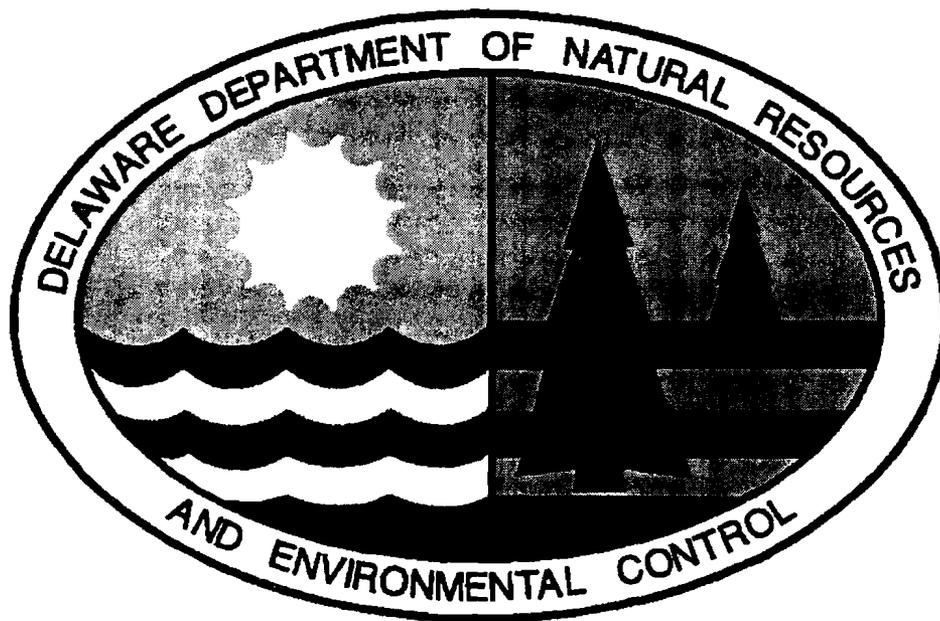


**SECOND REVISED
PROPOSED PLAN OF REMEDIAL ACTION
FOR THE
NVF-NEWARK COMPANY SITE
NEWARK, DELAWARE**



July, 2000

**DNREC Project DE-199
Project Officer: Ann L. Breslin**

**Prepared by:
Delaware 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 April 1998, Environmental Alliance, Inc. ("Alliance"), on behalf of Commonwealth Management, Inc., conducted a Facility Evaluation ("FE") and Focused Feasibility Study ("FFS") of the National Vulcanized Fibers ("NVF") Company facility in Newark, Delaware under the direction of the Hazardous Substance Cleanup Act (HSCA)-Voluntary Cleanup Program (VCP). The FE/FFS was conducted in accordance with the Delaware Regulations Governing Hazardous Substance Cleanup ("Regulations") and the FE/FFS workplans previously approved by the Department of Natural Resources and Environmental Control, Site Investigation and Restoration Branch ("DNREC-SIRB"). The FE/FFS included the sampling of surface soil, subsurface soil, surface water, sediments, and groundwater at various locations throughout the facility. The FE was completed in December 1998 and the FFS was completed in March 1999. The Department has determined that the FE completed for this site meets the requirements established for performing a Remedial Investigation (RI) in the Regulations.

In May 1999, DNREC-SIRB issued a Final Plan of Remedial Action ("Final Plan") for the site. In May 2000, DNREC-SIRB issued a Revised Final Plan of Remedial Action ("Revised Final Plan") which incorporated a number of revisions to the Final Plan. In June 2000, Commonwealth Management, Inc. requested another change to the Revised Final Plan, and DNREC-SIRB is issuing this Second Revised Proposed Plan of Remedial Action incorporating that requested revision.

II PURPOSE

This document is the Second Revised Proposed Plan of Remedial Action ("Second Revised Proposed Plan") is based on the FE/FFS and treatability study completed by Alliance, on behalf of Commonwealth Management, Inc., and presents to the public DNREC-SIRB's Second proposed selection of any remedial activities to occur at the NVF-Newark Company site. This Amended Proposed Plan is issued under the provisions of the Delaware Hazardous Substance Cleanup Act, 7 Del.C. Chapter 91 (HSCA), and the Regulations Governing Hazardous Substance Cleanup ("Regulations").

