GRID REMEDIAL INVESTIGATION SAMPLING WORKPLAN
RIDGEWOOD VILLAGE HISTORIC SITE
460 WEST SADDLE RIVER ROAD
BLOCK 4704, LOT 9, 10, 11, & 12
VILLAGE OF RIDGEWOOD, BERGEN COUNTY, NEW JERSEY

MATRIXNEWORLD

Engineering Progress

Submitted to:
Bureau of Solid Waste Compliance & Enforcement
New Jersey Department of Environmental Protection
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Submitted for:
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Matrix No. 23-1429

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1.0 SITE HISTORY

The Site is located at 460 West Saddle River Road in Ridgewood, Bergen County, New Jersey. As part of redevelopment activities, soils were imported to the Site for the creation of a soil berm along the western side of the Site and general site filling. Based on correspondence between the Village of Ridgewood (the Village) and the NJDEP's Bureau of Solid Waste Compliance & Enforcement (BSWC&E) in December 2023, the source and quality (i.e., alternative fill or clean fill) of the material was brought into question.

On May 3, 2024 Matrix performed a soil investigation on the Berm portion of the Site. Several sample locations were identified with concentrations of benzo(a)anthracene, lead, and mercury exceeding the NJDEP's Migration to Groundwater Soil Remediation Standard (MGW-SRS). Additionally, concentrations of benzo(a)pyrene were detected exceeding the NJDEP's Residential Ingestion-Dermal Soil Remediation Standard (RIDSRS) in several samples. Matrix notified the NJDEP via the NJDEP's Spill Hotline on May 28, 2024 regarding the exceeding concentrations. NJDEP assigned Case No. 24-05-28-1117-27 and Program Interest Number 1062723 to the Site. A Synthetic Participation Leaching Procedure (SPLP) was performed for benzo(a)anthracene, lead, and mercury and Site-Specific Migration to Groundwater Alternative Remediation Standards (MGWARS) for each were calculated utilizing the SPLP results. Concentrations of benzo(a)anthracene, lead, and mercury detected in the fill material were below their respective Site-Specific MGWARS.

On June 26 and June 27, 2024 Matrix performed a soil investigation on the balance of the Site. The soil investigation identified the SVOC compound, benzo(a)pyrene exceeding the NJDEP's RIDSRS or NRIDSRS, benzo(a)anthracene and mercury NJDEP's MGWSRS and Site-Specific MGWARS. Based on the results of the sampling completed on the Site on June 26 and 27, 2024, Matrix will conduct further investigation including delineation sampling at the locations of the samples exceeding NJDEP's RIDSRS, NRIDSRS, and Site-Specific MGWARS in an effort to minimize the volume of soil that will need to be removed from the Site to satisfy the NJDEP BSWC&E.

2.0 SAMPLING PLAN

2.1 Scope of Work

The objective of this investigation is to perform delineation sampling of the exceedances identified from the site investigation grid sampling on the balance of the Site. The findings will provide the extents of the hotspots to be excavated and disposed of as part of the remedial action for this Site in addition to the requirements set forth by the NJDEP BSWC&E.

This workplan may be revised in the field in the event that potential areas of environmental concern (i.e., staining, discolored soil or other indicators of potential contamination) are identified during the implementation of field activities.

All work will be conducted in general accordance with the NJDEP Technical Requirements for Site Remediation (TRSR) N.J.A.C. 7:26E, NJDEP Field Sampling Procedures Manual (FSPM) and applicable NJDEP Guidance documents.

2.2 Sample Collection

Prior to conducting the subsurface investigation, the drilling contractor will be responsible for obtaining proper utility mark-outs and required work permits, and active utility clearance prior to drilling. Soil borings will be advanced using Geoprobe® “direct push” technology or via hand tools. Soil samples will be collected via five-foot dedicated acetate sampling cores or via hand tools. All soil samples will be classified based on their color, structure, and particle size, field-screened using a photo-ionization detector (PID), and calibrated using isobutylene span gas with a concentration of 100 parts per million (ppm). Coordinates of each soil boring will be collected by Matrix via a handheld global positioning system (GPS) unit. Matrix will coordinate with the Village to allow access to the soil boring locations.

All soil sample analyses will be conducted by SGS Laboratories (NJDEP No. 12129) of Dayton, New Jersey under chain-of-custody documentation. The analytical data package for all samples will be a NJDEP Reduced Deliverables Package in Data Known Quality Protocol format. Figure 1 depicts the soil boring locations for a total of 89 proposed soil borings within the Site. The locations of the soil borings may be revised while in the field.

