

EXPLANATION OF SIGNIFICANT DIFFERENCES

MATLACK, INC. SUPERFUND SITE

SITE NAME AND LOCATION

Matlack, Inc. Superfund Site
Woolwich Township, Gloucester County, New Jersey
EPA ID # NJD043584101

INTRODUCTION

The purpose of this Explanation of Significant Differences (ESD) is to explain changes to the remedy selected by the United States Environmental Protection Agency (EPA) in the September 29, 2017 Record of Decision (2017 ROD), as modified by the August 7, 2023 Record of Decision Amendment (2023 ROD Amendment) for the Matlack, Inc. Superfund Site (Site), located in Woolwich Township, Gloucester County, New Jersey.

This ESD memorializes the expanded scope of the remedy selected in the 2017 ROD for soil in a portion of the Site referred to as the Former Lagoon Area.¹ The volume of impacted soil in the Former Lagoon Area to be addressed by the remedy has increased from 3,000 cubic yards to approximately 46,100 cubic yards of contaminated soil. This soil is impacted by elevated concentrations of site-related volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) that are acting as an ongoing source of contamination to groundwater in the northern portion of the Site. Although the 2017 ROD includes soil excavation in the selected remedy, the volume of soil to be excavated exceeds that specified in the 2017 ROD. Additionally, this ESD memorializes the cost increase associated with addressing the expanded soil volume.

Under Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA or Superfund), 42 U.S.C. Section 9617(c), EPA is required to publish an ESD when, after issuance of a ROD, the remedial action taken differs significantly, but not fundamentally, from the selected remedy. Sections 300.435(c)(2)(i) and 300.825(a)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Sections 300.435(c)(2)(i) and 300.825(a)(2), set forth the criteria for issuing an ESD and require that an ESD be published if the remedy is modified in a way that differs significantly in either scope, performance, or cost from the remedy selected in the ROD for the Site.

This ESD presents the details of a significant change to the remedy selected in the September 29, 2017 ROD for the Site. This ESD provides a brief history of the Site, describes the original remedy, and explains the rationale for an increase in the scope of the selected remedy for contaminated soil at the Site.

This ESD and the documents that provide the basis for the ESD will become part of the administrative record for the Site in accordance with Section 300.825(a)(2) of the NCP, 40 C.F.R. Section 300.825(a)(2). This ESD and the administrative record are available for review online at <http://www.epa.gov/superfund/matlack> and are available to the public in the administrative record file

¹ This ESD does not modify the remedial action for the Site's Drum Disposal Area selected in the 2023 ROD Amendment.

maintained by the Director for Community Affairs for the Township of Woolwich, 120 Village Green Drive, Woolwich Township, New Jersey, and at the EPA Region 2 Superfund Records Center located at 290 Broadway, New York, New York.

SITE HISTORY AND CONTAMINATION

The Site is bounded by Route 322 to the north, an open field to the south and east, and by Grand Sprute Run to the west (see Figure 1). Grand Sprute Run is an approximate 1.25-mile-long stream that drains into Raccoon Creek, which is south of the Site. The Site includes Matlack, Inc.'s (Matlack) former Swedesboro Terminal that occupied the northern portion of a 79-acre parcel, as well as a portion of a parcel located immediately west and downgradient of the former terminal. The western portion of the property, owned by the New Jersey Department of Environmental Protection (NJDEP), is a part of the Raccoon Creek Wildlife Management Area.

Matlack began operations at the Site as a truck terminal and chemical tank cleaning facility in approximately 1962, transporting chemicals, petrochemicals, and food-grade liquid in bulk using tank trailers (tankers) until 2001. On March 29, 2001, Matlack sought to reorganize under Chapter 11 of the Bankruptcy Code. The case was converted to a Chapter 7 liquidation in October 2002 and was closed on December 21, 2021.

