RECORD OF DECISION

Ramapo Paint Sludge Site
Operable Unit 1: North of Ramapo Well Field
State Superfund Project
Ramapo, Rockland County
Site No. 344064
July 2018

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - RECORD OF DECISION

Ramapo Paint Sludge Site
Operable Unit 1
State Superfund Project
Ramapo, Rockland County
Site No. 344064
July 2018

Statement of Purpose and Basis

This document presents the remedy for Operable Unit Number: 01: North of Ramapo Well Field of the Ramapo Paint Sludge Site site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for Operable Unit Number: 01 of the Ramapo Paint Sludge Site site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

The elements of the selected remedy are as follows:

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. This No Further Action remedy includes the implementation of ICs/ECs including an environmental easement and maintaining a site cover as the proposed remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

The elements of the IRM already completed and the institutional and engineering controls are listed below:

1. Cover System
A site cover currently exists which meets restricted residential soil cleanup objectives (SCOs) and will be maintained to allow for restricted-residential use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper two feet of exposed surface soil meets the applicable SCOs for

restricted residential use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

2. Institutional Control
Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential, commercial, or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- require compliance with the Department approved Site Management Plan.

3. Site Management Plan
A Site Management Plan is required, which includes the following:

a.) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 3 above.
Engineering Controls: The soil cover remaining following the Interim Remedial Measure which meets restricted-residential SCOs.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination and contingencies if paint sludge is encountered during future excavations;
- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures.
- descriptions of the provisions of the environmental easement including any land use restrictions;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b.) a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

a. monitoring of site restoration to assess the performance and effectiveness of the remedy;
b. a schedule of monitoring and frequency of submittals to the Department.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

July 9, 2018

Date

Michael J. Ryan, P.E., Director
Division of Environmental Remediation

RECORD OF DECISION

Ramapo Paint Sludge Site
Ramapo, Rockland County
Site No. 344064
July 2018

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Finkelstein Memorial Library
24 Chestnut St
Spring Valley, NY 10977
Phone: (845) 352-5700

Village of Hillburn
Village Hall
31 Mountain Avenue
Hillburn, NY 10931
Phone: (845) 357-2036

Town of Ramapo
Attn: Town Clerk
237 Route 59
Suffern, NY 10901
Phone: (845) 357-5100 extension 263

A public meeting was also conducted. At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) were presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the ROD.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Ramapo Paint Sludge Site consists of areas where paint sludge was reportedly disposed of in the Town of Ramapo, Rockland County. At present, three locations have been identified. These include the North of Ramapo Well Field Area, the Torne Valley Road Area and the Camp Hill Road Area. The North of Ramapo Well Field and the Torne Valley Road Area are located in an undeveloped area approximately two miles north of the Village of Suffern. The Camp Hill Road Area is located in a suburban area approximately one mile southwest of the intersection of the Palisades Parkway and Route 202.

Current Zoning/Use: The North of Ramapo Well Field is undeveloped and is utilized as a well field operated by United Water. Access to the Ramapo Well Field is restricted by a site access gate. The Torne Valley Road Area is vacant and primarily wooded. Both of these areas are zoned for residential use; however, the town has filed a restrictive covenant that prohibits single family homes in these areas. The Camp Hill Road Area includes a pond approximately one acre

in size and encroaches on New York State (NYS) regulated wetland TH-16. The Camp Hill Road area is adjacent to an area that is zoned residential.

Past Uses of the Site: The North of Ramapo Well Field and Torne Valley Road Area have had several historic uses including rock mining and heavy equipment storage. The Torne Valley Road Area was reportedly used as a waste transfer station for the adjacent Ramapo Landfill and may have been reworked during the time that the landfill was in operation. The Camp Hill Road Area was formally used as a day camp in the early 1970s. All three areas were the location of illegal disposal of waste paint sludge from the Ford's Mahwah, New Jersey assembly plant.

Operable Units: The site is divided into three operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

Operable Unit 1 (OU-1) is the North of Ramapo Well Field and consists of a 40-acre area bounded on the east by the Ramapo River and bounded on the west by railroad tracks and Bridge Street. OU-2 is the Torne Valley Road Area and consists of an area to the west of Torne Valley Road and to the east of the Torne Brooke (northern area), and an additional smaller area to the east of Torne Valley Road (southern area). OU-3 is the Camp Hill Road Area and consists of a small area that encroaches on a NYS regulated wetland and is adjacent to a residential development. OU-3 is approximately six miles northeast of OU-1 and OU-2.

Site Geology and Hydrogeology: The North of Ramapo Well Field and Torne Valley Road Area are adjacent to the Ramapo River and Torne Brook. The depth to competent bedrock varies at the site from between 72 and 100 feet. Bedrock is covered by stratified drift which consists of unconsolidated deposits composed of sand, gravel, silt, and clay. Overburden groundwater is present at approximately 10 feet below ground surface and generally flows south following the Torne Brook and Ramapo River. United Water supply wells in Operable Unit 1 are screened at depths ranging from 46 feet to 98 feet within the stratified drift. The Camp Hill Road Area is adjacent to a man-made pond. The pond is fed by a small stream from the northwest and has an overflow which discharges to another small stream on the east side of the pond, which then flows into the regulated wetland.

