NEW YORK STATE OF OPPORTUNITY. | Department of Environmental Conservation

REMEDIAL ACTION WORK PLAN

26 – 28 Whitesboro Street
Utica, NY 13502
Site No. B00063

June 5, 2015

BENJAMIN MCPHERSON, REGION 6
Environmental Engineer I

317 Washington Street, Watertown, NY 13601
P: (315) 785-2513 | F: (315) 785-2422 | benjamin.mcpherson@dec.ny.gov

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1.0 Introduction

26-28 Whitesboro Street (the Site) is located in an urban area of Utica, Oneida County, New York. The 1.61 acre site bordered by a railroad to the north, Genesee Street to the east, Whitesboro Street to the south, and a commercial building to the west. The Utica Harbor and Mohawk River are located approximately 0.25 miles north of the property. The site is zoned for commercial use, but is currently vacant and covered with a mixture of concrete sidewalks, asphalt parking and weedy vegetation. The surrounding parcels are currently vacant or used for a combination of commercial, public recreation and light industrial activities.

The site is made up of a combination of seven tax parcels, which are divided between two areas. The western portion (Area 1) is composed of tax parcels 318.08-1-46, 318.08-1-47, and 318.08-1-48 and the eastern portion (Area 2) is composed of 318.08-1-43, 318.08-1-44, 318.08-1-45, and 318.08-1-46. Historically, the Area 1 was used for the manufacturing of fishing rods and accessories, and Area 2 was occupied by various hotels from 1925 until 1973. In 1993, the City of Utica acquired the property in lieu of back taxes. All on-site structures were demolished after a fire in 1994 and the site remains vacant.

The City of Utica (the City) applied to, and was accepted into, the New York State's Department of Environmental Conservation's (DEC) Environmental Restoration Program (ERP), and was assigned the site code of B00063. Under the ERP several reports have been completed to document the contamination present at the site. These reports are listed below:

- *Site Investigation and Remedial Alternatives Report Work Plan*, dated June 2002, prepared by Dvirka and Bartilucci Consulting Engineers;
- *Site Investigation Report (SIR)*, dated December 2008, prepared by Dvirka and Bartilucci Consulting Engineers; and
- *Remedial Alternatives Report (RAR)*, dated December 2009, prepared by Dvirka and Bartilucci Consulting Engineers.

From these reports it was determined that surface and subsurface soil have been impacted by the disposal of hazardous wastes from the previous site operations. Surface soil exceed the unrestricted and commercial soil cleanup objectives (SCOs) for semi-volatile organic compounds (SVOCs) and metals in the eastern portion of Area 2. Subsurface soil are contaminated by volatile organic compounds (VOCs), SVOCs, metals, and pesticides above the unrestricted and commercial SCOs. Groundwater has

been impacted by the disposal of chlorinated and non-chlorinated solvents. Site related contamination is impacting groundwater. Areas of grossly contaminated soil exist in the vicinity of Boring 18 (B-18) and Boring 3 (B-3) in Area 1, and in the vicinity of monitoring well 6 (MW-6) in Area 2. The Record of Decision (ROD) outlining the selected remedy for the site was signed in March 2011. The purpose of this Remedial Action Work Plan (RAWP) is to implement the remedy as specified in the ROD.

2.0 Remedial Action

All work conducted as part of this RAWP will be in accordance with all applicable statutes and regulations, and in conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10). To restrict access to the site during remedial action temporary fencing (chain link or similar) will be placed around the site perimeter. A single access point to the site for construction vehicles and personnel will be designated to limit the potential for contaminated soil to be transported off site. All vehicles and personnel will be inspected for, and cleaned of contaminated soil or debris prior to leaving the site. Before any ground intrusive activities the site will be cleared for underground utilities by Dig Safe NY.

2.1 Pre-Design Investigation

To better define the extent of the planned excavations pre-design investigation (PDI) samples will be collected at the location shown on Figure 2. A total of ten (10) soil borings will be completed to a depth of 12 feet below ground surface using direct push methods (truck mounted). Four foot macro-core samplers with dedicated liners will be used. All non-dedicated down hole equipment will be decontaminated using a surfactant and potable water rinse between boring locations. Samples will be collected for laboratory analysis from the 4’ to 6’, 6’ to 8’, and 8’ to 10’ intervals. All soil borings will be logged and classified immediately by a geologist. A photoionization detector (PID) equipped with a 10.6 eV lamp will be used to screen soil along the entire boring.

Samples collected for analysis will follow the applicable portions of Section 2.7 and Section 5 of this work plan (Category B deliverables are not required). PDI samples will be analyzed for the full suite of contaminants as outlined in Section 3.6. While the primary goal is to better define the extent of VOC contamination, it is anticipated that the results can be used as preliminary soil characterization for disposal purposes.

