



**Lewis S. Streeter**  
Senior Project Manager

GE  
319 Great Oaks Blvd.  
Albany, NY 12203

T 518 862 2712  
F 518 862 2731  
lewis.streeter@ge.com

February 14, 2017

Jessica LaClair  
New York State Department of Environmental Conservation  
Division of Environmental Remediation  
Remedial Bureau D  
625 Broadway, 12<sup>th</sup> Floor  
Albany, NY 12233-7013  
One electronic copy

**Re: *Interim Site Management Plan  
GE Parts and Repair Service Shop  
Tonawanda, New York 14150  
NYSDEC Site ID: 915244  
EPA ID: NYD067539940  
Permit ID: 9-1464-00044/00001***

Dear Ms. LaClair:

Attached please find the revised Interim Site Management Plan (ISMP) for the above referenced site. This ISMP has been prepared in partial fulfillment of the requirements in the Statement of Basis for GE Buffalo Service Shop, Tonawanda, Erie County, New York, dated March 19, 2012. If you have any questions or comments on the attached document, please contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Lewis S. Streeter'.

Lewis S. Streeter  
Senior Project Manager

Enclosures

cc: Roger Florio, GE (via email without enclosures)  
Doug Weeks, Arcadis (with enclosures)

**BUFFALO SERVICE SHOP  
GENERAL ELECTRIC COMPANY  
TONAWANDA, NEW YORK**

# **INTERIM SITE MANAGEMENT PLAN**

**NYSDEC Site Number: 915244**

**EPA ID#: NYD067539940**

**Prepared for:**

General Electric Company  
319 Great Oaks Boulevard  
Albany, New York

**Prepared by:**

Arcadis of New York, Inc.  
855 Route 146, Suite 210  
Clifton Park, New York

**Revisions to Final Approved Interim Site Management Plan:**

<b>Revision No.</b>	<b>Date Submitted</b>	<b>Summary of Revision</b>	<b>NYSDEC Approval Date</b>

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FEBRUARY 2017

CERTIFICATION STATEMENT

I, JAMES NUSS, certify that I am currently a New York State registered professional engineer and that this Interim Site Management Plan was prepared in accordance with applicable statutes and regulations.

  
\_\_\_\_\_  
P.E.  
FEB. 14, 2017 DATE



**BUFFALO SERVICE SHOP  
GENERAL ELECTRIC COMPANY  
TONAWANDA, NEW YORK**

**INTERIM SITE MANAGEMENT PLAN**

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## **List of Acronyms**

AOC	Area of Concern
AST	Aboveground Storage Tank
BGS	Below Ground Surface
CFR	Code of Federal Regulations
CM	Corrective Measures
CMCFR	Corrective Measure Completion Final Report
CMID	Corrective Measure Implementation Design
CMIP	Corrective Measure Implementation Plan
DER	Division of Environmental Remediation
DKP	DKP Buffalo, LLC
EC	Engineering Control
EWP	Excavation Work Plan
GE	General Electric Company
IC	Institutional Control
ISMP	Interim Site Management Plan
µg/cm <sup>2</sup>	Micrograms per Square Centimeter
mg/kg	Milligram Per Kilogram
NAVD88	North American Vertical Datum 1988
NYCRR	New York Codes, Rules and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
PCB	Polychlorinated Biphenyl
ppm	Part Per Million
PRR	Periodic Review Report
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RSCO	Recommended Soil Cleanup Objective
SWMU	Stormwater Management Unit
TSCA	Toxic Substances Control Act
URS	URS Corporation – New York
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

## ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance, and reporting activities required by this Interim Site Management Plan (ISMP):

Site Identification: EPA ID#: NYD067539940  
 NYSDEC Site #: 915244  
 GE Buffalo Service Shop  
 Tonawanda, New York

Institutional Controls (ICs):	1. The property may be used for industrial/commercial use.
	2. ICs include an Environmental Easement with land use and groundwater restrictions.
	3. All Engineering Controls (ECs) must be inspected at a frequency and in a manner defined in this ISMP, and maintained as needed.
Engineering Controls:	1. Fencing/access control.
	2. Epoxy coating on sections of the concrete floor within the continuously used/occupied portions of the on-site building.
	3. Asphalt pavement in the Transportation Corridor.
	4. Site cover (buildings, pavement, or demarcation fabric and at least 1 foot of soil cover).
Inspections:	Frequency
1. Fencing/access control inspection	Annually
2. Epoxy floor coating	Annually (When Occupied)
3. Asphalt pavement	Annually
4. Site cover (buildings, pavement, or demarcation fabric and soil cover).	Annually
Monitoring:	
1. Groundwater monitoring (separate plan for limited groundwater monitoring)	Semiannually for three consecutive events, followed by annually for three years

Maintenance:	
1. Fence/access maintenance	As needed
2. Epoxy floor coating	As needed
3. Asphalt pavement	As needed
4. Site cover (buildings, pavement, or demarcation fabric and soil cover).	As needed
Reporting:	
1. Periodic Review Report	Every three years
2. Site Inspection Report	Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this ISMP.

## 1.0 INTRODUCTION

### 1.1 General

This Interim Site Management Plan (ISMP) was prepared by Arcadis of NY, Inc., on behalf of GE, and is a required element of the Corrective Measure (CM) Program for the General Electric Company (GE) Buffalo Service Shop site located at 175 Milens Road in Tonawanda, New York (hereinafter referred to as the “site”), as shown on **Figure 1**. The site is currently in the New York State (NYS) Resource Conservation and Recovery Act (RCRA) Corrective Action Program, which is administered by the New York State Department of Environmental Conservation (NYSDEC). The site is identified as United States Environmental Protection Agency (USEPA) ID# NYD067539940 and is also known by NYS Site Number 915244.

This ISMP has been prepared in partial fulfillment of the requirements for Corrective Action specified in 6 New York Codes, Rules, and Regulations (NYCRR) Part 373 Hazardous Waste Management Permit (373 Permit) issued by NYSDEC to GE (the current permittee) on July 5, 2012. The 373 Permit (Permit ID 9-1464-00044/00001) was issued under the RCRA program and requires GE to perform corrective measures at the site. Because the Part 373 Permit requires GE to perform additional investigation when inaccessible sub-slab soils become accessible, this document is therefore being completed as an ISMP. A final SMP will be submitted subsequent to conducting Final Corrective Measures in sub-slab soils.

A Corrective Action Program has been ongoing at the site in accordance with the May 1996 Hazardous Waste Management Permit and the subsequent July 2012 Corrective Action Permit. The original permit allowed storage of hazardous wastes that contained volatile organic compounds (VOCs), metals, and/or polychlorinated biphenyls (PCBs) at the site. There has been no treatment or disposal of hazardous or solid wastes at the site. Both the RCRA Container Storage Area and the PCB Storage Area were closed in accordance with approved closure plans. In accordance with the 1996 373 Permit, site assessment and investigation (Section 2.3) were undertaken, several interim corrective measures were performed, and potential corrective measures were evaluated. The Statement of Basis for selection of the final remedy was published for public comment in late 2011, and in March 2012, the NYSDEC made a determination on the final corrective measures.

The selected remedy, as presented in the Statement of Basis, included the following: excavation of contaminated surface soils that exceed 1 part per million (ppm) of PCB and excavation of contaminated subsurface soils that exceed 10 ppm of PCB, to a maximum depth of six feet in the areas surrounding the rail spur, old oil/water separator, sewer lines, and former rinse water tank excavation (approximately 1,570 cubic yards of soil). The July 2012 373 Permit is a corrective action only permit that incorporates those measures and requires GE to perform additional investigation when inaccessible sub-slab soils become accessible (NYSDEC 2011).

In accordance with the July 2012 373 Permit, a Corrective Measure Implementation Plan (CMIP) was prepared by URS Corporation – New York (URS) on behalf of GE and approved by NYSDEC on November 13, 2012. Following a series of pre-design investigations, a Corrective Measure Implementation Design (CMID) Report was prepared by AECOM on behalf of GE, and was submitted to NYSDEC on January 16, 2015. NYSDEC approved the design with comments in a letter dated February 23, 2015. The corrective actions were generally completed from August to December 2015, with

follow-up punch list and restoration activities completed in the spring of 2016. A Revised Corrective Measure Completion Final Report (CMCFR) was prepared and submitted to NYSDEC on June 21, 2016. NYSDEC approved the CMCFR in a letter dated June 27, 2016.

The CMCFR (AECOM 2016) documents that corrective measures for the site were implemented in substantial compliance with the NYSDEC-approved plans presented in the October 2, 2012 CMIP and the January 16, 2015 CMID Report. The cleanup levels achieved are generally consistent with industrial/commercial use. After completion of the remedial work described in the CMCFR, some contamination remains at the site, which is hereafter referred to as “residual impacts.” Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to residual impacts for protection of public health and the environment. An Environmental Easement recorded with the Erie County Clerk requires compliance with this ISMP and all ICs and ECs placed on the site. A copy of the Environmental Easement is provided in **Appendix A**.

This ISMP was prepared for the management of residual impacts at the site until the Environmental Easement is extinguished. Compliance with this plan is required by the permittee and/or new permittees if the ownership of the property, or any portion thereof, is transferred.

This ISMP details the site-specific implementation procedures required by the Environmental Easement. Failure to comply with this ISMP is a violation of the Environmental Easement and Environmental Conservation Law, and thereby subject to applicable penalties. This ISMP may be revised only with the approval of NYSDEC.

Reports associated with the site can be viewed by contacting NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts involved with the site is provided in **Appendix B** of this ISMP.

The guidance for the development of a site management program found on NYSDEC’s website, including the August 2015 ISMP Template, and NYSDEC’s Division of Environmental Remediation (DER)-10 (Technical Guidance for Site Investigation and Remediation) dated May 2010, were used in preparing this ISMP. This ISMP addresses the means for implementing the ICs/ECs required by the Environmental Easement for the site.

## **1.2 Revisions**

Revisions to this ISMP will be proposed in writing to the NYSDEC Project Manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, NYSDEC will provide a notice of any approved changes to the ISMP, and append these notices to the ISMP that is retained in its files.

## **1.3 Notifications**

All notifications listed below will be submitted by the permittee to 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 Environmental Easement, 6 NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to an Excavation Work Plan (EWP).
- Notice within 48 hours of any damage or defect to the foundation, structures, or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake, that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public. Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Notifications required under the 373 Permit Module II.B.10, consisting of the following:

- 15-day notice of any discovery of hazardous constituents in groundwater that may have been released from a solid waste management unit (SWMU) or area of concern (AOC) at the site or that may have migrated beyond the site boundary in concentrations that exceed applicable action levels.
- 15-day notice of any discovery of hazardous constituents in air that may have been released from a SWMU or AOC at the site and have or are migrating to areas beyond the site boundary in concentrations that pose a threat to human health, where residences or other places at which continuous, long-term exposure to such constituents might occur are located within such areas.
- 15-day notification of any additional SWMUs and/or AOCs identified during the course of groundwater monitoring, field investigations, environmental assessments, or other means.

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

- At least 60 days prior to the change, NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Environmental Easement, and all approved work plans and reports, including this ISMP.
- 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 to NYSDEC.

- Application of permit transfer will be submitted before transfer of ownership (373 Permit General Condition #6).

**Table 1** includes contact information for the above notification requirements. The information in this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in **Appendix B**.

**Table 1: Recipients of Notifications\***

Name	Contact Information
Jessica LaClair NYSDEC Project Manager	518 402-9821; <a href="mailto:jess.laclair@dec.ny.gov">jess.laclair@dec.ny.gov</a>
Kathleen Emery NYSDEC Regional HW Engineer	716 851-7220; <a href="mailto:kathleen.emery@dec.ny.gov">kathleen.emery@dec.ny.gov</a>

\* Note: Notification recipients are subject to change and will be updated as necessary.

## 2.0 SUMMARY OF PREVIOUS REMEDIAL INVESTIGATIONS AND ACTIONS

### 2.1 Site Location and Description

The site is located at 175 Milens Road in the Town of Tonawanda, Erie County, New York. The Property Tax Parcel ID number for the Site is 52.16-2-4. The site is an approximately 5.83-acre parcel and is located in a mixed industrial/commercial area. The site is bounded to the north by Interstate Route 290, which is owned by the New York State Department of Transportation (NYSDOT), and by land owned by Lamar Advertising, which maintains an advertising billboard on its property. To the east, the site is bounded by property owned by DKP Buffalo, LLC (DKP) and by property owned by Niagara Mohawk. The south side of the site is also bounded by property owned by DKP. The west side of the site is bounded by Milens Road and property owned by Coca-Cola Company. The boundaries of the site are more fully described in **Appendix A**. The owner of the site at the time of issuance of this ISMP is GE.

### 2.2 Physical Setting

#### 2.2.1 Land Use

The site was developed by GE in 1968 and 1969 for use as a service center to repair industrial equipment such as electric motors, transformers, turbines, pumps, and compressors. The original construction at the site included the northern portion of the existing building. An addition to the south end of the building was constructed in 1978. The site is now secured with a chain link fence and gate, and is improved with a 69,000-square-foot, slab-on-grade building. A rail spur extends from the northeast corner of the building toward Military Road east of the site.

GE generated hazardous wastes during routine operations at the site. While the May 1996 373 Permit allowed GE to store hazardous wastes that contained VOCs, metals, and PCBs, it did not allow for, and GE did not perform, the treatment or disposal of hazardous or solid wastes at the site. Prior to off-site disposal, the wastes were stored in either the RCRA Container Storage Area, which was on the east side of the building, or the Commercial PCB Storage Area, which was inside, in the southeast corner of the building. The RCRA Container Storage Area was closed in 2002, as documented in the RCRA Closure Certification Report (URS 2002), which was submitted to NYSDEC and USEPA on September 19, 2002; however, the structure itself is still present and is currently used for storage of miscellaneous items. The Commercial PCB Storage Area was closed in 2000, as documented in the Commercial PCB Storage Area Closure Certification Report (URS 2006) submitted to USEPA and NYSDEC on April 11, 2006. No additional remedial measures are necessary for the storage areas. **Figure 1** illustrates the site features.

#### 2.2.2 Geology and Hydrogeology

The site is relatively flat at an elevation of approximately 610 to 613 feet relative to the North American Vertical Datum 1988 (NAVD88). The soils underlying the site consist of very dense glaciolacustrine sediments, which are predominantly clays and silts. These sediments are approximately 60 to 70 feet thick. The depth to groundwater in native site soils is approximately 25 feet below ground surface (bgs). Discrete areas of shallow perched groundwater may be present at the site at a depth of six to nine feet bgs in isolated areas of fill within utility corridors.

## 2.3 Investigation and Remedial History

A series of investigations have been performed at and near the site under the Corrective Action Program. A RCRA Facility Investigation (RFI) was completed in 1988. The result of the RCRA RFI and supplemental investigations led to the implementation of several interim corrective measures, the development of corrective action objectives, and the evaluation of potential corrective measures. During sampling performed in conjunction with closure of the Commercial PCB Storage Area, PCB impacts to the Transportation Corridor, depressed dock, and truck bay were discovered and delineated (with the exception of a portion of the Transportation Corridor which was inaccessible at the time due the presence of large pieces of equipment; as described below, those inaccessible areas of the Transportation Corridor were later delineated as part of the pre-design investigation). Interim corrective measures were implemented to address these impacts. At the request of NYSDEC, a Focused Corrective Measure Study was undertaken to evaluate potential corrective measures for these areas (URS 2011).

Reports summarizing the results of the investigations conducted prior to the current 373 Permit include:

- RFI Report, dated April 2, 1999, prepared by Dames & Moore
- Supplemental Sewer Investigation Report, dated April 14, 2000, prepared by Dames & Moore
- Summary of Soil Sampling Results Supplemental Investigation, dated April 23, 2001, prepared by URS
- Off-Site Storm Sewer Investigation Report, dated July 13, 2001, prepared by URS
- RCRA Closure Certification Report, dated September 19, 2002, prepared by URS
- Two Mile Creek Limited Sediment Investigation Report, dated March 20, 2003, prepared by URS
- Closure Certification Report – Commercial PCB Storage Area, dated April 11, 2006, prepared by URS
- Letter report on confirmatory sample results from Two Mile Creek, dated May 19, 2008
- August 5, 2008 letter report on additional in-creek sampling performed in July 2008
- Letter report on additional bank soil sampling along Two Mile Creek, dated September 30, 2010, prepared by AECOM

In November 2011, NYSDEC published the Statement of Basis, which summarized the project information and proposed remedy evaluation to allow the public to review the information and participate in remedy evaluation. In March 2012, NYSDEC made a determination of final corrective measures for the site. This determination was based on the potential measures evaluated in the Revised Corrective Measure Study Final Report prepared by URS and dated July 31, 2001, and the Focused Corrective Measure Study prepared by URS and dated July 13, 2011. These final corrective measures were incorporated into the July 2012 373 Permit.

Several changes in site use occurred between preparation of the Corrective Measures Study Final Report (Dames & Moore 2000a) and selection of the final corrective measures, as documented in the CMIP prepared by URS and dated October 2, 2012. Several of the planned corrective measures were updated to reflect the modified site conditions. The CMIP also discussed informational gaps and the need for additional investigation before the design could be completed. A series of pre-design investigations were conducted during 2014 under NYSDEC-approved work plans. In summary, these investigations concluded that the extent of PCB impacts to surface soil was larger than previously defined, the concrete ramp was not impacted by PCBs, and eastern portions of the Transportation Corridor had been impacted by PCBs (URS 2014a, 2014b, 2014c, 2014e, and 2014g). The results of the investigations were summarized in letter reports to NYSDEC titled Pre-Design Investigation Data (URS 2014d) and Additional Pre-Design Investigation Data (AECOM 2015b).

