

Exhibit “A”

Via Email (LLepore@westorange.org)

January 29, 2021

Mr. Leonard R. Lepore, P.E., Municipal Engineer
Township of West Orange - Director of Public Works
25 Lakeside Avenue
West Orange, NJ 07052

**Re: PROPOSAL FOR ENVIRONMENTAL SERVICES –
REMEDIAL INVESTIGATION AND REMEDIAL ACTION WORKPLAN
4-10 CENTRAL AVENUE
BLOCK 9, LOT 32
WEST ORANGE, NEW JERSEY
MATRIX NO. 18-286-01**

Dear Mr. Lepore:

As requested, Matrix New World Engineering, Land Surveying, and Landscape Architecture, P.C. (Matrix) is pleased to provide this proposal to complete a Remedial Investigation (RI) and prepare the Remedial Action Workplan (RAWP) for the Former Biddelman, Inc (Biddelman) property, located at 4-10 Central Avenue (Block 9, Lot 32) in the Township of West Orange (Township), New Jersey (Site). Matrix prepared an Application for a Hazardous Discharge Site Remediation Fund (HDSRF) Grant to complete this work and submitted the HDSRF Grant Application to the New Jersey Economic Development Authority (NJEDA) and the New Jersey Department of Environmental Protection (NJDEP) on August 17, 2020. Based on email communications to the Township on January 22 and 27, 2021, the scope of work presented as part of the Application for the RI/RAWP HDSRF Grant is acceptable to NJDEP and NJEDA.

The Site is part of the Central Valley Redevelopment Area, adopted by the Township on January 3, 2017. The Central Valley Redevelopment Area is comprised of six lots (Block 9, Lots 11.01, 11.02, 11.03, 32, and 36, and Block 7, Lot 22). In addition, the Central Valley Redevelopment Area is part of the Central Valley Brownfield Development Area under the Office of Brownfield Reuse, Brownfield Development Area Program which was established on December 5, 2005. Former Site operations conducted by Biddelman included the storage and distribution of dry-cleaning supplies, including tetrachloroethene (PCE), which was stored in a 4,000-gallon

aboveground storage tank (AST). Following the cessation of Biddelman operations in 1986, the PCE AST was removed along with a fuel oil underground storage tank (UST) in 1987. The Site has been vacant since 2004. Currently, NJDEP Site Remediation Program (SRP) Program Interest (PI) number G000006148, and Industrial Site Recovery Act (ISRA) Case numbers E86699 and E20050486 are associated with the Site. The two ISRA Case Numbers are associated with the 1986 cessation of operations, and a 2005 General Information Notice (GIN) filed on December 31, 2005 for cessation of operations. Three NJDEP Case Nos. 15-06-01-1229-00, 15-11-02-1406-01, and 17-04-20-1128-26 are associated with SRP PI No. G000006148.

The objective of the RI is to delineate soil and groundwater impacts, update the conceptual site model (CSM), and define the Biddelman contribution to the regional wide groundwater plume. The RI will be completed in compliance with the NJDEP Technical Requirements for Site Remediation (TRSR), the Site Remediation Reform Act (SRRA), the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS), Underground Storage Tanks, and the NJDEP's applicable guidance documents. The RAWP will outline the components of a remedial action for the Site in compliance with applicable regulations and guidance.

SCOPE OF WORK

The scope of services and associated fees are described in below. For more details, please reference the attached Remedial Investigation Workplan:

Task 1: Remedial Investigation/Remedial Action Workplan

Quality Assurance Project Plan (QAPP) and Health and Safety Plan (HASP)

The QAPP and HASP will be updated prior to the commencement of the RI field activities. The QAPP will be prepared in accordance with requirements in the TRSR and following the NJDEP Quality Assurance Project Plan Technical Guidance. The site-specific HASP will be prepared in accordance with 29 CFR Parts 1910 and 1926 of the Federal Occupational Safety and Health Administration (OSHA) regulations.

Soil Boring Installation

The purpose of this soil investigation is to delineate the horizontal and vertical extent of previously identified contaminant exceedances in soil. The RI will include the installation of up to 25 soil borings to a depth of approximately 20 feet below ground surface (ft., bgs) with multiple samples

being collected from a number of borings (maximum of 40 samples). These samples will be analyzed for the Target Compound List Volatile Organic Compounds plus a Forward Library Search (TCL VOC+15). In the vicinity of the floor and trench drains, samples will be analyzed for Extractable Petroleum Hydrocarbons (EPH) Category 2 and target compound list/target analyte list plus a forward library search (TCL/TAL+30). For QA/QC purposes, one field blank, and one trip blank will also be collected. All samples will be analyzed by a New Jersey certified laboratory on a standard turnaround time basis.

Concrete Sampling

To assess the potential impacts of the boiler room and hazardous material storage area, concrete samples will be collected. Up to six concrete samples will be collected from the building slab and analyzed for EPH Category 2 and TCL/TAL+30. All concrete samples will be biased to any evidence of staining and not exceed 1-inch in depth. All samples will be analyzed by a New Jersey certified laboratory on a standard turnaround time basis. Note that this amount of concrete sampling is not sufficient to characterize the building concrete for reuse and/or disposal in accordance with NJDEP Guidance but is included here to evaluate an established Area of Concern (AOC).

Groundwater Investigation

Based on the groundwater sampling activities to date, chlorinated VOCs (CVOCs), specifically PCE and trichloroethene (TCE) were identified at concentrations above the NJDEP's Groundwater Quality Standards (GWQS). The horizontal extent to the south and the vertical extent of the groundwater plume is unknown, therefore as part of the RI additional groundwater monitoring wells will be installed and additional groundwater samples will be collected to further define the various plumes and allow for better development of the CSM.

Matrix will oversee the installation of up to six hydropunch borings. The hydropunch borings will be installed to refusal/bedrock and up to four grab groundwater samples (up to 24 grab samples total) will be collected and analyzed for TCL VOC+15). For QA/QC purposes, one field blank, and one trip blank will also be collected. All samples will be analyzed by a New Jersey certified laboratory on a standard turnaround time basis.

This task also includes the installation of up to two shallow overburden monitoring wells and up

to five deep overburden monitoring wells. Following the monitoring well installation, these monitoring wells will be subsequently developed using a submersible pump and surveyed by a New Jersey licensed surveyor. All on-site monitoring wells and off-site monitoring wells will be gauged, and three additional rounds of groundwater sampling will be completed. The groundwater samples will be collected from the on-site and off-site monitoring wells (up to 24 wells per sampling event) via low flow sampling technique. The groundwater samples will be analyzed from TCL VOC+15. Water quality indicator parameters (dissolved oxygen, pH, temperature, conductivity, and ORP) will be monitored during the groundwater purging and sampling activities. For QA/QC purposes, one field blank, and one trip blank will also be collected. The groundwater samples and QA/QC samples will be analyzed for TCL VOC+15. All groundwater samples will be analyzed on a standard turnaround time basis by a New Jersey certified laboratory.

Following the conclusion of the third sampling event, Matrix will arrange for the disposal of the non-hazardous investigative derived waste (IDW), up to 28 55-gallon drums. The IDW will consist of soil cuttings and monitoring well purge water generated during well development and groundwater sampling activities.

Vapor Intrusion Investigation

Based on the results of the 2019 groundwater sampling, vapor intrusion sampling is required at occupied structures within 100 feet of the CVOC contamination above the NJDEP's Vapor Intrusion Groundwater Screening Levels (VIGWSL). Therefore, during the RI activities, Matrix will complete vapor intrusion sampling at the following properties:

1. Residential – 532 Valley Road West Orange, New Jersey (Block 9, Lot 23)
2. Residential – 530 Valley Road West Orange, New Jersey (Block 9, Lot 25)
3. Residential – 528 Valley Road West Orange, New Jersey (Block 9, Lot 26)
4. Residential – 526 Valley Road West Orange, New Jersey (Block 9, Lot 27)
5. Commercial – 5 Central Avenue West Orange, New Jersey (Block 10, Lot 1.01)

Before sampling, Matrix will complete an access agreement with the property owner. Matrix will also conduct a building survey and complete the applicable sections of the NJDEP Building Survey and Sampling Form. A total of two indoor air samples and one background (ambient) air sample will be collected per property. The samples will be submitted to the laboratory on hold pending the results of the sub-slab sampling. If the sub-slab soil gas samples, which will be

collected the following day, contain contaminant concentrations at levels exceeding the GWSL, the indoor air samples will be analyzed for VOC+15 and naphthalene using USEPA Method TO-15.

Following the completion of the indoor air sampling, sub-slab soil gas samples will be collected. Two or three sub-slab soil gas samples will be collected from each property, and the sub-slab air samples will be analyzed for VO+15 and naphthalene using USEPA Method TO-15. VI sampling activities are expected to be completed in 2 days, since the indoor air samples will be collected prior to the collection of the sub-slab soil gas samples. The indoor air samples are collected over a 24-hour sample period.

Following the completion of the VI investigation and receipt of analytical results, a VI Investigation Letter will be prepared. The report will summarize investigation activities, results, findings, conclusions, and recommendations for the property. A copy of the report will also be submitted to the NJDEP, tenants, property owner, West Orange Health Department, and the New Jersey Department of Health and Senior Services (if the indoor air samples are analyzed).

Remedial Investigation Report/Remedial Action Workplan

Following the receipt and evaluation of the soil, groundwater, and vapor intrusion data, a RI Report and RAWP and associated forms will be prepared and will summarize the results of the remedial investigation. The report will consist of figures, tables, conclusions, and recommendations. Following a review of the Draft Report by the Township of West Orange, comments will be incorporated to prepare a Final Remedial Investigation Report/Remedial Action Workplan that will be submitted to NJDEP.

The following forms may be required during the RI/RAWP:

- Case Inventory Document (CID)
- Authorization to Submit a Report Through NJDEP Online
- Cover/Certification Form
- CEA Fact Sheet
- Updated Receptor Evaluation

COSTS

The following are the estimated costs for the tasks described herein to complete the RI and RAWP for the Biddelman Site. The costs are as presented in Section I of the HDSRF Application Part 1 and are attached herein. All work will be conducted in accordance with the attached standard terms and conditions and LSRP Special Provisions.

Remedial Investigation and Remedial Action Workplan

Labor	\$ 83,302.00
Direct Expenses.....	\$ <u>111,824.00</u>
Total Fixed Fee Cost.....	\$ 195,126.00

ASSUMPTIONS AND EXCLUSIONS

This proposal is based on the following assumptions:

- No additional assessment, investigation or remediation activities are included;
- Costs do not include future investigations or remediation;
- Costs do not include any additional NJDEP notification or reporting fees, if applicable; and
- All external costs will be charged at cost plus 15%.

Separate authorization from the client will be requested prior to commencing services outside the scope of this proposal.

All out-of-pocket expenses including, but not limited to, application fees, laboratory testing costs, mylar copies, certified mailings, photographs, blueprints, and special deliveries are considered additional to the proposal items unless specifically noted within the scope of this proposal.

This proposal is submitted solely and exclusively for the use of Township of West Orange for consideration of the professional services of Matrix. Disclosure of this proposal's content to any third party without prior written authorization from Matrix is expressly prohibited.

In addition to the specific items as listed herein, the client may be required to demonstrate compliance with certain permit and approval conditions as may be imposed by one or more of the regulatory agencies. These conditions may require revisions to the plans and/or preparation of additional supporting documentation. This proposal does not include these additional items unless

specifically outlined within the scope of this proposal.

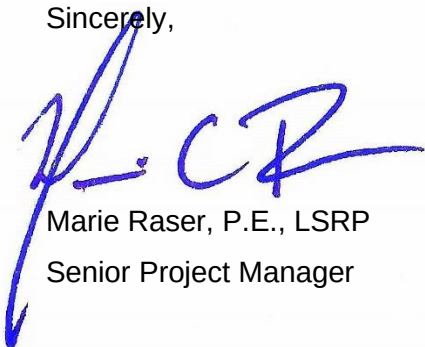
PAYMENT SCHEDULE

Payment shall be in accordance with the Charges, Billing, and Payment schedule outlined in the Terms and Conditions attached to this proposal unless prior written arrangements have been made with Matrix.

Please indicate your acceptance of this proposal by (1) signing in the space provided below, (2) signing the attached Terms and Conditions, and (3) signing the attached Special LSRP Provisions and returning one copy to our offices.

We thank you for the opportunity to be of service to you on this project. Matrix is prepared to implement the described Scope of Work upon receiving a signed copy of this letter. If you have any questions or require any additional information, do not hesitate to contact us at (973) 240-1800.

