Phase II Investigation
Work Plan

Area B: Parcel B4, Sub-Parcel B4-1 (Expedited Area)
Tradepoint Atlantic
Sparrows Point, Maryland

Prepared for:
EnviroAnalytics Group
1650 Des Peres Road, Suite 230
Saint Louis, Missouri 63131

Prepared by:
ARM Group Inc.
9175 Guilford Road
Suite 310
Columbia, MD 21046

Revision 0
January 27, 2016

ARM Project 150300M

Respectfully submitted,

Eric S. Magdar
Senior Geologist

T. Neil Peters, P.E.
Vice President

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1.0 INTRODUCTION

1.1 Introduction

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has prepared the following Work Plan to complete a Phase II site investigation on a portion of the Tradepoint Atlantic property that has been designated as Area B, Parcel B4, Sub-Parcel B4-1 (the Site). The full extent of Parcel B4 is comprised of approximately 72 acres of the approximately 3,100-acre former plant property located as shown on **Figure 1**. For scheduling purposes, this Parcel has been divided into Sub-Parcels B4-1 and B4-2 to facilitate a phased work plan review to expedite the investigation of Sub-Parcel B4-1. The portion of Parcel B4 to be investigated by this Work Plan (i.e., Sub-Parcel B4-1) has an area of 20.4 acres. A separate work plan will be submitted for the balance Parcel B4 (i.e., including Sub-Parcel B4-2) to complete the investigation of Parcel B4.

Site characterization of the full Parcel B4 (inclusive of the expedited Sub-Parcel B4-1 area) will be performed in compliance with requirements pursuant to the following:

- 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).

An application to enter the Site into the Maryland Department of the Environment Voluntary Cleanup Program (MDE-VCP) was submitted to MDE on September 10, 2014. The Site's current and anticipated future use is Tier 3 (Industrial), and plans for the Site include demolition and redevelopment over the next several years.

Parcel B4 is part of the acreage that was removed (Carveout Area) from inclusion in the Multimedia Consent Decree between Bethlehem Steel Corporation, the United States Environmental Protection Agency (EPA), and the Maryland Department of the Environment (MDE) (effective October 8, 1997) as documented in correspondence received from EPA on September 12, 2014. Based on this agreement, EPA has 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 EPA's RCRA Corrective Action authorities.

1.2 Site Background

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.

Groundcover of Parcel B4 is comprised of approximately 66% natural soils and 34% slag based on the approximate shoreline of the Sparrows Point Peninsula in 1916, as shown on **Figure 2** (Adapted from Figure 2-20 on the Description of Current Conditions Report (DCC) report prepared by Rust Environmental and Infrastructure, dated January 1998). Parcel B4 was formerly occupied by part of the Former Steel Making Area. The major components present within the parcel boundaries are discussed in greater detail below. All buildings have been demolished, with the exception of a few small shops. The concrete slabs remain on grade. Several small pits remain across the site, some of which have been targeted based on their former functions, as discussed in the Sampling Design and Rationale Section. The locations of these pits are highlighted on all site-specific figures contained in this Work Plan. An MCM numbering system has not been applied to these pit locations.

Several iron and steel work processes were completed within the boundary of Parcel B4 (and are partially included within the Sub-Parcel B4-1 area). Descriptions of the main facilities and processes are provided below:

Basic Oxygen Furnace (BOF):
Basic oxygen steel making replaced the older open hearth furnace method. Basic oxygen steel making is a method of primary steel making in which carbon-rich molten pig iron is made into steel. Blowing oxygen through molten pig iron lowers the carbon content of the alloy and changes it into low-carbon steel. The process is known as basic because fluxes of burnt lime or dolomite, which are chemical bases, are added to promote the removal of impurities and protect the lining of the converter. The BOF received hot metal from the blast furnaces, scrap steel, and additional recyclable additives. After it was removed from the blast furnaces, the hot metal was passed through a desulfurization process or sent directly to the BOF. Pure oxygen was blown through a water-cooled lance to produce carbon monoxide, which accelerates the metallurgical reactions in the iron. After completion, the molten steel was poured into a ladle, where other alloying agents could be added.

Mould Yard:
When the BOF facilities were unable to receive the hot metals produced from the blast furnaces, the iron could be temporarily stored in the Mould Yard. The hot metal was poured on the ground and allowed to cool. Once it was cooled it could be broken into smaller pieces and then transferred to the BOF.

Continuous Caster:
Ladles of steel from the BOF were taken to the Continuous Caster Ladle Metallurgy Station where they may be first reheated with an oxygen lance and/or the chemistry adjusted by adding alloys and other materials and argon stirred. The steel then was moved by crane to the Slab Caster. Steel then was poured into the water-jacketed strand mould of the Slab Caster, from which a continuous slab was formed. The slab entered a roller containment area within the Slab Caster, where it was cooled with water sprays. The slabs then were cut to size by using a torch and then transferred to slab storage or the Hot Strip Mill. Fumes generated by the reactions were controlled by baghouses.

There are no existing site-wide groundwater wells located within the Parcel B4 boundaries to provide historical groundwater data. Groundwater in the parcel will be investigated as part of the Area B Groundwater Work Plan. There is no historical soil or soil gas sampling data available from this parcel.

1.3 Future Development (Expedited Area)

It is the desire of EAG to expedite the investigation of Sub-Parcel B4-1 (approximately 20 acres) within the larger Parcel B4. The investigation of this sub-parcel will be governed by the same requirements and standard operating procedures as the complete parcel, but field sampling and laboratory analysis will be scheduled to prioritize the completion of this sub-parcel before allocating resources to investigate the remaining parcel area. In addition, an initial exceedance report will be prepared for the expedited area, in order to characterize the current environmental conditions and proceed with development and/or any necessary remediation activities.

EAG has provided ARM with the boundary of the expedited Sub-Parcel B4-1, as well as a site development plan which shows the proposed development for the entire Parcel B4. This document indicates that all of Sub-Parcel B4-1 and roughly 98% of the complete Parcel B4 will be paved during development. **Figure 3** shows the proposed engineered barriers within Parcel B4, and highlights the expedited Sub-Parcel B4-1. **Figure 4** shows the proposed sampling plan for the entire Parcel B4. This figure will act as a reference to show which borings are to be completed in an expedited fashion. The highlighted sub-parcel is the focus of all subsequent figures contained in this Work Plan.

1.4 Sampling Design and Rationale

Across the whole Tradepoint Atlantic property, several buildings and facilities may have been historical sources of environmental contamination. These areas were identified as targets for sampling through a careful review of historical documents. When a sampling target was identified, at least two borings were placed at or around its location using GIS software (ArcMap Version 10.2.2). The first sampling targets to be identified were Recognized Environmental Conditions (RECs) located within the Site boundaries, as shown on the REC Location Map provided in the Phase I Environmental Site Assessment (ESA) prepared by Weaver Boos Consultants dated May 19, 2014. All RECs were targeted with at least three (3) borings. Based on the review of historical documents and aerial images, REC boundaries are adjusted, as appropriate, from the original positions shown on the REC Location Map. The following REC was identified within the expedited sub-parcel boundaries:

Oil House (REC 8C, Finding 203):
According to the Phase I ESA, documents provided by Baltimore County under the Freedom of Information Act (FOIA) indicated that an oil house was located east of the shipyards. This oil house was considered to be a REC, because the conditions and status of the building were unknown. The oil house was positively identified on several sets of historical drawings, and the REC boundaries were redrawn to enclose this feature. Current aerial images indicate that this structure has been demolished.

Following the identification and evaluation of all RECs at the Site, Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) were identified from the DCC report Figure 3-1. **Figure 5** shows the proposed borings overlain on the DCC figure, which shows the SWMUs, AOCs, and main facility areas within the sub-parcel boundaries. There were no additional SWMUs or AOCs identified in Sub-Parcel B4-1 based on this figure, although several non-releasing units were identified from the DCC report Table 3-1. These units in the Steel Making Area which appear to be within the Sub-Parcel B4-1 boundary include the Caster Dust Baghouse Storage Area (SWMU 76), Former Open Hearth #1 Site (SWMU 82), and Caster Baghouse (SWMU 83). Since these features were not observed to be releasing, they were not considered by Rust Environmental and Infrastructure to be a risk for significant environmental impact and were screened out (not proposed for further action). No additional descriptions of these screened out SWMUs were provided in the DCC report. Due to the determined low risk for environmental impacts, as well as the paving (engineered barrier) proposed to cover the parcel, these features were not explicitly identified as targets for the site-specific sampling plan.

Following the identification of all RECs, SWMUs, and AOCs, four (4) sets of historical site drawings were reviewed to identify additional sampling targets. These site drawings included the 5000 Set (Plant Arrangement), the 5100 Set (Plant Index), the 5500 Set (Plant Sewer Lines),

and a set of drawings indicating coke oven gas distribution drip leg locations. Drip legs are points throughout the distribution system where coke oven gas condensate was removed from the gas pipelines. The condensate from the drip legs was typically discharged to drums, although it is possible some spilled out of the drums and on to the ground. **Figures 6 through 9** show the proposed borings and the parcel boundary overlain on the 5000 Set, 5100 Set, 5500 Set, and drip leg drawings, respectively. Careful review of these geospatially referenced figures and review of other historical documents (previously discussed) yielded the proposed boring locations. A summary of the specific drawings covering the sub-parcel is presented in the table below:

Parcel B4 (Sub-Parcel) Historical Site Drawings Details				
Set Name	Typical Features Shown	Drawing Number	Original Date Drawn	Latest Revision Date
Plant Arrangement	Roads, water bodies, building/structure footprints, electric lines, above-ground pipelines (e.g.: steam, nitrogen, etc.)	5020	*Unknown*	3/9/1982
Plant Index	Roads, water bodies, demolished buildings/structures, electric lines, above-ground pipelines	5120 5120-A 5120-B	*Unknown* *Unknown* *Unknown*	6/26/2008 3/28/2008 9/28/2010
Plant Sewer Lines	Same as above plus trenches, sumps, underground piping (includes pipe materials)	5520	*Unknown*	3/19/1992
Drip Legs	Coke Oven Gas Drip Legs Locations	5885B	*Unknown*	Sept. 1988

Sampling target locations were identified if the historical site drawings depicted industrial activities or a specific feature at a location that may have been a source of environmental contamination that impacted the Site. Based on this criterion, the following additional sampling targets were identified within the boundaries of the Sub-Parcel B4-1: Emergency Plating Pit, and Substation/Transformers. ARM received a list of former PCB-containing transformer equipment from Tradepoint Atlantic personnel, for inclusion as additional targets. There were no substations identified as possible PCB-contaminated areas within Sub-Parcel B4-1. The number of proposed borings that target a specific feature is directly related to the size and likely historical presence of materials that could have impacted the Site. A subset of the drip legs were selected for inclusion in the full Parcel B4 sampling plan. In total, five drip legs were targeted (each with 2 soil borings) from the 13 locations indicated on the historical drip legs drawings. Every drip leg which was not explicitly targeted was located within 100 feet of at least one other soil boring. One of the five targeted drip legs is located within Sub-Parcel B4-1. The full list of sampling targets for the sub-parcel, along with the specific rationale for sampling each, is provided as **Appendix A**.

