RESPONSE AND DEVELOPMENT WORK PLAN

AREA A: SUB-PARCEL A11-2
TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

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1.0 INTRODUCTION

ARM Group LLC (ARM), on behalf of Tradepoint Atlantic, has prepared this Response and Development Work Plan (RADWP) for a portion of the Tradepoint Atlantic property that has been designated as Area A: Sub-Parcel A11-2 (the Site). Tradepoint Atlantic submitted a letter (**Appendix A**) requesting an expedited plan review to achieve construction deadlines for the proposed development on this Site. Parcel A11 is comprised of approximately 102 acres of the approximately 3,100-acre former plant property. As shown on **Figure 1**, Sub-Parcel A11-2 consists of approximately 29.5 acres located within Parcel A11.

As shown on **Figure 2**, Sub-Parcel A11-2 is slated for development and occupancy as two logistics centers. A northern logistics center building will have an area of approximately 368,800 square feet and a southern logistics center building will have an area of approximately 107,400 square feet. Associated water lines, sanitary sewer lines, storm drains, conventional and trailer parking, access roads, and interior roads are also proposed. The planned development activities will generally include grading; construction of buildings; installation of utilities; and paving of parking areas and roadways. Subsequent site-use will involve workers in the on-site buildings, and truck drivers entering and leaving the Site with goods. Outside of the main development area designated as Sub-Parcel A11-2, temporary construction zones (not intended for permanent occupancy) with a total area of less than 4 acres within the Limit of Disturbance (LOD) will be utilized along the edges of the project area.

The conduct of any environmental assessment and cleanup activities on the Tradepoint Atlantic property, as well as any associated development, is subject to the requirements outlined in the following agreements:

- Administrative Consent Order (ACO) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the Maryland Department of the Environment (MDE), effective September 12, 2014; and
- Settlement Agreement and Covenant Not to Sue (SA) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the United States Environmental Protection Agency (USEPA), effective November 25, 2014.

Sub-Parcel A11-2 is part of the acreage that was removed (Carveout Area) from inclusion in the Multimedia Consent Decree between Bethlehem Steel Corporation, the USEPA, and the MDE (effective October 8, 1997) as documented in correspondence received from USEPA on September 12, 2014. Based on this agreement, USEPA determined that no further investigation or corrective measures will be required under the terms of the Consent Decree for the Carveout Area. However, the SA reflects that the property within the Carveout Area will remain subject to the USEPA's Resource Conservation and Recovery Act (RCRA) Corrective Action authorities.

An application to enter the full Tradepoint Atlantic property (3,100 acres) into the MDE Voluntary Cleanup Program (MDE-VCP) was submitted to the MDE and delivered on June 27, 2014. The property's current and anticipated future use is Tier 3 (Industrial) and plans for the property include demolition and redevelopment over several years.

In consultation with the MDE, Tradepoint Atlantic affirms that it desires to accelerate the assessment, remediation, and redevelopment of certain sub-parcels within the larger site due to current market conditions. To that end, the MDE and Tradepoint Atlantic agree that the Controlled Hazardous Substance (CHS) Act (Section 7-222 of the Environment Article) and the CHS Response Plan (Code of Maryland Regulations (COMAR) 26.14.02) shall serve as the governing statutory and regulatory authority for completing the development activities on the Sub-Parcel A11-2 and complement the statutory requirements of the VCP (Section 7-501 of the Environment Article). Upon submission of a RADWP and completion of any remedial activities for the sub-parcel, the MDE shall issue a No Further Action Letter (NFA) upon a recordation of an Environmental Covenant describing any necessary land use controls for the specific sub-parcel. At such time that all the sub-parcels within the larger parcel have completed remedial activities, Tradepoint Atlantic shall submit to the MDE a request for issuing a Certificate of Completion (COC) as well as all pertinent information concerning completion of remedial activities conducted on the parcel. Once the VCP has completed its review of the submitted information it shall issue a COC for the entire parcel described in Tradepoint Atlantic's VCP application.

Alternatively, Tradepoint Atlantic or other entity may elect to submit an application for a specific sub-parcel and submit it to the VCP for review and acceptance. If the application is received after the cleanup and redevelopment activities described in this RADWP are implemented and a NFA is issued by the MDE pursuant to the CHS Act, the VCP shall prepare a No Further Requirements Determination for the sub-parcel.

If Tradepoint Atlantic or other entity has not carried out cleanup and redevelopment activities described in the RADWP, the cleanup and redevelopment activities may be conducted under the oversight authority of either the VCP or the CHS Act, so long as those activities comport with this RADWP.

This RADWP provides a Site description and history; summary of environmental conditions identified by the Phase I Environmental Site Assessment (ESA); summary of environmental conditions identified by the Parcel A11 Phase II Investigation and supplemental sampling activities; brief discussion of a human health Screening Level Risk Assessment (SLRA) conducted for the identified conditions; and any necessary engineering and/or institutional controls to facilitate the planned Sub-Parcel A11-2 development and address the impacts and potential human health exposures. These controls include work practices and applicable protocols that are submitted for approval to support the development and use of the Site. Engineering/institutional controls approved and installed for this RADWP shall be described in closure certification

documentation submitted to the MDE demonstrating that exposure pathways on the Site are addressed in a manner that protects public health and the environment.

Parcel A11 also contains the Sub-Parcel A11-1 development area covered by the previously approved RADWP (Revision 4 dated May 28, 2019). The Sub-Parcel A11-1 consisted of approximately 12.7 acres within the eastern portion of Parcel A11. Sub-Parcel A11-1 and Sub-Parcel A11-2 cover most of the acreage in the eastern half of Parcel A11. **Figure 3** shows the remaining areas that exist outside of the sub-parcel development boundaries, but inside the investigative Parcel A11. The remaining acreage of Parcel A11 will be addressed in future work associated with completion of the obligations of the ACO and associated VCP requirements. This work will include assessments of risk and, if necessary, RADWPs to address unacceptable risks associated with future land use. As noted above, temporary construction zones with a total area of less than 4 acres will be utilized along the edges of the project area outside of the sub-parcel. The temporary work outside of the boundary of the Site is not intended to be the basis for the issuance of a NFA or a COC, although the scope of construction is covered by this RADWP.

2.0 SITE DESCRIPTION AND HISTORY

2.1 SITE DESCRIPTION

Parcel A11 includes an area of 102 acres as shown on **Figure 1**. The Sub-Parcel A11-2 development project consists of 29.5 acres intended for occupancy comprising approximately a third of Parcel A11. The development will include two logistics centers. The northern logistics center will have an area of approximately 368,800 square feet. The southern logistics center will have an area of approximately 107,400 square feet. The configuration of these two logistics centers is presented on **Figure 2**. Outside of the main development area designated as Sub-Parcel A11-2, temporary construction zones (not intended for permanent occupancy) with a total area of less than 4 acres within the construction LOD will be utilized along the edges of the project area. The Site is currently zoned Manufacturing Heavy-Industrial Major (MH-IM) and is not occupied. The adjacent Sub-Parcel A11-1 recently underwent development, and a logistics center was constructed. Development in Sub-Parcel A11-1 was detailed in the Sub-Parcel A11-1 RADWP (Revision 4 dated May 28, 2019). There is no groundwater use on-site or within the surrounding Tradepoint Atlantic property.

Sub-Parcel A11-2 is at an average elevation of approximately 13 feet above mean sea level (amsl). Elevations generally range between 11 and 14 feet over Sub-Parcel A11-2, with the exception of a few higher elevations caused by small soil/slag stockpiles. Elevations are fairly uniform at the Site with no clear discharge direction for surface water drainage. According to Figure B-2 of the Stormwater Pollution Prevention Plan (SWPPP) Revision 8 dated April 30, 2020, stormwater from the main development area of Sub-Parcel A11-2 is discharged through the drainage ditch along Peninsula Expressway and into Bear Creek.

2.2 SITE HISTORY

From the late 1800s until 2012, the production and manufacturing of steel was conducted at Sparrows Point. Iron and steel production operations and processes at Sparrows Point included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, Sparrows Point was the largest steel facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. The steel making operations at the facility ceased in fall 2012.

The eastern portion of Parcel A11 was formerly used for contractor equipment storage (the Contractor Area) and the western portion of Parcel A11 was formerly used as a spare parts storage yard (the Storage Yard). The majority of Sub-Parcel A11-2 is positioned within the former Storage Yard. According to the Description of Current Conditions (DCC) Report, prepared by Rust Environment and Infrastructure dated January 1998, several features of potential concern were historically located within the Contractor Area (all of which have been removed), including an

earthen oil pit, underground storage tanks (USTs), gas pumps and a pump island, unlabeled drums and containers with evidence of leaking and staining, and a small coal tar area. Numerous features at risk for leaks and releases (drums, tanks, fuel pumps, etc.) have been identified in specific contractor areas within various historical reports. Currently, the former Storage Yard is largely vacant with piles of stockpiled materials (soil and/or slag). Additional information regarding historical activities conducted within Parcel A11 can be found in the approved Phase II Investigation Work Plan dated May 18, 2016.

3.0 ENVIRONMENTAL SITE ASSESSMENT RESULTS

3.1 PHASE I ENVIRONMENTAL SITE ASSESSMENT RESULTS

A Phase I ESA was completed by Weaver Boos Consultants for the entire Sparrows Point property on May 19, 2014. Weaver Boos completed site visits of Sparrows Point from February 19 through 21, 2014, for the purpose of characterizing current conditions at the former steel plant. The Phase I ESA identified particular features across the Tradepoint Atlantic property which presented potential risks to the environment. These Recognized Environmental Conditions (RECs) included buildings and process areas where releases of hazardous substances and/or petroleum products potentially may have occurred. The Phase I ESA also relied upon findings identified during a previous visual site inspection (VSI) conducted as part of the RCRA Facility Assessment (RFA) prepared by A.T. Kearney, Inc. dated August 1993, for the purpose of identifying Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) on the property. This 1991 VSI is regularly cited in the Description of Current Conditions (DCC) Report prepared by Rust Environment and Infrastructure, dated January 1998 (included with Weaver Boos' Phase I ESA).

Weaver Boos' distinction of a REC or Non-REC was based upon the findings of the DCC Report (which was prepared when the features remained on-site in 1998) or on observations of the general area during their site visit. Weaver Boos made the determination to identify a feature as a REC based on historical information, observations during the site visit, and prior knowledge and experience with similar facilities. The following REC was identified in Sub-Parcel A11-2:

Contractor Equipment Storage (REC 16, Finding 256):
According to the Phase I ESA, a Contractor Area was located directly to the east of Greys Landfill within the boundary of Parcel A11. The Phase I ESA indicated that, based on the DCC Report and interviews with site personnel, this area was previously used as a storage area for contractor equipment, and may have been historically used to dispose of wastes of unknown types and quantities. Further action was recommended in this area due to the potential for surface and subsurface impacts as a result of the storage/dumping activities. Additional historical information regarding the Contractor Area is provided in Section 2.2.

Relevant SWMUs and AOCs were also identified from Figure 3-1 and Table 3-1 in the DCC Report. The DCC figure generally shows the SWMUs, AOCs, and main facility areas within the property boundaries. There were no AOCs identified at the Site, but there was one SWMU identified as the trash transfer station (SWMU 95) that was the only unit identified within the Site boundary. This unit was designated in the DCC Report as non-releasing.

3.2 PHASE II INVESTIGATIONS

3.2.1 Parcel A11 Phase II Investigation

A Phase II Investigation specific to soil conditions was performed for the Site in accordance with the requirements outlined in the ACO as further described in the Phase II Investigation Work Plan for Area A: Parcel A11 (Revision 1 dated May 18, 2016). Findings from the original Parcel A11 Phase II Investigation were presented within the Phase II Investigation Report (Revision 1 dated May 22, 2020), and the pertinent findings are summarized in this document.

The Phase II Investigation for soil conditions was developed to target specific features which represented a potential release of hazardous substances and/or petroleum products to the environment, including RECs, SWMUs, and AOCs (discussed above) as well as numerous other targets defined from former operations that would have the potential for environmental contamination. Soil samples were also collected at site-wide locations to ensure full coverage of the parcel. The Phase II Investigation for overall groundwater conditions included collection points distributed regularly throughout and along the perimeter of the Parcel A11 boundary.

A total of 143 soil samples (from 62 boring locations) and 11 shallow groundwater samples were collected for analysis between July 27, 2016 and March 8, 2017 as part of the Parcel A11 Phase II Investigation. Nine other groundwater wells (GL-02 (-5), GL-03 (-3), GL-08 (-3), GL-09 (-2), GL-11 (-1), GL-17 (-1), GL-18 (-3), GL-19, and TS-01 (-7)) are sampled semi-annually as part of the separate Greys Landfill groundwater monitoring, and relevant data collected from these sample locations were included within the Parcel A11 Phase II Investigation Report to supplement the overall groundwater characterization. The relevant soil and groundwater sample locations which provided pertinent data for discussion of the upcoming development of Sub-Parcel A11-2 are shown on **Figure 4** and **Figure 5**, respectively.

Soil and groundwater samples obtained from Parcel A11 were submitted to Pace Analytical Services, Inc. (PACE) and analyzed for the USEPA Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs) including polynuclear aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH) diesel range organics (DRO) and gasoline range organics (GRO), Oil & Grease, USEPA Target Analyte List (TAL) Metals, hexavalent chromium, and cyanide based on the parcel-specific sampling plan. Shallow soil samples collected from 0 to 1 foot below ground surface (bgs) were also analyzed for polychlorinated biphenyls (PCBs). The relevant laboratory Certificates of Analysis (including Chains of Custody) and Data Validation Reports (DVRs) from the Phase II Investigation are included as electronic attachments.

3.2.2 Supplemental Delineation Investigation

During the Phase II Investigation, several soil samples were identified with elevated concentrations of SVOCs, particularly naphthalene. To supplement the original Phase II Investigation, a Work Plan for the delineation of naphthalene (and associated chemical constituents including benzene and benzo[a]pyrene) was submitted to the MDE and USEPA to facilitate additional soil and groundwater delineation sampling activities in Parcel A11. The scope of the supplemental investigation proposed within the Work Plan was later expanded from the original scope, and the findings were periodically reported to the MDE and USEPA. Pertinent findings from the supplemental sampling activities are summarized in this document.

A total of 293 soil samples (from 119 boring locations) and 21 shallow groundwater samples were collected for analysis between June 12, 2018 and August 23, 2018 as part of the supplemental delineation sampling activities. The relevant soil and groundwater sample locations which provided pertinent data for discussion of the upcoming development of Sub-Parcel A11-2 are shown on **Figure 6** and **Figure 7**, respectively. The samples from the original Phase II Investigation are also shown for reference.

Soil and groundwater samples obtained from the supplemental delineation activities were submitted to PACE and analyzed for the TCL-VOCs, PAHs, TPH-DRO/GRO, and Oil & Grease. The relevant laboratory Certificates of Analysis (including Chains of Custody) from the supplemental investigation are included as electronic attachments. These additional samples did not undergo the formal validation process, so DVRs are not provided.

3.2.3 Summary of Results

Soil and groundwater results relevant for the Sub-Parcel A11-2 development project were screened against the Project Action Limits (PALs) established in the property-wide Quality Assurance Project Plan (QAPP) dated April 5, 2016, or based on other direct agency guidance (e.g., TPH/Oil & Grease). The PALs for relevant PAHs have been adjusted based on revised toxicity data published by the USEPA. **Table 1** and **Table 2** provide a summary of the detected compounds (organics and inorganics) in the soil samples collected during both the original Phase II Investigation as well as during the supplemental delineation sampling. **Table 3** and **Table 4** provide a summary of the detected compounds (organics and inorganics) in the groundwater samples obtained during both investigations, including the most recent analytical data (December 2020) obtained from the relevant Greys Landfill groundwater monitoring wells.

The PAL exceedances in soil and groundwater are highlighted on the respective detection summary tables. PAL exceedances in soil included five inorganics (arsenic, manganese, thallium, vanadium, and lead), one VOC (benzene), eight SVOCs (benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-c,d]pyrene, and naphthalene), TPH-DRO/GRO, and Oil & Grease.

There were multiple locations within, or adjacent to, the proposed development LOD with soil exceedances of the TPH/Oil & Grease PAL (6,200 mg/kg) and/or potential indications of NAPL in the soil cores. **Figure 8a** (0 to 5 feet bgs) and **Figure 8b** (below 5 feet bgs) provide an overview of the distribution of NAPL observed in soil cores within the proposed LOD. Due to the known presence of NAPL, utility alignments and invert elevations must be considered with respect to these impacts prior to trenching.

PAL exceedances in groundwater included six total/dissolved metals (arsenic, cadmium, cobalt, iron, manganese, and thallium), 10 VOCs (1,1,2,2-tetrachloroethane, 1,1-dichloroethane, 1,2-dibromo-3-chloropropane, benzene, bromodichloromethane, carbon tetrachloride, chloroform, methylene chloride, toluene, and vinyl chloride), 12 SVOCs (1,4-dioxane, 2-methylnaphthalene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-c,d]pyrene, naphthalene, n-nitroso-di-n-propylamine, pyrene, and 3&4-methylphenol), TPH-DRO/GRO, and Oil & Grease. Refer to **Figure 9** for a summary of groundwater PAL exceedances.

Although NAPL was observed within the soil cores at numerous locations, free-phase product has not been observed to accumulate in any of the NAPL screening piezometers (gauged at standard 0-hr, 48-hr, and 30-day intervals) or groundwater monitoring points (gauged prior to sampling) that are relevant for the proposed development project. A summary of the NAPL gauging status for wells and piezometers within or near the development LOD is provided as **Figure 10**, indicating that all NAPL screening piezometers had clean 30-day measurements (i.e., no detected presence of NAPL). At this time, all NAPL screening piezometers at the Site have been abandoned. Each piezometer was gauged a final time on the abandonment date in accordance with agency guidance, and NAPL was not detected at any location. For reference, shallow groundwater contours are shown in **Figure 11**.

3.2.4 Delineation Thresholds

Based on existing data obtained during the Parcel A11 Phase II Investigation and supplemental delineation sampling, there is a known potentially unacceptable risk for future Composite Worker occupants of the Site due to NAPL contamination and associated VOC and SVOC constituents, in particular elevated levels of benzene, benzo[a]pyrene, and naphthalene, which have been identified as the main constituents of potential concern (COPCs) at the Site. These constituents, along with other representative VOCs and SVOCs in Parcel A11, are provided in the table below along with concentrations corresponding to baseline carcinogenic risk screening levels of 1E-6 to 1E-4:

Parameter	1E-6 (RSLs) (mg/kg)	1E-5 (mg/kg)	1E-4 (mg/kg)
Biphenyl	410	4,100	41,000
Benzene	5.10	51.0	510
Benz(a)anthracene	21.0	210	2,100
Benzo(a)pyrene	2.10	21.0	210
Benzo(b)fluoranthene	21.0	210	2,100
Dibenz(a,h)anthracene	2.10	21.0	210
Indeno(1,2,3-c,d)pyrene	21.0	210	2,100
Naphthalene	8.6	86	860

The concentrations associated with 1E-4 were considered to be the delineation thresholds for each individual compound during the preceding delineation activities. However, since the carcinogenic risk is cumulative for PAHs, the delineation thresholds for the three primary risk drivers were set at approximately 1/3 of the concentration corresponding to the risk level of 1E-4, as follows:

Delineation Thresholds	
Benzene	150
Benzo(a)pyrene	75.0
Naphthalene	275

The soil data obtained during the original Phase II Investigation and the supplemental delineation sampling were compared to the listed delineation thresholds. If a soil sample contained a concentration of benzene, benzo[a]pyrene, or naphthalene above one of the specified delineation thresholds, the associated soil boring was flagged with elevated chemical data. Soil borings exhibiting these analytical exceedances were often co-located with observations of NAPL in the soil cores. Based on this screening approach, summaries of elevated soil conditions at the Site are presented in **Figure 8a** (0 to 5 feet bgs) and **Figure 8b** (below 5 feet bgs). As shown on the figures, there are two main areas which are potentially impacted by NAPL and/or associated elevated chemical data. One of these areas is positioned in the northwestern portion of the Site and is partially located below the future northern warehouse building footprint. The second area is located to the west of the southern warehouse, extending slightly below the building's footprint.

3.3 HUMAN HEALTH SCREENING LEVEL RISK ASSESSMENT

3.3.1 Analysis Process

A human health SLRA has been completed for the Composite Worker and Construction Worker scenarios based on the analytical data obtained from the characterization of surface and subsurface

soils in Sub-Parcel A11-2. Refer to **Table 1** for a Summary of Organics Detected in Soil, and to **Table 2** for a Summary of Inorganics Detected in Soil.

The SLRA included the following evaluation process:

Identification of Exposure Units (EUs): The SLRA was evaluated using a single site-wide EU with an area of 32.8 acres. The same EU and associated soil datasets were used for the evaluation of the Composite Worker and Construction Worker scenarios.

Identification of Constituents of Potential Concern (COPCs): For the project-specific SLRA, compounds that were present at concentrations at or above the USEPA Regional Screening Levels (RSLs) set at a target cancer risk of 1E-6 or target non-cancer Hazard Quotient (HQ) of 0.1 were identified as COPCs to be included in the SLRA. A COPC screening analysis is provided in **Table 6** to identify compounds above the relevant screening levels.

Exposure Point Concentrations (EPCs): The COPC soil datasets for the site-wide EU were divided into surface (0 to 2 foot), subsurface (>2 foot), and pooled depths for estimation of potential EPCs. Thus, there are three soil datasets associated with the site-wide EU. A statistical analysis was performed for each COPC dataset using the ProUCL software (version 5.1) developed by the USEPA to determine representative reasonable maximum exposure (RME) values for the EPC for each constituent. The RME value is typically the 95% Upper Confidence Limit (UCL) of the mean. For lead, the arithmetic mean for each depth was calculated for comparison to the Adult Lead Model (ALM)-based values, and any results above 10,000 mg/kg would be delineated for possible excavation and removal (not applicable at this Site). For PCBs, all results above 50 mg/kg would be delineated for excavation and removal (not applicable at this Site).

Risk Ratios: The surface soil EPCs, subsurface soil EPCs, and pooled soil EPCs were compared to the USEPA RSLs for the Composite Worker and to site-specific Soil Screening Levels (SSLs) for the Construction Worker based on equations derived in the USEPA Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (OSWER 9355.4-24, December 2002). Risk ratios were calculated with a cancer risk of 1E-6 and a non-cancer HQ of 1. The risk ratios for the carcinogens were summed to develop a screening level estimate of the baseline cumulative cancer risk. The risk ratios for the non-carcinogens were segregated and summed by target organ to develop a screening level estimate of the baseline cumulative non-cancer Hazard Index (HI).

For the Construction Worker, site-specific risk-based evaluations were completed for a range of potential exposure frequencies to determine the maximum exposure frequency for the site-wide EU that would result in risk ratios equivalent to a cumulative cancer risk of 1E-5 or HI of 1 for the individual target organs. This analysis indicated that there is no

allowable exposure frequency before additional worker protections or more detailed job safety evaluations would be required. This SLRA presents baseline Construction Worker risks for a 1-day exposure duration.

There is no potential for direct human exposure to groundwater for a Composite Worker since groundwater is not used on the TPA property (and is not proposed to be utilized). In the event that any future construction/excavation leads to a potential Construction Worker exposure to groundwater during development, health and safety plans and management procedures shall be followed to limit exposure risk.

Assessment of Lead: For lead, the arithmetic mean concentrations for surface soils, subsurface soils, and pooled soils for the site-wide EU were compared to the applicable RSL (800 mg/kg) as an initial screening. If the mean concentrations for the EU were below 800 mg/kg, the Site was identified as requiring no further action for lead. If a mean concentration exceeded the RSL, the mean values were compared to calculated ALM values (ALM Version dated 6/21/2009 updated with the 5/17/2017 OLEM Directive) with inputs of 1.8 for the geometric standard deviation and a blood baseline lead level of 0.6 ug/dL. The ALM calculation generates a soil lead concentration of 1,050 mg/kg, which is the most conservative (i.e., lowest) concentration which would yield a probability of 5% of a blood lead concentration of 5 ug/dL. If the arithmetic mean concentrations were below 1,050 mg/kg, the Site was identified as requiring no further action for lead. The average and maximum lead concentrations are presented for surface, subsurface, and pooled soils in **Table 7**. None of the average lead concentrations exceeded the initial screening threshold of 800 mg/kg, indicating no further action is needed with respect to lead.

Assessment of TPH/Oil & Grease: EPCs were not calculated for TPH/Oil & Grease. Instead, the individual soil results were compared to the TPH/Oil & Grease PAL set to a HQ of 1 (6,200 mg/kg). There were multiple soil boring locations within, or adjacent to, the proposed development boundary with soil exceedances of the TPH/Oil & Grease PAL and/or indications of NAPL in the soil cores. A comprehensive description of impacts is provided in Section 3.2, with analytical detection summary tables included as **Table 1** and **Table 2**. The summary **Figure 8a** (0 to 5 feet bgs) and **Figure 8b** (below 5 feet bgs) provide an overview of the distribution of NAPL impacts in soil at the Site.

Due to the known presence of NAPL, Section 5.1.2 specifies that utility alignments and invert elevations must be considered with respect to NAPL impacts prior to trenching. Soil screening will be especially important during any excavation of existing soil in areas impacted by NAPL. Section 5.1.2 includes contingency measures to ensure utilities will be constructed in a manner that will prevent the migration of any encountered NAPL, and that excavated materials will be properly managed.

Risk Characterization Approach: If the baseline risk ratio for each non-carcinogenic COPC or cumulative target organ does not exceed 1, and the sum of the risk ratios for the carcinogenic COPCs does not exceed a cumulative cancer risk of 1E-5, then a no further action determination will be recommended. If the baseline estimate of cumulative cancer risk exceeds 1E-5 but is less than or equal to 1E-4, then capping of the EU will be considered an acceptable remedy for the Composite Worker. The efficacy of capping for elevated non-cancer hazard will be evaluated in terms of the magnitude of exceedance and other factors such as bioavailability of the COPC. For the Construction Worker, cumulative cancer risks exceeding 1E-5 (but less than or equal to 1E-4) or HI values exceeding 1 will be mitigated via site-specific health and safety requirements.

The USEPA's acceptable risk range is between 1E-6 and 1E-4. If the sum of the risk ratios for carcinogens exceeds a cumulative cancer risk of 1E-4, further analysis of site conditions will be required including the consideration of toxicity reduction in any proposal for a remedy. The magnitude of any non-carcinogen HI exceedances and bioavailability of the COPC will also dictate further analysis of site conditions including consideration of toxicity reduction in any proposal for a remedy.

3.3.2 SLRA Results and Risk Characterization

Soil data were divided into three datasets (surface, subsurface, and pooled) for Sub-Parcel A11-2 to evaluate potential exposure scenarios. Each of these potential exposure scenarios is relevant for both the Composite Worker and Construction Worker.

EPCs were calculated for each soil dataset (i.e., surface, subsurface, and pooled depths) in the site-wide EU. ProUCL output tables (with computed UCLs) derived from the data for each COPC in soils are provided as electronic attachments, with computations presented and EPCs calculated for COPCs within each of the datasets. The ProUCL input tables are also included as electronic attachments. The results were evaluated to identify any samples that may require additional assessment or special management based on the risk characterization approach. The calculated EPCs for the surface, subsurface, and pooled exposure scenarios are provided in **Table 8**. These EPCs were used for both the Composite Worker and Construction Worker assessments.

As indicated above, the EPCs for lead are the average (i.e., arithmetic mean) values for each dataset. A lead evaluation spreadsheet, providing the computations to determine lead averages for each dataset, is also included as an electronic attachment. The screening criterion for lead was set at an arithmetic mean of 800 mg/kg based on the RSL, with a secondary limit of 1,050 mg/kg based on the May 2017 updated ALM developed by the USEPA (corresponding to a 5% probability of a blood lead level of 5 ug/dL). The average and maximum lead concentrations are presented for each dataset in **Table 7**, which indicates that neither surface, subsurface, nor pooled soils exceeded an average lead value of 800 mg/kg.

Composite Worker Assessment:

Risk ratios for the estimates of potential EPCs for the Composite Worker scenario for the site-wide EU are shown in **Table 9** (surface), **Table 10** (subsurface), and **Table 11** (pooled soils). The results are summarized as follows:

Worker Scenario	Exposure Unit	Medium	Hazard Index (>1)	Total Cancer Risk
Composite Worker	Site-Wide EU (32.8 acres)	Surface Soil	Dermal = 2	3E-6
		Subsurface Soil	Nervous = 5 Respiratory = 5	5E-4
		Pooled Soil	Nervous = 4 Respiratory = 4	4E-4

The non-carcinogenic HI values for the dermal, nervous, and respiratory systems exceeded 1 for multiple depth scenarios. The carcinogenic risk estimates for the Composite Worker subsurface and pooled exposure scenarios were greater than the acceptable risk level of 1E-5 and the secondary risk level of 1E-4. Cancer risk was primarily driven by the constituents benzo[a]pyrene and naphthalene while non-cancer hazard was primarily driven by naphthalene. Subsurface NAPL within the Site poses an unquantified risk to the potential future Composite Worker. Since potential exposure to NAPL cannot be quantified, it was not included in the risk assessment and the risks presented above may be biased low. Per the accepted Risk Characterization Approach (above) further analysis of site conditions was required including the consideration of toxicity reduction in any proposal for a remedy.

Construction Worker Assessment:

Construction Worker risks were evaluated for several different exposure scenarios to determine the maximum exposure frequency for the site-wide EU that would result in risk ratios equivalent to a cumulative cancer risk of 1E-5 or HI of 1 for any individual target organ. This analysis indicated that there is no allowable exposure frequency before additional worker protections would be required. This SLRA presents the baseline Construction Worker scenario for a 1-day exposure duration. Risk ratios for the Construction Worker scenario using the selected duration are shown in **Table 12** (surface), **Table 13** (subsurface), and **Table 14** (pooled). The variables entered for calculation of the site-specific Construction Worker SSLs (EU area, input assumptions, and exposure frequency) are indicated as notes on the tables. The spreadsheet used for computation of

the site-specific Construction Worker SSLs is included as **Appendix B**. The results are summarized as follows:

Worker Scenario	Exposure Unit	Medium	Hazard Index (>1)	Total Cancer Risk
Construction Worker	Site-wide EU (32.8 acres) (1 exposure day)	Surface Soil	none	3E-9
		Subsurface Soil	Nervous = 5 Respiratory = 5	9E-6
		Pooled Soil	Nervous = 5 Respiratory = 5	7E-6

Using the minimum selected exposure duration of 1 day, the computed carcinogenic risks were less than 1E-5 for each depth scenario. However, the non-carcinogenic HI values for the nervous and respiratory systems exceeded 1 for the subsurface and pooled exposure scenarios. Additionally, subsurface NAPL within the Site poses an unquantified risk to the potential future Construction Worker. Since potential exposure to NAPL cannot be quantified, it was not included in the risk assessment and the risks presented above may be biased low. This evaluation indicates that additional site-specific health and safety requirements (beyond standard Level D protection) will be required for any future work within the site-wide EU regardless of the work duration.

Based on the findings of the Construction Worker SLRA, additional site-specific health and safety requirements will be required for any future work within the site-wide EU regardless of the work duration. There requirements will include:

- TPA will notify the MDE prior to the start of any future ground-intrusive work at the Site that is expected to breach the approved capping remedy (regardless of the work duration);
- Site-specific HASP which will be applied to all on-site OSHA HAZWOPER trained workers who may be engaged in ground intrusive construction work or activities which require contact with potentially impacted materials;
- Modified Level D PPE (coveralls, gloves, dust mask, etc.) for ALL ground intrusive activities to reduce ingestion and dermal exposures;
- OSHA HAZWOPER trained workers for ALL ground intrusive activities;

- Contingent air monitoring (in accordance with Section 7 of the property-wide TPA HASP) for ALL ground intrusive work at the site, to include an enhanced breathing space air monitoring program.

3.4 EVALUATION OF RCRA CRITERIA

Based on the results and conclusions of the site investigation activities and human health risk screening, this section presents a summary of the identification and evaluation of remedial alternatives for Sub-Parcel A11-2 in general accordance with USEPA guidance under RCRA. In particular, this section presents the establishment of media cleanup objectives, the identification and initial screening of remedial alternatives for meeting the cleanup objectives, a detailed evaluation of the final remedial alternatives based on the RCRA evaluation criteria, and a recommendation of the most appropriate remedial alternative based on the evaluation criteria.

3.4.1 Establishment of Media Cleanup Objectives

This section summarizes the cleanup objectives for Sub-Parcel A11-2 based on the results of the site investigation activities, plans for redevelopment of the Site, applicable environmental cleanup regulations, and an evaluation of potential risks to human health and the environment. In general, the cleanup objectives for Sub-Parcel A11-2 are to mitigate potential risks to future Composite Workers and Construction Workers associated with the identified NAPL contamination and associated VOC and SVOC constituents in soil and groundwater. These objectives are further discussed as follows:

- Potential future direct contact risks to NAPLs and contaminated soils should be mitigated through appropriate containment, treatment, and/or removal actions.

- Potential future inhalation risks from VOCs/SVOCs in soil, groundwater and NAPLs should be mitigated through appropriate containment, treatment, and/or removal actions.

- While there are no current or anticipated future exposure pathways to impacted groundwater (since groundwater is not used on the Tradepoint Atlantic property and is not proposed to be used), potential future exposures to contaminated groundwater should be mitigated through use restrictions or treatment. No additional remedial actions are proposed to mitigate the potential migration of NAPL or associated constituents in groundwater below the Site as part of this RADWP. If additional response actions are required to address the presence of NAPL in the subsurface either inside or outside Sub-Parcel A11-2, such measures will be proposed under separate Work Plan.

3.4.2 Identification of Remedial Alternatives

This section presents the identification of potential remedial alternatives to be evaluated against the threshold screening criteria (i.e., protection of human health and the environment; attainment

of media cleanup objectives; and controlling the sources). The potential remedial alternatives were developed based on the media clean-up objectives, communications with the MDE, and professional experience with the identification and screening of remedial alternatives, and consist of the following.

- Alternative 1 – No Action: This alternative does not include the implementation of any remedial activities, and essentially represents leaving the Site in its existing condition. This alternative does not address the media cleanup objectives, but is presented as a baseline condition for comparison purposes.

- Alternative 2 – In-Place Containment with Cap and Vapor Barrier, and NAPL removal: This alternative has been developed to meet the media cleanup objectives, and generally involves the following major activities: placement of a cap (concrete floor slab of building, asphalt pavement, and/or soil cap) above the areas of contamination; installation of a sub-slab vapor barrier and passive venting system; and hot-spot NAPL removal.

    - The planned cap will help reduce infiltration through the unsaturated zone, prevent direct contact exposures, and prevent the generation of dust;

    - The primary purpose of the proposed venting system is to prevent vapors from entering the building by venting those vapors to outside of the building structure. The venting system can be upgraded to an active venting and sub-slab depressurization system to restrict the migration of vapors into the proposed new buildings;

    - Impacted soil encountered during utility installation will be excavated and removed from the site. In addition, low permeability backfill and/or trench plugs will be utilized to prevent preferential contaminant migration along utilities that pass through the areas of contamination;

    - Hot Spot NAPL excavations to reduce risk. Each point shown on **Figures 8a** and **8b** as having an exceedance of the delineation criteria was further evaluated. For screening purposes, the delineation criteria was calculated by dividing the EPA RSL concentration at 1E-4 by three (refer to Section 3.2.4) to account for the cumulative risk from benzene, benzo[a]pyrene, and naphthalene. Locations A11-024AA-SB and A11-024Y-SB were originally identified as locations above the 1E-4 delineation threshold based on the benzo[a]pyrene concentrations of 144 mg/kg and 95.8 mg/kg, respectively. However, due to the low levels of benzene and naphthalene in these locations, the actual risk at both locations is less than 1E-4; these locations were removed from consideration for hot spot excavations.

The remaining locations were further evaluated to determine whether the impacts were observed to be above or below the water table. An isopach map of the thickness of the unsaturated zone was created by subtracting the groundwater elevation shown on **Figure 11** from the ground surface elevation from the original topographic survey. This unsaturated zone thickness is shown on the attached **Figure 12**. The location of each exceedance was then plotted on this map and the depth of the samples exceeding the delineation criteria were posted and compared to the calculated thickness of the unsaturated zone at that location. If the sample depth is less than the unsaturated zone thickness, that location would be identified as a soil hotspot that could be excavated above the saturated zone.

Based on this analysis, the following locations are proposed for hot spot excavation:

- A11-024B-SB
- A11-024CC-SB
- A11-024H-SB
- A11-024O-SB
- A11-024S-SB
- A11-024V-SB

The hotspot excavations will begin at each soil boring location noted above and proceed laterally and vertically (to a maximum depth of the water table) based on the presence of NAPL or the observation of sheen. Further details will be included in a separate Work Plan.

- Review of historical groundwater data indicates that concentrations of naphthalene and benzene have decreased with time in wells GL-03, GL-08 and LF-01 (all located either proximate to or downgradient of NAPL impacted soil), indicating a depletion of contaminant mass in the saturated zone and natural attenuation occurring within the groundwater. Refer to **Appendix K** for trend charts for benzene and naphthalene at these select wells.

  An enhanced groundwater monitoring network will be installed to confirm that these trends of natural attenuation and contaminant mass reduction continue. This will include two additional monitoring wells to be installed along the northern sub-parcel boundary, which is downgradient of observed soil impacts (refer to **Figure 13**).

  The proposed monitoring well network will also include installation of a 2" monitoring well in vicinity of 057 / O / S / V area to determine if recoverable NAPL is present in that area (refer to **Figure 13**). If measurable NAPL is detected post development, NAPL will be removed from monitoring wells via bailer, absorbent

socks, and/or EFR events, which will reduce the overall volume of NAPL in the subsurface.

- Long-term property use restrictions, inspection and maintenance of the cap and vapor barrier systems, and downgradient groundwater monitoring will be implemented to ensure that the controls remain effective.

- Alternative 3 – In-Situ Treatment by Chemical Stabilization: This alternative represents one of a number of potential in-situ treatment alternatives for the identified contamination. In particular, this alternative would involve the in-situ treatment of the contamination through the injection of specialized chemical reagents using direct push technology or injection wells. The treatment works as a two-step process, generally consisting of permeability reduction followed by chemical weathering and NAPL encapsulation. The goal of the treatment would be to reduce contaminant concentrations to the point that no additional engineering controls or long-term monitoring would be required. Treatability studies would be required to confirm the effectiveness of the treatment and to refine the application rates and methods.

- Alternative 4 – Removal and Disposal: This alternative has been developed for comparative purposes, and would involve the excavation and off-site disposal of all contaminated soils and NAPLs, above and below the water table. Excavated materials would have to be dewatered, loaded, and transported to an approved disposal facility. Non-hazardous materials could potentially be disposed of at Greys Landfill, and any materials that are determined to be RCRA-hazardous would require treatment and disposal at an approved off-site hazardous waste facility. The excavated area would be backfilled with acceptable fill to facilitate the planned redevelopment.

3.4.3 Initial Screening of Remedial Alternatives

This section presents an initial screening of the identified remedial alternatives against the threshold criteria (i.e., protection of human health and the environment; attainment of media cleanup objectives; and controlling the sources). The screening is summarized as follows:

- Protection of Human Health and the Environment: Alternative 1 (No Action) does not provide adequate protection of human health and the environment because it does not mitigate the identified risks or address the remedial objective. Alternatives 2 through 4 (In-Place Containment, In-Situ Treatment, and Removal and Disposal) have the potential to provide adequate protection of human health and the environment, although Alternative 3 (In-Situ Treatment) and particularly Alternative 4 (Removal and Disposal) have the potential to increase short-term exposure risks associated with waste treatment/handling.

- Attainment of Media Cleanup Objectives: Alternative 1 (No Action) would not meet any of the established media cleanup objectives, while Alternatives 2 through 4 (In-Place Containment, In-Situ Treatment, and Removal and Disposal) would address all of the established media cleanup objectives.

- Controlling the Sources: Historic sources of contamination to the area have previously been eliminated through the decommissioning and removal of the previous steel production operations at the Site. Alternative 1 (No Action) would not provide any additional control of the existing contaminants, although Alternatives 2 through 4 (In-Place Containment, In-Situ Treatment, and Removal and Disposal) would provide varying levels of control with respect to the risks posed by the current site conditions.

Based on this initial screening, Alternative 1 (No Action) does not meet the threshold screening criteria, but Alternatives 2 through 4 (In-Place Containment, In-Situ Treatment, and Removal and Disposal) would meet the threshold criteria and will be retained for detailed evaluation in the following section of this report. Even though the No Action Alternative does not meet the threshold criteria, it has also been retained for detailed evaluation in the following section of this report to provide a baseline condition for comparison purposes.

3.4.4 Detailed Evaluation of Alternatives

This section presents a detailed evaluation of the remedial alternatives that were identified and screened in the previous section. This detailed evaluation has been conducted with respect to the following evaluation/balancing criteria: long-term effectiveness; toxicity, mobility and volume reduction; short-term effectiveness; implementability; community acceptance; state acceptance; and cost. A summary of the detailed evaluation of alternatives is presented on **Table 5**.

3.4.4.1 Long-Term Effectiveness

This criterion refers to the expected effectiveness, reliability and risk of failure of the alternatives, including the effectiveness under analogous site conditions, the potential impact resulting from a failure of the alternative, and the projected useful life of the alternative.

- Alternative 1 – No Action: This alternative is not effective in the long-term because it does not address the identified contamination or exposure pathways of concern.

- Alternative 2 – In-Place Containment with Cap and Vapor Barrier, and NAPL Removal: The proposed capping and vapor control measures have been proven to be effective in the long-term at similar sites with similar conditions. Historical groundwater data indicates that concentrations of the naphthalene and benzene have decreased with time in local wells, suggesting a depletion of contaminant mass in the saturated zone and natural attenuation occurring within the groundwater. An enhanced groundwater monitoring network will

monitor and confirm these trends of natural attenuation and contaminant mass reduction. Property use restrictions, and continued inspections, maintenance, and monitoring will ensure the long-term effectiveness of this alternative.

- Alternative 3 – In-Situ Treatment by Chemical Stabilization: The long-term effectiveness of this alternative is currently unknown and would have to be estimated from treatability studies and possibly additional sampling. The treatment measures have the potential to increase contaminant mobility in the long-term because of the required disturbance and chemical changes.

- Alternative 4 – Removal and Disposal: This alternative provides long-term effectiveness through the removal and secure disposal of contaminated materials.

3.4.4.2 Reduction in Toxicity, Mobility, or Volume of Wastes

This criterion generally refers to how much the remedial alternatives will reduce the waste toxicity, mobility and/or volume, primarily through treatment.

- Alternative 1 – No Action: This alternative does not provide any reduction in the toxicity, mobility, or volume of the contaminated materials.

- Alternative 2 – In-Place Containment with Cap and Vapor Barrier, and NAPL Removal: This alternative provides reduction in toxicity, mobility, and volume. The hot spot excavation will remove the most impacted soil areas in the unsaturated zone, which will result in a reduction in toxicity, mobility, and volume, along with risk to receptors. Impacted soil encountered during installation of utilities will be excavated and removed from the site, further resulting reducing the mass of NAPL and contaminants in impacted soils. NAPL (if present) will also be removed from monitoring wells via bailer, absorbent socks, and/or EFR events, which will reduce the overall volume of NAPL in the subsurface.

  The planned cap and vapor migration controls (such as the use of low permeability backfill and/or trench plugs) will help reduce potential contaminant mobility by reducing infiltration through the unsaturated zone, preventing migration along utility corridors, and preventing the generation of dust.

- Alternative 3 – In-Situ Treatment by Chemical Stabilization: This alternative has the potential to provide reduction in contaminant toxicity, mobility, and volume through treatment, but this would need to be confirmed through treatability studies, and in-situ treatment has the potential to increase contaminant mobility.

- Alternative 4 – Removal and Disposal: This alternative involves complete reduction in toxicity, mobility, and volume of the waste for the Site. The significant site disturbance associated with this alternative could increase contaminant mobility in the short term.

3.4.4.3 Short-Term Effectiveness

This criterion generally refers to potential short-term risks to on-site workers and the community in association with implementation of the remedial alternatives, such as might be associated with the excavation, handling, treatment, containment, and transportation of contaminated materials.

- Alternative 1 – No Action: This alternative does not increase or decrease short-term exposure risks.

- Alternative 2 – In-Place Containment with Cap and Vapor Barrier, and NAPL Removal: This cap and vapor barrier can be quickly implemented with minimal short-term exposure risks. The NAPL removal via hot spot excavations will increase short-term risks to onsite workers due to exposure to the contaminated soils. Any such short-term exposure risks would be mitigated through the implementation of site-specific health and safety controls to be executed by OSHA HAZWOPER trained workers.

- Alternative 3 – In-Situ Treatment by Chemical Stabilization: This alternative would be expected to increase short-term exposure risks through the intrusive disturbance of contaminated materials and the handling of reactive chemicals.

- Alternative 4 – Removal and Disposal: This alternative is expected to significantly increase short-term risks to on-site workers and the community because of the exposure, handling and transportation of a relatively large volume of waste.

3.4.4.4 Implementability

This criterion refers to the relative ease of alternative implementation (construction), including duration, administrative and technical feasibility, and availability of the required services and materials.

- Alternative 1 – No Action: This alternative provides the greatest ease of implementation as no action is required; however, it is not expected to be implementable because it does not address the applicable environmental requirements.

- Alternative 2 – In-Place Containment with Cap and Vapor Barrier, and NAPL Removal: This alternative can be quickly implemented with readily available, typically acceptable, and proven technologies.

- Alternative 3 – In-Situ Treatment by Chemical Stabilization: This alternative presents implementation concerns because it requires specialized equipment and materials, and treatability studies would be required to confirm the technical feasibility.

- Alternative 4 – Removal and Disposal: This alternative presents significant implementation concerns because of potential short-term exposure risks, required air-emission and odor controls, the removal of materials from below the groundwater table, and the handling and transportation of a relatively large volume of waste materials.

3.4.4.5 Community Acceptance

This criterion refers to the known or anticipated community acceptance associated with the remedial alternatives.

- Alternative 1 – No Action: This alternative is not expected to be favorable because it does not address the identified contamination or the remedial objectives.

- Alternative 2 – In-Place Containment with Cap and Vapor Barrier, and NAPL Removal: This alternative is expected to be acceptable because it addresses the remedial objectives without increasing risks to the community.

- Alternative 3 – In-Situ Treatment by Chemical Stabilization: This alternative is potentially acceptable depending on the results of treatability studies and other supplemental studies.

- Alternative 4 – Removal and Disposal: This alternative is potentially acceptable, but the transportation of large volumes of waste through any community is generally not favorable, and fugitive emissions and odors are expected to be a potential concern.

3.4.4.6 State Acceptance

This criterion refers to how the remedial alternatives will comply with applicable environmental regulations (e.g., permit requirements).

- Alternative 1 – No Action: This alternative is not expected to be acceptable because it does not meet the remedial action objectives.

- Alternative 2 – In-Place Containment with Cap and Vapor Barrier, and NAPL Removal: This alternative is expected to be acceptable because it meets the remedial action objectives and can be implemented in a manner consistent with all anticipated regulatory and permitting requirements.

- Alternative 3 – In-Situ Treatment by Chemical Stabilization: This alternative is potentially acceptable depending on the results of treatability and other supplemental studies.

- Alternative 4 – Removal and Disposal: This alternative is potentially acceptable and would likely not adversely impact any State permitting agencies.

3.4.4.7 Cost

This criterion addresses the anticipated short- and long-term costs associated with implementation of the remedial alternatives.

- Alternative 1 – No Action: This alternative does not have any cost.

- Alternative 2 – In-Place Containment with Cap and Vapor Barrier, and NAPL Removal: The estimated costs for implementation of this alternative (~$2 million) are relatively low in both the short term and long term.

- Alternative 3 – In-Situ Treatment by Chemical Stabilization: The costs for this alternative would depend on the results of treatability studies and subsequent designs, but preliminary estimates from vendor-supplied data and previous experience indicate an anticipated cost of at least $7 million.

- Alternative 4 – Removal and Disposal: The costs for this alternative would depend on the final volume of materials to be removed, the need for air-emission and other controls during excavation and handling, the amount of excavated material that could be characterized as RCRA-hazardous waste, and costs for off-site transportation, treatment, and disposal. Preliminary estimates based on previous experience with similar materials and typical waste transportation and disposal costs indicate anticipated costs of at least $12 million.

3.4.5 Justification of Recommendation and Remedial Alternative

Based on the detailed evaluation of remedial alternatives as presented in the preceding section(s), **Alternative 2 – In-Place Containment with Cap and Vapor Barrier, with NAPL removal, is recommended for Sub-Parcel A11-2**. This alternative clearly satisfies the evaluation criteria better than the other potential alternatives and is an appropriate and favorable remedial alternative for the identified contamination. Supporting rational for selection of Alternative 2 – In-Place Containment with Cap and Vapor Barrier, with NAPL removal, is summarized below:

- it satisfies the threshold screening criteria;
- it best satisfies the detailed alternative evaluation criteria;
- it meets the media cleanup goals;
- it can be readily and quickly implemented with proven and reliable technologies;
- it is consistent and compatible with the proposed site development plans;
- it provides for long-term protection of human health and the environment; and

- it can be conducted in accordance with applicable regulations.

Based on the findings of the Composite Worker SLRA, and the detailed alternatives analysis presented in this RADWP, Alternative 2 – In-place Containment with Cap and Vapor Barrier, with NAPL removal and institutional controls, is recommended for Sub-Parcel A11-2. This is an acceptable remedy to be protective of future Composite Workers for the surface, subsurface, and pooled soils. The specific NAPL removal, capping requirements and institutional controls are specified in this RADWP.

Based on the findings of the Construction Worker SLRA, additional site-specific health and safety requirements will be required for any future work within the site-wide EU regardless of the work duration. There requirements will include:

- Site-specific HASP which will be applied to all on-site OSHA HAZWOPER trained workers who may be engaged in ground intrusive construction work or activities which require contact with potentially impacted materials;

- Modified Level D PPE (coveralls, gloves, dust mask, etc.) for ALL ground intrusive activities to reduce ingestion and dermal exposures;

- OSHA HAZWOPER trained workers for ALL ground intrusive activities;

- Contingent air monitoring (in accordance with Section 7 of the property-wide TPA HASP) for ALL ground intrusive work at the site, to include an enhanced breathing space air monitoring program.

4.0 PROPOSED SITE DEVELOPMENT PLAN

Tradepoint Atlantic is proposing to construct two logistics centers totaling approximately 476,200 square feet on Sub-Parcel A11-2. The proposed development will include permanent improvements on approximately 29.5 acres of land intended for occupancy within Parcel A11. The proposed future use of Sub-Parcel A11-2 is Tier 3 – Industrial. The remainder of Parcel A11 will be addressed in separate development plans in accordance with the requirements of the ACO that will include RADWPs, if necessary. Outside of the main development area, temporary construction zones with a total area of less than 4 acres will be utilized along the edges of the project area. The temporary work outside of the boundary of the Site is not intended to be the basis for the issuance of a NFA or a COC, although the scope of construction work is covered by this RADWP. The Site (29.5 acres encompassing Sub-Parcel A11-2; excluding the temporary construction zones) will be fully capped by surface engineering controls.

Certain compounds are present in the soils located near the surface and in the subsurface at concentrations in excess of the PALs. Therefore, soil is considered a potential media of concern. Potential risks/hazards exist for future adult Composite Workers based on existing impacts to soil including NAPL and chemical constituents exceeding the PALs. Surface engineering controls are required throughout the Site to be protective of future adult Composite Workers by preventing contact with potentially contaminated surface soil (or relocated subsurface soil) at the Site. Based on the existing conditions, the entire Site will be subject to surface engineering controls (i.e., capping). In addition, a sub-slab vapor barrier with a passive/active venting system will be installed below the future building footprints.

Construction Workers may contact impacted surface and/or subsurface soil during earth movement activities associated with construction, including within the temporary construction zones outside of the primary development area. All of the required ground intrusive construction work or activities which require contact with potentially impacted materials will be performed by OSHA HAZWOPER trained workers. The use of OSHA HAZWOPER trained workers will mitigate potential risks to Construction Workers by ensuring that the on-site work is performed by personnel who are trained and equipped for the conditions at the Site. The OSHA HAZWOPER trained workers will adhere to the PPE SOP provided as **Appendix C**. The modified Level D PPE requirements which will be applied during this project, including specific PPE details, planning, tracking/supervision, enforcement, and documentation, are outlined in the PPE SOP. The contractor will develop a site-specific HASP which will be applied to all on-site OSHA HAZWOPER trained workers who may be engaged in ground intrusive construction work or activities which require contact with potentially impacted materials. OSHA HAZWOPER trained workers will not be required during construction activities which do not have a significant exposure risk, such as above-grade building construction.

A restriction prohibiting the use of groundwater for any purpose at the Site will be included as an institutional control in the NFA and COC issued by the MDE, and a deed restriction prohibiting the use of groundwater will be filed. These groundwater use restrictions will protect future Composite Workers from potential exposures. Proper water management is required to prevent unacceptable discharges or risks to Construction Workers during development. Work practices and health and safety plans governing groundwater encountered during excavation activities will provide protection for (OSHA HAZWOPER trained) Construction Workers involved with development at the Site.

The development plan for the Site is indicated in **Figure 2**, and the development drawing provided by Morris & Ritchie Associates, Inc. (MRA) is included as **Appendix D**. The various types of surface engineering controls proposed to be installed on the Site (concrete, asphalt, and landscaping) are summarized on **Figure 14**. The process of constructing the proposed warehouse buildings and support facilities will involve the tasks identified below. As-built and regulatory documentation for the outlined tasks and procedures will be provided in a Sub-Parcel A11-2 Development Completion Report.

4.1 RESPONSE PHASE

4.1.1 Groundwater Network Abandonments & Retention

All temporary groundwater sample collection points (piezometers) and NAPL screening piezometers within Parcel A11 have previously been abandoned.

A total of 14 permanent monitoring wells are located within, or very close to, the Sub-Parcel A11-2 LOD. These monitoring wells include GL-08 (-3), GL-08 (-36), GL-09 (-2), GL-09 (-20), LF-02, GL-03 (-3), GL-03 (-16), GL04-PZP001, GL04-PZM026, GL04-PZM046, GL-18 (-3), GL-18 (-33), LF-01, and LF-01D. These monitoring well locations are presented on **Figure 15**. Based on their location below buildings, GL-03 (-3) and GL-03 (-16) were abandoned in accordance with COMAR 26.04.04.34 through 36 prior to the Spring 2021 sampling event. Following the well abandonments, the MDE requested (via an email dated May 19, 2021) that existing shallow monitoring well LF-01 be sampled as part of the Greys Landfill (GLF) monitoring program as a substitute for GL-03 (-3), beginning in the Fall 2021. It was determined that LF-01 and GL-03 (-3) were in close proximity to each other and had similar screen intervals (LF-01 at 5-15 ft bgs and GL-03 (-3) at 7-17 ft bgs). In a subsequent email dated July 14, 2021, the MDE requested that an intermediate monitoring well be installed adjacent to LF-01 with a similar screen interval to the abandoned intermediate well GL-03 (-16). Following the completion of site development, an intermediate monitoring well will be installed adjacent to LF-01 (the proposed replacement location and approximate construction details will be provided to the MDE prior to installation) and will be incorporated into future GLF monitoring events. Installation details will be provided with the monitoring report following its installation.

Based on its location in a high traffic, LF-02 is proposed for abandonment in accordance with COMAR 26.04.04.34 through 36. Following the completion of site development, a shallow monitoring well will be installed in the vicinity of the former LF-02 location, but outside of high traffic areas. The proposed location and approximate construction details will be presented to the MDE for concurrence prior to installation, and the final location and well construction log will be provided to the MDE following completion. This shallow well will serve as a perimeter monitoring location once development work is complete on the parcel.

The abandonment of any permitted groundwater wells must be reported to the Water Management Administration as per COMAR 26.04.04, and records of all groundwater well and piezometer abandonments (including abandonment forms, if available) will be included in the Development Completion Report. It is understood that the agencies may require the installation of additional permanent monitoring wells in the future following site development.

The remainder of the existing monitoring wells in the Sub-Parcel A11-2 LOD will be retained during development. To ensure that the locations are not damaged/destroyed, these wells should be protected using sonotubes, flagging, and/or barriers as needed. Once the new capping surface (asphalt or landscape) has been placed surrounding each sonotube, the monitoring well will be completed with a well pad and manhole cover flush with the new surface.

4.1.2 Groundwater Remedies & Monitoring

There is no potential for direct exposure to groundwater for a Composite Worker since groundwater is not used on the Tradepoint Atlantic property (and is not proposed to be utilized); however, elevated levels of VOCs/SVOCs in groundwater in the vicinity of the Site could potentially cause an unacceptable VI condition for the proposed warehouse building without additional action. Elevated aqueous concentrations east of the development boundary may be indicative of past contaminant migration. However, the site investigation activities completed to date have indicated the absence of measurable NAPL; therefore, the NAPL does not appear to be highly mobile. Groundwater at the Site is being addressed via the following actions:

- Capping Remedy with Groundwater Use Restrictions: The capping remedy (i.e., surface engineering controls) and groundwater use restrictions will be installed at the Site to eliminate direct exposures to contaminants in groundwater. The capping remedy also reduces the potential for additional migration of contaminants into groundwater by reducing the influx of surface water through infiltration.

- Vapor Barrier and Vapor Extraction System – A vapor barrier remedy will be installed to prevent exposures to organic vapors that have volatilized from groundwater (or NAPL) by preventing the migration of vapors through the floor slab and into the building. A passive/active venting system will be installed below the vapor barrier to extract soil vapors from beneath the proposed buildings.

- NAPL Removal – Following development activities, one (or more) monitoring wells will be installed in areas with known NAPL impacts. NAPL gauging will be conducted initially on a monthly basis. If no NAPL is encountered after the first quarter of monitoring, the gauging will be reduced to quarterly. After the first year, or upon completion of the Sitewide Groundwater CMS, whichever is sooner, the gauging frequency will follow the Sitewide Groundwater CMS requirements. If NAPL is identified, then NAPL removal will be conducted via bailers, absorbent socks, and/or enhanced fluid recovery (EFR);

- Groundwater Monitoring – Groundwater impacts below the Site will be addressed by a combination of the remedies listed above (capping, vapor barrier, and NAPL removal). To further evaluate groundwater and prevent potential exposures in other areas of the Tradepoint Atlantic property, downgradient monitoring wells were installed east of the Sub-Parcel A11-1 development area to monitor the potential migration of known contaminant plumes. The installation and sampling of the downgradient wells were discussed in the Parcel A11 Eastern Groundwater Delineation Monitoring Network Letter Report (dated March 5, 2020). Ultimately the monitoring wells will be incorporated into the property-wide groundwater monitoring program. It is understood that the agencies may require the installation of additional permanent monitoring wells in the future following site development on Sub-Parcel A11-2. Additional evaluations or response actions for the impacts downgradient from Sub-Parcel A11-1 (and Sub-Parcel A11-2) may be coordinated with the agencies beyond the scope of this RADWP.

4.2 DEVELOPMENT PHASE

4.2.1 Erosion and Sediment Control Installation

Installation of erosion and sediment controls will be completed in accordance with the requirements of the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control prior to any construction at the Site. Any soils which are disturbed during the installation of erosion and sediment controls will be replaced on-site below the cap.

4.2.2 Hot Spot Soil Excavation

As discussed in Section 3.4.2, the following locations are proposed for hot spot excavation:

- A11-024B-SB
- A11-024CC-SB
- A11-024H-SB
- A11-024O-SB
- A11-024S-SB
- A11-024V-SB

This is based on soil locations with concentrations above the 1E-4 delineation thresholds (Sections 3.2.4) AND located within the unsaturated zone.

The hotspot excavations will begin at each soil boring location noted above and proceed laterally and vertically (to a maximum depth of the water table) based on the presence of NAPL or the observation of sheen. Further details will be included in a separate Work Plan.

4.2.3 Grading and Site Preparation

Grading activities including both cut and fill will occur within the Sub-Parcel A11-2 boundary. Any material that is not suitable for compaction will be excavated and replaced with subbase material, although it is not anticipated that poor soils will be encountered. Borrow materials will be obtained from MDE-approved sources and will be documented prior to transport to the Site. Processed slag aggregate sourced from the Tradepoint Atlantic property or other materials approved by the MDE for industrial use will be used as fill. Fill sources shall be free of organic material, frozen material, or other deleterious material. In the case that there is excess material (not anticipated), the spoils will be stockpiled at a suitable location in accordance with the Materials Management Plan (MMP) for the Sparrows Point Facility (Papadopulos & Associates, et al., June 17, 2015). This work will be coordinated with MDE accordingly. No excess material will leave the 3,100-acre property without prior approval from MDE.

4.2.4 Installation of Structures and Underground Utilities

The logistics center buildings, parking lots, and other infrastructure associated with the development of Sub-Parcel A11-2 will be installed as shown on the development plans in **Appendix D**. Excavated soil with elevated PID readings or other signs of contamination will be stockpiled separately and managed in accordance with the requirements outlined in Sections 5.1.3 and 5.1.4. Resulting analytical data will be submitted to the MDE to determine the suitability of the material for reuse. Excavated soils without elevated PID readings or other signs of contamination may be replaced on-site below the cap. All utility trenches will be backfilled with bedding and backfill approved by the MDE for industrial use (which may include utility trench spoils). Additional protocols for the installation of utilities at the Site are provided in Section 5.1.2. Any water removed will be managed as detailed in Section 5.2.

4.2.5 Floor Slabs and Paving

Much of the Site will be covered with floor slabs or paving as indicated in the development plans provided in **Appendix D** and summarized on **Figure 14**. The paved areas will receive a layer of subbase material which will consist of compacted aggregate base, which may include processed slag aggregate sourced from the Tradepoint Atlantic property.

The required minimum thicknesses of all site-wide pavement sections which will serve as surface engineering controls are shown in the minimum capping section details provided in **Appendix E**.

According to the development plans, all paved areas at the Site will be installed with a minimum of 4 inches of compacted aggregate base and a minimum of 4 inches of overlying pavement surface (asphalt or concrete), which meet these required minimum thicknesses.

4.2.6 Sub-Slab Vapor Barrier with Passive/Active Venting System

As noted earlier, a sub-slab vapor barrier with a passive/active venting system (sub-slab depressurization system) will be installed below the concrete floor slab of both logistics centers to prevent the intrusion of VOC/SVOC vapors to indoor air. The installation of the vapor barrier and venting system will address the potential for unacceptable VI risks/hazards resulting from the known presence of VOCs/SVOCs and NAPL at the Site.

The venting system will initially be a passive system, with some negative pressure created below the floor slab (and vapor barrier) through a wind-blown turbine connected to the vent pipes. If indoor air concentrations are later determined to exceed health-based levels based on post-construction indoor air sampling, an electric fan or blower will be connected to the end of the venting system to increase the effectiveness. The venting systems will be constructed with solid-walled riser pipes within (or interior of) the building structure, extending above the roof line. The preliminary design of the sub-slab passive/active venting system is depicted on **Figure 16** and in **Appendix F**. Installation of the sub-slab system will consist of:

- A one-foot deep by one-foot-wide trench will be dug into existing materials. Two to three inches of 57 stone will be placed in the trench, followed by 4-inch perforated drainpipe. The remainder of the trench will be backfilled with 57 stone;
- Above the trench, approximately 12-inches of CALCIMENT™ (a lime cement product) will be utilized to form a semi-rigid layer;
- Approximately four inches of granular aggregate base (GAB) will be placed above the CALCIMENT™ layer;
- Vapor barrier will be placed above the GAB;
- Approximately 7-inches of concrete to complete the system installation / cap.

Alternate system materials may be used in place of the specified materials if approved in advance by the MDE.

The vapor barrier (overlying the venting system) will consist of a Stego® Wrap (or equal) vapor barrier membrane that has been proven to be effective for similar applications. The barrier will be chemically resistant to the anticipated VOC vapors, and will be sealed at all penetrations, seams, and edges. The manufacturer's information and seaming details for Stego® Wrap vapor barrier are presented in **Appendix F**. Installation methods for the vapor barrier, including methods for ensuring the seams and penetrations are sealed properly are included in **Appendix F** (see "Installation Instructions"). The manufacturer's recommended methods for sealing any seams or surface penetrations generally include overlapping pieces of the Stego® Wrap and then sealing

with Stego® Tape or Stego® Mastic. Alternate vapor barrier materials may be used in place of the specified materials if approved in advance by the MDE.

The MDE must be notified at least four business days prior to the installation of the vapor barrier on-site. The installation of the vapor barrier will be performed by a trained construction crew. Daily oversight during installation will be provided by the Environmental Professional (EP) providing oversight on the project. Following installation of the vapor barrier, and prior to concrete placement, a smoke test will be performed to confirm that the barrier is properly sealed at all penetrations, seams, and edges. The MDE must be notified at least four business days prior to conducting the smoke test on-site.

A monitoring program has been developed to ensure sub-slab soil gas and indoor air are monitored following the installation of the vapor barrier and venting system. Details on the configuration of the sub-slab soil gas and indoor air monitoring points, installation specifications for the sub-slab monitoring points, sampling protocols and analyte list, and the proposed sampling schedule are included in the Sub-Slab Soil Gas & Indoor Air Monitoring Plan provided as **Appendix G**.

4.2.7 Landscaping

Much of the Site will be covered with landscaping caps as indicated in the development plans provided in **Appendix D** and summarized on **Figure 14**. The required minimum thicknesses of all site-wide landscaping sections which will serve as surface engineering controls are shown in the minimum capping section details provided in **Appendix E**. Landscaped areas at the Site will be installed with a minimum of 24 inches of VCP clean fill, with a geotextile marker fabric between the VCP clean fill and the existing underlying material. The proposed landscape sections for the Site meet the minimum capping requirements.

4.2.8 Stormwater Management

The proposed stormwater utility layout for the Site is provided on the development plan drawings in **Appendix D**. New stormwater infrastructure will be installed throughout the Site and will connect to existing subgrade stormwater utilities.

Tradepoint Atlantic is working with the MDE Industrial & General Permits Division to renew the property-wide National Pollutant Discharge Elimination System (NPDES) permit. The proposed stormwater management systems for each parcel are reviewed and approved by Baltimore County for each individual development project.

5.0 DEVELOPMENT IMPLEMENTATION PROTOCOLS

5.1 DEVELOPMENT PHASE

This plan presents protocols for the handling of soils and fill materials in association with the development of Sub-Parcel A11-2. In particular, this plan highlights the minimum standards for construction practices and managing potentially contaminated materials to reduce potential risks to workers and the environment.

Exceedances of the PALs were identified in soil samples across the Site. The PALs are set based on USEPA's RSLs for industrial soils, or other direct guidance from the MDE. Because PAL exceedances can present potential risks to human health and the environment at certain concentrations, this plan presents material management and other protocols to be followed during the work to adequately mitigate such potential risks for material remaining on-site during the development phase. There were multiple locations within, or adjacent to, the proposed development LOD with soil exceedances of the TPH/Oil & Grease PAL (6,200 mg/kg) and/or potential indications of NAPL in the soil cores. **Figure 8a** and **Figure 8b** provide an overview of the distribution of the NAPL and associated elevated chemical impacts in soil. Due to the known presence of NAPL, utility alignments and invert elevations must be considered with respect to these impacts prior to trenching. Soil screening will be especially important during any excavation of existing soil in these areas.

Construction Workers may contact impacted surface and/or subsurface soil during earth movement activities associated with construction, including within the temporary construction zones outside of the primary development area. All of the required ground intrusive construction work or activities which require contact with potentially impacted materials will be performed by OSHA HAZWOPER trained workers. The use of OSHA HAZWOPER trained workers will mitigate potential risks to Construction Workers by ensuring that the on-site work is performed by personnel who are trained and equipped for the conditions at the Site. The OSHA HAZWOPER trained workers will adhere to the PPE SOP provided as **Appendix C**. The modified Level D PPE requirements which will be applied during this project, including specific PPE details, planning, tracking/supervision, enforcement, and documentation, are outlined in the PPE SOP. The contractor will develop a site-specific HASP which will be applied to all on-site OSHA HAZWOPER trained workers who may be engaged in ground intrusive construction work or activities which require contact with potentially impacted materials. OSHA HAZWOPER trained workers will not be required during construction activities which do not have a significant exposure risk, such as above-grade building construction.

Based on the characterization of surface and subsurface soils, surface engineering controls are an acceptable remedy to be protective of future adult Composite Workers who otherwise could potentially contact surface soil (or relocated subsurface soil) at the Site. The proposed capping

sections will meet the required minimum thicknesses for surface engineering controls, which are provided in **Appendix E**. The potential for unacceptable VI risks/hazards resulting from the known presence of VOCs/SVOCs and NAPL will require the installation of a vapor barrier (with an underlying passive/active venting system) to mitigate the potential for intrusion of contaminant vapors into the logistics center.

5.1.1 Erosion/Sediment Control

Erosion and sediment controls will be installed prior to commencing work in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. The erosion and sediment controls will be approved by the MDE. In addition, the following measures will be taken to prevent contaminated soil from exiting the Site:

- Stabilized construction entrance will be placed at site entrance.
- A dry street sweeper will be used as necessary on adjacent roads, and the swept dust will be collected and properly managed.
- Accumulated sediment removed from silt fence, and sediment traps if applicable, shall be periodically removed and returned to the Site.

5.1.2 Soil Excavation and Utility Trenching

A pre-excavation meeting shall be held to address proper operating procedures for working on-site and monitoring excavations and utility trenching in potentially contaminated material. This meeting shall include the construction manager and the EP providing oversight on the project. During the meeting, the construction manager and the EP shall review the proposed excavation/trenching locations and any associated utility inverts. The construction manager will be responsible for conveying all relevant information regarding excavation/grading and/or utility work to the workers who will be involved with these activities. Evidence of NAPL has been observed in multiple areas within the development LOD based on prior investigations (see attached summary **Figure 8a** and **Figure 8b**). The Utility Excavation NAPL Contingency Plan (discussed below) must also be reviewed during the pre-excavation meeting. The HASP and PPE SOP for the project shall also be reviewed and discussed.

The EP will provide oversight of soil excavation/trenching activities as described in Section 5.6. Soil excavation/trenching will occur during various phases of construction. In general, and based on the existing sampling information, all excavated materials are expected to be suitable for replacement on the Site below surface engineering controls. However, the EP will monitor the soil excavation activities for signs of significantly contaminated material which may not be suitable for reuse (as described below). The EP will also be responsible for monitoring organic vapor concentrations in the worker breathing zone within utility trenches and excavations (as further described in Section 5.3).

To the extent practical, all excavation activities should be conducted in a manner to minimize double or extra handling of materials. Any stockpiles shall be kept within the Site footprint, and in a location that is not subjected to concentrated stormwater runoff. Stockpiles shall be managed as necessary to prevent the erosion and off-site migration of stockpiled materials, and in accordance with the applicable provisions of the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. Soil designated for replacement on-site which does not otherwise exhibit evidence of contamination (as determined by the EP) may be managed in large stockpiles (no size restriction) as long as they remain within the erosion and sediment controls.

All utility trenches will be backfilled with bedding and backfill materials approved by the MDE for industrial use. A general utility cross section is provided as **Appendix H**. Additional preventative measures will be required if evidence of petroleum contamination is encountered, to prevent the discharge to, or migration of, petroleum product along a utility conduit. Contingency measures have been developed to ensure that utilities will be constructed in a manner that will prevent the migration of any encountered NAPL, and that excavated material will be properly managed. The Utility Excavation NAPL Contingency Plan (**Appendix I**) provides protocols to be followed if NAPL is encountered during the construction activities. Preventative measures to inhibit the spread of petroleum product will be conducted in accordance with this plan.

All utility corridors which pass through areas containing elevated chemical impacts and that have the potential to preferentially transmit contaminated vapors or groundwater along the utility line shall be plugged using 1) low permeability backfill material; or 2) trench plugs in accordance with the details shown on the utility trench plug detail within the Utility Excavation NAPL Contingency Plan. **Figure 17** highlights areas which have already been identified with NAPL or elevated VOC/SVOC impacts in soil or groundwater based on prior investigations. Mitigative measures (i.e., low permeability backfill and/or trench plugs) will be required in these areas; an approximately 25-foot buffer was added surrounding the known impacts to conservatively define the area where mitigative measures shall be implemented to prevent potential migration. Low permeability backfill is defined as material with a permeability less than the permeability of the existing subgrade. The use of trench fill material with a permeability less than the surrounding subgrade will prevent the creation of a preferential flow conduit along the trench. Geotechnical testing data for any proposed low permeability backfill will be submitted to the MDE for approval prior to placement of the selected material along utility corridors.

The EP will monitor all soil excavation and utility trenching activities for signs of potential contamination. In particular, soils will be monitored with a hand-held PID for potential VOCs, and will also be visually inspected for the presence of staining, petroleum waste materials, or other indications of significant contamination. If screening of excavated materials by the EP indicates the presence of conditions of potential concern (i.e., sustained PID readings greater than 10 ppm, visual staining, unsuitable waste materials, etc.), such materials shall be segregated for additional sampling and special management.

Excavated material exhibiting evidence of significant contamination shall be placed in stockpiles (not to exceed 500 cubic yards) on polyethylene sheeting and covered with polyethylene sheeting to minimize potential exposures and erosion when not in use. Materials stockpiled due to evidence of contamination will be sampled in accordance with waste disposal requirements and transported to an appropriate permitted disposal facility. Plans for analysis of segregated soils for any use other than disposal must be submitted to the MDE for approval.

Excavated material that is visibly impacted by NAPL will be segregated and managed in accordance with the requirements specified in the Utility Excavation NAPL Contingency Plan. Excavated material with indications of possible NAPL contamination will also be containerized or placed in a stockpile (not to exceed 500 cubic yards) on polyethylene sheeting and covered with polyethylene sheeting until the material can be analyzed for TPH/Oil & Grease and PCBs (total) to characterize the material for appropriate disposal. The MDE will be notified if such materials are encountered during excavation or utility trenching activities.

5.1.3 Soil Sampling and Disposal

Excavated materials that are determined by the EP to warrant sampling and analysis because of elevated PID readings or other indications of potential contamination shall be sampled and analyzed to determine how the materials should be managed. If excavated and stockpiled, such materials should be covered with a polyethylene tarp to minimize potential exposures and erosion. All stockpiled soil may be considered for use as fill at this Site or on other areas of the property depending on the analytical results. A sampling Work Plan including a description of the material, estimated volume, and sampling parameters will be submitted to the MDE for approval. The resulting analytical data will be submitted to the MDE to determine the suitability of the material for reuse. If the MDE determines that the materials are unsuitable for reuse, the materials will be sampled to determine if they are classified as hazardous waste.

Soil material that is determined to be a hazardous waste shall be shipped off-site in accordance with applicable regulations to an appropriate and permitted RCRA disposal facility. Soil material may be taken to an appropriate non-hazardous landfill (including Greys Landfill) for proper disposal if the concentrations of excavated sampled materials indicate that the materials are not hazardous, but still are not suitable for reuse. The quantities of all materials that require disposal, if any, will be recorded and identified in the Development Completion Report.

5.1.4 Fill

Processed slag aggregate sourced from the Tradepoint Atlantic property will be used as the primary fill material for this project. The processed slag aggregate will be placed below the surface engineering controls (i.e., caps) installed across the Site. Soil excavated on the sub-parcel has been determined to be suitable for re-use at the Site below the surface engineering controls, unless such

materials are determined by the EP/MDE to be unsuitable for use as outlined in Section 5.1.2 and Section 5.1.3.

All utility trenches will be backfilled with bedding and backfill approved by the MDE for industrial use (which may include utility trench spoils). As with structural fill, processed slag aggregate and other materials approved for industrial use can be used as backfill in utility trenches if the area will be covered by a VCP cap. Any utility backfill which will extend into the cap (i.e., top 2 feet of backfill in landscaped areas) must meet the VCP clean fill requirements, and a geotextile marker fabric will be placed between the VCP clean fill and any underlying material. Materials placed in areas outside of the Site boundary (i.e., within the temporary construction zones outside of Sub-Parcel A11-2) must meet the VCP clean fill requirements, or be otherwise approved by the MDE prior to placement. A general utility detail drawing is provided as **Appendix H**. Material imported to the Site will be screened according to MDE guidance for suitability.

All utility corridors which pass through areas containing NAPL or elevated chemical impacts and that have the potential to preferentially transmit contaminated vapors or groundwater along the utility line (as defined on **Figure 17**) shall be plugged using 1) low permeability backfill material (less than or equal to the permeability of the existing subgrade); or 2) trench plugs in accordance with the details shown in the Utility Excavation NAPL Contingency Plan (**Appendix I**).

5.1.5 Dust Control

General construction operations, including soil excavation and transport, and trenching for utilities will be performed at the Site. These activities are anticipated to be performed in areas of soil impacted with COPCs. Best management practices should be undertaken at the Sparrows Point property as a whole to prevent the generation of dust which could impact other areas of the property outside of the immediate work zone. To limit worker exposure to contaminants borne on dust and windblown particulates, dust monitoring will be performed in the immediate work zone and at the upwind and downwind perimeter of the Site, and dust control measures will be implemented if warranted based on the monitoring results. The action level proposed for the purpose of determining the need for dust suppression techniques (e.g. watering and/or misting) during the development activities at the Site will be 3.0 mg/m³. The lowest of the site-specific dust action levels, OSHA PELs, and ACGIH TLV was selected as the proposed action level.

The EP will be responsible for the dust monitoring program. Air monitoring will be performed using Met One Instruments, Inc. E-Sampler dust monitors or equivalent real-time air monitoring devices. The EP will set-up dust monitoring equipment at the outset of ground intrusive work or other dust-generating activities, and continuous dust monitoring will be performed during this work. In addition to work area monitoring, a dust monitor will be placed at selected perimeter locations that will correspond to the upwind and downwind boundaries based on the prevailing wind direction predicted for that day. The prevailing wind direction will be assessed during the

day, and the positions of the perimeter monitors will be adjusted if there is a substantial shift in the prevailing wind direction.

Once all dust-generating activities are complete (which may occur at a later stage of the project once ground intrusive work has been completed or after the Site has been capped), the dust monitoring program may be discontinued. If additional dust-generating activities commence, additional dust monitoring activities will be performed.

If sustained dust concentrations exceed the action level (3.0 mg/m³) at any of the monitoring locations as a result of conditions occurring at the Site, operations will be stopped temporarily until dust suppression can be implemented. Operations may be resumed once monitoring indicates that dust concentrations are below the action level. The background dust concentration will be utilized to evaluate whether Site activities are the source of the action level exceedance. The background dust concentration will be based on measurements over a minimum of a 1-hour period at the upwind Site boundary. The upwind data will be used to calculate a time weighted average background dust concentration. As noted above, the locations of the perimeter dust monitors may be adjusted periodically if there is a substantial shift in the prevailing wind direction.

As applicable, air monitoring will be conducted during development implementation activities to assess levels of exposure to Site workers, establish that the work zone designations are valid, and verify that respiratory protection being worn by personnel, if needed, is adequate. Concurrent with the work zone air monitoring, perimeter air monitoring will also be performed at the upwind and downwind Site boundaries to ensure contaminants are not migrating off-site. The concentration measured at the downwind perimeter shall not exceed the action level of 3.0 mg/m³, unless caused by background dust from upwind of the Site. If exceedances of the action level are identified downwind for more than five minutes, the background dust concentration shall be evaluated to determine whether the action level exceedances are attributable to Site conditions. If on-site activities are the source of the exceedances, dust control measures and additional monitoring will be implemented. The dust suppression measures may include wetting or misting using a hose connected to a water supply or a water truck stationed at the Site.