Sincerely,



Marie Raser, P.E., LSRP
Senior Project Manager

Authorization to Proceed: _____

Name/Title

Date: _____

Attachments: July 2020 Remedial Investigation Workplan
HDSRF Application Cost Estimate
Terms and Conditions
Special Provisions - LSRP

ATTACHMENT 1
JULY 2020 REMEDIAL INVESTIGATION WORKPLAN

REMEDIAL INVESTIGATION WORKPLAN
FORMER BIDDELMAN INC.
4-10 CENTRAL AVENUE
BLOCK 9, LOT 32
WEST ORANGE, ESSEX COUNTY, NEW JERSEY
NJDEP SRP PI NO. G000006148
ISRA CASE NOS. E20050486 & E86699
NJDEP CASE NO. 17-04-20-1128-26

MATRIX **NEW** WORLD

Engineering Progress

Submitted to:

Mr. Leonard R. Lepore, P.E.
Township of West Orange – Director of Public Works
25 Lakeside Avenue
West Orange, New Jersey 07052

Prepared for:

Mr. Leonard R. Lepore, P.E.
Township of West Orange – Director of Public Works
25 Lakeside Avenue
West Orange, New Jersey 07052

Prepared by:

Matrix New World Engineering, Land Surveying
and Landscape Architecture, P.C.
26 Columbia Turnpike
Florham Park, New Jersey 07932

Matrix No. 18-286

July 2020



July 18, 2020

Mr. Leonard R. Lepore, P.E.
Township of West Orange – Director of Public Works
25 Lakeside Avenue
West Orange, New Jersey 07052

**Re: REMEDIAL INVESTIGATION WORKPLAN
FORMER BIDDELMAN INC.
4-10 CENTRAL AVENUE
BLOCK 9, LOT 32
TOWNSHIP OF WEST ORANGE, ESSEX COUNTY, NEW JERSEY
NJDEP SRP PI NO. G000006148
NJDEP ISRA NOS. E20050486 & E86699
NJDEP CASE NO. 17-04-20-1128-26
MATRIX NO. 18-286**

Mr. Lepore:

Matrix New World Engineering, Land Surveying, and Landscape Architecture, P.C. (Matrix) has prepared this *Remedial Investigation Workplan* (RIW) for the former Biddelman Inc. property, located at 4-10 Central Avenue in the Township of West Orange, Essex County, New Jersey (Site). This RIW summarizes Site soil and groundwater contamination associated with the historic operations and proposed remedial investigation activities including soil borings, groundwater sampling, vapor intrusion sampling, and updating of conceptual site model.

The scope of work outlined in this RIW will be used in our Application for a grant to complete a Remedial Investigation including the Remedial Investigation Report and Remedial Action Workplan from the New Jersey Department of Environmental Protection (NJDEP) Hazardous Discharge Site Remediation Fund (HDSRF) to the Township of West Orange.

If you have any questions, please contact us at (973) 240-1800.

Sincerely,

Marie Raser, P.E., LSRP
Senior Project Manager
LSRP No.: 576547

Copy to: Mr. Richard Trenk, Esq., Trenk, DiPasquale, Della Fare & Sodono, P.C.

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1.0 EXECUTIVE SUMMARY

Matrix New World Engineering, Land Surveying, and Landscape Architecture, P.C. (Matrix) has prepared this *Remedial Investigation Workplan (RIW)* on behalf of the Township of West Orange for the property known as the former Biddelman, Inc. facility (Biddelman) located at 4-10 Central Avenue, in the Township of West Orange, Essex County, New Jersey (Site). The Site is designated as Block 9, Lot 32 on the tax maps of the Township of West Orange, located in a residential, commercial, and industrial area, and zoned as industry (I). Block 9, Lot 32 is part of the Central Valley Redevelopment Area, adopted by the Township of West Orange on January 3, 2017. The Central Valley Redevelopment Area is comprised of six lots (Block 9, Lots 11.01, 11.02, 11.03, 32, and 36, and Block 7, Lot 22). In addition, the Central Redevelopment Area is part of the Central Valley Brownfield Development Area under the Office of Brownfield Reuse Brownfield Development Area Program which was established on December 5, 2005.

The Site is also included within the Orange Valley Regional Groundwater Contamination Site (Comprehensive Environmental Response, Compensation and Liability Act [CERCLA] ID No. NJD002148799 [formerly known as the West Orange Groundwater Contamination Site]), which consists of a groundwater contaminant plume that cannot be clearly attributed to any specific source. The Biddelman Site is one of 22 facilities associated with F-listed wastes that may be the source, or one of the sources, of the groundwater contamination. Other potential sources listed are the Selecto Flash property (located adjacent to the Biddelman Site to the east), and Kaye & MacDonald property (located across Central Avenue to the north of the Biddelman Site). While not listed as part of the West Orange Groundwater Contamination Site, the former Fregan's Automotive and Harvard Press properties, located to the east and southeast of the neighboring Selecto Flash property, are Known Contaminated Sites in New Jersey (KCS-NJ) as shown on Figure 4.

The Site is approximately 0.93-acres, rectangular in shape, and is currently improved with a two-story cinder block building on a concrete slab foundation. The remainder of the Site consists of an asphalt paved and gravel parking lot, and a small grassy area. Formerly occupied by Biddelman, Inc. (Biddelman), Site operations included the storage and distribution of dry-cleaning supplies, including tetrachloroethene (PCE), which was stored in a 4,000-gallon aboveground storage tank (AST). Biddelman ceased operations in 1987, the PCE tank was removed with a fuel oil underground storage tank (UST) in 1987, and the Site has been vacant since 2004.

Historic Fill Materials (HFM) and Chlorinated Volatile Organic Compounds (CVOCs) with concentrations above NJDEP Residential Direct Contact Soil Remediation Standards (RDCSRS), Non-Residential Soil Remediation Standards (NRDCSRS), and/or Default Impact to Groundwater Soil Screening Levels (DIGWSSL) have been identified in Site soils. CVOCs have also been observed in Site groundwater above NJDEP Groundwater Quality Standards (GWQS) and Vapor Intrusion Groundwater Screening Levels (VIGWSL).

The Township of West Orange received funding under NJDEP's Site Remediation Program Hazardous Discharge Site Remediation Fund (HDSRF) grant program to complete a Preliminary Assessment (PA) and Site Investigation (SI). The Preliminary Assessment/Site Investigation Report (PA/SIR) was submitted to NJDEP in April 2020 and identified 17 potential Areas of Concern (AOCs). The following AOCs were identified:

- AOC-1: Former 4,000-gallon PCE Above Ground Storage Tank (AST);
- AOC-2: Former Heating Oil Underground Storage Tank (UST);
- AOC-3: Floor and Trench Drains;
- AOC-4: Roof Leaders;
- AOC-5: Sump Pit;
- AOC-6: NJDEP Case Numbers;
 - AOC-6A: NJDEP Case No. 15-06-01-1229-00;
 - AOC-6B: NJDEP Case No. 15-11-02-1406-01;
 - AOC-6C: NJDEP Case No. 17-04-20-1128-26;
- AOC-7: Former Incinerator;
- AOC-8: Historic Fill;
- AOC-9: Loading or Transfer Area (Bay Doors);
- AOC-10: Boiler Room;
- AOC-11: Hazardous Material Storage;
- AOC-12: Pole-Mounted Transformers;
- AOC-13: In-Ground Bin;
- AOC-14: Drum Storage Area;
- AOC-15: Former Operations;
- AOC-16: Groundwater Contamination; and
- AOC-17: Vapor Intrusion.

The SIR documented the investigation of the following seven AOCs on-Site between October 2019 and March 2020:

- AOC-1: Former 4,000-gallon PCE AST;
- AOC-2: Former Heating Oil UST;
- AOC-3: Floor and Trench Drains;
- AOC-7: Former Incinerator;
- AOC-13: In-Ground Bin;
- AOC-16: Groundwater Contamination; and
- AOC-17: Vapor Intrusion.

As a result of the SI activities No Further Investigation (NFI) was recommended for AOC-2: Former Heating Oil UST, AOC-7: Former Incinerator, and AOC-13: In-Ground Bin. NFI was also recommended for the metals and polyaromatic hydrocarbon (PAH) exceedances, attributed to AOC-8: Historic Fill Material (HFM). These compounds were identified in soils across the Site and will be addressed during redevelopment of the Site through the implementation of engineering and institutional controls.

Based on the previous activities completed at the Site, Matrix is recommending additional investigation to delineate CVOC soil impacts, CVOC groundwater impacts, and to determine if any additional AOCs are impacting the soils or groundwater beneath the Site. Further investigation is recommended for the following AOCs:

- AOC-1: Former 4,000-gallon PCE AST;
- AOC-3: Floor and Trench Drains;
- AOC-6C: NJDEP Case No. 17-04-20-1128-26;
- AOC-10: Boiler Room;
- AOC-11: Hazardous Material Storage;
- AOC-15: Former Operations;
- AOC-16: Groundwater Contamination; and
- AOC-17: Vapor Intrusion.

As part of the Remedial Investigation (RI) for the Site soils, Matrix recommends the completion of the Seasonal Soil Compartment Model (SESOIL) to develop a Site-Specific Impact to Groundwater Soil remediation Standard (SSIGWSRS) for key Contaminants of Concern (COCs), specifically PCE and trichloroethene (TCE). The RI for Site groundwater (AOC-16) will include the installation of hydropunch

borings and additional monitoring wells and the establishment of a Classification Exception Area (CEA) for the Biddelman portion of the commingled groundwater plume. The RI for vapor intrusion (AOC-17) will include the completion vapor intrusion investigations at five off-site properties.

This RIW forms the basis for an Application for an HDSRF Grant to complete the remedial investigation, the Remedial Investigation Report (RIR), and Remedial Action Workplan (RAW) will be prepared for the Site.

2.0 INTRODUCTION

2.1 Purpose

This RIW was prepared by Matrix for the Township of West Orange (Client) for the proposed redevelopment of the Former Biddelman, Inc. property located at 4-10 Central Avenue (Block 9, Lot 32) in West Orange, Essex County, New Jersey (Site). The Site is part of the Orange/West Orange Central Valley Brownfield Development Area (BDA) and was completed under a grant awarded to the Township of West Orange from the NJDEP's HDSRF. The purpose of this RIW is to characterize the existing environmental conditions and to outline a workplan for remedial investigation activities at the Site. All RI activities and the preparation of this RIW, will be conducted and prepared in compliance with NJDEP's *Administrative Requirements for the Remediation of Contaminated Sites* (ARRCS, N.J.A.C. 7:26C, August 2018), the *Technical Requirements for Site Remediation* (TRSR, N.J.A.C. 7:26E, August 2018), and other applicable NJDEP Guidance documents.

2.2 Report Organization

This RIW is organized into the following sections:

- Section 3** Physical Setting and Conceptual Site Model
- Section 4** Matrix Preliminary Assessment and Site Investigation Report 2020
- Section 5** Remedial Investigation Technical Overview
- Section 6** Remedial Investigation Workplan – summarizes the proposed remedial investigation activities

3.0 PHYSICAL SETTING AND CONCEPTUAL SITE MODEL

3.1 Site Location and Description

The approximate 0.93-acre Site is designated as Block 9, Lot 32 (4-10 Central Avenue) on the tax map of the Township of West Orange. The Site is rectangular in shape and is currently improved with a two-story cinder block building on a concrete slab foundation. The remainder of the Site consists of an asphalt paved and gravel parking lot, a small grassy area, and three flush mount monitoring wells. The Site is a former industrial property and has been vacant since 2004. The Site is bound to the north by Central Avenue, with a 7-Eleven, Paragon Federal, and Gray Auto Clinic & Tire Services, LLC. located across Central Avenue. The Site is bound to the west by Krauszer's Food and Liquor, residential properties, and Palacio Del Pollo Restaurant along Valley Road. Several residential properties are located along Mitchell Street to the south. The Former Selecto Flash property is located to the east. The Site is located just west of the West Orange/Orange border. A Regional Location Map is included as Figure 1. A Site Plan is included as Figure 2. A Site Plan with Areas of Concern is included as Figure 3.

The parcel is located in a residential, commercial, and industrial area, zoned as commercial (Class 4A, zoning industry [I]), and is now part of the Central Valley Redevelopment Area, adopted by the Township of West Orange on January 3, 2017. The Central Valley Redevelopment Area is comprised of six lots (Block 9, Lots 11.01, 11.02, 11.03, 32, and 36, and Block 7, Lot 22).

3.2 Conceptual Site Model

From the late 1950's to 1985 when operations ceased, Biddelman, Inc. engaged in the wholesale distribution of dry goods and dry-cleaning supplies. The materials and chemicals involved in this business ranged from organic solvents such as ammonia and acetic acid for spot cleaning to PCE for dry-cleaning. The PCE was stored in a 4,000-gallon AST (AOC-1). The PCE AST was removed with a fuel oil UST in 1987. From approximately 1985 to 2004, the Site was owned by Richard Praitano, who operated a portion of the building as Personalized Letter Service and Sales CO., Inc., a letter printing business. A portion of the warehouse was sublet to Artie Petussian of Tri-State Technical Sales, which assembled plastic forms. All operations ceased in April 2004 and the Site has been vacant since 2004. The former operations associated with the dry-cleaning business are most likely the source of the contamination in soils and have contributed to groundwater contamination beneath the Site. The findings of the SIR have been used to develop this Conceptual Site Model (CSM), which will be refined during the remedial investigation phase, and Multiple Lines of Evidence (MLE) have been incorporated to identify and understand the

effects of the regional topography and historic operations on the comingled groundwater plumes beneath the Site and the surrounding properties.

During the remedial investigation phase, soil texture analysis and the SESOIL model will be used to develop a SSIGWSRS for PCE, TCE, cis 1,2-DCE, and methylene chloride, which will be used in developing the Remedial Action Workplan (RAW) for the Site.

Review of historic topographic maps show that the East Branch of the Rahway River has been relocated over time. Its current location is northeast of the Site, but the 1924 topographic map appears to show that it ran adjacent to the Site to the east (Selecto Flash) with a north-south orientation until at least 1924. This observation is supported by lithology encountered during the Remedial Investigation completed in 2019 on the Selecto Flash property and the soil borings and test pits completed on the Biddelman Site. Groundwater contour mapping shows groundwater flow converging in the vicinity of eastern property boundary and near Selecto Flash's monitoring wells MW-1R and MW-3R from both the westerly and easterly directions.