Sample locations were added to fill in areas with insufficient coverage (large spatial gaps between proposed borings) within the Site and to meet the sample density requirements set forth in the Quality Assurance Project Plan (QAPP), Worksheet 17 – Sampling Design and Rationale. Sub-Parcel B4-1 has an area of 20.4 acres, all to be covered by engineered barriers. Therefore, a minimum of 7 soil borings are required to meet the minimum density requirements for engineered barriers. A total of 13 borings have been proposed within this sub-parcel.

Figure 10 shows the proposed borings on an aerial image to indicate locations of borings with regard to currently existing engineered barriers (roads, parking, and building slabs) and other landmarks**.** Groundwater at the Site will be investigated as described in the Area B Groundwater Investigation Work Plan. The groundwater sample locations proposed in this separate plan are shown on **Figure 11** (for the full extent of Parcel B4).

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

2.1 Project Personnel

The site characterization of Area B Parcel B4 will be conducted by ARM under a contract with EAG. ARM will provide project planning, field sampling and reporting support. The required drilling, Geoprobe® and laboratory services will be contracted directly by EAG. The management, field, and laboratory responsibilities of key project personnel are defined in this section.

The ARM Project Manager, Mr. Eric Magdar is responsible for ensuring that all activities are conducted in accordance with this Work Plan and the contract requirements. Mr. Magdar will provide technical coordination with the MDE, EPA and EAG. The ARM Project Manager is responsible for managing all operations conducted for this project including:

- Ensure all personnel assigned to this project review the technical project plans before initiation of all tasks associated with the project.
- Review of project plans in a timely manner.
- Ensure proper methods and procedures are implemented to collect representative samples.
- Monitor the project budget and schedule and ensure the availability of necessary personnel, equipment, subcontractors, and other necessary services.

The lead ARM Geologist, Mr. Stewart Kabis, will be responsible for coordinating field activities including the collection, preservation, documentation and shipment of samples. Mr. Kabis will directly communicate with the ARM Project Manager and Laboratory Project Manager on issues pertaining to sample shipments, schedules, container requirements, and other necessary issues. Mr. Kabis is also responsible for ensuring the accuracy of sample documentation including the completion of the chain-of-custody (CoC) forms.

Pace Analytical Services, Inc. (PACE) of Greensburg, Pennsylvania will provide the analytical services for this project. The address for the laboratory is as follows:

Pace Analytical
1638 Roseytown Road
Greensburg, PA 15601

During the field activities, the Laboratory Project Manager will coordinate directly with the ARM Project Manager on issues regarding sample shipments, schedules, container requirements, and other field-laboratory logistics. The Laboratory Project Manager will monitor the daily

activities of the laboratory, coordinate all production activities, and ensure that work is being conducted as specified in this document. Ms. Samantha Bayura will be the Laboratory Project Manager for PACE on this project.

2.2 Health and Safety Issues

Because of the potential presence of metals, petroleum hydrocarbons and chlorinated hydrocarbons in the soil and groundwater at the Site, the investigation will be conducted under a site-specific Health and Safety Plan to protect investigation workers from possible exposure to contaminated soil and groundwater. The site-specific HASP for Parcel B4 (full extent) is provided as **Appendix B**.

Based on information provided to ARM, the planned site activities will be conducted under modified Level D personal protection. The requirements of the modified Level D protection are defined in ARM's site specific Health and Safety Plan. All field personnel assigned for work at the Site have been trained in accordance with the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response standard (29 CFR 1910.120) and other applicable OSHA training standards. All field staff will be experienced in hazardous waste site work, use of personal protective equipment (PPE), and emergency response procedures.

3.0 FIELD ACTIVITIES AND PROCEDURES

3.1 Utility Clearance

ARM will take appropriate precautions to avoid subsurface utilities and structures during the site investigation. Prior to initiating any subsurface investigations, ARM will attempt to determine the location of utilities in the project area using the Miss Utility system. Additionally, any required state or local permits will be acquired prior to the commencement of site activities.

In addition to the Miss Utility system, EAG will clear each proposed boring with utility personnel currently working on the property. To facilitate this, ARM will locate with a GPS and mark all proposed boring locations in the field. ARM will coordinate the staking of borings in the field with Tradepoint Atlantic utility personnel to avoid conflicts. Historical utility drawings which may be relevant include the 5600 Set (Plant Water Lines) and 5800 Set (Plant Gas Lines).

3.2 Sampling Plan

The purpose of this site characterization is to identify any existing hazardous conditions across the entire Site. A summary of the RECs and other areas of concern that will be investigated within the sub-parcel, along with the proposed boring identification number and the analyses being performed, has been provided as **Appendix A.**

This Work Plan presents the methods and protocols to be used to complete the site characterization. These methods and procedures follow the MDE-VCP and EPA guidelines. Information regarding the project organization, field activities and sampling methods, sampling equipment, sample handling and management procedures, the laboratory analytical methods and selected laboratory, quality control and quality assurance procedures, investigation-derived waste (IDW) management methods, reporting requirements are described in detail in the QAPP that has been developed to support the investigation and remediation of the Tradepoint Atlantic Site (Quality Assurance Project Plan, ARM Group Inc., October 2, 2015).

The proposed schedule of this investigation is contained in this work plan (Section 8.0). All site characterization activities will be conducted under the site-specific HASP (**Appendix B**).

3.3 Soil Investigation

Soil samples will be collected from the locations identified on **Figures 4 through 10**, and in accordance with procedures referenced in the QAPP Worksheet 21 – Field SOPs (Standard Operating Procedures), SOP No. 009 – Sub-surface Soil Sampling.

Regarding soil sampling depth, a shallow sample will be collected from the 0 to 1 foot depth interval, and a deeper sample will be collected from the 4 to 5 foot depth interval. One additional set of samples will also be collected from the 9 to 10 foot depth interval if groundwater has not been encountered; however, these samples will be held by the laboratory pending the analysis of the 0 to 1 and 4 to 5 foot depth interval samples. 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 is above the water table, the sample from the deeper 4-5 foot interval may be shifted to the depth interval indicated by the PID response. It should be noted that no soil samples will be collected from a depth that is below the water table.

After soil sampling has been concluded at a location, all 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).

All soil samples will be analyzed for TCL-VOCs, TCL-SVOCs, TAL-Metals, TPH-DRO, TPH-GRO, hexavalent chromium, and cyanide. Additionally, the shallow soil samples collected across the Site from the 0-1 foot bgs interval will also be analyzed for PCBs. 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.

3.4 NAPL Delineation

In the event that NAPL bearing soils are identified in a soil boring, a temporary piezometer will be installed according to the specifications identified in SOP No. 28 – Direct Push Installation and Construction of Temporary Groundwater Sample Collection Points. ARM will immediately check the piezometer for the presence of NAPL using an oil-water interface probe in accordance with methods referenced in the SOP No. 19 – Depth to Groundwater and NAPL Measurements. If NAPL is not detected, the piezometer will be allowed to equilibrate for at least 48 hours prior to a second measurement. If no product is detected after 48 hours, the piezometer will be emptied, 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 NAPL is detected during either check, another measurement will be made after a 30 day (minimum) equilibration period to determine NAPL thickness.

If NAPL is detected in the initial piezometer, ARM will remobilize (following utility clearance) to install and inspect additional soil borings and shallow, temporary piezometers to the north, south, east, and west of the detection point at distances of 25 feet. Delineation piezometers will

extend into adjacent parcels (if applicable) but will not be installed off of Tradepoint Atlantic property and will only be installed up to the edge of existing buildings. At each location, continuous core soil samples will be screened with a hand-held PID and inspected for evidence of NAPL, and the additional temporary piezometers will be installed to a final depth determined by ARM personnel.

Each additional piezometer 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. If NAPL is identified within any of the piezometers, additional borings/piezometers will be added as necessary to complete the delineation. The MDE will be notified within 48 hours if NAPL is detected within the temporary piezometers. Once the MDE has given approval to abandon the additional piezometers, each piezometer will be emptied, removed and discarded. All boreholes will be abandoned in accordance with Maryland abandonment standards as stated in COMAR 26.04.04.34 through 36. A full report documenting the results of the delineation, including NAPL thickness, will be submitted to the MDE within 30 days of completing the field activities.

3.5 Sample Documentation

3.5.1 Sample Numbering

Samples will be numbered in accordance with the QAPP Appendix C – Data Management Plan.

3.5.2 Sample Labels & Chain-of-Custody Forms

Samples will be labeled and recorded on the Chain-of-Custody form in accordance with methods referenced in the QAPP Worksheet 26 & 27 – Sample Handling, Custody and Disposal.

3.6 Laboratory Analysis

EAG has contracted PACE of Greensburg, Pennsylvania to perform the laboratory analysis for this project. All sample analyses to be performed are listed in **Appendix A**. The samples will be submitted for analysis with a standard turnaround time (approximately 5 work days). The specific list of compounds and analytes that the soil samples will be analyzed for, as well as the quantitation limits and project action limits, is provided in QAPP Worksheet 15 – Project Action Limits and Laboratory-Specific Detection/Quantitation Limits.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

All soil samples will be collected using dedicated equipment including new soil core liners and polyethylene tubing. Each cooler temperature will be measured and documented by the laboratory upon receipt.

Quality control (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 (spikes and blanks, trip blanks, duplicates, etc.).

The following QC samples will be submitted for analysis to support the data validation:

- Trip Blank – at a rate of one per day
  - Soil – VOCs only
- Blind Field Duplicate – at a rate of one duplicate per twenty samples
  - Soil - VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, PCBs, Hexavalent Chromium, and Cyanide
- Matrix Spike/Matrix Spike Duplicate – at a rate of one per twenty samples
  - Soil - VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, PCBs, and Hexavalent Chromium
- Field Blank and Equipment Blank
  - Soil - VOC, SVOC, Metals, TPH-DRO, TPH-GRO, Hexavalent Chromium, and Cyanide

The 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.

5.0 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

All investigation derived waste (IDW) procedures will be carried out in accordance with methods referenced in the QAPP Worksheet 21 – Field SOPs, SOP No. 5 – Investigation-Derived Wastes Management.