A one-story building (formerly known as the terminal building) with an attached tank-cleaning facility is located in the northeast quadrant of the Site, and is surrounded on the north, east, and west by a paved parking lot and driveway. A former wastewater lagoon, identified here as the Former Lagoon Area, was located south of the former terminal building in what is presently a field with various shrubs. The Site is located within a portion of Woolwich Township designated as the Kings Landing Redevelopment Area, also known as Woolwich Regional Center. Under the Township's redevelopment plan, the Site will remain partially zoned as corridor commercial (CC) and partially zoned for conservation. The Drum Disposal Area, discussed below, is located in the portion of the property zoned as CC. The Drum Disposal Area is located south of the Former Lagoon Area. The land use surrounding the Site is mixed use consisting of agricultural, commercial, and residential. The surrounding area is rural. Land use at and surrounding the Site is expected to stay unchanged for the foreseeable future.

The primary source of waste generation at the Site was the cleaning of tankers that had previously held a variety of substances reportedly including petroleum products, xylenes, benzene, toluene, phenol, glycol, styrene, wax, alum, resins, acids, naphthalene, various organic solvents, flammable substances, coal tar, and other hazardous substances. Drums were also disposed at the Site in the Drum Disposal Area. From approximately 1962 until 1997, Matlack washed/cleaned approximately 16 to 20 truck tanks per day at the Site using a variety of solvents, generating an estimated 5,000 to 15,000 gallons of wastewater on a daily basis. Until 1976, Matlack discharged the wastewater containing cleaning solvents and materials from the tanks into an unlined surface impoundment (lagoon) located southwest of the terminal building. Matlack used various solvents, including tetrachloroethylene (PCE), methylene chloride, toluene, trichloroethylene (TCE), acetone, methanol, and ethanol, to clean the tankers.

After discontinuing the use of the unlined lagoon in 1976, Matlack began collecting its wastewater in multiple open-top, in-ground concrete tanks for temporary storage, after which it would transport the wastewater away from the Site for disposal.

Matlack discontinued tanker cleaning operations at the Site in November 1997 but continued to service

and store its vehicles at the Swedesboro Terminal. The northeast portion of the Site is currently operated by current tenants Coopersburg and Liberty Kenworth as a medium- and heavy-duty truck sales and service center.

NJDEP began investigating potential groundwater contamination at the Site in December 1982 in response to potable water well contamination in the area surrounding the facility. Investigations included sampling of groundwater, soil, surface water, and sediment associated with identified areas of concern. In May 1987, NJDEP and Matlack entered into an Administrative Consent Order (ACO). Under the ACO, between 1990 and 2001 Matlack conducted a two-phased investigation and remedial/removal actions to address source areas identified from previous investigations. One such action included installation of a groundwater treatment system that consisted of extraction wells, an infiltration trench and an aeration system to address groundwater contamination. This system was operated by NJDEP from November 1995 to May 1997, and then again from June 2006 through 2011. Additional actions included the removal of above ground and underground storage tanks (ASTs and USTs) used for waste and petroleum, and the excavation and off-site disposal of contaminated soil.

NJDEP conducted additional investigation and sampling activities between 2002 and 2009. In September 2011, at the request of EPA, NJDEP completed a Site Reassessment to determine whether additional actions were necessary under CERCLA. The reassessment concluded that sources requiring further action under CERCLA were still present at the Site. EPA became the lead agency for the Site and began Site assessment activities in 2012. The Site was placed on the National Priorities List in 2013.

Results of the Remedial Investigation

Sitewide remedial investigation (RI) activities were conducted by EPA in three phases: Phase 1 was conducted during July 2015, Phase 2 was conducted during March, April, and May 2016, and Phase 3 was conducted during July and August 2016. RI activities involved sampling surface water, seeps, sediment, soil, and existing and newly installed groundwater monitoring wells to further characterize the nature and extent of contamination.

Soil

Surface soil samples were collected from a depth of 0 to 2 feet below the ground surface, and no VOCs were detected at concentrations above 2016 New Jersey Residential Direct Contact Soil Remediation Standards (NJRDCSRS) in these soil samples. SVOCs and polychlorinated biphenyls (PCBs) were identified at concentrations slightly above the NJRDCSRS at isolated locations within the Former Lagoon Area.

In subsurface soil samples collected from depths greater than 2 feet, the SVOCs benzyl butyl phthalate, bis(2-ethylhexyl) phthalate, and naphthalene were found to be present at concentrations above New Jersey Impact to Groundwater Soil Screening Levels (NJIGWSSL).

