



ARM Group LLC

Engineers and Scientists

January 20, 2023

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

Re: Work Plan Update Letter:
Area B: Sub-Parcel B20-1
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown:

On behalf of Tradepoint Atlantic (TPA), ARM Group LLC (ARM) previously completed Phase II Investigations for portions of the Tradepoint Atlantic property designated as Area B: Parcel B13 and Parcel B20 (the Site). The original Parcel B13 and Parcel B20 Phase II Investigation Work Plans were submitted to the Maryland Department of the Environment (MDE) and United States Environmental Protection Agency (USEPA) on March 25, 2016 and June 28, 2019, respectively. The results were provided in the Phase II Investigation Reports dated April 19, 2017 and January 14, 2021, for Parcel B13 and Parcel B20, respectively. Following completion of the investigation work, approximately 10 to 20 feet of slag reclamation has occurred throughout the area. As a result of slag reclamation activities, the existing surface elevation is below the final depths of some of the previously completed Phase II Investigation soil borings. Further slag reclamation at the Site is not proposed. This Work Plan Update Letter presents an updated soil sampling plan for the area enclosed by the Sub-Parcel B20-1 development boundary, as shown on **Figure 1** and **Figure 2**. Groundwater data collected as part of previous investigations has not been impacted by any reduction in surface elevation and is still valid. Therefore, no additional groundwater investigation activities are proposed as part of this Work Plan Update.

A total of ten soil borings have been proposed throughout the Site to provide general coverage (refer to **Figure 3** through **Figure 7**); no recognized environmental conditions (RECs) or Solid Waste Management Units (SWMUs) were identified during the Phase I ESA prepared by Weaver Boos Consultants dated May 19, 2014. The soil borings will be advanced to a maximum depth of 10-feet below ground surface (bgs), unless groundwater is encountered at an earlier depth. During the previous Parcel B20 Phase II investigation, groundwater was encountered at approximately 0-

PRECISE. RESPONSIVE. SOLUTIONS.

9175 Guilford Road, Suite 310, Columbia, MD 21046

1-foot above mean sea level (amsl). Currently, the approximate ground elevation is 10-feet amsl. Therefore, groundwater is anticipated to be encountered at approximately 9-10-feet bgs.

Soil samples will be screened and analyzed in accordance with procedures referenced in the QAPP Worksheet 21 – Field SOPs, SOP No. 009 – Sub-Surface Soil Sampling. Regarding soil sampling depth, a shallow sample will be collected from the 0 to 2 foot depth interval, and a deeper sample will be collected from the 4 to 5 foot depth interval. Soil samples will be analyzed for semi-volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), Target Analyte List (TAL)-Metals, Oil & Grease, total petroleum hydrocarbon (TPH) – diesel range organics (DRO), TPH-gasoline range organics (GRO), hexavalent chromium, and cyanide. Samples from any depth interval with a sustained photoionization detector (PID) reading of greater than 10 ppm will also be analyzed for volatile organic compounds (VOCs). Additionally, the soil sample collected from the shallow interval (0 to 2 foot below ground surface [bgs]) will be analyzed for PCBs. If the PID or other field observations indicate contamination to exist at a depth greater than 3 feet bgs but less than 9 feet bgs, and above the water table, the sample from the deeper 4 to 5 foot interval may be shifted to the depth interval indicated by the PID response. One additional sample will also be collected from the 9 to 10 foot depth interval if groundwater has not been encountered. It should be noted that no soil samples will be collected from a depth that is below the water table. Soil borings will be extended to 10 ft below ground surface unless groundwater is encountered at a shallower depth.

If the PID reading from the 9 to 10 foot depth interval is less than 10 ppm, all parameters will be held by the laboratory pending the analysis of the 0 to 2 and 4 to 5 foot depth interval samples. If this depth interval exhibits a sustained PID reading of 10 ppm, it will be analyzed for VOCs, SVOCs, TPH-DRO, TPH-GRO, and Oil & Grease. However, the samples for metals and cyanide will be held by the laboratory pending the analysis of the 0 to 2 and 4 to 5 foot depth interval samples. If the analyses from the 4 to 5 foot depth interval show exceedances of PALs for any constituent, the held sample from the 9 to 10 foot depth interval will be analyzed for those constituents that exhibited PAL exceedances in the overlying 4 to 5 foot sample.