6.0 DATA VALIDATION

All data validation procedures will be carried out in accordance with the QAPP Worksheet 34 – Data Verification and Validation Inputs, QAPP Worksheet 35 – Data Verification Procedures, and QAPP Worksheet 36 – Data Validation Procedures.

7.0 REPORTING

Following the receipt of all sampling results from the 20 acre Sub-Parcel B4-1 of "Area B Parcel B4", ARM will prepare a Phase II Site Investigation Report that will document the sample collection procedures and supporting rationale, 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. The sample results will be compared against relevant criteria such as the MDE Generic Numeric Cleanup Standards and the EPA Regional Screening Levels, considering appropriate land use factors and institutional controls, to identify contaminants and exposure pathways of potential concern. ARM will also present recommendations for any additional site investigation activities if warranted. This report will be prepared separately from the discussion of Parcel B4 as a whole, which will include the borings outside of the expedited area.

8.0 SCHEDULE

The field activities below (including sample analysis and data validation) are planned so that they may be completed within six (6) months of agency approval of this Work Plan. In addition, the investigation report will be submitted to the regulatory authorities within two (2) months of completion of the field activities in accordance with these approximate timeframes:

- the sample collection activities (Sub-Parcel B4-1 only) will take approximately one (1) week to complete (including mobilization activities) once approval of the work plan is received;
- the soil and groundwater sample analysis, data validation and review (Sub-Parcel B4-1 only) is expected to require an additional three (3) weeks to complete; and
- the preparation of the investigation report (Sub-Parcel B4-1 only), including an internal Quality Assurance Review cycle, will require another three (3) weeks.

FIGURES

ARM Group Inc.
Earth Resource Engineers and Consultants

0 375 750 1,500 Feet

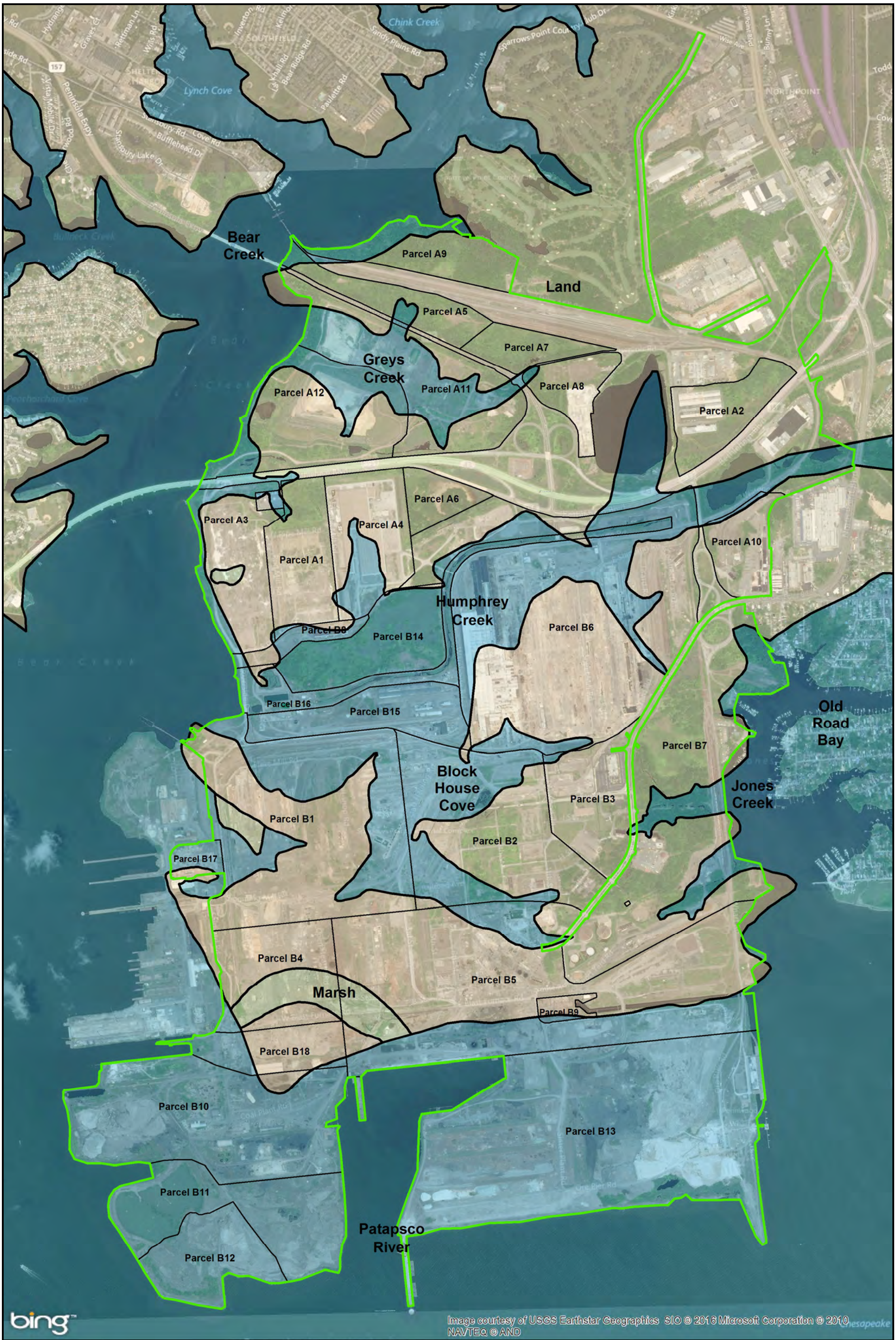
- Site Boundary
- Private Property
- Area A Boundaries
- Area B Boundaries

Tradepoint Atlantic
Area A and Area B Parcels

January 21, 2016

EnviroAnalytics Group	Tradepoint Atlantic
Area A: Project 150298M Area B: Project 150300M	Baltimore County, MD

Figure 1



N

ARM Group Inc.
Earth Resource Engineers and Consultants

0 375 750 1,500
Feet

Site Boundary
Area A Boundaries
Area B Boundaries
Land
Marsh
Water

Approximate Shoreline in 1916

January 21, 2016

Adapted from Figure 2-5 of the Description of Current Conditions Report prepared by Rust Environmental and Infrastructure, dated January 1998