The Contractor will be required to submit a health and safety plan to the NYSDEC project manager prior to the start of field work, and will notify the NYSDEC project manager one week prior to mobilization. PDI activities will be completed prior to remedial action mobilization in order to obtain pre-construction soil disposal approvals. The Contractor will submit a figure showing borehole locations, boring logs, analytical results, and a letter report to the NYSDEC as outlined in Section 6.0.

2.2 Soil Excavation

All surface soil exceeding the lower of the protection of groundwater or commercial SCOs and all subsurface soil exceeding the protection of groundwater SCOs for VOCs will be excavated and transported off-site for disposal at a permitted facility. Multiple areas may require excavation to remove all soil exceeding the applicable SCO. The approximate size, depth below grade, and volume of soil for each area will be determined based on existing data and the PDI results. The approximate locations of the excavations are shown on Figure 3 (Figure 3 only reflects existing data). Excavations that are to remain open for more than one day will be surrounded by orange construction fencing (in addition to the site perimeter fence).

Excavated soil that does not appear to meet the remedial criteria for off-site disposal will be stockpiled for further characterization. All soil stockpiles will be placed on top of polyethylene sheeting to prevent contact with underlying surface soil. Additional polyethylene sheeting will be placed over the stockpiles to prevent wind erosion and contact with water. Soil stockpiles will be inspected daily to ensure that the pile is structurally sound and the polyethylene sheeting remains in place.

On-site soil which does not exceed either the commercial SCOs or protection of groundwater SCOs for those contaminants which exceed groundwater standards may be used above the water table as fill material or as part of the soil cover. Overburden soil will be stockpiled for reuse as backfill provided sampling demonstrates compliance with SCOs. Refer to Section 2.4 for backfill requirements.

The approximate horizontal extent of each excavation will be marked using paint, stakes, or similar. Soil removal should be limited to these areas to the extent practicable to limit the amount of soil not meeting the remedial criteria being sent for disposal. If visual, olfactory, or other field indicators are observed along the

edge(s) of the planned excavations the DEC project manager will be notified immediately, and will assess further remedial actions.

Excavated soil from known areas of VOC contamination will be directly loaded onto trucks for off-site transport to minimize the handling of contaminated soil. Dust control measures will be taken as needed to prevent dust migration during transport.

The Contractor is responsible for completing an underground utility survey prior to the start of excavation activities. Where applicable, the Contractor will determine any setbacks required near roads/railroad right-of-ways and if any permits are required from the City of Utica.

2.3 Soil and Waste Disposal

Prior to mobilization, the Contractor will complete all applicable forms for a soil disposal/waste characterization profile with the approved disposal facility (anticipated to be the Oneida-Herkimer Solid Waste Authority). The Contractor may consult with the NYSDEC project manager regarding analytical result that may be used to develop the soil disposal profile. If additional characterization is needed, samples will be collected by the Contractor according to the Section 4, and sent to the laboratory specified by the NYSDEC.

Soil impacted by chlorinated solvents are by definition a listed hazardous waste (waste code F002). A contained in determination will be applied for so that soil impacted by chlorinated solvents may be handled as non-hazardous waste. The guidance for a contained in determination is outlined in NYSDEC TAGM 3028. All waste generated at the site will be sent to a facility permitted to dispose of the waste stream.

Any investigation derived waste (IDW) generated during remedial activities, such as personal protection equipment (PPE) and disposable sampling equipment, will be containerized in 55 gallon steel drum(s). IDW will be characterized and sent for off-site disposal at a permitted facility.

The Contractor will be responsible for coordinating transport of soil and other wastes to the approved disposal facility. Excavated soil must be sufficiently dry or amended to pass the paint filter test. All waste haulers must have current Part 364 waste transporter permits. Trucks will use bed liners for all loads of soil leaving the site to avoid any leakage of fluids or soil from the truck and to minimize truck

decontamination procedures. Trucks transporting contaminated soil must have solid covers that are properly tied down before leaving the site.

All soil/waste characterization documents and disposal receipts for off-site shipments must be provided by the Contractor to the NYSDEC.

2.4 Backfill

Backfill will be brought to the site to replace excavated soil, establish the design grade, and will be compacted in one foot lifts to prevent settling. Backfill placed within one foot of the design grade will be considered part of the site cover and must comply with Section 2.5, below. All material transported to the site must be documented using bills of lading and any appropriate analytical results as required below.

Backfill shall not be placed in an excavation until the confirmation sampling results have been received and is approved of by the NYSDEC project manager.

Soil or other materials imported to the site as backfill must meet all criteria specified in DER-10 Section 5.4(e). For soil or sand imported from a virgin mine/pit, at least one round of characterization samples for the initial 100 cubic yards of material, in accordance with DER-10 Section 5.4(e)(10) and Table 5.4(e)(10) will be collected. Gravel, rock or stone, consisting of virgin material from a permitted mine or quarry may be imported, without chemical testing, to be used as backfill beneath pavement and buildings or as part of the final site cover, provided that it contains less than 10% by weight material which would pass through a size 80 sieve. All other materials will be sampled according to DER-10 Section 5.4(e)(10) and Table 5.4(e)(10).