2.2.1 Soil Sampling and Analysis – Delineation Borings

The advancement of up to 81 soil borings are proposed throughout the Site for delineation of the sample locations identified with exceedances in accordance with N.J.A.C. 7:26E(4.2). Two rings of horizontal delineation borings will be equally spaced to approximately 7.5 feet in the north, south, east, and west direction; therefore, creating the first ring with a 7.5 foot radius and the second ring with a 15 foot radius from the original sampling location. If fill material where solid waste is visually observed is encountered after measuring 7.5 feet, continue moving outwards until solid waste is not observed. A sample will not be collected within fill material from the first ring where solid waste is visually observed. The objective of moving the first ring beyond 7.5 feet is the ensure the first ring does not encompass solid waste and samples are collected from non-solid waste material, thus properly delineating the extent of solid waste material. The vertical delineation will consist of two sampling intervals: one 6 inches deeper and one 1 foot deeper from the original sampling location. Each delineation boring will be collected and analyzed for the compound of concern that was detected exceeding the NJDEP's SRS. For any delineation sample that displays a visually inconsistent appearance to the fill material that has already been characterized (i.e., a different kind of fill material is identified), the analysis of that sample location will be expanded to analyze the Target Compound List/Target Analyte List (TCL/TAL) plus a forward library search (+30) suite. A table with COCs associated with each original sampling location is included below as Table 1 and a table with the accompanying analysis per delineation sample is attached as Table 2.

Table 1: Soil Sample Contaminants of Concern per Location

Original Sample Location	Analytical Parameters
GRID-4	Benzo(a)pyrene
GRID-10A	Mercury & Benzo(a)pyrene
GRID-11	Benzo(a)pyrene
GRID-16	Benzo(a)pyrene
GRID-18	Benzo(a)pyrene & Benzo(a)anthracene
GRID-20	Benzo(a)pyrene & Benzo(a)anthracene
GRID-21	Benzo(a)pyrene
GRID-26	Benzo(a)pyrene
GRID-28	Benzo(a)pyrene

Note: All locations subject to a TCL/TAL+30 analysis

The advancement of up to 8 borings are proposed to further characterize the grids that were identified with impacted material. The characterization borings will be advanced to a depth within the limits of the imported soils (approximately five feet bgs). If another area within the impacted grid is observed with fill material, the sample location will be biased towards the observed fill. One soil sample from each boring

will be collected and submitted for TCL/TAL plus 30 tentatively identified compounds analyses. A total of eight soil samples, as detailed in Table 3, will be collected from the borings biased towards the discrete 6-inch interval with the greatest potential for contamination based on field observations (i.e., elevated PID readings, staining, odor, evidence of fill materials, etc.). If no PID readings or evidence of VOC impacts are present, VOC analysis does not have to be completed from that sample location. To ensure accurate PID readings, one VOC analysis will be analyzed from one of the sample locations that have been analyzed for TCL/TAL+30 exhibiting the greatest likelihood of contamination. If no evidence of contamination is identified, soil samples will be collected from varying six-inch intervals to ensure imported fill limits are fully represented. A table with sample details is included in below in Table 3.

Table 3: Soil Sample Summary Table – Additional Grid Characterization

Sample ID	Depth	Analytical Parameters
GRID-29	6-inch interval with the greatest potential for contamination	TCL/TAL+30
GRID-30	6-inch interval with the greatest potential for contamination	TCL/TAL+30
GRID-31	6-inch interval with the greatest potential for contamination	TCL/TAL+30
GRID-32	6-inch interval with the greatest potential for contamination	TCL/TAL+30
GRID-33	6-inch interval with the greatest potential for contamination	TCL/TAL+30
GRID-34	6-inch interval with the greatest potential for contamination	TCL/TAL+30
GRID-35	6-inch interval with the greatest potential for contamination	TCL/TAL+30
GRID-36	6-inch interval with the greatest potential for contamination	TCL/TAL+30

NOTES:
TCL/TAL+30 = Target Compound List/Target Analyte List plus tentatively identified compounds

2.2.3 Waste Handling

Upon completion of each soil boring, drill cuttings will be placed back into the bore hole to the surface and the surface restored to match the surrounding ground material.

2.4 Reporting

Upon the completion of all soil investigation field activities and receipt of all analytical data, a Remedial Investigation Report (RIR) will be prepared and will include:

- Sample location plan
- Summary of sampling events activities
- Summary of laboratory reported analytical results compared to applicable criteria and standards.

- Soil boring logs
- Laboratory analytical package
- Discussion of any remedial needs

The laboratory reported soil sample analytical results will be compared to NJDEP's Soil Remediation Standards, promulgated at N.J.A.C. 7:26D.