The Site is also included within the Orange Valley Regional Groundwater Contamination Site which consists of a comingled groundwater contaminant plume that cannot be clearly attributed to any specific source. The Site is one of 22 facilities associated with F-listed wastes that may be one of the sources of the groundwater contamination. Other potential sources listed are the former Selecto Flash property located directly adjacent to the Biddelman Site to the east (NJDEP SRP PI No. 027054) and the Kaye & MacDonald property located across Central Avenue to the north of the Biddelman Site (NJDEP SRP PI No. G000040517). While not specifically named as part of the Orange Valley Regional Groundwater Contamination Site, groundwater emanating from the former Fregan's Automotive (NJDEP SRP PI No. 450839) and Harvard Press (NJDEP SRP PI No. 237783) properties located to the east of the former Selecto Flash property may also be contributors.

Data regarding comingled plumes was compiled and presented as part of the SIR and will be refined in the RIR. Groundwater impacts associated with the Site consist mainly of PCE with some TCE and cis 1,2-DCE. The deeper groundwater in the area consists mainly of PCE with low levels of products of dichlorination which is similar to the groundwater on the Site. The plume to the east (former Selecto Flash property) consists mainly of the products for TCE dichlorination and the plume to the east of the former Selecto Flash property (Fregan's Auto and Harvard Press) contains a higher molar fraction of TCE than

found at the Site and the Selecto Flash property. A large PCE/TCE excavation was completed at the Harvard Press property in 2017. After the completion of the remedial investigation and remedial action for the Site soils, monitoring of the groundwater will be completed in support of Monitored Natural Attenuation (MNA) as a remedial action for residual impacts related to the Site contribution.

4.0 MATRIX PRELIMINARY ASSESSMENT AND SITE INVESTIGATION REPORT 2020

The Township of West Orange received funding under NJDEP's Site Remediation Program HDSRF grant program to complete a comprehensive PA and SI for Block 9, Lot 32. The PA/SIR was submitted to NJDEP in April 2020 and identified 17 AOCs on the Site (see Figure 3 for additional details). These AOCs include:

- AOC-1: Former 4,000-gallon PCE AST;
- AOC-2: Former Heating Oil UST;
- AOC-3: Floor and Trench Drains;
- AOC-4: Roof Leaders;
- AOC- 5: Sump Pit;
- AOC-6: NJDEP Case Numbers;
 - AOC-6A: NJDEP Case No. 15-06-01-1229-00;
 - AOC-6B: NJDEP Case No. 15-11-02-1406-01;
 - AOC-6C: NJDEP Case No. 17-04-20-1128-26;
- AOC-7: Former Incinerator;
- AOC-8: Historic Fill;
- AOC-9: Loading or Transfer Area (Bay Doors);
- AOC-10: Boiler Room;
- AOC-11: Hazardous Material Storage;
- AOC-12: Pole-Mounted Transformers;
- AOC-13: In-Ground Bin;
- AOC-14: Drum Storage Area;
- AOC-15: Former Operations;
- AOC-16: Groundwater Contamination; and
- AOC-17: Vapor Intrusion.

The SIR documented the investigation of the following seven AOCs on-Site between October 2019 and March 2020:

- AOC-1: Former 4,000-gallon PCE AST;
- AOC-2: Former Heating Oil UST;
- AOC-3: Floor and Trench Drains;
- AOC-7: Former Incinerator;
- AOC-13: In-Ground Bin;

AOC-16: Groundwater Contamination; and
AOC-17: Vapor Intrusion.

As a result of the SI activities, NFI was recommended for AOC-2: Former Heating Oil UST, AOC-7: Former Incinerator, and AOC-13: In-Ground Bin. NFI was also recommended for the metals and PAH exceedances, attributed to AOC-8: HFM. These compounds were identified in soils across the Site and will be addressed during redevelopment of the Site through the implementation of engineering and institutional controls.

Based on the previous activities completed at the Site, Matrix is recommending additional investigation to delineate CVOC soil impacts, CVOC groundwater impacts, and to determine if any additional AOCs are impacting the soils or groundwater beneath the Site. Further investigation is recommended for the following AOCs:

AOC-1: Former 4,000-gallon PCE AST;
AOC-3: Floor and Trench Drains;
AOC-6C: NJDEP Case No. 17-04-20-1128-26;
AOC-10: Boiler Room;
AOC-11: Hazardous Material Storage;
AOC-15: Former Operations;
AOC-16: Groundwater Contamination; and
AOC-17: Vapor Intrusion.

4.1 Order of Magnitude Analysis

In accordance with NJDEP's Order of Magnitude Guidance (August 2010) and Phase-In Period Guidance for Use of Remediation Standards (Version 1.1 May 2010), the person responsible for conducting the remediation may remediate a site to the Soil Cleanup Criteria (SCC) that were in effect prior to June 2, 2008 when:

- The remediating party has submitted a remedial action workplan or a remedial action report before December 2, 2008 that establish the SCCs as the standards for the site;
- The remedial action workplan or a remedial action report is in compliance with the Technical Rules, N.J.A.C. 7:26E-6; and
- The SCC for the site is not greater by an order of magnitude or more, than the soil remediation standards adopted by N.J.A.C. 7:26D.

There are no previously closed remedial activities associated with the Site, and no final remediation documents have been filed or issued. All sample results will be compared to current standards for the purpose of evaluating protectiveness of human health and the environment.

5.0 REMEDIAL INVESTIGATION WORKPLAN

The following section presents a technical overview of investigation activities that will be performed by Matrix at the Site during the Remedial Investigation activities. Soil and groundwater samples will be collected in general accordance with NJDEP's TRSR N.J.A.C. 7:26E, NJDEP's FSPM, and any other applicable NJDEP Guidance Documents. In addition, all sampling will be performed in accordance with a site-specific Quality Assurance Project Plan (QAPP). The site-specific QAPP is included as Appendix A. The following is a summary of the proposed remedial investigation activities proposed for the Site.

5.1 Investigation Objective

The objective of the RI will be to delineate soil and groundwater impacts, to update the CSM, and define the Biddelman contribution to the regional wide groundwater plume.

5.2 Applicable Remediation Standards

The applicable remediation standards for soil at this Site are the NJDEP's November 2013 Default Impact to Groundwater Soil Screening Levels (DIGWSSLs) for the unsaturated soils beneath the Site; and the more stringent of the NJDEP's September 2018 Residential Direct Contact Soil Remediation Standards (RDCSRS) and the NJDEP's September 2018 Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) for saturated soils beneath the Site. Extractable Petroleum Hydrocarbons (EPH) soil analytical results will be compared to the NJDEP's EPH Soil Remediation Criterion (SRC) and Product Determination Criterion. The applicable remediation standards for groundwater beneath the Site are the NJDEP's Groundwater Quality Standards (GWQS), N.J.A.C. 7:9C (last revised July 2007) and the NJDEP's Interim Groundwater Criteria (GWC), N.J.A.C. 7:9C (February 2008 [last revised November 2015]). Groundwater beneath the Site will also be compared to the NJDEP's Vapor Intrusion Groundwater Screening Levels (VIGWSL), Vapor Intrusion Technical Guidance (version 4.1, January 2018). The applicable remediation standards for sub-slab soil gas (SSSG) samples are the NJDEP's Residential Soil Gas Screening Levels (RSGSL) and NJDEP's Non-Residential Soil Gas Screening Levels (NRSGSL), Vapor Intrusion Technical Guidance (version 4.1, January 2018). The applicable remediation standards for indoor air (IA) samples are the NJDEP's Residential Indoor Air Screening Levels (RIASL), NJDEP's Non-Residential Indoor Air Screening Levels (NRIASL), NJDEP's Residential Rapid Action Levels (RRAL) and the NJDEP's Non-Residential Rapid Action Levels (NRRAL), Vapor Intrusion Technical Guidance (version 4.1, January 2018). As part of the RI, the soil texture analysis that was completed during the SI activities will be used in the SESOIL Model to develop a Site-Specific Impact to Groundwater Soil remediation Standards (SSIGWSRS) for key Contaminants of Concern (COCs).

5.3 Sampling Procedures

The RI activities will be performed in accordance with the NJDEP's TRSR and FSPM and the applicable NJDEP guidance documents including the *Technical Guidance for Site Investigation of Soil, Remedial Investigation of Soil, and Remedial Action Verification Sampling of Soil* (March 2015), the *Groundwater Technical Guidance: Site Investigation, Remedial Investigation, Remedial Action Performance Monitoring* (April 3, 2012), *Vapor Intrusion Technical Guidance* (January 2018), and any other applicable NJDEP guidance documents.

5.4 Subcontractors

The following are subcontractors that will be used during the RI phase of work and their contact information:

Company	Name/Contact Information	Purpose
Environmental Field Service 2 Knoll Lane Marlton, New Jersey 08053	Tom Wysocki (609) 265-1202	Drilling – Soil Borings
Hawk Drilling 221 Van Syckel's Road Hampton, New Jersey 08827	John Charles (908) 323-2187	Drilling – Monitoring Well Installation
Environmental Probing Investigations, Inc. (EPI) 833 Monmouth Road, Suite 1 Cream Ridge, New Jersey 08514	Brian Kokot (609) 758-9000	Drilling – Hydropunch Borings, Monitoring Well Installation
Pine Environmental Services, Inc. 92 North Main Street, Building 20 Windsor, New Jersey 08561	Sonya Garcia (800) 301-9663	Field equipment
SGS Accutest Laboratories, Inc. 2235 US-130 Dayton, New Jersey NJ Certification No. 12129	Tammy McCloskey (732) 329-0200	Laboratory analytical services
Blue World Construction 26 Columbia Turnpike Suite 104 Florham Park, New Jersey 07932	Pat Honeywell (973) 585-9032	Excavation - Test Pits

5.5 Reliability of the Laboratory Analytical Data

All samples will be received by SGS-Accutest within the prescribed field holding times, will be intact, and properly preserved. SGS-Accutest will analyze all samples within the recommended method holding times, each analysis method met quality control requirements, and method blanks met method specific requirements.

5.6 Areas of Concern for Remedial Investigation

Further investigations are recommended for the following AOCs:

- AOC-1: Former 4,000-gallon PCE AST;
- AOC-3: Floor and Trench Drains;
- AOC-6C: NJDEP Case No. 17-04-20-1128-26;
- AOC-10: Boiler Room;
- AOC-11: Hazardous Material Storage;
- AOC-15: Former Operations;
- AOC-16: Groundwater Contamination; and
- AOC-17: Vapor Intrusion.

All soil borings will be advanced by a New Jersey Licensed driller using the Geoprobe “direct push” method under the direction of Matrix. Soil cores will be collected in five-foot intervals with dedicated acetate sleeves. Prior to initiating the RI activities, New Jersey One Call will be notified by the New Jersey Licensed driller. Upon retrieval of soil cores, subsurface materials will be visually inspected, screened with a photo-ionization detector (PID) [MiniRae parts per billion (ppb) meter] for organic vapors and logged for material content and lithology. The soil borings will be advanced to approximately ten to 20 ft bgs. Soil samples will be collected at the discrete six-inch interval that displays the greatest likelihood of contamination based on field measurements and/or other evidence of contamination (i.e. staining, odor, elevated PID readings, etc.). The RI will include the installation of up to 25 soil borings with multiple samples being collected from several borings (maximum 40 of samples). In addition, up to 6 concrete samples will be collected as part of RI activities. The proposed soil boring locations are illustrated on Figure 6. A sample inventory is included as Table 1. Sample analysis for each AOC will be described below. All samples will be submitted to SGS Accutest, a NJ accredited laboratory on a normal turnaround time.

5.6.1 AOC-1 – Former 4,000-gallon PCE AST; AOC-6C – NJDEP Case No. 17-04-20-1128-26; and AOC-15 – Former Operations

Based on historic sampling events, PCE and TCE were identified above the NJDEP's DIGWSSL, RDCSRS, and/or NRDCSRS. As part of the SI, Matrix collected twenty-one soil samples to determine the horizontal and vertical extent of the CVOC impacts associated with these AOCs. Based on the analytical results of soils, PCE was identified with concentrations above NJDEP's RDCSRS and PCE and TCE were identified with concentrations above NJDEP's DIGWSSL. The PCE impacts identified above the NJDEP's RDCSRS were vertically and horizontally delineated with the exception of soil sample TP-7, which contained PCE at 102 mg/kg at 7.0 ft bgs. Elsewhere, (SS-12B) vertical delineation was achieved at a depth from 13.5-14 ft bgs, in the saturated zone. Due to the exceedance of the NJDEP's RDCSRS for PCE as well as the exceedances of the NJDEP's DIGWSSL for PCE and TCE, additional investigations are warranted to complete the delineation of impacted soils associated with AOC-1, AOC-6C, and AOC-15.

The RI activities will include up to 15 soil borings advanced to approximately 10-20 ft bgs and the collection of up to 30 soil samples. Soil samples will be collected at the discrete six-inch interval where impacts were observed in a neighboring sample and, if different, the six-inch interval that displays the greatest likelihood of contamination based on field measurements and/or other evidence of contamination (i.e. staining, odor, elevated PID reading, etc.). Samples will be analyzed for Target Compound List (TCL) volatile organic compounds (VOCs+15). The soil texture analysis completed in March 2020 will be used in developing a SSIGWSRS for PCE, TCE, cis-1,2-DCE, and methylene chloride. Use of the SESOIL Model will be in accordance with the NJDEP December 2008 Guidance Document "Using the SESOIL Transport Model to Assess the Impact to Groundwater Pathway"

5.6.2 AOC-3 – Floor and Trench Drain Discharge

As part of the SI, soil sample SB-2 was collected immediately adjacent to the former soil boring, FD-1 to confirm the analytical results of the 1987 soil sample. Based on the analytical results, no constituents were identified with concentrations above the NJDEP's DIGWSSL, RDCSRS, or NRDCSRS. Therefore, no additional investigation or remediation is recommended for this location, however; additional investigation and sampling is warranted for the floor and trench drains that are not associated with this discharge point.