Soil originating on the site may be reused on the site provided sampling demonstrates compliance with SCOs as detailed in Table 5.4(e)(4). Soil which is not reused will be disposed in a permitted treatment, storage or disposal facility. On-site soil that exceeds protection of groundwater SCOs may not be used to backfill parts of excavations that are below the water table, or may come in contact with the water table due to seasonal fluctuations.

2.5 Site Cover

Following the completion of excavation and backfill activities a site cover will be constructed to prevent contact with any remaining contaminated soil. The cover will be a minimum of one foot of soil, meeting the SCOs for cover material as set

forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer (orange snow fencing or equivalent), with the upper six inches of the cover consisting of topsoil with a minimum organic content of 2%. Areas to be placed under the soil cover are shown in Figure 4.

Existing on-site soil may be incorporated into the soil cover provided it meets the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be sloped to promote runoff and prevent precipitation from pooling on-site.

The cover will be seeded with grass to improve soil cohesion, limit infiltration, and prevent erosion. The grass seed mixture will include no "primary noxious weed seeds", be furnish in fully-labeled and sealed containers, and the percentage and germination of each seed type in the mixture, purity, and weed seed content of the mixture shall be clearly stated on the label. The NYSDEC project manager will approve of the seed mixture prior to application. After seeding, compact the entire area by a suitable roller weighing 60 to 90 pounds per lineal foot. Seeded areas will be covered in straw or hay mulch immediately after each area has been properly prepared. Straw or hay mulch will cover the ground enough to shade it, but the mulch will not be so thick that a person standing cannot see soil through the mulch. To be acceptable, a final stand of grass will show a reasonably thick, uniform stand, free from sizable areas of thin or bare spots, with a uniform coverage of at least 85 percent of grass.

The Contractor will be responsible for maintaining the cover system after the completion of the site cover, unless notified otherwise by the NYSDEC. The Contractor will water the seeded areas, cut the grass, and repair the cover as necessary. The Contractor will water the seeded areas until the grass is a uniform two inches in height.

2.6 Water Management

The Contractor will develop and submit a Storm Water Pollution Prevention Plan (SWPPP) for review to the NYSDEC project manager prior to mobilization. Given the size of the site, storm water generation is expected to be limited. The site is not directly adjacent to any surface water bodies.

Groundwater handling and treatment is not anticipated as the base of all excavations are expected to be above the water table. In the event that saturated soil or groundwater is encountered, soil will be dewatered prior to being transported off-site for disposal. Collected groundwater or any storm water

pumped from an excavation will be stored in frac tanks (or similar) to be characterized later.

Groundwater contaminated with chlorinated organics is a listed hazardous waste by definition. A contained in determination will be applied for if characterization results indicate chlorinated organics are present. This will allow for on-site treatment or off-site treatment/disposal as non-hazardous waste. If this situation arises, the handling of this groundwater will be determined by the Contractor in consultation with the NYSDEC project manager.

2.7 Confirmation and Waste Characterization Sampling

Confirmation samples will be collected from all excavations to confirm the remedial objectives are met according to DER-10 Section 5.4(b). Sampling in excavations less than 20 feet in perimeter will include one bottom sample and one sidewall sample biased in the direction of surface runoff. Sampling in subsurface excavations 20 to 300 feet in perimeter will include samples from the bottom of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area. Sampling frequency for excavations greater than 300 feet in perimeter will developed in consultation with the NYSDEC.

All confirmation samples will be sent to the laboratory specified by the NYSDEC, and will be analyzed for the compounds listed below using the following analytical methods:

- TCL VOCs: EPA Method 8260;
- TCL SVOCs: EPA Method 8270;
- TAL Metals: EPA Method 6010;
- Mercury: EPA Method 7471;
- Pesticides: EPA Method 8081; and
- PCBs: EPA Method 8082.

All samples will be labeled, put on ice, and added to the chain of custody (COC) immediately after collection. Samples will be prepared using decontaminated stainless steel or disposable spoons/bowls and placed in containers provided by the NSYDEC specified laboratory. Samples collected for VOC analysis will be received by the lab within 48 hours of being collected, and shipped with a trip blank. One method spike/matrix spike duplicates (MS/MSD) will be collected for every twenty samples collected for analysis. If fewer than twenty samples are collected

then one MS/MSD will be collected. Rinsate/equipment blanks will be collected at a frequency of one per each day or one for every twenty samples, whichever is more conservative.

Waste characterization samples will be collected as needed to satisfy the requirements of the disposal facility. Characterization samples will be analyzed by the NYSDEC specified laboratory unless approved of otherwise.