Dust control measures will be implemented as described above to address dust generated as a result of construction activities conducted at the Site. However, based on the nature of the area and/or ongoing activities surrounding the Site, it is possible that windblown particulates may come from surrounding areas. As discussed above, the dust concentration in the upwind portion of the Site will be considered when monitoring dust levels in the work area. A pre-construction meeting will be held to discuss the potential of windblown particulates from other activities impacting the air monitoring required for this RADWP. Site contact information will be provided to address the possibility of upwind dust impacts. If sustained dust is observed above the action level (3.0 mg/m³) and it is believed to originate from off-site (i.e., upwind) sources, this will immediately be reported to the MDE-VCP project team, as well as the MDE Air and Radiation Administration (ARA).

5.2 WATER MANAGEMENT

This plan presents the protocols for handling any groundwater or surface water that needs to be removed to facilitate construction of the proposed Sub-Parcel A11-2 development.

5.2.1 Groundwater PAL Exceedances

The shallow groundwater wells and temporary groundwater sample collection points which were sampled within and surrounding the development LOD during the Parcel A11 Phase II Investigation and supplemental sampling activities are shown on **Figure 5** and **Figure 7**. Aqueous PAL exceedances in shallow groundwater in the vicinity of the development LOD included both inorganic and organic compounds, including several elevated detections of VOCs and SVOCs. The aqueous PAL exceedances from the shallow hydrogeologic zone are provided in the detection summary tables (**Table 3** and **Table 4**). While the concentrations of PAL exceedances are not deemed to be a significant human health hazard for future Composite Workers since there is no on-site groundwater use which could lead to direct exposures (and indirect exposures will be mitigated via the installation of the sub-slab vapor barrier and passive/active venting system), proper water management is required during construction to prevent unacceptable discharges or risks to Construction Workers.

5.2.2 Dewatering

Dewatering may be necessary during the installation of underground utilities and within excavations/trenches due to intrusion of groundwater, stormwater, and/or dust control waters. **Figure 11** displays the shallow groundwater elevations underlying the Site based on prior investigation data. If dewatering is required, it shall be done in accordance with all local, state, and federal regulations.

Tradepoint Atlantic is coordinating with Baltimore County to determine if dewatering fluids may be discharged into the county sanitary sewer system through their Industrial Wastewater Discharge program. If pursued, Tradepoint Atlantic will apply for a temporary Industrial Wastewater Discharge Permit for the development activities from Baltimore County and will abide by all requirements of the permit. Discharge into the county sanitary sewer system may be utilized with or without pre-treatment based on the requirements of the county's temporary Industrial Wastewater Discharge Permit. Based on its location on the property, discharge into the county sanitary sewer system is the preferred disposal method for dewatering fluids.

If Tradepoint Atlantic determines it is infeasible to discharge dewatering fluids into the county sanitary sewer system, dewatering fluids may be transported to the Humphrey Creek Wastewater Treatment Plant (HCWWTP), in which case the water will be treated and discharged in accordance with NPDES Permit No. 90-DP-0064A; I. Special Conditions; A.4; Effluent Limitations and Monitoring Requirements. Water in the Tin Mill Canal (TMC) flows into the HCWWTP for final treatment before being discharged into Bear Creek. If the HCWWTP is selected as the disposal

location, dewatering fluids will be tested pursuant to the protocol submitted within the HCWWTP Constituent Threshold Limits for Dewatering Activities related to Remediation, Development, and Capping Letter dated March 3, 2021. If the groundwater does not meet the constituent threshold limits specified in the protocol, the groundwater will be pre-treated. Due to the conditions identified in the area, additional test pitting will be performed (above the density specified in the protocol), in order to demonstrate compliance with the HCWWTP constituent thresholds. A sampling plan will be provided to the MDE prior to this sampling. If required the groundwater will be pre-treated, periodically tested, transported, and discharged per the following procedure:

A conceptual flow diagram showing the treatment system is provided as **Appendix J**. Accumulated dewatering fluids will be pumped into an inlet collection tank. The collection tank will be a frac tank which will provide settling time for solids. The water will then be pumped through bag filters and granular activated carbon (GAC) vessels. Following this pre-treatment, the water will be either: 1) discharged to the TMC through a newly constructed conveyance pipe, or 2) trucked directly to the HCWWTP for final treatment.

Samples will be collected at the inlet after the filter bags (influent), between the first and second GAC vessels (midfluent), and after the last GAC vessel (effluent). The pre-treated water will be tested upon startup and then weekly thereafter for VOCs and SVOCs until the completion of the water treatment portion of the Sub-Parcel A11-2 project. Breakthrough of organic contaminants through the GAC vessels is not anticipated. Early detection of potential breakthrough will be achieved via the weekly midfluent VOC and SVOC samples. Note that additional analyses could be required if warranted based on field observations by the EP. In such case, the analyses run will be dependent on the suspected source of contamination and local site conditions.

The results of the analyses will be reviewed by the HCWWTP operator to determine if any wastewater treatment system adjustments are necessary. If the results of the analyses are above the listed threshold levels, the water will be further evaluated to confirm acceptable treatment at the HCWWTP, or will be evaluated to design an additional pre-treatment option. Alternatively, the water may be disposed of at an appropriate off-site facility.

Analysis	**Threshold Levels**
Total metals by USEPA Method 6020A	1,000 ppm
PCBs by USEPA Method 8082	>Non-Detect
SVOCs by USEPA Method 8270C	1 ppm
VOCs by USEPA Method 8260B	1 ppm
Oil & Grease by USEPA Method 1664	200 ppm
TPH-DRO by USEPA Method 8015B	200 ppm
TPH-GRO by USEPA Method 8015B	200 ppm

The final selected disposal option will be provided to the MDE prior to initiation of dewatering activities for this Sub-Parcel A11-2 development project. If future adjustments to the dewatering plan are proposed, these will be submitted to the MDE for review prior to implementation. Monthly progress reports will be submitted to the agencies with data from disposal water sampling. Quarterly Progress Reports will also be submitted for Sub-Parcel A11-2 consistent with other development projects on the property. TPA is currently in the process of coordinating with Baltimore County to potentially convey water directly to the County POTW. If this alternative for disposal is selected, TPA will provide confirmation of Baltimore County's approval to dispose of groundwater to the County POTW prior to completing this work. Documentation of the above outlined water testing, as well as the selected disposal option, will also be reported to the agencies in the Development Completion Report. Any permits or permit modifications related to dewatering will be provided to the agencies as addenda to this RADWP.

5.3 HEALTH AND SAFETY

Since the project is expected to encounter soil that is impacted with elevated levels of COPCs, in particular elevated VOCs/SVOCs and NAPL, all of the required ground intrusive construction work or activities which require contact with potentially impacted materials will be performed by OSHA HAZWOPER trained workers. The use of OSHA HAZWOPER trained workers will mitigate potential risks to Construction Workers by ensuring that the on-site work is performed by personnel who are trained and equipped for the conditions at the Site. The contractor providing the OSHA HAZWOPER trained workers will develop a site-specific HASP which will be applied to all on-site workers who may be engaged in the above-referenced activities. The HASP will specify workspace monitoring, Action Levels, and the appropriate PPE for worker health and safety protection for the project. At a minimum, the OSHA HAZWOPER trained workers will adhere to the modified Level D PPE requirements provided as **Appendix C**.

A Site Safety Officer must be designated within the contractor's HASP. A copy of the HASP will be maintained on-site and will be made available to the EP. The EP will be responsible for monitoring organic vapor concentrations in the worker breathing zone within the trenches and will coordinate with the designated Site Safety Officer (provided by the contractor) to determine whether any increased level of health and safety protection (including engineering controls and/or PPE) is required. The designated Site Safety Officer will be responsible for ensuring compliance with the requirements of the HASP, and for enforcing these requirements.

Prior to commencing work, the contractor must conduct an on-site safety meeting for all personnel. All personnel must be made aware of the HASP and the PPE SOP. Detailed safety information shall be provided to personnel who may be exposed to COPCs. Workers will be responsible for following established safety procedures to prevent contact with potentially contaminated material. The EP may elect to adopt the contractor's HASP, or can prepare their own site-specific HASP.

OSHA HAZWOPER trained workers will not be required during construction activities which do not have a significant exposure risk, such as above-grade building construction.

5.4 Institutional Controls (Future Land Use Controls)

Long-term conditions related to future use of the Site will be placed on the RADWP approval, NFA, and COC. These conditions are anticipated to include the following:

- A restriction prohibiting the use of groundwater for any purpose at the Site and a requirement to characterize, containerize, and properly dispose of groundwater in the event of deep excavations encountering groundwater. The entire Tradepoint Atlantic property will be subject to the groundwater use restriction.
- Notice to the MDE at least 30 days prior to any future soil disturbances that are expected to breach the approved capping remedy (i.e., through the pavement cap or marker fabric in landscaped areas).
- Notice to the USEPA at least 30 days prior to any future soil disturbances that are expected to breach the approved capping remedy, only if the contractor will not use the modified Level D PPE specified in the approved SOP.
- Requirement for a HASP in the event of any future excavations at the Site.
- Complete appropriate characterization and disposal of any material excavated at the Site in accordance with applicable local, state and federal requirements.
- Requirement to further evaluate vapor control measures if another enclosed structure is proposed in the future on the Site.
- Implementation of inspection procedures and maintenance of the containment remedies.

The responsible party will file the above deed restrictions as defined by the MDE-VCP in the NFA and COC. The Tenant will be required to sign onto the Environmental Covenant with restriction in the NFA. Tradepoint Atlantic will notify the Tenant of this requirement and will provide MDE with contact information for the Tenant prior to issuance of the NFA.

5.5 Post Remediation Requirements

Post remediation requirements will include compliance with the conditions specified in the NFA, COC, and the deed restrictions recorded for the Site. Deed restrictions will be recorded within 30 days after receipt of the final NFA. In addition, the MDE and USEPA will be provided with a written notice of any future excavations (as applicable) in accordance with the requirements given in Section 5.4. Written notice of planned excavation activities will include the proposed date(s) for the excavation, location of the excavation, health and safety protocols (as required), clean fill source (as required), and proposed characterization and disposal requirements.

Additional requirements will include inspection procedures and maintenance of the containment remedies to minimize degradation which could lead to future exposures. An Operations and Maintenance Plan (O&M Plan) will be submitted in the future for MDE approval. This O&M Plan will include long-term inspection and maintenance requirements for the capped areas of the Site as well as the vapor barrier. The responsible party will perform cap/barrier inspections, perform maintenance of the cap/barrier, and retain inspection records, as required by the O&M Plan. The O&M Plan must include specific requirements for the repair of any future penetrations of the vapor barrier below the floor slab.

The responsible party will also perform indoor air and/or sub-slab soil gas sampling. A sampling program has been developed to ensure sub-slab soil gas and indoor air are monitored following the installation of the vapor barrier and venting system. Details on the configuration of the sub-slab soil gas and indoor air monitoring points, installation specifications for the sub-slab monitoring points, sampling protocols and analyte list, and the proposed sampling schedule are included in the Sub-Slab Soil Gas & Indoor Air Monitoring Plan provided as **Appendix G**.

The two buildings proposed on Sub-Parcel A11-2 may have separate tenants; therefore, occupancy requirements for each building may be implemented on separate schedules. If construction on one of the two buildings and associated capped areas is largely complete, this area will be segregated from remaining active construction areas through the use of temporary fencing. The pre-occupancy indoor air and/or sub-slab soil gas sampling noted above for the two buildings will be completed based on the proposed occupancy schedule for each building.

5.6 CONSTRUCTION OVERSIGHT

Construction Oversight by an EP will ensure and document that the project is built as designed and appropriate environmental and safety protocols are followed. Upon completion, the EP will certify that the project is constructed in accordance with this RADWP.

The EP will monitor all soil excavation and utility trenching activities for signs of contamination that may indicate materials that are not suitable for reuse. In particular, soils will be monitored with a hand-held PID for potential VOCs, and will also be visually inspected for staining, petroleum waste materials, or other indications of significant contamination. If screening of excavated materials by the EP indicates the presence of conditions of potential concern (i.e., sustained PID readings greater than 10 ppm, visual staining, unsuitable waste materials, etc.), such materials shall be segregated for additional sampling and special management (as described in Section 5.1.2; Soil Excavation and Utility Trenching). The EP will also perform routine periodic breathing zone monitoring and PPE spot checks during ground intrusive activities. The EP will also inspect any water that collects in the excavations/trenches on an as-needed basis to coordinate appropriate sampling prior to disposal (as described in Section 5.2.2; Dewatering).

Daily inspections, as necessary, will be performed during general site grading and cap construction activities. The EP will verify that the vapor barrier is installed in accordance with the manufacturer's specifications and any seams or penetrations are sealed properly (as described in Section 4.2.5; Sub-Slab Vapor Barrier with Passive/Active Venting System), appropriate fill materials are being used (as described in Section 5.1.4; Fill), dust monitoring and control measures are being implemented as appropriate (as described in Section 5.1.5; Dust Control), the requirements of the HASP and the PPE SOP are being enforced by the designated Site Safety Officer (as described in Section 5.3; Health and Safety), and surface engineering controls are being installed with the appropriate thicknesses (shown in the attachments). Oversight by an EP will not be required during construction activities which do not have a significant environmental component, such as above-grade building construction.

Records shall be provided by the EP to document:

- Compliance with soil screening requirements
- Proper water management, including documentation of testing and water disposal
- Observations of construction activities during site grading and cap construction
- Proper construction of sub-slab vapor barrier
- Proper cap thickness and construction

6.0 PERMITS, NOTIFICATIONS AND CONTINGENCIES

The participant and their contractors will comply with all local, state, and federal laws and regulations by obtaining any necessary approvals and permits to conduct the activities contained herein. Any permits or permit modifications from State or local authorities will be provided as addenda to this RADWP.

A grading permit is required if the proposed grading disturbs over 5,000 square feet of surface area or over 100 cubic yards of earth. A grading permit is required for any grading activities in any watercourse, floodplain, wetland area, buffers (stream and within 100 feet of tidal water), habitat protection areas or forest buffer areas (includes forest conservation areas). Erosion and Sediment Control Plans will be submitted to, and approved by, the MDE prior to initiation of land disturbance for development.

TPA will notify the MDE prior to the start of any future ground-intrusive work at the Site that is expected to breach the approved capping remedy (regardless of the work duration). Based on the findings of the Construction Worker SLRA, additional site-specific health and safety requirements will be required for any future work within the site-wide EU regardless of the work duration. There requirements will include:

- Site-specific HASP which will be applied to all on-site OSHA HAZWOPER trained workers who may be engaged in ground intrusive construction work or activities which require contact with potentially impacted materials;
- Modified Level D PPE (coveralls, gloves, dust mask, etc.) for ALL ground intrusive activities to reduce ingestion and dermal exposures;
- OSHA HAZWOPER trained workers for ALL ground intrusive activities;
- Contingent air monitoring (in accordance with Section 7 of the property-wide TPA HASP) for ALL ground intrusive work at the site, to include an enhanced breathing space air monitoring program. Action levels and response actions for oxygen and organic vapor concentrations are presented in Section 7. The results of the breathing space air monitoring will determine whether any increased level of health and safety protection (including engineering controls and/or additional PPE) is required.

Contingency measures will include the following:

1. The MDE will be notified immediately of any previously undiscovered contamination, previously undiscovered storage tanks and other oil-related issues, and citations from regulatory entities related to health and safety practices.

2. Any significant change to the implementation schedule will be noted in the progress reports to MDE.

3. Modified Level D PPE will be used for the entire scope of ground intrusive work covered by this RADWP as a protective measure to ensure that there are no unacceptable exposures for Construction Workers during project implementation. The modified Level D PPE requirements which will be applied during this project are outlined in the PPE SOP provided as **Appendix C**. If it is not possible to implement the PPE SOP as provided, the agencies will be notified and a RADWP Addendum will be submitted to detail any appropriate mitigative measures.

7.0 IMPLEMENTATION SCHEDULE

Progress reports will be submitted to the MDE on a quarterly basis. Each quarterly progress report will include, at a minimum, a discussion of the following information regarding tasks completed during the specified quarter:

- Development Progress
- Dust Monitoring
- Water Management
- Soil Management (imported materials, screening, stockpiling)
- Soil Sampling and Disposal
- Notable Occurrences (if applicable)
- Additional Associated Work (if applicable)

The proposed implementation schedule is shown below:

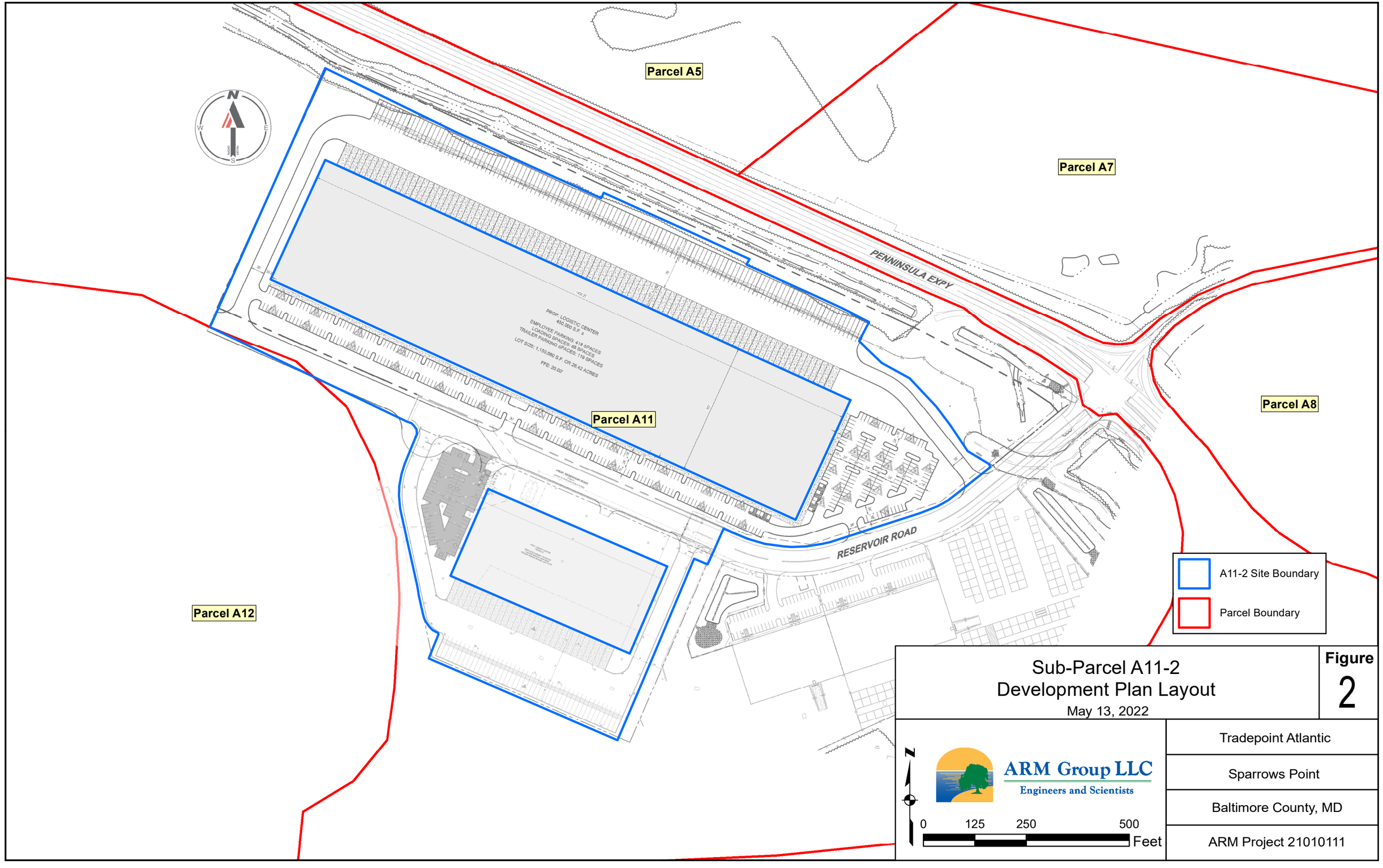
Task	**Proposed Completion Date**
Anticipated RADWP Approval	July 2022
Groundwater Network Abandonments	July 2022
Installation of Erosion and Sediment Controls	Complete
Slag (or Alternative Fill) Delivery and Placement	June 2022
Site Preparation/Grading – Building Pad & Parking	June 2022/December 2022
Utility Installations	July 2022
Construction of Building	July 2022 (start)
Installation of Pavements	September 2022 (start)
Pre-Occupancy Sub-Slab Soil Gas Monitoring	*Dependent on occupancy schedule*
Submittal of Development Completion Report/ Notice of Completion of Remedial Actions*	March 2023
Post-Occupancy Indoor Air & Sub-Slab Soil Gas Monitoring	*Dependent on occupancy schedule*

Request for NFA from the MDE	April 2023
Recordation of institutional controls in the land records office of Baltimore County	Within 30 days of receiving the approval of NFA from the MDE
Submit proof of recordation with Baltimore County	Upon receipt from Baltimore County

*Notice of Completion of Remedial Actions will be prepared by Professional Engineer registered in Maryland and submitted with the Development Completion Report to certify that the work is consistent with the requirements of this RADWP and the Site is suitable for occupancy and use.

FIGURES


Sub-Parcel A11-2 Boundary
Site Boundary
Parcel Boundaries
Private Property
Parcel A9
Parcel A13
Parcel A5
Parcel A7
Parcel A14
Parcel A11
A11-2
Parcel A8
Parcel A12
Parcel A15
Parcel A2
Parcel A17
Parcel A18
Parcel A16
Parcel A6
Parcel A10
Parcel A4
Parcel A3
Parcel A1
Parcel B6
Parcel B8
Parcel B14
Parcel B21
Parcel B22
Parcel B16
Parcel B24
Parcel B15
Parcel B23
Parcel B7
Parcel B25
Parcel B1
Parcel B2
Parcel B3
Parcel B17
Parcel B19
Parcel B4
Parcel B5
Parcel B9
Parcel B18
Parcel B10
Parcel B13
Parcel B20
Parcel B11
Parcel B12
Tradepoint Atlantic
Area A and Area B Parcels
May 13, 2022
Figure
1
ARM Group LLC
Engineers and Scientists
0 500 1,000 2,000
Feet
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
Area A: Project 210101
Area B: Project 210102



Sub-Parcel A11-2
Development Plan Layout

May 13, 2022

Figure 2

ARM Group LLC
Engineers and Scientists

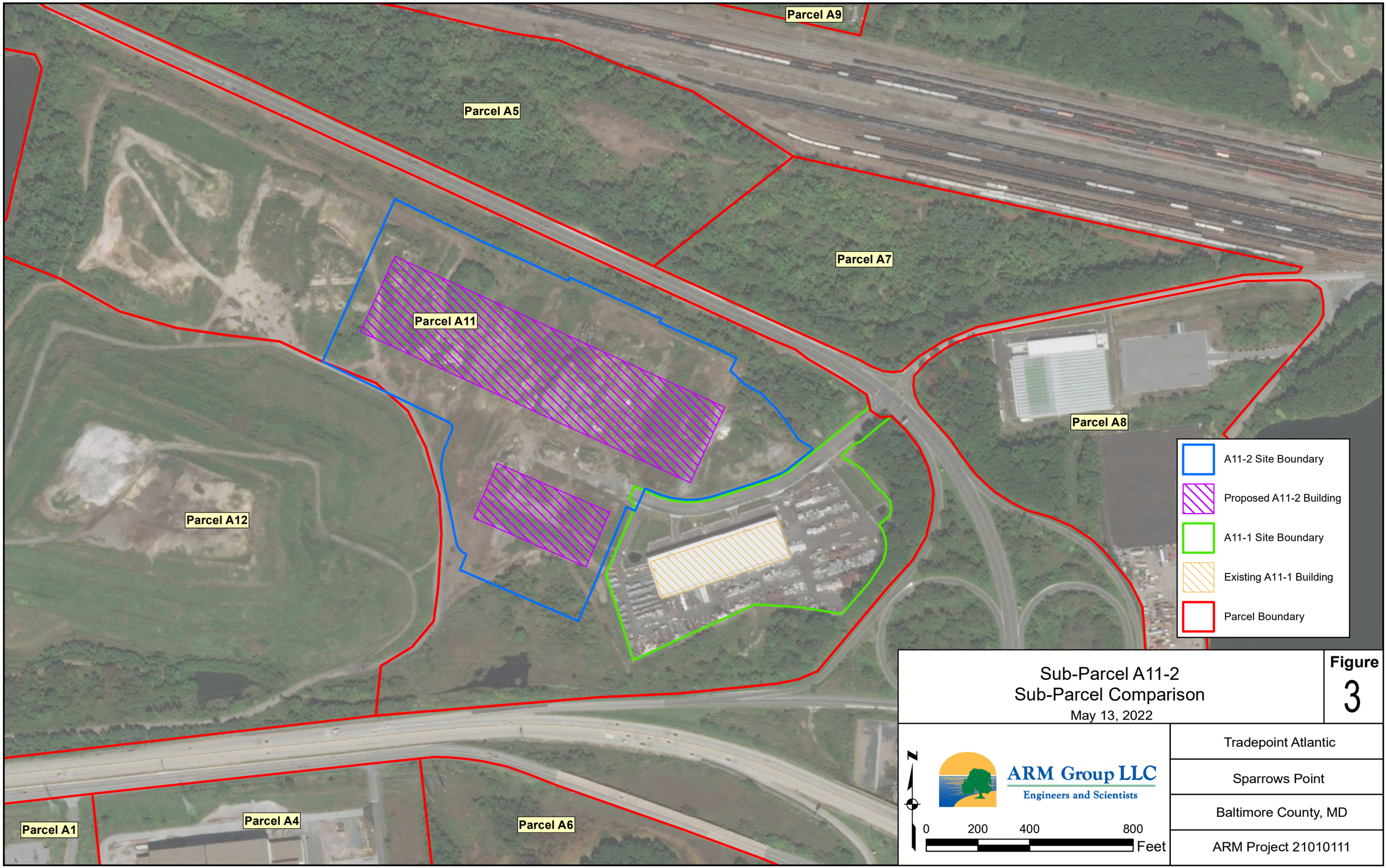
0 125 250 500 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111



Sub-Parcel A11-2
Sub-Parcel Comparison
May 13, 2022

Figure 3

ARM Group LLC
Engineers and Scientists

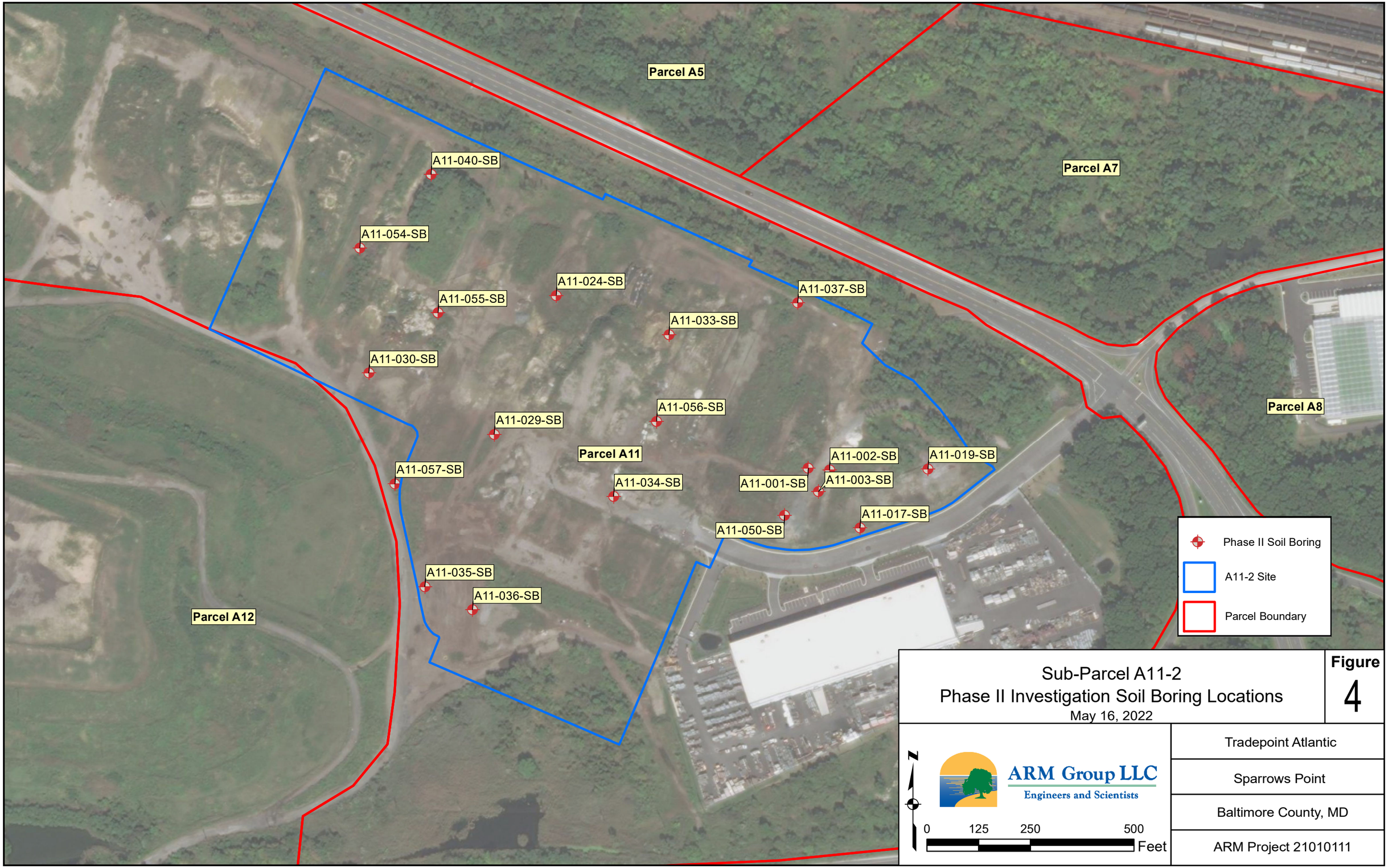
0 200 400 800 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111

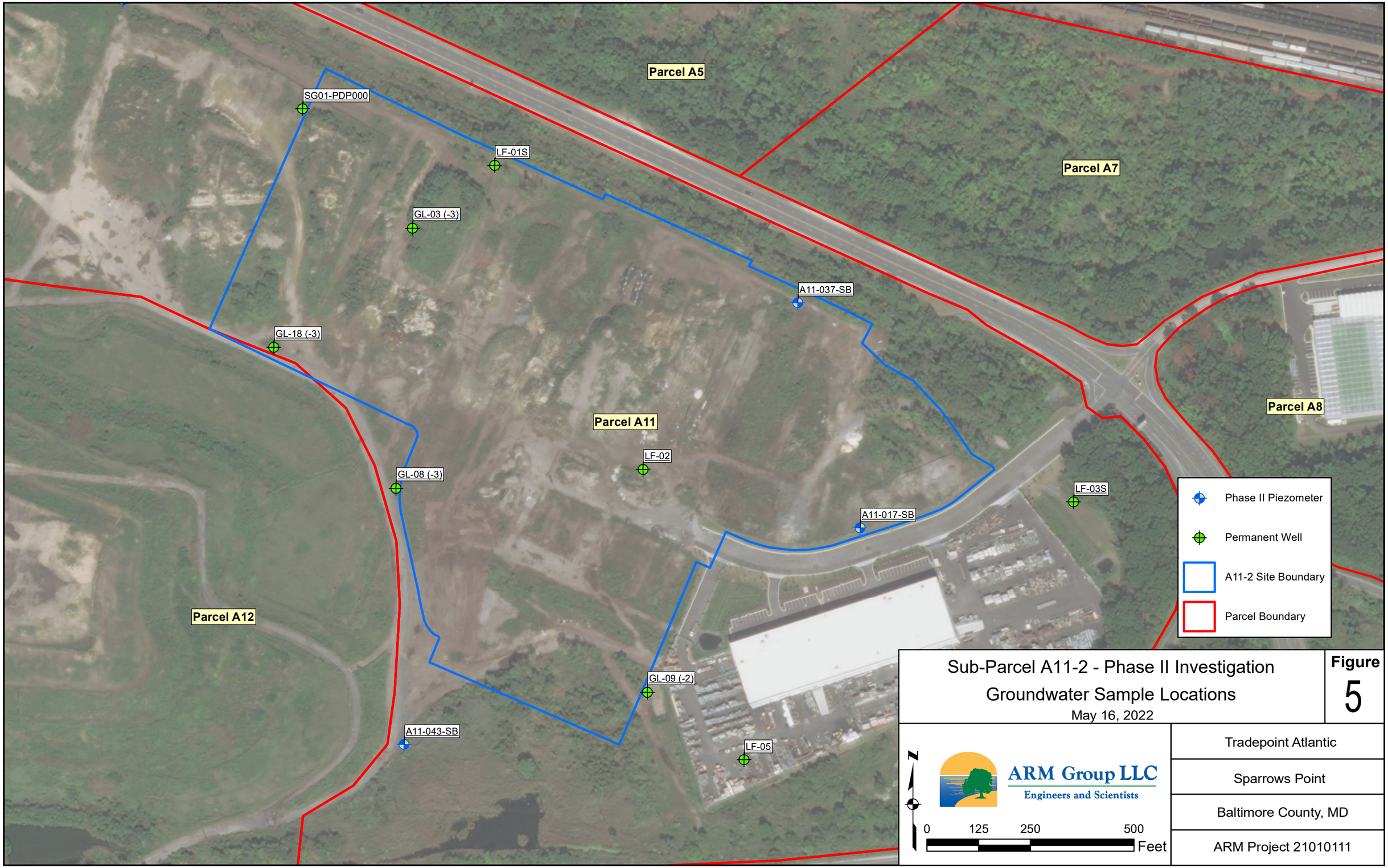


Sub-Parcel A11-2
Phase II Investigation Soil Boring Locations
May 16, 2022

Figure 4

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010111

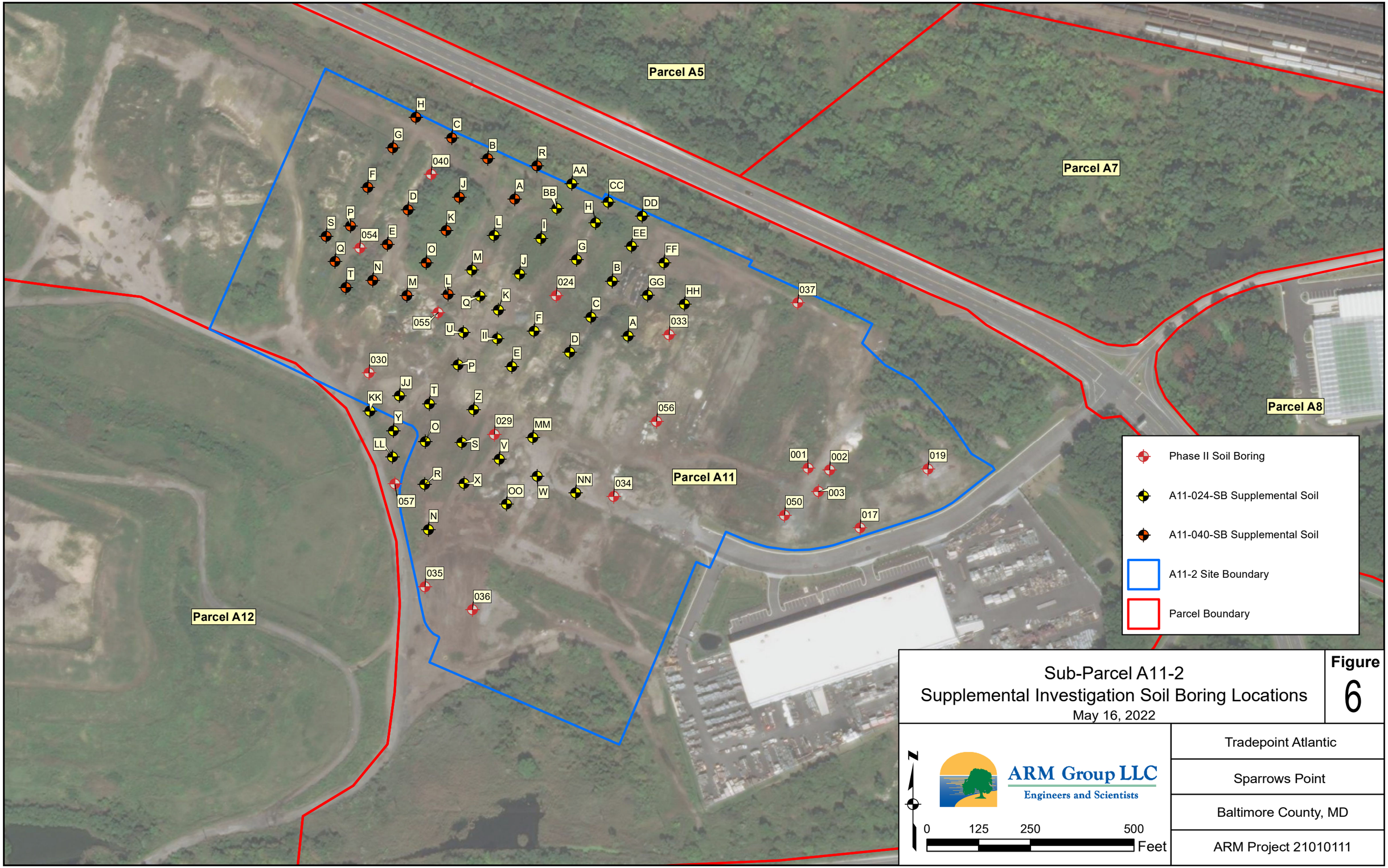


Sub-Parcel A11-2 - Phase II Investigation
Groundwater Sample Locations
May 16, 2022

Figure 5

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010111



Sub-Parcel A11-2
Supplemental Investigation Soil Boring Locations
May 16, 2022

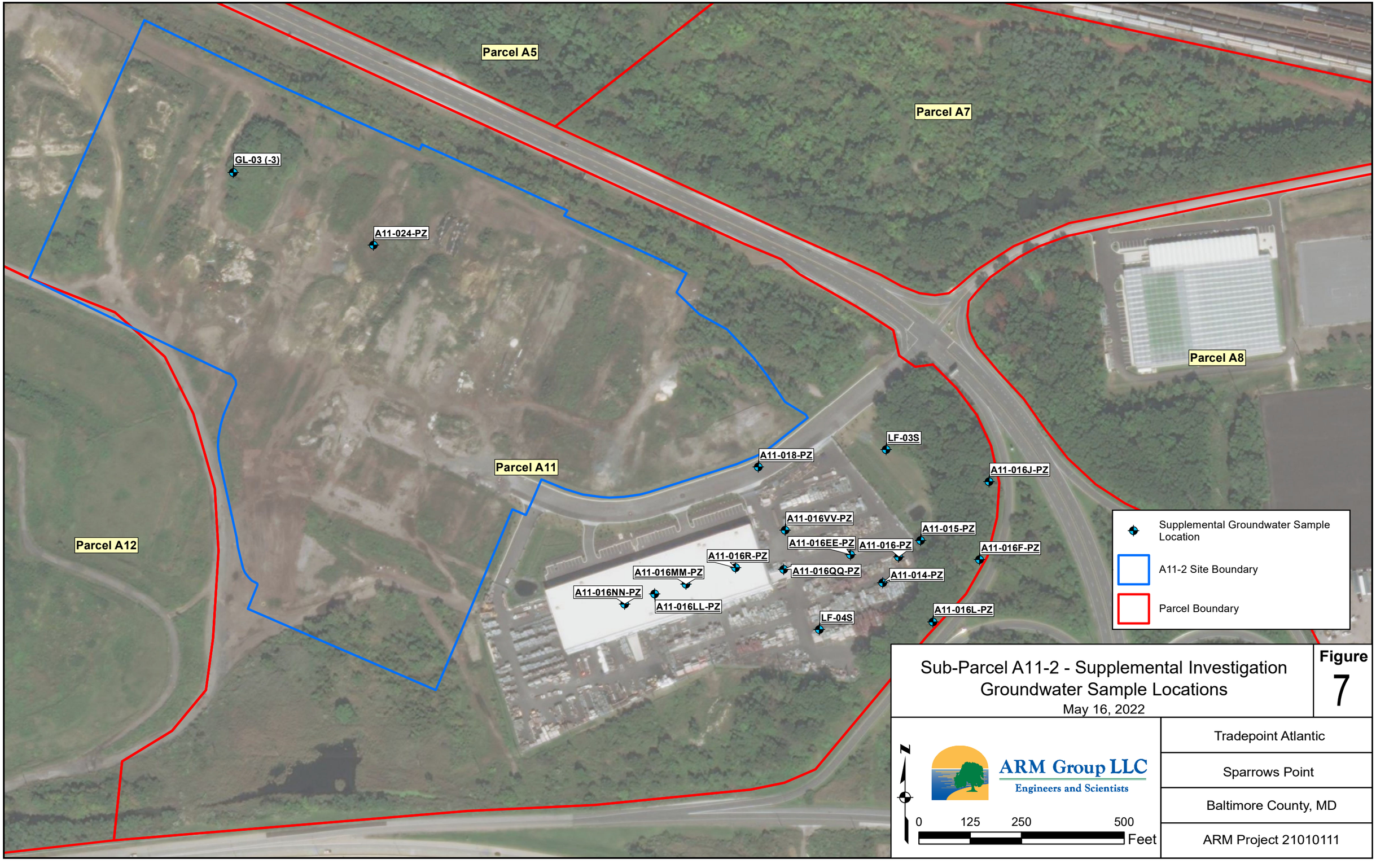
Figure 6

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111



Sub-Parcel A11-2 - Supplemental Investigation
Groundwater Sample Locations
May 16, 2022

Figure 7

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111

Parcel A5

Parcel A7

Parcel A11

Parcel A12

Parcel A8

Soil Boring Location (with NAPL)

Soil Boring Location (with Sheen; No NAPL)

Soil Boring Location (Inconclusive due to Refusal)

Soil Boring Location (No NAPL)

Laboratory Results >1E-4 Delineation Threshold(s): Naphthalene > 275 mg/kg Benzo[a]pyrene > 75 mg/kg Benzene > 150 mg/kg

Laboratory Results <1E-4 Delineation Thresholds

Laboratory Results Not Available

A11-2 Site Boundary

Parcel Boundary

Building

Sub-Parcel A11-2
Soil NAPL/Chemical Conditions - 0 to 5 ft bgs

May 29, 2022

Figure 8a

ARM Group LLC
Engineers and Scientists

0 125 250 500 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111

Parcel A5

Parcel A7

Parcel A11

Parcel A12

Parcel A8

Soil Boring Location (with NAPL)

Soil Boring Location (with Sheen; No NAPL)

Soil Boring Location (Inconclusive due to Refusal)

Soil Boring Location (No NAPL)

Laboratory Results >1E-4 Delineation Threshold(s):
Naphthalene > 275 mg/kg
Benzo[a]pyrene > 75 mg/kg
Benzene > 150 mg/kg

Laboratory Results <1E-4 Delineation Thresholds

Laboratory Results Not Available

A11-2 Site Boundary

Parcel Boundary

Building

Sub-Parcel A11-2
Soil NAPL Observations - Below 5 ft bgs

May 29, 2022

Figure 8b

ARM Group LLC
Engineers and Scientists

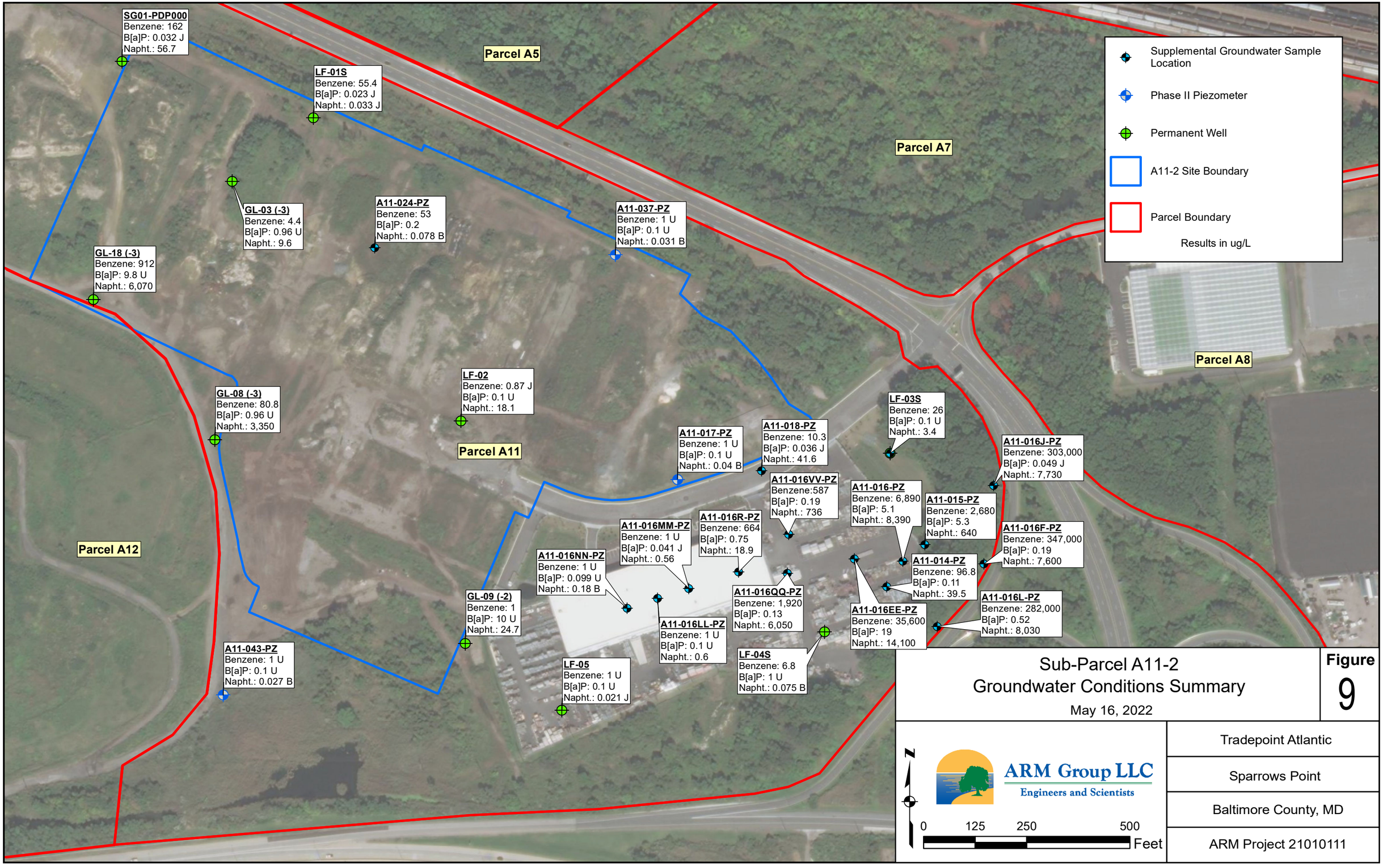
0 125 250 500 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111



Sub-Parcel A11-2
Groundwater Conditions Summary

May 16, 2022

Figure 9

N

ARM Group LLC
Engineers and Scientists

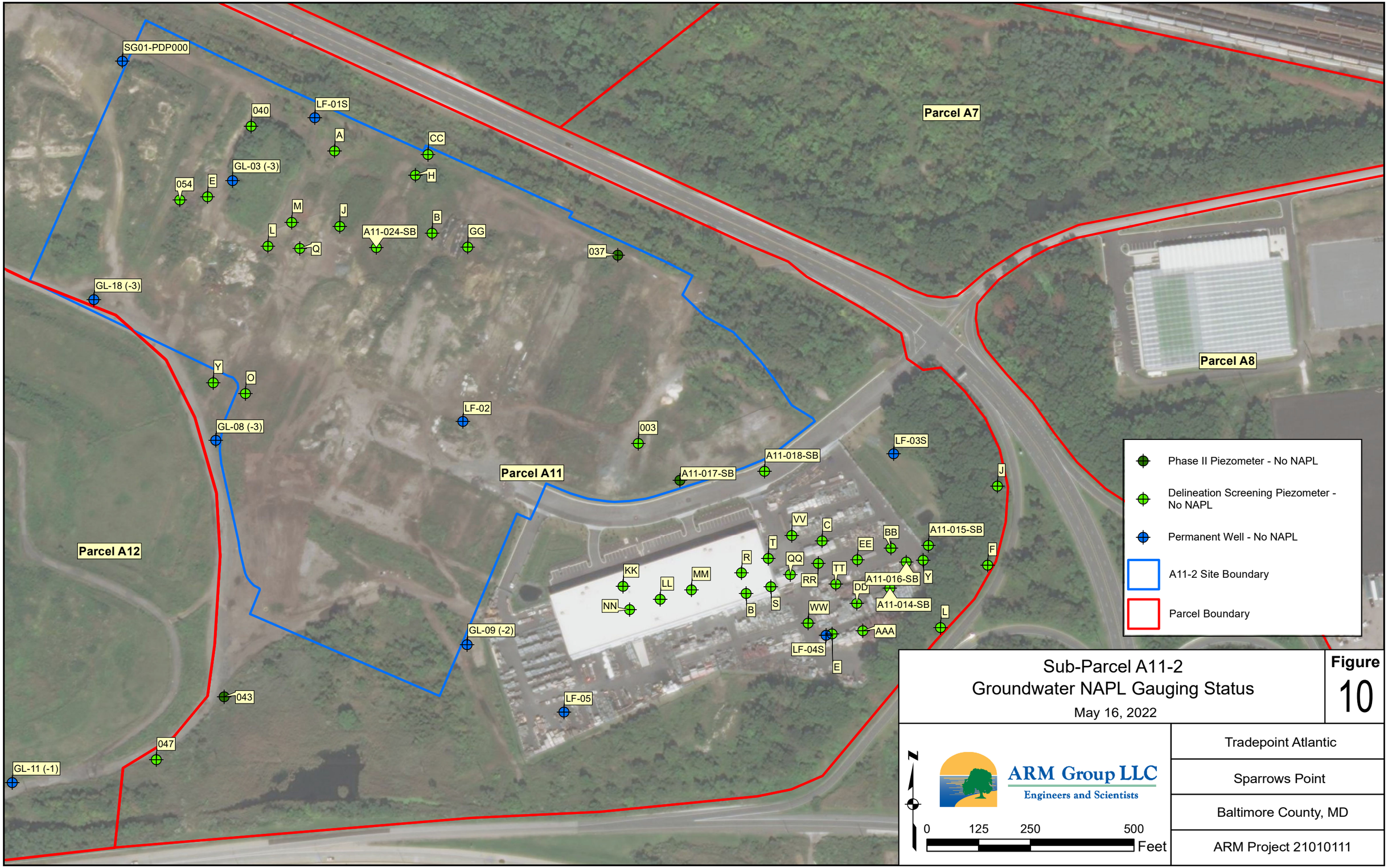
0 125 250 500 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111



Sub-Parcel A11-2
Groundwater NAPL Gauging Status
May 16, 2022

Figure
10

ARM Group LLC
Engineers and Scientists

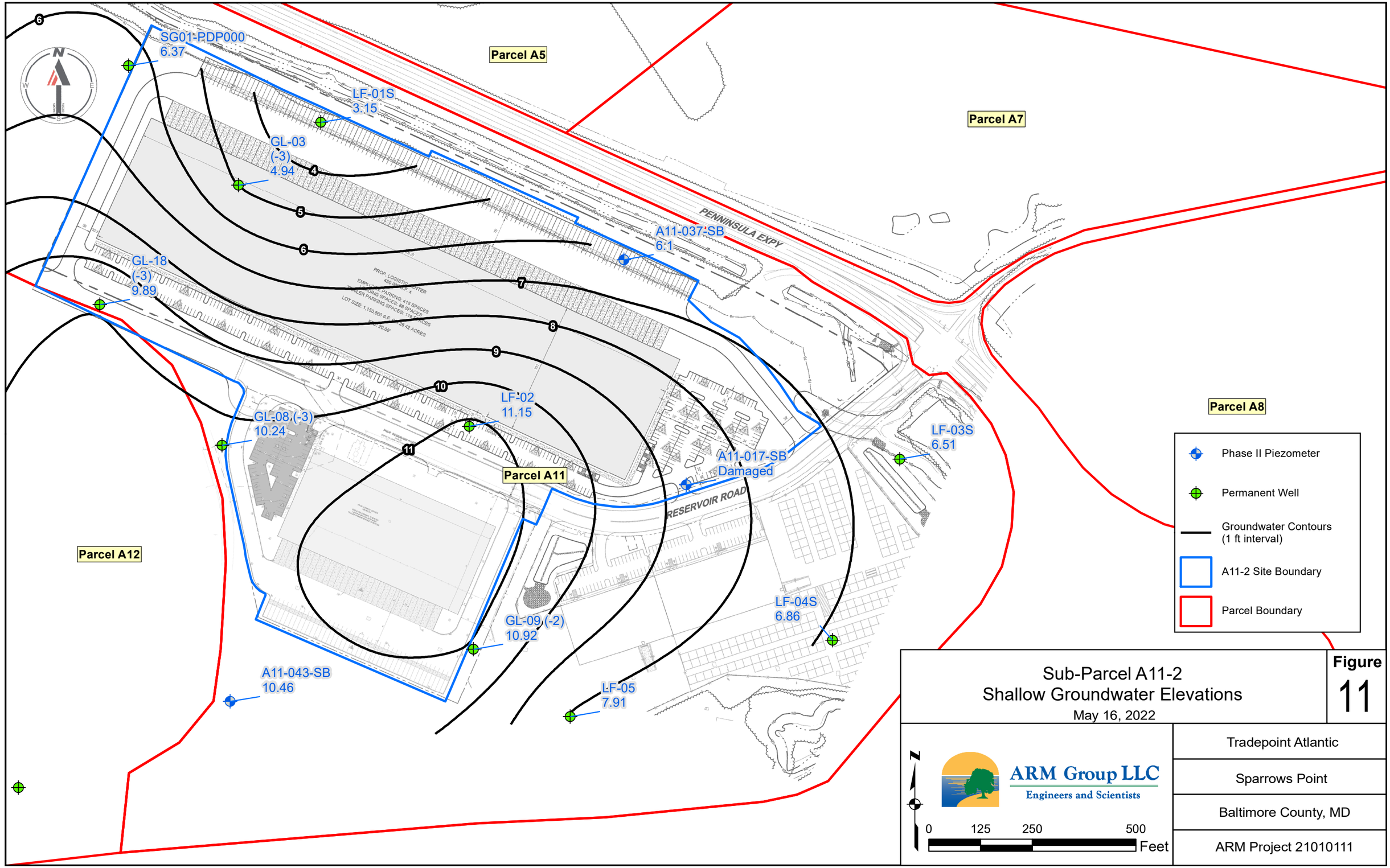
0 125 250 500 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111



Sub-Parcel A11-2
Shallow Groundwater Elevations

May 16, 2022

Figure 11

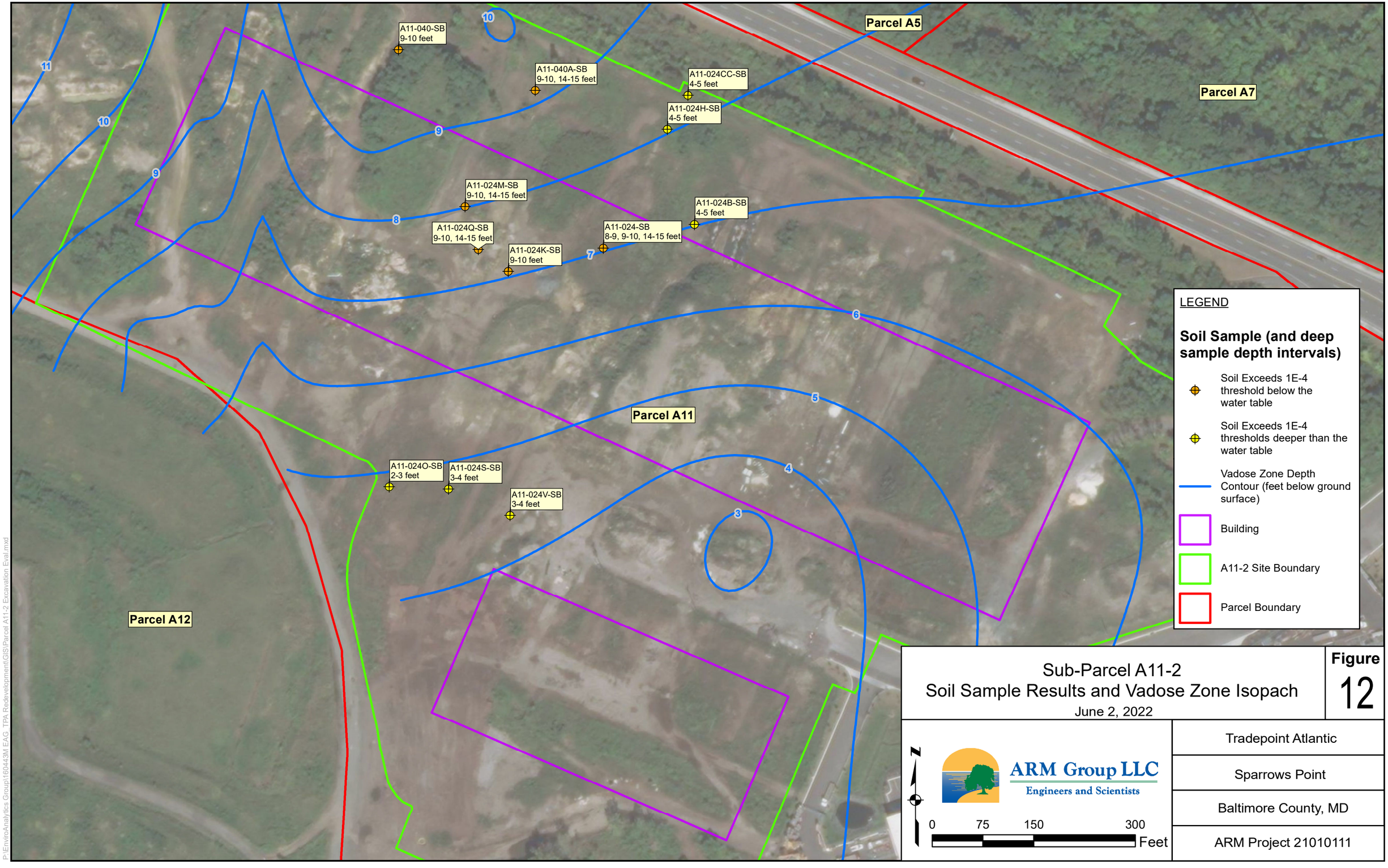
ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111



Sub-Parcel A11-2
Soil Sample Results and Vadose Zone Isopach
June 2, 2022

Figure 12

N

ARM Group LLC
Engineers and Scientists

0 75 150 300 Feet

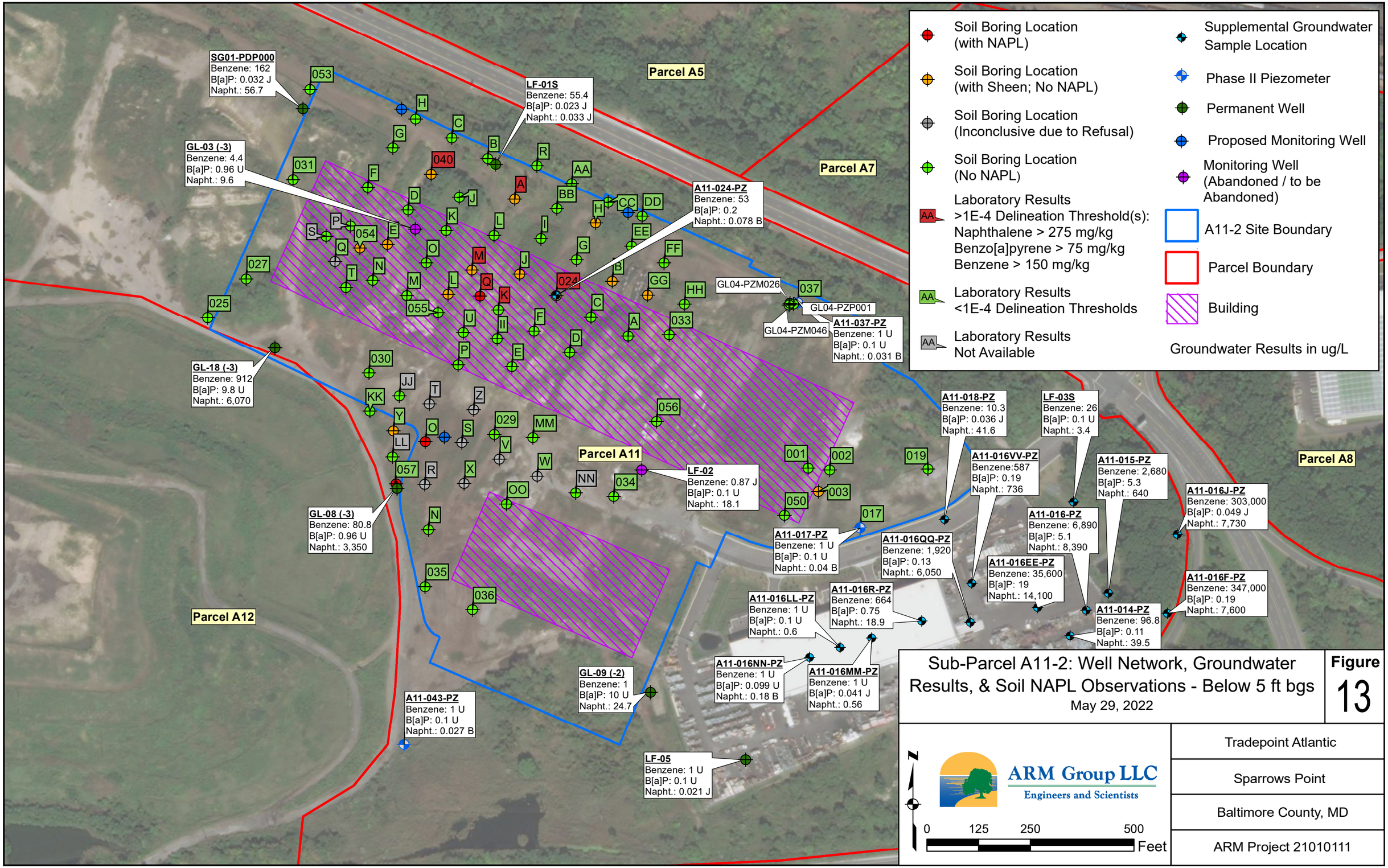
Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111

P:\EnviroAnalytics Group\160443M EAG_TPA Redevelopment\GIS\Parcel A11-2 Excavation Eval.mxd



Sub-Parcel A11-2: Well Network, Groundwater Results, & Soil NAPL Observations - Below 5 ft bgs

May 29, 2022

Figure 13

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111

Sub-Parcel A11-2
Development Plan Layout - Cap Types
May 13, 2022

Figure 14

ARM Group LLC
Engineers and Scientists

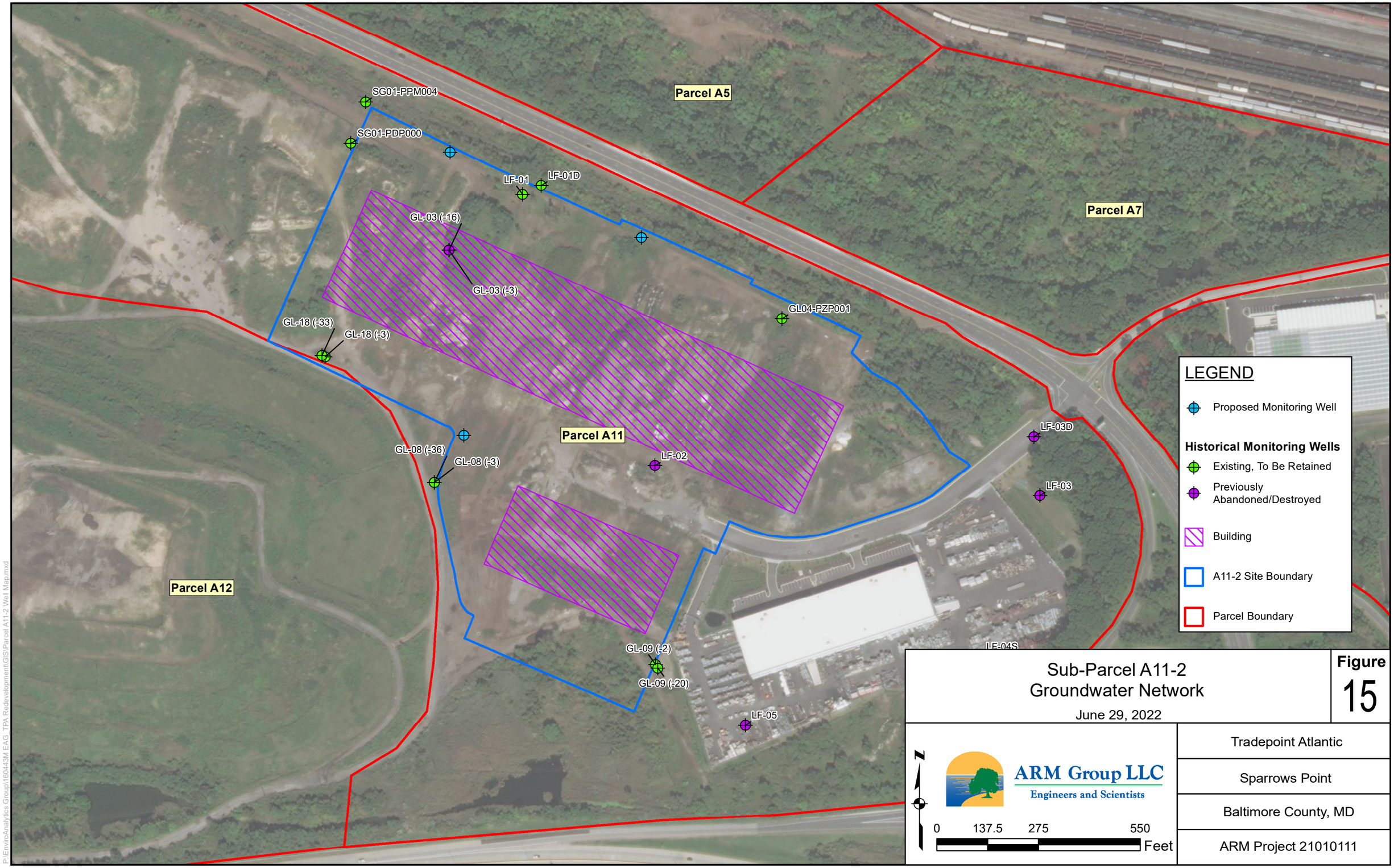
0 125 250 500 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111



Sub-Parcel A11-2
Groundwater Network

June 29, 2022

Figure 15

ARM Group LLC
Engineers and Scientists

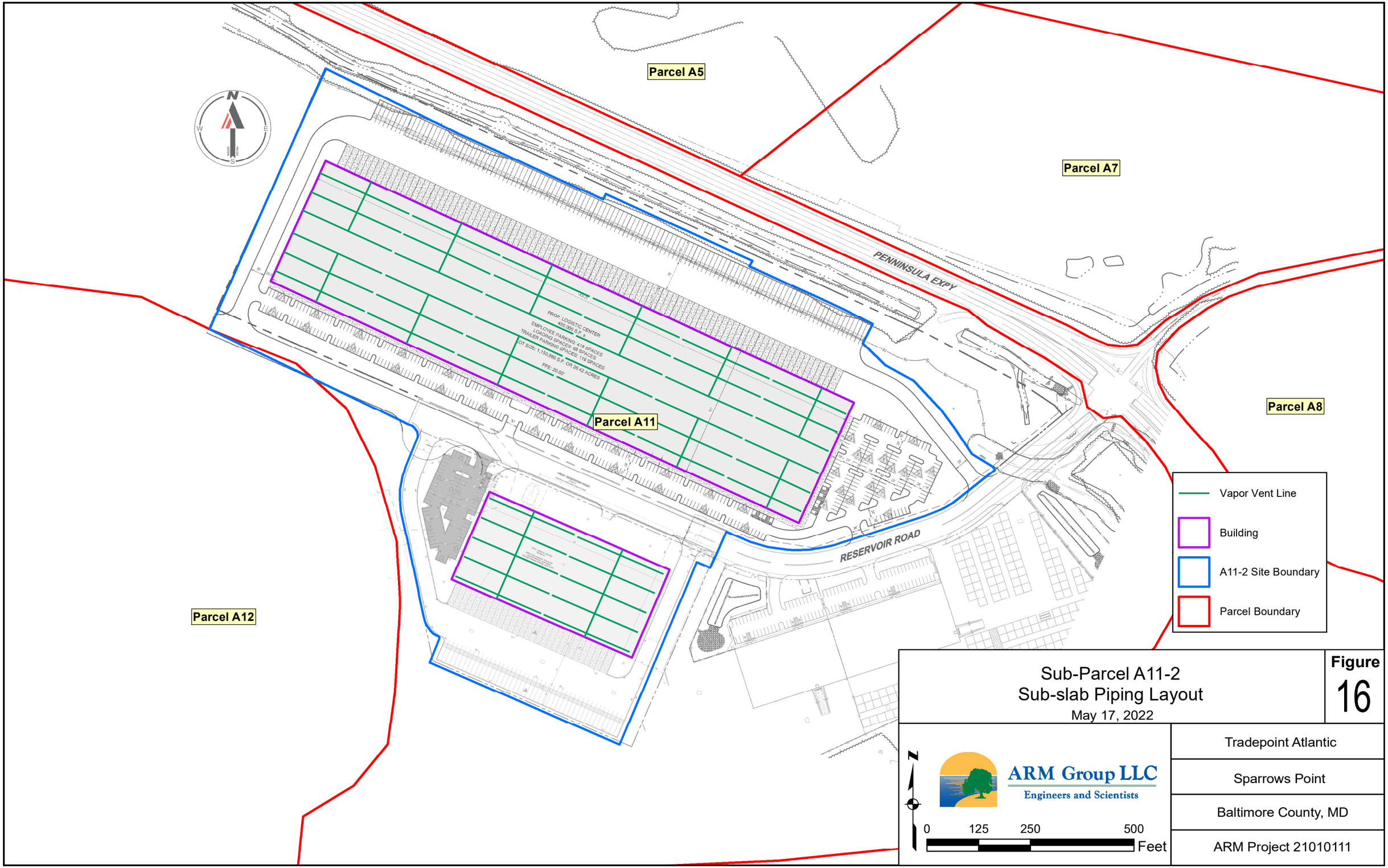
Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111

P:\EnviroAnalytics Group\160443M EAG_TPA Redevelopment\GIS\Parcel A11-2 Well Map.mxd



Sub-Parcel A11-2
Sub-slab Piping Layout
May 17, 2022

Figure 16

ARM Group LLC
Engineers and Scientists

0 125 250 500 Feet

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010111

Notes:

All utilities that are installed through areas containing NAPL or elevated chemical impacts and that have the potential to preferentially transmit contaminated vapors or groundwater along the utility line shall be either:

i) backfilled with low permeability backfill material (less than or equal to the permeability of the existing subgrade); or

ii) installed with trench plugs along the alignment in accordance with the details shown on Figure 1 of the Utility Excavation NAPL Contingency Plan.

