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19 February 2024

Ms. Karen Haas
President
Sterling Water Stewards
P.O. Box 427
Fair Haven, New York 13156

RE: Document Review
Brillo Landfill Site
Town of Victory, Cayuga County, New York
FoxPG Project Number STE-002

Dear President Haas:

As requested by the Sterling Water Stewards, Fox Professional Geology, PLLC (FoxPG) completed a review in August 2023 of several documents associated with the Brillo Landfill Site located along New York State Route 370 in the Town of Victory, Cayuga County, New York (the Site). Subsequent sections of this report present project background, an executive summary, the results of the document review, and conclusions and recommendations based on the document review.

PROJECT BACKGROUND

The Brillo Landfill is located north of New York State Route 370 in the Town of Victory, Cayuga County, New York (the Site). Figure 1 (Attachment A) shows the location and layout of the Site. The Site has been identified by the New York State Department of Environmental Conservation (NYSDEC) as an Inactive Hazardous Waste Site (Site Code 706013). In September 2022, the United States Environmental Protection Agency (USEPA) proposed adding the Site to the federal Superfund National Priorities List (NPL). The Sterling Water Stewards requested that FoxPG review documents available on NYSDEC's Environmental Site Remediation Database to evaluate environmental and geologic conditions at the Site and to provide comments, conclusions, and recommendations.

The Brillo Landfill is an inactive hazardous waste disposal facility that accepted industrial and sanitary wastes from approximately 1962 to 1986 (USEPA, 2022) or possibly until November 1988 (NYSDEC, 2023). The facility received industrial wastewater treatment plant sludge from 1962 to 1969 and paint sludge from 1968 to 1969, both from a nearby automotive electroplating facility. Facility operations included transport, storage, and disposal of waste-filled drums containing sludge and chlorinated solvents. The Brillo Landfill also reportedly received polishing compound, sewage sludge, and waste grain from commercial food production during the 1980s.

Sampling by NYSDEC indicates that waste disposal units and surrounding soil are contaminated with volatile organic compounds (VOCs); semivolatile organic compounds (SVOCs), including polycyclic aromatic hydrocarbons (PAHs); polychlorinated biphenyls (PCBs); and inorganic constituents including chromium, lead, copper, mercury, and nickel (USEPA, 2022). Sampling by

NYSDEC in June 2021 indicates that PCBs, inorganic constituents, and per- and polyfluoroalkyl substances (PFAS) in the form of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are present in the adjacent wetland at levels above background. PFAS are reportedly attributable to the sludge and sanitary wastes deposited at the facility (USEPA, 2022).

EXECUTIVE SUMMARY

Contamination from wastes disposed at the Site is present at levels determined by NYSDEC to represent a significant threat to human health and the environment. Contamination detected at the Site has migrated from on-Site disposal areas into adjacent ecological resources (wetlands) and subsequently into Little Sodus Creek. The detection of Site-related contaminants in the furthest downstream sediment sample suggests that the full downstream extent of contamination in Little Sodus Creek has not been determined. It is likely that biota at and downgradient of the Site have been exposed to contamination from the Site; however, sampling of biota has not occurred to date. Primary contaminants of concern at the Site include PCBs, chlorinated VOCs (CVOCs), chromium, and the emerging contaminant PFOS. Preliminary target levels for cleanup of PFOS in biota and sediment have not yet been established by NYSDEC.

Previous environmental investigations and a drum removal remedial action at the Site have characterized the extent of shallow contamination at the Site. However, intermediate and deeper levels of contamination have not been evaluated and remain as potential conduits of contamination from the Site to off-Site receptors and resources, potentially including private water supply wells and public water supplies potentially located several miles from the Site. PFOS was detected in one residential well sampled as part of the remedial investigation (RI) at a concentration above the NYSDEC's current groundwater human health criteria of 2.7 ng/l. If not already performed by NYSDEC, the New York State Department of Health (NYSDOH), or the Cayuga County Health Department (CCHD), additional investigation is recommended to confirm reported PFOS (and other PFAS) concentrations in water from this private well, evaluate whether water treatment is required, and evaluate whether the PFOS may have originated at the Site.

Additional environmental investigation work is recommended to fully characterize the full lateral and vertical extent of contamination from several contaminant source areas at the Site, particularly with regards to intermediate- and regional-level groundwater flow. Contamination source areas, including the likely presence of CVOC dense, non-aqueous phase liquids (DNAPL), should be further delineated and remediated to facilitate enhanced protection of human health and the environment. Residual contamination outside of contaminant source areas may also require remedial action based on the results of additional remedial investigation.

DOCUMENT REVIEW

The Site documents listed below were downloaded from the NYSDEC's Environmental Site Remediation Database and were reviewed by FoxPG to evaluate geologic and environmental conditions at and near the Site.

- 2004 – Preliminary Investigation Report, prepared by O'Brien & Gere Engineers, Inc. (OBG) for General Motors Corporation (GMC)

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- 2006 – Order on Consent (the Order) between NYSDEC, the property owner Mr. Joseph Brillo (now reportedly deceased), and GMC
- 2019 – Removal Action Report, prepared by Weston Solutions, Inc. (Weston) for USEPA
- 2021 – Remedial Investigation (RI) Report, prepared by TRC Engineers, Inc. (TRC) for NYSDEC

Figures referenced in this report are presented in Attachment A. Acronyms and abbreviations contained in this report are listed in Attachment B. Scientific and technical references cited in this report are listed in Attachment C.

Salient results of the document review are organized below for each document in the bullet list above to facilitate ease of review and discussion. Conclusions and recommendations based on the document review are also provided.

2004 – GMC Preliminary Investigation Report

This report presents the results of the initial environmental investigation of the Site subsequent to its reported cessation of solid waste management operations in 1986 (per USEPA) or 1988 (per NYSDEC) and follow-up sampling at the Site by NYSDEC in 2000.

Introduction

- Identifies two areas of past disposal:
 - West Area (the former Part 360 landfill) ~ 2.5 acres
 - East Area (Sludge Disposal Area and the Former Drum Storage Area)
- This report addresses only investigation of the East Area:
 - Sludge Disposal Area ~ 2.1 acres
 - Former Drum Storage Area ~ 0.5 acre
- The site historically received industrial wastewater treatment sludge from GMC's Inland Fisher Guide (IFG) facility in Syracuse, New York.
- 1982 – an NYSDEC-approved remediation plan for the East Area was implemented by the Owner to address concerns that were identified during permitting/opening of the West Area Part 360 landfill.
- 2000 – sampling of sludge performed by NYSDEC identified PCBs and chromium at hazardous waste levels. However, this sampling did not identify the extent of sludge disposal at the Site.
- This investigation was performed to characterize the East Area and evaluate the effectiveness of the early 1980s remediation activities based on the NYSDEC sludge sampling results from 2000.

Site Background

- Classified as a Class 2 Site (a significant threat to human health and the environment).
- Approximately 11,000 tons of wastewater treatment sludge and paint sludge from GMC's IFG Facility was disposed at the Site in the 1960s.
- A Part 360 landfill was constructed in the West Area by Mr. Brillo in the 1980s.
- As a component of the remediation activities in the early 1980s, the East Area was covered with soil and allowed to naturally vegetate.
- Historic aerial photographs of the Site show it as land used for agricultural activities in the 1960s. Subsequent photographs from 1988 and 2000 suggest the Site appears as

undeveloped land; however, an access road and several disturbed areas are evident in the 1988 photograph.

Preliminary Site Conceptual Model

- Drainage at the Site is generally towards the northwest.
- Sludge materials disposed at the Site appear blueish in color and are visually readily discernable where exposed.
- East Area layout suggests a potential pathway for migration of sludge residuals away from the original area of disposal if erosion were to occur in the Sludge Disposal Area.
- A topographically low area approximately 500 feet wide between the East and West Areas contains federal and state wetlands that drain towards Little Sodus Creek, which lies approximately 1000 feet northwest of the West Area.
- The approximate edges of the landfill in the West Area are readily discernable based on topography.
- There were five older monitoring wells (designated “A” through “E” in this report) located along the northern and eastern edge of the landfill that were used previously by others. Data from these wells were not available for review, and groundwater data associated with the landfill were not found during a review of NYSDEC files. OBG contacted the Cayuga County Health Department in an attempt to find and review data associated with these wells. These wells were not gauged or sampled as part of this investigation.

Preliminary Investigation Primary Objectives

1. Further characterization of the Sludge Disposal Area.
 2. Assess whether the NYSDEC Remediation Plan (from the early 1980s) was implemented and effective.
- The following tasks were defined to accomplish these primary objectives:
 - evaluate the areal and vertical extent of the Sludge Disposal Area;
 - identify if soil and groundwater have been impacted;
 - improve understanding of the physical relationships between the various disposal areas, access roads, and the low area separating the East Area and the West Area; and
 - evaluate if buried drums or residual contamination were present in the Former Drum Storage Area.

Approach/Methods

- Preliminary Investigation task overview:
 - vegetation restricting access to the Site was removed;
 - a topographic survey was performed;
 - an electromagnetic (EM) survey was completed in the Sludge Disposal Area and the Former Drum Storage Area using a Geonics EM-31 instrument to evaluate the potential presence of metallic materials in subsurface soils that might indicate the presence of buried objects such as drums;
 - 8 sludge samples were collected and analyzed for PCBs and total chromium; subsurface sludge samples (5 of the 8) were also analyzed for VOCs;
 - 23 soil samples from the East Area were collected and analyzed for PCBs and total chromium;
 - 3 “background” soil samples were collected and analyzed for total chromium to evaluate naturally occurring concentrations of chromium in area soil; and

- 4 groundwater samples in the vicinity of the East Area were collected and analyzed for VOCs, PCBs, and total chromium.

Preliminary investigation sample locations and designations are presented in Figure 2 (Attachment A).

East Area Geology and Hydrogeology

- Soil borings were installed to a maximum depth of 20 feet below ground surface.
- Native geologic materials at the Site generally consisted of the following (listed from ground surface to increasing depths):
 - Brown fine- to medium-grained sand with some gravel (0-16 feet);
 - Brown silt and fine-grained sand (16-20 feet).
- In the Sludge Disposal Area, waste sludge material is present on top of native soil and generally consisted of grayish, blue-green silt to fine-grained sand. The sludge layer varied from 0 to 7.5 feet in thickness.
- The sludge layer was generally covered with 0-2 feet of soil-like cover material resembling native sandy soil.
- Depth to groundwater at the Site ranged from near zero (monitoring wells MW-2 through MW-4) to 13 feet below ground surface (MW-1).
- Shallow groundwater flow direction reported by OBG in the investigated areas is towards the northwest (i.e., towards the low areas/wetland).

Conclusions

Sludge Disposal Area

1. The approximate extent of the sludge has been delineated, both vertically and horizontally; estimated volume \approx 5600 cubic yards.
2. The sludge can be detected through visual observation (blueish color).
3. The sludge is generally covered by soil-like material from 0-2 feet in thickness.
4. Specific VOCs detected in soil, groundwater, or waste sampled at the Site include:
 - a. Acetone;
 - b. 2-Butanone;
 - c. Carbon disulfide;
 - d. Chlorobenzene;
 - e. Chloroform;
 - f. 1,1-Dichloroethene (DCE)
 - g. cis-1,2-DCE;
 - h. Methylene chloride;
 - i. Tetrachloroethene (PCE); and
 - j. trans-1,2-DCE;
 - k. Trichloroethene (TCE);
 - l. Vinyl chloride; and
 - m. Xylene.
5. Specific PCBs detected include:
 - a. Aroclor 1221;
 - b. Aroclor 1248; and
 - c. Aroclor 1254.
6. Contaminants detected in the sludge at concentrations above NYSDEC soil screening values include selected VOCs, PCBs, and chromium.