The contaminants of concern identified at the site during the pre-remediation investigations included PCBs and, to a lesser extent, VOCs. The CMID Report (AECOM 2015a) presented a summary of the results of prior investigations. The selected remedy as modified through the design phase included:

- Excavation and off-site disposal of surface soil with PCB concentrations greater than 1 milligram per kilogram (mg/kg) from six areas east of the shop building, including the rail spur
- Excavation and off-site disposal of subsurface soil with PCB concentrations greater than 10 mg/kg from the former rinse water tank excavation
- Removal of the old oil water separator on the east side of the building, if feasible
- Replacement of the storm sewer line that passes through subsurface excavation areas on the east side of the building
- Removal of the sanitary storm sewer line, which was removed from service in the fall of 2012, that passes through subsurface excavation areas on the east side of the building
- Removal and off-site disposal of sediments in floor drains and trench drains
- Removal and off-site disposal of sediments in select storm drain structures at and near the site

Corrective measure implementation occurred in general accordance with the NYSDEC-approved design beginning in August 2015 and was substantially completed in December 2015. Restoration work, such as completing the reconstruction of a trench drain and establishing vegetation, continued into spring 2016. The remedial work, including the results of a post-excavation confirmatory sampling program, was documented in the Revised CMCFR prepared by AECOM and dated June 21, 2016. NYSDEC approved the report in a letter dated June 27, 2016.

The CMCFR documents that other than three locations where site structures (aboveground storage tank [AST] containment structure and asphalt pavement) prevented additional soil removal, the site was remediated to achieve less than 1 mg/kg of PCBs, thus alleviating the need for long-term soil management in most areas (AECOM 2016). Soils beneath site structures, consisting of the building floor slab, the AST containment structure, and the Transportation Corridor, may be impacted by PCBs and additional investigation will be performed once these areas are accessible. Areas of residual impacts at the site are shown on Figure 1 and are discussed in Section 2.5.

## **2.4 Corrective Measure Objectives**

The corrective action objectives for the site, which were established in the Corrective Measures Study Task I report and approved by NYSDEC (Dames & Moore 1999b), are to:

- Remove or prevent contact with or off-site transport of sediments that contain PCBs at concentrations greater than the Recommended Soil Cleanup Objective (RSCO) of 1 mg/kg
- Remove or prevent contact with, off-site transport of, and infiltration of precipitation through surface soils that contain PCBs at concentrations greater than the RSCO of 1 mg/kg
- Remove or prevent contact with, and infiltration through, subsurface soils that contain PCBs at concentrations greater than the RSCO of 10 mg/kg
- Remove or prevent contact with, and infiltration through, subsurface soils that contain VOCs at concentrations greater than the RSCOs
- Prevent or control the migration of perched groundwater that contains PCBs or VOCs at concentrations that exceed NYS groundwater standards

Specific cleanup criteria for PCBs and VOCs detected in soil, sediments, and perched groundwater at the site were presented in the NYSDEC-approved Revised Corrective Measure Study Final Report. Additional cleanup objectives were established in the Revised Closure Plan for the Commercial PCB Storage Area prepared by URS in 2000 in accordance with the Toxic Substances Control Act (TSCA). These cleanup objectives were reiterated in the Focused Corrective Measure Study. The objective of the Revised Closure Plan (URS 2000) was to ensure that the surfaces at the site that may have been impacted by operation of the Commercial PCB Storage Area were cleaned in accordance with the levels specified in 40 Code of Federal Regulations (CFR) Part 761 Subpart G – PCB Spill Cleanup Policy. Closure-related sampling investigations indicated the presence of additional historical PCB impacts at the site, which were addressed to allow continued use of the PCB-impacted shop floor as authorized in 40 CFR Part 761.30(p), and to allow

continued use of the asphalt south of the shop as a low occupancy area (40 CFR Part 761.61(a)(4)(i)(B)).

## 2.5 Residual Impacts

The residual impacts at the site include:

- Limited areas of subsurface soils with PCB concentrations greater than 1 mg/kg
- Impacted concrete and asphalt with PCB concentrations greater than 1 mg/kg
- Potentially impacted soils beneath site structures (i.e., building floor slab, AST containment structure and Transportation Corridor).

Each of the areas described below are covered by soil, epoxy coating, asphalt, or a site structure to limit the potential for direct contact and infiltration of precipitation.

Surface and subsurface soil at the site was remediated to achieve 1 mg/kg or less of PCBs in soil, except for three areas where additional soil could not be removed without impacting an overlying site structure. These three areas are:

- Subsurface soil near southwest corner of ASTs: Additional soil could not be removed due to the proximity of the ASTs. A single soil sample collected in the area following excavation contained a PCB concentration of 1.2 mg/kg. Orange geotextile fabric and 12 or more inches of soil and concrete were placed over these soils.
- Soil along east edge of Transportation Corridor: Soil in the area contained up to 12.5 mg/kg of PCBs. Additional soil could not be removed without removing pavement. Geotextile fabric demarcates soil remaining under the pavement with PCBs greater than 1 mg/kg from clean fill placed in remediated areas to the east along an approximately 55-foot-long stretch.
- Along south edge of Transportation Corridor: Soil in the area contained 2.9 mg/kg of PCBs. Additional soil could not be removed without removing the pavement. Geotextile fabric demarcates soil remaining under the pavement with PCBs greater than 1 mg/kg from clean fill placed in remediated areas to the south along a 17-foot-long stretch.

In addition to the residual-impacted PCB soils remaining after the 2015 CM work, PCB-impacted concrete and asphalt remain in use at the site in accordance with the selected remedy and design. These areas include:

- Concrete floor slab (depressed dock and truck bay): The depressed dock and truck bay along with most of the concrete shop floor slab with PCB concentrations greater than 1 mg/kg or 10 micrograms per square centimeter ( $\mu\text{g}/100\text{ cm}^2$ ). These areas are covered with two coats of epoxy coating of contrasting colors to prevent direct contact with impacted materials and allow continued use of the concrete slab in accordance with TSCA. **Figure 2** shows the epoxy-coated areas.

- Asphalt of Transportation Corridor: An irregularly shaped area of asphalt with PCB concentrations greater than 1 mg/kg comprising most of the paved area south of the shop. The PCB-impacted asphalt is covered by a topcoat of asphalt applied in 2004 (and later in 2015 for areas that were previously inaccessible).

Soil beneath site structures, such as the building floor slab, the AST containment structure, and the Transportation Corridor, may be impacted by PCBs. Soil in these areas should be conservatively managed as PCB-impacted until such time that a sampling program demonstrates the soil has not been impacted by PCBs.

## 3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

### 3.1 General

ICs and ECs are required to protect human health and the environment because residual PCB-impacts remain at the site. This plan describes the procedures for implementation and management of ICs/ECs at the site. This plan provides:

- A description of IC/ECs on the site
- The basic implementation and intended role of each IC/EC
- A description of the key components of the ICs set forth in the Environmental Easement
- A description of the controls to be evaluated during each required inspection and periodic review
- A description of plans and procedures to be followed for implementation of ICs/ECs for the proper handling of residually impacted materials that may be disturbed during maintenance or redevelopment work on the site

### 3.2 Institutional Controls

A series of ICs is required by the Environmental Easement to (1) implement, maintain, and monitor EC systems; (2) prevent future exposure to residually impacted materials; and (3) limit the use and development of the site to uses permitted by the Environmental Easement. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this ISMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are equivalent to the site boundary shown on **Figure 3**. These ICs are as follows:

- The site may be used only for commercial or industrial use.
- The ICs at the site include an Environmental Easement.
- ECs must be maintained as specified in this ISMP.
- ECs must be inspected at a frequency and in a manner defined in this ISMP.
- Groundwater and other environmental or public health monitoring must be performed as defined in this ISMP or other NYSDEC-approved plan.
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this ISMP or other NYSDEC-approved plan.
- All future activities that will disturb remaining impacted material must be conducted in accordance with this ISMP or other NYSDEC-approved plan.
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this ISMP or other NYSDEC-approved plan.

- Inspection and reporting on physical components of the remedy will be performed as defined in this ISMP.
- 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 permittee to ensure compliance with the restrictions identified by the Environmental Easement.
- Vegetable gardens and farming on the site are prohibited.

### 3.3 Engineering Controls

The ECs on the site consist of fencing/access control, epoxy coating on most of the concrete floor within the on-site building, and an asphalt covering over impacted pavement in the Transportation Corridor, as illustrated on **Figure 3**. Limited areas of soil with PCB concentrations greater than 1 mg/kg were left in place under site structures following 2015 soil removal activities. Orange demarcation fabric was placed (see **Figure 3**) prior to backfilling and restoring these areas.

During the various site investigations, a limited number of soil samples were collected beneath site structures, such as the concrete building slab, the AST containment, and the Transportation Corridor. In accordance with the 373 Permit, soil under these structures is to be investigated when it becomes accessible. Until such time, disturbance of the structures over these areas should be considered disturbance of a cover system and be performed in accordance with the EWP provided in **Appendix C**.

#### 3.3.1 Fencing/Access Control

A gated and locked fence acts as an EC at the site to restrict access. The six-foot-high chain link security fence encompasses known areas of remaining impacts at the site. A portion of the northeast part of the site is outside the fenced area. The main access to the site is through an electronic gate on Milens Road. There are also three gates in the rail spur area for the two sets of railroad tracks and the gravel access road to the Lamar billboard. Padlocks are used to secure the three gates in the rail spur area.

#### 3.3.2 Epoxy Coating

Based on sampling performed within the on-site building during the early 2000s, PCB impacts to the shop floor were identified that were not directly related to the PCB storage areas. After evaluating remedial options, GE elected to epoxy coat sections of the floor with PCB impacts to allow continued use in accordance with TSCA. The double wash, double rinse procedures followed by double epoxy coating of the floor in contrasting colors as outlined in TSCA for continued use of porous surfaces impacted by PCBs (40 CFR Part 761.30(p)) was performed during early 2004. These procedures were documented in the Closure Certification Report (URS 2006). **Figure 2** shows the epoxy-coated areas.

The epoxy coating is a durable cover system and it is anticipated that minimal repairs will be needed. The topcoat may require periodic repair/replacement due to wear. The lower coat is unlikely to be penetrated except in the event of a planned activity, such as changes in shop operations. Procedures for routine repairs or disruption are described in the Cover Repair Work Plan provided in **Appendix D**. In the event that this cover system is breached or removed, the procedures described in **Appendix D** will be followed, or a task-specific plan will be prepared and submitted to NYSDEC for review and approval.

prior to commencement of on-site activities. Procedures for the inspection of the epoxy coating are provided in the Monitoring Plan included in Section 4.0 of this ISMP.

### 3.3.3 Asphalt Pavement

The Transportation Corridor is part of a larger paved area that extends from the south wall of the building south to the fence line. This area meets the TSCA definition of a low-occupancy area because it is used only for parking and equipment storage. Remediation (removal of the top layer of impacted asphalt) was performed in the area during 2004, and post-removal samples indicated PCBs were present in the remaining asphalt. Post-removal samples indicated that concentrations in some areas were greater than 1 mg/kg, but that the area met the cleanup objective (25 mg/kg) for a low-occupancy area in accordance with 40 CFR Part 761.61(a)(4)(i)(B). This work was documented in the Closure Certification Report (URS 2006). Portions of the Transportation Corridor that were inaccessible in 2004 due to equipment storage were investigated in 2014, and CMs for the portion of that area that exhibited PCB concentrations greater than 1 mg/kg were performed in 2015. The 2015 work included removal of the top inch of pavement and installation of a new layer of asphalt. This work was documented in the CMCFR (AECOM 2016).

Portions of the Transportation Corridor where PCBs remain at concentrations greater than 1 mg/kg have been covered with a layer of asphalt to minimize the potential for direct contact with impacted asphalt and the potential for migration of impacted materials as the asphalt deteriorates with time. Procedures for the inspection of this asphalt cover are provided in the Monitoring Plan included in Section 4.0 of this ISMP.

The asphalt cover is expected to need repair or replacement periodically, and procedures for routine repairs or disruption are described in the Cover Repair Work Plan provided in **Appendix D**. These procedures will be followed, along with potentially applicable portions of the EWP in **Appendix C**, or a task-specific plan will be prepared and submitted to NYSDEC for review and approval prior to beginning work.

### 3.3.4 Criteria for Completion

Inspection and as-needed maintenance and repair of cover systems are anticipated to continue until extinguishment of the Environmental Easement. In accordance with the 373 Permit, a schedule for preparation of a RCRA Facility Investigation Work Plan for the inaccessible sub-slab soils will be prepared within 90 days of when operations cease or are altered in a manner that would allow access for investigation of such areas.

## 4.0 MONITORING PLAN

### 4.1 General

This Monitoring Plan describes the measures for evaluating the overall performance and effectiveness of the ECs and ICs at the site. This plan may be revised only with the approval of NYSDEC.

In accordance with the 373 Permit, groundwater at the site will be monitored for five years to verify the findings of the 1998-1999 RFI, which found that groundwater had not been impacted by historical site activities. A Groundwater Monitoring Plan has been prepared and is included as **Appendix E** of this ISMP.

This Monitoring Plan also describes the methods to be used for evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment. To adequately address this, the Monitoring Plan provides information on annual inspection and periodic certification. Reporting requirements are provided in Section 7.0 of this ISMP.

### 4.2 Site-Wide Inspection

Site-wide inspections will be performed annually. Modification to the frequency of inspections will require approval from NYSDEC. Site-wide inspections will also be performed after severe weather conditions that may affect ECs. During these inspections, an inspection form (**Appendix F**) will be completed. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage
- The condition and continued effectiveness of ECs
- General site conditions at the time of the inspection
- Confirmation that site records are up to date

Remedial components installed at the site will be inspected. A comprehensive site-wide inspection will be conducted and documented according to the ISMP schedule, regardless of the frequency of the Periodic Review Report (PRR). The inspections will determine and document the following:

- Whether ECs continue to perform as intended
- If controls continue to be protective of human health and the environment
- Compliance with requirements of this ISMP and the Environmental Easement
- Whether site records are complete and up to date

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to NYSDEC must be provided by noon of the following day. In addition, the site will be inspected within five days of the event by a qualified environmental professional, as

determined by NYSDEC, to verify the effectiveness of the ICs/ECs implemented at the site. Written confirmation must be provided to NYSDEC within seven days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

### **4.3 Engineering Control System Assessment**

Performance of on-site ECs will be evaluated based on visual inspection. Repairs will be completed as required by inspection results and will be performed in accordance with the Cover Repair Work Plan in **Appendix D**, and if applicable, the EWP in **Appendix C**.

Should significant repairs be required to the ECs discussed below, a Corrective Action Plan will be prepared and submitted to NYSDEC for review and approval prior to commencement of on-site activities.

#### 5.3.1 Fencing/Access Control System

The fencing and gates will be inspected annually. Breaks in the fence or gates will be repaired as soon as practicable.

#### 5.3.2 Epoxy Coating

The epoxy floor coating in the on-site building will be inspected annually. The inspector will look for blistering, bubbling, craters, poor adhesion and peeling, lack of uniformity, tacky or soft patches, lumps/bumps/globs, complete damage and disintegration, and general wear.

The assessment will include recommendations for repairs or maintenance of the coating, if appropriate. As long as the base layer of epoxy is intact, the coating will be considered an effective barrier and protective of human health and the environment, and recommended repair work will be considered nonessential.

Routine repairs of the epoxy coating on the building floor would be conducted when the building is to be used for long-term continual occupancy. In such cases, maintenance activities of the coating may include replacement of the top coat when it shows wear down to the second layer; replacement of epoxy if there are dings, chips, or gouges; or coating of an area that was previously inaccessible due to the presence of equipment. Repairs should be performed under the oversight of a qualified environmental professional, or their designee. Nonessential repairs will be performed when practicable.

When the building is under continual occupancy and in the event that a piece of equipment is removed leaving uncoated concrete exposed, barriers will be placed around the area to restrict access until the area can be either sampled to demonstrate compliance with the site cleanup objectives, or double washed and epoxy coated to comply with TSCA's provisions for continued use of PCB-impacted porous surfaces.

#### 5.3.3 Asphalt Pavement

The asphalt pavement of the Transportation Corridor will be inspected annually. The inspector will look for cracks, heaving, shrinkage, potholes, depressions, rutting, disintegration, or other damage.

The assessment will include recommendations for repairs or maintenance of the asphalt top coat, if appropriate. If the area continues to be used for parking and equipment storage, which meets the criteria for a low-occupancy area, repairs to the top coat that may be recommended will be considered nonessential. If damage to, or deterioration of, the underlying PCB-impacted asphalt is visible at the time of the inspection, the repairs will be considered essential and the area will be barricaded to prevent further damage. Essential repairs will be undertaken as soon as possible.

Repairs might include cold patching or hot patching small areas of damage, seal coating of the pavement, or crack sealing.

## **5.0 OPERATION AND MAINTENANCE PLAN**

The site remedy does not rely on any mechanical systems, such as groundwater treatment systems, 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 ISMP.

