



ARM Group LLC

Engineers and Scientists

February 24, 2020

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

Re: RADWP Addendum
Area B: Sub-Parcel B1-1
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown:

On behalf of EnviroAnalytics Group, LLC (EAG), ARM Group LLC (ARM) is pleased to submit the following Response and Development Work Plan (RADWP) Addendum to the Maryland Department of the Environment (MDE) and the United States Environmental Protection Agency (USEPA). This RADWP Addendum is being submitted to document a proposed stormwater utility modification for the Sub-Parcel B1-1 development project on the Tradepoint Atlantic property located in Sparrows Point, Maryland.

Project Background

A RADWP is currently being implemented for Sub-Parcel B1-1. The previously submitted RADWP (Revision 1, dated August 30, 2019) was approved for implementation via email by the MDE on July 30, 2019. This RADWP Addendum requests agency approval to modify a stormwater utility alignment and tie-in location, and also addresses outstanding agency comments regarding updated notification requirements for the MDE and USEPA. This project also involves the removal of a limited area of existing surface engineering controls (i.e., caps) within Sub-Parcel B4-1 to install an underground utility, and the subsequent replacement with a new cap. As described below, any disturbed cap will be repaired to meet the specifications of the originally constructed cap.

Project Description

The proposed work will include modifications to a stormwater utility alignment and connection tie-in from the Sub-Parcel B1-1 facility. The proposed utility will traverse approximately 1,140 feet with the trench extending to depths between approximately 13 to 17 feet below ground surface.

This work will include the removal of existing pavement in select areas within Sub-Parcel B4-1, as well as trenching below the removed pavement cap to facilitate the installation of the stormwater utility. A replacement asphalt cap within Sub-Parcel B4-1 will be installed following utility installation. When the project is complete, the Sub-Parcel B4-1 will remain capped in its entirety by approved controls.

Appendix A contains the project construction drawing for the proposed work. *Sheet C2.05A* details the proposed stormwater utility extension and highlights the area where existing pavement within Sub-Parcel B4-1 is to be disturbed via a saw cut. **Figure 1** provides an overview of the proposed work, incorporating the information shown on *Sheet C2.05A* to indicate the amended stormwater utility alignment as well as the associated limit of disturbance (LOD) within the Sub-Parcel B4-1 pavement cap. Note that, because the utility tie-in has changed, soil disturbance within a portion of the originally proposed stormwater utility tie-in location is no longer necessary.

Summary of Environmental Conditions

Proposed work extends outside of the area previously addressed by the Sub-Parcel B1-1 RADWP. Therefore, soil and groundwater data proximate to the proposed stormwater utility alignment and connection tie-in are provided herein.

Relevant soil boring locations from the Parcel B4 Phase II Investigation proximate to the utility alignment are shown on **Figure 2**. **Figure S1** through **Figure S4** present summaries of the soil sample results that exceeded the Project Action Limits (PALs). PAL exceedances in the soil samples relevant for the proposed utility project were limited to four inorganics (arsenic, hexavalent chromium, lead, and manganese), two semi-volatile organic compounds (SVOCs) (benzo[a]pyrene and naphthalene), three PCBs (Aroclor 1254, Aroclor 1260, and total PCBs), and Diesel Range Organics (DRO). During the Phase II investigation, elevated PCB concentrations were observed in soil boring B4-037-SB, as shown on **Figure S2**. The PCB impacts at this location have been fully delineated, and do not extend to the proposed work area. More information about the delineation of this location can be found in the document entitled *Delineation Activities and Proposed Excavation of PCB Impacted Soil*, dated March 22, 2017.

Figure S3 shows the location of a test pit used to investigate a potential stormwater tie-in location. During test pitting, isolated evidence of Non-Aqueous Phase Liquid (NAPL) was observed. According to Tradepoint Atlantic, light sheen was observed on the groundwater when scraping the western wall of the test pit. A concrete obstruction was believed to be the source of the observed NAPL and has since been removed and no longer appears to present a concern. Physical evidence of NAPL was also identified at B4-018-SB during the Phase II Investigation, and is addressed below.

Relevant groundwater sampling locations from the Area B Phase II Investigation proximate to the utility alignment are shown on **Figure GW1**. Aqueous PAL exceedances include three SVOCs



(benz[a]anthracene, benzo[a]pyrene, and naphthalene), two inorganics (total manganese and cyanide), and DRO. Based on groundwater elevation data obtained from these locations during the Area B Groundwater Investigation, groundwater is likely to be encountered during ground intrusive work. All groundwater encountered will be managed in accordance with the protocols outlined in the RADWP, as specified below.

General Work Requirements

The construction of the proposed utility will remain subject to the development implementation protocols outlined in the RADWP, including but not limited to the following:

- Oversight will be provided by an Environmental Professional (EP) during ground intrusive construction activities to ensure compliance with soil screening requirements, and proper water management, and during cap repair to document proper cap thickness and construction. The EP will remain continuously on-site when the proposed utility work is within 50 feet of boring B4-018A-PZ to monitor for potential NAPL. Additional contingencies are discussed in the following sections.
- Development activities will be conducted under the property-wide Health and Safety Plan (provided as Appendix K of the RADWP).
- Any ground intrusive work will be performed using Modified Level D Personal Protective Equipment (PPE) in accordance with the requirements outlined in the approved PPE Standard Operational Procedure (SOP) (provided as Appendix E of the RADWP).
- Erosion and sediment controls will be installed as required.
- Dust monitoring will be implemented as required (see Section 5.1.5 of the RADWP).
- If dewatering is necessary, sampling and disposal will be conducted as required (see Section 5.2.2 of the RADWP).
- The Utility Excavation NAPL Contingency Plan will be implemented as required (provided as Appendix J of the RADWP). Additional contingencies are provided below.