The MDE will be notified if NAPL bearing soils are identified in the soil borings. For the purposes of this notification, NAPL bearing soil is defined as soil containing free oil (i.e., liquid oil which could potentially be drained or otherwise extracted from the soil). In the event that NAPL is identified in a soil boring, a temporary groundwater monitoring point will be installed. Each temporary groundwater monitoring point installed to delineate the presence or absence of NAPL will be checked with an oil-water interface probe immediately after installation, 48 hours after installation, and 30 days after installation in accordance with methods referenced in the SOP No. 019 – Depth to Groundwater and NAPL Measurements. If NAPL is not detected after 30 days of equilibration time, the temporary groundwater monitoring point will be removed and discarded, and the borehole will be abandoned in accordance with Maryland abandonment standards as stated in COMAR 26.04.04.34 through 36.



If measurable NAPL is present in the initial temporary groundwater monitoring point, ARM will remobilize (following utility clearance) to install and inspect additional soil borings and temporary groundwater monitoring points in a triangular pattern from the detection point at distances of approximately 25 feet. At each location, the continuous soil cores will be screened with a hand-held PID and inspected for evidence of NAPL, and the additional temporary groundwater monitoring point will be installed to a final depth determined by field personnel. Each additional temporary groundwater monitoring point installed to delineate the NAPL will be checked for the presence of product with an oil-water interface probe immediately after installation, 48 hours after installation, and again after a 30-day equilibration period.

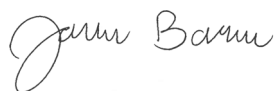
After soil sampling has been concluded at a location, down-hole soil sampling equipment will be decontaminated according to procedures referenced in the QAPP Worksheet 21 – Field SOPs, SOP No. 016 – Equipment Decontamination. The decontamination procedures that will be used during the course of this investigation include Decontamination Area (Section 3.1 of the SOP), Decontamination of Sampling Equipment (Section 3.5), Decontamination of Measurement Devices & Monitoring Equipment (Section 3.7), Decontamination of Subsurface Drilling Equipment (Section 3.8), and Document and Record Keeping (Section 5). Analytical methods, sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.

This Work Plan Update Letter provides revised figures showing the proposed soil boring locations (**Figure 3**) in relation to the historical site facility areas from the Description of Current Conditions (DCC) Report (**Figure 4**) and historical drawing sets 5000 (**Figure 5**), 5100 (**Figure 6**), and 5500 (**Figure 7**).

Sample analytical results from the new and completed borings will be presented in a Supplemental Phase II Investigation Report. With the exception of the soil sampling interval adjustments (0-2 foot interval, as described above), all field protocols will be conducted in accordance with the original Work Plan submissions dated March 25, 2016 and June 28, 2019 for Parcel B13 and Parcel B20, respectively.