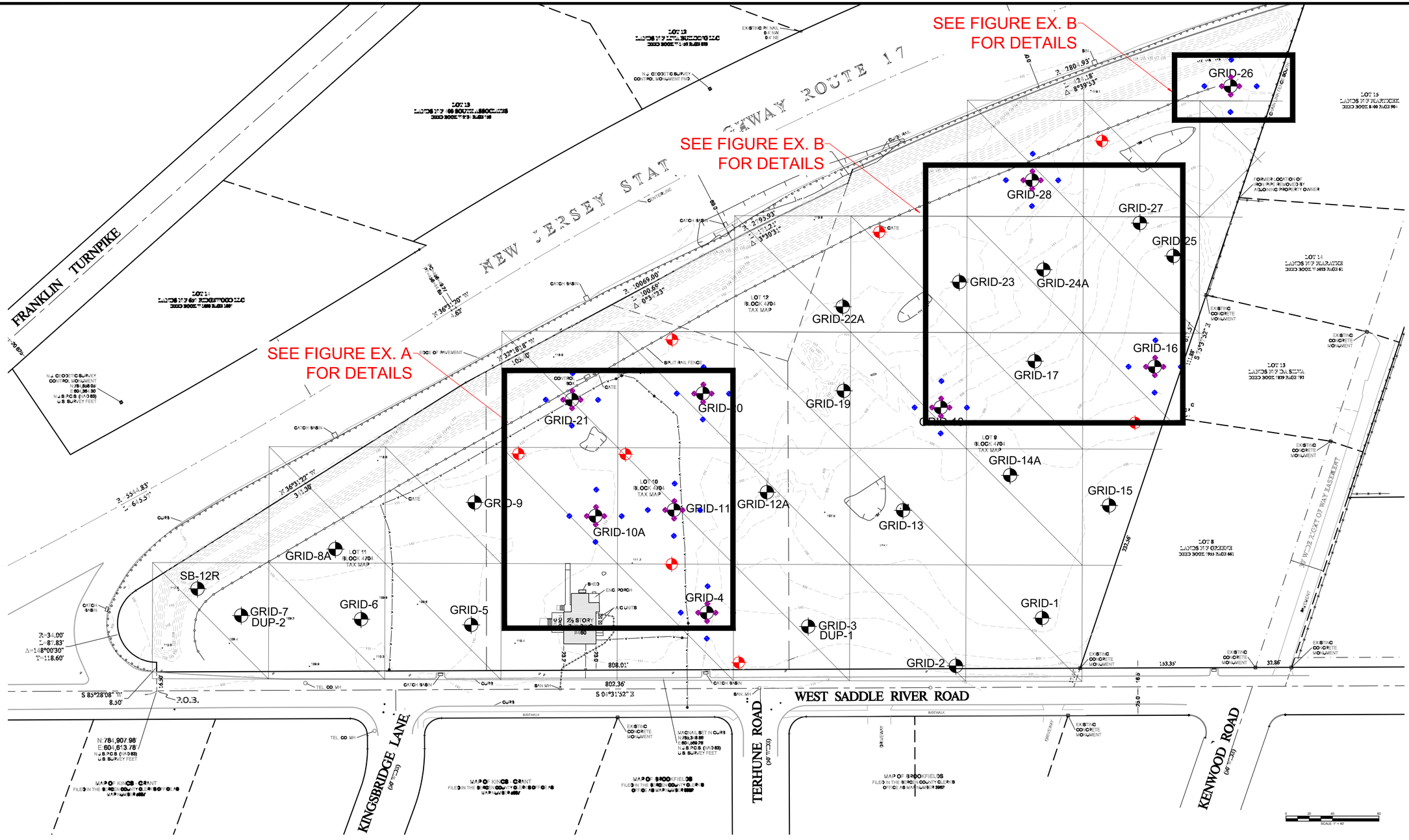
TABLES

Table 2
Sampling Summary Table
Grid Remedial Investigation
460 West Saddle River Road, Bergen County, New Jersey