## 6.0 PERIODIC ASSESSMENTS/EVALUATIONS

Periodic assessment of climate change vulnerability and evaluation of green remediation are not anticipated.

A formal climate change vulnerability assessment has not been performed for the site. The site is not located in a floodplain. Much of the site is covered by impervious surfaces such as pavement and structures. Native site soils are tight silts and clays. The soils are fairly impervious and standing water is commonly observed following rain events in northern portions of the site. Most of the drainage from impervious areas is toward catch basins at and near the site that drain to the Town of Tonawanda storm sewer system beneath Milens Road. The separate storm sewer system discharges into Two Mile Creek. The system appears to have sufficient capacity to handle storm events under current climatological conditions. No areas of erosion were observed prior to the 2015 implementation of CMs.

Restoration of the vegetative cover has been completed. The remedy does not include remedial systems and the site does not have many trees, so vulnerability from high winds is limited. The remedy does not include remedial systems; therefore, power outages or surges and dips will not affect the remedy. Residually impacted materials at the site are under cover systems that limit the possibility of exposure.

## 7.0 REPORTING REQUIREMENTS

### 7.1 Site Management Reports

Site management inspection and maintenance events will be recorded on the appropriate site inspection forms, which are provided in **Appendix F**. Data generated from the groundwater monitoring program will be reported separately in accordance with the NYSDEC-approved Groundwater Monitoring Plan.

Applicable inspection forms and other records, including media sampling data, generated for the site during the reporting period will be provided in electronic format to NYSDEC (in accordance with the requirements of **Table 2**) and summarized in the PRR.

**Table 2: Schedule of Interim Monitoring/Inspection Reports**

<b>Task/Report</b>	<b>Reporting Frequency*</b>
Inspection Report	Annually
Periodic Review Report	Every three years or as otherwise determined by NYSDEC

\* Events will be conducted at the frequency specified until otherwise approved by NYSDEC.

Interim monitoring/inspection reports will include:

- Date of event or reporting period
- Name, company, and position of person(s) conducting inspection activities
- Description of the activities performed
- Where appropriate, color photographs or sketches showing the approximate location of problems or incidents noted (included either on the checklist/form or on an attached sheet)
- Type of samples collected, if any; and
- Copies of all field forms, completed observations, conclusions, or recommendations

The inspection report will also include a summary of routine repairs to the cover systems that were undertaken since the last report. The report will include analytical results for samples collected, such as those collected for waste characterization purposes. A summary description of the waste generated during the work and documentation of disposal will also be included.

### 7.2 Periodic Review Report

A PRR, prepared by the permittee, will be submitted to NYSDEC beginning 16 months after approval of this ISMP. After submittal of the initial PRR, subsequent reports will be submitted to NYSDEC every three years or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single PRR will be prepared that addresses the site as

described in the Environmental Easement in **Appendix A**. The report will be submitted within 60 days of the end of each certification period. The report will include:

- Identification, assessment and certification of all ICs/ECs required by the remedy for the site
- Results of the required annual site inspections and severe condition inspections, if applicable
- Applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the Statement of Basis
  - The effectiveness of the ICs and ECs, including identification of needed repairs or modifications
  - Any new conclusions or observations regarding site conditions based on inspections or other site management programs (Groundwater Monitoring Plan)
  - Recommendations regarding any necessary changes to the monitoring program
  - An opinion as to whether the remedy continues to be effective in achieving remedial goals as specified by the Statement of Basis
  - The overall performance and effectiveness of the remedy

#### 7.2.1 Certification of Institutional and Engineering Controls

Each PRR will include certifications in accordance with NYSDEC DER-10.

### **7.3 Corrective Measures Work 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 IC or EC, a Corrective Measures Work Plan will be submitted to 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 Work Plan until it has been approved by NYSDEC.

## 8.0 REFERENCES

- AECOM. 2010. Technical Services Northeast, Inc. Additional Bank Soil Sampling Along Two Mile Creek, GE Parts and Repair Service Center, Tonawanda, New York. September 30.
- AECOM. 2015a. Corrective Measures Implementation Design Report, GE Parts and Repair Service Center, Tonawanda, New York. January.
- AECOM. 2015b. Additional Pre-Design Investigation Data, GE Parts and Repair Service Center, Tonawanda, New York. February.
- AECOM. 2016. Corrective Measure Completion Final Report, GE Parts and Repair Service Center, Tonawanda, New York. June.
- Dames & Moore. 1999a. RFI Report, GE Apparatus Service Center, Tonawanda, New York, April 2.
- Dames & Moore. 1999b. Corrective Measure Study (CMS) Plan, GE Apparatus Service Shop, Tonawanda, New York. December.
- Dames & Moore. 2000a. Corrective Measures Study Final Report, GE Apparatus Service Shop, Tonawanda, New York. April.
- Dames & Moore. 2000b. Supplemental Sewer Investigation Report, GE Apparatus Service Center, Tonawanda, New York. April 14.
- New York State. 2006. 6 NYCRR Part 375, Environmental Remediation Programs. December 14.
- New York State Department of Environmental Conservation (NYSDEC). 1994. Technical and Administrative Guidance Memorandum (TAGM) #4046, Determination of Recommended Soil Cleanup Objectives and Cleanup Levels. January.
- NYSDEC. 1996. Part 373 Hazardous Waste Operating Permit, General Electric International, Inc., Facility DEC ID 9-1464-00044. May.
- NYSDEC. 2010. DER-10 – Technical Guidance for Site Investigation and Remediation. August.
- NYSDEC. 2011. Statement of Basis for GE Buffalo Service Shop, Tonawanda, Erie County, New York. October.
- NYSDEC. 2012. Part 373 Hazardous Waste Operating Permit Renewal, General Electric International, Inc., Facility DEC ID 9-1464-00044. July.
- URS Corporation (URS). 2000. Revised Closure Plan, GE Apparatus Service Shop, Tonawanda, New York. June.
- URS. 2001a. Summary of Soil Sampling Results Supplemental Investigation, GE Apparatus Service Shop Tonawanda, New York. April.

- URS. 2001b. Off-Site Storm Sewer Investigation Report, GE Apparatus Service Shop, Tonawanda, New York. July.
- URS. 2002. RCRA Closure Certification Report, GE Tonawanda Inspection and Repair Service Center, Tonawanda, New York. September.
- URS. 2003. Two Mile Creek Limited Sediment Investigation Sampling Report, General Electric International, GE Inspection and Repair Service Center, Tonawanda, New York. March.
- URS. 2006. Closure Certification Report – Commercial PCB Storage Area, Inspection and Repair Service Center, Tonawanda, New York. April.
- URS. 2011. Focused CMS, GE Parts and Repair Service Center, Tonawanda, New York. July.
- URS. 2012. Corrective Measure Implementation Plan, Parts and Repair Service Center, Tonawanda, New York. October 2.
- URS. 2014a. Pre-Design Investigation Work Plan for the Concrete Ramp and Transportation Corridor, GE Parts and Repair Service Center, Tonawanda, New York. January.
- URS. 2014b. Pre-Design Soil Investigation Work Plan, GE Parts and Repair Service Center, Tonawanda, New York. February.
- URS. 2014c. Work Plan for Additional Pre-Design Investigation, GE Parts and Repair Service Center, Tonawanda, New York. July.
- URS. 2014d. Pre-Design Investigation Data, GE Parts and Repair Service Center, Tonawanda, New York. September 17.
- URS. 2014e. Two Mile Creek Limited Bank Soil Removal Work Plan, GE Parts and Repair Service Center, Tonawanda, New York. September.
- URS. 2014f. Proposed Supplemental Sampling for Additional Pre-Design Investigation, GE Parts and Repair Service Center, Tonawanda, New York. October.
- URS. 2014g. Work Plan for Stepwise Investigation, GE Parts and Repair Service Center, Tonawanda, New York. November.

# FIGURES



CITY: SYRACUSE, NY DIV/GRP: EBC-INDV LD: L. POSENAUER PM: D. WEEKS TM: D. ZUCK LYR(OPTION): OFF=REF  
 C:\ENVCAD\SYRACUSE\ACT-CAP\013103\_4000\GE-Tonawanda\From-AECOM\Fig1\_Site\_Plan-ACs.dwg LAYOUT: 1\_SAVED: 8/16/2016 8:01 AM ACADVER: 19.15 (LMS TECH) PAGES: 19 PAGES SETUP: 19.15 (LMS TECH) PLOTSTYLETABLE: PLOTSTYLETABLE: PLOTTED: 2/14/2017 12:48 PM BY: POSENAUER, LISA

**LEGEND**

-  - DECOMMISSIONED PCB AREA
-  - TRENCH DRAIN
-  - STORM MANHOLE
-  - SANITARY MANHOLE
-  - CATCH BASIN
-  - STORM SEWER
-  - SANITARY SEWER

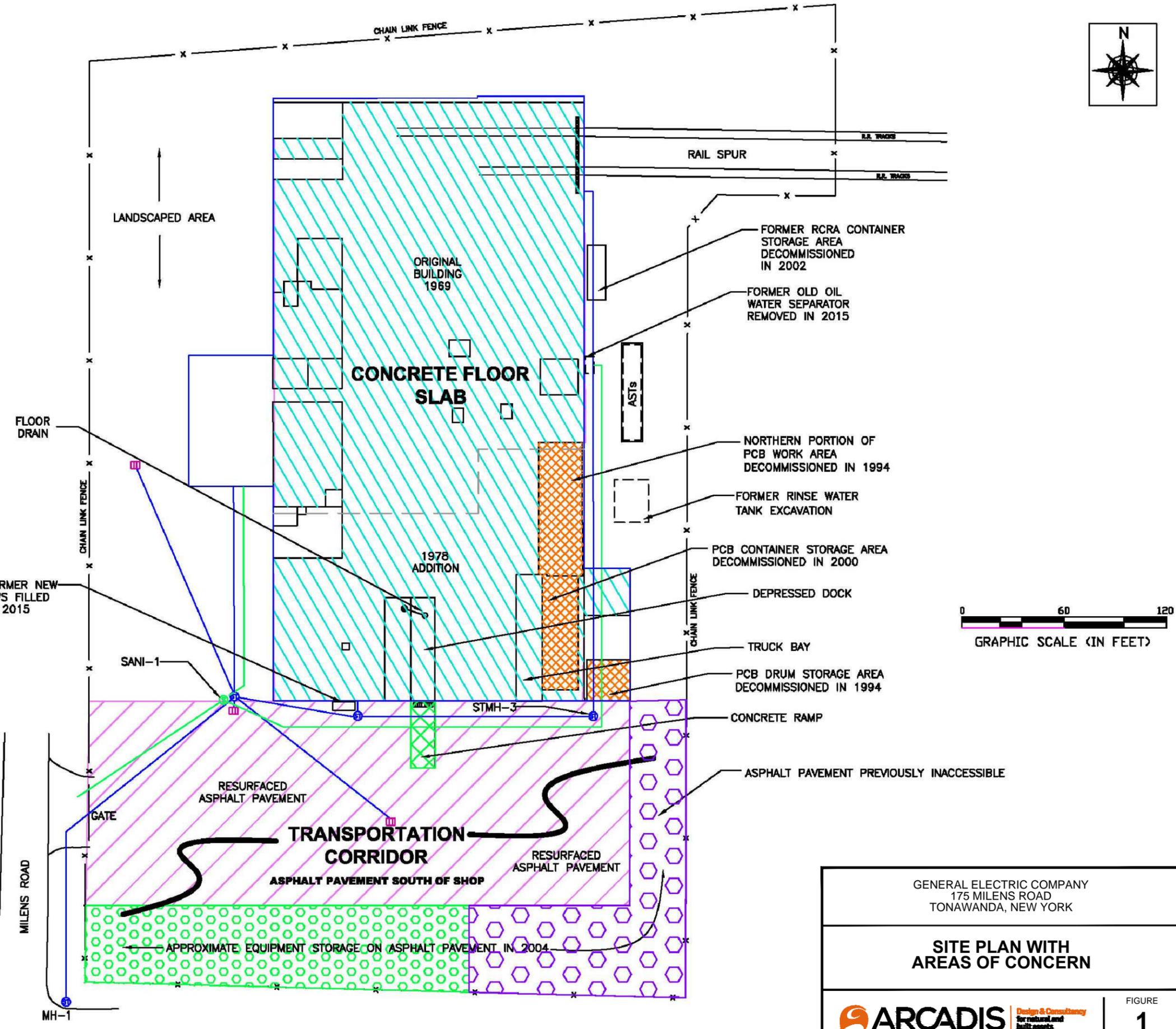
-  - CLEANED AND EPOXY COATED CONCRETE SURFACES (2003-2004)
-  - ASPHALT PAVEMENT - SURFACE REMOVED AND REPLACED (2004)
-  - CONCRETE RAMP EVALUATED IN 2014 - NOT IMPACTED
-  - ASPHALT PAVEMENT PREVIOUSLY INACCESSIBLE - EVALUATED IN 2014 - NOT IMPACTED
-  - ASPHALT PAVEMENT PREVIOUSLY INACCESSIBLE - SURFACE REMOVED AND REPLACED (2015)

**NOTES:**

1. THE LOCATIONS OF SITE FEATURES ARE APPROXIMATE.
2. IN DECEMBER 2004, THE TOP INCH OF ASPHALT PAVEMENT IN THE TRANSPORTATION CORRIDOR WAS REMOVED, DISPOSED OF OFF-SITE, AND REPLACED WITH NEW ASPHALT. THE ASPHALT BENEATH THE EQUIPMENT STORAGE WAS NOT ACCESSIBLE AND THEREFORE NOT REPLACED AT THAT TIME.
3. BETWEEN DECEMBER 2003 AND MAY 2004 THE FACILITY CONCRETE FLOOR WAS SUBJECTED TO A DOUBLE WASH AND DOUBLE RINSE AND EPOXY COATED WITH CONTRASTING COLORS AND LABELING.

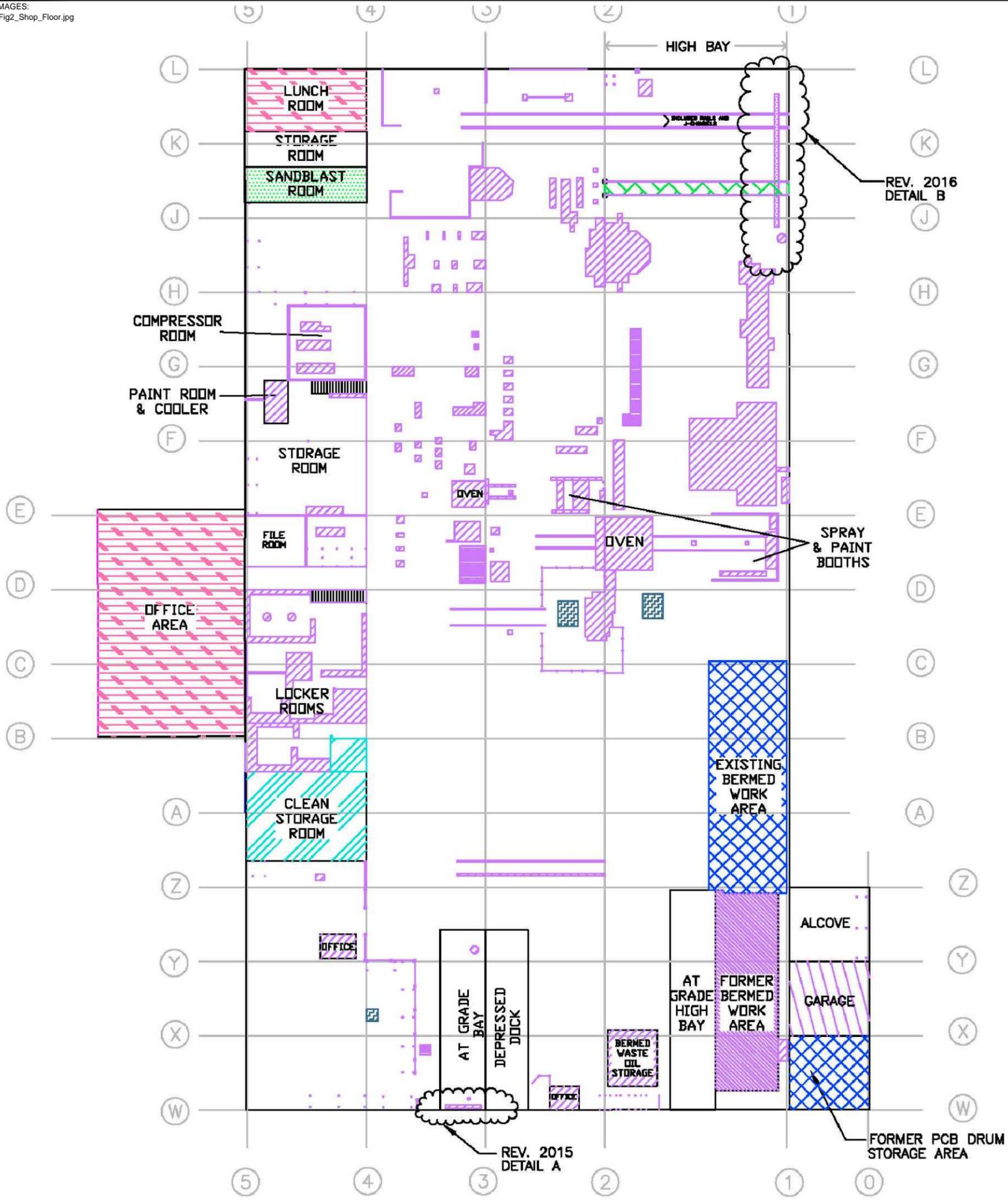
**SOURCES FOR THIS FIGURE WERE:**

- A. "MAP OF GENERAL ELECTRIC SERVICE CENTER PROPERTY, PART OF LOT 45, TOWNSHIP 12, RANGE 8, TOWN OF TONAWANDA, ERIE COUNTY, NEW YORK" KRIEBEL ASSOCIATES, JULY 29, 1998.
- B. "1/8" PART FLOOR PLAN AND DETAILS," CANNON DESIGN INC., AS-BUILT 4-19-78.