In the event that confirmation samples results are greater than the lower of the protection of groundwater or commercial SCOs for VOCs additional remedial actions will be required.

3.0 Construction Completion Report

After the completion of remedial action the Contractor will prepare a Construction Completion Report (CCR) that meets the requirements of DER-10 Section 5.8. The CCR will document the as-built extents of the excavation(s), location of analytical samples, final site grades, disposal/backfill receipts and bills of lading, waste water management (if applicable), laboratory results and chains of custody, any issues encountered during remedial action, and any other pertinent details. The Contractor will submit the CCR to the NYSDEC for review and approval within 30 days of the completion of remedial action.

4.0 Health and Safety Plans

The Contractor will insure that all personnel working at the site have a current 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) certification, practice safe work habits, and follow the plans outlined below. The main hazards at the site are anticipated to be ‘slips, trips, and falls’ and potential inhalation of organic vapors from contaminated soil.

4.1 Contractor Health and Safety Plan (HASP)

The Contractor will be required to develop and submit a site specific Health and Safety Plan (HASP) to the NYSDEC prior to the start of any remedial work. The HASP will be added to this work plan as Appendix 1.

4.2 Community Air Monitoring Plan (CAMP)

Air monitoring for VOCs and dust will be required during all ground intrusive activities. Air monitoring will follow the generic New York State Department of Health (NYSDOH)

Community Air Monitoring Plan (CAMP) found in DER-10. A copy of the CAMP is included as Appendix 2 of this work plan.

5.0 Quality Assurance/Quality Control (QA/QC)

Environmental samples collected for laboratory analysis will be handled according to the most recent version of the NYSDEC Analytical Services Protocol (ASP) and the respective EPA Standard Methods. All samples will be placed in jars/containers provided by the NYSDEC specified laboratory and placed immediately on ice and added to the chain of custody (COC). For VOCs and SVOCs samples may be collected in standard 4 ounce or 8 ounce jars, provided that 'zero headspace' conditions are achieved to prevent volatilization during transport and storage.

All samples that constitute the final delineation of contamination or confirmation samples will have NYSDEC ASP Category B deliverables submitted along with analytical results. The Contractor will arrange for a third party to complete a Data Usability Summary Report (DUSR) for all data submitted with Category B deliverables according to DER-10 Section 2.2(a)(1)(ii).

All analytical data will be submitted to the NYSDEC according to the most current Electronic Data Deliverable (EDD) requirements.

6.0 Cost Estimate

The estimated cost for the project is $264, 000. Labor costs were estimated using the prevailing wage labor rates in the 2009 Remedial Services Standby Contract for NYSDEC Region 6. Analytical laboratory costs were developed using the rates in the 2011 Standby Laboratory Services Contract.

7.0 Schedule

This schedule outlined below will begin the day after the signed Work Authorization is received by the Contractor. Work elements will be completed by the day specified, unless prior approval is granted by the NYSDEC. Deviations from this schedule must be approved of by the NYSDEC.

- Day 0 – Work Authorization received by Contractor.
- Day 10 – Meet with the NYSDEC on-site to complete initial site walk.
- Day 12 – Submit Health and Safety Plans to NYSDEC.
- Day 20 – Implement PDI Work, considering:
    - Expect PDI field work to be completed in 1.5 days; and
    - 10 work day turnaround time for PDI analytical samples.
- Day 50 – Submit PDI Work Letter Report.
- Day 60 – Coordinate with NYSDEC to revise RAWP, as necessary, based on PDI results.
- Day 70 – Implement RAWP considering:
    - Remedial Action (RA) anticipated to be completed in 2 to 3 weeks (weather dependent); and
    - TAT for confirmation samples will be 72 hours.
- Day 110 – RA Completed.
- Day 140 – Submit Construction Completion Report (CCR) to NYSDEC.
- Day 500 – Ongoing site management and cover maintenance, revisions (as needed) to CCR, and miscellaneous project closeout.