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







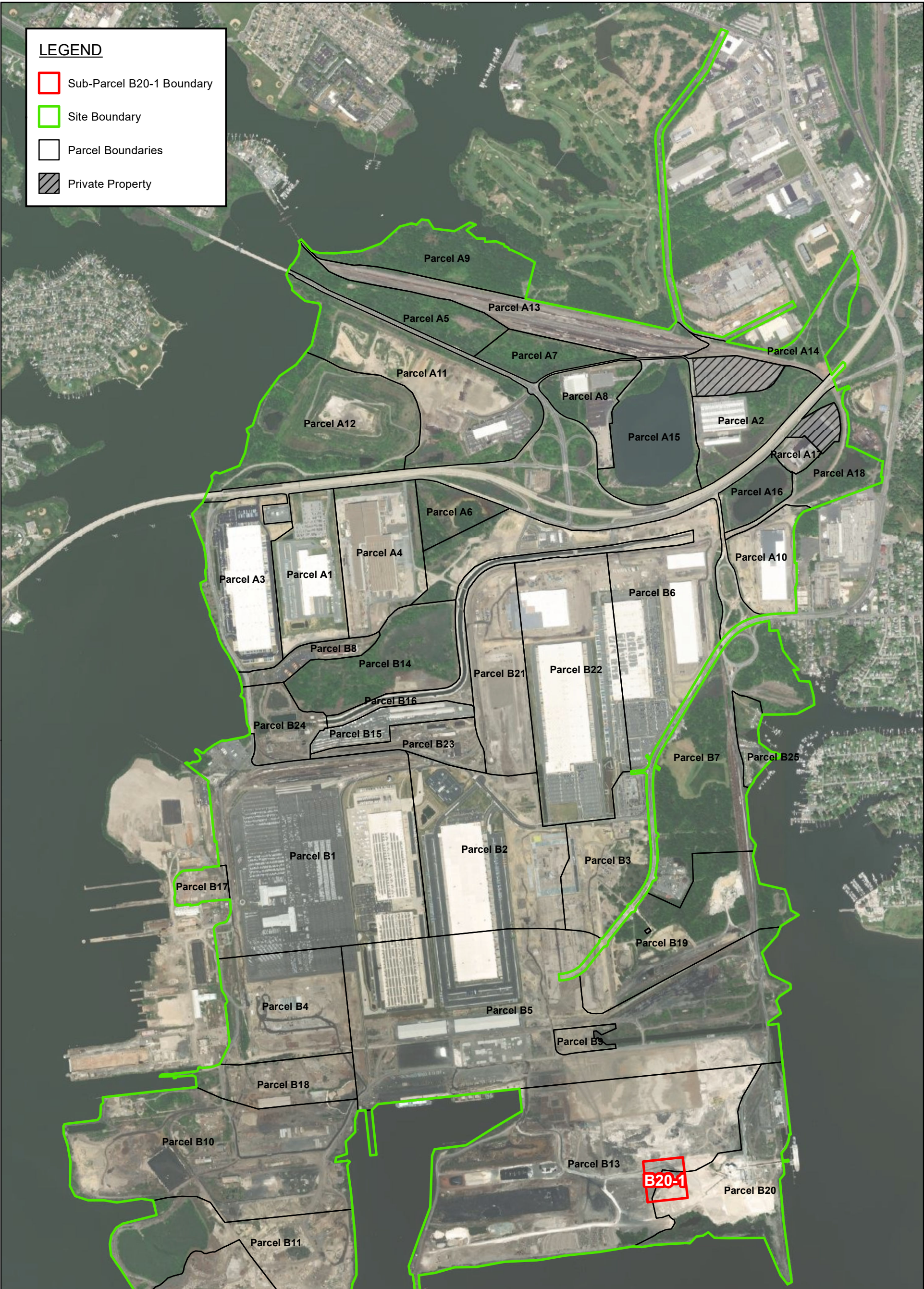
Kaye Guille, P.E., PMP
Senior Engineer



FIGURES

LEGEND

-  Sub-Parcel B20-1 Boundary
-  Site Boundary
-  Parcel Boundaries
-  Private Property