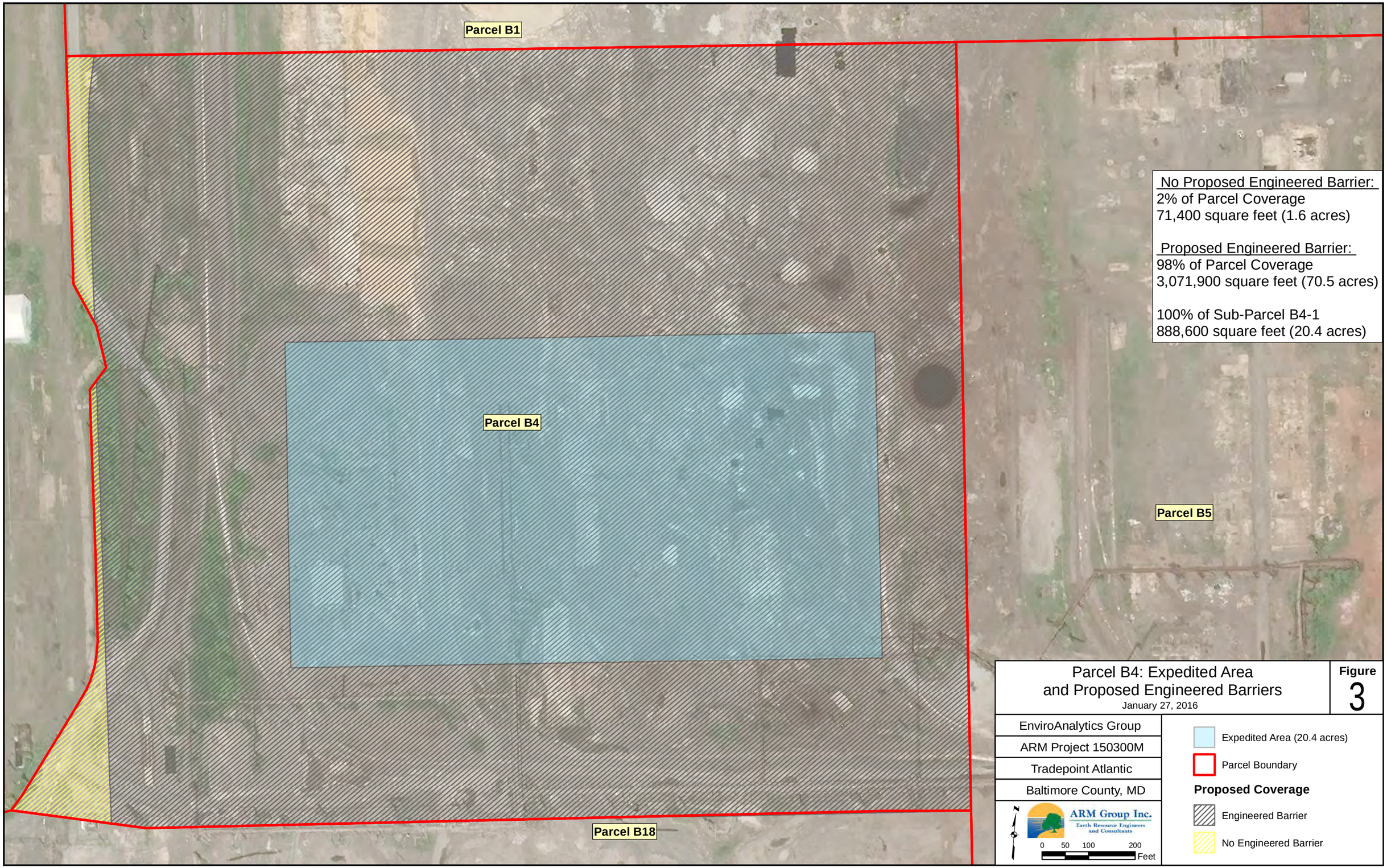
EnviroAnalytics Group

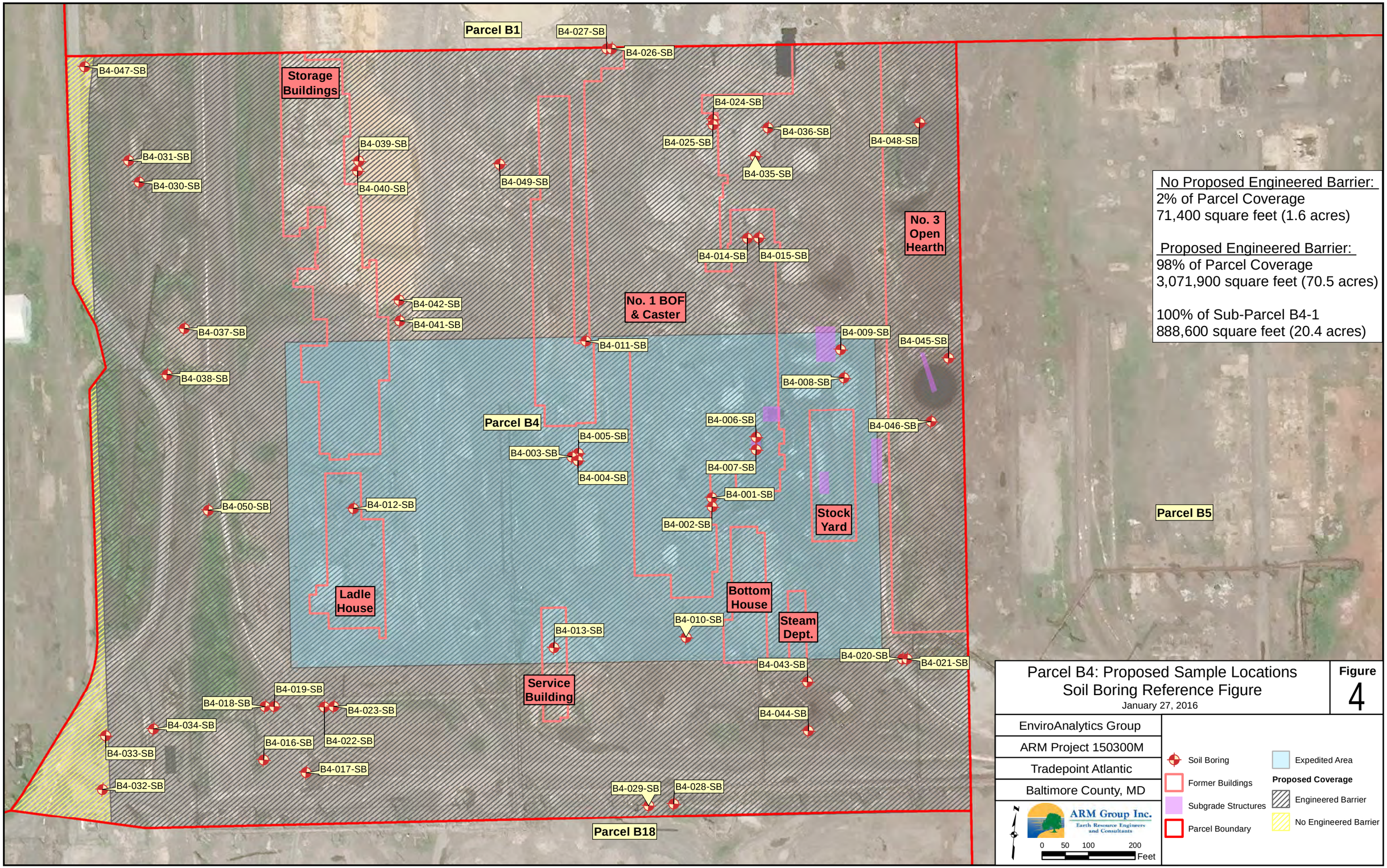
Area A: Project 150298M
Area B: Project 150300M

Tradepoint Atlantic

Baltimore County, MD

Figure 2


Parcel B1
Parcel B4
Parcel B5
Parcel B18
No Proposed Engineered Barrier:
2% of Parcel Coverage
71,400 square feet (1.6 acres)
Proposed Engineered Barrier:
98% of Parcel Coverage
3,071,900 square feet (70.5 acres)
100% of Sub-Parcel B4-1
888,600 square feet (20.4 acres)
Parcel B4: Expedited Area
and Proposed Engineered Barriers
January 27, 2016
Figure
3
EnviroAnalytics Group
ARM Project 150300M
Tradepoint Atlantic
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet
Expedited Area (20.4 acres)
Parcel Boundary
Proposed Coverage
Engineered Barrier
No Engineered Barrier



No Proposed Engineered Barrier:
2% of Parcel Coverage
71,400 square feet (1.6 acres)

Proposed Engineered Barrier:
98% of Parcel Coverage
3,071,900 square feet (70.5 acres)

100% of Sub-Parcel B4-1
888,600 square feet (20.4 acres)

Parcel B4: Proposed Sample Locations
Soil Boring Reference Figure

January 27, 2016

Figure 4

EnviroAnalytics Group

ARM Project 150300M

Tradepoint Atlantic

Baltimore County, MD

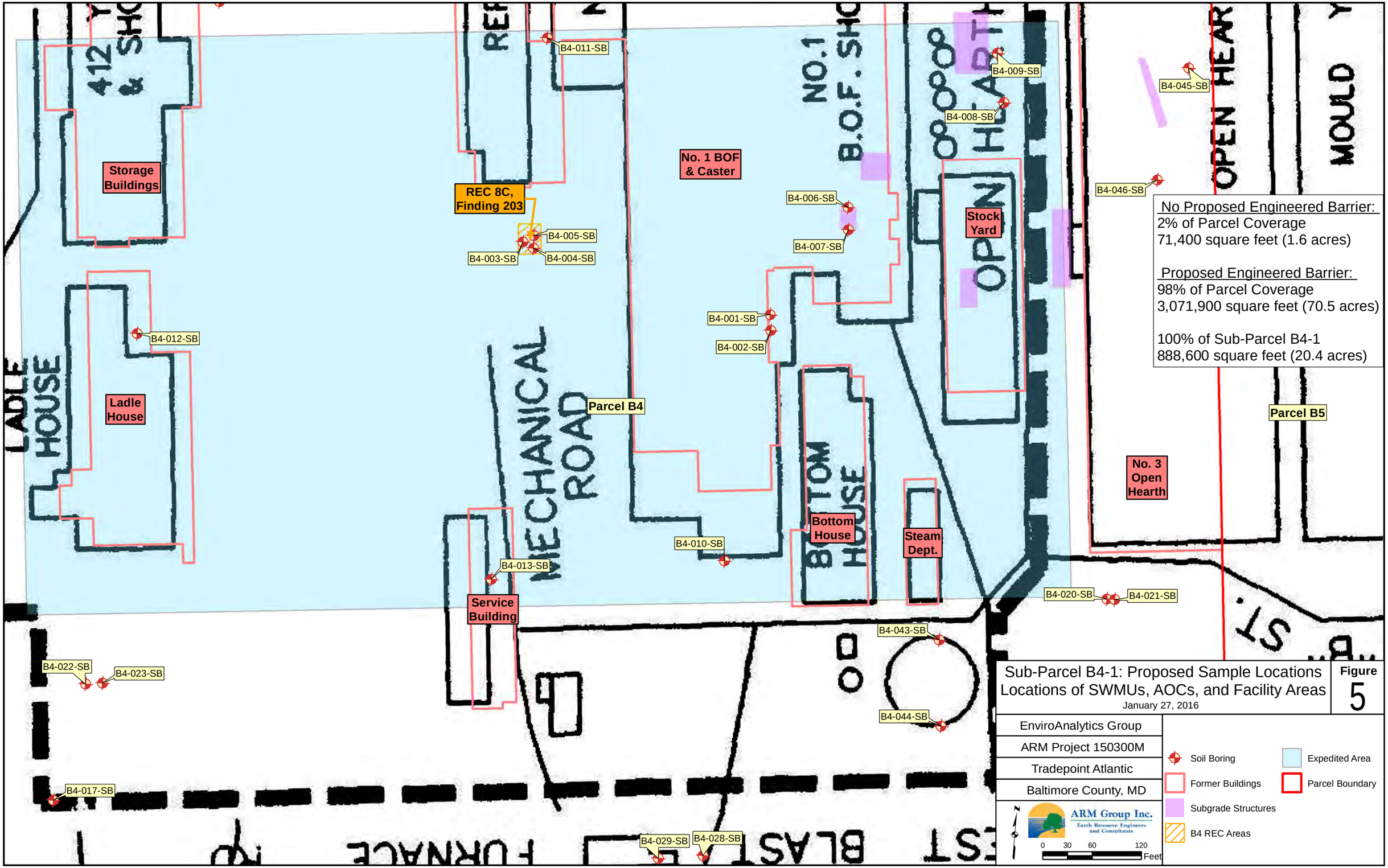
ARM Group Inc.
Earth Resource Engineers and Consultants