Figures

Figure 1: Site Location

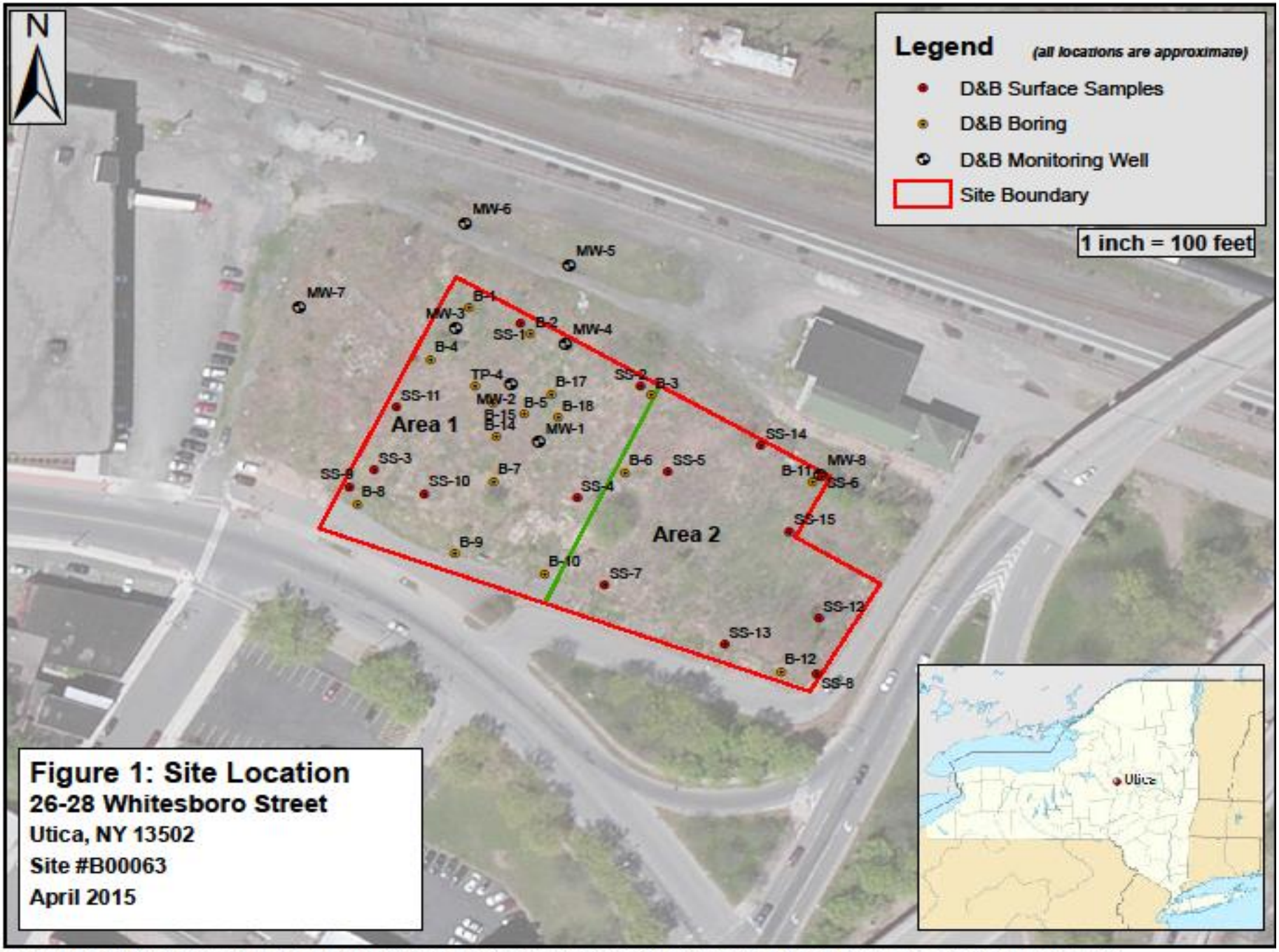

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Figure 2: PDI Boring Locations