LOCATION	COORDINATES	SAMPLE DEPTH	ANALYTICAL PARAMETERS	TURN AROUND TIME	SAMPLING METHOD	Purpose
GRID RI SOIL SAMPLING						
GRID-4 (1.5-2.0)	X: 604501.03 Y: 785385.52	2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		Vertical Delineation
GRID-4 (2.0-2.5)		2.5-3.0 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		Vertical Delineation
GRID-4-N1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		North horizontal step out (1)
GRID-4-N2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		North horizontal step out (2)
GRID-4-S1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		South horizontal step out (1)
GRID-4-S2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		South horizontal step out (2)
GRID-4-E1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		East horizontal step out (1)
GRID-4-E2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		East horizontal step out (2)
GRID-4-W1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		West horizontal step out (1)
GRID-4-W2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		West horizontal step out (2)
GRID-10A (1.5-2.0)	X: 604425.94 Y: 785283.42	2.0-2.5 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Standard		Vertical Delineation
GRID-10A (2.0-2.5)		2.5-3.0 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		Vertical Delineation
GRID-10A-N1		2.0-2.5 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Standard		North horizontal step out (1)
GRID-10A-N2		2.0-2.5 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		North horizontal step out (2)
GRID-10A-S1		2.0-2.5 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Standard		South horizontal step out (1)
GRID-10A-S2		2.0-2.5 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		South horizontal step out (2)
GRID-10A-E1		2.0-2.5 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Standard		East horizontal step out (1)
GRID-10A-E2		2.0-2.5 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		East horizontal step out (2)
GRID-10A-W1		2.0-2.5 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Standard		West horizontal step out (1)
GRID-10A-W2		2.0-2.5 ft, bgs	Mercury & Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		West horizontal step out (2)
GRID-11 (1.5-2.0)	X: 604415.28 Y: 785350.25	2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		Vertical Delineation
GRID-11 (2.0-2.5)		2.5-3.0 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		Vertical Delineation
GRID-11-N1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		North horizontal step out (1)
GRID-11-N2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		North horizontal step out (2)
GRID-11-S1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		South horizontal step out (1)
GRID-11-S2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		South horizontal step out (2)
GRID-11-E1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		East horizontal step out (1)
GRID-11-E2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		East horizontal step out (2)
GRID-11-W1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		West horizontal step out (1)
GRID-11-W2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		West horizontal step out (2)
GRID-16 (1.5-2.0)	X: 604258.8 Y: 785752.55	2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		Vertical Delineation
GRID-16 (2.0-2.5)		2.5-3.0 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		Vertical Delineation
GRID-16-N1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		North horizontal step out (1)
GRID-16-N2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		North horizontal step out (2)
GRID-16-S1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		South horizontal step out (1)
GRID-16-S2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		South horizontal step out (2)
GRID-16-E1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		East horizontal step out (1)
GRID-16-E2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		East horizontal step out (2)
GRID-16-W1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		West horizontal step out (1)
GRID-16-W2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		West horizontal step out (2)
GRID-18 (1.5-2.0)	X: 604308.71 Y: 785571.9	2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard		Vertical Delineation
GRID-18 (2.0-2.5)		2.5-3.0 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		Vertical Delineation
GRID-18-N1		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard		North horizontal step out (1)
GRID-18-N2		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		North horizontal step out (2)
GRID-18-S1		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard		South horizontal step out (1)
GRID-18-S2		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		South horizontal step out (2)
GRID-18-E1		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard	Scoopula	East horizontal step out (1)
GRID-18-E2		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		East horizontal step out (2)
GRID-18-W1		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard		West horizontal step out (1)
GRID-18-W2		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		West horizontal step out (2)
GRID-20 (1.5-2.0)	X: 604313.37 Y: 785366.97	2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard		Vertical Delineation
GRID-20 (2.0-2.5)		2.5-3.0 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		Vertical Delineation
GRID-20-N1		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard		North horizontal step out (1)
GRID-20-N2		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		North horizontal step out (2)
GRID-20-S1		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard		South horizontal step out (1)
GRID-20-S2		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		South horizontal step out (2)
GRID-20-E1		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard		East horizontal step out (1)
GRID-20-E2		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		East horizontal step out (2)
GRID-20-W1		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Standard		West horizontal step out (1)
GRID-20-W2		2.0-2.5 ft, bgs	Benzo(a)pyrene & Benzo(a)anthracene or TCL/TAL+30	Extract & HOLD		West horizontal step out (2)
GRID-21 (1.5-2.0)	X: 604327.82 Y: 785255.02	2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		Vertical Delineation
GRID-21 (2.0-2.5)		2.5-3.0 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		Vertical Delineation
GRID-21-N1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		North horizontal step out (1)
GRID-21-N2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		North horizontal step out (2)
GRID-21-S1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		South horizontal step out (1)
GRID-21-S2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		South horizontal step out (2)
GRID-21-E1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		East horizontal step out (1)
GRID-21-E2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		East horizontal step out (2)
GRID-21-W1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		West horizontal step out (1)
GRID-21-W2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		West horizontal step out (2)
GRID-26 (1.5-2.0)	X: 604012.85 Y: 785798.02	2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		Vertical Delineation
GRID-26 (2.0-2.5)		2.5-3.0 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		Vertical Delineation
GRID-26-N1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		North horizontal step out (1)
GRID-26-N2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		North horizontal step out (2)
GRID-26-S1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		South horizontal step out (1)
GRID-26-S2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		South horizontal step out (2)
GRID-26-E1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		East horizontal step out (1)
GRID-26-E2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		East horizontal step out (2)
GRID-26-W1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		West horizontal step out (1)
GRID-26-W2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		West horizontal step out (2)
GRID-28 (1.5-2.0)	X: 604107.37 Y: 785634.33	2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		Vertical Delineation
GRID-28 (2.0-2.5)		2.5-3.0 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		Vertical Delineation
GRID-28-N1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		North horizontal step out (1)
GRID-28-N2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		North horizontal step out (2)
GRID-28-S1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		South horizontal step out (1)
GRID-28-S2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		South horizontal step out (2)
GRID-28-E1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		East horizontal step out (1)
GRID-28-E2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		East horizontal step out (2)
GRID-28-W1		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Standard		West horizontal step out (1)
GRID-28-W2		2.0-2.5 ft, bgs	Benzo(a)pyrene or TCL/TAL+30	Extract & HOLD		West horizontal step out (2)

