Niagara Transformer Corporation

ERIE, NEW YORK

Site Management Plan

NYSDEC Site Number: C915234

Prepared for:
Niagara Transformer Corporation
1747 Dale Road
Cheektowaga, New York 14225

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Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

NOVEMBER 2010

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1.0 DESCRIPTION OF REMEDIAL PROGRAM

1.1 Introduction

This document is required as an element of the remedial program at Niagara Transformer Corporation, 1755 Dale Road, Cheektowaga, New York (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index# C915234-10-09, Site C915234, which was executed on November 19, 2009.

1.1.1 General

Niagara Transformer Corporation (NTC) entered into a BCA with the NYSDEC to remediate a 3 acre property located in the Town of Cheektowaga, Erie County, New York. This BCA required the Remedial Party, NTC, to investigate and remediate contaminated media at the site. A figure showing the site location and boundaries of this 3-acre site is provided in Figure 1. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement and included in Appendix A of this SMP.

After completion of the remedial work described in the Remedial Investigation and Interim Remedial Measures (RI/IRM) Work Plan, some contamination was left in the subsurface at this site, which is hereafter referred to as "remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Golder Associates Inc. (Golder), on behalf of NTC, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) that are required by the Environmental Easement for the site.

1.1.2 Purpose

The site contains contamination left after completion of the remedial action. Institutional Controls have been incorporated into the site remedy to control exposure to remaining

contamination during the redevelopment and use of the site to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Erie County Clerk, will require compliance with this SMP and all ICs placed on the site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring and reporting measures for all ICs. This SMP specifies the methods necessary ensure compliance with all ICs required by the Environmental Easement for contamination that remains at the site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the site after completion of the Remedial Action, including: (1) implementation and management of all Institutional Controls; (2) media monitoring; and (3) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports.

To address these needs, this SMP includes two plans: (1) an Institutional Control Plan for implementation and management of ICs; (2) and a Monitoring Plan for implementation of Site Monitoring.

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the environmental easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Index #C15234-10-09; Site #C915234) for the site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 Site Background

NTC purchased both the 3 acre Site and an adjoining 1.5 acre vacant parcel to the east of the Site in 1983.

In 1996 the NYSDEC initiated a remedial action on the adjacent NTC manufacturing site located west of the Site at 1747 Dale Rd as a result of historical PCB impacts from transformer related manufacturing operations dating back to the 1950s on this adjacent parcel. NTC agreed to allow the remedial contractor performing the work to utilize the southwestern portion of the Site for staging and storage of remedial cleanup equipment. These activities continued on the Site until completion of the project in 1997. Section 2.5.9 of the December 1997 "Remediation Summary Report" (Ref.1) prepared by Ecology and Environment describes the discovery of PCBs in Site soils prior to mobilization of the remedial contractor. The report indicates that "the majority of PCB contamination was found on the west side of the staging area and on the slope immediately adjacent to the NTC driveway". At the conclusion of the 1747 Dale Road remediation project, the remedial contractor was required to perform an IRM for the "staging area" on the Site to remove PCB impacted stone and soils. Specifically, it was documented that 1,330.56 tons of hazardous waste were removed from the staging area from depths ranging between 6 to 18 inches below grade in grids located on the western slope and within the staging area. It was noted that verification sampling conducted after the soil excavation/removal confirmed the presence of PCBs remaining at concentrations less than 10 parts per million (ppm) in surface and shallow subsurface soils on the Site.

In 2004 the NYSDEC performed a supplemental Interim Remedial Measure (IRM) to mitigate reoccuring polychlorinated biphenyl (PCB) impacts associated with stormwater storm drainage systems on the 1747 Dale Road property and along the CSX rail corridor to the south. As part of the IRM activities, the remedial contractor was again allowed to use the Site as a staging area for equipment decontamination activities on a one quarter acre portion of the Site located east of the NTC south parking area and near the western boundary of the Site. Pre-mobilization sampling of the proposed staging area indicated elevated PCB concentrations at some of the sampling locations. Immediately following sampling, the upper six inches of the soil in the staging area was stockpiled and a decontamination pad and stockpile liner were installed prior to receipt of the elevated results from the pre-mobilization samples. Subsequently the stockpiled soil was covered and fenced to limit access.

Based on the results obtained from a post-project sampling program, the IRM contractor was directed by the NYSDEC to remove soils to depths ranging from 24 to 48 inches bgs beneath the former stockpile area. A total of 407 tons of soil were excavated and disposed of from the Site as a result of this action (including the original soil stockpile material). A detailed description of the sampling performed, data summaries and excavation work performed under this IRM were included in Section 6.4 (East Yard Excavation) from the January 2005 "Interim Remedial Measure Summary Report" prepared by Ecology and Environment (Ref. 2). In November and December of 2007, NTC performed a more comprehensive soil/fill sampling program on the Site in order to characterize surface and selected subsurface soils for PCB impacts in anticipation of a potential building expansion for the Site.

The investigation was performed by Benchmark Environmental Engineering and Science, PLLC on behalf of NTC and consisted of:

- Collection of forty (40) shallow (0-6 inches bgs) soil samples on a fifty foot grid interval spacing across the parcel (with the exception of the northwest and northeast corners of the Site) and analysis for total PCBs; and
- Advancement of seven (7) deeper (0-6 feet bgs) soil borings and collection of soil composite samples from each boring for analysis of total PCBs. The seven soil boring locations were selected primarily to assess subsurface soil conditions for foundation design purposes and were located in areas projected for excavation for building footers. Samples collected from these seven locations were analyzed for total PCBs, however as the samples were composited across the entire six foot boring depth, assignment of any detected PCB impacts to a particular depth is not feasible based on the sample collection method.

The results of the soil sampling investigation were transmitted to the NYSDEC and indicated that PCBs were detected at concentrations exceeding the 6 NYCRR Part 375 PCB SCOs for restricted residential or commercial uses (i.e., greater than 1 ppm) or restricted industrial use of the parcel (i.e., greater than 25 ppm). In particular, concentrations of PCBs at Surface Sample Locations 42 and 43 (approximately 20 feet east of the Site's western property line) were 1,060 and 443 ppm, respectively. These locations are located south of the staging area and sample locations associated with the 2004 IRM project. Seven other sample locations in the southwestern and central portions of the Site exceeded the Part 375 restricted industrial SCO. Lower detected concentrations (i.e., typically less than 5 ppm), however, were found across the northern half of the Site.

An IRM was implemented under the Brownfield Cleanup Agreement at the Niagara Transformer 1755 Dale Road Site in February 2010. Details of the IRM approach are described in the August 2009 RI/IRM Work Plan (Ref. 3). Based on the nature and extent of contamination as indicated by prior investigations (primarily based on the PCB impacts identified as a result of the 2007 NTC Soil Investigation) and the planned redevelopment of the subject property, the IRM Work Plan called for source removal via excavation, with off-site disposal of impacted soil.

Remediation was initiated on February 12, 2010 and was substantially completed by April 21, 2010. Impacted soil that exceeded the NYSDEC Part 375 restricted industrial SCOs for total poly-chlorinated biphenyls (PCBs) was identified in thirteen (13) excavation grids that were approximately 50 ft. by 50 ft. in area. These soils were further characterized as hazardous (i.e., greater than 50 ppm for total PCBs) or non-hazardous (i.e., less than 50 ppm for total PBCs) in each of the grids.

1.2.1 Site Location and Description

The site is located in the Town of Cheektowaga County of Erie, New York and is identified as Block 3 and Lot 6.1 on the Town of Cheektowaga Tax Map. The site is an approximately 3-acre area bounded by Dale Road to the north, CSX rail corridor to the south, a vacant parcel (owned by NTC) to the east, and NTC's manufacturing facility located at 1747 Dale Road to the west (see Figure 1). The boundaries of the site are more fully described in Appendix A – Metes and Bounds description.

1.2.2 Site History

Historical aerial photos and Sanborn Fire Insurance Maps indicate that the subject property at 1755 Dale Road, Cheektowaga, NY (Site) has been vacant of any improvements since 1958 to the present time. Between 1939 and 1958, railroad sidings oriented north to south were the only documented structures on the property. Between 1924 (the earliest map documentation available) and 1939 the railroad tracks were present running north-south across the property and several structures (unidentified) were noted in the northwest corner of the property. During this time frame, the southern half of the site was also identified as containing the A.A. Morrison & Co junk yard (1924 Sanborn Map) and later an unnamed "contractor's yard" (1939 Sanborn Map). In each case a small shed and office structure were noted in the same location in the southwest portion of the Site.

During the 1960s and 1970s, evidence of unpaved roadways and associated vehicular traffic was noted on the aerial photos covering much of the Site. The purpose and use of these

access roads is unknown. NTC purchased the Site and an adjacent smaller vacant parcel to the east of the Site in 1983.

Recently, NTC has utilized a small portion of the Site directly adjacent to their South parking lot/truck access road at 1747 Dale Road for staging of four temporary storage containers for storage of office files and parts.

The southern half of the Site was mostly wooded with dense undergrowth (shrubs and woody vegetation) while the northern half was mostly open grass land. The Site is directly bordered by Dale Road to the north, NTC's manufacturing complex to the west, CSX Railroad to the south, and an undeveloped 1.5 acre parcel of land to the east also owned by NTC.

A Phase I ESA was completed by Golder Associates Inc. in August 2009 in conjunction with preparation of the BCP Application. The Phase I ESA identified Recognized Environmental Conditions (RECs) and de minimis conditions found during the conduct of the ESA are listed below:

- The known presence of PCB contaminated surficial and subsurface soils on the Site.
- The potential for hazardous materials to be released from approximately eight 55-gallon drums located on the Site. The contents of the drums are unknown and it was not determined that the contents of any of the drums have been released. The assessment was based on the physical condition of the drums and the determination that liquid was present in 2 or 3 of the drums.

The following de minimis conditions in connection with the Site were identified in the Phase I ESA:

A light oily sheen was observed in the standing water observed adjacent to and surrounding the decommissioned oil tank (from former 1747 Dale Rd, tank farm). NTC stated that the NYSDEC contractor had cleaned the tank several times prior to relocation on the Site and it did not contain mineral oil with PCBs prior to being taken out of service.

1.2.3 Geologic and Hydrogeological Conditions

The majority of the Site is overlain by a two to three feet-thick fill layer that decreases in depth on the northern and eastern portions of the Site and increases in thickness to the west and south. Below the fill, the native soils composed of varying layers of either silty clays or fine sand strata. The silty clay or sand units transition generally below 5 feet bgs to a stiff or hard clay unit that is relatively consistent at these depths across the site. The clay layer is

characterized as hard and dry with occasional to frequent rock clasts and trace amounts of silt within the clay matrix.

The Site is situated over the Onondaga Formation of the Middle Devonian Series based on a review of the bedrock geologic map of Erie County. The Onondaga limestone is comprised of a varying texture from coarse to very finely crystalline limestone with a dark gray to tan color and chert and fossils within. The unit has an approximate thickness of 110 to 160 feet. Structurally, the bedrock formations strike in an east-west direction and exhibit a regional dip that approximates 40 feet per mile (3 to 5 degrees) toward the south and southwest. As a result of this dip, the older Onondaga limestone outcrops or subcrops north of the Hamilton Group. An intersecting, orthogonal patter of fractures and joint sets are common throughout the bedrock strata. The surficial geomorphology of the bedrock strata was modified by periodic subaerial erosion and continental glaciation. Based on geotechnical borings performed for predevelopment design purposes, bedrock is known to be 40 feet or greater below grade surface.

Based on historical groundwater potentiometric data collected at both the adjacent 1747 Dale Road parcel and the ROCO Ltd. site located at 1746 Dale Road to the north/northwest of the Site, the general direction of groundwater flow in the vicinity of the Site is known to be to the south. This historical data correlates with groundwater elevation measurements collected from monitoring wells MW-1, MW-2 and MW-4 during well development and remedial investigation sampling activities on October 8, 2009. The groundwater elevation measured at MW-1 (located in the northwest corner of the Site) was 652.37 and the groundwater elevation measured at MW-4 (located in the southwest corner of the Site) was 639.72. This is an elevation differential of approximately 12.6 feet from the north to the south of the Site and correlates with the approximate elevation change in the surface topography between these two well locations of nearly ten feet (i.e. elev 658 at MW-1 vs. elev. 647 at MW-4).

A review of historical groundwater elevation information from the adjacent 1747 Dale Road parcel to the west of the Site indicated that the groundwater depth is highly variable on a seasonable basis and the first water bearing zone (i.e., water table) has ranged from less than 0.1 to greater than 12 feet bgs. The most recent semiannual groundwater monitoring event was performed in May 2009 (Ecology & Environment) and recorded groundwater depths on the 1747 Dale Road parcel ranging between 3.7 and 4.7 feet bgs.

1.3 Summary of Remedial Investigation Findings

Remedial Investigations (RIs) were performed to characterize the nature and extent of contamination at the site. The results of the RIs are described in detail in the following reports:

- 2007 Soil/Fill Investigation, Benchmark Environmental Engineering & Science, December, 2007. NTC performed a voluntary comprehensive shallow soil/fill sampling program on the Site specifically to characterize surface and selected subsurface soil/fill for PCB impacts in anticipation of a potential building expansion for the Site. The investigation sampled shallow soil/fill in 50 foot grid intervals across the majority of the Site. A summary table (Table 1) of the 2007 sampling results for PCBs in the surface soils and boring locations and a site map (Sheet 1) illustrating sample locations on the Site were prepared and are included in Appendix B.
- Remedial Investigation/Alternatives Analysis /Interim Remedial Measures Report, Golder Associates, Inc., May 17, 2010.

The 2007 Soil/Fill Investigation and 2009 BCP RI determined or confirmed that there were multiple locations on the Site where the shallow (0 - 4 ft bgs) soil/fill sample concentration results exceeded the Part 375 restricted industrial Soil Cleanup Objectives (SCOs) for PCBs. The majority of the impacted areas exceeding Part 375 SCOs were located in thirteen (13) 50 foot by 50 foot (approximately) grids in the western central portion of the Site with one grid located in the southwest corner of the Site. Only one other contaminant, benzo(a) pyrene, (with the exception of commonly occurring metals like magnesium) was detected in the soil/fill in excess of restricted SCOs, and only at a concentration marginally above the SCO. This was not identified as a concern based on the ubiquitous nature of this contaminant in historically urban/industrial settings.

Groundwater testing conducted during the 2009 BCP RI indicated that the Site groundwater was not impacted in the RI monitoring well locations above New York State groundwater quality standards. PCBs were detected at a concentration of 6.7 ppb in temporary Piezometer PZ-01 which was installed at boring location SB-66 during the December 2007 Investigation. Although this concentration exceeds the GWQS for PCBs (i.e., 0.09 ug/L), the construction and installation features of this piezometer combined with the additional data collected during the 2007 Investigation and BCP RI indicate that this result is most likely anomalous and not representative of groundwater at this location. Specifically, it should be noted that PCBs were not detected in the 0-6 foot composite soil sample collection at this boring location prior to the installation of the piezometer in 2007. Furthermore, as the piezometer was

intended as a temporary monitoring location, it was installed directly into the completed soil boring and did not incorporate a sand pack or bentonite seal that would typically be used on a monitoring well designed to prevent downhole or sediment intrusion into the water column, which is the suspected source of the PCBs detected in this piezometer. Resampling of this piezometer will be conducted as part of the Site Management Plan to assess current groundwater quality at this location prior o the removal of the piezometer for Site redevelopment activities.

Below is a summary of site conditions when the BCP RI was performed in the fall of 2009:

1.3.1 Soil

PCB contamination ranged from non-detectable to concentrations of 1060 ppm in the shallow soil/fill based on the results of the December 2007 Investigation (refer to Table 1). The 2009 BCP RI sampling locations were selected to fill data gaps in the 2007 investigation program. The BCP RI sampling program included analysis for a broad range of potential contaminants (VOCs, SVOCs, metals and pesticides) and focused on potential PCB impacts at depths greater than 1 foot and in shallow surface soils at the northernmost end of the Site that were not addressed during the December 2007 investigation. As such, the BCP RI did not resample the most contaminated soil/fill areas identified in the December 2007 investigation. Please refer to Table 2a for a summary of the BCP RI results for all parameters except PCBs. The BCP RI detected PCBs in the soil/fill borings at concentrations up to 22 parts per million (ppm). The PCB soil/fill concentrations from the BCP RI are summarized in Table 2b.

1.3.2 Site-Related Groundwater

Concentrations of VOCs, SVOCs, pesticides, herbicides, cyanide, and PCBs were below GWQS (6 NYCRR Part 703) with the exception of naturally-occurring metals, including iron, manganese, and sodium in all BCP RI groundwater samples. The results are presented in Table 3.

It was anticipated that there might be some potential for off-Site groundwater VOC impacts from the ROCO Superfund Site located to the north/northwest of the Site (across Dale Rd.). However, the BCP RI groundwater results did not confirm any evidence of off-site impacts.

1.3.3 Site-Related Soil Vapor Intrusion

As discussed above, and presented in Table 2a, no detectable concentrations of volatile organic compounds were found in the BCP RI soil/fill samples. Based on these results, soil vapor intrusion impacts are not a factor at this Site.

1.4 Summary of Remedial Actions

The site was remediated in accordance with the NYSDEC-approved Remedial Investigation and Interim Remedial Measure Work Plan dated September 2009 (Ref. 3).