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7. Contaminants were also detected in low, wet soil located approximately 75 feet west of the sludge (the furthest extent of soil sampling conducted during this investigation) at concentrations above NYSDEC soil screening values.
8. VOCs and PCBs were detected in groundwater samples collected near the sludge at concentrations above NYSDEC groundwater screening values.
9. Chromium concentrations detected in groundwater samples were below NYSDEC groundwater screening values.
10. Past remedial activities have not been fully effective based on the localized occurrence of sludge material at the surface.

Former Drum Storage Area

1. Weak EM anomalies were detected during the geophysical survey; however, OBG suggested they may be too weak to suggest the possible presence of buried drums.
2. Two drums were observed on the ground surface during the investigation.
3. PCBs and chromium were detected in low, wet soil samples located approximately 30 feet west of the Former Drum Storage Area (the furthest extent of soil sampling conducted during this investigation) at concentrations above NYSDEC soil screening values. The extent of PCBs and chromium in soil was not determined.
4. VOCs were detected in low, wet soil samples at concentrations below NYSDEC soil screening values.
5. VOCs were detected in groundwater samples at concentrations above NYSDEC groundwater screening values.
6. PCBs were detected in groundwater collected from monitoring well MW-2.
7. OBG suggests past remedial actions were effective; however, they also indicate that additional evaluation of the source of VOCs in groundwater is required.

The Preliminary Investigation Report contains the following appendices (a detailed review of all of these appendices was not performed).

- A – Part 360 Landfill References
- B – Historic Aerial Photographs
- C – Photographs of Site Investigation Activities
- D – Wetland Maps
- E – Survey Coordinate Data
- F – Soil/Sludge Investigation Field Logs
- G – Monitoring Well Development and Sampling Logs

2006 - Consent Order

This Order on Consent (NYSDEC, 2006) is a legal agreement between NYSDEC, GMC, and Mr. Brillo in which GMC and Mr. Brillo agree to perform environmental investigation and associated activities at the Site under the oversight of NYSDEC.

- The effective date of the Order is 15-Aug-2006.
- The Site is defined as:
 - Sludge Disposal Area – Operable Unit #1 (OU1)
 - Former Drum Storage Area – Operable Unit #2 (OU2)
- Respondent = GMC (will conduct site remedial program).
- Owner = Joseph Brillo (will provide access and record property documents as necessary)

- The Order requires:
 - Submittal of a Records Search Report;
 - Work plans will address on-site and off-site conditions;
 - Submittal of a RI/Feasibility Study (FS) Work Plan;
 - Submittal of a RI/FS Report;
 - Submittal of Monthly Progress Reports;
 - Submittal of a Notice of Order to the Cayuga County recording officer;
 - Refers to a Citizen Participation Plan; and
 - Requires payment of State Costs.
- Exhibit C (State Costs Summary) includes reference to and costs for sampling performed by NYSDEC on 20-Jul-2000 (likely the 2000 sludge sampling performed by NYSDEC).

2019 - USEPA Removal Action Report

Introduction

- GMC never completed environmental investigation or remediation activities at the Site required by the 2006 Consent Order due to their bankruptcy in 2009. NYSDEC eventually re-initiated RI activities and reportedly discovered a significant number of drums at the Site in 2015. The NYSDEC subsequently requested on 29 September 2017 that USEPA perform a time critical removal action at the Site so that NYSDEC could safely continue performance of their planned RI. The USEPA agreed and their removal activities were performed between 18 June 2018 and 18 April 2019. This report summarizes the specific actions taken by USEPA and their contractors during these removal activities.
- Figure 3 (Attachment A) shows the general Site layout and work areas relevant to this removal action.
- Figure 4 (Attachment A) shows additional details of areas of concern (AOCs) including AOC boundaries, test pit locations, sample locations, specific waste areas, and other information relevant to this removal action.

Removal Action Objective and Scope of Work

- The primary objective of the removal action was "...to address contaminant source areas (drums) and mitigate the threats posed to human health and the environment by the presence of these hazardous substances at the Site".
- The scope of work included the following activities:
 - clearing and grubbing areas of the Site planned for excavation and installation of silt fence;
 - setting up support and decontamination facilities;
 - improvement of Site haul roads and establishing work zones;
 - construction of the recovered drums staging area;
 - excavation and recovery of buried drums and any associated grossly contaminated soil from AOCs;
 - mitigation activities from leaking drums and re-containerizing the waste for off-site disposal;
 - processing empty drum carcasses and maintaining secured stockpile areas for drum carcasses and hazardous debris;
 - maintaining secured stockpiles of recovered, contaminated soil;
 - field screening and laboratory analysis for characterization of Site wastes;
 - off-site disposal of recovered wastes including containerized waste, contaminated soil, drum carcasses, and hazardous debris;

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- re-grading of excavated areas and seeding to establish new vegetation for erosion control.
- stationary perimeter and community air monitoring and air sampling during intrusive activities;
- performing exclusion zone entry to conduct mobile air monitoring for VOCs, lower explosive limit (LEL), and radiation screening during intrusive activities;
- providing support for photographic documentation and notation in the Site logbook of removal activities; and
- documenting the excavation areas and site features as requested by the USEPA On-Scene Coordinator (OSC) using Global Position System (GPS) technology.

Results

- Site work resulted in the original extent of the Former Drum Disposal AOC being extended to the northwest; this area is designated as the “NW Area” in Figure 4 (Attachment A).
- A total of approximately 2018 drums were recovered, overpacked, and/or processed during the removal action by removing hazardous substances and crushing the drums.
- Samples of wastes generated during the removal action were collected and analyzed at a laboratory for waste characterization purposes. PCBs (hazardous waste codes B002, B003, or B007) and TCE (hazardous waste code D040) were the two primary hazardous substances identified at the Site. Maximum concentrations of these contaminants in liquid waste characterization samples included:
 - 100,000 parts-per-million (ppm) of PCBs; and
 - 170,000 ppm of TCE.
- Other hazardous substances identified at the Site by USEPA and their contractors include:
 - Barium (D005);
 - Carbon tetrachloride (D019);
 - Chloroform (D022);
 - Corrosive waste (D002);
 - Ignitable waste (D001);
 - Lead (D007);
 - PCE (D039); and
 - Vinyl chloride (D043).
- Waste characterization analyses did not include laboratory analysis for PFAS.
- The following wastes were removed from the Site and transported off Site for disposal at permitted waste disposal facilities.

Waste Stream	Description	Quantity
RCRA/TSCA Debris	C&D debris hazardous waste	520 cubic yards
RCRA/TSCA Hazardous Soil	Soil-like hazardous waste	782.05 tons
RCRA/TSCA Waste Liquids	Liquid- and sludge-like hazardous waste	7944 gallons
RCRA/TSCA Hazardous Solids	Non-soil solid hazardous waste	14.74 tons

Contamination Remaining at the Site

- Field screening data collected during the removal action indicates that some soil contamination remains in the two AOCs addressed at the Site; these areas will need to be addressed further during subsequent RI by NYSDEC.
- An area of blue-colored soil (i.e., likely sludge waste) was reported in the south-central portion of the Former Drum Disposal AOC (Attachment A, Figure 4). Previous sampling of similar material indicated this material may contain elevated levels of PCBs and chromium. USEPA recovered and disposed of approximately 60 cubic yards of this material during drum removal activities. However, material not immediately disturbed during drum removal was

consolidated in a subsurface cell, demarcated with orange barrier fencing, and covered with 12 inches of backfill.

- An area of septic-like waste was reported in the north-central portion of the Former Drum Disposal AOC (see Attachment A, Figure 4).

The 2019 Removal Action Report contains the following appendices (a detailed review of all of these appendices was not performed).

A – Site Maps
B – Tables
C – Photographic Documentation Log
D – Air Monitoring Reports and Data
E – EPA Decision Documents and Reports
F – Site Plans
G – Waste Disposal Documentation
H – Validated Air Sampling Data

2021 - NYSDEC RI Report

Introduction

- As mentioned above, NYSDEC initiated a RI at the Site in 2015. The RI was interrupted by the discovery of numerous waste drums, which were addressed by USEPA during the 2018-2019 removal action. The RI was subsequently re-started by NYSDEC after the completion of the USEPA removal action. This report summarizes the methods, field work, data, and results developed from RI activities performed by the NYSDEC's environmental consultant (TRC).
- Figure 5 (Attachment A) shows the general Site layout, work areas, and AOCs discussed in the RI Report.

RI Scope and Methods

- RI activities were completed between October 2015 and June 2021. The RI consisted of the following main tasks/activities:
 - implementation of a Community Air Monitoring Program (CAMP);
 - geophysical survey;
 - Fish and Wildlife Resources Impact Analysis (FWRIA);
 - Installation of test pits;
 - Membrane Interface Probe (MIP) screening;
 - direct push soil and groundwater sampling;
 - surface soil sampling;
 - groundwater monitoring well installation and development;
 - groundwater monitoring well gauging and sampling;
 - surface water and sediment sampling;
 - site survey;
 - handling and management of investigation-derived waste (IDW);
 - observation of USEPA removal action field activities; and
 - private water supply well sampling; and
 - Qualitative Human Health Exposure Assessment.

Results

Site Geology and Hydrogeology

- The RI was predominantly shallow; many soil borings were less than 20 feet in total depth, and the deepest soil boring was 38 feet below ground surface.
- Site geology is variable and is generally consistent with surficial geologic mapping (Kozlowski et al., 2018) and bedrock geologic mapping (Rickard and Fisher, 1970) performed by the New York State Geological Survey. Significant areas of relatively permeable sand and gravel were encountered in many RI soil borings. Relatively impermeable fine-grained overburden materials (silt and/or clay) were locally encountered but were not encountered in all soil borings. The total thickness of overburden and the depth to and nature of bedrock at the Site have not been determined to date.
- Shallow overburden groundwater flow was evaluated during the RI. Shallow groundwater flow direction varies across the Site and is towards the central low-lying wetland area.
- With one exception (monitoring well BLF-MW-102), all monitoring wells installed at the Site to date are screened across the groundwater table (i.e., the shallow groundwater zone). Therefore, deeper intermediate and regional groundwater zones/flow systems were not evaluated during the RI or previous environmental investigations at the Site.

Contaminant Sources

- Currently known contaminant sources at the Site include:
 - waste drums that were staged or disposed at the Site; these drums generally contained various liquid and/or solid hazardous wastes (some of the drums contained sludge material described in the next bullet);
 - sludge that was disposed on the ground surface; this sludge fits the definition of “grossly contaminated media” as defined in Section 1.3(b)23 of the NYSDEC’s DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC, 2010a); and
 - sanitary wastes.
- Cover fill over the sludge generally consists of relatively permeable sand-like material that is generally consistent with excavated sandy native soil. The cover material is unlikely to prevent or minimize infiltration of precipitation through the underlying sludge material, thereby likely facilitating additional contaminant migration from the sludge.
- Newly identified contaminant sources have been discovered during each round of environmental investigation conducted at the Site to date. Therefore, it is possible that additional sources of contamination may be discovered during subsequent work at the Site.