Notes:
ft, bgs = Feet, Below Ground Surface

FIGURES



LEGEND

GRID-XX	GRID SOIL SAMPLE LOCATION
	7.5' DELINEATION GRID SOIL SAMPLE LOCATION
	ADDITIONAL 15' DELINEATION GRID SOIL SAMPLE LOCATION
	ADDITIONAL CHARACTERIZATION SAMPLE LOCATION
	AREA OF DELINEATION - SEE NOTE

DESIGNED BY:	REVIEWED BY:	RELEASED BY:
MED	KP	MF

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NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27982300

GRID SAMPLE LOCATIONS KEY MAP WITH ADDITIONAL CHARACTERIZATION SAMPLE LOCATIONS

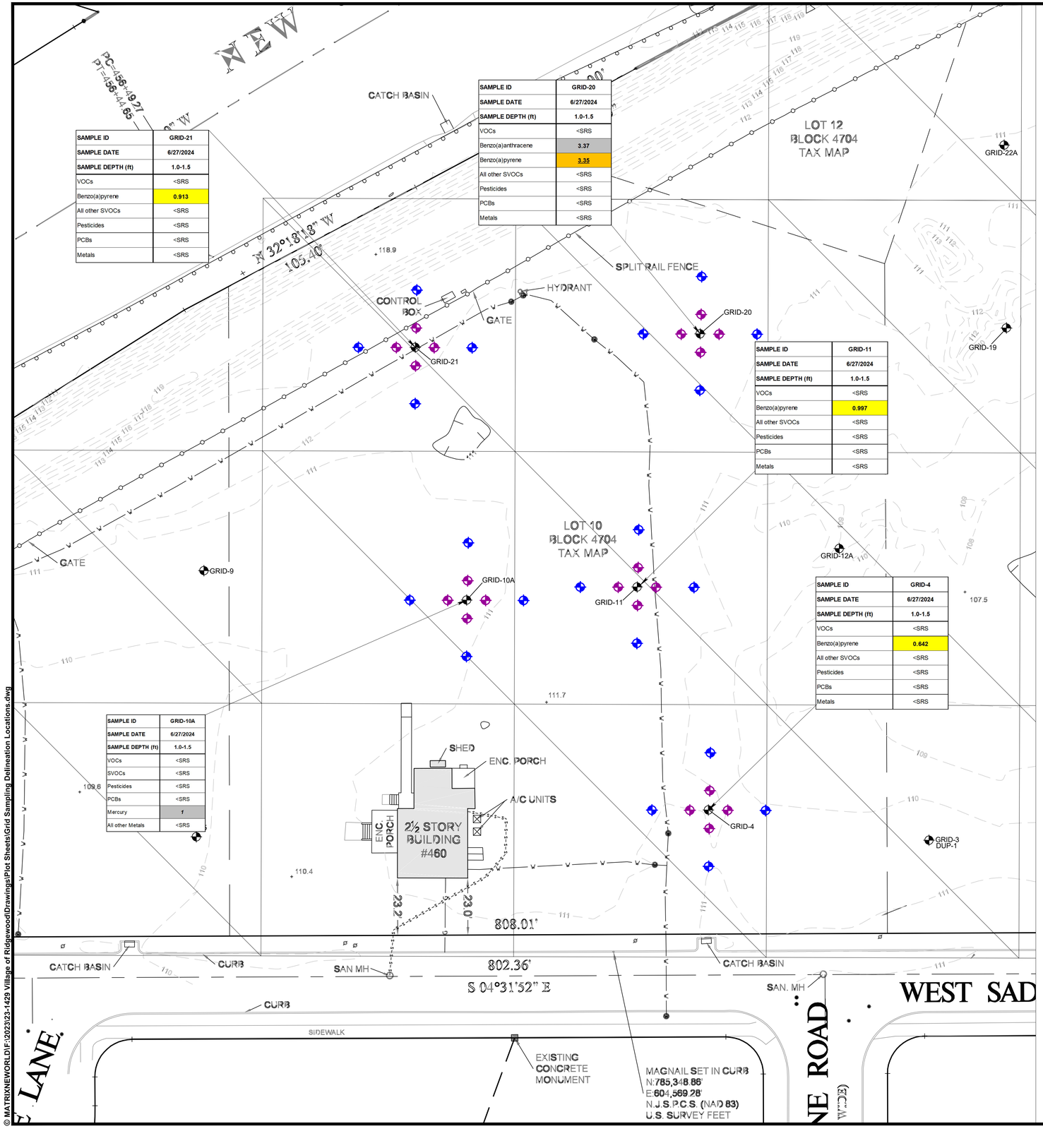
VILLAGE OF RIDGEWOOD
BLOCK 4704, LOTS 9, 10, 11 & 12
WEST SADDLE RIVER ROAD
VILLAGE OF RIDGEWOOD
BERGEN COUNTY, NEW JERSEY