The VOCs benzene, PCE, TCE, and total xylenes were identified during 2016 sampling at numerous locations at concentrations above the NJIGWSSL. Benzene, PCE, TCE and total xylenes were also identified during 2014 sampling at two locations at concentrations above the NJIGWSSL.

Groundwater

Groundwater sampling identified two distinct plumes where contamination exceeded drinking water standards: the northern plume, consisting of aromatic VOCs (e.g., benzene) and the SVOC 4-chloroaniline; and the southern plume, consisting of chlorinated VOCs (CVOCs) (e.g., PCE). The impacted groundwater is in the Pennsauken Formation which is designated as Class II-A groundwater.

Surface Water/Sediment

The results of surface water and sediment sampling conducted during the 2016 RI indicate that CVOCs were identified in seep sampling location SW-03 and sediment sampling location SED-3, which are both located downgradient from monitoring wells MW-24 and MW-26. CVOCs were also identified in nearby surface water samples SW-09, SW-10, and SW-11, obtained from within Grand Sprute Run. The highest concentration of CVOCs at the Site was identified in monitoring well MW-26; the presence of CVOCs in seep, sediment, and surface water samples downgradient from monitoring wells MW-24 and MW-26 is an indication that impacted groundwater from the Site is discharging to Grand Sprute Run.

SVOCs (mainly polycyclic aromatic hydrocarbons or PAHs) and inorganic contaminants were also identified in several sediment samples. However, these contaminants were not considered to be Site-related.

Summary of Human Health and Ecological Risks

Based on the results of the human health risk assessment (HHRA) and the screening level ecological risk assessment (SLERA) that EPA completed for the Site as part of the RI/FS, the contaminants of concern (COCs) at the Site include VOCs (i.e., benzene, PCE, TCE, 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA)) and SVOCs (i.e., 4-chloroaniline, benzyl butyl phthalate, bis(2-ethylhexyl) phthalate). Contaminants in the unsaturated soil above the water table have migrated to saturated soils and the shallow, unconfined Pennsauken aquifer beneath the Site, and have migrated through advection with the groundwater to its discharge point within Grand Sprute Run, located approximately 600 feet to the west of the Former Lagoon Area. Groundwater samples collected from wells completed within the deeper aquifer below the Woodbury Clay did not indicate that the contaminants of concern identified within the shallow, unconfined aquifer had migrated vertically to the deeper aquifer. The HHRA concluded that exposure to VOCs and SVOCs in groundwater at the Site was associated with cancer and noncancer risk estimates that exceeded EPA's threshold criteria. The SLERA determined the primary ecological risk was associated with groundwater contamination discharging to seeps and surface water at Grand Sprute Run. As such, remedial action is needed for soil to mitigate risks to human health and the environment associated with all of these media.

Contamination present in soil is providing an ongoing source of groundwater, seep water, surface water, and sediment contamination.

SELECTED REMEDY

On September 29, 2017, EPA signed a ROD which selected the remedy for the Site. The 2017 ROD identified remedial action objectives (RAOs), which are specific goals to protect human health and the environment. The RAOs identified in the 2017 ROD are as follows:

- Control or remove source areas to prevent or minimize further impacts to groundwater, seep water, surface water, and sediment.
- Prevent current and potential future unacceptable risks to human receptors through ingestion, dermal contact with, and inhalation of contaminated groundwater.
- Prevent potential future unacceptable inhalation risks to human receptors through subsurface vapor intrusion into indoor air.
- Restore groundwater to its expected beneficial use to the extent practicable by reducing contaminant concentrations below the more stringent of federal maximum contaminant levels (MCLs), state MCLs and NJ Ground Water Quality Standards (GWQS).
- Prevent or minimize current and potential future unacceptable risks to ecological receptors through direct contact with or ingestion of contaminated soil, sediment, and surface water.