The following is a summary of the Remedial Actions performed at the site:

1. Excavation and on-site staging of non-hazardous soil grids. Approximately 1,097 tons of non-hazardous soil was temporarily relocated to an onsite spoils lay down area for further testing and characterization prior to disposal off site. Grids identified as numbers 3, 4, 5 and 7 were characterized as non-hazardous based on the 2007 surface soil investigation performed by NTC. Grid 3, 4 and 7 sample results from the 2007 investigation indicated that the surficial soils were technically below the Part 375 Restricted Industrial SCO. However, it was determined that based on their location between other grids that exceeded the SCO that it was impractical to leave the soil/fill from these grids in place. Therefore they were included in the non-hazardous excavation plan.
2. Excavation of PCBs hazardous (i.e.> 50 ppm) soil/fill. Approximately 2,075 tons of soil/fill were removed as hazardous waste for off-site disposal. Grids identified as numbers 1, 2, 6, 8, 9, 10, 11, 12 and 13 were characterized as hazardous based on the 2007 surface soil investigation performed by NTC.
3. Characterization and off-site disposal of approximately 6 partially crushed and deteriorated drums containing non-hazardous roofing tar residuals;
4. Excavation and on-site relocation of large pieces of concrete rubble from several designated grid areas;
5. Verification sampling of the sidewalls and floor areas of the excavated. Golder personnel collected 11 sidewall, 20 floor and 4 sidewall verification samples within the excavation limits and from stockpiled soil from the non-hazardous grids;
6. Off-site transportation and disposal of hazardous and non-hazardous soil/fill to the CWM Chemical Services TSD Facility, Model City, New York. All trucks were lined with polyethylene liners so as to allow the soil to be fully removed from the truck;
7. Community dust monitoring program implemented during excavation activities. Golder personnel set up and monitored dust monitoring equipment upwind and downwind of excavation activities throughout the project
8. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental

Easement, which includes plans for: (1) Institutional Controls, (2) monitoring, (3) operation and maintenance and (4) reporting;

9. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the site.

Remedial activities were completed at the site in April, 2010. Figure 2 provides an illustration of the excavated grids, their grid identification numbers and post-IRM PCB soil/fill concentrations.

1.4.1 Removal of Contaminated Materials from the Site

The Site was remediated to meet the restricted industrial SCO for PCBs of 25 ppm. The materials that were removed were primarily non-native fill and small quantities of native soils, and natural vegetation in the contaminated areas. The total amount of material that was disposed of off-site was 3,172 tons. Figure 3 illustrates the as-built survey of the areas that were excavated and their final elevations.

1.4.2 Site-Related Treatment Systems

No long-term treatment systems were required or installed as part of the site remedy based on the results of the RI and subsequent soil/fill removals performed under the IRM.

1.4.3 Remaining Contamination

The contamination remaining on the site consists of low levels of PCBs within the upper soil/fill layer that remains after completion of the remedial excavation across the majority of the site. In general, based on extensive geotechnical and environmental borings, this layer of soil/fill decreases in thickness at the north and west portions of the Site and increases to a thickness of 3 to 4 feet in the southern and western portions of the Site. The remaining concentrations of PCBs in the shallow soil/fill that exceed the Track 1 (unrestricted) SCO for PCBs (0.1 ppm) are presented on Figure 2 and summarized in Table 4. The residual concentrations range from 0.15 to 11.2 ppm with an average concentration across the 49 samples of 1.9 ppm. This data consists of samples collected during the December 2007 Investigation from areas of the Site that were not remediated as part of the IRM as well as supplemental BCP RI data and post-IRM remediation verification sample results collected from the IRM excavation areas.

2.0 INSTITUTIONAL CONTROL PLAN

2.1 Introduction

2.1.1 General

Since remaining contaminated soil exists beneath the site, Institutional Controls (ICs) are required to protect human health and the environment. This Institutional Control Plan describes the procedures for the implementation and management of all ICs at the site. The IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all ICs on the site;
- The basic implementation and intended role of each IC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the ICs required by the site remedy, as determined by the NYSDEC.

2.2 Institutional Controls

A series of Institutional Controls is required by the BCP to: (1) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (2) limit the use and development of the site to industrial uses only. Adherence to these Institutional Controls on the site is required by the Environmental Easement and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns;
- Performance of stormwater and other environmental or public health monitoring as defined in this SMP;

- Implementation and documentation of the soil/fill management procedures provided in the Excavation Work Plan (EWP);
- Reporting of the data and information pertinent to Site Management of the Controlled Property must be performed at the frequency and in a manner defined in this SMP;

Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. Please refer to Appendix C for a copy of the Environmental Easement filed with the County of Erie, New York.

The site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement. Site restrictions that apply to the Controlled Property are:

- The property may only be used for restricted industrial use provided that the long-term Institutional Controls included in this SMP are employed.
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use.
- The property may not be used for a higher level of use, such as restricted commercial use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Vegetable gardens and farming on the property are prohibited;
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.2.1 Excavation Work Plan

The site has been remediated for restricted industrial use. Any future intrusive work that will encounter or disturb the remaining contamination will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix D to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the

site. A sample HASP is attached as Appendix E to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The site owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the institutional controls described in this SMP.

2.3 Inspections and Notifications

2.3.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

2.3.2 Notifications

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the Brownfield Cleanup Agreement (BCA), 6NYCRR Part 375, and/or Environmental Conservation Law; and
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the Brownfield Cleanup Agreement (BCA) and all approved work plans and reports, including this SMP; and
- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.4 Contingency Plan

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.4.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to Patrick Martin, (Golder Associates). These emergency contact lists must be maintained in an easily accessible location at the site.

Table 5: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Table 6: Site Contact Numbers

John Darby – Niagara Transformer	716-830-6501
Robert Fishlock- Niagara Transformer	716-896-6500
Patrick T. Martin – Golder Associates	716-867-2860

* Note: Contact numbers subject to change and should be updated as necessary

2.4.2 Map and Directions to Nearest Health Facility

Site Location: 1755 Dale Road, Cheektowaga, NY 14225

Nearest Hospital Name: St. Josephs Hospital

Hospital Location: 2605 Harlem Road, Cheektowaga, NY 14225

Hospital Telephone: (716) 891-2400

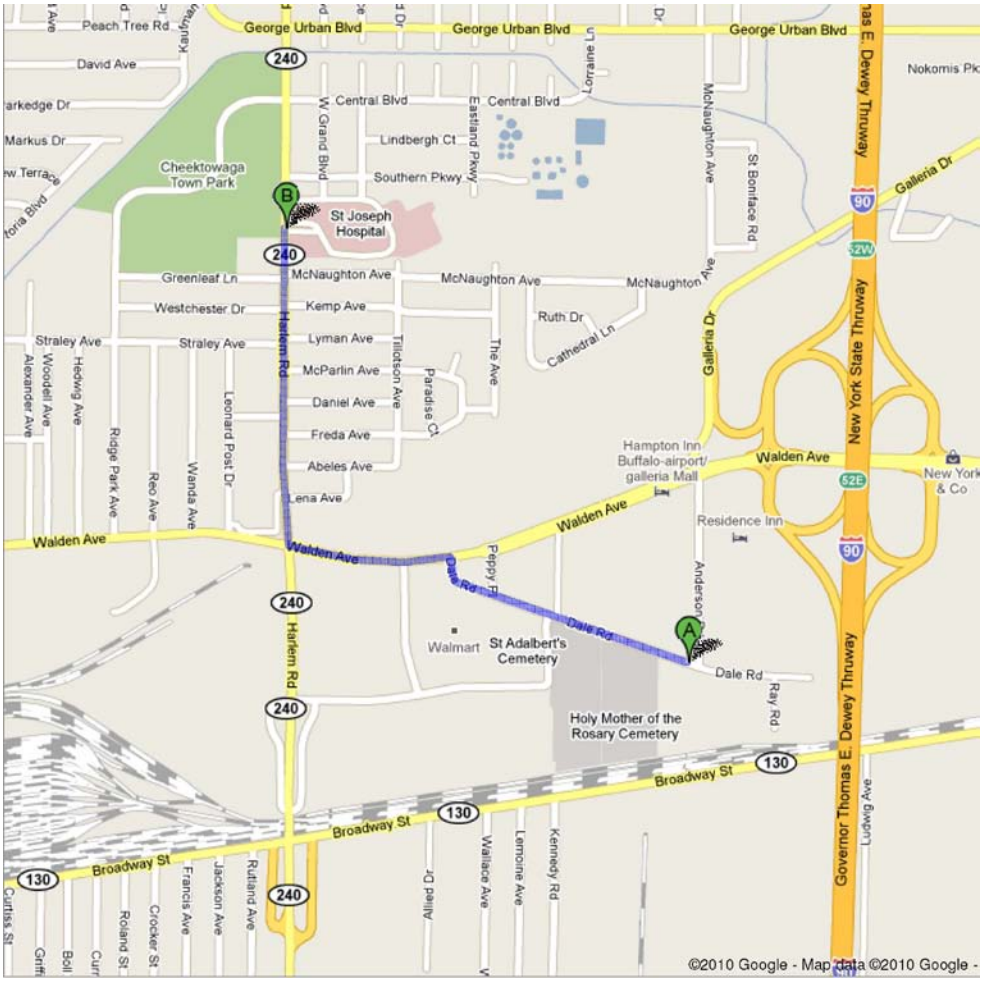
Directions to the Hospital:

1. Head west on Dale Road
2. Turn left at Walden Avenue
3. Turn right at Harlem Road/NY-240

Total Distance: 1.2 miles

Total Estimated Time: 4 minutes

Figure 4: Route from the Site to the Hospital



2.4.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 5). The list will also be posted prominently at the site and made readily available to all personnel at all times.

It is assumed that future redevelopment of the Site will be consistent with current manufacturing operations at the adjacent 1747 Dale Road facility. Potential spills therefore would be related to bulk storage of petroleum-based liquids. Procedures to address spills from the Site will be detailed in the Spill Prevention Control and Countermeasures (SPCC) Plan that will be prepared and maintained at the Site in accordance with 40CFR Part 112.

Specific evacuation plans for permanent structures constructed at the Site will be developed, as appropriate, based on the final layout and design of the structures. In general, the primary evacuation route will be to the north via the main Site access road that connects to Dale Road.

Amendments to the Contingency Plan will be made as warranted by changes to the Site or related Plans.

3.0 SITE MONITORING PLAN

3.1 3.1 Introduction

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate residual contamination at the site, and all affected site media identified below. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Annual inspection and periodic certification.

Semi-annual monitoring of the Site stormwater and associated sediment is proposed to assess the effectiveness of the remedy and overall reduction in contamination on-site. Semi-annual monitoring will be conducted for the first 5 years. The frequency thereafter will be determined by NYSDEC. Trends in PCB contaminant levels in stormwater and sediment discharged from the Site will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 7 and discussed further in Section 3.2 below.

Table 7: Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Stormwater: Upstream, Outfall, Downstream	Semi-annually (first five years)	Stormwater runoff and sediment (when present)	PCBs, Method 8082
Annual Site Inspection	Annually	Visually inspect entire site (with particular focus on soil berms) for signs of deterioration/erosion	NA

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

3.2 Media Monitoring Program

3.2.1 Surface Water and Sediment Monitoring

Stormwater and associated sediment (when present in the outfall ditch) samples will be collected in three locations: 1) a minimum of 50 feet upstream of the new stormwater outfall; 2) at the new outfall location discharging from the stormwater retention pond; and downstream of the new stormwater outfall adjacent to the southwest corner of the BCP Site. The new stormwater retention pond located to the east of the BCP Site will collect stormwater generated from the BCP Site and discharge to the open drainage swale that borders the Site to the south. The exact location of the stormwater outfall has not been determined and will be finalized as part of the Site redevelopment plans. A grab sample will be collected from the outfall to be representative of first flush conditions from the retention pond if feasible based on the time of the precipitation event. Proposed upstream and downstream surface water and sediment (when present) grab samples will be collected at the same time the outfall first flush sample is collected.

As noted in Table 7 above, the sampling frequency will be semi-annually for the first 5 years following completion of site redevelopment activities. A reduction in frequency will be requested from the Department if after the initial 5 year monitoring period if the data demonstrates that PCBs are not being detected in the stormwater and sediment runoff from the BCP Site.

3.2.2 Soil/Fill

All areas of the Site will be carefully inspected on an annual basis to assess the condition of surface soil integrity, asphalt and concrete areas to determine if evidence of erosion or related deterioration of the site soils, asphalt or concrete structures is occurring that would result in the erosion of Site soil/fill onto surrounding properties. In particular, special attention will be given to the condition and

integrity of the soil berms created as part of the initial Site redevelopment plan. If erosion or deterioration in any areas is noted, corrective action will be taken within 15 days of discovery to repair, replace or otherwise correct the problem(s) identified during the inspection.

A copy of the approved (by Town of Cheektowaga) Site Plan illustrating the location of the soil berms and all proposed site improvements and structures is provided on Drawing C1.03 –Grading, Landscaping, Erosion and Sediment Control Plan (refer to Appendix F).

3.3 Site-Wide Inspection

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. During these inspections, an inspection form will be completed (Appendix G). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that site records are up to date.

3.4 Monitoring Quality Assurance/Quality Control

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance/Quality Control (QA/QC) Plan prepared for the Site (refer to Appendix H). Main Components of the QA/QC Plan include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
  - Sample holding times will be in accordance with the NYSDEC ASP requirements.
  - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:

- All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.

- The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
  - Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks;
- QA Performance and System Audits; and
- Corrective Action Measures.

3.5 Monitoring Reporting Requirements

Forms and any other information generated during regular monitoring events and inspections will be kept on file on-site. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared (if required by NYSDEC], subsequent to each sampling event. The letter report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., stormwater, etc);
- Copies of all field forms completed (e.g., sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);

- Any observations, conclusions, or recommendations; and
- A determination as to whether surface soil/fill integrity has changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 8 below.

Table 8: Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency*
Stormwater Monitoring Report	Semi-Annually
Site Inspection Report	Annually

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

4.0 OPERATION AND MAINTENANCE PLAN

4.1 Introduction

The site remedy does not rely on any mechanical systems, such as sub-slab depressurization systems or air sparge/ soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components is not included in this SMP.

5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 Site Inspections

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan of this SMP. At a minimum, a site-wide inspection will be conducted annually.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

A general site-wide inspection form will be completed during the site-wide inspection (see Appendix F). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the IC certification to confirm that the:

- ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented; and
- The site remedy continues to be protective of public health and the environment and is performing as designed in the FER.

5.2 Certification of Institutional Controls

The Periodic Review Report described in Section 5.3 below will include the following certification language:

"***For each institutional identified for the site, I certify that all of the following statements are true:***

- ***The institutional control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;***
- ***Nothing has occurred that would impair the ability of the control to protect the public health and environment;***
- ***Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;***

- ***Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;***
- ***If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;***
- ***Use of the site is compliant with the environmental easement.***
- ***The information presented in this report is accurate and complete.***
- ***I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative] [and I have been authorized and designated by all site owners to sign this certification] for the site."***

5.3 Periodic Review Report

A Periodic Review Report will be submitted to the Department every year, beginning eighteen months after the Certificate of Completion is issued. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix B (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ICs required by the remedy for the site;
- Results of the required annual site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media, which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific COC;
  - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
  - The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 Corrective Measures Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

6.0 REFERENCES

1. Ecology and Environment, Inc., *Niagara Transformer Corporation Site, Cheektowaga, New York Remediation Summary Report*, prepared for *New York State Department of Environmental Conservation*, December 1997.

2. Ecology and Environment, Inc., *Niagara Transformer Corporation NYSDEC Site No. 9-15-146, Town of Cheektowaga, Erie, New York; Interim Remedial Measure Summary Report*, prepared for New York State Department of Environmental Conservation, January 2005.

3. Golder Associates Inc., *Remedial Investigation & Interim Remedial Measures Work Plan, Niagara Transformer Corporation – 1755 Dale Road Cheektowaga, New York*, prepared for New York State Department of Environmental Conservation, September 2009.