PROJECT NUMBER: 23-1429

SCALE: AS SHOWN

DATE: 10/25/2024

1



SAMPLE ID	GRID-21
SAMPLE DATE	6/27/2024
SAMPLE DEPTH (ft)	1.0-1.5
VOCs	<SRS
Benzo(a)pyrene	0.913
All other SVOCs	<SRS
Pesticides	<SRS
PCBs	<SRS
Metals	<SRS

SAMPLE ID	GRID-20
SAMPLE DATE	6/27/2024
SAMPLE DEPTH (ft)	1.0-1.5
VOCs	<SRS
Benzo(a)anthracene	3.37
Benzo(a)pyrene	3.35
All other SVOCs	<SRS
Pesticides	<SRS
PCBs	<SRS
Metals	<SRS

SAMPLE ID	GRID-11
SAMPLE DATE	6/27/2024
SAMPLE DEPTH (ft)	1.0-1.5
VOCs	<SRS
Benzo(a)pyrene	0.997
All other SVOCs	<SRS
Pesticides	<SRS
PCBs	<SRS
Metals	<SRS

SAMPLE ID	GRID-4
SAMPLE DATE	6/27/2024
SAMPLE DEPTH (ft)	1.0-1.5
VOCs	<SRS
Benzo(a)pyrene	0.642
All other SVOCs	<SRS
Pesticides	<SRS
PCBs	<SRS
Metals	<SRS

SAMPLE ID	GRID-10A
SAMPLE DATE	6/27/2024
SAMPLE DEPTH (ft)	1.0-1.5
VOCs	<SRS
SVOCs	<SRS
Pesticides	<SRS
PCBs	<SRS
Mercury	1
All other Metals	<SRS

LEGEND

GRID-XX — GRID SOIL SAMPLE LOCATION

7.5' DELINEATION GRID SOIL SAMPLE LOCATION

ADDITIONAL 15' DELINEATION GRID SOIL SAMPLE LOCATION

Bold and italic — EXCEEDS NJDEP MGWSRS/AR-MGWSRS

Bold — EXCEEDS NJDEP RIDSRS/RISRS

Bold and underlined — EXCEEDS NJDEP NRIDSRS/NRISRS

SVOCs	SEMI-VOLATILE ORGANIC COMPOUNDS
PCBs	POLYCHLORINATED BIPHENYLS
NC	NO CRITERIA ESTABLISHED FOR THIS CONTAMINANT
SRS	SOIL REMEDIATION STANDARDS CRITERIA
NJDEP	NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
MGWSRS	MIGRATION TO GROUNDWATER EXPOSURE PATHWAY SOIL REMEDIATION STANDARDS
RIDSRS	RESIDENTIAL INGESTION-DERMAL EXPOSURE PATHWAY SOIL REMEDIATION STANDARDS
RISRS	RESIDENTIAL INHALATION EXPOSURE PATHWAY SOIL REMEDIATION STANDARDS
NRIDSRS	NON-RESIDENTIAL INGESTION-DERMAL EXPOSURE PATHWAY SOIL REMEDIATION STANDARDS
AR-MGWSRS	ALTERNATIVE REMEDIATION - MIGRATION TO GROUNDWATER SOIL REMEDIATION STANDARD
*	AR-MGWSRS UTILIZED AS STANDARD