**Tradepoint Atlantic
Area A and Area B Parcels**

January 20, 2023

Figure

1



ARM Group LLC
Engineers and Scientists

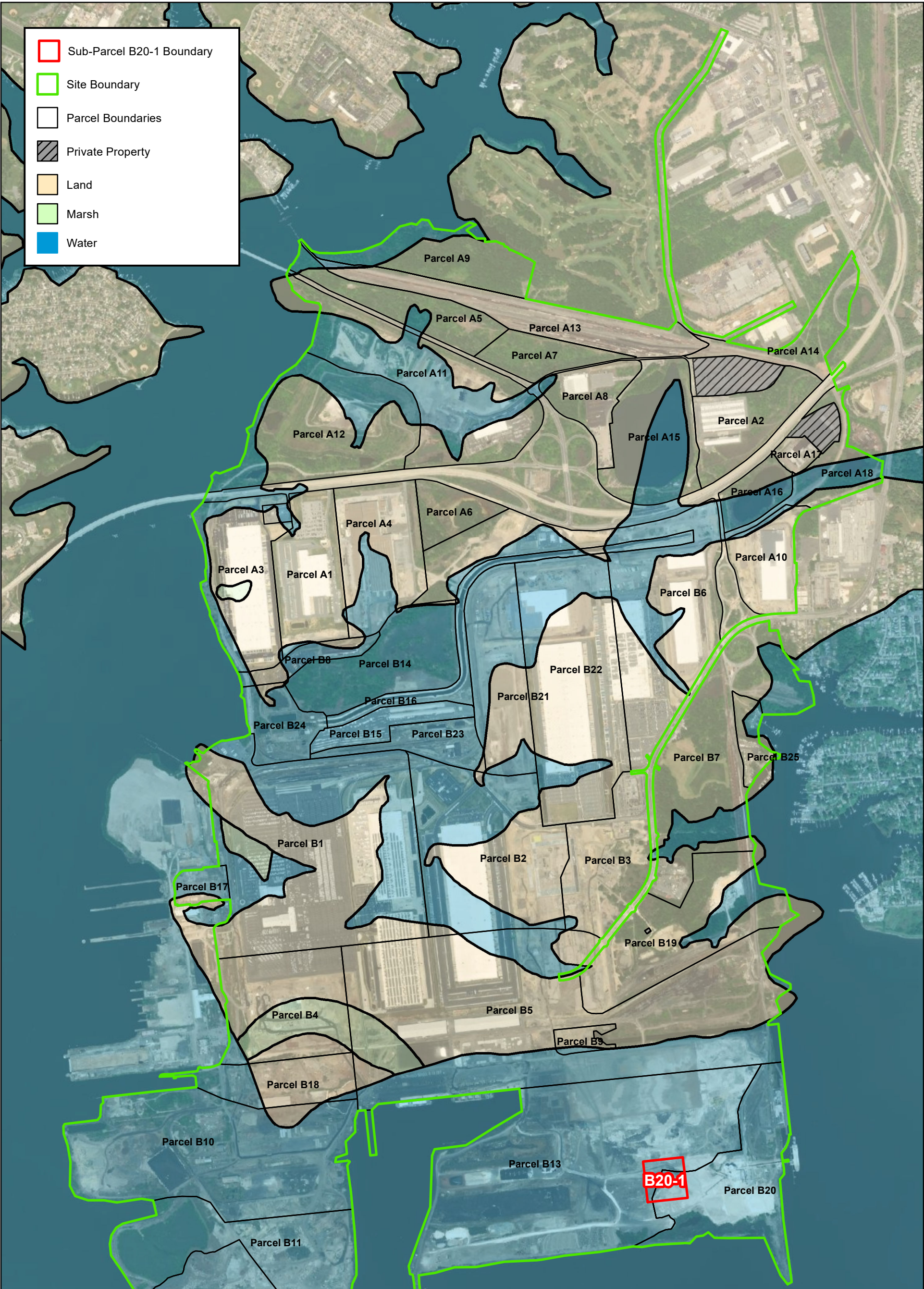
0 500 1,000 2,000
Feet

Tradepoint Atlantic

Sparrows Point