TABLES 1, 2, 3 AND 4

(Tables 5 through 8 in Text)

TABLE 1
DECEMBER 2007 SOIL/FILL INVESTIGATION RESULTS
POLYCHLORINATED BIPHENYLS
NIAGARA TRANSFORMER CORPORATAION, CHEEKTOWAGA, NY
1755 DALE ROAD PROPERTY

Surface Sample Locations (0-6 inches)	TOTAL PCBS (MG/KG)
1	ND
2	2.96
3	0.819
4	1.12
5	0.423
10	0.515
11	0.628
12	2.31
13	0.594
14	0.509
15	0.67
16	2.08
17	2.23
18	7.61
25	1.65
28	2.26
29	33
30	6.99
31	2.13
32	28.4
39	0.735
40	138
42	1060
43	443
44	58.7
45	ND
46	ND
53	ND
54	0.888
56	90.4
57	0.389
60	ND
64	0.403
65	0.919
67	1.4
68	44.3
69	11.2
70	ND
71	ND
72	2.42

Soil Boring Sample Locations (0-6 feet)	TOTAL PCBS (MG/KG)
SB-26	1.65
SB-27	92.1
SB-41	ND
SB-55	76.7
SB-58	ND
SB-59	ND
SB-66	ND

Groundwater Sample Location	Total PCBs (UG/L)
PZ-01	6.76

Notes:

ND = Non-detect

Table By: AML
Checked By: JCH
Reviewed By: PTM

TABLE 2A
SITE MANAGEMENT PLAN
BCP RI SOIL/FILL ANALYTICAL RESULTS
COMPARISON TO NYSDEC PART375 SOIL CLEANUP OBJECTIVES

1755 DALE RD. BCP SITE # C915234 - NIAGARA TRANSFORMER CORP.
CHEEKTOWAGA, NY

Lab ID	Restricted Industrial SCOs Table 375-6.8(b) (PPM)	Restricted Commercial SCOs Table 375-6.8(b) (PPM)	RSI0643-01 - Solid		RSI0741-03 - Solid		RSI0741-09 - Solid		RSI0741-06 - Solid		RSI0695-07 - Solid		RSI0695-10 - Solid		RSI0741-15 - Solid		RSI0741-12 - Solid		RSI0643-02 - Solid		RSI0643-03 - Solid	
Sample ID			B-1 (0-4)		B-2		B-3		B-4		B-5		B-6		B-7		B-8		B-9		B-10	
Sample Date			9/17/09		9/21/09		9/21/2009		9/21/2009		9/18/2009		9/18/2009		9/21/2009		9/21/2009		9/17/2009		9/17/2009	
Sample Depth			0-4 ft		0-4 ft		0-4 ft		0-4 ft		0-4 ft		0-4 ft		0-4 ft		0-4 ft		0-4 ft		0-4 ft	
Units			PPM		PPM		PPM		PPM		PPM		PPM		PPM		PPM		PPM		PPM	
Volatile Organics (8260B)																						
Acetone	1000	500			0.017	J													0.0054	J		
Methylene Chloride	1000	500			0.012		0.018		0.013		0.026		0.019		0.015		0.028					
Xylenes, total	1000	500									0.0013	J										
Semivolatile Organics (GC/MS)																						
2-Methylnaphthalene	NA	NA							0.0075	J			0.11	D10, J	0.11	D10, J	0.17	D10, J				
Acenaphthene	1000	500				D10									0.39	D10, J						
Acenaphthylene	1000	500				D10											0.1	D10, J				
Anthracene	1000	500				D10									1.1	D10	0.087	D10, J	0.12	D10, J		
Benz[a]anthracene	11	5.6			0.77	D10, J	0.1	D10, J	0.092	J	0.68	D12, J	0.39	D10, J	2.1	D10	0.57	D10, J	0.53	D10, J	0.34	D12,J
Benzo[a]pyrene	1.1	1			1.4	D10, L, J	0.087	D10, L, J	0.11	L, J	0.79	D12, J	0.41	D10, J	1.9	D10, J, L1	0.68	D10, L, J	0.62	D10, J	0.29	D12,J
Benzo[b]fluoranthene	11	5.6			1.7	D10, J	0.11	D10, J	0.12	J	0.81	D12, J	0.51	D10, J	2.2	D10	0.89	D10, J	0.8	D10, J	0.4	D12,J
Benzo[g,h,i]perylene	1000	500			0.95	D10, J			0.081	J	0.62	D12, J	0.31	D10, J	1.3	D10	0.62	D10, J	0.51	D10, J		
Benzo[k]fluoranthene	110	56			0.61	D10, J			0.046	J	0.42	D12, J	0.24	D10, J	0.91	D10, J	0.31	D10, J	0.4	D10, J	0.22	D12,J
Bis(2-ethylhexyl) phthalate	NA	NA			1	D10, J			0.32						0.5	D10, J	0.42	D10, J	1.1	D10, J		
Carbazole	NA	NA													0.6	D10, J						
Chrysene	110	56			1	D10, J	0.089	D10, J	0.097	J	0.63	D12, J	0.43	D10, J	2	D10	0.67	D10, J	0.62	D10, J	0.25	D12, J
Dibenz[a,h]anthracene	1.1	0.56			0.25	D10, J			0.022	J					0.36	D10, J	0.15	D10, J	0.15	D10, J		
Dibenzofuran	NA	NA													0.33	D10, J	0.055	D10, J				
Fluoranthene	1000	500			0.83	D10, J	0.16	D10, J	0.14	J	1.2	D12, J	0.69	D10, J	5	D10	1.2	D10	1.1	D10, J	0.41	D12, J
Fluorene	1000	500													0.51	D10, J						
Indeno[1,2,3-cd]pyrene	11	5.6			0.79	D10, J			0.069	J	0.53	D12, J	0.24	D10, J	1.2	D10	0.49	D10, J	0.38	D10, J	0.22	D12, J
Naphthalene	1000	500															0.12	D10, J				
Phenanthrene	1000	500			0.22	D10, J	0.12	D10, J	0.058	J	0.66	D12, J	0.42	D10, J	4.7	D10	0.63	D10, J	0.72	D10, J	0.31	D12, J
Pyrene	1000	500			0.74	D10, J	0.14	D10, J	0.13	J	0.98	D12, J	0.59	D10, J	3.9	D10	0.96	D10	0.93	D10, J	0.37	D12, J
Organochlorine Pesticides (8081A)					[2C]		[2C]		[2C]		[2C]		[2C]		[2C]		[2C]					
4,4'-DDD	180	92															0.0028	QFL, D04, J				
4,4'-DDT	94	47									1.5	QFL, D04										
delta-BHC	1000	500							0.00085	QFL, J									0.0015	QFL, J	0.0016	QFL, J
Dieldrin	2.8	1.4	0.014	QFL					0.0012	QFL, J	0.34	QFL, D04, J	0.023	QFL, D04			0.0032	QFL, D04, J	0.0086	QFL, J	0.0025	QFL, J
Endrin	410	89	0.0047	QFL			0.021	QFL, D04, J	0.0011	QFL, J	0.26	QFL, D04, J	0.016	QFL, D04, J	0.21	QFL, D04, J	0.0034	QFL, D04, J			0.0027	QFL, J
gamma-Chlordane	NA	NA	0.0021	QFL, J															0.0023	QFL, J		
Heptachlor	29	15															0.0016	QFL, D04, J				
Heptachlor epoxide	NA	NA																	0.0018	QFL, J		
Total Metals (SW 846 Series)																						
Aluminum	NA	NA	5930		13100		11200		6160		14800		7670		7680		5950		4960		8570	
Arsenic	16	16	6.2	J	5.4	J	6	J	2.4	J	5.9	J	5.4	J	6.8	J	9.7	J	8.2	J	10.5	J
Barium	10000	400	50.6	J	118	J	95	J	39.8	J	118	J	108	J	107	J	102	J	108	J	273	J
Beryllium	2700	590	0.359		0.643		0.561		0.293		0.657		0.404		0.449		0.369		0.404		0.501	
Cadmium	60	9.3	0.373				0.511		0.243		0.285		0.462		1.02		1.63		1.05		1.27	
Calcium	NA	NA	83800	D08, J	73100	D08, J	33900	J	41500	J	4490	J	10900	J	47400	J	4630	J	113000	D08, J	27000	J
Chromium	6800	1500	8.26	J	20.9	J	13.9	J	9.88	J	18.6	J	11	J	17.1	J	18.6	J	26.1	J	21	J
Cobalt	NA	NA	3.83		8.45		5.25		4.7		10.6		4.89		6.4		7.76		4.72		9.05	
Copper	10000	270	18.3	J	19.8	J	33.4	J	11.1	J	27.1	J	33.2	J	58.1	J	124	J	60.1	J	89.1	J
Iron	NA	NA	13400	B3, B1, B, J	22700	B1, B3, B, J	17400	B1, B3, B, J	11700	B1, B3, B, J	24500	B1, B3, B, J	15900	B1, B3, B, J	33500	B1, B3, B, J	66600	D08, B, J	25300	B1, B3, B, J	54200	B1, B3, B, J
Lead	3900	1000	291	J	11.7	J	208	J	13.8	J	26.2	J	104	J	206	J	322	J	192	J	1840	J
Magnesium	NA	NA	10800	J	12700	J	10000	J	3390	J	5040	J	5580	J	6790	J	2280	J	5150	J	6600	J
Manganese	10000	10000	385	B1, B, J	312	B1, B, J	1450	B1, B, J	337	B1, B, J	614	B1, B, J	473	B1, B, J	514	B1, B, J	521	B1, B, J	1080	B1, B, J	725	B1, B, J
Mercury	5.7	2.8	0.149		0.0264		0.259				0.168		0.167		0.393		1.02	D08	0.976	D08	0.238	
Nickel	10000	310	8.07	J	23.5	J	12.3	J	10.3	J	22.2	J	11.7	J	22.9	J	25	J	17.1	J	26.2	J
Potassium	NA	NA	993		1760		1420		1170		1900		1130		1060		783		674		1300	
Sodium	NA	NA	363				184															
Vanadium	NA	NA	13.2	J	23.7	J	22	J	14.6	J	28.1	J	17	J	17.4	J	16	J	16.3	J	21.3	J
Zinc	10000	10000	154	J	59.2	J	147	J	62.8	J	86.9	J	113	J	348	J	635	J	475	J	894	J
General Chemistry Parameters																						
Cyanide	10000	27									1	J									2	J
Percent Solids	NA	NA	88%		90%		86%		88%		85%		91%		90%		91%		93%		87%	

TABLE 2A
SITE MANAGEMENT PLAN
BCP RI SOIL/FILL ANALYTICAL RESULTS
COMPARISON TO NYSDEC PART375 SOIL CLEANUP OBJECTIVES

1755 DALE RD. BCP SITE # C915234 - NIAGARA TRANSFORMER CORP.
CHEEKTOWAGA, NY

Data Qualifiers:

B = Analyte was detected in associated method blank.
B1 = Analyte was detected in associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
B3 = Target analyte detected in calibration blank at or above the method reporting limit.
D04 = Dilution required due to high levels of non-target compounds.
D08 = Dilution required due to high concentration of target analyte(s)
D10 = Dilution required due to sample color.
D12 = Dilution required due to sample viscosity.
J = Analyte detected at a level less than the reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
L = Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
L1 = Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits.
M8 = The MS and/or MSD were below the acceptance limits.
N1 = See Case Narrative.
QFL = Florisil clean-up (EPA 3620) performed on extract.
[2C] = Results taken from second column.

Footnotes:

All values are in Parts per Million (PPM).
blank = Not detected above the practical quantitation limits (PQL), lower limit of quantitation (LLQ), or reporting limit (RL).
0.34 = Sample concentration exceeds the respective Soil Cleanup Objectives
NA = Not Applicable
NS = Not Specified.

Table by: AML
Checked by: DML
Reviewed by: PTM

TABLE 2B
SITE MANAGEMENT PLAN
BCP RI SOIL ANALYTICAL RESULTS (PCBS ONLY)
COMPARISON TO NYSDEC PART 375 SOIL CLEANUP OBJECTIVES

1755 DALE RD. BCP SITE # C915234 - NIAGARA TRANSFORMER CORP
CHEEKTOWAGA, NY

Lab ID	Restricted Industrial SCOs Table 375-6.8(b) (PPM)	Restricted Commercial SCOs Table 375-6.8(b) (PPM)	RSI0643-01 - Solid	RSI0741- 01 - Solid	RSI0741-02 - Solid	RSI0741-07 - Solid	RSI0741-08 - Solid	RSI0741-04 - Solid	RSI0741-05 - Solid	RSI0695-05 - Solid	RSI0695-06 - Solid	RSI0695-08 - Solid	RSI0695-09 - Solid
Sample ID			**B-1 (0-4)**	**B-2 (0-2)**	**B-2 (2-4)**	**B-3 (0-2)**	**B-3 (2-4)**	**B-4 (0-2)**	**B-4 (2-4)**	**B-5 (0-2)**	**B-5 (2-4)**	**B-6 (0-2)**	**B-6 (2-4)**
Sample Date			**9/17/09**	**9/21/09**	**9/21/09**	**9/21/2009**	**9/21/2009**	**9/21/2009**	**9/21/2009**	**9/18/2009**	**9/18/2009**	**9/18/2009**	**9/18/2009**
Sample Depth			**0-4 ft**	**0-2 ft**	**2-4 ft**	**0-2 ft**	**2-4 ft**	**0-2 ft**	**2-4 ft**	**0-2 ft**	**2-4- ft**	**0-2 ft**	**2-4 ft**
Units			**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**
Polychlorinated Biphenyls (8082)				**[2C]**	**[2C]**	**[2C]**	**[2C]**	**[2C]**	**[2C]**	**[2C]**	**[2C]**	**[2C]**	**[2C]**
Aroclor 1016	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	NA	NA	0.49 QSU, D08, J	0.14	ND	1.7 D08	0.029	0.084	ND	10 D08	3.5 D08	2.2 D08	0.052
TOTAL PCBs	**25**	**1**	0.49	0.14	0	1.7	0.029	0.084	0	10	3.5	2.2	0.052

Lab ID	Restricted Industrial SCOs Table 375-6.8(b) (PPM)	Restricted Commercial SCOs Table 375-6.8(b) (PPM)	RSI0741-13 - Solid	RSI0741-14 - Solid	RSI0741-10 - Solid	RSI0741-11 - Solid	RSI0643-02 - Solid	RSI0643-03 - Solid	RSI0643-06 - Solid	RSI0695-01 - Solid	RSI0695-02 - Solid	RSI0695-03 - Solid	RSI0695-04 - Solid
Sample ID			**B-7 (0-2)**	**B-7 (2-4)**	**B-8 (0-2)**	**B-8 (2-4)**	**B-9**	**B-10**	**B-10 (0-2)**	**SS-1**	**SS-2**	**SS-3**	**SS-4**
Sample Date			**9/21/2009**	**9/21/2009**	**9/21/2009**	**9/21/2009**	**9/17/2009**	**9/17/2009**	**9/17/2009**	**9/18/2009**	**9/18/2009**	**9/18/2009**	**9/18/2009**
Sample Depth			**0-2 ft**	**2-4 ft**	**0-2 ft**	**2-4 ft**	**0-4 ft**	**0-4 ft**	**0-2 ft**	**0-6 in**	**0-6 in**	**0-6 in**	**0-6 in**
Units			**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**	**PPM**
Polychlorinated Biphenyls (8082)			**[2C]**	**[2C]**	**[2C]**	**[2C]**				**[2C]**	**[2C]**	**[2C]**	**[2C]**
Aroclor 1016	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	NA	NA	22 D08	0.22	0.25 D08	ND	0.33 J, QSU	0.075 J, QSU	0.18 J, QSU	0.15	0.25	4.5 D08	0.69 D08
TOTAL PCBs	**25**	**1**	22	0.22	0.25	0	0.33	0.075	0.18	0.15	0.25	4.5	0.69

Data Qualifiers:

D08 = Dilution required due to high concentration of target analyte(s)
QSU = Sulfur (EPA 3660) clean-up performed on extract.
[2C] = Results taken from second column.

Footnotes:

All values are in Parts per Million (PPM).
blank = Not detected above the practical quantitation limits (PQL) or lower limit of quantitation (LLQ).
NA = Not applicable
ND = Not detected above the practical quantitation limits (PQL), lower limit of quantitation (LLQ), or reporting limit (RL).

Table by: AML
Checked by: DML
Reviewed by: PTM

TABLE 3
SITE MANAGEMENT PLAN
BCP RI GROUNDWATER ANALYTICAL RESULTS
COMPARISON TO 6 NYCRR PART 703 WATER QUALITY STANDARDS

1755 DALE RD. BCP SITE # C915234 - NIAGARA TRANSFORMER CORP.
CHEEKTOWAGA, NY

Lab ID	Water Quality Standards Surface Waters and Groundwater (6 NYCRR Part 703) (PPM)		RSJ0665-01		RSJ0665-02		RSJ0665-05		RSJ0665-06	
Sample ID			MW-1		MW-2		DUP		MW-4	
Sample Date			10/9/09		10/9/09		10/9/09		10/9/09	
Units			PPM		PPM		PPM		PPM	
Semivolatile Organics (GC/MS)										
Diethyl phthalate	NA		ND		0.00082	J	ND		ND	
Di-n-butyl phthalate	0.05		0.00051	J	0.00057	J	0.00046	J	0.0004	J
Phenanthrene	NA		ND		0.00088	J	ND		0.00086	J
Organochlorine Pesticides (8081A)			[2C]		[2C]		[2C]		[2C]	
beta-BHC	NA		0.00021	D02, J	ND		ND		ND	
Endrin ketone	0.005		0.00024	D02, J	ND		ND		ND	
Methoxychlor	0.035		ND		0.00026	D02	ND		ND	
Total Metals (SW 846 Series)										
Aluminum	NA		6.61		9.62		5.75		9.04	
Barium	NA		0.12		0.108		0.13		0.099	
Calcium	NA		71		203		67.9		192	
Chromium	0.05		0.0079		0.0148		0.0072		0.0143	
Cobalt	NA		ND		ND		ND		0.0046	
Copper	0.2		ND		0.0179		ND		0.0113	
Iron	0.3		6.27		9.73		5.42		12.6	
Lead	0.025		ND		0.0165		ND		0.0137	
Magnesium	NA		57.7		121		54.8		96.8	
Manganese	0.3		0.113		0.307		0.103		0.527	
Nickel	0.1		ND		ND		ND		0.0107	
Potassium	NA		3.36		7.48		3.28		6.6	
Sodium	20		26.6		52.2		27.2		24.5	
Vanadium	NA		0.0085		0.0139		0.0076		0.0163	
Zinc	NA		0.0162		0.0493		0.0145		0.0825	
General Chemistry Parameters										
Turbidity (NTU)	NA		358	B, J	391	B	137	B, J	467	B

TABLE 3
SITE MANAGEMENT PLAN
BCP RI GROUNDWATER ANALYTICAL RESULTS
COMPARISON TO 6 NYCRR PART 703 WATER QUALITY STANDARDS

1755 DALE RD. BCP SITE # C915234 - NIAGARA TRANSFORMER CORP.
CHEEKTOWAGA, NY

Data Qualifiers:

B = Analyte was detected in associated method blank.
D02 = Dilution required due to sample matrix effects.
J = Analyte detected at a level less than the reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
[2C] = Results taken from second column.
ND = Not detected above the practical quantitation limits (PQL), lower limit of quantitation (LLQ), or reporting limit (RL).