Operable Unit (OU) Number 01 is the subject of this document.

A Record of Decision was issued previously for OU 02. A Record of Decision will be issued for OU 03 in the future.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use

(which allows for commercial use and industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the RI to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Ford Motor Company

The Department and the Ford Motor Company entered into a Consent Order (Index No. A3-0536-1205) on March 16, 2006. The Order obligates the responsible parties to implement a full remedial program.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- surface water

- soil
- sediment

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified for this Operable Unit at this site is/are:

acetone	indeno(1,2,3-CD)pyrene
ethylbenzene	arsenic
toluene	barium
xylene (mixed)	copper
methyl ethyl ketone	lead
benzo(a)anthracene	manganese
benzo(a)pyrene	nickel
chrysene	selenium
benzo(b)fluoranthene	zinc

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

Paint Sludge Removal

The IRM included the removal and off-site disposal with backfill as necessary of all soil containing paint sludge at all depths and soil in exceedance of restricted-residential soil cleanup objectives (SCOs) from 0 to 2 feet in depth from Operable Unit 1. A demarcation layer was placed at the base of all excavations of two feet or greater. Approximately 28,000 cubic yards of soil were removed from three areas containing paint sludge and one staging area used during construction. The IRM included removal of paint sludge adjacent to a water line and supply well utilized by United Water. Post excavation soil samples documented that remedial objectives were met to the extent practicable. The site was restored as part of the IRM with trees, shrubs, and plantings to enhance ecological habitat. The IRM took place between January 2013 and April 2014 and is documented in the August 2016 Construction Completion Report.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

The Fish and Wildlife Resources Impact Analysis (FWRIA) for OU 01, which is included in the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors.

Based upon investigations conducted to date, the primary contaminant of concern (COC) for all OUs were those associated with paint sludge. The paint sludge contains volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and xylene (BTEX), the semi-volatile organic compound (SVOC) naphthalene, as well as several metals including barium, cadmium, copper mercury, nickel, zinc and most notably lead.

Remediation of paint sludge has been completed in OU-1 and OU-2. An Interim Remedial Measure was completed in OU-1 in April 2014. Following the IRM, post-excavation samples in OU-1 indicate exceedances of Unrestricted SCOs for VOCs, SVOCs, and metals. Remediation of on-site paint sludge was substantially completed in OU-2 in April 2016. Off-site paint sludge near OU-2 must still be addressed.

In the OU-3 areas, paint sludge is present in one concentrated area in the sub-surface within a regulated dam adjacent to a pond, and some pieces of paint sludge material are present along the shallow eastern bank of the on-site pond and the surface of the dam. Paint sludge in OU-3 extends from 0 to 16 feet below the ground surface.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

Measures are in place to prevent people from coming into contact with any remaining contamination in Operable Unit (OU) 1 and OU-2. OU-3 is not fenced and persons who enter OU-3 could contact contaminants in soil by digging or otherwise disturbing the soil.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

To be selected the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the feasibility study (FS) report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's remedy is set forth at Exhibit D.

The selected remedy is referred to as the No Further Action with Site Management remedy.

The estimated present worth cost to implement the remedy is $271,000. The cost to construct the remedy is estimated to be $40,000 and the estimated average annual cost is $15,000.

The elements of the selected remedy are as follows:

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. This No Further Action remedy includes the implementation of ICs/ECs including an environmental easement and maintaining a site cover as the proposed remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

The elements of the IRM already completed and the institutional and engineering controls are listed below:

1. Cover System
A site cover currently exists which meets restricted residential soil cleanup objectives (SCOs) and will be maintained to allow for restricted-residential use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper two feet of exposed surface soil meets the applicable SCOs for restricted residential use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

2. Institutional Control
Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for restricted residential, commercial, or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- require compliance with the Department approved Site Management Plan.

3. Site Management Plan
A Site Management Plan is required, which includes the following:
a.) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 3 above.
Engineering Controls: The soil cover remaining following the Interim Remedial Measure which meets restricted-residential SCOs.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination and contingencies if paint sludge is encountered during future excavations;
- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures.
- descriptions of the provisions of the environmental easement including any land use restrictions;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b.) a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

a. monitoring of site restoration to assess the performance and effectiveness of the remedy;

b. a schedule of monitoring and frequency of submittals to the Department.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into three categories: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting soil.

Wastes are defined in 6 NYCRR Part 375-1.2(aw) and include solid, industrial and/or hazardous wastes. Source areas are defined in 6 NYCRR Part 375(au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium.

To provide representative analytical results of paint sludge, the laboratory analytical results of paint sludge samples from both OU-1 and OU-2 are summarized in Tables 1 and 2. Paint sludge contains several contaminants in exceedence of restricted-residential SCOs including the VOCs benzene, ethylbenzene, toluene, and xylene; the SVOC naphthalene; and the inorganics barium, cadmium, copper, lead, mercury, and nickel. Paint sludge also exceeds the hazardous waste threshold for barium and lead based on Toxicity Characteristic Leaching Procedure (TCLP) testing.