Contaminants of Concern

- Grossly-contaminated media (sludge) was observed to be exposed at the ground surface in some areas, and in most other areas the sludge is covered by less than two feet of cover fill.
- The following contaminant parameters of concern are present in one or more AOCs at the Site at concentrations above applicable NYSDEC standards, criteria, and guidance (SCGs):
 - **Surface soil:** metals, PCBs, and pesticides;
 - **Subsurface soil:** VOCs, SVOCs, metals, PCBs, and cyanide;
 - **Groundwater:** VOCs, SVOCs, metals, PCBs, and PFAS;
 - **Surface water:** VOCs, SVOCs, metals, PCBs, pesticides, and PFAS;
 - **Sediment:** VOCs, metals, PCBs, pesticides, and PFAS.
- The primary contaminants of concern for the Site were identified by TRC as PCBs, chromium, and chlorinated VOCs (CVOCs), including TCE and cis-1,2-DCE. Other contaminants were reported to be not as widespread and/or were detected at lower

concentrations. However, elevated concentrations of PFAS (particularly PFOS) were detected in groundwater, surface water, and sediment.

Extent of Contamination

- The highest concentrations of PCBs and chromium occur on Site and are generally associated with the blue sludge material.
- Contamination appears to have been spread by erosion and transport of blue sludge into the low-lying central wetland area.
- Soil, sediment, surface water, and groundwater near blue sludge material have been affected with Site contaminants at concentrations above applicable NYSDEC SCGs.
- It is likely that CVOC dense, non-aqueous phase liquid (DNAPL) is present in the subsurface of the Former Drum Storage Area. DNAPL has a higher density compared to water and therefore tends to migrate vertically downward into the subsurface to considerable depths below shallow groundwater depending on the permeability characteristics of soil/overburden and bedrock at a Site.
- TRC suggests that surface water samples collected in June 2021 suggest that CVOC impacts in the low-lying wetland area do not extend off Site. However, TCE (which is a CVOC) is detected in the vast majority of sediment samples collected off Site, including the sample that is located furthest downstream from the Site (sample location WS/SED-127). Figure 6 (Attachment A) shows the locations and designations of off-Site surface water and sediment samples. It is noted that the stream is incorrectly designated in the RI Report as “Sterling Creek”; the 2023 United States Geological Survey (USGS) topographic map for this area (Cato Quadrangle) indicates this stream should be designated as “Little Sodus Creek”. The following analytes were detected in one or more off-Site surface water or sediment samples at concentrations above screening values used by TRC in the RI Report:
 - acetone;
 - arsenic;
 - barium;
 - 2-butanone;
 - chromium;
 - cobalt;
 - copper;
 - iron;
 - lead;
 - manganese;
 - mercury;
 - 4-methylphenol;
 - PFOA;
 - PFOS;
 - vanadium; and
 - zinc.
- TRC concludes the extent of contamination is well understood and adequate for the purposes of developing remedial action alternatives in a FS.

Human Health Exposure Assessment

- TRC concludes the potential for exposure to Site-related contaminants is low based on the current use of the Site. However, there is a potential for exposure to contamination if recreational, construction, or maintenance activities are conducted on Site.

- Figure 7 (Attachment A) shows the locations and designations of all private water supply wells sampled during the RI. TRC indicates that Site-related contaminants were not detected at concentrations above applicable SCGs in water samples collected from off-Site private water wells. While that may have been true at the time their report was finalized (October 2021), NYSDEC subsequently established a human health criterion of 2.7 nanograms per liter (ng/l) for PFOS. PFOS was detected in the residential water well sample designated “BFL-WP-RES-23” at a concentration of 7.6 ng/l, indicating that PFOS was present in that well at a concentration above the current human health criterion. Treat
- Figure 7 also shows an assumed regional groundwater flow direction towards the north. This suggests that most of the residential wells sampled to date may be located in an upgradient direction relative to areas of contamination at the Site. While shallow groundwater flow was measured and assessed during the RI (see Attachment A, Figure 8), deeper intermediate and regional groundwater flow was not measured or assessed during the RI. Assessment of deeper intermediate and regional groundwater flow is required to fully understand potential contaminant fate and transport at sites with significant levels of recalcitrant contamination (e.g., CVOCs, PFAS, metals) because regional groundwater flow and transport of contaminants distances of several miles or more is possible at such sites.

Fish and Wildlife Resources Impact Analysis

- The FWRIA performed by TRC consisted of a Part 1 FWRIA (Resource Characterization). An Ecological Impact Assessment (FWRIA Part 2) was not performed. The presence of several Site contaminants at Class B and Class C concentrations listed in NYSDEC’s Freshwater Sediment Guidance Values (NYSDEC, 2014) indicates that a FWRIA Part 2 assessment is required. TRC’s summary of the conclusions from the Part 1 FWRIA are reproduced in the bullets below.
- A total of eight ecological communities were identified at the Site:
 - Hemlock-Northern Hardwood Forest;
 - Successional Northern Hardwoods;
 - Successional Shrubland;
 - Red Maple Hardwood Swamp;
 - Hemlock-Hardwood Swamp;
 - Silver Maple-Ash Swamp;
 - Brushy Cleared Land; and
 - Landfill/Dump.
- In addition to the eight ecological community types above, four ecological communities were documented within 0.5 mile of the Site:
 - Successional Old-Field;
 - Open Water;
 - Agricultural Land; and
 - Developed Land (Commercial and Residential).
- According to the National Wetlands Inventory (NWI) mapping, federal wetlands are mapped within the Site boundary, totaling approximately 28.85 acres. Within 0.5 mile of the Site there are a total of 25 federally mapped wetlands, totaling approximately 201.27 acres.
- One forested wetland was partially delineated on-Site in proximity to the disposal areas. This wetland is a portion of a large, forested wetland complex which shares community types of a Red Maple-hardwood Swamp, Hemlock-hardwood Swamp, and Silver Maple-ash Swamp.
- Given that the majority of the Site is forested, the Site appears to provide suitable habitat for a variety of wildlife including mammals, reptiles and amphibians, birds, and insects typical of the area. There are presently no open water communities or streams which reside within the

Site boundary. As such, no fish species were documented during the FWRIA. No endangered, threatened, rare, or special concern species or habitats were identified at the Site; although the wetland area may contain suitable summer roosting habitat for threatened or endangered bat species.

- There were no signs of contaminant-induced vegetation or wildlife mortality found at the time of the FWRIA. This is potentially due to the length of time the Site has been left undisturbed. Nominal environmental stress appears to be occurring on-Site as the disposal areas had reduced vegetation coverage in all strata layers.
- The Site is characterized as rural, agricultural land of nominal and common value with a higher resource value to fauna in the wetland area. Other than potential lumber harvest and recreational activities, the remainder of the Site lacks any other significant resource value to the public. The areas near the Site share the same or potentially better resource values due to the lack of historic disposal activities. The Site lacks as a resource to any visual quality or aesthetics as it does not provide a primary or publicly accessible viewing location of communities on-Site. Likewise, there is little uniqueness or heritage value documented at the Site as there is limited context of cultural features located within or adjacent to the Site.
- A Freshwater Wetlands Permit may be required for any future activities (e.g., remediation) that may disturb the wetland area.

TRC Recommendations

- Additional investigation activities are not required at the Site at this time. However, TRC states that additional investigation may be needed depending on the selected remedial action alternative.
- Additional interim remedial measures (IRMs) are not needed at this time.
- It is recommended that NYSDEC proceed with a FS to develop and evaluate potential remedial action alternatives for cleanup at the Site.

Evaluation of Conceptual Site Models of Contamination Source, Transport, and Fate

- Figure 9 (Attachment A) shows a Conceptual Site Model (CSM) from the RI Report for the Sludge Disposal Area. The goal of a CSM is to provide a description of relevant site features and the surface and subsurface conditions at the Site to understand the extent of identified contaminants of concern and the risk they pose to receptors. This CSM illustrates the ongoing transport of contaminants from the Sludge Disposal Area into the low lying “Drainage Area”, which is a regulated wetland ecological resource. The blue sludge material is grossly contaminated media as defined by NYSDEC; it also fits the definition of a source area contained in Section 1.3(b)70 of NYSDEC’s DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC, 2010a). The NYSDEC’s policy on soil cleanup guidance (NYSDEC, 2010b) requires that all sources of contamination are addressed. This NYSDEC policy also states that for sites in the State Superfund Program (i.e., this Site), the goal for the remedial program is to restore the site to pre-disposal conditions, to the extent feasible.
- Figure 10 (Attachment A) shows a CSM from the RI Report for the Former Drum Storage Area. This CSM shows the presence of NAPL (likely including DNAPL) in the subsurface, which constitutes a source area which must be addressed. Question marks included in this CSM indicate that the extent of NAPL has not been determined. The primary goal of a RI is to fully evaluate the lateral and vertical extent of contamination at a Site; therefore, the RI of this Site has not been completed. This CSM also shows a groundwater CVOC plume. Question marks in the CSM along and the statement “EXTENT OF IMPACTS UNCERTAIN” indicate that the lateral and vertical extents of the CVOC plume are currently unknown.

Therefore, additional environmental investigation is required to meet the goals of a RI as described in Section 3.1(c) of DER-10 (NYSDEC, 2010a).

- Figure 11 (Attachment A) shows a CSM from the RI Report for the Drum Disposal Area. This CSM also shows the presence of NAPL (likely including DNAPL) in the subsurface, which constitutes a source area which must be addressed. This CSM also shows a groundwater CVOC plume, and question marks in the CSM along and the statement “EXTENT OF IMPACTS UNCERTAIN” indicate that the lateral and vertical extents of the CVOC plume in this AOC are also currently unknown. Therefore, additional environmental investigation is required in this AOC as well.

Investigation-Derived Waste

- Waste disposal documentation in the RI Report indicates that all IDW generated during RI field activities was transported and disposed off-site as non-hazardous waste. This waste determination, handling, and disposal is inconsistent with the USEPA’s removal action efforts in which wastes generated from removal action activities were determined, handled, and disposed as hazardous wastes.

The 2021 RI Report contains the following appendices (a detailed review of all of these appendices was not performed).

- A – Historic Reports – March 2004 Preliminary Investigation Report
- B – Community Air Monitoring Plan Results
- C – Geophysical Survey Report
- D – Fish and Wildlife Resources Impact Analysis
- E – Test Pit, Soil Boring, and Monitoring Well Construction Logs
- F – Membrane Interface Probe Report
- G – Groundwater Sampling Records
- H – Site Survey Data
- I – Waste Disposal Bills of Lading
- J – USEPA Removal Action Report
- K – Daily Field Activity Report – USEPA Removal Action
- L – Data Usability Summary Reports (DUSRs)
- M – Summary of Laboratory Particle Size Analysis Results for Sediment

CONCLUSIONS AND RECOMMENDATIONS FROM THE DOCUMENT REVIEW

Contamination from wastes disposed at the Site is present at levels determined by NYSDEC to represent a significant threat to human health and the environment. Contamination detected at the Site has migrated from on-Site disposal areas into adjacent ecological resources (wetlands) and subsequently into Little Sodus Creek. The detection of Site-related contaminants in the furthest downstream sediment sample suggests that the full downstream extent of contamination in Little Sodus Creek has not been determined. It is likely that biota at and downgradient of the Site have been exposed to contamination from the Site; however, sampling of biota has not occurred to date. Primary contaminants of concern at the Site include PCBs, CVOCs, chromium, and the emerging contaminant PFOS. Preliminary target levels for cleanup of PFOS in biota and sediment have not yet been established by NYSDEC.