DNREC-SIRB provided public notice and opportunity to comment on the Second Amended Proposed Plan in accordance with HSCA and Section 12 of the Regulations. This Second Amended Proposed Plan, which designates the selected procedures and stipulations concerning current and future activities, the revised 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 Second Amended Proposed and Final Plans will constitute the remedial decision record required for re-issuing the Revised Final Plan.

Included in Section III is a site description and history for the NVF-Newark Company site. Section IV provides a description of the Second Revised Proposed and Final Plans of Remedial Action. Section V discusses public participation requirements.

III SITE DESCRIPTION AND HISTORY

The NVF-Newark site is located in the northern portion of the City of Newark as shown in Figure 1. The site is bounded by Margaret and Race Streets and the White Clay Creek. The site (Figure 2) occupies approximately 20+ acres, as reported by NVF. The Curtis Paper Mill is located approximately 0.1 miles to the northwest along Paper Mill Road. This property is upstream of the NVF facility along White Clay Creek. Properties to the south and northeast of the NVF facility are primarily residential. The land directly across White Clay Creek to the north appears to be agricultural and undeveloped. A commercial automobile sales lot is adjacent to the southeastern part of the NVF facility.

The site was used as a mill for fiber products since the late nineteenth century. The mill expanded and operated up to its closing in 1990. The facility was used for the production of waterleaf paper and vulcanized fiber products in the form of boards, sheet and tubes. Additionally, insulating fiber blocks were produced for the railroad industry. Cloth rags were the raw material used to create a pulp for these processes. Aluminum sulfate (alum) was used in the pulp digestion process to reduce the pH of the pulp to 3.0. Zinc chloride was used in the laminating process. Zinc chloride solutions were utilized in wooden vats to treat fiber products. Pigment and dyes were also used in the process. Other material used included fuel oil, hydraulic oils, and solvents (mineral spirits) for plant operations. The primary waste generated by the plant was zinc chloride sludge.

The plant is constructed in part with wood and soil floors which may have allowed spills of zinc chloride solutions to enter the soil. The cutting and grinding operations generated waste water and cellulose fibers. Process wastewater was pumped through an industrial waste force main to the county sewer system, while the dried cellulose fibers were placed in three on-site drying beds. Non-contact cooling water, used for the surface condensation (which concentrated zinc chloride sludge), was discharged into White Clay Creek. Surface water runoff from the exterior of the plant also discharged into White Clay Creek.

In February 1998, DNREC and Commonwealth Management, Inc., signed a VCP Agreement allowing Alliance, the consultant to Commonwealth Management, Inc., to conduct a FE at the site. The FE was conducted to determine the type and source of contamination and whether cleanup at the site was necessary.

In April 1998, Alliance conducted the FE at the NVF-Newark site in accordance with the Regulations and the FE/FFS workplan approved by DNREC-SIRB. The Department requested that the investigation determine the existence, or non-existence of contamination in site soils, groundwater, and surface water, and sediment of White Clay Creek adjacent to the northern portion of the site. The scope of work included 38 sampling locations for surface soil, 10 for surface water, 10 for sediment, 24 for subsurface soil, and 6 for groundwater (see Figure 3, 4 and 5). The samples were collected in accordance with procedures described in the approved FE Workplan and were screened by use of the DNREC Mobile Laboratory (DML). The DML screened solid matrix samples for metals, polynuclear aromatic hydrocarbons (carcinogenic), pesticides, and polychlorinated biphenyls (PCBs). Selected samples (i.e. no less than 10% of samples) were analyzed by Envirotech Research, Inc., a Delaware Certified HSCA laboratory, using Standard Operating Procedures for Chemical Analytical Programs (DNREC, 1997) procedures and methods.