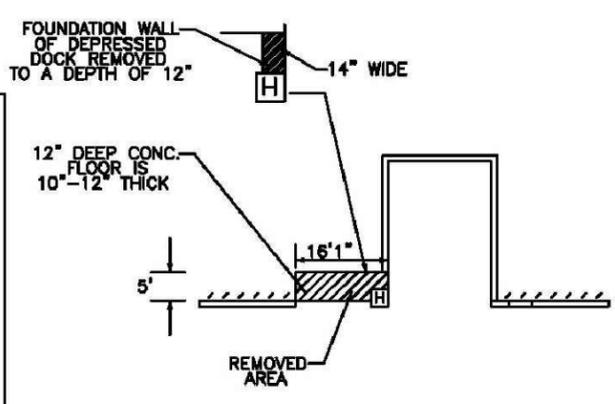


GENERAL ELECTRIC COMPANY 175 MILENS ROAD TONAWANDA, NEW YORK	
<b>SITE PLAN WITH          AREAS OF CONCERN</b>	
	FIGURE <b>1</b>

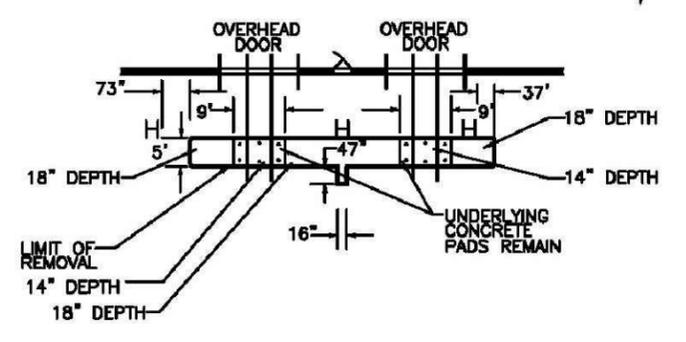
XREFS: IMAGES:  
 BDR-F-PB Fig2\_Shop\_Floor.jpg



**DETAIL A**  
 2015 TRENCH DRAIN REMOVAL  
 (NOT TO SCALE)



**DETAIL B**  
 TRENCH DRAIN REHABILITATION  
 (NOT TO SCALE)



**LEGEND**

- Coating Completed
- Equipment/Office Removed, Coating Completed
- Drain Area Repaired, Coating Reapplied
- Inaccessible Areas, Coating Not Required
- Non-Contiguous Area, Coating Not Required
- Non-Manufacturing Areas
- Area Previously Clean Closed in 1994, Coating Not Required
- Area Documented Clean, Coating Not Required
- Cleaned Grounding Plate, Coating Not Required
- PCB-Contaminated, Asbestos-Containing Tile Removed, Coating Not Required
- Epoxy Top Coat Completed Over Existing Clean Base Coat for Aesthetics
- Heaved Concrete Replaced

- NOTES:**
- Inaccessible areas are based on measurements taken during epoxy coating activities (December 2003 through June 2004).
  - The walls of the depressed dock were also coated with epoxy.
  - Interior of main shop area is 180 feet by 350 feet.
  - Epoxy coating shown reflects 2004 conditions except as noted revised in 2015 to 2016.
- SOURCES:**
- "Map of General Electric Service Center Property, Part of Lot 45, Township 12, Range 6, Town of Tonawanda, Erie County, New York" Kriebel Associates, July 29, 1998.
  - "1/16 Floor Plan and Mezzanine Floor Plan" Cannon Design, Inc., April 19, 1978.
  - "1/8 Part Floor Plan and Details" Cannon Design, Inc., April 19, 1978.

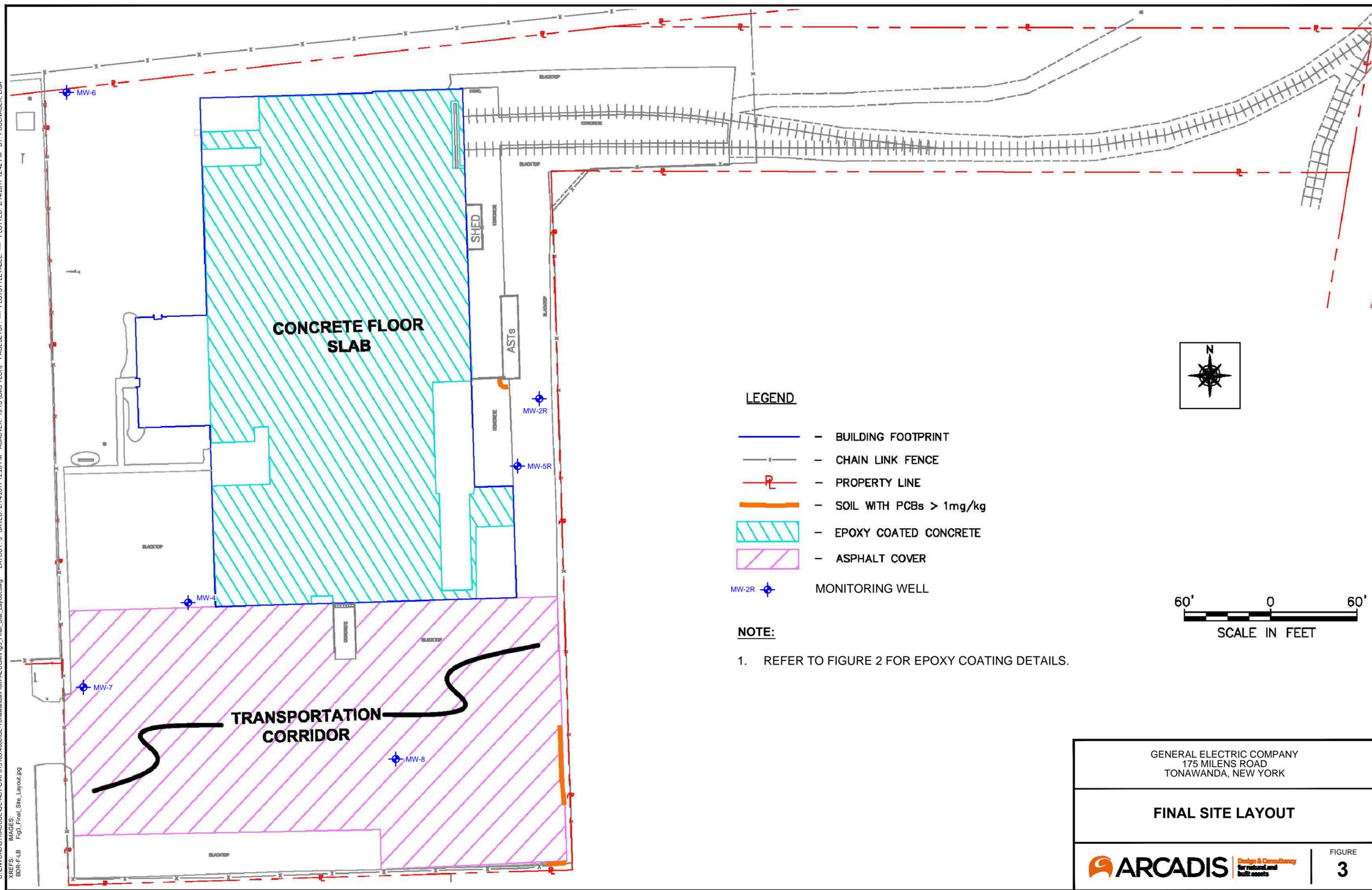


GENERAL ELECTRIC COMPANY  
 175 MILENS ROAD  
 TONAWANDA, NEW YORK

**EPOXY COATED AREAS  
 AS OF JUNE 2004**



CITY: SYRACUSE, NY DIV/GROUP: EBC-IMDV LD: L. POSENAUER PM: D. WEEKS TM: D. ZUCK LYN(OPTION)?OFF="REF"  
 C:\ENVCAD\SYRACUSE\GE-ACT-CAP0103\4000\GE-Tonawanda\Fig3\_Final\_Site\_Layout.dwg LAYOUT: 3 SAVED: 2/14/2017 12:20 PM ACADVER: 19.15 (LMS TECH) PAGES: 3 PLOTTED: 2/14/2017 12:42 PM BY: POSENAUER, LISA  
 XREFS: BDR-FLB Fig3\_Final\_Site\_Layout.jpg



**LEGEND**

-  - BUILDING FOOTPRINT
-  - CHAIN LINK FENCE
-  - PROPERTY LINE
-  - SOIL WITH PCBs > 1mg/kg
-  - EPOXY COATED CONCRETE
-  - ASPHALT COVER
-  - MONITORING WELL

**NOTE:**

1. REFER TO FIGURE 2 FOR EPOXY COATING DETAILS.

GENERAL ELECTRIC COMPANY 175 MILENS ROAD TONAWANDA, NEW YORK	
<b>FINAL SITE LAYOUT</b>	
	
FIGURE <b>3</b>	

# APPENDIX A

## Environmental Easement





**Lewis S. Streeter**  
Senior Project Manager

GE  
Global Remediation - EHS  
319 Great Oaks Blvd.  
Albany, NY 12203

T 518 862 2712  
F 518 862 2731  
Lewis.streeter@ge.com

February 6, 2017

Andrew Guglielmi, Esq.  
Office of General Counsel  
NYSDEC  
625 Broadway, 14<sup>th</sup> Floor  
Albany, NY 12233-1500

**Re: Environmental Easement**

**Owner: General Electric Company**

**Site Name: GE Buffalo Service Shop**

**Easement Location: 175 Milens Road, Tonawanda, County of Erie, New York**

**Tax Map No: 52.16-2-4**

**Site ID No: 915244**

**EPA ID No: NYD067539940**

Dear Mr. Guglielmi:

Attached please find a copy of the environmental easement recorded on January 25, 2017 in the Office of the Erie County Clerk, by General Electric Company, for property at 175 Milens Road, Town of Tonawanda, County of Erie Tax Map No. 52.16-2-4, Site ID No: 915244.

Please also find a certified copy of the municipal notice with return receipts dated January 30, 2017.

If you have any questions or comments regarding this matter, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lewis S. Streeter'.

Lewis Streeter  
Senior Project Manager

Enclosure

cc: Bradford Burns, Esq., NYSDEC



**Lewis S. Streater**  
Senior Project Manager

GE  
Global Remediation - EHS  
319 Great Oaks Blvd  
Albany, NY 12203

T 518 862 2712  
F 518 862 2731  
Lewis.streater@ge.com

January 26, 2017

**VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED**

Joseph H. Emminger, Town Supervisor  
Town of Tonawanda  
2919 Delaware Avenue  
11<sup>th</sup> Floor  
Kenmore, New York 14217

Mark C. Poloncarz, Erie County Executive  
Erie County Executive's Office  
Edward A. Rath County Office Building  
95 Franklin Street, 16th Floor  
Buffalo, New York 14202

**Re: *Environmental Easement***

***Owner: General Electric Company***

***Site Name: GE Buffalo Service Shop***

***Easement Location: 175 Milens Road, Tonawanda, County of Erie, New York***

***Tax Map No: 52.16-2-4***

***Site ID No: 915244***

***EPA ID No: NYD067539940***

Dear Supervisor Emminger and County Executive Poloncarz:

Attached please find a copy of an environmental easement granted to the New York State Department of Environmental Conservation ("Department") on January 6, 2017 (recorded on January 25, 2017 in the Office of the Erie County Clerk), by General Electric Company, for property at 175 Milens Road, Town of Tonawanda, County of Erie Tax Map No. 52.16-2-4, Site ID No: 915244.

This Environmental Easement restricts future use of the above referenced property to commercial and industrial purposes as defined in 6 NYCRR 375-1.8(g)(2)(iii) and (iv). Any on-site activity must be done in accordance with the Environmental Easement and the Interim Site Management Plan which is incorporated into the Environmental Easement. Department approval is also required prior to any groundwater use.

Article 71, Section 71 3607 of the New York State Environmental Conservation Law requires that:

1. Whenever the department is granted an environmental easement, it shall provide each affected local government with a copy of such easement and

shall also provide a copy of any documents modifying or terminating such environmental easement.

2. Whenever an affected local government receives an application for a building permit or any other application affecting land use or development of land that is subject to an environmental easement and that may relate to or impact such easement, the affected local government shall notify the department and refer such application to the department. The department shall evaluate whether the application is consistent with the environmental easement and shall notify the affected local government of its determination in a timely fashion, considering the time frame for the local government's review of the application. The affected local government shall not approve the application until it receives approval from the department.

An electronic version of every environmental easement that has been accepted by the Department is available to the public at: <http://www.dec.ny.gov/chemical/36045.html>. Please forward this notice to your building and/or planning departments, as applicable, to ensure your compliance with these provisions of New York State Environmental Conservation Law. If you have any questions or comments regarding this matter, please do not hesitate to contact me.

Sincerely,



Lewis Streeter  
Senior Project Manager

Enclosure

cc: NYSDEC

ERIE COUNTY CLERK'S OFFICE



County Clerk's Recording Page

Return to:

**ELECTRONICALLY  
RECORDED  
ORIGINAL**

Book Type: D Book: 11308 Page: 4970

Page Count: 10

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Rec Date: 01/25/2017

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Party 1:  
GENERAL ELECTRIC COMPANY

Party 2:  
PEOPLE OF THE STATE OF NEW YORK  
(THE)

Recording Fees:

Consideration Amount: 0.00

RECORDING	\$70.00
COE CO S1 RET	\$1.00
COE STATE \$14.25 GEN	\$14.25
COE STATE \$4.75 RM	\$4.75
MARKOFF FEE	\$0.50

BASIC MT	\$0.00
SONYMA MT	\$0.00
ADDL MT/NFTA	\$0.00
SP MT/M-RAIL	\$0.00
NY STATE TT	\$0.00
ROAD FUND TT	\$0.00

**Total: \$90.50**

STATE OF NEW YORK  
ERIE COUNTY CLERK'S OFFICE

WARNING - THIS SHEET CONSTITUTES THE CLERK'S ENDORSEMENT REQUIRED BY SECTION 319&316-a (5) OF THE REAL PROPERTY LAW OF THE STATE OF NEW YORK. DO NOT DETACH. THIS IS NOT A BILL.

Peggy A. Lagrec  
Acting County Clerk

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

**THIS INDENTURE** made this 6<sup>th</sup> day of JANUARY, 2017, between Owner(s) General Electric Company, having an office at 1 River Road, Schenectady, New York 12345, County of Schenectady, 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 175 Milens Road in the Town of Tonawanda, 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 52.16 Block 2 Lot 4, being the same as that property conveyed to Grantor by deed dated May 16, 1968 and recorded in the Erie County Clerk's Office in Liber and Page 7463/297. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 5.83 +/- acres, and is hereinafter more fully described in the Land Title Survey dated August, 2016 prepared by Michael D. Rozeski, L.L.S., which will be attached to the Site Management Plan. The Controlled Property description 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 public 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 Corrective Action Permit Number: 9-1464-00044/00001, 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 Use 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) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Erie County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

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

(6) 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;

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

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

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

(10) 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 Residential, Restricted Residential or Commercial uses as defined in 6NYCRR 375-1.8(g)(i), (ii) and (iii), 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:

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, at such time as NYSDEC may require, 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 by 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



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.