The RI activities will include the inspection of the floor and trench drains to determine discharge points. Matrix will provide oversight during the inspection of the floor and trench drains and all associated piping,

which will be conducted by an experienced and qualified sub-contractor. The system will be video inspected, or dye tested to determine discharge point, as appropriate. The video inspection will utilize a remote-controlled pan, zoom, and tilt camera on a closed-circuit television with a computer analysis. Matrix will have the inspection recorded.

If the discharge point of the floor drains is determined to be different than the one already sampled (FD-1/SB-2), then additional soil samples will be collected. Up to ten soil samples will be collected from the discrete six-inch interval below the floor or trench drain invert, the associated piping invert, or the discharge point. The collection of the soil samples will be completed in one mobilization of a direct push rig. The soil borings will be advanced to approximately 5 to 10 ft bgs. The samples will be analyzed for extractable petroleum hydrocarbon (EPH) category 2 and target compound list/ target analyte list plus a forward library search (TCL/TAL+30).

5.6.3 AOC-10 – Boiler Room

During the SI activities, this AOC was not investigated. The RI activities will include the sampling of the concrete floor in the boiler room to determine if there are any potential impacts to the Site associated with this AOC. All concrete sampling will be collected in accordance with the NJDEP TRSR, the FSPM, and NJDEP Guidance for Characterization of Concrete and Clean Material Certification for Recycling (Updated January 12, 2010) (Concrete Guidance). Up to two concrete samples will be collected from the building slab in the boiler room. All concrete samples will be collected from the existing building slab biased to any evidence of staining, not to exceed 1-inch in depth. If additional concrete is needed for the sample, additional samples will be co-located at the sampling point. All concrete samples will be collected as discrete samples and not composited. The concrete samples will be analyzed for TCL/TAL+30 and EPH Category 2.

5.6.4 AOC-11 – Hazardous Material Storage

During the SI activities, this AOC was not investigated. The RI activities will include the sampling of the concrete floor throughout the building to determine any potential impacts to the Site associated with this AOC. All concrete sampling will be collected in accordance with the NJDEP TRSR, the FSPM, and NJDEP Concrete Guidance. Up to four concrete samples will be collected from the building slab. All concrete samples will be collected from the existing building slab biased to any evidence of staining, not to exceed 1-inch in depth. If additional concrete is needed for the sample, additional samples will be co-located at the sampling point. All concrete samples will be collected as discrete samples and not composited. The concrete samples will be analyzed for TCL/TAL+30 and EPH Category 2.

5.6.5 AOC-16 - Groundwater

Based on the groundwater sampling activities to date, CVOCs, specifically PCE and TCE were identified at concentrations above the NJDEP's GWQS. As part of the SI, data regarding comingled plumes was compiled and an evaluation of the molar fractions of PCE, TCE, ci-1,2DCE, and VC was completed for the Site and the surrounding properties associated with the Orange Valley Regional Groundwater Contamination Site (CERCLIS ID No. NJD002148799). The deeper groundwater contamination in the area consists mainly of PCE with low levels of products of dichlorination which is similar to the groundwater on the Biddelman Site. The (shallow) groundwater plume to the east (former Selecto Flash property) consists mainly of TCE dichlorination biproducts, and the plume to the east of the former Selecto Flash property (Fregan's Auto and Harvard Press) contains a higher molar fraction of TCE than found at the Selecto Flash property or Biddelman Site. The horizontal extent to the south and vertical extent of the groundwater plume is unknown. Additional data is to be collected as part of the RI to further define the various plumes and revise the CSM. A CEA for groundwater will be also be established during the RI phase.

In an effort to complete horizontal and vertical delineation of the Biddelman's groundwater contamination, Matrix will oversee the installation of up to six hydropunch borings. The hydropunch borings will be installed to refusal/bedrock and up to four grab groundwater samples will be collected at the following intervals from each hydropunch boring:

- 20-24 ft bgs;
- 30-34 ft bgs;
- 40-44 ft bgs; and
- top of rock.

The groundwater samples will be analyzed for TCL VOCs+15. Up to 24 grab groundwater samples will be collected. For QA/QC purposes, one duplicate sample and up to two field blanks will be collected and analyzed for TCL VOCs+15. One trip blank sample will be collected for TCL VOCs+15 analysis. The proposed hydropunch boring locations are illustrated on Figure 7. Hydropunch sample results will be evaluated to determine the screened intervals and location of the permanent monitoring wells. Based on the results from the hydropunch boring activities, Matrix will oversee the installation of up to two shallow overburden monitoring wells and five deep overburden monitoring wells.

Matrix will request access from the Township of West Orange for any hydropunch borings and monitoring wells that will be installed off-site within the rights-of-way. Prior to mobilizing to the Site, New Jersey one Call will be notified and traffic control through the Township of West Orange Police Department will be arranged, if required. All drilling activities will be completed by a New Jersey Licensed well driller under the observation of Matrix. Prior to drilling activities, each location will be utility cleared utilizing an “air knifing” technique. The proposed shallow overburden wells will be constructed of 2-inch diameter PVC with approximately 10 to 15 ft of 0.020 slot PVC screened across the water table from approximately 10 to 20-25 ft bgs. The proposed deep overburden wells will be constructed of 2-inch diameter PVC with approximately 5 ft of 0.020 slot PVC on top of rock (approximately 45-50 ft bgs). At grade level, monitoring wells will be completed with a protective steel-cased flushmount cover and locking cap.

Following the monitoring well installation, these monitoring wells will be subsequently developed using a submersible pump until the groundwater discharging from the monitoring well becomes clear. The soil cuttings and well development water that will be generated during the monitoring well installation activities will be stored in 55-gallon drums and staged at the Site. The monitoring wells will be surveyed by a New Jersey licensed surveyor to the nearest 0.01 foot. Approximately two weeks following the monitoring well installation, Matrix will collect groundwater samples for TCL VOCs+15 on a standard two-week turnaround time.

In addition to the installation of the new monitoring wells, all on-site monitoring wells and off-site monitoring wells will be gauged and three additional rounds of groundwater sampling will be completed. The groundwater samples will be collected from the on-site and off-site monitoring wells (up to 24 wells per sampling event) via low flow sampling technique. During purging, field measurements including depth to groundwater, dissolved oxygen content, turbidity, pH, temperature, conductivity, and ORP will be collected from all monitoring wells. The groundwater samples will be analyzed for TCL VOCs+15. For QA/QC purposes, one duplicate sample and up to four field blanks will be collected and analyzed for TCL VOCs+15, per groundwater sampling event. One trip blank sample will be collected for TCL VOCs+15 analysis, per groundwater sampling event. The additional rounds of groundwater sampling and analysis will allow for better development of the CSM and the position and magnitude of the subject Site groundwater plume in relation to the various comingled CVOC plumes associated with the Site and the Orange Valley Groundwater Superfund Site. This data will help determine the most appropriate remedial action for the groundwater.

5.6.6 AOC-17 - Vapor Intrusion Remedial Investigation

Based on the results of the 2019 groundwater sampling, vapor intrusion sampling is required at occupied structures within 100 feet of the CVOC contamination above the NJDEP's vapor intrusion groundwater screening levels (VIGWSL). As the subject Site and adjacent Selecto Flash site are currently vacant, no vapor intrusion investigations are proposed for these properties.

Currently, monitoring wells MW-1, MW-12, and MW-13 contain exceedances of the NJDEP's VIGWSL for PCE or TCE. There are currently four occupied residential properties and two commercial properties within 100 feet of the contaminated groundwater plume and a VI investigation is recommended for these adjacent structures in accordance with applicable regulations and guidance. The HDSRF Grant for the SI activities only included the sampling for one property, therefore, Matrix sampled the property closest to the Biddelman Site. Vapor intrusion sampling was conducted at 2 Central Avenue and based on the analytical results there is no complete pathway for vapor instruction at 2 Central Avenue. Therefore, no additional vapor intrusion testing or mitigation is required at this time at 2 Central Avenue. During the RI activities, Matrix will complete vapor intrusion sampling at the following properties (for more details, see Figure 8):

1. Residential – 532 Valley Road West Orange, New Jersey (Block 9, Lot 23)
2. Residential – 530 Valley Road West Orange, New Jersey (Block 9, Lot 25)
3. Residential – 528 Valley Road West Orange, New Jersey (Block 9, Lot 26)
4. Residential – 526 Valley Road West Orange, New Jersey (Block 9, Lot 27)
5. Commercial – 5 Central Avenue West Orange, New Jersey (Block 10, Lot 1.01)

Before sampling, Matrix will complete an access agreement with the property owner. Matrix will also conduct a building survey and complete the applicable sections of the NJDEP Building Survey and Sampling Form. Components of the building survey include the identification of potential background sources of volatile compounds, assessment of the building construction, recognition of points of potential vapor intrusion into a building, and identification of possible sample locations with the property owner.

As part of the sampling activities, SSSG, IA, and ambient air (AA) samples will be collected. According to Table 3-2 of the NJDEP VITG, two to three SSSG samples will be collected in the structure on each property. As per Table 3-3 of the NJDEP VITG, two IA will need be collected in the structure on each property. These sample locations will be chosen to be biased towards locations with penetrations through the slab. One sample per property will also be taken of the AA.

Six-Liter stainless-steel SUMMA® vacuum canisters and 24-hour laboratory-supplied flow controllers will be used for the IA sample collection. Matrix will conduct indoor air testing by placing one vacuum sample canister in each space identified. The sample canisters will be labeled as “Air Sampling in Progress – Do Not Disturb” and are set up in the selected spaces. In accordance with Section 3.5 of the VITG, the canisters are allowed to aspirate an air sample, undisturbed, over a 24-hour period. No drilling or specialized equipment, other than the vacuum canisters, are required for the IA sampling. The IA and AA samples will be analyzed for VOCs will be performed using USEPA Compendium Method TO-15 for VOCs using a gas chromatograph and mass spectrophotometer to determine both the identity and concentration of contaminants present in the air collected within in the Summa® gas collection canister. To minimize influencing the IA concentrations from the SSSG samples, the SSSG samples will be collected following the collection of the 24-hour IA sample. When the IA samples are picked up, the SSSG will be taken, and the SSSG and IA samples will both be shipped to the laboratory for analysis. However, only the SSSG samples will be initially analyzed. The IA samples are analyzed only if the SSSG results suggest that further investigation is warranted (COC exceeding the SGSL). SSSG samples will be collected as per Section 3.3 of the NJDEP VITG. One-Liter stainless-steel SUMMA® vacuum canisters and 5-minute laboratory-supplied flow controllers will be used for the SSSG sample collection with a sample flow rate no more than 200 milliliters per minute (sample time of 5-minutes for one-liter canisters). The SSSG samples will be collected from tubing inserted into a ½-inch diameter sample point created with a hammer drill bit. A tracer test and leak test will be performed with helium gas before the collection of the samples. The SSSG samples will be analyzed for VOCs will be performed using USEPA Compendium Method TO-15 for VOCs using a gas chromatograph and mass spectrophotometer to determine both the identity and concentration of contaminants present in the air collected within in the Summa® gas collection canister. The ½-inch diameter sample points will be repaired with hydraulic cement and/or grout.

5.7 Site Health and Safety Plan

All remedial investigation activities will be conducted in accordance with a site-specific HASP that complies with all requirements of 29 CFR 1910.120 and other applicable OSHA requirements. The HASP will represent requirements for air monitoring, decontamination, personal protective equipment (PPE) and other applicable health and safety requirements. A site-specific HASP for the remedial actions has been developed and is included as Appendix B.

5.8 Quality Assurance Project Plan

All remedial investigation activities will be conducted in accordance the NJDEP TRSR, FSPM, and applicable NJDEP Guidance Documents. All samples collected during the remedial investigation activities will be submitted to New Jersey certified laboratory under chain-of-custody procedures. A site-specific QAPP including Data of Known Quality requirements for the remedial investigation has been developed and is included as Appendix A. If needed, the site-specific QAPP will be modified as the remedial investigation activities proceed.

5.9 Remedial Investigation Report and Remedial Action Workplan

The results will be reported as part of the Remedial Investigation Report (RIR). The report will be prepared in accordance with N.J.A.C. 7:26E-4.8. the RIR will discuss the results of the sampling and will include the following:

- Results of all analyses, copies of laboratory data sheets and conversion of the laboratory deliverable to the required electronic data deliverables pursuant to N.J.A.C. 7:26E-2.1;
- A summary table of analytical methods and quality assurance indicators pursuant to N.J.A.C. 7:26E-2.2;
- Sample summary tables of all analyses, including sample location, media, sample depth and field and lab identification numbers pursuant to N.J.A.C. 7:26E-3.13(c)3. The summary tables will identify contaminant concentrations exceeding to applicable remediation standards, samples with elevated reporting limits (RLs) exceeding their applicable remediation standards will be identified and explained, and the remaining requirements pursuant to N.J.A.C. 7:26E-3.13(c)3 will be met;
- Field data from each sampling point, including field instrument readings for each sample will be generated and presented in the summary report;
- Figures will be prepared indicating the results of all sampling events. Figures will identify contaminant exceedances above their respective remedial standard by contaminant and depth;
- A QAPP prepared pursuant to N.J.A.C. 7:26E-2.2; and
- Submit a completed case inventory document worksheet and other NJDEP required forms.