As a result of the completion of the FE, contaminants of concern were identified in site soils and stream sediments that will require remedial actions. These include soils containing zinc and soils containing lead that leaches when subjected to Toxicity Characteristic Leaching Procedure (TCLP) extraction. The TCLP test mimics the conditions found in a municipal landfill, where materials are exposed to acidic leachates. In addition, soils surrounding several underground storage tanks (USTs) were found to be contaminated by Total Petroleum Hydrocarbons (TPHs) which will require remedial action. Finally, stream sediment, in a localized area of the White Clay Creek adjacent to the former production area (SED -5), was found to contain zinc at concentrations exceeding state Uniform Risk Standards (URS) for Protection of the Environment. Sediment sample SED-32A was not collected from White Clay Creek, but rather from a localized drainage area in the open tub area on the eastern portion of the site. Contaminants detected in this sampling location (SVOC's) will be addressed as per the zinc-contaminated soil.

According to Section 8.4(1) of the Regulations, remedial action objectives must be established for all Plans of Remedial Action. The remedial action is evaluated utilizing both the Qualitative and Quantitative Objectives. The following considerations were taken into account in the development of the Qualitative and Quantitative Objectives:

- The site will be developed into residential and commercial property, and
- The site is located adjacent to the White Clay Creek.

Qualitative Objectives for this site are:

- Prevent human contact with contaminants of concern; and
- Eliminate ecologic receptor contact with elevated zinc concentrations in the sediments of the White Clay Creek.

Based on the Qualitative Objectives, the Quantitative Objectives that the DNREC-SIRB determined would meet the Qualitative Objectives include:

- Prevent human contact with soils contaminated with zinc over 5,000 mg/kg.
- Perform an in-situ stabilization treatment of the leachable lead containing soils located within the former Tub Building in order to eliminate potential future exposure to these soils that leach lead at a concentration in excess of 5 mg/l when subjected to TCLP extraction, and eliminate exposure to all additional lead containing soils in excess of 400 mg/kg, and
- Complete the removal of the associated UST and associated TPH contaminated soil removals to the satisfaction of the DNREC-Underground Storage Tank Branch and DNREC-SIRB. The DNREC-SIRB URS Cleanup Standard is 100 mg/kg for C-5 through C-8 aliphatic hydrocarbons, 1,000 mg/kg for C-9 through C-18 aliphatic hydrocarbons, and 2,500 mg/kg for C-19 through C-36 aliphatic hydrocarbons.

Based on this, DNREC issued a Final Plan which contained the following remedial alternative:

Excavation of zinc, and lead impacted soil above the quantitative RAO standards. Placement of zinc and lead (>400ppm, but <5mg/l TCLP) impacted soil under a building footprint. Placement of a deed restriction that prohibits excavation greater than a depth of 3 feet in areas of concern identified on a property map without DNREC-SIRB approval (i.e. under the building footprint). Removal of sediments from the White Clay Creek in exceedence of a zinc concentration of 410 mg/kg with either on-site storage and containment or off-site disposal. Excavation, removal and disposal of TCLP lead failing soil and soil contaminated by hydrocarbons in excess of the DNREC URS Standards listed as quantitative remedial action objectives.

Following the issuance of the Final Plan, Commonwealth Management, Inc. suggested that a number of revisions to the Final Plan would be appropriate. To justify this position, in October 1999 Commonwealth Management, Inc.'s consultant, RMT, Inc., conducted a treatability study (On-Site Stabilization of Lead Contaminated Soils Conducted 12/8/99) on soils exceeding the leachable lead remedial action objective ("RAO") of 5 mg/l. DNREC-SIRB's review of the results of this study indicated that on-site stabilization of leachable lead could be successfully performed.

In addition, during the original Feasibility Study for the site, zinc concentrations above the URS screening criteria were found in sediment samples collected from the White Clay Creek in the area immediately adjacent to the Fiber Mill buildings during the FE. The principal contaminant of concern at the NVF-Newark site is zinc. An assessment of the benthic organisms in the sediments (DNREC Rapid Bioassessment Project - RBP, December 1998) concluded that a mild toxicity condition existed in the sediments that contained zinc above the URS screening concentration. In the Final Plan, a cleanup standard of 410 mg/kg for zinc was established using the medium level effects (effects range-medium, ERM) developed by the National Oceanic and Atmospheric Administration (NOAA). This meant that the Final Plan would have required the removal of certain zinc-contaminated sediments from the White Clay Creek.