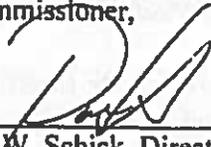
10. **Joint Obligation.** If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

**Remainder of Page Intentionally Left Blank**



**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,**

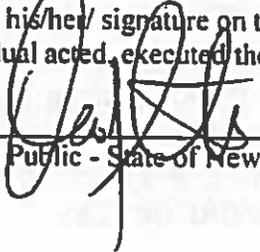
By:

  
Robert W. Schick, Director  
Division of Environmental Remediation

**Grantee's Acknowledgment**

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

On the 6<sup>th</sup> day of JANUARY, in the year 2017, before me, the undersigned, personally appeared Robert W. Schick, 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

**David J. Chiusano**  
**Notary Public, State of New York**  
**No. 01CH5092146**  
**Qualified in Schenectady County**  
**Commission Expires August 22, 2018**

**SCHEDULE "A" PROPERTY DESCRIPTION**

**DEC ENVIRONMENTAL EASEMENT DESCRIPTION**

ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE TOWN OF TONAWANDA, COUNTY OF ERIE, AND STATE OF NEW YORK, BEING PART OF LOT NUMBER 45, TOWNSHIP 12, AND RANGE 8 OF THE HOLLAND LAND COMPANY'S SURVEY AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE POINT OF INTERSECTION BETWEEN THE POINT OF INTERSECTION BETWEEN THE LANDS OF GENERAL ELECTRIC COMPANY ON THE NORTH AND THE LANDS OF GFD LLC. ON THE SOUTH, WITH THE EAST RIGHT OF WAY OF MIL-ENS ROAD ON THE WEST; THENCE N01°44'16"W A DISTANCE OF 550.00' TO THE POINT OF INTERSECTION WITH THE AFOREMENTIONED EAST RIGHT OF WAY OF MIL-ENS ROAD WITH THE SOUTH RIGHT OF WAY OF THE E.G.H. YOUNGMANN EXPRESSWAY ON THE NORTH; THENCE N83°29'41"E A DISTANCE OF 395.55' TO THE POINT OF INTERSECTION BETWEEN THE LANDS OF GENERAL ELECTRIC COMPANY ON THE SOUTH AND THE LANDS OF LAMAR ADVERTISING PENN. ON THE NORTH; THENCE S89°52'49"E A DISTANCE OF 529.85' TO THE POINT OF INTERSECTION BETWEEN THE AFOREMENTIONED BOUNDARY DIVISION LINE AND THE BOUNDARY DIVISION LINE BETWEEN THE LANDS OF GENERAL ELECTRIC COMPANY ON THE WEST AND THE LANDS OF THE NIAGARA MOHAWK POWER CORPORATION ON THE EAST; THENCE S09°21'56"W A DISTANCE OF 101.32' TO THE POINT OF INTERSECTION BETWEEN THE AFOREMENTIONED BOUNDARY DIVISION LINE, AND THE BOUNDARY DIVISION LINE BETWEEN THE LANDS OF GENERAL ELECTRIC COMPANY ON THE NORTH AND THE LANDS OF GFD LLC. ON THE SOUTH; THENCE N89°52'49"W A DISTANCE OF 554.47' TO AN ANGLE POINT LOCATED THEREON; THENCE S01°43'49"E A DISTANCE OF 484.30' TO AN ANGLE POINT LOCATED THEREON; THENCE S88°16'11"W A DISTANCE OF 350.00' TO THE POINT OF BEGINNING. CONTAINING 5.83 ACRES OF LAND, MORE OR LESS.

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Joseph H. Emminger  
 Town Supervisor, Town of Tonawanda  
 2919 Delaware Ave, 11th Fl  
 Kenmore, NY 14217

4a. Article Number  
7000 1670 0011 1387 5232

4b. Service Type

Registered  Certified  
 Express Mail  Insured  
 Return Receipt for Merchandise  COD

5. Received By: (Print Name)

7. Date of Delivery

6. Signature: (Addressee or Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994 Domestic Return Receipt

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mark C. Poloncarz, City Executive  
 Erie County's Executive Office  
 Edward A Rath Cnty office Bldg.  
 95 Franklin St, 16th Fl  
 Buffalo, NY 14202

4a. Article Number  
7000 1670 0011 1387 5225

4b. Service Type

Registered  Certified  
 Express Mail  Insured  
 Return Receipt for Merchandise  COD

5. Received By: (Print Name)

7. Date of Delivery  
1-30-17

6. Signature: (Addressee or Agent)

8. Addressee's Address (Only if requested and fee is paid)

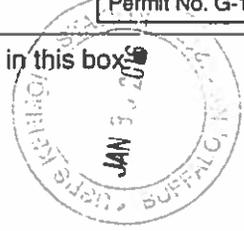
PS Form 3811, December 1994 Domestic Return Receipt

UNITED STATES POSTAL SERVICE  
SUFFERD  
NY 120  
30 JAN '17



First-Class Mail  
Postage & Fees Paid  
USPS  
Permit No. G-10

• Print your name, address, and ZIP Code in this box •



**General Electric Company  
319 Great Oaks Blvd  
Albany, NY 12203**



UNITED STATES POSTAL SERVICE



First-Class Mail  
Postage & Fees Paid  
USPS  
Permit No. G-10

• Print your name, address, and ZIP Code in this box •

*General Electric Company*  
**319 Great Oaks Blvd  
Albany, NY 12203**



# APPENDIX B

## List of Site Contacts



**APPENDIX B**  
**LIST OF SITE CONTACTS**

<b>Name</b>	<b>Phone/Email Address</b>
Ron Riggs GE Facility EHS Contact	716 912-6901 ronald.riggs@ge.com
Lewis Streeter GE Project Manager	518 862-2712 lewis.streeter@ge.com
Doug Weeks Arcadis Project Manager	518 250-7378 doug.weeks@arcadis.com
James P. Nuss, P.E. Arcadis - Qualified Environmental Professional	315.243.8967 james.nuss@arcadis.com
Jessica LaClair, NYSDEC Project Manager	518 402-9821 jess.laclair@dec.ny.gov
Kathleen Emery NYSDEC Regional Hazardous Waste Engineer	716 851-7220 kathleen.emery@dec.ny.gov
Roger Florio Remedial Party Attorney	610 992-7969 roger.florio@ge.com

# APPENDIX C

## Excavation Work Plan



## APPENDIX C

### EXCAVATION WORK PLAN

This Excavation Work Plan (EWP) outlines the standard procedures that will be followed to excavate and manage soils in areas of the site where known impacts remain or where soil quality has not been fully evaluated. All work performed under this plan will also be performed under a site-specific health and safety plan (HASP) to be prepared prior to the start of work.

Surface and subsurface soil on the GE property was remediated in 2015 to achieve 1 mg/kg or less PCBs in soil, except for three areas where additional soil could not be removed without impacting an overlying Site structure. These three areas are:

- Southwest corner of the ASTs: Subsurface soil in the area contained 1.2 mg/kg PCBs. Additional soil could not be removed due to the proximity of the ASTs. Orange geotextile fabric and 12 or more inches of soil and concrete were placed over these soils.
- East Edge of the Transportation Corridor: Soil in the area contained up to 12.5 mg/kg PCBs. Additional soil could not be removed without removing asphalt pavement. Geotextile fabric demarcates soil remaining under the pavement with PCBs greater than 1 mg/kg from clean fill placed in remediated areas to the east extending approximately 55 feet.
- South Edge of the Transportation Corridor: Soil in the area contained 2.9 mg/kg PCBs. Additional soil could not be removed without removing the asphalt pavement. Geotextile fabric demarcates soil remaining under the pavement with PCBs greater than 1 mg/kg from clean fill placed in remediated areas to the south extending approximately 17 feet.

In addition to the residual impacted PCB soils remaining after the 2015 Corrective Measure work, PCB impacted concrete and asphalt remain in use at the site in accordance with the selected remedy and design. These areas include:

- Concrete Floor Slab (Depressed Dock and Truck Bay): The depressed dock and truck bay along with most of the concrete shop floor slab with PCBs greater than 1 mg/kg or 10  $\mu$ /100 cm<sup>2</sup>. These areas are covered with an epoxy coating to prevent direct contact with impacted materials and to allow continued use of the concrete slab.
- Asphalt of Transportation Corridor: An irregularly shaped area of asphalt with PCBs greater than 1 mg/kg comprising most of the paved area south of the shop. The PCB-impacted asphalt is covered by a topcoat of asphalt.

In addition, soil beneath site structures, such as the building floor slab, the AST containment structure, and the transportation corridor, has not been fully evaluated and may be impacted by PCBs. Soil in these areas should be conservatively managed as PCB-impacted until such time that a sampling program demonstrates the soil has not been impacted by PCBs.

## **C-1 NOTIFICATION**

At least 15 days prior to the start of planned activity that is anticipated to encounter residually impacted PCB soils or potentially impacted soils, the site owner or their representative will notify the NYSDEC. Notification will be made to the NYSDEC Project Manager and the Regional Hazardous Waste Engineer listed in Appendix B.

This notification will include:

- A description of the work to be performed, including the location and areal extent of excavation, intrusive elements or utilities to be installed below grade (if applicable), estimated volumes of contaminated soil to be excavated, and a description of how the work impacts engineering controls (if applicable);
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentrations of PCBs, and plans for pre-construction sampling, if any;
- A schedule for the work, detailing the start and completion of intrusive work;
- A summary of the applicable components of this 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 HASP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of anticipated backfill, along with required chemical testing results.

In the event that procedures other than the standard protocols described herein are proposed, the proposed alternate excavation approach will be described in the notification.

## **C-2 MATERIAL SCREENING METHODS**

Visual and instrument-based (e.g. photoionization detector) screening will be performed by a qualified environmental professional or a person under their direction during excavations into known or potentially impacted soil or other materials. Screening will be performed when intrusive work is performed in areas of known or suspected residual impacts, including excavation and intrusive work performed for foundations and utility work, as well as cover system repairs, in accordance with this ISMP.

Soils and other removed materials will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Section C-7 of this Appendix.

## **C-3 MATERIAL STAGING METHODS**

Removed soil, asphalt, concrete or other debris may be stored in drums, lined and covered roll-off containers, or in soil stockpiles at the site until removed for disposal or reused as backfill. If materials are stockpiled, separate piles will be created as necessary based on screening results.

Stockpiles will be placed on two layers of polyethylene sheeting, and will be encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins.

Stockpiles will be kept covered when they are not in use and damaged covers will be promptly replaced. Stockpiles will be inspected at a minimum once each week and after severe storm events. Results of inspections will be recorded in a logbook.

#### **C-4 MATERIAL EXCAVATION, MANAGEMENT, AND LOADOUT**

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

The owner of the property and its contractors are responsible for safe execution of intrusive and other work performed under the ISMP.

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

Soils at the site are anticipated to contain no contaminants of concern other than PCBs. Asphalt at the site is anticipated to contain no contaminants of concern other than PCBs. Concrete in the area of the two spray booths has the potential to contain VOCs or metals and will require segregation and testing to confirm that concentrations of these compounds are not present at levels that would require management and disposal as a RCRA characteristic hazardous waste. For the remainder of the concrete floor slab, the contaminant of concern is limited to PCBs. Unless the screening procedures discussed in Section C-2 indicate unanticipated conditions may exist that warrant further evaluation, the material will be managed and disposed of based on as-found PCB concentrations.

The site owner may elect to dispose or reuse soil in accordance with the established site cleanup objectives and provisions set forth in the Statement of Basis and the 373 Permit, or may voluntarily elect to be more conservative in soil management. This plan includes provisions for managing soils based on the five categories of as-found PCB concentrations that are described below.

1. Soils known or assumed to contain PCBs at concentrations equal to or greater than 50 milligrams per kilograms (mg/kg). Removed soils will be managed and disposed as New York State hazardous wastes.
2. Soils known to contain PCBs at concentrations at or greater than 10 mg/kg and less than 50 mg/kg will be managed and disposed as low concentration PCB waste.
3. Soils known to contain PCBs at concentrations at or greater than 1 mg/kg and less than 10 mg/kg can be reused under a cover system as long as the site use is restricted to industrial/commercial. Alternately, the site owner may elect to dispose of these soils as described in Item #2, above.
4. Soils known to contain PCBs at concentrations less than 1 mg/kg may be reused in compliance with Part 375 regulations for residential use. Alternately,

the site owner may elect to dispose of these soils as described in Item #2, above.

Vehicles transporting soil and other materials will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and other applicable transportation requirements).

Polyethylene sheeting or similar material will be placed on the ground at the load out area between the excavation or stockpile and truck or roll-off container. Polyethylene sheeting will be draped over the roll-off container or truck sides during loading. After loading and before tarping the Owner's contractor will inspect the tires, truck or roll off container sides, tailgate area, and the top of the truck bed rails or roll-off container for spilled soil or debris and will sweep, and if necessary wet clean, to remove spilled material. Material and liquids generated from wet cleaning will be captured and loaded out with the soil or other contaminated project debris, such as Personal Protective Equipment (PPE). The Owner's contractor will be responsible for ensuring that trucks have been adequately cleaned prior to leaving the work zone. Alternately, a truck wash will be operated on-site. If a truck wash is used, wash waters will be collected and disposed off-site in an appropriate manner. Locations where vehicles enter or exit the site will be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for confirming that 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 will be performed as needed to maintain a clean condition with respect to site-derived materials.

#### **C-5 MATERIALS TRANSPORTED OFF-SITE**

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.

#### **C-6 MATERIALS DISPOSED OFF-SITE**

Soil, fill, concrete, asphalt, and similar materials excavated and removed from portions of the site with known or suspected residual PCB impacts will be treated as PCB containing unless the materials are documented, by sampling and analysis, to be non-regulated. Impacted materials will be transported and disposed in accordance with local, State (including 6NYCRR Part 360) and Federal regulations.

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 Unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

#### **C-7 MATERIALS REUSED ON-SITE**

The qualified environmental professional will verify that procedures defined for materials reuse in this ISMP are followed and that unacceptable material does not remain on-site. Impacted on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below a demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Determination of materials suitable for reuse on-site will be based on results from previous investigations and/or project-specific sampling and will be based on the soil management categories outlined in section C-4. If field screening observation indicated unanticipated conditions have been encountered, the soil will be segregated and sampled as appropriate to confirm that it is suitable for reuse. Planned project-specific sampling details will be provided in the notification.

#### **C-8 FLUIDS MANAGEMENT**

Liquids to be removed from the site, including but not limited to, floor wash waters, excavation dewatering and decontamination waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to the sanitary sewer would be performed under a permit from the Town of Tonawanda. Discharge to surface water is not anticipated to be a viable option, but would be performed under a SPDES permit.

#### **C-9 COVER SYSTEM RESTORATION**

After the completion of intrusive activities the cover system will be restored in a manner that complies with the Statement of Basis and Part 373 Permit, and is consistent with site use. The existing cover system described at the beginning of this EWP will be restored, as appropriate depending on site use. As discussed in Appendix D below, if asphalt or concrete in the project area is replaced with new materials, neither an asphalt cover nor an epoxy coating will be required. For areas with known residual soil impacts, a layer of demarcation fabric will be installed unless a confirmatory sampling program proposed in the notification demonstrates that site remedial objectives have been met and that the demarcation layer is not needed.

If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt or concrete is replaced by lawn), this will constitute a modification of the cover element of the remedy. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated ISMP.

## **C-10 BACKFILL FROM OFF-SITE SOURCES**

Imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d). In the event crushed stone is being used that has insufficient fines for chemical analysis, a letter documenting that the source is virgin will be required. 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 used.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and will be covered to prevent dust releases. Short-term storage of stone materials may be permitted without covers if no visible dust is generated.

## **C-11 STORMWATER POLLUTION PREVENTION**

Appropriate stormwater pollution prevention control measures will be implemented as-needed. For small projects of limited duration, controls will only be used if the project is in close proximity to a storm drain structure.

For large projects erosion control barriers will be installed, as appropriate. Erosion controls will be inspected once a week and after severe storm events. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. Necessary repairs will be made promptly. Accumulated sediments will be removed as required to keep the controls functional. Undercutting or erosion of the silt fence toe anchor shall be repaired with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

## **C-12 EXCAVATION CONTINGENCY PLAN**

If underground tanks or other previously unidentified potential contaminant sources are found during post-remedial subsurface excavations or redevelopment related construction, excavation activities will be suspended until sufficient equipment is mobilized to evaluate and/or 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 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.

Unknown or unexpected contaminated media identified by screening during intrusive 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 Review Report.

## **C-13 COMMUNITY AIR MONITORING PLAN AND DUST CONTROL PLAN**

For small projects, which are those less than approximately 20 cubic yards, community air monitoring will consist of visual assessment for dust generation by the qualified environmental professional or their designee. If visible dust is being generated, the Contractor will be required to halt work and implement dust suppression techniques

such as wetting the work area. For larger projects, a Community Air Monitoring Plan and Dust Control Plan will be prepared and submitted to NYSDEC with the notification.

For work inside the building, temporary barricades such as caution tape and plastic sheeting will be used to isolate a work area from areas of Owner operations. The temporary barricades will be installed prior to work that has the potential to generate dust. Isolation measures will also be employed to contain wash water if preparation includes cleaning the floor. The isolation measures employed will depend on the size of the work area.

# APPENDIX D

Cover Repair Work Plan



## APPENDIX D

### COVER REPAIR WORK PLAN

This Cover Repair Work Plan (CRWP) outlines the procedures that will be followed to repair the epoxy coating installed over most of the shop floor (Figure 2 of the ISMP), and the asphalt cover installed in areas of the Transportation Corridor (Figure 3 of the Interim Site Management Plan [ISMP]). The need for cover repairs will be evaluated based on site use and building occupancy. The Excavation Work Plan at Appendix C (EWP) will also be followed as appropriate in instances where repairs to the cover systems may impact underlying soils. All work will be performed in accordance with a site-specific HASP.

#### *Description of Epoxy Coating System*

The majority of the main shop floor has been impacted with polychlorinated biphenyls (PCBs) from historical site activities. The procedures outlined in the Toxic Substance Control Act (TSCA) for continued use of porous surfaces impacted by PCBs (40CFR Part 761.30(p)) were used to address the impacts. Figure 2 of the ISMP shows the epoxy-coated areas. The initial coating activities were described in the April 1, 2006 *Closure Certification Report Commercial PCB Storage Area* that was prepared by URS Corporation (URS).

Typical repair and maintenance activities for the epoxy coating system, which may be either recommended or identified as necessary as a result of the annual cover system inspections, considering site use/occupancy, may include:

- Fresh application of top coat;
- Patching of both bottom and top coatings; and
- Installation/extension of coating system, if warranted, in the event previously inaccessible areas (ISMP Figure 2) become accessible (i.e., equipment is removed).

