FINAL PLAN OF REMEDIAL ACTION

CLEVELAND HEIGHTS DEVELOPMENT SITE – OPERABLE UNIT 1

#1- #25 Terrace Avenue
Newark, Delaware

December 2013
DNREC Project No. DE-1367

This Final Plan of Remedial Action (Final Plan) presents clean-up actions required by the Department of Natural Resources and Environmental Control (DNREC) to address environmental contamination on Operable Unit 1 of the Cleveland Heights Development Site.

DNREC issued public notice of the Proposed Plan of Remedial Action (Proposed Plan) for Operable Unit 1 (OU-1) of the Site on November 24, 2013 and opened a 20-day public comment period. The Proposed Plan is attached. There were no comments from the public; therefore, the Proposed Plan is adopted as the Final Plan.

Approval:
This Final Plan meets the requirements of the Hazardous Substance Cleanup Act.

Timothy T. Ratsep, Program Administrator
Site Investigation and Restoration Section

December 18, 2013
Date

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PROPOSED PLAN OF REMEDIAL ACTION

Cleveland Heights Development Site
Operable Unit 1 (OU-1)
Newark, Delaware
DNREC Project No. DE-1367

November 2013

Delaware Department of Natural Resources and Environmental Control
Division of Waste and Hazardous Substances
Site Investigation & Restoration Section
391 Lukens Drive
New Castle, Delaware 19720

CONTENTS

- Figures: 1 & 2
- Glossary of Terms

PROPOSED PLAN OF REMEDIAL ACTION

Cleveland Heights Development Site
Operable Unit 1 (OU-1)
Newark, Delaware
DNREC Project No. DE-1367

Approval:
This Proposed Plan meets the requirements of the Hazardous Substance Cleanup Act.

Approved by:

Timothy Ratsep, Environmental Program Administrator
Site Investigation & Restoration Section

November 21, 2013
Date

PROPOSED PLAN
Questions & Answers

Cleveland Heights Development Site
Operable Unit 1

What is the Proposed Plan of Remedial Action?

The Proposed Plan of Remedial Action (Proposed Plan) summarizes the clean-up (remedial) actions that are being proposed to address contamination found at the Site. A legal notice is published in the newspaper to advertise the start of a 20-day public comment period. DNREC considers and addresses all public comments received and subsequently publishes a Final Plan of Remedial Action (Final Plan) for the Site.

What is Operable Unit 1 of the Cleveland Heights Development Site?

The Cleveland Heights Housing Development Site is located at #1 through #25 Terrace Avenue in Newark, Delaware. The Site consists of one tax parcel (18-015.00-006) approximately 5.56 acres in size (Figure 1). The nearest major intersection to the Site is Cleveland Avenue and McKees Lane. The Site currently consists of 21 vacant housing units owned by the Newark Housing Authority and includes an asphalt-paved street, an open grassy area, and some wooded areas along its boundaries (Figure 2). Surrounding properties are generally used for commercial operations, primarily as car dealerships. The Cleveland Avenue Landfill Site adjoins the northern boundary of Operable Unit 2.

The Site has been divided into operable units or smaller areas to implement the cleanup. This Proposed Plan specifically addresses Operable Unit 1 (OU-1) of the Site (Figure 2). The remainder of the Site is being addressed separately as Operable Unit 2 (OU-2).

What happened at the Cleveland Avenue Landfill Site?

The City of Newark operated a wastewater treatment facility on the Site and neighboring property to the north of Operable Unit 2 from prior to 1937 until the 1950's. According to a review of historical maps and directories, after closure of the facility, the City of Newark operated a municipal waste landfill predominately on Operable Unit 2 of the Site and the neighboring property to the north of Operable Unit 2 until the 1960's. At some point after waste was no longer accepted, a soil and grass cover was placed atop the landfilled materials. The Newark Housing Authority took ownership of the Site and constructed the existing housing development around 1968. Residents occupied the housing units until 2008.