However, on September 15-16, 1999 a high water storm event (Hurricane Floyd) increased stream flow in White Clay Creek by a factor of at least 400, according to United States Geological Survey (USGA) provisional data. This flooding removed significant quantities of soil and sediment from the subject area and deposited additional sediment from upstream. This storm event created a need for additional data regarding zinc concentrations in the proposed sediment removal area.

The additional data collection occurred in October 1999. The results showed that the contaminated sediments above the 410 mg/kg standard were no longer present in this area of White Clay Creek. The results of this new sampling showed that the zinc concentrations ranged from 11.8 mg/kg to 166mg/kg. As a result of this resampling, DNREC determined that no sediments were required to be removed from this portion of White Clay Creek.

Therefore, DNREC-SIRB issued a Revised Proposed Plan of Remedial Action, dated January 2000, to incorporate the on-site stabilization of leachable lead containing soils, and to no longer require the removal of zinc contaminated sediments along the southern portion of White Clay Creek.

In addition, the TPH contaminated soil removal, which was required by the Final Plan, was completed by Alliance in July 1999. A UST Removal Report was submitted by Alliance to the DNREC-UST Branch in September 1999 and was subsequently approved by the DNREC-UST Branch. Therefore, based on this fact, DNREC also removed the above Qualitative Objective pertaining to the UST and TPH concerns from the Revised Proposed Plan.

Following a public hearing on the matter on March 28, 2000, a Revised Final Plan of Remedial Action was issued by the Department incorporating the revisions contained in the Revised Proposed Plan of Remedial Action.

In June 2000, Commonwealth Management, Inc, requested another change to the Revised Final Plan. The Final Plan and the Revised Final Plan called for the construction of a building over the lead contaminated soil. This recent request, based on the treatment/stabilization of the lead contaminated soils, calls for a parking lot and/or building to be constructed over the area where the onsite stabilization of lead contaminated soils is to occur. DNREC has determined this change is appropriate because the treatment process proposed would render the contaminants immobile. Therefore, an impermeable cap is not necessary to protect the environment because the stabilized lead contaminants will not leach into the groundwater or surface water at the site. Furthermore, the requested parking lot, with the proper institutional controls in-place, will adequately protect public health by preventing direct human contact with the underlying soils.

As a result, DNREC-SIRB is issuing this Second Revised Proposed Plan of Remedial Action to incorporate changes requested by Commonwealth Management, Inc. into the Revised Final Plan.

VI SECOND REVISED PROPOSED PLAN

Commonwealth has indicated that there has been a change in the potential future use of the site area where stabilization of the lead contaminated soils is to be performed. The area had been initially proposed for residential use, which would have included the placement of the treated soils under a building complex. The developer is now proposing to change the use of the site to allow a parking lot and/or building to be constructed over the area where the onsite stabilization of lead contaminated soils is to occur. This proposal will place several areas of treated soils under a parking lot, separated by a marker fabric and topped by a minimum of 2 feet of clean fill and adequate layer of asphalt.

III PUBLIC PARTICIPATION

The Department actively solicits public comments or suggestions on the Second Revised Proposed Plan of Remedial Action and welcomes opportunities to answer questions.

The public comment period for this Second Revised Proposed Plan of Remedial Action begins on July 23, 2000 and will end following a public hearing on August 15, 2000. The public hearing for Second Revised Proposed Plan will be held on August 15, 2000 at 6:30 p.m., at the Girls, Inc. building located in Newark, Delaware.