Changes in shop use may lead to removal of portions of the slab. Activities of this type will be performed in accordance with the ISMP. In the event that impacted concrete is completely removed in an area, coating of the replacement concrete would not be needed. Figure 2 of the ISMP will be updated in the event equipment is removed and the coating is extended, or if concrete is removed and an area no longer requires coating.

#### *Description of Asphalt Cover*

The paved area south of the shop building (the Transportation Corridor) has been impacted with PCBs at concentrations greater than one milligram per kilogram (mg/kg). Previous work at the site included removing the top inch of asphalt and installing an approximately 1.5-inch thick layer of new asphalt. The approximate extent of the asphalt overlay is shown in Figure 3 of the ISMP.

Typical repair and maintenance activities for the asphalt cover, which may be either recommended or identified as necessary as a result of the annual cover system inspections and site use, include:

- Milling and replacement of a portion of the topcoat; and
- Patching of the topcoat or full asphalt thickness when areas deteriorate.

Asphalt maintenance might include crack filling or sealcoating. These activities are not anticipated to result in disruption of the cover system and, therefore, are not covered.

Asphalt repairs could include complete removal of the asphalt in an area, which will be performed in accordance with the ISMP and EWP.

## **D-1 NOTIFICATION**

At least 15 days prior to the start of planned activity that will disturb the epoxy or asphalt cover systems the site owner or their representative will notify the NYSDEC. Notification will be made to the NYSDEC Project Manager and the Regional Hazardous Waste Engineer listed in Appendix B.

This notification will include:

- A description of the work to be performed, including the general location and areal extent of disturbance, intrusive elements or utilities to be installed below grade (if applicable), estimated volumes of contaminated materials to be removed, and a description of how the work impacts the engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentrations of PCBs, and plans for pre-construction sampling, if any;
- A schedule for the work, detailing the anticipated start and completion of intrusive work;
- A summary of the applicable components of this CRWP;
- A statement that the work will be performed in compliance with this CRWP, the EWP (if applicable), and 29 CFR 1910.120;
- A copy of the contractor's HASP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of anticipated backfill, along with required chemical testing results, if applicable.

In the event that procedures other than the standard protocols described herein are proposed, the proposed alternate approach will be described in the notification. All activities associated with screening, staging and removal of impacted materials will utilize Appendix C of the ISMP titled Excavation Work Plan.

## **D-2 COVER SYSTEM RESTORATION**

Cover systems will be restored in a manner that complies with the Statement of Basis and 373 Permit, and is consistent with site use and occupancy. The existing cover systems described at the beginning of this CRWP will be restored, as appropriate.

Epoxy coatings will be replaced in-kind or with a similar compatible product. Preparation for resurfacing or patching will be in accordance with manufacturer's

recommendations. The use of contrasting colors will be maintained and documented. In the event equipment is removed and a previously inaccessible area becomes accessible, the Owner will either sample the area to evaluate if it needs to be coated, or will assume it is PCB-impacted and will follow the TSCA procedures for continued use of porous surfaces impacted by PCBs (40 CFR Part 761.30(p)).

Replacement of the asphalt cover will also be in-kind or with a similar product. Ideally, repairs will be performed in a manner that allows good contact between remaining asphalt and the new pavement, with methods dependent on the size of the area to be repaired. Temporary measures, such as hot patch or cold patch asphalt, may be used if a small area needs repair or if weather conditions (such as the onset of winter) limit the availability of pavement.

If asphalt or concrete in the project area is replaced with new materials, neither an asphalt cover nor an epoxy coating will be required. If the type of cover system changes from that which exists prior to the work (i.e., an area of impacted concrete or asphalt is completely removed and replaced with new materials, or equipment is removed and the epoxy coating is extended to a previously inaccessible area), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated ISMP.

# APPENDIX E

## Groundwater Monitoring Plan



Ms. Jessica LaClair  
Environmental Engineer  
New York State Department of Environmental Conservation  
625 Broadway  
Albany, New York 12233-7013

Arcadis of New York, Inc.  
855 Route 146  
Suite 210  
Clifton Park  
New York 12065  
Tel 518 250 7300  
Fax 518 250 7301  
[www.arcadis.com](http://www.arcadis.com)

Subject:

Groundwater Monitoring Plan  
GE Parts and Repair Service Center  
Tonawanda, New York 14150  
NYSDEC Site ID: 915244  
EPA ID: NYD067539940  
Permit ID: 9-1464-00044/00001

ENVIRONMENT

Date:

September 1, 2016

Dear Ms. LaClair:

Contact:

Doug Weeks

On behalf of the General Electric Company (GE), Arcadis of New York, Inc. (Arcadis) is submitting a revised Groundwater Monitoring Plan (GMP) for the GE Parts and Repair Service Center in Tonawanda, New York. The attached GMP reflects revisions made to address the comments on the original GMP submittal (June 2016) that were received from the New York State Department of Environmental Conservation (NYSDEC) in a letter dated August 5, 2016.

Phone:

518.250.7378

If you have any questions, please contact me at (518) 250-7378, or Mr. Lewis Streeter of GE at (518) 862-2712.

Email:

[doug.weeks@arcadis.com](mailto:doug.weeks@arcadis.com)

Sincerely,

Our ref:

AP013103.4000

Arcadis of New York, Inc.



Doug Weeks  
Project Manager

Copies:

Mr. Ron Riggs, GE

Electronic copies:

Ms. Kathleen Emery, NYSDEC  
Mr. Andrew Park, USEPA  
Mr. Lewis Streeter, GE  
Mr. Daniel Zuck, Arcadis

**BUFFALO SERVICE SHOP  
GENERAL ELECTRIC COMPANY  
TONAWANDA, NEW YORK**

# **GROUNDWATER MONITORING PLAN**

**NYSDEC Site Number: 915244**

**USEPA ID#: NYD067539940**

**Prepared for:**

General Electric Company  
319 Great Oaks Boulevard  
Albany, New York

**Prepared by:**

Arcadis of New York, Inc.  
855 Route 146, Suite 210  
Clifton Park, New York

**BUFFALO SERVICE SHOP  
GENERAL ELECTRIC COMPANY  
TONAWANDA, NEW YORK**

**GROUNDWATER MONITORING PLAN**

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## **List of Acronyms**

ASP	Analytical Services Protocol
AWQ	Ambient Water Quality
BGS	Below Ground Surface
°C	Degrees Celsius
CAMP	Community Air Monitoring Program
CMIP	Corrective Measures Implementation Plan
CMS	Corrective Measures Study
COC	Chain of Custody
CP	Commissioner Policy
DER	Division of Environmental Remediation
DOT	Department of Transportation
DTW	Depth to Water
DUSR	Data Usability Summary Report
FB	Field Blank
GE	General Electric Company
GMP	Groundwater Monitoring Plan
HASP	Health and Safety Plan
HSA	Hollow Stem Auger
IATA	International Air Transport Association
IDW	Investigation-Derived Waste
JSA	Job Safety Analysis
L	Liter
LDPE	Low-Density Polyethylene
mg/Kg	Milligram per Kilogram
mL	Milliliter
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MW	Monitoring Well
NTU	Nephelometric Turbidity Unit
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
ORP	Oxidation-Reduction Potential
OWS	Oil Water Separator
PCB	Polychlorinated Biphenyl
pH	Potential Hydrogen
PID	Photoionization Detector
PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride
QA	Quality Assurance
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
S/GVs	Standards and Guidance Values
SDG	Sample Delivery Group
SDS	Safety Data Sheets
SOP	Standard Operating Procedure
TB	Trip Blank
TOGS	Technical and Operational Guidance Series
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

## 1.0 INTRODUCTION

This Groundwater Monitoring Plan (GMP) has been prepared by Arcadis of New York, Inc., on behalf of General Electric Company (GE), for GE's Buffalo Service Shop located at 175 Milens Road in Tonawanda, New York (hereinafter referred to as the "site"), as shown on **Figure 1**. The site layout and boundaries are shown on **Figure 2**. The layout of the monitoring well network at the site is depicted on **Figure 3**. The site is currently in the Resource Conservation and Recovery Act (RCRA) Corrective Action Program, which is administered by the New York State Department of Environmental Conservation (NYSDEC).

This GMP was originally submitted on June 20, 2016, and NYSDEC provided comments on that plan in a letter dated August 5, 2016. This revised plan addresses those comments and describes the measures for conducting, evaluating, and reporting the results of groundwater monitoring conducted at the site. This GMP may be revised only with the approval of NYSDEC.

This GMP describes the methods to be used for:

- Sampling and analysis of groundwater
- Assessing compliance with applicable NYSDEC standards
- Evaluating data to verify that groundwater underlying the site continues to be unimpacted by historical site activities

To adequately address these issues, this GMP provides information on:

- Monitoring well installation procedures
- Sampling locations, protocol, and frequency
- Analytical sampling program requirements
- Data evaluation and reporting

## 2.0 SITE DESCRIPTION, HISTORY, AND MONITORING OBJECTIVE

### 2.1 Site Location and Description

GE's Buffalo Service Shop is located on an approximately 5.83-acre parcel at 175 Milens Road in the Town of Tonawanda, Erie County, New York (**Figure 1**). The site is secured with a chain link fence and gate, and is improved with a 69,000-square-foot, slab-on-grade building. A rail spur extends from the northeast corner of the building toward Military Road east of the site.

The site is bounded to the north by Interstate Route 290, which is owned by the New York State Department of Transportation (NYSDOT), and land owned by Lamar Advertising, which maintains an advertising billboard on its property. The east and south sides of the site are bounded by property owned by DKP Buffalo, LLC. The west side of the site is bounded by Milens Road and property owned by Coca-Cola Company. These adjacent properties are shown on **Figure 2**.

#### 2.1.1 Land Use

The site was developed by GE in 1968 and 1969 for use as a service center to repair industrial equipment such as electric motors, transformers, turbines, pumps, and compressors. The original construction at the site included the northern portion of the existing building. An addition to the south end of the building was constructed in 1978.

GE generated hazardous wastes during routine operations at the site. Depending on their nature, wastes were stored in either the RCRA Container Storage Area, which was beside the east side of the building, or the Commercial Polychlorinated Biphenyl (PCB) Storage Area, which was inside the southeast corner of the building. These storage areas have been closed, and no remedial measures are necessary for the storage areas. The site features are illustrated on **Figure 3**.

#### 2.1.2 Geology and Hydrogeology

The soils underlying the site consist of very dense glaciolacustrine sediments, which are predominantly clays and silts. These sediments are approximately 60 to 70 feet thick. There are isolated areas of fill, which may contain perched groundwater, present near the building in utility excavations. Shallow perched groundwater at the site is approximately 6 to 9 feet below ground surface (bgs). The unsaturated zone extends to at least 15 feet bgs in native soils. The depth to groundwater in native soils is approximately 25 feet. It is anticipated that groundwater flow in the native soils is to the west or northwest.

### 2.2 Brief Historical Summary and Monitoring Objective

In May 1996, NYSDEC issued a Part 373 Hazardous Waste Operating Permit to GE for the site (373 Permit). The permit allowed GE to store hazardous wastes that contained volatile organic compounds (VOCs), metals, and PCBs. There has been no treatment or disposal of hazardous or solid wastes at the site. The permit required corrective action where necessary, including a RCRA Facility Assessment (RFA), RCRA Facility Investigation (RFI), Corrective Measures Study (CMS), and corrective measures. An RFA was completed in 1988 (Lawler, Matusky, and Skelly 1988); an RFI was conducted in 1998 (Dames & Moore 1999); a CMS was completed in 2001 (URS 2001); a Focused Corrective Measure Study was completed in 2011 (URS 2011); and numerous investigations and interim corrective measures have been completed

at and near the site since the 1990s. The current 373 Permit, issued July 5, 2012, required GE to perform corrective measures at the site for the following:

- Surface soils near the rail spur
- The former rinse water underground storage tank (UST) excavation
- The sewer lines east of the building near the former rinse water tank
- The area near the old oil water separator (OWS)
- The Transportation Corridor on the south side of the site
- The on-site sanitary sewer lines east of the building
- The on-site storm sewers
- The floor drains within the building
- The storm sewer along Milens Road

The required corrective measures were performed at the site during summer and fall 2015. These measures included soil excavation, removal of the old OWS, asphalt removal and replacement, cleaning and lining of portions of the sanitary sewer, removal of portions of the abandoned sanitary sewer line, removal and replacement of portions of the storm sewer lines encountered during excavation, and cleaning of the on-site storm sewers (including manholes and catch basins) as well as the floor drains, sumps, and piping. Soil excavation proceeded with the removal and off-site disposal of accessible soil with PCB concentrations that exceeded 1 milligram per kilogram (mg/kg). Excavation in this manner also addressed the limited area of VOC impacts in the subsurface soil. This work is documented in the Corrective Measure Completion Report (AECOM 2016).

Groundwater monitoring will be performed as documented in this GMP in partial fulfillment of the requirements of the 373 Permit. The results will be evaluated to verify that groundwater underlying the site remains unimpacted by historical site activities.

## 3.0 FIELD OPERATIONS

Permanent monitoring wells (MW) will be installed to monitor groundwater underlying the site. This section describes the methods and procedures for health and safety protective measures, utility clearance, well installation and development, decontamination and waste management, and well decommissioning.

### 3.1 Health and Safety/Personal Protective Measures

Field work will be performed in accordance with a site-specific Health and Safety Plan (HASP) that will be prepared and submitted to NYSDEC for review prior to the start of the work. Prior to conducting any of the tasks detailed in this GMP, personnel who will be on the project site will review the site-specific HASP and project-specific requirements regarding PPE and reporting, including Job Safety Analyses (JSAs). Following review of the HASP and supporting documentation, all staff will provide a signature indicating acceptance of the document and the guidelines and procedures within. A copy of all field logs associated with the HASP, including the signatures page, air monitoring calibration logs, and air monitoring logs, will be kept in the project file for future reference.

### 3.2 Utility Clearance

Prior to the start of any intrusive work, the subcontractor performing the intrusive work will contact Dig Safely New York to mark-out sub-surface utilities entering the property. These mark-outs will aid in reducing the risk of encountering subsurface utilities during intrusive activities. Site utility drawings will be reviewed and a geophysical clearance will be completed prior to the start of any intrusive work. Soft dig technologies, such as use of an air knife, may be used for utility clearance. In the event that the drawings indicate that utilities are close to a proposed drilling location, the proposed location will be adjusted to avoid utilities at the discretion of the field personnel and the drilling subcontractor.

### 3.3 Monitoring Well Installation

Five monitoring wells will be installed at the site. One well, MW-5R, will be installed to replace former monitoring well MW-5, which was decommissioned prior to excavation of PCB-impacted soils. One monitoring well (MW-2R) will be installed on the east side of the building near the former rinse water tank excavation in the vicinity of the former MW-2 and MW-3 wells; MW-2R will be screened within the fill zone. Two downgradient wells, MW-6 and MW-7, will be installed near the northwest and southwest corners of the building. Finally, monitoring well MW-8 will be installed south of the building in the Transportation Corridor. The proposed screen setting and installation depth are presented in **Table 1** below.

Borings for monitoring well installation will be advanced using 4¼-inch inner-diameter hollow stem augers (HSAs) with a center plug. If difficulties are encountered that hinder drilling, potable water may be introduced into the HSAs to maintain a positive hydrostatic head, or water rotary drilling methods may be employed. If water rotary technologies are utilized, a minimum 6-inch-diameter roller bit will be used to advance the borehole. Use of the water rotary method is preferred over mud rotary techniques; however, if there are problems with running sands or collapsing intervals, drilling mud (such as Benseal) may be used to stabilize the borehole. Mud rotary techniques will be used only if HSA or water rotary methods are unsuccessful. The volume of water/drilling fluids lost to the formation, when possible, will be documented and attempted to be removed during well development prior to sample collection.

Monitoring well target depths and screened intervals are listed in **Table 1 – Monitoring Well Construction Details**. Soil cuttings will be screened for organic vapors with a photoionization detector (PID) and stored in drums pending proper off-site disposal, as discussed in Section 3.6.2. Split- spoon samples will be collected from soils within the proposed screen interval of each well and the stratigraphy of the borehole will be recorded. All monitoring wells will be constructed of 2-inch diameter, Schedule 40, flush-threaded, polyvinyl chloride (PVC) casing and matching factory-slot PVC well screen. Based on the silty clay soils present at the site, it is anticipated that a screen slot size of 0.010 inch and a sand pack size of Morie No. 0 will be used for well construction. However, final determination of screen and sand pack will be based upon the subsurface conditions encountered in the field.

Upon completion of borehole advancement, the well screen and riser pipe will be inserted into the HSAs and set to the desired depth. A clean sand filter pack, sized to match the screen and formation, will be placed into the annular space around the screen from approximately 1 foot below the screen to a minimum of 2 feet above the top of the screen. A minimum of a 1-foot-thick hydrated bentonite chip seal will be placed above the filter pack and allowed to hydrate prior to grouting the remaining borehole annulus with cement-bentonite slurry grout. Grout will be tremied into the annular space extending from the bentonite seal to just below ground surface.

Monitoring wells will be completed with either a cemented in place flush mount protective casing or a steel stickup protective casing depending on site conditions. For stickup completions, the PVC well casing will extend approximately 2.5 feet above the ground surface. Steel protective casings will be placed over the well riser to a height of 3 feet above ground surface. A 2-foot by 2-foot by 4-inch concrete pad will be constructed around the casing. For flush mount completions, a bolting flush mount lid will be set over the well riser and set in a concrete collar.