Following the completion of the RI, and evaluation of remedial options, Matrix will prepare a Remedial Action Workplan (RAW) for approval to the NJDEP pursuant to N.J.A.C. 7:26E-5.5. the purpose of the RAW will select a remedial action(s) that will be protective of human health and the environment in compliance with applicable regulations and guidance.

5.10 Regulatory Timeframe

No regulatory deadlines are currently established for the submission of the RIR or RAW in accordance with N.J.A.C 7:26E 4.10(d) as the Site is owned by the Township of West Orange and is exempt as a local government agency.

Tables

Table 1
Proposed Sampling Summary Table
Proposed Remedial Investigation
Former Biddelman, Inc.
4-10 Central Avenue West Orange, Essex County, New Jersey
SRP PI No. G000006148

LOCATION	MATRIX	SAMPLE DEPTH	ANALYTICAL PARAMETERS	SAMPLING METHOD	Purpose
SOIL					
AOC-1 - Former PCE AST, AOC-6C - NJDEP Case No. 17-04-20-1128-26, and AOC-15 - Former Operations					
SB-25	Soil	8-8.5 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Vertical Delineation of TP-7
		9-9.5 ft bgs			
		10-10.5 ft bgs			
SB-26	Soil	6.5-7 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Horizontal Delineation of TP-7
SB-27	Soil	6.5-7 ft bgs	TCL VOCs+15	EnCore/ Scoopula	
SB-28	Soil	6.5-7 ft bgs	TCL VOCs+15	EnCore/ Scoopula	
SB-29	Soil	8-8.5 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Vertical Delineation of S12
		9-9.5 ft bgs			
		10-10.5 ft bgs			
SB-30	Soil	9-9.5 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Shallow up Vertical Delineation at SB-13 for IGWSSL
		10-10.5 ft bgs			
SB-31	Soil	7-7.5 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Horizontal Delineation of SB-13 for IGWSSL
SB-32	Soil	1.5-2 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Horizontal Delineation of TP-10 for IGWSSL
		6.5-7 ft bgs			
SB-33	Soil	7-7.5 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Horizontal Delineation of SB-7 for IGWSSL
SB-34	Soil	5.5-6 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Horizontal Delineation of SS10A
SB-35	Soil	7.5-8 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Shallow up Vertical Delineation at S10
		9.5-10 ft bgs			
SB-36	Soil	3.5-4 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Horizontal Delineation of SB-11/TP-1 for IGWSSL
		7-7.5 ft bgs			
		8-8.5 ft bgs			
SB-37	Soil	3.5-4 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Horizontal Delineation of SB-11/TP-1 for IGWSSL
		6.5-7 ft bgs			
		7-7.5 ft bgs			
SB-38	Soil	8.5-9 ft bgs	TCL VOCs+15	EnCore/ Scoopula	Vertical Delineation of SB-11
		10-10.5 ft bgs			
AOC-3 - Floor Drain Discharge					
SB-15	Soil	6-inch interval below the floor or trench drain, associated piping, or discharge point invert	EPH Cat 2, TCL/TAL+30	EnCore/ Scoopula	Determine any potential impacts to Site
SB-16					
SB-17					
SB-18					
SB-19					
SB-20					
SB-21					
SB-22					
SB-23					
SB-24					
AOC-10 - Boiler Room					
C-1	Concrete	Building Slab, 1-inch in depth	EPH Cat 2, TCL/TAL+30	EnCore/ Scoopula	Determine any potential impacts to Site
C-2					
AOC-11 - Hazardous Material Storage					
C-3	Concrete	Building Slab, 1-inch in depth	EPH Cat 2, TCL/TAL+30	EnCore/ Scoopula	Determine any potential impacts to Site
C-4					
C-5					
C-6					

Table 1
Proposed Sampling Summary Table
Proposed Remedial Investigation
Former Biddelman, Inc.
4-10 Central Avenue West Orange, Essex County, New Jersey
SRP PI No. G000006148

LOCATION	MATRIX	SAMPLE DEPTH	ANALYTICAL PARAMETERS	SAMPLING METHOD	Purpose
GROUNDWATER					
Hydropunch Borings					
HP-1	Groundwater	20-24 ft bgs	TCL VOCs+15	Grab Sample	Horizontal and Vertical Delineation Samples
		30-34 ft bgs			
		40-44 ft bgs			
		top of rock			
HP-2	Groundwater	20-24 ft bgs	TCL VOCs+15	Grab Sample	Horizontal and Vertical Delineation Samples
		30-34 ft bgs			
		40-44 ft bgs			
		top of rock			
HP-3	Groundwater	20-24 ft bgs	TCL VOCs+15	Grab Sample	Horizontal and Vertical Delineation Samples
		30-34 ft bgs			
		40-44 ft bgs			
		top of rock			
HP-4	Groundwater	20-24 ft bgs	TCL VOCs+15	Grab Sample	Horizontal and Vertical Delineation Samples
		30-34 ft bgs			
		40-44 ft bgs			
		top of rock			
HP-5	Groundwater	20-24 ft bgs	TCL VOCs+15	Grab Sample	Horizontal and Vertical Delineation Samples
		30-34 ft bgs			
		40-44 ft bgs			
		top of rock			
HP-6	Groundwater	20-24 ft bgs	TCL VOCs+15	Grab Sample	Horizontal and Vertical Delineation Samples
		30-34 ft bgs			
		40-44 ft bgs			
		top of rock			
3 Groundwater Sampling Events					
MW-1	Groundwater	bottom 5 ft of screen	TCL VOCs+15	Bladder Pump	Biddelman Wells, revisions to Conpetual Site Model, establish a CEA
MW-12					
MW-13					
New Shallow Well					
New Deep Well					
New Deep Well					
New Deep well					
New Deep well					
MW-1R					
MW-2					
MW-3R					
MW-4R					
MW-4D					
MW-5R					
MW-6					
MW-7					
MW-8R					
MW-9D					
MW-10					
MW-11					
MW-11D					
QA/QC					
Trip Blank	Aqueous	-	TCL VOCs+15	Lab	One sample per event
Field Blank	Aqueous	-	TCL VOCs+15	Field Blank	One sample per day per event

Table 1
Proposed Sampling Summary Table
Proposed Remedial Investigation
Former Biddelman, Inc.
4-10 Central Avenue West Orange, Essex County, New Jersey
SRP PI No. G000006148

LOCATION	MATRIX	SAMPLE DEPTH	ANALYTICAL PARAMETERS	SAMPLING METHOD	Purpose
VAPOR INTRUSION					
532 Valley Road (3180 square feet)					
SG-1	Sub Slab Soil Gas	-	TO-15	1-liter Summas	Vapor Intrusion sampling within 100 feet of CVOC Groundwater Plume
SG-2					
SG-3					
IA-1	Indoor Air	-	TO-15	6-liter Summas	
IA-1					
AA-1	Ambient Air	-	TO-15	6-liter Summas	
530 Valley Road (1690 square feet)					
SG-1	Sub Slab Soil Gas	-	TO-15	1-liter Summas	Vapor Intrusion sampling within 100 feet of CVOC Groundwater Plume
SG-2					
SG-3					
IA-1	Indoor Air	-	TO-15	6-liter Summas	
IA-1					
AA-1	Ambient Air	-	TO-15	6-liter Summas	
528 Valley Road (1710 square feet)					
SG-1	Sub Slab Soil Gas	-	TO-15	1-liter Summas	Vapor Intrusion sampling within 100 feet of CVOC Groundwater Plume
SG-2					
SG-3					
IA-1	Indoor Air	-	TO-15	6-liter Summas	
IA-1					
AA-1	Ambient Air	-	TO-15	6-liter Summas	
526 Valley Road (1892 square feet)					
SG-1	Sub Slab Soil Gas	-	TO-15	1-liter Summas	Vapor Intrusion sampling within 100 feet of CVOC Groundwater Plume
SG-2					
SG-3					
IA-1	Indoor Air	-	TO-15	6-liter Summas	
IA-1					
AA-1	Ambient Air	-	TO-15	6-liter Summas	
5 Central Avenue (2500 square feet)					
SG-1	Sub Slab Soil Gas	-	TO-15	1-liter Summas	Vapor Intrusion sampling within 100 feet of CVOC Groundwater Plume
SG-2					
SG-3					
IA-1	Indoor Air	-	TO-15	6-liter Summas	
IA-1					
AA-1	Ambient Air	-	TO-15	6-liter Summas	

Notes:

TCL = Target Compound List

VOC+15 = Volatile Organic Compounds

EPH, Cat 1 = Extractable Petroleum Hydrocarbons Category 1

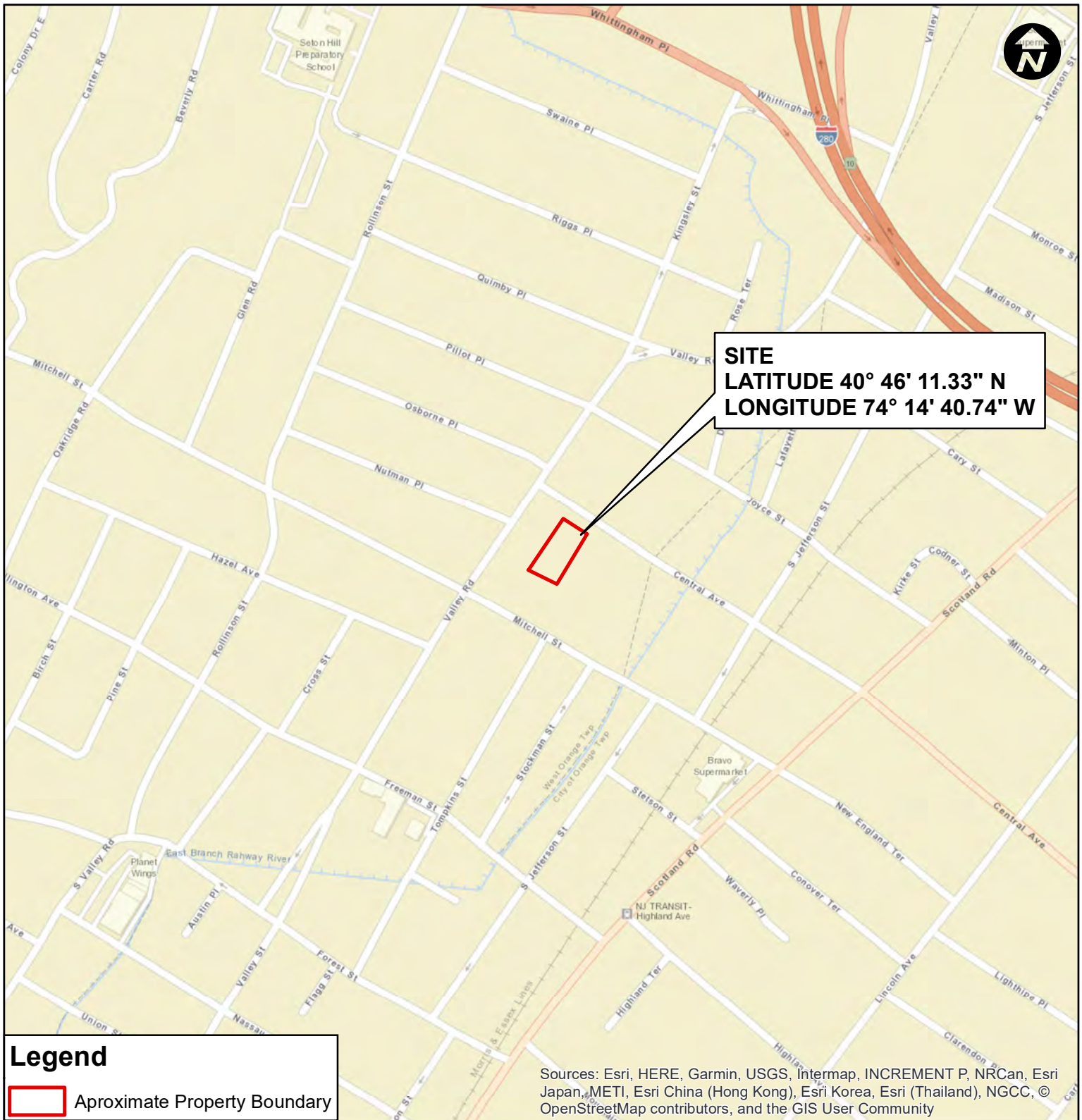
EPH, Cat 2 = Extractable Petroleum Hydrocarbons Category 2