In accordance with the RADWP, all utility trenches will be backfilled with bedding and backfill materials approved by the MDE. During field screening by the EP, if there is no evidence of significant contamination (i.e., elevated PID readings, staining, petroleum materials, etc.) the excavated materials may be used as backfill within the utility trenches, or placed elsewhere on the Sub-Parcel B1-1 under areas to be capped. The EP will monitor the soil excavation activities for signs of significantly contaminated material which may not be suitable for reuse. In general, all excavated materials are expected to be suitable for replacement within the utility trenches, with the possible exception of materials generated from the southern portion of the utility tie-in in the vicinity of soil boring B4-018-SB (as discussed below).



Following utility installation, the section of disturbed cap within Sub-Parcel B4-1 will be replaced as originally constructed. This section of the development area was capped with heavy duty paving consisting of 4 inches of asphalt overlying 3 inches of graded aggregate base as reported in the Sub-Parcel B4-1 Development Completion Report (Revision 0, dated April 11, 2018). The EP will verify the proper cap thickness and construction.

Special Considerations – NAPL Contingency

Previous NAPL observations have been identified in the vicinity of the proposed utility tie-in at the southern end of the stormwater utility. During the Parcel B4 Phase II Investigation, NAPL was identified at B4-018-SB and subsequently delineated using temporary groundwater piezometers. Details regarding these observations and the NAPL delineation can be found in the Parcel B4 NAPL Delineation Completion Report (dated February 18, 2020). **Figure 3** shows the southern end of the proposed utility alignment and tie-in location in relation to the NAPL delineation piezometers. It shows that the proposed utility is located outside of the delineated area, suggesting that significant impacts are not likely to be encountered as part of this utility installation. **Table 1** is provided to summarize NAPL observations in both soil and groundwater at the delineation piezometers. As specified above, the Utility Excavation NAPL Contingency Plan will be implemented as required, should any NAPL be encountered.

Any notable or non-standard conditions, including but not limited to staining, strong odors, discoloration, evidence of NAPL, or other evidence of contamination which has not previously been characterized, will be reported to the MDE. If required, preventive measures will be implemented in accordance with the Utility Excavation NAPL Contingency Plan to prevent the discharge to, or migration of, petroleum product along a utility conduit via 1) the use of low permeability backfill or 2) installation of trench plugs along the alignment.

Institutional Controls

Based on MDE comments received via email dated November 12, 2019, this RADWP Addendum clarifies the differences between the agency notification requirements for the MDE and USEPA previously outlined in the original RADWP. These anticipated institutional controls were stated in Sections 3.3.2, 3.3.3, 5.4, and 5.5. All relevant sections of the RADWP are hereby amended with the revised institutional controls to include:

- 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 proposed duration of intrusive activity



would exceed the allowable exposure duration determined in the SLRA and the contractor will not use the modified Level D PPE specified in the approved SOP.

The remaining institutional controls in the Sub-Parcel B1-1 RADWP (restriction on the use of groundwater, requirement for a HASP in the event of future excavations, etc.) remain as previously stated. If further clarification/revision is needed regarding the specific institutional controls language, it is anticipated that the final legal language can be refined prior to recordation of the institutional controls in the land records office of Baltimore County.

Schedule & Reporting

At this time, EAG is requesting approval for Tradepoint Atlantic to proceed with the proposed work outside of the original Sub-Parcel B1-1 boundary. It is not expected that the proposed intrusive construction activities will exceed the allowable exposure duration of 80 days specified in the Screening Level Risk Assessment Report for the Parcel B4 Remnant Area (Revision 1), dated November 21, 2019. However, as noted above, Modified Level D PPE will be used throughout the implementation of this fieldwork. Tradepoint Atlantic intends to commence work on the remaining utility installation work and tie-in following agency approval, with an estimated completion date of April 2020. The utility installation and tie-in will be covered by the same Development Completion Report as the remainder of Sub-Parcel B1-1. The Development Completion Report will also document the reinstallation of caps disturbed in Sub-Parcel B4-1 as part of this project.

If you have any questions, or if we can provide any additional information at this time, please do not hesitate to contact ARM Group LLC at 410-290-7775.

