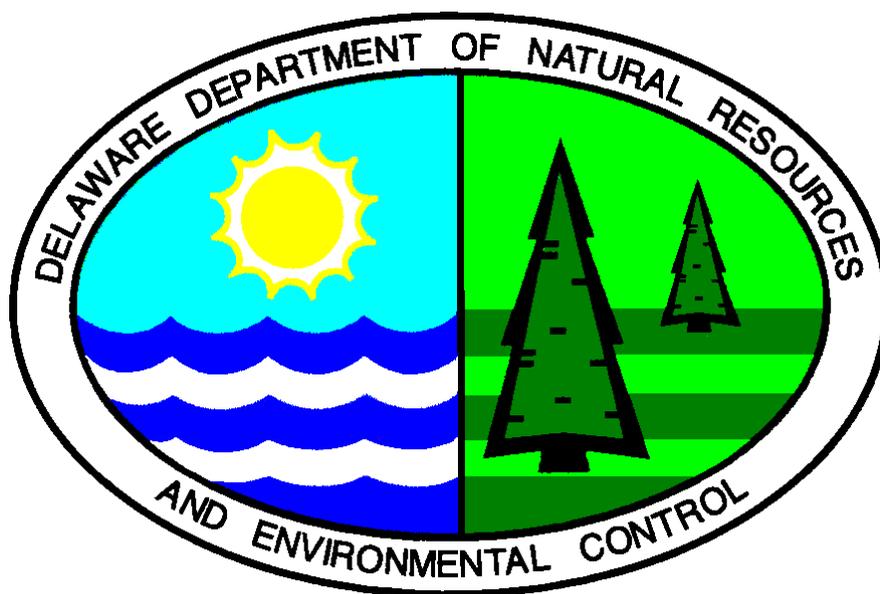


# **Final Plan of Remedial Action**

**City of Newark Proposed Bikeway  
Newark, Delaware**

**DNREC Project No. DE-1194**



**February 2001**

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

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## **I INTRODUCTION**

In June 2000, the Department of Natural Resources and Environmental Control, Site Investigation and Restoration Branch (“DNREC-SIRB” or “Department”), under the authority granted by the Hazardous Substance Cleanup Act, 7 Del. C. Chapter 91 (“HSCA”), entered into a Voluntary Cleanup Program (“VCP”) Agreement with the City of Newark to conduct a Remedial Investigation (“RI”) at the City of Newark Bikeway Site (“Site”) and to determine whether a cleanup at the Site is necessary. Pennoni Associates, Inc. (“Pennoni”), the City of Newark’s environmental consultant, completed the RI in July 2000.

Previous investigations at the Site conducted in May 2000 identified areas of concern within the surface soil at the site. This previous information and the subsequent RI results were evaluated in terms of the proposed land use, and the established remedial action objectives, for the Site.

## **II PURPOSE**

This Final Plan of Remedial Action (“Final Plan”) is based on the RI and subsequent Remedial Design Plan completed by Pennoni Associates, Inc., on behalf of the City of Newark, and presents to the public the Department’s final selection of any remedial activities to occur at the City of Newark Bikeway Site. This Final Plan is issued under the provisions of HSCA and the Regulations Governing Hazardous Substance Cleanup (“Regulations”).

DNREC-SIRB provided public notice and an opportunity to comment on the Proposed Plan in accordance with HSCA and Section 12 of the Regulations. The Final Plan, which designates the selected procedures and stipulations concerning current and future activities, the Proposed Plan, any comments received from the public, the Department’s responses to the comments, and all of the Site documents forming the basis for the Proposed and Final Plans, will constitute the remedial decision record required for issuing the Final Plan.

Included in Section II of the Final Plan is a site description and history of the City of Newark Bikeway Site. Section III provides a description of the investigation results. Section IV presents the Proposed and Final Plans of Remedial Action. Section V discusses public participation requirements. Section VI presents the Director’s declaration.