Table 1 – Paint Sludge (Waste Material)

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
Acetone	ND – 8.99	0.05	11 of 58	100	0 of 58
Benzene	ND – 5.63	0.06	25 of 58	4.8	1 of 58
Ethylbenzene	ND – 2,090	1	42 of 57	41	25 of 57
Toluene	ND – 1,030	0.7	42 of 58	100	13 of 58
Xylene	ND – 13,700	0.26	44 of 58	100	34 of 58
SVOCs					

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
Naphthalene	0.0139 – 408	12	19 of 58	100	5 of 58
Phenol	ND – 7.62	0.33	1 of 58	100	0 of 58
Inorganics					
Barium	5,720 – 11,600	350	4 of 4	400	4 of 4
Cadmium	2.2 – 4.6	2.5	3 of 4	4.3	2 of 4
Copper	38.9 – 335	50	3 of 4	270	1 of 4
Lead	603 – 2,160	63	4 of 4	400	4 of 4
Mercury	0.044 – 0.96	0.18	1 of 4	0.81	1 of 4
Nickel	15.9 – 439	30	3 of 4	310	1 of 4
Zinc	265 – 2,010	109	4 of 4	10,000	0 of 4

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives;
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Restricted-Residential Use, unless otherwise noted.

Table 2 – Paint Sludge (Characteristic Hazardous Waste Testing)

Detected Constituents	Concentration Range Detected (mg/l)[a]	TCLP Threshold[b]	Frequency Exceeding TCLP
Inorganics			
Barium	ND – 484	100	1 of 62
Lead	ND – 417	5	34 of 62

a – mg/l: milligrams per liter;
b – TCLP: Part 371-3(e), Table 1, Maximum Concentration of Contaminants for the Toxicity Characteristic Leaching Procedure
ND – Not detected

The waste/source areas identified were addressed by the IRM described in Section 6.2.

Groundwater

Groundwater samples were collected as part of the RI from three overburden monitoring wells to assess groundwater conditions on-site. Groundwater samples were collected from monitoring wells MW-OB1, MW-OB2, and MW-OB3 which were located adjacent to paint sludge areas prior to the implementation of the Interim Remedial Measure discussed in Section 6.2. Groundwater samples were analyzed for VOCs, SVOCs, and metals. The only exceedances of groundwater SCGs were for the metals manganese and sodium. Table 1 includes a summary of groundwater data for constituents which exceed SCGs. These metals are not typically associated with paint sludge and are commonly associated with naturally-occurring groundwater conditions. As such, these

elements are considered to represent background conditions, and are not considered to be site-specific contaminants of concern.

Table 3 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Inorganics			
Manganese	15.7 – 3,770	300	1 of 3
Sodium	43,700 – 58,200	20,000	3 of 3

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

No site-related groundwater contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for groundwater.

Soil

Soil samples were collected at the site during the RI and post-excavation samples were collected at the site following the IRM. Since post-excavation samples collected following the IRM reflect current site conditions, post-excavation samples results are presented below. Post-excavation samples were collected at varying depths throughout the site to confirm that paint sludge and paint sludge constituents had been removed by the IRM. Post excavation samples were analyzed for VOCs, SVOCs, PCBs/Pesticides, and metals.

Table 2 compares near surface post excavation samples collected from 0 to 2 feet in depth to unrestricted and restricted-residential SCOs. Near surface post excavation soil samples collected from 0 to 2 feet in depth exceeded unrestricted SCOs for VOCs, SVOCs, and metals. Near surface post excavation samples exceeded restricted-residential SCOs at two isolated locations for SVOCs and two isolated locations for arsenic. The SVOC exceedances are marginally above the standard and may be attributed to frequent flooding events associated with the Ramapo River adjacent to the site. The elevated arsenic concentrations were located in the staging area of the IRM which was not impacted by paint sludge. Neither arsenic or the SVOCs exceeding restricted-residential standard are typically associated with paint sludge.

Table 3 compares post excavation samples collected from all depths to unrestricted and protection of groundwater SCOs. Post excavation soil samples exceeded unrestricted SCOs for VOCs, SVOCs, and metals. Only one subsurface soil post-excavation sample exceeded protection of groundwater SCOs more than marginally for VOCs and metals. This post-excavation sample was located within a utility corridor near an active water line, and further excavation was not feasible, however no paint sludge was observed as this location.

Table 2 – Near Surface Soil (0-2 feet depth)

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
Acetone	ND – 0.419	0.05	2 of 78	100	0 of 78
Methyl ethyl ketone	ND – 0.161	0.12	1 of 78	100	0 of 78
SVOCs					
Benzo(a)anthracene	ND – 1.33	1	1 of 92	1	1 of 92
Benzo(a)pyrene	ND – 1.24	1	1 of 92	1	1 of 92
Benzo(b)fluoranthene	ND – 1.77	1	2 of 94	1	2 of 94
Chrysene	ND – 1.36	1	1 of 92	3.9	0 of 92
Indeno(1,2,3-cd)pyrene	ND – 0.70	0.5	2 of 94	0.5	2 of 94
Metals					
Arsenic	3.1 – 46.5	13	2 of 79	16	2 of 79
Copper	ND – 74.1	50	11 of 79	270	0 of 79
Lead	3.1 – 250	63	23 of 85	400	0 of 85
Zinc	1.9 - 123	109	1 of 79	10,000	0 of 79

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Restricted-Residential Use, unless otherwise noted.