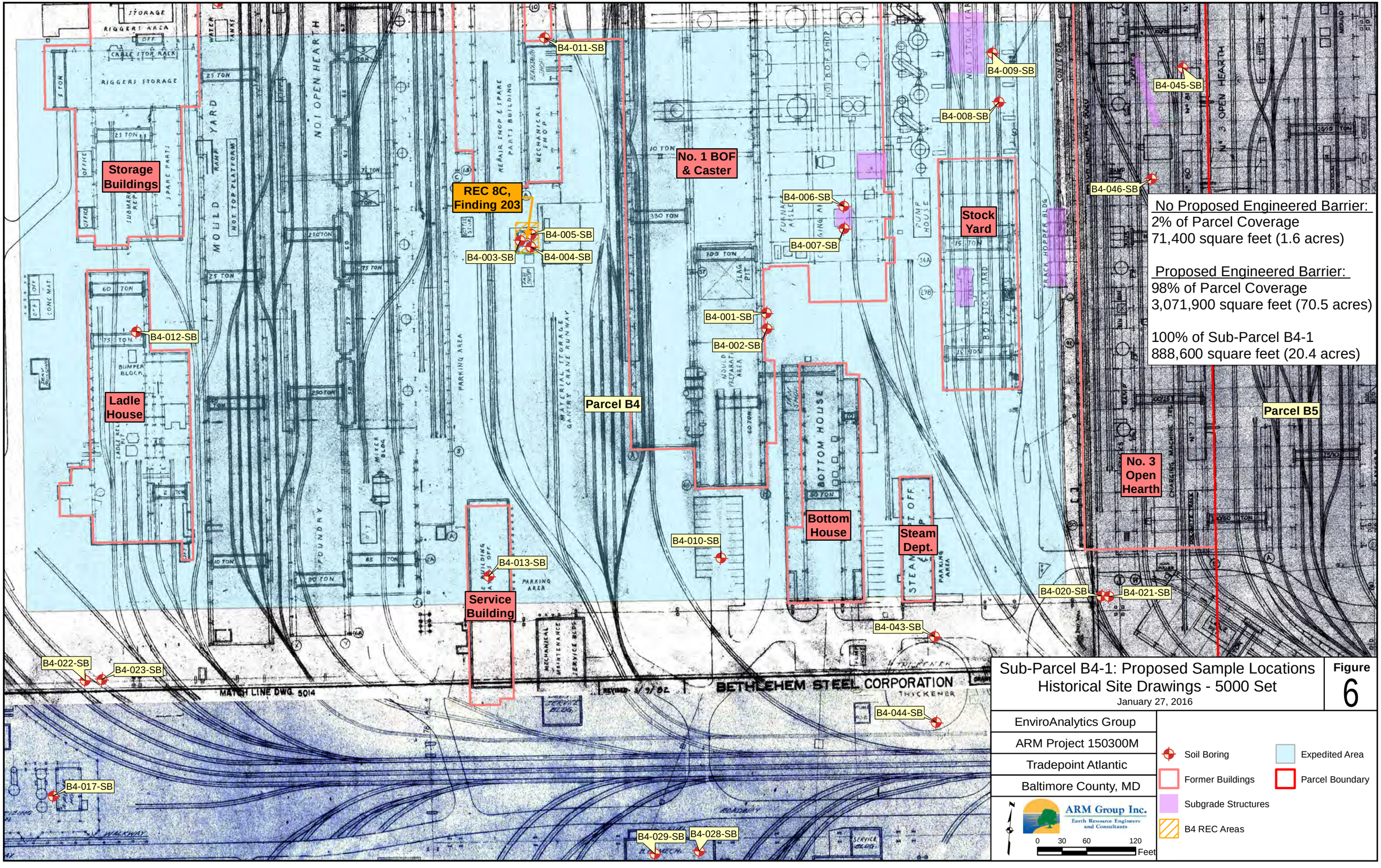
0 50 100 200 Feet

- Soil Boring
- Former Buildings
- Subgrade Structures
- Parcel Boundary
- Expedited Area

Proposed Coverage

- Engineered Barrier
- No Engineered Barrier


B4-011-SB
B4-009-SB
B4-045-SB
B4-008-SB
B4-046-SB
Storage Buildings
REC 8C, Finding 203
No. 1 BOF & Caster
B4-006-SB
B4-007-SB
Stock Yard
B4-005-SB
B4-003-SB
B4-004-SB
B4-001-SB
B4-002-SB
B4-012-SB
Ladle House
Parcel B4
Parcel B5
No. 3 Open Hearth
Bottom House
B4-010-SB
Steam Dept.
B4-013-SB
B4-020-SB
B4-021-SB
Service Building
B4-043-SB
B4-022-SB
B4-023-SB
B4-044-SB
B4-017-SB
B4-029-SB
B4-028-SB
No Proposed Engineered Barrier:
2% of Parcel Coverage
71,400 square feet (1.6 acres)
Proposed Engineered Barrier:
98% of Parcel Coverage
3,071,900 square feet (70.5 acres)
100% of Sub-Parcel B4-1
888,600 square feet (20.4 acres)
Sub-Parcel B4-1: Proposed Sample Locations
Locations of SWMUs, AOCs, and Facility Areas
January 27, 2016
Figure 5
EnviroAnalytics Group
ARM Project 150300M
Tradepoint Atlantic
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0 30 60 120
Feet
Soil Boring
Former Buildings
Subgrade Structures
B4 REC Areas
Expedited Area
Parcel Boundary



No Proposed Engineered Barrier:
2% of Parcel Coverage
71,400 square feet (1.6 acres)

Proposed Engineered Barrier:
98% of Parcel Coverage
3,071,900 square feet (70.5 acres)

100% of Sub-Parcel B4-1
888,600 square feet (20.4 acres)

Sub-Parcel B4-1: Proposed Sample Locations
Historical Site Drawings - 5000 Set

January 27, 2016

Figure 6

EnviroAnalytics Group

ARM Project 150300M

Tradepoint Atlantic

Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 30 60 120 Feet

Soil Boring
Former Buildings
Subgrade Structures
B4 REC Areas
Expedited Area
Parcel Boundary

B4-011-SB
B4-009-SB
B4-008-SB
B4-045-SB
B4-046-SB
B4-006-SB
B4-007-SB
B4-005-SB
B4-003-SB
B4-004-SB
B4-001-SB
B4-002-SB
B4-012-SB
B4-010-SB
B4-013-SB
B4-020-SB
B4-021-SB
B4-043-SB
B4-044-SB
B4-022-SB
B4-023-SB
B4-017-SB
B4-029-SB
B4-028-SB

Storage Buildings
REC 8C, Finding 203
No. 1 BOF & Caster
Stock Yard
Ladle House
Parcel B4
Parcel B5
No. 3 Open Hearth
Bottom House
Steam Dept.
Service Building

No Proposed Engineered Barrier:
2% of Parcel Coverage
71,400 square feet (1.6 acres)

Proposed Engineered Barrier:
98% of Parcel Coverage
3,071,900 square feet (70.5 acres)

100% of Sub-Parcel B4-1
888,600 square feet (20.4 acres)