TOC = Top of Casing

ft, bgs = Feet, Below Ground Surface

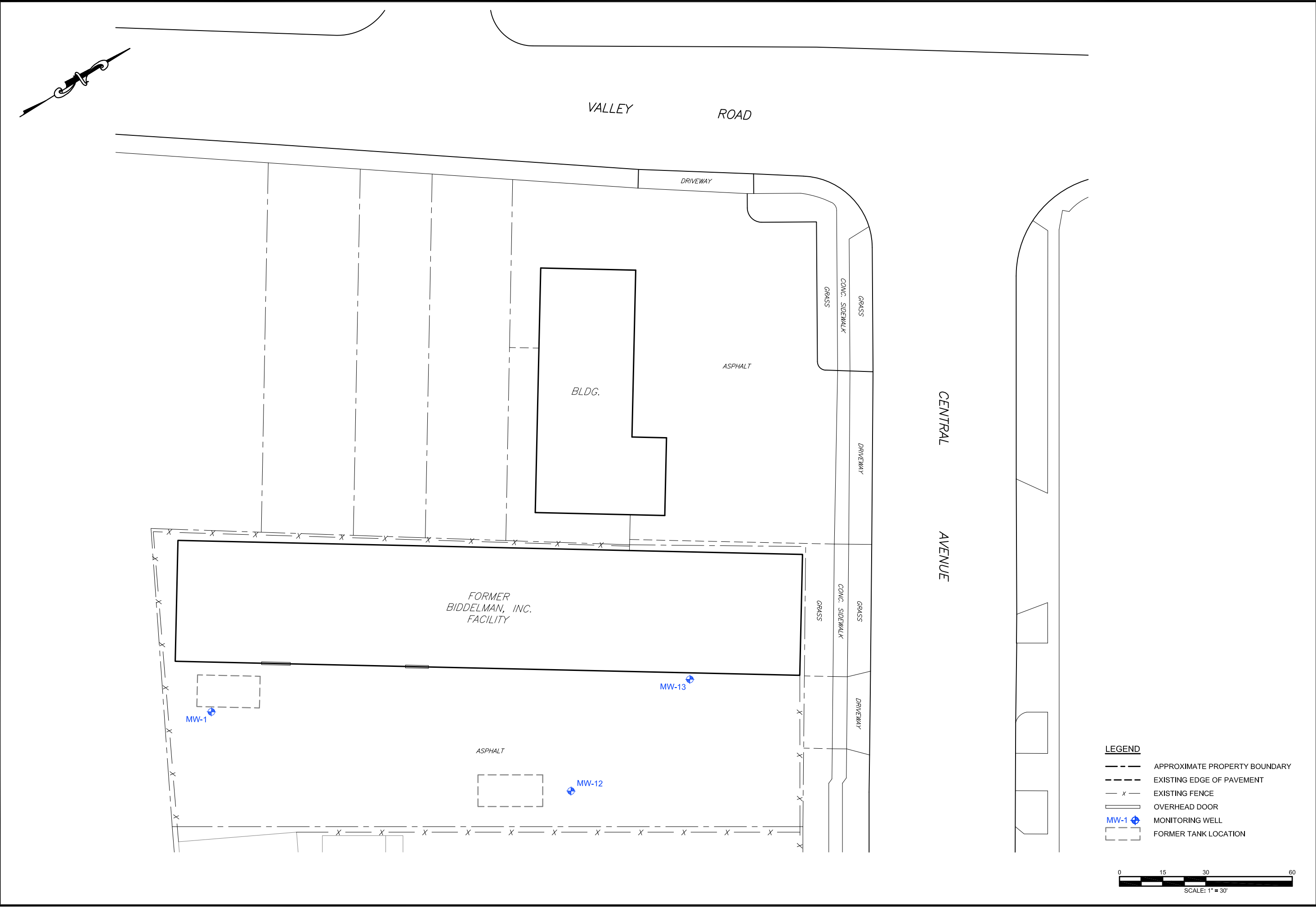
NA = Not Available

Figures

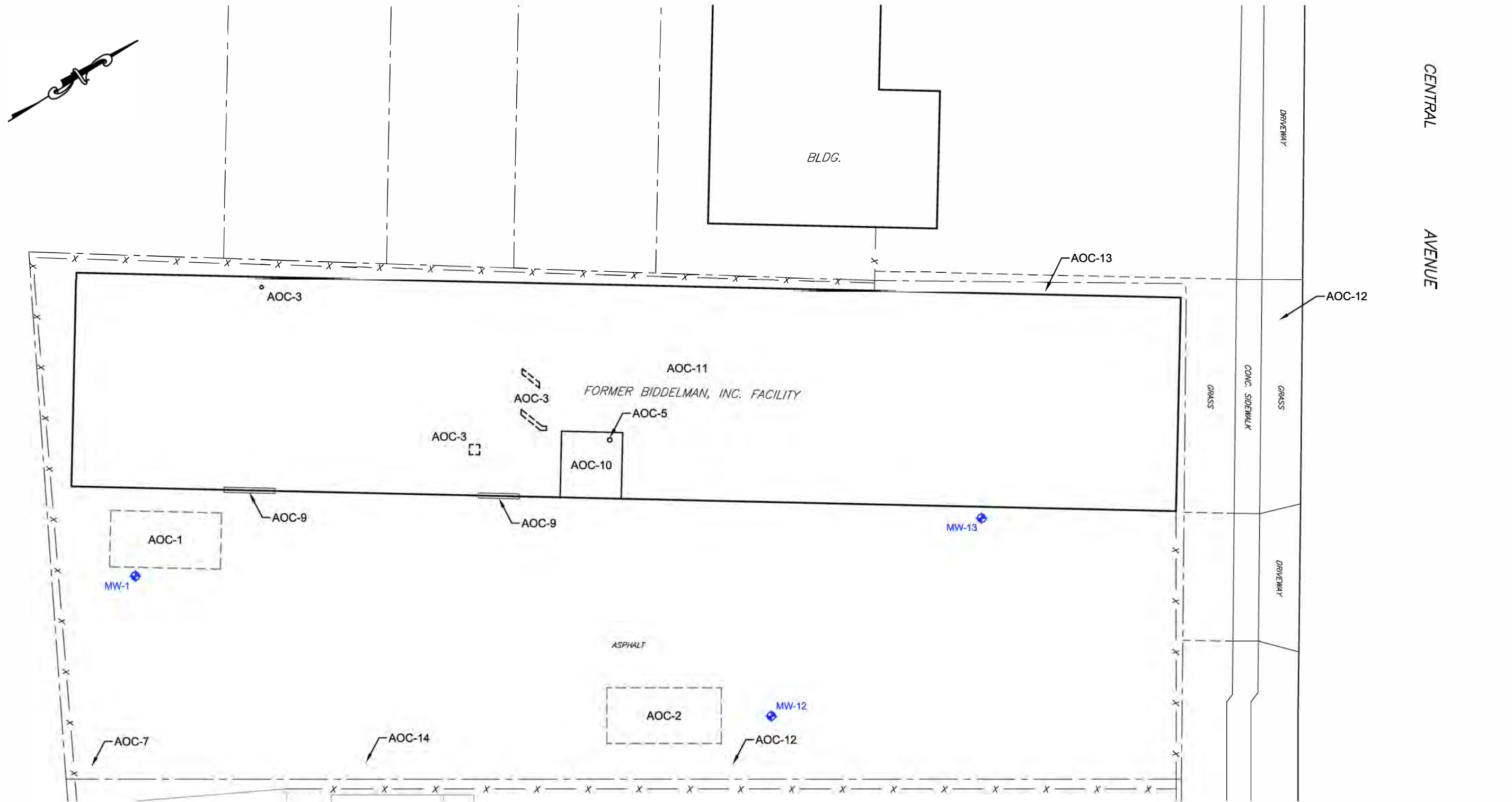


REGIONAL LOCATION MAP

MATRIXNEWWORLD Engineering Progress Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C., 26 Columbia Turnpike Florham Park, New Jersey 07932 WBE / DBE / SBE Tel: 973-240-1800 Fax: 973-240-1818 www.matrixnewworld.com		FORMER BIDDELMAN INC. 8-10 CENTRAL AVENUE BLOCK 9 LOT 32 WEST ORANGE, ESSEX COUNTY, NEW JERSEY NJDEP PI NO. G000006148		
SCALE:	DATE:	JOB NO.:	FILENAME:	FIGURE NO.:
1:16,564	OCTOBER 2019	18-286	regional.mxd	1

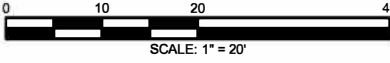
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© MATRIXNEWORLD.DWG:12018118-286 Biddelman - 8-10 Central Avenue/DWG:Plot Sheets118-286-AOC- Figure 5.dwg



Areas of Concern (AOCs)	
AOC-1	Former 4,000-gallon PCE AST
AOC-2	Former Heating Oil UST
AOC-3	Floor and Trench Drains
AOC-4	Roof Leaders (Building Wide)
AOC-5	Sump Pit
AOC-6A	NJDEP Case No. 15-06-01-1229-00 (Site Wide)
AOC-6B	NJDEP Case No. 15-11-02-1406-01 (Site Wide)
AOC-6C	NJDEP Case No. 17-04-20-1128-26 (Site Wide)
AOC-7	Former Incinerator
AOC-8	Historic Fill (Site Wide)
AOC-9	Loading or Transfer Areas
AOC-10	Boiler Room
AOC-11	Hazardous Material Storage
AOC-12	Pole-Mounted Transformers
AOC-13	In-Ground Bin
AOC-14	Drum Storage Area
AOC-15	Former Operations (Site Wide)

- LEGEND
- APPROXIMATE PROPERTY BOUNDARY
 - - - EXISTING EDGE OF PAVEMENT
 - x - EXISTING FENCE
 - OVERHEAD DOOR
 - MW-1 MONITORING WELL
 - AOC-1 AREA OF CONCERN
 - - - FORMER TANK LOCATION



DESIGNED BY:
AR

REVIEWED BY:
AM

RELEASED BY:
MR

NO.

DESCRIPTION

DATE:

BY:

APR:

REVISIONS

NO.

DESCRIPTION

DATE:

BY:

APR:

MATRIXNEWORLD

Engineering Progress

Matrix New World Engineering, Land Surveying
and Landscape Architecture, P.C.
26 Columbia Turnpike
Florham Park, New Jersey 07932
WBE / DBE
NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA27962300

Tel: 973-240- 800
Fax: 973-240- 818
www.matrixnewworld.com

AREAS OF CONCERN MAP

FORMER BIDDELMAN
8-10 CENTRAL AVENUE
BLOCK 9, LOT 32
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

PROJECT NUMBER: 18-286

SCALE: AS NOTED

DATE: 11-06-2019

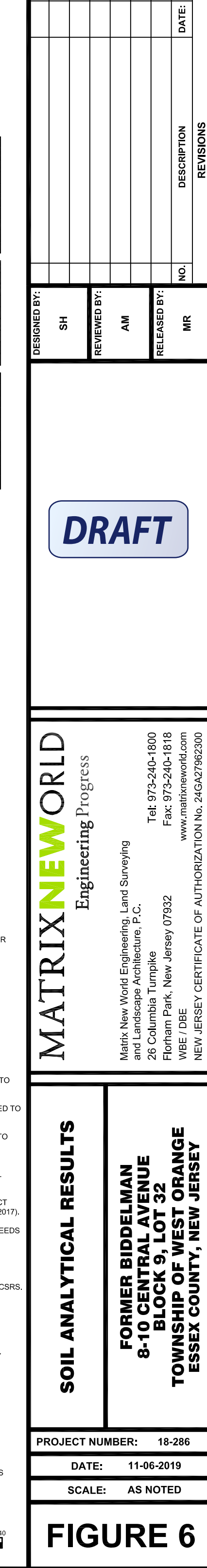
FIGURE 3

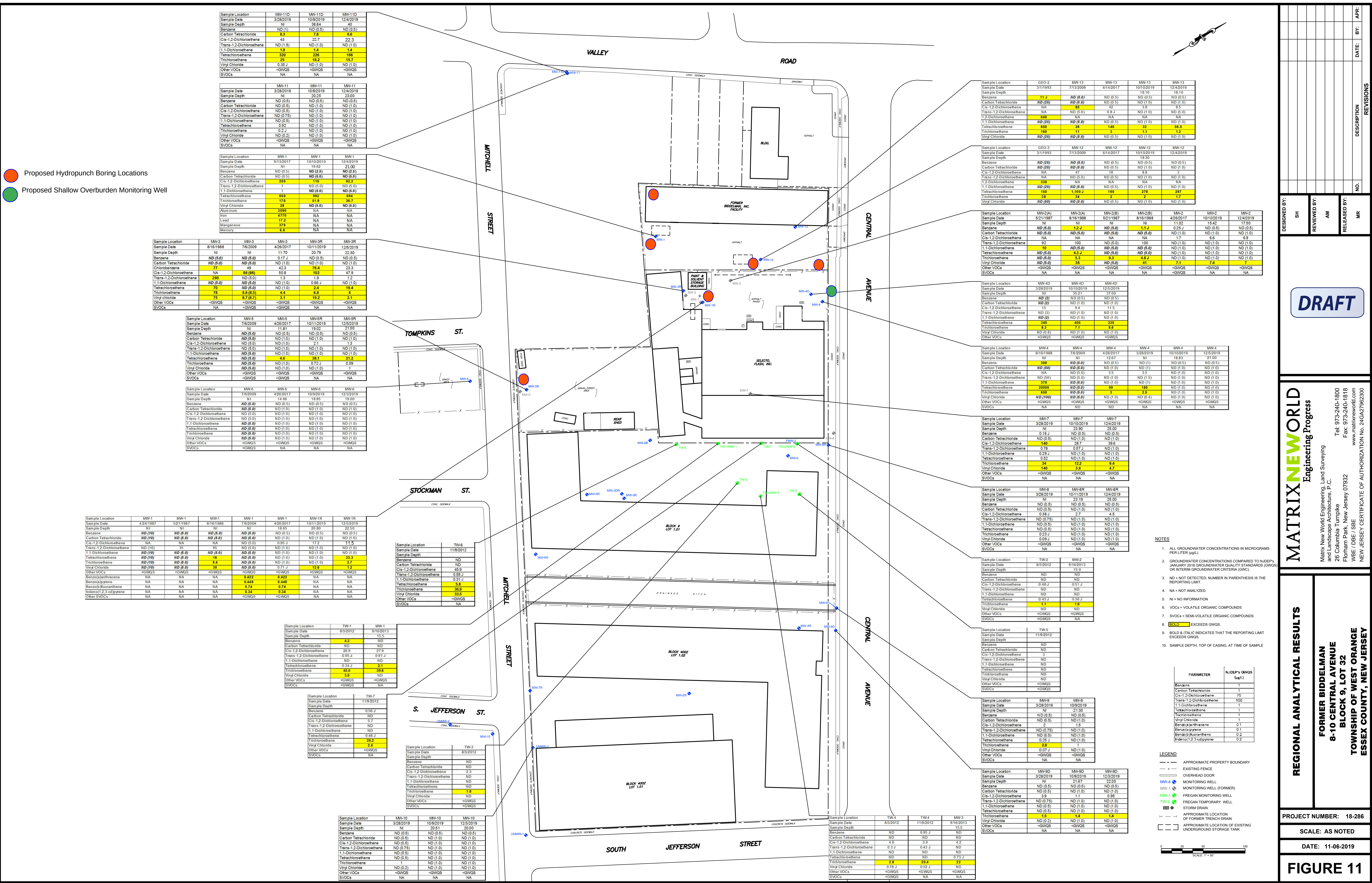
F:\2018\18-286 Biddleman - 8-10 Central Avenue\GIS\Figure 4 - NJDEP GIS MAP.mxd