Table 3 – Soil (All depths)

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs					
Acetone	ND – 0.419	0.05	4 of 228	0.05	4 of 228
Ethylbenzene	ND – 1.27	1	1 of 225	1	1 of 225
Methyl ethyl ketone	ND – 0.161	0.12	1 of 228	0.12	1 of 228
Toluene	ND – 0.945	0.7	1 of 225	0.7	1 of 225

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
Xylene (total)	ND – 9.58	0.26	3 of 227	1.6	1 of 227
SVOCs					
Benzo(a)anthracene	ND – 1.33	1	1 of 237	1	1 of 237
Benzo(a)pyrene	ND – 1.24	1	1 of 237	22	0 of 237
Benzo(b)fluoranthene	ND – 1.77	1	2 of 239	1.7	1 of 239
Chrysene	ND – 1.36	1	1 of 237	1	1 of 237
Indeno(1,2,3-cd)pyrene	ND – 0.70	0.5	2 of 239	8.2	0 of 239
Metals					
Arsenic	2.2 – 46.5	13	3 of 227	16	2 of 227
Barium	ND – 652	350	1 of 226	820	0 of 226
Copper	ND – 74.1	50	13 of 222	1720	0 of 222
Lead	3.1 – 829	63	32 of 233	450	1 of 233
Manganese	91.5 – 3,100	1,600	3 of 225	2,000	2 of 225
Nickel	ND-43.4	30	3 of 225	130	0 of 225
Selenium	ND – 4.5	3.9	1 of 225	4	1 of 225
Zinc	1.9 - 542	109	3 of 225	2,480	0 of 225

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

Soil contamination identified during the RI was addressed during the IRM described in Section 6.2.

Surface Water

Surface water samples were collected from six locations within the Ramapo River adjacent to OU-1 during the RI. Analytical samples were analyzed for VOCs, SVOCs and metals. VOCs, SVOCs, and metals were not detected in surface water samples.

No site-related surface water contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for surface water.

Sediments

Sediment samples were collected from six location within the Ramapo River adjacent to OU-1 during the RI. Analytical samples were analyzed for VOCs, SVOCs, and metals. VOCs, SVOCs, and metals were not detected in sediment samples in concentrations greater than residential SCOs or the Department's sediment guidance values.

No site-related sediment contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for sediment.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

Alternative 1: No Further Action

The No Further Action Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 6.2. This alternative leaves the site in its present condition and does not provide any additional protection of the environment.

Alternative 2: No Further Action with Site Management

The No Further Action with Site Management Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 6.2 and Site Management and Institutional Controls and Engineering Controls are necessary to confirm the effectiveness of the IRM. This alternative maintains engineering controls which were part of the IRM and includes institutional controls, in the form of and environmental easement and site management plan, necessary to protect public health and the environment from contamination remaining at the site after the IRMs.

Present Worth: ..... *$ 271,000*
Capital Cost: ..... *$ 40,000*
Annual Costs: *$15,000*

Alternative 3: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative would include excavation and off-site disposal of all soil to exceeding unrestricted soil cleanup objectives. The remedy will not rely on institutional or engineering controls to prevent future exposure. There is no Site Management, no restrictions, and no periodic review. This remedy will have no annual cost, only the capital cost.

Capital Cost: ..... *$ 31,000,000*

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action	$ 0	$ 0	$ 0
No Further Action with Site Management	$ 40,000	$ 15,000	$ 271,000
Restoration to Pre-Disposal of Unrestricted Conditions	$ 31,000,000	$ 0	$ 31,000,000

Exhibit D

SUMMARY OF THE SELECTED REMEDY

The Department is selecting Alternative 2, No Further Action with Site Management as the remedy for this site. Alternative 2 would achieve the remediation goals for the site by placing an environmental easement on the site which allows for restricted-residential use of the site and requires implementation of a Site Management Plan to maintain the engineering control (site cover) and manage human exposures to remaining contamination. The elements of this remedy are described in Section 7. The selected remedy is depicted in Figure 3.

Basis for Selection

The selected remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

The selected remedy (Alternative 2) would satisfy this criterion by allowing for restricted-residential use of the site which is consistent with the site conditions remaining following the IRM. Alternative 2 will include an environmental easement and Site Management Plan which includes limiting site use to restricted-residential use and requiring periodic certifications of institutional and engineering controls. Alternative 1 (No Further Action) does not include the placement of an environmental easement regulating site use, thus it is not fully protective of public health and will not be evaluated further. Alternative 3, by removing all soil contaminated above the Unrestricted soil cleanup objective (SCO), meets the threshold criteria.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Alternative 2 complies with SCGs to the extent practicable. The IRM addressed source areas of contamination (paint sludge) and soils remaining in place following the IRM meet restricted-residential SCOs for constituents of concern related to paint sludge impacts. Alternative 3 also complies with this criterion by full removal of soils in exceedance of all SCOs (unrestricted use).