Respectfully Submitted,
ARM Group LLC



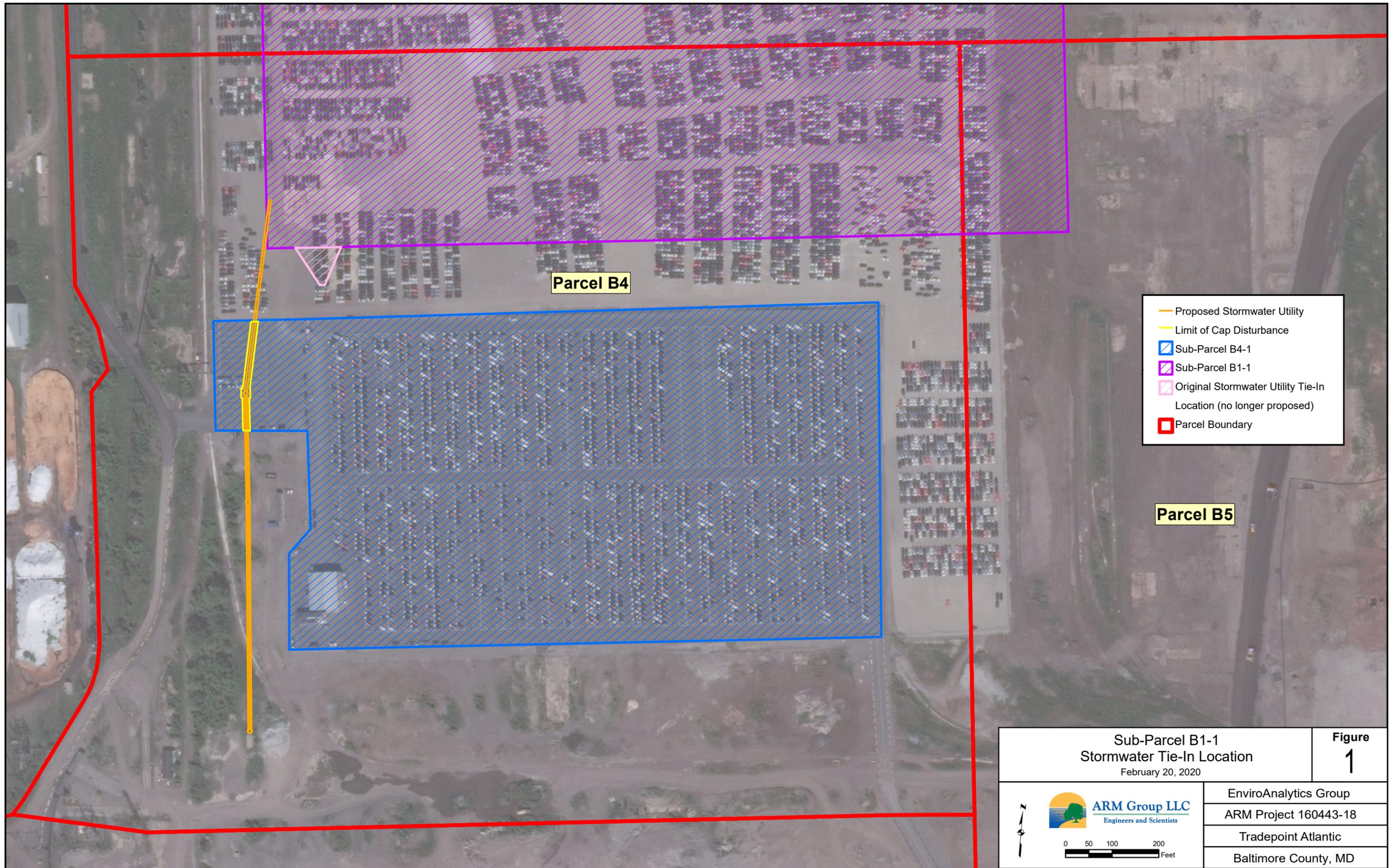
Joshua M. Barna, G.I.T.
Staff Geologist



T. Neil Peters, P.E.
Senior Vice President



FIGURES

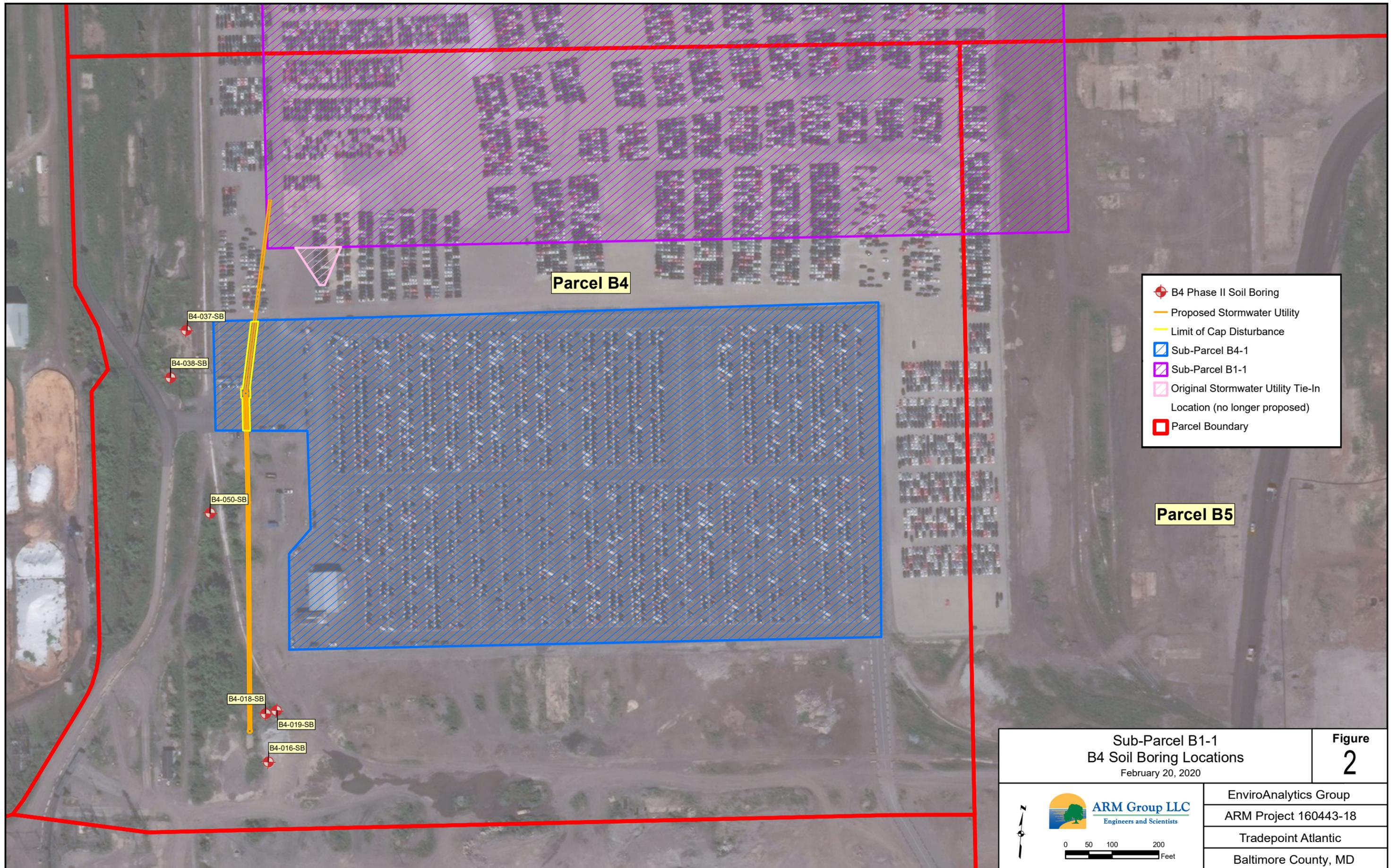