Previous environmental investigations and a drum removal remedial action at the Site have characterized the extent of shallow contamination at the Site. However, intermediate and deeper levels of contamination have not been evaluated and remain as potential conduits of contamination from the Site to off-Site receptors and resources, potentially including private water supply wells and public water supplies potentially located several miles from the Site. PFOS was detected in one residential well sampled as part of the RI at a concentration above the NYSDEC's current groundwater human health criteria of 2.7 ng/l. If not already performed by NYSDEC, NYSDOH, or CCHD, additional investigation is recommended to confirm reported PFOS (and other PFAS) concentrations in water from this private well, evaluate whether water treatment is required, and evaluate whether the PFOS may have originated at the Site.

Additional environmental investigation work is recommended to fully characterize the full lateral and vertical extent of contamination from several contaminant source areas at the Site, particularly with regards to intermediate- and regional-level groundwater flow. Contamination source areas, including the likely presence of CVOC DNAPL, should be further delineated and remediated to facilitate enhanced protection of human health and the environment. Residual contamination outside of contaminant source areas may also require remedial action based on the results of additional remedial investigation.

President Karen Haas


Document Review – Brillo Landfill Site

FoxPG Project Number STE-002

19 February 2024

Page 16 of 16

I, Jon S. Fox, certify that I am currently a Qualified Environmental Professional as defined in New York State Department of Environmental Conservation regulations entitled “Environmental Remediation Programs” (6 NYCRR Part 375). The opinions, conclusions, and recommendations contained in this report are based on data and information reviewed and are subject to modification if additional data and information become available. This report was prepared for the Sterling Water Stewards specific to the Brillo Landfill Site in the Town of Victory, Cayuga County, New York, for application to this Site and this project only.



Jon S. Fox, P.G.

Owner/Principal Geologist

Cc: Joanne Piersma, Esq. (Sterling Water Stewards)
Dan Larson (Sterling Water Stewards)

Attachment A – Figures

Figure 1 – 2004 Preliminary Investigation Site Location and Layout

Figure 2 – 2004 Preliminary Investigation Sample Locations

Figure 3 – 2019 Removal Site Layout

Figure 4 – 2019 Removal Site Map

Figure 5 – 2021 RI Site Layout

Figure 6 – 2021 RI Surface Water and Sediment Sampling Locations

Figure 7 – 2021 RI Residential Water Well Sampling Locations

Figure 8 – 2021 RI Shallow Groundwater Contour Map

Figure 9 – 2021 RI Conceptual Site Model for the Sludge Disposal Area

Figure 10 – 2021 RI Conceptual Site Model for the Former Drum Storage Area

Figure 11 – 2021 RI Conceptual Site Model for the Drum Disposal Area

Attachment B – Acronyms and Abbreviations

Attachment C – References Cited

Attachment A
Figures

Figure 1 – Site Location and Layout

Source: Figure 1-1 from OBG (2004)

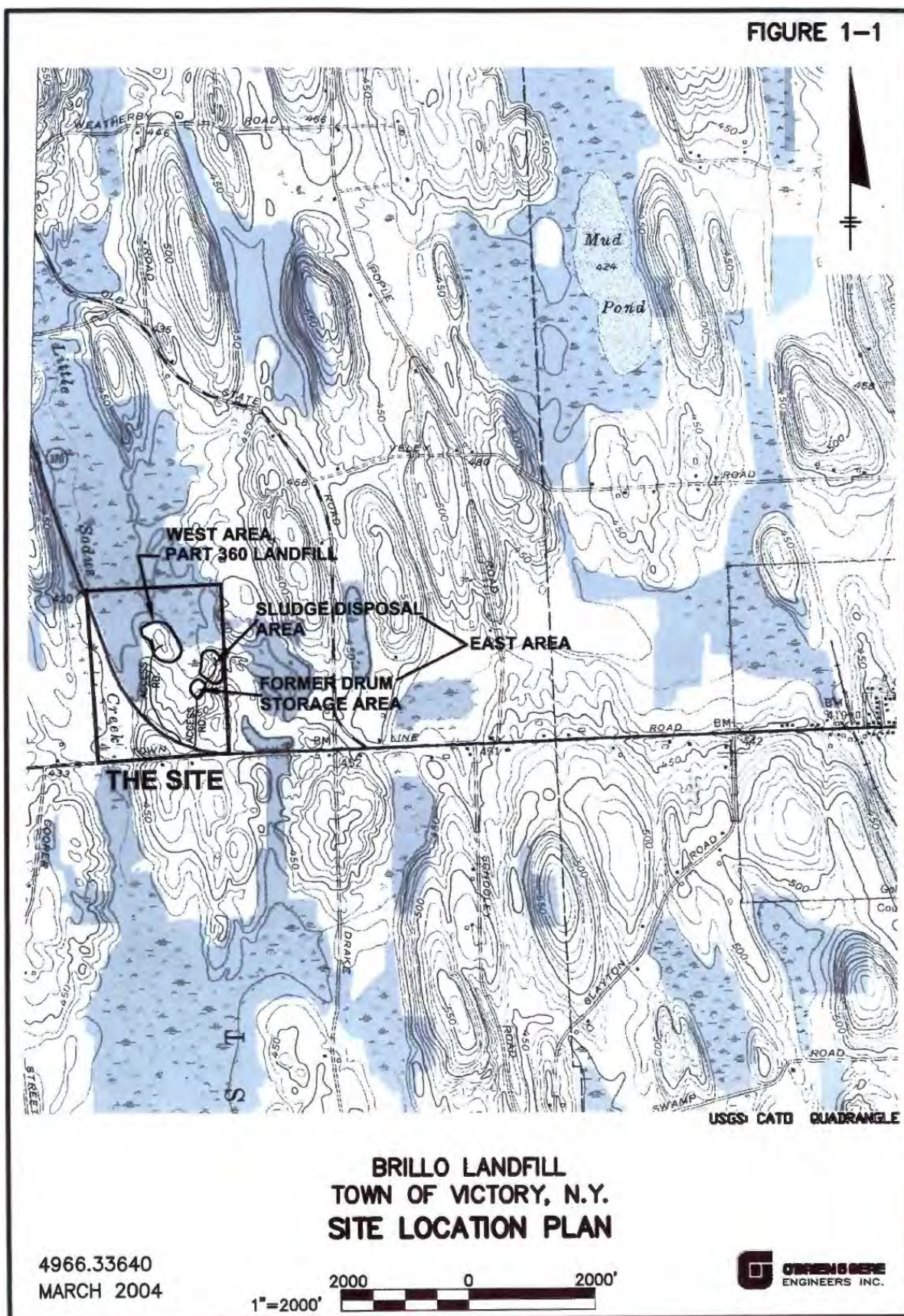


Figure 2 – 2004 Preliminary Investigation Sample Locations
Source: Figure 2-1 from OBG (2004)

T:\4966_GMBRILLON\XD33640\SITE_PLAN_2.MXD

PLOT DATE: 03/15/04 DIV. 84 KAT

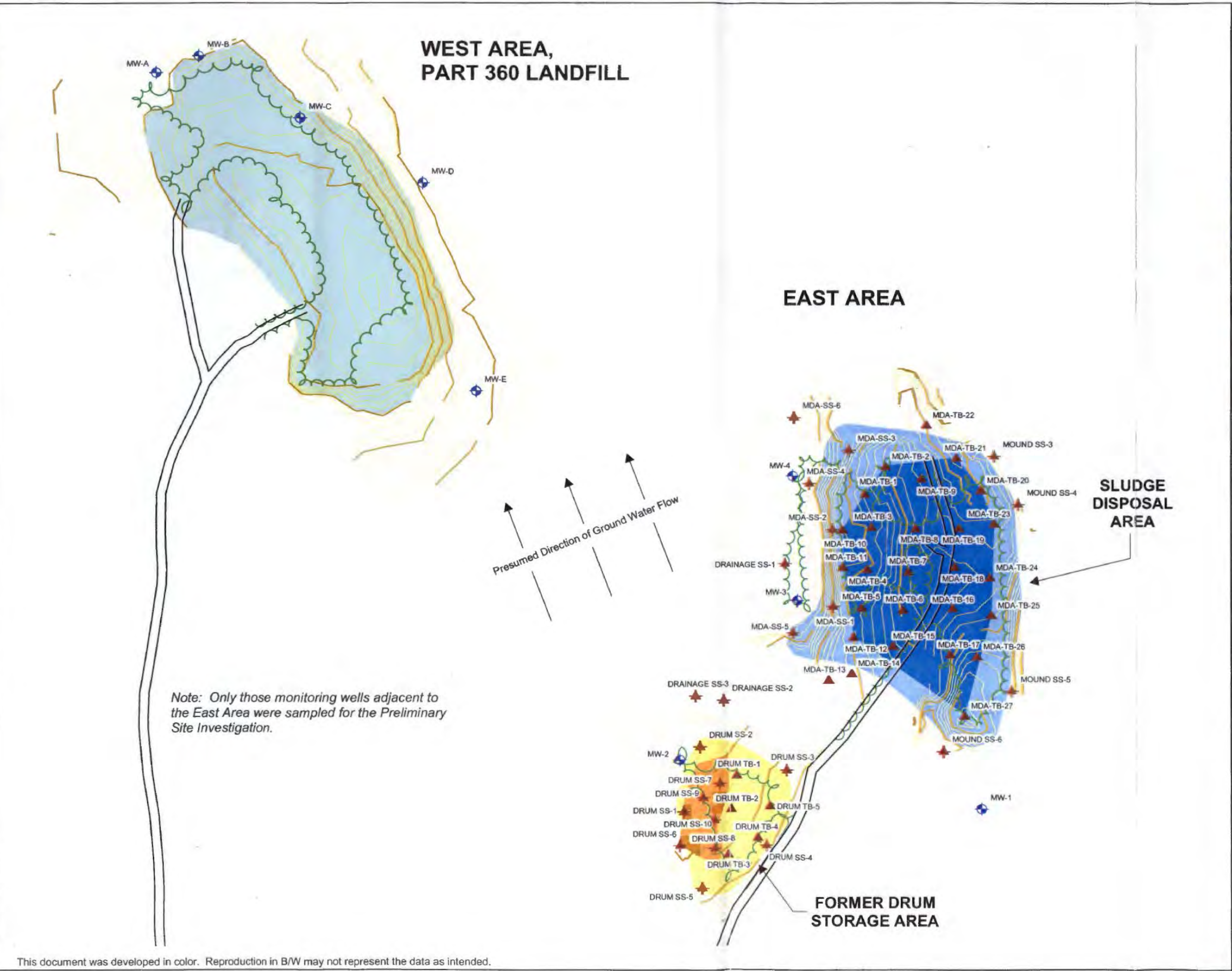


FIGURE 2-1

- LEGEND**
- OBSERVED EXTENT - SLUDGE DISP. AREA
 - ESTIMATED EXTENT - SLUDGE DISP. AREA
 - FORMER DRUM STORAGE AREA
 - ANOMALOUS ELECTROMAGNETIC AREA
 - PART 360 LANDFILL
- SAMPLE TYPE**
- MONITORING WELL
 - SURFACE SOIL
 - SOIL BORING
- ELEVATION**
- 5-FT CONTOUR INTERVAL
 - 1-FT CONTOUR INTERVAL

BRILLO LANDFILL SITE
TOWN OF VICTORY, NEW YORK

SAMPLE LOCATIONS



MARCH 2004
4966.33640



Figure 3 – 2019 Removal Site Layout

Source: Figure 2 from Weston (2019)