Parcel A5

Parcel A7

PENNINSULA EXPY

Parcel A8

Parcel A11

RESERVOIR ROAD

Parcel A12

Approx. Areas Containing NAPL or VOC/SVOC Impacts

Area Requiring Mitigative Measures

A11-2 Site Boundary

Parcel Boundary

Sub-Parcel A11-2
Areas Requiring Mitigative Measures

May 17, 2022

Figure 17

ARM Group LLC
Engineers and Scientists

0 125 250 500 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111

TABLES

Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-001-SB-1*	A11-001-SB-5*	A11-002-SB-1*	A11-002-SB-7*	A11-003-SB-1*	A11-003-SB-5*	A11-017-SB-1	A11-017-SB-5	A11-017-SB-10	A11-019-SB-1	A11-019-SB-4	A11-024AA-SB-5*	A11-024AA-SB-10*	A11-024A-SB-5*	A11-024A-SB-10*	A11-024A-SB-15*	A11-024BB-SB-5*
			8/1/2016	8/1/2016	8/1/2016	8/1/2016	8/1/2016	8/1/2016	7/29/2016	7/29/2016	7/29/2016	7/29/2016	7/29/2016	8/21/2018	8/21/2018	6/12/2018	6/12/2018	6/12/2018	8/21/2018
Volatile Organic Compounds																			
1,1-Dichloroethane	mg/kg	16	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.01 U	0.011 U	0.011 U	0.0093 U	0.012 U	0.01 U	0.0081 U	0.011 U	N/A	0.012 U	0.015 U	0.0085 U	0.0086 U	0.009 U	0.0083 U	0.0083 U	0.019 U
2-Butanone (MEK)	mg/kg	190,000	0.01 U	0.011 U	0.011 U	0.0093 U	0.012 U	0.01 U	0.0081 U	0.011 U	N/A	0.012 U	0.015 U	0.0085 U	0.0086 U	0.009 U	0.0083 U	0.0083 U	0.019 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.01 U	0.011 U	0.011 U	0.0093 U	0.012 U	0.01 U	0.0081 U	0.011 U	N/A	0.012 U	0.015 U	0.0085 U	0.0086 U	0.009 U	0.0083 U	**0.0018 J**	0.019 U
Acetone	mg/kg	670,000	0.01 U	**0.077**	**0.027**	**0.023**	**0.017**	0.01 U	**0.016 J**	**0.083 J**	N/A	0.012 UJ	**0.014 J**	**0.0074 J**	**0.034**	**0.081**	0.0083 U	**0.035**	**0.04**
Benzene	mg/kg	5.1	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	**0.025**	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	**0.0067**	**0.055**	0.0045 U	**0.083**	**0.057**	**0.067**
Carbon disulfide	mg/kg	3,500	0.0051 U	0.0054 U	0.0056 U	**0.0027 J**	**0.0037 J**	0.005 U	0.004 UJ	0.0056 UJ	N/A	0.006 UJ	0.0074 UJ	**0.0019 J**	0.0043 U	0.0045 U	**0.0024 J**	0.0041 U	0.0093 U
Chloroform	mg/kg	1.4	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
Cyclohexane	mg/kg	27,000	0.01 U	0.011 U	0.011 U	0.0093 U	0.012 U	0.01 U	0.0081 U	0.011 U	N/A	0.012 U	0.015 U	0.0085 U	0.0086 U	0.009 U	0.0083 U	0.0083 U	0.019 U
Ethylbenzene	mg/kg	25	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
Isopropylbenzene	mg/kg	9,900	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
Methyl Acetate	mg/kg	1,200,000	0.051 U	0.054 U	0.056 U	0.047 U	0.062 U	0.05 U	0.04 R	0.056 R	N/A	0.06 R	0.074 R	0.043 U	0.043 U	**0.0044 J**	0.041 U	**0.0014 J**	0.093 U
Methylene Chloride	mg/kg	1,000	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
Styrene	mg/kg	35,000	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	**0.0013 J**	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
Tetrachloroethene	mg/kg	100	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
Toluene	mg/kg	47,000	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	**0.0025 J**	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	**0.007**	0.0043 U	0.0045 U	**0.0019 J**	**0.0034 J**	**0.0037 J**
trans-1,2-Dichloroethene	mg/kg	23,000	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
Trichloroethene	mg/kg	6	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	0.0041 U	0.0093 U
Vinyl chloride	mg/kg	1.7	0.0051 U	0.0054 U	0.0056 U	0.0047 U	0.0062 U	0.005 U	0.004 U	0.0056 U	N/A	0.006 U	0.0074 U	0.0043 U	0.0043 U	0.0045 U	0.0041 U	**0.0067**	0.0093 U
Xylenes	mg/kg	2,800	0.015 U	0.016 U	0.017 U	0.014 U	0.018 U	0.015 U	0.012 U	0.017 U	N/A	0.018 U	0.022 U	**0.023**	**0.007 J**	0.014 U	**0.0047 J**	0.012 U	**0.013 J**
Semi-Volatile Organic Compounds^																			
1,1-Biphenyl	mg/kg	200	0.074 U	0.077 U	0.076 U	0.079 U	0.08 U	**0.11**	0.073 U	0.088 U	N/A	0.071 U	0.078 U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	mg/kg	16,000	0.074 U	0.077 U	0.076 U	0.079 U	0.08 U	**0.76**	0.073 U	0.088 U	N/A	0.071 U	0.078 UJ	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	mg/kg	3,000	**0.035**	**0.064**	**0.082**	**0.065**	**0.0086**	**0.35**	**0.064**	**0.12**	N/A	0.07 U	**0.0094**	**47**	**0.0069 J**	**0.047**	**0.18**	**0.0069 J**	**0.02**
2-Methylphenol	mg/kg	41,000	0.074 U	0.077 U	0.076 U	0.079 U	0.08 U	**1.2**	0.073 U	0.088 U	N/A	0.071 U	0.078 UJ	N/A	N/A	N/A	N/A	N/A	N/A
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.15 U	0.15 U	**0.089 J**	0.16 U	**2.3**	0.15 U	**0.11 J**	N/A	0.14 U	0.16 UJ	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	mg/kg	45,000	**0.015**	**0.017**	**0.00072 J**	**0.0072 J**	**0.0013 J**	**0.11**	**0.11**	**0.074**	N/A	**0.014 J**	**0.00084 J**	**3.6**	0.0078 U	**0.19**	**0.25**	**0.0034 J**	**0.0079 J**
Acenaphthylene	mg/kg	45,000	**0.034**	**0.0033 J**	**0.0045 J**	**0.0053 J**	**0.0015 J**	**0.62**	**0.015**	**0.017**	N/A	0.07 U	**0.0018 J**	**30.4**	**0.0012 J**	**0.053**	**0.045**	0.0085 U	**0.022**
Acetophenone	mg/kg	120,000	0.074 U	0.077 U	0.076 U	0.079 U	0.08 U	0.079 U	0.073 U	0.088 U	N/A	0.071 U	0.078 U	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	mg/kg	230,000	**0.066**	**0.0078**	**0.0051 J**	**0.015**	**0.0029 J**	**1**	**0.11**	**0.1**	N/A	**0.012 J**	**0.0054 J**	**50.7**	**0.0027 J**	**0.27**	**0.22**	**0.0023 J**	**0.042**
Benz[a]anthracene	mg/kg	21	**0.18**	**0.016**	**0.015**	**0.026**	**0.0097**	**4.6**	**0.48**	**0.32**	N/A	**0.079**	**0.015**	**141**	**0.0064 J**	**0.84**	**0.56**	**0.0044 J**	**0.069**
Benzaldehyde	mg/kg	120,000	0.074 U	0.077 U	0.076 U	0.079 U	0.08 U	**0.11**	0.073 UJ	**0.037 J**	N/A	0.071 UJ	0.078 UJ	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[a]pyrene	mg/kg	2.1	**0.18**	**0.015**	**0.011**	**0.022**	**0.014**	**3.8**	**0.8**	**0.3**	**0.0012 J**	**0.15**	**0.015**	**144**	**0.0045 J**	**0.98**	**0.35**	**0.013**	**0.074**
Benzo[b]fluoranthene	mg/kg	21	**0.36**	**0.039**	**0.032**	**0.049**	**0.03**	**8**	**1.7 J**	**0.75**	N/A	**0.28**	**0.036**	**282**	**0.0066 J**	**1.2**	**0.58**	**0.011**	**0.12**
Benzo[g,h,i]perylene	mg/kg		**0.069**	**0.0067 J**	**0.008**	**0.011**	**0.012**	**1.2**	**0.2**	**0.051**	N/A	**0.072**	**0.0061 J**	**78.7**	**0.0027 J**	**0.58**	**0.13**	**0.0023 J**	**0.038**
Benzo[k]fluoranthene	mg/kg	210	**0.33**	**0.035**	**0.029**	**0.045**	**0.027**	**7.3**	**1.5 J**	**0.69**	N/A	**0.25**	**0.032**	**72**	**0.0027 J**	**0.47**	**0.21**	**0.0025 J**	**0.036**
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.019 J**	0.077 U	0.076 U	0.079 U	0.08 U	**0.039 J**	**0.026 J**	**0.078 J**	N/A	**0.19 J**	**0.016 J**	N/A	N/A	N/A	N/A	N/A	N/A
Caprolactam	mg/kg	400,000	0.19 U	0.19 U	0.19 U	0.2 U	0.2 U	**0.095 J**	0.18 U	0.22 U	N/A	0.18 U	0.2 U	N/A	N/A	N/A	N/A	N/A	N/A
Carbazole	mg/kg		**0.024 J**	0.077 U	0.076 U	0.079 U	0.08 U	**0.15**	**0.042 J**	**0.11**	N/A	0.071 U	0.078 U	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	mg/kg	2,100	**0.18**	**0.023**	**0.019**	**0.035**	**0.012**	**4.4**	**0.49**	**0.33**	N/A	**0.11**	**0.017**	**120**	**0.0043 J**	**0.76**	**0.42**	**0.0057 J**	**0.06**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.03**	**0.003 J**	**0.0033 J**	**0.004 J**	**0.0037 J**	**0.58**	**0.067**	**0.025**	N/A	**0.024 J**	**0.0025 J**	**33**	0.0078 U	**0.21**	**0.062**	0.0085 U	**0.012**
Diethylphthalate	mg/kg	660,000	0.074 U	0.077 U	0.076 U	0.079 U	0.08 U	0.079 U	0.073 U	0.088 U	N/A	0.071 U	0.078 U	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	mg/kg	30,000	**0.33**	**0.049**	**0.038**	**0.069**	**0.015**	**8.3**	**0.72**	**0.7**	N/A	**0.11**	**0.031**	**465**	**0.011**	**1.3**	**1**	**0.012**	**0.17**
Fluorene	mg/kg	30,000	**0.036**	**0.012**	**0.0012 J**	**0.015**	**0.0016 J**	**0.38**	**0.043**	**0.074**	N/A	0.07 U	**0.0012 J**	**10.6**	**0.0015 J**	**0.077**	**0.43**	**0.0058 J**	**0.032**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.076**	**0.007 J**	**0.0076 J**	**0.01**	**0.01**	**1.4**	**0.24**	**0.067**	N/A	**0.07 J**	**0.0067 J**	**79.9**	**0.0024 J**	**0.56**	**0.14**	**0.0022 J**	**0.037**
Naphthalene	mg/kg	8.6	**0.077**	**0.06**	**0.057**	**0.047**	**0.01**	**0.58**	**0.064**	**0.12**	N/A	0.026 B	**0.0095**	**150**	**0.23**	**0.069**	**0.39**	**0.022**	**0.3**
N-Nitrosodiphenylamine	mg/kg	470	0.074 U	0.077 U	0.076 U	0.079 U	0.08 U	0.079 U	0.073 U	0.088 U	N/A	0.071 U	0.078 U	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	mg/kg		**0.25**	**0.046**	**0.02**	**0.073**	**0.015**	**2.5**	**0.46**	**0.48**	N/A	0.056 B	**0.022**	**120**	**0.0088**	**0.88**	**1.2**	**0.021**	**0.14**
Phenol	mg/kg	250,000	0.074 U	0.077 U	0.076 U	0.079 U	0.08 U	**0.094**	0.073 U	0.088 U	N/A	0.071 U	0.078 UJ	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	mg/kg	23,000	**0.27**	**0.035**	**0.031**	**0.053**	**0.012**	**6.2**	**0.65**	**0.54**	N/A	**0.099**	**0.024**	**372**	**0.0089**	**1.1**	**0.8**	**0.0092**	**0.13**
PCBs																			
Aroclor 1248	mg/kg	0.94	0.0577 U	N/A	**0.439**	N/A	0.0539 U	N/A	0.0601 U	N/A	N/A	0.0535 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1254	mg/kg	0.97	0.0577 U	N/A	**0.257**	N/A	0.0539 U	N/A	0.0601 U	N/A	N/A	0.0535 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1260	mg/kg	0.99	0.0577 U	N/A	**0.0857**	N/A	0.0539 U	N/A	0.0601 U	N/A	N/A	**0.033 J**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs (total)	mg/kg	0.97	0.0577 U	N/A	**0.7817**	N/A	0.0539 U	N/A	0.0601 U	N/A	N/A	**0.033 J**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH/Oil and Grease																			
Diesel Range Organics	mg/kg	6,200	**47.9**	**63.6**	**36.9**	**96.5**	**23.1**	**172**	**147 J**	**52.8 J**	N/A	**85.7 J**	**39.2 J**	**1,520**	**5.3 J**	**207**	**301**	**43.1**	**40.8**
Gasoline Range Organics	mg/kg	6,200	10.3 U	11.8 U	16.1 U	10.7 U	14.3 U	**16.2**	11 U	13.6 U	N/A	8.9 U	13.4 U	10.1 U	9.5 U	9.5 U	**11.5**	13.1 U	14.7 U
Oil and Grease	mg/kg	6,200	**817**	**735**	**380**	**1,120**	**519**	**1,020**	**801**	**1,330**	N/A	**1,970**	**359**	**2,560**	**389**	**1,340**	**2,170**	**623**	**1,280**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analye was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-024BB-SB-10*	A11-024BB-SB-15*	A11-024B-SB-5*	A11-024B-SB-10*	A11-024B-SB-15*	A11-024CC-SB-5*	A11-024CC-SB-10*	A11-024CC-SB-13.5*	A11-024C-SB-5*	A11-024C-SB-10*	A11-024C-SB-15*	A11-024DD-SB-5*	A11-024DD-SB-10*	A11-024DD-SB-14.5*	A11-024D-SB-5*
			8/21/2018	8/21/2018	6/12/2018	6/12/2018	6/12/2018	8/21/2018	8/21/2018	8/21/2018	6/12/2018	6/12/2018	6/13/2018	8/22/2018	8/22/2018	8/22/2018	6/13/2018
Volatile Organic Compounds																	
1,1-Dichloroethane	mg/kg	16	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.0095 U	0.013 U	0.0093 U	0.009 U	0.0094 U	0.01 U	0.0083 U	0.0089 U	0.0081 U	0.0072 U	0.009 U	0.01 U	0.0094 U	0.014 U
2-Butanone (MEK)	mg/kg	190,000	0.011 U	0.0095 U	**0.0059 J**	0.0093 U	0.009 U	**0.0032 J**	0.01 U	0.0083 U	0.0089 U	0.0081 U	0.0072 U	**0.0064 J**	0.01 U	0.0094 U	0.014 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 U	0.0095 U	0.013 U	0.0093 U	0.009 U	0.0094 U	0.01 U	0.0083 U	0.0089 U	0.0081 U	0.0072 U	0.009 U	0.01 U	0.0094 U	0.014 U
Acetone	mg/kg	670,000	0.011 U	0.0095 U	**0.083**	**0.1**	**0.019**	0.0094 U	0.01 U	0.0083 U	**0.026**	**0.018**	0.0072 U	**0.047**	0.01 U	0.0094 U	**0.012 J**
Benzene	mg/kg	5.1	**0.79**	**0.99**	**452**	**0.046**	**7.3**	**3.5**	**0.35**	**0.056**	**0.003 J**	**0.0022 J**	0.0036 U	**0.31**	**0.26**	**0.18**	0.0068 U
Carbon disulfide	mg/kg	3,500	0.0056 U	0.0048 U	**0.16**	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	**0.0018 J**	**0.0049**	0.0045 U	0.005 U	0.0047 U	**0.0038 J**
Chloroform	mg/kg	1.4	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
Cyclohexane	mg/kg	27,000	0.011 U	0.0095 U	**0.025**	0.0093 U	0.009 U	0.0094 U	0.01 U	0.0083 U	0.0089 U	0.0081 U	0.0072 U	0.009 U	0.01 U	0.0094 U	0.014 U
Ethylbenzene	mg/kg	25	**0.0023 J**	0.0048 U	**0.24**	0.0047 U	**0.0017 J**	**0.011**	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	**0.0015 J**	0.005 U	0.0047 U	0.0068 U
Isopropylbenzene	mg/kg	9,900	0.0056 U	0.0048 U	**0.053**	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
Methyl Acetate	mg/kg	1,200,000	0.056 U	0.048 U	0.066 U	**0.0042 J**	0.045 U	0.047 U	0.051 U	0.042 U	**0.013 J**	**0.051**	0.036 U	0.045 U	0.05 U	0.047 U	**0.0056 J**
Methylene Chloride	mg/kg	1,000	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
Styrene	mg/kg	35,000	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
Tetrachloroethene	mg/kg	100	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
Toluene	mg/kg	47,000	**0.0051 J**	0.0048 U	**183**	**0.0056**	**0.084**	**0.0056**	**0.0035 J**	0.0042 U	0.0045 U	0.004 U	0.0036 U	**0.0017 J**	**0.0062**	0.0047 U	0.0068 U
trans-1,2-Dichloroethene	mg/kg	23,000	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
Trichloroethene	mg/kg	6	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
Vinyl chloride	mg/kg	1.7	0.0056 U	0.0048 U	0.0066 U	0.0047 U	0.0045 U	0.0047 U	0.0051 U	0.0042 U	0.0045 U	0.004 U	0.0036 U	0.0045 U	0.005 U	0.0047 U	0.0068 U
Xylenes	mg/kg	2,800	**0.032**	**0.005 J**	**234**	**0.0057 J**	**0.09**	**0.024**	**0.025**	0.013 U	0.013 U	0.012 U	0.011 U	**0.011 J**	**0.018**	**0.0081 J**	0.02 U
Semi-Volatile Organic Compounds^																	
1,1-Biphenyl	mg/kg	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	mg/kg	16,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	mg/kg	3,000	**0.007 J**	**0.0046 J**	**403**	**0.028**	**0.72**	**12**	**0.011**	0.0077 U	**0.0043 J**	**0.0044 J**	**0.0046 J**	**0.7**	**0.006 J**	**0.014**	**0.021**
2-Methylphenol	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	mg/kg	45,000	**0.0021 J**	**0.0028 J**	**60.8**	**0.039**	**0.16**	**17**	**0.0056 J**	0.0077 U	**0.015**	**0.0082**	**0.011**	**0.23**	0.0078 U	**0.012**	**0.056**
Acenaphthylene	mg/kg	45,000	**0.0022 J**	**0.0074 J**	**102**	**0.05**	**0.25**	**98.7**	**0.017**	0.0077 U	**0.012**	**0.01**	**0.01**	**0.39**	0.0078 U	**0.0084**	**0.013**
Acetophenone	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	mg/kg	230,000	**0.0061 J**	**0.018**	**695**	**0.076**	**1.5**	**385**	**0.037**	0.0077 U	**0.015**	**0.016**	**0.024**	**1.1**	**0.0014 J**	**0.054**	**0.081**
Benz[a]anthracene	mg/kg	21	**0.01**	**0.034**	**495**	**0.054**	**1.4**	**691**	**0.075**	0.0077 U	**0.033**	**0.017**	**0.053**	**2.7**	**0.0038 J**	**0.058**	**0.28**
Benzaldehyde	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[a]pyrene	mg/kg	2.1	**0.0096**	**0.035**	**316**	**0.082**	**0.91**	**675**	**0.078**	0.0077 U	**0.037**	**0.024**	**0.047**	**2.2**	**0.002 J**	**0.048**	**0.29**
Benzo[b]fluoranthene	mg/kg	21	**0.013**	**0.047**	**481**	**0.13**	**1.5**	**869**	**0.11**	0.0077 U	**0.039**	**0.026**	**0.061**	**3.4**	**0.0028 J**	**0.06**	**0.36**
Benzo[g,h,i]perylene	mg/kg		**0.0049 J**	**0.017**	**148**	**0.12**	**0.3**	**157**	**0.038**	0.0077 U	**0.02**	**0.011**	**0.014**	**0.88**	0.0078 U	**0.023**	**0.12**
Benzo[k]fluoranthene	mg/kg	210	**0.0046 J**	**0.016**	**172**	**0.11**	**0.54**	**394**	**0.037**	0.0077 U	**0.014**	**0.0086**	**0.027**	**1**	**0.0015 J**	**0.032**	**0.17**
bis(2-Ethylhexyl)phthalate	mg/kg	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Caprolactam	mg/kg	400,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbazole	mg/kg		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	mg/kg	2,100	**0.0079 J**	**0.029**	**396**	**0.044**	**1.1**	**614**	**0.063**	**0.00048 J**	**0.032**	**0.017**	**0.045**	**2.3**	**0.0023 J**	**0.056**	**0.23**
Dibenz[a,h]anthracene	mg/kg	2.1	0.0082 U	**0.0056 J**	**50**	**0.023**	**0.11**	**80.1**	**0.012**	0.0077 U	**0.0042 J**	**0.003 J**	**0.0062 J**	**0.4**	0.0078 U	**0.0073 J**	**0.047**
Diethylphthalate	mg/kg	660,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	mg/kg	30,000	**0.022**	**0.074**	**1,600**	**0.14**	**5.1**	**2,540**	**0.17**	**0.0017 J**	**0.064**	**0.036**	**0.12**	**6.8**	**0.0078 J**	**0.17**	**0.46**
Fluorene	mg/kg	30,000	**0.0057 J**	**0.01**	**732**	**0.095**	**1.7**	**157**	**0.023**	0.0077 U	**0.012**	**0.012**	**0.016**	**2.1**	**0.0022 J**	**0.033**	**0.038**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.0046 J**	**0.017**	**153**	**0.085**	**0.33**	**308**	**0.035**	0.0077 U	**0.013**	**0.0086**	**0.014**	**0.97**	0.0078 U	**0.023**	**0.12**
Naphthalene	mg/kg	8.6	**0.44**	**0.14**	**5,660**	**0.21**	**6.7**	**169**	**0.84**	**0.002 J**	**0.025**	**0.02**	**0.018**	**9**	**0.19**	**0.19**	**0.07**
N-Nitrosodiphenylamine	mg/kg	470	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	mg/kg		**0.02**	**0.057**	**4,380**	**0.23**	**7.4**	**1,120**	**0.12**	**0.0016 J**	**0.06**	**0.037**	**0.064**	**7.2**	**0.0072 J**	**0.16**	**0.24**
Phenol	mg/kg	250,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	mg/kg	23,000	**0.017**	**0.057**	**1,030**	**0.099**	**3.3**	**1,380**	**0.14**	**0.0013 J**	**0.072**	**0.028**	**0.092**	**4.8**	**0.0057 J**	**0.12**	**0.38**
PCBs																	
Aroclor 1248	mg/kg	0.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1254	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1260	mg/kg	0.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs (total)	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**9.5**	**5.6 J**	**21,300**	**19.7**	**138**	**20,000**	**15.9**	**2 J**	**22.9**	**126**	**672**	**40.1**	**4 J**	**10.6**	**190**
Gasoline Range Organics	mg/kg	6,200	10.2 U	9.2 U	**2,560**	10.2 U	**16.7**	**11.3**	10 U	8.8 U	13 U	8.4 U	9.9 U	9.1 U	9.6 U	9.2 U	9.6 U
Oil and Grease	mg/kg	6,200	**695**	**654**	**43,800**	**240**	**436**	**13,800**	**652**	**736**	**267 J**	**1,070**	**2,870**	**858**	**295**	**682**	**558**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analye was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-024D-SB-10* 6/13/2018	A11-024EE-SB-5* 8/22/2018	A11-024EE-SB-10* 8/22/2018	A11-024EE-SB-15* 8/22/2018	A11-024E-SB-5* 6/13/2018	A11-024E-SB-10* 6/13/2018	A11-024E-SB-15* 6/13/2018	A11-024FF-SB-4.5* 8/22/2018	A11-024F-SB-5* 6/14/2018	A11-024F-SB-10* 6/14/2018	A11-024GG-SB-1* 8/22/2018	A11-024GG-SB-5* 8/22/2018	A11-024G-SB-5* 6/14/2018	A11-024G-SB-10* 6/14/2018	A11-024G-SB-15* 6/14/2018
Volatile Organic Compounds																	
1,1-Dichloroethane	mg/kg	16	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.0081 U	0.019 U	0.0099 U	0.009 U	0.0082 U	0.0087 U	0.0085 U	0.011 U	0.013 U	0.0094 U	0.011 U	0.012 U	0.0082 U	0.0084 U	0.0092 U
2-Butanone (MEK)	mg/kg	190,000	0.0081 U	0.019 U	0.0099 U	0.009 U	0.0082 U	0.0087 U	0.0085 U	0.011 U	0.013 U	0.0094 U	0.011 U	0.012 U	0.011 U	0.0084 U	0.0092 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0081 U	0.019 U	0.0099 U	0.009 U	0.0082 U	0.0087 U	0.0085 U	0.011 U	0.013 U	0.0094 U	0.011 U	0.012 U	0.011 U	0.0084 U	0.0092 U
Acetone	mg/kg	670,000	0.0081 U	0.019 U	**0.017**	0.009 U	**0.037**	**0.01**	**0.018**	0.011 U	**0.084**	**0.074**	**0.016**	**0.072**	**0.16**	**0.081**	**0.16**
Benzene	mg/kg	5.1	0.004 U	0.0097 U	**0.0034 J**	**0.0038 J**	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	**0.0017 J**	0.0055 U	0.0059 U	**0.36**	**32.7**	**40.6**
Carbon disulfide	mg/kg	3,500	**0.0025 J**	0.0097 U	0.0049 U	0.0045 U	0.0041 U	**0.0025 J**	**0.002 J**	0.0056 U	0.0067 U	**0.002 J**	0.0055 U	0.0059 U	**0.005 J**	**0.0046**	**0.0049**
Chloroform	mg/kg	1.4	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
Cyclohexane	mg/kg	27,000	0.0081 U	0.019 U	0.0099 U	0.009 U	0.0082 U	0.0087 U	0.0085 U	0.011 U	0.013 U	0.0094 U	0.011 U	0.012 U	0.011 U	0.0084 U	0.0092 U
Ethylbenzene	mg/kg	25	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	**0.0096**	**0.0066**
Isopropylbenzene	mg/kg	9,900	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
Methyl Acetate	mg/kg	1,200,000	0.04 U	0.097 U	0.049 U	0.045 U	**0.0013 J**	0.044 U	0.042 U	0.056 U	**0.068**	**0.18**	0.055 U	0.059 U	**0.0099 J**	**0.009 J**	**0.0048 J**
Methylene Chloride	mg/kg	1,000	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	**0.028**	0.0053 U	0.0042 U	0.0046 U
Styrene	mg/kg	35,000	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
Tetrachloroethene	mg/kg	100	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
Toluene	mg/kg	47,000	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	**0.0015 J**	0.0055 U	0.0059 U	**0.0072**	**0.32**	**2 J**
trans-1,2-Dichloroethene	mg/kg	23,000	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
Trichloroethene	mg/kg	6	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
Vinyl chloride	mg/kg	1.7	0.004 U	0.0097 U	0.0049 U	0.0045 U	0.0041 U	0.0044 U	0.0042 U	0.0056 U	0.0067 U	0.0047 U	0.0055 U	0.0059 U	0.0053 U	0.0042 U	0.0046 U
Xylenes	mg/kg	2,800	0.012 U	0.029 U	0.015 U	0.013 U	0.012 U	0.013 U	0.013 U	0.017 U	0.02 U	0.014 U	0.016 U	0.018 U	**0.059**	**0.46**	**0.33**
Semi-Volatile Organic Compounds^																	
1,1-Biphenyl	mg/kg	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	mg/kg	16,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	mg/kg	3,000	**0.0044 J**	**0.094**	0.0078 U	**0.0033 J**	**0.024**	**0.14**	**0.3**	**0.18**	**0.13**	**0.059**	**0.079**	**0.01**	**0.22**	**0.065**	**0.1**
2-Methylphenol	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	mg/kg	45,000	**0.0045 J**	**0.097**	**0.0021 J**	**0.0027 J**	**0.11**	**0.16**	**0.093**	**1.2**	**0.037**	**0.02**	**0.45**	**0.004 J**	**0.081**	**0.011**	**0.027**
Acenaphthylene	mg/kg	45,000	**0.0062 J**	**0.13**	**0.011**	**0.039**	**0.16**	**0.044**	**0.067**	**0.26**	**0.096**	**0.031**	**0.027**	0.008 U	**0.57**	**0.0086**	**0.033**
Acetophenone	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	mg/kg	230,000	**0.0076 J**	**0.86**	**0.032**	**0.083**	**0.71**	**0.43**	**0.21**	**1.1**	**0.15**	**0.091**	**0.22**	**0.0037 J**	**2.2**	**0.08**	**0.31**
Benz[a]anthracene	mg/kg	21	**0.024**	**3.6**	**0.091**	**0.28**	**2.2**	**0.77**	**0.77**	**5.7**	**0.44**	**0.25**	**2.3**	**0.0084**	**3.7**	**0.065**	**0.28**
Benzaldehyde	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[a]pyrene	mg/kg	2.1	**0.028**	**3.1**	**0.08**	**0.23**	**1.4**	**0.58**	**0.79**	**11.2**	**0.39**	**0.24**	**5.3**	**0.0095**	**3.1**	**0.041**	**0.19**
Benzo[b]fluoranthene	mg/kg	21	**0.045**	**4.4**	**0.18**	**0.4**	**2.7**	**0.85**	**1.1**	**11.5**	**0.74**	**0.46**	**6.4**	**0.012**	**7.3**	**0.083**	**0.37**
Benzo[g,h,i]perylene	mg/kg		**0.0091**	**1.2**	**0.048**	**0.13**	**0.5**	**0.2**	**0.31**	**5.6**	**0.12**	**0.06**	**1.3**	**0.0063 J**	**0.8**	**0.021**	**0.097**
Benzo[k]fluoranthene	mg/kg	210	**0.035**	**1.4**	**0.16**	**0.15**	**0.95**	**0.3**	**0.48**	**5.4**	**0.57**	**0.34**	**2.5**	**0.0054 J**	**5.6**	**0.059**	**0.27**
bis(2-Ethylhexyl)phthalate	mg/kg	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Caprolactam	mg/kg	400,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbazole	mg/kg		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	mg/kg	2,100	**0.018**	**3**	**0.085**	**0.26**	**1.3**	**0.62**	**0.71**	**5**	**0.36**	**0.25**	**2.3**	**0.011**	**3.2**	**0.052**	**0.24**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.0026 J**	**0.57**	**0.015**	**0.048**	**0.21**	**0.082**	**0.13**	**2.1**	**0.052**	**0.027**	**0.77**	**0.0018 J**	**0.31**	**0.0063 J**	**0.03**
Diethylphthalate	mg/kg	660,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	mg/kg	30,000	**0.049**	**7.4**	**0.23**	**0.65**	**3.9**	**2.1**	**1.2**	**6.8**	**0.85**	**0.44**	**2.2**	**0.019**	**9**	**0.23**	**0.88**
Fluorene	mg/kg	30,000	**0.0048 J**	**0.16**	**0.0091**	**0.022**	**0.18**	**0.22**	**0.12**	**0.75**	**0.068**	**0.063**	**0.085**	**0.0041 J**	**0.9**	**0.12**	**0.34**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.008**	**1.3**	**0.047**	**0.13**	**0.58**	**0.21**	**0.31**	**5.6**	**0.12**	**0.068**	**2.3**	**0.0056 J**	**0.91**	**0.021**	**0.099**
Naphthalene	mg/kg	8.6	**0.011**	**0.27**	**0.0087**	**0.02**	**0.086**	**0.54**	**0.35**	**0.32**	**0.55**	**0.37**	**0.18**	**0.14**	**1.1**	**2.1**	**0.8**
N-Nitrosodiphenylamine	mg/kg	470	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	mg/kg		**0.031**	**4.6**	**0.088**	**0.24**	**1.7**	**1.5**	**0.71**	**5.2**	**0.68**	**0.33**	**0.8**	**0.017**	**5.9**	**0.42**	**1.4**
Phenol	mg/kg	250,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	mg/kg	23,000	**0.035**	**5.7**	**0.17**	**0.5**	**3.4**	**1.4**	**1.1**	**6.3**	**0.66**	**0.36**	**2.1**	**0.016**	**6.5**	**0.14**	**0.58**
PCBs																	
Aroclor 1248	mg/kg	0.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1254	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1260	mg/kg	0.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs (total)	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	**21.9**	**83.8**	**20.2**	**15.1**	**27**	**65.2**	**275**	**134**	**274**	**587**	**269**	**38.9**	**243**	**16.9**	**26.7**
Gasoline Range Organics	mg/kg	6,200	8.9 U	17.1 U	11.6 U	13.5 U	9.5 U	9.1 U	10.2 U	15.3 U	12.7 U	11.8 U	8.3 U	11 U	7.6 U	**64.3**	**78.4**
Oil and Grease	mg/kg	6,200	**578**	**462**	**582**	**521**	**272**	**1,420**	**1,880**	**1,500**	**2,890**	**3,020**	**1,410**	**1,560**	**646**	**509**	**538**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analye was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-024HH-SB-4*	A11-024H-SB-5*	A11-024H-SB-10*	A11-024H-SB-15*	A11-024II-SB-4*	A11-024I-SB-5*	A11-024I-SB-10*	A11-024I-SB-15*	A11-024J-SB-5*	A11-024J-SB-10*	A11-024KK-SB-4.5*	A11-024K-SB-5*	A11-024K-SB-10*	A11-024L-SB-3*	A11-024L-SB-5*	A11-024L-SB-10*
			8/23/2018	6/14/2018	6/14/2018	6/14/2018	8/23/2018	6/14/2018	6/14/2018	6/14/2018	6/15/2018	6/15/2018	8/23/2018	6/15/2018	6/15/2018	6/15/2018	6/15/2018	6/15/2018
Volatile Organic Compounds																		
1,1-Dichloroethane	mg/kg	16	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.014 U	0.014 U	0.0086 U	0.0081 U	0.0081 U	0.0087 U	0.0076 U	0.0085 U	0.011 U	0.0083 U	0.011 U	0.011 U	0.011 U	0.01 U	0.0098 U	0.0086 U
2-Butanone (MEK)	mg/kg	190,000	0.014 U	**0.017**	0.0086 U	0.0081 U	0.0081 U	**0.0056 J**	0.0076 U	0.0085 U	0.011 U	**0.0066 J**	**0.0099 J**	0.011 U	**0.011**	0.01 U	**0.0046 J**	**0.0043 J**
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.014 U	0.014 U	0.0086 U	0.0081 U	0.0081 U	0.0087 U	0.0076 U	0.0085 U	0.011 U	0.0083 U	0.011 U	0.011 U	0.011 U	0.01 U	0.0098 U	0.0086 U
Acetone	mg/kg	670,000	0.014 U	**0.26**	**0.098**	**0.034**	0.0081 U	**0.18**	**0.025**	**0.072**	**0.14**	**0.11**	**0.024**	**0.27**	**0.35**	**0.11**	**0.19**	**0.11**
Benzene	mg/kg	5.1	0.007 U	**16.8**	**1.1**	**0.96**	0.0041 U	**0.013**	**0.034**	**0.0024 J**	0.0053 U	**48.4**	**0.42**	**0.0047 J**	**14.5**	0.005 U	**0.0024 J**	**0.02**
Carbon disulfide	mg/kg	3,500	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	**0.0042**	0.0043 U	**0.0035 J**	0.0042 U	**0.015**	**0.0034 J**	**0.0029 J**	0.005 U	0.0049 U	**0.0024 J**
Chloroform	mg/kg	1.4	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
Cyclohexane	mg/kg	27,000	0.014 U	0.014 U	0.0086 U	0.0081 U	0.0081 U	0.0087 U	0.0076 U	0.0085 U	0.011 U	**0.0025 J**	**0.0074 J**	0.011 U	0.011 U	0.01 U	0.0098 U	0.0086 U
Ethylbenzene	mg/kg	25	0.007 U	**0.013**	0.0043 U	0.004 U	0.0041 U	0.0044 U	**0.0046**	0.0043 U	0.0053 U	**0.013**	**0.0025 J**	0.0057 U	**0.013**	0.005 U	0.0049 U	0.0043 U
Isopropylbenzene	mg/kg	9,900	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	**0.0015 J**	**0.003 J**	0.0057 U	**0.0035 J**	0.005 U	0.0049 U	0.0043 U
Methyl Acetate	mg/kg	1,200,000	0.07 U	**0.04 J**	**0.015 J**	**0.0025 J**	0.041 U	0.044 U	0.038 U	**0.0086 J**	**0.041 J**	**0.0097 J**	0.057 U	0.057 U	**0.016 J**	**0.0071 J**	0.049 U	**0.0089 J**
Methylene Chloride	mg/kg	1,000	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
Styrene	mg/kg	35,000	0.007 U	**0.019**	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
Tetrachloroethene	mg/kg	100	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
Toluene	mg/kg	47,000	0.007 U	**11.8**	**0.031**	**0.018**	0.0041 U	**0.0034 J**	0.0038 U	0.0043 U	**0.0016 J**	**0.013**	**0.014**	0.0057 U	**0.027**	0.005 U	0.0049 U	0.0043 U
trans-1,2-Dichloroethene	mg/kg	23,000	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
Trichloroethene	mg/kg	6	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
Vinyl chloride	mg/kg	1.7	0.007 U	0.0068 U	0.0043 U	0.004 U	0.0041 U	0.0044 U	0.0038 U	0.0043 U	0.0053 U	0.0042 U	0.0057 U	0.0057 U	0.0053 U	0.005 U	0.0049 U	0.0043 U
Xylenes	mg/kg	2,800	0.021 U	**0.51**	**0.029**	**0.021**	0.012 U	**0.004 J**	0.011 U	0.013 U	0.016 U	**0.087**	**0.019**	0.017 U	**0.22**	0.015 U	0.015 U	0.013 U
Semi-Volatile Organic Compounds^																		
1,1-Biphenyl	mg/kg	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	mg/kg	16,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	mg/kg	3,000	**0.075**	**763**	**0.021**	**0.1**	**0.0055 J**	**0.19**	**0.0067 J**	**0.0061 J**	**0.0043 J**	**1**	**0.3**	**0.028**	**32.7**	**0.039**	**0.027**	**0.036**
2-Methylphenol	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	mg/kg	45,000	**0.028**	**541**	**0.0065 J**	**0.036**	**0.0063 J**	**0.16**	**0.0015 J**	**0.0024 J**	**0.0012 J**	**2.3**	**0.31**	**0.022**	**36**	**0.026**	**0.0064 J**	**0.43**
Acenaphthylene	mg/kg	45,000	**0.018**	**950**	**0.03**	**0.082**	**0.009**	**0.16**	0.0074 U	0.008 U	**0.0014 J**	**5.6**	**0.12**	**0.0029 J**	**94.3**	**0.036**	**0.0042 J**	**0.17**
Acetophenone	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	mg/kg	230,000	**0.032**	**3,820**	**0.077**	**0.2**	**0.015**	**0.51**	**0.0059 J**	**0.009**	**0.0049 J**	**15.8**	**0.35**	**0.024**	**601**	**0.1**	**0.007 J**	**0.44**
Benz[a]anthracene	mg/kg	21	**0.13**	**4,330**	**0.094**	**0.23**	**0.028**	**1**	**0.0058 J**	**0.0086**	**0.0074 J**	**26.8**	**1.3**	**0.031**	**596**	**0.36**	**0.0067 J**	**0.92**
Benzaldehyde	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[a]pyrene	mg/kg	2.1	**0.12**	**3,880**	**0.078**	**0.19**	**0.045**	**0.94**	**0.0032 J**	**0.0038 J**	**0.0056 J**	**13.2**	**1.4**	**0.041**	**412**	**0.31**	**0.0035 J**	**0.74**
Benzo[b]fluoranthene	mg/kg	21	**0.25**	**7,820**	**0.14**	**0.25**	**0.087**	**2.3**	**0.0068 J**	**0.01**	**0.012**	**26.1**	**3.5**	**0.058**	**689**	**0.49**	**0.0078 J**	**0.94**
Benzo[g,h,i]perylene	mg/kg		**0.058**	**648**	**0.037**	**0.094**	**0.021**	**0.26**	**0.0018 J**	**0.0024 J**	**0.0043 J**	**3.3**	**0.56**	**0.041**	**192**	**0.09**	**0.002 J**	**0.34**
Benzo[k]fluoranthene	mg/kg	210	**0.23**	**6,030**	**0.099**	**0.081**	**0.079**	**1.5**	**0.0047 J**	**0.0072 J**	**0.0084**	**7**	**3.2**	**0.02**	**230**	**0.13**	**0.0055 J**	**0.31**
bis(2-Ethylhexyl)phthalate	mg/kg	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Caprolactam	mg/kg	400,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbazole	mg/kg		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	mg/kg	2,100	**0.28**	**3,120**	**0.068**	**0.17**	**0.028**	**0.8**	**0.0039 J**	**0.0066 J**	**0.0049 J**	**12.5**	**1.6**	**0.035**	**499**	**0.3**	**0.004 J**	**0.64**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.013**	**256**	**0.011**	**0.029**	**0.0067 J**	**0.096**	0.0074 U	0.008 U	0.0076 U	**1.5**	**0.17**	**0.0094**	**64.1**	**0.039**	0.0094 U	**0.12**
Diethylphthalate	mg/kg	660,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	mg/kg	30,000	**0.36**	**10,100**	**0.23**	**0.59**	**0.037**	**2.1**	**0.016**	**0.026**	**0.017**	**80.1**	**2.7**	**0.077**	**1,790**	**0.66**	**0.015**	**2.5**
Fluorene	mg/kg	30,000	**0.029**	**2,640**	**0.052**	**0.18**	**0.0023 J**	**0.37**	**0.0097**	**0.013**	**0.0058 J**	**40.5**	**0.37**	**0.012**	**358**	**0.032**	**0.011**	**0.059**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.035**	**701**	**0.038**	**0.089**	**0.017**	**0.26**	**0.0016 J**	**0.0024 J**	**0.0036 J**	**3.9**	**0.52**	**0.031**	**208**	**0.1**	**0.0018 J**	**0.36**
Naphthalene	mg/kg	8.6	**0.62**	**10,200**	**0.38**	**1.5**	**0.012**	**1.3**	**0.098**	**0.068**	**0.039**	**9.5**	**0.31**	**0.37**	**416**	**0.16**	**0.55**	**0.59**
N-Nitrosodiphenylamine	mg/kg	470	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	mg/kg		**0.16**	**11,600**	**0.25**	**0.75**	**0.027**	**1.9**	**0.028**	**0.046**	**0.022**	**116**	**2.1**	**0.12**	**3,350**	**0.44**	**0.023**	**0.36**
Phenol	mg/kg	250,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	mg/kg	23,000	**0.47**	**7,420**	**0.17**	**0.43**	**0.038**	**2.1**	**0.011**	**0.015**	**0.012**	**54.9**	**2.6**	**0.063**	**1,240**	**0.57**	**0.011**	**1.5**
PCBs																		
Aroclor 1248	mg/kg	0.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1254	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1260	mg/kg	0.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs (total)	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH/Oil and Grease																		
Diesel Range Organics	mg/kg	6,200	**470**	**28,900**	**13**	**31.1**	**43.3**	**166**	**4.9 J**	**5.8 J**	**22.5**	**1,540**	**2,830**	**21.9**	**6,720**	**123**	**8.7 J**	**113**
Gasoline Range Organics	mg/kg	6,200	15.1 U	**95.5**	8.8 U	9.1 U	10.2 U	14.8 U	8 U	10.1 U	12.2 U	**99.6**	**14.9**	6.9 U	**38.4**	9.9 U	10.4 U	8.4 U
Oil and Grease	mg/kg	6,200	**6,290**	**44,100**	**394**	**361**	**1,350**	**1,040**	**823**	**443**	**213**	**2,010**	**14,300**	**511**	**9,720**	**1,270**	**748**	**615**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analye was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-024MM-SB-4*	A11-024M-SB-5*	A11-024M-SB-10*	A11-024M-SB-15*	A11-024N-SB-2*	A11-024OO-SB-5*	A11-024O-SB-3*	A11-024P-SB-5*	A11-024P-SB-10*	A11-024P-SB-15*	A11-024Q-SB-5*	A11-024Q-SB-10*	A11-024Q-SB-15*	A11-024-SB-1*	A11-024-SB-5*	A11-024-SB-9*
			8/23/2018	6/15/2018	6/15/2018	6/15/2018	8/8/2018	8/23/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2018	8/9/2016	6/14/2018	8/9/2016
Volatile Organic Compounds																		
1,1-Dichloroethane	mg/kg	16	0.0054 U	0.0056 U	0.006 U	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	0.006 U
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.0054 U	0.0056 U	0.006 U	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	0.006 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.011 U	0.012 U	0.81 U	0.0087 U	0.01 U	0.01 U	0.009 U	0.0098 U	0.0085 U	0.011 U	6.5 U	5.7 U	0.016 U	0.0092 U	0.012 U
2-Butanone (MEK)	mg/kg	190,000	0.011 U	0.011 U	0.012 U	0.81 U	0.0087 U	**0.0031 J**	**0.027**	**0.016**	**0.013**	**0.0096**	0.011 U	6.5 U	5.7 U	0.016 U	0.0092 U	**0.014**
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 U	0.011 U	0.012 U	0.81 U	0.0087 U	0.01 U	0.01 U	0.009 U	0.0098 U	0.0085 U	0.011 U	6.5 U	5.7 U	0.016 U	0.0092 U	0.012 U
Acetone	mg/kg	670,000	**0.0071 J**	**0.026**	**0.19**	0.81 U	**0.17**	**0.023**	0.64 U	0.51 U	0.77 U	**0.046**	**0.25**	6.5 U	5.7 U	0.016 U	**0.12**	**0.068**
Benzene	mg/kg	5.1	0.0054 U	0.0056 U	**12.1**	**588**	0.0044 U	**0.02**	**0.055**	0.0045 U	**0.028**	**0.0078**	**0.0027 J**	**551**	**170**	**0.0038 J**	0.0046 U	**51.9**
Carbon disulfide	mg/kg	3,500	**0.0036 J**	**0.0029 J**	0.006 U	**0.67**	0.0044 U	**0.0034 J**	**0.012**	0.0045 U	**0.0022 J**	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	**0.016**
Chloroform	mg/kg	1.4	0.0054 U	0.0056 U	0.006 U	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	0.006 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0054 U	0.0056 U	0.006 U	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	0.006 U
Cyclohexane	mg/kg	27,000	0.011 U	0.011 U	0.012 U	**0.21 J**	0.0087 U	0.01 U	0.01 U	0.009 U	0.0098 U	0.0085 U	0.011 U	6.5 U	5.7 U	0.016 U	0.0092 U	**0.012**
Ethylbenzene	mg/kg	25	0.0054 U	0.0056 U	**0.0033 J**	**3.8**	0.0044 U	**0.022**	0.0052 U	0.0045 U	**0.0022 J**	0.0043 U	0.0054 U	**1.6 J**	2.8 U	0.0079 U	0.0046 U	**0.081**
Isopropylbenzene	mg/kg	9,900	0.0054 U	0.0056 U	0.006 U	**1.1**	0.0044 U	**0.064**	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	**0.015**
Methyl Acetate	mg/kg	1,200,000	0.054 U	0.056 U	**0.058 J**	**0.33 J**	0.044 U	0.051 U	**0.087**	**0.043 J**	**0.0027 J**	0.043 U	0.054 U	32.5 U	28.3 U	0.079 U	**0.26**	0.06 U
Methylene Chloride	mg/kg	1,000	0.0054 U	0.0056 U	0.006 U	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	**2.7 J**	0.0079 U	0.0046 U	0.006 U
Styrene	mg/kg	35,000	0.0054 U	0.0056 U	**0.0041 J**	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	**0.0039 J**
Tetrachloroethene	mg/kg	100	0.0054 U	0.0056 U	0.006 U	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	0.006 U
Toluene	mg/kg	47,000	**0.0017 J**	0.0056 U	**0.12**	**207**	0.0044 U	**0.3**	**0.0092**	0.0045 U	**0.053**	0.0043 U	0.0054 U	**67.8**	**31.6**	0.0079 U	0.0046 U	**14.7**
trans-1,2-Dichloroethene	mg/kg	23,000	0.0054 U	0.0056 U	0.006 U	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	0.006 U
Trichloroethene	mg/kg	6	0.0054 U	0.0056 U	0.006 U	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	0.006 U
Vinyl chloride	mg/kg	1.7	0.0054 U	0.0056 U	0.006 U	0.4 U	0.0044 U	0.0051 U	0.0052 U	0.0045 U	0.0049 U	0.0043 U	0.0054 U	3.3 U	2.8 U	0.0079 U	0.0046 U	0.006 U
Xylenes	mg/kg	2,800	0.016 U	0.017 U	**0.09**	**194**	0.013 U	**0.32**	**0.0087 J**	0.013 U	**0.041**	0.013 U	0.016 U	**73.6**	**23**	0.024 U	0.014 U	**20.7**
Semi-Volatile Organic Compounds^																		
1,1-Biphenyl	mg/kg	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.073 U	N/A	**51.2**
2,4-Dimethylphenol	mg/kg	16,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.073 U	N/A	**9.5**
2-Methylnaphthalene	mg/kg	3,000	**0.78**	**0.015**	**10.3**	**480**	**0.013**	**4.3**	**3**	**0.0085**	**0.64**	**0.0026 J**	**0.006 J**	**688**	**451**	**0.0052 J**	**0.95**	**117**
2-Methylphenol	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.073 U	N/A	**5**
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.15 U	N/A	**11.9**
Acenaphthene	mg/kg	45,000	**0.97**	**0.0046 J**	**9.9**	**116**	**0.084**	**3.3**	**13.3**	**0.017**	**0.23**	**0.0019 J**	**0.0082 J**	**320**	**149**	**0.0028 J**	**1.7**	**26.4**
Acenaphthylene	mg/kg	45,000	**3.3**	**0.0015 J**	**37.2**	**92.4**	0.0072 U	**2.2**	**56.6**	**0.024**	**0.091**	**0.0052 J**	**0.0011 J**	**452**	**221**	**0.024**	**0.43**	**48.1**
Acetophenone	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.073 U	N/A	**12.7**
Anthracene	mg/kg	230,000	**6.1**	**0.0067 J**	**133**	**798**	**0.056**	**7.2**	**257**	**0.019**	**0.082**	**0.0057 J**	**0.011**	**5,270**	**916**	**0.051**	**6.4**	**303**
Benz[a]anthracene	mg/kg	21	**11**	**0.018**	**175**	**792**	**0.35**	**8.6**	**295**	**0.038**	**0.14**	**0.024**	**0.0066 J**	**1,620**	**716**	**0.14**	**8.8**	**253**
Benzaldehyde	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.073 U	N/A	0.88 U
Benzo[a]pyrene	mg/kg	2.1	**11.1**	**0.035**	**145**	**492**	**0.67**	**5.7**	**283**	**0.036**	**0.14**	**0.023**	**0.0046 J**	**1,200**	**535**	**0.16**	**8**	**163**
Benzo[b]fluoranthene	mg/kg	21	**25.2**	**0.048**	**350**	**866**	**0.78**	**12.4**	**859**	**0.099**	**0.23**	**0.041**	**0.0092**	**7,640**	**1,610**	**0.34**	**13.2**	**227**
Benzo[g,h,i]perylene	mg/kg		**3.3**	**0.036**	**73.9**	**241**	**0.53**	**1.9**	**8**	**0.017**	**0.086**	**0.014**	**0.0045 J**	**121**	**56.1**	**0.076**	**2.3**	**65.9**
Benzo[k]fluoranthene	mg/kg	210	**8.2**	**0.034**	**79.9**	**268**	**0.31**	**11.3**	**766**	**0.089**	**0.2**	**0.036**	**0.0082 J**	**6,810**	**1,440**	**0.12**	**10.9**	**108**
bis(2-Ethylhexyl)phthalate	mg/kg	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.073 U	N/A	0.88 U
Caprolactam	mg/kg	400,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.18 U	N/A	2.2 U
Carbazole	mg/kg		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.073 U	N/A	**75**
Chrysene	mg/kg	2,100	**9.7**	**0.018**	**136**	**631**	**0.34**	**12.5**	**299**	**0.051**	**0.13**	**0.021**	**0.0069 J**	**1,580**	**688**	**0.22**	**6.8**	**236**
Dibenz[a,h]anthracene	mg/kg	2.1	**1.3**	**0.0077 J**	**13.7**	**85.1**	**0.17**	**0.61 J**	**4.6**	0.0081 U	**0.027**	**0.0044 J**	0.0085 U	**42.5**	8.3 U	**0.022**	**0.62**	**24.4**
Diethylphthalate	mg/kg	660,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.073 U	N/A	0.88 U
Fluoranthene	mg/kg	30,000	**36**	**0.021**	**598**	**3,770**	**0.38**	**28.9**	**670**	**0.075**	**0.25**	**0.047**	**0.024**	**9,370**	**3,010**	**0.23**	**32**	**639**
Fluorene	mg/kg	30,000	**3.2**	**0.0031 J**	**48.7**	**938**	**0.021**	**8**	**70.3**	**0.015**	**0.48**	**0.004 J**	**0.014**	**3,930**	**962**	**0.015**	**2**	**353**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**3.5**	**0.025**	**76.8**	**264**	**0.43**	**1.9**	**10.6**	**0.012**	**0.076**	**0.013**	**0.0034 J**	**136**	**62.2**	**0.083**	**2.1**	**79.8**
Naphthalene	mg/kg	8.6	**3.8**	**0.019**	**87.8**	**5,880**	**0.046**	**30.7**	**11.3**	**0.017**	**11**	**0.018**	**0.014**	**15,000**	**7,780**	**0.047**	**0.93**	**621**
N-Nitrosodiphenylamine	mg/kg	470	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.073 U	N/A	0.88 U
Phenanthrene	mg/kg		**15.3**	**0.029**	**357**	**5,340**	**0.2**	**31**	**456**	**0.076**	**0.55**	**0.025**	**0.047**	**14,400**	**4,420**	**0.1**	**37.9**	**968**
Phenol	mg/kg	250,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.02 J**	N/A	**8.2**
Pyrene	mg/kg	23,000	**28.7**	**0.025**	**516**	**1,550**	**0.36**	**31.6**	**557**	**0.059**	**0.25**	**0.037**	**0.021**	**5,940**	**1,470**	**0.2**	**31.7**	**615**
PCBs																		
Aroclor 1248	mg/kg	0.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0559 U	N/A	N/A
Aroclor 1254	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0559 U	N/A	N/A
Aroclor 1260	mg/kg	0.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0559 U	N/A	N/A
PCBs (total)	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0559 U	N/A	N/A
TPH/Oil and Grease																		
Diesel Range Organics	mg/kg	6,200	**593**	**85**	**2,520**	**12,700**	**34**	**30,400**	**2,430**	**36.4**	**124**	**15**	**15.1**	**22,800**	**16,200**	**13.3**	**88.3**	**7,640**
Gasoline Range Organics	mg/kg	6,200	9.5 U	15.3 U	**29.9**	**2,220**	11.4 U	**37.4**	11.6 U	9.8 U	14.8 U	8.7 U	8.3 U	**1,500**	**1,060**	18.5 U	9.9 U	**214**
Oil and Grease	mg/kg	6,200	**813**	**358**	**3,330**	**8,280**	**205**	**54,200**	**20,100**	**210**	**527**	**238**	**930**	**21,100**	**13,300**	**618**	**2,930**	**21,300**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
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Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-024-SB-10* 6/14/2018	A11-024-SB-10* 8/9/2016	A11-024-SB-15* 6/14/2018	A11-024S-SB-4* 8/15/2018	A11-024U-SB-5* 8/15/2018	A11-024V-SB-2* 8/16/2018	A11-024V-SB-4* 8/16/2018	A11-024W-SB-1.5* 8/17/2018	A11-024X-SB-3* 8/17/2018	A11-024Y-SB-4* 8/17/2018	A11-025-SB-1 8/10/2016	A11-025-SB-4 8/10/2016	A11-027-SB-11 8/11/2016	A11-027-SB-15 8/11/2016	A11-029-SB-1 8/10/2016	A11-029-SB-5 8/10/2016	A11-030-SB-1 8/10/2016
Volatile Organic Compounds																			
1,1-Dichloroethane	mg/kg	16	0.0049 U	N/A	0.0054 U	0.011 U	0.0041 U	0.0053 U	0.0041 U	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.0049 U	N/A	0.0054 U	0.011 U	0.0042 U	0.0053 U	0.0041 U	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.0098 U	N/A	0.011 U	0.022 U	0.0082 U	0.011 U	0.0082 U	0.0093 U	0.0083 U	0.0091 U	0.011 U	0.01 U	0.01 U	0.011 U	0.012 U	0.012 U	0.011 U
2-Butanone (MEK)	mg/kg	190,000	**0.011**	N/A	0.011 U	**0.012 J**	**0.0055 J**	0.011 U	0.0082 U	0.0093 U	0.0083 U	0.0091 U	0.011 U	0.01 U	**0.0084 J**	**0.0054 J**	**0.0047 J**	0.012 U	0.011 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0098 U	N/A	0.011 U	0.022 U	0.0083 U	0.011 U	0.0082 U	0.0093 U	0.0083 U	0.0091 U	0.011 U	0.01 U	0.01 U	0.011 U	0.012 U	0.012 U	0.011 U
Acetone	mg/kg	670,000	0.65 U	N/A	**0.1**	**0.44**	**0.11**	**0.0076 J**	**0.0088**	0.0093 U	**0.013**	0.0091 U	0.011 U	**0.006 JB**	0.039 B	0.023 B	0.014 B	0.0079 B	0.0059 B
Benzene	mg/kg	5.1	**7.4**	**19.1**	**1.9**	**113**	**2.8**	0.0053 U	**0.067**	0.0047 U	0.0042 U	**0.16**	0.0054 U	0.0052 U	**0.0037 J**	**0.11**	**0.0029 J**	**0.015**	0.0054 U
Carbon disulfide	mg/kg	3,500	**0.013**	N/A	0.0054 U	**0.0086 J**	0.0042 U	0.0053 U	**0.0034 J**	0.0047 U	0.0042 U	**0.004 J**	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
Chloroform	mg/kg	1.4	0.0049 U	N/A	0.0054 U	**0.012**	0.0042 U	**0.0023 J**	0.0041 U	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0049 U	N/A	0.0054 U	0.011 U	0.0041 U	0.0053 U	0.0041 U	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
Cyclohexane	mg/kg	27,000	**0.012**	N/A	0.011 U	0.022 U	**0.0056 J**	0.011 U	0.0082 U	0.0093 U	0.0083 U	0.0091 U	0.011 U	0.01 U	0.01 U	0.011 U	0.012 U	0.012 U	0.011 U
Ethylbenzene	mg/kg	25	**0.094**	N/A	**0.0051 J**	**0.12**	**0.02**	0.0053 U	**0.012**	0.0047 U	0.0042 U	**0.018**	0.0054 U	0.0052 U	0.005 U	**0.0012 J**	0.0061 U	0.0059 U	0.0054 U
Isopropylbenzene	mg/kg	9,900	**0.025**	N/A	0.0054 U	**0.014**	**0.0018 J**	0.0053 U	**0.0024 J**	0.0047 U	0.0042 U	**0.0029 J**	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
Methyl Acetate	mg/kg	1,200,000	**0.066**	N/A	**0.012 J**	0.11 U	0.042 U	0.053 U	0.041 U	0.047 U	0.042 U	0.045 U	0.054 U	0.052 U	0.05 U	0.054 U	0.061 R	0.059 R	0.054 R
Methylene Chloride	mg/kg	1,000	0.0049 U	N/A	0.0054 U	**0.29**	0.0042 U	0.0053 U	0.0041 U	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
Styrene	mg/kg	35,000	0.0049 U	N/A	0.0054 U	**0.013**	0.0042 U	0.0053 U	**0.0027 J**	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
Tetrachloroethene	mg/kg	100	0.0049 U	N/A	0.0054 U	**0.012**	0.0042 U	0.0053 U	0.0041 U	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
Toluene	mg/kg	47,000	**2**	N/A	**0.0022 J**	**138**	**12.8**	0.0053 U	**5.9**	0.0047 U	0.0042 U	**0.3**	0.0054 U	0.0052 U	0.005 U	**0.0023 J**	**0.0025 J**	**0.011**	**0.0018 J**
trans-1,2-Dichloroethene	mg/kg	23,000	0.0049 U	N/A	0.0054 U	0.011 U	0.0041 U	0.0053 U	0.0041 U	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
Trichloroethene	mg/kg	6	0.0049 U	N/A	0.0054 U	**0.03**	0.0042 U	0.0053 U	0.0041 U	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
Vinyl chloride	mg/kg	1.7	0.0049 U	N/A	0.0054 U	0.011 U	0.0042 U	0.0053 U	0.0041 U	0.0047 U	0.0042 U	0.0045 U	0.0054 U	0.0052 U	0.005 U	0.0054 U	0.0061 U	0.0059 U	0.0054 U
Xylenes	mg/kg	2,800	**13.6**	N/A	**0.028**	**54.7**	**0.38**	0.016 U	**0.15**	0.014 U	0.013 U	**0.35**	0.016 U	0.016 U	0.015 U	0.0033 J	0.018 U	**0.012 J**	**0.0031 J**
Semi-Volatile Organic Compounds^																			
1,1-Biphenyl	mg/kg	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.078 U	**0.021 J**	**0.029 J**	**0.053 J**	0.079 U	**0.27 J**	**0.02 J**
2,4-Dimethylphenol	mg/kg	16,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.078 U	0.074 U	0.071 U	**0.045 J**	0.079 U	**0.087 J**	0.073 U
2-Methylnaphthalene	mg/kg	3,000	**173**	**35.3**	**0.038**	**674**	**0.89**	**0.12**	**496**	**0.0093**	**0.11**	**6.9**	0.079 U	**0.075**	**0.066**	**0.20**	**0.047**	**2**	**0.025**
2-Methylphenol	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.078 U	0.074 U	0.071 U	0.077 U	0.079 U	**0.055 J**	0.073 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.16 U	0.15 U	0.14 U	**0.039 J**	0.16 U	**0.1 J**	0.15 U
Acenaphthene	mg/kg	45,000	**44.2**	**6**	**0.0065 J**	**425**	**0.2 J**	**0.65**	**192**	**0.0023 J**	**1.1**	**5.4**	**0.006 J**	**0.10**	**0.055**	**0.32**	**0.61**	**1.3**	**0.049**
Acenaphthylene	mg/kg	45,000	**101**	**12.9**	**0.0077 J**	**578**	**0.11 J**	**0.016**	**672**	0.0071 U	**0.027**	**8.5**	**0.047 J**	**0.039 J**	**0.029**	**0.70**	**0.008 J**	**1.1**	**0.014**
Acetophenone	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.078 U	0.074 U	0.071 U	**0.08**	0.079 U	**0.29 J**	0.073 U
Anthracene	mg/kg	230,000	**563**	**95.3**	**0.068**	**2,110**	**0.39 J**	**0.19**	**1,410**	**0.0024 J**	**0.53**	**101**	**0.049 J**	**0.2**	**0.088**	**3.4**	**0.13**	**4.3**	**0.068**
Benz[a]anthracene	mg/kg	21	**415**	**60.4**	**0.033**	**1,880**	0.75 U	**1.6**	**1,650**	**0.0099**	**3.1**	**116**	**0.23**	**0.61**	**0.71**	**11.6**	**1.2**	**5.7**	**0.39**
Benzaldehyde	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.078 U	0.074 U	0.071 U	**0.037 J**	0.079 UJ	0.085 UJ	0.073 UJ
Benzo[a]pyrene	mg/kg	2.1	**296**	**40.9**	**0.019**	**1,460**	**0.81**	**3.8**	**1,380**	**0.018**	**6.7**	**95.8**	**0.25**	**0.89**	**1.3**	**10.4**	**3.1**	**4.5**	**0.71**
Benzo[b]fluoranthene	mg/kg	21	**478**	**58.4**	**0.038**	**2,570**	**2.1**	**5.4**	**2,500**	**0.029**	**10.2**	**179**	**0.36**	**1.6**	**1.3**	**30.3**	**3.6**	**6.3**	**0.94**
Benzo[g,h,i]perylene	mg/kg		**68.1**	**15.9**	**0.0093**	**649**	**0.45 J**	**1.3**	**601**	**0.018**	**1.4**	**5.5**	**0.11**	**0.48**	**0.51**	**2.5**	**1.2**	**2.2**	**0.41**
Benzo[k]fluoranthene	mg/kg	210	**163**	**23.5**	**0.027**	**2,290**	**1.9**	**4.8**	**2,230**	**0.026**	**9.1**	**160**	**0.16**	**1.4**	**0.69**	**5.3**	**0.98**	**2.5**	**0.37**
bis(2-Ethylhexyl)phthalate	mg/kg	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.078 U	**0.044 J**	**0.69**	**0.083**	0.079 UJ	0.085 UJ	**0.079 J**
Caprolactam	mg/kg	400,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.2 U	0.19 U	0.18 U	0.19 U	0.2 U	0.21 U	0.18 U
Carbazole	mg/kg		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.078 U	**0.035 J**	**0.047 J**	**0.17**	**0.063 J**	**1.2 J**	**0.041 J**
Chrysene	mg/kg	2,100	**295**	**51.7**	**0.023**	**1,620**	**4.6**	**1.6**	**1,450**	**0.011**	**2.9**	**113**	**0.22**	**0.69**	**0.76**	**10.5**	**1.2**	**5.3**	**0.44**
Dibenz[a,h]anthracene	mg/kg	2.1	**25.4**	**5.9**	**0.0027 J**	**232**	**0.18 J**	**0.61**	**208**	**0.0051 J**	**0.62**	**3.1**	**0.035 J**	**0.18**	**0.15**	**1.1**	**0.65**	**0.8**	**0.15**
Diethylphthalate	mg/kg	660,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**0.022 J**	**0.017 J**	**0.021 J**	0.077 U	0.079 U	0.085 U	**0.045 J**
Fluoranthene	mg/kg	30,000	**1,330**	**154**	**0.13**	**5,410**	**2.6**	**1.6**	**4,490**	**0.016**	**3.1**	**383**	**0.38**	**0.98**	**0.89**	**56.6**	**1.1**	**14.5**	**0.46**
Fluorene	mg/kg	30,000	**512**	**83.4**	**0.078**	**1,770**	**0.33 J**	**0.12**	**1,220**	**0.00083 J**	**0.23**	**63.4**	**0.013 J**	**0.045 J**	**0.035**	**0.63**	**0.072**	**4**	**0.015**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**80.3**	**20**	**0.0092 J**	**673**	**0.4 J**	**1.5**	**624**	**0.015**	**3.5**	**7.9**	**0.12**	**0.5**	**0.5**	**2.9**	**1.2**	**2.4**	**0.43**
Naphthalene	mg/kg	8.6	**1,520**	**199**	**0.33**	**3,950**	**5**	**0.73**	**2,530**	**0.02**	**0.28**	**227**	**0.041 J**	**0.13**	**0.21**	**0.92**	**0.15**	**20**	**0.1**
N-Nitrosodiphenylamine	mg/kg	470	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.078 U	0.074 U	0.071 U	0.077 U	0.079 U	0.085 U	0.073 U
Phenanthrene	mg/kg		**2,810**	**217**	**0.25**	**7,130**	**2**	**0.74**	**4,980**	**0.015**	**1.8**	**293**	**0.16**	**0.65**	**0.29**	**11.4**	**0.5**	**16.7**	**0.24**
Phenol	mg/kg	250,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.078 U	0.074 U	0.071 U	**0.028 J**	0.079 U	**0.043 J**	0.073 U
Pyrene	mg/kg	23,000	**879**	**136**	**0.087**	**3,840**	**3**	**1.6**	**3,150**	**0.013**	**3**	**277**	**0.31**	**0.77**	**0.89**	**42.9**	**1.1**	**10.7**	**0.43**
PCBs																			
Aroclor 1248	mg/kg	0.94	N/A	N/A	N/A	1 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0573 U	N/A	0.0519 U
Aroclor 1254	mg/kg	0.97	N/A	N/A	N/A	1 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0573 U	N/A	0.0519 U
Aroclor 1260	mg/kg	0.99	N/A	N/A	N/A	1 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0573 U	N/A	0.0519 U
PCBs (total)	mg/kg	0.97	N/A	N/A	N/A	9.1 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0573 U	N/A	0.0519 U
TPH/Oil and Grease																			
Diesel Range Organics	mg/kg	6,200	**9,450**	**6,290**	**10.7**	N/A	**6,110**	**67.8**	**5,780**	**14.4**	**271**	**1,210**	**82.1**	**100**	**322**	**148**	**60.2 J**	**802 J**	**59.2 J**
Gasoline Range Organics	mg/kg	6,200	**44.8**	N/A	10.3 U	N/A	**89.3**	13.1 U	25.4 U	9.4 U	11.8 U	**18.1**	10.4 U	10.6 U	12.7 U	12.6 U	11.4 U	10.8 U	12.4 U
Oil and Grease	mg/kg	6,200	**11,700**	N/A	**335**	N/A	**11,000**	**414**	**6,820**	**311 J**	**897**	**2,560**	**1470**	**1000**	**1330**	**1370**	**803**	**3,910**	**367**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analye was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-030-SB-4	A11-031-SB-6	A11-031-SB-10	A11-033-SB-1*	A11-034-SB-1*	A11-034-SB-5*	A11-035-SB-1	A11-035-SB-4	A11-036-SB-1	A11-036-SB-5	A11-037-SB-1*	A11-037-SB-5*	A11-040A-SB-5*	A11-040A-SB-10*	A11-040A-SB-15*	A11-040B-SB-5*	A11-040B-SB-10*	A11-040C-SB-5*
			8/10/2016	8/11/2016	8/11/2016	8/9/2016	8/9/2016	8/9/2016	8/12/2016	8/12/2016	8/15/2016	8/15/2016	8/1/2016	8/1/2016	6/15/2018	6/15/2018	6/15/2018	6/15/2018	6/15/2018	6/18/2018
Volatile Organic Compounds																				
1,1-Dichloroethane	mg/kg	16	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	0.0045 U	0.0055 U	0.0038 U	0.0045 U	0.0061 U
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	0.0045 U	0.0055 U	0.0038 U	0.0045 U	0.0061 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.012 U	0.012 U	0.01 U	0.0093 U	0.0097 U	0.01 U	0.0081 U	0.0089 U	0.01 U	0.011 U	0.01 U	0.01 U	0.0072 U	0.009 U	0.011 U	0.0075 U	0.009 U	0.012 U
2-Butanone (MEK)	mg/kg	190,000	0.012 U	0.012 U	**0.0046 J**	0.0093 U	0.0097 U	0.01 U	0.0081 U	0.0089 U	0.01 U	0.011 U	0.01 U	0.01 U	0.0072 U	**0.009**	**0.048**	0.0075 U	0.009 U	0.012 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.012 U	0.012 U	0.01 U	0.0093 U	0.0097 U	0.01 U	0.0081 U	0.0089 U	0.01 U	0.011 U	0.01 U	0.01 U	0.0072 U	**0.0042 J**	**0.017**	0.0075 U	0.009 U	0.012 U
Acetone	mg/kg	670,000	0.012 UJ	**0.01 JB**	**0.018 B**	0.0093 U	0.0097 U	0.01 U	0.0081 UJ	0.0089 UJ	**0.013 J**	**0.017 J**	0.01 U	**0.044**	**0.098**	**0.055**	**0.39**	**0.078**	**0.2**	**0.073**
Benzene	mg/kg	5.1	0.0062 U	0.006 U	**0.0041 J**	**0.0063**	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	**0.0034 J**	**72.6**	**232**	0.0038 U	**0.018**	0.0061 U
Carbon disulfide	mg/kg	3,500	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	**0.0079**	**0.0034 J**	0.0038 U	**0.0042 J**	0.0061 U
Chloroform	mg/kg	1.4	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	**0.0045**	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	0.0045 U	0.0055 U	0.0038 U	0.0045 U	0.0061 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	0.0045 U	0.0055 U	0.0038 U	0.0045 U	0.0061 U
Cyclohexane	mg/kg	27,000	0.012 U	0.012 U	0.01 U	0.0093 U	0.0097 U	0.01 U	0.0081 U	0.0089 U	0.01 U	0.011 U	0.01 U	0.01 U	0.0072 U	**0.0065 J**	**0.0077 J**	0.0075 U	0.009 U	0.012 U
Ethylbenzene	mg/kg	25	0.0062 U	0.006 U	**0.0023 J**	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	**0.041**	**0.079**	0.0038 U	0.0045 U	0.0061 U
Isopropylbenzene	mg/kg	9,900	0.0062 U	0.006 U	**0.0027 J**	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	**0.0066**	**0.015**	0.0038 U	0.0045 U	0.0061 U
Methyl Acetate	mg/kg	1,200,000	0.062 R	0.06 U	0.052 U	0.047 U	0.048 U	0.05 U	0.04 R	0.045 R	0.052 R	0.056 R	0.05 U	0.05 U	0.036 U	**0.013 J**	**0.031 J**	0.038 U	**0.039 J**	**0.019 J**
Methylene Chloride	mg/kg	1,000	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 UJ	0.0045 UJ	0.0052 UJ	0.0056 UJ	0.005 U	0.005 U	0.0036 U	0.0045 U	0.0055 U	0.0038 U	0.0045 U	0.0061 U
Styrene	mg/kg	35,000	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	**0.0037 J**	**0.0075**	0.0038 U	0.0045 U	0.0061 U
Tetrachloroethene	mg/kg	100	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	0.0045 U	0.0055 U	0.0038 U	0.0045 U	0.0061 U
Toluene	mg/kg	47,000	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	**0.0018 J**	**0.0055**	**5.3**	**6.2**	0.0038 U	**0.0014 J**	0.0061 U
trans-1,2-Dichloroethene	mg/kg	23,000	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	0.0045 U	0.0055 U	0.0038 U	0.0045 U	0.0061 U
Trichloroethene	mg/kg	6	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	0.0045 U	0.0055 U	0.0038 U	0.0045 U	0.0061 U
Vinyl chloride	mg/kg	1.7	0.0062 U	0.006 U	0.0052 U	0.0047 U	0.0048 U	0.005 U	0.004 U	0.0045 U	0.0052 U	0.0056 U	0.005 U	0.005 U	0.0036 U	0.0045 U	0.0055 U	0.0038 U	0.0045 U	0.0061 U
Xylenes	mg/kg	2,800	0.019 U	0.018 U	**0.003 J**	0.014 U	0.015 U	0.015 U	0.012 U	0.013 U	0.016 U	0.017 U	0.015 U	0.015 U	0.011 U	**11.8**	**34.8**	0.011 U	0.014 U	0.018 U
Semi-Volatile Organic Compounds^																				
1,1-Biphenyl	mg/kg	200	0.087 U	0.083 U	**0.14**	0.072 U	**0.026 J**	**0.13**	**0.26**	**0.024 J**	0.075 U	0.071 U	0.076 U	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	mg/kg	16,000	0.087 R	0.083 U	**0.39**	0.072 U	0.074 U	0.075 U	0.073 R	0.081 U	0.075 R	0.071 R	0.076 U	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	mg/kg	3,000	**0.0072 J**	0.083 U	**0.36**	**0.021**	**0.025**	**0.56**	**0.17**	**0.089**	0.075 U	**0.022**	**0.012**	**0.0086**	**0.03**	**85**	**743**	**0.16**	**0.013**	**0.022**
2-Methylphenol	mg/kg	41,000	0.087 R	0.21 U	0.20 U	0.072 U	0.074 U	0.075 U	0.073 R	0.081 U	0.075 R	0.071 R	0.076 U	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.17 R	0.083 U	0.079 U	0.14 U	0.15 U	**0.028 J**	0.15 R	0.16 U	0.15 R	0.14 R	0.15 U	0.16 U	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	mg/kg	45,000	**0.0036 J**	0.083 U	**0.047 J**	**0.013**	**0.0071 J**	**0.077**	**0.21**	**0.03**	0.075 U	**0.0016 J**	**0.0064 J**	**0.0032 J**	**0.028**	**21**	**238**	**0.048**	**0.035**	**0.013**
Acenaphthylene	mg/kg	45,000	**0.0018 J**	0.083 U	0.079 U	**0.053**	**0.0035 J**	**0.83**	**0.067**	**0.053**	0.075 U	**0.0006 J**	**0.0042 J**	**0.0095**	**0.033**	**52.5**	**389**	**0.079**	**0.042**	**0.0056 J**
Acetophenone	mg/kg	120,000	0.087 U	**2.8**	**1.1**	0.072 U	0.074 U	0.075 U	0.073 U	**0.027 J**	0.075 U	0.071 U	0.076 U	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	mg/kg	230,000	**0.006 J**	**14.1**	**1.1**	**0.038**	**0.015**	**0.73**	**0.52**	**0.079**	0.075 U	**0.006 J**	**0.02**	**0.0079 J**	**0.07**	**155**	**1,270**	**0.42**	**0.074**	**0.05**
Benz[a]anthracene	mg/kg	21	**0.02**	0.083 U	**0.14**	**0.2**	**0.043**	**0.82**	**0.95**	**0.32**	**0.014 J**	**0.027**	**0.092**	**0.043**	**0.22**	**152**	**1,230**	**0.49**	**0.25**	**0.11**
Benzaldehyde	mg/kg	120,000	0.087 UJ	**1.7**	**0.87**	0.072 U	0.074 U	0.075 U	0.073 U	0.081 U	0.075 U	0.071 U	0.076 U	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[a]pyrene	mg/kg	2.1	**0.026**	**0.081 J**	**0.20**	**0.27**	**0.06**	**0.64**	**0.67**	**0.26**	**0.01 J**	**0.036**	**0.11**	**0.052**	**0.23**	**112**	**916**	**0.35**	**0.19**	**0.095**
Benzo[b]fluoranthene	mg/kg	21	**0.036**	0.083 U	**0.18**	**0.51**	**0.099**	**0.93**	**1.3**	**0.63**	**0.013 J**	**0.076**	**0.19**	**0.11**	**0.31**	**344**	**1,370**	**0.5**	**0.28**	**0.25**
Benzo[g,h,i]perylene	mg/kg		**0.016**	**0.94**	**0.22**	**0.14**	**0.034**	**0.39**	**0.25**	**0.06**	0.075 U	**0.04**	**0.07**	**0.022**	**0.14**	**51.7**	**440**	**0.18**	**0.1**	**0.084**
Benzo[k]fluoranthene	mg/kg	210	**0.016**	**0.7**	**0.7**	**0.46**	**0.045**	**0.36**	**1.2**	**0.58**	0.075 U	**0.069**	**0.06**	**0.1**	**0.1**	**149**	**422**	**0.17**	**0.086**	**0.17**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.087 UJ	0.083 U	0.079 U	**0.15**	0.074 U	**0.064 J**	0.022 B	0.081 UJ	0.019 B	0.071 U	**0.017 J**	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
Caprolactam	mg/kg	400,000	0.22 U	**1.5**	**0.74**	0.18 U	0.18 U	0.19 U	0.18 U	0.2 U	**0.023 J**	0.18 U	0.19 U	0.21 U	N/A	N/A	N/A	N/A	N/A	N/A
Carbazole	mg/kg		0.087 U	0.083 U	0.079 U	0.072 U	0.074 U	**0.45**	**0.1**	0.081 UJ	0.075 UJ	0.071 U	0.076 U	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	mg/kg	2,100	**0.023**	0.083 U	0.079 U	**0.19**	**0.065**	**0.83**	**0.89**	**0.3**	**0.0074 J**	**0.036**	**0.13**	**0.05**	**0.19**	**110**	**894**	**0.38**	**0.19**	**0.12**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.0053 J**	0.083 U	0.079 U	**0.049**	**0.009**	**0.14**	**0.13**	**0.026**	0.075 U	**0.0099**	**0.024**	**0.0096**	**0.047**	**18.2**	**157**	**0.059**	**0.034**	**0.023**
Diethylphthalate	mg/kg	660,000	**0.032 J**	0.21 U	0.20 U	0.072 U	0.074 U	0.075 U	0.073 U	0.081 U	0.075 U	0.071 U	0.076 U	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	mg/kg	30,000	**0.034**	0.083 U	0.079 U	**0.26**	**0.073**	**2.3**	**2.5**	**0.65**	**0.011 J**	**0.039**	**0.13**	**0.075**	**0.38**	**663**	**6,230**	**1.4**	**0.59**	**0.3**
Fluorene	mg/kg	30,000	**0.002 J**	0.083 U	0.079 U	**0.0053 J**	**0.0026 J**	**0.81**	**0.22**	**0.026**	0.075 U	**0.0013 J**	**0.0018 J**	**0.0027 J**	**0.027**	**266**	**1,290**	**0.41**	**0.11**	**0.01**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.014**	**7.3**	**1.3**	**0.15**	**0.032**	**0.39**	**0.27**	**0.067**	0.075 U	**0.029**	**0.062**	**0.023**	**0.14**	**54.5**	**423**	**0.19**	**0.1**	**0.071**
Naphthalene	mg/kg	8.6	**0.014**	**1.4**	**0.31**	**0.042**	**0.06**	**3.9**	**0.35**	**0.18**	0.075 U	**0.059**	**0.021**	**0.017**	**0.2**	**1,600**	**17,000**	**1.4**	**0.23**	**0.03**
N-Nitrosodiphenylamine	mg/kg	470	0.087 U	**0.57**	**0.12**	0.072 U	0.074 U	0.075 U	0.073 U	0.081 UJ	0.075 UJ	0.071 U	0.076 U	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	mg/kg		**0.032**	**1.5**	**0.35**	**0.11**	**0.079**	**2.8**	**2.8**	**0.23**	0.016 B	**0.037**	**0.087**	**0.029**	**0.2**	**923**	**8,100**	**1.9**	**0.32**	**0.14**
Phenol	mg/kg	250,000	0.087 R	**0.068**	**0.59**	0.072 U	0.074 U	**0.018 J**	0.073 R	0.081 U	0.075 R	0.071 R	0.076 U	0.082 U	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	mg/kg	23,000	**0.029**	**7.2**	**2.9**	**0.21**	**0.057**	**1.7**	**1.4**	**0.59**	**0.01 J**	**0.032**	**0.12**	**0.062**	**0.32**	**464**	**4,520**	**1**	**0.44**	**0.31**
PCBs																				
Aroclor 1248	mg/kg	0.94	N/A	N/A	N/A	0.053 U	0.0543 U	N/A	0.0552 U	N/A	0.0681 U	N/A	0.0552 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1254	mg/kg	0.97	N/A	N/A	N/A	0.053 U	0.0543 U	N/A	0.0552 U	N/A	0.0681 U	N/A	0.0552 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1260	mg/kg	0.99	N/A	N/A	N/A	0.053 U	0.0543 U	N/A	0.0552 U	N/A	0.0681 U	N/A	0.0552 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs (total)	mg/kg	0.97	N/A	N/A	N/A	0.053 U	0.0543 U	N/A	0.0552 U	N/A	0.0681 U	N/A	0.0552 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH/Oil and Grease																				
Diesel Range Organics	mg/kg	6,200	**19.5 J**	**195**	**464**	**27**	**49.6**	**79.1**	**138 J**	**240 J**	**39.2 J**	**19.5 J**	**24.9**	**25.5**	**48.3**	**3,770**	**21,300**	**8.8**	**40.7**	**24.2**
Gasoline Range Organics	mg/kg	6,200	15.4 U	11.3 U	10.1 U	10.4 U	10.7 U	11.5 U	9.7 U	9.1 U	11.9 U	12.2 U	10.6 U	9.9 U	9.7 U	**136**	**600**	9.7 U	9.8 U	9.4 U
Oil and Grease	mg/kg	6,200	**764**	**1180**	**3620**	**433**	**381**	**1,400**	**1,190**	**1,760**	**183**	**77.4 J**	181 B	**439**	**215**	**2,110**	**10,500**	**437**	123 U	**554**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analye was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-040C-SB-10* 6/18/2018	A11-040D-SB-5* 6/18/2018	A11-040D-SB-10* 6/18/2018	A11-040E-SB-5* 6/18/2018	A11-040E-SB-6.5* 6/18/2018	A11-040F-SB-5* 6/20/2018	A11-040F-SB-10* 6/20/2018	A11-040F-SB-15* 6/20/2018	A11-040G-SB-5* 6/20/2018	A11-040G-SB-10* 6/20/2018	A11-040G-SB-15* 6/20/2018	A11-040H-SB-5* 6/20/2018	A11-040H-SB-10* 6/20/2018	A11-040H-SB-12.5* 6/20/2018	A11-040J-SB-19* 6/25/2018	A11-040J-SB-24* 6/25/2018
Volatile Organic Compounds																		
1,1-Dichloroethane	mg/kg	16	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.0087 U	0.011 U	0.0099 U	0.0098 U	0.0089 U	0.0092 U	0.0079 U	0.01 U	0.01 U	0.011 U	0.0082 U	0.0083 U	0.009 U	0.0085 U	0.017 U	0.0081 U
2-Butanone (MEK)	mg/kg	190,000	0.0087 U	**0.0063 J**	0.0099 U	0.0098 U	0.0089 U	0.0092 U	0.0079 U	**0.0097 J**	0.01 U	0.011 U	**0.007 J**	**0.011**	**0.0091**	0.0085 U	**0.013 J**	**0.0077 J**
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0087 U	0.011 U	0.0099 U	0.0098 U	0.0089 U	0.0092 U	0.0079 U	0.01 U	0.01 U	0.011 U	0.0082 U	0.0083 U	0.009 U	0.0085 U	0.017 U	0.0081 U
Acetone	mg/kg	670,000	**0.05**	**0.23**	**0.23**	**0.2**	**0.11**	**0.18**	**0.023**	**0.28**	**0.095**	**0.045**	**0.15**	**0.14**	**0.31**	**0.21**	**0.43**	**0.11**
Benzene	mg/kg	5.1	**0.18**	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	**0.0085**	**0.0019 J**	13.6	**0.018**	0.0045 U	**0.014**	0.0087 U	0.004 U
Carbon disulfide	mg/kg	3,500	0.0044 U	0.0056 U	0.0049 U	**0.0022 J**	**0.0023 J**	0.0046 U	0.0039 U	0.0051 U	**0.0034 J**	**0.0034 J**	0.0041 U	**0.0019 J**	0.0045 U	**0.0025 J**	**0.014**	0.004 U
Chloroform	mg/kg	1.4	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
Cyclohexane	mg/kg	27,000	0.0087 U	0.011 U	0.0099 U	0.0098 U	0.0089 U	0.0092 U	0.0079 U	0.01 U	0.01 U	0.011 U	0.0082 U	0.0083 U	0.009 U	0.0085 U	0.017 U	0.0081 U
Ethylbenzene	mg/kg	25	**0.0017 J**	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	**0.0054**	0.0056 U	**0.0084**	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
Isopropylbenzene	mg/kg	9,900	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
Methyl Acetate	mg/kg	1,200,000	**0.034 J**	0.056 U	0.049 U	**0.076**	**0.034 J**	**0.0094 J**	0.039 U	**0.015 J**	0.052 U	0.056 U	**0.0066 J**	**0.014 J**	**0.0019 J**	**0.03 J**	0.087 U	**0.0069 J**
Methylene Chloride	mg/kg	1,000	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
Styrene	mg/kg	35,000	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
Tetrachloroethene	mg/kg	100	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
Toluene	mg/kg	47,000	**0.0052**	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	**0.004 J**	0.0056 U	**0.24**	**0.0017 J**	0.0045 U	0.0043 U	0.0087 U	0.004 U
trans-1,2-Dichloroethene	mg/kg	23,000	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
Trichloroethene	mg/kg	6	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
Vinyl chloride	mg/kg	1.7	0.0044 U	0.0056 U	0.0049 U	0.0049 U	0.0045 U	0.0046 U	0.0039 U	0.0051 U	0.0052 U	0.0056 U	0.0041 U	0.0041 U	0.0045 U	0.0043 U	0.0087 U	0.004 U
Xylenes	mg/kg	2,800	**0.028**	0.017 U	0.015 U	0.015 U	0.013 U	0.014 U	0.012 U	0.015 U	**0.0063 J**	0.017 U	**0.32**	0.012 U	0.013 U	0.013 U	0.026 U	0.012 U
Semi-Volatile Organic Compounds^																		
1,1-Biphenyl	mg/kg	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	mg/kg	16,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	mg/kg	3,000	**0.27**	0.76 U	**0.024**	**0.13**	**0.18**	**0.051**	**0.023**	**0.0075 J**	**0.065**	**0.016**	**0.85**	**0.39**	**0.0033 J**	**0.76**	**0.046**	0.0075 U
2-Methylphenol	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	mg/kg	45,000	**0.074**	0.76 U	**0.031**	**0.22**	**0.081**	**0.026**	**0.014**	**0.0076 J**	**0.024**	**0.0092**	**0.37**	**0.29**	**0.0029 J**	**0.52**	**0.04**	**0.0065 J**
Acenaphthylene	mg/kg	45,000	**0.11**	0.76 U	**0.002 J**	**0.021**	**0.036**	**0.059**	**0.0034 J**	**0.0083 J**	**0.034**	**0.00095 J**	**0.39**	**0.19**	**0.026**	**1.3**	**0.0075**	**0.0033 J**
Acetophenone	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	mg/kg	230,000	**0.32**	0.76 U	**0.035**	**0.64**	**0.27**	**0.07**	**0.019**	**0.023**	**0.037**	**0.01**	**1.1**	**0.52**	**0.031**	**38.8**	**0.032**	**0.082**
Benz[a]anthracene	mg/kg	21	**0.29**	0.76 U	**0.011**	**0.87**	**0.6**	**0.43**	**0.013**	**0.065**	**0.2**	**0.016**	**1.2**	**0.82**	**0.21**	**9.8**	**0.19**	**0.31**
Benzaldehyde	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[a]pyrene	mg/kg	2.1	**0.25**	**0.25 J**	**0.014**	**0.73**	**0.53**	**0.56**	**0.0092**	**0.057**	**0.3**	**0.015**	**1.1**	**0.64**	**0.22**	**8.4**	**0.35**	**0.27**
Benzo[b]fluoranthene	mg/kg	21	**0.5**	**0.53 J**	**0.017**	**1.1**	**1.2**	**0.67**	**0.013**	**0.092**	**0.47**	**0.029**	**1.9**	**1.7**	**0.32**	**13.4**	**0.49**	**0.38**
Benzo[g,h,i]perylene	mg/kg		**0.13**	0.76 U	**0.012**	**0.42**	**0.17**	**0.32**	**0.005 J**	**0.027**	**0.11**	**0.0053 J**	**0.28**	**0.19**	**0.062**	**1.3**	**0.18**	**0.084**
Benzo[k]fluoranthene	mg/kg	210	**0.34**	**0.35 J**	**0.0082 J**	**0.32**	**0.8**	**0.27**	**0.0048 J**	**0.032**	**0.15**	**0.021**	**0.49**	**1.2**	**0.1**	**3.8**	**0.19**	**0.17**
bis(2-Ethylhexyl)phthalate	mg/kg	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Caprolactam	mg/kg	400,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbazole	mg/kg		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	mg/kg	2,100	**0.28**	**0.83**	**0.0075 J**	**0.66**	**0.6**	**0.33**	**0.013**	**0.051**	**0.19**	**0.014**	**0.84**	**0.69**	**0.16**	**7.1**	**0.23**	**0.28**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.042**	0.76 U	**0.0034 J**	**0.14**	**0.086**	**0.12**	0.0086 U	**0.0095**	**0.043**	0.0088 U	**0.13**	**0.096**	**0.025**	**0.8**	**0.063**	**0.034**
Diethylphthalate	mg/kg	660,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	mg/kg	30,000	**0.76**	**0.54 J**	**0.022**	**2.6**	**1.3**	**0.45**	**0.047**	**0.12**	**0.24**	**0.046**	**3.7**	**2.7**	**0.27**	**47**	**0.29**	**0.63**
Fluorene	mg/kg	30,000	**0.36**	0.76 U	**0.026**	**0.34**	**0.11**	**0.01**	**0.018**	**0.011**	**0.014**	**0.015**	**1.9**	**1.2**	**0.004 J**	**7.4**	**0.012**	**0.012**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.12**	0.76 U	**0.011**	**0.4**	**0.2**	**0.33**	**0.0053 J**	**0.031**	**0.11**	**0.0058 J**	**0.37**	**0.24**	**0.075**	**2.2**	**0.17**	**0.086**
Naphthalene	mg/kg	8.6	**6.1**	0.76 U	**0.039**	**0.14**	**0.38**	**0.15**	**0.093**	**0.029**	**0.42**	**0.025**	34.3	**6.1**	**0.015**	**4.4**	**0.086**	0.0034 B
N-Nitrosodiphenylamine	mg/kg	470	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	mg/kg		**0.89**	**0.16 J**	**0.17**	**2.4**	**1.1**	**0.2**	**0.081**	**0.067**	**0.16**	**0.064**	**5.9**	**3.6**	**0.071**	**61**	**0.18**	**0.25**
Phenol	mg/kg	250,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	mg/kg	23,000	**0.56**	**0.65 J**	**0.015**	**1.5**	**1**	**0.38**	**0.032**	**0.096**	**0.21**	**0.036**	**2.4**	**1.4**	**0.23**	**32.6**	**0.25**	**0.48**
PCBs																		
Aroclor 1248	mg/kg	0.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1254	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1260	mg/kg	0.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs (total)	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH/Oil and Grease																		
Diesel Range Organics	mg/kg	6,200	**96.7**	**2,340**	**14.8**	**84.6**	**165**	**58.6**	**12.6**	**23.4**	**50.4**	**15.3**	**143**	**99.6**	**7.6 J**	**200**	**67.2**	**14.5**
Gasoline Range Organics	mg/kg	6,200	10.3 U	12.3 U	9.1 U	12.1 U	10 U	10.9 U	8.6 U	10.3 U	12.7 U	19.1 U	**30.3**	9 U	10.1 U	8.6 U	9.4 U	8.3 U
Oil and Grease	mg/kg	6,200	**347**	9,860	**607**	**688**	**1,270**	**317**	**441**	**519**	**1,320**	**345**	**577**	**560**	**315**	**1,010**	**319**	**298**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analye was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-040J-SB-27*	A11-040K-SB-13*	A11-040K-SB-18*	A11-040K-SB-23*	A11-040L-SB-5*	A11-040L-SB-9.5*	A11-040M-SB-5*	A11-040N-SB-5*	A11-040O-SB-8*	A11-040Q-SB-5*	A11-040R-SB-4*	A11-040-SB-1*	A11-040-SB-4*	A11-040-SB-10*	A11-040T-SB-4*	A11-050-SB-1*	A11-050-SB-4*
			6/25/2018	6/25/2018	6/25/2018	6/25/2018	8/20/2018	8/20/2018	8/20/2018	8/20/2018	8/20/2018	8/21/2018	8/21/2018	8/9/2016	8/9/2016	8/9/2016	8/23/2018	8/1/2016	8/1/2016
Volatile Organic Compounds																			
1,1-Dichloroethane	mg/kg	16	0.0048 U	0.004 U	0.0051 U	0.0039 U	0.004 U	0.0048 U	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	0.007 U	0.0043 U	0.0048 U	0.0048 U
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.0048 U	0.004 U	0.0051 U	0.0039 U	0.004 U	0.0048 U	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	0.007 U	0.0043 U	0.0048 U	0.0048 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.0097 U	0.008 U	0.01 U	0.0079 U	**0.0068 J**	**0.015**	0.012 U	0.0093 U	0.011 U	0.0095 U	0.0093 U	0.0079 U	0.011 U	0.014 U	0.0086 U	0.0095 U	0.0097 U
2-Butanone (MEK)	mg/kg	190,000	0.0097 U	**0.011**	0.01 U	**0.0074 J**	0.008 U	0.0096 U	0.012 U	0.0093 U	0.011 U	**0.0081 J**	0.0093 U	0.0079 U	0.011 U	**0.021**	0.0086 U	0.0095 U	0.0097 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0097 U	0.008 U	0.01 U	0.0079 U	0.008 U	0.0096 U	0.012 U	0.0093 U	0.011 U	0.0095 U	0.0093 U	0.0079 U	0.011 U	**0.011 J**	0.0086 U	0.0095 U	0.0097 U
Acetone	mg/kg	670,000	**0.083**	0.48 U	**0.15**	**0.17**	**0.0072 J**	**0.025**	**0.019**	0.0093 U	**0.011 J**	**0.022**	0.0093 U	0.0079 U	0.011 U	**0.078**	0.0086 U	0.0095 U	**0.014**
Benzene	mg/kg	5.1	0.0048 U	0.004 U	0.0051 U	**0.013**	0.004 U	**0.38**	0.006 U	**0.0031 J**	0.0057 U	**0.0027 J**	**0.0014 J**	0.004 U	0.0054 U	N/A	0.0043 U	0.0048 U	0.0048 U
Carbon disulfide	mg/kg	3,500	**0.0047 J**	0.004 U	**0.0028 J**	**0.0025 J**	0.004 U	**0.0037 J**	**0.0066**	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	**0.045**	0.0043 U	0.0048 U	**0.004 J**
Chloroform	mg/kg	1.4	0.0048 U	0.004 U	0.0051 U	0.0039 U	0.004 U	0.0048 U	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	0.007 U	0.0043 U	0.0048 U	0.0048 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0048 U	0.004 U	0.0051 U	0.0039 U	**0.0058**	**0.015**	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	0.007 U	0.0043 U	0.0048 U	0.0048 U
Cyclohexane	mg/kg	27,000	0.0097 U	0.008 U	0.01 U	0.0079 U	0.008 U	0.0096 U	**0.0059 J**	0.0093 U	0.011 U	0.0095 U	0.0093 U	0.0079 U	0.011 U	**0.013 J**	0.0086 U	0.0095 U	0.0097 U
Ethylbenzene	mg/kg	25	0.0048 U	0.004 U	0.0051 U	0.0039 U	0.004 U	**0.0025 J**	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	**0.34**	0.0043 U	0.0048 U	0.0048 U
Isopropylbenzene	mg/kg	9,900	0.0048 U	0.004 U	0.0051 U	0.0039 U	0.004 U	0.0048 U	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	**0.14**	0.0043 U	0.0048 U	0.0048 U
Methyl Acetate	mg/kg	1,200,000	0.048 U	0.04 U	**0.0061 J**	**0.0092 J**	0.04 U	0.048 U	0.06 U	0.047 U	0.057 U	0.047 U	0.047 U	0.04 U	0.054 U	0.07 U	0.043 U	0.048 U	0.048 U
Methylene Chloride	mg/kg	1,000	0.0048 U	0.004 U	0.0051 U	0.0039 U	0.004 U	0.0048 U	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	0.007 U	0.0043 U	0.0048 U	0.0048 U
Styrene	mg/kg	35,000	0.0048 U	0.004 U	0.0051 U	0.0039 U	0.004 U	0.0048 U	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	**0.08**	0.0043 U	0.0048 U	0.0048 U
Tetrachloroethene	mg/kg	100	0.0048 U	0.004 U	0.0051 U	0.0039 U	0.004 U	0.0048 U	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	0.007 U	0.0043 U	0.0048 U	0.0048 U
Toluene	mg/kg	47,000	0.0048 U	0.004 U	0.0051 U	**0.0016 J**	**0.0015 J**	**0.022**	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	N/A	0.0043 U	0.0048 U	0.0048 U
trans-1,2-Dichloroethene	mg/kg	23,000	0.0048 U	0.004 U	0.0051 U	0.0039 U	0.004 U	0.0048 U	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	0.007 U	0.0043 U	0.0048 U	0.0048 U
Trichloroethene	mg/kg	6	0.0048 U	0.004 U	0.0051 U	0.0039 U	**0.0044**	0.0048 U	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	0.007 U	0.0043 U	0.0048 U	0.0048 U
Vinyl chloride	mg/kg	1.7	0.0048 U	0.004 U	0.0051 U	0.0039 U	**0.0071**	**0.0089**	0.006 U	0.0047 U	0.0057 U	0.0047 U	0.0047 U	0.004 U	0.0054 U	0.007 U	0.0043 U	0.0048 U	0.0048 U
Xylenes	mg/kg	2,800	0.015 U	0.012 U	0.015 U	0.012 U	**0.0053 J**	**0.016**	0.018 U	0.014 U	0.017 U	0.014 U	0.014 U	0.012 U	0.016 U	**46.3**	0.013 U	0.014 U	0.015 U
Semi-Volatile Organic Compounds^																			
1,1-Biphenyl	mg/kg	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	0.087 U	**155**	N/A	0.074 U	**0.063 J**
2,4-Dimethylphenol	mg/kg	16,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	0.087 U	**31.4**	N/A	0.074 U	**0.18**
2-Methylnaphthalene	mg/kg	3,000	**0.059**	**0.028**	**0.0083 J**	**0.013**	**1.4**	**1.8**	**0.33**	**0.24**	**0.058**	**0.46**	**0.0029 J**	**0.0088**	**0.033**	**159**	**0.0083**	**0.092**	**0.25**
2-Methylphenol	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	0.087 U	**21**	N/A	0.074 U	**0.081**
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.15 U	0.17 U	**47.2**	N/A	0.15 U	**0.16**
Acenaphthene	mg/kg	45,000	**0.17**	**0.013**	**0.015**	**0.041**	**0.53**	**0.98**	**0.092**	**0.06**	**0.075**	**0.18**	**0.001 J**	**0.018**	**0.052**	**41.5**	**0.0016 J**	**0.0048 J**	**0.13**
Acenaphthylene	mg/kg	45,000	**0.025**	**0.0098**	**0.0043 J**	**0.084**	**0.067 J**	**1.7**	**0.045**	**0.53**	**0.052**	**0.1**	**0.0012 J**	**0.0023 J**	**0.018**	**116**	0.0071 U	**0.013**	**0.052**
Acetophenone	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	0.087 U	**51.9**	N/A	0.074 U	**0.028 J**
Anthracene	mg/kg	230,000	**0.09**	**0.029**	**0.095**	**0.15**	**1.7**	**5.3**	**0.3**	**0.49**	**0.1**	**0.14**	**0.0074 J**	**0.022**	**0.084**	**288**	**0.0044 J**	**0.016**	**0.2**
Benz[a]anthracene	mg/kg	21	**0.39**	**0.13**	**0.046**	**0.36**	**5.1**	**9.5**	**0.39**	**1.3**	**0.32**	**0.59**	**0.025**	**0.19**	**0.38**	**222**	**0.014**	**0.044**	**0.48**
Benzaldehyde	mg/kg	120,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	0.087 U	4.3 U	N/A	0.074 U	0.074 U
Benzo[a]pyrene	mg/kg	2.1	**0.6**	**0.16**	**0.023**	**0.36**	**3.6**	**8.6**	**0.41**	**2.4**	**0.44**	**0.84**	**0.032**	**0.42**	**0.53**	**153**	**0.016**	**0.05**	**0.44**
Benzo[b]fluoranthene	mg/kg	21	**1.1**	**0.28**	**0.057**	**0.52**	**7.3**	**12.2**	**0.83**	**4**	**0.63**	**1.1**	**0.041**	**0.76**	**0.84**	**189**	**0.035**	**0.089**	**0.9**
Benzo[g,h,i]perylene	mg/kg		**0.27**	**0.08**	**0.0072 J**	**0.15**	**0.88**	**2.9**	**0.16**	**0.68**	**0.26**	**0.32**	**0.023**	**0.32**	**0.27**	**86.2**	**0.014**	**0.044**	**0.19**
Benzo[k]fluoranthene	mg/kg	210	**1.1**	**0.12**	**0.017**	**0.22**	**6.6**	**4.8**	**0.62**	**1.2**	**0.19**	**0.42**	**0.015**	**0.69**	**0.77**	**113**	**0.032**	**0.031**	**0.82**
bis(2-Ethylhexyl)phthalate	mg/kg	160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	0.087 U	4.3 U	N/A	**0.046 J**	**0.35**
Caprolactam	mg/kg	400,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.19 U	0.22 U	10.8 U	N/A	0.18 U	0.19 U
Carbazole	mg/kg		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	**0.029 J**	**477**	N/A	0.074 U	**0.38**
Chrysene	mg/kg	2,100	**0.45**	**0.17**	**0.055**	**0.32**	**4.9**	**7.6**	**0.39**	**1.1**	**0.28**	**0.62**	**0.023**	**0.2**	**0.38**	**196**	**0.021**	**0.065**	**0.48**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.12**	**0.03**	**0.0031 J**	**0.058**	**0.52**	**1.3**	**0.071**	**0.33**	**0.092**	**0.1**	**0.0058 J**	**0.085**	**0.1**	**32**	**0.0039 J**	**0.013**	**0.08**
Diethylphthalate	mg/kg	660,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	0.087 U	4.3 U	N/A	0.074 U	0.074 U
Fluoranthene	mg/kg	30,000	**0.58**	**0.3**	**0.34**	**0.67**	**9.6**	**36.3**	**0.65**	**1.4**	**0.47**	**0.78**	**0.035**	**0.18**	**0.55**	**554**	**0.034**	**0.08**	**0.99**
Fluorene	mg/kg	30,000	**0.046**	**0.0047 J**	**0.1**	**0.2**	**1.6**	**4.9**	**0.13**	**0.1**	**0.052**	**0.33**	**0.0021 J**	**0.0036 J**	**0.028**	**244**	**0.002 J**	**0.0058 J**	**0.36**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.29**	**0.079**	**0.0073 J**	**0.16**	**0.97**	**3.1**	**0.14**	**0.76**	**0.24**	**0.26**	**0.018**	**0.3**	**0.24**	**105**	**0.012**	**0.038**	**0.2**
Naphthalene	mg/kg	8.6	**0.073**	**0.082**	**0.011**	**0.11**	**0.76**	**9.5**	**0.45**	**0.41**	**0.088**	**0.99**	**0.013**	**0.066**	**0.34**	**3,400**	**0.018**	**0.08**	**1.4**
N-Nitrosodiphenylamine	mg/kg	470	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	0.087 U	4.3 U	N/A	0.074 U	0.074 U
Phenanthrene	mg/kg		**0.33**	**0.23**	**0.57**	**0.29**	**9.8**	**30.1**	**1.1**	**0.72**	**0.39**	**0.45**	**0.02**	**0.056**	**0.24**	**753**	**0.027**	**0.093**	**0.84**
Phenol	mg/kg	250,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.075 U	0.087 U	**23.7**	N/A	0.074 U	0.074 U
Pyrene	mg/kg	23,000	**0.47**	**0.23**	**0.21**	**0.46**	**8.5**	**15.4**	**0.56**	**2.4**	**0.43**	**0.82**	**0.031**	**0.18**	**0.55**	**423**	**0.03**	**0.076**	**0.83**
PCBs																			
Aroclor 1248	mg/kg	0.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0619 U	N/A	N/A	N/A	0.0563 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0619 U	N/A	N/A	N/A	**0.0504 J**	N/A
Aroclor 1260	mg/kg	0.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0619 U	N/A	N/A	N/A	0.0563 U	N/A
PCBs (total)	mg/kg	0.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0619 U	N/A	N/A	N/A	**0.0504 J**	N/A
TPH/Oil and Grease																			
Diesel Range Organics	mg/kg	6,200	**505**	**47.5**	**57.7**	**37.8**	**8,100**	**1,280**	**125**	**105**	**106**	**743**	**13**	**19.5**	**51.4**	**19,400**	**49.9**	**121**	**122**
Gasoline Range Organics	mg/kg	6,200	9.8 U	9.5 U	10.9 U	8.9 U	**10.5**	11.3 U	10.4 U	8.7 U	11.5 U	9.7 U	10.7 U	10.2 U	12.6 U	**937**	9.9 U	7.8 U	11.3 U
Oil and Grease	mg/kg	6,200	**2,870**	**201**	**273**	**1,730**	**52,600**	**3,860**	**501**	**658**	**639**	**2,840**	**382**	**483**	**1,450**	**36,900**	**251**	**988**	**1,240**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analye was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 1 - Sub-Parcel A11-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A11-053-SB-1	A11-053-SB-9	A11-054-SB-1*	A11-054-SB-4*	A11-055-SB-1*	A11-055-SB-5*	A11-056-SB-1*	A11-056-SB-5*	A11-057-SB-1	A11-057-SB-5
			8/9/2016	8/9/2016	8/9/2016	8/9/2016	8/9/2016	8/9/2016	8/9/2016	8/9/2016	8/10/2016	8/10/2016
Volatile Organic Compounds												
1,1-Dichloroethane	mg/kg	16	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	0.0066 U	0.0045 U	0.005 U	0.0046 U	**0.0092**
1,2-Dibromo-3-chloropropane	mg/kg	0.064	0.0046 U	0.0051 U	0.0048 U	**0.0032 J**	0.0047 U	0.0066 U	0.0045 U	0.005 U	0.0046 U	0.0058 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.0092 U	0.01 U	0.0097 U	0.013 U	0.0094 U	**14.1**	0.0091 U	0.0099 U	0.0091 U	**0.0083 J**
2-Butanone (MEK)	mg/kg	190,000	0.0092 U	0.01 U	0.0097 U	0.013 U	0.0094 U	0.013 U	0.0091 U	0.0099 U	0.0091 U	**0.0075 J**
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0092 U	0.01 U	0.0097 U	0.013 U	0.0094 U	0.013 U	0.0091 U	0.0099 U	0.0091 U	0.012 U
Acetone	mg/kg	670,000	0.0092 U	0.01 U	0.0097 U	0.013 U	**0.031**	**0.011 J**	0.0091 U	0.0099 U	0.0092 B	0.024 B
Benzene	mg/kg	5.1	0.0046 U	0.0051 U	**0.013**	**0.0052 J**	**0.002 J**	**0.015**	**0.0021 J**	0.005 U	0.0046 U	**6**
Carbon disulfide	mg/kg	3,500	0.0046 U	**0.012**	0.0048 U	0.0064 U	0.0047 U	**0.0044 J**	0.0045 U	**0.0036 J**	0.0046 U	0.0058 U
Chloroform	mg/kg	1.4	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	0.0066 U	0.0045 U	0.005 U	0.0046 U	0.0058 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	**14.1**	0.0045 U	0.005 U	0.0046 U	**0.0083**
Cyclohexane	mg/kg	27,000	0.0092 U	0.01 U	0.0097 U	0.013 U	0.0094 U	0.013 U	0.0091 U	0.0099 U	0.0091 U	**0.012 J**
Ethylbenzene	mg/kg	25	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	0.0066 U	0.0045 U	0.005 U	0.0046 U	**0.13**
Isopropylbenzene	mg/kg	9,900	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	0.0066 U	0.0045 U	0.005 U	0.0046 U	**0.13**
Methyl Acetate	mg/kg	1,200,000	0.046 U	0.051 U	0.048 U	0.064 U	0.047 U	0.066 U	0.045 U	0.05 U	0.046 R	0.058 R
Methylene Chloride	mg/kg	1,000	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	0.0066 U	0.0045 U	0.005 U	0.0046 U	0.0058 U
Styrene	mg/kg	35,000	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	0.0066 U	0.0045 U	0.005 U	0.0046 U	**0.062**
Tetrachloroethene	mg/kg	100	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	0.0066 U	0.0045 U	0.005 U	0.0046 U	**0.071**
Toluene	mg/kg	47,000	0.0046 U	0.0051 U	**0.0027 J**	0.0064 U	0.0047 U	**0.0064 J**	0.0045 U	0.005 U	0.0046 U	**29.2**
trans-1,2-Dichloroethene	mg/kg	23,000	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	**0.016**	0.0045 U	0.005 U	0.0046 U	0.0058 U
Trichloroethene	mg/kg	6	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	**0.11**	0.0045 U	0.005 U	0.0046 U	**0.025**
Vinyl chloride	mg/kg	1.7	0.0046 U	0.0051 U	0.0048 U	0.0064 U	0.0047 U	**0.22**	0.0045 U	0.005 U	0.0046 U	0.0058 U
Xylenes	mg/kg	2,800	0.014 U	0.015 U	0.015 U	0.019 U	0.014 U	**0.0071 J**	0.014 U	0.015 U	0.014 U	**19.3**
Semi-Volatile Organic Compounds^												
1,1-Biphenyl	mg/kg	200	0.070 U	0.077 U	0.071 U	**0.034 J**	0.072 U	**0.089**	**0.041 J**	0.079 U	**0.049 J**	**2**
2,4-Dimethylphenol	mg/kg	16,000	0.070 U	0.077 U	0.071 U	0.086 U	0.072 U	**0.18**	0.071 U	**0.15**	0.073 R	**0.99**
2-Methylnaphthalene	mg/kg	3,000	0.070 U	0.079 U	**0.037 J**	**0.035**	**0.023**	**0.012**	**0.023**	**0.037**	**0.021 J**	**17.4**
2-Methylphenol	mg/kg	41,000	0.070 U	0.077 U	0.071 U	0.086 U	0.072 U	**0.091**	0.071 U	0.079 U	0.073 R	**0.12 J**
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.150 U	0.14 U	0.17 U	0.14 U	**0.15 J**	0.14 U	**0.041 J**	0.14 R	**0.54 J**
Acenaphthene	mg/kg	45,000	**0.044 J**	0.079 U	**0.041 J**	**0.015**	**0.0034 J**	**0.00059 J**	**0.018**	**0.019**	**0.022 J**	**2.8**
Acenaphthylene	mg/kg	45,000	**0.016 J**	0.079 U	**0.1**	**0.0084 J**	**0.0034 J**	0.0087 U	**0.012**	**0.0078 J**	**0.014 J**	**13.5**
Acetophenone	mg/kg	120,000	0.070 U	0.077 U	0.071 U	0.086 U	0.072 U	**0.22**	0.071 U	0.079 U	0.073 U	**2.1**
Anthracene	mg/kg	230,000	**0.058**	0.079 U	**0.12**	**0.018**	**0.008**	**0.0027 J**	**0.038**	**0.012**	**0.045**	**15.3**
Benz[a]anthracene	mg/kg	21	**1.1**	0.079 U	**0.25**	**0.089**	**0.024**	**0.0017 J**	**0.16**	**0.031**	**0.22**	**23.6**
Benzaldehyde	mg/kg	120,000	0.070 U	0.077 U	0.071 U	0.086 U	0.072 U	**0.035 J**	0.071 U	0.079 U	0.073 UJ	0.4 UJ
Benzo[a]pyrene	mg/kg	2.1	**2.5**	0.079 U	**0.26**	**0.12**	**0.031**	**0.0012 J**	**0.24**	**0.035**	**0.3**	**24.4**
Benzo[b]fluoranthene	mg/kg	21	**3.1**	**0.014 J**	**0.37**	**0.18**	**0.051**	**0.0043 J**	**0.56**	**0.08**	**0.45**	**50.5**
Benzo[g,h,i]perylene	mg/kg		**1.9**	0.079 U	**0.23**	**0.072**	**0.02**	**0.0011 J**	**0.1**	**0.015**	**0.27 J**	**6.4**
Benzo[k]fluoranthene	mg/kg	210	**1.2**	0.079 U	**0.17**	**0.067**	**0.021**	**0.0039 J**	**0.52**	**0.074**	**0.18**	**46**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.070 U	0.077 U	0.071 U	0.086 U	0.072 U	0.088 U	0.071 U	0.079 U	0.073 UJ	0.4 UJ
Caprolactam	mg/kg	400,000	0.18 U	0.19 U	0.18 U	0.22 U	0.18 U	0.22 U	0.18 U	0.2 U	0.18 U	1 U
Carbazole	mg/kg		**0.038 J**	0.077 U	0.071 U	0.086 U	0.072 U	0.088 U	**0.023 J**	0.079 U	**0.02 J**	**1.9**
Chrysene	mg/kg	2,100	**1.4**	**0.0076 J**	**0.31**	**0.12**	**0.037**	**0.0029 J**	**0.22**	**0.042**	**0.28 J**	**22.5**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.46**	0.079 U	**0.067 J**	**0.018**	**0.0048 J**	0.0087 U	**0.029**	**0.0054 J**	**0.08**	**3.4**
Diethylphthalate	mg/kg	660,000	0.070 U	0.077 U	0.071 U	0.086 U	0.072 U	0.088 U	0.071 U	0.079 U	0.073 U	0.4 U
Fluoranthene	mg/kg	30,000	**0.71**	**0.010 J**	**0.4**	**0.13**	**0.043**	**0.0092**	**0.3**	**0.054**	**0.34 J**	**62.3**
Fluorene	mg/kg	30,000	**0.012 J**	0.079 U	**0.073**	**0.0051 J**	**0.0016 J**	**0.0013 J**	**0.0069 J**	**0.01**	**0.0092 J**	**18.5**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**1.6**	0.079 U	**0.21**	**0.066**	**0.018**	0.0087 U	**0.1**	**0.015**	**0.26 J**	**6.8**
Naphthalene	mg/kg	8.6	**0.048 J**	0.079 U	**0.51**	**0.25**	**0.027**	**0.14**	**0.11**	**0.13**	**0.1 J**	**101**
N-Nitrosodiphenylamine	mg/kg	470	0.070 U	0.077 U	0.071 U	**0.022 J**	0.072 U	0.088 U	0.071 U	0.079 U	0.073 U	0.4 U
Phenanthrene	mg/kg		**0.13**	**0.012 J**	**0.3**	**0.055**	**0.048**	**0.02**	**0.23**	**0.05**	**0.24**	**54.6**
Phenol	mg/kg	250,000	0.070 U	0.077 U	0.071 U	0.086 U	0.072 U	**0.024 J**	0.071 U	0.079 U	0.073 R	**0.29 J**
Pyrene	mg/kg	23,000	**0.86**	**0.012 J**	**0.4**	**0.17**	**0.037**	**0.0055 J**	**0.23**	**0.052**	**0.34 J**	**53.2**
PCBs												
Aroclor 1248	mg/kg	0.94	N/A	N/A	0.0613 U	N/A	0.0529 U	N/A	0.0556 U	N/A	0.0524 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	N/A	0.0613 U	N/A	0.0529 U	N/A	0.0556 U	N/A	0.0524 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	N/A	0.0613 U	N/A	0.0529 U	N/A	0.0556 U	N/A	0.0524 U	N/A
PCBs (total)	mg/kg	0.97	N/A	N/A	0.0613 U	N/A	0.0529 U	N/A	0.0556 U	N/A	0.0524 U	N/A
TPH/Oil and Grease												
Diesel Range Organics	mg/kg	6,200	**54.3**	**29.8**	**32.1**	**176**	**39.5**	**74.1**	**91.7**	**43.7**	**92.7 J**	**9,370 J**
Gasoline Range Organics	mg/kg	6,200	10.7 U	11.2 U	11.8 U	14.3 U	11.5 U	11.2 U	11.2 U	11.1 U	8.9 U	**119**
Oil and Grease	mg/kg	6,200	**714**	**809**	**861**	**997**	**199**	**1,510**	**423**	**1,060**	**493**	**50,600**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data
^PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analye was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 2 - Sub-Parcel A11-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	A11-001-SB-1* 8/1/2016	A11-001-SB-5* 8/1/2016	A11-002-SB-1* 8/1/2016	A11-002-SB-7* 8/1/2016	A11-002-SB-10* 8/1/2016	A11-003-SB-1* 8/1/2016	A11-003-SB-5* 8/1/2016	A11-017-SB-1 7/29/2016	A11-017-SB-5 7/29/2016	A11-017-SB-10 7/29/2016	A11-019-SB-1 7/29/2016
Metal													
Aluminum	mg/kg	1,100,000	**14,300**	**14,400**	**39,300**	**16,500**	N/A	**34,100**	**12,700**	**9,590**	**10,100**	N/A	**7,840**
Antimony	mg/kg	470	2.5 U	2.5 U	2.9 U	2.8 U	N/A	2.5 U	**13.9**	2.7 UJ	3.3 UJ	N/A	2.7 UJ
Arsenic	mg/kg	3	**4.6**	**3.1**	**2.4**	**7.9**	**4.3**	**4.9**	**7.5**	**4.1**	**8.4**	**3.6**	**2.3**
Barium	mg/kg	220,000	**70.5**	**69.4**	**528**	**171**	N/A	**294**	**66.9**	**106 J**	**124 J**	N/A	**188 J**
Beryllium	mg/kg	2,300	**0.68 J**	**0.56 J**	**4.9**	**1.1**	N/A	**5**	**0.49 J**	**0.5 J**	**0.46 J**	N/A	0.88 U
Cadmium	mg/kg	980	0.38 B	0.18 B	0.61 B	1.1 B	N/A	0.58 B	**2.2**	0.7 B	1 B	N/A	0.74 B
Chromium	mg/kg	120,000	**77.3**	**22.6**	**19.6**	**202**	N/A	**57.3**	**37.3**	**873**	**40.8**	N/A	**1,530**
Chromium VI	mg/kg	6.3	0.32 B	0.42 B	0.41 B	0.38 B	N/A	0.38 B	0.29 B	0.5 B	1.3 UJ	N/A	0.47 B
Cobalt	mg/kg	350	**9**	**7.9**	**2.2 J**	**8.6**	N/A	**3.1 J**	**8.6**	**7**	**11.1**	N/A	**3.2 J**
Copper	mg/kg	47,000	**26.2**	**11.8**	**14.5**	**34.6**	N/A	**16.5**	**2,890**	**72.1**	**54.3**	N/A	**60.8**
Iron	mg/kg	820,000	**24,600**	**18,000**	**13,200**	**56,700**	N/A	**50,100**	**58,900**	**218,000**	**18,700**	N/A	**229,000**
Lead	mg/kg	800	**46.8**	**23.9**	**11.8**	**90.2**	N/A	**13**	**1,020**	**225 J**	**124 J**	N/A	**20.5 J**
Manganese	mg/kg	26,000	**2,430**	**249**	**4,910**	**10,200**	N/A	**2,920**	**927**	**18,800**	**566**	N/A	**24,000**
Mercury	mg/kg	350	**0.084 J**	**0.065 J**	**0.0091 J**	**0.054 J**	N/A	**0.0039 J**	**0.037 J**	**0.026 J-**	**0.094 J-**	N/A	**0.0042 J-**
Nickel	mg/kg	22,000	**16.4**	**12.2**	**6 J**	**18.8**	N/A	**11.9**	**25.4**	**54.3**	**15.1**	N/A	**38.2**
Selenium	mg/kg	5,800	3.3 U	3.4 U	**2.9 J**	3.8 U	N/A	**3.6**	3.5 U	3.6 U	4.4 U	N/A	3.5 U
Silver	mg/kg	5,800	2.5 U	2.5 U	2.9 U	2.8 U	N/A	2.5 U	**0.76 J**	2.7 U	3.3 U	N/A	**1.1 J**
Thallium	mg/kg	12	8.3 U	8.5 U	9.8 U	**6.8 J**	N/A	8.5 U	8.8 U	**26.9**	11 U	N/A	**38.3**
Vanadium	mg/kg	5,800	**184**	**40**	**42.9**	**522**	N/A	**131**	**46.8**	**2,150 J**	**79.8 J**	N/A	**3,050 J**
Zinc	mg/kg	350,000	**136**	**68.9**	**45**	**391**	N/A	**62.4**	**1,490**	**171 J**	**230 J**	N/A	**133 J**
Other													
Cyanide	mg/kg	150	0.16 B	0.23 B	0.4 B	0.41 B	N/A	**1.4**	0.55 B	**0.28 J**	**0.19 J**	N/A	**0.3 J-**