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Source: USGS Newark, DE Quadrangle

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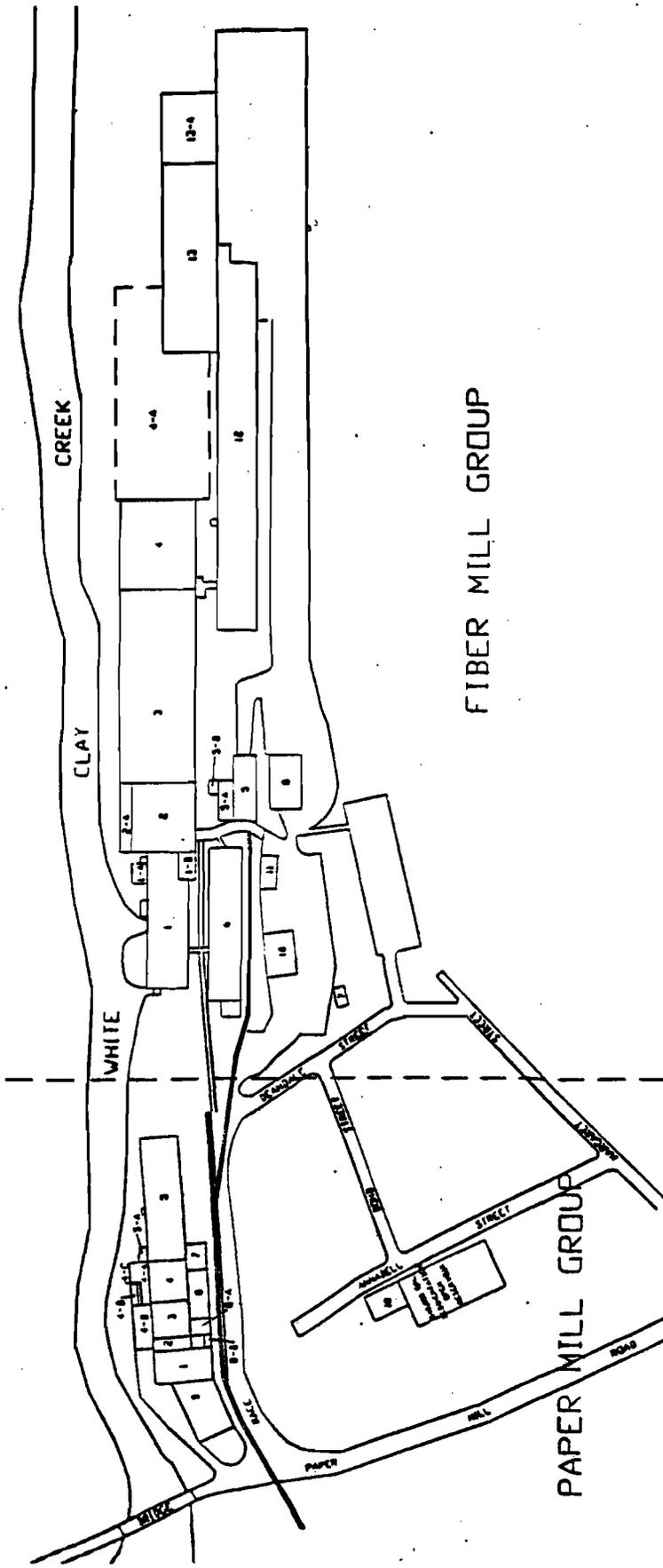


Environmental Alliance, Inc.
 1812 Newport Gap Pike
 Wilmington, DE 19808

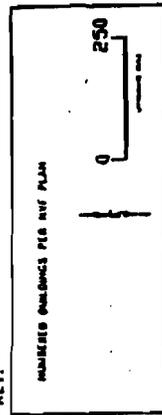
FIGURE 1
SITE LOCATION MAP
 NVF NEWARK FACILITY
 COMMONWEALTH GROUP, INC.
 NEW CASTLE, DELAWARE