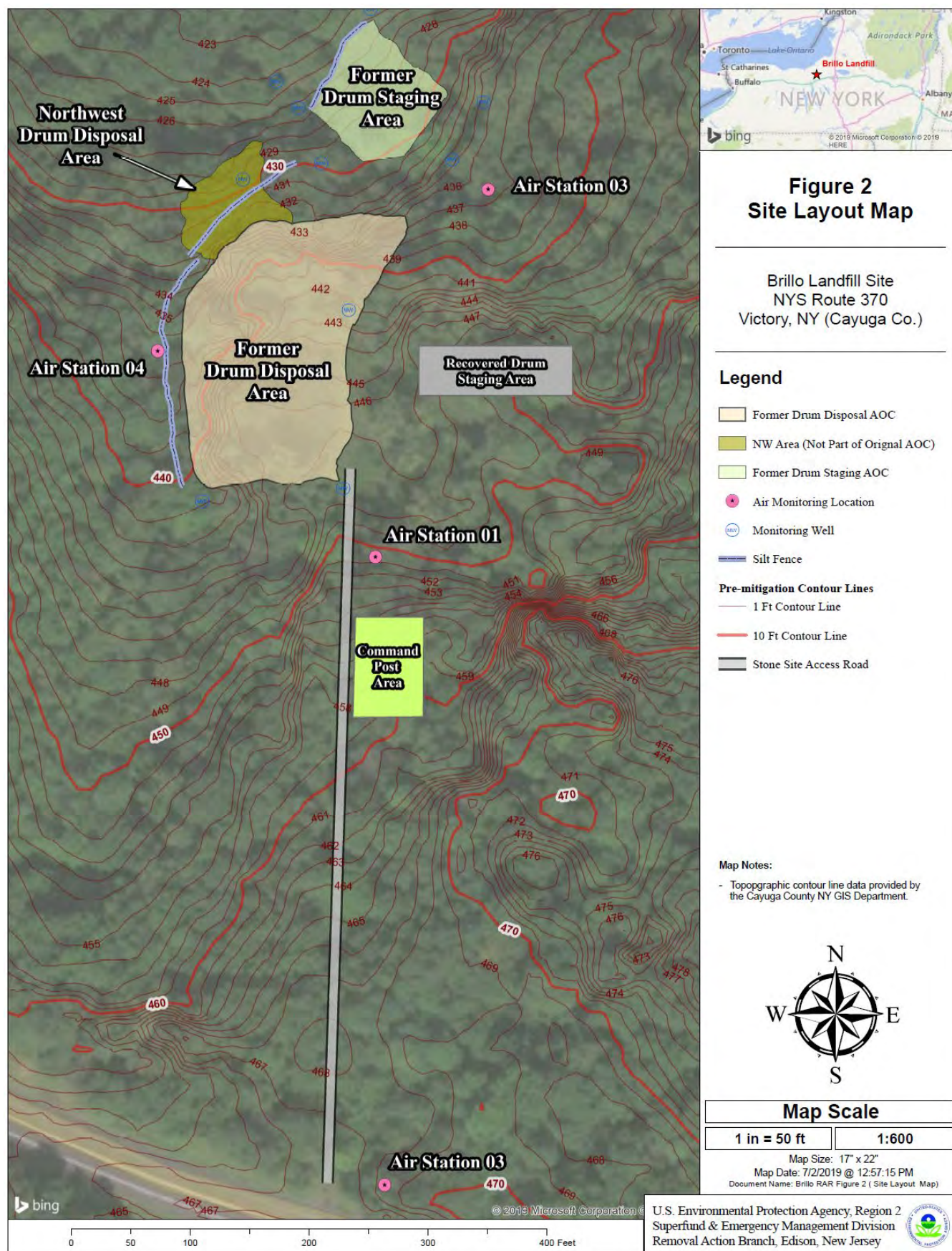


Figure 4 – 2019 Removal Site Map

Source: Figure 3 from Weston (2019)

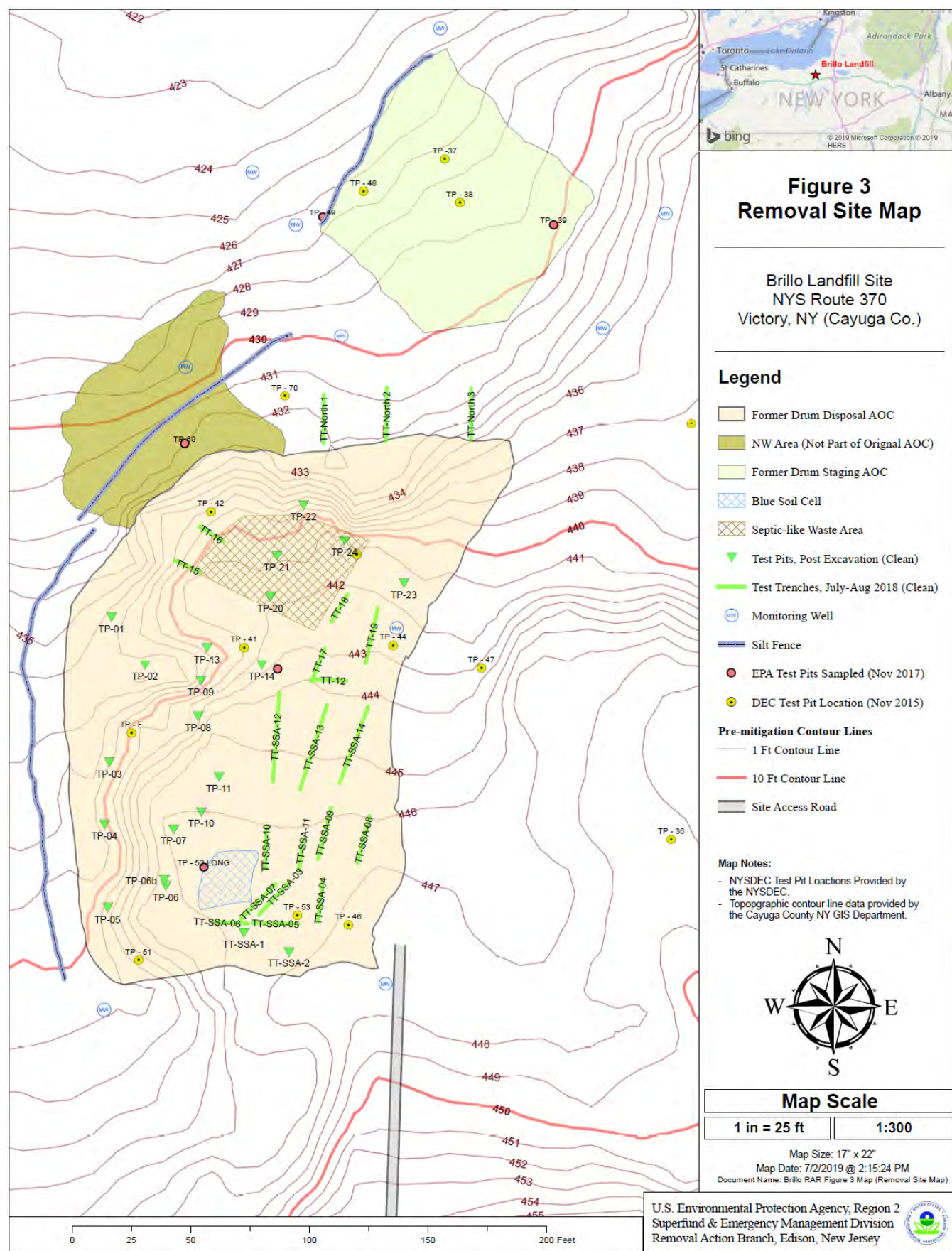


Figure 5 – 2021 RI Site Layout
Source: Figure 2 from TRC (2021)

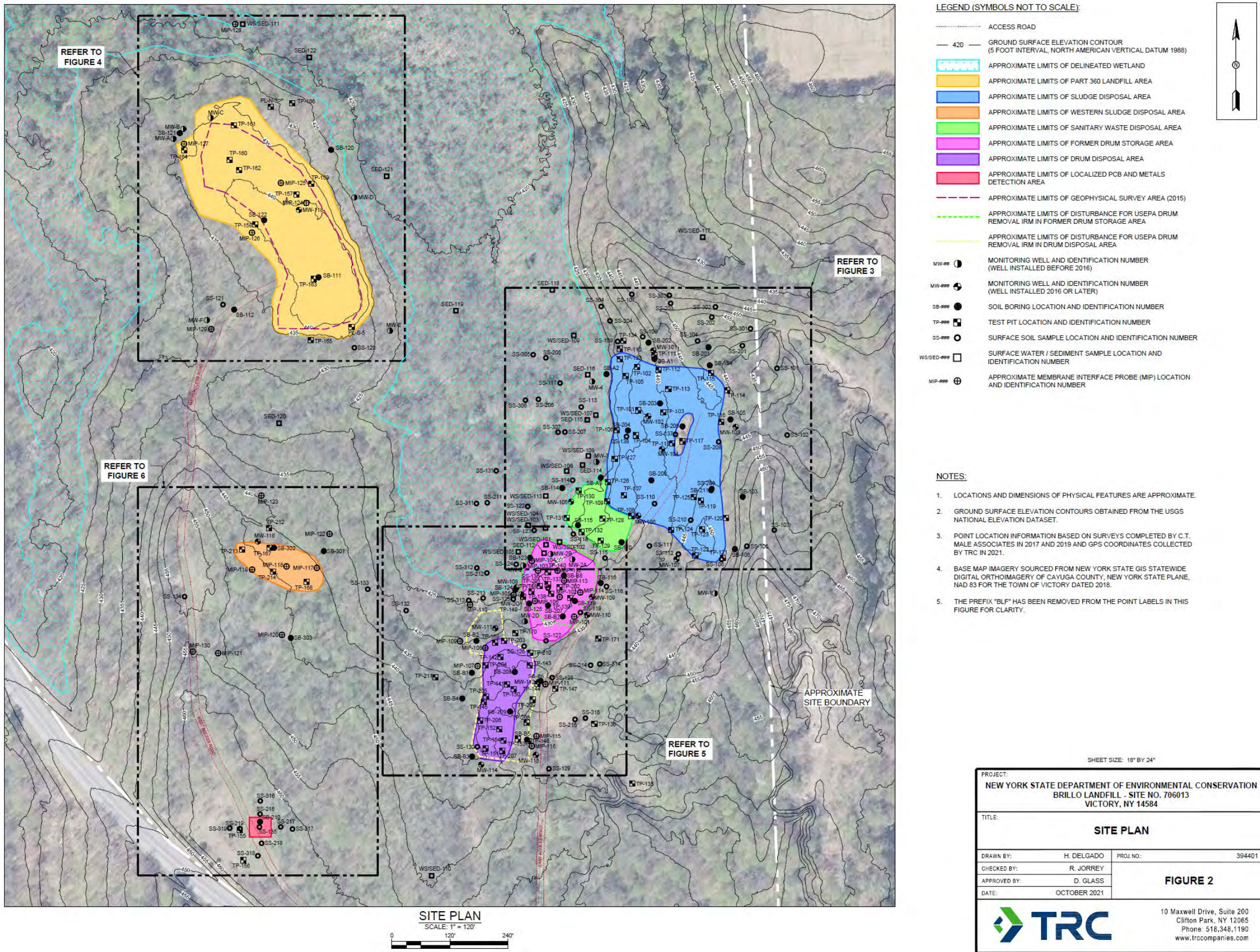
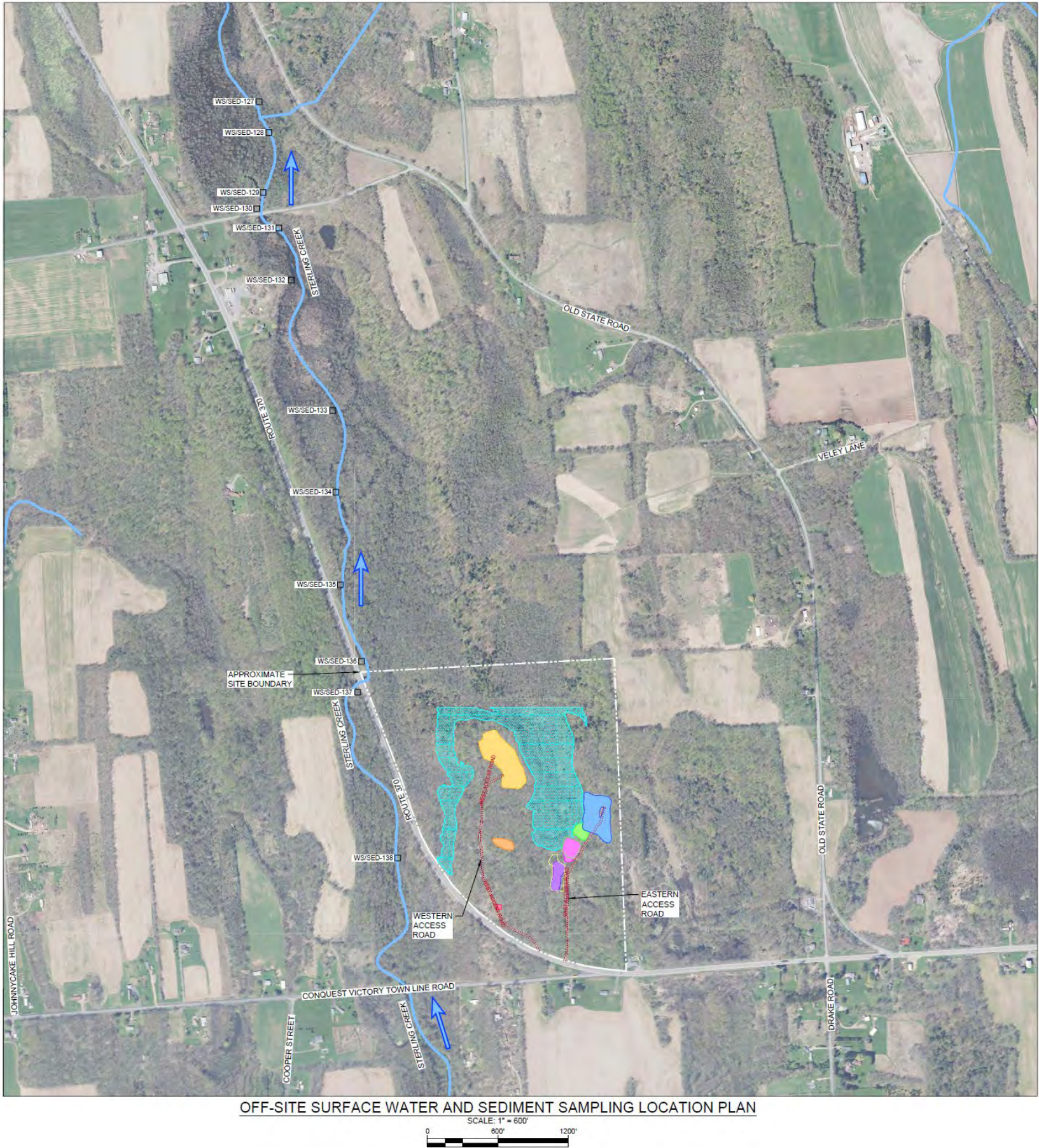