Detections in bold
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Table 2 - Sub-Parcel A11-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	A11-019-SB-4	A11-024-SB-1*	A11-024-SB-9*	A11-024-SB-10*	A11-024S-SB-4*	A11-025-SB-1	A11-025-SB-4	A11-027-SB-11	A11-027-SB-15	A11-029-SB-1
			7/29/2016	8/9/2016	8/9/2016	8/9/2016	8/15/2018	8/10/2016	8/10/2016	8/11/2016	8/11/2016	8/10/2016
Metal												
Aluminum	mg/kg	1,100,000	**36,900**	**40,400**	**7,370**	N/A	**19,300**	**11,600**	**14,200**	**9,810**	**9,410**	**10,200**
Antimony	mg/kg	470	2.8 UJ	2.4 U	3.3 U	N/A	2.8 U	3.3 U	2. 5U	2.2 U	2.6 U	2.5 UJ
Arsenic	mg/kg	3	**2.7**	**3.4**	**5.4**	**5.3**	**14.7**	**8.4**	**7.5**	**5.9**	**15.9**	**3.9**
Barium	mg/kg	220,000	**389 J**	**278**	**321**	N/A	**272**	**88.3**	**206**	**200**	**154**	**171 J**
Beryllium	mg/kg	2,300	**4.6**	**4.6**	**0.23 J**	N/A	0.93 U	1.1 J	**1.0**	**0.58 J**	**0.85 J**	**0.34 J**
Cadmium	mg/kg	980	0.41 B	0.55 B	0.9 B	N/A	**0.9 J**	**1.8**	**1.6**	**1.3**	**1.8**	**0.37 J**
Chromium	mg/kg	120,000	**20.4**	**27.5**	**432**	N/A	**989**	**128**	**434**	**484**	**79.1**	**365**
Chromium VI	mg/kg	6.3	0.33 B	0.49 B	0.48 B	N/A	N/A	**0.37 J**	**0.40 J**	**0.55 J**	**0.37 J**	0.52 B
Cobalt	mg/kg	350	**2.4 J**	**1.8 J**	**2.6 J**	N/A	**3.2 J**	**10.3**	**18.2**	**7.1**	**6.2**	**6.3 J**
Copper	mg/kg	47,000	**10.3**	**16.8**	**63.7**	N/A	**169**	**49.5**	**209**	**59.3**	**42.2**	**43.2 J**
Iron	mg/kg	820,000	**14,100**	**15,100**	**55,400**	N/A	**36,300**	**55,800**	**107,000**	**128,000**	**54,800**	**83,600**
Lead	mg/kg	800	**19.4 J**	**60.9**	**95.2**	N/A	**108**	**153**	**249**	**78.3**	**96.2**	**55.8**
Manganese	mg/kg	26,000	**4,130**	**2,720**	**20,300**	N/A	**17,400**	**3,520**	**3,040**	**9,130**	**2,520**	**9,620**
Mercury	mg/kg	350	**0.0083 J-**	0.11 U	**0.33**	N/A	**16.1**	**0.14**	**0.071 J**	**0.0040 J**	**0.086 J**	**0.0089 J-**
Nickel	mg/kg	22,000	**3.2 J**	**5.1 J**	**10.1 J**	N/A	**13.9**	**39.9**	**70.5**	**64.1**	**25.7**	**61.5 J**
Selenium	mg/kg	5,800	**2.9 J**	**3 J**	4.3 U	N/A	**2.9 J**	4.4 U	3.3 U	3.0 U	3.4 U	3.4 U
Silver	mg/kg	5,800	2.8 U	2.4 U	3.3 U	N/A	**34.1**	3.3 U	**1.1 J**	**0.85 J**	2.6 U	2.5 U
Thallium	mg/kg	12	9.3 U	7.9 U	**17.5**	10.6 U	9.3 U	11.1 U	8.4 U	**12.0**	8.6 U	8.4 U
Vanadium	mg/kg	5,800	**66.5 J**	**50.2**	**1,610**	N/A	**6,760**	**106**	**229**	**999**	**157**	**575**
Zinc	mg/kg	350,000	**30.8 J**	**165**	**165**	N/A	**86.4**	**994**	**611**	**254**	**378**	**129**
Other												
Cyanide	mg/kg	150	**0.35 J-**	**0.71**	**2.6**	N/A	**1.6**	**1.6**	**3.3**	**0.8**	**2.1**	**0.46 J-**

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Table 2 - Sub-Parcel A11-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	A11-029-SB-5 8/10/2016	A11-030-SB-1 8/10/2016	A11-030-SB-4 8/10/2016	A11-031-SB-6 8/11/2016	A11-031-SB-10 8/11/2016	A11-033-SB-1* 8/9/2016	A11-034-SB-1* 8/9/2016	A11-034-SB-5* 8/9/2016	A11-035-SB-1 8/12/2016	A11-035-SB-4 8/12/2016	A11-035-SB-10 8/12/2016
Metal													
Aluminum	mg/kg	1,100,000	**12,600**	**7,520**	**3,410**	**3,190**	**11,100**	**37,100**	**7,710**	**3,390**	**20,800**	**10,800**	N/A
Antimony	mg/kg	470	3.9 UJ	2.6 UJ	3.3 UJ	2.8 U	2.8 U	2.2 U	2.6 U	2.3 U	2.4 UJ	3 UJ	N/A
Arsenic	mg/kg	3	**11.7**	**5.9**	2.7 U	**2.7**	**4.6**	**4.3**	2.2 U	**4.5**	2 U	**3.9 J**	**2.4 J**
Barium	mg/kg	220,000	**194 J**	**110 J**	**88.6 J**	**77.5**	**153**	**290**	**139**	**25.2**	**183 J**	**116 J**	N/A
Beryllium	mg/kg	2,300	**0.91 J**	**0.21 J**	1.1 U	0.92 U	**1.2**	**5**	0.88 U	0.76 U	**3.1**	**1.1**	N/A
Cadmium	mg/kg	980	**11**	**0.89 J**	**0.5 J**	**0.38 J**	**0.90 J**	1.6 B	0.8 B	0.45 B	**2.5**	1.1 B	N/A
Chromium	mg/kg	120,000	**173**	**898**	**1,090**	**241**	**40.3**	**130**	**2,850**	**86.9**	**722**	**654**	N/A
Chromium VI	mg/kg	6.3	0.4 B	0.48 B	**1.9**	**0.45 J**	**0.38 J**	0.35 B	**4.1**	0.41 B	0.34 B	0.35 B	N/A
Cobalt	mg/kg	350	**14.2 J**	**6.3 J**	5.4 U	**2.8 J**	**8.6**	**2.8 J**	**5.1**	**4**	**1.4 J**	**6.5**	N/A
Copper	mg/kg	47,000	**173 J**	**73.7 J**	**13.3 J**	**20.6**	**82.3**	**30.2**	**37.1**	**46.9**	**40.8**	**68.5**	N/A
Iron	mg/kg	820,000	**70,500**	**250,000**	**124,000**	**43,200**	**30,500**	**46,400**	**179,000**	**43,800**	**129,000 J**	**138,000 J**	N/A
Lead	mg/kg	800	**3,560**	**39.3**	**15.5**	**17.4**	**91.1**	**33.7**	**56.1**	**32.5**	**96.5**	**106**	N/A
Manganese	mg/kg	26,000	**4,030**	**23,900**	**23,500**	**6,190**	**1,330**	**4,870**	**23,500**	**3,790**	**17,200**	**21,500**	N/A
Mercury	mg/kg	350	**0.32 J-**	**0.019 J-**	0.13 UJ	**0.015 J**	**0.067 J**	0.1 U	**0.014 J**	**0.41**	**0.055 J-**	**0.026 J-**	N/A
Nickel	mg/kg	22,000	**59.6 J**	**39 J**	6.9 B	**48.9**	**19.3**	**14.6**	**29.5**	**13.4**	**23.2**	**37.8**	N/A
Selenium	mg/kg	5,800	5.2 U	3.5 U	4.3 U	3.7 U	3.7 U	3 U	3.5 U	3 U	3.2 U	3.9 U	N/A
Silver	mg/kg	5,800	**1.5 J**	**1.8 J**	3.3 U	2.8 U	2.8 U	2.2 U	2.6 U	2.3 U	**1.3 J**	3 U	N/A
Thallium	mg/kg	12	13 U	**8.8 J**	10.9 U	**6.2 J**	9.3 U	7.5 U	**34.6**	7.6 U	**8 J**	**19.5 J**	10.5 U
Vanadium	mg/kg	5,800	**391**	**2,500**	**1,130**	**442**	**78.6**	**257**	**3,050**	**101**	**610 J**	**1,560 J**	N/A
Zinc	mg/kg	350,000	**1,380**	**152**	**30.8**	**56.9**	**199**	**226**	**141**	**151**	**1,250**	**300**	N/A
Other													
Cyanide	mg/kg	150	**1.5 J-**	**1.6 J-**	**0.86 J-**	**0.62 J**	**0.95**	**0.53**	**0.52 J**	0.33 B	**2.1 J-**	**2.9 J-**	N/A

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Table 2 - Sub-Parcel A11-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	A11-036-SB-1 8/15/2016	A11-036-SB-5 8/15/2016	A11-037-SB-1* 8/1/2016	A11-037-SB-5* 8/1/2016	A11-037-SB-10* 8/1/2016	A11-040-SB-1* 8/9/2016	A11-040-SB-4* 8/9/2016	A11-040-SB-10* 8/9/2016	A11-050-SB-1* 8/1/2016	A11-050-SB-4* 8/1/2016
Metal												
Aluminum	mg/kg	1,100,000	**4,570**	**3,310**	**6,460**	**13,100**	N/A	**5,190**	**25,900**	**7,770**	**23,500**	**16,700**
Antimony	mg/kg	470	2.6 UJ	2.5 UJ	2.7 U	3 U	N/A	2.8 U	3.3 U	2.8 U	2.5 U	2.3 U
Arsenic	mg/kg	3	2.2 U	2.1 U	2.3 U	**4**	**4.7**	**5**	**10**	**16.5**	**4.9**	**8.9**
Barium	mg/kg	220,000	**55.5 J**	**94.1 J**	**109**	**82.6**	N/A	**111**	**240**	**112**	**192**	**197**
Beryllium	mg/kg	2,300	**0.47 J**	0.85 U	0.91 U	**0.84 J**	N/A	**0.27 J**	**2.2**	**0.48 J**	**3.4**	**1.1**
Cadmium	mg/kg	980	0.39 B	0.61 B	1.2 B	0.45 B	N/A	1.3 B	2 B	**3.4**	**2.2**	**5.9**
Chromium	mg/kg	120,000	**303**	**848**	**1,620**	**42.8**	N/A	**805**	**521**	**321**	**390**	**362**
Chromium VI	mg/kg	6.3	0.54 B	**1.4 J-**	1 B	0.39 B	N/A	1.5 B	0.47 B	0.74 B	0.39 B	0.41 B
Cobalt	mg/kg	350	4.3 U	4.2 U	**0.65 J**	**9.3**	N/A	**5.8**	**52**	**6.8**	**6.1**	**8.7**
Copper	mg/kg	47,000	**3.7 J**	**26 J**	**31.9**	**20.9**	N/A	**84.9**	**105**	**428**	**54.1**	**81.7**
Iron	mg/kg	820,000	**90,800 J**	**208,000 J**	**185,000**	**19,300**	N/A	**225,000**	**120,000**	**62,500**	**81,800**	**96,500**
Lead	mg/kg	800	**5.4**	**7.5**	**50.3**	**73.6**	N/A	**57.7**	**234**	**375**	**84**	**217**
Manganese	mg/kg	26,000	**7,820**	**20,200**	**27,300**	**743**	N/A	**19,500**	**2,810**	**6,980**	**8,330**	**8,530**
Mercury	mg/kg	350	0.11 U	0.11 U	**0.0064 J**	**0.14**	N/A	**0.024 J**	**0.041 J**	**0.18**	**0.057 J**	**0.068 J**
Nickel	mg/kg	22,000	**3.9 J**	**27.6**	**15.2**	**19.5**	N/A	**44.2**	**345**	**31.7**	**43.4**	**42.1**
Selenium	mg/kg	5,800	3.5 U	3.4 U	3.6 U	4 U	N/A	3.7 U	4.4 U	3.7 U	3.3 U	**1.9 J**
Silver	mg/kg	5,800	2.6 U	2.5 U	2.7 U	3 U	N/A	**1.9 J**	**0.99 J**	**0.78 J**	2.5 U	2.3 U
Thallium	mg/kg	12	8.6 UJ	8.5 UJ	**38.7**	10.1 U	N/A	**32.8**	11 U	**9.9**	**6.7 J**	**4.6 J**
Vanadium	mg/kg	5,800	**1,280**	**3,330**	**3,420**	**76.1**	N/A	**2,880**	**177**	**803**	**525**	**368**
Zinc	mg/kg	350,000	**27**	**28.6**	**279**	**131**	N/A	**235**	**1,460**	**1,640**	**486**	**764**
Other												
Cyanide	mg/kg	150	0.6 UJ	**0.14 J-**	0.36 B	0.43 B	N/A	**0.8**	**1.4**	**17.9**	**3.5**	**0.64**

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Table 2 - Sub-Parcel A11-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	A11-053-SB-1 8/9/2016	A11-053-SB-9 8/9/2016	A11-054-SB-1* 8/9/2016	A11-054-SB-4* 8/9/2016	A11-055-SB-1* 8/9/2016	A11-055-SB-5* 8/9/2016	A11-056-SB-1* 8/9/2016	A11-056-SB-5* 8/9/2016	A11-056-SB-10* 8/9/2016	A11-057-SB-1 8/10/2016	A11-057-SB-5 8/10/2016
Metal													
Aluminum	mg/kg	1,100,000	**16,200**	**44,900**	**14,900**	**4,250**	**6,140**	**8,190**	**4,970**	**13,800**	N/A	**6,550**	**18,300**
Antimony	mg/kg	470	2.2 U	2.5 U	2.5 U	3 U	2.6 U	**2 J**	2.3 U	2.5 U	N/A	2.3 UJ	2.9 UJ
Arsenic	mg/kg	3	**5.5**	**3.3**	**3.7**	**18.2**	2.2 U	**35**	**7.3**	**5**	**7.3**	**5**	**9.5**
Barium	mg/kg	220,000	**229**	**495**	**131**	**96.7**	**91.4**	**793**	**155**	**103**	N/A	**71.2 J**	**474 J**
Beryllium	mg/kg	2,300	**1.6**	**5.9**	**1.4**	0.99 U	0.87 U	**0.94 J**	0.77 U	**0.86**	N/A	0.78 U	**1.1**
Cadmium	mg/kg	980	**0.99 J**	**0.45 J**	2.2 B	0.62 B	1.1 B	**13.2**	0.81 B	0.62 B	N/A	**0.75 J**	**11.4**
Chromium	mg/kg	120,000	**227**	**22.2**	**446**	**1,010**	**1,220**	**384**	**792**	**55.9**	N/A	**1,200**	**353**
Chromium VI	mg/kg	6.3	**0.47 J**	**0.43 J**	0.48 B	0.83 B	**4**	0.37 B	2.4 B	0.39 B	N/A	0.94 B	0.33 B
Cobalt	mg/kg	350	**8.4**	**2.9 J**	**7.6**	**23.6**	4.3 U	**23.2**	**7.1**	**16.4**	N/A	**2.6 J**	**9.4 J**
Copper	mg/kg	47,000	**86.2**	**12.3**	**63.5**	**245**	**34.2**	**1,270**	**101**	**18.2**	N/A	**47.5 J**	**98.4 J**
Iron	mg/kg	820,000	**124,000**	**38,000**	**107,000**	**428,000**	**191,000**	**108,000**	**281,000**	**28,800**	N/A	**232,000**	**116,000**
Lead	mg/kg	800	**79.8**	**16.6**	**176**	**35.8**	**32.8**	**1,420**	**61.5**	**54.1**	N/A	**35.9**	**288**
Manganese	mg/kg	26,000	**5,160**	**4,200**	**11,500**	**23,000**	**30,300**	**4,090**	**20,900**	**1,210**	N/A	**22,900**	**9,710**
Mercury	mg/kg	350	**0.0025 J**	0.12 U	**0.029 J**	**0.028 J**	**0.017 J**	**0.14**	**0.016 J**	**0.091 J**	N/A	**0.038 J-**	**0.12 J-**
Nickel	mg/kg	22,000	**40.4**	**5.4 J**	**26.3**	**104**	**11.5**	**227**	**49.8**	**42**	N/A	**29.6 J**	**135 J**
Selenium	mg/kg	5,800	3.0 U	**4.4**	3.3 U	4 U	3.5 U	4.9 U	3.1 U	3.4 U	N/A	3.1 U	3.9 U
Silver	mg/kg	5,800	**0.59 J**	2.5 U	**0.63 J**	**4.9**	2.6 U	**7.9**	**2.5**	2.5 U	N/A	**1.4 J**	**0.82 J**
Thallium	mg/kg	12	7.5 U	8.3 U	**12.5**	**29.1**	**19.1**	12.1 U	**29.3**	8.4 U	N/A	7.8 U	9.8 U
Vanadium	mg/kg	5,800	**292**	**91.1**	**1,050**	**2,530**	**1,620**	**92.3**	**2,640**	**61.8**	N/A	**1,650**	**834**
Zinc	mg/kg	350,000	**322**	**44.8**	**608**	**136**	**189**	**4,390**	**116**	**191**	N/A	**123**	**1,720**
Other													
Cyanide	mg/kg	150	**1.5**	**1.3**	**0.49 J**	**0.87**	**0.52 J**	**0.66 J**	**0.89**	**0.73**	N/A	**0.67 J-**	**0.78 J-**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

Table 3 - Sub-Parcel A11-2
Summary of Organics Detected in Groundwater

Parameter	Units	PAL	A11-014-PZ* 7/25/2018	A11-015-PZ* 7/24/2018	A11-016EE-PZ* 8/14/2018	A11-016F-PZ* 8/15/2018	A11-016J-PZ* 8/15/2018	A11-016LL-PZ* 8/13/2018
Volatile Organic Compounds								
1,1,2,2-Tetrachloroethane	µg/L	0.076	1 U	1 U	5 U	5 U	5 U	1 U
1,1-Dichloroethane	µg/L	2.7	1 U	1 U	5 U	5 U	5 U	1 U
1,2,4-Trichlorobenzene	µg/L	70	1 U	1 U	5 U	5 U	5 U	1 U
1,2,4-Trimethylbenzene	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dibromo-3-chloropropane	µg/L	0.2	5 U	5 U	25 U	25 U	25 U	5 U
1,2-Dichlorobenzene	µg/L	600	1 U	1 U	5 U	5 U	5 U	1 U
1,2-Dichloroethane	µg/L	5	1 U	1 U	5 U	5 U	5 U	1 U
1,2-Dichloroethene (Total)	µg/L	70	2 U	2 U	**8.9 J**	10 U	10 U	2 U
1,2-Dichloropropane	µg/L	5	1 U	1 U	5 U	5 U	5 U	1 U
1,3,5-Trimethylbenzene	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		1 U	1 U	5 U	5 U	5 U	1 U
1,4-Dichlorobenzene	µg/L	75	1 U	1 U	5 U	5 U	5 U	1 U
2-Butanone (MEK)	µg/L	5,600	10 U	10 U	50 U	**19.7 J**	**14.3 J**	10 U
2-Hexanone	µg/L	38	10 U	10 U	50 U	50 U	50 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	1,200	10U	10 U	50 U	50 U	50 U	10 U
Acetone	µg/L	14,000	**2.9 J**	**4.6 J**	**53.8**	**85.9**	**103**	**8.8 J**
Benzene	µg/L	5	**96.8**	**2,680**	**35,600**	**347,000**	**303,000**	1 U
Bromodichloromethane	µg/L	0.13	1 U	1 U	5 U	5 U	5 U	1 U
Bromoform	µg/L	3.3	1 U	1 U	5 U	5 U	5 U	1 U
Carbon disulfide	µg/L	810	1 U	1 U	5 U	**40.4**	**34.2**	1 U
Carbon tetrachloride	µg/L	5	1 U	1 U	5 U	**20.3**	5 U	1 U
Chlorobenzene	µg/L	100	1 U	1 U	5 U	**1.2 J**	**0.93 J**	1 U
Chloroform	µg/L	0.22	1 U	1 U	5 U	**21.7**	**8.7**	1 U
Chloromethane	µg/L	190	1 U	1 U	5 U	5 U	5 U	**1.3**
cis-1,2-Dichloroethene	µg/L	70	1 U	1 U	**8.9**	5 U	5 U	1 U
cis-1,3-Dichloropropene	µg/L		1 U	1 U	5 U	5 U	5 U	1 U
Cyclohexane	µg/L	13,000	10 U	10 U	50 U	**13.9 J**	**18.5 J**	10 U
Ethylbenzene	µg/L	700	1 U	**6.6**	**37**	**90.2**	**107**	1 U
Isopropylbenzene	µg/L	450	1 U	**0.74 J**	**3.1 J**	**7.4**	**8.7**	1 U
Methyl Acetate	µg/L	20,000	5 U	5 U	25 U	25 U	25 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	14	1 U	1 U	5 U	5 U	5 U	1 U
Methylene Chloride	µg/L	5	1 U	**2**	5 U	5 U	5 U	1 U
Naphthalene	µg/L	0.12	N/A	N/A	N/A	N/A	N/A	N/A
Styrene	µg/L	100	1 U	**0.48 J**	5 U	5 U	5 U	1 U
Tetrachloroethene	µg/L	5	1 U	1 U	5 U	5 U	5 U	1 U
Toluene	µg/L	1,000	**3.3**	**7.1**	**1,080**	**13,400**	**4,620**	1 U
trans-1,2-Dichloroethene	µg/L	100	1 U	1 U	5 U	5 U	5 U	1 U
Trichloroethene	µg/L	5	1 U	1 U	5 U	5 U	5 U	1 U
Trichlorofluoromethane	µg/L	1,100	1 U	1 U	5 U	5 U	5 U	1 U
Vinyl chloride	µg/L	2	1 U	1 U	**3.3 J**	5 U	5 U	1 U
Xylenes	µg/L	10,000	3 U	**52.5**	**832**	**2,960**	**2,320**	3 U
Semi-Volatile Organic Compounds^								
1,1-Biphenyl	µg/L	0.83	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	µg/L	70	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene	µg/L	600	N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	µg/L	75	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dioxane	µg/L	0.46	0.097 U	0.098 U	0.098 U	0.099 U	0.098 U	0.1 U
2,4-Dimethylphenol	µg/L	360	N/A	N/A	N/A	N/A	N/A	N/A
2-Chlorophenol	µg/L	91	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	µg/L	36	**2.2**	**8.6**	**184**	**278**	**211**	**0.053 J**
2-Methylphenol	µg/L	930	N/A	N/A	N/A	N/A	N/A	N/A
3&4-Methylphenol(m&p Cresol)	µg/L	930	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	µg/L	0.12	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	µg/L	530	**0.23**	**23.6**	**18**	**1.8**	**5.5**	0.1 U
Acenaphthylene	µg/L	530	**0.14**	**7.4**	**105**	**0.4**	**2.2**	0.1 U
Acetophenone	µg/L	1,900	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	µg/L	1,800	**0.3**	**10.7**	**63.9**	**0.94**	**3.1**	**0.048 J**
Benz[a]anthracene	µg/L	0.03	**0.28**	**6.4**	**45.4**	**0.31**	**0.1**	0.1 U
Benzo[a]pyrene	µg/L	0.2	**0.11**	**5.3**	**19**	**0.19**	**0.049 J**	0.1 U
Benzo[b]fluoranthene	µg/L	0.25	**0.18**	**9**	**50.1**	**0.29**	**0.091 J**	0.1 U
Benzo[g,h,i]perylene	µg/L		**0.083 J**	**2.6**	**5.9**	**0.072 J**	0.098 U	0.1 U
Benzo[k]fluoranthene	µg/L	2.5	**0.082 J**	**8**	**16.7**	**0.13**	**0.047 J**	0.1 U
bis(2-Ethylhexyl)phthalate	µg/L	6	N/A	N/A	N/A	N/A	N/A	N/A
Caprolactam	µg/L	9,900	N/A	N/A	N/A	N/A	N/A	N/A
Carbazole	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	µg/L	25	**0.23**	**5.2**	**15.2**	**0.27**	**0.071 J**	0.1 U
Dibenz[a,h]anthracene	µg/L	0.025	0.097 U	**0.9**	**2.8**	0.099 U	0.098 U	0.1 U
Diethylphthalate	µg/L	15,000	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	µg/L	800	**1.2**	**21.1**	**178**	**1.3**	**2.1**	**0.081 J**
Fluorene	µg/L	290	**3.1**	**43.1**	**176**	**16.4**	**13.6**	**0.042 J**
Indeno[1,2,3-c,d]pyrene	µg/L	0.25	**0.076 J**	**2.6**	**7**	**0.072 J**	0.098 U	0.1 U
Naphthalene	µg/L	0.12	**39.5**	**640**	**14,100**	**7,600**	**7,730**	**0.6**
N-Nitroso-di-n-propylamine	µg/L	0.011	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	µg/L	1	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	µg/L		**3.8**	**59.9**	**311**	**11.5**	**116**	**0.14**
Phenol	µg/L	5,800	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	µg/L	120	**0.62**	**14.9**	**127**	**0.88**	**0.8**	**0.051 J**
Pyridine	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
TPH/Oil & Grease								
Diesel Range Organics	µg/L	47	**1,130**	**1,710**	**16,700**	**15,800**	**15,400**	**338**
Gasoline Range Organics	µg/L	47	**1,350**	**4,540**	**74,300**	**585,000**	**764,000**	200 U
Oil & Grease	µg/L	47	4,750 U	**1,100 J**	4,750 U	4,770 U	4,750 U	4,750 U

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data

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^PAH compounds were analyzed via SIM

Table 3 - Sub-Parcel A11-2
Summary of Organics Detected in Groundwater

Parameter	Units	PAL	A11-016L-PZ* 8/15/2018	A11-016MM-PZ* 8/13/2018	A11-016NN-PZ* 8/13/2018	A11-016-PZ* 7/24/2018	A11-016QQ-PZ* 8/14/2018	A11-016R-PZ* 8/14/2018
Volatile Organic Compounds								
1,1,2,2-Tetrachloroethane	µg/L	0.076	5 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	µg/L	2.7	5 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	µg/L	70	5 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dibromo-3-chloropropane	µg/L	0.2	25 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	µg/L	600	5 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	µg/L	5	5 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene (Total)	µg/L	70	10 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichloropropane	µg/L	5	5 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		5 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	µg/L	75	5 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)	µg/L	5,600	50 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	38	50 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	1,200	**5.9 J**	10 U	10 U	**0.55 J**	10 U	10 U
Acetone	µg/L	14,000	**51**	**10.1**	**36.6**	**8.5 J**	**10.3**	**6.3 J**
Benzene	µg/L	5	**282,000**	1 U	1 U	**6,890**	**1,920**	**664**
Bromodichloromethane	µg/L	0.13	5 U	1 U	1 U	1 U	1 U	1 U
Bromoform	µg/L	3.3	5 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	µg/L	810	**13.2**	1 U	1 U	1 U	**0.56 J**	**0.32 J**
Carbon tetrachloride	µg/L	5	5 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	µg/L	100	**0.8 J**	1 U	1 U	1 U	1 U	1 U
Chloroform	µg/L	0.22	**15.5**	1 U	1 U	1 U	1 U	1 U
Chloromethane	µg/L	190	5 U	**1.5**	**1.2**	1 U	1 U	1 U
cis-1,2-Dichloroethene	µg/L	70	5 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	µg/L		5 U	1 U	1 U	1 U	1 U	1 U
Cyclohexane	µg/L	13,000	**19.9 J**	10 U	10 U	**0.73 J**	**0.64 J**	10 U
Ethylbenzene	µg/L	700	**102**	1 U	1 U	**16.8**	**7.7**	**0.59 J**
Isopropylbenzene	µg/L	450	**10.1**	1 U	1 U	**2.4**	**1.6**	1 U
Methyl Acetate	µg/L	20,000	25 U	5 U	**1.1 J**	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	14	5 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	µg/L	5	5 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	µg/L	0.12	N/A	N/A	N/A	N/A	N/A	N/A
Styrene	µg/L	100	5 U	1 U	1 U	**0.7 J**	1 U	1 U
Tetrachloroethene	µg/L	5	5 U	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	1,000	**12,100**	**0.36 J**	1 U	**934**	**234**	**7.1**
trans-1,2-Dichloroethene	µg/L	100	5 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	µg/L	5	5 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	µg/L	1,100	5 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	µg/L	2	5 U	1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L	10,000	**2,860**	3 U	3 U	**318**	**264**	**7.8**
Semi-Volatile Organic Compounds^								
1,1-Biphenyl	µg/L	0.83	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	µg/L	70	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene	µg/L	600	N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	µg/L	75	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dioxane	µg/L	0.46	0.097 U	0.099 U	0.099 U	0.098 U	0.099 U	0.099 U
2,4-Dimethylphenol	µg/L	360	N/A	N/A	N/A	N/A	N/A	N/A
2-Chlorophenol	µg/L	91	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	µg/L	36	**336**	**0.035 J**	0.099 U	**55.4**	**227**	**0.89**
2-Methylphenol	µg/L	930	N/A	N/A	N/A	N/A	N/A	N/A
3&4-Methylphenol(m&p Cresol)	µg/L	930	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	µg/L	0.12	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	µg/L	530	**2.1**	**0.04 J**	0.099 U	**7.1**	**6**	**0.18**
Acenaphthylene	µg/L	530	**0.65**	0.099 U	0.099 U	**14.7**	**6.2**	**0.25**
Acetophenone	µg/L	1,900	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	µg/L	1,800	**1.7**	**0.09 J**	**0.038 J**	**12.5**	**5.6**	**0.9**
Benz[a]anthracene	µg/L	0.03	**0.7**	**0.07 J**	0.099 U	**6.3**	**0.52**	**1.1**
Benzo[a]pyrene	µg/L	0.2	**0.52**	**0.041 J**	0.099 U	**5.1**	**0.13**	**0.75**
Benzo[b]fluoranthene	µg/L	0.25	**0.83**	**0.071 J**	0.099 U	**7.2**	**0.22**	**1.3**
Benzo[g,h,i]perylene	µg/L		**0.22**	0.099 U	0.099 U	**2.4**	**0.048 J**	**0.43**
Benzo[k]fluoranthene	µg/L	2.5	**0.27**	**0.023 J**	0.099 U	**2.1**	**0.09 J**	**0.49**
bis(2-Ethylhexyl)phthalate	µg/L	6	N/A	N/A	N/A	N/A	N/A	N/A
Caprolactam	µg/L	9,900	N/A	N/A	N/A	N/A	N/A	N/A
Carbazole	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	µg/L	25	**0.66**	**0.048 J**	0.099 U	**4.7**	**0.38**	**0.9**
Dibenz[a,h]anthracene	µg/L	0.025	**0.073 J**	0.099 U	0.099 U	**0.85**	0.099 U	**0.14**
Diethylphthalate	µg/L	15,000	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	µg/L	800	**3.4**	**0.21**	**0.07 J**	**31.5**	**7.3**	**3**
Fluorene	µg/L	290	**4.6**	**0.081 J**	0.099 U	**52**	**121**	**1.7**
Indeno[1,2,3-c,d]pyrene	µg/L	0.25	**0.22**	0.099 U	0.099 U	**2.5**	**0.049 J**	**0.42**
Naphthalene	µg/L	0.12	**8,030**	**0.56**	0.18 B	**8,390**	**6,050**	**18.9**
N-Nitroso-di-n-propylamine	µg/L	0.011	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	µg/L	1	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	µg/L		**14**	**0.27**	**0.092 J**	**71.9**	**166**	**2.8**
Phenol	µg/L	5,800	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	µg/L	120	**2.2**	**0.15**	**0.053 J**	**14.7**	**4.1**	**1.8**
Pyridine	µg/L		N/A	N/A	N/A	N/A	N/A	N/A
TPH/Oil & Grease								
Diesel Range Organics	µg/L	47	**9,740**	**187**	**235**	**5,660**	**3,600**	**636**
Gasoline Range Organics	µg/L	47	**470,000**	200 U	200 U	**13,300**	**4,600**	**1,210**
Oil & Grease	µg/L	47	4,770 U	4,750 U	4,750 U	**1,500 J**	4,770 U	4,750 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* Non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

J: The positive result reported for this analyte is a quantitative estimate.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

^PAH compounds were analyzed via SIM

Table 3 - Sub-Parcel A11-2
Summary of Organics Detected in Groundwater

Parameter	Units	PAL	A11-016VV-PZ* 8/13/2018	A11-017-PZ* 8/18/2016	A11-018-PZ* 7/24/2018	A11-024-PZ* 7/25/2018	A11-037-PZ* 8/18/2016
Volatile Organic Compounds							
1,1,2,2-Tetrachloroethane	µg/L	0.076	**1.9**	1 U	1 U	1 U	1 U
1,1-Dichloroethane	µg/L	2.7	**3.1**	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	µg/L	70	**0.63 J**	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	µg/L		N/A	N/A	N/A	N/A	N/A
1,2-Dibromo-3-chloropropane	µg/L	0.2	**1.4 J**	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	µg/L	600	**0.65 J**	1 U	1 U	1 U	1 U
1,2-Dichloroethane	µg/L	5	**0.87 J**	1 U	1 U	1 U	1 U
1,2-Dichloroethene (Total)	µg/L	70	2 U	2 U	2 U	2 U	2 U
1,2-Dichloropropane	µg/L	5	**0.79 J**	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	µg/L		N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		**1**	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	µg/L	75	**1.5**	1 U	1 U	1 U	1 U
2-Butanone (MEK)	µg/L	5,600	**3.7 J**	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	38	**1.5 J**	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	1,200	**3 J**	10 U	10 U	10 U	10 U
Acetone	µg/L	14,000	**6.5 J**	10 U	**15.5**	**4.9 J**	**25.3**
Benzene	µg/L	5	**587**	1 U	**10.3**	**53**	1 U
Bromodichloromethane	µg/L	0.13	**2.4**	1 U	1 U	1 U	1 U
Bromoform	µg/L	3.3	**0.83 J**	1 U	1 U	1 U	1 U
Carbon disulfide	µg/L	810	**0.78 J**	1 U	**1.7**	1 U	**1.7**
Carbon tetrachloride	µg/L	5	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	µg/L	100	**1.4**	1 U	1 U	1 U	1 U
Chloroform	µg/L	0.22	1 U	1 U	1 U	1 U	1 U
Chloromethane	µg/L	190	**2.1**	1 U	1 U	1 U	**3.9**
cis-1,2-Dichloroethene	µg/L	70	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	µg/L		**0.82 J**	1 U	1 U	1 U	1 U
Cyclohexane	µg/L	13,000	**0.45 J**	10 U	10 U	10 U	10 U
Ethylbenzene	µg/L	700	**3.5**	1 U	1 U	1 U	1 U
Isopropylbenzene	µg/L	450	**0.74 J**	1 U	1 U	1 U	1 U
Methyl Acetate	µg/L	20,000	5 U	5 U	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	14	**2.5**	**1.2**	1 U	1 U	1 U
Methylene Chloride	µg/L	5	**2.9**	1 U	1 U	1 U	1 U
Naphthalene	µg/L	0.12	N/A	N/A	N/A	N/A	N/A
Styrene	µg/L	100	**3**	1 U	1 U	1 U	1 U
Tetrachloroethene	µg/L	5	**2.8**	1 U	1 U	1 U	1 U
Toluene	µg/L	1,000	**8.3**	1 U	1.2	**0.4 J**	1 U
trans-1,2-Dichloroethene	µg/L	100	1 U	1 U	1 U	1 U	1 U
Trichloroethene	µg/L	5	**2.2**	1 U	1 U	1 U	1 U
Trichlorofluoromethane	µg/L	1,100	**1.8**	1 U	1 U	1 U	1 U
Vinyl chloride	µg/L	2	1 U	1 U	1 U	1 U	1 U
Xylenes	µg/L	10,000	**23.9**	3 U	3 U	**1.9 J**	**0.74 J**
Semi-Volatile Organic Compounds^							
1,1-Biphenyl	µg/L	0.83	N/A	1 U	N/A	N/A	1 U
1,2,4-Trichlorobenzene	µg/L	70	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene	µg/L	600	N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	µg/L	75	N/A	N/A	N/A	N/A	N/A
1,4-Dioxane	µg/L	0.46	0.099 U	**0.072 J**	**0.097 U**	0.099 U	**0.23**
2,4-Dimethylphenol	µg/L	360	N/A	1 U	N/A	N/A	1 U
2-Chlorophenol	µg/L	91	N/A	1 U	N/A	N/A	1 U
2-Methylnaphthalene	µg/L	36	**42.2**	0.1 U	**2**	0.099 U	0.1 U
2-Methylphenol	µg/L	930	N/A	1 U	N/A	N/A	1 U
3&4-Methylphenol(m&p Cresol)	µg/L	930	N/A	2 U	N/A	N/A	2 U
3,3'-Dichlorobenzidine	µg/L	0.12	N/A	1 U	N/A	N/A	1 U
Acenaphthene	µg/L	530	**3.8**	0.1 U	**0.31**	**0.19**	0.1 U
Acenaphthylene	µg/L	530	**4.9**	0.1 U	**0.82**	**0.25**	0.1 U
Acetophenone	µg/L	1,900	N/A	1 U	N/A	N/A	1 U
Anthracene	µg/L	1,800	**3.5**	**0.031 J**	**0.39**	**0.31**	**0.044 J**
Benz[a]anthracene	µg/L	0.03	**0.52**	0.1 U	**0.074 J**	**0.26**	0.1 U
Benzo[a]pyrene	µg/L	0.2	**0.19**	0.1 U	**0.036 J**	**0.2**	0.1 U
Benzo[b]fluoranthene	µg/L	0.25	**0.26**	0.1 U	**0.055 J**	**0.29**	0.1 U
Benzo[g,h,i]perylene	µg/L		**0.064 J**	0.1 U	0.097 U	**0.11**	0.1 U
Benzo[k]fluoranthene	µg/L	2.5	**0.1**	0.1 U	**0.025 J**	**0.12**	0.1 U
bis(2-Ethylhexyl)phthalate	µg/L	6	N/A	**0.25 J**	N/A	N/A	1 U
Caprolactam	µg/L	9,900	N/A	**0.67 J**	N/A	N/A	2.5 U
Carbazole	µg/L		N/A	1 U	N/A	N/A	1 U
Chrysene	µg/L	25	**0.39**	0.1 U	**0.07 J**	**0.17**	0.1 U
Dibenz[a,h]anthracene	µg/L	0.025	0.099 U	0.1 U	0.097 U	**0.031 J**	0.1 U
Diethylphthalate	µg/L	15,000	N/A	**0.36 J**	N/A	N/A	**0.36 J**
Fluoranthene	µg/L	800	**5.4**	**0.02 J**	**0.44**	**0.87**	0.1 U
Fluorene	µg/L	290	**15.1**	0.1 U	**1.5**	**0.38**	0.1 U
Indeno[1,2,3-c,d]pyrene	µg/L	0.25	**0.062 J**	0.1 U	0.097 U	**0.1**	0.1 U
Naphthalene	µg/L	0.12	**736**	0.04 B	**41.6**	0.078 B	0.031 B
N-Nitroso-di-n-propylamine	µg/L	0.011	N/A	1 U	N/A	N/A	1 U
Pentachlorophenol	µg/L	1	N/A	2.5 U	N/A	N/A	2.5 U
Phenanthrene	µg/L		**49**	**0.025 J**	**1.7**	**0.2**	0.1 U
Phenol	µg/L	5,800	N/A	1 U	N/A	N/A	1 U
Pyrene	µg/L	120	**3.5**	**0.016 J**	**0.28**	**0.63**	0.1 U
Pyridine	µg/L		N/A	N/A	N/A	N/A	N/A
TPH/Oil & Grease							
Diesel Range Organics	µg/L	47	**1,850**	**304**	**1,270**	**182**	**938**
Gasoline Range Organics	µg/L	47	**974**	200 U	1,000 U	200 U	200 U
Oil & Grease	µg/L	47	4,770 U	3,100 B	4,770 U	4,750 U	1,300 B

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
^PAH compounds were analyzed via SIM