Footnotes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. All results are in Parts per Million (PPM) unless stated otherwise.
3. All turbidity results are in Nephelometric Turbidity Units (NTU).
4. Monitoring Wells MW-3 and WM-5 were dry. No water samples were taken from these wells.

0.79 = Sample concentration exceeds the respective Water Quality Standards from 6 NYCRR Part 703.
NA = Not applicable

Table by:	AML
Checked by:	DML
Reviewed by:	PTM

SITE MANAGEMENT PLAN
RESIDUAL PCB CONCENTRATIONS ABOVE UNRESTRICTED SCO

1755 DALE RD. BCP SITE # C915234 - NIAGARA TRANSFORMER CORP.
CHEEKTOWAGA, NY

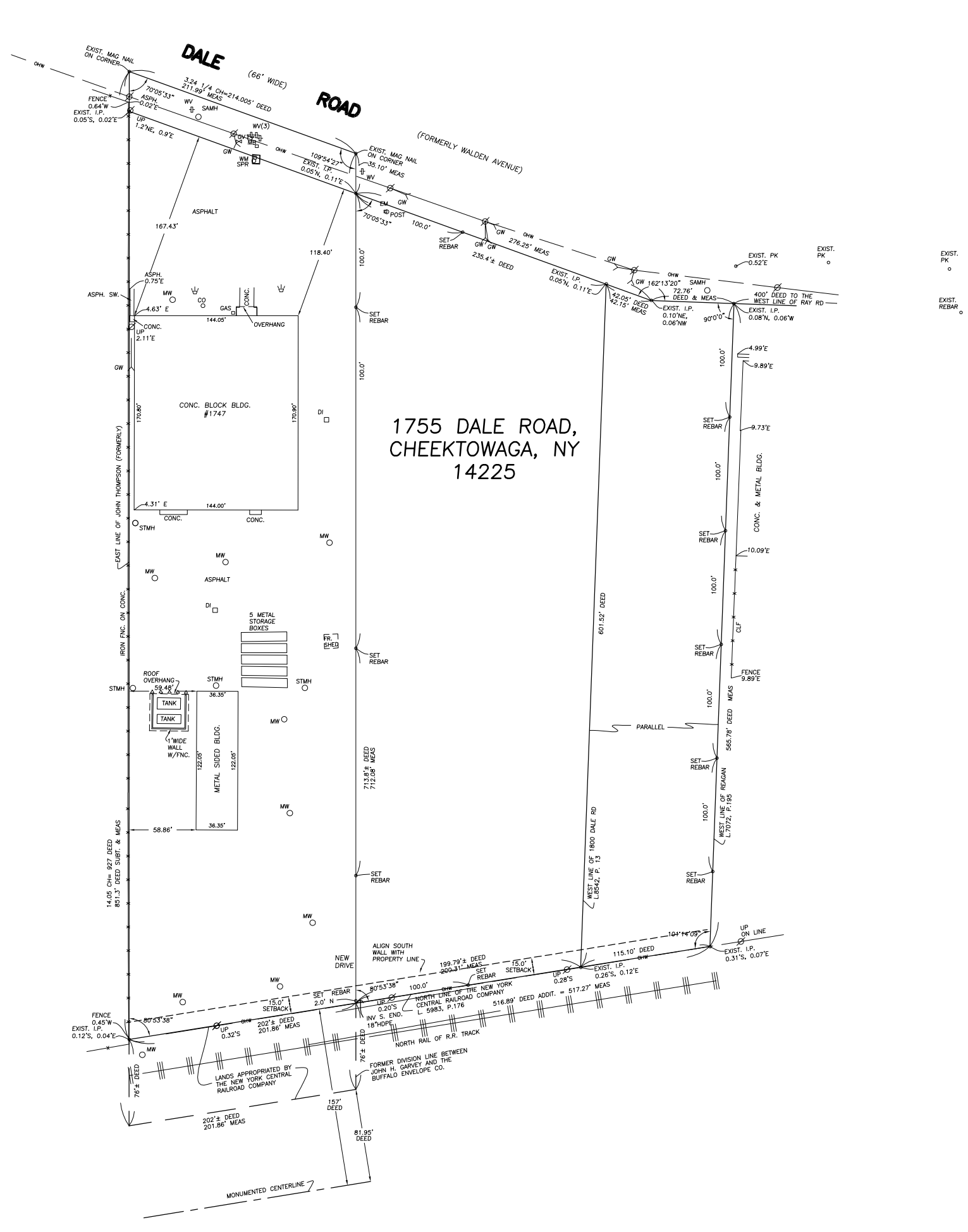
Sample ID	PCB Concentration (PPM)
2007 Investigation Data	
2	2.96
3	0.82
4	1.12
5	0.42
10	0.52
11	0.63
12	2.31
13	0.59
14	0.51
15	0.67
16	2.08
17	2.23
18	7.61
25	1.65
SB-26	1.65
28	2.26
39	0.74
54	0.89
57	0.39
64	0.40
65	0.92
67	1.40
69	11.20
72	2.42

Sample ID	PCB Concentration (PPM)
BCP RI Data	
SS-1	0.15
SS-2	0.25
SS-3	4.50
SS-4	0.69
SS-5	6.00
SS-6	4.10

Sample ID	PCB Concentration (PPM)
IRM Verification Data	
Grid 1 Floor	4.50
Grid 2 Floor	1.10
Grid 2 West Wall	2.70
Grid 3 Floor	4.80
Grid 4 Floor	4.40
Grid 5 Floor	0.62
Grid 6 Floor	0.17
Grid 6 West Wall	1.20
Grid 7 Floor	3.00
Grid 9 Floor	0.20
Grid 11 Floor	0.94
Grid 11 West Wall	0.46
Grid 12 Floor	0.18
Grid 13 Floor	0.20
Grid 13 South Wall	0.24
Grid 13 West Wall	0.37
Grid 13 East Wall	4.10
Grid 13 North Wall	1.20
Grid 13 East Berm (EAST OF GRID 13)	1.00

Table By: AML
Checked By: DML
Reviewed By: PTM

FIGURES 1, 2 AND 3
(Figure 4 in Text)



LEGEND

ASPH		ASPHALT
BLDG		BUILDING
CLF	—×—	CHAIN LINK FENCE
CO	○	CLEAN OUT
CONC		CONCRETE
D		DEED
DI	□	DRAINAGE INLET
EM	□	ELECTRIC METER
FLT		FLOOD LIGHT
GAS	□	GAS METER
GP	△	GUIDE POST
GW	—Y—	GUY WIRE
HYD		HYDRANT
INV	(	INVERT ELEVATION
L		LIBER
MB	□	MAILBOX
MW	○	MONITORING WELL
P.		PAGE
SA MH	○	SANITARY MANHOLE
ST MH	○	STORM MANHOLE
SW		SIDEWALK
UP	⌀	UTILITY POLE
WV		WATER VALVE

REFERENCE

1.) TOPOGRAPHIC BASE MAP TAKE FROM DRAWING ENTITLED "SURVEY – PART OF LOT 24, TOWNSHIP 11, RANGE 7" DRAWING FILENAME 2007101.dwg, DATED 11/15/2007 AND PROVIDED BY DEBORAH A. NAYBOR PLS, P.C. LAND SURVEYING – LAND PLANING.

50 0 50 100
SCALE FEET

Golder Associates
Philadelphia USA

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

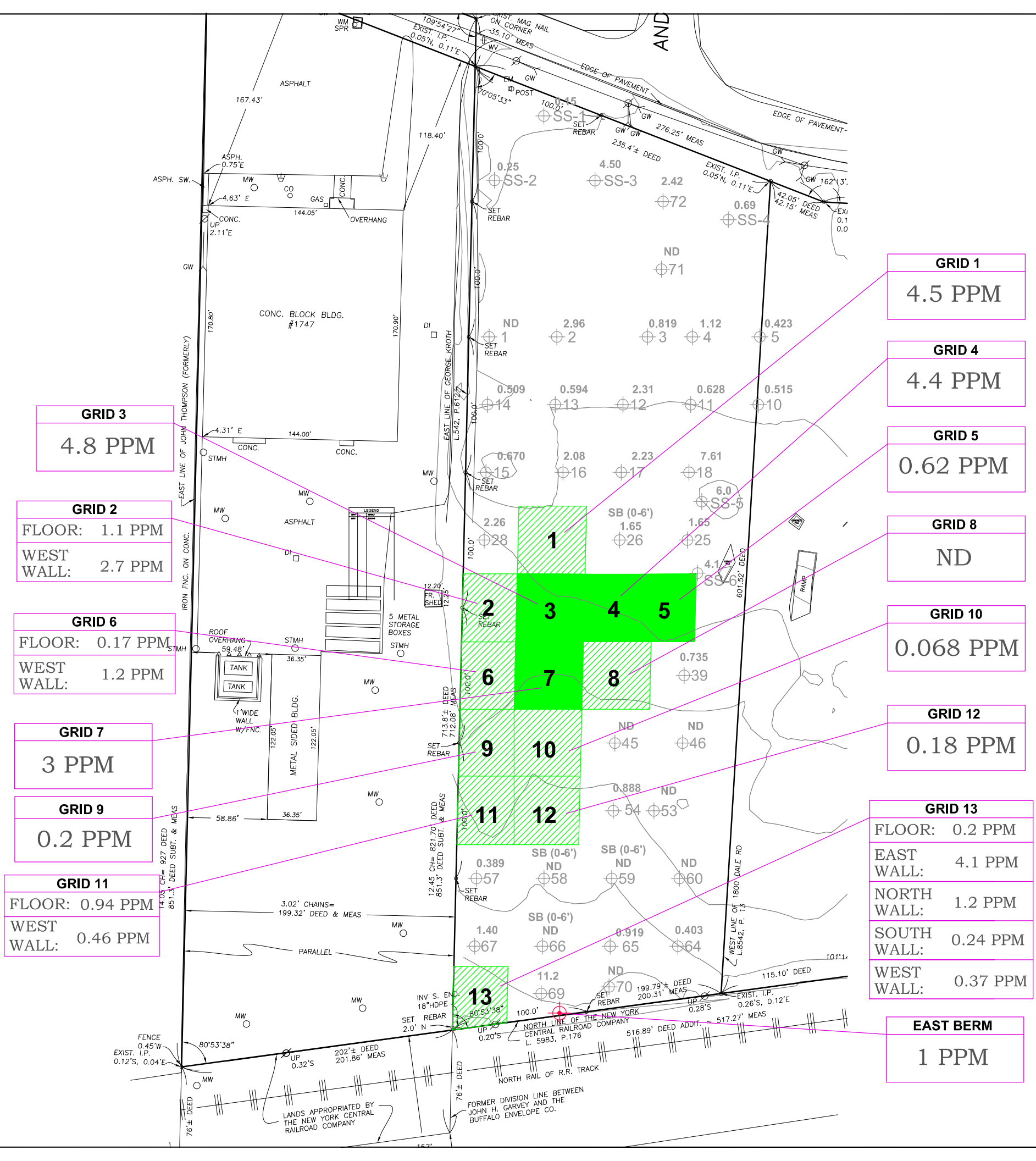
SITE MANAGEMENT PLAN
NIAGARA TRANSFORMER CORP.
CHEEKTOWAGA, NEW YORK

TITLE

SITE LOCATION PLAN
1755 DALE ROAD BCP SITE

PROJECT No. 093-8914402		
FILE No. 093891440 2A006		
REV. 0	SCALE	AS SHOWN
DESIGN	AL	07/22/09
CADD	AL	06/17/10
CHECK		
REVIEW		

FIGURE 1



LEGEND

0.2	FINAL SOIL SAMPLE PCB CONCENTRATION (PPM)
13	GRID LOCATION NUMBER
2.31	SURFACE SOIL SAMPLE RESULT
53	SURFACE SOIL SAMPLE LOCATION

LEGEND		
ASPH		ASPHALT
BLDG		BUILDING
CLF	—×—	CHAIN LINK FENCE
CO	○	CLEAN OUT
CONC		CONCRETE
D		DEED
DI	□	DRAINAGE INLET
EM	□	ELECTRIC METER
FLT	□	FLOOD LIGHT
GAS	□	GAS METER
GP	△	GUIDE POST
GW	—>	GUY WIRE
HYD		HYDRANT
INV	(	INVERT ELEVATION
L.		LIBER
MB	□	MAILBOX
MW	○	MONITORING WELL
P.		PAGE
SA MH	○	SANITARY MANHOLE
ST MH	○	STORM MANHOLE
SW		SIDEWALK
UP	⌀	UTILITY POLE
WV	⌖	WATER VALVE
		PROPERTY BOUNDARY

GENERAL NOTES

1.) BOUNDARY SURVEY AND BUILDING STRUCTURES PROVIDED BY DEBORAH A. NAYBOR PLS, P.C. LAND SURVEYING – LAND PLANNING DATED 11/15/2007 (REVISED 12/11/2007).

2.) ALL CONFIRMATORY SAMPLES COLLECTED FROM FLOOR OF EACH GRID, UNLESS OTHERWISE NOTED, FOLLOWING EXCAVATION.

REFERENCE

1.) MAP FROM DIGITAL CAD FILE NEW AML SAMPLING RESULTS.DWG ENTITLED "PROPOSED IRM EXCAVATION PLAN," DATED DECEMBER 13, 2007, PREPARED BY BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC.

40 0 40 80
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

SITE MANAGEMENT PLAN
NIAGARA TRANSFORMER CORP.
CHEEKTOWAGA, NEW YORK

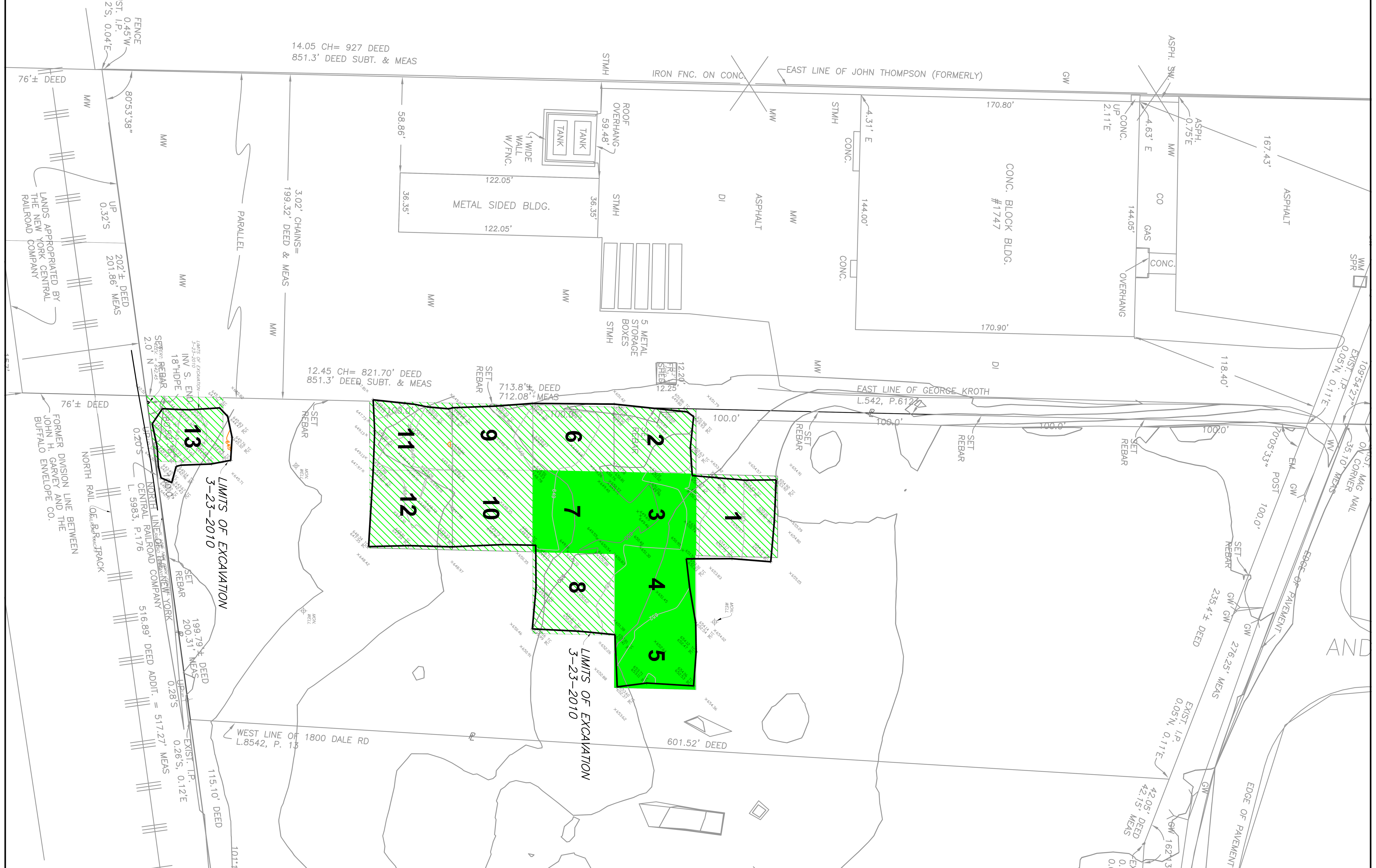
TITLE

IRM EXCAVATION PLAN & SUMMARY OF RESIDUAL SOIL PCB CONCENTRATIONS

NJ Authorization #24GA28029100
Golder Associates
Mt. Laurel, New Jersey

PROJECT No.	093-8914402		FILE No.	0938914402A015	
DESIGN	AML	08/12/09	SCALE	AS SHOWN	REV. 0
CADD	AML	06/17/10			
CHECK					
REVIEW					