Sub-Parcel B4-1: Proposed Sample Locations
Historical Site Drawings - 5100 Set

January 27, 2016

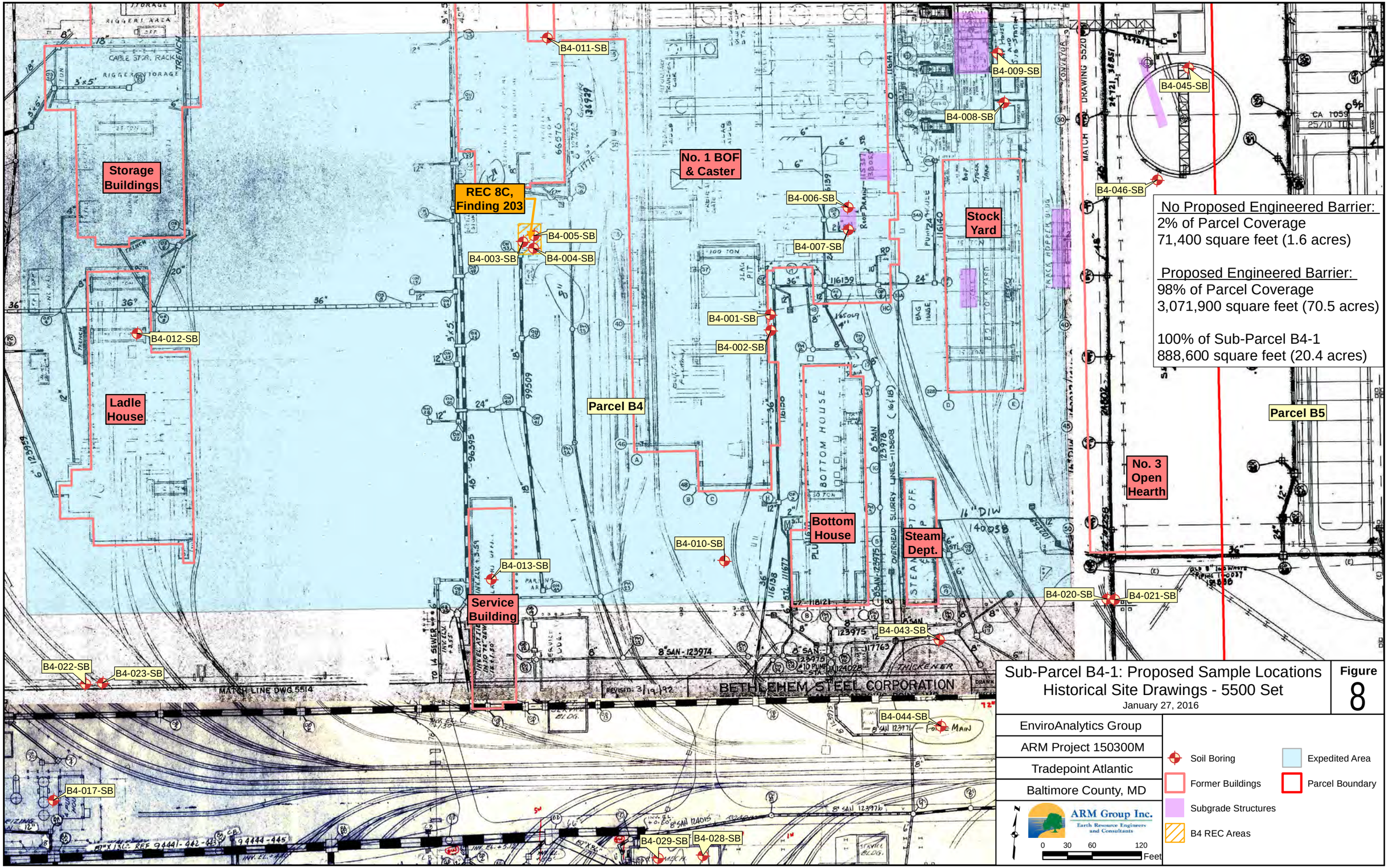
Figure 7

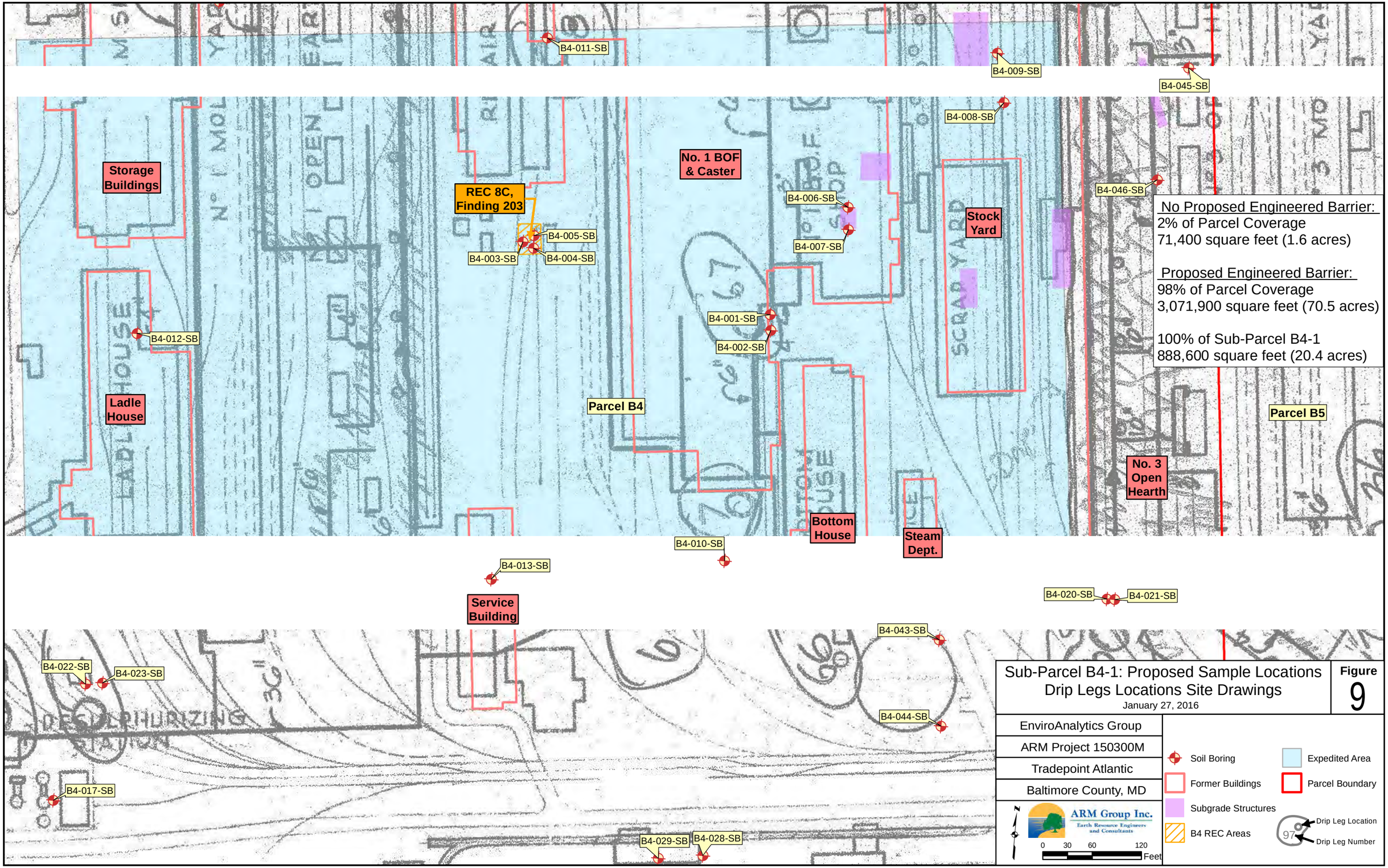
EnviroAnalytics Group
ARM Project 150300M
Tradepoint Atlantic
Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

Soil Boring
Former Buildings
Subgrade Structures
B4 REC Areas
Expedited Area
Parcel Boundary

0 30 60 120
Feet


Storage Buildings
Ladle House
REC 8C, Finding 203
No. 1 BOF & Caster
Stock Yard
Parcel B4
Parcel B5
No. 3 Open Hearth
Bottom House
Steam Dept.
Service Building
B4-011-SB
B4-009-SB
B4-008-SB
B4-045-SB
B4-046-SB
B4-006-SB
B4-007-SB
B4-005-SB
B4-003-SB
B4-004-SB
B4-012-SB
B4-001-SB
B4-002-SB
B4-010-SB
B4-013-SB
B4-020-SB
B4-021-SB
B4-043-SB
B4-022-SB
B4-023-SB
B4-044-SB
B4-017-SB
B4-029-SB
B4-028-SB
No Proposed Engineered Barrier:
2% of Parcel Coverage
71,400 square feet (1.6 acres)
Proposed Engineered Barrier:
98% of Parcel Coverage
3,071,900 square feet (70.5 acres)
100% of Sub-Parcel B4-1
888,600 square feet (20.4 acres)
Sub-Parcel B4-1: Proposed Sample Locations
Historical Site Drawings - 5500 Set
January 27, 2016
Figure 8
EnviroAnalytics Group
ARM Project 150300M
Tradepoint Atlantic
Baltimore County, MD
Soil Boring
Former Buildings
Subgrade Structures
B4 REC Areas
Expedited Area
Parcel Boundary
ARM Group Inc.
Earth Resource Engineers and Consultants
0 30 60 120
Feet


B4-011-SB
B4-009-SB
B4-045-SB
B4-008-SB
B4-046-SB
Storage Buildings
REC 8C, Finding 203
No. 1 BOF & Caster
B4-006-SB
B4-007-SB
Stock Yard
B4-005-SB
B4-003-SB
B4-004-SB
B4-001-SB
B4-002-SB
B4-012-SB
Ladle House
Parcel B4
Parcel B5
No. 3 Open Hearth
Bottom House
Steam Dept.
B4-010-SB
B4-013-SB
Service Building
B4-020-SB
B4-021-SB
B4-043-SB
B4-022-SB
B4-023-SB
B4-044-SB
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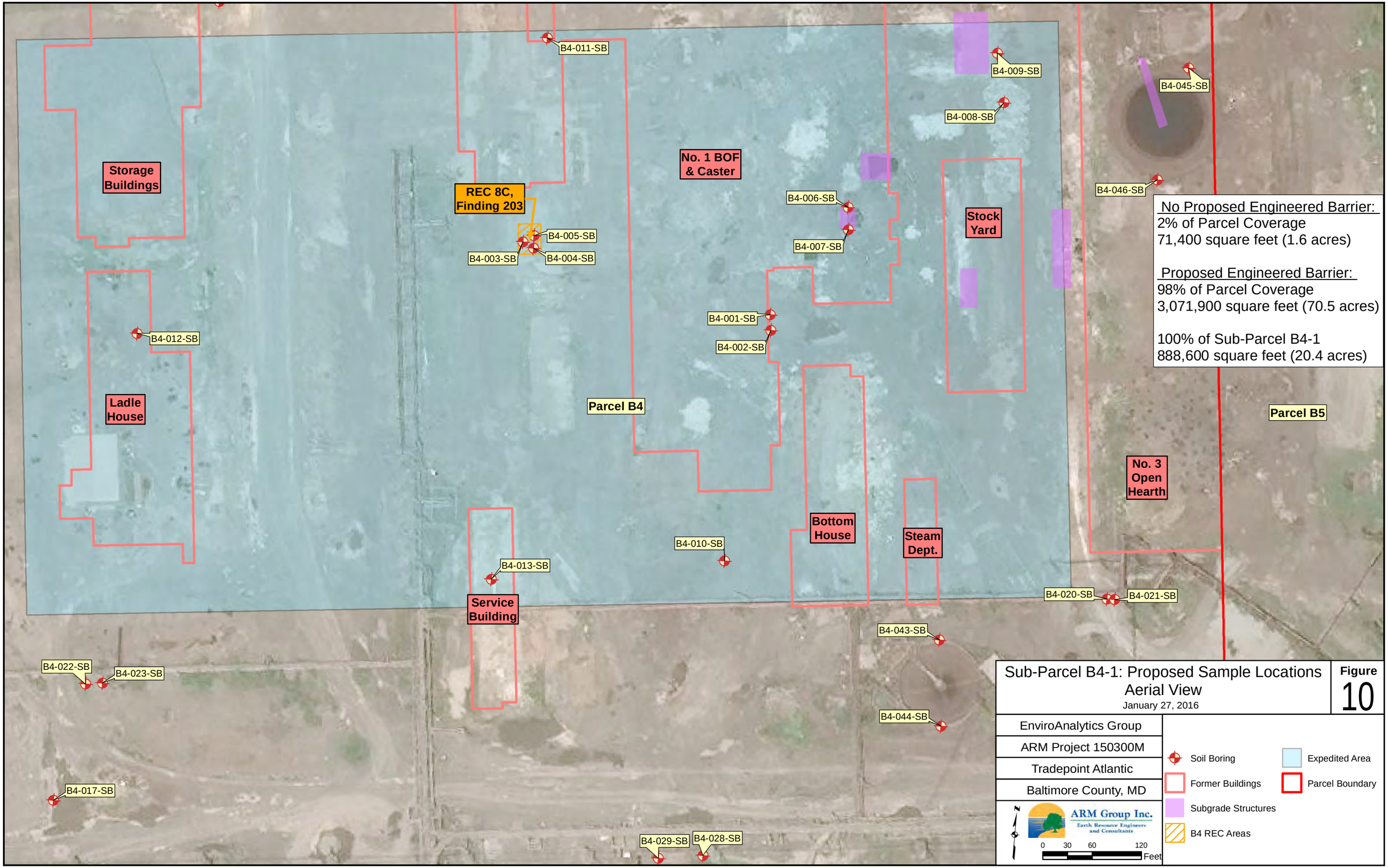
B4-029-SB
B4-028-SB
No Proposed Engineered Barrier:
2% of Parcel Coverage
71,400 square feet (1.6 acres)
Proposed Engineered Barrier:
98% of Parcel Coverage
3,071,900 square feet (70.5 acres)
100% of Sub-Parcel B4-1
888,600 square feet (20.4 acres)
Sub-Parcel B4-1: Proposed Sample Locations
Drip Legs Locations Site Drawings
January 27, 2016
Figure 9
EnviroAnalytics Group
ARM Project 150300M
Tradepoint Atlantic
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0 30 60 120
Feet
Soil Boring
Expedited Area
Former Buildings
Parcel Boundary
Subgrade Structures
B4 REC Areas
97
Drip Leg Location
Drip Leg Number