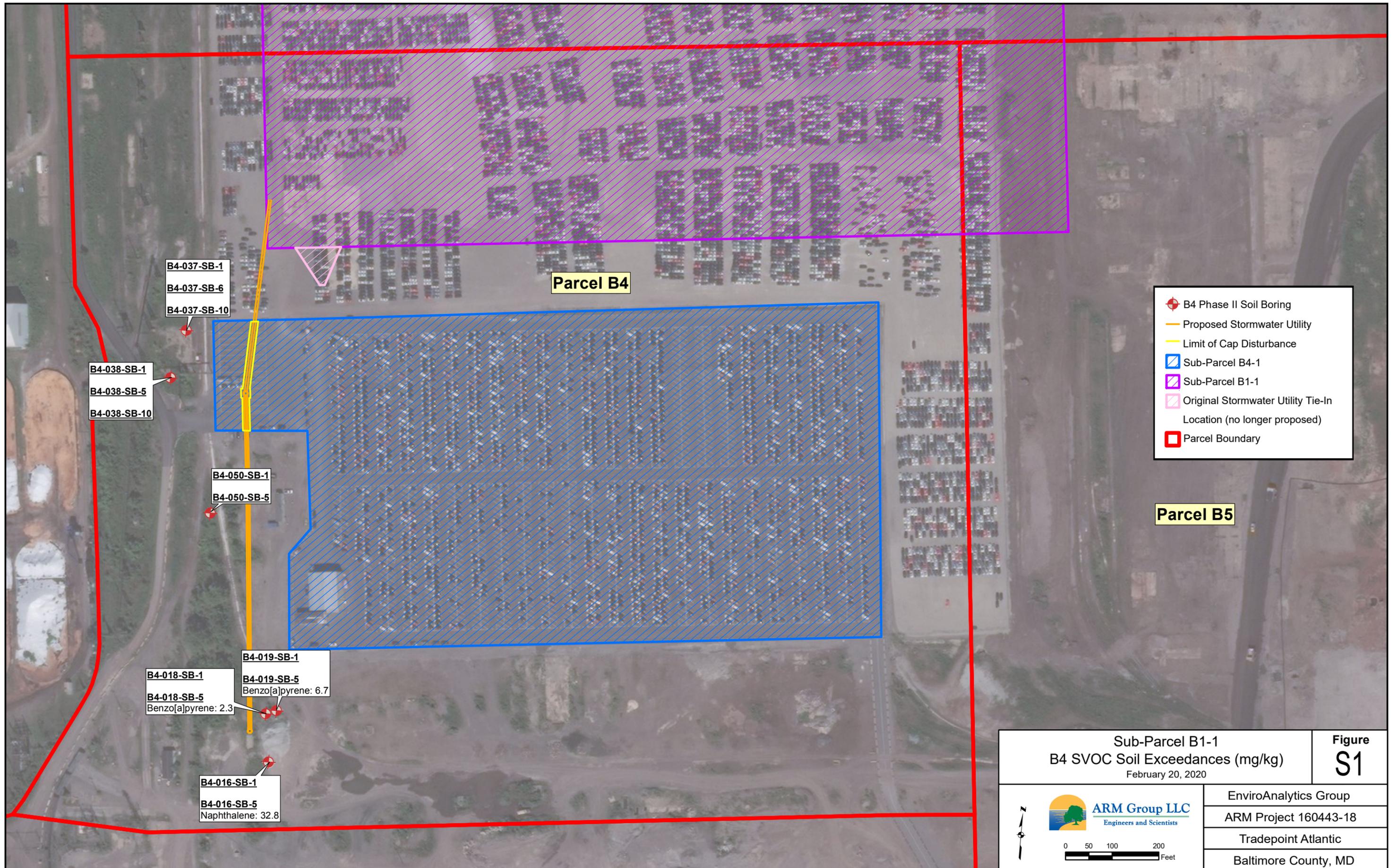
- Proposed Stormwater Utility
- Limit of Cap Disturbance
- Sub-Parcel B4-1
- Sub-Parcel B1-1
- Original Stormwater Utility Tie-In Location (no longer proposed)
- Parcel Boundary