FIGURE 2



14.05 CH= 927 DEED
851.3' DEED SUBT. & MEAS
IRON FNC. ON CONC.
EAST LINE OF JOHN THOMPSON (FORMERLY)
76'± DEED
TANK
TANK
ROOF OVERHANG 59.48'
METAL SIDED BLDG.
122.05'
122.05'
CONC. BLOCK BLDG. #1747
170.80'
170.90'
ASPHALT
5 METAL STORAGE BOXES
PARALLEL
LANDS APPROPRIATED BY THE NEW YORK CENTRAL RAILROAD COMPANY
12.45 CH= 821.70' DEED
851.3' DEED SUBT. & MEAS
713.8'± DEED
712.08' MEAS
EAST LINE OF GEORGE KROTH
L.542, P.612
100.0'
SET REBAR
FORMER DIVISION LINE BETWEEN JOHN H. GARVEY AND THE BUFFALO ENVELOPE CO.
NORTH RAIL OF R.R. TRACK
LIMITS OF EXCAVATION
3-23-2010
LIMITS OF EXCAVATION
3-23-2010
1
2
3
4
5
6
7
8
9
10
11
12
13
WEST LINE OF 1800 DALE RD
L.8542, P. 13
601.52' DEED
516.89' DEED ADDIT. = 517.27' MEAS
115.10' DEED
235.4'± DEED
276.25' MEAS
EDGE OF PAVEMENT

APPENDIX A
METES AND BOUNDS

APPENDIX A

NIAGARA TRANSFORMER CORP.
SITE MANAGEMENT PLAN

PROPERTY METES & BOUNDS DESCRIPTION

Deed filed in Erie County Clerk's Office under Liber 9229, Page 593 for 1755 Dale Road, Cheektowaga, New York.

All that tract or parcel of land, situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 24, Township 13, Range 7 of the Holland land Company's Survey, bounded and described as follows:

Beginning at the intersection of the south line of Dale Road (formerly Walden Avenue) with the east line of land conveyed to George Kroth by deed recorded in the Erie County Clerk's Office in Book 542 of Deeds at Page 512; thence southerly along the east line of lands conveyed to George Kroth approximately 713.80 feet to the north line of land conveyed to the New York Central Railroad Company by deed recorded in the Erie County Clerk's Office in Book 5983 of Deeds at Page 176; thence easterly along the north line of land so conveyed to the New York Railroad Company a distance of 199.73± feet to the west line of land conveyed to 1800 Dale Road, Inc. by deed recorded in the Erie County Clerk's Office in Book 8542 of Deeds at Page 13 on August 8, 1977; thence northerly along the west line of said corporation line approximately 601.52 feet to a point in the south line of Dale Road; thence westerly along the south line of Dale Road 235.4± feet to the place or point of beginning.

Subject to assessments, leases and rights of way of record, and subject to the rights of the public in and to these portions of the above described promises contained within the bounds of said Dale Road.

APPENDIX B

DECEMBER 2007 BENCHMARK SOIL/FILL INVESTIGATION (TABLE 1 AND SHEET 1 – RESULTS SUMMARIES)

TABLE 1
SOIL ANALYTICAL RESULTS AND NOTES
POLYCHLORINATED BIPHENYLS
NIAGARA TRANSFORMER CORPORATAION, CHEEKTOWAGA, NY
1755 Dale Road Property

Surface Sample Locations (0-6 inches)	TOTAL PCBS (MG/KG)
1	ND
2	2.96
3	0.819
4	1.12
5	0.423
10	0.515
11	0.628
12	2.31
13	0.594
14	0.509
15	0.67
16	2.08
17	2.23
18	7.61
25	1.65
28	2.26
29	33
30	6.99
31	2.13
32	28.4
39	0.735
40	138
42	1060
43	443
44	58.7
45	ND
46	ND
53	ND
54	0.888
56	90.4
57	0.389
60	ND
64	0.403
65	0.919
67	1.4
68	44.3
69	11.2
70	ND
71	ND
72	2.42

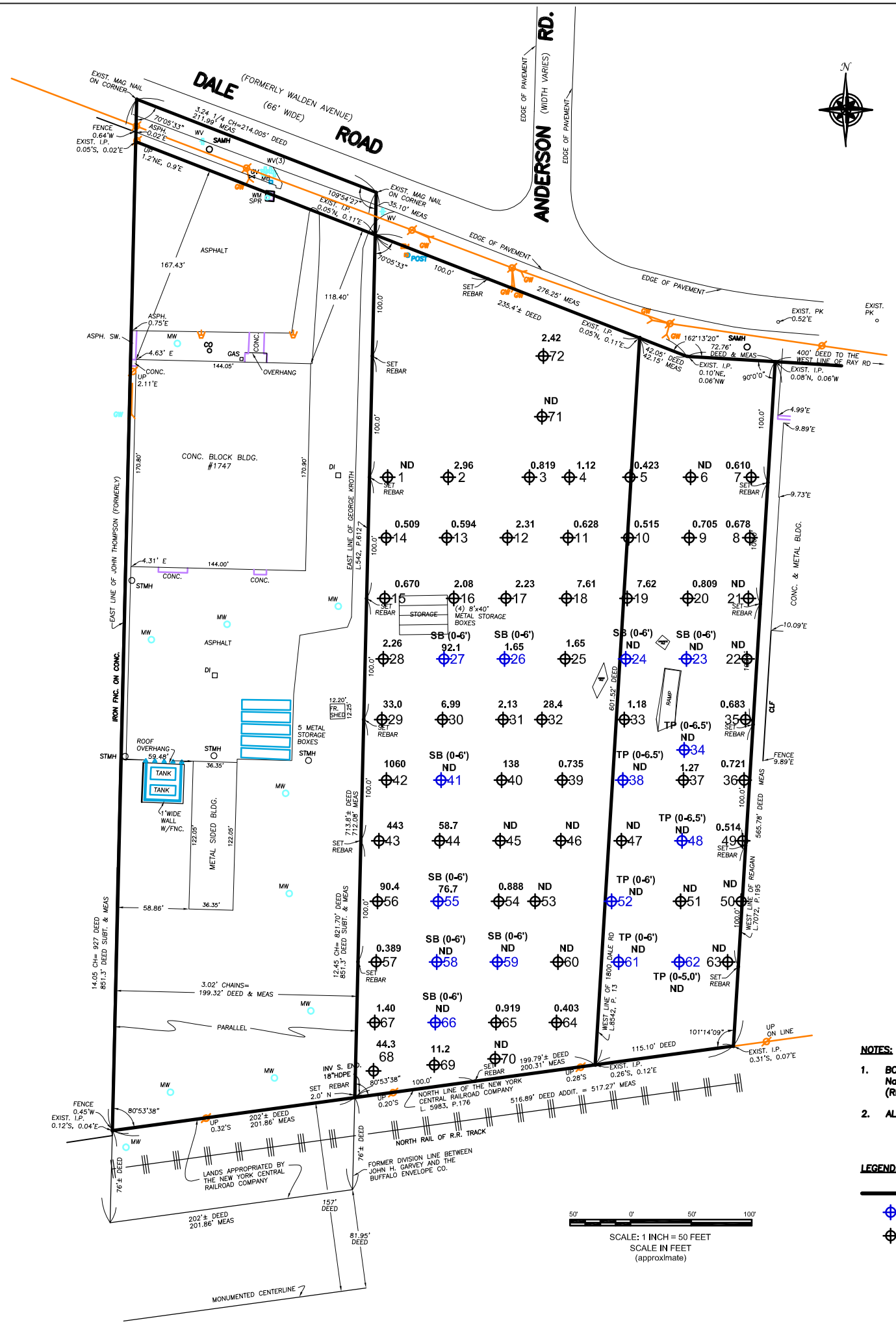
Soil Boring Sample Locations (0-6 feet)	TOTAL PCBS (MG/KG)
SB-26	1.65
SB-27	92.1
SB-41	ND
SB-55	76.7
SB-58	ND
SB-59	ND
SB-66	ND

Groundwater Sample Location	Total PCBs (UG/L)
PZ-01	6.76

Notes:

ND = Non-detect

Table By: AML
Checked By: JCH
Reviewed By: PTM



LEGEND

ASPH		ASPHALT
BLDG		BUILDING
CLF	—×—	CHAIN LINK FENCE
CO	○	CLEAN OUT
CONC		CONCRETE
D		DEED
DI	□	DRAINAGE INLET
EM	□	ELECTRIC METER
FLT		FLOOD LIGHT
GAS	□	GAS METER
GP	△	GUIDE POST
GW	>—	GUY WIRE
HYD		HYDRANT
INV		INVERT ELEVATION
L.		LIBER
MB	□	MAILBOX
MW	○	MONITORING WELL
P.		PAGE
SA MH	○	SANITARY MANHOLE
ST MH	○	STORM MANHOLE
SW		SIDEWALK
UP	⌀	UTILITY POLE
WV	⊕	WATER VALVE

NOTES:

1. **BOUNDARY SURVEY AND BUILDING STRUCTURES PROVIDED BY Deborah A. Naybor PLS, P.C. Land Surveying – Land Planning DATED 11/15/2007 (REVISED 12/11/2007).**
2. **ALL CONCENTRATIONS IN MG/KG UNLESS NOTED OTHERWISE.**

LEGEND:

- PROPERTY BOUNDARY
- #62 SOIL BORING/TEST PIT
- #53 SURFACE SAMPLE

SURVEY
PART OF LOT 24, TOWNSHIP 11, RANGE 7
TOWN OF CHEEKTOWAGA
COUNTY OF ERIE
STATE OF NEW YORK

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
726 EXCHANGE STREET
SUITE 624
BUFFALO, NEW YORK 14210
(716) 856-0599

JOB NO.: 0027-012-100

REVISIONS

NO.	BY	DATE	REMARKS

SEAL

DRAWN BY: AJZ
DATE: 12/13/07
CHECKED BY:
APPROVED BY:

DALE ROAD EXPANSION SAMPLING RESULTS

NIAGARA TRANSFORMER
CHEEKTOWAGA, NEW YORK

PREPARED FOR
NIAGARA TRANSFORMER CORPORATION

SHEET - 1

APPENDIX C
ENVIRONMENTAL EASEMENT

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 22 day of June, 20 10 between Owner(s) Niagara Transformer Corp., having an office at 1747 Dale Road, County of Erie, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 1755 Dale Road in the Town of Cheektowaga, County of Erie and State of New York, known and designated on the tax map of the County Clerk of Erie as tax map parcel numbers: Section 102.03 Block 3 Lot 6.1, being the same as that property conveyed to Grantor by deed dated May 27, 1983 and recorded in the Erie County Clerk's Office in Instrument No. Liber 9229 Page 599, comprising of approximately 3.2 ± acres, and hereinafter more fully described in the Land Title Survey dated November 15, 2007 and revised on May 18, 2010 and prepared by Deborah A. Naybor, PLS, which will be attached to the Site Management Plan. The property description (the "Controlled Property") is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of human health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the

terms and conditions of Brownfield Cleanup Agreement Index Number: C915234-10-09, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP.

(4) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(5) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(6) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(7) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP.

(8) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP.

(9) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for, and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Regional Remediation Engineer
NYSDEC – Region 9
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203-2915
Phone: 716-851-7220

or

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall annually, or such time as NYSDEC may allow, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be

defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C915234
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the

recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Niagara Transformer Corp.:

By: _____

Title: President Date: 6/11/10

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Erie)

On the 11 day of June, in the year 2010, before me, the undersigned, personally appeared John F Darby personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Paula R Walter
Notary Public - State of New York

PAULA R. WALTER
Notary Public, State of New York
Qualified in Erie County
My Commission Expires June 22, 2010

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____

Dale A. Desnoyers, Director
Division of Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 22 day of June, in the year 2010, before me, the undersigned, personally appeared Dale Desnoyers, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

Drew A. Wellette
Notary Public, State of New York
Qualified in Schenectady Co.
No. 01WE6089074
Commission Expires 03/17/ 2011

SCHEDULE "A" PROPERTY DESCRIPTION

Record Description –l. 9229, P 599

All that tract or parcel of land situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 24, Township 11, Range 7 of the Holland Land Company's Survey, described as follows:

Beginning at the intersection of the south line of Dale Road (formerly Walden Avenue) with the east line of land conveyed to George Kroth by a deed recorded in Erie County Clerk's Office in liber in Book 542 of Deeds at page 612; thence southerly along the east line of lands so conveyed to George Kroth approximately 713.80 feet to the north line of land conveyed to the New York Central Railroad Company by a deed recorded in the said Clerk's Office in Book 5983 of Deeds at page 176; thence easterly along the north line of land so conveyed to the New York Central Railroad Company a distance of 199.79 feet to the west line of land conveyed to 1800 Dale Road, Inc. by a deed recorded in the said Clerk's Office in Book 8542 of Deeds at page 13 on August 8, 1977; thence northerly along the west line of said corp. line approximately 601.52 feet to a point in the south line of Dale Road; thence westerly along the south line of Dale Road 235.4 feet to the point or place of beginning.

More modernly described as:

Parcel Description -1755 Dale Road

All that tract or parcel of land situate in the Town of Cheektowaga, County of Erie and State of New York, being part of Lot No. 24, Township 11, Range 7 of the Holland Land Company's Survey, bounded and described as follows:

Beginning at the intersection of the south line of Dale Road (formerly Walden Avenue with the east line of land conveyed to George Kroth by Deed recorded in the Erie County Clerk's office in Book 542 of Deeds at page 612; thence southerly along the east line of lands so conveyed to George Kroth (approximately 713.80 feet deed) 712.08' measured to the north line of land conveyed to the New York Central Railroad Company by Deed recorded in the Erie County Clerk's Office in Book 5983 of Deeds at page 176; thence easterly along the north line of land so conveyed to the New York Central Railroad Company a distance of (199.79± feet deed) 200.31 feet measured to the west line of land conveyed to 1800 Dale Road, Inc. by Deed recorded in the Erie County Clerk's Office in Book 8542 of Deeds at page 13 on August 8, 1977; thence northerly along the west line of said corp. line (approximately 601.52 feet deed) 601.08 feet measured to a point in the south line of Dale Road; thence westerly along the south line of Dale Road (235.4± feet deed) 234.11 feet measured to the place or point of beginning, containing 3.155 acres more or less.

APPENDIX D
EXCAVATION WORK PLAN

SITE MANAGEMENT PLAN

APPENDIX D – EXCAVATION WORK PLAN

D-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, including initial site redevelopment and build-out activities as well as future post redevelopment intrusive activities (e.g, building additions, utilities trenching, maintenance, etc.) the site owner or their representative will notify the Department. Currently, this notification will be made to:

Martin L. Doster, P.E, Regional Hazardous Waste Remediation Engineer

Region 9, NYSDEC, 270 Michigan Ave., Buffalo, NY 142

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control,
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,
- A summary of the applicable components of this Excavation Work Plan (EWP),
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120,
- A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in Appendix of this document,
- Identification of disposal facilities for potential waste streams,

- Identification of sources of any anticipated backfill, along with all required chemical testing results.

D-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done (i.e., initial Site redevelopment and post-redevelopment activities) and will include all excavation and invasive work performed during these activities, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

Niagara Transformer will analyze all soil/fill excavated for Site redevelopment purpose for PCBs based on historical impacts and results of the RI and post-IRM sampling results. One representative composite sample will be collected for each 250 cubic yards of soil/fill designated for excavation. Each sample will be analyzed for PCBs in-situ based on planned excavation depth or ex-situ as measured in a stockpile. In general, soil/fill that have residual concentrations of PCBs less than 25 ppm which cannot remain on the BCP Site and be incorporated as part of the final redevelopment grading plan (e.g., in planned landscaping berms or placed below planned paved areas) will be managed and disposed of in accordance with the applicable requirements of 6NYCRR Part 360 for the management and disposal of non-hazardous solid waste and debris.

A detailed excavation plan for the proposed Site redevelopment has been prepared to identify and document the sampling requirements and results that will be utilized to implement this site specific soil/fill management strategy. The excavation grid/sampling plan is presented on Figure D-1 and identifies the planned excavation of all Site fill materials and sampling sub-grids within these grids that are representative of

approximately 250 cubic yards of soil/fill that will be excavated and managed in accordance with the procedures outlined above.