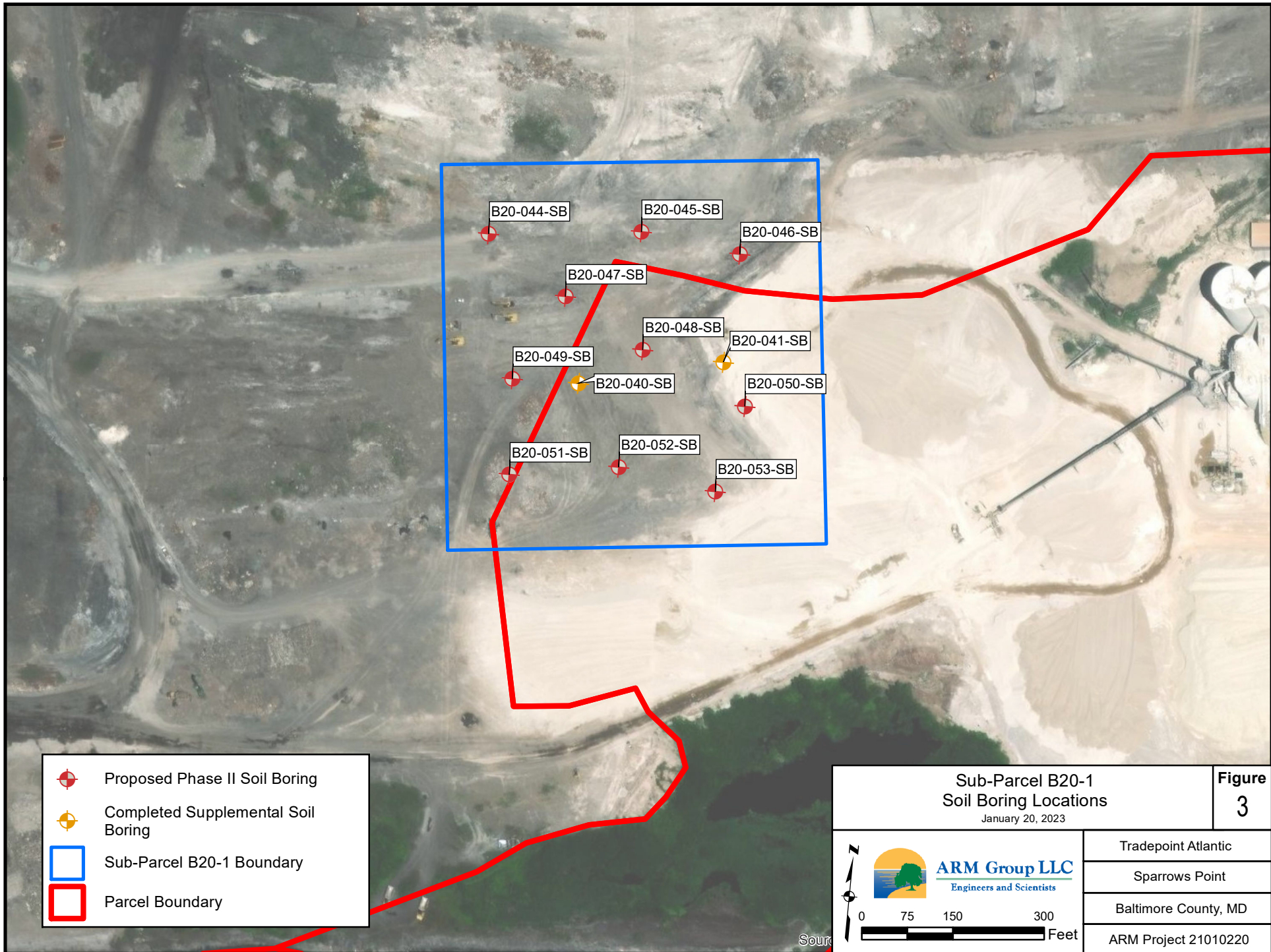
Baltimore County, MD





Area A: Project 210101
Area B: Project 210102




- Sub-Parcel B20-1 Boundary
- Site Boundary
- Parcel Boundaries
- Private Property
- Land
- Marsh
- Water