Figure 6 – 2021 RI Off-Site Surface Water and Sediment Sampling Locations
Source: Figure 7 from TRC (2021)



LEGEND (SYMBOLS NOT TO SCALE):

- APPROXIMATE SITE BOUNDARY
- ACCESS ROAD
- APPROXIMATE LIMITS OF DELINEATED WETLAND
- APPROXIMATE LIMITS OF PART 360 LANDFILL AREA
- APPROXIMATE LIMITS OF SLUDGE DISPOSAL AREA
- APPROXIMATE LIMITS OF WESTERN SLUDGE DISPOSAL AREA
- APPROXIMATE LIMITS OF SANITARY WASTE DISPOSAL AREA
- APPROXIMATE LIMITS OF FORMER DRUM STORAGE AREA
- APPROXIMATE LIMITS OF DRUM DISPOSAL AREA
- APPROXIMATE LIMITS OF LOCALIZED PCB AND METALS DETECTION AREA
- APPROXIMATE LIMITS OF DISTURBANCE FOR USEPA DRUM REMOVAL IRM IN FORMER DRUM STORAGE AREA
- APPROXIMATE LIMITS OF DISTURBANCE FOR USEPA DRUM REMOVAL IRM IN DRUM DISPOSAL AREA
- STREAM / CREEK / TRIBUTARY
- FLOW DIRECTION
- WS/SED-### □ SURFACE WATER / SEDIMENT SAMPLE LOCATION AND IDENTIFICATION NUMBER

NOTES:

- LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES ARE APPROXIMATE.
- POINT LOCATION INFORMATION BASED ON GPS COORDINATES COLLECTED BY TRC IN 2021.
- BASE MAP IMAGERY SOURCED FROM NEW YORK STATE GIS STATEWIDE DIGITAL ORTHOIMAGERY OF CAYUGA COUNTY, NEW YORK STATE PLANE, NAD 83 FOR THE TOWN OF VICTORY DATED 2018.
- THE PREFIX "BLF" HAS BEEN REMOVED FROM THE POINT LABELS IN THIS FIGURE FOR CLARITY.

SHEET SIZE: 18" BY 24"

PROJECT: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION BRILLO LANDFILL - SITE NO. 706013 VICTORY, NY 14584		
TITLE: OFF-SITE SURFACE WATER AND SEDIMENT SAMPLING LOCATION PLAN		
DRAWN BY: H. DELGADO	PROJ. NO.:	394401
CHECKED BY: R. JORREY	FIGURE 7	
APPROVED BY: D. GLASS		
DATE: OCTOBER 2021		

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Figure 7 – 2021 RI Residential Well Sampling Locations
Source: Figure 8 from TRC (2021)

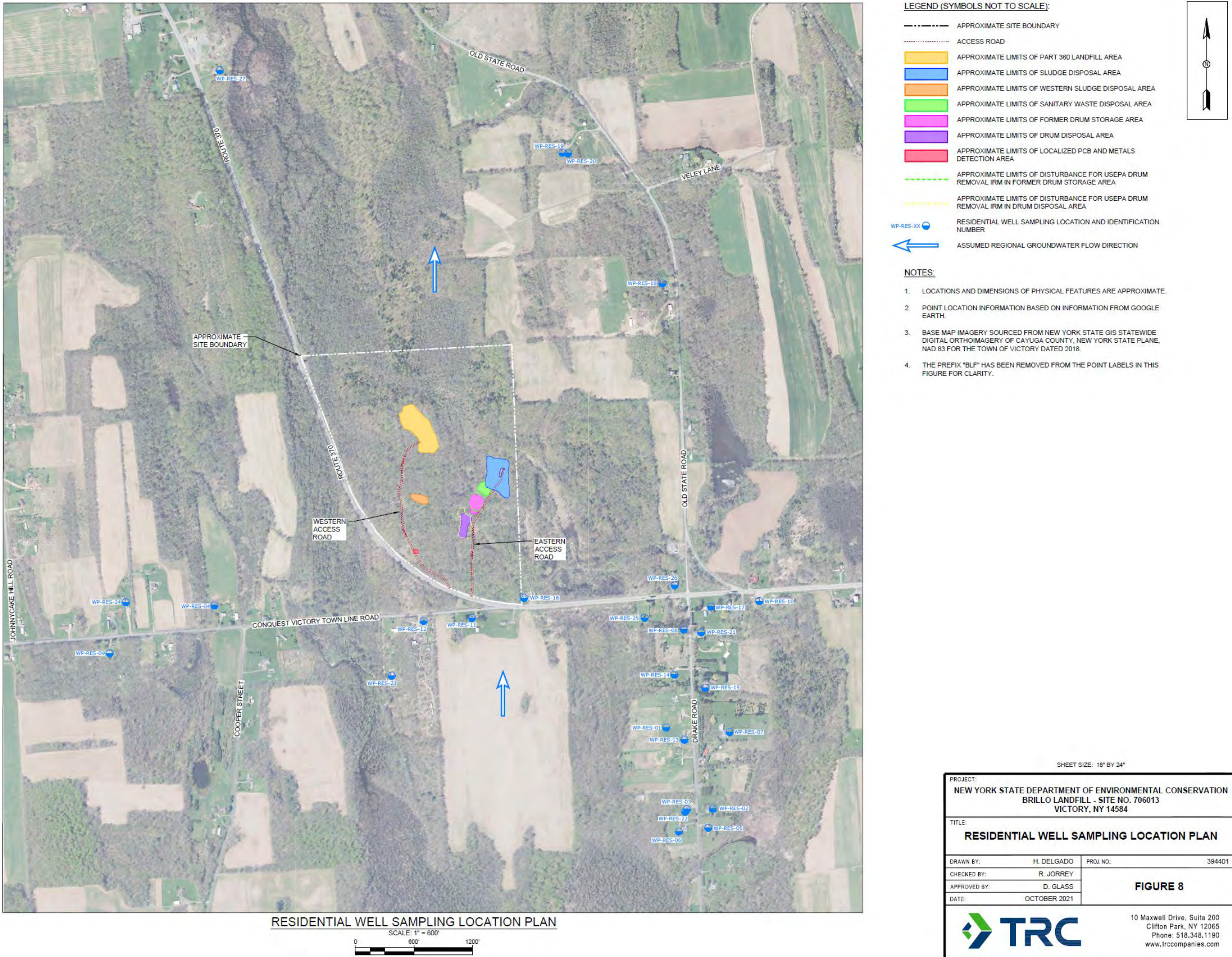
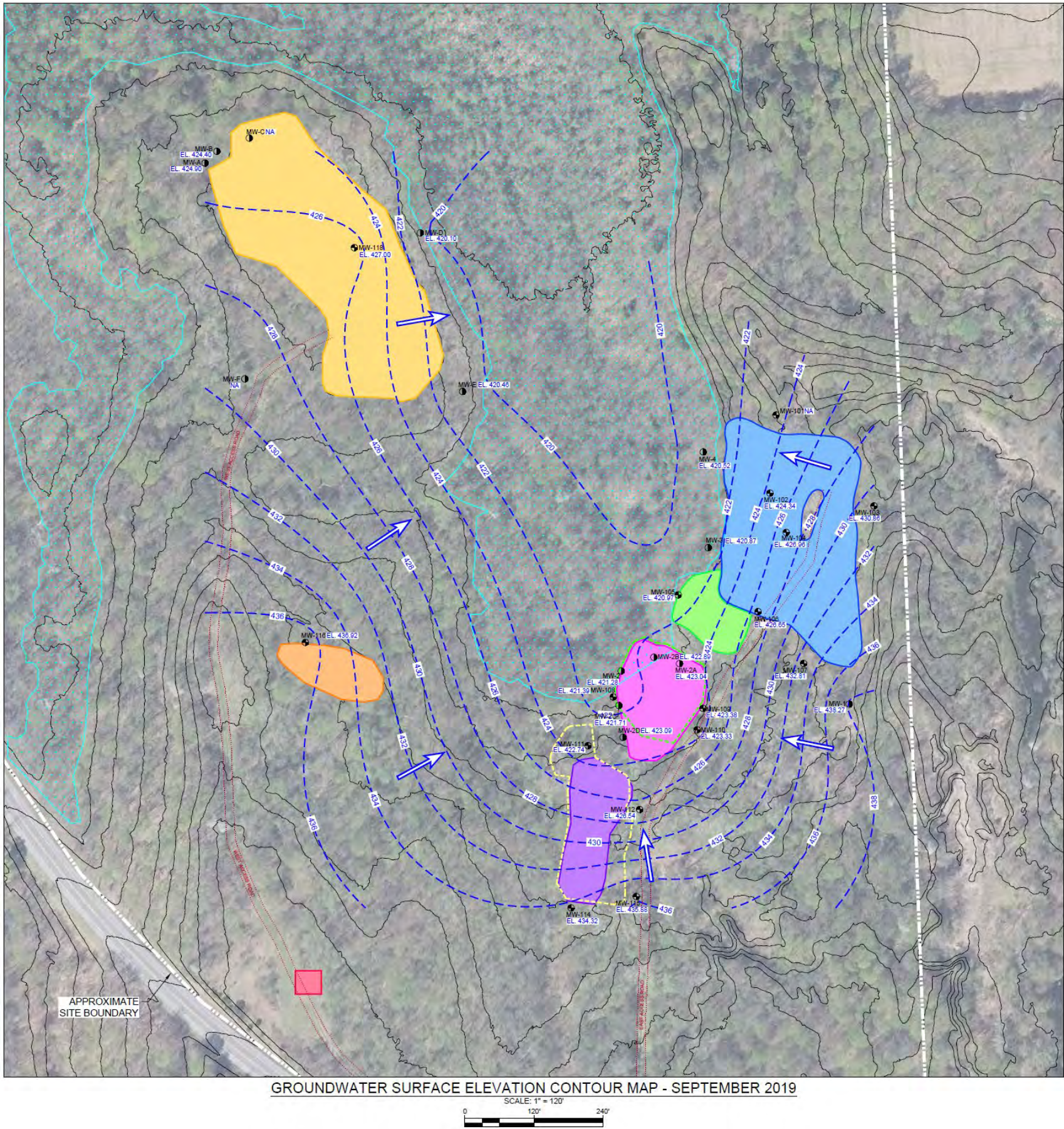


