Leica, Inc.

Southeast Corner Soil and Groundwater Delineation Work Plan

Former Leica, Inc. Facility
Cheektowaga, New York
NYSDEC Site ID No. 915156

21 November 2022, Revised 22 December 2022 and 3 January 2023

Project No.: 0639846

The business of sustainability

ERM

Signature Page

21 November 2022, Revised 22 December 2022 and 3 January 2023

Southeast Corner Soil and Groundwater Delineation Work Plan

Former Leica, Inc. Facility
Cheektowaga, New York
NYSDEC Site ID No. 915156

Joe Fiacco
Partner

Kathleen Kwasniak
Project Manager

ERM Consulting & Engineering, Inc.
5784 Widewaters Parkway
Dewitt, New York 13214

CONTENTS

List of Tables

List of Figures

Acronyms and Abbreviations

Name	Description
CAMP	Community Air Monitory Plan
ERM	ERM Consulting & Engineering, Inc.
HASP	Health and Safety Plan
Leica	Leica, Inc.
NYSDEC	New York State Department of Environmental Conservation
PARCC	Precision, accuracy, representativeness, completeness, comparability
PID	Photoionization detector
QA/QC	Quality assurance / quality control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
SCG	Standards, criteria, and guidance
VOC	Volatile organic compound

1. INTRODUCTION

The former Leica, Inc. (Leica) facility (the Site) located at 203 Eggert Road in Cheektowaga, New York (as shown on **Figure 1**) is listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as site Number 915156. ERM Consulting & Engineering, Inc. (ERM) has prepared this Southeast Corner Soil and Groundwater Delineation Work Plan to characterize the nature and extent of volatile organic compound (VOC) impacts to soil and groundwater in the portion of the Site shown in **Figure 2**. A description of Site activities and physical and environmental conditions is provided in the *Site Management Plan* (ERM 2020).

1.1 Purpose and Objectives

The purpose of this Work Plan is to enable collection of additional depth to bedrock, and soil and groundwater quality data to delineate the horizontal and vertical extent of VOCs in soil and groundwater in the southeast corner of the Site, and support selection and design of an appropriate remedial technology to minimize the potential for contaminated groundwater to enter the Town of Cheektowaga sewers with known deficiencies in this area.

In May 2022, ERM installed eight overburden monitoring wells (MW-47 through MW-54) in the vicinity of the sanitary and storm sewer lines as part of pre-design activities to: a) establish the depth to bedrock, and b) to provide monitoring points to conduct pumping tests and collect groundwater samples in the proposed remediation area.

In June and July 2022, groundwater samples were collected from the newly installed monitoring wells for analysis of VOCs. The results from the new wells indicated the presence of trichloroethene, cis-1,2-dichloroethene, and vinyl chloride at concentrations that exceed the Site-specific Remedial Action Objectives (RAOs) of 5 micrograms per liter (µg/L) per constituent. The concentrations of these constituents in the new monitoring wells installed between the sanitary and storm sewer lines (namely MW-47, MW-51, MW-52, and MW-53 shown on **Figure 2**) are an order of magnitude higher than previous results in this area of the Site. The objective of the work described herein is to further characterize the nature and extent of the VOC impacts in soil and groundwater in the southeast corner of the Site (**Figure 2**).

1.2 Standards, Criteria, and Guidance

The March 1997 Record of Decision established the following RAOs for the Site, with the overarching goal of meeting all applicable standards, criteria, and guidance (SCG) values, and protecting human health and the environment.

1.2.1 Soil

Soil cleanup criteria were developed to prevent or mitigate the leaching and/or migration of contaminants in soil that would cause groundwater and/or surface water impacts above the SCG values shown in Table 1-1. Additionally, these criteria were adopted to eliminate, to the maximum extent practicable, the potential for direct contact by potential receptors to contaminant-impacted soil.