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Alternative 2 provides a high level of long-term effectiveness by. Alternative 3 provides a higher level of long-term effectiveness by full removal of all soils in exceedance of Unrestricted SCOs. Both alternatives are effective at protecting human health over the long-term, either by implementing proven institutional and engineering controls or by restoring the operable unit to predisposal conditions.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

All source material (paint sludge) was removed during the IRM, thus all contaminant volume has already been removed from the site to the extent practicable. Alternative 2 further reduces toxicity and mobility of remaining soil exceeding unrestricted SCOs by institutional controls (environment easement and site management plan) and engineering controls (site cover). Alternative 3 provides the highest reduction of toxicity, mobility, and volume by the full removal of the soil volume at the site over Unrestricted SCOs.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Alternative 2 has very little short-term impacts because it includes no further active remediation of the site. Short-term impacts would be associated with long-term maintenance of a site cover and would be minimal and easily managed by standard engineering practices. Alternative 3 would have significant short-term impacts due to the amount of soil which would need to be transported from the site to meet unrestricted SCOs.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Alternative 2 is easily implementable. An easement can be easily placed on the site and routine soil cover maintenance is a standard engineering practice. Alternative 3 is difficult to implement. Much of the site contains soil that marginally exceeds unrestricted SCOs. All this soil would need to be removed under Alternative 3 and given the historical use of the site it would be difficult to fully remove all soils from the site exceeding unrestricted SCOs. Implementation of Alternative 3 would also result in disruption of the current use of the site as a United Water well field.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The costs of the alternatives vary significantly. Alternative 2 has a low cost with a minimal capital cost associated with placement an environmental easement and developing a site management plan and a relatively low annual cost associated with periodic maintenance of a site cover for a large site. Alternative 3 is two orders of magnitude more costly than Alternative 2. Alternative 2 is much more cost effective than Alternative 3 because it is significantly less costly but provides for protection of public health and the environment for the intended use of the site (restricted-residential).

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

The current use of the site is as a United Water supply well field. The site will continue to be used for this use for the foreseeable future. The site is owned by the Town of Ramapo and may also be used for passive recreational use in the future. These land uses are consistent with the selected remedy of the site which allows for restricted-residential use of the site with no restrictions on groundwater use.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

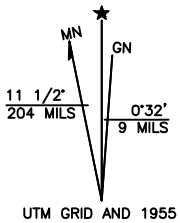
9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary has been prepared that describes public comments received and the manner in which the Department will address the concerns raised.

Alternative 2 has been selected because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

SOURCE: USGS 7.5 MIN. SLOATSBURG QUADRANGLE, SLOATSBURG, NY–NJ. 1952, PARK RIDGE QUADRANGLE, PARK RIDGE, NJ–NY, 1955, RAMSEY QUADRANGLE, RAMSEY, NJ–NY, 1955, THIELS QUADRANGLE, THIELS, NJ–NY, 1955