D-3 STOCKPILE METHODS

Soil stockpiles that are constructed and will remain in place overnight will be continuously encircled with a berm and/or silt fence. Straw bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

D-4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested (if required), and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

The qualified environmental professional will be responsible for ensuring that all outbound trucks will be free of loose soil/fill or mud prior to leaving the site until the

activities performed under this section are complete. Although Site redevelopment has been designed to minimize off-site disposal of soil/fill (beyond the planned relocation to the adjacent East Parcel), any trucks that are loaded for off-site transport will be required to remain staged at all times on the gravel access road that was installed as part of the IRM activities. This will insure that tracking of soil/fill onto public roadways is kept to a minimum.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets by the Owner's contractor will be performed as needed to maintain a clean condition with respect to site-derived materials.

D-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be inspected for the presence of loose soil/fill or mud prior to leaving the site. These materials will be manually removed.

It is anticipated that any soil/fill requiring off-site disposal would be taken to CWM Chemical Services' Model City Facility and the require trucks to take the following transport route:

1. North on Anderson Road to Walden Ave.

2. East (right turn) on Walden Ave. Take ramp onto I-90 East towards Albany.

3. West on I-290 to Niagara Falls

4. North on I-190 to Niagara Falls. Exit at 25B (NY-104)

5. Merge onto Upper Mountain Rd. and then onto NY-104

6. Take ramp onto NY-18 E/Creek Rd

7. Turn right at Balmer Rd and CWM Facility will be on the right.

All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling along Anderson or Dale Roads in the vicinity of the BCP Site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

D-6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class

of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

D-7 MATERIALS REUSE ON-SITE

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below an impervious surface (pavement, etc.) or will be reused within landscaping berms under a minimum 6-inch topsoil layer. Contaminated fill will not be used as backfill for subsurface utility lines.

Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

D-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

D-9 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). For this Site where industrial use is the planned and anticipated future use, imported backfill will meet lower of the protection of groundwater or protection of public health commercial soil cleanup objectives as set forth in Table 375-6.8(b) [6NYCRR Part 375-6.7] . Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. All imported material will be sampled and tested in accordance with the recommendations of DER-10 (Section 5.4 (e)). Solid waste as defined in 6NYCRR Part 360 will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated on-site materials and covered to prevent dust releases.

D-10 STORMWATER POLLUTION PREVENTION

The Site redevelopment activities will disturb greater than 1 acre, therefore a construction Stormwater Pollution Prevention Plan (SWPPP) that conforms to the requirements of NYSDEC Division of Water guidelines and NYS regulations will be prepared in advance of intrusive Site work and a Notice of Intent or Termination (NOIT) will be filed with the Division of Water. This final SWPPP will be included as an Attachment to the Excavation Plan upon its preparation. At a minimum the SWPP will incorporate the following provisions.

Silt fence barriers and hay bale checks will be installed around excavation areas or at the Site perimeter depending on the extent of intrusive work and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook

and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the silt fence barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

D-11 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC’s Project Manager. Reportable quantities of petroleum product will also be

reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

D-12 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) that describes required particulate and vapor monitoring to protect the neighboring community during intrusive site investigation activities has been prepared and is attached as Attachment 1 to this Excavation Work Plan. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the New York State Department of Health (NYSDOH) and NYSDEC. Accordingly, it follows procedures and practices outlined under NYSDOH's Generic Community Air Monitoring Plan (dated December 2002) and NYSDEC Technical Assistance and Guidance Memorandum (TAGM) 4031: Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites.

A Community Air Monitoring plan was implemented during the execution of the IRM excavation work performed in the winter/early spring of 2010. The experience obtained from this monitoring program will be the basis for implementation of the CAMP during Site redevelopment activities. Based on physical north to south configuration of the Site, narrow width (from East to West property line) and prevailing winds at the Site out of the west/southwest (or northwest in the winter months), one particulate monitor was typically set along the western Site property line upwind of the planned excavation area and a downwind particulate monitor was set along the eastern property line. The monitor locations were adjusted daily or more frequently depending on the prevailing wind directions and planned area of excavation.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

D-13 ODOR CONTROL PLAN

Based on extensive excavation work performed during the IRM and the nature of the known contamination at the Site, generation of odors from development activities on

and off-site are anticipated to be negligible. If, however, nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; (c) covering stockpiles with tarps or other covers; and (d) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

D-14 DUST CONTROL PLAN

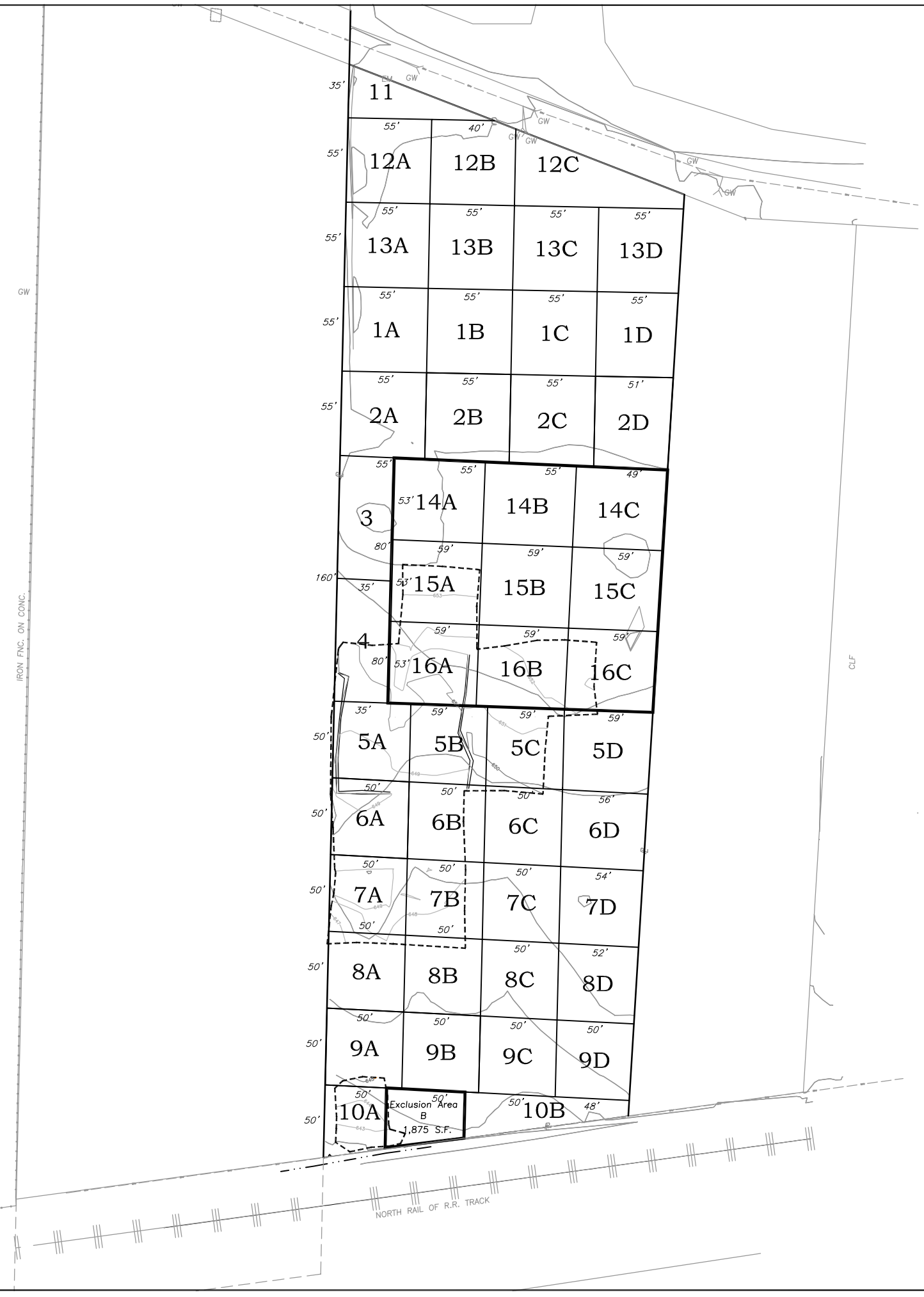
A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-Site water truck for road wetting. The truck will be equipped with equipment capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.

- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

D-15 OTHER NUISANCES

All construction activities to be performed as part of the Site redevelopment activities will comply with the Town of Cheektowaga noise control ordinances and include the limitation of daily working hours if requested or required by the Town's code enforcement department.



LEGEND

1A	GRID LOCATION NUMBER
654.12 TC+ 650.47 BC	BC = BOTTOM OF EXCAVATION CUT TC = TOP OF EXCAVATION CUT
	DITCH
E.	EAST
ELEV.	ELEVATION
	LIMITS OF EXCAVATION 3-23-2010
	LIMITS OF TOPO SURVEY (2-8-2010)
MON. WELL	MONITORING WELL
N.	NORTH
	PROPERTY LINE (APPROXIMATE)
	RAILROAD TRACKS
S.	SOUTH
+650.42	SPOT ELEVATION
UP	UTILITY POLE
651	1' MINOR CONTOUR INTERVAL
650	5' MAJOR CONTOUR INTERVAL

NOTES

1.) BOUNDARY SURVEY AND BUILDING STRUCTURES PROVIDED BY DEBORAH A. NAYBOR PLS, P.C. LAND SURVEYING – LAND PLANNING DATED 11/15/2007 (REVISED 12/11/2007).

REFERENCES

1.) EXCAVATION SURVEY FROM DIGITAL CAD FILE EXCAVATION SURVEY WITH GRID LAYOUT PLAN.DWG, ENTITLED "BOTTOM OF EXCAVATION CONTOUR MAP," PREPARED BY WENDEL DUCHSCHERER SURVEY DATED MARCH 23, 2010.

40 0 40 80
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

SITE MANGEMENT PLAN
NIAGARA TRANSFORMER CORP.
CHEEKTOWAGA, NEW YORK

TITLE

FILL EXCAVATION PLAN - SAMPLING GRID

NJ Authorization #24GA28029100
Golder Associates
Mt. Laurel, New Jersey

PROJECT No.	093-8914402		FILE No.	0938914402A020	
DESIGN	AML	07/19/10	SCALE	AS SHOWN	REV. 0
CADD	AML	11/4/10			
CHECK					
REVIEW					

FIGURE D-1

ATTACHMENT 1

COMMUNITY AIR MONITORING PLAN

EXCAVATION WORK PLAN
ATTACHMENT 1

COMMUNITY AIR MONITORING PLAN

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 volatile organic compounds (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 NYSDEC/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. 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.

- 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.

- 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.

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

All 15-minute readings must be recorded and be available for State (DEC and DOH) 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.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) 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/m3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 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/m3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

APPENDIX E
HEALTH & SAFETY PLAN

Project Name Niagara Transformer Corporation -1755 Dale Road BCP Site Management Plan

Task Soil/Fill, Stormwater, and Sediment Sampling and Soil/Fill Management/Excavation Activities

Requested by Niagara Transformer Corporation

Proposed Start-Up Date August 2010 Project/Task No. 093-89144-02

Prepared by/Reviewed by Health and Safety Officer

Printed Name Karin Witton, Ph.D.

Signature _____ Date 2009

Reviewed by Project Health and Safety Coordinator

Printed Name Patrick T. Martin, P.E.

Signature _____ Date 2009

Approved by Project Manager

Printed Name Patrick T. Martin, P.E.

Signature _____ Date 2009

Title: Senior Consultant

Note to Project Managers:

A signed and completed copy of the Health and Safety Plan and a signed and completed copy of the safety briefing must be included in the project file.

2. Project Description: As required inspection and sampling activities associated with potentially impacted soils in accordance with the approved Excavation Plan for any intrusive work at 1755 Dale Road, Cheektowaga, NY. Additional sampling activities duties will include semi-annual stormwater and sediment sampling. Routine Site inspections will also be performed as part of the Site Management Plan.

Level D PPE will be required for all project activities. Decisions on PPE upgrades will be made in the field based on site-specific conditions.

3. Location (Site):

Niagara Transformer Corporation
1755 Dale Road
Cheektowaga, New York 14225

4. Facility/Work Site Description:

The Site is a 3.3 acre parcel of land adjacent to NTC's electrical transformer manufacturing facility. Portions of the Site may contain residual concentrations of PCBs in surficial soil/fill. The Site is located at 1755 Dale road at the intersection of Dale Road and Anderson Road. The Site will be redeveloped for manufacturing use in a phased manner. Soil/fill samples and intrusive excavation inspection activities will be occur across the Site shown on Figure 3-1.

Golder will be responsible for our own personal protective equipment (PPE) and safety equipment as necessary. Golder will follow the NTC Safety Procedures and Requirements for outside Contractors and Site Conditions & General Safety Instructions for additional Health & Safety details.

5. Proposed Personnel and Tasks:

Project Manager: Patrick, T. Martin, P.E.

Field Team Leader: Patrick, T. Martin, P.E.

Proposed Field Team	Job Function/Tasks
Patrick, T. Martin, P.E.	Project Manager
Aaron Lange	Field Observations / Sampling
Russell Marchese	Drilling Oversight / Sampling

6. Confined Space Entry

A confined space is defined as any space not currently used or intended for human occupancy, having a limited means of egress, which is subject to the accumulation of toxic contaminants, a flammable or oxygen deficient atmosphere, or other hazards, such as engulfment, or electrical or mechanical hazards should equipment be inadvertently activated while an employee is in the space. Confined spaces include but are not limited to storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, air pollution control devices, smoke stacks, underground utility vaults, sewers, septic tanks, and open top spaces more than four feet in depth such as test pits, waste disposal trenches, sumps and vats.

Will this task require entry into any confined or partially confined space?

__ YES - Describe below

_X_ No

7. Cutting and Welding

Will this task involve use of a cutting torch or welding?

___ YES - Describe below

_x_ No

8. Other Potential Hazards

_X_ Chemical	_X_ Trips, Slips, Falls
___ Radiological	_X_ Trenching/Shoring
___ Fire/Explosion	_X_ Heavy Equipment/Vehicular Traffic
_X_ Cold/Heat Stress	_X_ Overhead Hazards
___ Electrical	_X_ Unstable/Uneven Terrain
_X_ Machinery/Mechanical Equipment	___ Other - Describe below

Description/Other

9. Chemical/Radiological Hazard Evaluation

Waste Media	Hazardous Characteristics
_X_ Airborne Contamination	___ Ignitable
_X_ Surface Contamination	___ Corrosive
_X_ Contaminated Soil	___ Reactive
_X_ Contaminated Groundwater	___ Explosive
___ Contaminated Surface Water	_X_ Toxic (non-radiological)

___ Solid Waste ___ Radioactive

___ Liquid Waste

___ Sludge

Substance

This task will involve the reasonable possibility of exposure to the substances listed below at concentrations or in quantities which may be hazardous to the health of the site personnel.

- PCBs

10. Community Air/Site Monitoring Procedures

The proposed sampling and inspection work will be completed outdoors on the Site. A Golder representative will continually monitor the breathing air in the vicinity of the immediate work area for odors associated with PCB contamination. The air in the work zone also will be visually monitored for dust generation. If sustained organic odors are noted, or visible dust generation is observed, the intrusive work will be temporarily halted and a more rigorous monitoring of VOCs and dust using recordable meters will be implemented in accordance with the NYSDOH Generic Community Air Monitoring Plan (CAMP). A copy of the CAMP is provided as with the Health and Safety Plan in **Appendix B**.

11. Action Levels

Action levels for implementation of more stringent air monitoring and implementation of odor or dust controls will be in accordance with the provisions of the CAMP presented in Appendix B.

12. Personal Monitoring

_ Passive Dosimeter ___ Personal Air Sampling ___ Other

Description/Other:

NOT-APPLICABLE

13. Biological Monitoring/Medical Surveillance

_____ This project requires medical surveillance or biological monitoring procedures beyond the provisions of the routine medical surveillance program, see description below

Description:

NOT APPLICABLE

14. Onsite Control

Soiled PPE and rinsate from decontaminating equipment shall be collected onsite and properly stored until disposal.

15. Personal Protective Equipment

Level D PPE will be required for all project activities. Decisions on PPE upgrades will be made in the field based on site-specific conditions.

Location	Job Function/Task	Initial Level of Protection
Site-wide	Testing and Sampling	B C **D** 1 2 3 other
	Excavation Inspection	B C **D** 1 2 3 other
	If visually impacted soil is present	**B** C D 1 2 3 other
	General Inspections	B C **D** 1 2 3 other
		B C D 1 2 3 other
		B C D 1 2 3 other
		B C D 1 2 3 other
		B C D 1 2 3 other

List the specific protective equipment and material (where applicable) for each of the Levels of Protection identified above

Level B X

___ Pressure demand airline

___ Pressure demand airline with escape provisions

___ Pressure demand SCBA

X LEAVE SITE

Level D

X HARD HAT AND SAFETY GLASSES
X STEEL-TOED FOOTWEAR
X POLYTYVEK COVERALLS (OPTIONAL)
X OVERBOOTS or POLYTYVEC BOOTIES
____ INNER GLOVES (thin nitrile)
X OUTER GLOVES (NITRILE) (LIGHT DUTY SAMPLING)
X LEATHER GLOVES (BORING SAMPLING)

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE KNOWLEDGE AND APPROVAL OF THE HEALTH AND SAFETY OFFICER AND THE PROJECT MANAGER.

16. Decontamination

All Sampling equipment shall be decontaminated before / between each sampling activity or interval. All Sampling equipment shall be decontaminated after completion of the project related activities.

Decontamination shall be performed onsite. The following decontamination conditions shall be followed:

- A temporary de-con area will be provided at a designated site. The de-con area shall be constructed to provide for contained washing, rinsing and staging/drying of decontaminated PPE and equipment.