ALL ANALYTICAL RESULTS FOR SOIL IN MILLIGRAMS PER KILOGRAM (mg/kg)

ALL SAMPLE DEPTHS PRESENTED IN ft, bgs (FEET BELOW GROUND SURFACE)

SITE SPECIFIC MIGRATION TO GROUNDWATER SOIL REMEDIATION STANDARD (MGWSRS) WAS CALCULATED FOR BENZO(A)ANTHRACENE' LEAD, AND MERCURY USING NJDEP'S SPLP SPREADSHEET, V1.0, MAY 2021.

UNSATURATED SOIL SAMPLES COMPARED TO MGWSRS/AR-MGWSRS

0 10 20 40
SCALE: 1" = 20'

DESIGNED BY: MED | REVIEWED BY: KP | RELEASED BY: MF

MATRIXNEWORLD
Engineering Progress
Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C.
26 Columbia Turnpike
Florham Park, New Jersey 07932
Tel: 973-240-1800
Fax: 973-240-1818
www.mnwe.com
NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27982300

GRID SAMPLE LOCATIONS WTIH ADDITIONALCHARACTERIZATION SAMPLE LOCATIONS

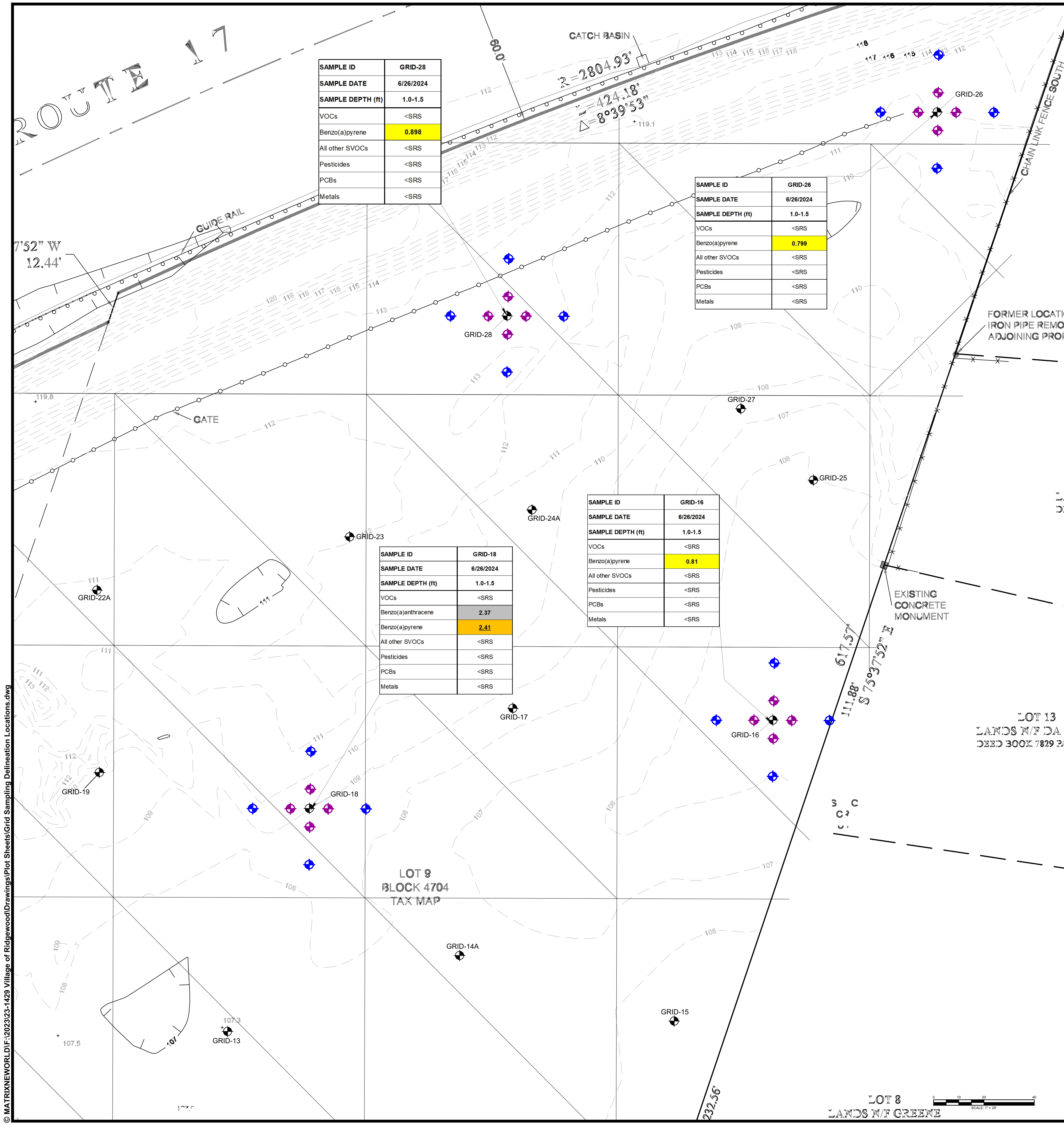
VILLAGE OF RIDGEWOOD
BLOCK 4704, LOTS 9, 10, 11 & 12
WEST SADDLE RIVER ROAD
VILLAGE OF RIDGEWOOD
BERGEN COUNTY, NEW JERSEY