UTM GRID AND 1955
MAGNETIC NORTH

0 6000
SCALE IN FEET

OPERABLE UNIT 1, RAMAPO PAINT SLUDGE SITE
RAMAPO, NEW YORK
FOCUSED FEASIBILITY STUDY

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY:MAHWAH DIV/GROUP:ENVCAD DB:JG LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
C:\Usersgsteinberger\OneDrive - ARCADIS\BIM 360 Docs\FORD MOTOR COMPANY\RAMAPO NY\2018\NJ0000698.0009\01-DWG\OU1-FFS-FIG01-VICMAP.dwg LAYOUT: 1 SAVED: 1/30/2018 3:45 PM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.CTB PLOTTED:
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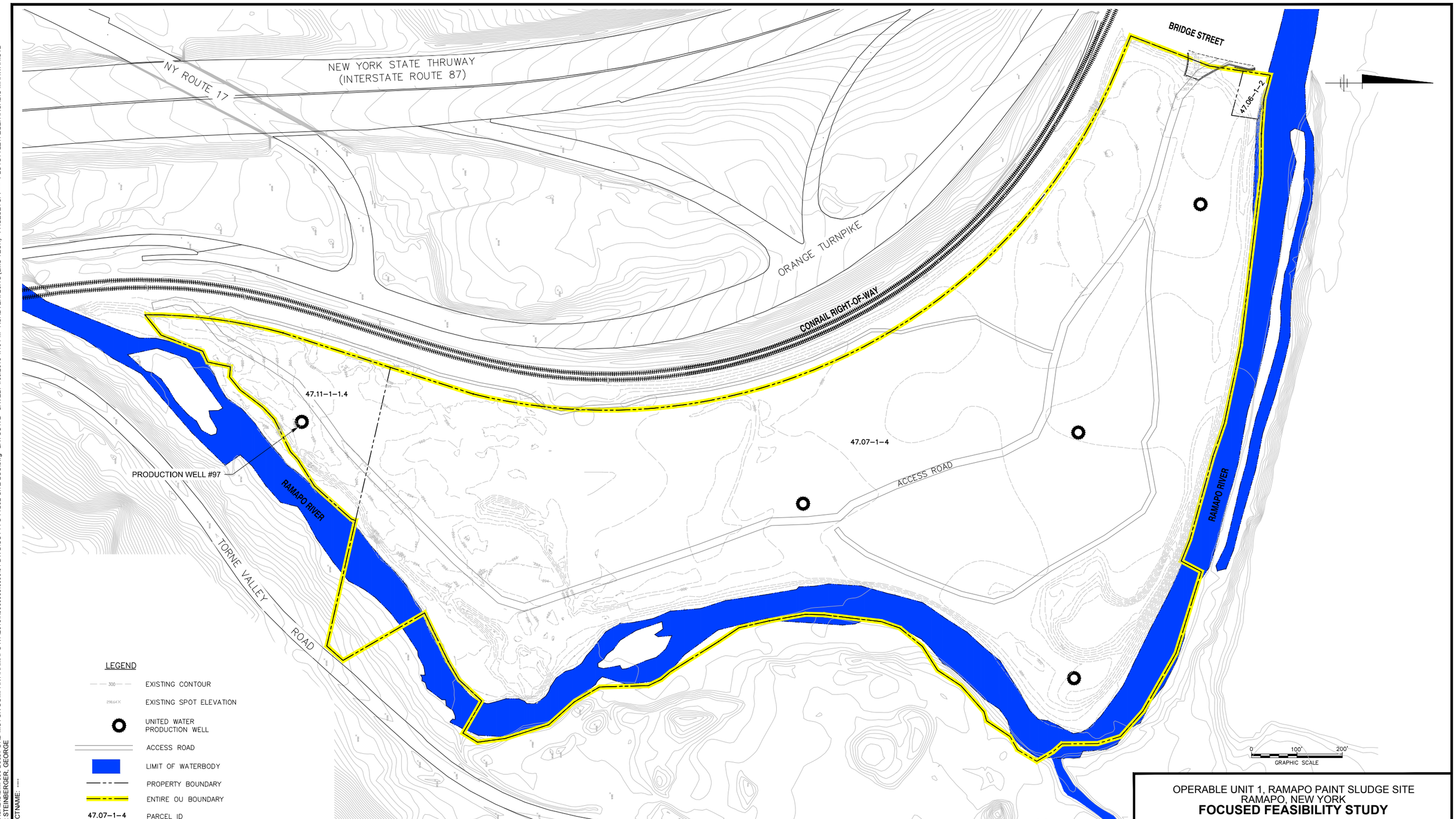

LEGEND

300	EXISTING CONTOUR
298.64 X	EXISTING SPOT ELEVATION
	UNITED WATER PRODUCTION WELL
	ACCESS ROAD
	LIMIT OF WATERBODY
	PROPERTY BOUNDARY
	ENTIRE OU BOUNDARY
47.07-1-4	PARCEL ID

NOTE:

SITE AND RIVER BOUNDARY INFORMATION FOR OU-1 WAS PROVIDED BY BORBAS SURVEYING AND MAPPING, LLC SURVEYORS, FROM A CAD DRAWING NAMED "071005_2014-03-03_RESTORATION_SEND.dwg"