### **Site Description and History**

The Site consists of two (2) separate properties, which are in close proximity to each other (i.e., approximately one-half mile apart). The RI report (Remedial Investigation Report, City of Newark Proposed Bikeway, July 26, 2000) identifies the two properties in terms of tax parcels (parcel B and parcel C) and details investigation information for both. Both parcels are located in the City of Newark adjacent to active railroad tracks. Parcel B consists of approximately 1.7 acres of unimproved wooded lands, which lies on the northern side of the Newark, Delaware main line railroad track. The closest cross street is College Avenue (State Road 896). Parcel B is irregular in shape and consists of an elongated tract of land which has an approximate length

of 1,200 feet and an approximate width of 70 feet. Presently, the National Railroad Passenger Corporation owns Parcel B.

Parcel C consists of approximately 2.3 acres of unimproved lands with approximately 30% of that area supporting mature wooded lands. Parcel C is generally triangular in shape and lies north of the Newark, Delaware main line railroad tracks. Parcel C is presently owned by an entity identified as PB&W.

Based upon Pennoni's review of historical aerial photographs and available Sanborn Fire Insurance Maps, it does not appear that the subject property was used for any specific purpose, dating as far back as 1929 for Parcel B and 1952 for Parcel C. It is not known when the adjacent rail road tracks were installed. Surrounding properties are a combination of residential, commercial, and agricultural lands.

At present, the subject property is not utilized for any specific use and public access is limited primarily due to the presence of the adjacent railroad tracks. Surrounding properties are utilized for residential, commercial, and agricultural operations. The proposed future use as a portion of a City of Newark Bikeway would represent additional human use of the site, primarily for transportation and/ or recreational uses (i.e., biking, walking, and jogging). These parcels, along with the associated bikeway, will be utilized to connect the City of Newark recreational space and parking areas located west of the Site. The proposed uses would represent increased public access and a change in the current use of the land.

Previous investigations, including a Phase I/ Limited Phase II Environmental Site Investigation Report ("Phase I/II Report"), were completed by Pennoni in May of 2000. The surface soils of the Site had likely been impacted from the historic use of the subject property and adjacent properties for railroad beds. The surface soil samples had been analyzed for polychlorinated biphenyls ("PCBs"), priority pollutant volatile organic compounds ("VOCs") and priority pollutant metals. The Phase I/II Report determined that metals were the only constituents that were found at concentrations which exceeded the Delaware's Uniform Risk-Based Remediation Standards ("URS"), dated December 1999, for Non-Critical Water Resource Areas, Unrestricted Use, Surface Soils. A copy of the text portion of this Phase I/II Report is contained within Appendix B of the RI Report.

The additional sampling and analysis constitutes the RI, which is a further characterization of the Site based on the previous Phase I/II Report. In accordance with the VCP Agreement, the RI included subsurface soil samples and groundwater samples for laboratory analysis.

### **III INVESTIGATION RESULTS**

Surface soil, subsurface soil, and groundwater investigations were conducted on Parcels B and C of the proposed City of Newark Bikeway as part of the RI in June 2000. The RI determined that both surface and subsurface soils contained metals, which exceed the Non-Critical Water Use Area, Restricted Use URS, dated December 1999. Groundwater is also impacted, likely by an off-site, upgradient source of trichloroethene and benzene.

Arsenic and iron were found in the surface soils at concentrations which exceeded the Surface Soil, Restricted Use URS, and only arsenic was found within subsurface soils which exceeded the Subsurface Soil, Restricted Use URS.

The groundwater analysis results reveal two (2) volatile organic constituents. Benzene and trichloroethene exceed the URS for groundwater, but likely originate from an off-site, upgradient source. This VOC plume, which has been documented on an adjacent property and caused the closure of a City of Newark municipal well, likely flows under the subject property from a northern direction.

The RI Report and the subsequent Remedial Design Plan (“RDP”) (October 19, 2000) proposed that engineering controls would effectively eliminate the risk to human health posed by identified contaminants of concern. Risk evaluation was conducted for the soil exposure pathway using the Risk Based Cleanup Action (“RBCA”) tool kit for chemical releases, version 1.2. The carcinogenic risk calculation for arsenic in shallow soils indicated a total risk of 5.3 E-6 using a commercial use scenario.