To achieve the RAOs, the 2017 ROD selected remediation goals (RGs) for contaminants of concern in soil, sediment and groundwater. The soil RGs selected in the 2017 ROD were based on the Default NJIGWSSL in effect as of the date of the ROD.²

The major components of the remedy selected in the 2017 ROD include the following:

- Installation of two permeable reactive barriers (PRBs) to provide passive treatment of aromatic and chlorinated VOCs and the SVOC 4-chloroaniline in groundwater;
- Excavation and off-site disposal of contaminated soil and sediment which acts as a source of further contamination to groundwater, seep water, surface water and sediment;
- Long-term monitoring to assure the effectiveness of the remedy over time; and
- Institutional controls until RAOs are met, which may include establishment of a New Jersey Ground Water Classification Exception Area that restricts the use of the contaminated aquifer, along with deed notices that restrict development of the affected areas until the RAOs are met.

The ROD also specified that a pre-design investigation (PDI) would be needed in order to further delineate the contamination at the Site to assist in the design of the remedy. EPA conducted the PDI in three phases: Phase 1 was conducted from August – November 2019, Phase 2 was conducted from August – December 2020, and Phase 3 was conducted from November 2021- February 2022. The extent of soil, sediment, and groundwater contamination was further delineated during the PDI.

Based on the results of the PDI, a new area of soil contamination was discovered in the southern portion of the Site, which is now referred to as the Drum Disposal Area. On August 7, 2023, after providing for a public comment period, EPA signed a ROD Amendment, amending the 2017 ROD to provide for remediation of the source area contamination in the Drum Disposal Area, which will work in conjunction

² In May 2021, these were superseded by NJDEP's New Jersey Migration to Groundwater Soil Remediation Standards.

with the remedy selected in the 2017 ROD. The major components of the amended remedy selected for the Drum Disposal Area are:

- Installation of thermal heating points and vapor extraction wells;
- Transportation and disposal of contaminated media generated from thermal heating points and vapor extraction well installation; and
- Confirmatory soil sampling

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND BASIS FOR THE ESD

In addition to leading to the discovery of the Drum Disposal Area, Phases 2 and 3 of the PDI further refined the horizontal and vertical extent of soil contamination in the Former Lagoon Area. During Phase 2 of the PDI, 24 borings were advanced in the Former Lagoon Area to collect soil samples using direct push technology, eight of which were also used to collect groundwater screening samples. Soil samples were generally collected at a frequency of one sample per four feet of depth biased towards the highest photoionization detector reading for VOCs and SVOCs. Soil borings were advanced below the water table and up to at least one foot into the Woodbury Formation. Results of the Phase 2 PDI soil investigation indicated that the soil contamination in the Former Lagoon Area would benefit from additional delineation. Therefore, soil sampling conducted in Phase 3 of the PDI included the collection of 32 additional soil borings. Initially, 17 soil borings were advanced at planned locations and soil samples were analyzed to determine if step-out contingency borings should be sampled to complete soil delineation. Based on these findings, 15 contingency soil borings were completed to further delineate the extent of soil contamination in Phase 3.

Consistent with the 2017 ROD, the PDI focused on defining the extent of soil COCs exceeding the RGs above the water table. Results of the PDI indicated widespread elevated concentrations of benzene, bis(2-ethylhexyl)phthalate (BEHP), and benzyl butyl phthalate in the Former Lagoon Area soil.

There were 36 VOCs and 38 SVOCs detected in the soil samples collected during the PDI. The known limits of the soil contamination above RGs in the Former Lagoon Area extend significantly beyond the limits of the soil contamination identified in the 2017 ROD. The results of the RI indicated there was limited soil contamination which, horizontally, did not extend beyond the limits of the defined Former Lagoon Area (see Figure 2) and was primarily concentrated in the unsaturated zone. However, results of the PDI expanded both the vertical depth and horizontal extent of soil COCs significantly in all directions (see Figure 3 and Table 1). The soil contamination is now known to extend north of the Former Lagoon Area and onto the parcel leased by Coopersburg and Liberty Kenworth. The identified extent of soil contamination has also expanded significantly in the eastern direction at borings RDB-62, RDB-63, and RDB-95, and to the southern and western directions to the approximate boundaries of what is understood to have been the extent of the Former Lagoon Area in 1954, prior to Matlack starting its operations. The vertical extent of soil contamination varies from 1 ft below ground surface (bgs) to 25.5 ft bgs. The water table varies from 8 ft bgs to 12 ft bgs, and at some boring locations, the soil is impacted in the saturated zone below the water table. Although soil was found to be impacted in the saturated zone, the majority of contaminant mass is in the unsaturated soils. Therefore, excavation of unsaturated soil is still appropriate to address soil contamination in the Former Lagoon Area. Soil contamination below the water table in the

Former Lagoon Area will be addressed by the groundwater remedy for the Site. Furthermore, the 2017 ROD states that “the soil will be excavated to the water table, with an estimated depth of 10 feet below grade.”