Equipment Decontamination Sequence
(TESTING AND SAMPLING EQUIPMENT ONLY)

Station	Procedure
1.	ALCONOX WASH
2.	POTABLE WATER RINSE
3.	AIR DRY

The following decontamination equipment is required:

- Alconox, steam cleaner, rinse water, buckets, brushes

17. Confined Entry Procedures __X__ Not Applicable

Yes	N/A		Yes	N/A	
__	__	Provide Forced Ventilation	__	__	Refer to Personal Protective Equip. (#16)
__	__	Test Atmosphere For:	__	__	Refer to Emergency Procedures (#24)
__	__	(a) $\%O_2$	__	__	Other Special Procedures
__	__	(b) %LEL			
__	__	(c) Other			

Descriptions/Other:

18. Cutting/Welding Procedure __X__ Not Applicable

N/A		
__	__	Relocate or Protect Combustibles
__	__	Wet Down or Cover Combustible Floor
__	__	Check Flammable Gas Concentrations (%LEL) in air
__	__	Cover Wall, Floor, Duct and Tank Openings
__	__	Provide Fire Extinguisher

Other Special Instructions:

19. Electrical __X__ Not Applicable

20. Special Instructions

Cold Stress

Frostbite results from freezing a part of the body. The nose, ears, cheeks, fingers, and toes are affected most often. Usually the frozen area is small. People with poor circulation, such as the elderly and the exhausted, are not as resistant to cold as young people. Intoxicated persons sometimes suffer extensive injury.

Just before frostbite occurs, the skin may be slightly flushed. As frostbite develops, the skin changes to white or grayish yellow. Blisters may appear later. Pain sometimes is felt at the beginning but frostbite may become less painful as the freezing goes deeper.

Often there is no pain; the part feels intensely cold and numb. The victim frequently is not aware of frostbite until pale, glossy skin is observed.

Hypothermia occurs when exposure to cold or cool temperature causes the temperature of the core of the body to fall below normal. Severity of hypothermia depends on the degree of coldness to which the victim is exposed, the duration of exposure, and whether exposure was in water or air. Susceptibility to hypothermia is increased by ill health, malnutrition, and the weaknesses associated with childhood and advanced age.

Violent shivering may be the first sign of hypothermia. The victim may behave strangely, may be unusually irritable, and may have slurred speech or seem clumsy. As hypothermia becomes more and more serious, the victim has trouble seeing, moves with difficulty and may stagger or fall, becomes sleepy and numb, and finally becomes unconscious. Hypothermia can result in death.

To prevent frostbite and hypothermia, personnel should wear warm protective clothing that covers the susceptible parts of the body. Additionally, individuals should periodically take breaks in a heated area to warm themselves during periods of extreme cold.

Heat Stress

The major weather conditions affecting the health and safety of site personnel will be high temperatures resulting in increased risk of heat stress. Frequent rest in a cool area with sufficient fluids such as water or “Gatorade®” and appropriate clothing will minimize the risk.

The following three conditions of heat stress could occur during construction projects in periods of high ambient temperature:

Heat Syncope: If a person has been standing still for some time, a sudden fainting spell could occur as a result of blood pooling in the lower parts of the body. Recovery is typically instantaneous.

Heat Exhaustion: This condition occurs when the core temperature of an individual rises slightly. Heat exhaustion is characterized by profuse sweating, clammy skin, dizziness, confusion and lightheadedness.

If these symptoms occur, the employee should leave the work area and proceed to the nearest air conditioned location, drink liquids such as water or “Gatorade”, and rest until the symptoms pass. Contact the Golder Project Manager immediately.

Heat Stroke: Heat stroke is often a fatal condition. The individual stops sweating and the core body temperature rises rapidly. The face and upper chest is bright red or bluish in color. Convulsions may occur as the body temperature rises. Disorientation, collapse, and unconsciousness also may occur. Note that sunburn and previous sweat may mask some of these symptoms.

If heat stroke is suspected, call EMS (or 911) immediately. Remove excess clothing and cool the person by sponging with cool or luke warm water. Never place ice on the person or throw water on the individual. Contact the Golder Project Manager as soon as time permits.

Field Logs:

A Golder representative shall be responsible for maintaining field logs. At the conclusion of a sampling or inspection event, field logs are to be added to the project files. Additional considerations:

- Sampling, and air monitoring logs will be maintained in the field until activity completion. Standard field entries will be recorded. Copies of these logs will be submitted to NTC at the completion of the project.

21. Sanitation Requirements

Potable water supply available on work site?	_X_ Yes ____ No
Portable toilets required on work site?	___ Yes If Yes, how many? _____ _X_ No
Temporary washing/shower facilities required at work site?	___ Yes If yes, describe below. _X_ No

Description:

22. Field Procedures Change Authorization (N/A)

Instruction Number to be changed

Duration of Authorization Requested
___ Today only
___ Duration of Task

Date:

Description of Procedures Modification:

Justification:

Person Requesting Change:

Verbal Authorization Received From:

Name

Name

Time

Title

Title

Signature

Approved By
(Signature of person named above to be obtained within 48 hours of verbal authorization)

23. Emergency Procedures This page is to be posted at prominent location on site.

Yes	No	
☒	☐	On-site Communications Required?

Emergency Channel: Call **911** on Cell phone or contact escort. Contact Dave Wehn at the Golder office (716)-204-5880 or his cell (716)-713-6394 to report incident.

Nearest Telephone: Field crew cell phone (Patrick Martin). Cell phone number is (716) 867-2860

Nearest Hospital: Sisters of Charity Hospital - St. Joseph Campus: Phone: (716) 891-2400

SEE APPENDIX A FOR DIRECTIONS TO HOSPITAL

Fire and Explosion

In the event of a fire or explosion, if the situation can be readily controlled with available resources without jeopardizing the health and safety of yourself, the public, or other site personnel, take immediate action to do so, otherwise:

1. Notify emergency personnel by **911**.
2. If possible, isolate the fire to prevent spreading.
3. Evacuate the area.

Chemical Exposure

Site workers must notify the site health and safety officer immediately in the event of any injury or any of the signs or symptoms of overexposure to hazardous substances identified below:

On Site Injury or Illness

In the event of an injury requiring more than minor first aid or any employee reporting any sign or symptom of exposure to hazardous substances, immediately contact the Health and Safety Coordinator. In the event of life-threatening or traumatic injury, implement appropriate first-aid and immediately call for emergency medical assistance by dialing 911. Also, immediately contact the David Wehn Phone (716) 215-0650

Designated Personnel Current in First Aid/CPR (Names)

Aaron Lange

Designated Back-Up Personnel (Names)

Patrick Martin

Required Emergency Back-Up Equipment: None

Emergency Response Authority

The Site Health and Safety Coordinator shall also act as the designated site emergency coordinator and shall have final authority for initial response to on-site emergency situations.

Upon arrival of the appropriate emergency response personnel, the site health and safety coordinator shall defer all authority but shall remain on the scene if necessary to provide any and all possible assistance. At the earliest opportunity, the site health and safety coordinator shall contact the project manager or coordinator shall contact the project manager or health and safety officer.

Project Director: Patrick T. Martin, P.E. Phone (w) (716) 204-5880 (c) (716) 867-2860

Site Health and Safety Officer: Patrick T. Martin, P.E. Phone (w) (716) 204-5880 (c) (716) 867-2860

24. Safety Briefing

The following personnel were present at pre-job safety briefing conducted at _____(time) on_____(date) at _____(location), and have read the above plan and are familiar with its provisions:

Name	Signature

Fully charged ABC Class fire extinguisher available on site? YES ___

Fully stocked First Aid Kit available on site? YES ___

All project personnel advised of location of nearest phone? YES ___

All project personnel advised of location of designated medical facility or facilities? YES ___

_____

Printed Name of Field Team Leader or Site Safety Officer

_____

Signature Date

APPENDIX A

DIRECTIONS TO HOSPITAL

Driving directions to Harlem Road at St Joseph Hospital
1.2 mi – about **4 mins**

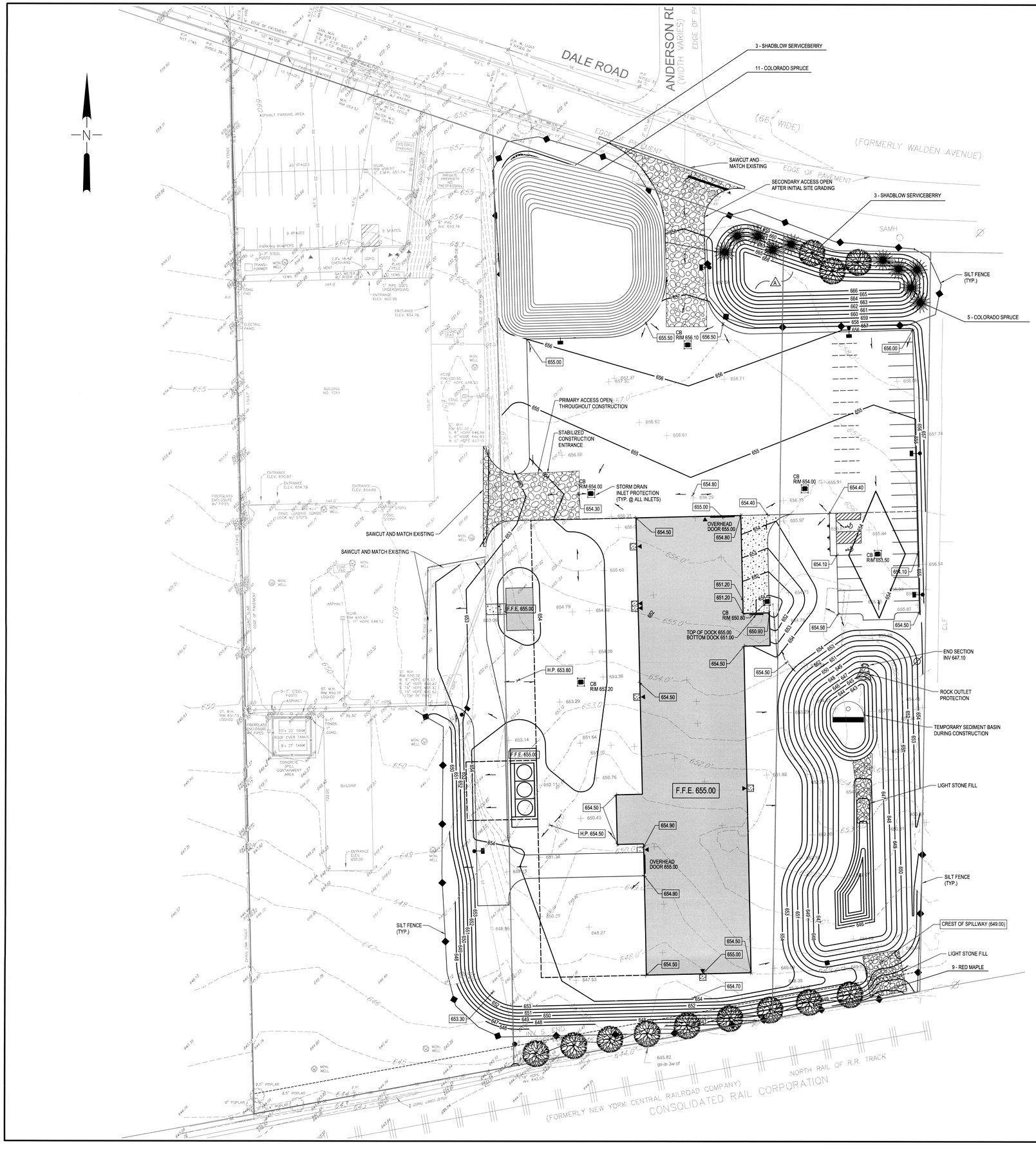
A 1755 Dale Rd
Buffalo, NY 14225

1. Head **west** on **Dale Rd**	0.4 mi
2. Turn **left** at **Walden Ave**	0.2 mi
3. Turn **right** at **Harlem Rd/NY-240**	0.5 mi

B Harlem Road at St Joseph Hospital
2605 Harlem Rd
Cheektowaga, NY 14225-4097

APPENDIX F

GRADING, LANDSCAPING, EROSION & SEDIMENT CONTROL PLAN (DWG. C1.03)



LEGEND

- PROPERTY LINE
- PROPOSED CONCRETE CURB
- 590.00 — PROPOSED POINT ELEVATION
- 590 — EXISTING CONTOUR
- 590 — PROPOSED CONTOUR
- TC — TOP OF CURB
- BC — BOTTOM OF CURB
- HP — HIGH POINT
- FLOW DIRECTION
- SILT FENCE
- STORM DRAIN INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY SEDIMENT BASIN
- DECIDUOUS PLANTING
- NON-DECIDUOUS PLANTING

NOTE LEGEND

(A) PERMANENT STOCKPILE OF RECLAIMED ON SITE MATERIAL. SEED AND MULCH STOCKPILE AS SOON AS STOCK PILE IS FORMED.

GENERAL NOTES:

1. ALL WORK TO BE IN COMPLIANCE WITH TOWN OF CHEEKTOWAGA STANDARDS.
2. CONTACT ENGINEER WITH ANY DISCREPANCIES FOUND IN THE FIELD
3. SWPPP MUST BE ADHERED TO DURING SITE WORK

PLANT LIST

KEY	QTY.	BOTANICAL NAME	COMMON NAME	MINIMUM SIZE	NOTES
AC	6	Amelanchier Canadensis	Shadblow Serviceberry	8'-9' Ht. Clump	Min. 3 Major Stems
AR	9	Acer Rubrum "Red Sunset"	Red Sunset Maple	2 1/2-3" Caliper	
PP	16	Picea Pungens	Colorado Blue Spruce	6-8' Ht.	(Full to ground)

AQUATIC PLANTINGS

KEY	QTY.	BOTANICAL NAME	COMMON NAME
CA		Cornus Amomium	Silky Dogwood
CC		Calamagrotis Canadensis	Blue Joint
CO		Cepahlanthus Occidentalis	Button Bush
IR		Iris Versicolor	Blue Flag Iris
IV		Ilex Verticillata	Winterberry
NL		Nuphar Luteum	Spatterdock
PC		Pontederia Cordata	Pickerweed
PP		Potamogeton Pectinatus	Pond Weed
PV		Peltandra Virginica	Arrow Arum
PW		Potamogeton Pectinatus	Pond Weed
SA		Scirpus Acutus	Hard Stem Bulrush
SV		Scirpus Validus	Soft-stem Bulrush

30 0 30 60 Ft.

CADD NO. 2276bg34.dgn

C&S COMPANIES®
C&S Engineers, Inc.
90 Broadway
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com

PROPOSED BUILDING EXPANSION FOR NIAGARA TRANSFORMER

DALE ROAD
CHEEKTOWAGA, NY
ERIE COUNTY

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	H73
DATE:	10/15/09
SCALE:	1" = 30'-0"
DRAWN BY:	JMH
CHECKED BY:	LBD

CIVIL

GRADING, LANDSCAPING, EROSION & SEDIMENT CONTROL PLAN

C1.03

APPENDIX G
SITE-WIDE INSPECTION LOG

Niagara Transformer Corporation

ERIE, NEW YORK

Site Management Plan

NYSDEC Site Number: C915234

SITE-WIDE INSPECTION FORM

Inspection Item Description	Frequency	Comments	Corrective Action (If Required)
BCP Site General Conditions	Annually		
Excavation Work Locations – General Conditions	Per Occurrence		
Stormwater Retention Pond-Outfall Sampling Location General Condition	Annually		

APPENDIX H

QUALITY ASSURANCE/QUALITY CONTROL PLAN

APPENDIX H
QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PLAN

SITE MANAGEMENT PLAN

1.0 INTRODUCTION

This Quality Assurance/Quality Control Plan is designed to provide an overview of QA/QC procedures. It will give specific methods and QA/QC procedures for chemical testing of environmental samples obtained from the site. In addition, it will ensure the quality of the data produced.

The Site Management Plan (SMP) Project Manager will be responsible for verifying that QA procedures are followed in the field. This will provide for the valid collection of representative samples. The Project Manger will be in direct contact with the analytical laboratory to monitor laboratory activities to help ensure that holding times and other QA/QC requirements are met. The estimated annual number of soil/fill, stormwater and sediment samples and corresponding analytical parameters/methods are provided in Table 1. These sample quantities may vary depending on the amount of intrusive work conducted for Site redevelopment activities and adjustments to routine media monitoring requirements under the SMP monitoring program.

In addition to overall project coordination, the Project Manager will be responsible for overseeing both the analytical and field QA/QC activities. The ultimate responsibility for maintaining quality throughout the project rests with the Project Manager.

TABLE 1
ANALYTICAL SUMMARY TABLE – SOIL/GROUNDWATER

PARAMETER	EPA METHOD	Soil/Sediment Samples (1)	Stormwater Samples (2)
Total PCBs	8082	8	8

(1) – Includes 1 MS/MSD and 1 duplicate sample
(2) – Includes 1 MS/MSD and 1 duplicate sample

The analytical laboratory proposed for use for the analysis of samples will be a certified NYSDOH ELAP laboratory for the appropriate categories. The QA Manager of the laboratory will be responsible for performing project-specific audits and for overseeing the quality control data generated.