Table 1-1: Site-Specific RAOs—Soil

Analyte	Concentration (micrograms per kilogram)			
	Original	Total Organic Carbon Adjusted Values[a]		
		Fill—4.0%	Clay—1.5%	Sandy Silt—2.0%
Benzene	60	232	87	116
1,1-Dichloroethane	200	600	225	300
1,2-Dichloroethene	100	280	105	140
Ethylbenzene	5,500	22,000	8,250	11,000
Methylene Chloride	200	420	158	210
Toluene	1,500	6,000	2,250	3,000
1,1,1-Trichloroethane	800	3,040	1,140	1,520
Trichloroethene	1,000	2,250	945	1,260
Vinyl Chloride	200	456	171	228
Xylenes (Total)	1,200	4,800	1,800	2,400

[a] *General state-wide RAOs for soils are based on a default total organic carbon content of 1 percent. These original default RAOs for soil were subsequently adjusted based on actual Site-specific percentages of total organic carbon in the three distinct soil types (fill, clay, sandy silt) encountered in the Site remediation area. Calculations of the adjusted RAOs were performed in accordance with New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum 4046: Determination of Soil Cleanup Objectives and Cleanup Levels (24 January 1994). Adjusted values were calculated and presented in a report prepared by NES Inc. entitled Additional Investigation Report, dated July 1998.*

1.2.2 Groundwater

The Record of Decision aims to restore groundwater, to the maximum extent practicable, to applicable SCG values shown in Table 1-2. Further, groundwater SCGs attempt to eliminate contaminant migration via groundwater so that potential releases of, and contact with, contaminant-impacted groundwater does not present a threat to human health and the environment.

Table 1-2: Site-Specific RAOs—Groundwater

Analyte	Concentration (µg/L)
Trichloroethene	5
1,2-Dichlorothene	5
Vinyl Chloride	5
Toluene	5
Xylenes (Total)	5
Ethylbenzene	5
1,1,1-Trichloroethane	5

2. BACKGROUND

2.1 Site History

The Site is in Cheektowaga, Erie County, New York and is identified as Section 91.00, Block 1, Lot 26.12 (owned by Calypso Development of WNY, Inc.) and Lot 26.11 (owned by Leica Microsystems, Inc.) on the Town of Cheektowaga Tax Map. The Site is approximately 24 acres of commercial land in a mixed commercial and residential area. It is bound by Sugar Road and Saint Stanislaus Cemetery to the north, Saint John's Cemetery (referred to as the eastern off-Site parcel) to the east, single-family residential dwellings to the south, and Eggert Road and a vacant undeveloped lot to the west.

Spencer Lens, an optical lens manufacturer, first developed the Site in 1938, and maintained operations through 1945. Between 1945 and 1986, American Optical Corporation owned and operated the Site. Cambridge Instruments, Inc. owned and operated the Site between 1986 and 1990, when they merged with Leica, Inc., and continued operations under the Leica name through 1993, when manufacturing operations at the Site ceased. In October 1993, the Site buildings and a majority of the Site (Lot 26.12) was sold to Calypso Development and leased to Sam-Son. Leica retained an approximately 100-foot by 390-foot (approximately 1.2 acre) area (Lot 26.11) in the southeast portion of the original parcel where the majority of the contaminants were located.

Prior to 1993, Site operations consisted of the manufacturing of scientific instruments and optical devices, and included two primary processes: 1) machining, cleaning, coating, and assembling metal parts and components; and 2) shaping, grinding, polishing, and coating of glass lenses for use in ophthalmic instruments, microscopes, refractometers, and other optical instruments. Paints, solvents, oils, cyanides, and metals were used as part of manufacturing activities.

2.2 Site Geology

Based on data collected at the Site, geology generally consists of five geologic units, from shallowest to deepest:

1. Fill material (generally less than 1 foot thick, but up to 6 feet thick in artificially raised areas).
2. Lake sediments, primarily consisting of silts and clays (up to 10 feet thick).
3. Glacial outwash, sand (up to 3 feet thick).
4. Till, primarily consisting of compacted sand and gravel (up to 3 feet thick).
5. Bedrock, consisting of the Onondaga Formation limestone, Akron Dolostone, Bertie Shales and Dolomites, and the Camillus Shale within the upper 160 feet.