Following the PDI, minor data gaps remain; these will be addressed through data collection as part of the Former Lagoon Area remedial action.

The 2017 ROD provides that soil with contaminants exceeding RGs will be excavated to the top of the water table. Based on the additional data collected during the PDI, EPA has identified that the volume of soil to be excavated to attain the RAOs and RGs has increased from the 3,000 cubic yards identified in the 2017 ROD to an estimated 46,100 cubic yards. The new estimated volume of unsaturated zone soil excavation, including side slopes, is significantly higher than the volume identified in the 2017 ROD (i.e., 46,100 cubic yards compared to 3,000 cubic yards of contaminated soil).

As a result of the significant volume increase, the cost estimate for this portion of the remedy has increased significantly. Based on the estimate provided in the 2017 Feasibility Study for the Site, which was carried forward to the 2017 ROD, the capital cost of the soil portion of the selected remedy was \$971,576 (an estimated \$777,261 plus 25% contingency). The current estimate is \$18,772,825. While this increase is due primarily the expanded volume, a certain amount is due to inflation that has generally occurred since the original estimate was developed.

While the volume and cost increases are significant, these are not fundamental changes to the selected remedy for the Former Lagoon Area; excavation and off-site disposal of contaminated soil is still appropriate for that part of the Site. As such, these changes are being memorialized in this ESD.

SUPPORT AGENCY COMMENTS

The State of New Jersey supports EPA’s revisions to the remedy and decision to issue this ESD. The State’s concurrence letter on the ESD was sent to EPA on December 21, 2023 and is located in the administrative record maintained for the Site.

Affirmation of Statutory Determination

EPA is issuing this ESD after consultation with NJDEP. The remedy, as modified by this ESD, will continue to be protective of human health and the environment and will comply with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action. The remedy selected in the 2017 ROD, as modified by the 2023 ROD Amendment and this ESD, still satisfies the requirements of Section 121 of CERCLA, 42 U.S.C. § 9621.

The remedy for the Former Lagoon Area part of the Site, as modified by this ESD, is technically feasible, cost-effective, and represents the maximum extent to which permanent solutions and treatment technologies can be used in a practicable manner by providing for remedial actions that permanently and significantly reduce the toxicity, mobility, and volume of hazardous substances at the Site.

PUBLIC PARTICIPATION ACTIVITIES

In accordance with CERCLA Section 117(c) and Section 300.435(c)(2) of the NCP, a formal public comment period is not required when issuing an ESD. EPA will announce the availability of the ESD in a local newspaper of general circulation with a notice briefly summarizing this ESD.

This ESD and the documents that provide the basis for the decision to modify the ROD, documenting the expanded scope of the soil excavation and associated cost increase, will be placed in the administrative record for the Site in accordance with Section 300.825(a)(2) of the NCP and the information repository maintained at the Director for Community Affairs for the Township of Woolwich, 120 Village Green Drive, Woolwich Township, New Jersey and at the EPA Region 2 Superfund Records Center located at 290 Broadway, New York, New York. The ESD will also be placed on EPA's Site page located at <http://www.epa.gov/superfund/matlack>.