Figure 8 – 2021 RI Shallow Groundwater Contour Map (Data from September 2019)
Source: Figure 10C from TRC (2021)



LEGEND (SYMBOLS NOT TO SCALE):

- ACCESS ROAD
- GROUND SURFACE ELEVATION CONTOUR
- APPROXIMATE LIMITS OF DELINEATED WETLAND
- APPROXIMATE LIMITS OF PART 360 LANDFILL AREA
- APPROXIMATE LIMITS OF SLUDGE DISPOSAL AREA
- APPROXIMATE LIMITS OF WESTERN SLUDGE DISPOSAL AREA
- APPROXIMATE LIMITS OF SANITARY WASTE DISPOSAL AREA
- APPROXIMATE LIMITS OF FORMER DRUM STORAGE AREA
- APPROXIMATE LIMITS OF DRUM DISPOSAL AREA
- APPROXIMATE LIMITS OF LOCALIZED PCB AND METALS DETECTION AREA
- APPROXIMATE LIMITS OF DISTURBANCE FOR USEPA DRUM REMOVAL IRM IN FORMER DRUM STORAGE AREA
- APPROXIMATE LIMITS OF DISTURBANCE FOR USEPA DRUM REMOVAL IRM IN DRUM DISPOSAL AREA
- MW-xx ○ MONITORING WELL AND IDENTIFICATION NUMBER (WELL INSTALLED BEFORE 2016)
- MW-xxx ● MONITORING WELL AND IDENTIFICATION NUMBER (WELL INSTALLED 2016 OR LATER)
- EL. 425.65 GROUNDWATER SURFACE ELEVATION (IN FEET) (2019)
- 420 - INFERRED GROUNDWATER SURFACE ELEVATION CONTOUR (IN FEET) (2019)
- ← INFERRED GROUNDWATER FLOW DIRECTION

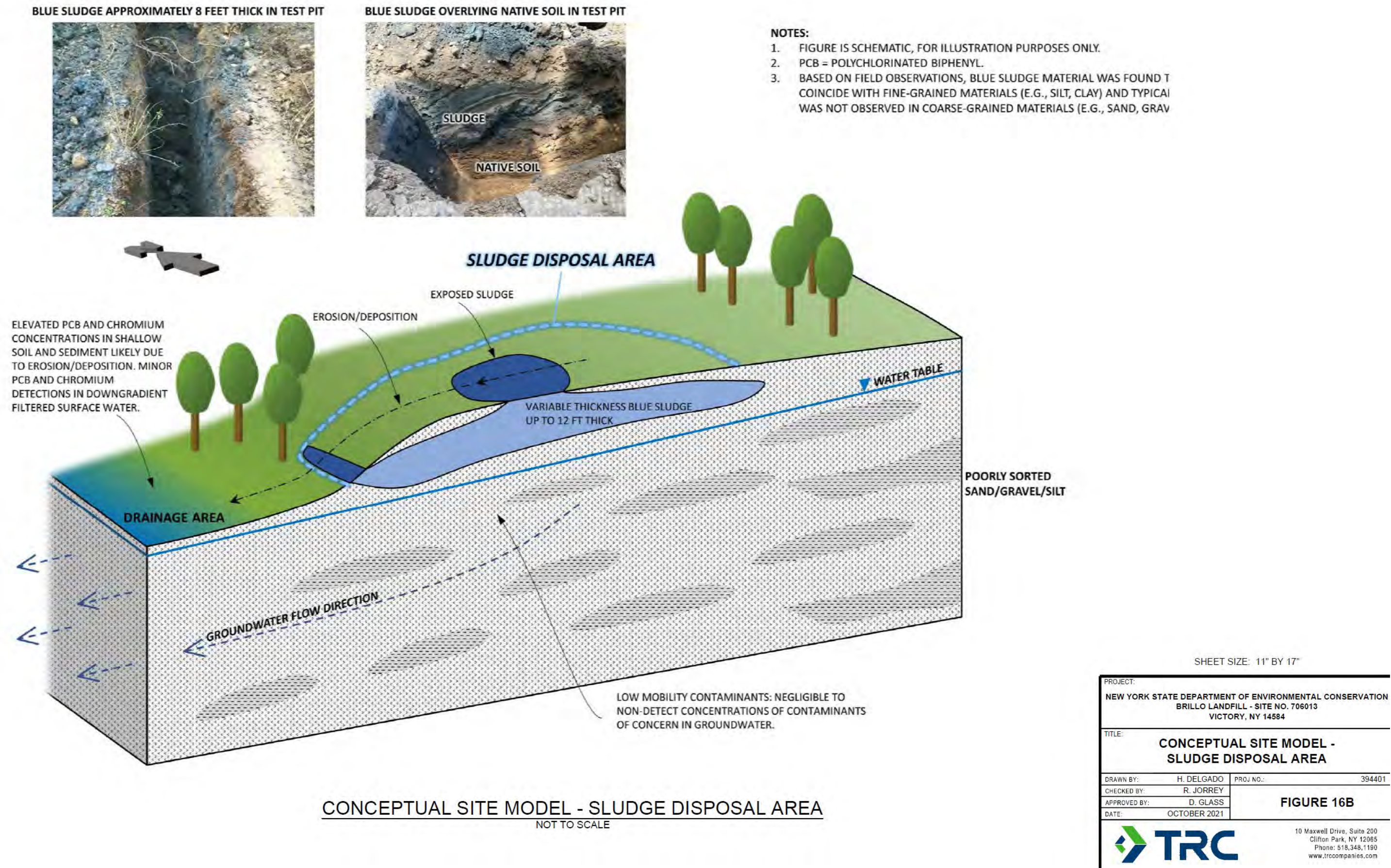
- NOTES:**
- LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES ARE APPROXIMATE.
 - GROUND SURFACE ELEVATION CONTOURS OBTAINED FROM THE USGS NATIONAL ELEVATION DATASET.
 - POINT LOCATION INFORMATION BASED ON SURVEYS COMPLETED BY C.T. MALE ASSOCIATES IN 2017 AND 2019.
 - BASE MAP IMAGERY SOURCED FROM NEW YORK STATE GIS STATEWIDE DIGITAL ORTHOIMAGERY OF CAYUGA COUNTY, NEW YORK STATE PLANE, NAD 83 FOR THE TOWN OF VICTORY DATED 2018.
 - THE PREFIX "BLF" HAS BEEN REMOVED FROM THE POINT LABELS IN THIS FIGURE FOR CLARITY.
 - ELEVATIONS PROVIDED IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 - NA - NOT ACCESSIBLE.
 - AT LOCATIONS WHERE GROUNDWATER SURFACE ELEVATION DATA WAS NOT AVAILABLE VIA DIRECT MEASUREMENT, INFERENCES WERE MADE BASED ON GROUND SURFACE ELEVATIONS AND SITE PHYSICAL FEATURES (I.E., WETLANDS).

SHEET SIZE: 18" BY 24"

PROJECT: NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION BRILLO LANDFILL - SITE NO. 706013 VICTORY, NY 14584		
TITLE: GROUNDWATER SURFACE ELEVATION CONTOUR MAP - SEPTEMBER 2019		
DRAWN BY: H. DELGADO	PROJ. NO.: 394401	FIGURE 10C
CHECKED BY: R. JORREY		
APPROVED BY: D. GLASS		
DATE: OCTOBER 2021		


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Figure 9 – 2021 RI Conceptual Site Model for Sludge Disposal Area
Source: Figure 16B from TRC (2021)