Table 3 - Sub-Parcel A11-2
Summary of Organics Detected in Groundwater

Parameter	Units	PAL	A11-040-PZ* 7/25/2018	A11-043-PZ* 8/22/2016	GL-03 (-3)* 12/1/2020	GL-08 (-3)* 12/2/2020	GL-09 (-2)* 11/24/2020
Volatile Organic Compounds							
1,1,2,2-Tetrachloroethane	µg/L	0.076	1 U	1 U	1 U	5 U	1 U
1,1-Dichloroethane	µg/L	2.7	1 U	1 U	1 U	5 U	1 U
1,2,4-Trichlorobenzene	µg/L	70	1 U	1 U	1 U	5 U	1 U
1,2,4-Trimethylbenzene	µg/L		N/A	N/A	1 U	**32.5**	**2.2**
1,2-Dibromo-3-chloropropane	µg/L	0.2	5 U	5 U	1 U	5 U	1 U
1,2-Dichlorobenzene	µg/L	600	1 U	1 U	1 U	5 U	1 U
1,2-Dichloroethane	µg/L	5	1 U	1 U	1 U	5 U	1 U
1,2-Dichloroethene (Total)	µg/L	70	2 U	2 U	N/A	N/A	N/A
1,2-Dichloropropane	µg/L	5	1 U	1 U	1 U	5 U	1 U
1,3,5-Trimethylbenzene	µg/L		N/A	N/A	1 U	**15.2**	**1.1**
1,3-Dichlorobenzene	µg/L		1 U	1 U	1 U	5 U	1 U
1,4-Dichlorobenzene	µg/L	75	1 U	1 U	1 U	5 U	1 U
2-Butanone (MEK)	µg/L	5,600	10 U	10 U	5 U	25 U	**44.4**
2-Hexanone	µg/L	38	10 U	10 U	5 U	25 U	5 U
4-Methyl-2-pentanone (MIBK)	µg/L	1,200	10 U	10 U	5 U	25 U	**5.1 J**
Acetone	µg/L	14,000	**6.9 J**	10 U	10 U	**219**	**305**
Benzene	µg/L	5	**1.7**	1 U	**4.4**	**80.8**	**1**
Bromodichloromethane	µg/L	0.13	1 U	1 U	1 U	5 U	1 U
Bromoform	µg/L	3.3	1 U	1 U	1 U	5 U	1 U
Carbon disulfide	µg/L	810	1 U	1 U	1 U	5 U	**1.3**
Carbon tetrachloride	µg/L	5	1 U	1 U	1 U	5 U	1 U
Chlorobenzene	µg/L	100	1 U	1 U	1 U	5 U	1 U
Chloroform	µg/L	0.22	1 U	1 U	1 U	5 U	1 U
Chloromethane	µg/L	190	1 U	1 U	1 U	5 U	1 U
cis-1,2-Dichloroethene	µg/L	70	1 U	1 U	1 U	5 U	1 U
cis-1,3-Dichloropropene	µg/L		1 U	1 U	1 U	5 U	1 U
Cyclohexane	µg/L	13,000	10 U	10 U	N/A	N/A	N/A
Ethylbenzene	µg/L	700	1 U	1 U	1 U	**7**	1 U
Isopropylbenzene	µg/L	450	1 U	1 U	1 U	5 U	1 U
Methyl Acetate	µg/L	20,000	5 U	5 U	N/A	N/A	N/A
Methyl tert-butyl ether (MTBE)	µg/L	14	1 U	1 U	1 U	5 U	1 U
Methylene Chloride	µg/L	5	1 U	1 U	1 U	5 U	1 U
Naphthalene	µg/L	0.12	N/A	N/A	**9.6**	**4,890**	**29**
Styrene	µg/L	100	1 U	1 U	1 U	**3.8 J**	1 U
Tetrachloroethene	µg/L	5	1 U	1 U	1 U	5 U	1 U
Toluene	µg/L	1,000	1 U	1 U	1 U	**358**	**3.4**
trans-1,2-Dichloroethene	µg/L	100	1 U	1 U	1 U	5 U	1 U
Trichloroethene	µg/L	5	1 U	1 U	1 U	5 U	1 U
Trichlorofluoromethane	µg/L	1,100	1 U	1 U	1 U	5 U	1 U
Vinyl chloride	µg/L	2	1 U	1 U	1 U	5 U	1 U
Xylenes	µg/L	10,000	3 U	3 U	3 U	**129**	3 U
Semi-Volatile Organic Compounds^							
1,1-Biphenyl	µg/L	0.83	N/A	1 U	N/A	N/A	N/A
1,2,4-Trichlorobenzene	µg/L	70	N/A	N/A	0.96 U	4.8 U	10 U
1,2-Dichlorobenzene	µg/L	600	N/A	N/A	0.96 U	0.96 U	10 U
1,3-Dichlorobenzene	µg/L		N/A	N/A	0.96 U	0.96 U	10 U
1,4-Dichlorobenzene	µg/L	75	N/A	N/A	0.96 U	0.96 U	10 U
1,4-Dioxane	µg/L	0.46	0.098 U	**0.87**	N/A	N/A	N/A
2,4-Dimethylphenol	µg/L	360	N/A	1 U	**1.2**	**109**	**73.6**
2-Chlorophenol	µg/L	91	N/A	1 U	0.96 U	0.96 U	10 U
2-Methylnaphthalene	µg/L	36	**0.28**	0.1 U	**1.1**	**102**	10 U
2-Methylphenol	µg/L	930	N/A	1 U	0.96 U	**27.2**	**43.6**
3&4-Methylphenol(m&p Cresol)	µg/L	930	N/A	2.1 U	1.9 U	**68.8**	**449**
3,3'-Dichlorobenzidine	µg/L	0.12	N/A	1 U	0.96 U	**2**	10 U
Acenaphthene	µg/L	530	**0.42**	0.1 U	**1.9**	**23**	10 U
Acenaphthylene	µg/L	530	**0.21**	0.1 U	0.96 U	**33.2**	10 U
Acetophenone	µg/L	1,900	N/A	1 U	0.96 U	**24.3**	10 U
Anthracene	µg/L	1,800	**0.57**	0.1 U	0.96 U	**9.3**	10 U
Benz[a]anthracene	µg/L	0.03	**0.48**	0.1 U	0.96 U	0.96 U	10 U
Benzo[a]pyrene	µg/L	0.2	**0.4**	0.1 U	0.96 U	0.96 U	10 U
Benzo[b]fluoranthene	µg/L	0.25	**0.51**	0.1 U	0.96 U	0.96 U	10 U
Benzo[g,h,i]perylene	µg/L		**0.21**	0.1 U	0.96 U	0.96 U	10 U
Benzo[k]fluoranthene	µg/L	2.5	**0.25**	0.1 U	0.96 U	0.96 U	10 U
bis(2-Ethylhexyl)phthalate	µg/L	6	N/A	**0.26 J**	2.4 U	2.4 U	25 U
Caprolactam	µg/L	9,900	N/A	**0.22 J**	N/A	N/A	N/A
Carbazole	µg/L		N/A	1 U	N/A	N/A	N/A
Chrysene	µg/L	25	**0.44**	0.1 U	0.96 U	0.96 U	10 U
Dibenz[a,h]anthracene	µg/L	0.025	**0.07 J**	0.1 U	0.96 U	0.96 U	10 U
Diethylphthalate	µg/L	15,000	N/A	**0.7 J**	0.96 U	0.96 U	10 U
Fluoranthene	µg/L	800	**1.4**	0.1 U	**1**	**4.8**	10 U
Fluorene	µg/L	290	**0.6**	0.1 U	**2.2**	**48.3**	10 U
Indeno[1,2,3-c,d]pyrene	µg/L	0.25	**0.22**	0.1 U	0.96 U	0.96 U	10 U
Naphthalene	µg/L	0.12	**1.7**	0.027 B	**4**	**3,350**	**24.7**
N-Nitroso-di-n-propylamine	µg/L	0.011	N/A	1 U	N/A	N/A	N/A
Pentachlorophenol	µg/L	1	N/A	2.6 U	2.4 U	**2 J**	25 U
Phenanthrene	µg/L		**1.3**	0.1 U	**2.7**	**47.2**	10 U
Phenol	µg/L	5,800	N/A	1 U	**0.64 J**	**14.9**	**342**
Pyrene	µg/L	120	**0.83**	0.1 U	**0.73 J**	**3**	10 U
Pyridine	µg/L		N/A	N/A	0.96 U	**0.55 J**	10 U
TPH/Oil & Grease							
Diesel Range Organics	µg/L	47	**241**	104 U	N/A	N/A	N/A
Gasoline Range Organics	µg/L	47	200 U	200 U	N/A	N/A	N/A
Oil & Grease	µg/L	47	4,750 U	**1,300 J**	N/A	N/A	N/A

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
* Non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.
B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
^PAH compounds were analyzed via SIM

Table 3 - Sub-Parcel A11-2
Summary of Organics Detected in Groundwater

Parameter	Units	PAL	GL-18 (-3)* 11/25/2020	LF-01S 8/19/2016	LF-02 8/19/2016	LF-03S 8/19/2016	LF-03S* 7/24/2018
Volatile Organic Compounds							
1,1,2,2-Tetrachloroethane	µg/L	0.076	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	µg/L	2.7	**44.8**	1 U	**0.45 J**	1 U	1 U
1,2,4-Trichlorobenzene	µg/L	70	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	µg/L		**44.7**	N/A	N/A	N/A	N/A
1,2-Dibromo-3-chloropropane	µg/L	0.2	1 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	µg/L	600	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	µg/L	5	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene (Total)	µg/L	70	N/A	2 U	2 U	2 U	2 U
1,2-Dichloropropane	µg/L	5	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	µg/L		**15.5**	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	µg/L	75	1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)	µg/L	5,600	**5.5 J**	10 U	**5.1 J**	10 U	10 U
2-Hexanone	µg/L	38	5 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	1,200	**13.7**	10 U	**5.6 J**	10 U	10 U
Acetone	µg/L	14,000	**27.3**	10 U	**32.7**	**5.7 J**	10 U
Benzene	µg/L	5	**912**	**55.4**	**0.87 J**	**10.5**	**26**
Bromodichloromethane	µg/L	0.13	1 U	1 U	1 U	1 U	1 U
Bromoform	µg/L	3.3	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	µg/L	810	**1.2**	**1.4**	**7.6**	1 U	1 U
Carbon tetrachloride	µg/L	5	1 U	1 UJ	1 UJ	1 UJ	1 U
Chlorobenzene	µg/L	100	1 U	1 U	1 U	1 U	1 U
Chloroform	µg/L	0.22	1 U	1 U	1 U	1 U	1 U
Chloromethane	µg/L	190	1 U	1 UJ	1 UJ	1 UJ	1 U
cis-1,2-Dichloroethene	µg/L	70	**5.5**	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	µg/L		1 U	1 U	1 U	1 U	1 U
Cyclohexane	µg/L	13,000	N/A	10 UJ	**0.19 J**	10 UJ	10 U
Ethylbenzene	µg/L	700	**9.5**	1 U	1 U	1 U	1 U
Isopropylbenzene	µg/L	450	**1.9**	1 U	1 U	1 U	1 U
Methyl Acetate	µg/L	20,000	N/A	5 U	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	14	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	µg/L	5	1 U	1 U	1 U	1 U	**9.8**
Naphthalene	µg/L	0.12	**6,070**	N/A	N/A	N/A	N/A
Styrene	µg/L	100	**8.9**	1 U	1 U	1 U	1 U
Tetrachloroethene	µg/L	5	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	1,000	**400**	**0.47 J**	**0.58 J**	1 U	**0.67 J**
trans-1,2-Dichloroethene	µg/L	100	**0.41 J**	1 U	1 U	1 U	1 U
Trichloroethene	µg/L	5	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	µg/L	1,100	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	µg/L	2	**7.4**	1 U	1 U	1 U	1 U
Xylenes	µg/L	10,000	**145**	**0.82 J**	**2.9 J**	3 U	3 U
Semi-Volatile Organic Compounds^							
1,1-Biphenyl	µg/L	0.83	N/A	1 U	1 U	**0.4 J**	N/A
1,2,4-Trichlorobenzene	µg/L	70	98 U	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene	µg/L	600	9.8 U	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		9.8 U	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	µg/L	75	9.8 U	N/A	N/A	N/A	N/A
1,4-Dioxane	µg/L	0.46	N/A	**0.069 J**	**8.6**	**0.14**	0.098 U
2,4-Dimethylphenol	µg/L	360	**955**	**0.59 J**	**31.6**	1 U	N/A
2-Chlorophenol	µg/L	91	9.8 U	1 U	**0.62 J**	1 U	N/A
2-Methylnaphthalene	µg/L	36	98 U	**0.058 J**	**1.7**	**1.3**	**3.6**
2-Methylphenol	µg/L	930	**414**	**0.47 J**	**11.1**	1 U	N/A
3&4-Methylphenol(m&p Cresol)	µg/L	930	**1,360**	2.1 U	**41.8**	2 U	N/A
3,3'-Dichlorobenzidine	µg/L	0.12	9.8 U	1 U	1 U	1 U	N/A
Acenaphthene	µg/L	530	**45.9**	**0.42**	**0.3**	0.1 U	**0.08 J**
Acenaphthylene	µg/L	530	**17.1**	**0.44**	**0.061 J**	**0.021 J**	**0.076 J**
Acetophenone	µg/L	1,900	**81**	**0.41 J**	**1 J**	1 U	N/A
Anthracene	µg/L	1,800	9.8 U	**0.5**	**3**	0.1 U	0.098 U
Benz[a]anthracene	µg/L	0.03	9.8 U	**0.05 J**	0.1 U	0.1 U	0.098 U
Benzo[a]pyrene	µg/L	0.2	9.8 U	**0.023 J**	0.1 U	0.1 U	0.098 U
Benzo[b]fluoranthene	µg/L	0.25	9.8 U	**0.041 J**	0.1 U	0.1 U	0.098 U
Benzo[g,h,i]perylene	µg/L		9.8 U	0.1 U	0.1 U	0.1 U	0.098 U
Benzo[k]fluoranthene	µg/L	2.5	9.8 U	0.1 U	0.1 U	0.1 U	0.098 U
bis(2-Ethylhexyl)phthalate	µg/L	6	24.5 U	**0.21 J**	**0.43 J**	1 U	N/A
Caprolactam	µg/L	9,900	N/A	2.6 UJ	2.6 UJ	2.6 UJ	N/A
Carbazole	µg/L		N/A	**4**	**2.2**	1 U	N/A
Chrysene	µg/L	25	9.8 U	**0.019 J**	0.1 U	0.1 U	0.098 U
Dibenz[a,h]anthracene	µg/L	0.025	9.8 U	0.1 U	0.1 U	0.1 U	0.098 U
Diethylphthalate	µg/L	15,000	9.8 U	**1.3**	1 U	**1.6**	N/A
Fluoranthene	µg/L	800	9.8 U	**0.21**	**0.15**	0.1 U	0.098 U
Fluorene	µg/L	290	**6.9 J**	**0.34**	**0.18**	**0.11**	**0.34**
Indeno[1,2,3-c,d]pyrene	µg/L	0.25	9.8 U	0.1 U	0.1 U	0.1 U	0.098 U
Naphthalene	µg/L	0.12	**2,140**	**0.033 J**	**18.1**	**2.3**	**3.4**
N-Nitroso-di-n-propylamine	µg/L	0.011	N/A	1 U	**1.1**	1 U	N/A
Pentachlorophenol	µg/L	1	24.5 U	2.6 U	2.6 U	2.6 U	N/A
Phenanthrene	µg/L		9.8 U	**0.053 J**	**0.62**	**0.02 J**	**0.077 J**
Phenol	µg/L	5,800	**714**	**0.48 J**	**178**	1 U	N/A
Pyrene	µg/L	120	9.8 U	**0.15**	**0.14**	0.1 U	0.098 U
Pyridine	µg/L		**69.9**	N/A	N/A	N/A	N/A
TPH/Oil & Grease							
Diesel Range Organics	µg/L	47	N/A	**761 J**	**7,510 J**	**585 J**	**651**
Gasoline Range Organics	µg/L	47	N/A	**144 J**	200 U	200 U	200 U
Oil & Grease	µg/L	47	N/A	4,800 U	4,820 U	4,800 U	**1,800 J**

Detections in bold
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* Non-validated data

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J: The positive result reported for this analyte is a quantitative estimate.
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^PAH compounds were analyzed via SIM

Table 3 - Sub-Parcel A11-2
Summary of Organics Detected in Groundwater

Parameter	Units	PAL	LF-04S* 7/24/2018	LF-04S* 8/22/2016	LF-05 8/19/2016	SG01-PDP000 8/19/2016	SG01-PDP000* 7/25/2018
Volatile Organic Compounds							
1,1,2,2-Tetrachloroethane	µg/L	0.076	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	µg/L	2.7	1 U	1 U	1 U	**1.3**	1 U
1,2,4-Trichlorobenzene	µg/L	70	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	µg/L		N/A	N/A	N/A	N/A	N/A
1,2-Dibromo-3-chloropropane	µg/L	0.2	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	µg/L	600	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	µg/L	5	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene (Total)	µg/L	70	**0.68 J**	**0.52 J**	2 U	**4**	**0.73 J**
1,2-Dichloropropane	µg/L	5	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	µg/L		N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	µg/L	75	1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)	µg/L	5,600	10 U	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	38	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	1,200	10 U	10 U	10 U	10 U	10 U
Acetone	µg/L	14,000	**5.3 J**	10 U	10 U	**21.2**	**5.7 J**
Benzene	µg/L	5	**6.8**	**6.1**	1 U	**162**	**41.3**
Bromodichloromethane	µg/L	0.13	1 U	1 U	1 U	1 U	1 U
Bromoform	µg/L	3.3	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	µg/L	810	1 U	1 U	1 U	**1.8**	1 U
Carbon tetrachloride	µg/L	5	1 U	1 U	1 UJ	1 UJ	1 U
Chlorobenzene	µg/L	100	1 U	1 U	1 U	1 U	1 U
Chloroform	µg/L	0.22	1 U	1 U	1 U	1 U	1 U
Chloromethane	µg/L	190	1 U	1 U	1 UJ	1 UJ	1 U
cis-1,2-Dichloroethene	µg/L	70	**0.68 J**	**0.52 J**	1 U	**3.7**	**0.73 J**
cis-1,3-Dichloropropene	µg/L		1 U	1 U	1 U	1 U	1 U
Cyclohexane	µg/L	13,000	10 U	10 U	10 UJ	10 UJ	10 U
Ethylbenzene	µg/L	700	1 U	1 U	1 U	**1.6**	1 U
Isopropylbenzene	µg/L	450	1 U	1 U	1 U	**0.29 J**	1 U
Methyl Acetate	µg/L	20,000	5 U	5 U	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	µg/L	14	**0.56 J**	**0.84 J**	1 U	1 U	1 U
Methylene Chloride	µg/L	5	1 U	1 U	1 U	1 U	1 U
Naphthalene	µg/L	0.12	N/A	N/A	N/A	N/A	N/A
Styrene	µg/L	100	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	µg/L	5	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	1,000	1 U	1 U	1 U	**31.1**	**4.8**
trans-1,2-Dichloroethene	µg/L	100	1 U	1 U	1 U	**0.31 J**	1 U
Trichloroethene	µg/L	5	**0.59 J**	**0.33 J**	1 U	1 U	1 U
Trichlorofluoromethane	µg/L	1,100	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	µg/L	2	**0.41 J**	1 U	1 U	**1.3**	1 U
Xylenes	µg/L	10,000	3 U	3 U	3 U	**27.2**	**3.8**
Semi-Volatile Organic Compounds^							
1,1-Biphenyl	µg/L	0.83	N/A	1 U	1 U	1 U	N/A
1,2,4-Trichlorobenzene	µg/L	70	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene	µg/L	600	N/A	N/A	N/A	N/A	N/A
1,3-Dichlorobenzene	µg/L		N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	µg/L	75	N/A	N/A	N/A	N/A	N/A
1,4-Dioxane	µg/L	0.46	**0.19**	**0.18**	0.1 U	**0.29**	**0.26**
2,4-Dimethylphenol	µg/L	360	N/A	**0.95 J**	1 U	**30.4**	N/A
2-Chlorophenol	µg/L	91	N/A	1 U	1 U	1 U	N/A
2-Methylnaphthalene	µg/L	36	0.098 U	0.1 U	0.1 U	**1.1**	**0.17**
2-Methylphenol	µg/L	930	N/A	1 U	1 U	**4.4**	N/A
3&4-Methylphenol(m&p Cresol)	µg/L	930	N/A	**0.61 J**	2 U	**7.5**	N/A
3,3'-Dichlorobenzidine	µg/L	0.12	N/A	1 U	1 U	1 U	N/A
Acenaphthene	µg/L	530	**0.043 J**	**0.054 J**	0.1 U	**0.76**	**0.12**
Acenaphthylene	µg/L	530	0.098 U	**0.023 J**	0.1 U	**0.14**	**0.09 J**
Acetophenone	µg/L	1,900	N/A	**0.48 J**	1 U	**2.9**	N/A
Anthracene	µg/L	1,800	**0.099**	**0.16**	0.1 U	**0.19**	**0.13**
Benz[a]anthracene	µg/L	0.03	0.098 U	1 U	0.1 U	**0.08 J**	0.098 U
Benzo[a]pyrene	µg/L	0.2	0.098 U	1 U	0.1 U	**0.032 J**	**0.025 J**
Benzo[b]fluoranthene	µg/L	0.25	0.098 U	1 U	0.1 U	**0.055 J**	**0.036 J**
Benzo[g,h,i]perylene	µg/L		0.098 U	1 U	0.1 U	**0.02 J**	**0.04 J**
Benzo[k]fluoranthene	µg/L	2.5	0.098 U	1 U	0.1 U	**0.022 J**	**0.032 J**
bis(2-Ethylhexyl)phthalate	µg/L	6	N/A	1 U	1 U	1 U	N/A
Caprolactam	µg/L	9,900	N/A	2.5 U	2.6 UJ	2.6 UJ	N/A
Carbazole	µg/L		N/A	1 U	1 U	**3.2**	N/A
Chrysene	µg/L	25	0.098 U	1 U	0.1 U	**0.048 J**	0.098 U
Dibenz[a,h]anthracene	µg/L	0.025	0.098 U	1 U	0.1 U	0.1 U	0.098 U
Diethylphthalate	µg/L	15,000	N/A	**2**	**0.42 J**	1 U	N/A
Fluoranthene	µg/L	800	**0.088 J**	**0.13**	0.1 U	**0.51**	0.098 U
Fluorene	µg/L	290	**0.12**	**0.19**	0.1 U	**0.73**	**0.092 J**
Indeno[1,2,3-c,d]pyrene	µg/L	0.25	0.098 U	1 U	0.1 U	0.1 U	0.098 U
Naphthalene	µg/L	0.12	0.071 B	0.075 B	**0.021 J**	**56.7**	**11**
N-Nitroso-di-n-propylamine	µg/L	0.011	N/A	1 U	1 U	1 U	N/A
Pentachlorophenol	µg/L	1	N/A	2.5 U	2.6 U	2.6 U	N/A
Phenanthrene	µg/L		0.098 U	**0.14**	0.1 U	**1.1**	**0.044 J**
Phenol	µg/L	5,800	N/A	1 U	1 U	**0.43 J**	N/A
Pyrene	µg/L	120	0.098 U	**0.045 J**	0.1 U	**0.36**	0.098 U
Pyridine	µg/L		N/A	N/A	N/A	N/A	N/A
TPH/Oil & Grease							
Diesel Range Organics	µg/L	47	**379**	**652**	**96.6 J**	**897 J**	**359**
Gasoline Range Organics	µg/L	47	200 U	200 U	200 U	**502**	200 U
Oil & Grease	µg/L	47	4,750 U	4,770 U	4,800 U	4,800 U	4,750 U

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^PAH compounds were analyzed via SIM

Table 4 - Sub-Parcel A11-2
Summary of Inorganics Detected in Groundwater

Parameter	Units	PAL	A11-017-PZ* 8/18/2016	A11-037-PZ* 8/18/2016	A11-043-PZ* 8/22/2016	GL-03 (-3)* 12/1/2020	GL-08 (-3)* 12/2/2020	GL-09 (-2)* 11/24/2020	GL-18 (-3)* 11/25/2020	LF-01S 8/19/2016	LF-02 8/19/2016	LF-03S 8/19/2016	LF-04S* 8/22/2016	LF-05 8/19/2016	SG01-PDP000 8/19/2016
Total Metals															
Aluminum	µg/L	20,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**63.9**	**463**	**558**	**159**	**2,640**	**303**
Antimony	µg/L	6	N/A	N/A	N/A	**0.33 J**	**0.28 J**	**1.1**	**0.34 J**	6 U	6 U	6 U	6 U	6 U	6 U
Arsenic	µg/L	10	N/A	N/A	N/A	**1.7**	**5.7**	**27**	**10.4**	**11**	**19**	**26.5**	**8.4**	5 U	**6.9**
Barium	µg/L	2,000	N/A	N/A	N/A	**54**	**32.4**	**35.3**	**49.1**	**21.8**	**60.7**	**9.7 J**	**11.2**	**25.9**	**35.4**
Beryllium	µg/L	4	N/A	N/A	N/A	0.2 U	0.2 U	0.2 U	0.2 U	1 U	1 U	**2.7**	1 U	**2.4**	1 U
Cadmium	µg/L	5	N/A	N/A	N/A	0.08 U	0.08 U	**0.13**	**0.052 J**	3 U	3 U	**48.4**	**1.4 J**	**1.1 J**	3 U
Calcium	µg/L		N/A	N/A	N/A	**161,000**	**111,000**	**123,000**	**357,000**	N/A	N/A	N/A	N/A	N/A	N/A
Chromium	µg/L	100	N/A	N/A	N/A	**0.72**	**0.52**	**3.3**	**0.61**	5 U	**4.1 J**	**1.2 J**	5 U	**1.1 J**	**2.2 J**
Chromium VI	µg/L	0.035	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8 B	8 B	4 B	10 U	10 U	8 B
Cobalt	µg/L	6	N/A	N/A	N/A	0.5 U	**0.35 J**	**1.4**	**1.2**	5 U	**3.2 J**	**91.9**	**19.8**	**90.6**	5 U
Copper	µg/L	1,300	N/A	N/A	N/A	**0.81 J**	1 U	**6.1**	1 U	**2.7 J**	5 U	**17.8**	5 U	**16.3**	5 U
Iron	µg/L	14,000	N/A	N/A	N/A	**30.3 J**	**144**	**1,520**	**480**	**124**	**625**	**14,900**	**67,600**	**6,950**	**199**
Lead	µg/L	15	N/A	N/A	N/A	**0.54**	**0.22**	**3.1**	**0.059 J**	5 U	25 U	5 U	5 U	**9.2**	5 U
Magnesium	µg/L		N/A	N/A	N/A	**23.4**	**31.1**	**268**	**38.3**	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	µg/L	430	N/A	N/A	N/A	**0.54**	**2.7**	**36.1**	**2.8**	**120**	**16.5**	**368**	**9,440**	**1,040**	**9.4**
Nickel	µg/L	390	N/A	N/A	N/A	**0.75**	**5.1**	**9.8**	**23**	1.8 B	**14.2**	**137**	**33.5**	**110**	1.2 B
Potassium	µg/L		N/A	N/A	N/A	**17,700**	**54,900**	**56,600**	**151,000**	N/A	N/A	N/A	N/A	N/A	N/A
Selenium	µg/L	50	N/A	N/A	N/A	**2.3**	**2.1**	**2.1**	**3.9**	8 U	8 U	8 U	8 U	8 U	8 U
Sodium	µg/L		N/A	N/A	N/A	**13,900**	**89,700**	**208,000**	**202,000**	N/A	N/A	N/A	N/A	N/A	N/A
Vanadium	µg/L	86	N/A	N/A	N/A	**29.7**	**28.7**	**20.6**	**22.5**	**66.1**	**43.2**	**0.55 J**	5 U	**3.5 J**	**96.1**
Zinc	µg/L	6,000	N/A	N/A	N/A	**2.8 J**	5 U	**15.9**	**3.4 J**	**3.6 J**	**5.1 J**	**246**	**44.8**	**161**	**11.2**
Dissolved Metals															
Aluminum, Dissolved	µg/L	20,000	**328**	**72.6**	50 U	N/A	N/A	N/A	N/A	**52**	**302**	**374**	**86.4**	**297**	**263**
Arsenic, Dissolved	µg/L	10	**25.5**	**95.6**	5 U	N/A	N/A	N/A	N/A	**7.9**	**17.3**	**29.4**	**9.6**	5 U	**5.6**
Barium, Dissolved	µg/L	2,000	**27**	**88.9**	**73.9**	N/A	N/A	N/A	N/A	**22.3**	**57.2**	**9.5 J**	**9 J**	**12.5**	**33.8**
Beryllium, Dissolved	µg/L	4	**0.66 J**	1 U	1 U	N/A	N/A	N/A	N/A	1 U	1 U	**2.7**	**0.37 J**	**1.5**	1 U
Cadmium, Dissolved	µg/L	5	3 U	3 U	3 U	N/A	N/A	N/A	N/A	3 U	3 U	**33.5**	**1.3 J**	**0.95 J**	3 U
Chromium VI, Dissolved	µg/L	0.035	9 B	100 U	10 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10 U	N/A	N/A
Chromium, Dissolved	µg/L	100	**0.92 J**	5 U	5 U	N/A	N/A	N/A	N/A	5 U	**0.95 J**	**0.89 J**	5 U	5 U	5 U
Cobalt, Dissolved	µg/L	6	**56.8**	**2.1 J**	5 U	N/A	N/A	N/A	N/A	5 U	25 U	**85.1**	**15.6**	**85.8**	5 U
Copper, Dissolved	µg/L	1,300	5 U	5 U	5 U	N/A	N/A	N/A	N/A	**1.6 J**	5 U	**12.1**	5 U	**3.9 J**	5 U
Iron, Dissolved	µg/L	14,000	**33,600**	**125,000**	**40,700**	N/A	N/A	N/A	N/A	**30.2 J**	**396**	**16,200**	**74,600**	**6,900**	**27 J**
Manganese, Dissolved	µg/L	430	**1,390**	**1,150**	**2,240**	N/A	N/A	N/A	N/A	**103**	5 U	**351**	**9,690**	**1,040**	5 U
Mercury, Dissolved	µg/L	2	0.2 U	0.2 U	0.2 U	N/A	N/A	N/A	N/A	0.2 UJ	0.06 B	0.2 UJ	0.2 U	0.05 B	0.2 UJ
Nickel, Dissolved	µg/L	390	**55.7**	**3.7 J**	**0.64 J**	N/A	N/A	N/A	N/A	**0.97 J**	**11.2**	**127**	**27.1**	**106**	**0.76 J**
Selenium, Dissolved	µg/L	50	8 U	8 U	8 U	N/A	N/A	N/A	N/A	8 U	**7.2 J**	8 U	8 U	8 U	8 U
Silver, Dissolved	µg/L	94	6 U	6 U	**1.1 J**	N/A	N/A	N/A	N/A	6 U	6 U	6 U	**2.3 J**	6 U	6 U
Thallium, Dissolved	µg/L	2	10 U	10 U	10 U	N/A	N/A	N/A	N/A	10 U	50 U	10 U	**3.5 J**	10 U	10 U
Vanadium, Dissolved	µg/L	86	**1.4 J**	**3.1 J**	**1.1 J**	N/A	N/A	N/A	N/A	**76.8**	**35.6**	5 U	5 U	5 U	**77.9**
Zinc, Dissolved	µg/L	6,000	**108**	10 U	1.9 B	N/A	N/A	N/A	N/A	1.5 B	1.3 B	**238**	**34.5**	**150**	1.7 B
Other															
Cyanide	µg/L	200	10 U	2.7 J	10 U	N/A	N/A	N/A	N/A	**44.6**	**148**	10 U	**16.1**	5.2 J	**16**

Detections in bold
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Table 5 - Sub-Parcel A11-2
Summary of Remedial Alternatives Evaluation

	POTENTIAL REMEDIAL ALTERNATIVES			
CRITERIA	**Alternative 1** **No Action**	**Alternative 2** **In-Place Containment** **w/Cap and Vapor Barrier, & NAPL Removal**	**Alternative 3** **In-Situ Treatment** **by Chemical Stabilization**	**Alternative 4** **Removal and Disposal**
Description	- No remedial actions taken.	- In-place containment of materials below concrete slab, asphalt pavement, or soil cap. - Vapor barrier and venting system (passive/active) below floor slab of new building, and utility backfill controls to restrict contaminant migration. - Hot spot soil excavation in the unsaturated zone. - Installation of MWs post development in known NAPL impacted areas, NAPL gauging and removal via bailer/absorbent socks. - Property use restrictions and long-term monitoring and maintenance to ensure that controls remain effective.	- Injection of chemical reagent using direct push technology or injection wells -Two step process consisting of permeability reduction followed by chemical weathering and NAPL encapsulation.	- Excavate contaminated materials and transport to approved off-site disposal facility. - RCRA-hazardous materials would require treatment and/or disposal at an approved hazardous waste facility.
Long-Term Effectiveness	- Does not mitigate long-term direct contact and vapor inhalation risks.	- Capping will provide for long-term control of direct contact exposures. - Sub-slab vapor barrier and venting system and utility backfill controls will prevent unacceptable inhalation risks. - Long-term monitoring will be conducted to ensure long-term effectiveness.	- Long-term effectiveness is unknown and would have to be estimated from treatability studies. - May increase contaminant mobility.	- Has the potential to be effective in the long-term.
Reduction of Toxicity, Mobility and Volume (TMV) by Treatment	- No reduction in TMV.	- Reduction in TMV via NAPL hot spot excavations, NAPL removal during utility installation (if encountered), and NAPL removal from MWs.	- Treatability studies required to confirm potential reduction in TMV. - In-situ chemical treatment has the potential to increase contaminant mobility.	- Complete reduction of TMV of the waste from the Site.
Short-Term Effectiveness	- Not effective.	- Expected to significantly increase short-term exposure risks to onsite workers because of the exposure to impacted soils.	- Short-term effectiveness is unknown and would have to be estimated from treatability studies. - May increase short-term exposure risks because of material exposure, handling, and treatment.	- Expected to significantly increase short-term exposure risks because of the exposure, handling, and transportation of a relatively large volume of waste.
Implementability	- Does not present any technical implementation concerns, but not expected to be administratively implementable because it does not address remedial objectives.	- Can be readily implemented with available and proven technologies.	- Requires specialized equipment and materials. - Treatability studies required to confirm technical implementability.	- Potential short-term exposure risks, air emission controls, excavation of materials from below the groundwater table, materials handling and transportation, and other factors present significant implementation concerns.
Community Acceptance	- Not anticipated to be favorable because it does not address remedial objectives.	- Expected to be acceptable because it meets remedial objectives without increasing exposure risks to the community.	- Potentially acceptable depending on results of treatability studies and supplemental studies.	- Transportation of large volumes of waste through any community is generally not favorable. - Fugutive chemical emissions and odors are a potential concern.
State Acceptance	- Not anticipated to be favorable because it does not address remedial objectives.	- Expected to be acceptable because it meets remedial objectives and evaluation criteria.	- Potentially acceptable depending on results of treatability studies and supplemental studies.	- Potentially acceptable.
Estimated Cost	$0	$2 million	$7 million	$12 million
Conclusion	Does not meet cleanup objectives. **NOT RECOMMENDED**.	Cost-effectively meets cleanup objectives and evaluation criteria. **RECOMMENDED**.	Questionable effectiveness, implementation concerns, increased short-term exposure risks, and high cost. **NOT RECOMMENDED**.	Implementation concerns, increased short-term exposure risks, and extremely high cost. **NOT RECOMMENDED**.

Notes:
- Estimated costs are prelminary order-of-magnitde costs developed for comparison purposes and may not account for all required items and components.

Table 6 - Sub-Parcel A11-2
COPC Screening Analysis

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
1,1-Biphenyl	92-52-4	A11-040-SB-10	155		0.02	11.0	46	41.30	410	20	YES (NC)
1,1-Dichloroethane	75-34-3	A11-057-SB-5	0.0092		0.0092	0.009	158	0.63	16	23,000	no
1,2-Dibromo-3-chloropropane	96-12-8	A11-054-SB-4	0.0032	J	0.0032	0.003	158	0.63	0.064	2.5	no
2,4-Dimethylphenol	105-67-9	A11-040-SB-10	31.4		0.045	4.37	41	24.39		1,600	no
2-Butanone (MEK)	78-93-3	A11-040A-SB-15	0.048		0.0031	0.01	158	24.68		19,000	no
2-Chloronaphthalene	91-58-7	A11-031-SB-10	0.19	J	0.19	0.2	46	2.17		6,000	no
2-Methylnaphthalene	91-57-6	A11-024H-SB-5	763		0.0026	36.15	159	94.34		300	YES (NC)
2-Methylphenol	95-48-7	A11-040-SB-10	21		0.055	3.488	41	19.51		4,100	no
4-Methyl-2-pentanone (MIBK)	108-10-1	A11-040A-SB-15	0.017		0.0018	0.0	158	2.53		14,000	no
Acenaphthene	83-32-9	A11-024H-SB-5	541		0.00059	15.0	159	96.23		4,500	no
Acenaphthylene	208-96-8	A11-024H-SB-5	950		0.0006	28.62	159	91.19			no
Acetone	67-64-1	A11-024S-SB-4	0.44		0.0071	0.10	158	63.29		67,000	no
Acetophenone	98-86-2	A11-040-SB-10	52		0	7	46	19.57		12,000	no
Aluminum	7429-90-5	A11-053-SB-9	44,900		3190	14,475	47	100.00		110,000	no
Anthracene	120-12-7	A11-024Q-SB-10	5270		0.0014	124.84	159	97.48		23,000	no
Antimony	7440-36-0	A11-003-SB-5	13.9		2	7.95	47	4.26		47	no
Aroclor 1248	12672-29-6	A11-002-SB-1	0.439		0.0949	0.27	24	8.33	0.95		no
Aroclor 1254	11097-69-1	A11-027-SB-11	0.469		0.0504	0.25	24	16.67	0.97	1.5	no
Aroclor 1260	11096-82-5	A11-027-SB-11	0.196	J	0.033	0.10	24	16.67	0.99		no
Arsenic	7440-38-2	A11-055-SB-5	35		2.3	7	53	86.79	3	48	YES (C)
Barium	7440-39-3	A11-055-SB-5	793		25.2	189	47	100.00		22,000	no
Benz[a]anthracene	56-55-3	A11-024H-SB-5	4330		0.0017	103.38	159	97.48	21		YES (C)
Benzaldehyde	100-52-7	A11-003-SB-5	0.11		0.035	0.1	46	8.70	820	12,000	no
Benzene	71-43-2	A11-024M-SB-15	588		0.0014	29.4	158	53.16	5.1	42	YES (C/NC)
Benzo[a]pyrene	50-32-8	A11-024H-SB-5	3,880		0.0012	82	160	98.75	2.1	22	YES (C/NC)

Table 6 - Sub-Parcel A11-2
COPC Screening Analysis

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
Benzo[b]fluoranthene	205-99-2	A11-024H-SB-5	7820		0.0028	188.1	159	99.37	21		YES (C)
Benzo[g,h,i]perylene	191-24-2	A11-024S-SB-4	649		0.0011	24	159	96.86			no
Benzo[k]fluoranthene	207-08-9	A11-024Q-SB-10	6810		0.0015	141.74	159	98.11	210		YES (C)
Beryllium	7440-41-7	A11-053-SB-9	5.9		0.21	1.69	47	74.47	6,900	230	no
bis(2-Ethylhexyl)phthalate	117-81-7	A11-027-SB-11	0.69	J	0.016	0.14	46	34.78	160	1,600	no
Cadmium	7440-43-9	A11-055-SB-5	13.2		0.37	3.63	47	36.17	9,300	98	no
Caprolactam	105-60-2	A11-003-SB-5	0.095	J	0.023	0.06	46	4.35		40,000	no
Carbazole	86-74-8	A11-040-SB-10	477		0.02	25.3	46	47.83			no
Carbon disulfide	75-15-0	A11-024M-SB-15	0.67		0.0018	0.02	158	34.18		350	no
Chloroform	67-66-3	A11-024S-SB-4	0.012		0.0023	0.006	158	1.90	1.4	100	no
Chromium	7440-47-3	A11-034-SB-1	2,850		19.6	503	47	100.00		180,000	no
Chromium VI	18540-29-9	A11-034-SB-1	4.1		1.4	2.85	46	8.70	6.3	350	no
Chrysene	218-01-9	A11-024H-SB-5	3,120		0.00048	83.2	159	100.00	2,100		YES (C)
cis-1,2-Dichloroethene	156-59-2	A11-055-SB-5	14.1		0.0058	3.53	158	2.53		230	no
Cobalt	7440-48-4	A11-040-SB-4	52		0.65	8.40	47	91.49	1,900	35	YES (NC)
Copper	7440-50-8	A11-003-SB-5	2,890		3.7	154	47	100.00		4,700	no
Cyanide	57-12-5	A11-040-SB-10	17.9		0.14	1.58	47	80.85		120	no
Cyclohexane	110-82-7	A11-024M-SB-15	0.21	J	0.0025	0.03	158	7.59		2,700	no
Dibenz[a,h]anthracene	53-70-3	A11-024H-SB-5	256		0.0018	9.7	159	88.68	2.1		YES (C)
Diethylphthalate	84-66-2	A11-030-SB-1	0.045	J	0.017	0.03	46	8.70		66,000	no
Di-n-butylphthalate	84-74-2	A11-031-SB-10	0.18	J	0.18	0.18	46	2.17		8,200	no
Ethylbenzene	100-41-4	A11-024M-SB-15	3.8		0.0012	0.19	158	22.15	25	2,000	no
Fluoranthene	206-44-0	A11-024H-SB-5	10,100		0.0017	342	159	100.00		3,000	YES (NC)
Fluorene	86-73-7	A11-024Q-SB-10	3,930		0.00083	102	159	96.86		3,000	YES (NC)
Indeno[1,2,3-c,d]pyrene	193-39-5	A11-024H-SB-5	701		0.0016	27.0	159	96.23	21		YES (C)
Iron	7439-89-6	A11-054-SB-4	428,000		13,200	107,115	47	100.00		82,000	YES (NC)

Table 6 - Sub-Parcel A11-2
COPC Screening Analysis

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
Isopropylbenzene	98-82-8	A11-024M-SB-15	1.1		0.0015	0.09	158	10.76		990	no
Lead^	7439-92-1	A11-029-SB-5	3,560		5.4	209	47	100.00		800	YES (NC)
Manganese	7439-96-5	A11-055-SB-1	30,300		249	10,689	47	100.00		2,600	YES (NC)
Mercury	7439-97-6	A11-024S-SB-4	16.1		0.0025	0.46	47	87.23		35	no
Methyl Acetate	79-20-9	A11-024M-SB-15	0.33	J	0.0013	0.04	138	34.06		120,000	no
Methylene Chloride	75-09-2	A11-024Q-SB-15	2.7	J	0.028	1.01	158	1.90	1,000	320	no
Naphthalene	91-20-3	A11-040A-SB-15	17,000		0.002	498	159	96.86	8.6	59	YES (C/NC)
Nickel	7440-02-0	A11-040-SB-4	345		3.2	43.9	47	97.87	64,000	2,200	no
N-Nitrosodiphenylamine	86-30-6	A11-054-SB-4	0.022	J	0.022	0.02	46	2.17	470		no
PCBs (total)*	1336-36-3	A11-002-SB-1	0.7817		0.033	0.37	24	25.00	0.94		no
Phenanthrene	85-01-8	A11-024Q-SB-10	14,400		0.0016	460	159	98.74			no
Phenol	108-95-2	A11-040-SB-10	23.7		0.018	3.27	41	24.39		25,000	no
Pyrene	129-00-0	A11-024H-SB-5	7,420		0.0013	228	159	100.00		2,300	YES (NC)
Selenium	7782-49-2	A11-053-SB-9	4.4		1.9	3.09	47	14.89		580	no
Silver	7440-22-4	A11-024S-SB-4	34.1		0.59	3.61	47	38.30		580	no
Styrene	100-42-5	A11-040-SB-10	0.08		0.0013	0.02	158	6.33		3,500	no
Tetrachloroethene	127-18-4	A11-057-SB-5	0.071		0.012	0.04	158	1.27	100	39	no
Thallium	7440-28-0	A11-037-SB-1	38.7		4.6	19.0	49	38.78		1.2	YES (NC)
Toluene	108-88-3	A11-024M-SB-15	207		0.0014	12.0	157	38.22		4,700	no
trans-1,2-Dichloroethene	156-60-5	A11-055-SB-5	0.016		0.016	0.02	158	0.63		2,300	no
Trichloroethene	79-01-6	A11-055-SB-5	0.11		0.0044	0.04	158	2.53	6	1.9	no
Vanadium	7440-62-2	A11-024S-SB-4	6,760		40	1,077	47	100.00		580	YES (NC)
Vinyl chloride	75-01-4	A11-055-SB-5	0.22		0.0067	0.06	158	2.53	1.7	37	no
Xylenes	1330-20-7	A11-024B-SB-5	234		0.003	13.8	158	33.54		250	no
Zinc	7440-66-6	A11-055-SB-5	4,390		27	475	47	100.00		35,000	no

J: The positive result reported for this analyte is a quantitative estimate.

COPC = Constituent of Potential Concern
TR = Target Risk
HQ = Hazard Quotient

C = Compound was identified as a cancer COPC
NC = Compound was identified as a non-cancer COPC

*PCBs (total) include the sum of all detected aroclor mixtures, including those without RSLs (e.g. Aroclor 1262, Aroclor 1268) which are not displayed.
^Lead is assessed separately through the ALM model.

Table 7 - Sub-Parcel A11-2
Assessment of Lead

Exposure Unit	Surface/Sub-Surface	Maximum Concentration (mg/kg)	Arithmetic Mean (mg/kg)
Site-Wide EU1 (33.4 ac.)	Surface	225	66.5
	Sub-Surface	3,560	325
	Pooled	3,560	209

Table 8 - Sub-Parcel A11-2
Soil Exposure Point Concentrations

	Site-Wide EU1 (33.4 ac.)					
	EPCs - Surface Soils		**EPCs - Sub-Surface Soils**		**EPCs - Pooled Soils**	
Parameter	EPC Type	EPC (mg/kg)	EPC Type	EPC (mg/kg)	EPC Type	EPC (mg/kg)
Arsenic	95% KM (t) UCL	4.77	95% GROS Adjusted Gamma UCL	10.8	95% KM (Chebyshev) UCL	9.63
Cobalt	95% KM (t) UCL	5.89	95% KM Adjusted Gamma UCL	15.4	KM H-UCL	10.2
Iron	95% Student's-t UCL	166,079	95% Adjusted Gamma UCL	116,179	95% Adjusted Gamma UCL	132,656
Manganese	95% Student's-t UCL	17,435	95% Adjusted Gamma UCL	12,092	95% Chebyshev (Mean, Sd) UCL	16,365
Thallium	95% KM (t) UCL	20.2	95% KM (t) UCL	10.1	95% KM (t) UCL	13.7
Vanadium	95% Adjusted Gamma UCL	2,192	95% Adjusted Gamma UCL	1,469	95% Adjusted Gamma UCL	1,506
1,1-Biphenyl	Gamma Adjusted KM-UCL	0.08	99% KM (Chebyshev) UCL	73.6	97.5% KM (Chebyshev) UCL	26.9
2-Methylnaphthalene	95% KM Adjusted Gamma UCL	0.06	95% KM (Chebyshev) UCL	96.9	95% KM (Chebyshev) UCL	81.7
Benzene	95% KM (t) UCL	0.004	99% KM (Chebyshev) UCL	92.7	99% KM (Chebyshev) UCL	78.0
Benz[a]anthracene	95% Adjusted Gamma UCL	0.70	95% KM (Chebyshev) UCL	305	95% KM (Chebyshev) UCL	257
Benzo[a]pyrene	95% Adjusted Gamma UCL	1.47	95% KM (Chebyshev) UCL	252	95% KM (Chebyshev) UCL	212
Benzo[b]fluoranthene	95% Adjusted Gamma UCL	1.95	95% KM (Chebyshev) UCL	613	95% KM (Chebyshev) UCL	516
Benzo[k]fluoranthene	Gamma Adjusted KM-UCL	1.28	95% KM (Chebyshev) UCL	490	95% KM (Chebyshev) UCL	412
Chrysene	95% Adjusted Gamma UCL	0.73	95% Chebyshev (Mean, Sd) UCL	244	95% Chebyshev (Mean, Sd) UCL	206
Dibenz[a,h]anthracene	Gamma Adjusted KM-UCL	0.27	95% KM (Chebyshev) UCL	25.3	95% KM (Chebyshev) UCL	21.3
Fluoranthene	95% Adjusted Gamma UCL	0.83	99% Chebyshev (Mean, Sd) UCL	1,724	95% Chebyshev (Mean, Sd) UCL	833
Fluorene	Gamma Adjusted KM-UCL	0.06	99% KM (Chebyshev) UCL	537	99% KM (Chebyshev) UCL	452
Indeno[1,2,3-c,d]pyrene	Gamma Adjusted KM-UCL	0.74	95% KM (Chebyshev) UCL	74.7	95% KM (Chebyshev) UCL	63.0
Naphthalene	KM H-UCL	0.19	99% KM (Chebyshev) UCL	2,659	99% KM (Chebyshev) UCL	2,240
Pyrene	95% Adjusted Gamma UCL	0.73	99% Chebyshev (Mean, Sd) UCL	1,168	95% Chebyshev (Mean, Sd) UCL	562

Table 9 - Sub-Parcel A11-2
Surface Soils
Composite Worker Risk Ratios

Parameter	Target Organs	Site-Wide EU1 (33.4 ac.)				
			Composite Worker			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	4.77	3.00	480	1.6E-06	0.01
Cobalt	**Thyroid**	5.89	1,900	350	3.1E-09	0.02
Iron	**Gastrointestinal**	166,079		820,000		0.2
Manganese	**Nervous**	17,435		26,000		0.7
Thallium	**Dermal**	20.2		12		2
Vanadium	**Dermal**	2,192		5,800		0.4
1,1-Biphenyl	**Urinary**	0.08	410	200	2.0E-10	0.0004
2-Methylnaphthalene	**Respiratory**	0.06		3,000		0.00002
Benzene	**Immune**	0.004	5.1	420	7.8E-10	0.00001
Benz[a]anthracene		0.70	21		3.3E-08	
Benzo[a]pyrene	**Developmental**	1.47	2.1	220	7.0E-07	0.007
Benzo[b]fluoranthene		1.95	21		9.3E-08	
Benzo[k]fluoranthene		1.28	210		6.1E-09	
Chrysene		0.73	2,100		3.5E-10	
Dibenz[a,h]anthracene		0.27	2.1		1.3E-07	
Fluoranthene	**Hepatic; Urinary**	0.83		30,000		0.00003
Fluorene	**Hematologic**	0.06		30,000		0.000002
Indeno[1,2,3-c,d]pyrene		0.74	21		3.5E-08	
Naphthalene	**Nervous; Respiratory**	0.19	8.6	590	2.2E-08	0.0003
Pyrene	**Urinary**	0.73		23,000		0.00003
					3E-06	↓

RSLs were obtained from the EPA Regional Screening Levels at
https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search
EPC: Exposure Point Concentration
HQ: Hazard Quotient
HI: Hazard Index

Total HI	Cardiovascular	0
	Dermal	2
	Thyroid	0
	Gastrointestinal	0
	Nervous	1
	Developmental	0
	Urinary	0
	Respiratory	0
	Hematologic	0
	Immune	0
	Hepatic	0

Table 10 - Sub-Parcel A11-2
Subsurface Soils
Composite Worker Risk Ratios

Parameter	Target Organs	Site-Wide EU1 (33.4 ac.)				
			Composite Worker			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	10.8	3.00	480	3.6E-06	0.02
Cobalt	**Thyroid**	15.4	1,900	350	8.1E-09	0.04
Iron	**Gastrointestinal**	116,179		820,000		0.1
Manganese	**Nervous**	12,092		26,000		0.5
Thallium	**Dermal**	10.1		12		0.8
Vanadium	**Dermal**	1,469		5,800		0.3
1,1-Biphenyl	**Urinary**	73.6	410	200	1.8E-07	0.4
2-Methylnaphthalene	**Respiratory**	96.9		3,000		0.03
Benzene	**Immune**	92.7	5.1	420	1.8E-05	0.2
Benz[a]anthracene		305	21		1.5E-05	
Benzo[a]pyrene	**Developmental**	252	2.1	220	1.2E-04	1
Benzo[b]fluoranthene		613	21		2.9E-05	
Benzo[k]fluoranthene		490	210		2.3E-06	
Chrysene		244	2,100		1.2E-07	
Dibenz[a,h]anthracene		25.3	2.1		1.2E-05	
Fluoranthene	**Hepatic; Urinary**	1,724		30,000		0.06
Fluorene	**Hematologic**	537		30,000		0.02
Indeno[1,2,3-c,d]pyrene		74.7	21		3.6E-06	
Naphthalene	**Nervous; Respiratory**	2,659	8.6	590	3.1E-04	5
Pyrene	**Urinary**	1,168		23,000		0.05
					5E-04	↓

RSLs were obtained from the EPA Regional Screening Levels at
https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search
EPC: Exposure Point Concentration
HQ: Hazard Quotient
HI: Hazard Index

Total HI	Cardiovascular	0
	Dermal	1
	Thyroid	0
	Gastrointestinal	0
	Nervous	5
	Developmental	1
	Urinary	0
	Respiratory	5
	Hematologic	0
	Immune	0
	Hepatic	0

Table 11 - Sub-Parcel A11-2
Pooled Soils
Composite Worker Risk Ratios

Parameter	Target Organs	Site-Wide EU1 (33.4 ac.)				
			Composite Worker			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	9.63	3.00	480	3.2E-06	0.02
Cobalt	**Thyroid**	10.2	1,900	350	5.4E-09	0.03
Iron	**Gastrointestinal**	132,656		820,000		0.2
Manganese	**Nervous**	16,365		26,000		0.6
Thallium	**Dermal**	13.7		12		1
Vanadium	**Dermal**	1,506		5,800		0.3
1,1-Biphenyl	**Urinary**	26.9	410	200	6.6E-08	0.1
2-Methylnaphthalene	**Respiratory**	81.7		3,000		0.03
Benzene	**Immune**	78.0	5.1	420	1.5E-05	0.2
Benz[a]anthracene		257	21		1.2E-05	
Benzo[a]pyrene	**Developmental**	212	2.1	220	1.0E-04	1
Benzo[b]fluoranthene		516	21		2.5E-05	
Benzo[k]fluoranthene		412	210		2.0E-06	
Chrysene		206	2,100		9.8E-08	
Dibenz[a,h]anthracene		21.3	2.1		1.0E-05	
Fluoranthene	**Hepatic; Urinary**	833		30,000		0.03
Fluorene	**Hematologic**	452		30,000		0.02
Indeno[1,2,3-c,d]pyrene		63.0	21		3.0E-06	
Naphthalene	**Nervous; Respiratory**	2,240	8.6	590	2.6E-04	4
Pyrene	**Urinary**	562		23,000		0.02
					4E-04	↓

RSLs were obtained from the EPA Regional Screening Levels at
https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search
EPC: Exposure Point Concentration
HQ: Hazard Quotient
HI: Hazard Index

Total HI	Cardiovascular	0
	Dermal	1
	Thyroid	0
	Gastrointestinal	0
	Nervous	4
	Developmental	1
	Urinary	0
	Respiratory	4
	Hematologic	0
	Immune	0
	Hepatic	0

Table 12 - Sub-Parcel A11-2
Surface Soils
Construction Worker Risk Ratios

1 Day		Site-Wide EU1 (33.4 ac.)				
			Construction Worker			
			SSLs (mg/kg)		Risk Ratios	
Parameter	Target Organs	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	Cardiovascular; Dermal	4.77	3,782	24,083	1.3E-09	0.0002
Cobalt	Thyroid	5.89	1,122,584	236,599	5.2E-12	0.00002
Iron	Gastrointestinal	166,079		60,135,334		0.003
Manganese	Nervous	17,435		1,038,824		0.02
Thallium	Dermal	20.2		3,436		0.006
Vanadium	Dermal	2,192		399,453		0.005
1,1-Biphenyl	Urinary	0.08	751,692	1,604	1.1E-13	0.00005
2-Methylnaphthalene	Respiratory	0.06		254,633		0.0000002
Benzene	Immune	0.004	114	1,016	3.5E-11	0.000004
Benz[a]anthracene		0.70	13,143		5.3E-11	
Benzo[a]pyrene	Developmental	1.47	3,075	169	4.8E-10	0.009
Benzo[b]fluoranthene		1.95	29,746		6.6E-11	
Benzo[k]fluoranthene		1.28	300,384		4.3E-12	
Chrysene		0.73	1,697,895		4.3E-13	
Dibenz[a,h]anthracene		0.27	4,455		6.1E-11	
Fluoranthene	Hepatic; Urinary	0.83		2,546,327		0.0000003
Fluorene	Hematologic	0.06		2,546,327		0.00000002
Indeno[1,2,3-c,d]pyrene		0.74	36,559		2.0E-11	
Naphthalene	Nervous; Respiratory	0.19	335	493	5.7E-10	0.0004
Pyrene	Urinary	0.73		1,909,745		0.0000004
					3E-09	↓

SSLs calculated using equations in 2002 EPA Supplemental Guidance
Guidance Equation Input Assumptions:
5 cars/day (2 tons/car)
5 trucks/day (20 tons/truck)
3 meter source depth thickness
EPC: Exposure Point Concentration
HQ: Hazard Quotient
HI: Hazard Index

Total HI	Cardiovascular	0
	Dermal	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	0
	Developmental	0
	Urinary	0
	Respiratory	0
	Hematologic	0
	Immune	0
	Hepatic	0

Table 13 - Sub-Parcel A11-2
Subsurface Soils
Construction Worker Risk Ratios

1 Day		Site-Wide EU1 (33.4 ac.)				
			Construction Worker			
			SSLs (mg/kg)		Risk Ratios	
Parameter	Target Organs	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	Cardiovascular; Dermal	10.8	3,782	24,083	2.9E-09	0.0004
Cobalt	Thyroid	15.4	1,122,584	236,599	1.4E-11	0.00007
Iron	Gastrointestinal	116,179		60,135,334		0.002
Manganese	Nervous	12,092		1,038,824		0.01
Thallium	Dermal	10.1		3,436		0.003
Vanadium	Dermal	1,469		399,453		0.004
1,1-Biphenyl	Urinary	73.6	751,692	1,604	9.8E-11	0.05
2-Methylnaphthalene	Respiratory	96.9		254,633		0.0004
Benzene	Immune	92.7	114	1,016	8.1E-07	0.09
Benz[a]anthracene		305	13,143		2.3E-08	
Benzo[a]pyrene	Developmental	252	3,075	169	8.2E-08	1
Benzo[b]fluoranthene		613	29,746		2.1E-08	
Benzo[k]fluoranthene		490	300,384		1.6E-09	
Chrysene		244	1,697,895		1.4E-10	
Dibenz[a,h]anthracene		25.3	4,455		5.7E-09	
Fluoranthene	Hepatic; Urinary	1,724		2,546,327		0.0007
Fluorene	Hematologic	537		2,546,327		0.0002
Indeno[1,2,3-c,d]pyrene		74.7	36,559		2.0E-09	
Naphthalene	Nervous; Respiratory	2,659	335	493	7.9E-06	5
Pyrene	Urinary	1,168		1,909,745		0.0006
					9E-06	↓

SSLs calculated using equations in 2002 EPA Supplemental Guidance
Guidance Equation Input Assumptions:
5 cars/day (2 tons/car)
5 trucks/day (20 tons/truck)
3 meter source depth thickness
EPC: Exposure Point Concentration
HQ: Hazard Quotient
HI: Hazard Index

Total HI	Cardiovascular	0
	Dermal	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	5
	Developmental	1
	Urinary	0
	Respiratory	5
	Hematologic	0
	Immune	0
	Hepatic	0

Table 14 - Sub-Parcel A11-2
Pooled Soils
Construction Worker Risk Ratios

1 Day		Site-Wide EU1 (33.4 ac.)				
			Construction Worker			
			SSLs (mg/kg)		Risk Ratios	
Parameter	Target Organs	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	Cardiovascular; Dermal	9.63	3,782	24,083	2.5E-09	0.0004
Cobalt	Thyroid	10.2	1,122,584	236,599	9.1E-12	0.00004
Iron	Gastrointestinal	132,656		60,135,334		0.002
Manganese	Nervous	16,365		1,038,824		0.02
Thallium	Dermal	13.7		3,436		0.004
Vanadium	Dermal	1,506		399,453		0.004
1,1-Biphenyl	Urinary	26.9	751,692	1,604	3.6E-11	0.02
2-Methylnaphthalene	Respiratory	81.7		254,633		0.0003
Benzene	Immune	78.0	114	1,016	6.8E-07	0.08
Benz[a]anthracene		257	13,143		2.0E-08	
Benzo[a]pyrene	Developmental	212	3,075	169	6.9E-08	1
Benzo[b]fluoranthene		516	29,746		1.7E-08	
Benzo[k]fluoranthene		412	300,384		1.4E-09	
Chrysene		206	1,697,895		1.2E-10	
Dibenz[a,h]anthracene		21.3	4,455		4.8E-09	
Fluoranthene	Hepatic; Urinary	833		2,546,327		0.0003
Fluorene	Hematologic	452		2,546,327		0.0002
Indeno[1,2,3-c,d]pyrene		63.0	36,559		1.7E-09	
Naphthalene	Nervous; Respiratory	2,240	335	493	6.7E-06	5
Pyrene	Urinary	562		1,909,745		0.0003
					7E-06	↓

SSLs calculated using equations in 2002 EPA Supplemental Guidance
Guidance Equation Input Assumptions:
5 cars/day (2 tons/car)
5 trucks/day (20 tons/truck)
3 meter source depth thickness
EPC: Exposure Point Concentration
HQ: Hazard Quotient
HI: Hazard Index

Total HI	Cardiovascular	0
	Dermal	0
	Thyroid	0
	Gastrointestinal	0
	Nervous	5
	Developmental	1
	Urinary	0
	Respiratory	5
	Hematologic	0
	Immune	0
	Hepatic	0

APPENDIX A

TRADEPOINT
ATLANTIC
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219

February 22, 2021

Maryland Department of Environment
1800 Washington Boulevard
Baltimore MD, 21230

Attention: Ms. Barbara Brown

Subject: Request to Enter Temporary CHS Review
Tradepoint Atlantic Parcel A11-2

Dear Ms. Brown:

The conduct of any environmental assessment and cleanup activities on the Tradepoint Atlantic property, as well as any associated development, is subject to the requirements outlined in the following agreements:

- Administrative Consent Order (ACO) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the Maryland Department of the Environment (effective September 12, 2014); and
- Settlement Agreement and Covenant Not to Sue (SA) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the United States Environmental Protection Agency (effective November 25, 2014).

On September 11, 2014, Tradepoint Atlantic submitted an application to the Maryland Department of the Environment's (Department) Voluntary Cleanup Program (VCP).

In consultation with the Department, Tradepoint Atlantic affirms that it desires to accelerate the assessment, remediation and redevelopment of certain sub-parcels within the larger site due to current market conditions. To that end, the Department and Tradepoint Atlantic agree that the Controlled Hazardous Substance (CHS) Act (Section 7-222 of the Environment Article) and the CHS Response Plan (COMAR 26.14.02) shall serve as the governing statutory and regulatory authority for completing the development activities on Sub-Parcel A11-2 and complement the statutory requirements of the Voluntary Cleanup Program (Section 7-501 of the Environment Article). Upon submission of a Site Response and Development Work Plan and completion of the remedial activities for the sub-parcel, the Department shall issue a "No Further Action" letter upon a recordation of an environmental covenant describing any necessary land use controls for the specific sub-parcel. At such time that all the sub-parcels within the larger parcel have completed remedial activities, Tradepoint Atlantic shall submit to the Department a request for issuing a Certificate of Completion (COC) as well as all pertinent information concerning completion of remedial activities conducted on the parcel. Once the VCP has completed its review of the

TRADEPOINT
ATLANTIC
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219

submitted information it shall issue a COC for the entire parcel described in Tradepoint Atlantic's VCP application.

Alternatively, Tradepoint Atlantic or other entity may elect to submit an application for a specific sub-parcel and submit it to the VCP for review and acceptance. If the application is received after the cleanup and redevelopment activities described in this work plan are implemented and a No Further Action letter is issued by the Department pursuant to the CHS Act, the VCP shall prepare a No Further Requirements Determination for the sub-parcel.

If Tradepoint Atlantic or other entity has not carried out cleanup and redevelopment activities described in the work plan, the cleanup and redevelopment activities may be conducted under the oversight authority of either the VCP or the CHS Act, so long as those activities comport with this work plan.

Engineering and institutional controls approved as part of this Site Response and Development Work Plan shall be described in documentation submitted to the Department demonstrating that the exposure pathways on the sub-parcel are addressed in a manner that protects public health and the environment. This information shall support Tradepoint Atlantic's request for the issuance of a COC for the larger parcel.

Please do not hesitate to contact Tradepoint Atlantic for further information.

Thank you,

Peter Haid

Vice President Environmental
TRADEPOINT ATLANTIC
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219
T 443.649.5055 C 732.841.7935
phaid@tradepointatlantic.com

APPENDIX B

Construction Worker Soil Screening Levels
Maximum Allowable Work Day Exposure
Calculation Spreadsheet - Sub-Parcel A11-2

Description	Variable	Value
Days worked per week	DW	5
Exposure duration (yr)	ED	1
Hours worked per day	ET	8
A/constant (unitless) - particulate emission factor	Aconst	12.9351
B/constant (unitless) - particulate emission factor	Bconst	5.7383
C/constant (unitless) - particulate emission factor	Cconst	71.7711
Dispersion correction factor (unitless)	FD	0.185
Days per year with at least .01" precipitation	P	130
Target hazard quotient (unitless)	THQ	1
Body weight (kg)	BW	80
Averaging time - noncancer (yr)	ATnc	1
Soil ingestion rate (mg/d)	IR	330
Skin-soil adherence factor (mg/cm2)	AF	0.3
Skin surface exposed (cm2)	SA	3300
Event frequency (ev/day)	EV	1
Target cancer risk (unitless)	TR	01E-06
Averaging time - cancer (yr)	ATc	70
A/constant (unitless) - volatilization	Aconstv	2.4538
B/constant (unitless) - volatilization	Bconstv	17.566
C/constant (unitless) - volatilization	Cconstv	189.0426
Dry soil bulk density (kg/L)	Pb	1.5
Average source depth (m)	ds	3
Soil particle density (g/cm3)	Ps	2.65
Total soil porosity	Lpore/Lsoil	0.43
Air-filled soil porosity	Lair/Lsoil	0.28

Construction Worker Soil Screening Levels
Maximum Allowable Work Day Exposure
Calculation Spreadsheet - Sub-Parcel A11-2

Area of site (ac)	Ac	33.4	→ EU1
Overall duration of construction (wk/yr)	EW	0.2	
Exposure frequency (day/yr)	EF	**1**	
Cars per day	Ca	5	
Tons per car	CaT	2	
Trucks per day	Tru	5	
Tons per truck	TrT	20	
Mean vehicle weight (tons)	w	**11**	
Derivation of dispersion factor - particulate emission factor (g/m2-s per kg/m3)	Q/Csr	**13.9**	
Overall duration of construction (hr)	tc	**34**	
Overall duration of traffic (s)	Tt	**28,800**	
Surface area (m2)	AR	**135,165**	
Length (m)	LR	**368**	
Distance traveled (km)	ΣVKT	**4**	
Particulate emission factor (m3/kg)	PEFsc	**131,810,239**	
Derivation of dispersion factor - volatilization (g/m2-s per kg/m3)	Q/Csa	**6.98**	
Total time of construction (s)	Tcv	**28,800**	

Input
Calculation

Chemical	RfD & RfC Sources	^Ingestion SF $(mg/kg\text{-}day)^{-1}$	^Inhalation Unit Risk $(ug/m^3)^{-1}$	^Subchronic RfD (mg/kg-day)	^Subchronic RfC (mg/m^3)	^GIABS	Dermally Adjusted RfD (mg/kg-day)	^ABS	^RBA	*Dia	*Diw	*Henry's Law Constant (unitless)	*Kd	*Koc	DA	Volatilization Factor - Unlimited Reservoir (m^3/kg)	Carcinogenic Ingestion/ Dermal SL (SLing/der)	Carcinogenic Inhalation SL (SLinh)	Carcinogenic SL (mg/kg)	Non-Carcinogenic Ingestion/ Dermal SL (SLing/der)	Non-Carcinogenic Inhalation SL (SLinh)	Non-Carcinogenic SL (mg/kg)
Arsenic, Inorganic	I/C	1.50E+00	4.30E-03	3.00E-04	1.50E-05	1	3.00E-04	0.03	0.6			-	2.90E+01				3,788	2,349,594	3,782	24,354	2,164,983	24,083
Cobalt	P	-	9.00E-03	3.00E-03	2.00E-05	1	3.00E-03	**0.01**	1			-	4.50E+01					1,122,584	1,122,584	257,723	2,886,644	236,599
Iron	P	-	-	7.00E-01	-	1	7.00E-01	**0.01**	1			-	2.50E+01							60,135,334		60,135,334
Manganese (Non-diet)	I	-	-	2.40E-02	5.00E-05	0.04	9.60E-04	**0.01**	1			-	6.50E+01							1,213,506	7,216,611	1,038,824
Thallium (Soluble Salts)	P	-	-	4.00E-05	-	1	4.00E-05	**0.01**	1			-	7.10E+01							3,436		3,436
Vanadium and Compounds	A	-	-	1.00E-02	1.00E-04	0.026	2.60E-04	**0.01**	1			-	1.00E+03							410,823	14,433,221	399,453
1,1-Biphenyl	P	8.00E-03	-	1.00E-01	4.00E-03	1	1.00E-01	**0.01**	1	4.70E-02	7.60E-06	1.30E-02	3.06E+01	5.10E+03	1.07E-06	3.66E+2	751,692		751,692	8,590,762	1,604	1,604
2-Methylnaphthalene	I	-	-	4.00E-03	-	1	4.00E-03	0.13	1	5.20E-02	7.80E-06	2.10E-02	1.50E+01	2.50E+03	3.87E-06	1.92E+2				254,633		254,633
Benzene	P	5.50E-02	7.80E-06	1.00E-02	8.00E-02	1	1.00E-02	**0.01**	1	9.00E-02	1.00E-05	2.30E-01	9.00E-01	1.50E+02	1.06E-03	1.16E+1	109,337	114	114	859,076	1,017	1,016
Benz[a]anthracene	I	1.00E-01	6.00E-05	-	-	1		0.13	1	2.60E-02	6.70E-06	4.91E-04	1.08E+03	1.80E+05	6.71E-10	1.46E+4	44,561	18,642	13,143			
Benzo[a]pyrene	I	1.00E+00	6.00E-04	3.00E-04	2.00E-06	1	3.00E-04	0.13	1	4.80E-02	5.60E-06	1.87E-05	3.54E+03	5.90E+05	2.37E-11	7.77E+4	4,456	9,924	3,075	19,097	170	169
Benzo[b]fluoranthene	I	1.00E-01	6.00E-05	-	-	1		0.13	1	4.80E-02	5.60E-06	2.69E-05	3.60E+03	6.00E+05	2.91E-11	7.01E+4	44,561	89,471	29,746			
Benzo[k]fluoranthene	I	1.00E-02	6.00E-06	-	-	1		0.13	1	4.80E-02	5.60E-06	2.39E-05	3.54E+03	5.90E+05	2.74E-11	7.22E+4	445,607	921,711	300,384			
Chrysene	I	1.00E-03	6.00E-07	-	-	1		0.13	1	2.60E-02	6.70E-06	2.10E-04	1.08E+03	1.80E+05	3.10E-10	2.15E+4	4,456,072	2,743,095	1,697,895			
Dibenz[a,h]anthracene	I	1.00E+00	6.00E-04	-	-	1		0.13	1	4.50E-02	5.20E-06	5.76E-06	1.14E+04	1.90E+06	4.13E-12	1.86E+5	4456	16,838,758	4,455			
Fluoranthene	I	-	-	4.00E-02	-	1	4.00E-02	0.13	1	2.80E-02	7.20E-06	3.60E-04	3.30E+02	5.50E+04	1.77E-09	8.98E+3				2,546,327		2,546,327
Fluorene	I	-	-	4.00E-02	-	1	4.00E-02	0.13	1	4.40E-02	7.90E-06	3.90E-03	5.52E+01	9.20E+03	1.67E-07	9.26E+2				2,546,327		2,546,327
Indeno[1,2,3-c,d]pyrene	I	1.00E-01	6.00E-05	-	-	1		0.13	1	4.50E-02	5.20E-06	1.42E-05	1.20E+04	2.00E+06	5.62E-12	1.60E+5	44,561	203,594	36,559			
Naphthalene	C/I/A	1.20E-01	3.40E-05	2.00E-02	3.00E-03	1	2.00E-02	0.13	1	6.00E-02	8.40E-06	1.80E-02	9.00E+00	1.50E+03	6.35E-06	1.50E+2	37,134	338	335	1,273,163	493	493
Pyrene	I	-	-	3.00E-02	-	1	3.00E-02	0.13	1	2.80E-02	7.20E-06	4.90E-04	3.24E+02	5.40E+04	2.41E-09	7.71E+3				1,909,745		1,909,745

*chemical specific parameters found in Chemical Specific Parameters Spreadsheet at https://www.epa.gov/risk/regional-screening-levels-rsls
^chemical specific parameters found in Unpaved Road Traffic calculator at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search
I: chemical specific parameters found in the IRIS at https://www.epa.gov/iris
C: chemical specific parameters found in Cal EPA at https://www.dtsc.ca.gov/AssessingRisk
A: chemical specific parameters found in Agency for Toxic Substances and Disease Registry Minimal Risk Levels (MRLs) at https://www.atsdr.cdc.gov/mrls/pdfs/atsdr_mrls.pdf
P: chemical specific parameters found in the Database of EPA PPRTVs at https://hhpprtv.ornl.gov/quickview/pprtv.php

APPENDIX C

Sparrows Point Development - PPE Standard Operational Procedure, Revision 3

Planning, Tracking/Supervision, Enforcement, and Documentation

Planning

- Response and Development Work Plan (RDWP) for each individual redevelopment sub-parcel identifies and documents site conditions.
- RDWP is reviewed and approved by regulators.
- Contractor HASP to address site-specific conditions and PPE requirements:
    - Contractor H&S professional to sign-off on PPE requirements for site workers;
    - Job Safety Analysis (JSA) to be performed for ground intrusive work.
- Project Environmental Professional (EP) assigned to each construction project – monitors project during environmentally sensitive project phases and is available to construction contractor on an as needed basis. EP responsibilities include the following:
    - Dust monitoring
    - Routine ground intrusive breathing space air monitoring
    - Soil tracking
    - Water handling oversight
    - Ground intrusive work observation
    - Notification for unexpected conditions
- Pre-construction meeting identifies EP roles and responsibilities and reviews site conditions.
- Contractor to perform job-site HazCom. HazCom to be addressed in Contractor HASP and include:
    - PPE requirements,
    - Exposure time limits,
    - Identification of chemicals of concern and potential effects of over-exposure (adverse reactions),
    - Methods and routes of potential exposure.
- All personnel that will be performing ground intrusive work within impacted soils shall sign-off on HazCom.
- If, based on a thorough review of Site conditions, it is expected that construction workers will have the potential to encounter materials considered hazardous waste under RCRA or DOT regulations, HAZWOPER-trained personnel will be utilized.

Tracking/Supervision

- Contractor to record any day that there is ground intrusive work and confirm that proper PPE is being worn.
- EP will note ground intrusive work on daily work sheets and perform at least one spot check per day.
- EP will log on daily work sheets PPE compliance for all intrusive work areas at least once per day.

- EP to take example photos of Exclusion Zones/Contamination Reduction Zones periodically.

Work Zones Delineation

- Exclusion Zone – The Exclusion Zones will include the areas proposed for excavation or with active trenches, excavations, or ground intrusive work, at a minimum. Personnel working within the exclusion zone will be required to wear Modified Level D PPE as described in this SOP. EP to take example photos of Exclusion Zones/Contamination Reduction Zones periodically. The Exclusion Zones will be identified each work day.
- Contamination Reduction Zone – This work zone is located outside of the exclusion zone, but inside of the limits of development (LOD). The Contamination Reduction Zone will be located adjacent to the Exclusion Zone, and all personal decontamination including removal of all disposable PPE/removal of soil from boots will be completed in the Contamination Reduction Zone.

Documentation

- Contractor HASP and HazCom.
- Contractor ground intrusive tracking record.
- HASP and HazCom sign-in sheets.
- EP pre-con memos.
- EP daily work sheets.
- Records documenting intrusive work and proper PPE use to be provided in completion report.

Enforcement

- Non-compliance of PPE requirements will result in disciplinary action up to and including prohibition from working on Sparrows Point.

Unknown and/or Unexpected Conditions

If unknown and/or unexpected conditions are encountered during the project that the EP determines to have a reasonable potential to significantly impact construction worker health and safety, the following will be initiated:

1. Job stoppage,
2. TPA and MDE notification,
3. Re-assessment of conditions.

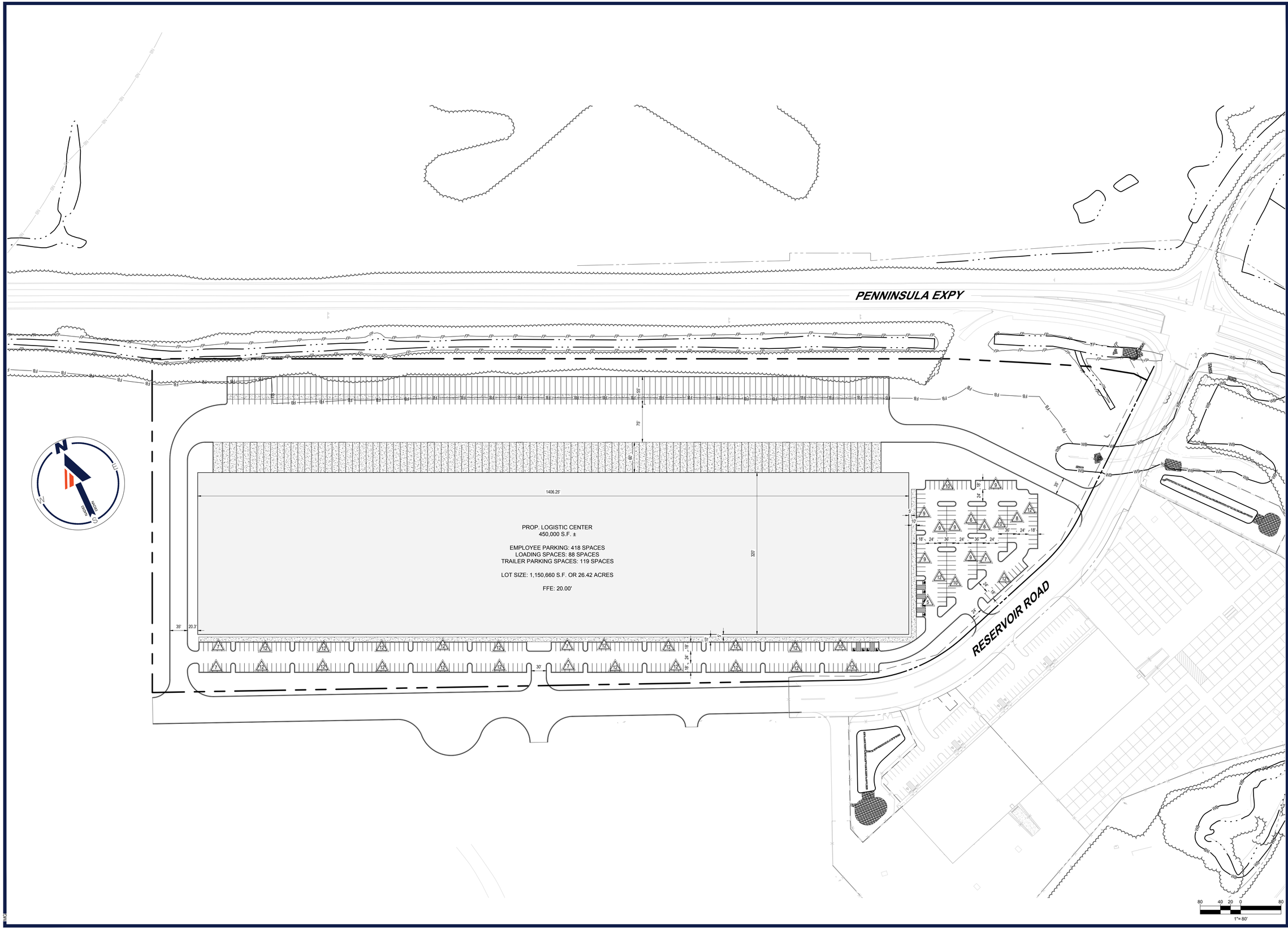
Work will not continue until EP has cleared the area. If hazardous waste is identified, a HAZWOPER contractor will be brought in to address. The approved contingency plan will be implemented, where appropriate.

Modified Level D PPE

Modified Level D PPE will include, at a minimum, overalls such as polyethylene-coated Tyvek or clean washable cloth overalls, latex (or similar) disposable gloves (when working in wet/chemical surroundings) or work gloves, steel-toe/steel-shank high ankle work boots with taped chemical-protective over-boots (as necessary), dust mask, hard hat, safety glasses with

side shields, and hearing protection (as necessary). If chemical-protective over-boots create increased slip/trip/fall hazardous, then standard leather or rubber work boots could be used, but visible soils from the sides and bottoms of the boots must be removed upon exiting the Exclusion Zone.