Sub-Parcel B4-1: Proposed Sample Locations
Aerial View
January 27, 2016

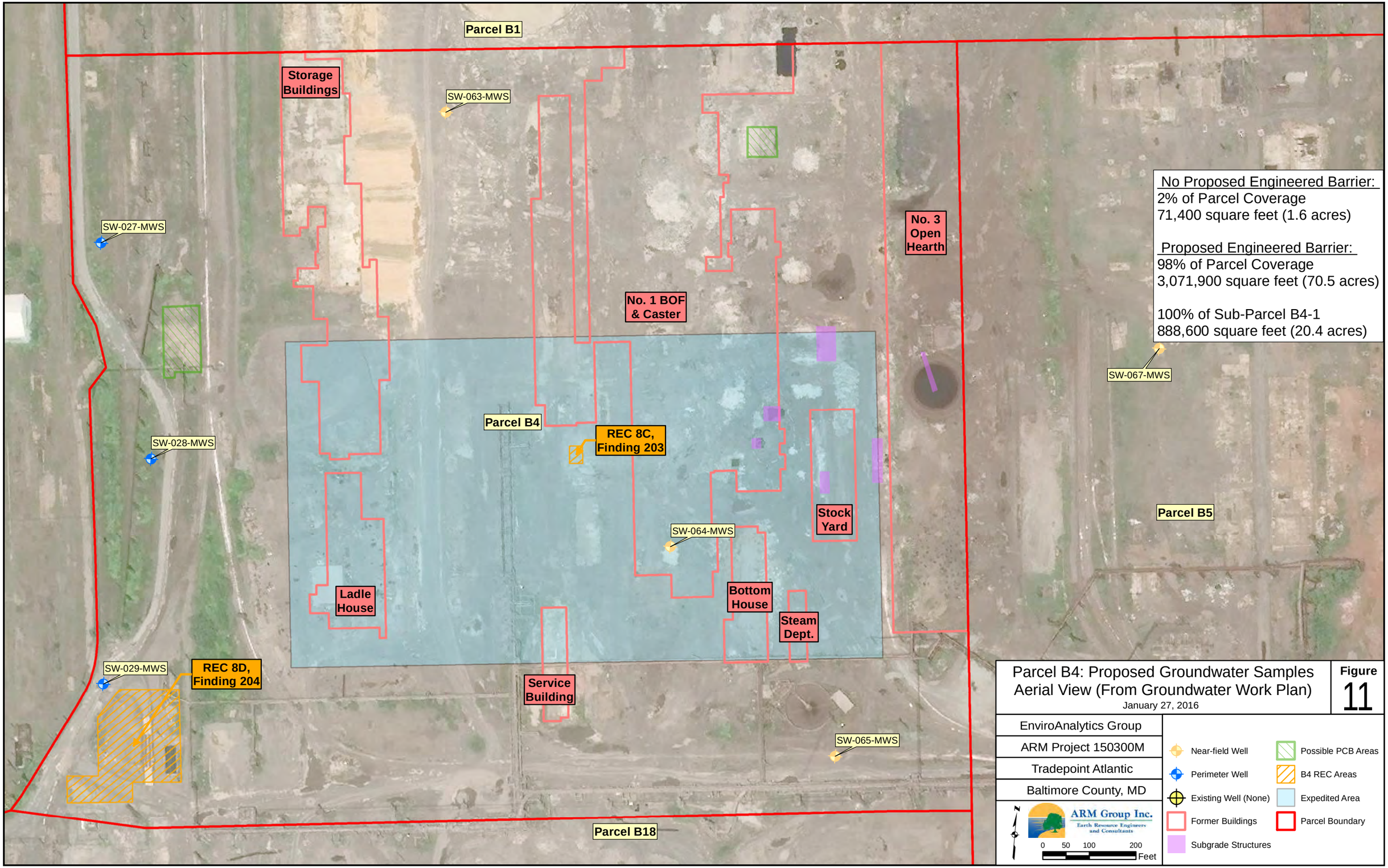
Figure 10

EnviroAnalytics Group

ARM Project 150300M

Tradepoint Atlantic

Baltimore County, MD



Parcel B4: Proposed Groundwater Samples Aerial View (From Groundwater Work Plan)

January 27, 2016

Figure 11

EnviroAnalytics Group

ARM Project 150300M

Tradepoint Atlantic

Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 50 100 200 Feet

- Near-field Well
- Perimeter Well
- Existing Well (None)
- Former Buildings
- Subgrade Structures
- Possible PCB Areas
- B4 REC Areas
- Expedited Area
- Parcel Boundary

Appendix A

Parcel B4, Sub-Parcel B4-1 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	RATIONALE	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Soil Samples
Drip Legs		Drip Legs Drawing 5885B	Coke oven gas condensate was removed from the gas pipelines at drip legs located throughout the distribution system. The condensate was typically discharged to drums, although it is possible some spilled out of the drums and on to the ground. A subset of the drip legs was selected for investigation.	2	B4-001 and B4-002	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, DRO/GRO, PCBs
REC Oil House	REC 8C, Finding 203	REC Location Map/ Drawing 5020	The Phase I ESA identified this particular oil house to be a REC, because the conditions and status of the building were unknown. The oil house was positively identified on several sets of historical drawings. Current aerial images indicate that this structure is no longer in use and has been demolished.	3	B4-003 through B4-005	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, DRO/GRO, PCBs (0-1')
Emergency Plating Pit		Drawing 5120-A	Investigate potential impacts related to the emergency plating pit (potential leaks or releases).	2	B4-006 and B4-007	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, DRO/GRO, PCBs (0-1')

Parcel B4, Sub-Parcel B4-1 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	RATIONALE	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Soil Samples
Substation/ Transformers		Drawing 5120	Investigate potential impacts related to a substation/transformers which are not on the list of PCB-containing equipment (potential leaks or releases).	2	B4-008 and B4-009	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, DRO/GRO, PCBs (0-1')
Parcel B4 Coverage			Investigate potential impacts related to any historical activities which may have occurred on the site (potential leaks or releases).	4	B4-010 through B4-013	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, DRO/GRO, PCBs (0-1')
			Total	13				

Soil Borings Sampling Density Requirements (from **Worksheet 17 - Sampling Design and Rationale**)
Engineered Barrier (16-40 acres): 1 boring per 3 acres with no less than 7.
No Engineered Barrier (0 acres): N/A
Engineered Barrier (20.4 acres) = **7 borings required, 13 proposed**
No Engineered Barrier (0 acres) = **N/A**

VOCs - Volatile Organic Compounds (Target Compound List)
SVOCs - Semivolatile Organic Compounds (Target Compound List)
Metals - (Target Analyte List plus Hexavalent Chromium and Cyanide)
PCBs - Polychlorinated Biphenyls
DRO/GRO - Diesel Range Organics/Gasoline Range Organics
bgs - Below Ground Surface

Appendix B

Health and Safety Plan

Area B: Parcel B4
Tradepoint Atlantic
Sparrows Point, Maryland

Prepared for:
EnviroAnalytics Group
1650 Des Peres Road
Suite 230
Saint Louis, Missouri 63131

Prepared by:
ARM Group Inc.
9175 Guilford Road
Suite 310
Columbia, MD 21046

January 2016

ARM Project 150300M

Respectfully submitted,

Eric S. Magdar
Senior Geologist

T. Neil Peters
Vice President

TABLE OF CONTENTS

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared by ARM Group Inc. (ARM) to address personnel health and safety requirements for employees of ARM and its subcontractors to complete a Phase II investigation on a portion of the Tradepoint Atlantic property that has been designated as Parcel B4. The on-site activities may include the following: installation of soil borings, collection of soil samples, and installation and gauging of temporary piezometers. ARM will comply with industry-standard health and safety protocol and Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120 to prevent human exposure to volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), petroleum hydrocarbons, polychlorinated biphenyls (PCB) and metals that may be present in site soil and groundwater.

2.0 GENERAL INFORMATION

2.1 Site Description

Parcel B4, which is comprised of 72 acres of the approximately 3,100-acre former plant property, is located off of Sparrows Point Boulevard in Sparrows Point, Maryland. Parcel B4 is one of several parcels that make up a larger area, known as Area B, of the Tradepoint Atlantic facility. Area B and its parcels are shown on **Figure 1.**

From the late 1800s until 2012, the Tradepoint Atlantic property was used for the production and manufacturing of steel. Iron and steel production operations and processes at the Site included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, it 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.

2.2 Site Hazards

The following is a general description of the potential site hazards.

Chemical Hazards:

- VOCs, SVOCs, PCBs, petroleum hydrocarbons, and metals potentially present in soil and groundwater.

Explosive Hazards:

- VOC and petroleum hydrocarbon vapors in boreholes, piezometers and collection containers.

Physical Hazards:

- Slipping/tripping in work area
- Stress/fatigue from heat or cold temperatures
- Traffic
- Driving on steep slopes and/or off-road conditions
- Insect and animal bites
- Hand tools

Mechanical/Electrical Hazards:

- Underground utilities
- Heavy equipment (Geoprobe)
- Noise from heavy equipment operations
- Power tools

2.3 Utilities

Prior to initiating any subsurface investigations, all underground utilities will be cleared using the Miss Utility system. Additionally, EnviroAnalytics Group (EAG) will clear each proposed boring with utility personnel currently working on the property. The ARM staff will be responsible for avoiding any above ground utilities while operating vehicles on the site.

2.4 Waste Management

A small quantity of investigation derived waste (IDW) material will be generated as a result of the planned site work. These wastes could include decontamination fluids, soil cuttings, personal protective equipment (PPE) and disposable sampling equipment. All IDW will be containerized in steel 55-gallon drums for on-site treatment or off-site disposal, pending the receipt of analytical results. Specific procedures associated with the management of the IDW have been established in SOP 005, attached in Appendix A of the EPA approved Quality Assurance Project Plan (QAPP).

2.5 Site Controls and Security

It is the responsibility of ARM staff to keep unauthorized personnel away from the work areas during site work. All equipment used at the site must be secured or taken off-site. Subsurface intrusions should be covered to reduce any hazard that may be posed. Traffic cones, caution tape, physical barriers, or other such means as necessary shall be used to ensure that no unauthorized work area entry occurs.

3.0 OPERATING PROCEDURES

3.1 Air Monitoring

Due to the nature of the site activities and materials potentially present at the site, no vapor hazards are expected. If discernable odors are noted in the breathing zone, then work will be temporarily suspended and air monitoring will be initiated using a PID or explosive gas indicator. If sustained vapor concentrations are measured at or above action levels in the breathing zone, work will immediately cease until such time as appropriate action is established. This action may require the upgrade of PPE or reevaluation of the need to proceed.

3.2 Personnel Protection

Personnel health and safety protection shall follow the guidelines provided by this HASP. Modifications to the HASP may be made by the field supervisor with the approval of the ARM Project Manager on a day-to-day basis as conditions change, based on existing conditions. Any necessary revisions must be fully documented by the field supervisor to include the specifics and rationalizations for the change.

It is anticipated that a modified Level D of personal protection will be appropriate for the anticipated site activities. PPE associated with this designated level of protection (Level D), as established by the USEPA, is listed in a later section. The PPE listed for this level of protection should be available to all personnel.

PPE will be stored in a clean, dry environment prior to it usage. Disposable equipment shall remain, in as much as possible, its original manufacturer's packaging to ensure its integrity. PPE that is assigned to a specific end user is subject to inspection by the supervisor at any time.

3.2.1 Determination of Level of Protection Requirements

The appropriate level of personnel protection must be established on the basis of ambient air monitoring responses. Air monitoring action levels should be consistent with the primary compounds of concern as listed in Table 3-1 (below). Appropriate action should be taken if total organic vapor air concentrations are sustained at a concentration equal to or greater than the PEL listed on Table 3-1.

Table 3-1

Substance	CAS #	OSHA PEL (ppm)	IDLH (ppm)
Benzene	71-43-2	10	500
Toluene	108-88-3	200	500
Ethyl benzene	100-41-4	100	800
Xylenes	1330-20-7	100	900
Naphthalene	91-20-3	10	250
Tetrachloroethylene	127-18-4	100	150
Trichloroethylene	79-01-6	100	1,000

Notes: ppm = parts per million
PEL = Permissible Exposure Limit
IDLH = Immediately Dangerous to Life or Health

This criterion will be applicable to all activities unless specific protection requirement for a certain task are addressed separately. As previously stated, it is anticipated that a modified Level D will be appropriate for the anticipated site activities; which requires a regular worker uniform, steel-toed safety shoes, hardhat, safety glasses and long paints. Level D will be considered the minimum protection level for all work on-site.