Parcel B5

Parcel B4

<p>Sub-Parcel B1-1 Stormwater Tie-In Location February 20, 2020</p>		<p>Figure 1</p>
 	<p>EnviroAnalytics Group ARM Project 160443-18 Tradeport Atlantic Baltimore County, MD</p>	





B4-037-SB-1
 B4-037-SB-6
 B4-037-SB-10

B4-038-SB-1
 B4-038-SB-5
 B4-038-SB-10

B4-050-SB-1
 B4-050-SB-5

B4-018-SB-1
 B4-018-SB-5
 Benzo[a]pyrene: 2.3

B4-019-SB-1
 B4-019-SB-5
 Benzo[a]pyrene: 6.7

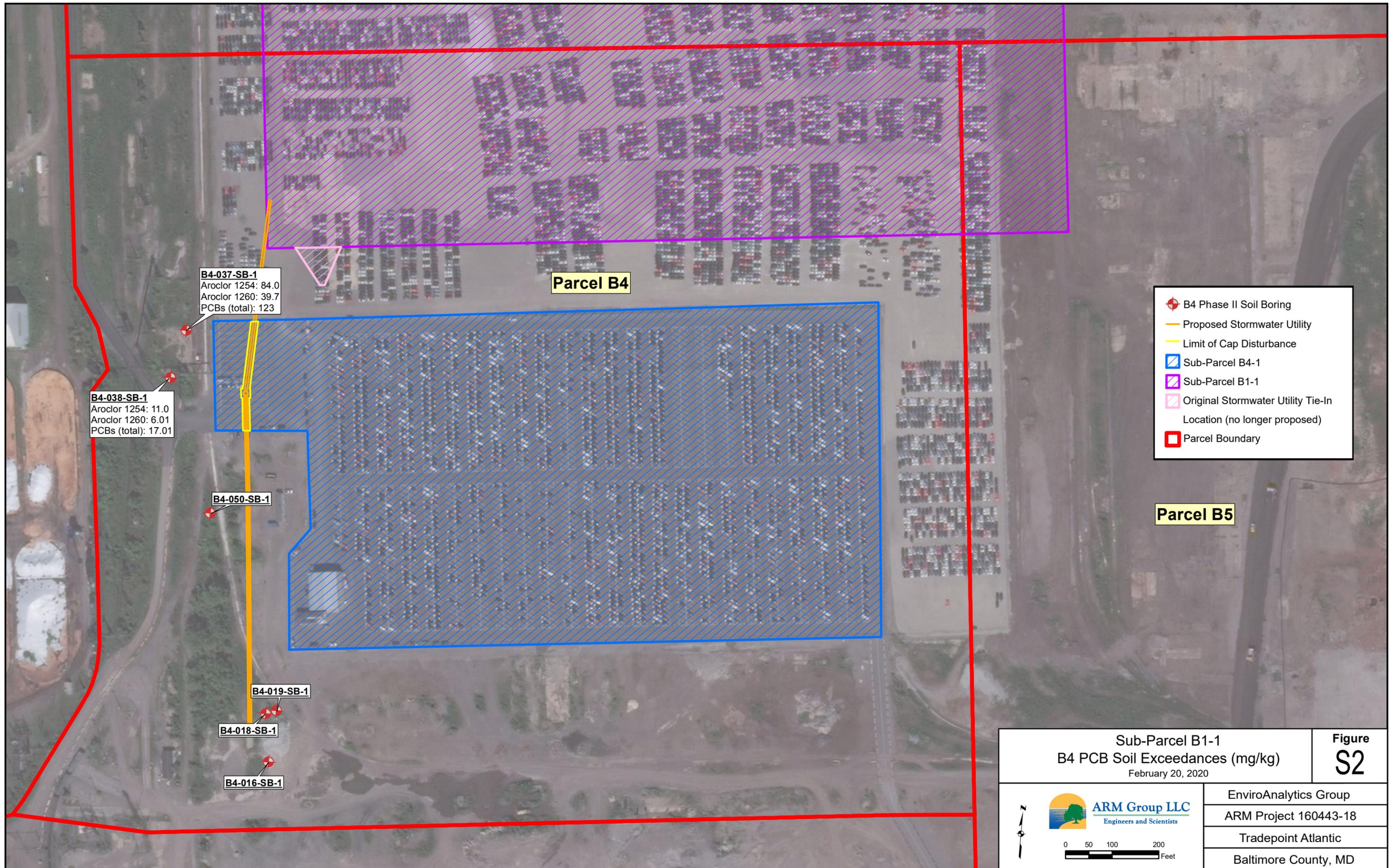
B4-016-SB-1
 B4-016-SB-5
 Naphthalene: 32.8