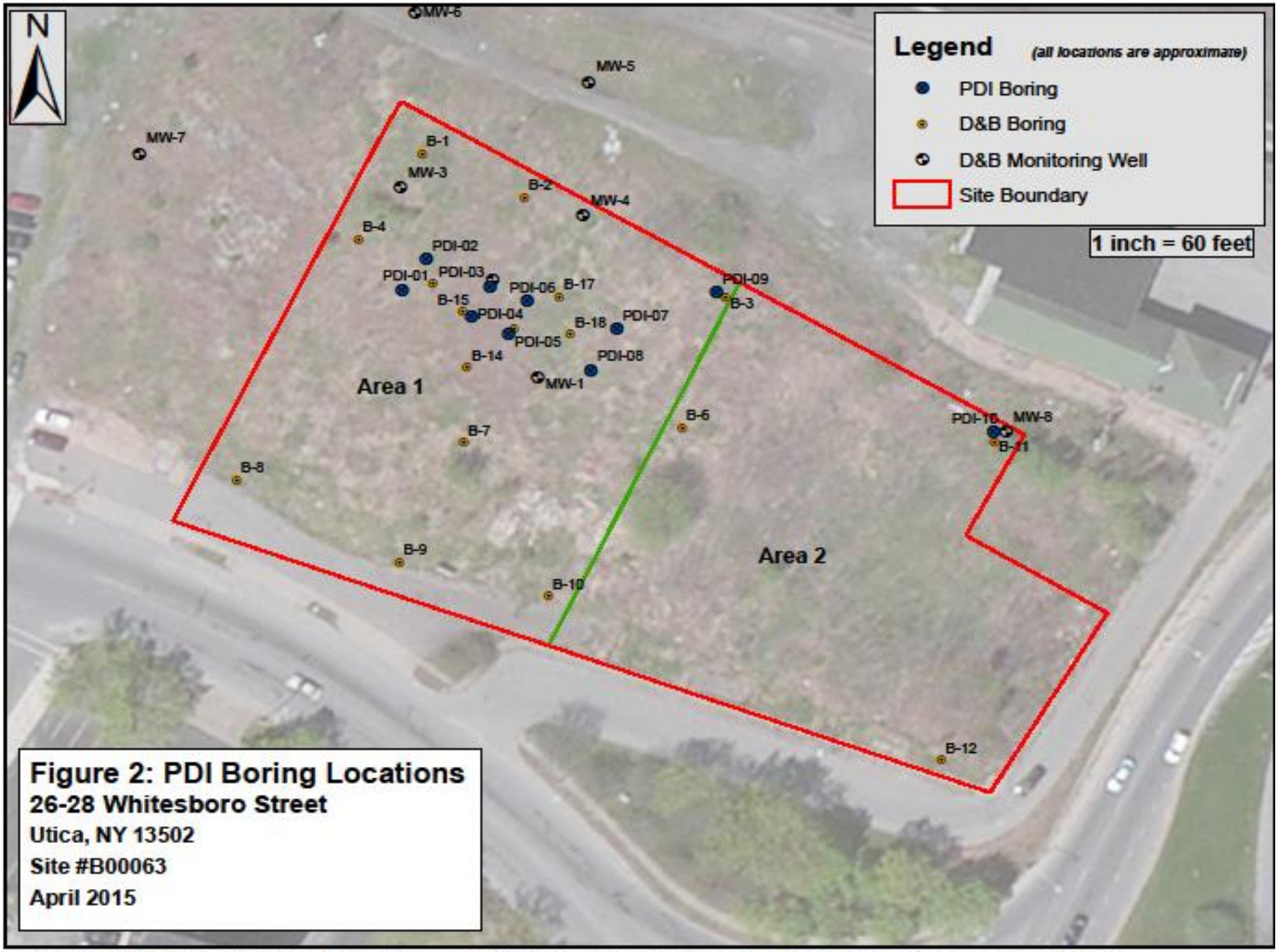

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Figure 3: Excavation Areas

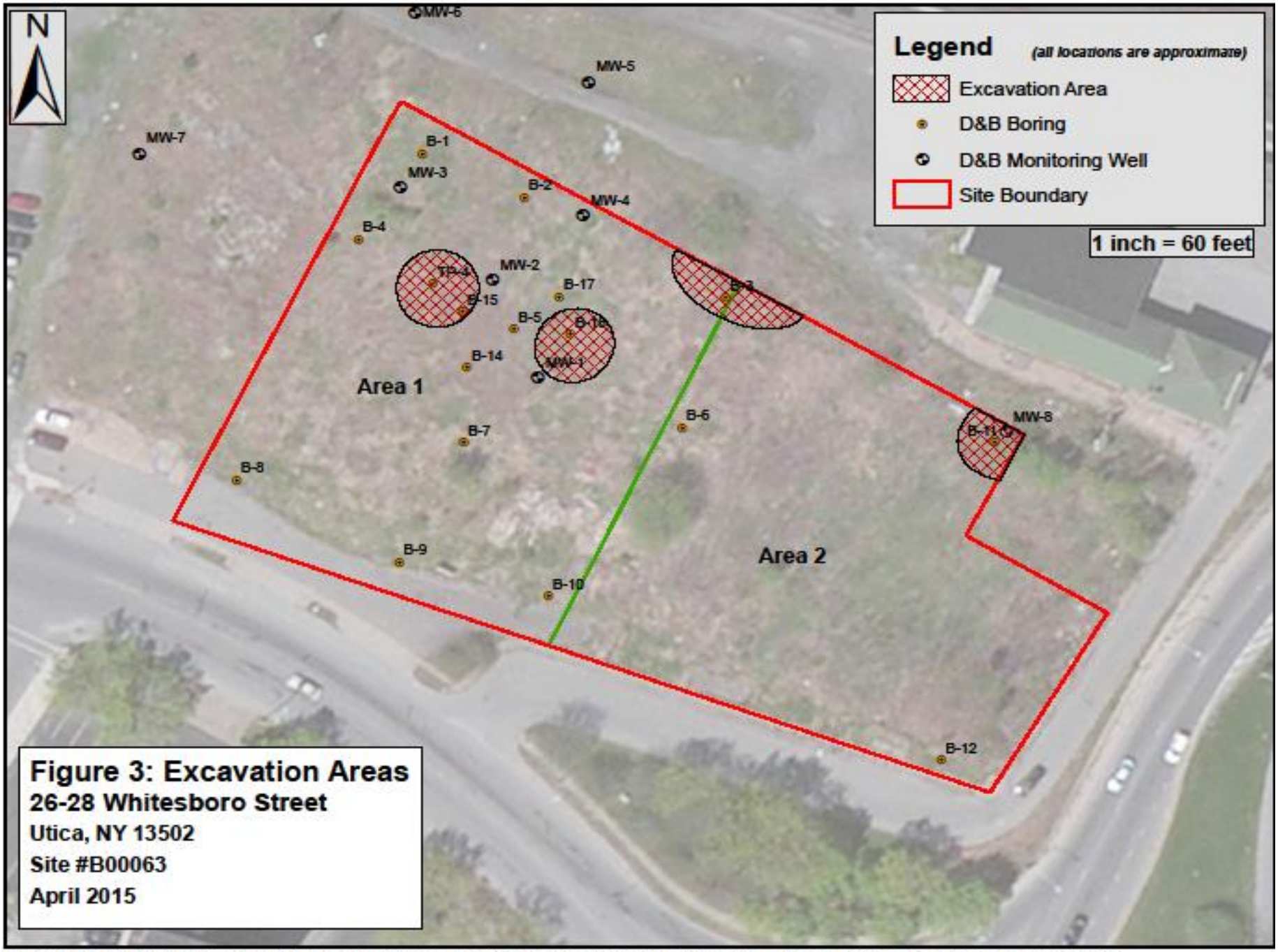