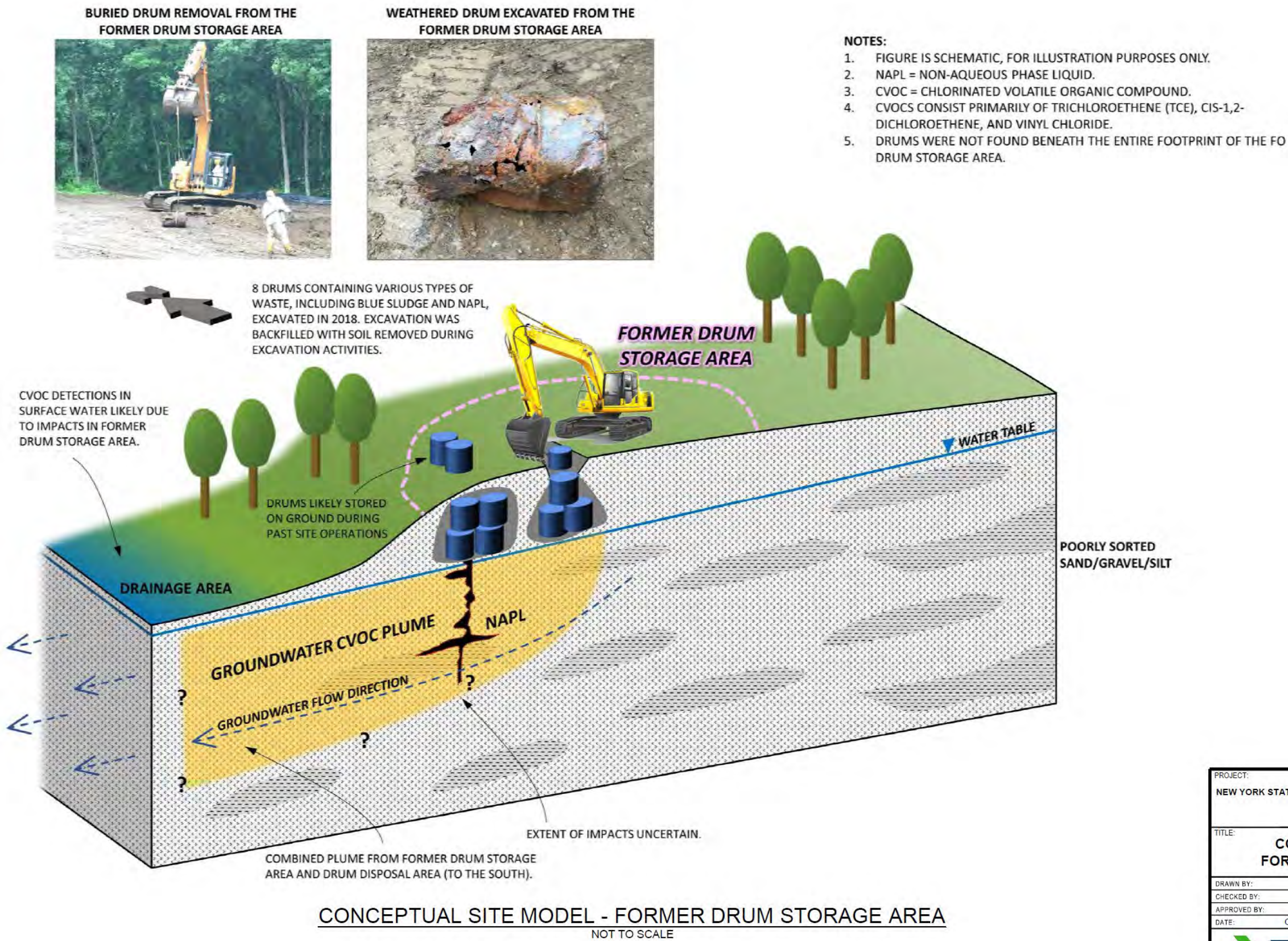
SHEET SIZE: 11" BY 17"

PROJECT:	
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION BRILLO LANDFILL - SITE NO. 706013 VICTORY, NY 14584	
TITLE:	
CONCEPTUAL SITE MODEL - SLUDGE DISPOSAL AREA	
DRAWN BY:	H. DELGADO
CHECKED BY:	R. JORREY
APPROVED BY:	D. GLASS
DATE:	OCTOBER 2021
PROJ. NO.:	394401
FIGURE 16B	



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Figure 10 – 2021 RI Conceptual Site Model for Former Drum Storage Area
Source: Figure 16C from TRC (2021)



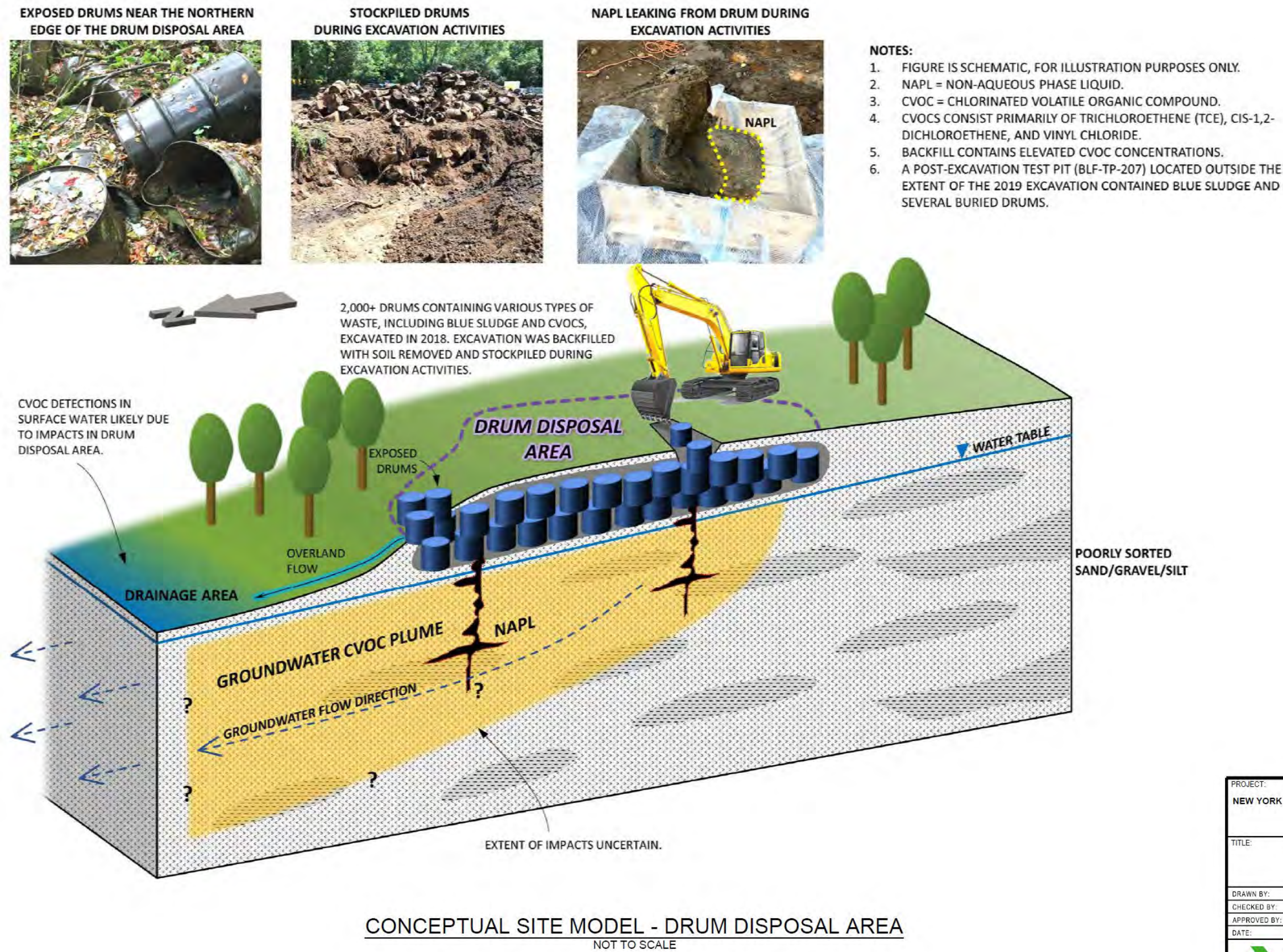
SHEET SIZE: 11" BY 17"

PROJECT:	
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION BRILLO LANDFILL - SITE NO. 706013 VICTORY, NY 14584	
TITLE:	
CONCEPTUAL SITE MODEL - FORMER DRUM STORAGE AREA	
DRAWN BY:	H. DELGADO
CHECKED BY:	R. JORREY
APPROVED BY:	D. GLASS
DATE:	OCTOBER 2021
PROJ NO.:	394401
FIGURE 16C	



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Figure 11 – 2021 RI Conceptual Site Model for Drum Disposal Area
Source: Figure 16D from TRC (2021)



CONCEPTUAL SITE MODEL - DRUM DISPOSAL AREA
NOT TO SCALE

SHEET SIZE: 11" BY 17"

PROJECT:	
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION BRILLO LANDFILL - SITE NO. 706013 VICTORY, NY 14584	
TITLE:	
CONCEPTUAL SITE MODEL - DRUM DISPOSAL AREA	
DRAWN BY:	H. DELGADO
CHECKED BY:	R. JORREY
APPROVED BY:	D. GLASS
DATE:	OCTOBER 2021
PROJ NO.:	394401
FIGURE 16D	

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ATTACHMENT B
ACRONYMS AND ABBREVIATIONS

Page 1 of 1

AOCs	Areas of Concern
CAMP	Community Air Monitoring Program
CCHD	Cayuga County Health Department
C&D	Construction and Demolition
CSM	Conceptual Site Model
DCE	Dichloroethene
DNAPL	Dense Non-Aqueous Phase Liquid
EM	Electromagnetic
FoxPG	Fox Professional Geology, PLLC
FS	Feasibility Study
FWRIA	Fish and Wildlife Resource Impact Analysis
GMC	General Motors Corporation
GPS	Global Positioning System
IDW	Investigation-derived waste
IFG	Inland Fisher Guide
IRM	Interim Remedial Measure
LEL	Lower Explosive Limit
MIP	Membrane Interface Probe
ng/l	nannograms-per-liter
NWI	National Wetlands Inventory
OBG	O'Brien & Gere Engineers, Inc.
OSC	On-Scene Coordinator
OU	Operable Unit
PAHs	Polycyclic Aromatic Hydrocarbons
NAPL	Non-Aqueous Phase Liquid
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
P.E.	Professional Engineer
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
P.G.	Professional Geologist
PLLC	Professional Limited Liability Company
ppm	parts-per-million
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SCGs	Standards, Criteria, and Guidance
SVOCs	Semivolatile Organic Compounds
TCE	Trichloroethene
TRC	TRC Engineers, Inc.
TSCA	Toxic Substances Control Act
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
Weston	Weston Solutions, Inc.

- Kozlowski, A., Bird, B., Leone, J., and Backhaus, K., 2018. Surficial geology of Cayuga County, New York. New York State Geological Survey, New York State Museum Map and Chart Number 104, Albany.
- NYSDEC, 2006. Order on Consent and Administrative Settlement Index #B7-0629-02-10, Site #706013. New York State Department of Environmental Conservation, Albany, 15 August 2006.
- NYSDEC, 2010a. Final DER-10: Technical Guidance for Site Investigation and Remediation. New York State Department of Environmental Conservation, Division of Environmental Remediation, Albany, May 2010.
- NYSDEC, 2010b. CP-51/Soil Cleanup Guidance. New York State Department of Environmental Conservation, Division of Environmental Remediation,
- NYSDEC, 2014. Screening and Assessment of Contaminated Sediment. New York State Department of Environmental Conservation, Division of Fish, Wildlife, and Marine Resources, Albany, June 2014.
- NYSDEC, 2023. Environmental Site Remediation Database Site Record for Brillo Landfill, Site Code 706013. New York State Department of Environmental Conservation, Site Description, <https://www.dec.ny.gov/cfm/externalapps/derexternal/haz/details.cfm?pageid=3>, accessed 30 May 2023.
- OBG, 2004. Preliminary Investigation Report, Brillo Landfill, Registry Site #706013, Town of Victory, New York. O'Brien & Gere Engineers, Inc., March 2004.
- Rickard, L.V., and Fisher, D.W., 1970. Geologic Map of New York - Finger Lakes Sheet. New York State Museum and Science Service Map & Chart Series Number 15, Albany, New York.
- TRC, 2021. Final Remedial Investigation Report, Brillo Landfill, Victory, New York. TRC Engineers, Inc., October 2021.
- USEPA, 2022. Brillo Landfill National Priorities List Site Narrative. United States Environmental Protection Agency, OLEM/OSRTI, Washington, <https://semspub.epa.gov/work/HQ/403041.pdf>
- Weston, 2019. Final Removal Action Report, Brillo Landfill Site, Victory, Cayuga County, New York. Weston Solutions, Inc., September 2019.