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Submittal and for

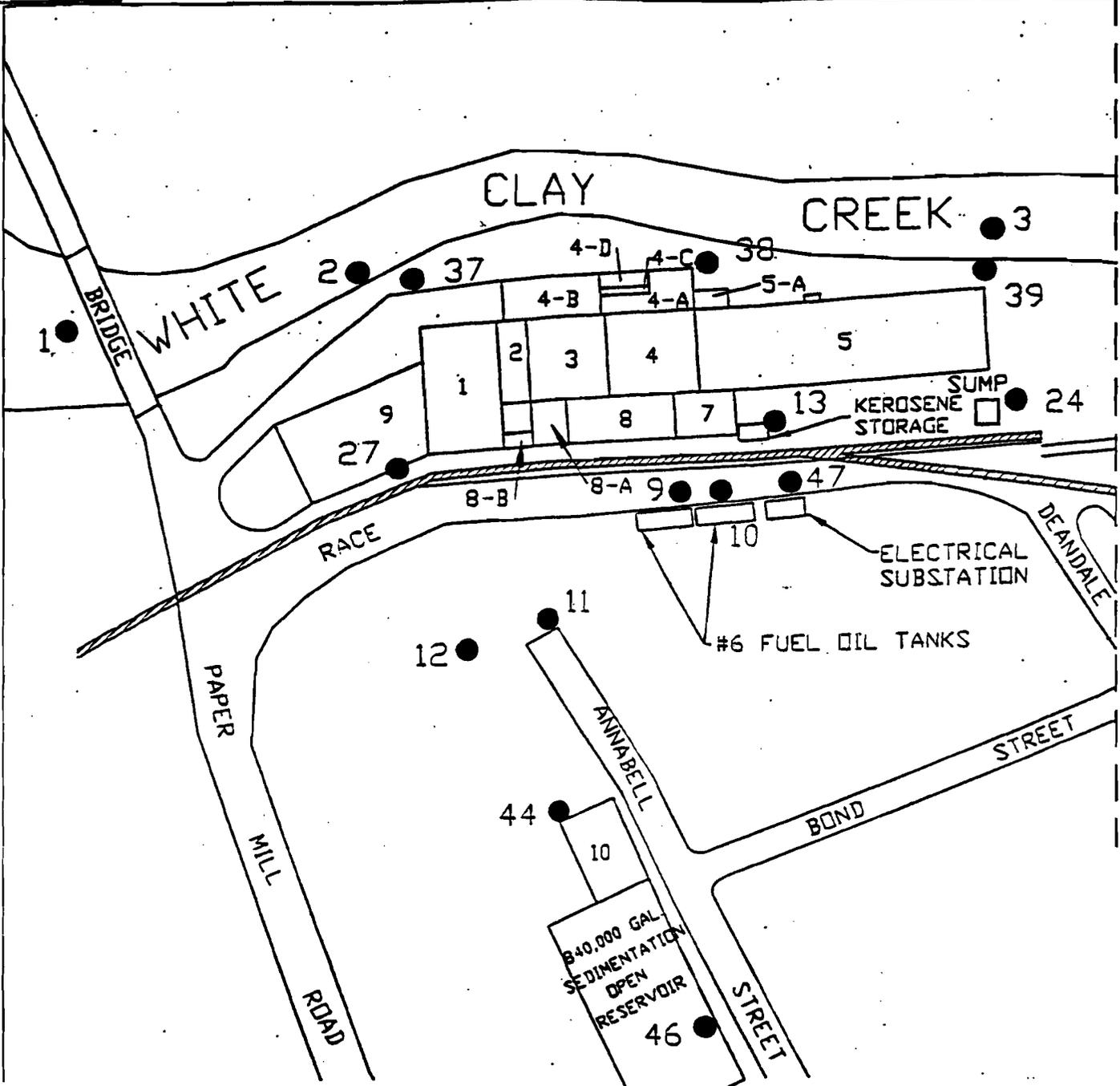


KEY:



DATE: 8/23/98
 DRAWN BY: RAC
 CHECKED BY: [Signature]
 SCALE: AS SHOWN

A Environmental Affairs, Inc.
 1412 Belmont Ave. #100
 Washington, DC 20004
 (202) 462-2222
FIGURE 2
FACILITY PLAN
RVT - NEWARK
FACILITY EVALUATION FOR
CONDORVAL IN GROUP, INC.



KEY:

SAMPLING LOCATION
 BLDG LOCATION
 NUMBERED BUILDINGS PER NVF PLAN

0 100
FEET

REVISION DATE:	6/23/98
DESIGNED BY:	RK
DRAWN BY:	AW
CHECKED BY:	PCM

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 Fax (302) 782-0241

FIGURE 3
 SAMPLING LOCATIONS PAPER MILL GROUP
 NVF-NEWARK SITE
 FACILITY EVALUATION
 FOR COMMONWEALTH GROUP INC.