**Table 1: Monitoring Well Construction Details**

Well ID	Casing Diameter	Casing Material	Screen Setting (feet bgs)	Total Depth (feet bgs)	Completion at Grade
<b>Proposed Monitoring Wells</b>					
MW-2R	2-inch	Schedule 40 PVC	5 to 10	10	Flush mount
MW-5R	2-inch	Schedule 40 PVC	15 to 30	30	Flush mount
MW-6	2-inch	Schedule 40 PVC	15 to 30	30	Flush mount or stickup
MW-7	2-inch	Schedule 40 PVC	15 to 30	30	Flush mount or stickup
MW-8	2-inch	Schedule 40 PVC	15 to 30	30	Flush mount
<b>Existing Monitoring Well</b>					
MW-4	2-inch	Schedule 40 PVC	6 to 16	16	Flush mount

### 3.4 Monitoring Well Survey

Upon completion of the monitoring well and protective casing installation, the wells will be surveyed by a NYS-licensed surveyor. This survey will include the horizontal northing and easting to the nearest 0.01-foot relative to the North American Datum 1983. Additionally, the monitoring wells will be surveyed for vertical elevation of the top of the inner and outer casings to an accuracy of approximately 0.01-foot relative to the North Atlantic Vertical Datum 1988.

### 3.5 Well Development

Each newly installed monitoring well will be developed to remove introduced drilling fluids and fine-grained soils produced during the drilling process, with the intent to improve the

hydraulic connection between the formation and the well screen. A suitable pump capable of varying flow rates will be selected for development at each location. The pump type will be dependent upon factors such as depth to water, anticipated drawdown, volume of water required to be removed, and access to the well or electric power supply. Typical pumps include electric submersible, bladder, peristaltic, positive displacement (e.g., Waterra), and hand-operated pumps or bailers.

Each well will be developed until the purge water is clear, or for a maximum of three hours. Pumping will be completed in two stages: one hour to two hours of screen surging and one hour of well purging to reduce turbidity levels. The goal is to remove at least several casing volumes of water and achieve a turbidity reading of 50 nephelometric turbidity units (NTU) or less. Well development will be documented in a field notebook maintained for the site. Purge water will be containerized, sampled, and properly disposed off-site.

### 3.6 Decontamination and Waste Management

To avoid cross-contamination, downhole drilling equipment and sampling equipment (defined as any piece of equipment that may contact a sample) will be decontaminated according to the procedures described herein. Cross-contamination will be minimized by the use of vendor-decontaminated, dedicated, disposable equipment to the extent practical. Field (rinsate) blanks will be collected and analyzed as detailed in Section 4.2 to monitor the effectiveness of decontamination procedures.

#### 3.6.1 Decontamination Procedures

Decontamination for small, non-disposable equipment (including bladder pumps) will be accomplished using the following procedures:

- Alconox (or equivalent) and potable water wash;
- Potable water rinse; and
- Distilled/deionized water rinse.

Decontamination will include scrubbing/washing with a laboratory-grade detergent (e.g., Alconox) to remove visible contamination, followed by potable (tap) water and analyte-free water rinses. Tap water may be used from any treated municipal water system; the use of an untreated potable water supply is not an acceptable substitute.

Equipment will be allowed to dry prior to use. Steam cleaning or high-pressure hot water cleaning may be used for the initial removal of heavily, visible contamination, and for the decontamination of drilling equipment before the first use, between boreholes, and prior to demobilization.

For larger pieces of equipment, a temporary decontamination pad with splash walls will be constructed on site (e.g., for use during well installations). The pad will be sized to be large enough to handle the equipment being cleaned. Additionally, the pad may be used for small equipment decontamination as well as PPE decontamination.

#### 3.6.2 Waste Management

Investigation-derived waste (IDW) management will be in accordance with Section 3.3(3e) of the Division of Environmental Remediation's Guidance Policy (DER-10) (NYSDEC 2010). Sampling methods and equipment will be selected to limit both the need for decontamination and the volume of IDW. Types of IDW typically generated include soil cuttings

from monitoring well installation, development and purge water from the wells, and decontamination water from the drill rigs and equipment.

Drill cuttings and debris that was in direct contact with sub-surface soil will be considered contaminated based on the site's historical usage. If a well installation must be terminated prior to completion, soil cuttings may be placed back in the borehole if free product or heavily contaminated soils are not present in accordance with the provisions specified in DER-10, Section 3.3(e)1. All other potentially contaminated debris will be containerized in new or reconditioned drums and stored within the designated IDW staging area. Drummed material will be characterized and disposed off-site in accordance with applicable state and federal regulations.

Well development water, as well as decontamination and purge water from sampling, will be containerized and handled in accordance with the provisions of DER-10. IDW may be analyzed for characterization prior discharge or off-site disposal, the characterization samples will be collected to classify the waste for disposal at a licensed facility. If testing indicates that the liquids are not hazardous, the water may be discharged to the ground in the vicinity of the extraction location with the permission of NYSDEC. Wastewater containing non-aqueous phase liquids, sheens, or olfactory or visible evidence of contamination will be characterized separately for proper disposal.

### 3.7 Monitoring Well Repairs or Replacement/Decommissioning

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance. All network wells will be inspected at least annually. In accordance with permit requirements, if it is determined that a well may not provide representative samples or accurate groundwater elevation values, or may be damaged, notice will be provided to NYSDEC in writing within 14 days of such knowledge and a remedy will be proposed. Within 30 days of such knowledge, written notice describing the nature of the problem will be provided to NYSDEC. In addition, the notification will describe how the problem was rectified and a schedule for rehabilitation or replacement of the well. If the problem precluded a scheduled sample from being collected, a sample will be obtained within 30 days after rehabilitation or replacement of the well or in accordance with an alternate schedule as approved by NYSDEC.

Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with the NYSDEC Commissioner Policy 43 (CP-43) Groundwater Monitoring Well Decommissioning Procedures (NYSDEC 2009). Available methods for well decommissioning include grouting in place, casing perforation/grouting in place, or over-drilling. The appropriate method is dependent on the type of well and construction details. Monitoring wells decommissioned because they have been determined to be unusable will be replaced in kind in the nearest available location, unless otherwise approved by NYSDEC.

## 4.0 GROUNDWATER SAMPLING AND ANALYSIS

This GMP is required under the terms of the 373 Permit. Groundwater sampling will be performed to verify that groundwater underlying the site remains un-impacted by historical site activities. As requested by NYSDEC, groundwater sampling will be performed semiannually for three consecutive events in 2016 and 2017 (i.e., one event in fall 2016, and two events spaced approximately six months apart in 2017), and annually from 2018 through 2020. Samples will be collected from six (6) monitoring wells MW-2R, MW-4, MW-5R, MW-6, MW-7 and MW-8. All wells will be analyzed for the same parameters: VOCs (Method 8260C) and PCBs (Method 8082A).

The following subsections describe the methods and procedures for collecting routine groundwater samples. Groundwater sampling locations are based on proximity to former storage areas and downgradient locations (**Figure 3**). Modification of the frequency or sampling requirements requires approval from NYSDEC.

### 4.1 Sampling and Monitoring Protocol

Prior to each round of groundwater sampling, the monitoring wells will be assessed for condition and maintenance issues. Once the well has been accessed, a synoptic round of water-level measurements will be collected from each of the on-site wells using a decontaminated (cleaned with Alconox and distilled water) electronic interface/water-level indicator. Water-level measurements may be used to generate potentiometric surface maps of the site. Total well depth will be measured only after the wells have been sampled. Postponing the total depth measurement will aid in the stabilization of the turbidity levels during the collection of groundwater field parameters prior to sample collection.

Monitoring wells will be sampled using a low-flow sampling technique, a low-stress sampling procedure that reduces drawdown in the well to the extent practical. The technique is based on proper purging of the stagnant water above the screened interval and the stabilization of water quality indicator parameters (discussed in Section 4.1.1) prior to sampling.

Low-flow purging and sampling will be performed using a bladder pump or peristaltic pump. If using a peristaltic pump, dedicated silicone tubing will be used at the pump head. Low-density polyethylene (LDPE) tubing (Teflon™-lined preferred) will be used downwell. The downwell LDPE tubing inlet will initially be set at the midpoint of the saturated portion of the well screen; it may be necessary to subsequently lower the tubing inlet in some low-yielding wells that experience excessive drawdown during purging. The downhole pumps or tubing inlet should not be allowed to touch the bottom of the well or draw in sediment from the bottom of the well casing. Pumping rates will be set on the order of 0.1 to 0.5 liter per minute to minimize drawdown in the well. Depth to water measurements will be recorded at frequent intervals to prevent the water level from dropping to or below the inlet of the pump. For low-yielding wells, purging will cease before water levels drop to the inlet of the pump. Water samples will be collected as soon as water levels have sufficiently recovered. Due to the anticipated tight clay conditions in which the wells will be installed, this may necessitate returning to the site one or more days later when water levels have recovered enough to allow sample collection.

Field parameters (i.e., potential hydrogen [pH], temperature, specific conductivity, dissolved oxygen [DO], turbidity, and oxidation-reduction potential [ORP]) will be recorded using a multi-parameter meter with a flow cell. Field parameters, purging flow rate, and depth to water will be recorded at approximately five-minute intervals. Purging will continue until the variations in field parameters for three consecutive readings are within the tolerance ranges specified in

Section 4.1.1. Analytical samples will be collected from the pump's discharge and not from the flow cell's discharge tubing, and placed in pre-cleaned sample jars, which will be labeled with the sample identification, time, date, type of analysis to be performed, and the sampler's initials.

Samples will be collected in order of volatilization sensitivity; samples for VOC analysis will be collected first, followed by those for PCB analysis. Vials for VOC analysis will be filled completely, making sure that there is no head space.

#### 4.1.1 Screening Tools, Calibration, and Stabilization Parameters

Field testing of groundwater will be performed during purging of wells prior to sampling for laboratory analysis. Field equipment used during the collection of groundwater samples typically includes a water-level meter, turbidity meter, pH meter, conductivity meter, DO meter, ORP meter, and thermometer. Well purging will be considered complete when the well goes dry, or when all of the indicator field parameters have stabilized and are within the following limits:

- Turbidity: 10% for values greater than 5 NTU; if three turbidity values are less than 5 NTU, the values are considered to be stabilized
- DO: 10% for values greater than 0.5 milligram per liter; if less than 0.5 milligram per liter, the values are considered to be stabilized
- Specific conductance: 3%
- Temperature: 3%
- pH:  $\pm 0.1$  standard unit
- ORP:  $\leq 10$  millivolts
- Water level:  $\pm 0.3$  foot from initial reading

The calibration methods and minimum frequencies for field meters used in monitoring well installations and groundwater sampling are discussed below. Field personnel should check calibration more frequently in adverse conditions, if anomalous readings are obtained, or if observations of instrument performance suggest the possibility of erroneous readings. Equipment calibration efforts will be recorded in a field notebook maintained for the site.

The turbidity meter should be calibrated using a standard as close as possible to 50 NTU (the critical value for determining effectiveness of well development and purging). The turbidity meter will be checked daily. Turbidity readings should be  $\pm 10\%$  for three consecutive readings prior to groundwater sample collection.

The pH meter should be calibrated daily, using two or three standards bracketing the range of interest (generally 4.0, 7.0, and 10.0 standard units). If the pH quality control (QC) sample (a pH buffer, which may be the same or different than those used to initially calibrate the instrument) exceeds 0.1 standard unit from the true value, the source of the error will be determined and the instrument recalibrated. If a continuing calibration check with a pH buffer of 7.0 standard units is off by more than 0.1 standard unit, the instrument will be recalibrated. Expired buffer solutions will not be used. These readings should be  $\pm 0.1$  for three consecutive readings prior to groundwater sample collection.

A vendor-provided conductivity standard will be used to check the calibration of the conductivity meter daily. Specific conductance QC samples will be on the order of 0.01 or 0.1 molar potassium chloride solution in accordance with manufacturer's recommendations. Conductivity readings should be  $\pm 3\%$  for three consecutive readings prior to groundwater sample collection.

DO and ORP meters should be calibrated daily using vendor-supplied calibration solutions. Calibration procedures should follow those specified by the instrument manufacturer.

Temperature probes associated with instruments are not subject to field calibration, but calibration should be checked to monitor instrument performance. It is recommended that the instrument temperature reading be checked against an independent thermometer concurrently with checking the conductivity calibration. The instrument manual will be referenced for corrective actions if accurate readings cannot be obtained.

The PID (MultiRAE, or equivalent organic vapor analyzer) used for soil screening will be calibrated following the manufacturer's instructions, at the beginning of the day, whenever the instrument is shut off for more than two hours, and at the field technician's discretion.

#### 4.2 Field Quality Control Sampling

Samples will be collected from monitoring wells in order of increasing concentration (i.e., from wells with the lowest concentrations to those with the highest concentrations), to the extent known. All monitoring instrumentation will be operated in accordance with manufacturer instructions and the calibration procedures presented in Section 4.1.1. The field QC samples to be collected are presented in **Table 2** and discussed below.

**Table 2: Quality Control Sampling Requirements**

Type of Quality Control Sample	Rate of Collection
Field (Rinsate) Blank	1 per sampling event or 1/20
Field Duplicate	1 per sampling event or 1/20
Matrix Spike/Matrix Spike Duplicate	1 per sampling event or 1/20
Trip Blank	1 per cooler (with aqueous samples for VOC analysis)
Temperature Blank	1 per cooler (if needed by laboratory)

##### 4.2.1 Field (Rinsate) Blanks

Field (rinsate) blanks consist of analyte-free water provided by the analytical laboratory that is either pumped or poured over non-dedicated sampling equipment to identify whether the potential for contaminant carryover exists, which could result in a false detection of a contaminant in an environmental sample. When blank water is used to rinse a piece of sampling equipment (before it is used to sample), the rinsate is collected in the applicable sample containers and then analyzed by the laboratory to determine if sample results could be biased by contamination from the equipment. Field blanks should be collected from a non-dedicated piece of equipment after the equipment has been properly decontaminated. It is recommended that the rinse sample be collected from a piece of equipment that has been used last in a well containing higher concentrations (if known) of a known contaminant. One field blank will be collected per sampling event or at a rate of one field blank per 20 samples collected.

#### 4.2.2 Field Duplicates

Field duplicate samples are used to assess the variability of a matrix at a specific sampling point and to assess the reproducibility of the sampling method. Aqueous field duplicate samples are a second set of samples collected from the same location, at the same time, in the same manner as the first, and placed into a separate container (technically, these are co-located samples). The location of the duplicate sample will be recorded in the field notes. Each duplicate sample will be given a unique sample ID and submitted to the laboratory as a blind duplicate sample. Each duplicate sample will be analyzed for the same parameters as the original sample collected that day. Field duplicate samples will be collected at a frequency of one per sampling event or one for every 20 samples.

#### 4.2.3 Matrix Spikes/Matrix Spike Duplicates

Matrix spike (MS) samples are QC samples collected for use in evaluating the effect of a particular sample matrix on the accuracy of a measurement. A matrix spike duplicate (MSD) sample is theoretically equal to the corresponding MS sample and provides a means of measuring method precision. MS and MSD samples are duplicates of a sample collected in the field, collected at the same time, from the same location, using the same methods. To validate the analytical data and prepare a Data Usability Summary Report (DUSR), one MS and one MSD sample are required for each sample delivery group (SDG). One MS/MSD set will be collected from the monitoring wells sampled at a frequency of one per sampling event or one for every 20 samples.

#### 4.2.4 Trip Blanks

The purpose of a VOC trip blank is to place a mechanism of control on sample bottle preparation, blank water quality, and sample handling. The trip blank is transported from the laboratory to the site with the empty sample bottles and back from the site with the collected samples. There will be a minimum of one trip blank per shipment containing aqueous samples for VOC analysis. Trip blanks will be required only when aqueous VOCs are being sampled and shipped, except that a trip blank is not required when the only aqueous samples in a shipment are QC samples (rinsate blanks).

#### 4.2.5 Temperature Blanks

Either the laboratory will use an infrared instrument to measure the temperature of liquid samples, or field personnel will use a temperature blank supplied by the analytical laboratory to measure the temperature of liquid samples. If multiple coolers are necessary to store and transport aqueous samples, each cooler will contain an individual temperature blank.

### 4.3 Sample Handling

During each sampling event, groundwater will be collected for analysis of VOCs and PCBs. Sample handling procedures are discussed in the following subsections and summarized in **Table 4**.

#### 4.3.1 Sample Bottles, Preservation, and Holding Time

The type of containers used for sample collection will be selected based on sample matrix, analytical method, potential contaminants of concern, potential for the container material to react with the sample, quality assurance (QA)/QC requirements, and regulatory protocol requirements.

Sample bottles will be provided by the analytical laboratory and will conform to the requirements of the United States Environmental Protection Agency (USEPA) Specifications and Guidance for Contaminant-Free Sample Containers (USEPA 1992). Aqueous samples for VOC analysis will be collected in 40-milliliter (mL) vials with Teflon™ septa and hydrochloric acid preservation to a pH level ≤2 (the preservative will be added to the sample vials prior to sample collection and by the analytical laboratory providing them). Aqueous samples for PCB analysis will be collected in 1-liter (L) (or 50 mL, depending on laboratory requirements) amber glassware with no chemical preservation. Samples will be cooled to 4±2 degrees Celsius (°C).