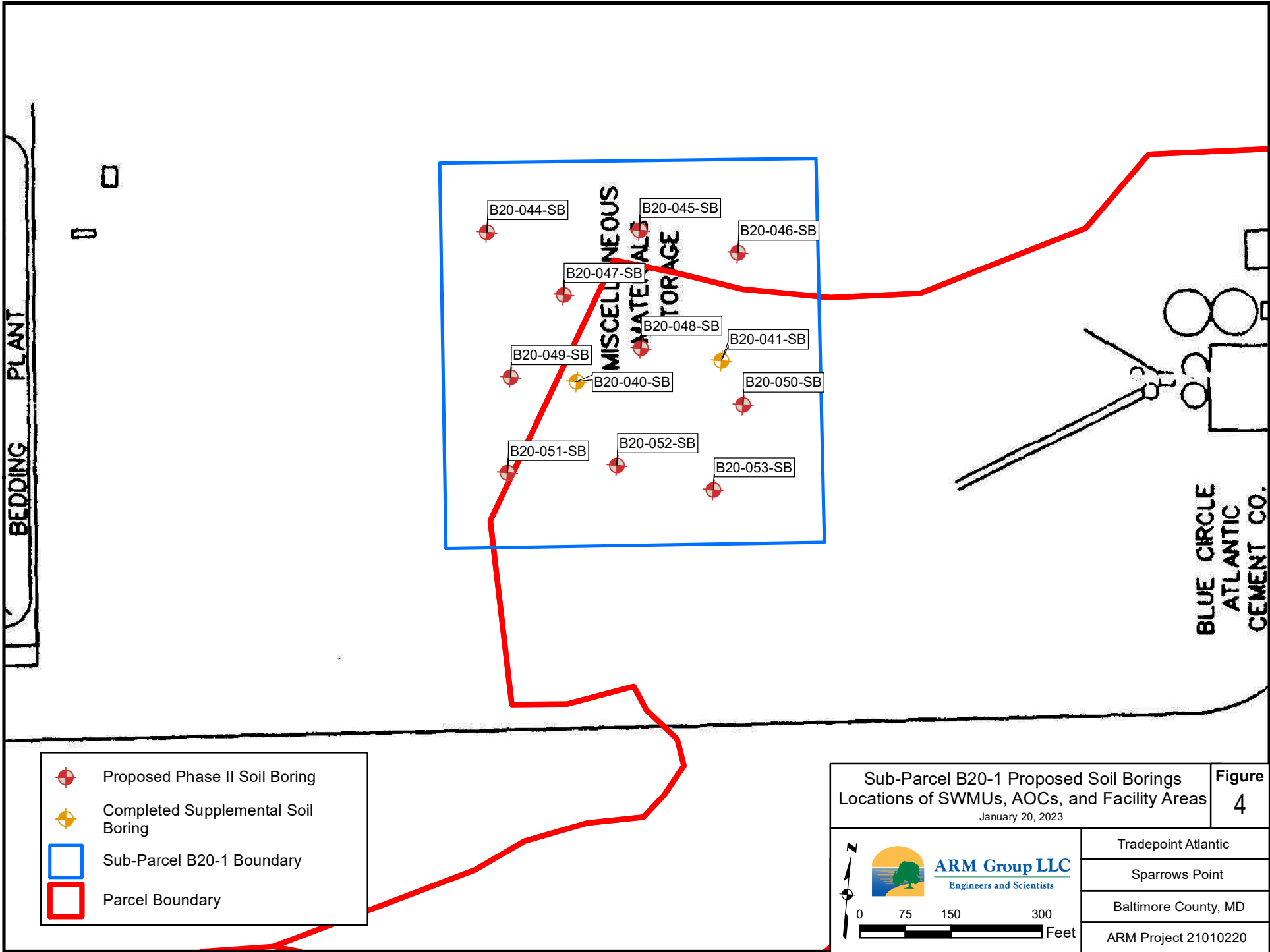
<p>Tradepoint Atlantic Approximate Shoreline 1916 November 18, 2022</p>		<p>Figure 2</p>
	<p>ARM Group LLC Engineers and Scientists</p>	
	<p>Tradepoint Atlantic</p>	
	<p>Sparrows Point</p>	
	<p>Baltimore County, MD</p>	
<p>Area A: Project 210101 Area B: Project 210102</p>		







-  Proposed Phase II Soil Boring
-  Completed Supplemental Soil Boring
-  Sub-Parcel B20-1 Boundary
-  Parcel Boundary

Sub-Parcel B20-1 Soil Boring Locations January 20, 2023		Figure 3
 ARM Group LLC Engineers and Scientists	Tradepoint Atlantic	
	Sparrows Point	
	Baltimore County, MD	
	ARM Project 21010220	







-  Proposed Phase II Soil Boring
-  Completed Supplemental Soil Boring
-  Sub-Parcel B20-1 Boundary
-  Parcel Boundary