What is the environmental problem on Operable Unit 1 of the Cleveland Avenue Landfill Site?

Multiple environmental investigations have been performed at the Site. The investigations indicate that exposure to site soil does not pose an unacceptable human health risk; therefore, there is no cleanup required for site soils.

The investigations also confirmed that landfilled materials underlie a portion of Operable Unit 2, the extent which is shown on Figure 3. The natural biodegradation, or breaking down, of the landfilled material has the potential to generate gas, namely natural gas, also called methane. Under certain conditions and at certain concentrations, this gas can pose an explosive hazard and/or short-term health hazard if present in fully-enclosed areas. Measurements collected from inside existing buildings in August 2013 did not indicate the presence of landfill gas at explosive concentrations. Soil gas measurements taken atop the landfilled material; however, did identify the presence of landfill gas at unacceptable concentrations. To prevent the accumulation of any landfill gasses in enclosed structures on site, a venting system will need to be installed in each building.

Sample results indicated that the groundwater beneath the Site contained elevated concentrations of iron and manganese. A risk calculation for groundwater demonstrates that it would potentially pose an unacceptable risk to site users if used as a drinking water supply. However, site groundwater will not be used by site residents. Drinking water will be provided to residents from the City of Newark's public water supply.

What does the owner want to do at the Cleveland Heights Development Site?

The Site is a Certified Brownfields Site. Newark Housing Authority, in partnership with a developer, intends to demolish the existing housing units and construct new housing units on the property using improved building and site design. Current site redevelopment plans indicate that all buildings will be located outside of the area where methane was detected in soil gas and there will be no basement or crawl spaces in any of the buildings.

What clean-up actions are needed on Operable Unit 1 of the Cleveland Heights Development Site?

DNREC proposes the following remedial actions for the Site, all of which need to be completed before a Certificate of Completion of Remedy (COCR) can be issued:

1. Install and operate a DNREC-approved combination active/passive sub-slab gas mitigation system entirely beneath any enclosed structures on the Site. The system will consist of a barrier placed beneath the building foundation to suppress soil gas, along with piping that will divert the soil gas so that it will vent outside of the structure.

2. Develop a Long-Term Stewardship (LTS) Plan to be approved by DNREC. The LTS Plan will detail the inspection components and schedule to be followed in order to ensure the long-term integrity of the remedy.

3. Develop a Contaminated Materials Management Plan (CMMP) to be approved by DNREC within 30 days of the issuance of the Final Plan of Remedial Action. The CMMP will provide guidance for site users on how to safely handle any potentially-contaminated soil and groundwater and also solid waste with which they may come into contact at the Site.

4. An Environmental Covenant, consistent with Delaware's Uniform Environmental Covenants Act (Title 7, Del. Code Chapter 79, Subtitle II) (UECA), will be recorded in the office of the Recorder of Deeds to include the following:

   a. Interference with Remedy. There shall be no repair, renovation or demolition of ground-floor building slabs or the vapor mitigation system components of enclosed structures on the Property without the prior written approval of DNREC-SIRS;

   b. Limitation of Groundwater Withdrawal. No groundwater wells shall be installed, and no groundwater shall be withdrawn from any well, on the Property without the prior written approval of DNREC;

   c. Compliance with Long-Term Stewardship Plan. Perform all work required by the Long-Term Stewardship Plan ("LTS Plan"), as issued, approved, modified or amended by DNREC;

   d. Compliance with Contaminated Materials Management Plan. Perform all work required by the Contaminated Materials Management Plan ("CMMP"), as issued, approved, modified or amended by DNREC.

How can I find additional information or comment on the Proposed Plan for Operable Unit 1 of the Cleveland Heights Development Site?