OPERABLE UNIT 1, RAMAPO PAINT SLUDGE SITE
RAMAPO, NEW YORK
FOCUSED FEASIBILITY STUDY

GENERAL SITE LOCATION

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

CITY:FAIRLAWN-NJ DIV/GROUP:ENVCAD DB:G.STEINBERGER LD:J.GONZALEZ PIC:R.ELLIS PM:E.ZIMMERMAN TM:J.ROCKLIN LYR:ON=*;OFF=*REF*
C:\Users\gsteinberger\OneDrive - ARCADIS\BIM 360 Docs\FORD MOTOR COMPANY\RAMAPO NY\2018\NJ000698.0009\01-DWG\OU1-FFS-FIG02-SITE LOC.dwg LAYOUT: 2 SAVED: 1/30/2018 4:40 PM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS-MAHWAH.CTB
PLOTTED: 1/30/2018 4:42 PM BY: STEINBERGER, GEORGE
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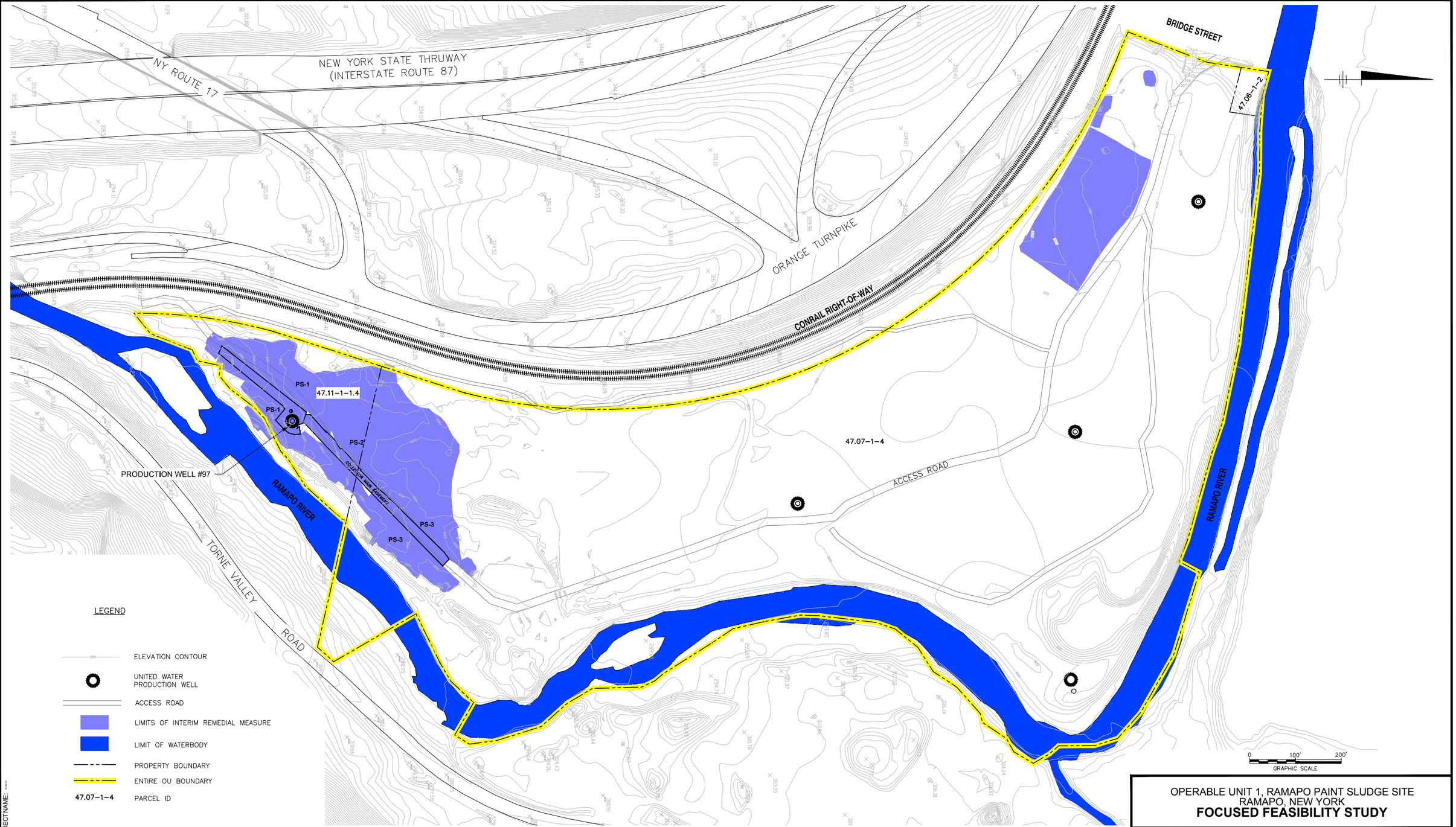
OU1-FFS-X-BASEMAP
OU1-FFS-X-RESTORATION
OU1-FFS-X-TITLE



LEGEND

- ELEVATION CONTOUR
- UNITED WATER PRODUCTION WELL
- ACCESS ROAD
- LIMITS OF INTERIM REMEDIAL MEASURE
- LIMIT OF WATERBODY
- PROPERTY BOUNDARY
- ENTIRE OU BOUNDARY
- 47.07–1–4 PARCEL ID

NOTE:

SITE AND RIVER BOUNDARY INFORMATION FOR OU–1 WAS PROVIDED BY BORBAS SURVEYING AND MAPPING, LLC SURVEYORS, FROM A CAD DRAWING NAMED "071005_2014–03–03_RESTORATION_SEND.dwg"

OPERABLE UNIT 1, RAMAPO PAINT SLUDGE SITE
RAMAPO, NEW YORK
FOCUSED FEASIBILITY STUDY

ALTERNATIVE 2
NO FURTHER ACTION WITH SITE MANAGEMENT AND ICs

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

CITY:FAIRLAWN-NJ DIV/GROUP:ENVCAD DB:G.STEINBERGER LD:J.GONZALEZ PIC:R.ELLIS PM:E.ZIMMERMAN TM:J.ROCKLIN LYR:ON=*;OFF=*REF*
C:\Users\steinberger\OneDrive - ARCADIS\BIM 360 Docs\FORD MOTOR COMPANY\RAMAPO NY\2018\NJ\000698.0009\01-DWG\OU1-FFS-FIG\03-ALT2.dwg LAYOUT: 3 SAVED: 1/30/2018 4:35 PM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS-MAHWAH.CTB PLOTTED:
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XREFS: IMAGES: PROJECTNAME: ----
OU1-FFS-X-BASEMAP
OU1-FFS-X-RESTORATION
OU1-FFS-X-TITLE

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Ramapo Paint Sludge Site
Operable Unit 1 (OU-1): North of Ramapo Well Field
State Superfund Project
Town of Ramapo, Rockland County, New York
Site No. 3-44-064

The Proposed Remedial Action Plan (PRAP) for the Ramapo Paint Sludge site - Operable Unit 1 (OU-1), was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 21, 2018. The PRAP outlined the remedial measure proposed for the contaminated soil at the Ramapo Paint Sludge site - OU-1.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on April 11, 2018, which included a presentation of the remedial investigation/feasibility study (RI/FS) for the Ramapo Paint Sludge Site - OU-1 as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on April 25, 2018.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

COMMENT 1: How do you know that the interim remedial measure (IRM) removed all of the paint sludge from the site?