Pat
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Pat Evangelista, Director
Superfund & Emergency Management Division
U.S. EPA, Region 2

4/25/24

Date

Figure 1 - Site Map

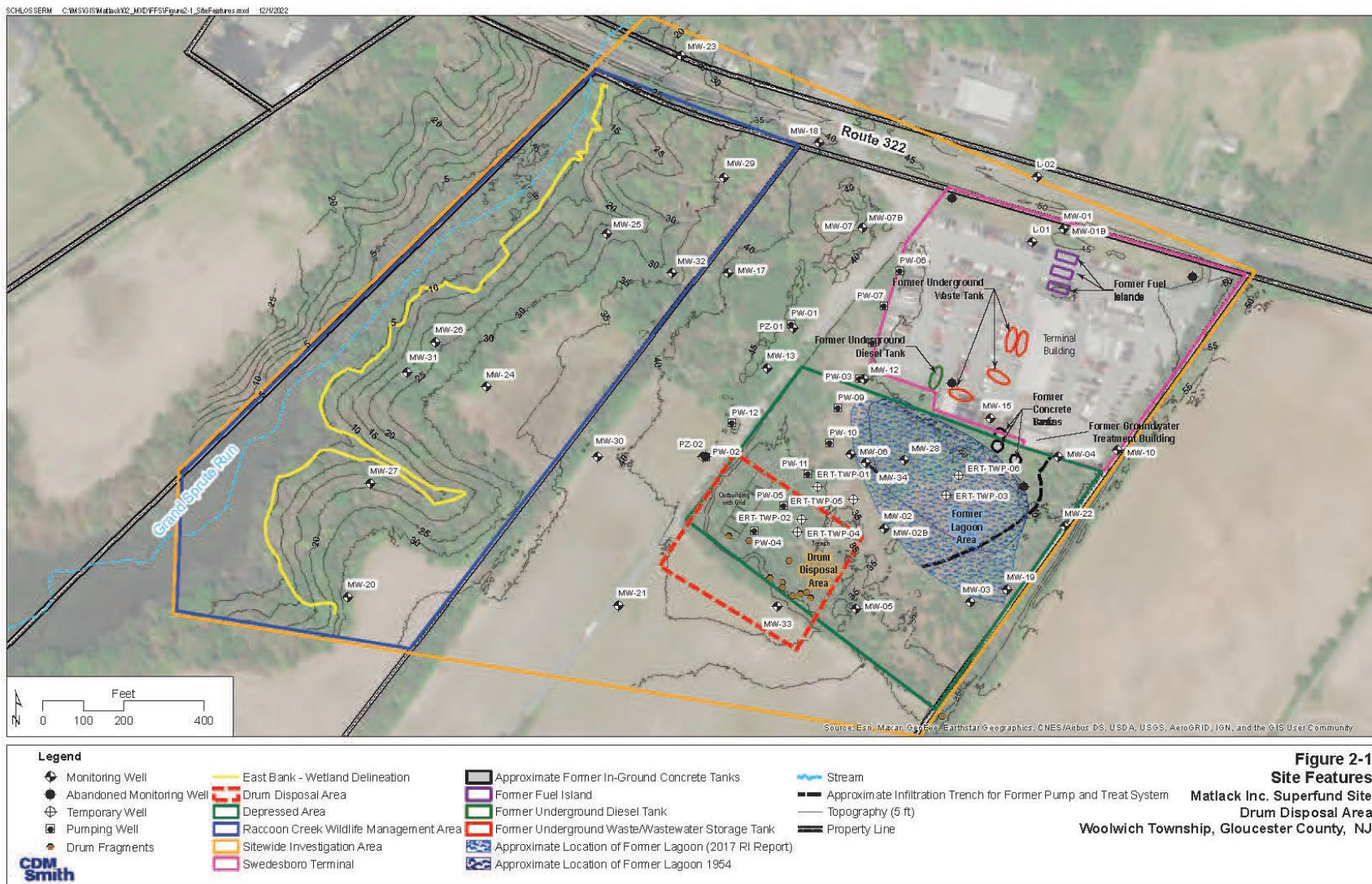


Figure 2 - Former Extent of Soil Contamination

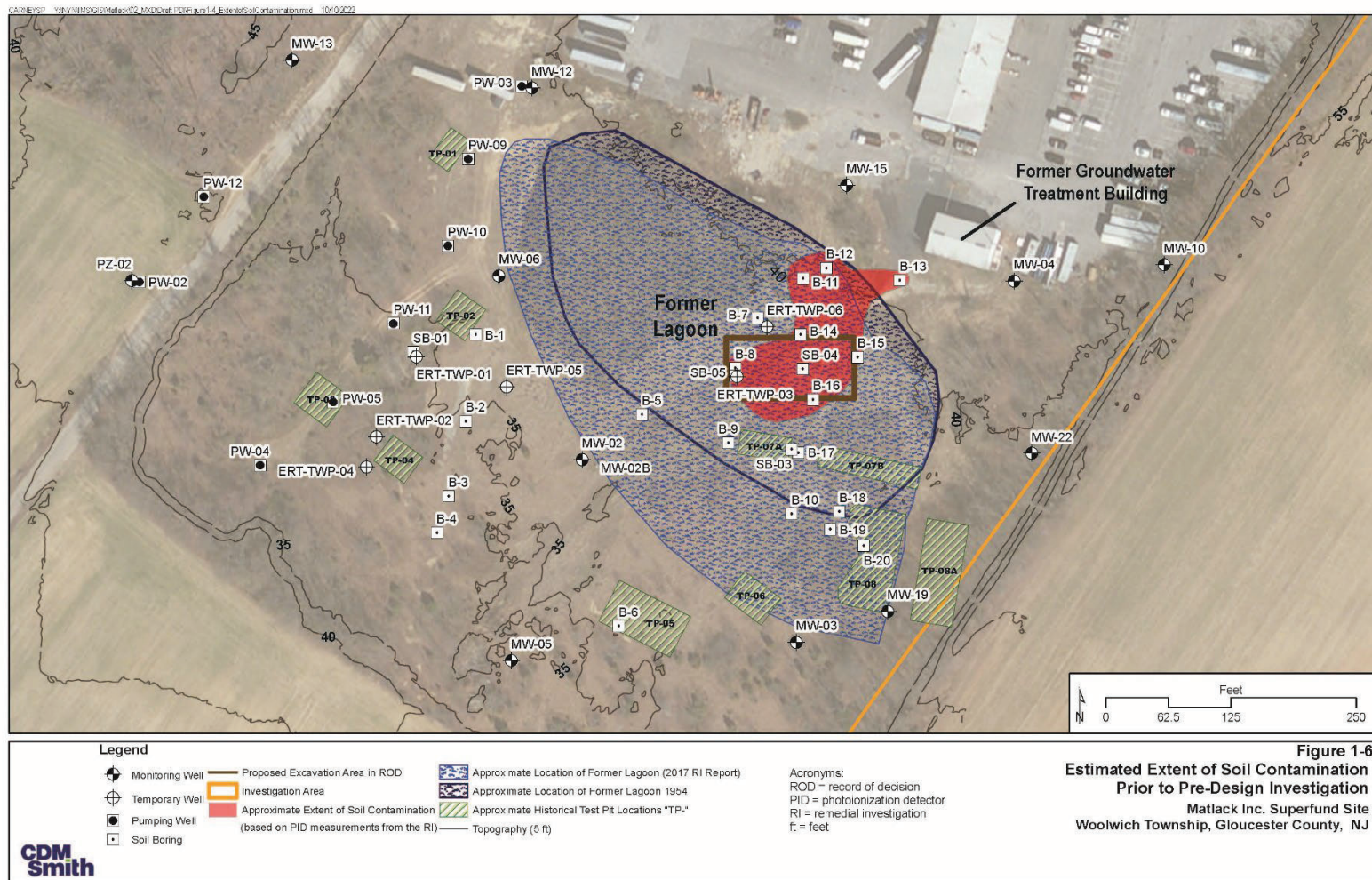