The complete file on the Site, including the Brownfield Investigation and other reports, is available at the DNREC office located at 391 Lukens Drive in New Castle, 19720. Most documents are also found on: http://www.nav.dnrec.delaware.gov/DEN3/

How can I comment on the Proposed Plan for Operable Unit 1 of the Cleveland Heights Development Site?

The 20-day public comment period begins on November 24, 2013 and ends at close of business (4:30 pm) on December 16, 2013. Please send written comments to the DNREC office at 391 Lukens Drive, New Castle, DE 19720 to Lindsay Hall, Project Officer, or Robert Newsome, Public Information Officer.

Figure 1: Site Location
Figure 2: Current Site Features
Figure 3: Distribution of Buried Waste

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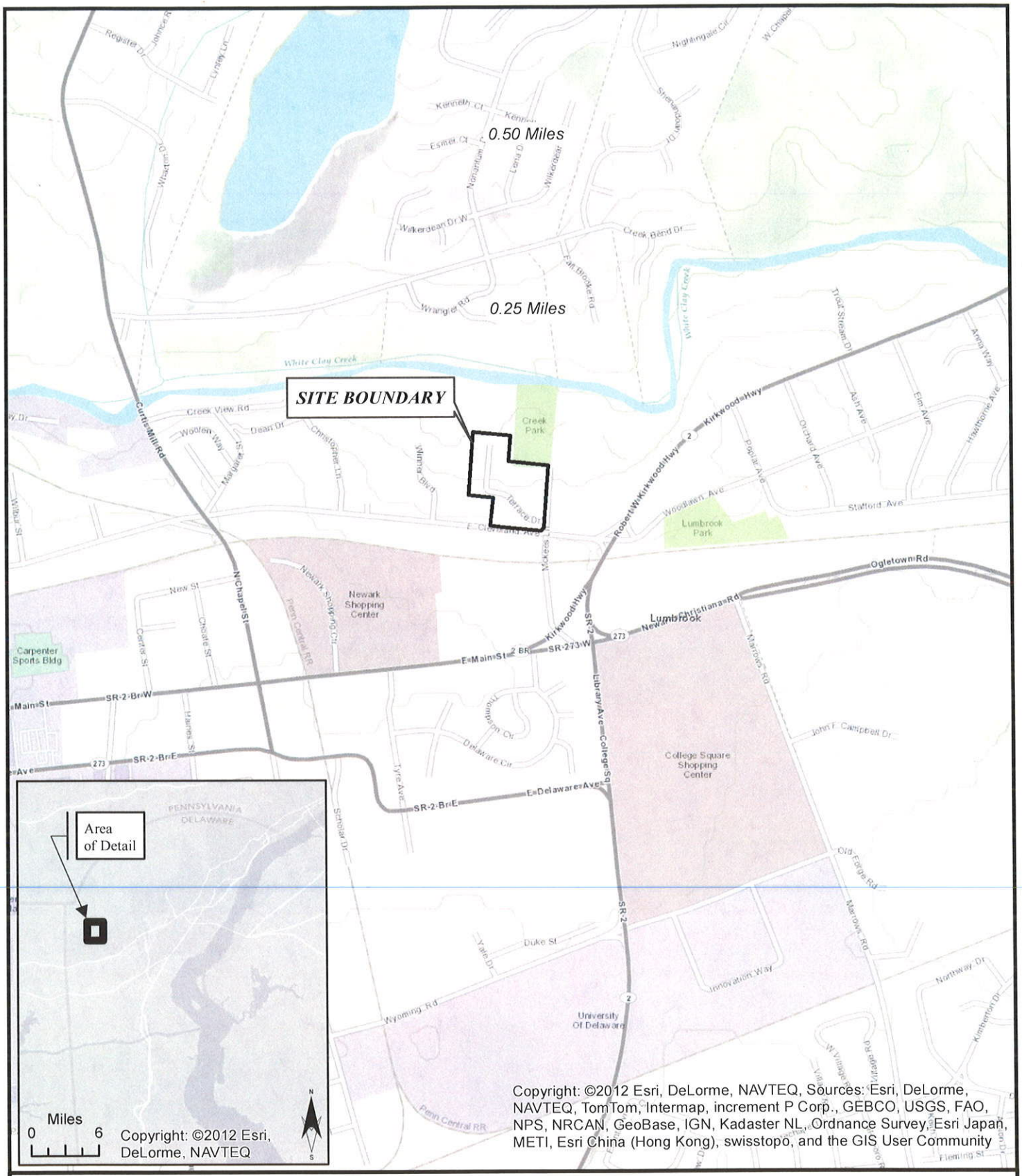