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

DRAWN BY: AM		DATE: 10/6/2019		DESIGNED BY: AM		DATE: 10/6/2019		APPROVED BY: MR		DATE: 10/25/2019	
NO.:		DESCRIPTION		BY:		DATE:		APR:		REVISIONS	
MATRIXNEWORLD Engineering Progress Matrix New World Engineering, Land Surveying and Landscape Architecture, P.C. 26 Columbia Turnpike Florham Park, New Jersey 07932 WBE / DBE / SBE Tel: 973-240-1800 Fax: 973-240-1818 www.matrixnewworld.com											
FORMER BIDDELMAN INC. 8-10 CENTRAL AVENUE BLOCK 9 LOT 32 WEST ORANGE, ESSEX COUNTY, NEW JERSEY NJDEP PI NO. G000006148						NJDEP GIS MAP					
PROJECT NUMBER: 18-286											
SCALE: 1 inch = 378 feet											
FIGURE 4											





F:\2018\18-286 Biddleman - 8-10 Central Avenue\GIS\Figure 5-VaporIntrusion\Figure.mxd



ATTACHMENT 2
HDSRF COST ESTIMATE

HDSRF Supplement to Part 1 Section I - Itemized Cost Estimate
Former Biddleman Property
Block 9, Lot 32
West Orange, Essex County, NJ
Matrix New World Engineering



New Jersey Department of Environmental Protection
Site Remediation Program

HDSRF APPLICATION PART 1 - COST ESTIMATE - SECTION I

Activity	Rate	Unit	Quantity	Total
Task No. 1 - REMEDIAL INVESTIGATION				
Task No. 1A - Geoprobe/Drilling/Monitoring Well Installation				
Soil Borings	\$2,500.00	per day	3	\$7,500.00
Concrete corer/sampling	\$250.00	per day	1	\$250.00
MW Installation (unconsolidated)	\$2,900.00	each	2	\$5,800.00
MW Installation (deep)	\$4,800.00	each	5	\$24,000.00
Hydropunch borings	\$2,800.00	per day	3	\$8,400.00
Mob/Demob	\$500.00	each	6	\$3,000.00
Field Equipment	\$250.00	per day	15	\$3,750.00
Drums	\$80.00	each	28	\$2,240.00
Acetate Sleeves	\$10.00	each	150	\$1,500.00
GW Sampling Equipments	\$1,500.00	per event	4	\$6,000.00
Grout	\$1.44	foot	300	\$432.00
Video Inspection/cleaning of floor and trench drains	\$6,200.00	per day	1	\$6,200.00
Surveyor	\$3,220.00	per day	1	\$3,220.00
Task No.1A -Geoprobe/Drilling				\$72,292.00
Task No. Task No. 1B - Analysis (Lab Service)				
TCL VOC+15 (Soil)	\$140.00	per sample	30	\$4,200.00
EPH Category 2 (Soil)	\$130.00	per sample	10	\$1,300.00
TCL/TAL+30 (Soil)	\$580.00	per sample	10	\$5,800.00
EPH Category 2 (Concrete)	\$130.00	per sample	6	\$780.00
TCL/TAL+30 (Concrete)	\$580.00	per sample	6	\$3,480.00
TCL VOC+15 (Groundwater) - hydropunch borings	\$100.00	per sample	24	\$2,400.00
TCL VOC+15 (Groundwater) - 3 rounds	\$100.00	per sample	66	\$6,600.00
EDDs	\$20.00	per diskette	9	\$180.00
TCL VOC+15 - GW - Trip Blank/Field Blank	\$100.00	per sample	16	\$1,600.00
Task No. 1B - Analysis (Lab Service)				\$26,340.00
Task No. Task No. 1C - IDW Disposal				
TCLP/RCRA	\$1,265.00	per sample	1	\$1,265.00
Transportation	\$633.00	Assume a Single Mob	1	\$633.00
Disposal	\$113.00	Drums	28	\$3,164.00
Task No. 1C - IDW Disposal				\$5,062.00
Task No. 1D - Vapor Intrusion				
VO+TICs, naphthalene (TO-15) - soil gas (5 Properties)	\$271.00	per sample	15	\$4,065.00
VO+TICs, naphthalene (TO-15) - IA (5 properties)	\$271.00	per sample	10	\$2,710.00
VO+TICs, naphthalene (TO-15) - AA (5 properties)	\$271.00	per sample	5	\$1,355.00
Task No. 1D - Vapor Intrusion				\$8,130.00
Task No. 1E - Consulting/Remedial Investigation Reporting Costs				
Project Management (10% RI)	10%	Percent of RI costs		\$14,100.00
QAPP Update Preparation	\$125.00	hour	8	\$1,000.00
Field Sampling Plan/workplans	\$125.00	hour	10	\$1,250.00
HASP Update Preparation	\$100.00	hour	4	\$400.00
Update RE/CID	\$100.00	hour	24	\$2,400.00
EDDs	\$100.00	hour	9	\$900.00
SRRA Forms	\$125.00	hour	8	\$1,000.00
LSRP	\$158.00	hour	32	\$5,056.00

HDSRF Supplement to Part 1 Section I - Itemized Cost Estimate
Former Biddleman Property
Block 9, Lot 32
West Orange, Essex County, NJ
Matrix New World Engineering



New Jersey Department of Environmental Protection
Site Remediation Program

HDSRF APPLICATION PART 1 - COST ESTIMATE - SECTION I

Activity	Rate	Unit	Quantity	Total
Field Activities	\$85.00	hour	144	\$12,240.00
SESOIL Data Management/evaluation	\$125.00	hour	16	\$2,000.00
Groundwater Data Evaluation	\$125.00	hour	12	\$1,500.00
CEA Preparation	\$125.00	hour	15	\$1,875.00
Report Preparation	\$100.00	hour	60	\$6,000.00
CAD	\$100.00	hour	25	\$2,500.00
Travel	\$125.00	per day	22	\$2,750.00
Task No. 1E - Consulting/Remedial Investigation Reporting Costs				\$54,971.00
Task No. 1F - Vapor Intrusion Reporting				
VI Building Survey & Indoor Air & Soil Gas Sampling (5 events)	\$100.00	hour	70	\$7,000.00
VI Evaluation & Reporting (5 events)	\$125.00	hour	60	\$7,500.00
VI Site Access Letters (5 events)	\$125.00	hour	20	\$2,500.00
VI EDDs (5 events)	\$100.00	hour	5	\$500.00
Data Validation (5 events)	\$125.00	hour	15	\$1,875.00
Task No. 1F- Vapor Intrusion Reporting				\$19,375.00
Task No. 1G - Remedial Action Workplan				
Report Preparation	\$100.00	hour	30	\$3,000.00
CADD	\$78.00	hour	20	\$1,560.00
LSRP	\$158.00	hour	12	\$1,896.00
Project Management	\$125.00	hour	12	\$1,500.00
SRRA Forms	\$125.00	hour	8	\$1,000.00
Task No. 1G - Remedial Action Workplan				\$8,956.00
RI/RAW SUBTOTAL				\$195,126.00

ATTACHMENT 3
TERMS AND CONDITIONS

TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES
Matrix New World Engineering, Land Surveying and Landscape Architecture, PC

Section 1: SERVICES

Matrix New World Engineering, Land Surveying and Landscape Architecture, PC (Matrix) agrees to perform the professional services (the "Services") as described in the Proposal incorporated herein by reference for the CLIENT on a best efforts, time and materials basis under the terms and conditions set forth below. Matrix reserves the right to amend the contents of the Proposal, if written authorization is not received within 90 days. These Terms and Conditions together with the Proposal constitute the agreement between Matrix and the CLIENT for the Services (the "Agreement").

Section 2: COMPENSATION

The CLIENT shall be responsible for all costs specifically enumerated in the proposal. For any costs set forth in the proposal as a range, Matrix shall provide CLIENT with an exact cost as soon as it can be estimated.

CLIENT shall also be responsible for any REIMBURSABLE COSTS not specifically set forth in the proposal. REIMBURSABLE COSTS include: out-of-pocket expenses, the cost of which shall be charged at actual cost plus an administrative charge of fifteen percent (15%) and shall be itemized and included in the invoice. Typical out-of-pocket expenses shall include, but not be limited to, travel expenses (lodging, meals, etc.), job-related mileage at the prevailing IRS mileage rate, long distance telephone calls, printing and reproduction costs, and survey supplies and materials.

Section 3: CLIENT'S OBLIGATIONS

To assist Matrix in performance of the Services, CLIENT shall provide Matrix with appropriate material, data and information in its possession pertaining to the specific project or activity.

The CLIENT will advise Matrix of the nature and extent of the hazardous waste at the site. If Matrix discovers after it undertakes the Services that the site is of a different nature of hazard as defined by the client, or if unanticipated hazards are presented, the CLIENT and Matrix agree that the scope of services, schedule and estimated budget fee shall be adjusted as needed to complete the work without injury or damage.

Section 4: INVOICE PROCEDURE AND PAYMENT

Matrix will submit invoices to the CLIENT monthly and a final bill upon completion of the Services. Payment is due thirty (30) days from invoice date. CLIENT agrees to pay a finance charge of one and one-half percent (1.5%) per month, or the maximum rate allowed by law on past due accounts. CLIENT will be liable for all court costs, disbursements, and attorney's fees incurred in the collection of any outstanding invoices.

Section 5: OWNERSHIP OF DOCUMENTS

All survey notes, drawings, bills of materials, specifications, blueprints, reports, calculations and all other material prepared in connection with the specific project shall be property of the CLIENT and shall be transferred to the CLIENT upon completion of the project and upon receipt of complete payment for the scope of work outlined in the proposal. Matrix may retain a single copy of such information and documents.

Section 6: CONFIDENTIALITY

Matrix agrees to keep confidential and not to disclose to any person or entity, other than Matrix's employees and subcontractors, without the prior consent of the CLIENT, all data and information not previously known to and generated by Matrix, or furnished to Matrix and marked CONFIDENTIAL by the CLIENT in the course of Matrix's performance hereunder; provided, however, that this provision shall not apply to data which are in the public domain, or were previously known to Matrix, or were acquired by Matrix independently from third parties not under obligation to CLIENT to keep said data and information confidential. CLIENT shall not restrict Matrix from complying with an order to provide information or data when such order is issued by a court, administrative agency or other authority with proper jurisdiction.

The technical and pricing information contained in any proposal submitted by Matrix as to this project, or in the Agreement or any addendum thereto, is to be considered confidential and proprietary, and shall not be released or otherwise made available to any third party without express written consent of Matrix.

Section 7: BURIED UTILITIES

Matrix will conduct the research that in our professional opinion is necessary to locate utility lines and other man-made objects that may exist beneath the sites surface. The CLIENT recognizes that Matrix's research may not identify all subsurface utility lines and man-made objects. Matrix will take reasonable precautions to avoid damage or injury to any subsurface utilities or structures. The CLIENT agrees to hold Matrix harmless and the CLIENT agrees to pay for damages to underground utilities or structures which are not called to Matrix's attention or correctly shown on plans furnished by the CLIENT or third parties.

Section 8: DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS

Hazardous materials or certain types of hazardous materials may exist at a site where there is no reason to believe they could or should be present. Matrix and the CLIENT agree that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work and compensation for the Services or termination of the Agreement. Matrix agrees to notify the CLIENT as soon as practically possible should unanticipated hazardous materials or suspected hazardous materials be encountered. The CLIENT encourages Matrix to take measures that in Matrix's professional opinion are justified or legally required to preserve and protect the health and safety of Matrix's personnel and the public, and/or the environment, and the CLIENT agrees to compensate Matrix for the additional cost of such work.

In addition, the CLIENT waives any claim against Matrix, and agrees to indemnify, defend and hold Matrix harmless from any claim or liability for injury or loss arising from Matrix's encountering of unanticipated hazardous materials or suspected hazardous materials. The CLIENT also agrees to compensate Matrix for time spent and expenses incurred by Matrix in defense of any such claim, with such compensation to be based upon Matrix's prevailing fee schedule and expense reimbursement policy.