Respiratory protection against dust must also be considered during site work. The usage of dust respirators (high efficiency particulate air [HEPA] filters) or NIOSH P100 filter paired with a half-mask respirator will be determined by site conditions and judgment of the field supervisor. Sprinklers may be used to control dust during work activities.

3.2.2 Dermal Protection

In general, dermal protection levels will correspond with the respiratory protection level in use during an activity as described in other sections. For most activities on the site, Level D dermal protection will be adequate. When work tasks are such that a higher level of personal protection is required, dermal protection may be upgraded to coated Tyvek (Saranex) or chemical-resistant rain suit or Tyvek. This determination will be made by the ARM Field Supervisor as required.

Chemical and abrasion-resistant outer gloves and inner chemical-resistant disposable gloves would be required in the work zone to provide adequate protection of hands and assist in preventing transfer of contaminants. As much of the investigation may require handling of possibly contaminated equipment, groundwater, or soil, chemical-resistant gloves should be required for all on-site work with these materials. Various operations, which require dexterity and do not necessitate the abrasion-resistant feature of outer gloves, could be performed with the inner gloves only, at the direction of the ARM Field Supervisor.

3.2.3 Eye Protection

Since many volatile contaminants are capable of penetrating skin tissues, the eyes provide a potential route of entry into the body. Typically, volatile organic vapors will be detected in the air-monitoring program. Dust and air-borne particulates will be monitored visually and nuisance dust standards will be applied. If exceeded, dust masks will be donned. Eye protection, beyond the use of safety glasses, must correspond to the respiratory protection level.

3.3 Task-Related Personnel Protection

At a minimum, all workers are required to wear long pants, steel toed shoes and a sleeved shirt at all times. Additional PPE will be required on a task-specific basis.

3.3.1 Installation of Geoprobe Soil Borings and Piezometers, Soil Logging and Soil Sampling Activities

All personnel should wear the following:

- Long pants and sleeved shirt/vest (high visibility)
- Steel toe safety boots
- Safety glasses with side shields
- Hearing protection
- Chemical resistant gloves

3.4 Explosion Prevention

Due to the potential presence of flammable materials at the site, the following safety guidelines must be followed to prevent the possibility of explosion:

a. All monitoring equipment will be intrinsically safe or explosion-proof, if used in areas of possible explosive atmospheres.

b. A fire extinguisher, first-aid kit, and an eye wash station will be located at the site within a short distance of site work.

c. Any compressed gas cylinders or bottles will be stored safely as required by the OSHA regulations. In addition, metal barriers must be provided and installed between oxygen and acetylene bottles, extending above the height of the regulators. At the end of each work shift, regulators shall be removed and replaced with protective caps.

d. No explosives, whatsoever, shall be used or stored on the premises.

e. All cleaning fluids or solvents must be stored and transported in OSHA-approved safety containers.

f. Propane, butane, or other heavier-than-air gases shall not be transported onto or used on-site unless prior approval is obtained in writing from the Project Manager and the Facility Operator.

4.0 DECONTAMINATION PROCEDURES

Decontamination procedures will be used on some field tasks, but not all, completed at the site. All decontamination operations may be performed at the sampling location unless the level of PPE is upgraded. If the level of PPE is upgraded, all decontamination operations will be performed in a central decontamination area and supervised by the ARM Field Supervisor. If necessary, a decontamination corridor will be set up adjacent to the area and equipped with brushes, plastic bags, and drum storage. Disposable outerwear and contaminated disposable equipment will be collected for future disposal. The ARM Field Supervisor would be required to inspect PPE and clothing to determine if decontamination procedures were sufficient to allow passage into the staging area.

The following decontamination facilities, as a minimum, will be provided in the staging area:

a. Hand washing facilities

b. First-aid kit

c. Eye wash station

d. Fire extinguisher

Proper on-site decontamination procedures, the use of disposable outer clothing, and field wash of hands and face as soon as possible after leaving the decontamination corridor could effectively minimize the opportunity for skin contact with contaminants.

4.1 Personnel Decontamination Procedures

Decontamination procedures should be as follows:

Level D decontamination will consist of:

1. Potable water wash and potable water rinse of boots and outer gloves (if worn).

2. Drum all visibly impacted disposable clothing.

3. Field wash of hands and face.

4.2 Equipment Decontamination

All equipment decontamination will be completed in accordance with the procedures referenced in Worksheet 21—Field SOPs, and Appendix A of the QAPP (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).

Level D personnel protection is required during equipment decontamination.

5.0 EMERGENCY CONTINGENCY INFORMATION

Pertinent emergency telephone numbers are listed in Table 5-1. This information must be reviewed by and provided to all personnel prior to site entry.

Table 5-1
Emergency Telephone Numbers

Facility/Title	Telephone Number
Fire and Police	911
Ambulance	911
James Calenda, EnviroAnalytics Group	(314) 620-3056
Eric Magdar, ARM Manager	Office: (410) 290-7775 Cell: (301) 529-7140
Hospital – Johns Hopkins Bayview	(410) 550-0350

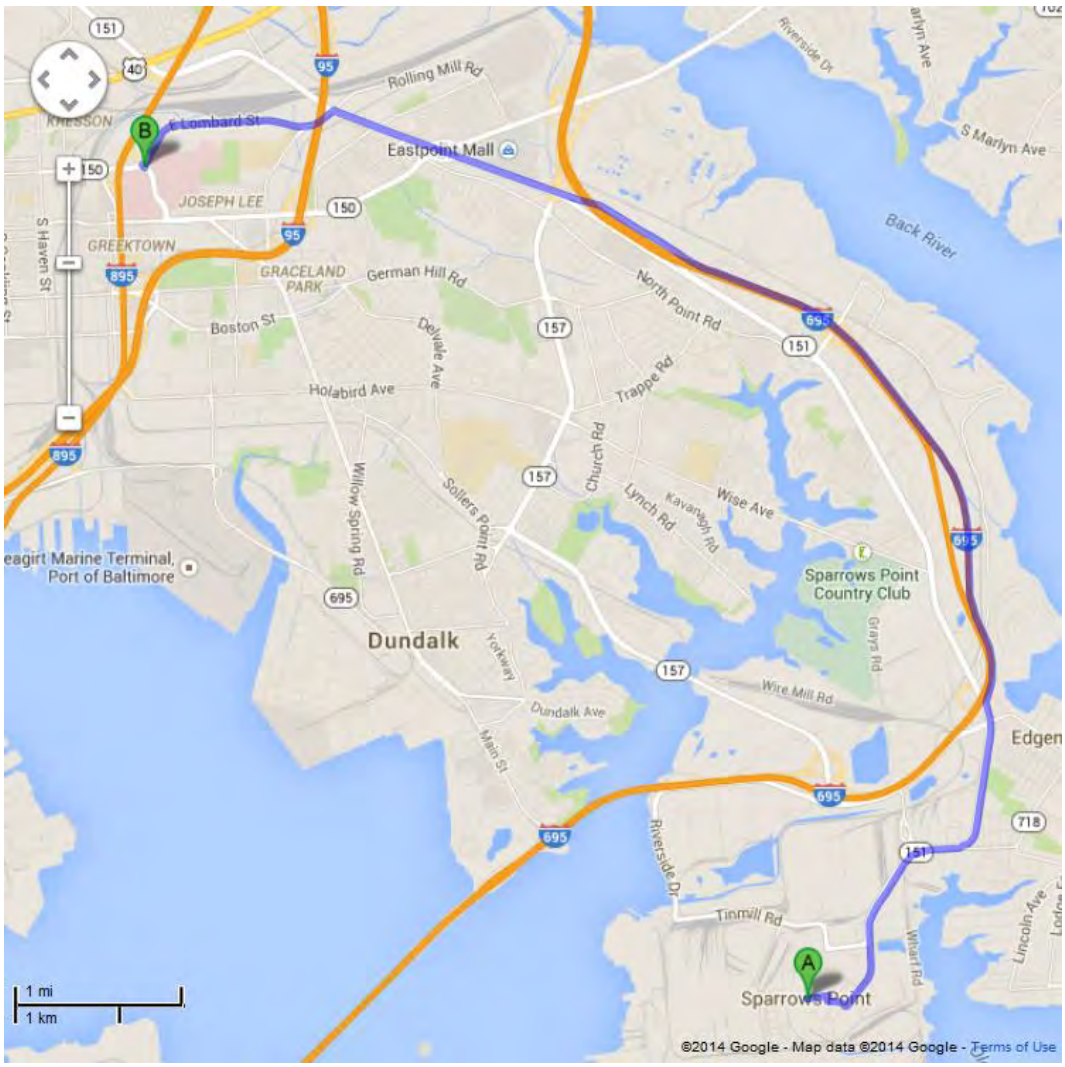
In the event of a fire or explosion, the site will be evacuated immediately and the appropriate emergency response groups notified. In the event of an environmental incident caused by spill or spread of contamination, personnel will attempt to contain the spread of contamination, if possible.

In the event of a personnel injury, emergency first aid would be applied on site by ARM as deemed necessary. The victim should be transported to the local medical facility if needed. The map to the hospital is provided below.

Hospital Route From Tradepoint Atlantic

Johns Hopkins Bayview
4940 Eastern Avenue
Baltimore, MD
(410) 550-0350

1. Start out going East on 7th Street.
2. Turn LEFT onto Sparrow Point Road.
3. Travel 1.4 miles and continue onto North Point Boulevard.
4. Travel 0.9 miles and turn slight right to merge onto I-695 North/Baltimore Beltway toward Essex.
5. Travel 3.4 miles and take EXIT 40 for MD-151/N. Pt. Blvd. N toward MD-150/East. Blvd W/Baltimore.
6. Travel 0.5 miles and merge onto MD-151 N/North Point Blvd.
7. Travel 2.0 miles and turn LEFT onto Kane Street.
8. Travel 0.2 miles and turn slight right onto E. Lombard Street.
9. Travel 1.2 miles and turn left onto Bayview Blvd.
10. Make a left at the emergency room of the hospital



6.0 ACKNOWLEDGEMENT OF PLAN

All site personnel are required to read and comply with the HASP. The following safety compliance affidavit should be signed and dated by each person directed to work on-site.

I have read this HASP and agree to conduct all on-site work in conformity with the requirements of the HASP. I acknowledge that failure to comply with the designated procedures in the HASP may lead to my removal from the site, and appropriate disciplinary actions by my employer.

Title and Company	Name	Signature	Date