FIGURE 1: SITE LOCATION

REPSG
React Environmental Professional Services Group, Inc.

MAP SCALE: 1 inch = 1,000 feet
0 187.5 375 750 1,125 1,500 Feet

PROJECT NAME: ***CLEVELAND HEIGHTS HOUSING DEVELOPMENT***
PROJECT ADDRESS: ***1 - 25 TERRACE DR, NEWARK, DE***
DNREC PROJECT NO: ***DE-1367***
DATE: ***NOVEMBER 2013***

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FIGURE 2: CURRENT SITE FEATURES

REPSG
React Environmental Professional Services Group, Inc.

MAP SCALE: 1 inch = 100 feet
0 15 30 60 90 120 Feet

PROJECT NAME: *CLEVELAND HEIGHTS HOUSING DEVELOPMENT*
PROJECT ADDRESS: *1 - 25 TERRACE DR, NEWARK, DE*
DNREC PROJECT NO: *DE-1367*
DATE: *NOVEMBER 2013*

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FIGURE 3: DISTRIBUTION OF BURIED WASTE

Site Boundaries
Waste Distribution

REPSG
React Environmental Professional Services Group, Inc.

MAP SCALE: 1 inch = 100 feet
0 15 30 60 90 120 Feet

PROJECT NAME: CLEVELAND HEIGHTS HOUSING DEVELOPMENT
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Glossary of Terms Used in this Proposed Plan

Brownfield	Property that is vacant or underutilized because of the perception or presence of an environmental problem
Certification of Completion of Remedy (COCR)	A formal determination by the Secretary of DNREC that remedial activities required by the Final Plan of Remedial Action have been completed
Certified Brownfield	A Brownfield that DNREC has determined is eligible for partial reimbursement funding through the Delaware Brownfields Program
Contaminant of Concern (COC)	Potentially harmful substance present at concentrations above acceptable levels
Contaminated Materials Management Plan (CMMP)	A written plan specifying how potentially-contaminated materials at a Site will be sampled, evaluated, staged, transported and disposed of properly should they be encountered during future site activities
Environmental Covenant	A restriction placed on the deed for a property. The specified restrictions remain applicable to site activities taking place on the property regardless of property transfers.
Exposure	Contact with a substance through inhalation, ingestion, or direct contact with the skin. Exposure may be short-term (acute) or long-term (chronic)
Final Plan of Remedial Action	DNREC's adopted plan for cleaning up a site with unacceptable contamination due to hazardous substances.
Hazardous Substance Cleanup Act (HSCA)	Delaware Code Title 7, Chapter 91. The law that enables DNREC to identify parties responsible for hazardous substances releases and requires cleanup with oversight of the Department
Long-Term Stewardship (LTS) Plan	A plan created to outline the methods and schedule of future monitoring of completed site remedies to make sure that they remain in place and protective of human health and the environment
Operable Unit (OU)	A division of the site into smaller, distinct areas. OUs can be divided based on the matrix (soil, groundwater, air, sediment, etc.) or surface features (part of a property)
Risk	Likelihood or probability of injury, disease, or death
SIRS	Site Investigation Restoration Section of DNREC, which oversees the investigation and cleanup of sites that were contaminated by hazardous substances as a result of past use