Parcel B4

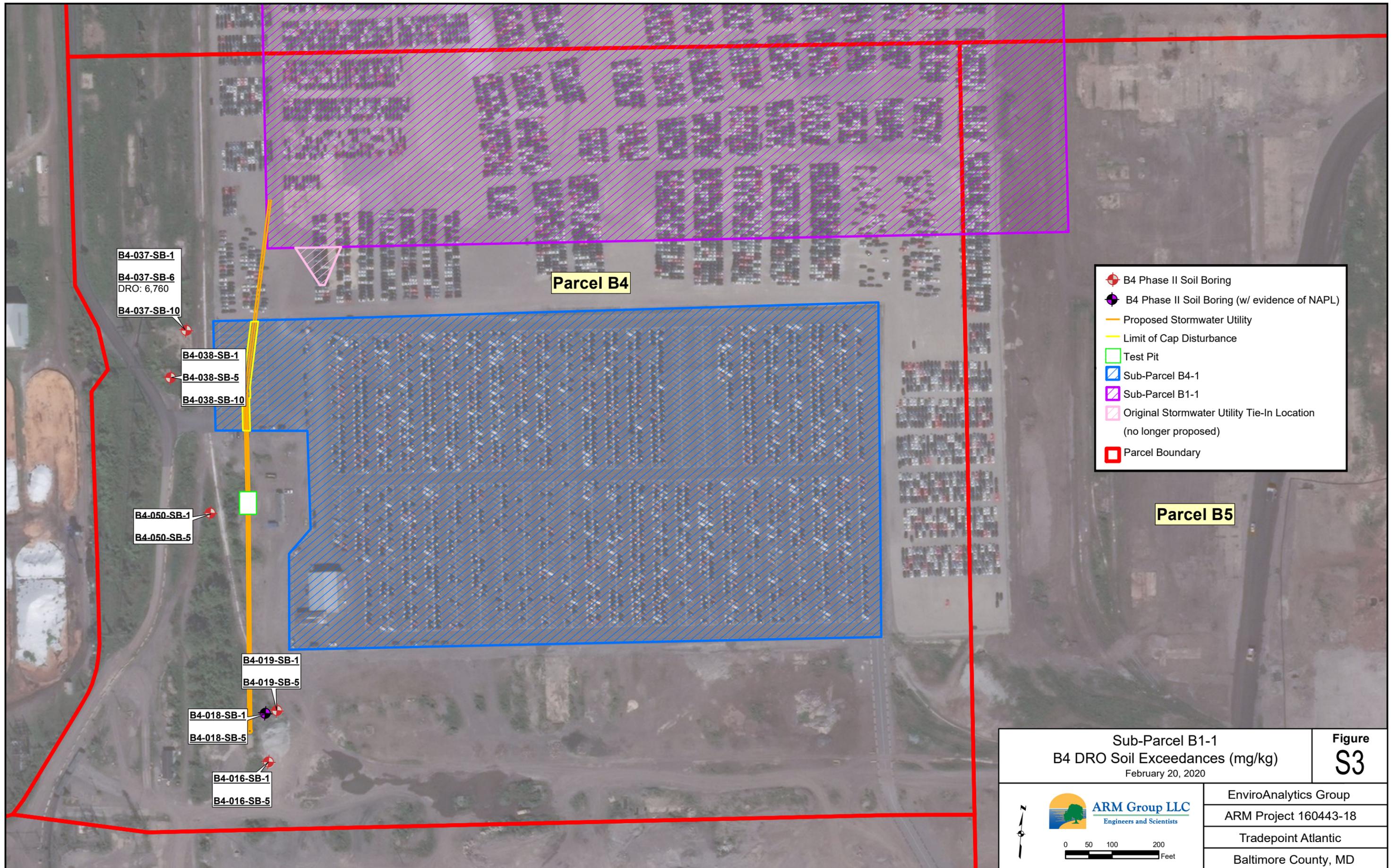
Parcel B5

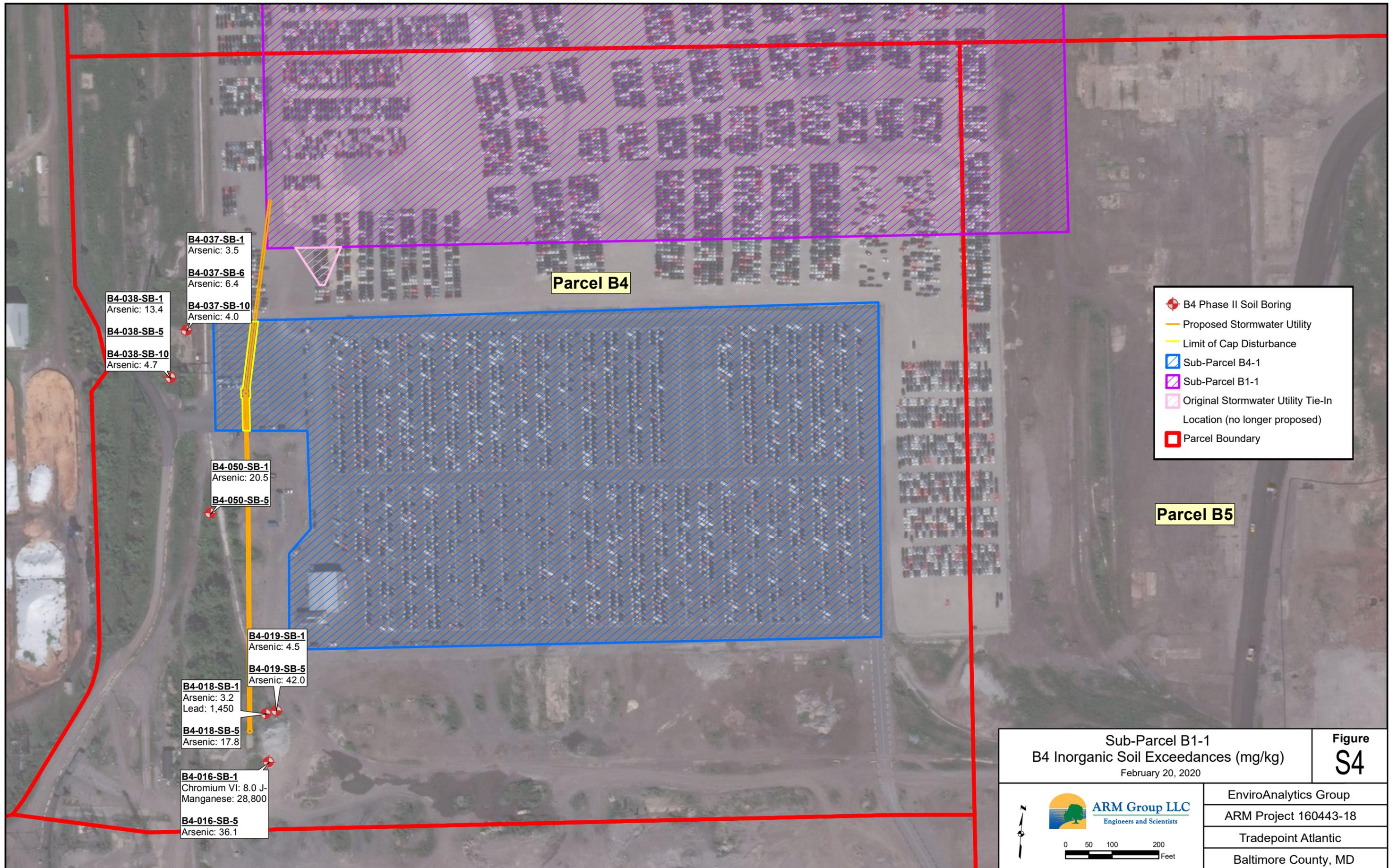
- B4 Phase II Soil Boring
- Proposed Stormwater Utility
- Limit of Cap Disturbance
- Sub-Parcel B4-1
- Sub-Parcel B1-1
- Original Stormwater Utility Tie-In Location (no longer proposed)
- Parcel Boundary