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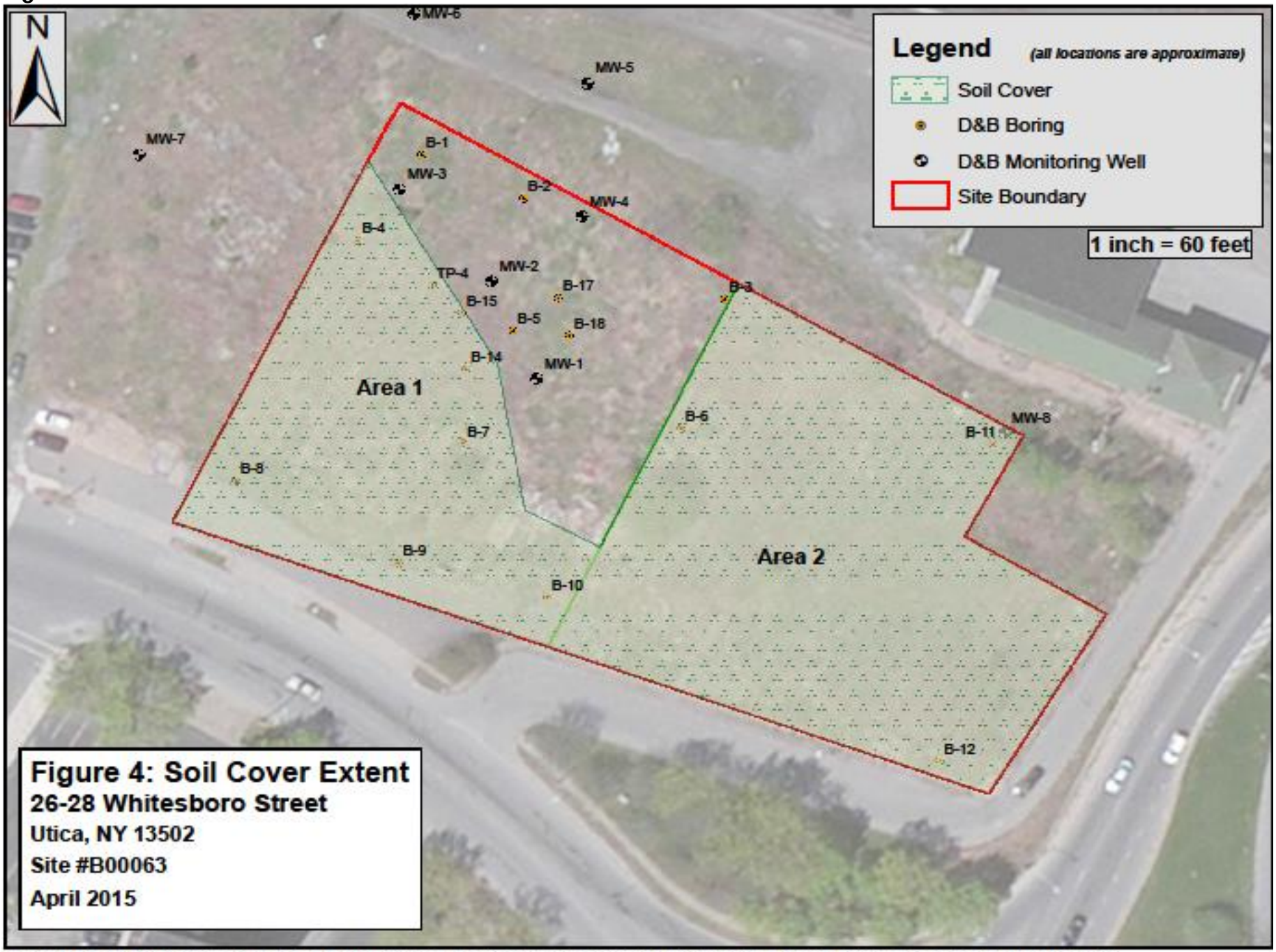
Figure 4: Extent of Soil Cover