Section 9: STANDARD OF CARE

The Services provided by Matrix under the Agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, express or implied, and no warranty or guarantee, in fact or by law, whether of merchantability or fitness for a particular purpose or otherwise, is included or intended in the Agreement, or in any report, opinion, document or otherwise.

The CLIENT recognizes that subsurface conditions may vary from those encountered at the location where, and at the time when, borings, sampling, or testing are performed by Matrix and that the data provided by Matrix are based solely on the information available to Matrix. The CLIENT agrees to indemnify and hold Matrix harmless from and against all claims, damages, losses and expenses arising from the interpretation by others of data provided by Matrix.

Section 10: INDEPENDENT CONTRACTOR

Matrix shall be an independent contractor in performing the Services and shall not act as an agent or employee of the CLIENT. As such, and subject to the terms and conditions hereof, Matrix shall be responsible for its employees, subcontractors, and agents and for their compensation, benefits, contributions, and taxes, if any.

Section 11: JOBSITE HEALTH AND SAFETY

Insofar as jobsite safety is concerned, Matrix is responsible solely for its own employees' and subcontractor's activities on the jobsite, but this shall not be construed to relieve the CLIENT or his contractors from their responsibility for methods of work performance, superintendence, sequencing of construction, or safety in, on or about the jobsite.

Section 12: INSURANCE

Matrix is protected by: 1) Worker's Compensation Insurance as required by applicable law, 2) General Liability and Automobile Liability Insurance (in the amount of \$1,000,000 combined single limit) for bodily injury and property damage, and 3) Professional Liability (Errors & Omissions) with policy limits equal to at least \$1,000,000. Matrix shall provide insurance certificates illustrating the coverage herein defined to the Board prior to commencing work at the site.

Within the limits of said insurance, Matrix agrees to save the CLIENT harmless from and against loss, damage, injury or liability arising from negligent acts or omissions of Matrix, its subcontractors, and their respective employees and agents acting in the course and scope of this project. Matrix shall not be responsible for any loss, damage, or liability arising from any acts by the CLIENT, its agents, staff, and other consultants and subcontractors employed by the Client.

Section 13: INDEMNITY

A. Matrix

Matrix agrees to indemnify and hold harmless CLIENT from and against any and all losses, damages, liabilities, and expenses (including, but not limited to, legal fees and costs of investigation) to the extent resulting or arising out of negligence or willful misconduct of Matrix or performance of the Services hereunder, provided that such loss, damage, liability or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, and not caused in whole or in part by any acts or omissions of the CLIENT, a third party, or anyone directly or indirectly employed by the CLIENT.

B. CLIENT

The CLIENT, agrees to indemnify and hold harmless Matrix from and against any and all losses, damages, liabilities, and expenses (including, but not limited to, legal fees and costs of investigation) to the extent resulting or arising out of negligence or willful misconduct of the CLIENT, or anyone directly or indirectly employed by the CLIENT, or the performance of the CLIENT's obligations under the Agreement, any non-conforming wastes waste(s) or discrepancies in the pertinent manifest(s) as defined by applicable regulations, or an condition existing at the work site(s) prior to the date of the Agreement or caused by anyone directly or indirectly employed by the CLIENT.

Section 14: LIMIT OF LIABILITY

Notwithstanding any other provision contained in the Agreement

- A. In no event shall Matrix, its employees, agents, or sub-contractors be responsible for any incidental, indirect, impact, or consequential damages (including loss of profits), liabilities or expenses incurred by the CLIENT or any third party as a result of Matrix's performance or nonperformance of the Services contracted for herein, and the CLIENT waives all such incidental, indirect, impact, or consequential damages.
- B. The obligations of Matrix under the Agreement are not intended to and shall not be personally binding on, nor shall any resort be had to the private properties of, any of parent or affiliate of Matrix, or any of their respective officers, directors, shareholders, partners, principals, members, managers, beneficiaries, employees or agents.
- C. Matrix's total liability to CLIENT for any and all injuries, claims, losses, expenses or damages whatsoever arising out of, or in any way related to the Agreement from any cause or causes, including but not limited to Matrix's errors, negligence, omissions, strict liability, breach of contract or breach of warranty, shall not exceed the total contract amount for the Services provided by Matrix or the limit of liability available at the time of the claim, whichever is lesser.
- D. To the maximum extent permitted by law, the limitations on damages, the releases from liability, the limitations of liability, and the exclusive remedies provisions expressly provided in the Agreement shall apply even in the event of the fault, negligence (in whole or in part), strict liability or breach of contract of Matrix. The remedies provided in the Agreement are exclusive, except that the CLIENT shall in addition have the right to obtain specific performance and all other injunctive relief that may be available. Matrix disclaims, and the CLIENT waives, any implied warranties of merchantability or fitness for a particular purpose with respect to any equipment or other personal property procured by Matrix and provided to the CLIENT as part of any Services.

Section 15: PROJECT DELAYS

If Matrix is delayed at any time in performing the Services for any specific project or activity by an act, failure to act, or neglect of the CLIENT or the CLIENT'S employees or any third parties; by changes in the scope of work; by unforeseen circumstances including delays authorized by the CLIENT and agreed to by Matrix; by acts of force majeure including, without limitation, fires, floods, riots, and strikes; by delays caused by foreign or domestic governmental acts or regulations; or by any cause beyond the reasonable control of Matrix, then the time for completion of the Services shall be extended based upon the impact of the delay. Matrix shall receive an adequate compensation adjustment if the delays caused by any of the above result in changes, require additional services, or result in additional costs to Matrix.

Section 16: ASSIGNMENT

Matrix shall not assign the Agreement in whole or part except that Matrix may use the services of persons and entities not in its employ, when it is appropriate to do so. Such persons and entities include, but are not limited to, surveyors, specialized consultants, drilling contractors, and testing laboratories. Matrix's use of others for additional services shall not be unreasonably restricted by the CLIENT provided Matrix notifies the CLIENT in advance.

Section 17: THIRD PARTY EXCLUSION

The Agreement shall not create any rights or benefits to parties other than the CLIENT and Matrix, except such other rights as may be specifically called herein.

Section 18: SEVERABILITY

If any clause or section of the Agreement shall be deemed void or invalid, such a decision shall only apply to that particular section(s) and shall not render the rest of the Agreement invalid. The balance of the Agreement shall remain in force.

Section 19: TERMINATION

Matrix may terminate the Agreement upon five (5) days' notice if the CLIENT defaults in the payment for the Services or for any other material default by the CLIENT under the Agreement. The CLIENT or Matrix may terminate the Agreement upon fourteen (14) days' notice for any reason which may arise or for no reason. In the event of such termination of the Agreement for any reason which may arise or for no reason, the termination will become effective fourteen (14) calendar days after receipt of the termination notice. Irrespective of which party shall affect termination of the cause therefore, the CLIENT shall within thirty (30) calendar days of termination remunerate Matrix for the Services rendered and costs incurred (including all reimbursable costs hereunder), in accordance with Matrix's prevailing rate schedule.

Section 20: GOVERNING LAW

Unless otherwise provided in an addendum, the law of the State of New Jersey will govern the validity of the Agreement, its interpretation and performance, and remedies for contract breach or contract breach or any other claims related to the Agreement.

ATTACHMENT 4
SPECIAL PROVISIONS - LSRP

Special Provisions- Site Remediation / Licensed Site Remediation Professional Services

1. Licensed Site Remediation Professionals. The performance of Services contained in this Agreement may require the engagement of a Licensed Site Remediation Professional ("LSRP") registered with the State of New Jersey under the Site Remediation Reform Act, N.J.S.A. 58:10C-1 et seq. ("SRRRA"), and the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-1.1 et seq. ("ARRCS"). All such Services may be required to comply with the requirements of the SRRRA, ARRCs, and other statutes or regulations implemented pursuant thereto of affected thereby including but not limited to: Remediation Standards, N.J.A.C. 7:26D-1.1 et seq.; Technical Requirements for Site Remediation, N.J.A.C. 7:26E-1.1 et seq.; Regulations of the New Jersey Site Remediation Professional Licensing Board, N.J.A.C. 7:26I-1.1 et seq.; Brownfield Contaminated Sites Act (Brownfield Act), N.J.S.A. 58:10B-1 et seq.; Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. (NJ Spill Act); the Industrial Site Recovery Act (ISRA), N.J.S.A. 13:1K-6 et seq.; the Heating Oil Tank System Remediation Rules, N.J.A.C. 7:26F-1.1 et seq., , as the same may be amended, modified, revised, or altered from time to time (collectively, the "Site Remediation Program").

The client recognizes and agrees in consideration of this section to the following terms and conditions:

- 1.1 The Site Remediation Program impose upon LSRPs certain professional obligations owed to the public including, in some instances, a duty to disclose the existence of certain environmental contaminants to the NJDEP and/or other regulatory agencies.
- 1.2 If the LSRP's obligations under the Site Remediation Program conflict in any way the terms and conditions of this Agreement or the wishes or intentions of the Client, the Client agrees and acknowledges that: (a) the LSRP is bound by law to comply with the requirements of the Site Remediation Program; and (b) provided Matrix New World Engineering, Inc. (Matrix) and its LSRP has notified Client of the conflict failure, the Client also agrees to defend, indemnify and hold harmless Matrix and its LSRP from and against any claims, losses, damages, fines, or penalties that arise as a result of Client's failure to meet any obligations under the Site Remediation Program; except to the extent arising from the negligence or willful misconduct of Matrix and/or the LSRP.
- 1.3 The Site Remediation Program requires that specific activities, submission of documents and other actions be completed within regulatory or mandatory timeframes. If Matrix provides LSRP services for the property, the LSRP is required to advise the Client, of these deadlines, but the Client is responsible for conducting the required activities within the regulatory or mandatory timeframes.
- 1.4 Under the Site Remediation Program, the LSRP is required to provide professional opinions at various stages of the environmental assessment, permitting, remedial action or closure activities. The LSRP shall be entitled to request the performance of such additional tests or other services as are necessary, in their professional judgment, to permit them to provide such opinions. Any such requests shall be submitted to Client as a separate proposal. In the event that such additional tests or

other services are required for LSRP to be in compliance with the Site Remediation Program and Client refuses to approve such proposal, Matrix's LSRP may withdraw as LSRP for the site.

- 1.5 If appropriate in the professional judgment of the LSRP and allowable under applicable law, the Client shall permit Matrix and its LSRP to rely upon work product prepared by any prior environmental consultant in order to allow Matrix and its LSRP to meet their obligations under this Agreement and the LSRP Program.
- 1.6 The Services performed are intended to result in the issuance of a Remedial Action Outcome (RAO) (as defined under N.J.A.C. 7:26C-1.3) for an entire Site or Area of Concern (AOC) (as defined under N.J.A.C. 7:26C-1.3) by the LSRP based upon the site characterization, analytical data, reports, information and documentation available at the date of the issuance of the RAO. If Site conditions change, additional information becomes known to the LSRP, or information contained in previous reports is subsequently determined to be inaccurate, insufficient or incomplete, the LSRP may be required to withdraw the RAO and conduct additional site investigation, remedial investigation or characterization activities. Newly available data may also require notification to the NJDEP Spill Compensation and Control Act (Spill Hotline). The issuance of a RAO should not be interpreted to represent that all of the soil, groundwater, air or building materials are "clean" or would otherwise be free from all contaminants.
- 1.7 Under the Site Remediation Program, the NJDEP may review and/or audit with or without cause, all reports, data, and/or work product developed for the site, for a period of up to three (3) years after issuance of the final RAO. In certain instances, the NJDEP may directly request additional information or Services from the LSRP. If the NJDEP concludes that the RAO should be withdrawn or rescinded, additional Services may be required before a revised RAO can be issued by the LSRP. If the NJDEP conducts such a review or audit, the LSRP responses to such requests for information and additional services ("Audit Services") not included in the current Scope of Services and Matrix shall be compensated separately as "additional work" and on substantially the same basis as it is compensated for Services provided under this Agreement; provided, however, that if the need for Audit Services arise from the negligence or willful misconduct of Matrix or the LSRP, the Audit Services will not constitute "additional work."
- 1.8 From time to time, the NJDEP or other applicable regulatory agencies, may modify or revise applicable remediation standards or identify additional contaminants of concern or emerging contaminants after the date of this Agreement or issuance of any report, document or RAO. In such an instance, Matrix is not responsible for any additional services that may be required to comply with the modified or altered remediation standards, including, if necessary, withdrawal of any RAO and/or additional site investigation, remedial investigation or characterization activities.
- 1.9 In certain circumstances, the Client may be required to obtain a Remedial Action Permit (RAP) issued by the NJDEP pursuant to N.J.A.C. 7:26C-7.2 as part of its obligations under the Site Remediation Program. The Client shall be solely responsible for compliance with the conditions of any such RAP.

- 1.10 In the event that any site remediation facilities, including but not limited to monitoring wells, piezometers, temporary wells, are damaged or removed by the Client or any third party (that is not Matrix, its subcontractors or LSRP) for any reason, and additional sampling or site characterization is required by the NJDEP or otherwise pursuant to the Site Remediation Program, the costs to re-install the sampling features are the responsibility of the Client.
- 1.11 In the event that the Site Remediation Program or NJDEP requires the posting and maintaining a Remediation Funding Source and/or Financial Assurance, it is the responsibility of the Client to maintain and provide the Remediation Funding Source and/or Financial Assurance as required.

Acceptance of Proposal; (please return this page only):

I accept all terms and conditions set forth and grant Matrix New World Engineering, Inc. authorization to proceed.

Name

Date

Signature

Purchase Order No. (if required)