Contractual holding times are calculated from the validated time of sample receipt by the laboratory; samples will be shipped from the field to arrive at the laboratory no more than 48 hours from the time of sample collection.

**Table 3: Analytical Method, Container, Preservation, Volume, and Holding Time Requirements**

Analyte	Analytical Method	Container <sup>1</sup>	Preservative	Volume <sup>1</sup>	Maximum Holding Time
VOCs	8260C	Glass vial with Teflon™-lined septum	Hydrochloric acid, 4±2°C	3 x 40 mL	Analysis 12 days
PCBs	8082A	Amber glass, Teflon™ lined	4±2°C	2 x 1 L	Extraction 5 days, Analysis 40 days

Although trip blanks are prepared by the analytical laboratory and shipped to the site prior to the collection of environmental samples, for the purposes of determining holding time conformance, trip blanks will be considered to have been generated on the same day as the environmental samples with which they are shipped and delivered. Procurement of bottles and blanks will be scheduled to prevent trip blanks from being stored for excessive periods prior to their return to the laboratory; the goal is that trip blanks be held for no longer than one week prior to use.

#### 4.3.2 Sample Identification and Labeling

A unique sample identifier will be used to designate each sample collected. The following system may be used to assign unique sample identification numbers; however, modifications should be made as needed to clearly and appropriately identify samples. Each sample will be identified by an alphanumeric character identifier, as described below. The following codes will be used for identifying sample types:

<u>Code</u>	<u>Sample Type</u>
MW	Monitoring Well
FB	Field (Rinsate) Blank
DUP	Field Duplicate
TB	Trip Blank
MS/MSD	Matrix Spike/Matrix Spike Duplicate

Field blanks and trip blanks will be labeled for the day of collection. For MS/MSD samples, MS/MSD will be added to the sample identification and included on the chain of custody (COC) as a note. Field duplicate samples will be blind duplicates and the location of the samples will be recorded in the field notes. As part of the unique identifier, the sample date will be included following the location. The format will be MMDDYY. For example, the identified for MW-4 sampled on May 22, 2016 will be MW-4-052216.

An example of the sample numbering system is provided below:

<u>Sample Identifier</u>	<u>Description</u>
MW-5R-052216	Monitoring well MW-5R sampled on May 22, 2016
FB-050316	Field blank associated with water samples collected on May 3, 2016
DUP-1-052016	Field duplicate collected on May 20, 2016
TB-050916	Trip blank associated with water samples shipped on May 9, 2016
MW-7-051916-MS	Extra volume of monitoring well MW-7 sampled on May, 19, 2016 for matrix spike analysis

A non-removable label will be affixed to each sample container. Labels will be marked with permanent marker pens. The following information will be contained on each label:

- Project Name
- Sample Identifier
- Company Name
- Sample Date and Time
- Sampler's Initials
- Sample Preservation
- Analysis required

#### 4.3.3 Sample Chain of Custody

At the time of sampling, a field team member will record the sample information in the field log book and on a COC form. The sample information recorded in the log book will be at least as detailed as that recorded on labels, and should indicate the type of sample (e.g., groundwater), sample preservation, and sampling location, in sufficient detail as to allow re-sampling at the same location. Errors on forms or logbook entries will be stricken with a single line and corrected, with the date and initials of the person making the correction.

After samples are collected, the field team member will immediately place the filled containers in coolers iced to 4±2°C. Samples will be preserved as required and specified herein. The field team will maintain custody of the samples until they are shipped to the laboratory. The entries on the COC form will correspond to the field logbook and sample labels.

The original COC will be forwarded to the laboratory. A copy of the COC and associated shipping air bills will be maintained by the Field Supervisor with all other documentation until provided to the Project Manager. Copies of the COCs will be filed by the Project Manager or designated representative on a weekly basis (at a minimum) in the on-site project file for permanent storage.

#### 4.3.4 Sample Packaging and Shipping

Samples collected for laboratory analysis will be delivered to the laboratory directly by field staff or courier, or shipped by a commercial overnight delivery service on the day of collection (if possible, otherwise samples will be delivered/shipped on the day after collection),

following proper identification, COC, preservation, and packaging procedures. Samples that require maintenance at  $4\pm 2^{\circ}\text{C}$  (essentially all aqueous and non-aqueous samples submitted for chemical analysis) and that are collected and shipped on a Friday must be delivered to, and accepted by, the laboratory on Saturday; note that it may be necessary to arrange this in advance.

Sample packaging and shipping procedures are summarized as follows. A properly completed COC form will accompany each sample shipment. The sample identifiers will be listed on the COC form. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents transfer of custody of samples from the sampler to another person, to the laboratory, or to/from a secure storage area.

Samples will be properly packaged in accordance with United States Department of Transportation (DOT) and, if applicable, International Air Transport Association (IATA) specifications. Samples will be wrapped appropriately to avoid breakage, stored on ice at  $4\pm 2^{\circ}\text{C}$  for shipment, and dispatched to the appropriate laboratory for analysis. In the event that samples must be held overnight prior to shipment, the temperature of the cooler and presence of sufficient ice will be checked and new ice added prior to shipment. A signed COC form will be enclosed in each sample box or cooler. The COC, a cooler receipt form (if applicable), and any additional documentation will be placed in a plastic bag to prevent documentation from getting wet, and one copy of each will be retained by the field team leader.

Shipping containers will be secured with strapping tape and signed and dated custody seals for shipment to the laboratory. Signed custody seals will be covered with clear plastic tape. The cooler will be taped shut with strapping tape in at least two locations.

Samples will be transported to the laboratory by a commercial overnight carrier (e.g., FedEx) unless other arrangements are made (e.g., laboratory courier sample pickup or hand delivery of samples to the laboratory).

#### 4.4 Analytical Methods and Laboratory Requirements

Groundwater sample analysis will utilize USEPA SW-846 methods as follows:

- VOCs – SW-846 Method 8260C
- PCBs – SW-846 Method 8082A

Analytical methods to be used are detailed in the NYSDEC Analytical Services Protocol (ASP) (NYSDEC 2005). It is the laboratory's responsibility to be familiar with this document and procedures and deliverables within it pertaining to New York State work. The subcontracted laboratory will also be certified by the New York State Department of Health Environmental Laboratory Approved Program and be in good standing for the applicable parameter groups.

#### 4.5 Data Validation

Data generated for the site will be validated. The validator will follow guidelines established in the USEPA Region 2 Standard Operating Procedures (SOPs) applicable to the analytical method(s) being reviewed. These SOPs are checklists designed to provide for formal and rigorous assessment of the quality and completeness of SW-846 analysis data packages. The use of the USEPA SOPs will be adapted to conform to the specific requirements of the NYSDEC ASP (e.g., NYSDEC ASP holding times and MS blank requirements). When necessary and appropriate, supplemental validation criteria may be derived from the USEPA National

Functional Guidelines for Inorganic Superfund Data Review (USEPA 2014a) and the National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2014b).

Validation reports and DUSRs will be developed and will include text results of the review and marked-up copies of Form I (results with qualifiers applied by the validator). Validation will consist of target and non-target compounds with corresponding method blank data, spike and surrogate recoveries, sample data, and a final note of validation decision or qualification, along with any pertinent footnote references. Qualifiers applied to the data will be documented in the report text. Where QC failures caused the laboratory to perform a reanalysis, the data validator will make a recommendation as to which of the two analyses should be used. Data review will also include an assessment of sensitivity (i.e., are reporting limits appropriate to determine whether contaminants are present at or above action levels or other applicable threshold values).

There may be some analyses for which there is no established USEPA or NYSDEC data validation protocol. In such cases, validation will be based on the Region 2 SOPs and USEPA Functional Guidelines as appropriate, as well as the laboratory's adherence to the technical requirements of the method, and the professional judgment of the validator. The degree of rigor in such validation will correspond to the nature of the data and the significance of the data and its intended use.

#### 4.6 Inability to Obtain Samples

If an error in sampling or analytical method occurs, the affected well will be resampled within 14 days of such knowledge unless this requirement is waived by NYSDEC. If wells in two or more pairs or clusters in one specific area are inaccessible during any sampling event (due to snow, flooding, or other obstruction), or if any one well is inaccessible for two consecutive sampling periods, NYSDEC will be notified of the problem in writing within 14 days of such knowledge. The written notification and subsequent actions will comply with the requirements described in Section 3.6.

If a well does not contain sufficient water for sampling, the well may go un-sampled for one sampling period. If the water level collection during the subsequent mobilization indicates that the well is not likely to contain a sufficient quantity of water for collection of a representative sample, prior to the start of the next sampling round, a notification will be submitted to NYSDEC to identify GE's recommendation for the future usage of the well. This recommendation may include the following: sampling of the well at a different time of year to address seasonal fluctuations in water table, substitution with an existing monitoring well, screen redevelopment, well replacement or eliminated from the program. The exception to this would be if the well is known to be seasonally dry during the following scheduled sampling event, in which case a proposal would not need to be submitted for one additional sampling period.

## 5.0 GROUNDWATER EVALUATION AND REPORTING

Reports documenting groundwater monitoring and sampling events will be prepared annually. Analytical data for the contaminants of concern in groundwater at the site will be tabulated and analyzed graphically to evaluate the quality of groundwater. The report will evaluate the analytical results with respect to New York State Groundwater Standards and verify that groundwater underlying the site continues to be unimpacted by historical site activities. Observed trends in the analytical results will be indicated and related to the site groundwater flow conditions. Maps displaying an aerial distribution of contaminants, if any, will be generated. Proposals for modifying the program/schedule, if necessary, will also be included in the annual reports.

### 5.1 Standards for Evaluation

Analytical data for the sampling events will be evaluated in comparison to the NYSDEC Technical & Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance Values (NYSDEC 2004). The results of this analysis will assist in determining the basis for future recommendations (i.e., no further action, continued monitoring, or additional corrective measures).

### 5.2 Reporting Schedule

Annual Groundwater Monitoring Reports will be submitted to NYSDEC by March 1 of each year for the prior calendar year. Groundwater reporting in this manner will be performed for five consecutive years from 2017 through 2021 unless an alternate schedule is proposed and approved by NYSDEC.

### 5.3 Data Management

Each report will present the final validated analytical results and field measurements obtained from groundwater monitoring during the preceding year. The groundwater data will be compiled in the EquiS database format to fulfill the requirements of the submittals in a NYSDEC-approved Electronic Data Deliverable format. This information will be submitted within 30-days of the report submittal to NYSDEC.

## 6.0 REFERENCES

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# FIGURES





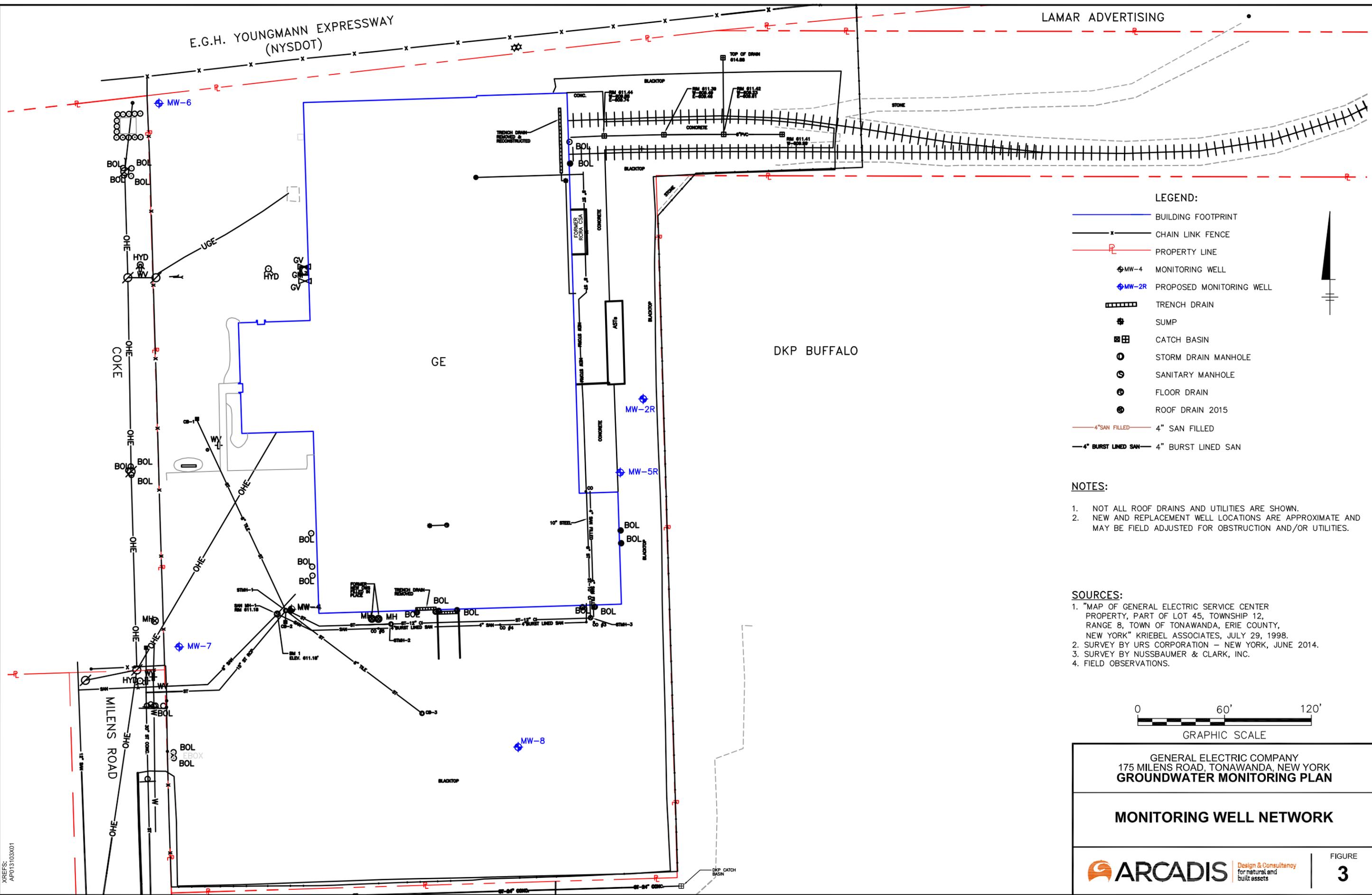
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GENERAL ELECTRIC COMPANY  
175 MILENS ROAD, TONAWANDA, NEW YORK  
GROUNDWATER MONITORING PLAN

**SITE LAYOUT**

CITY: SYRACUSE, NY DIV/GROUP: EBC-M/DV LD: L. POSENAUER PM: D. WEEKS TM: D. ZLUCK LYR: Option=OFF=REF  
 G:\E\ENV\CAD\SYRACUSE\ACT\CA\0131034000\4000A\GE-Tonawanda\G\W\PI\AP01310330303.dwg LAYOUT: 3. SAVED: 9/12/2016 2:16 PM ACADVER: 19.1.15 (LMS TECH) PAGES: 19.1.15 (LMS TECH) PLOT: PLT\FULL.CTB PLOTTED: 9/12/2016 2:16 PM BY: STEINBERGER, GEORGE



**LEGEND:**

- BUILDING FOOTPRINT
- x— CHAIN LINK FENCE
- P- PROPERTY LINE
- ⊕ MW-4 MONITORING WELL
- ⊕ MW-2R PROPOSED MONITORING WELL
- ▬ TRENCH DRAIN
- ⊕ SUMP
- ⊕ CATCH BASIN
- ⊕ STORM DRAIN MANHOLE
- ⊕ SANITARY MANHOLE
- ⊕ FLOOR DRAIN
- ⊕ ROOF DRAIN 2015
- 4" SAN FILLED— 4" SAN FILLED
- 4" BURST LINED SAN— 4" BURST LINED SAN

**NOTES:**

1. NOT ALL ROOF DRAINS AND UTILITIES ARE SHOWN.
2. NEW AND REPLACEMENT WELL LOCATIONS ARE APPROXIMATE AND MAY BE FIELD ADJUSTED FOR OBSTRUCTION AND/OR UTILITIES.

**SOURCES:**

1. "MAP OF GENERAL ELECTRIC SERVICE CENTER PROPERTY, PART OF LOT 45, TOWNSHIP 12, RANGE 8, TOWN OF TONAWANDA, ERIE COUNTY, NEW YORK" KRIEBEL ASSOCIATES, JULY 29, 1998.
2. SURVEY BY URS CORPORATION - NEW YORK, JUNE 2014.
3. SURVEY BY NUSSBAUMER & CLARK, INC.
4. FIELD OBSERVATIONS.

GENERAL ELECTRIC COMPANY  
 175 MILENS ROAD, TONAWANDA, NEW YORK  
**GROUNDWATER MONITORING PLAN**

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**MONITORING WELL NETWORK**

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**ARCADIS** Design & Consultancy  
for natural and built assets

FIGURE  
**3**

# APPENDIX F

Site Inspection Forms





**Inspection Form**  
**GE-Tonawanda, 175 Milens Road, Tonawanda, New York**  
**NYSDEC Site Number: 915244**

Inspection Performed by: \_\_\_\_\_

Name

Title

Company

Phone No.

Address

Reason for Inspection:

Annual

Severe Weather

Emergency

Site Work

Attachments:

Additional Comments

Site Map with Notations

Photographs

Page \_\_\_ of \_\_\_