2.0 DATA QUALITY OBJECTIVES

2.1 Background

Data Quality Objectives (DQOs) are qualitative and quantitative statements, which specify the quality of data required to support the investigation of the Site. DQOs focus on the identification of the end use of the data to be collected. The project DQOs will be achieved utilizing the definitive data category, as outlined in *Guidance for the Data Quality Objectives Process*, EPA QA/G-4 (September 1994). All sample analyses will provide definitive data, which are generated using rigorous analytical methods, such as the reference methods approved by the United States Environmental Protection Agency (USEPA). The purpose of this investigation is to determine the nature and extent of contamination at the site.

Within the context of the purpose stated above, the project DQOs for data collected during this investigation are:

- To assess the nature/extent of contamination in surface and subsurface soil/fill and groundwater.
- To maintain the highest possible scientific/professional standards for each procedure.
- To develop enough information to assess if the levels of contaminates identified in the media sampled are hazardous or non-hazardous.

2.2 QA Objectives for Chemical Data Measurement

Sample analytical methodology for the media sampled and data deliverables will meet the requirements in the most recent NYSDEC Analytical Services Protocol (ASP). Laboratories will be instructed that completed **Sample Preparation and Analysis Summary forms** are to be submitted with the analytical data packages. The laboratory also will be instructed that matrix interferences must be cleaned up, to the extent practicable. Data usability summary reports (DUSRs) will be generated. In order to achieve the definitive data category described above, the data quality indicators of precision, accuracy, representativeness, comparability, and completeness will be measured during offsite chemical analysis.

2.2.1 Precision

Precision examines the distribution of the reported values about their mean. The distribution of reported values refers to how different the individual reported values are from the average reported value. Precision may be affected by the natural variation of the matrix or contamination within that matrix, as well as by errors made in field and/or laboratory handling procedures. Precision is evaluated using analyses of a laboratory matrix spike/matrix spike duplicate (for organics) and matrix duplicates (for inorganics), which not only exhibit sampling and analytical precision, but indicate analytical precision through the reproducibility of the analytical results. Relative Percent Difference (RPD) is used to evaluate precision. RPD criteria must meet the method requirements identified in Table B-1.

2.2.2 Accuracy

Accuracy measures the analytical bias in a measurement system. Sources of error are the sampling process, field contamination, preservation, handling, sample matrix, sample preparation, and analysis techniques. These data help to assess the potential concentration contribution from various outside sources. The laboratory objective for accuracy is to equal or exceeds the accuracy demonstrated for the applied analytical methods on samples of the same matrix. The percent recovery criterion is used to estimate accuracy based on recovery in the matrix spike/matrix spike duplicate and matrix spike blank samples. The spike and spike duplicate, which will give an indication of matrix effects that may be affecting target compounds is also a good gauge of method efficiency.

2.2.3 Representativeness

Representativeness expresses the degree to which the sample data accurately and precisely represent the characteristics of a population of samples, parameter variations at a sampling point, or environmental conditions. Representativeness is a qualitative parameter, which is most concerned with the proper design of the sampling program or sub-sampling of a given sample. Objectives for representativeness are defined for sampling and analysis tasks and are a function of the investigative objectives. The sampling procedures, have been selected with the goal of obtaining representative samples for the media of concern.

2.2.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. A DQO for this program is to produce data with the greatest possible degree of comparability. This goal is achieved through using standard techniques to collect and analyze representative samples and reporting analytical results in appropriate units. Complete field documentation will support the assessment of comparability. Comparability is limited by the other parameters (e.g., precision, accuracy, representative-ness, completeness, comparability), because only when precision and accuracy are known can data sets be compared with confidence. In order for data sets may be comparable, it is imperative that contract-required methods and procedures be explicitly followed.

2.2.5 Completeness

Completeness is defined as a measure of the amount of valid data obtainable from a measurement system compared to the amount that was expected to be obtained under normal conditions. It is important that appropriate QA procedures be maintained to verify that valid data are obtained in order to meet project needs. For the data generated, a goal of 90% is required for completeness (or usability) of the analytical data. If this goal is not met, then NYSDEC and GOLDER project personnel will determine whether the deviations might cause the data to be rejected.

3.0 SAMPLING LOCATIONS, CUSTODY, HOLDING TIMES, & ANALYSIS

Sampling locations and procedures are discussed in Section 3.2.1 and Appendix D of the SMP. Procedures for chain of custody, holding times, and laboratory analyses shall be followed as per SW-846 and as per the laboratory's Quality Assurance Plan. All holding times begin with validated time of sample receipt (VTSR) at the laboratory. The laboratory must meet the method required detection limits which are referenced within the methods.

4.0 CALIBRATION PROCEDURES AND FREQUENCY

In order to obtain a high level of precision and accuracy during sample processing procedures, laboratory instruments must be calibrated properly. Several analytical support areas must be considered so the integrity of standards and reagents is upheld prior to instrument calibration. The following sections describe the analytical support areas and laboratory instrument calibration procedures.

4.1 Analytical Support Areas

Prior to generating quality data, several analytical support areas must be considered; these are detailed in the following paragraphs.

Standard/Reagent Preparation - Primary reference standards and secondary standard solutions shall be obtained from National Institute of Standards and Technology (NIST), or other reliable commercial sources to verify the highest purity possible. The preparation and maintenance of standards and reagents will be accomplished according to the methods referenced. All standards and standard solutions are to be formally documented (i.e., in a logbook) and should identify the supplier, lot number, purity/concentration, receipt/preparation date, preparers name, method of preparation, expiration date, and any other pertinent information. All standard solutions shall be validated prior to use. Care shall be exercised in the proper storage and handling of standard solutions (e.g., separating volatile standards from nonvolatile standards). The laboratory shall continually monitor the quality of the standards and reagents through well documented procedures.

Balances - The analytical balances shall be calibrated and maintained in accordance with manufacturer specifications. Calibration is conducted with two Class AS" weights that bracket the expected balance use range. The laboratory shall check the accuracy of the balances daily and they must be properly documented in permanently bound logbooks.

Refrigerators/Freezers - The temperature of the refrigerators and freezers within the laboratory shall be monitored and recorded daily. This will verify that the quality of the standards and reagents is not compromised and the integrity of the analytical samples is upheld. Appropriate acceptance ranges (2 to 6°C for refrigerators) shall be clearly posted on each unit in service.

Water Supply System - The laboratory must maintain a sufficient water supply for all project needs. The grade of the water must be of the highest quality (analyte-free) in order to eliminate false-positives from the analytical results. Ultraviolet cartridges or carbon absorption treatments are recommended for organic analyses and ion-exchange treatment is recommended for inorganic tests. Appropriate documentation of the quality of the water supply system(s) will be performed on a regular basis.

4.2 Laboratory Instruments

Calibration of instruments is required to verify that the analytical system is operating properly and at the sensitivity necessary to meet established quantitation limits. Each instrument for organic and inorganic analyses shall be calibrated with standards appropriate to the type of instrument and linear range established within the analytical method(s). Calibration of laboratory instruments will be performed according to specified methods.

In addition to the requirements stated within the analytical methods, the contract laboratory will be required to analyze an additional low level standard at or near the detection limits. In general, standards will be used that bracket the expected concentration of the samples. This will require the use of different concentration levels, which are used to demonstrate the instrument's linear range of calibration.

Calibration of an instrument must be performed prior to the analysis of any samples and then at periodic intervals (continuing calibration) during the sample analysis to verify that the instrument is still calibrated. If the contract laboratory cannot meet the method required calibration requirements, corrective action shall be taken as discussed in Section 7.0. All corrective action procedures taken by the contract laboratory are to be documented, summarized within the case narrative, and submitted with the analytical results.

5.0 INTERNAL QUALITY CONTROL CHECKS

Internal QC checks are used to determine if analytical operations at the laboratory are in control, as well as determining the effect sample matrix may have on data being generated. Two types of internal checks are performed and are described as batch QC and matrix-specific QC procedures. The type and frequency of specific QC samples performed by the contract laboratory will be according to the specified analytical method and project specific requirements. Acceptable criteria and/or target ranges for these QC samples are presented within the referenced analytical methods.

QC results which vary from acceptable ranges shall result in the implementation of appropriate corrective measures, potential application of qualifiers, and/or an assessment of the impact these corrective measures have on the established data quality objectives. Quality control samples including any project-specific QC will be analyzed are discussed below.

5.1 Batch QC

Method Blanks - A method blank is defined as laboratory-distilled or deionized water that is carried through the entire analytical procedure. The method blank is used to determine the level of laboratory background contamination. Method blanks are analyzed at a frequency of one per analytical batch.

Matrix Spike Blank Samples - A matrix spike blank (MSB) sample is an aliquot of water spiked (fortified) with all the elements being analyzed for calculation of precision and accuracy to verify that the analysis that is being performed is in control. A MSB will be performed for each matrix and organic parameter only.

5.2 Matrix-Specific QC

Matrix Spike Samples - An aliquot of a matrix is spiked with known concentrations of specific compounds as stipulated by the methodology. The matrix spike (MS) and matrix spike duplicate (MSD) are subjected to the entire analytical procedure in order to assess both accuracy and precision of the method for the matrix by measuring the percent recovery and relative percent difference of the two spiked samples. The samples are used to assess matrix interference effects on the method, as well as to evaluate instrument performance. MS/MSDs are analyzed at a frequency of one each per 20 samples per matrix.

Matrix Duplicates - The matrix duplicate (MD) is two representative aliquots of the same sample which are prepared and analyzed identically. Collection of duplicate samples provides for the evaluation of precision both in the field and at the laboratory by comparing the analytical results of two samples taken from the same location. Obtaining duplicate samples from a soil matrix requires homogenization (except for volatile organic compounds) of the sample aliquot prior to filling sample containers, in order to best achieve representative samples. Every effort will be made to obtain replicate samples; however, due to interferences, lack of homogeneity, and the nature of the soil samples, the analytical results are not always reproducible.

Rinsate (Equipment) Blanks - A rinsate blank is a sample of laboratory demonstrated analyte free water passed through and over the cleaned sampling equipment. A rinsate blank is used to indicate potential contamination from ambient air and from sample instruments used to collect and transfer samples. This water must originate from one common source within the laboratory and must be the same water used by the laboratory performing the analysis. The rinsate blank should be collected, transported, and analyzed in the same manner as the samples acquired that day. Rinsate blanks for nonaqueous matrices should be performed at a rate of 10 percent of the total number of samples collected throughout the sampling event. Rinse blanks will not be performed on samples (i.e., groundwater) where dedicated disposable equipment is used.

Trip Blanks - Trip blanks are not required for nonaqueous matrices. Trip blanks are required for aqueous sampling events. They consist of a set of sample bottles filled at the laboratory with laboratory demonstrated analyte free water. These samples then accompany the bottles that are prepared at the lab into the field and back to the laboratory, along with the collected samples for analysis. These bottles are never opened in the field. Trip blanks must return to the lab with the same set of bottles they accompanied to the field. Trip blanks will be analyzed for volatile organic parameters. Trip blanks must be included at a rate of one per volatile sample shipment.

6.0 CALCULATION OF DATA QUALITY INDICATORS

6.1 Precision

Precision is evaluated using analyses of a field duplicate and/or a laboratory MS/MSD which not only exhibit sampling and analytical precision, but indicate analytical precision through the reproducibility of the analytical results. RPD is used to evaluate precision by the following formula:

$$RPD = \frac{(X_1 - X_2)}{[(X_1 + X_2)/2]} \times 100\%$$

where:

X_1 = Measured value of sample or matrix spike
X_2 = Measured value of duplicate or matrix spike duplicate

Precision will be determined through the use of MS/MSD (for organics) and matrix duplicates (for inorganics) analyses.

6.2 Accuracy

Accuracy is defined as the degree of difference between the measured or calculated value and the true value. The closer the numerical value of the measurement comes to the true value or actual concentration, the more accurate the measurement is. Analytical accuracy is expressed as the percent recovery of a compound or element that has been added to the environmental sample at known concentrations before analysis. Analytical accuracy may be assessed through the use of known and unknown QC samples and spiked samples. It is presented as percent recovery. Accuracy will be determined from matrix spike, matrix spike duplicate, and matrix spike blank samples, as well as from surrogate compounds added to organic fractions (i.e., volatiles, semivolatiles, PCB), and is calculated as follows:

$$Accuracy\ (\%R) = \frac{(X_s - X_u)}{K} \times 100\%$$

where:

X_s - Measured value of the spike sample
X_u - Measured value of the unspiked sample
K - Known amount of spike in the sample

6.3 Completeness

Completeness is calculated on a per matrix basis for the project and is calculated as follows:

$$Completeness\ (\%C) = \frac{(X_v - X_n)}{N} \times 100\%$$

where:

X_v - Number of valid measurements
X_n - Number of invalid measurements
N - Number of valid measurements expected to be obtained

7.0 CORRECTIVE ACTIONS

Laboratory corrective actions shall be implemented to resolve problems and restore proper functioning to the analytical system when errors, deficiencies, or out-of-control situations exist at the laboratory. Full documentation of the corrective action procedure needed to resolve the problem shall be filed in the project records, and the information summarized in the case narrative. A discussion of the corrective actions to be taken is presented in the following sections.

7.1 Incoming Samples

Problems noted during sample receipt shall be documented by the laboratory. The Golder Associates (Golder) Project Manager shall be contacted immediately for problem resolution. All corrective actions shall be documented thoroughly.

7.2 Sample Holding Times

If any sample extraction and/or analyses exceed method holding time requirements, the Golder Project Manager shall be notified immediately for problem resolution. All corrective actions shall be documented thoroughly.

7.3 Instrument Calibration

Sample analysis shall not be allowed until all initial calibrations meet the appropriate requirements. All laboratory instrumentation must be calibrated in accordance with method requirements. If any initial/continuing calibration standards exceed method QC limits, recalibration must be performed and, if necessary, reanalysis of all samples affected back to the previous acceptable calibration check.

7.4 Reporting Limits

The laboratory must meet the method required detection limits listed in NYSDEC ASP , 10/95 criteria. If difficulties arise in achieving these limits due to a particular sample matrix, the laboratory must notify Golder project personnel for problem resolution. In order to achieve those detection limits, the laboratory must utilize all appropriate cleanup procedures in an attempt to retain the project required detection limits. When any sample requires a secondary dilution due to high levels of target analytes, the laboratory must document all initial analyses and secondary dilution results. Secondary dilution will be permitted only to

bring target analytes within the linear range of calibration. If samples are analyzed at a secondary dilution with no target analytes detected, the Golder Project Manager will be immediately notified so that appropriate corrective actions can be initiated.

7.5 Method QC

All QC method-specified QC samples, shall meet the method requirements referenced in the analytical methods. Failure of method-required QC will result in the review and possible qualification of all affected data. If the laboratory cannot find any errors, the affected sample(s) shall be reanalyzed and/or re-extracted/redigested, then reanalyzed within method-required holding times to verify the presence or absence of matrix effects. If matrix effect is confirmed, the corresponding data shall be flagged accordingly using the flagging symbols and criteria. If matrix effect is not confirmed, then the entire batch of samples may have to be reanalyzed and/or re-extracted/redigested, then reanalyzed at no cost. Golder shall be notified as soon as possible to discuss possible corrective actions should unusually difficult sample matrices be encountered.

7.6 Calculation Errors

All analytical results must be reviewed systematically for accuracy prior to submittal. If upon data review calculation and/or reporting errors exist, the laboratory will be required to reissue the analytical data report with the corrective actions appropriately documented in the case narrative.

8.0 DATA REDUCTION, VALIDATION, AND USABILITY

8.1 Data Reduction

Laboratory analytical data are first generated in raw form at the instrument. These data may be either in a graphic or printed tabular format. Specific data generation procedures and calculations are found in each of the referenced methods. Analytical results must be reported consistently. Identification of all analytes must be accomplished with an authentic standard of the analyte traceable to NIST or USEPA sources. Individuals experienced with a particular analysis and knowledgeable of requirements will perform data reduction.

8.2 Data Validation

Data validation is a systematic procedure of reviewing a body of data against a set of established criteria to provide a specified level of assurance of validity prior to its intended use. All analytical samples collected will receive a limited data review. The data validation will be limited to a review of holding times, completeness of all required deliverables, review of QC results (surrogates, spikes, duplicates) and a 10% check of all samples analyzed to ensure they were analyzed properly. The methods as well as the general guidelines presented in the following documents will be used during the data review USEPA *Contract Laboratory Program (CLP) Organic Data Review, SOP Nos. HW-6, Revision #11 and USEPA*

Evaluation of Metals Data for the Contract Laboratory Program based on 3/90, SOW, Revision XI. These documents will be used with the following exceptions:

- Technical holding times will be in accordance with NYSDEC ASP, 10/95 edition.
- Organic calibration and QC criteria will be in accordance with NYSDEC ASP, 10/95 edition. Data will be qualified if it does not meet NYSDEC ASP, 10/95 criteria.

Where possible, discrepancies will be resolved by the project manager (i.e., no letters will be written to laboratories). A complete analytical data validation is not anticipated. However, if the initial limited data audit reveals significant deviations and problems with the analytical data, project personnel may recommend a complete variation of the data.

9.0 REFERENCES

Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Quality Assurance Manual, Final Copy , Revision I, October 1989.

National Enforcement Investigations Center of USEPA Office of Enforcement. *NEIC Policies and Procedures*. Washington: USEPA.

New York State Department of Environmental Conservation (NYSDEC). 1995. *Analytical Services Protocol*, (ASP) 10/95 Edition. Albany: NYSDEC.