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Appendices

Appendix 1: Contractor Health and Safety Plan (HASP)
Appendix 2: Community Air Monitoring Program (CAMP)
Appendix 3: Quality Assurance/Quality Controls (QA/QC)

Appendix 1:
Contractor Health and Safety Plan (HASP)

Appendix 2:
Community Air Monitoring Program (CAMP)

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous

monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

Appendix 1C
DEC Permits Subject to Exemption

In accordance with section 1.10, exemptions from the following permit programs may be granted to the person responsible for conducting the remedial programs undertaken pursuant to section 1.2:

Air - Title 5 permits Air -
State permits Air -
Registrations Ballast
Discharge Chemical
Control
Coastal Erosion Hazard Areas
Construction of Hazardous Waste Management Facilities
Construction of Solid Waste Management Facilities Dams
Excavation and Fill in Navigatable Waters (Article 15) Flood
Hazard Area Development
Freshwater Wetland
Hazardous Waste Long
Island Wells
Mined Land Reclamation Navigation
Law - Docks Navigation Law - Floating
Objects Navigation Law - Marinas
Non-Industrial Waste Transport
Operation of Solid Waste Management Facilities Operation of
Hazardous Waste Management Facilities State Pollution
Discharge Elimination Systems (SPDES) Stream Disturbance
Tidal Wetlands
Water Quality Certification
Water Supply
Wild, Scenic and Recreational Rivers

Appendix 3:
Quality Assurance/Quality Controls (QA/QC)

Appendix 2B
Guidance for Data Deliverables and the Development of
Data Usability Summary Reports

1.1 Data Deliverables

(a) DEC Analytical Services Protocol Category A Data Deliverables:

1. A Category A Data Deliverable as described in the most current DEC Analytical Services Protocol (ASP) includes:

i. a Sample Delivery Group Narrative;

ii. contract Lab Sample Information sheets;

iii. DEC Data Package Summary Forms;

iv. chain-of-custody forms; and,

v. test analyses results (including tentatively identified compounds for analysis of volatile and semi-volatile organic compounds)

2. For a DEC Category A Data Deliverable, a data applicability report may be requested, in which case it will be prepared, to the extent possible, in accordance with the DUSR guidance detailed below.

(b) DEC Analytical Services Protocol Category B Data Deliverables

1. A Category B Data Deliverable is includes the information provided for the Category A Data Deliverable, identified in subdivision (a) above, plus related QA/QC information and documentation consisting of:

i. calibration standards;

ii. surrogate recoveries;

iii. blank results;

iv. spike recoveries;

v. duplicate results;

vi. confirmation (lab check/QC) samples;

vii. internal standard area and retention time summary;

viii. chromatograms;

ix. raw data files; and

x. other specific information as described in the most current DEC ASP.

2. A DEC Category B Data Deliverable is required for the development of a Data Usability Summary Report (DUSR).

2.1 Data Usability Summary Reports (DUSRs)

(a) Background. The Data Usability Summary Report (DUSR) provides a thorough evaluation of analytical data with the primary objective to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use.

1. The development of the DUSR must be carried out by an experienced environmental scientist, such as the project Quality Assurance Officer, who is fully capable of conducting a full data validation. The DUSR is developed from:

i. a DEC ASP Category B Data Deliverable; or

ii. the *USEPA Contract Laboratory Program National Functional Data Validation Standard Operating Procedures for Data Evaluation and Validation*.

2. The DUSR and the data deliverables package will be reviewed by DER staff. If full third party data validation is found to be necessary (e.g. pending litigation) this can be carried out at a later date on the same data package used for the development of the DUSR.

(b) Personnel Requirements. The person preparing the DUSR must be pre-approved by DER. The person must submit their qualifications to DER documenting experience in analysis and data validation. Data validator qualifications are available on DEC's website identified in the table of contents.

(c) Preparation of a DUSR. The DUSR is developed by reviewing and evaluating the analytical data package. In order for the DUSR to be acceptable, during the course of this review the following questions applicable to the analysis being reviewed must be answered in the affirmative.

1. Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?

2. Have all holding times been met?

3. Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

4. Have all of the data been generated using established and agreed upon analytical protocols?

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

6. Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?

7. Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheets from the data package been attached to the DUSR?

(d) Documenting the validation process in the DUSR. Once the data package has been reviewed and the above questions asked and answered the DUSR proceeds to describe the samples and the analytical parameters, including data deficiencies, analytical protocol deviations and quality control problems are identified and their effect on the data is discussed.