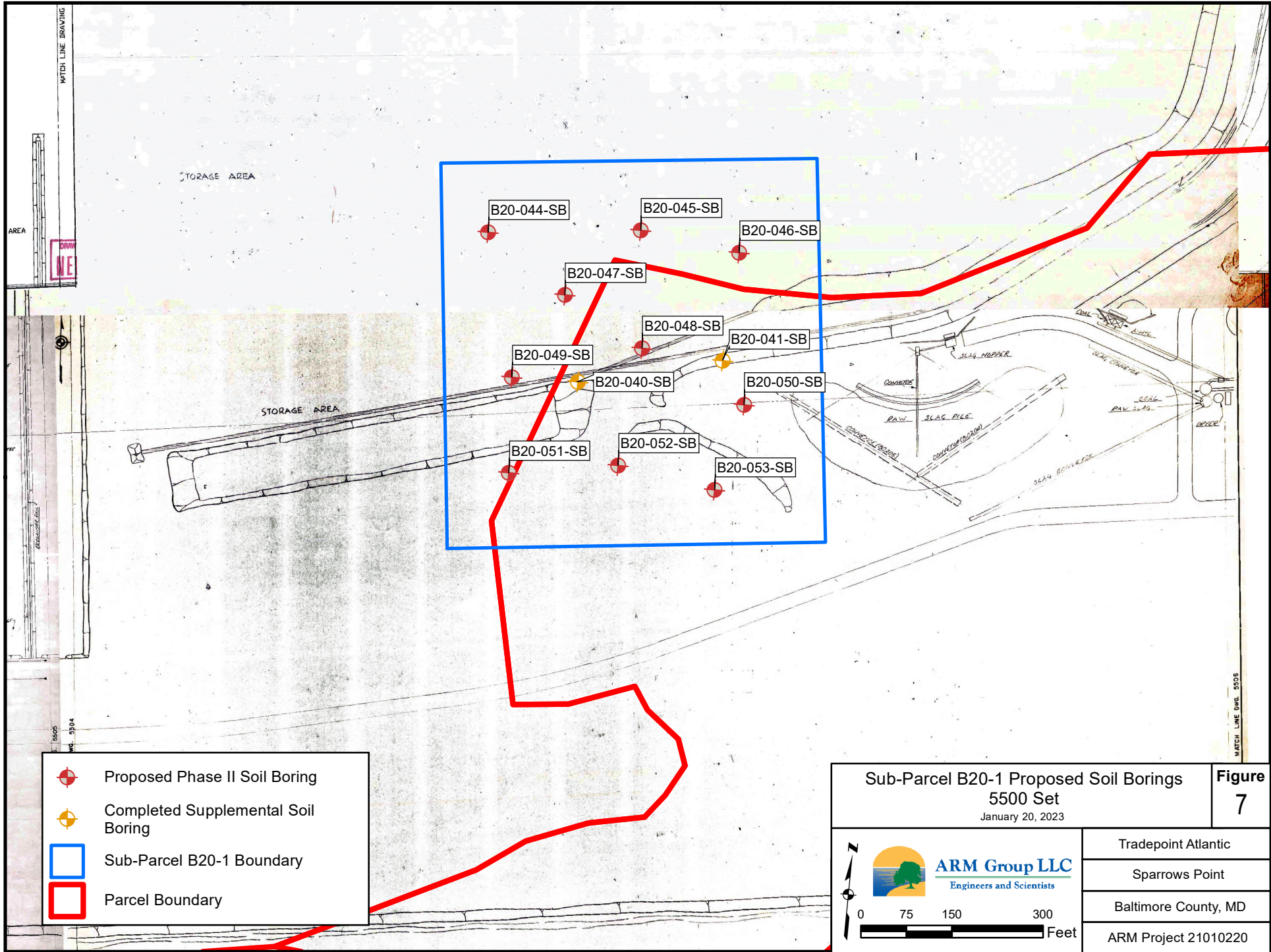
Sub-Parcel B20-1 Proposed Soil Borings
Locations of SWMUs, AOCs, and Facility Areas
January 20, 2023





Figure
4





ARM Group LLC
 Engineers and Scientists

0 75 150 300
 Feet

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 21010220



-  Proposed Phase II Soil Boring
-  Completed Supplemental Soil Boring
-  Sub-Parcel B20-1 Boundary
-  Parcel Boundary

Sub-Parcel B20-1 Proposed Soil Borings 5500 Set January 20, 2023		Figure 7
  ARM Group LLC Engineers and Scientists	Tradepoint Atlantic	
	Sparrows Point	
	Baltimore County, MD	
	ARM Project 21010220	