APPENDIX D



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REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE

PROJECT No.:	MD16206644
DRAWN BY:	MJG
CHECKED BY:	MJG
DATE:	12/13/21
CAD I.D.:	MD16206644-CPA-0

PROJECT:

PROJECT STINGRAY

FOR

TRADEPOINT ATLANTIC

1940 RESERVOIR ROAD
BALTIMORE, MD 21219
TM 111, GRID 14, PARCEL 318
ELECTION DISTRICT 15
COUNCILMANIC DISTRICT 7
BALTIMORE COUNTY

BOHLER

901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

M.J. GESELL

PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 44097
PROFESSIONAL CERTIFICATION
I, MICHAEL J. GESELL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44097, EXPIRATION DATE: 6/9/23

SHEET TITLE:

CONCEPT PLAN

SHEET NUMBER:

C-301

ORG. DATE - 12/13/21

STANDARD DRAWING LEGEND

FOR ENTIRE PLAN SET

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
LIMIT OF WORK — LOW — LOW		
LIMIT OF DISTURBANCE — LOD — LOD		
	ONSITE PROPERTY LINE / R.O.W. LINE	
	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CONCRETE CURB & GUTTER	CURB AND GUTTER; SPILL; TRANSITION; DEPRESSED CURB AND GUTTER
	UTILITY POLE WITH LIGHT	
	POLE LIGHT	
	TRAFFIC LIGHT	
	UTILITY POLE	
	TYPICAL LIGHT	
	ACORN LIGHT	
	TYPICAL SIGN	
	PARKING COUNTS	
170 / 169	CONTOUR LINE	190 / 187
TC 516.4 OR 516.4	SPOT ELEVATIONS	TC 516.00; TC 516.00 BC 515.55; MATCH EX 518.02 ±
SAN #	SANITARY LABEL	SAN #
STORM #	STORM LABEL	STORM #
SL	SANITARY SEWER LATERAL	SL
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
G	UNDERGROUND GAS LINE	G
OH	OVERHEAD WIRE	OH
T	UNDERGROUND TELEPHONE LINE	T
C	UNDERGROUND CABLE LINE	C
	STORM SEWER	
S	SANITARY SEWER MAIN	S
	HYDRANT	
S	SANITARY MANHOLE	
D	STORM MANHOLE	
WM	WATER METER	
WV	WATER VALVE	
	GAS VALVE	
	GAS METER	
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	GRATE INLET	
	CURB INLET	
	CLEAN OUT	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
EB	ELECTRIC BOX	EB
EP	ELECTRIC PEDESTAL	EP
	MONITORING WELL	
	TEST PIT	
	BENCHMARK	
	BORING	

STANDARD ABBREVIATIONS

FOR ENTIRE PLAN SET

AC	ACRES
ADA	AMERICANS WITH DISABILITY ACT
ARCH	ARCHITECTURAL
BC	BOTTOM OF CURB
BF	BASEMENT FLOOR
BK	BLOCK
BL	BASELINE
BLDG	BUILDING
BM	BUILDING BENCHMARK
BRL	BUILDING RESTRICTION LINE
CF	CUBIC FEET
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONN	CONNECTION
CONC	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CY	CUBIC YARDS
DEC	DECORATIVE
DEP	DEPRESSED
DIP	DUCTILE IRON PIPE
DOM	DOMESTIC
ELEC	ELECTRIC
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
EW	END WALL
EX	EXISTING
FES	FLARED END SECTION
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FG	FINISHED GRADE
G	GRADE
GF	GARAGE FLOOR (AT DOOR)
GH	GRADE HIGHER SIDE OF WALL
GL	GRADE LOWER SIDE OF WALL
GRT	GRATE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HOR	HORIZONTAL
HW	HEADWALL
INT	INTERSECTION
INV	INVERT
LF	LINEAR FOOT
LOC	LIMITS OF CLEARING
LOD	LIMITS OF DISTURBANCE
LOS	LINE OF SIGHT
LP	LOW POINT
L/S	LANDSCAPE
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
MJ	MECHANICAL JOINT
OC	ON CENTER
PA	POINT OF ANALYSIS
PC	POINT CURVATURE
PCCR	POINT OF COMPOUND CURVATURE, CURB RETURN
PI	POINT OF INTERSECTION
POG	POINT OF GRADE
PROP	PROPOSED
PT	POINT OF TANGENCY
PTCR	POINT OF TANGENCY, CURB RETURN
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RET WALL	RETAINING WALL
R/W	RIGHT OF WAY
S	SLOPE
SAN	SANITARY SEWER
SF	SQUARE FEET
STA	STATION
STM	STORM
S/W	SIDEWALK
TBR	TO BE REMOVED
TBRL	TO BE RELOCATED
TC	TOP OF CURB
TELE	TELEPHONE
TPF	TREE PROTECTION FENCE
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UP	UTILITY POLE
W	WIDE
W/L	WATER LINE
W/M	WATER METER
±	PLUS OR MINUS
°	DEGREE
Ø	DIAMETER
#	NUMBER

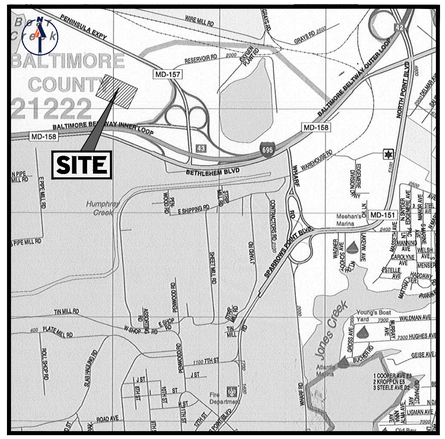
CONSTRUCTION DOCUMENTS

FOR

TRADEPOINT ATLANTIC

PROJECT STINGRAY JR.

LOCATION OF SITE
1940 RESERVOIR ROAD
BALTIMORE, MD 21219
15TH ELECTION DISTRICT
7TH COUNCILMANIC DISTRICT
TAX MAP 111, GRID 14, PARCEL 318
BALTIMORE COUNTY



LOCATION MAP
COPYRIGHT ADC THE MAP PEOPLE
PERMIT USE NO. 20602153-5
SCALE: 1"=2000'

REFERENCES

- EXISTING CONDITIONS
  CAD FILES PROVIDED BY TRADEPOINT ATLANTIC
  ENTITLED: "BASE - UTILITIES", "BASE - TOPO", "BASE - PLANOMETRICS"
  RECEIVED: 5/27/16
- GEOTECHNICAL REPORT
  ENTITLED: "GEOTECHNICAL ENGINEERING STUDY; TPA A-11 BUILDING 1; TRADEPOINT ATLANTIC; BALTIMORE COUNTY, MARYLAND; HILLIS-CARNES PROJECT NO. 21490A"
  PREPARED BY: HILLIS-CARNES ENGINEERING ASSOCIATES
  DATE: 3/4/22
- RESERVOIR ROAD PUBLIC ROAD PLANS
  ENTITLED: "ROAD PLAN AND PROFILE; RESERVOIR ROAD; FROM PENINSULA EXPRESSWAY (MD 157) TO 1,190' WESTERLY"
  PREPARED BY: MORRIS AND RITCHIE ASSOCIATES, INC.
  DATE: 8/25/21

UTILITY CONTACTS

- WATER AND SEWER
  BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS
  111 WEST CHESAPEAKE AVENUE
  TOWSON, MD 21204
  CONTACT: D'ANDREA WALKER
  PHONE: (410) 887-3306
- GAS AND ELECTRIC:
  BGE
  1068 N. FRONT ST. ROOM 401
  BALTIMORE, MD 21202
  PHONE: (410) 850-4620
- CABLE:
  COMCAST BUSINESS SERVICES
  5001 METRO DRIVE
  BALTIMORE, MD 21215
  PHONE: (800) 391-3000
- TELEPHONE
  VERIZON
  99 SHAWAN ROAD
  COCKEYSVILLE, MD 21030
  PHONE: (410) 393-5793
- STORM DRAIN:
  BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS
  111 WEST CHESAPEAKE AVENUE
  TOWSON, MD 21204
  CONTACT: D'ANDREA WALKER
  PHONE: (410) 887-3306

GOVERNING AGENCIES

- BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS
  111 WEST CHESAPEAKE AVENUE
  TOWSON, MD 21204
  CONTACT: D'ANDREA WALKER
  PHONE: (410) 887-3306
- MARYLAND DEPARTMENT OF THE ENVIRONMENT
  1800 WASHINGTON BOULEVARD
  BALTIMORE, MD 21230
  CONTACT: DANIEL LAIRD, P.E.
  PHONE: (410) 537-4311
- BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
  111 WEST CHESAPEAKE AVENUE, ROOM 319
  TOWSON, MD 21204
  CONTACT: KRITTY UDHIN, P.E.
  PHONE: (410) 887-4488
- BALTIMORE COUNTY DEPARTMENT OF DEVELOPMENT MANAGEMENT
  111 WEST CHESAPEAKE AVENUE
  TOWSON, MD 21204
  CONTACT: LLOYD MOXLEY
  PHONE: (410) 887-3321

SHEET INDEX

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GRADING PLAN	C-401
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STORM STRUCTURE SCHEDULE	C-404
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SANITARY SEWER PROFILE	C-802
WATERLINE PROFILES	C-803 - C-804
SITE DETAILS	C-901

OWNERS
TPA PROPERTIES 4, LLC.
TPA PROPERTIES 6, LLC.
TPA PROPERTIES 23, LLC.
1600 SPARROWS POINT BLVD
BALTIMORE, MD 21219
CONTACT: MIKE HURWITZ
PHONE: 410-935-4443

DEVELOPER
TRADEPOINT DEVELOPMENT, LLC
1600 SPARROWS POINT BLVD
BALTIMORE, MD 21219
CONTACT: MIKE HURWITZ
PHONE: 410-935-4443

BOHLER

CONTACT: MICHAEL J. GESELL, P.E.

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT. WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

ELEVATIONS BASED ON NAVD 88, COORDINATES AND MERIDIAN ARE BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) PER MONUMENTS BCO #1433 AND GIS 2

TRACKING # DRC-XXX-XXXX; DRC# XXXXXXX; DIST XX

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL SERVICES
PERMITTING SERVICES
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REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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PROJECT No.:	MDA220065.00
DRAWN BY:	DMD
CHECKED BY:	MJG
DATE:	4/24/22
CAD I.D.:	MDA220065.00 - CNDS - 0

PROJECT:

CONSTRUCTION DOCUMENTS

FOR

TRADEPOINT ATLANTIC

1940 RESERVOIR ROAD
BALTIMORE, MD 21219
15TH ELECTION DISTRICT
7TH COUNCILMANIC DISTRICT
TAX MAP 111, GRID 14, PARCEL 318
BALTIMORE COUNTY

BOHLER
901 DULANEY VALLEY ROAD, SUITE 801
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M.J. GESELL
PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 44097
PROFESSIONAL CERTIFICATION
I, MICHAEL J. GESELL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44097, EXPIRATION DATE: 6/9/23

SHEET TITLE:

COVER SHEET

SHEET NUMBER:

C-101

ORG. DATE - 4/25/22

May 02, 2022
H:\2022\MDA220065.00\CAD\DRAWINGS\PLAN SETS\CONSTRUCTION DOCUMENTS\MDA220065.00 - CNDS - 0---LAYOUT C-101 - COVER

GENERAL NOTES

(Rev. 2/2021)

1. THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING, VA, LLC (HEREIN "BOHLER") PRIOR TO THE DATE ON WHICH THE ENGINEER OF RECORD AND BOHLER PREPARED THESE PLANS. THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS AND IMMEDIATELY NOTIFY BOHLER , IN WRITING, IF ANY ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.
2. THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL SPECIFICATIONS/REPORTS CONTAINED HEREIN. THE CONTRACTOR MUST ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS, THESE NOTES, AND THE REQUIREMENTS ARTICULATED IN THE NOTES CONTAINED IN ALL THE OTHER DRAWINGS THAT COMPRISE THE PLAN SET OF DRAWINGS. ADDITIONAL NOTES AND SPECIFIC PLAN NOTES MAY BE FOUND ON THE INDIVIDUAL PLANS. THESE GENERAL NOTES APPLY TO THIS ENTIRE DOCUMENT PACKAGE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE, PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION.
3. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST CONFIRM WITH THE ENGINEER OF RECORD AND BOHLER THAT THE LATEST EDITION OF THE DOCUMENTS AND/OR REPORTS REFERENCED WITHIN THE PLAN REFERENCES ARE BEING USED FOR CONSTRUCTION. THIS IS THE CONTRACTOR'S SOLE AND COMPLETE RESPONSIBILITY.
4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION IS TO BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE CONDITIONS OF APPROVAL TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND HAS ALSO CONFIRMED THAT ALL NECESSARY AND REQUIRED PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
5. THE CONTRACTOR MUST ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS/REPORTS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT, AND ALL PROVISIONS IN AND CONDITIONS OF THE CONSTRUCTION CONTRACT WITH THE OWNER/DEVELOPER INCLUDING ALL EXHIBITS, ATTACHMENTS AND ADDENDA TO SAME.
6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFULLY REVIEWING THE MOST CURRENT ARCHITECTURAL, CIVIL AND STRUCTURAL CONSTRUCTION DOCUMENTS (INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLANS, WHERE APPLICABLE). THE CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND ENGINEER OF RECORD AND BOHLER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST BETWEEN THESE PLANS AND ANY OTHER PLANS THAT COMPRISE THE CONSTRUCTION DOCUMENTS.
7. CONTRACTOR MUST REFER TO AND ENSURE COMPLIANCE WITH THE APPROVED ARCHITECTURAL/BUILDING PLANS OF RECORD FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.
8. THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MEASUREMENTS SHOWN ON THESE PLANS, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST IMMEDIATELY NOTIFY ENGINEER OF RECORD AND BOHLER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE RE-DONE OR REPAIRED DUE TO DIMENSIONS, MEASUREMENTS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO BOTH (A) THE CONTRACTOR GIVING ENGINEER OF RECORD AND BOHLER WRITTEN NOTIFICATION OF SAME AND (B) ENGINEER OF RECORD AND BOHLER, THEREAFTER, PROVIDING THE CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.
9. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MEASUREMENTS INCLUDED ON DESIGN DOCUMENTS HEREIN AND MUST NOT SCALE OFF THE DRAWINGS DUE TO POTENTIAL PRINTING INACCURACIES. ALL DIMENSIONS AND MEASUREMENTS ARE TO BE CHECKED AND CONFIRMED BY THE GENERAL CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS, FABRICATION/ORDERING OF PARTS AND MATERIALS AND COMMENCEMENT OF SITE WORK. SITE PLAN DRAWINGS ARE NOT INTENDED AS SURVEY DOCUMENTS. DIMENSIONS SUPERSEDE GRAPHICAL REPRESENTATIONS. THE CONTRACTOR MUST MAKE CONTRACTOR'S OWN MEASUREMENTS FOR LAYOUT OF IMPROVEMENTS.
10. THE OWNER AND CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
11. WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS, THE GEOTECHNICAL REPORT, SPECIFICATIONS AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN: (A) THE PLANS; AND (B) THE GEOTECHNICAL REPORT AND RECOMMENDATIONS, MUST TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD AND BOHLER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS, PRIOR TO PROCEEDING WITH ANY FURTHER WORK. IF A GEOTECHNICAL REPORT WAS NOT CREATED, THEN THE CONTRACTOR MUST FOLLOW AND COMPLY WITH ALL OF THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE SPECIFICATIONS WHICH HAVE JURISDICTION OVER THIS PROJECT.
12. ENGINEER OF RECORD AND BOHLER ARE NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, HAS NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.
13. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN AND WHERE SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES. ALL OF THIS WORK IS TO BE PERFORMED AT CONTRACTOR'S SOLE COST AND EXPENSE.
14. THE CONTRACTOR MUST EXERCISE EXTREME CAUTION WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.
15. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION AND CONSTRUCTION WASTES, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER THE CONTRACTOR.
16. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.
17. THE CONTRACTOR MUST REPAIR, AT CONTRACTOR'S SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE CONTRACTOR MUST, PROMPTLY, DOCUMENT ALL EXISTING DAMAGE AND NOTIFY, IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
18. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR AND HAVE NO CONTRACTUAL, LEGAL OR OTHER RESPONSIBILITIES FOR JOB SITE SAFETY JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME. THE ENGINEER OF RECORD AND BOHLER HAVE NOT BEEN RETAINED TO PERFORM OR TO BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER OF RECORD'S AND BOHLER SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES OR ANY JOB SITE CONDITIONS, AT ANY TIME.
19. THE CONTRACTOR MUST IMMEDIATELY IDENTIFY IN WRITING, TO THE ENGINEER OF RECORD AND BOHLER , ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF THE CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER WRITTEN NOTIFICATION AS DESCRIBED ABOVE, IT WILL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, THE CONTRACTOR MUST INDEMNIFY, DEFEND AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER FOR ANY AND ALL DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM OR ARE IN ANY WAY RELATED TO SAME INCLUDING, BUT NOT LIMITED TO, ANY THIRD PARTY AND FIRST PARTY CLAIMS.
20. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM THE CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS, AND CURRENT CODES, RULES, STATUTES AND THE LIKE. IF THE CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, RULES, STATUTES, CODES AND THE LIKE, THE CONTRACTOR AND/OR OWNER AGREE TO AND MUST JOINTLY, INDEPENDENTLY, SEPARATELY, AND SEVERALLY INDEMNIFY AND HOLD THE ENGINEER OF RECORD AND BOHLER HARMLESS FOR AND FROM ALL INJURIES, CLAIMS AND DAMAGES THAT ENGINEER AND BOHLER SUFFER AND ANY AND ALL COSTS THAT ENGINEER AND BOHLER INCUR AS RELATED TO SAME.
21. ALL CONTRACTORS MUST CARRY AT LEAST THE MINIMUM AMOUNT OF THE SPECIFIED AND COMMERCIALLY REASONABLE STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND COMMERCIAL GENERAL LIABILITY INSURANCE (CGL) INCLUDING ALSO ALL UMBRELLA COVERAGES. ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER , AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSUREDS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE (DEFEND, IF APPLICABLE) AND HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED AND AGREED TO BY THE CONTRACTOR HEREIN. ALL CONTRACTORS MUST FURNISH BOHLER WITH CERTIFICATIONS OF INSURANCE OR CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE COVERAGES PRIOR TO COMMENCING ANY WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR TWO YEARS AFTER THE COMPLETION OF CONSTRUCTION AND AFTER ALL PERMITS ARE ISSUED, WHICHEVER DATE IS LATER. IN ADDITION, ALL CONTRACTORS AGREE THAT THEY WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTOR(S), ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. THE CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.
22. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS IN SCOPE AND REVISIONS THAT RESULT FROM SAME. THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE FOR DETERMINING THE MEANS AND METHODS FOR COMPLETION OF THE WORK, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
23. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER, NOR THE PRESENCE OF BOHLER AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE (HEREIN "BOHLER PARTIES"), RELIEVES OR WILL RELIEVE THE CONTRACTOR OF AND FROM CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ALL HEALTH AND SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER PARTIES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER (OR ANY RESPONSIBILITY FOR) ANY CONSTRUCTION, THE CONTRACTOR OR ITS EMPLOYEES RELATING TO THEIR WORK AND ANY AND ALL HEALTH AND SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR MUST INDEMNIFY, DEFEND, PROTECT AND HOLD HARMLESS BOHLER PARTIES FOR AND FROM ANY LIABILITY TO BOHLER PARTIES RESULTING FROM THE CONTRACTOR'S WORK, SERVICES AND/OR VIOLATIONS OF THIS NOTE, THESE NOTES OR ANY NOTES IN THE PLAN SET AND, FURTHER, THE CONTRACTOR MUST NAME BOHLER AS AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE.
24. WHEN IT IS CLEARLY AND SPECIFICALLY WITHIN BOHLER'S SCOPE OF SERVICES CONTRACT WITH THE OWNER/DEVELOPER, BOHLER WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF EVALUATING CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME. BOHLER WILL PERFORM ITS SHOP DRAWING REVIEW WITH REASONABLE PROMPTNESS, AS CONDITIONS PERMIT. ANY DOCUMENT, DOCUMENTING BOHLER'S REVIEW OF A SPECIFIC ITEM OR LIMITED SCOPE, MUST NOT INDICATE THAT BOHLER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR MUST, IN WRITING, PROMPTLY AND IMMEDIATELY BRING ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS TO BOHLER'S ATTENTION. BOHLER IS NOT REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
25. IF THE CONTRACTOR DEVIATES FROM THESE PLANS AND/OR SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD AND BOHLER FOR ALL DEVIATIONS WITHIN ENGINEER'S SCOPE, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK PERFORMED WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, MUST DEFEND, INDEMNIFY, PROTECT, AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER PARTIES TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, CLAIMS, INJURIES, PENALTIES AND THE LIKE RELATED TO SAME.
26. THE CONTRACTOR IS RESPONSIBLE FOR A MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS, FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE RIGHT OF WAY OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE AND IS THE CONTRACTOR'S SOLE RESPONSIBILITY.
27. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN; AND, FURTHER, THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD THE ENGINEER OF RECORD AND BOHLER PARTIES, HARMLESS FOR ALL INJURIES, DAMAGES AND COSTS THAT ENGINEER OF RECORD AND BOHLER INCUR AS A RESULT OF SAID FAILURE OR FAILURE TO PRESERVE.
28. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION ACTIVITIES AND MATERIALS COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL RULES AND REGULATIONS, LAWS, ORDINANCES, AND CODES, AND ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 ET SEQ.) AS AMENDED, AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
29. THE CONTRACTOR MUST STRICTLY COMPLY WITH THE LATEST AND CURRENT OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION OVER EXCAVATION AND TRENCHING PROCEDURES. ENGINEER OF RECORD AND BOHLER HAS NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES AND WORK.
30. THE CONTRACTOR AND THE OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF THE CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY, INDEPENDENTLY, SEPARATELY, COLLECTIVELY, AND SEVERALLY INDEMNIFY, DEFEND, PROTECT AND HOLD ENGINEER OF RECORD AND BOHLER PARTIES HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
31. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIREMENTS OR LOCAL GOVERNING AGENCY FOR SITES WHERE ONE (1) ACRE OR MORE IS DISTURBED BY CONSTRUCTION ACTIVITIES (UNLESS THE LOCAL JURISDICTION REQUIRES A DIFFERENT THRESHOLD). THE CONTRACTOR MUST ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF ALL SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE AND FURTHER, THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR FAILING TO DO SO.
32. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED DOCUMENTS PREPARED BY THE ENGINEER OF RECORD AND BOHLER, THE USE OF THE WORDS 'CERTIFY' OR 'CERTIFICATION' CONSTITUTE(S) AN EXPRESSION ONLY OF PROFESSIONAL OPINION REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE ENGINEER OF RECORD'S AND BOHLER KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON AND ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY NATURE OR TYPE, EITHER EXPRESSED OR IMPLIED, UNDER ANY CIRCUMSTANCES.

DEMOLITION NOTES

(Rev. 2/2021)

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. THE CONTRACTOR MUST CONDUCT DEMOLITION/REMOVALS ACTIVITIES IN SUCH A MANNER AS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND ALL OTHER ADJACENT FACILITIES. THE CONTRACTOR MUST OBTAIN ALL APPLICABLE PERMITS FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY(IES) PRIOR TO THE COMMENCEMENT OF ANY ROAD OPENING OR DEMOLITION ACTIVITIES IN OR ADJACENT TO THE RIGHT-OF-WAY.
3. WHEN DEMOLITION-RELATED ACTIVITIES IMPACT ROADWAYS AND/OR ROADWAY RIGHT-OF-WAY, THE CONTRACTOR MUST PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE CURRENT FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AND THE FEDERAL, STATE, AND LOCAL REGULATIONS.
4. THE DEMOLITION (AND/OR REMOVALS) PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION AND TO IDENTIFY ONLY CONDITIONS REGARDING ITEMS TO BE DEMOLISHED, REMOVED, AND/OR TO REMAIN.
   A. THE CONTRACTOR MUST ALSO REVIEW ALL CONSTRUCTION DOCUMENTS AND INCLUDE WITHIN THE DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.
   B. THIS PLAN IS NOT INTENDED TO AND DOES NOT PROVIDE DIRECTION REGARDING THE MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE EMPLOYED TO ACCOMPLISH THE WORK. ALL MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE USED MUST BE IN STRICT ACCORDANCE AND CONFORMANCE WITH ALL STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR MUST COMPLY WITH ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE FOR THE CONTRACTOR AND THE PUBLIC.
5. THE CONTRACTOR MUST PROVIDE ALL "METHODS AND MEANS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR, AT THE CONTRACTOR'S SOLE COST, MUST REPAIR ALL DAMAGE TO ALL ITEMS AND FEATURES THAT ARE TO REMAIN. CONTRACTOR MUST USE NEW MATERIAL FOR ALL REPAIRS. CONTRACTOR'S REPAIRS MUST INCLUDE THE RESTORATION OF ALL ITEMS AND FEATURES REPAIRED TO THEIR PRE-DEMOLITION CONDITION, OR BETTER. CONTRACTOR MUST PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE.
6. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. THE CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, COMPLYING WITH ALL OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY AND SAFETY TO ALL PROPERTY ON THE SITE OR ADJACENT OR NEAR TO THE SAME.
7. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY, WHICH MUST INCLUDE, BUT IS NOT LIMITED TO, THE INSTALLATION AND MAINTENANCE OF BARRIERS, FENCING, OTHER APPROPRIATE AND/OR NECESSARY SAFETY FEATURES AND ITEMS NECESSARY TO PROTECT THE PUBLIC FROM AREAS OF CONSTRUCTION AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR MUST SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF ALL UNAUTHORIZED PERSONS AT ANY TIME, TO OR NEAR THE DEMOLITION AREA.
8. PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY, THE CONTRACTOR MUST, IN WRITING, RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS AND/OR SPECIFICATIONS, ALL CONCERNS OR QUESTIONS REGARDING THE APPLICABLE SAFETY STANDARDS, AND/OR THE SAFETY OF THE CONTRACTOR AND/OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT. ANY SUCH CONCERNS MUST BE CONVEYED TO THE ENGINEER OF RECORD AND BOHLER , IN WRITING AND MUST ADDRESS ALL ISSUES AND ITEMS RESPONDED TO, BY THE ENGINEER OF RECORD AND BY BOHLER, IN WRITING. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REQUIREMENTS, STATUTES, ORDINANCES AND CODES.
9. THE CONTRACTOR MUST BECOME FAMILIAR WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AND/OR DISCONNECTION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED, REMOVED AND/OR ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.
10. PRIOR TO COMMENCING ANY DEMOLITION, THE CONTRACTOR MUST:
    A. OBTAIN ALL REQUIRED PERMITS AND MAINTAIN THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND ALL PUBLIC AGENCIES WITH JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK, AND DEMOLITION WORK.
    B. NOTIFY, AT A MINIMUM, THE MUNICIPAL ENGINEER, DESIGN ENGINEER, AND LOCAL SOIL CONSERVATION JURISDICTION, AT LEAST 72 BUSINESS HOURS PRIOR TO THE COMMENCEMENT OF WORK.
    C. INSTALL THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE, AND MAINTAIN SAID CONTROLS UNTIL SITE IS STABILIZED
    D. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR MUST CALL THE STATE ONE-CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARK OUT, IN ADVANCE OF ANY EXCAVATION.
    E. LOCATE AND PROTECT ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN AND ADJACENT TO THE LIMITS OF PROJECT ACTIVITIES. THE CONTRACTOR MUST USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL UNDERGROUND UTILITIES.
    F. PROTECT AND MAINTAIN IN OPERATION, ALL ACTIVE UTILITIES AND SYSTEMS THAT ARE NOT BEING REMOVED DURING ANY DEMOLITION ACTIVITIES.
    G. ARRANGE FOR AND COORDINATE WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) FOR THE TEMPORARY OR PERMANENT TERMINATION OF SERVICE REQUIRED BY THE PROJECT PLANS AND SPECIFICATIONS REGARDING THE METHODS AND MEANS TO CONSTRUCT SAME. THESE ARE NOT THE ENGINEER OF RECORD'S RESPONSIBILITY. IN THE EVENT OF ABANDONMENT, THE CONTRACTOR MUST PROVIDE THE UTILITY ENGINEER AND OWNER WITH IMMEDIATE WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTIONAL AND UTILITY COMPANY REQUIREMENTS.
    H. ARRANGE FOR AND COORDINATE WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS NECESSARY OR AS REQUIRED TO MINIMIZE THE IMPACT ON, OF, AND TO THE AFFECTED PARTIES. WORK REQUIRED TO BE PERFORMED "OFF-PEAK" IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
    I. IN THE EVENT THE CONTRACTOR DISCOVERS ANY HAZARDOUS MATERIAL, THE REMOVAL OF WHICH IS NOT ADDRESSED IN THE PROJECT PLANS AND SPECIFICATIONS OR THE CONTRACT WITH THE OWNER/DEVELOPER, THE CONTRACTOR MUST IMMEDIATELY CEASE ALL WORK IN THE AREA OF DISCOVERY, AND IMMEDIATELY NOTIFY, IN WRITING AND VERBALLY, THE OWNER AND ENGINEER OF RECORD AND BOHLER, THE DISCOVERY OF SUCH MATERIALS TO PURSUE PROPER AND COMPLIANT REMOVAL OF SAME.
11. THE CONTRACTOR MUST NOT PERFORM ANY EARTH MOVEMENT ACTIVITIES, DEMOLITION OR REMOVAL OF FOUNDATION WALLS, FOOTINGS, OR OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE, UNLESS SAME IS IN STRICT ACCORDANCE AND CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, OR PURSUANT TO THE WRITTEN DIRECTION OF THE OWNER'S STRUCTURAL OR GEOTECHNICAL ENGINEER.
12. DEMOLITION ACTIVITIES AND EQUIPMENT MUST NOT USE OR INCLUDE AREAS OUTSIDE THE DEFINED PROJECT LIMIT LINE, WITHOUT SPECIFIC WRITTEN PERMISSION AND AUTHORITY OF AND FROM THE OWNER AND ALL GOVERNMENTAL AGENCIES WITH JURISDICTION.
13. THE CONTRACTOR MUST BACKFILL ALL EXCAVATION RESULTING FROM, OR INCIDENTAL TO, DEMOLITION ACTIVITIES. BACKFILL MUST BE ACCOMPLISHED WITH APPROVED BACKFILL MATERIALS AND MUST BE SUFFICIENTLY COMPACTED TO SUPPORT ALL NEW IMPROVEMENTS AND MUST BE PERFORMED IN COMPLIANCE WITH THE RECOMMENDATIONS AND GUIDANCE ARTICULATED IN THE GEOTECHNICAL REPORT. BACKFILLING MUST OCCUR IMMEDIATELY AFTER DEMOLITION ACTIVITIES AND MUST BE PERFORMED SO AS TO PREVENT WATER ENTERING THE EXCAVATION. FINISHED SURFACES MUST BE GRADED TO PROMOTE POSITIVE DRAINAGE. THE CONTRACTOR IS RESPONSIBLE FOR COMPACTION TESTING AND MUST SUBMIT SUCH REPORTS AND RESULTS TO THE ENGINEER OF RECORD AND THE OWNER.
14. EXPLOSIVES MUST NOT BE USED WITHOUT PRIOR WRITTEN CONSENT FROM BOTH THE OWNER AND ALL APPLICABLE, NECESSARY AND REQUIRED GOVERNMENTAL AUTHORITIES. PRIOR TO COMMENCING ANY EXPLOSIVE PROGRAM AND/OR ANY DEMOLITION ACTIVITIES, THE CONTRACTOR MUST ENSURE AND OVERSEE THE INSTALLATION OF ALL OF THE REQUIRED PERMIT AND EXPLOSIVE CONTROL MEASURES THAT THE FEDERAL, STATE, AND LOCAL GOVERNMENTS REQUIRE. THE CONTRACTOR IS ALSO RESPONSIBLE TO CONDUCT AND PERFORM ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES AND THE LIKE.
15. IN ACCORDANCE WITH FEDERAL, STATE, AND/OR LOCAL STANDARDS, THE CONTRACTOR MUST USE DUST CONTROL MEASURES TO LIMIT AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR. AFTER THE DEMOLITION IS COMPLETE, THE CONTRACTOR MUST CLEAN ALL ADJACENT STRUCTURES AND IMPROVEMENTS TO REMOVE ALL DUST AND DEBRIS WHICH THE DEMOLITION OPERATIONS CAUSE. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION AT CONTRACTOR'S SOLE COST.
16. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS OUTSIDE OF APPROVED AREAS WILL NOT BE PERMITTED, INCLUDING BUT NOT LIMITED TO, THE PUBLIC RIGHT-OF-WAY.
17. THE CONTRACTOR MUST MAINTAIN A RECORD SET OF PLANS WHICH INDICATES THE LOCATION OF EXISTING UTILITIES THAT ARE CAPPED, ABANDONED IN PLACE, OR RELOCATED DUE TO DEMOLITION ACTIVITIES. THIS RECORD DOCUMENT MUST BE PREPARED IN A NEAT AND WORKMAN-LIKE MANNER AND TURNED OVER TO THE OWNER/DEVELOPER UPON COMPLETION OF THE WORK, ALL OF WHICH IS AT THE CONTRACTOR'S SOLE COST.
18. THE CONTRACTOR MUST EMPTY, CLEAN AND REMOVE FROM THE SITE ALL UNDERGROUND STORAGE TANKS, IF ENCOUNTERED, IN ACCORDANCE WITH FEDERAL, STATE, COUNTY AND LOCAL REQUIREMENTS, PRIOR TO CONTINUING CONSTRUCTION IN THE AREA AROUND THE TANK WHICH EMPTYING, CLEANING AND REMOVAL ARE AT THE CONTRACTOR'S SOLE COST.

SITE LAYOUT NOTES

(Rev. 1/2020)

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. PRIOR TO THE COMMENCEMENT OF GENERAL CONSTRUCTION, THE CONTRACTOR MUST INSTALL SOIL EROSION CONTROL AND ANY STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MEASURES NECESSARY, AS INDICATED ON THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH APPLICABLE AND/OR APPROPRIATE AGENCIES' GUIDELINES TO PREVENT SEDIMENT AND/OR LOOSE DEBRIS FROM WASHING ONTO ADJACENT PROPERTIES OR THE RIGHT OF WAY.
3. ALL DIRECTIONAL/TRAFFIC SIGNING AND PAVEMENT STRIPING MUST CONFORM TO THE LATEST STANDARDS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY APPLICABLE STATE OR LOCALLY APPROVED SUPPLEMENTS, GUIDELINES, RULES, REGULATIONS, STANDARDS AND THE LIKE.
4. THE LOCATIONS OF PROPOSED UTILITY POLES AND TRAFFIC SIGNS SHOWN ON THE PLANS ARE SCHEMATIC AND PRELIMINARY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD-VERIFYING THEIR LOCATION. THE CONTRACTOR MUST COORDINATE THE RELOCATION OF TRAFFIC SIGNS WITH THE ENTITY WITH JURISDICTION OVER THE PROJECT.
5. ALL DIMENSIONS SHOWN ARE TO BOTTOM FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, EXCEPT WHEN DIMENSION IS TO A PROPERTY LINE, STAKE OUT OF LOCATIONS OF INLETS, LIGHT POLES, ETC. MUST BE PERFORMED IN STRICT ACCORDANCE WITH THE DETAILS, UNLESS NOTED CLEARLY OTHERWISE.

GRADING NOTES

(Rev. 2/2021)

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AS REFERENCED IN THIS PLAN SET. IF NO GEOTECHNICAL REPORT HAS BEEN REFERENCED, THE CONTRACTOR MUST HAVE A GEOTECHNICAL ENGINEER PROVIDE WRITTEN SPECIFICATIONS AND RECOMMENDATIONS PRIOR TO THE CONTRACTOR COMMENCING THE GRADING WORK. THE CONTRACTOR MUST FOLLOW THE REQUIREMENTS OF ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS, WHICH HAVE JURISDICTION OVER THIS PROJECT.
3. THE CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. THE CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO THE ENGINEER OF RECORD AND THE OWNER PRIOR TO THE CONTRACTOR COMMENCING ANY WORK.
4. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. SHOULD DISCREPANCIES BETWEEN THE PLANS AND INFORMATION OBTAINED THROUGH FIELD VERIFICATIONS BE IDENTIFIED OR EXIST, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING.
5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ALL UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. THE CONTRACTOR MUST COMPACT ALL EXCAVATED OR FILLED AREAS IN STRICT ACCORDANCE WITH THE GEOTECHNICAL REPORT'S GUIDANCE. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED. THIS REPORT MUST VERIFY THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES WHICH ARE IN EFFECT AND WHICH ARE APPLICABLE TO THE PROJECT. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE MUST BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL, COMPACTED AS THE GEOTECHNICAL REPORT DIRECTS. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.
6. IN THE EVENT OF A DISCREPANCY(IES) AND/OR A CONFLICT(S) BETWEEN PLANS, OR RELATIVE TO OTHER PLANS, THE GRADING PLAN TAKES PRECEDENCE AND CONTROLS. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCY(IES) AND/OR CONFLICT(S).
7. THE CONTRACTOR IS RESPONSIBLE TO IMPORT FILL OR EXPORT EXCESS MATERIAL AS NECESSARY TO CONFORM TO THE PROPOSED GRADING, AND TO BACKFILL EXCAVATIONS FOR THE INSTALLATION OF UNDERGROUND IMPROVEMENTS.

ACCESSIBILITY DESIGN GUIDELINES

(Rev. 1/2020)

1. ALL ACCESSIBLE (A.K.A. ADA) COMPONENTS AND ACCESSIBLE ROUTES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF: (A) THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 ET SEQ. AND 42 U.S.C. § 4151 ET SEQ.); AND (B) ANY APPLICABLE LOCAL AND STATE GUIDELINES, AND ANY AND ALL AMENDMENTS TO BOTH, WHICH ARE IN EFFECT WHEN THESE PLANS WERE COMPLETED.
2. THE CONTRACTOR MUST REVIEW ALL DOCUMENTS REFERENCED IN THESE NOTES FOR ACCURACY, COMPLIANCE AND CONSISTENCY WITH INDUSTRY GUIDELINES.
3. THE CONTRACTOR MUST EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ACCESSIBLE (ADA) COMPONENTS AND ACCESSIBLE ROUTES FOR THE SITE. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACES, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, AND INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EXIT, MUST COMPLY WITH THE ACCESSIBLE GUIDELINES AND REQUIREMENTS WHICH INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
   A. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SLOPES MUST NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION.
   B. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE MUST PROVIDE A 36-INCHES MINIMUM WIDTH (48-INCHES PREFERRED), OR AS SPECIFIED BY THE GOVERNING AGENCY. UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANGS AND/OR HANDRAILS) MUST NOT REDUCE THIS MINIMUM WIDTH. THE SLOPE MUST NOT EXCEED 1:20 (5.0%) IN THE DIRECTION OF TRAVEL AND MUST NOT EXCEED 1:50 (2.0%) IN CROSS SLOPE. WHERE ACCESSIBLE PATH OF TRAVEL IS GREATER THAN 1:20 (5.0%), AN ACCESSIBLE RAMP MUST BE PROVIDED. ALONG THE ACCESSIBLE PATH OF TRAVEL, OPENINGS MUST NOT EXCEED 1/2-INCH IN WIDTH. VERTICAL CHANGES OF UP TO 1/2-INCH ARE PERMITTED ONLY IF THEY INCLUDES A 1/4-INCH BEVEL AT A SLOPE NOT STEEPER THAN 1:2. NO VERTICAL CHANGES OVER 1/4-INCH ARE PERMITTED.
   C. ACCESSIBLE RAMPS MUST NOT EXCEED A SLOPE OF 1:12 (8.3%) AND A RISE OF 30-INCHES. LEVEL LANDINGS MUST BE PROVIDED AT EACH END OF ACCESSIBLE RAMPS. LANDING MUST PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES, AND MUST NOT EXCEED 1:50 (2.0%) SLOPE IN ANY DIRECTION. RAMPS THAT CHANGE DIRECTION BETWEEN RUNS AT LANDINGS MUST HAVE A CLEAR LANDING OF A MINIMUM OF 60-INCHES BY 60-INCHES. HAND RAILS ON BOTH SIDES OF THE RAMP MUST BE PROVIDED ON AN ACCESSIBLE RAMP WITH A RISE GREATER THAN 6-INCHES.
   D. ACCESSIBLE CURB RAMPS MUST NOT EXCEED A SLOPE OF 1:12 (8.3%). WHERE FLARED SIDES ARE PROVIDED, THEY MUST NOT EXCEED 1:10 (10%) SLOPE. LEVEL LANDING MUST BE PROVIDED AT RAMPS TOP AT A MINIMUM OF 36-INCHES LONG (48-INCHES PREFERRED). IN ALTERATIONS, WHEN THERE IS NO LANDING AT THE TOP, FLARE SIDES SLOPES MUST NOT EXCEED A SLOPE OF 1:12 (8.3%).
   E. DOORWAY LANDINGS AREAS MUST BE PROVIDED ON THE EXTERIOR SIDE OF ANY DOOR LEADING TO AN ACCESSIBLE PATH OF TRAVEL. THIS LANDING MUST BE SLOPED AWAY FROM THE DOOR NO MORE THAN 1:50 (2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA MUST BE NO FEWER THAN 60-INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE CLEARLY PERMITTED BY ACCESSIBLE STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS. (SEE ICC/ANSI A117.1-2009 AND OTHER REFERENCES INCORPORATED BY CODE).
   F. WHEN THE PROPOSED CONSTRUCTION INVOLVES RECONSTRUCTION, MODIFICATION, REVISION OR EXTENSION OF OR TO ACCESSIBLE COMPONENTS FROM EXISTING DOORWAYS OR SURFACES, THE CONTRACTOR MUST VERIFY ALL EXISTING ELEVATIONS SHOWN ON THE PLAN. NOTE THAT TABLE 405.2 OF THE DEPARTMENT OF JUSTICE'S ADA STANDARDS FOR ACCESSIBLE DESIGN ALLOWS FOR STEEPER RAMP SLOPES, IN RARE CIRCUMSTANCES. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCIES AND/OR FIELD CONDITIONS THAT DIFFER IN ANY WAY OR IN ANY RESPECT FROM WHAT IS SHOWN ON THE PLANS BEFORE COMMENCING ANY WORK. CONSTRUCTED IMPROVEMENTS MUST FALL WITHIN THE MAXIMUM AND MINIMUM LIMITATIONS IMPOSED BY THE BARRIER FREE REGULATIONS AND THE ACCESSIBLE GUIDELINES.
   G. THE CONTRACTOR MUST VERIFY ALL OF THE SLOPES OF THE CONTRACTOR'S FORMS PRIOR TO POURING CONCRETE. IF ANY NON-CONFORMANCE EXISTS OR IS OBSERVED OR DISCOVERED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, PRIOR TO POURING CONCRETE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND/OR REPLACE NON-CONFORMING CONCRETE AND/OR PAVEMENT SURFACES.
4. IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION TO ENSURE SAME IS CONSISTENT WITH THE LOCAL BUILDING CODE PRIOR TO COMMENCING CONSTRUCTION.

DRAINAGE AND UTILITY NOTES

(Rev.2/2021)

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE, AND THE CONTRACTOR MUST INDEPENDENTLY VERIFY AND CONFIRM THOSE LOCATIONS AND SERVICES WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCING ANY CONSTRUCTION OR EXCAVATION. THE CONTRACTOR MUST INDEPENDENTLY VERIFY AND CONFIRM ALL SANITARY CONNECTION POINTS AND ALL OTHER UTILITY SERVICE CONNECTION POINTS IN THE FIELD, PRIOR TO COMMENCING ANY CONSTRUCTION. THE CONTRACTOR MUST REPORT ALL DISCREPANCIES, ERRORS AND OMISSIONS IN WRITING, TO THE ENGINEER OF RECORD.
3. THE CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE, WHICHEVER IS GREATER. THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL OF THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES WHICH OCCUR DURING CONSTRUCTION, AT NO COST TO THE OWNER AND AT CONTRACTOR'S SOLE COST AND EXPENSE. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES WHICH OCCURS DURING CONSTRUCTION.
4. THE CONTRACTOR MUST FIELD VERIFY THE PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES BY USING A TEST PIT TO CONFIRM EXACT DEPTH, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
5. STORMWATER ROOF DRAIN LOCATIONS ARE BASED ON ARCHITECTURAL PLANS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS OF SAME BASED UPON FINAL ARCHITECTURAL PLANS.
6. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING SITE PLAN DOCUMENTS AND ARCHITECTURAL PLANS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS; GREASE TRAP REQUIREMENTS; AND DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITY SERVICES WITH THE INDIVIDUAL COMPANIES TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLIES WITH ALL UTILITY REQUIREMENTS OF THE APPLICABLE JURISDICTION AND REGULATORY AGENCIES AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE A CONFLICT(S) EXISTS BETWEEN THESE DOCUMENTS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, AND PRIOR TO CONSTRUCTION, MUST RESOLVE SAME.
7. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE EXACTLY AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND THE CONTRACTOR MUST COORDINATE SAME WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS, FILL AND COMPACTION MUST COMPLY WITH APPLICABLE REQUIREMENTS AND SPECIFICATIONS. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR DESIGN OF TRENCH BACKFILL OR FOR COMPACTION REQUIREMENTS
8. DURING THE INSTALLATION OF SANITARY, STORM, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE AS-INSTALLED LOCATIONS OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEVIATE, IN ANY RESPECT, FROM THE INFORMATION CONTAINED IN THESE PLANS. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THE APPROPRIATE PLAN(S), WHICH THE CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER IMMEDIATELY UPON THE COMPLETION OF WORK.
9. THE CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SANITARY, WATER AND STORM SYSTEMS, ARE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY AND OR STATE DOT DETAILS AS APPLICABLE. THE CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY WITH JURISDICTION OVER SAME.
10. FINAL LOCATIONS OF PROPOSED UTILITY POLES, AND/ OR POLES TO BE RELOCATED ARE AT THE SOLE DISCRETION OF THE RESPECTIVE UTILITY COMPANY, REGARDLESS OF WHAT THIS PLAN DEPICTS.
11. WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. THE CONTRACTOR MUST CONTACT THE APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VAULT, PRIOR TO COMMENCING CONSTRUCTION.
12. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED FINISHED GRADES WITH NO TRIPPING OR SAFETY HAZARD IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

LIGHTING NOTES

(Rev. 1/2020)

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. THE LIGHTING CONTRACTOR MUST COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE PLANS, INCLUDING BUT NOT LIMITED TO GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL AGENCY AND GOVERNMENTAL REGULATIONS.
3. THE LIGHTING PLAN DEPICTS PROPOSED, SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER. ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
4. THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT GROUND LEVEL UNLESS OTHERWISE NOTED. ILLUMINATION LEVELS ARE SHOWN IN FOOT-CANDLES (FC).
5. THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT IS NOT LIMITED TO, VISUAL OBSERVATION, CLEANING OF LENSES, AND RE-LAMPING ACCORDING TO MANUFACTURER RECOMMENDATIONS. FAILURE TO FOLLOW THE ABOVE STEPS COULD RESULT IN IMPROPER LIGHT DISTRIBUTION AND FAILURE TO COMPLY WITH THE APPROVED DESIGN. UPON COMPLETION AND OWNER'S ACCEPTANCE OF THE WORK, THE ABOVE RESPONSIBILITIES BECOMES SOLELY THE OWNER'S.
6. THE LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES. POWER SYSTEM, CONDUITS, WIRING AND OTHER ELECTRICAL COMPONENTS ARE SOLELY THE ARCHITECT'S, MECHANICAL ENGINEER'S AND/OR LIGHTING CONTRACTOR'S RESPONSIBILITY, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THE LIGHTING CONTRACTOR MUST COORDINATE WITH THE PROJECT ARCHITECT AND/OR ELECTRICAL ENGINEER REGARDING ANY AND ALL POWER SOURCES AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES.
7. THE CONTRACTOR MUST BRING IMMEDIATELY, IN WRITING, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURE(S) TO THE ENGINEER OF RECORD'S ATTENTION, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT SHIELDING AND OR ROTATED OPTICS ARE INSTALLED AS INDICATED ON THE PLAN IN ORDER TO ACHIEVE THE LIGHTING LEVELS THE REVIEWING AGENCY APPROVED.

ELEVATIONS BASED ON NAVD 88, COORDINATES AND MERIDIAN ARE BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) PER MONUMENTS BCO #1433 AND GIS 2

TRACKING # DRC-XXX-XXXX; DRC# XXXXXXX; DIST XX

May 02, 2022
H:\2022\MDA220065.00\CAD\DRAWINGS\PLAN SETS\CONSTRUCTION DOCUMENTS\MDA220065.00 - CNDS - 0----->LAYOUT: C-102 - NOTES
DD

BOHLER // TM

SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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PROJECT No.: MDA220065.00
DRAWN BY: DMD
CHECKED BY: MJG
DATE: 4/24/22
CAD I.D.: MDA220065.00 - CNDS - 0

PROJECT:

CONSTRUCTION DOCUMENTS

FOR

TRADEPOINT ATLANTIC

1940 RESERVOIR ROAD
BALTIMORE, MD 21219
15TH ELECTION DISTRICT
7TH COUNCILMANIC DISTRICT
TAX MAP 111, GRID 14, PARCEL 318
BALTIMORE COUNTY

BOHLER //

901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

M.J. GESELL

PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 44097
PROFESSIONAL CERTIFICATION
I, MICHAEL J. GESELL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44097, EXPIRATION DATE: 6/9/23

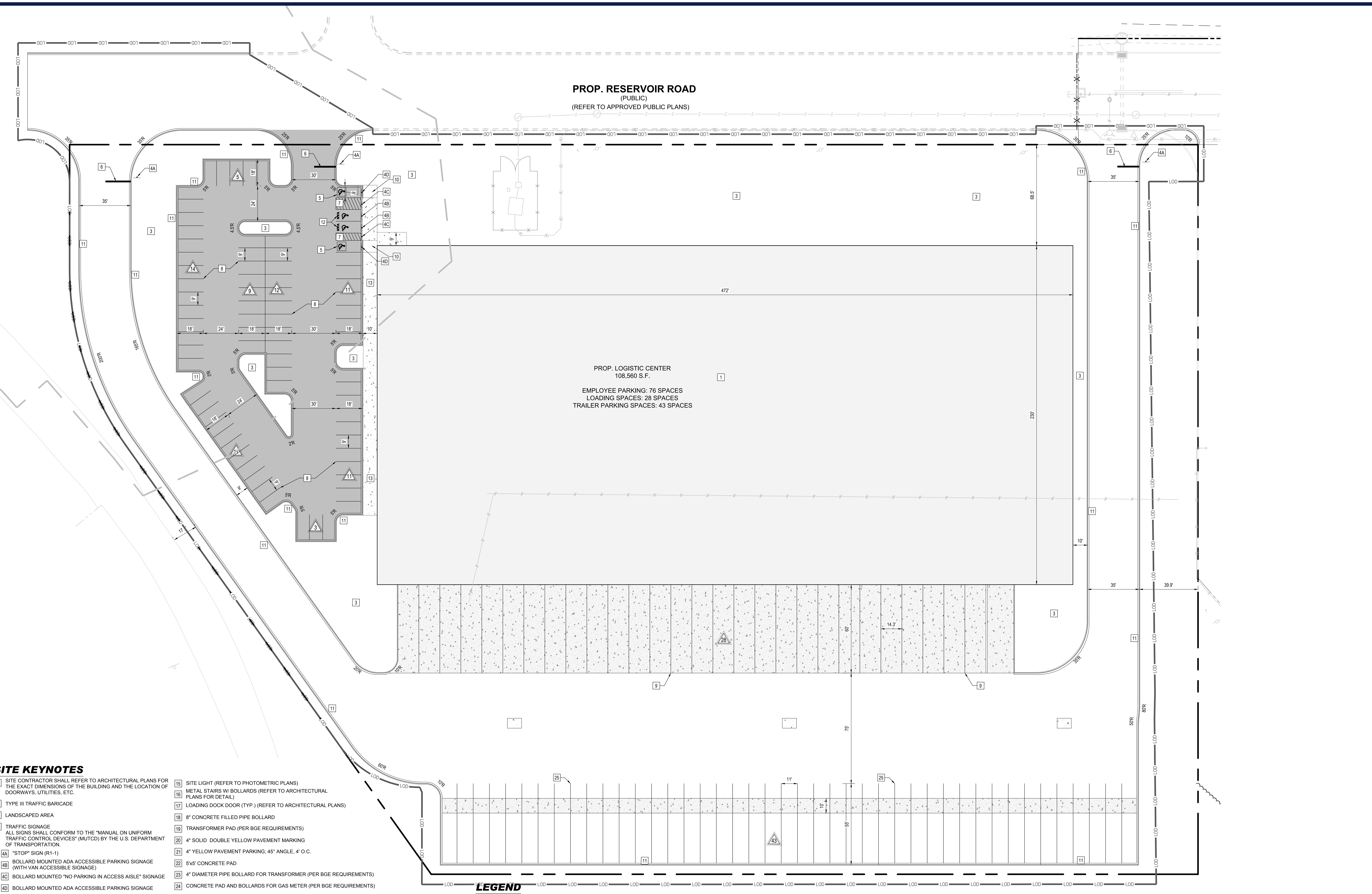
SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

C-102

ORG. DATE - 4/25/22



SITE KEYNOTES

1. SITE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING AND THE LOCATION OF DOORWAYS, UTILITIES, ETC.
2. TYPE III TRAFFIC BARICADE
3. LANDSCAPED AREA
4. TRAFFIC SIGNAGE
   ALL SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) BY THE U.S. DEPARTMENT OF TRANSPORTATION.
   - 4A "STOP" SIGN (R1-1)
   - 4B BOLLARD MOUNTED ADA ACCESSIBLE PARKING SIGNAGE (WITH VAN ACCESSIBLE SIGNAGE)
   - 4C BOLLARD MOUNTED "NO PARKING IN ACCESS AISLE" SIGNAGE
   - 4D BOLLARD MOUNTED ADA ACCESSIBLE PARKING SIGNAGE
5. ADA PARKING SYMBOL (WHITE SYMBOL WITH BLUE BACKGROUND)
6. 24" WHITE PAINTED STOP BAR
7. 4" WHITE PAVEMENT MARKING; 45° ANGLE, 4' O.C.
8. 4" WHITE PARKING STALL PAVEMENT MARKING (9'x18' TYP.)
9. 4" SINGLE SOLID YELLOW PAVEMENT MARKING (TYP.)
10. ACCESSIBLE CURB RAMP
11. 6" CURB W/ 1.0' GUTTER
12. ADA PARKING SYMBOL WITH "VAN" (WHITE SYMBOL WITH BLUE BACKGROUND)
13. CONCRETE SIDEWALK
14. DEPRESSED CURB AND GUTTER
15. SITE LIGHT (REFER TO PHOTOMETRIC PLANS)
16. METAL STAIRS W/ BOLLARDS (REFER TO ARCHITECTURAL PLANS FOR DETAIL)
17. LOADING DOCK DOOR (TYP.) (REFER TO ARCHITECTURAL PLANS)
18. 8" CONCRETE FILLED PIPE BOLLARD
19. TRANSFORMER PAD (PER BGE REQUIREMENTS)
20. 4" SOLID DOUBLE YELLOW PAVEMENT MARKING
21. 4" YELLOW PAVEMENT PARKING; 45° ANGLE, 4' O.C.
22. 5'x5' CONCRETE PAD
23. 4" DIAMETER PIPE BOLLARD FOR TRANSFORMER (PER BGE REQUIREMENTS)
24. CONCRETE PAD AND BOLLARDS FOR GAS METER (PER BGE REQUIREMENTS)
25. 4" SINGLE SOLID WHITE PAVEMENT MARKING (TYP.)
26. DRIVE-IN RAMP (REFER TO ARCHITECTURAL PLANS)
27. BALTIMORE COUNTY STANDARD COMMERCIAL ENTRANCE (DETAIL R-32)

LEGEND

- STANDARD DUTY ASPHALT PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE PAVEMENT

40 20 10 0 40
1"= 40'

ARCHITECTURAL REFERENCE

THIS PLAN IS BASED ON DRAWINGS RECEIVED FROM HOFMANN ASSOCIATES, INC., ENTITLED: "STINGRAY; 1940 RESERVIOR ROAD; BALTIMORE, MARYLAND 21219; BALTIMORE COUNTY" DATED JANUARY 24, 2022.

OWNERS

TPA PROPERTIES 4, LLC.
TPA PROPERTIES 6, LLC.
TPA PROPERTIES 23, LLC.
1600 SPARROWS POINT BLVD
BALTIMORE, MD 21219
CONTACT: MIKE HURWITZ
PHONE: 410-935-4443

DEVELOPER

TRADEPOINT DEVELOPMENT, LLC
1600 SPARROWS POINT BLVD
BALTIMORE, MD 21219
CONTACT: MIKE HURWITZ
PHONE: 410-935-4443

MARYLAND COORDINATE SYSTEM (MCS)

ELEVATIONS BASED ON NAVD 88, COORDINATES AND MERIDIAN ARE BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) PER MONUMENTS BCO #1433 AND GIS 2

TRACKING # DRC-XXX-XXXX; DRC# XXXXXXX; DIST XX

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SITE CIVIL AND CONSULTING ENGINEERING
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REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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PROJECT No.:	MDA220065.00
DRAWN BY:	DMD
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SHEET TITLE:

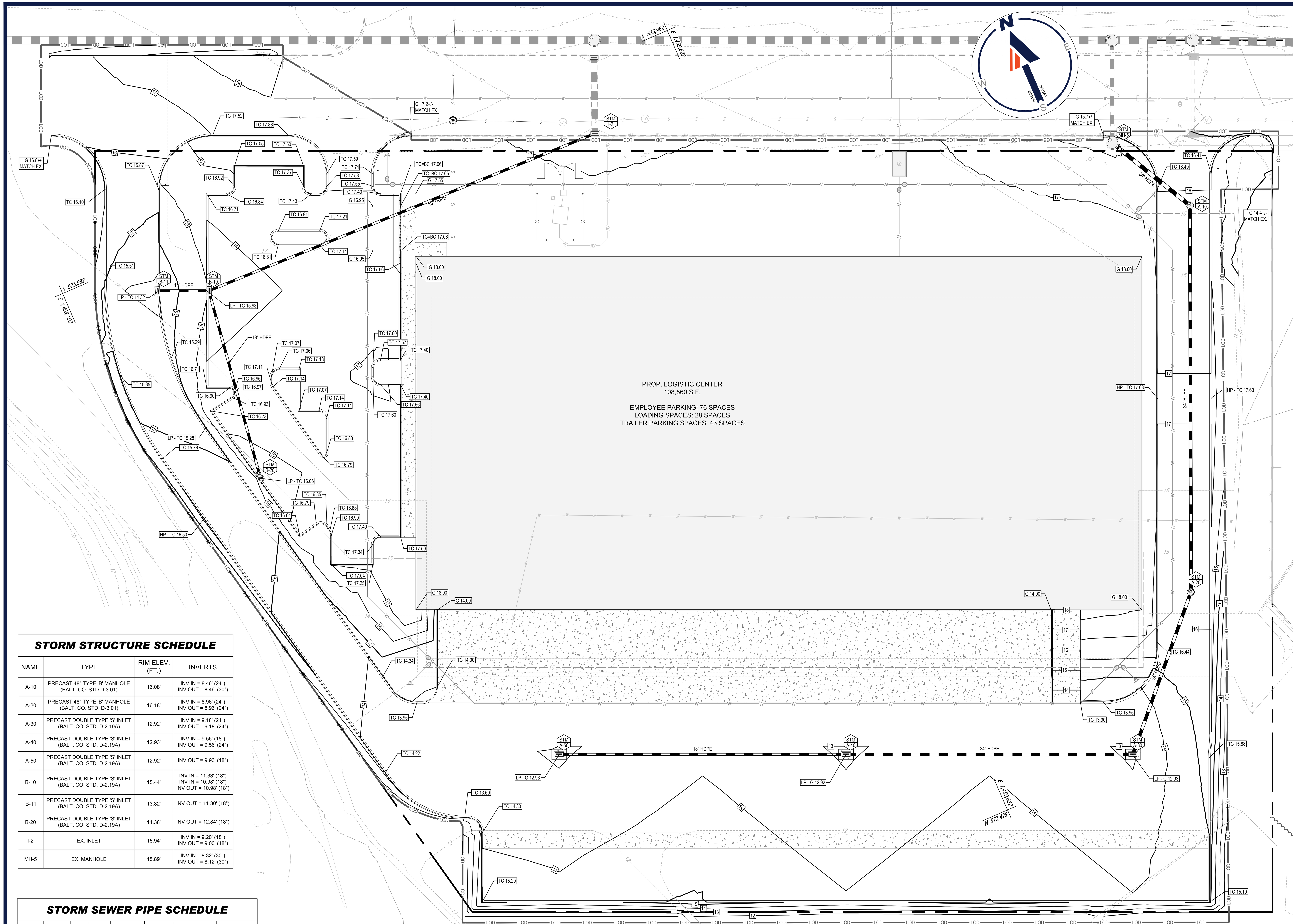
SITE PLAN

SHEET NUMBER:

C-301

ORG. DATE - 4/25/22

May 02, 2022
H:\2022\MDA220065.00\CAD\DRAWINGS\PLAN SETS\CONSTRUCTION DOCUMENTS\MDA220065.00 - SITE - 0----->LAYOUT: C-301 SITE PLAN
DD



STORM STRUCTURE SCHEDULE

NAME	TYPE	RIM ELEV. (FT.)	INVERTS
A-10	PRECAST 48" TYPE 'B' MANHOLE (BALT. CO. STD D-3.01)	16.08'	INV IN = 8.46' (24") INV OUT = 8.46' (30")
A-20	PRECAST 48" TYPE 'B' MANHOLE (BALT. CO. STD. D-3.01)	16.18'	INV IN = 8.96' (24") INV OUT = 8.96' (24")
A-30	PRECAST DOUBLE TYPE 'S' INLET (BALT. CO. STD. D-2.19A)	12.92'	INV IN = 9.18' (24") INV OUT = 9.18' (24")
A-40	PRECAST DOUBLE TYPE 'S' INLET (BALT. CO. STD. D-2.19A)	12.93'	INV IN = 9.56' (18") INV OUT = 9.56' (24")
A-50	PRECAST DOUBLE TYPE 'S' INLET (BALT. CO. STD. D-2.19A)	12.92'	INV OUT = 9.93' (18")
B-10	PRECAST DOUBLE TYPE 'S' INLET (BALT. CO. STD. D-2.19A)	15.44'	INV IN = 11.33' (18") INV IN = 10.98' (18") INV OUT = 10.98' (18")
B-11	PRECAST DOUBLE TYPE 'S' INLET (BALT. CO. STD. D-2.19A)	13.82'	INV OUT = 11.30' (18")
B-20	PRECAST DOUBLE TYPE 'S' INLET (BALT. CO. STD. D-2.19A)	14.38'	INV OUT = 12.84' (18")
I-2	EX. INLET	15.94'	INV IN = 9.20' (18") INV OUT = 9.00' (48")
MH-5	EX. MANHOLE	15.89'	INV IN = 8.32' (30") INV OUT = 8.12' (30")

STORM SEWER PIPE SCHEDULE

FROM	FROM INV	TO	TO INV	PIPE LENGTH	SLOPE (%)	DIAMETER (IN.)	MATERIAL
A-10	8.46'	A-20	8.96'	251.07'	0.20%	24"	HDPE
A-20	8.96'	A-30	9.18'	112.52'	0.20%	24"	HDPE
A-30	9.18'	A-40	9.56'	186.50'	0.20%	24"	HDPE
A-40	9.56'	A-50	9.93'	186.50'	0.20%	18"	HDPE
B-10	11.33'	B-20	12.84'	125.52'	1.20%	18"	HDPE
B-10	10.98'	B-11	11.30'	32.40'	1.00%	18"	HDPE
I-2	9.20'	B-10	10.98'	271.09'	0.66%	18"	HDPE
MH-5	8.32'	A-10	8.46'	64.66'	0.21%	30"	HDPE

30 15 7.5 0 30
1"= 30'

ARCHITECTURAL REFERENCE

THIS PLAN IS BASED ON DRAWINGS RECEIVED FROM HOFMANN ASSOCIATES, INC., ENTITLED: "STINGRAY; 1940 RESERVIOR ROAD; BALTIMORE, MARYLAND 21219; BALTIMORE COUNTY" DATED JANUARY 24, 2022.

OWNERS

TPA PROPERTIES 4, LLC.
TPA PROPERTIES 6, LLC.
TPA PROPERTIES 23, LLC.
1600 SPARROWS POINT BLVD
BALTIMORE, MD 21219
CONTACT: MIKE HURWITZ
PHONE: 410-935-4443

DEVELOPER

TRADEPOINT DEVELOPMENT, LLC
1600 SPARROWS POINT BLVD
BALTIMORE, MD 21219
CONTACT: MIKE HURWITZ
PHONE: 410-935-4443

MARYLAND COORDINATE SYSTEM (MCS)

ELEVATIONS BASED ON NAVD 88, COORDINATES AND MERIDIAN ARE BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) PER MONUMENTS BCO #1433 AND GIS 2

TRACKING # DRC-XXX-XXXX; DRC# XXXXXXX; DIST XX

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LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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PROJECT No.:	MDA220065.00
DRAWN BY:	DMD
CHECKED BY:	MJG
DATE:	4/24/22
CAD I.D.:	MDA220065.00 - GRAD - 0

PROJECT:

CONSTRUCTION DOCUMENTS

FOR

TRADEPOINT ATLANTIC

1940 RESERVOIR ROAD
BALTIMORE, MD 21219
15TH ELECTION DISTRICT
7TH COUNCILMANIC DISTRICT
TAX MAP 111, GRID 14, PARCEL 318
BALTIMORE COUNTY

BOHLER//
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

M.J. GESELL
PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 44097
PROFESSIONAL CERTIFICATION
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SHEET TITLE:

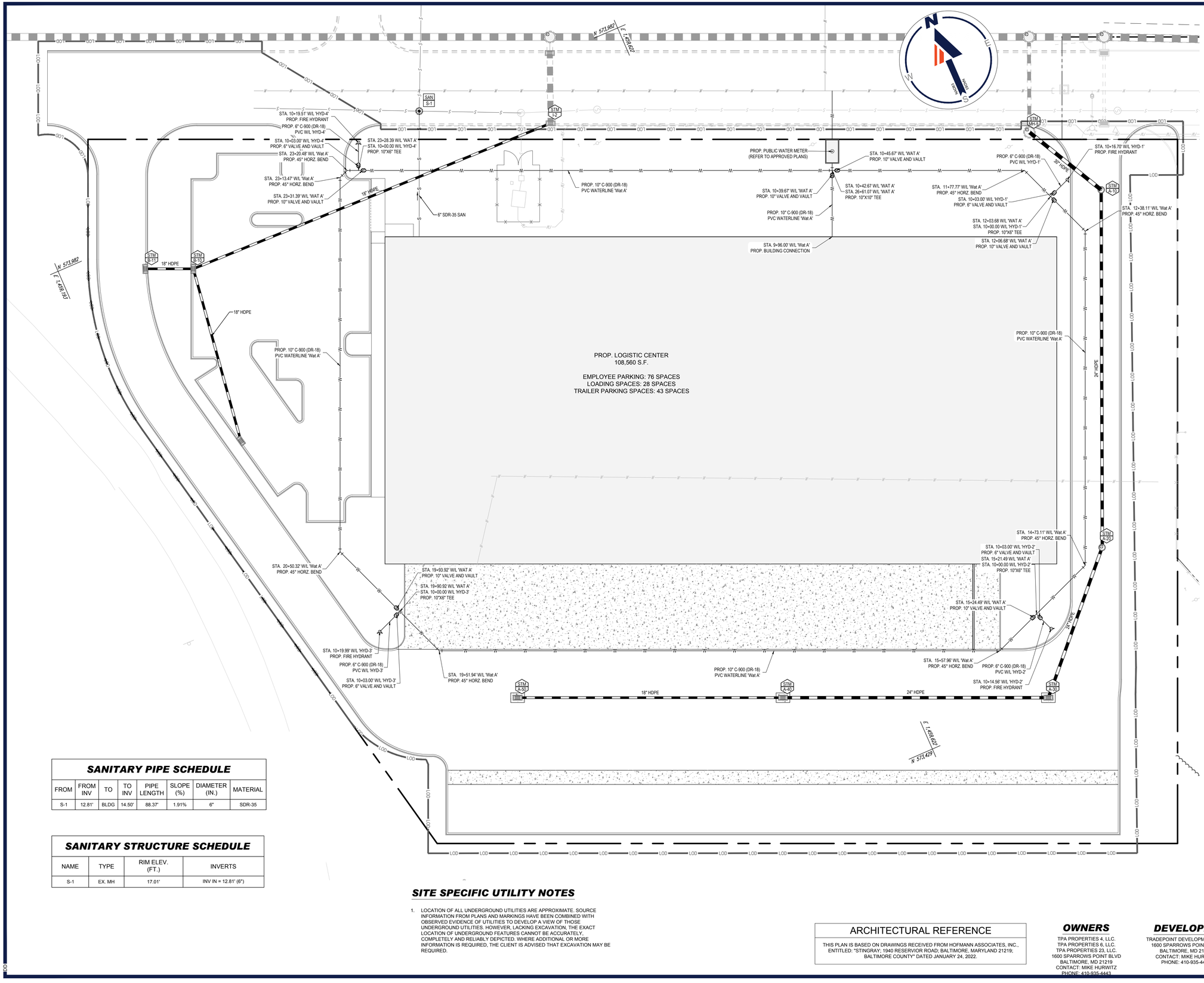
GRADING PLAN

SHEET NUMBER:

C-401

ORG. DATE - 4/25/22

May 02, 2022
C:\PROGRAMDATA\BOHLER\C3D2020\TEMP\ACPUBLISH_45000\MDA220065.00 - GRAD - 0----->LAYOUT: C-401 GRADING PLAN



SANITARY PIPE SCHEDULE

FROM	FROM INV	TO	TO INV	PIPE LENGTH	SLOPE (%)	DIAMETER (IN.)	MATERIAL
S-1	12.81'	BLDG	14.50'	88.37'	1.91%	6"	SDR-35

SANITARY STRUCTURE SCHEDULE

NAME	TYPE	RIM ELEV. (FT.)	INVERTS
S-1	EX. MH	17.01'	INV IN = 12.81' (6")

SITE SPECIFIC UTILITY NOTES

1. LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. SOURCE INFORMATION FROM PLANS AND MARKINGS HAVE BEEN COMBINED WITH OBSERVED EVIDENCE OF UTILITIES TO DEVELOP A VIEW OF THOSE UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE REQUIRED.