Redevelopment of both Parcels B and C will require engineering controls within the area of the “former railroad spur.” The following remedial alternatives were presented in the RDP as controls for eliminating the risk for direct contact with identified constituents of concern.

- The design of the bike trail through Parcel C will include twelve (12) inches of cover with clean fill material which will extend fifteen (15) feet from the center line of the paved trail in either direction. Asphalt pavement will then be placed on top of the clean fill. A fence will also be built along the southern side of the trail through Parcel C separating the trail from the previously identified wetlands.
- The paved trail and adjoining area containing clean fill are intended to eliminate the pathway for direct contact with the constituents identified during the soil investigation.
- Material excavated during construction of the trail in the area of the former railroad spurs (i.e., for utility trenches) will be placed underneath the clean fill in the areas to be paved during trail construction.

According to Regulation 8.4(1), remedial action objectives must be established for all Plans of Remedial Action. The remedial action will be evaluated utilizing the qualitative and quantitative objectives and the following considerations:

- The Site land use is expected to be a commercial/recreational use paved bikeway area.
- The potential risk to human health.

**QUALITATIVE REMEDIAL OBJECTIVES:**

Based on the above considerations, the following qualitative objective was developed:

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

**QUANTITATIVE REMEDIAL OBJECTIVES:**

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

- Prevent human contact with soil having constituents which exceed 10 E-05 cumulative cancer risk.

**IV PROPOSED AND FINAL PLANS OF REMEDIAL ACTION**

Based upon the information and results of the investigation performed at the City of Newark Bikeway Site in Newark, Delaware, the DNREC-SIRB recommended plan of remedial action for the site will include the following:

- The design of the bike trail through Parcel C will include twelve (12) inches of cover with clean fill material which will extend fifteen (15) feet laterally from the center line of the paved trail in each direction, for a total width of thirty (30) feet. Asphalt pavement, fifteen (15) feet wide, will then be placed on top of the clean fill in such a manner that there will be at least 7.5 feet of clean fill on each side of the paved area. A fence will also be built along the southern side of the trail through Parcel C separating the trail from the previously identified wetlands.
- The paved trail and adjoining area containing clean fill are intended to eliminate the pathway for direct contact with the constituents identified during the soil investigation.
- Material excavated during construction of the trail in the area of the former railroad spurs (i.e., for utility trenches) will be placed underneath the clean fill in the areas to be paved during trail construction.
- The City of Newark will forward language of deed restrictions on the properties (Parcels B & C) to DNREC-SIRB for its review and approval. Said deed restrictions will require notification and approval from DNREC-SIRB prior to any future intrusive or soil disturbing activity within 15 foot of either side of the center-line of the Bikeway area, and prior to any changes in current use of the northern portion of Parcel C. The restrictions will be specific to the impacted soil identified with the RI Report prepared by Pennoni Associates and dated July 26, 2000.
- No lighting fixtures will be placed in the area of the former rail spurs.

This DNREC-SIRB recommended plan of remedial action meets or exceeds all of the criteria utilized in evaluation of remedial alternatives that is conveyed in Subsection 8.5 of the Regulations and is the most cost effective remedy. Additional information regarding the selection of the remedial action is contained in the Pennoni Associates, Inc. RI and RDP for the Site.

## **V PUBLIC PARTICIPATION**

The Department of Natural Resources and Environmental Control actively solicited public comments or suggestions on the Proposed Plan and welcomed opportunities to answer questions.

The public comment period began on January 12, 2000 and ended at 4:30 pm on February 1, 2001. One (1) comment letter was received by the Department prior to the close of the public comment period. The Department responded in writing to the person submitting the comment on February 6, 2001. A public hearing on the Proposed Plan was not requested.

## **VI DECLARATION**

This Final Plan of Remedial Action for the City of Newark Bikeway Site is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act ("HSCA").

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

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