RESPONSE 1: Prior to the IRM, a comprehensive remedial investigation (RI) was performed at OU-1. The RI included a thorough investigation of surface and subsurface soils, which determined the nature and extent of all paint sludge within OU-1. The extent of the IRM was designed based on the results of the RI to remove all soil containing paint sludge at all depths from OU-1. During the IRM, all excavation sidewalls were carefully inspected to confirm the absence of paint sludge and confirmation samples were collected from the excavation sidewalls and bottom to confirm that paint sludge related constituents were not present in remaining soils.

COMMENT 2: Are the analytical data and reports from the IRM available for public review?

RESPONSE 2: The OU-1 IRM is documented in the August 2016 Construction Completion Report (CCR). The CCR contains all analytical and observational confirmation data from the IRM. The OU-1 IRM CCR is a public document that is available at the site's document repositories.

COMMENT 3: The Proposed Remedial Action Plan (PRAP) indicates that the site can be used for restricted-residential (including passive recreational), commercial and industrial use. The current use of the site is passive recreational, and we do not want to see commercial or industrial use of the property. We request that the use of the site be limited to and remain passive recreational.

RESPONSE 3: During the development of the IRM and the PRAP, Ford worked closely with the Town of Ramapo to develop a remedy for the site which is consistent with the intended future land use of the site. At that time, this land use was determined to be recreational. As a result, Ford implemented a remedy which remediates the site to levels acceptable for restricted-residential use of the site, which includes both active and passive recreational use. This remedy would allow for commercial and industrial uses but the specific use of the site is subject to local zoning and approvals. The site is located on Town-owned property, so the future use of the site is also at the discretion of the Town of Ramapo.

COMMENT 4: Several college students conducted a survey of the trees which were planted as part of the restoration for the site. The survey indicates that there has been some significant damage to the trees from recent storms. Is there a schedule for the evaluation and replacement of dead and damaged trees?

RESPONSE 4: Based on the above comment received at the public meeting, Ford conducted a site restoration inspection in May 2018. During this inspection, it was determined that tree damage in restored areas of OU-1 was due to deer activity and that recent storms did not have a significant effect on restored trees. The damaged trees are still alive, will likely continue to grow, and do not need to be replaced at this time. The findings of this inspection will be confirmed during the annual site restoration inspection this fall.

COMMENT 5: The site does not seem to be visually restored. There appears to be some areas that are not fully grow. What is the time frame of the oversight of the restoration efforts? Can the restoration monitoring continue past the five years proposed in the plan?

RESPONSE 5: Ford is required to conduct annual monitoring and maintenance of the site restoration at OU-1 for five years in accordance with the site restoration plan. The first annual inspection was completed in the fall 2014 and the final inspection is scheduled for the fall of 2018. A five-year monitoring period is sufficient to document successful ecological restoration of a site. If a significant amount of restoration maintenance and/or replacement is necessary during the initial five-year period, restoration monitoring may be required beyond the initial five-year period to assure survival of replaced trees and plantings. At this time the survival rates are acceptable.

APPENDIX B

Administrative Record

Administrative Record

Ramapo Paint Sludge Site
Operable Unit 1 (OU-1): North of Ramapo Well Field
State Superfund Project
Town of Ramapo, Rockland County, New York
Site No. 3-44-064

1. Proposed Remedial Action Plan for the Ramapo Paint Sludge site, Operable Unit No. 1 – North of Ramapo Well Field, dated February 2018, prepared by the Department.

2. Order on Consent, Index No. A3-0536-1205, between the Department and Ford Motor Company, executed on March 6, 2006.

3. Citizen Participation Plan – Ramapo Paint Sludge Site, dated August 9, 2006, prepared by Ford Motor Company.

4. Remedial Investigation Report – Ramapo Paint Sludge Site – Operable Units 1 & 2, dated September 1, 2010, prepared by Arcadis.

5. Interim Remedial Measure Work Plan for Paint Sludge and Impacted Soil Removal with Operable Unit 1 – Ramapo Paint Sludge Site, dated August 24, 2012, prepared by Arcadis.

6. Interim Remedial Measure - Construction Completion Report, Operable Unit 1, Ramapo Paint Sludge Site, dated August 2016, prepared by Arcadis.

7. Record of Decision for the Ramapo Paint Sludge site, Operable Unit 2 – Torne Valley Road Area, dated March 2014, prepared by the Department.

8. Focused Feasibility Study – Ramapo Paint Sludge Site – Operable Unit 1, dated December 2017, prepared by Arcadis.