ARCHITECTURAL REFERENCE
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TRACKING # DRC-XXX-XXXX; DRC# XXXXXXX; DIST XX

30 15 7.5 0 30
1"= 30'

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CHECKED BY:	MJG
DATE:	4/24/22
CAD I.D.:	MDA220065.00 - UTIL - 0

PROJECT:

CONSTRUCTION DOCUMENTS

FOR

TRADEPOINT ATLANTIC

1940 RESERVOIR ROAD
BALTIMORE, MD 21219
15TH ELECTION DISTRICT
7TH COUNCILMANIC DISTRICT
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SHEET TITLE:

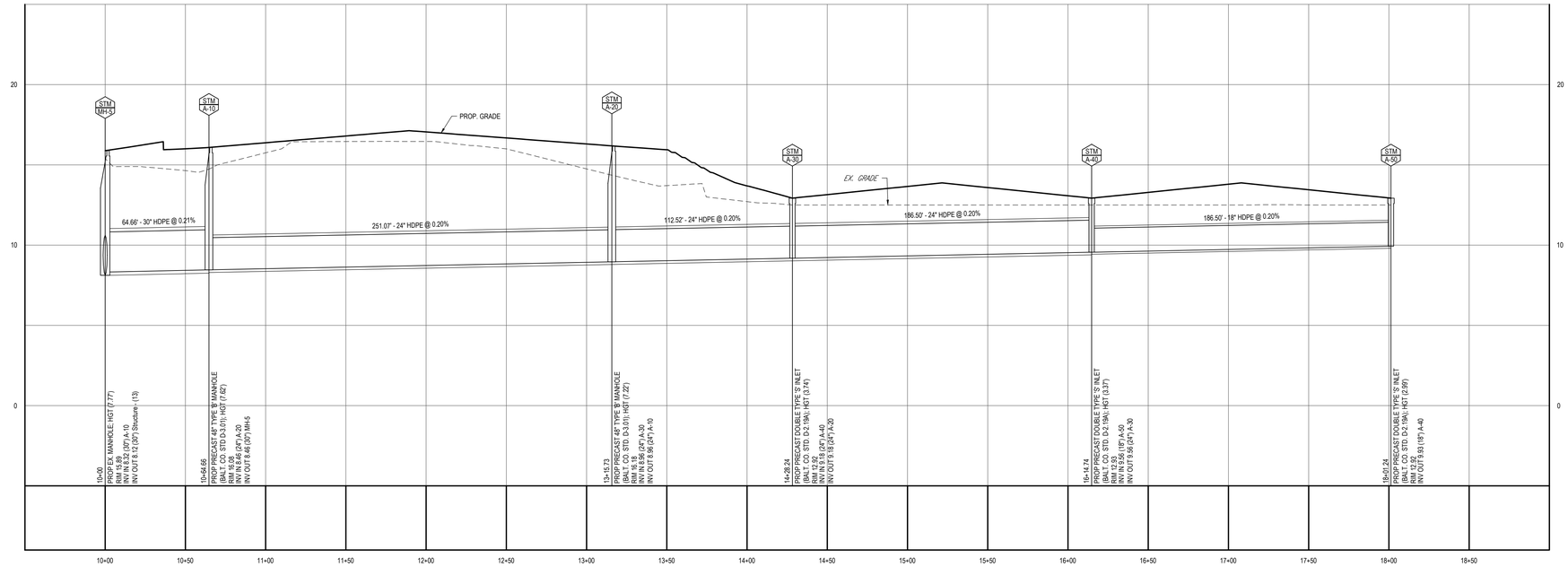
UTILITY PLAN

SHEET NUMBER:

C-501

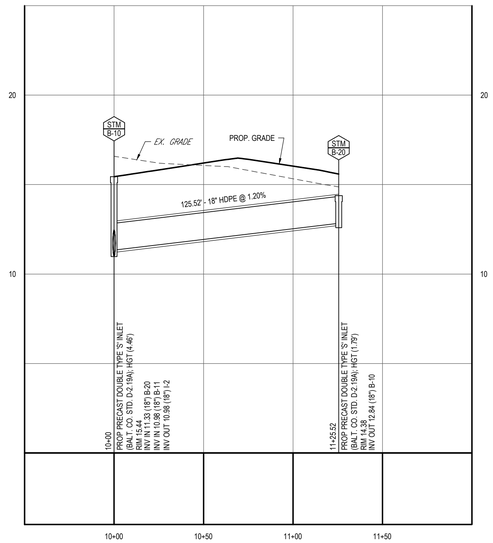
ORG. DATE - 4/25/22

May 02, 2022
H:\2022\MDA220065.00\CAD\DRAWINGS\PLAN SETS\CONSTRUCTION DOCUMENTS\MDA220065.00 - UTIL - 0 - 11x17\OUT C-501 UTILITY PLAN



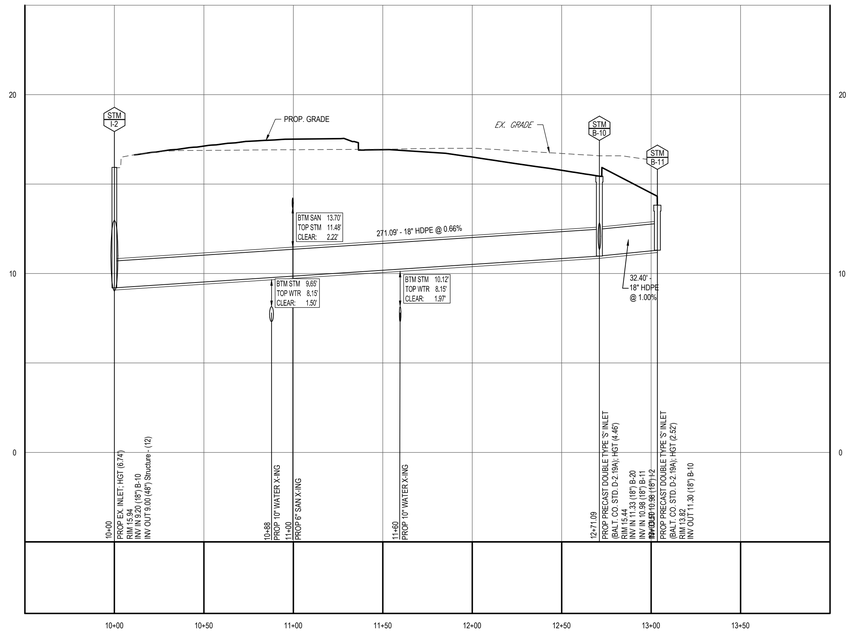
PROPOSED STORM DRAIN - MH5 TO A-50

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL



PROPOSED STORM DRAIN - B-10 TO B-20

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL



PROPOSED STORM DRAIN - I-2 TO B-11

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL

40 20 10 0 40
1"= 40'

4 2 1 0 4
1"= 4'

ELEVATIONS BASED ON NAVD 88.
COORDINATES AND MERIDIAN ARE BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) PER MONUMENTS BCO #14433 AND GIS 2

TRACKING # DRC-XXX-XXXX; DRC# XXXXXXX; DIST XX

REVISIONS

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CAD I.D.:	MDA220065.00 - PSTM - 0

PROJECT:

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1940 RESERVOIR ROAD
BALTIMORE, MD 21219
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7TH COUNCILMANIC DISTRICT
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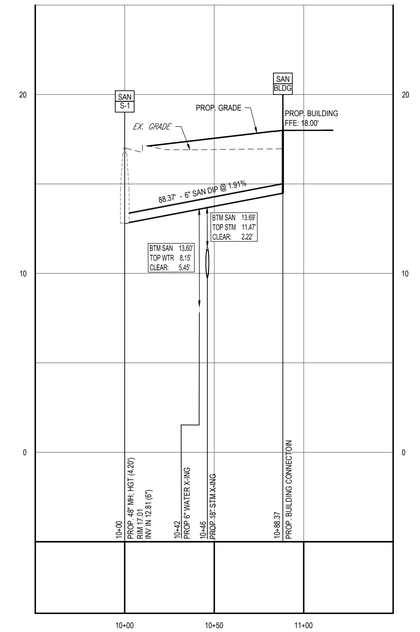
SHEET TITLE:

STORM DRAIN PROFILES

SHEET NUMBER:

C-801

ORG. DATE - 4/25/22



PROPOSED SANITRAY SEWER - S-1 TO BLDG

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL

40 20 10 0 40
1"= 40'

4 2 1 0 4
1"= 4'

ELEVATIONS BASED ON NAVD 88.
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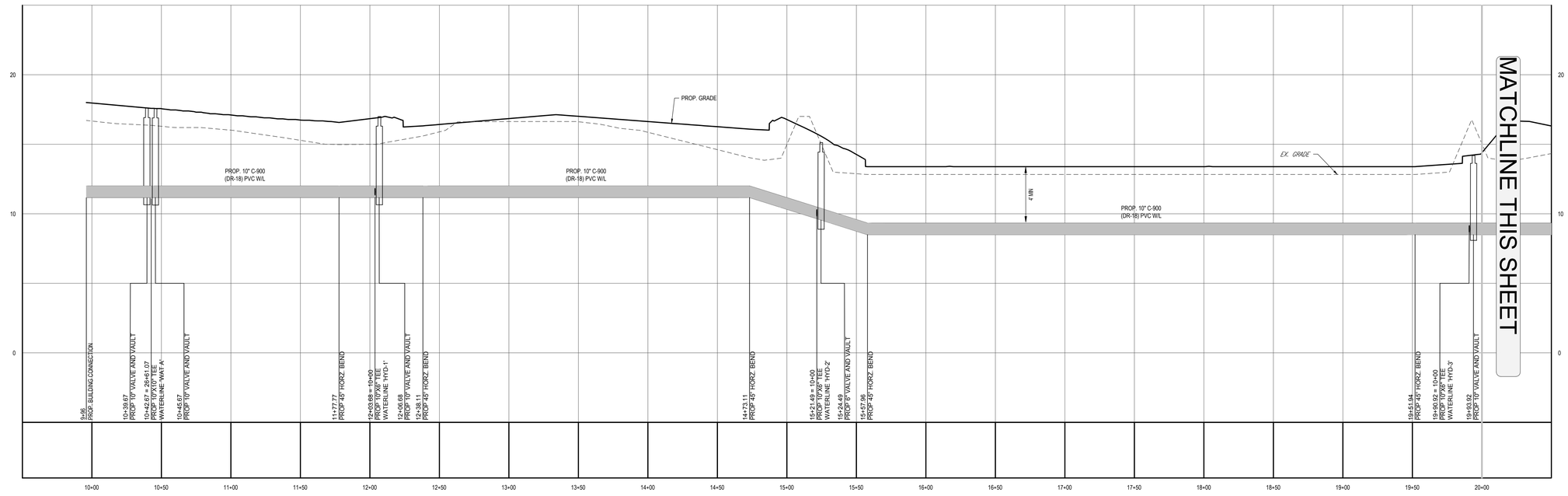
SHEET TITLE:

SANITARY SEWER PROFILE

SHEET NUMBER:

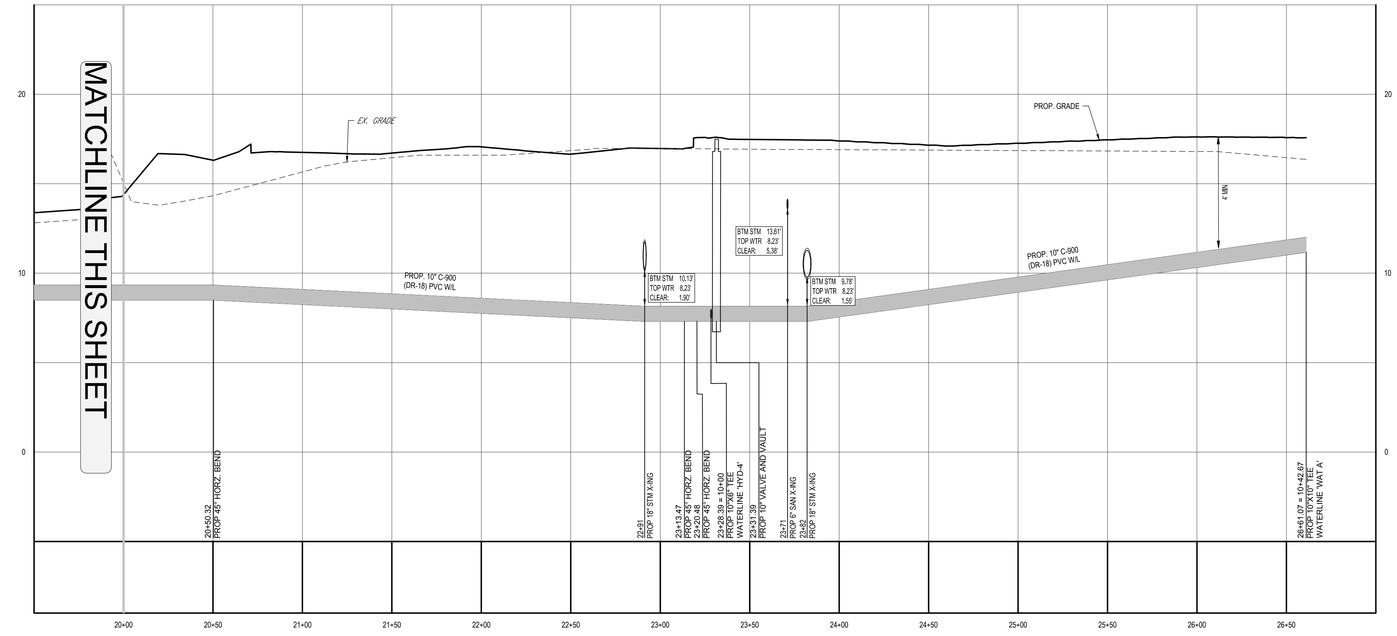
C-802

ORG. DATE - 4/25/22



PROPOSED WATERLINE - A

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL



PROPOSED WATERLINE - A

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL

40 20 10 0 40
1"= 40'

4 2 1 0 4
1"= 4'

ELEVATIONS BASED ON NAVD 88.
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TRACKING # DRC-XXX-XXXX; DRC# XXXXXXX; DIST XX

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DRAWN BY:	DMD
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CAD I.D.:	MDA220065.00 - PWAT - 0

PROJECT:

CONSTRUCTION DOCUMENTS

FOR

TRADEPOINT ATLANTIC

1940 RESERVOIR ROAD
BALTIMORE, MD 21219
15TH ELECTION DISTRICT
7TH COUNCILMANIC DISTRICT
TAX MAP 111, GRID 14, PARCEL 318
BALTIMORE COUNTY

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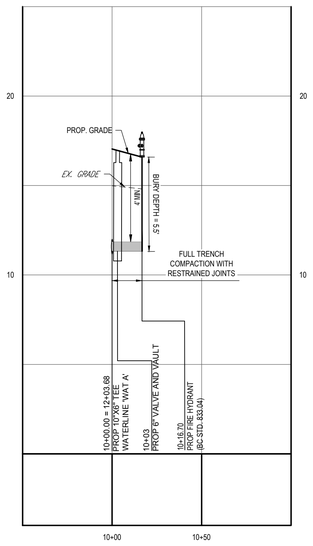
SHEET TITLE:

WATERLINE PROFILES

SHEET NUMBER:

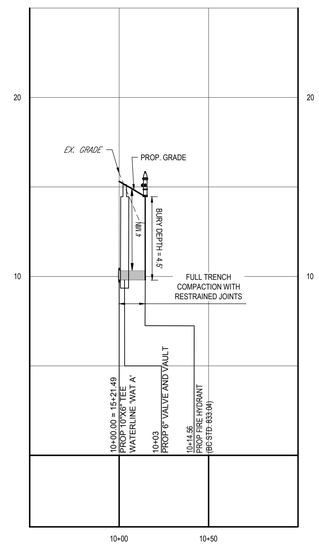
C-803

ORG. DATE - 4/25/22



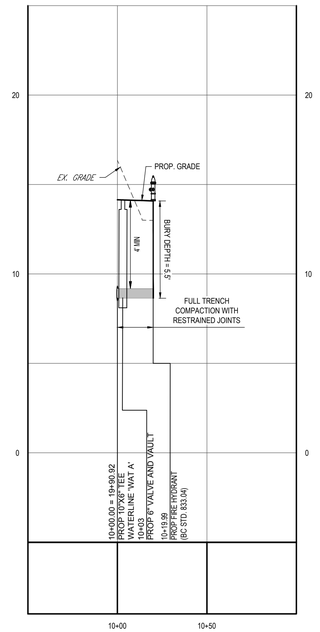
PROPOSED WATERLINE - HYD-1

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL



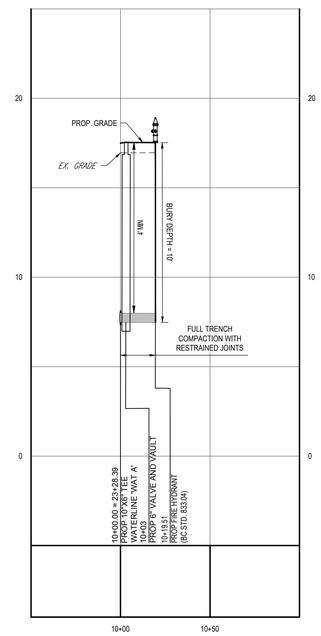
PROPOSED WATERLINE - HYD-2

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL



PROPOSED WATERLINE - HYD-3

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL



PROPOSED WATERLINE - HYD-4

SCALE: 1"= 40 ' HORIZONTAL
1"= 4 ' VERTICAL

40 20 10 0 40
1"= 40'

4 2 1 0 4
1"= 4'

ELEVATIONS BASED ON NAVD 88.
COORDINATES AND MERIDIAN ARE BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) PER MONUMENTS BCO #1433 AND GIS 2

TRACKING # DRC-XXX-XXXX; DRC# XXXXXXX; DIST XX

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CAD I.D.:	MDA220065.00 - PWAT - 0

PROJECT:

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BALTIMORE, MD 21219
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7TH COUNCILMANIC DISTRICT
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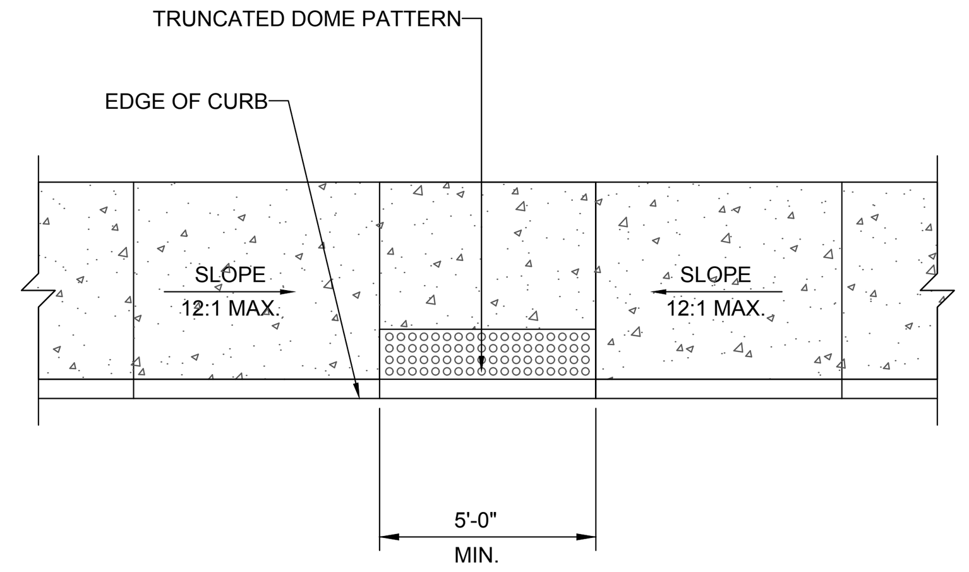
SHEET TITLE:

WATERLINE PROFILES

SHEET NUMBER:

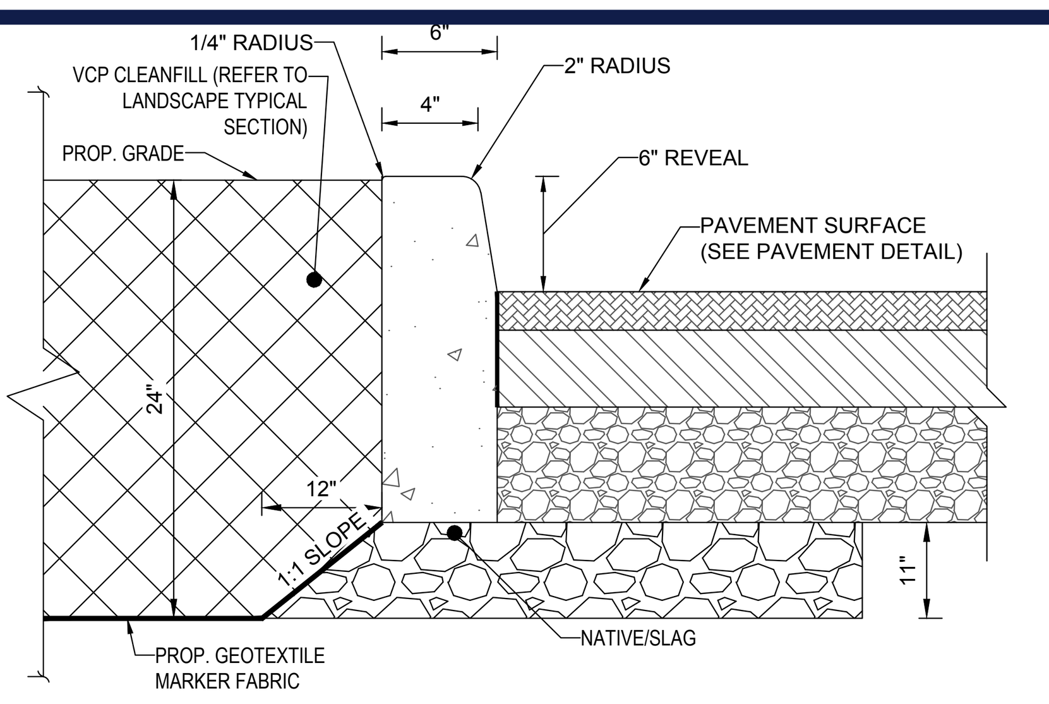
C-804

ORG. DATE - 4/25/22



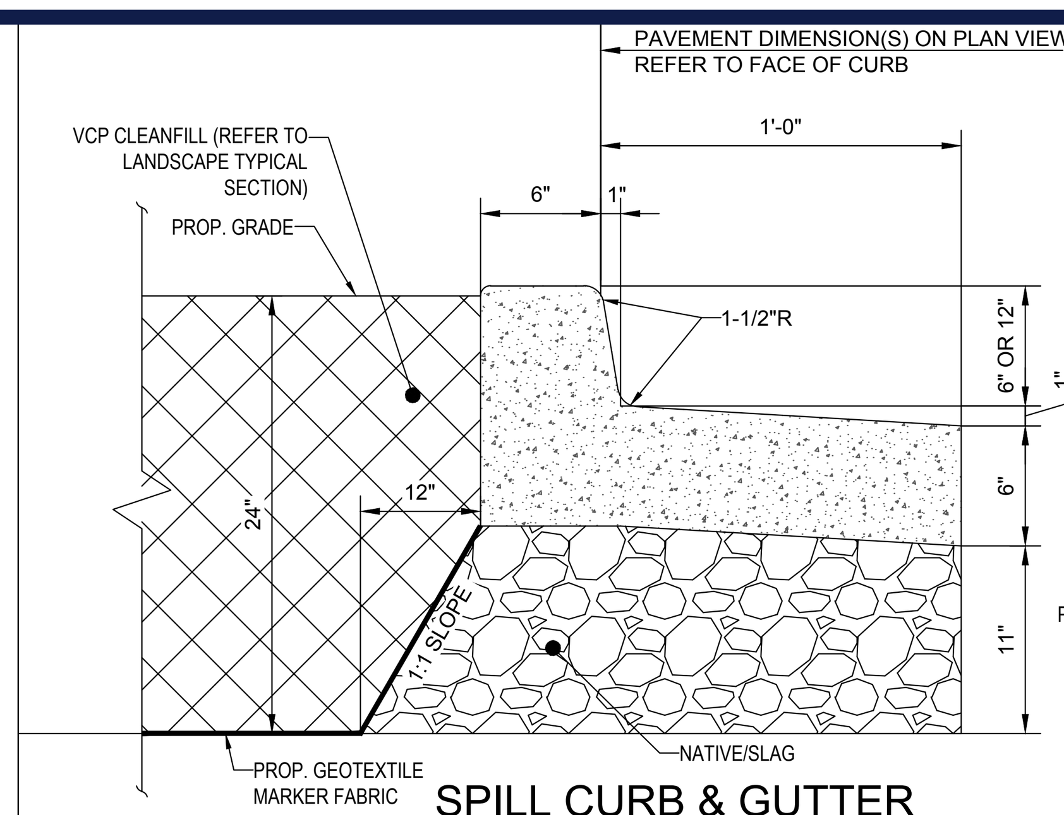
NOTE:
ADA ACCESSIBLE RAMP CONSTRUCTION SHALL CONFORM TO CURRENT ADA ACCESSIBLE GUIDELINES.

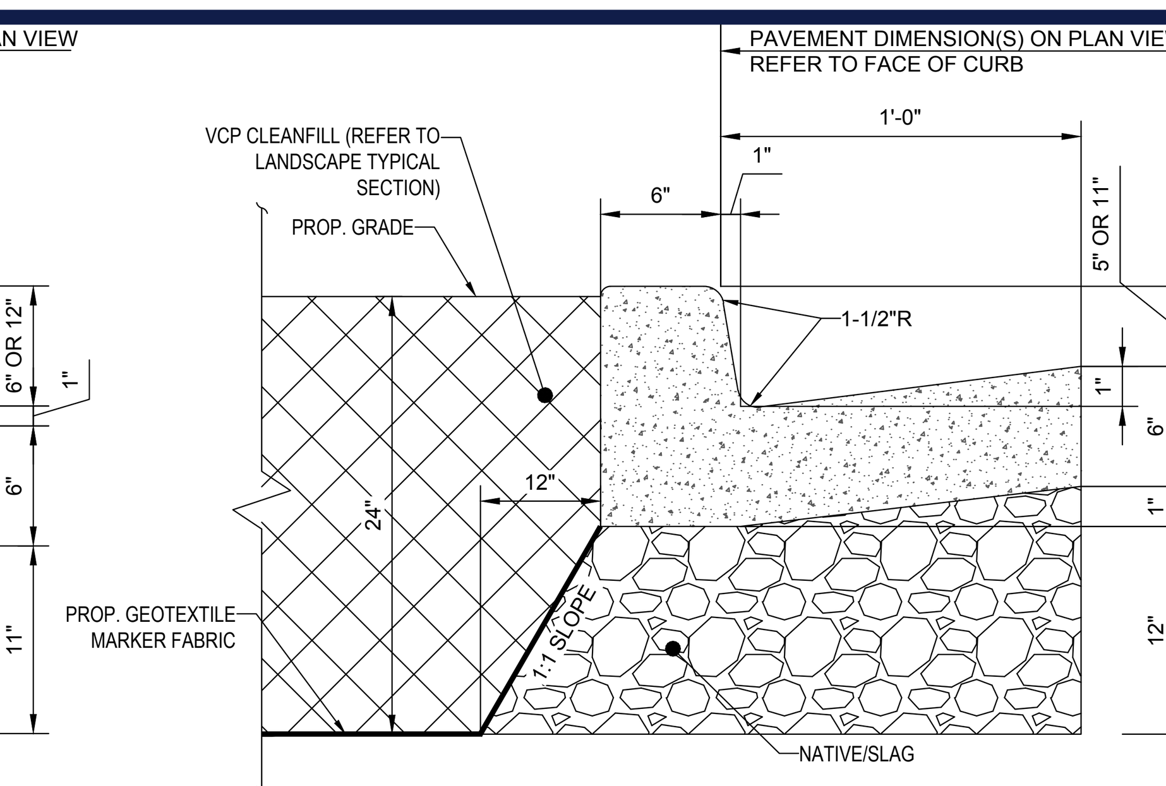
ADA ACCESSIBLE RAMP DETAIL
NOT TO SCALE



NOTES:
1. EXPANSION JOINTS TO BE INSTALLED AT 20' INTERVALS.
2. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
3. CONCRETE TO BE CLASS A3 IF CAST IN PLACE OR 4000 P.S.I. IF PRECAST.

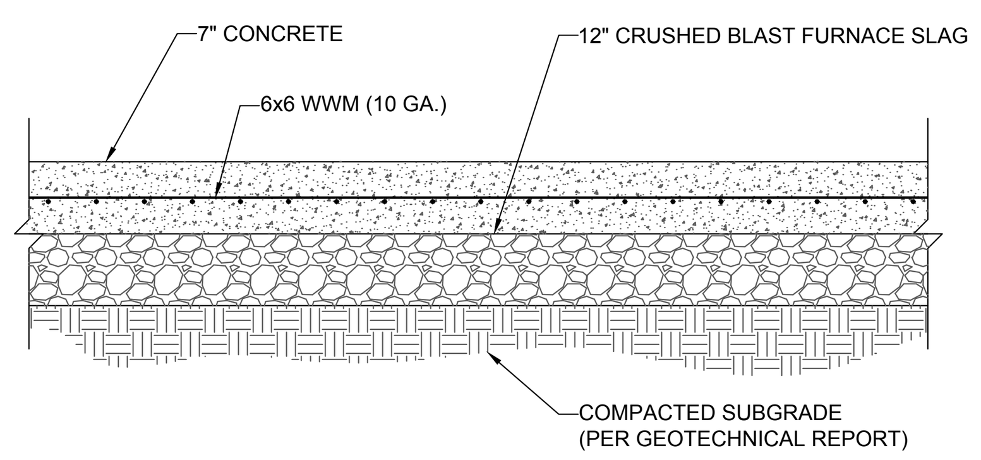
HEADER CURB DETAIL
NOT TO SCALE





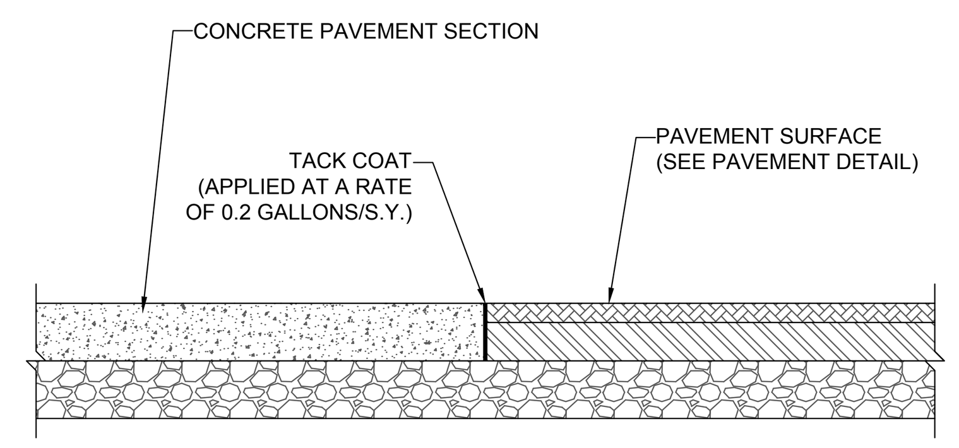
NOTES:
1. CONCRETE FOR CURBING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. @ 28 DAYS.
2. CONSTRUCTION STAKING FOR CURB INSTALLATION SHALL BE REFERENCED (CUT OR FILL) TO THE TOP OF CURB.
3. AT CONTRACTOR'S OPTION, THE GUTTER THICKNESS MAY BE INCREASED AT THE EDGE OF PAVEMENT TO MAKE BOTTOM OF GUTTER CONTIGUOUS WITH BOTTOM OF ASPHALT PAVEMENT.
4. CONTRACTION JOINTS SHALL BE PLACED @ 10'-0" O.C. TOOLED 1/4" (±1/16") WIDE, 1" DEEP. EXPANSION JOINTS SHALL BE PLACED @ 40'-0" INTERVALS, MAXIMUM, AND ALL P.C.'S.
5. GUTTER PAN SLOPE TO BE ADJUSTED WITHIN ACCESSIBLE PARKING SPACES TO MATCH SLOPE BETWEEN SPOT ELEVATIONS.

CONCRETE CURB & GUTTER DETAIL
NOT TO SCALE

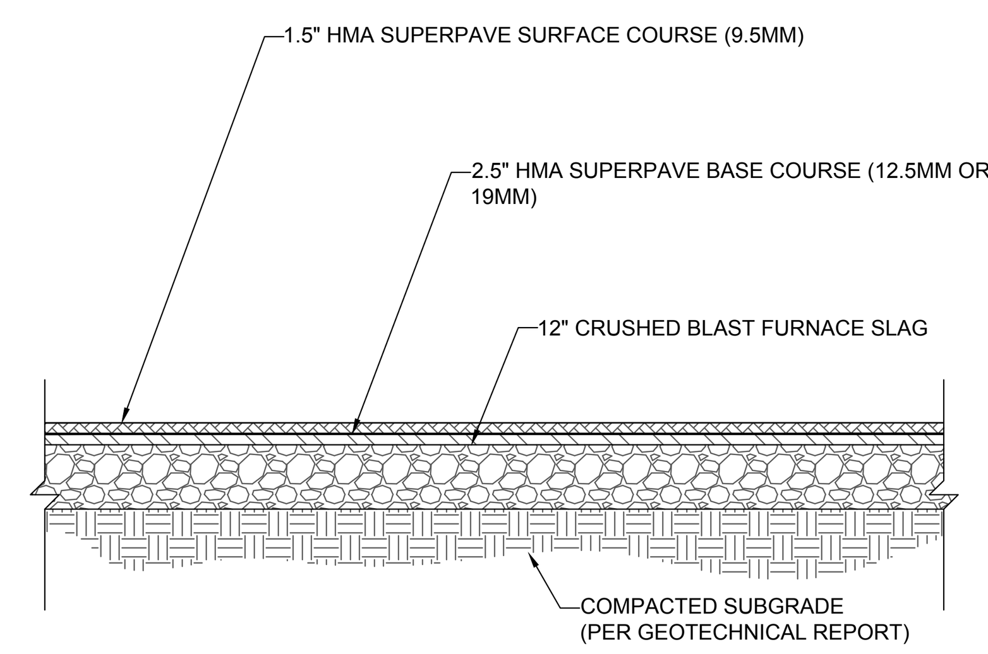


NOTE:
1. SECTION SHOWN IS BASED ON ANTICIPATED CBR OF 5 PER GEOTECHNICAL REPORT PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, ENTITLED: "GEOTECHNICAL ENGINEERING STUDY; TPA A-11 BUILDING; TRADEPOINT ATLANTIC; BALTIMORE COUNTY", DATED MARCH 4, 2022 (PROJECT # 21490A). FINAL DESIGN TO BE PROVIDED ONCE FINAL CBR'S ARE AVAILABLE ON COMPACTED SUB-BASE.

HEAVY DUTY CONCRETE SECTION
NOT TO SCALE

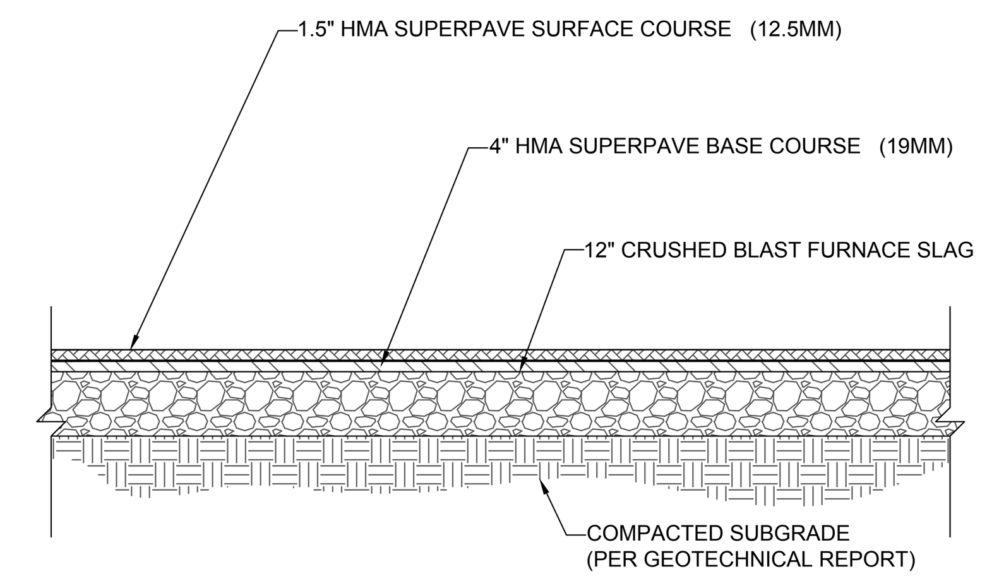


CONCRETE-TO-ASPHALT DETAIL
NOT TO SCALE



NOTE:
1. SECTION SHOWN IS BASED ON ANTICIPATED CBR OF 5 PER GEOTECHNICAL REPORT PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, ENTITLED: "GEOTECHNICAL ENGINEERING STUDY; TPA A-11 BUILDING 1; TRADEPOINT ATLANTIC; BALTIMORE COUNTY", DATED MARCH 4, 2022 (PROJECT # 21490A). FINAL DESIGN TO BE PROVIDED ONCE FINAL CBR'S ARE AVAILABLE ON COMPACTED SUB-BASE.

STANDARD DUTY ASPHALT PAVEMENT SECTION
NOT TO SCALE



NOTE:
1. SECTION SHOWN IS BASED ON ANTICIPATED CBR OF 5 PER GEOTECHNICAL REPORT PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, ENTITLED: "GEOTECHNICAL ENGINEERING STUDY; TPA A-11 BUILDING 1; TRADEPOINT ATLANTIC; BALTIMORE COUNTY", DATED MARCH 4, 2022 (PROJECT # 21490A). FINAL DESIGN TO BE PROVIDED ONCE FINAL CBR'S ARE AVAILABLE ON COMPACTED SUB-BASE.

HEAVY DUTY ASPHALT PAVEMENT SECTION
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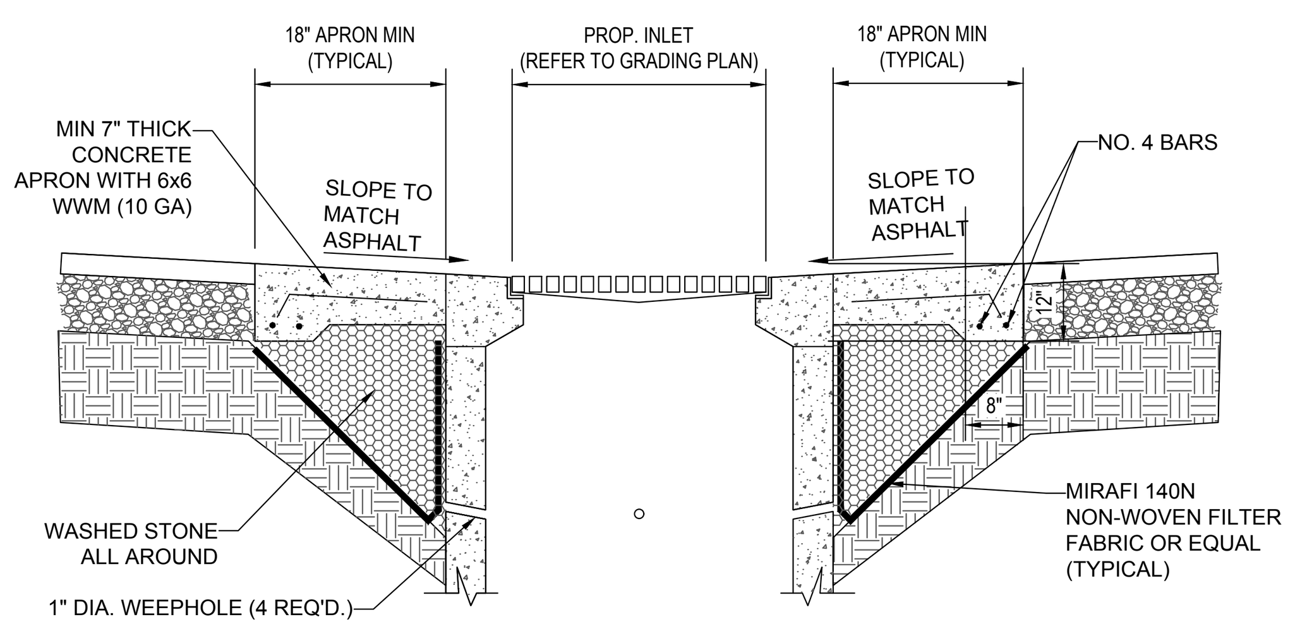
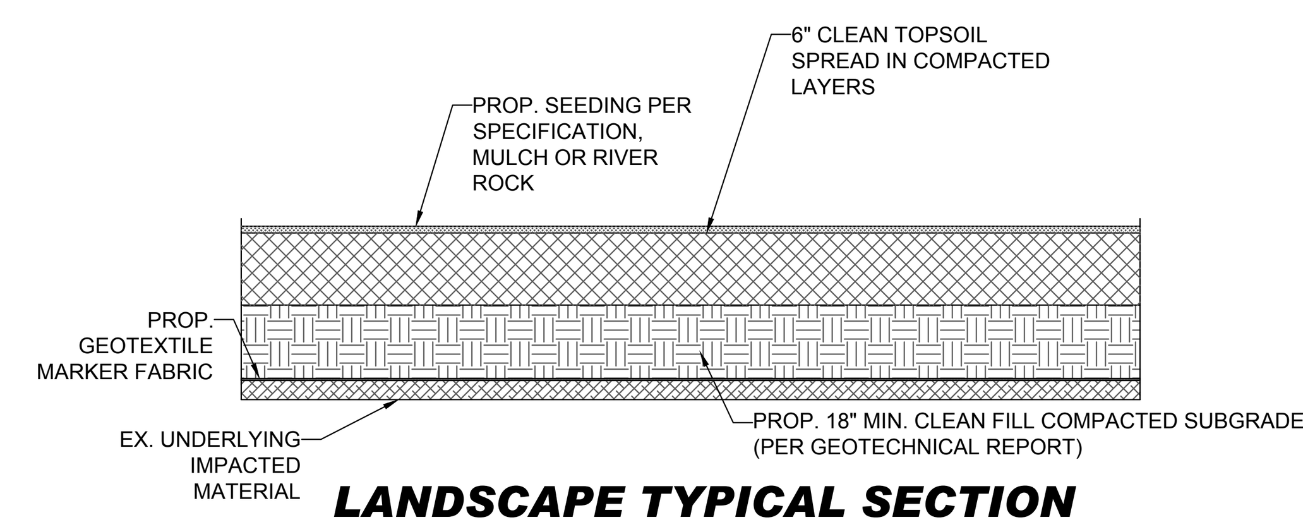
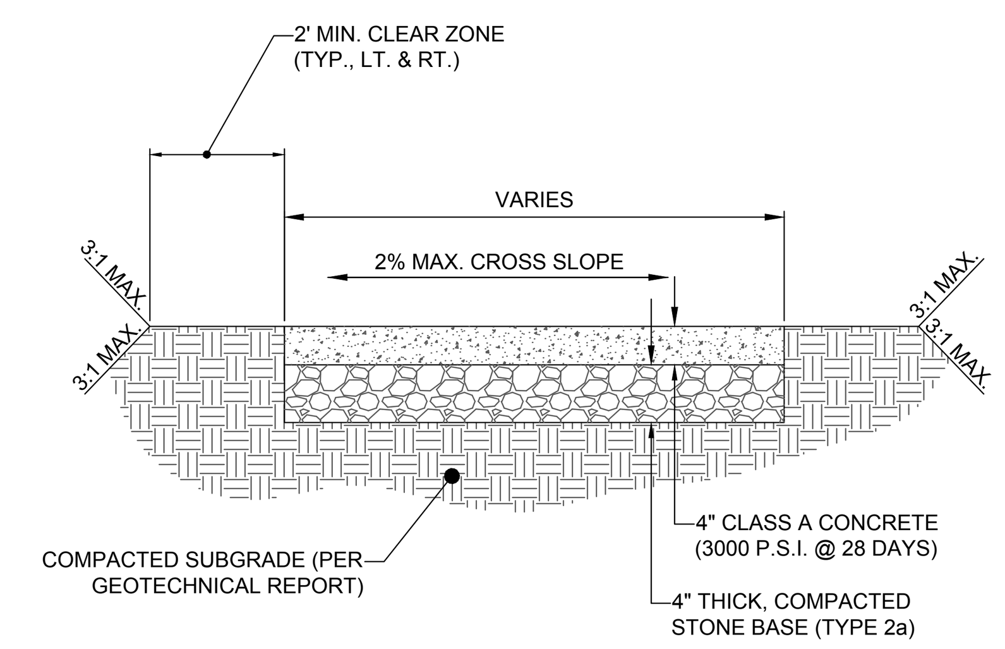


CONCRETE APRON AROUND INLET DETAIL
NOT TO SCALE

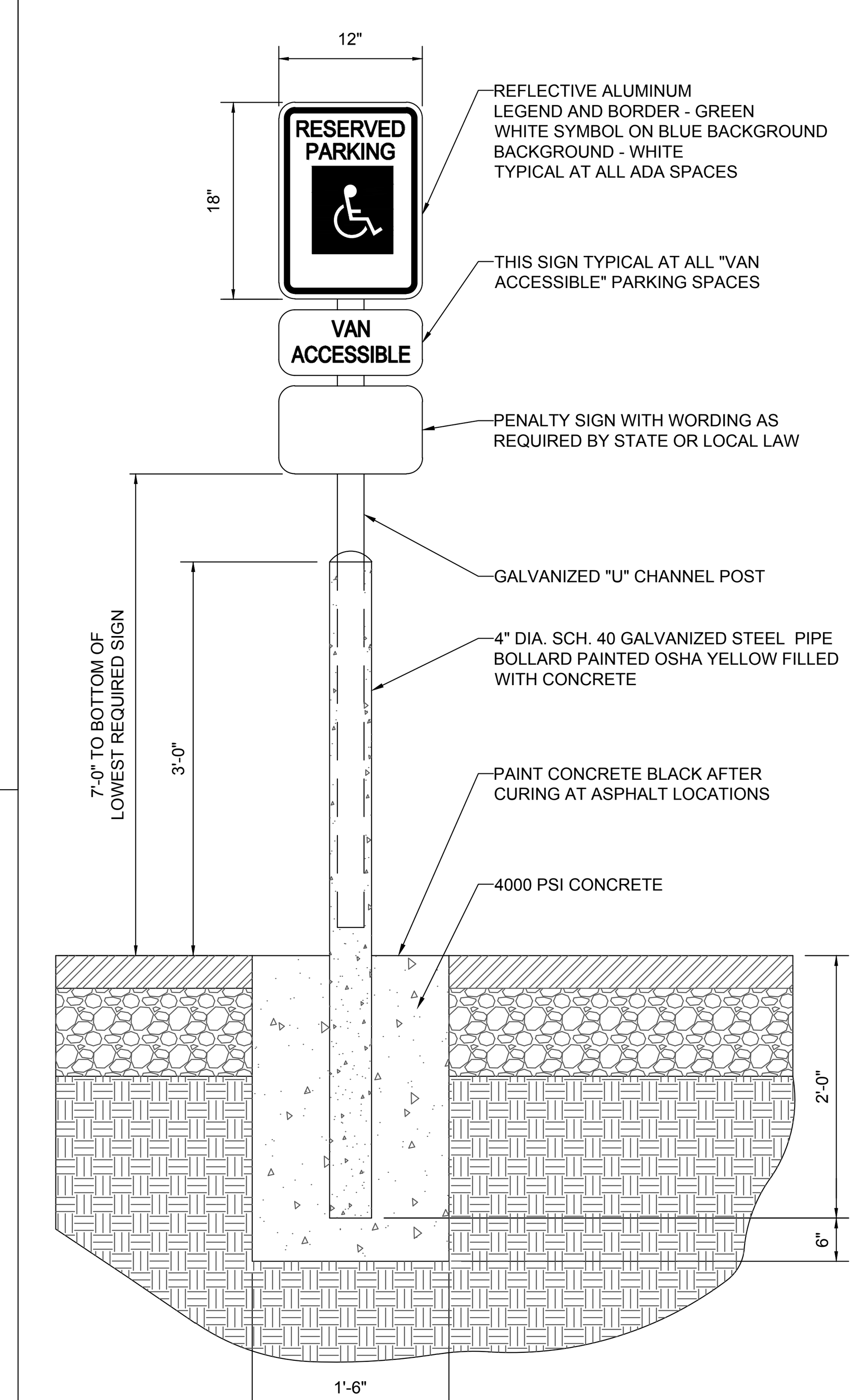


LANDSCAPE TYPICAL SECTION (LAWN AREA)
NOT TO SCALE



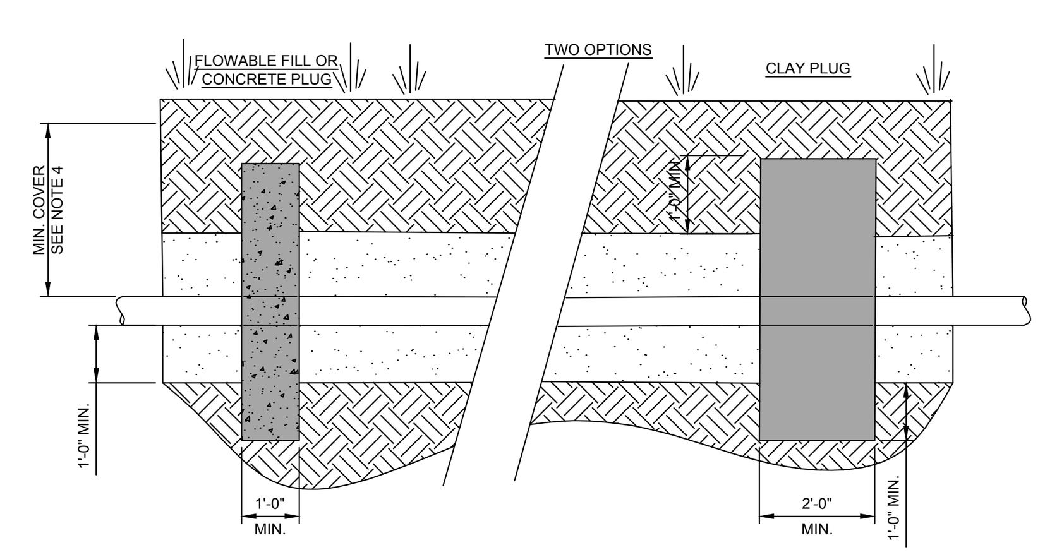
NOTE:
1. EXPANSION JOINTS 1/2" WIDE PREMOLDED BIT. MATERIAL SHALL BE INSTALLED AT 30' INTERVALS, CRACK CONTROL JOINTS TO BE SPACED AT INTERVALS EQUAL TO SIDEWALK WIDTH.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE

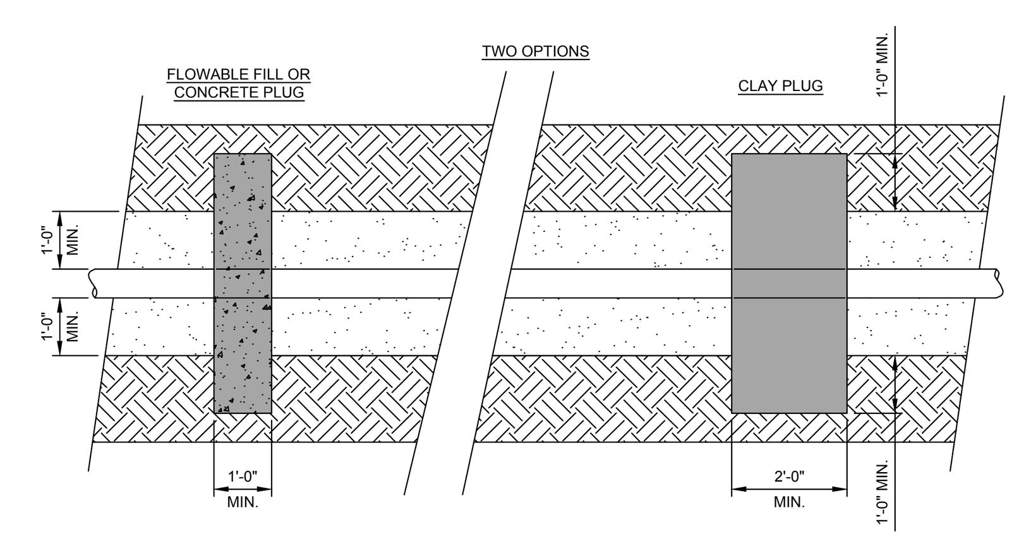


NOTE:
ONE AT EACH ADA SPACE. WHERE ADA SPACES FACE EACH OTHER WITHOUT WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED BOTH SIDES

BOLLARD MOUNTED ADA P
NOT TO SCAL



SECTION: TYPICAL UTILITY TRENCH PLUG
NOT TO SCALE



PLAN: TYPICAL UTILITY TRENCH PLUG
NOT TO SCALE

ELEVATIONS BASED ON NAVD 88, COORDINATES AND MERIDIAN ARE BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) PER MONUMENTS BCO #1433 AND GIS 2

TRACKING # DRC-XXX-XXXX; DRC# XXXXXXX; DIST XX

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
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REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

ALWAYS CALL 811
It's fast. It's free. It's the law.

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:	MDA220065.00
DRAWN BY:	DMD
CHECKED BY:	MJG
DATE:	4/24/22
CAD I.D.:	MDA220065.00 - CNDS-0

PROJECT:

CONSTRUCTION DOCUMENTS
FOR
TRADEPOINT ATLANTIC

1940 RESERVOIR ROAD
BALTIMORE, MD 21219
15TH ELECTION DISTRICT
7TH COUNCILMANIC DISTRICT
TAX MAP 111, GRID 14, PARCEL 318
BALTIMORE COUNTY

BOHLER
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

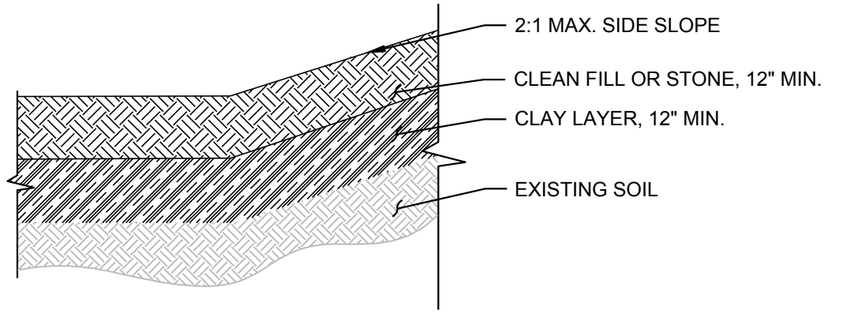
M.J. GESELL
PROFESSIONAL ENGINEER
MARYLAND LICENSE No. 44097
PROFESSIONAL CERTIFICATION
I, MICHAEL J. GESELL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44097, EXPIRATION DATE: 6/9/23

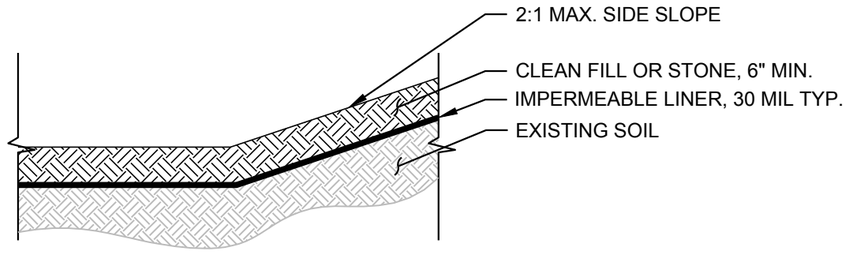
SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
C-901

ORG. DATE - 4/25/22

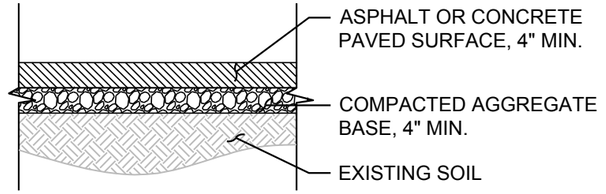
APPENDIX E



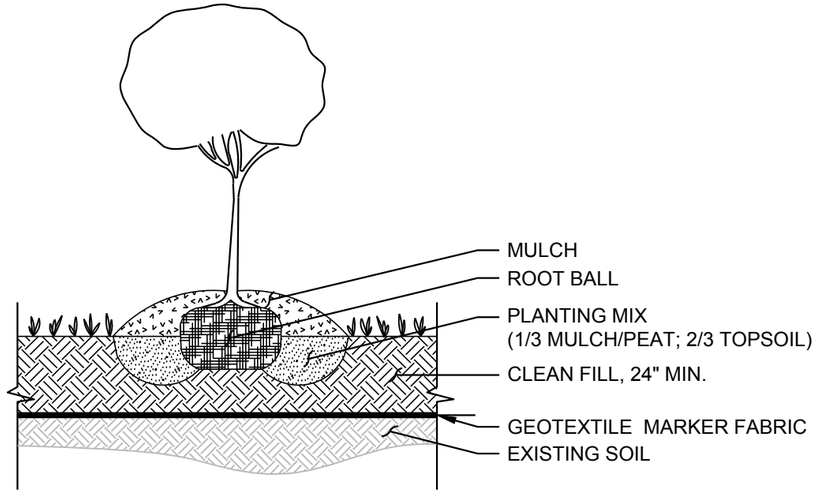


TYPICAL POND SECTIONS
NOT TO SCALE

TYPICAL LANDSCAPE SECTION
NOT TO SCALE



TYPICAL PAVING SECTION
NOT TO SCALE



TYPICAL PLANTING SECTION
NOT TO SCALE

GEOTEXTILE MARKER FABRIC SPECIFICATIONS

THE GEOTEXTILE MARKER FABRIC SHALL BE A NONWOVEN PERVIOUS SHEET OF POLYPROPYLENE MATERIAL. ADD STABILIZERS AND/OR INHIBITORS TO THE BASE MATERIAL, AS NEEDED, TO MAKE THE FILAMENTS RESISTANT TO DETERIORATION BY ULTRAVIOLET LIGHT, OXIDATION AND HEAT EXPOSURE. REGRIND MATERIAL, WHICH CONSISTS OF EDGE TRIMMINGS AND OTHER SCRAPS THAT HAVE NEVER REACHED THE CONSUMER, MAY BE USED TO PRODUCE THE GEOTEXTILE. POST-CONSUMER RECYCLED MATERIAL MAY BE USED. GEOTEXTILE SHALL BE FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING THE EDGES. GEOTEXTILES SHALL MEET THE REQUIREMENTS SPECIFIED IN TABLE 1. WHERE APPLICABLE, TABLE 1 PROPERTY VALUES REPRESENT THE MINIMUM AVERAGE ROLL VALUES IN THE WEAKEST PRINCIPAL DIRECTION. VALUES FOR APPARENT OPENING SIZE (AOS) REPRESENT MAXIMUM AVERAGE ROLL VALUES

TABLE 1

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	120 (534)	120 (534)
Grab Tensile Elongation	ASTM D4632	%	50	50
Trapezoid Tear Strength	ASTM D4533	lbs (N)	50 (223)	50 (223)
CBR Puncture Strength	ASTM D6241	lbs (N)	310 (1380)	
			Maximum Opening Size	
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	70 (0.212)	
			Minimum Roll Value	
Permittivity	ASTM D4491	sec^{-1}	1.7	
Flow Rate	ASTM D4491	$gal/min/ft^2$ ($l/min/m^2$)	135 (5500)	
			Minimum Test Value	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	70	

ARM Group LLC
Engineers and Scientists

designed RJC
checked TNP
drawn RJC
scale N/A
date 9/8/2020
project no. 160443M

drawing title: MINIMUM CAPPING SECTION DETAILS

project title: SPARROWS POINT TRADEPOINT ATLANTIC

SPARROWS POINT
BALT. COUNTY, MARYLAND

Sheet 1

APPENDIX F

EXTERIOR WALL

6" DWV HEADER PIPE LEADING TO 6" PVC40 ELBOW (INTERIOR OF WALL) & 6" PVC40 PIPE RISER MOUNTED ON INTERIOR TO >2 FEET ABOVE RIDGE/ROOF LINE; TOP OF 6" PVC40 RISER PIPE EQUIPPED WITH 12" STAINLESS STEEL WIND TURBINE.

0' 10'

4" PERFORATED DRAINPIPE

6" PVC40 ELBOW-90 SOCxSOC & 6" PVC40 RISER PIPE; MOUNTED ON INTERIOR WALL & TERMINATING ≥2 FEET ABOVE ROOF LINE WITH 12" STAINLESS STEEL WIND TURBINE

6" DWV TEE HUBxHUBxHUB

6X4 DWV FLUSH REDUCER BUSHING SPGxSOC

4" PERFORATED DRAINPIPE

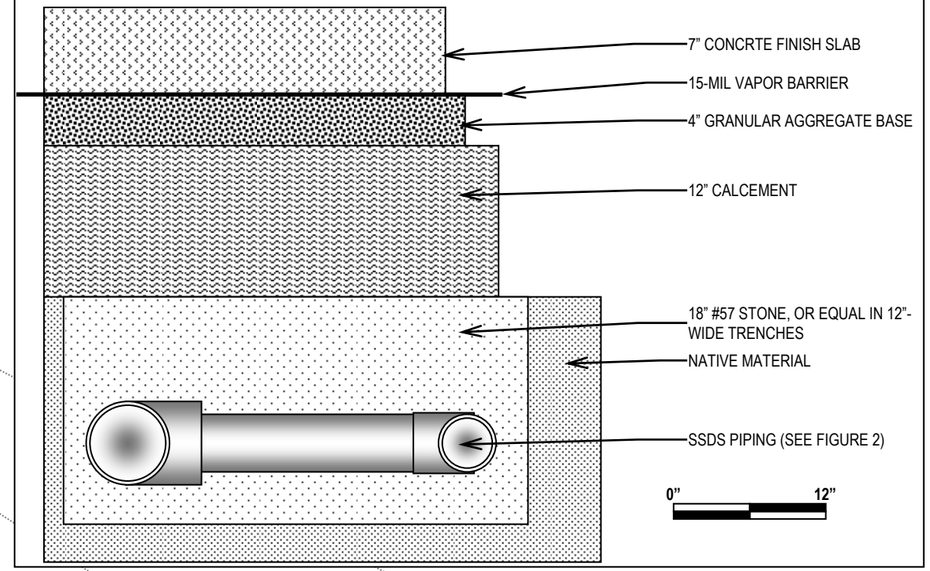
6" DWV PIPE

6X4 DWV SANITARY TEE HUBxHUBxHUB

SSDS PIPING SCHEMATIC

0" 12"

SUB-SLAB CONSTRUCTION PROFILE SCHEMATIC



PARCEL A11-2 SUB-SLAB PIPING SCHEMATIC	FIGURE 1
ARM Group LLC Engineers and Scientists	TRADEPOINT ATLANTIC SPARROWS POINT BALTIMORE COUNTY, MD ARM PROJECT: 21010111-3-1

STEGO® WRAP VAPOR BARRIER

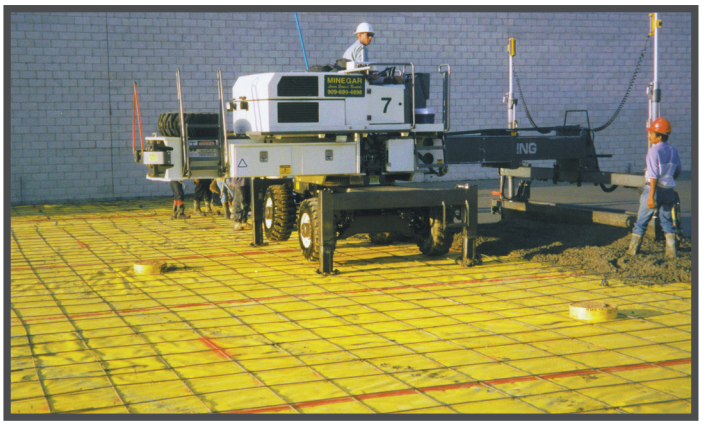
A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JULY 20, 2018

1. PRODUCT NAME

STEGO WRAP VAPOR BARRIER

2. MANUFACTURER

Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
contact@stegoindustries.com
www.stegoindustries.com



3. PRODUCT DESCRIPTION

USES: Stego Wrap Vapor Barrier is used as a below-slab vapor barrier.

COMPOSITION: Stego Wrap Vapor Barrier is a multi-layer plastic extrusion manufactured with only high grade prime, virgin, polyolefin resins.

ENVIRONMENTAL FACTORS: Stego Wrap Vapor Barrier can be used in systems for the control of soil gases (radon, methane), soil poisons (oil by-products) and sulfates.

4. TECHNICAL DATA

TABLE 1: PHYSICAL PROPERTIES OF STEGO WRAP VAPOR BARRIER

PROPERTY	TEST	RESULTS
Under Slab Vapor Retarders	ASTM E1745 Class A, B & C– Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs	Exceeds Class A, B & C
Water Vapor Permeance	ASTM F1249 – Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor	0.0086 perms
Permeance After Conditioning (ASTM E1745 Sections 7.1.2 - 7.1.5)	ASTM E154 Section 8, F1249 – Permeance after wetting, drying, and soaking ASTM E154 Section 11, F1249 – Permeance after heat conditioning ASTM E154 Section 12, F1249 – Permeance after low temperature conditioning ASTM E154 Section 13, F1249 – Permeance after soil organism exposure	0.0098 perms 0.0091 perms 0.0097 perms 0.0095 perms
Methane Transmission Rate	ASTM D1434 – Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting	192.8 GTR* (mL(STP)/m^2*day)
Radon Diffusion Coefficient	K124/02/95	8.8 x 10^{-12} m^2/second
Puncture Resistance	ASTM D1709 – Test Method for Impact Resistance of Plastic Film by Free-Falling Dart Method	2,266 grams
Tensile Strength	ASTM D882 – Test Method for Tensile Properties of Thin Plastic Sheeting	70.6 lbf/in
Thickness		15 mil
Roll Dimensions	width x length: area:	14' x 140' 1,960 ft^2
Roll Weight		140 lb

Note: perm unit = grains/(ft^2*hr*in-Hg)
*GTR = Gas Transmission Rate

Continued...
Note – legal notice on page 2.

STEGO® WRAP VAPOR BARRIER

A STEGO INDUSTRIES, LLC INNOVATION | VAPOR RETARDERS 07 26 00, 03 30 00 | VERSION: JULY 20, 2018

5. INSTALLATION

UNDER SLAB: Unroll Stego Wrap Vapor Barrier over an aggregate, sand or tamped earth base. Overlap all seams a minimum of 6 inches and tape using Stego® Tape or Stego® Crete Claw® Tape. All penetrations must be sealed using a combination of Stego Wrap and Stego Accessories.

For additional information, please refer to Stego's complete installation instructions.

6. AVAILABILITY & COST

Stego Wrap Vapor Barrier is available through our network of building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' Sales Representative.

7. WARRANTY

Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided herein. Stego Industries, LLC does offer a limited warranty on Stego Wrap. Please see www.stegoindustries.com/legal.

8. MAINTENANCE

None required.

9. TECHNICAL SERVICES

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries or by visiting the website.

Email: contact@stegoindustries.com
Contact Number: (877) 464-7834
Website: www.stegoindustries.com

10. FILING SYSTEMS

- www.stegoindustries.com

STEGO® WRAP VAPOR BARRIER/RETARDER INSTALLATION INSTRUCTIONS

IMPORTANT: Please read these installation instructions completely, prior to beginning any Stego Wrap installation. The following installation instructions are based on ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs. If project specifications call for compliance with ASTM E1643, then be sure to review the specific installation sections outlined in the standard along with the techniques referenced in these instructions.

UNDER-SLAB INSTRUCTIONS:

FIGURE 1: UNDER-SLAB INSTALLATION

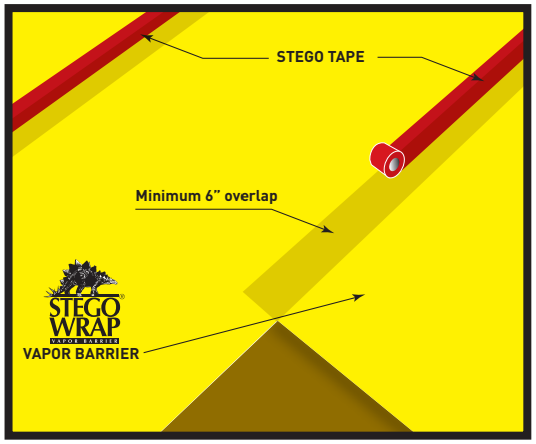


FIGURE 2a: SEAL TO SLAB AT PERIMETER

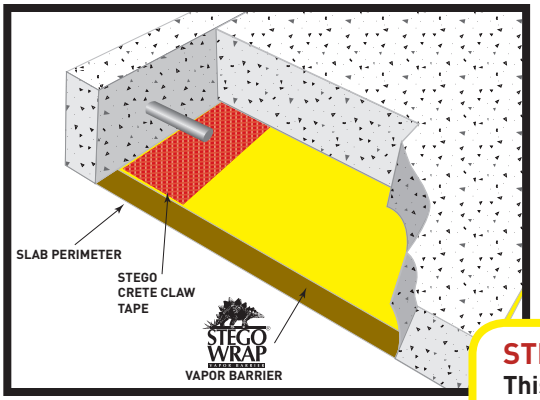
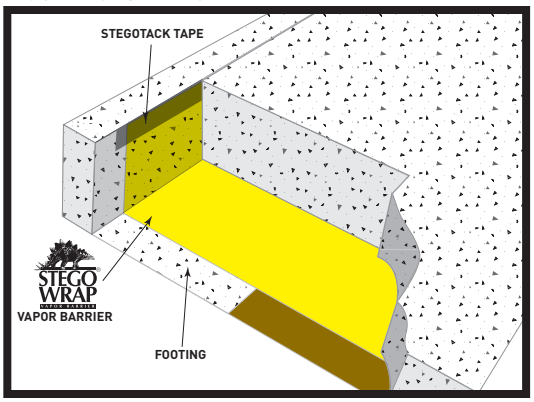


FIGURE 2b: SEAL TO PERIMETER WALL



1. Stego Wrap can be installed over an aggregate, sand, or tamped earth base. It is not necessary to have a cushion layer or sand base, as Stego Wrap is tough enough to withstand rugged construction environments.

2. Unroll Stego Wrap over the area where the slab is to be placed. Stego Wrap should completely cover the concrete placement area. All joints/seams both lateral and butt should be overlapped a minimum of 6" and taped using Stego® Tape.

   NOTE: The area of adhesion should be free from dust, dirt, moisture, and frost to allow maximum adhesion of the pressure-sensitive tape.

3. ASTM E1643 requires sealing the perimeter of the slab. *Extend vapor retarder over footings and seal to foundation wall, grade beam, or slab at an elevation consistent with the top of the slab or terminate at impediments such as waterstops or dowels.* Consult the structural engineer of record before proceeding.

SEAL TO SLAB AT PERIMETER:*

NOTE: Clean the surface of Stego Wrap to ensure that the area of adhesion is free from dust, dirt, moisture, and frost to allow maximum adhesion of the pressure-sensitive adhesive.

a. Install Stego® Crete Claw® Tape on the entire perimeter edge of Stego Wrap.

b. Prior to the placement of concrete, ensure that the top of Stego Crete Claw Tape is free of dirt, debris, or mud to maximize the bond to the concrete.

STEGO LABOR SAVER!

This method not only complies with ASTM E1643, but it also:

- **reduces labor compared to other perimeter sealing techniques.**
- **can be used even without an existing wall or footing, unlike alternatives.**

OR **SEAL TO PERIMETER WALL WITH STEGOTACK® TAPE:***

a. Make sure area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion.

b. Remove release liner on one side and stick to desired surface.

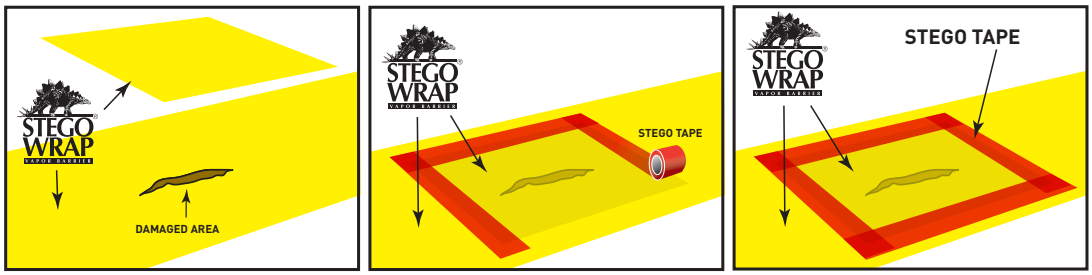
c. When ready to apply Stego Wrap, remove the exposed release liner and press Stego Wrap firmly against StegoTack Tape to secure.

* If ASTM E1643 is specified, consult with project architect and structural engineer to determine which perimeter seal technique should be employed for the project.

Continued...
Note – legal notice on page 2.

4. In the event that Stego Wrap is damaged during or after installation, repairs must be made. For holes, cut a piece of Stego Wrap to a size and shape that covers any damage by a minimum overlap of 6" in all directions. Clean all adhesion areas of dust, dirt, moisture, and frost. Tape down all edges using Stego Tape **(See Figure 3)**.

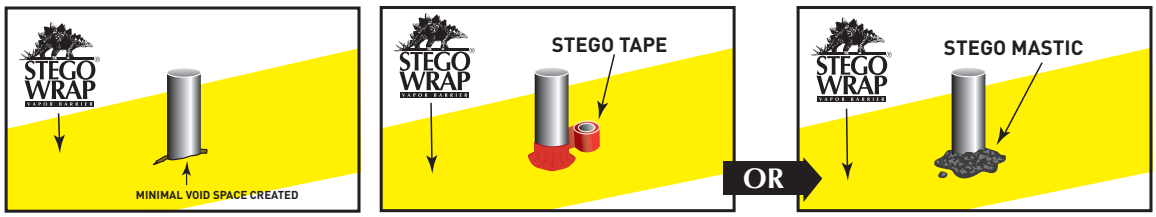
FIGURE 3: SEALING DAMAGED AREAS



NOTE: Stego Industries recommends the use of vapor barrier-safe concrete accessories, like Beast® Screed, to help minimize the amount of penetrations in a Stego Wrap Installation.

5. **IMPORTANT: ALL PENETRATIONS MUST BE SEALED.** All pipe, ducting, rebar, wire penetrations and block outs should be sealed using Stego Wrap, Stego Tape and/or Stego Mastic **(See Figure 4a)**. If penetrations are encased in other materials, such as expansive materials like foam, unless otherwise specified, Stego Wrap should be sealed to the underlying penetration directly.

FIGURE 4a: PIPE PENETRATION SEALING



STEGO WRAP PIPE PENETRATION REPAIR DETAIL:

1: Install Stego Wrap around pipe penetrations by slitting/cutting material as needed. Try to minimize the void space created.

2: If Stego Wrap is close to pipe and void space is minimized then seal around pipe penetration with Stego Tape and/or Stego Mastic. **(See Figure 4a)**

3: If detail patch is needed to minimize void space around penetration, then cut a detail patch to a size and shape that creates a 6" overlap on all edges around the void space at the base of the pipe. Stego Pre-Cut Pipe Boots are also available to speed up the installation.

4: Cut an "X" the size of the pipe diameter in the center of the pipe boot and slide tightly over pipe.

5: Tape down all sides of the pipe boot with Stego Tape.

6: Seal around the base of the pipe using Stego Tape and/or Stego Mastic. **(See Figure 4b)**

FIGURE 4b: DETAIL PATCH FOR PIPE PENETRATION SEALING

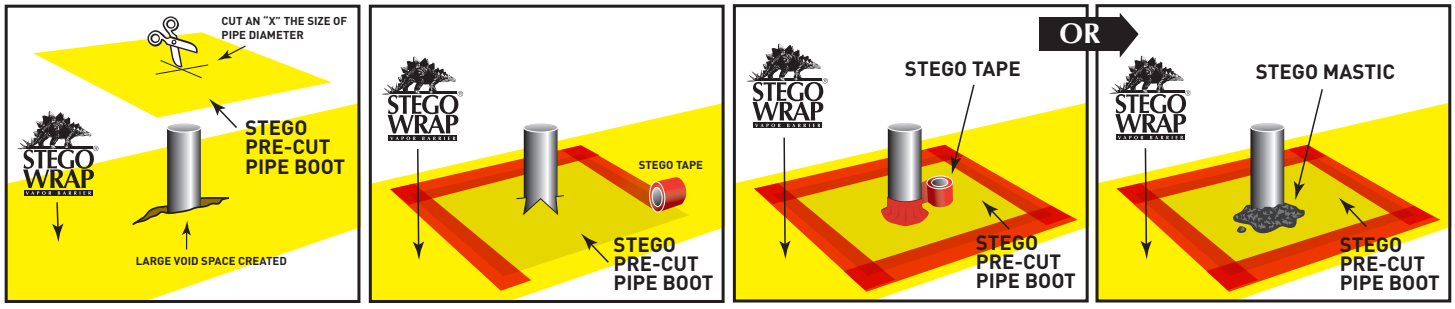
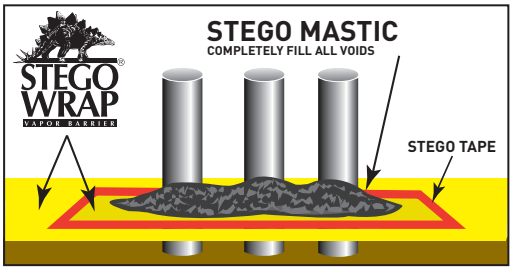


FIGURE 5: MULTIPLE PIPE PENETRATION SEALING



MULTIPLE PIPE PENETRATION SEALING:
Multiple pipe penetrations in close proximity and very small pipes may be sealed using Stego Wrap and Stego Mastic for ease of installation **(See Figure 5)**.

NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.* These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

APPENDIX G

ARM Group LLC
Engineers and Scientists

May 17, 2022

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Sub-Slab Soil Gas & Indoor Air
Monitoring Plan (Revision 2)
Area A: Sub-Parcel A11-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown:

ARM Group LLC (ARM), on behalf of Tradepoint Atlantic, is proposing to conduct sub-slab soil gas and indoor air sampling within Sub-Parcel A11-2 (the Site), which is part of Area A of the Tradepoint Atlantic property located in Sparrows Point, Maryland. This plan is being submitted to the Maryland Department of the Environment (MDE) and the United States Environmental Protection Agency (USEPA) to propose pre- and post-occupancy monitoring to assess potential vapor intrusion (VI) risk. This Monitoring Plan provides specifications for the proposed indoor air and soil gas monitoring.

A total of 18 sub-slab soil gas monitoring points are proposed to be installed between the two logistics center buildings. The northern and southern logistics centers will have areas of approximately 450,000 square feet and 108,560 square feet, respectively. The northern logistics center will contain 14 monitoring points and the southern logistics center will contain four monitoring points. The points will be installed and sampled prior to each building's occupancy. The proposed monitoring point locations for both sub-slab soil gas and indoor air are shown on **Figure 1**. Minor adjustments to the final locations of the monitoring points may be necessary following construction based on the final interior layout of the buildings. Precautions will be taken to ensure that the sub-slab venting system (installed separately prior to building slab installation) is not disturbed by the installation of the sub-slab sampling points.

One round of pre-occupancy sub-slab soil gas sampling will be performed in each building using the new monitoring points following their installation. If the results of the initial round of sub-slab soil gas sampling are below the Project Action Limits (PALs), then the building will be occupied, and a subsequent post-occupancy round of indoor air and sub-slab soil gas sampling will

be performed within 90 days of occupancy. If the pre-occupancy sub-slab soil gas results indicate the presence of a potentially unacceptable VI risk (i.e., exceedances of the PALs), then a subsequent round of indoor air and sub-slab soil gas sampling will be performed prior to occupancy, and any additional monitoring and/or response measures will be coordinated with the MDE and USEPA as needed. The two buildings proposed for Sub-Parcel A11-2 may have separate tenants; therefore, occupancy requirements for each building may be implemented on separate schedules. The pre-occupancy indoor air and/or sub-slab soil gas sampling noted above for the two buildings will be completed based on the proposed occupancy schedule for each building.

Each sub-slab soil gas monitoring point will be installed in accordance with the following procedures. For each installation, a 6-inch diameter pilot-hole will be cored through the concrete floor. The vapor barrier (below the concrete slab) will be carefully cut and peeled back to gain access to the subsurface. A hammer drill and/or a hand auger will be used to create a shallow borehole that extends through the subgrade to a depth of 12 inches below the bottom of the floor slab. A 6-inch soil gas implant, constructed of double woven stainless-steel wire screen, will be attached to an appropriate length of polyethylene tubing and lowered to the bottom of the borehole. Once the implant and tubing are installed, the tubing will be capped with a three-way valve, and clean sand will be added around the implant to create a permeable layer that extends at least 2 inches above the implant. Bentonite will be added and hydrated to create a seal above the sand pack that extends to the vapor barrier, which will then be folded back into place prior to adding additional hydrated bentonite. Additional bentonite will be added until it is within the pilot-hole and at least 2 inches above the vapor barrier. The monitoring points will be finished with a flush-mount surface completion (manhole) with a concrete collar. Surface completions will be H-20 traffic rated (or equivalent).

Once installed, each sub-slab soil gas monitoring probe will be allowed to equilibrate for at least 24 hours. Following this equilibration period, leak testing will be performed at each location in accordance with the procedures referenced in the Quality Assurance Project Plan (QAPP) Worksheet 21 – Field Standard Operating Procedures (SOPs), SOP No. 002 to confirm no fresh air intrusion.

Sub-slab soil gas samples will be collected according to procedures outlined in QAPP Worksheet 21 – Field SOPs, SOP No. 002 – Sub-Slab Soil Gas Sampling. The sub-slab soil gas samples will be collected using 6-liter Summa Canisters set for an 8-hour collection time. The indoor air samples will be collected according to procedures outlined in QAPP Worksheet 21 – Field SOPs, SOP No. 001 – Indoor Air Sampling. The indoor air samples will be collected during the second round of monitoring at the same approximate time as the sub-slab soil gas samples; these will also be collected using 6-liter Summa Canisters set for an 8-hour collection time. All samples will be submitted to Pace Analytical Services, Inc. (PACE) and analyzed for VOCs via USEPA Method TO-15. The full list of TO-15 VOCs approved for property-wide investigations is included as

Attachment 1. Sample containers, preservatives, and holding times for the TO-15 analysis are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.

Quality assurance and quality control (QA/QC) samples are collected during field studies for various purposes, among which are to isolate site effects (control samples), to define background conditions (background sample), and to evaluate field/laboratory variability (duplicates, etc.). The following QA/QC samples will be submitted for analysis during each scheduled monitoring event (as appropriate):

- Blind Field Duplicate – 1 sample of air or sub-slab soil gas (selected by field personnel).
- Field Blank – 1 sample of ambient air from an exterior area in the breathing zone during indoor air sampling.
- Equipment Blank – 1 sample of "clean" air provided by the laboratory.

The QA/QC samples will be collected and analyzed in accordance with the QAPP Worksheet 12 – Measurement Performance Criteria, QAPP Worksheet 20 – Field Quality Control, and QAPP Worksheet 28 – Analytical Quality Control and Corrective Action.

Following each monitoring event, a brief Letter Report will be submitted to the MDE and USEPA that will document the sample collection procedures and present and interpret the analytical results. All results will be presented in tabular and graphical formats as appropriate to best summarize the data for future use. Recommendations will be presented for any additional site investigation activities such as supplemental sampling, if warranted.

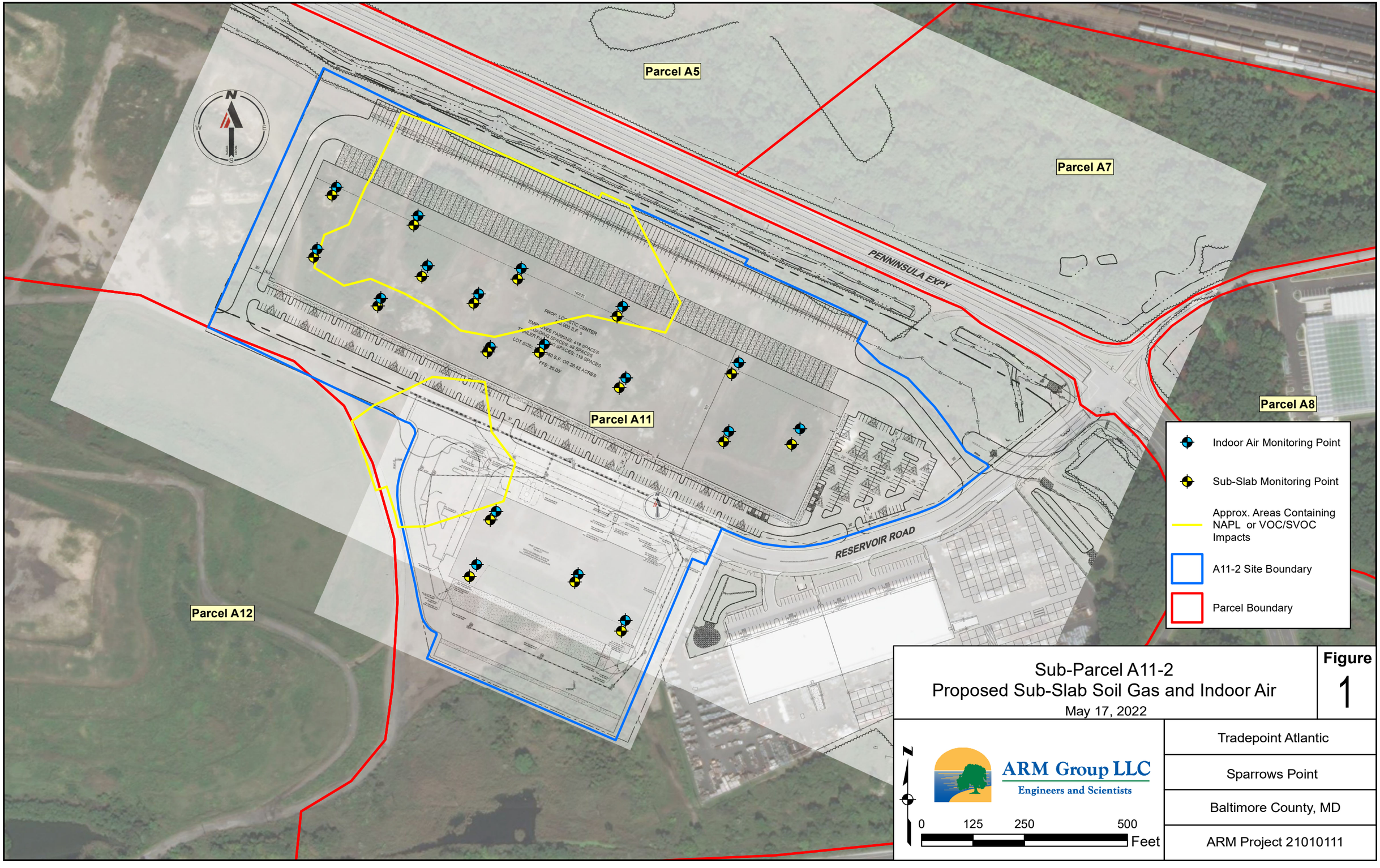
If you have questions regarding any information covered in this document, please feel free to contact Peter Haid at Tradepoint Atlantic: 443-649-5055.