Figure 3 - Former Lagoon Area Soil Contamination

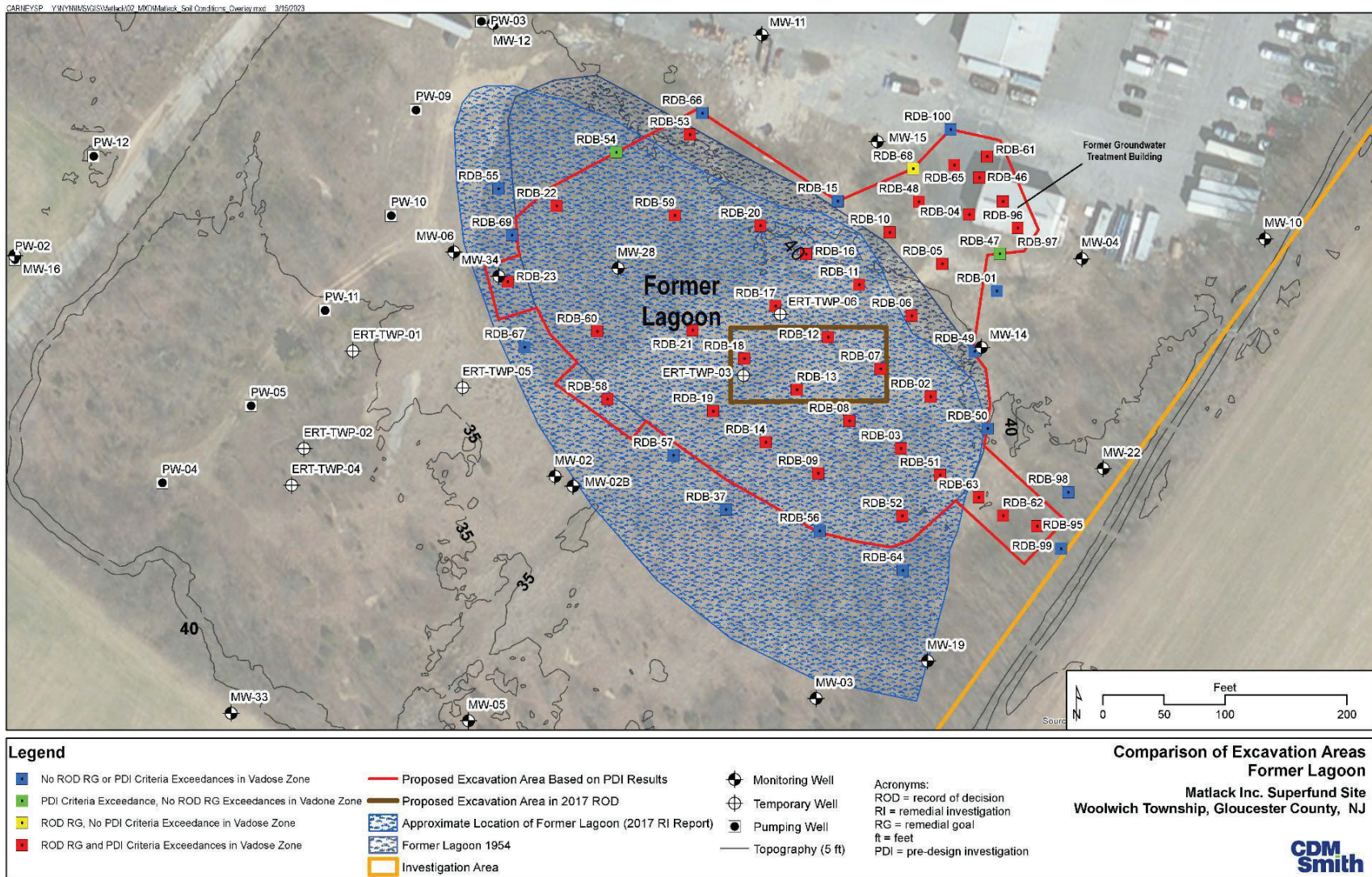


Table 1-Soil Remediation Goals for the Former Lagoon Area

Soil Contaminant	Remediation Goal ³ (mg/kg)
<i>VOCs</i>	
Benzene	0.005
Tetrachloroethylene (PCE)	0.005
Trichloroethylene (TCE)	0.01
Total Xylenes	19
<i>SVOCs</i>	
Benzyl Butyl Phthalate	230
Bis(2-ethylhexyl)Phthalate (BEHP)	35
Naphthalene	6

³ - The remediation goals in this table for COCs found in Former Lagoon Area are consistent with the remediation goals selected in the 2017 ROD. They are based on the New Jersey Impact to Groundwater Soil Screening Levels (NJIGWSSL)