PROJECT NUMBER: 23-1429

SCALE: AS SHOWN

DATE: 8/16/2024

A



SAMPLE ID	GRID-28
SAMPLE DATE	6/26/2024
SAMPLE DEPTH (ft)	1.0-1.5
VOCs	<SRS
Benzo(a)pyrene	**0.898**
All other SVOCs	<SRS
Pesticides	<SRS
PCBs	<SRS
Metals	<SRS

SAMPLE ID	GRID-26
SAMPLE DATE	6/26/2024
SAMPLE DEPTH (ft)	1.0-1.5
VOCs	<SRS
Benzo(a)pyrene	**0.799**
All other SVOCs	<SRS
Pesticides	<SRS
PCBs	<SRS
Metals	<SRS

SAMPLE ID	GRID-16
SAMPLE DATE	6/26/2024
SAMPLE DEPTH (ft)	1.0-1.5
VOCs	<SRS
Benzo(a)pyrene	**0.81**
All other SVOCs	<SRS
Pesticides	<SRS
PCBs	<SRS
Metals	<SRS

SAMPLE ID	GRID-18
SAMPLE DATE	6/26/2024
SAMPLE DEPTH (ft)	1.0-1.5
VOCs	<SRS
Benzo(a)anthracene	***2.37***
Benzo(a)pyrene	**2.41**
All other SVOCs	<SRS
Pesticides	<SRS
PCBs	<SRS
Metals	<SRS

LEGEND

GRID-XX GRID SOIL SAMPLE LOCATION

7.5' DELINEATION GRID SOIL SAMPLE LOCATION

ADDITIONAL 15' DELINEATION GRID SOIL SAMPLE LOCATION

Bold and italic EXCEEDS NJDEP MGWSRS/AR-MGWSRS

Bold EXCEEDS NJDEP RIDSRS/RISRS

Bold and underlined EXCEEDS NJDEP NRIDSRS/NRISRS

SVOCs	SEMI-VOLATILE ORGANIC COMPOUNDS
PCBs	POLYCHLORINATED BIPHENYLS
NC	NO CRITERIA ESTABLISHED FOR THIS CONTAMINANT
SRS	SOIL REMEDIATION STANDARDS CRITERIA
NJDEP	NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
MGWSRS	MIGRATION TO GROUNDWATER EXPOSURE PATHWAY SOIL REMEDIATION STANDARDS
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RISRS	RESIDENTIAL INHALATION EXPOSURE PATHWAY SOIL REMEDIATION STANDARDS
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AR-MGWSRS	ALTERNATIVE REMEDIATION - MIGRATION TO GROUNDWATER SOIL REMEDIATION STANDARD
*	AR-MGWSRS UTILIZED AS STANDARD

ALL ANALYTICAL RESULTS FOR SOIL IN MILLIGRAMS PER KILOGRAM (mg/kg)

ALL SAMPLE DEPTHS PRESENTED IN ft, bgs (FEET BELOW GROUND SURFACE)

SITE SPECIFIC MIGRATION TO GROUNDWATER SOIL REMEDIATION STANDARD (MGWSRS) WAS CALCULATED FOR BENZO(A)ANTHRACENE' LEAD, AND MERCURY USING NJDEP'S SPLP SPREADSHEET, V1.0, MAY 2021.

UNSATURATED SOIL SAMPLES COMPARED TO MGWSRS/AR-MGWSRS

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GRID SAMPLE LOCATIONS WITH ADDITIONAL CHARACTERIZATION SAMPLE LOCATIONS

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BERGEN COUNTY, NEW JERSEY

PROJECT NUMBER: 23-1429

SCALE: AS SHOWN

DATE: 8/16/2024

B