Sub-Parcel B1-1 B4 SVOC Soil Exceedances (mg/kg) February 20, 2020		Figure S1
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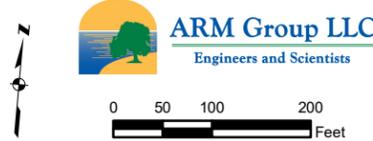


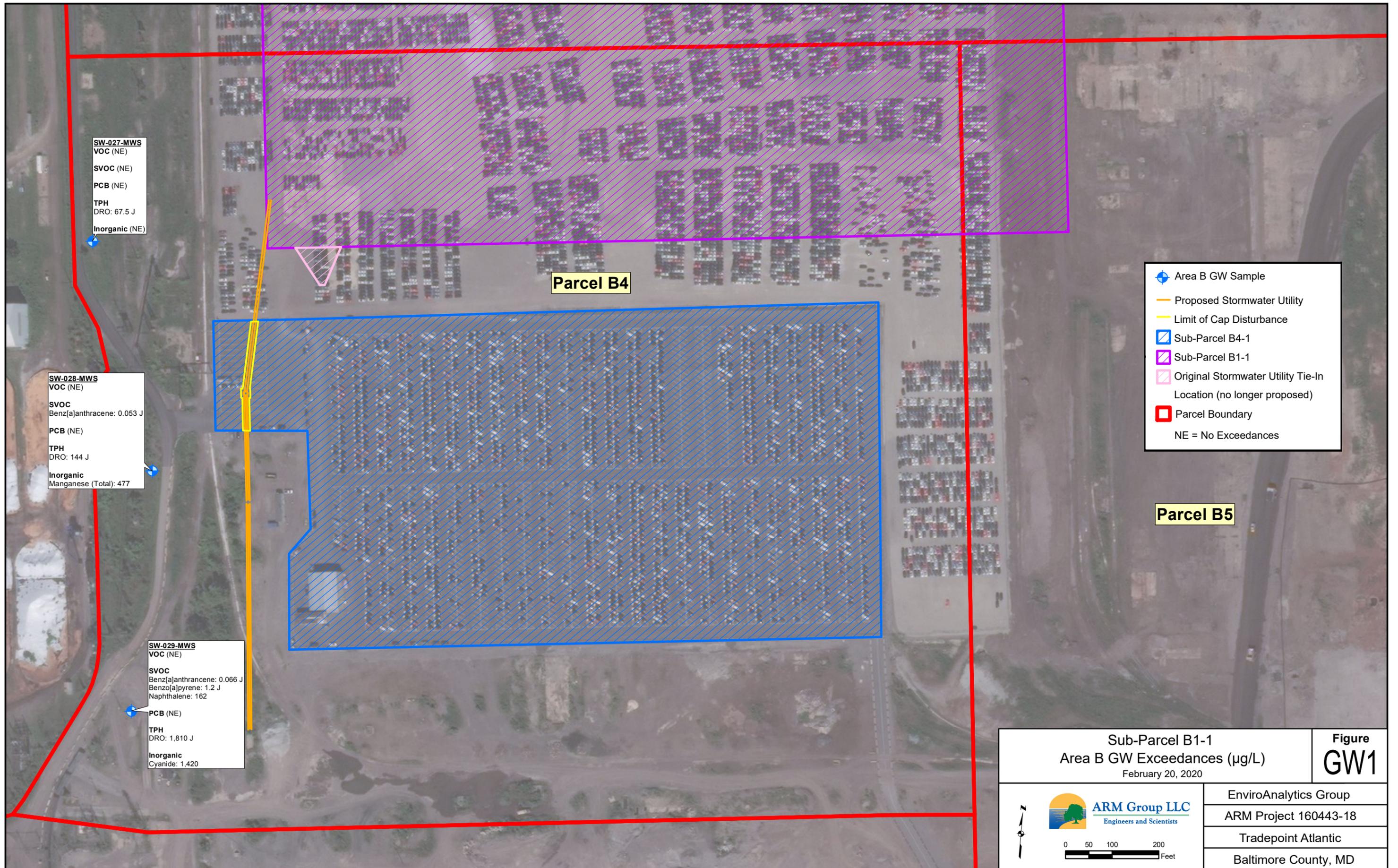
Sub-Parcel B1-1 B4 PCB Soil Exceedances (mg/kg) February 20, 2020		Figure S2
 ARM Group LLC Engineers and Scientists	EnviroAnalytics Group ARM Project 160443-18	
	Tradepoint Atlantic	
	Baltimore County, MD	