Respectfully Submitted,
ARM Group LLC

Joshua M. Barna, G.I.T.
Project Geologist

Kaye Guille, P.E., PMP
Senior Engineer

FIGURES



Sub-Parcel A11-2
Proposed Sub-Slab Soil Gas and Indoor Air
May 17, 2022

Figure 1

ARM Group LLC
Engineers and Scientists

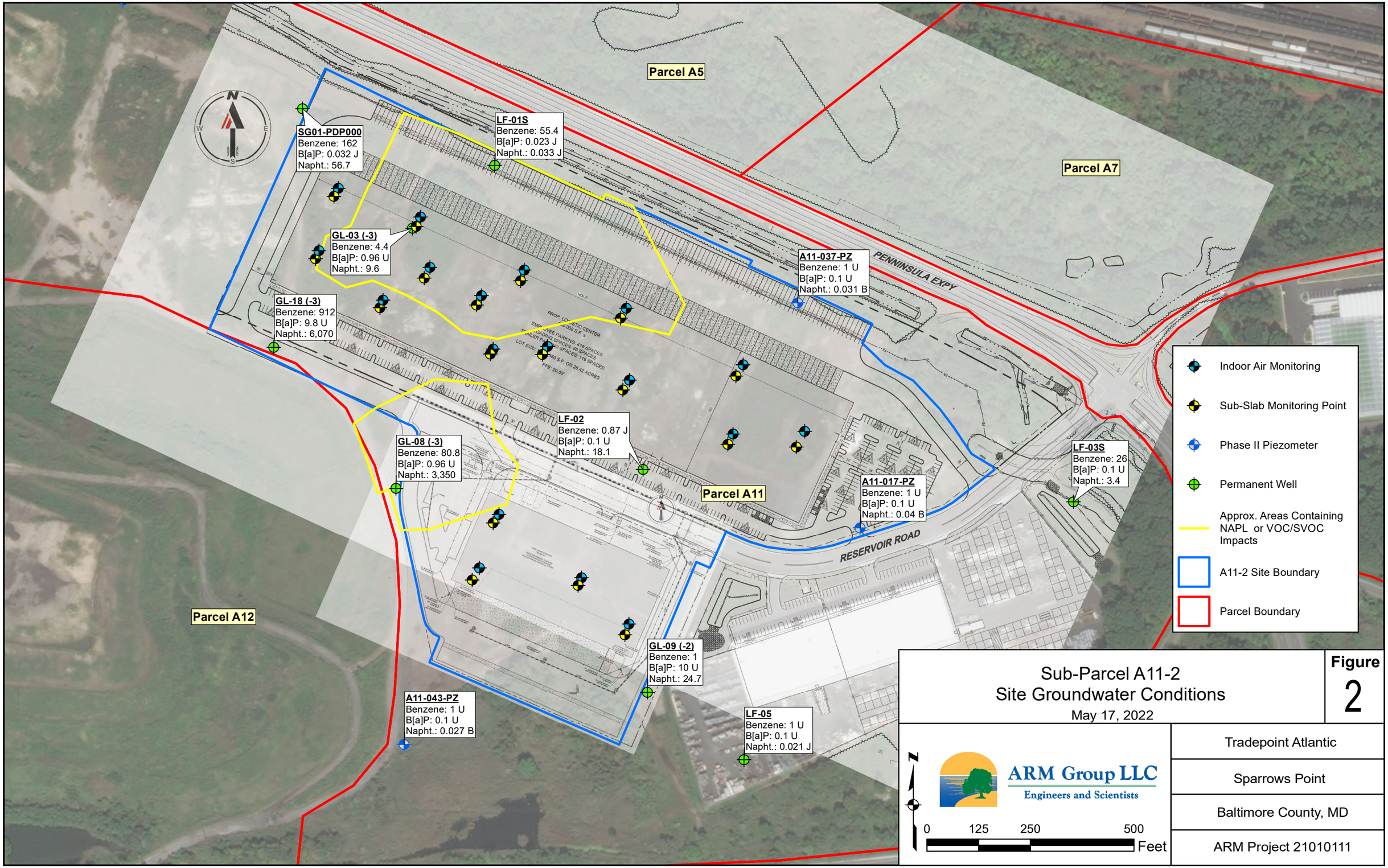
0 125 250 500 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111



Sub-Parcel A11-2
Site Groundwater Conditions

May 17, 2022

Figure 2

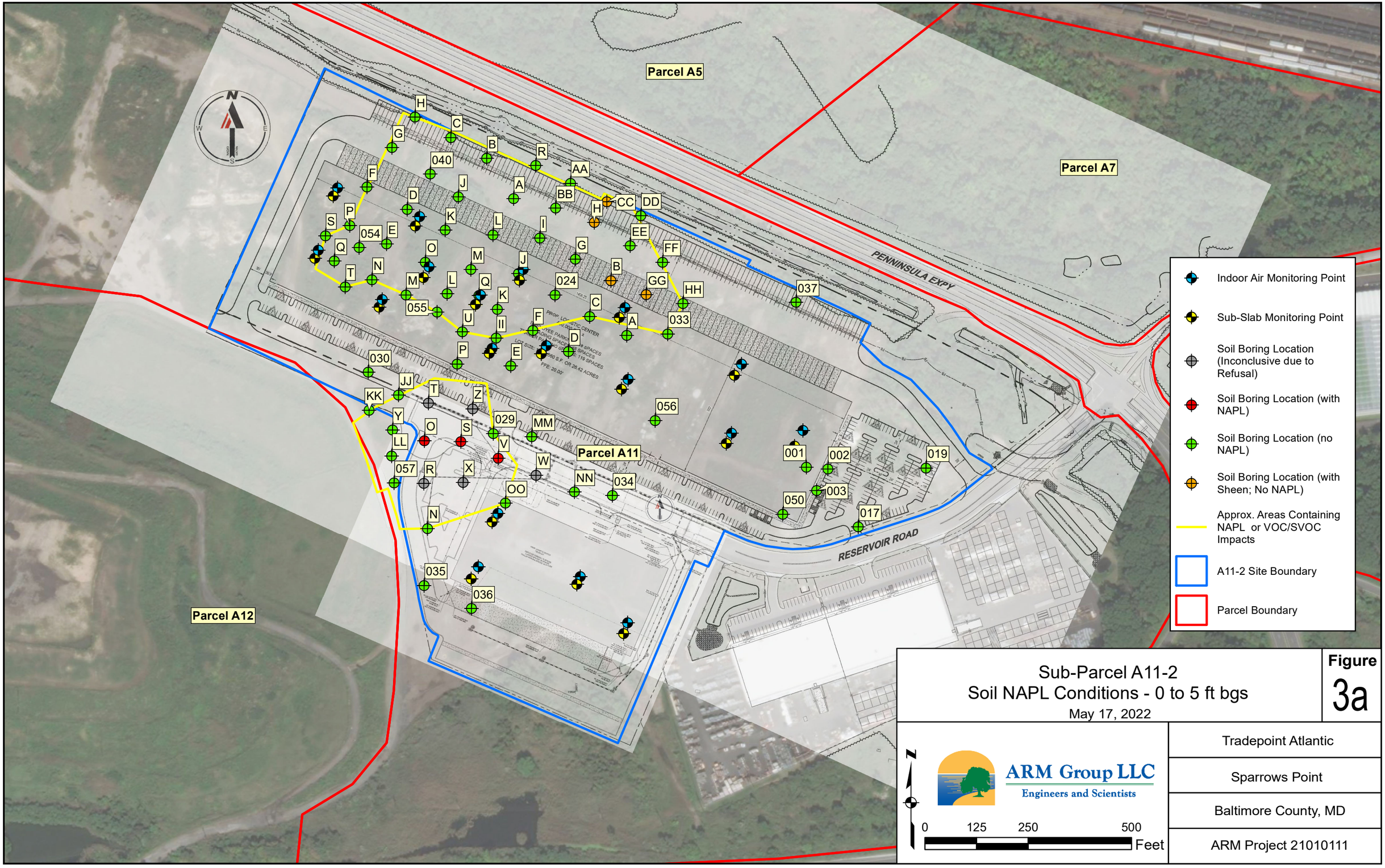
ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111

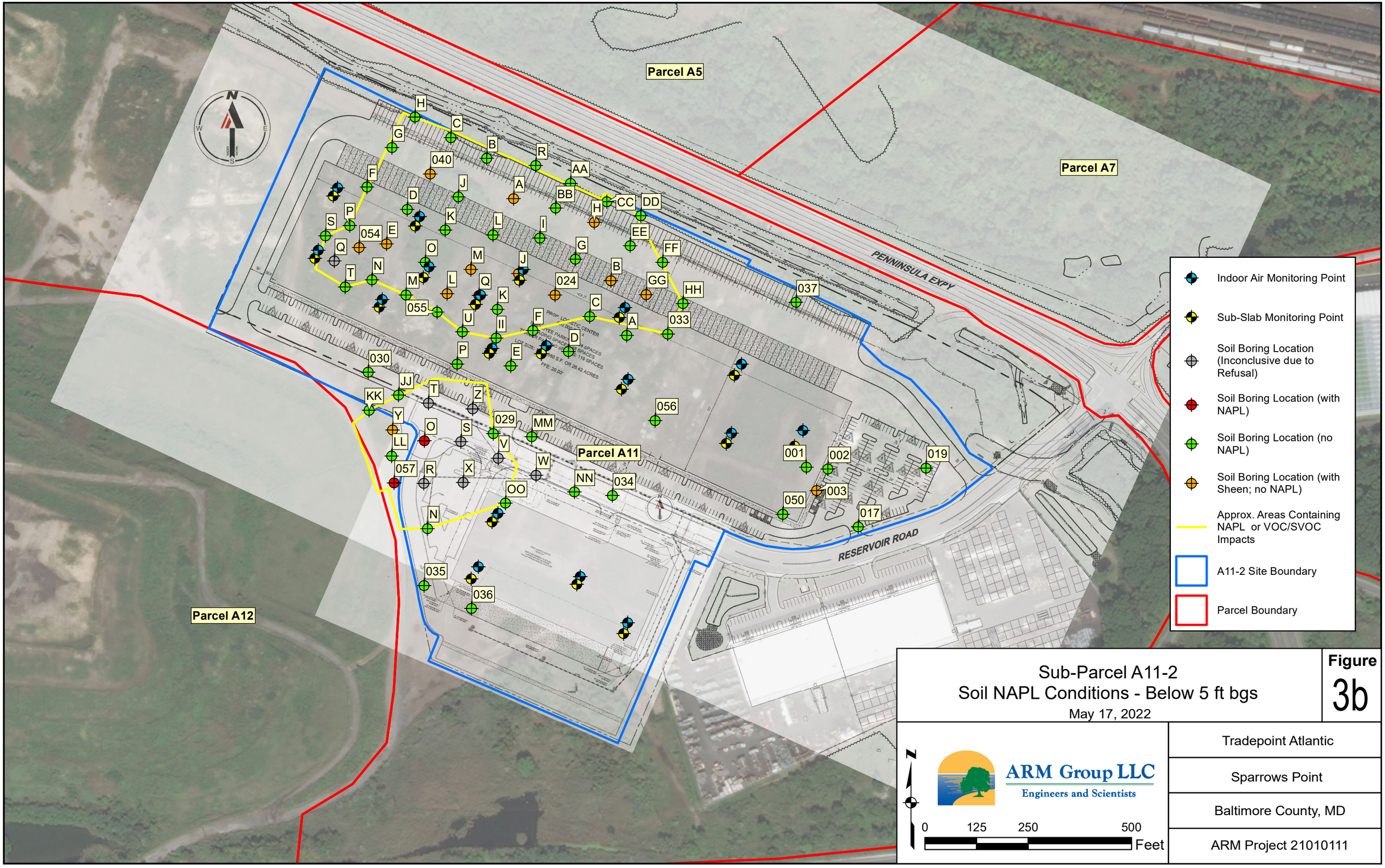


Sub-Parcel A11-2
Soil NAPL Conditions - 0 to 5 ft bgs
May 17, 2022

Figure 3a

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010111



Sub-Parcel A11-2
Soil NAPL Conditions - Below 5 ft bgs
May 17, 2022

Figure 3b

ARM Group LLC
Engineers and Scientists

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 21010111

ATTACHMENT 1

Attachment 1 - Sub-Parcel A11-2
TO-15 VOC List

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1,2-Trichlorotrifluoroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2,3-Trichlorobenzene
1,2,3-Trimethylbenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane (EDB)
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloroethene (Total)
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,4-Dioxane (p-Dioxane)
2-Butanone (MEK)
2-Hexanone
4-Methyl-2-pentanone (MIBK)
Acetone
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Cyclohexane
Dibromochloromethane
Dichlorodifluoromethane
Ethylbenzene
Hexachloro-1,3-butadiene
Isopropylbenzene (Cumene)
Methyl-tert-butyl ether
Methylene Chloride
Naphthalene
Styrene
Tetrachloroethene
Toluene
Trichloroethene
Trichlorofluoromethane
Vinyl chloride
Xylene (Total)
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene

APPENDIX H

GENERAL NOTES:

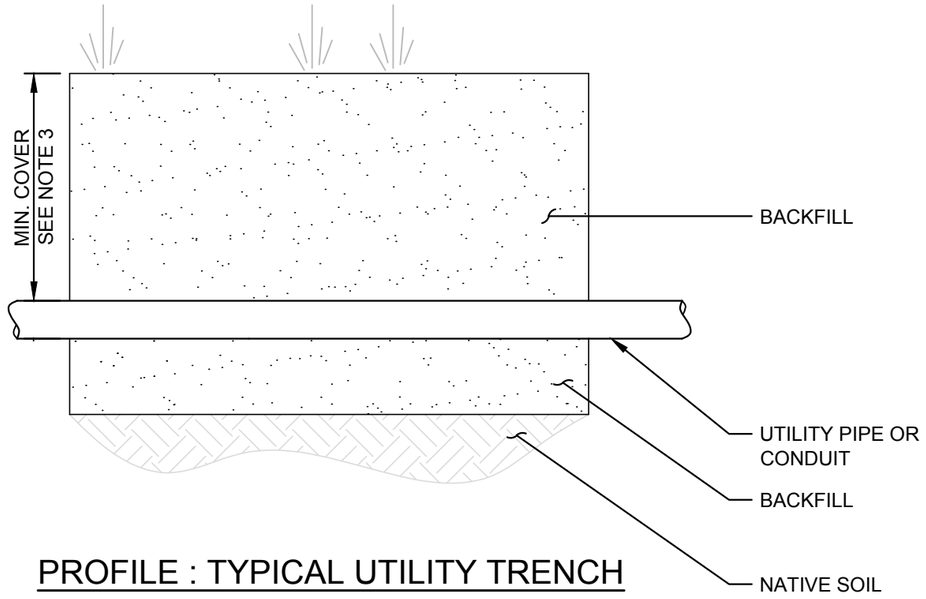
1. ALL PIPES OR CONDUIT SHALL BE LEAK-PROOF AND WATERTIGHT. ALL JOINTS SHALL BE SEALED OR GASKETED.

2. ALL PIPES SHALL BE PROPERLY PLACED AND BEDDED TO PREVENT MISALIGNMENT OR LEAKAGE. PIPE BEDDING SHALL BE INSTALLED IN SUCH A MANNER AS TO MINIMIZE THE POTENTIAL FOR ACCUMULATION OF WATER AND CONCENTRATED INFILTRATION.

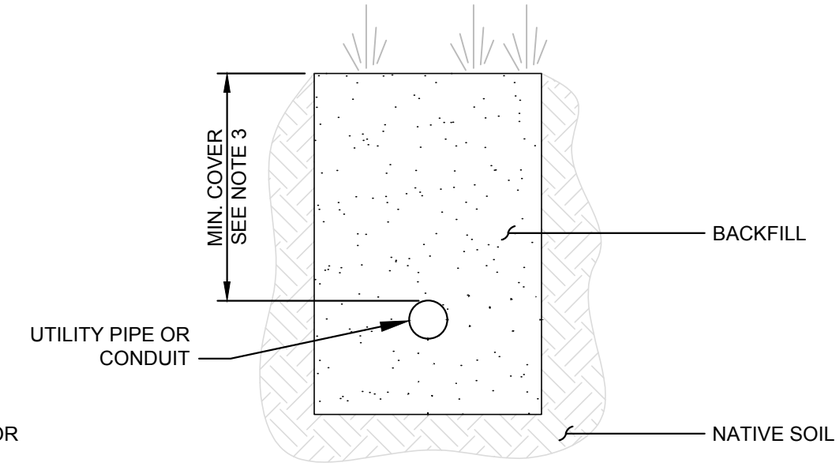
3. MINIMUM COVER ABOVE UTILITY SHALL BE BASED ON SPECIFIC UTILITY REQUIREMENTS.

4. TRENCHES SHALL BE BACKFILLED WITH BEDDING AND MATERIALS APPROVED BY MDE.

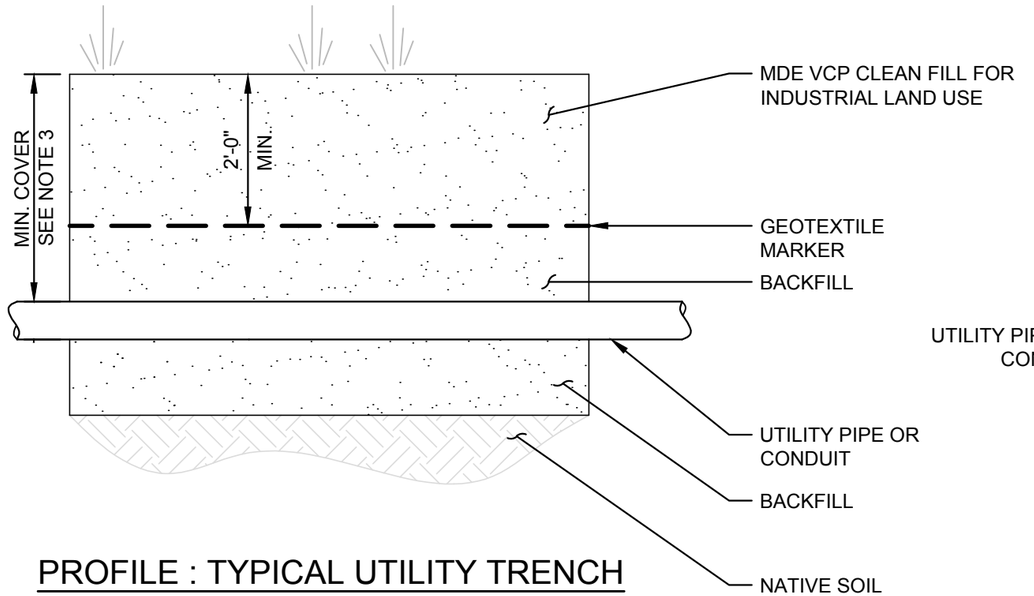
5. FOR ANY UTILITY SEGMENT WHICH GOES THROUGH AN AREA WHICH IS DESIGNATED TO RECEIVE A LANDSCAPED CAP, THE UPPER 2 FEET OF BACKFILL MUST MEET THE REQUIREMENTS OF MDE VCP CLEAN FILL FOR INDUSTRIAL LAND USE. IN THIS CASE THE MDE VCP CLEAN FILL WILL BE UNDERLAIN BY A GEOTEXTILE MARKER FABRIC. UTILITY SEGMENTS WHICH GO THROUGH AREAS WHICH DO NOT REQUIRE CAPPING OR ARE DESIGNATED TO RECEIVED A PAVED CAP WILL BE BACKFILLED WITH MATERIALS APPROVED BY MDE FOR THIS USE.



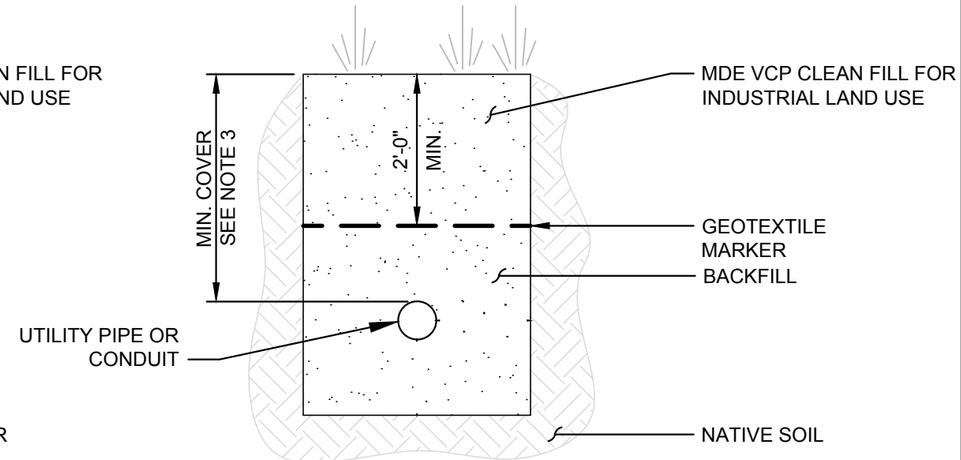
PROFILE : TYPICAL UTILITY TRENCH



SECTION : TYPICAL UTILITY



PROFILE : TYPICAL UTILITY TRENCH
(SEE NOTE 5)



SECTION : TYPICAL UTILITY
(SEE NOTE 5)

ARM Group LLC
Engineers and Scientists

TYPICAL UTILITY
CROSS SECTIONS
Sparrows Point Site
Tradepoint Atlantic

September 2020
1/2" = 1'-0"
160443M

Figure
1

APPENDIX I

Utility Excavation NAPL Contingency Plan

Revision 4 – June 19, 2017

Introduction:

Proposed underground utilities and excavations necessary for the redevelopment of the Tradepoint Atlantic property may encounter areas of petroleum and/or Oil & Grease contamination in soil. The assessment of total petroleum hydrocarbons (TPH) diesel range organics (DRO), gasoline range organics (GRO), Oil & Grease, and/or non-aqueous phase liquid (NAPL) completed as part of each Phase II Investigation includes the following:

- Each soil boring with evidence of NAPL (i.e., containing a sheen or free oil in the soil core), whether located near utilities or not, is investigated via the installation of a piezometer to assess mobility to groundwater. If measureable NAPL is present in the initial piezometer, additional soil borings and shallow temporary piezometers are installed surrounding the initial detection to delineate the impacts. Each piezometer installed to delineate the presence or absence of NAPL is checked with an oil-water interface probe immediately after installation, 48 hours after installation, and at least 30 days after installation.
- TPH-DRO/GRO and Oil & Grease data, once received, are assessed in their magnitude and location respective to subsurface utilities, stormwater conveyances, and surface waters.
- Locations that exhibit elevated detections of TPH/Oil & Grease or evidence of NAPL, that are within reasonable proximity (i.e. 25 feet) to subsurface utilities or stormwater conveyances and/or within reasonable proximity (i.e. 100 feet) to surface waters, are identified for further delineation and selective removal (if warranted).

Any NAPL identified in soil borings or piezometers during the Phase II Investigation would be noted on relevant logs and identified in Response and Development Work Plans for construction planning purposes. Despite these planning efforts, unidentified pockets of contamination (including NAPL) may still be encountered during construction. This contingency plan provides the procedures to be utilized during construction work to properly address response and construction techniques if any materials impacted with NAPL are encountered.

Objectives:

The purpose of this plan is to describe procedures to be followed in the event that NAPL is encountered in utility trenches or other excavations during development of the Tradepoint Atlantic property. The specific objectives of this plan and the procedures outlined herein are:

1. To ensure identification and proper management of Oil & Grease and petroleum-contaminated soils.
2. To ensure proper worker protection for working in areas of Oil & Grease and petroleum contamination.
3. To ensure that the installation of new utilities does not create new preferential flow paths for the migration of free-phase hydrocarbons (Oil & Grease, TPH-DRO/GRO, etc.) or soil vapors.

Identification of Oil & Grease and Petroleum Contaminated Soil:

An Environmental Professional (EP) will be on-site to determine if soils show evidence of the presence of Oil & Grease or TPH present as NAPL during installation of utility trenches or other excavation activities completed during development. Oil & Grease or petroleum-contaminated soils can be identified by the presence of free oil, oil staining, a petroleum odor, or any combination of these conditions. Free oil (NAPL) is liquid oil which could potentially be drained or otherwise extracted from the soil, and is the focus of this contingency plan, although severe staining accompanied by odors should be addressed via the same contingency measures provided herein (based on the judgement of the EP). The appearance of oil staining is not always consistent, but varies depending on the nature of the oil, the soil type, and the age of the release. Staining associated with old petroleum contamination often has a greenish hue, but may also be brown or black. The olfactory sense is the most sensitive instrument for identifying petroleum contamination in the field. Therefore, a petroleum odor may be noted although there is no visible sign of oil or staining. In some instances, decaying organic matter can produce an odor similar to petroleum, but this is rare.

If NAPL is encountered during construction, the extent of impacts shall be delineated by excavating trenches or installing four soil borings (two in each direction) perpendicular to the utility alignment or excavation to examine the soil for physical evidence of NAPL. Perpendicular transects will be investigated every 50 feet along the section of the utility trench or excavation where there is physical evidence of NAPL. Each transect will extend to a distance of 10 feet from the edge of the utility trench or excavation. This represents the maximum distance which would require mandatory excavation to mitigate potential migration risks (see below).

NAPL delineation will be guided primarily by screening observations from the perpendicular borings or trenches, and samples will be collected to test for extractable Oil & Grease or petroleum-contaminated soil using the Oil Sticks™ test kit. This test kit provides a determination of whether hydrocarbons are present in soil and extractable (i.e. could mobilize as a NAPL). Oil Sticks™ change from a pale blue to a deep blue color when they come in contact with free product. This instantaneous change in color occurs even when miniscule amounts of product come in contact with the strip. The sensitivity of Oil Sticks™ to determine the presence/absence of oil is reported by the manufacturer to be about 1,000 to 2,000 mg/kg. The

field test is performed by placing approximately 3 tablespoons of soil in a clean sample cup and adding enough water to cover the sample. After stirring the sample and waiting ~1 minute, the Oil Sticks™ test strip should be swished through the water, making sure to touch the strip to the sides of the cup where product may collect at the interface (meniscus) between the cup, water, and air. If the strip turns deep blue, or deep blue spots appear, oil or hydrocarbon is present. However, the MDE has observed that the Oil Sticks™ method may produce inconsistent results. Therefore, documentation of all screening methods is necessary during boring/trenching work. This documentation shall include an accurate record of visual and olfactory screening, along with a narrative with photographs. Field screening will be aided by photoionization detector (PID) results, and Oil Sticks™ samples should be biased to target elevated PID readings, if any. The agencies have requested that all soil samples prepared for the Oil Sticks™ field test be photographed for evidence of sheen/residue on the cup sides. Detailed records are required to be submitted with the project-specific Completion Report.

If petroleum or Oil & Grease impacts are identified in Site soils based on use of the Oil Sticks™ test kit or other field screening methods, disposal requirements will be determined using the quantitative PetroFLAG™ hydrocarbon analysis system or fixed laboratory analysis (see following section). The PetroFLAG™ hydrocarbon analysis system is a broad spectrum field test kit suitable for TPH contamination regardless of the source or state of degradation (Dexsil Corporation). PetroFLAG™ field test kits do not distinguish between aromatic and aliphatic hydrocarbons, but quantify all fuels, oils, and greases as TPH. Dilutions can be used to determine concentrations of TPH/Oil & Grease above the normal calibration range. Dexsil notes that positive results for TPH may occur if naturally occurring waxes and oils, such as vegetable oils, are present in the sample. Additional detail regarding the procedure for the PetroFLAG™ kit is given in **Attachment 1**.

Soil Excavation, Staging, Sampling and Disposal:

The EP will monitor all utility trenching and excavation activities for signs of potential contamination. In particular, soils will be monitored with a hand-held PID for potential VOCs, and will also be visually inspected for the presence of staining, petroleum waste materials, or other indications of NAPL contamination that may be different than what was already characterized. Excavated material that is visibly stained or that exhibits a sustained PID reading of greater than 10 ppm will be segregated and containerized or placed in a stockpile on polyethylene or impervious surface until the material can be analyzed using the PetroFLAG™ test kit to characterize the material for appropriate disposal. If a PetroFLAG™ test kit is not available to the contractor, or if the contractor prefers to use fixed laboratory analysis, samples may be characterized via submittal to a laboratory for TPH/Oil & Grease analysis. However, any excavated material containing NAPL (i.e., containing free oil) cannot be characterized for waste disposal using the PetroFLAG™ test kit and must instead be characterized via fixed laboratory analysis, as described in the final paragraph of this section. In addition, any hydrocarbon contaminated soil discovered during construction activities that was not previously

characterized must also be analyzed for PCBs prior to removal and transport to an appropriate disposal facility. If excavated and stockpiled, such materials will be covered with a plastic tarp so that the entire stockpile is encapsulated, and anchored to prevent the elements from affecting the integrity of the containment. The MDE will be notified if such materials are encountered during utility work.

Soil exhibiting physical evidence of NAPL contamination or elevated TPH/Oil & Grease with detections in the low percentage range, which is located within 10 feet of a proposed new utility or subsurface structure (i.e., foundation, sump, electrical vault, underground tank, etc.), will be excavated and segregated for disposal at the on-site nonhazardous landfill (Greys Landfill) or an off-site facility pending the completion of any required PCB analytical testing. Impacted soil which is located greater than 10 feet away from the proposed utility or subsurface structure may be left in place and undisturbed. The extent of the excavation will be determined in the field following visual/olfactory screening supplemented by the PID and Oil Sticks™ test kit, but soil disposal requirements will be determined with the PetroFLAG™ test kit (since the Oil Sticks™ method is not quantitative) or via fixed laboratory analysis for TPH/Oil & Grease (if preferred by the contractor or if the PetroFLAG™ test kit is unavailable to the contractor).

Any recovered NAPL will be collected for off-site disposal. As required by the appropriate and MDE approved facility, samples impacted by NAPL (i.e., containing free oil) will be collected for profiling/waste characterization and submitted to a fixed laboratory, as mentioned above, for the following analyses: metals, VOCs, TPH-DRO/GRO, and/or additional analysis required by the selected disposal facility. Upon receipt of any additional characterization analytical results, the MDE will be notified of the proposed disposal facility. Non-impacted material with no evidence of NAPL (i.e. soils that may contain measureable concentrations of TPH/Oil & Grease but below percentage levels) may be placed on the Site in areas to be paved or capped as long as all other requirements specified in the Response and Development Work Plan (or similar governing document) are met.

Initial Reporting:

If evidence of NAPL in soil or groundwater is encountered during excavation, it will be reported to the MDE within two hours. Information regarding the location and characteristics of any NAPL contaminated soil will be documented as follows:

- Location (exact stationing);
- Extent of contamination (horizontally and vertically – prepare a sketch including dimensions);
- Relative degree of contamination (i.e. free oil with strong odor vs. staining); and
- Visual documentation (take photographs and complete a photograph log)

Utility Installations in Impacted Areas:

Underground piping or conduits installed through areas of Oil & Grease or petroleum contamination shall be leak proof and water tight. All joints will be adequately sealed or gasketed, and pipes or conduits will be properly bedded and placed to prevent leakage. All trench backfill will meet the MDE definition of clean fill, or otherwise be approved by the MDE. Pipe bedding will be installed to minimize the potential for accumulation of water and concentrated infiltration. This can be achieved by using a relatively small amount of low-permeability pipe bedding; open-graded stone will be avoided or only used in thicknesses of 6 inches or less. Bedding must be properly placed and compacted below the haunches of the pipe. Clay, flowable fill, or concrete plugs will be placed every 100 feet across any permeable bedding to minimize the preferential flow and concentration of water along the bedding of such utilities.

If required, each trench plug will be constructed with a 2-foot-thick clay plug or 1-foot-thick flowable fill or concrete plug, perpendicular to the pipe, which extends at least 1 foot in all directions beyond the permeable pipe bedding. The plug acts as an anti-seep collar, and will extend above the top of the pipe. Installation of each trench plug will follow the completion of the trench excavation, installation of granular pipe bedding (because dense-graded aggregate or soil or other pipe bedding is difficult to properly compact below the haunches of the pipe), and seating of the pipe. The trench plug will then be installed by digging out a 1-foot trench below and around the pipe corridor, and placing clay, flowable fill, or concrete to construct the plug. A specification drawing for installation of the trench plug has been provided as **Figure 1**.

Attachment 1 - PetroFLAG™ Procedure

PetroFLAG™ field test kits use a proprietary turbidimetric reaction to determine the TPH concentration of solvent extracted samples (USEPA). Calibration standards provided with the unit are used to perform a two-point calibration for the PetroFLAG™. A blank and a 1,000 ppm standard are run by the analyzer unit to create an internal calibration curve.

Analysis of a soil sample is performed using three simple steps: extraction, filtration, and analysis. The PetroFLAG™ analysis is performed as follows:

- Place a 10 gram soil sample in a test tube.
- Add extraction solvent to the tube.
- Shake the tube intermittently for four minutes.
- Filter the extract into a vial that contains development solution
- Allow the solution to react for 10 minutes.

The filtration step is important because the PetroFLAG™ analyzer measures the turbidity or "optical density" of the final solution. Approximately 25 samples can be analyzed per hour. The vial of developed solution is placed in the meter, and the instrument produces a quantitative reading that reveals the concentration of hydrocarbons in the soil sample. The PetroFLAG™ method quantifies all fuels, oils, and greases as TPH between 15 and 2000 ppm (Dexsil Corporation). A 10x dilution of the filtered extraction solvent will be completed to allow for quantification of soil concentrations in excess of 10,000 ppm. The specially designed PetroFLAG™ analyzer allows the user to select, in the field, the response factor that is appropriate for the suspected contaminant at each site. Vegetable-based oils have been shown to exhibit a response factor of 18% (EPA Method 9074). Using the selected response factor, the analyzer compensates for the relative response of each analyte and displays the correct concentration in parts per million (ppm).

References:

U.S. Environmental Protection Agency (EPA). Contaminated Site Clean-up Information (Clu-IN): Test Kits. Office of Superfund Remediation and Technology Innovation. http://www.clu-in.net/characterization/technologies/color.cfm

Dexsil Corporation. 2016. PetroFLAG Analyzer System (PF-MTR-01). http://www.dexsil.com/products/detail.php?product_id=23

EPA SW-846 Method Number 9074 - Turbidimetric Screening Procedure for Total Recoverable Hydrocarbons in Soil

GENERAL NOTES:

1. ALL PIPES OR CONDUIT PASSING THROUGH AREAS OF PETROLEUM CONTAMINATION SHALL BE LEAK-PROOF AND WATERTIGHT. ALL JOINTS SHALL BE SEALED OR GASKETED.

2. ALL PIPES SHALL BE PROPERLY PLACED AND BEDDED TO PREVENT MISALIGNMENT OR LEAKAGE. PIPE BEDDING SHALL BE INSTALLED IN SUCH A MANNER AS TO MINIMIZE THE POTENTIAL FOR ACCUMULATION OF WATER AND CONCENTRATED INFILTRATION.

3. ANTI-SEEP COLLARS FROM THE PIPE MANUFACTURER, THAT ARE PRODUCED SPECIFICALLY FOR THE PURPOSE OF PREVENTING SEEPAGE AROUND THE PIPE, ARE ACCEPTABLE IF INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND ONLY WITH PRIOR APPROVAL BY TPA.

4. MINIMUM COVER ABOVE UTILITY SHALL BE BASED ON SPECIFIC UTILITY REQUIREMENTS.

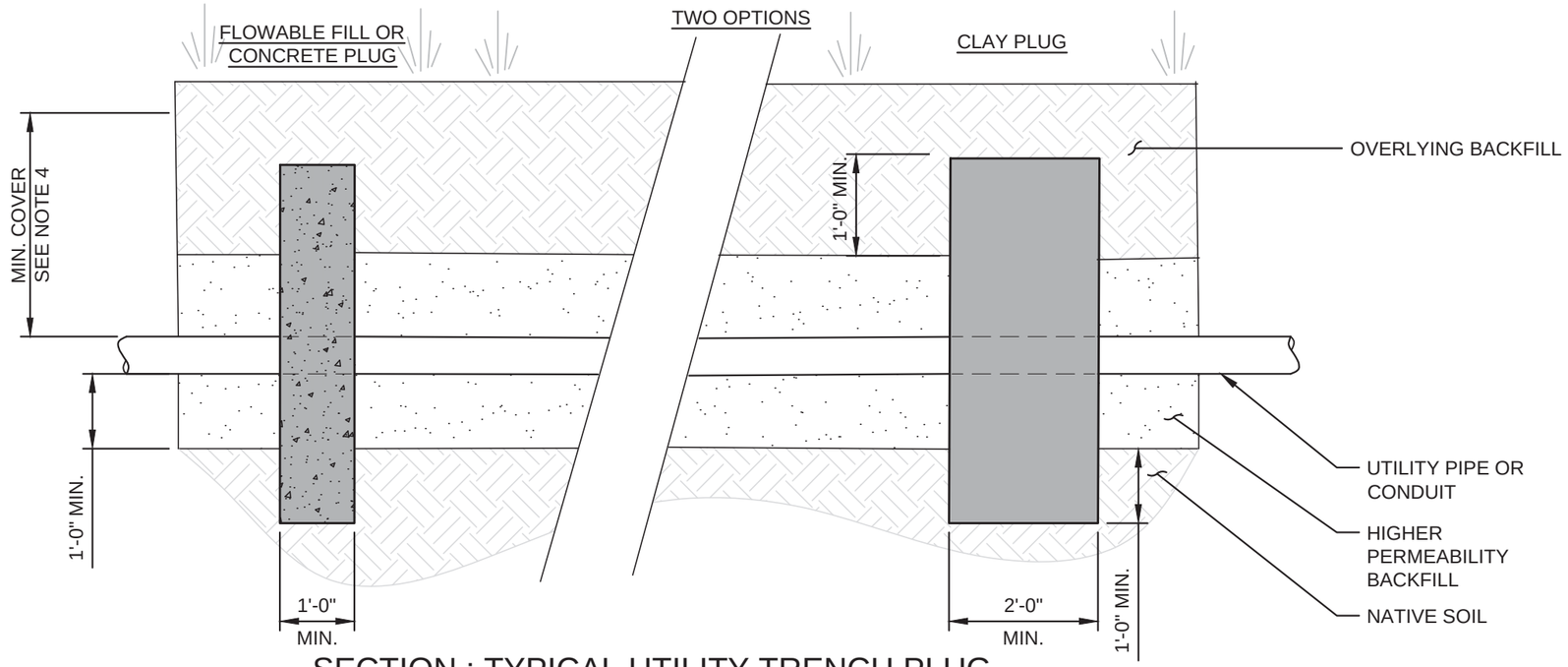
5. TRENCHES SHALL BE BACKFILLED WITH BEDDING AND MATERIALS APPROVED BY MDE.

6. FOR ADDITIONAL REQUIREMENTS, INCLUDING THE USE OF MDE VCP CLEAN FILL FOR INDUSTRIAL LAND USE AND INSTALLATION OF GEOTEXTILE MARKER FABRIC, REFER TO NOTE 5 ON THE TYPICAL UTILITY CROSS SECTIONS.

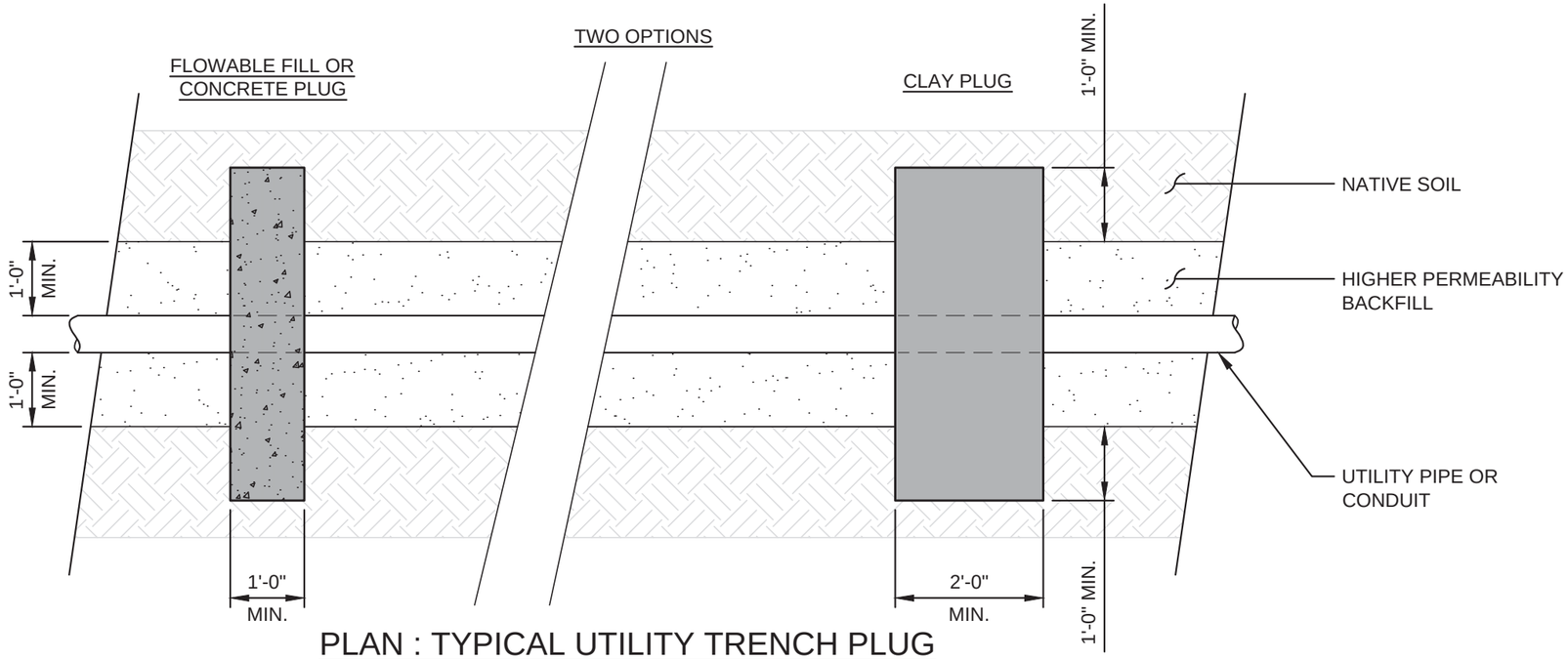
7. ALL UTILITIES INSTALLED THROUGH AREAS CONTAINING NAPL OR ELEVATED CHEMICAL IMPACTS WITH THE POTENTIAL TO TRANSMIT VAPORS ALONG PREFERENTIAL FLOW PATHWAYS SHALL BE EITHER 1) BACKFILLED WITH LOW PERMEABILITY BACKFILL MATERIAL (LESS THAN OR EQUAL TO THE PERMEABILITY OF THE EXISTING SUBGRADE), OR 2) INSTALLED WITH TRENCH PLUGS ALONG THE ALIGNMENT IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN AND THE FOLLOWING NOTES:

   A.) UTILITY TRENCH PLUGS SHALL BE INSTALLED AT 100-FOOT (MAX.) INTERVALS THROUGH ALL AREAS OF NAPL CONTAMINATION.

   B.) UTILITY TRENCH PLUGS SHALL EXTEND A MINIMUM OF 1-FOOT IN ALL DIRECTIONS BEYOND ANY HIGHER PERMEABILITY BACKFILL MATERIALS (I.E., MATERIALS EXCEEDING THE PERMEABILITY OF THE EXISTING SUBGRADE).



SECTION : TYPICAL UTILITY TRENCH PLUG



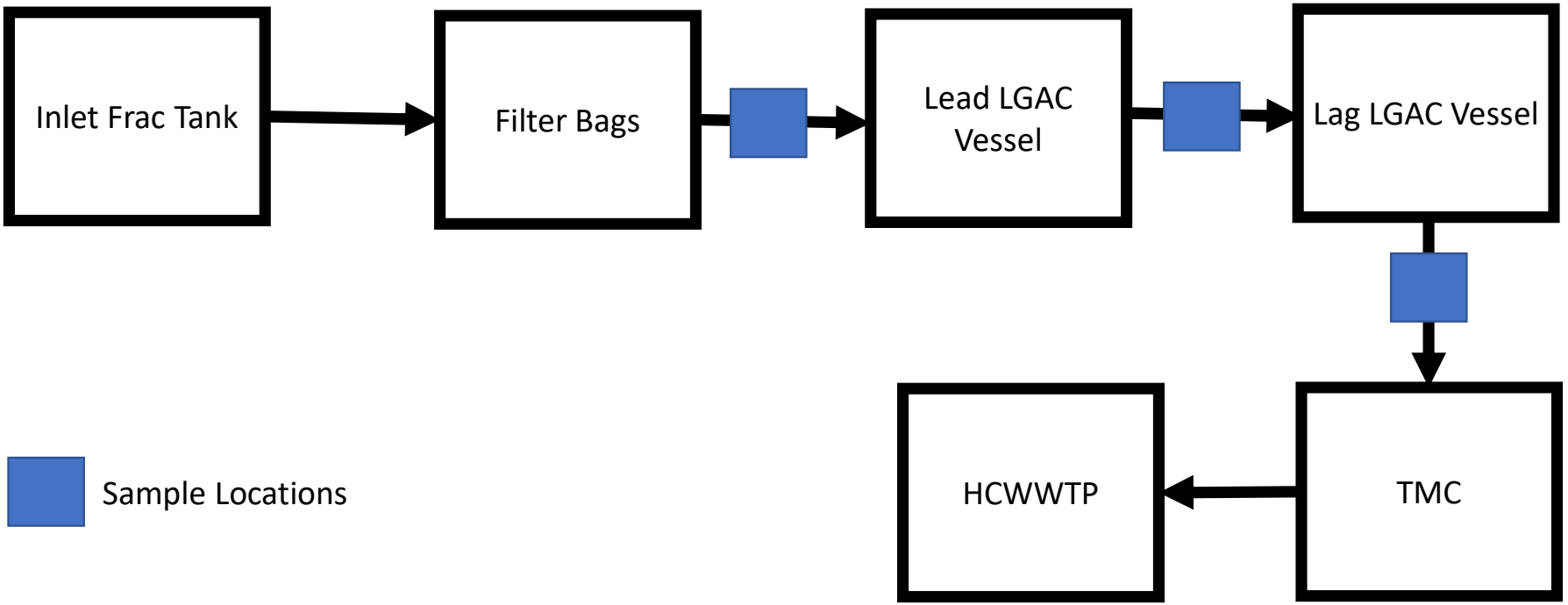
PLAN : TYPICAL UTILITY TRENCH PLUG

ARM Group LLC
Engineers and Scientists

UTILITY TRENCH PLUG
Sparrows Point Site
Tradepoint Atlantic

September 2020	Figure
Not to Scale	1
160443M	

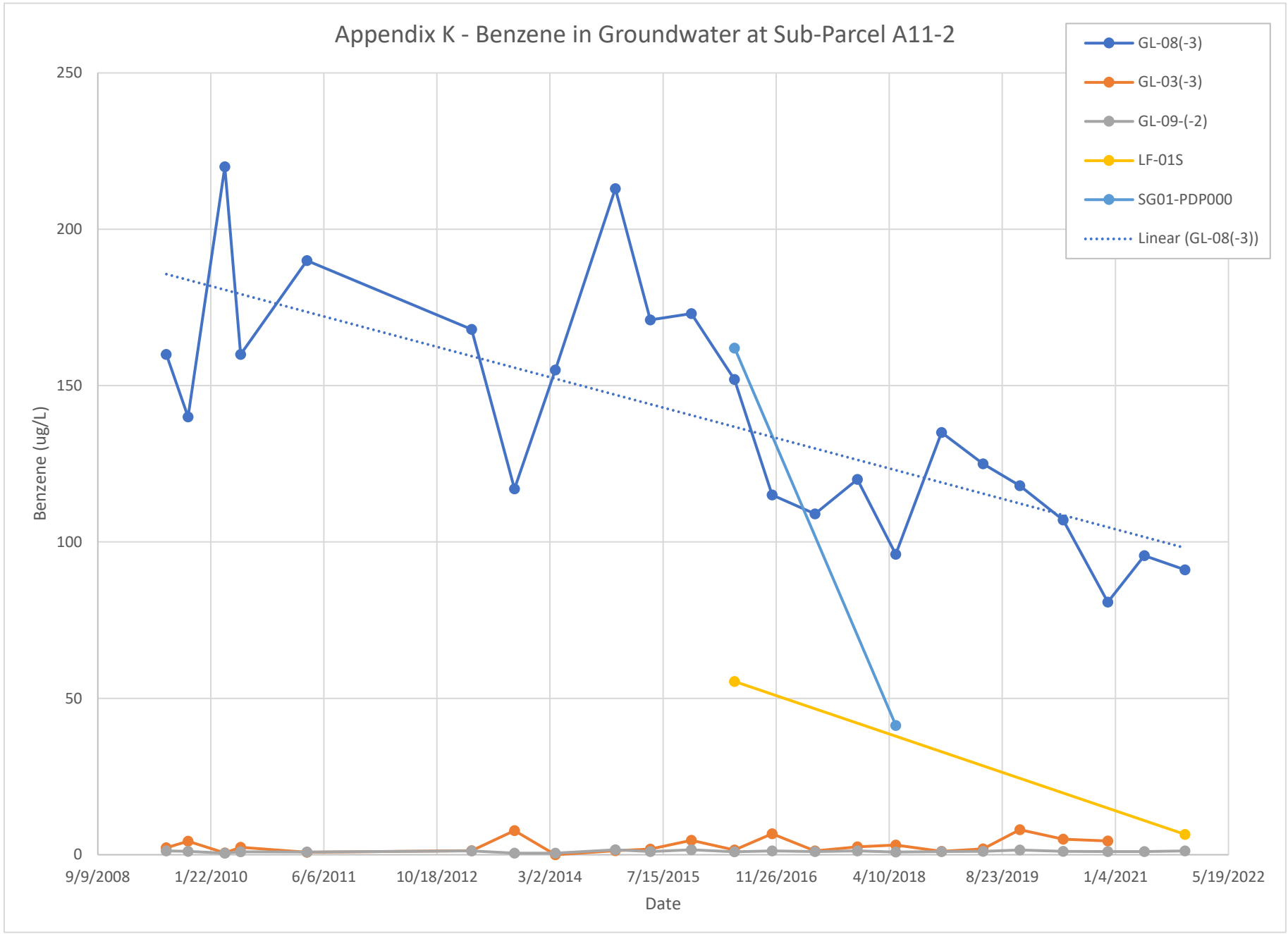
APPENDIX J

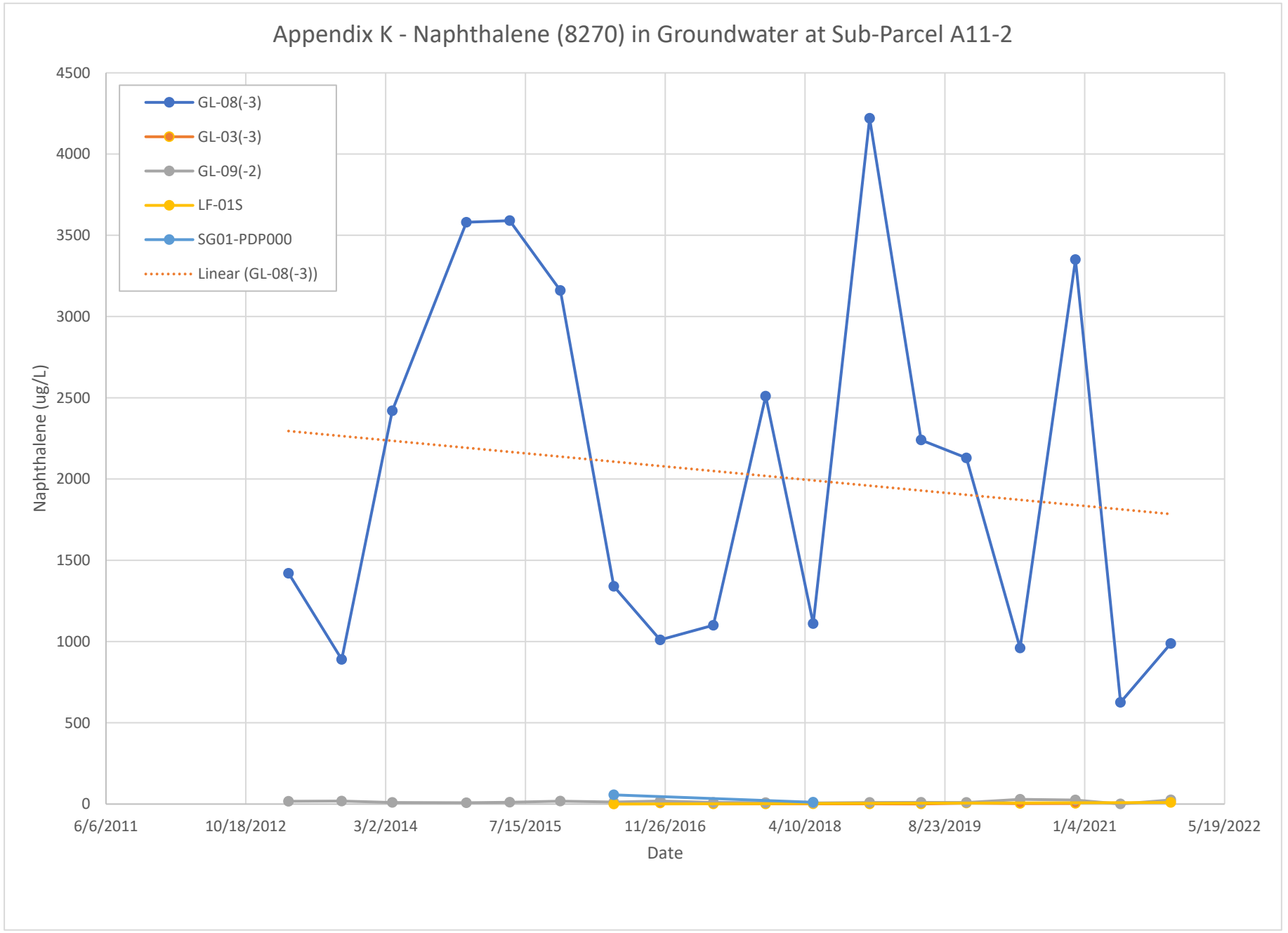


Prepared by:

TRADEPOINT ATLANTIC

APPENDIX K


Appendix K - Benzene in Groundwater at Sub-Parcel A11-2
GL-08(-3)
GL-03(-3)
GL-09-(-2)
LF-01S
SG01-PDP000
Linear (GL-08(-3))
Benzene (ug/L)
250
200
150
100
50
0
9/9/2008
1/22/2010
6/6/2011
10/18/2012
3/2/2014
7/15/2015
11/26/2016
4/10/2018
8/23/2019
1/4/2021
5/19/2022
Date


Appendix K - Naphthalene (8270) in Groundwater at Sub-Parcel A11-2
GL-08(-3)
GL-03(-3)
GL-09(-2)
LF-01S
SG01-PDP000
Linear (GL-08(-3))
Naphthalene (ug/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
6/6/2011
10/18/2012
3/2/2014
7/15/2015
11/26/2016
4/10/2018
8/23/2019
1/4/2021
5/19/2022
Date

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Location ID:	GL-03 (-3)			ug/L									
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,1-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,2,4-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	NS	NS
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,3-Dichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND	NS	NS
1,3-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
2,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
2-Chloroethylvinyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
2-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
4-Chlorotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Acetone	ND	ND	ND	19.8	5.7 J	5 J	6.8 J	6.7 J	ND	ND	ND	NS	NS

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Acetonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Acrolein	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Allyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Benzene	4.6	1.5	6.7	1.2	2.5	3.1	1.1	1.9	8	5	4.4	NS	NS
Bromobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Chloroprene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
cis-1,2-Dichloroethene	0.49 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Ethyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Ethylbenzene	ND	ND	0.47 J	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Iodomethane	ND	ND	ND	ND	3.1 CL	ND	ND	ND	ND	ND	ND	NS	NS
Isopropylbenzene (Cumene)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
m&p-Xylene	ND	ND	1.5 J	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Methacrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Methyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Methyl tertiary-butyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
n-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
n-Propylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
o-Xylene	ND	ND	0.68 J	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
p-Isopropyltoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9 J	ND	NS	NS
Propionitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
sec-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Toluene	ND	ND	0.49 J	ND	0.27 J	ND	ND	ND	0.5 J	ND	ND	NS	NS
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Xylenes	ND	ND	2.2 J	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Location ID:	*GL-08 (-3)*			*ug/L*									
1,1,1,2-Tetrachloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1,1-Trichloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1,2,2-Tetrachloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1,2-Trichloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1-Dichloroethane	*ND*	1.4	1.2	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1-Dichloroethene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1-Dichloropropene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2,3-Trichlorobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2,3-Trichloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2,4-Trichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*
1,2,4-Trimethylbenzene	39.9	42.8	21.6	17	22.1	16.7	46.5	27.9	23.4	19.8	32.5	13.8	15.4
1,2-Dibromo-3-chloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-Dibromoethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-Dichlorobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-Dichloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-Dichloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,3,5-Trimethylbenzene	17.5	18.6	9.4	8.1	10.2	7.5	21.6	12.8	11	8.7	15.2	6.1	5.9
1,3-Dichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*
1,3-Dichloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,4-Dichlorobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
2,2-Dichloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
2-Butanone	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
2-Chloroethylvinyl ether	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
2-Chlorotoluene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
2-Hexanone	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
4-Chlorotoluene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
4-Methyl-2-pentanone	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Acetone	*ND*	7.8 J	*ND*	68.8	*ND*	25.7 J	26.2 J	25 J	*ND*	*ND*	219	*ND*	*ND*

ND: Non-Detect, *NS: Not Sampled*

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Acetonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrolein	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Allyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	173	152	115	109	120	96.1	135	125	118	107	80.8	95.6	91.1
Bromobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	1.2 J	3.6 J	ND	ND	ND	ND	ND	5 J	ND
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroprene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	9.7	9.2	4.6	4.6 J	7.1	3.7 J	10.7	6.7	5.6	3.3 J	7	3 J	4.7 J
Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.1 J
Isopropylbenzene (Cumene)	ND	5.7	0.96 J	ND	ND	ND	2 J	1.2 J	ND	ND	ND	ND	ND
m&p-Xylene	131	135	48.4	46.1	80.5	46.1	146	80.9	74.1	43.4	90.1	35.3	37.3
Methacrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tertiary-butyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Methylene Chloride	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
n-Butylbenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
n-Propylbenzene	1.7	6	1.6	*ND*	1.4 J	*ND*	2.9 J	1.6 J	*ND*	*ND*	*ND*	*ND*	*ND*
o-Xylene	57.8	56.6	23.1	24.4	36.9	22.8	62.4	39.1	33.3	22.1	38.7	17.6	19.5
p-Isopropyltoluene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Propionitrile	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
sec-Butylbenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Styrene	7.4	6.4	1.7	*ND*	3.8 J	*ND*	6.1	3.1 J	3.2 J	*ND*	3.8 J	1.7 J	*ND*
tert-Butylbenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Tetrachloroethene	*ND*	0.52 J	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Toluene	749	613	250	294	406	261	554	385	349	239	358	204	184
trans-1,2-Dichloroethene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
trans-1,3-Dichloropropene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
trans-1,4-Dichloro-2-butene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Trichloroethene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Trichlorofluoromethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Vinyl Acetate	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Vinyl Chloride	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Xylenes	189	192	71.6	70.5	117	68.9	209	120	107	65.6	129	52.9	56.8

ND: Non-Detect, *NS: Not Sampled*

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Location ID:	*GL-09 (-2)*			*ug/L*									
1,1,1,2-Tetrachloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1,1-Trichloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1,2,2-Tetrachloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1,2-Trichloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1-Dichloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1-Dichloroethene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,1-Dichloropropene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2,3-Trichlorobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2,3-Trichloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2,4-Trichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*
1,2,4-Trimethylbenzene	3.1	2	3.9	2.2	2.1	1.7	2	2.1	3.2	2.9	2.2	*ND*	1.8
1,2-Dibromo-3-chloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-Dibromoethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-Dichlorobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-Dichloroethane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,2-Dichloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,3,5-Trimethylbenzene	1.7	*ND*	1.7	1.1	1.1	0.8 J	0.93 J	1.1	1.6	1.5	1.1	0.78 J	0.92 J
1,3-Dichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*
1,3-Dichloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
1,4-Dichlorobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
2,2-Dichloropropane	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
2-Butanone	30.4	12	70.5	18	43	11.7	43.7	17.9	41.2	13.3	44.4	27.6	21.6
2-Chloroethylvinyl ether	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
2-Chlorotoluene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
2-Hexanone	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	1.1 J	*ND*
4-Chlorotoluene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
4-Methyl-2-pentanone	*ND*	*ND*	7.3 J	*ND*	5.7 J	*ND*	*ND*	*ND*	5 J	*ND*	5.1 J	4.1 J	*ND*
Acetone	195	83.4	556	130	269	84.4	326	105	251	95.8	305	170	130

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Acetonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.3 J	ND
Acrolein	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Allyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1.6	0.95 J	1.2	0.99 J	1.2	0.86 J	1	1.1	1.5	1.1	1	0.99 J	1.2
Bromobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	0.74 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	1.7	1.2	ND	ND	1.9	ND	2.1	1.4	1.2	ND	1.3	1.5	0.65 J
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroprene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	0.69 J	ND	0.33 J	ND	0.34 J	ND	ND	ND	ND	ND	0.41 J
Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	ND	ND	1.2 J	ND	0.85 J	ND	0.75 J	0.69 J	ND	0.98 J	ND	ND	ND
Methacrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tertiary-butyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Methylene Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	ND	ND	0.9 J	ND	0.79 J	ND	0.69 J	0.83 J	1.1	1	ND	0.72 J	0.83 J
p-Isopropyltoluene	ND	ND	ND	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND
Propionitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	3.8	2.8	3.2	2.3	3.3	2.2	3	3.2	4.1	3.1	3.4	2.7	3.4
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	2.1 J	ND	1.6 J	ND	1.4 J	1.5 J	ND	ND	ND	1.5 J	ND

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Location ID:	*LF-01*			*ug/L*									
1,1,1,2-Tetrachloroethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,1,1-Trichloroethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,1,2,2-Tetrachloroethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,1,2-Trichloroethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,1-Dichloroethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,1-Dichloroethene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,1-Dichloropropene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,2,3-Trichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,2,3-Trichloropropane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,2,4-Trichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,2,4-Trimethylbenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,2-Dibromo-3-chloropropane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,2-Dibromoethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,2-Dichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,2-Dichloroethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,2-Dichloropropane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,3,5-Trimethylbenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,3-Dichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,3-Dichloropropane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,4-Dichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2,2-Dichloropropane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2-Butanone	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2-Chloroethylvinyl ether	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2-Chlorotoluene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2-Hexanone	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
4-Chlorotoluene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
4-Methyl-2-pentanone	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Acetone	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Acetonitrile	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acrolein	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Acrylonitrile	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Allyl chloride	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.5
Bromobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Bromochloromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Bromodichloromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Bromoform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Bromomethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Carbon Disulfide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Carbon Tetrachloride	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Chlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Chloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Chloroform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Chloromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Chloroprene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Dibromochloromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Dibromomethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Dichlorodifluoromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Ethyl methacrylate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Iodomethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Isopropylbenzene (Cumene)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Methacrylonitrile	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Methyl methacrylate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Methylene Chloride	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
n-Butylbenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
n-Propylbenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
o-Xylene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
p-Isopropyltoluene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Propionitrile	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
sec-Butylbenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Styrene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
tert-Butylbenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Tetrachloroethene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Toluene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
trans-1,2-Dichloroethene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
trans-1,3-Dichloropropene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
trans-1,4-Dichloro-2-butene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Trichloroethene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Trichlorofluoromethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Vinyl Acetate	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Vinyl Chloride	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Xylenes	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Location ID:	*GL-03 (-3)*			*ug/L*									
1,2,4-Trichlorobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
1,3-Dichlorobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
2,4,5-Trichlorophenol	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
2,4,6-Trichlorophenol	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
2,4-Dichlorophenol	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
2,4-Dimethylphenol	*NS*	*NS*	26.3 1c	2.5 1c	2.3 1c	1.5	0.68 J	1.1 1c	7.8 1c	1.9 1c	1.2 1c	*NS*	*NS*
2,4-Dinitrophenol	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
2,4-Dinitrotoluene	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
2,6-Dinitrotoluene	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
2-Chloronaphthalene	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
2-Chlorophenol	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
2-Methylnaphthalene	*NS*	*NS*	1.1 1c	*ND*	0.22 J1c	0.34 J	0.21 J	*ND*	1.1 1c	0.99 1c	1.1 1c	*NS*	*NS*
2-Methylphenol	*NS*	*NS*	0.74 J1c	*ND*	0.15 J1c	*ND*	*ND*	*ND*	0.37 J1c	*ND*	*ND*	*NS*	*NS*
2-Nitrophenol	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
3&4-Methylphenol	*NS*	*NS*	*NS*	*NS*	0.81 J1c	0.48 J	0.3 J	*ND*	2.8 1c	*ND*	*ND*	*NS*	*NS*
3,3'-Dichlorobenzidine	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
4,6-Dinitro-2-methylphenol	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
4-Bromophenyl phenylether	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
4-Chloro-3-methylphenol	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
4-Chlorophenyl phenylether	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
4-Nitrophenol	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	0.87 J3c	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
Acenaphthene	*NS*	*NS*	1.8 1c	0.45 J1c	0.8 J1c	0.78 J	0.64 J	0.54 J1c	2 1c	2 1c	1.9 1c	*NS*	*NS*
Acenaphthylene	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
Acetophenone	*NS*	*NS*	0.58 J1c	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
Aniline	*NS*	*NS*	4.7 1c	*ND*	*ND*	0.48 J	*ND*	*ND*	5.4 L11c	*ND*	*ND*	*NS*	*NS*
Anthracene	*NS*	*NS*	0.38 J1c	*ND*	0.2 J1c	0.2 J	0.24 J	*ND*	0.39 J1c	0.48 J1c	*ND*	*NS*	*NS*
Benz[a]anthracene	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*
Benzo[a]pyrene	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Benzo[b]fluoranthene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Benzo[g,h,i]perylene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Benzo[k]fluoranthene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
bis(2-Chloro-1-methylethyl)ether	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
bis(2-Chloroethoxy)methane	NS	NS	0.44 J1c	ND	ND	ND	ND	ND	0.46 J1c	ND	ND	NS	NS
bis(2-Chloroethyl)ether	NS	NS	0.47 J1c	ND	ND	ND	ND	ND	0.63 J1c	ND	ND	NS	NS
bis(2-Ethylhexyl)phthalate	NS	NS	ND	ND	ND	0.19 J	0.37 J	0.36 J1c	0.46 J1c	ND	ND	NS	NS
Butyl benzyl phthalate	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Chrysene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Dibenz[a,h]anthracene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Dibenzofuran	NS	NS	1.1 1c	ND	0.46 J1c	0.51 J	0.44 J	ND	1.4 1c	1.4 1c	1.3 1c	NS	NS
Diethylphthalate	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Dimethylphthalate	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Di-n-butylphthalate	NS	NS	ND	ND	ND	ND	ND	ND	ND	1.3 1c	ND	NS	NS
Di-n-octylphthalate	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Fluoranthene	NS	NS	1.2 1c	0.68 J1c	0.66 J1c	0.58 J	0.75 J	0.48 J1c	0.95 J1c	0.95 J1c	1 1c	NS	NS
Fluorene	NS	NS	1.5 1c	0.45 J1c	0.77 J1c	0.87 J	0.72 J	0.61 J1c	2 1c	2.4 1c	2.2 1c	NS	NS
Hexachloro-1,3-butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Hexachlorobenzene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Hexachlorocyclopentadiene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Hexachloroethane	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Indeno[1,2,3-cd]pyrene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Isophorone	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Naphthalene	5.5	2.6	13.2	1.7 J	3.6	4.2	2.6	2.4	11.9	6.5	9.6	NS	NS
Nitrobenzene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
N-Nitrosodimethylamine	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS
Pentachloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pentachlorophenol	NS	NS	0.83 J1c	0.7 J1c	ND	ND	ND	1.1 J1c	1.4 J1c	ND	ND	NS	NS
Phenanthrene	NS	NS	2.6 1c	0.59 J1c	1.1 1c	1.3	1	0.78 J1c	2.6 1c	3.2 1c	2.7 1c	NS	NS
Phenol	NS	NS	0.36 J1c	ND	0.16 JB1c	0.17 J	0.34 J	0.89 J1c	0.24 J1c	1.2 B1c	0.64 J1c	NS	NS

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Pyrene	*NS*	*NS*	0.78 J1c	0.45 J1c	0.38 J1c	0.38 J	0.51 J	0.34 J1c	0.58 J1c	0.63 J1c	0.73 J1c	*NS*	*NS*
Pyridine	*NS*	*NS*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NS*	*NS*

ND: Non-Detect, *NS: Not Sampled*

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Location ID:	*GL-08 (-3)*			*ug/L*									
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2,4,5-Trichlorophenol	ND	ND	ND	1.1 J	ND	ND	ND	ND	1.2 J1c	0.81 J1c	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	0.27 J1c	ND	0.2 J	ND	0.71 J1c	0.53 J1c	ND	ND	ND
2,4-Dichlorophenol	ND	1 1c	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1 1c	ND
2,4-Dimethylphenol	92.8 1c	58.5 1c	60.2 1c	62.4	82.9 1c	79.1 ED	16.7	116 D31c	67.8 1c	55.1 1c	109 1c	50.3 1c	89.2 1c
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	0.45 J1c	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	2.2 1c	ND	ND	ND	2 1c	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	0.18 J	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	117 1c	63.5 1c	28.9 1c	34.1	57.3 1c	41.3 ED	63.4	61.4 D31c	44.6 1c	25.8 1c	102 1c	12.8 1c	32.3 1c
2-Methylphenol	28.5 1c	19.4 1c	26.4 1c	25.2	30.7 1c	ND	23	45.8 D31c	33.7 1c	22.1 1c	27.2 1c	24.2 1c	40.2 1c
2-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	79.4 1c	NS	NS	NS	68.3 1c	53.9 ED	59.5	90.6 D31c	69.5 1c	43.2 B1c5c	68.8 1c	45.3 1c	77.4 1c
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2 1c	3.9 1c	ND
3-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Chlorophenyl phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	27.3 1c	18.7 1c	5.3 1c	11.3	13.5 1c	11.4 ED	19	15.2 JD31c	15.5 1c	5.9 1c	23 1c	2.7 1c	9.8 J1c
Acenaphthylene	43.4 1c	25.1 1c	7.3 1c	13.4	17.2 1c	11.9 ED	25.7	20.7 D31c	24.3 1c	8.9 1c	33.2 1c	4.6 1c	11.6 1c

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Acetophenone	36 1c	18.3 1c	20.3 1c	19.1	35.1 1c	19.1 ED	25.3	34.5 D31c	27.4 1c	17.5 1c	24.3 1c	14.3 1c	25.3 1c
Aniline	4 1c	3.3 1c	ND	2.2 J	ND	ND	2.4 J	ND	ND	ND	ND	1.2 J1c	ND
Anthracene	12.7 1c	7.6 1c	3.8 1c	4.3	7.2 1c	4.7 JED	9.1	6.7 JD31c	9.6 1c	3.5 1c	9.3 1c	2.2 1c	ND
Azobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benz[a]anthracene	0.88 J1c	0.26 J1c	ND	0.25 J	0.42 J1c	ND	0.31 J	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	0.51 JIS1c	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	1.6 IpIS1c	0.22 JIp1c	0.26 JIS1c	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	1.5 IpIS1c	0.22 JIp1c	0.26 JIS1c	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic acid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzyl alcohol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Chloro-1-methylethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	1.8 JED	1.4	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.36 J1c	0.37 J1c	ND	0.44 J	ND	ND	0.55 J	ND	0.55 J1c	ND	ND	ND	ND
Butyl benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chrysene	0.65 J1c	ND	ND	ND	0.36 J1c	ND	0.27 J	ND	0.56 J1c	ND	ND	ND	ND
Dibenz[a,h]anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	65.9 1c	37.3 1c	9.5 1c	19.4	28.2 1c	18.3 ED	42.9	26.8 D31c	36.1 1c	9.9 1c	46.8 1c	5.5 1c	16.1 1c
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	7.2 1c	4 1c	2.5 1c	2.5	5.2 1c	4.7 JED	6.6	ND	6.8 1c	1.8 1c	4.8 1c	1.5 1c	ND
Fluorene	63.1 1c	37.4 1c	9.7 1c	17.1	28.3 1c	19.5 ED	44.7	28.1 D31c	35.9 1c	10.2 1c	48.3 1c	6.3 1c	18.2 1c
Hexachloro-1,3-butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Indeno[1,2,3-cd]pyrene	0.19 JIS1c	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Isophorone	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Naphthalene	15,200	4,130	15,200	1,790	3,440	1,890	6,430	3,210	3,800	2,820	4,890	1,690	1,390
Nitrobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
N-Nitrosodimethylamine	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
N-Nitroso-di-n-propylamine	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
N-Nitrosodiphenylamine	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Pentachloroethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Pentachlorophenol	2.7 1c	1.3 J1c	1.5 J1c	2.2 J	1.8 J1c	*ND*	*ND*	*ND*	3.3 1c	1.7 J1c	2 J1c	1.9 J1c	*ND*
Phenanthrene	65.8 1c	38.9 1c	18.7 1c	19.2	33.5 1c	22 ED	56.2	28.4 D31c	42.2 1c	13.1 1c	47.2 1c	9.2 1c	18.6 1c
Phenol	30.5 1c	8.1 1c	1.9 1c	2.7	12.5 1c	1.7 JED	17.5	*ND*	3.5 1c	0.62 JB1c	14.9 1c	0.49 J1c	3.3 J1c
Pyrene	8.2 1c	2.9 1c	1.8 IS1c	2	3.1 1c	2.8 JED	3.6	*ND*	3.1 1c	1.9 1c	3 1c	*ND*	*ND*
Pyridine	19.9 1c	8.4 1c	11.7 1c	15.3	13 1c	7.8 JED	13.8	15.7 JD31c	8.7 1c	4.5 1c	0.55 JL21c	0.93 J1c	4.1 JCHL21c

ND: Non-Detect, *NS: Not Sampled*

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Location ID:	*GL-09 (-2)*			*ug/L*									
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	0.81 J1c	0.25 J1c	0.34 J	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	0.34 J1c	0.44 J1c	ND	ND	0.26 J1c	0.32 J	0.35 J1c	ND	ND	ND	ND	ND
2,4-Dimethylphenol	32.1 1c	13.7 1c	49.9 1c	18.2 ED1c	48.2 1c	ND	51.6	38.4 1c	56.8	36.6 D31c	73.6 EDL11c	ND	52.2 ED1c
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	0.93 J	0.49 J1c	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	0.62 J	0.75 J1c	ND	ND	ND
2-Chlorophenol	ND	0.35 J1c	0.56 J1c	ND	0.67 J1c	ND	0.65 J	0.39 J1c	0.91 J	0.43 J1c	ND	ND	ND
2-Methylnaphthalene	2.4 1c	1.6 1c	1.8 1c	ND	0.92 J1c	0.82 J1c	0.98 J	1.2 1c	1.3	3.6 JD31c	ND	ND	ND
2-Methylphenol	19.2 1c	10.2 1c	27.3 1c	8.1 JED1c	28.8 1c	8.5 1c	25.6	16.9 1c	36.2	20.9 1c	43.6 ED1c	ND	ND
2-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	219 1c	NS	NS	NS	345 1c	91.6 1c	329	249 1c	426	230 1c	449 ED1c	ND	304 ED1c
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	0.17 J	ND	ND	ND	ND	ND	ND
3-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	0.9 J	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Chlorophenyl phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Nitrophenol	ND	ND	2.1 1c	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.3 JCHED1c
Acenaphthene	1.4 1c	1.3 1c	1.6 1c	ND	0.93 J1c	0.8 J1c	1	1 1c	1.1	3.2 1c	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	0.13 J	ND	ND	ND	ND	ND	ND

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Acetophenone	ND	0.37 J1c	ND	ND	2.7 1c	ND	2.8	2.1 1c	ND	ND	ND	ND	ND
Aniline	ND	ND	ND	ND	ND	ND	158	ND	ND	ND	ND	ND	ND
Anthracene	0.53 J1c	0.49 J1c	0.54 J1c	ND	0.7 J1c	0.37 J1c	0.44 J	0.61 J1c	1	0.99 J1c	ND	ND	ND
Azobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benz[a]anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[g,h,i]perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzoic acid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzyl alcohol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Chloro-1-methylethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	1.6	1.3 1c	ND	3.7 JD31c	ND	ND	ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.39 J1c	0.41 J1c	2.9 IS1c	ND	0.2 J1c	ND	0.29 J	0.95 JB1c	0.8 J	ND	ND	ND	ND
Butyl benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz[a,h]anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	1.1 1c	0.97 J1c	1.1 1c	ND	0.77 J1c	0.41 J1c	0.65 J	0.77 J1c	0.87 J	2.5 1c	ND	ND	ND
Diethylphthalate	ND	ND	0.79 J1c	ND	ND	0.45 J1c	0.83 J	0.63 J1c	ND	ND	ND	ND	ND
Dimethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate	ND	0.11 J1c	ND	ND	ND	0.23 J1c	ND	ND	ND	0.44 J1c	ND	ND	ND
Di-n-octylphthalate	ND	ND	ND	ND	ND	ND	ND	0.36 JIS1c	0.52 JIS	ND	ND	ND	ND
Fluoranthene	0.42 J1c	0.39 J1c	0.3 J1c	ND	ND	ND	0.16 J	0.51 J1c	0.43 J	0.6 J1c	ND	ND	ND
Fluorene	1.4 1c	1.3 1c	1.3 1c	ND	1.1 1c	0.65 J1c	0.93 J	0.99 J1c	1.1	3.1 1c	ND	ND	ND
Hexachloro-1,3-butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	3.1	ND	ND	ND	ND

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Indeno[1,2,3-cd]pyrene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Isophorone	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Naphthalene	54.9	22.5	39	19.1	23	16.4	23.1	24.7	59	39.4	29	44.8	28.2
Nitrobenzene	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
N-Nitrosodimethylamine	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
N-Nitroso-di-n-propylamine	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
N-Nitrosodiphenylamine	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Pentachloroethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
Pentachlorophenol	1.2 J1c	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Phenanthrene	2.1 1c	1.7 1c	2 1c	*ND*	1.2 1c	0.76 J1c	0.87 J	1.7 1c	1.9	4.3 1c	*ND*	*ND*	*ND*
Phenol	156 1c	70.9 1c	232 1c	48.9 ED1c	239 1c	48.2 1c	222	178 1c	320	178 1c	342 ED1c	*ND*	217 ED1c
Pyrene	0.54 J1c	0.38 J1c	*ND*	*ND*	0.17 J1c	*ND*	*ND*	0.54 J1c	0.51 J	0.41 J1c	*ND*	*ND*	*ND*
Pyridine	0.39 J1c	0.38 J1c	0.84 J1c	*ND*	0.55 J1c	0.32 JL21c	0.46 J	0.66 JCH1c	0.59 J	0.51 J1c	*ND*	*ND*	*ND*

ND: Non-Detect, *NS: Not Sampled*

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Location ID:	*LF-01*			*ug/L*									
1,2,4-Trichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
1,3-Dichlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2,4,5-Trichlorophenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2,4,6-Trichlorophenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2,4-Dichlorophenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2,4-Dimethylphenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2,4-Dinitrophenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2,4-Dinitrotoluene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2,6-Dinitrotoluene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2-Chloronaphthalene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2-Chlorophenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2-Methylnaphthalene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2-Methylphenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
2-Nitrophenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
3&4-Methylphenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
3,3'-Dichlorobenzidine	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
4,6-Dinitro-2-methylphenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
4-Bromophenyl phenylether	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
4-Chloro-3-methylphenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
4-Chlorophenyl phenylether	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
4-Nitrophenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Acenaphthene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Acenaphthylene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Acetophenone	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Aniline	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Anthracene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Benz[a]anthracene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Benzo[a]pyrene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Benzo[b]fluoranthene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Benzo[g,h,i]perylene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Benzo[k]fluoranthene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
bis(2-Chloro-1-methylethyl)ether	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
bis(2-Chloroethoxy)methane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
bis(2-Chloroethyl)ether	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
bis(2-Ethylhexyl)phthalate	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Butyl benzyl phthalate	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Chrysene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Dibenz[a,h]anthracene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Dibenzofuran	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Diethylphthalate	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Dimethylphthalate	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Di-n-butylphthalate	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Di-n-octylphthalate	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Fluoranthene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Fluorene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Hexachloro-1,3-butadiene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Hexachlorobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Hexachlorocyclopentadiene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Hexachloroethane	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Indeno[1,2,3-cd]pyrene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Isophorone	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Naphthalene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	3
Nitrobenzene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
N-Nitrosodimethylamine	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Pentachlorophenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Phenanthrene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Phenol	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*
Pyrene	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*

ND: Non-Detect, NS: Not Sampled

Parameter	11/1/2015	5/1/2016	11/1/2016	5/1/2017	11/1/2017	5/1/2018	12/1/2018	5/1/2019	11/1/2019	6/1/2020	11/1/2020	5/1/2021	11/1/2021
Pyridine	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*	*ND*

ND: Non-Detect, NS: Not Sampled