Sub-Parcel B1-1 B4 Inorganic Soil Exceedances (mg/kg) February 20, 2020		Figure S4
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	Tradepoint Atlantic	
	Baltimore County, MD	





SW-027-MWS
 VOC (NE)
 SVOC (NE)
 PCB (NE)
 TPH
 DRO: 67.5 J
 Inorganic (NE)

SW-028-MWS
 VOC (NE)
 SVOC
 Benz[a]anthracene: 0.053 J
 PCB (NE)
 TPH
 DRO: 144 J
 Inorganic
 Manganese (Total): 477

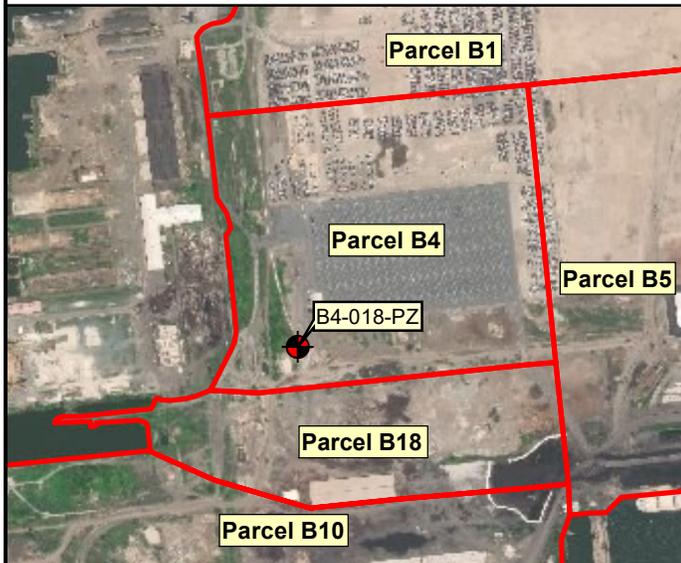
SW-029-MWS
 VOC (NE)
 SVOC
 Benz[a]anthracene: 0.066 J
 Benzo[a]pyrene: 1.2 J
 Naphthalene: 162
 PCB (NE)
 TPH
 DRO: 1,810 J
 Inorganic
 Cyanide: 1,420

- Area B GW Sample
- Proposed Stormwater Utility
- Limit of Cap Disturbance
- Sub-Parcel B4-1
- Sub-Parcel B1-1
- Original Stormwater Utility Tie-In Location (no longer proposed)
- Parcel Boundary
- NE = No Exceedances

Sub-Parcel B1-1 Area B GW Exceedances (µg/L) February 20, 2020		Figure GW1
 ARM Group LLC Engineers and Scientists	EnviroAnalytics Group ARM Project 160443-18 Tradepoint Atlantic Baltimore County, MD	



Delineation Location



	Phase II Boring/NAPL Screening Piezometer	Delineation Obstructions
	Delineation Piezometer (NAPL Observed)	
	Delineation Piezometer (No NAPL)	
	Proposed Stormwater Utility	
	Stockpile	
	Wet/Ponded Area	

B4-018 NAPL Delineation Tie-in and NAPL Delineation Comparison
February 20, 2020

Figure 3



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TABLES

**Table 1 - B4-018 Delineation Area
Summary of NAPL Observations**

Sample ID	Piezometer Total Depth (ft. bgs)	Screen Interval (ft. bgs)	3/4/2016-11/27/2019			
			Depth to NAPL in Piezometer (ft. bgs)	Average Depth to Water (ft. bgs)	Measured NAPL Thickness in Water Column (ft.)	NAPL Observations in Soil Core (ft. bgs)
B4-018-PZ	15	5-15	6.04	6.75	0.07	Sheen at 6-10; Product at 7.5-8.5
B4-018A-PZ	15	5-15	4.16	4.71	0.97	Product at 6.5-8; Sheen at 8-15
B4-018B-PZ	15	3-15	-	2.86	-	Sheen at 5-13.5
B4-018C-PZ	15	5-15	-	3.86	-	No NAPL Observed
B4-018D-PZ	15	2-15	-	2.31	-	Sheen at 4-15
B4-018E-PZ	15	5-15	-	4.70	-	No NAPL Observed
B4-018F-PZ	15	5-15	-	4.43	-	Sheen at 7-15
B4-018G-PZ	15	5-15	-	4.23	-	Sheen at 3-7

SHADED = NAPL Detection

bgs = below ground surface

APPENDIX A