2.3 Site Hydrology

Groundwater is often present within the till layer immediately above bedrock, but not always. When present, hydraulic gradients suggest the potential for groundwater migration generally to the southeast (ERM 2022). In the southeast corner of the Site, overburden groundwater exhibits a shallow hydraulic gradient toward the east and south toward Scajaquada Creek and one of its tributaries (**Figure 1**).

Groundwater is consistently detected within bedrock fractures, though there are a limited number of transmissive fractures present within the upper portion of the bedrock. The ultimate groundwater discharge boundary for the bedrock aquifer is Lake Erie, which is located to the west of the Site. As such, the general groundwater flow direction in bedrock is to the west (ERM 2022).

The depth to groundwater at the Site exhibits seasonal fluctuations and in the southeastern portion of the Site is generally encountered around 8 to 10 feet below ground surface in overburden (**Figure 2**) and slightly deeper in shallow bedrock.

2.4 Previous Investigations and Remedial Actions

A description of previous subsurface investigation activities conducted in the southeast corner of the Site and a summary of the findings from these activities is presented in the *Data Gap Investigation Status Report* (ERM 2022).

3. INVESTIGATION SCOPE OF WORK

To further characterize the three-dimensional distribution of contaminant mass within overburden soil and groundwater in the southeast corner of the Site, the following activities will be completed in adherence to the *Site Management Plan* (ERM 2020) and the associated *Excavation Work Plan* appended to the Site Management Plan.

3.1 Subsurface Clearance

Utility clearance will be completed prior to any ground disturbance activities and will be managed in accordance with ERM's subsurface clearance procedures, which were developed to minimize the potential for striking subsurface infrastructure.

A public utility locate will be completed by contacting UDig NY as required by law and a private utility location contractor will be contracted to evaluate and clear proposed drilling locations prior to commencement of intrusive activities. The private utility location contractor will scan, identify, locate, and mark potential subsurface utilities within a 10-foot radius around each planned investigation location using some or all of the following techniques: ground penetrating radar, magnetometry/metal detection, power detection, and inductive cable/pipe location. ERM will adjust the ground disturbance locations in the field, if necessary, based on the results of subsurface clearance activities. Soil borings will be hand cleared to depths of at least 5 feet below ground surface using either hand auger or compressed air excavation methods.

In addition, the location of sewers and drain lines in the investigation area will be traced and mapped to the extent practicable to inform the final locations of proposed soil borings.

3.2 Health and Safety Plan

ERM maintains a Site-specific Health and Safety Plan (HASP) for activities conducted at the Site. The procedures set forth in the HASP are designed to minimize the risk of exposure to chemical and physical hazards that may be present at the Site. These procedures generally conform to applicable federal, state, and local regulations—including Occupational Safety and Health Administration requirements governing activities at hazardous waste sites contained in 29 Code of Federal Regulations 1910.120 (Hazardous Waste Operations and Emergency Response). Specific practices and procedures, including the level of personal protective equipment, are based on a review of currently-available information for the Site.

Every potential safety hazard associated with this investigation may not be predicted. The HASP does not attempt to establish rules to cover every contingency that may arise, but it does provide a basic framework for the safe completion of field activities and plans for reasonable contingencies.

3.3 Community Air Monitoring

The Community Air Monitoring Plan (CAMP) for the Site is presented in **Appendix A**. The CAMP is consistent with the requirements of DER-10, Appendix 1A (NYSDEC 2010a). The CAMP describes monitoring requirements and response action levels associated with the monitoring of VOCs and particulates (i.e., dust) downwind of intrusive activities. The action levels specified in the CAMP require increased monitoring, corrective actions to abate emissions, and/or work stoppage, as appropriate. The CAMP provides a measure of protection for the downwind community from potential airborne constituent migration as a result of Site activities. ERM will have dedicated photoionization detectors (PID) and particulate monitors located upwind and downwind of the active ground disturbance activity area (i.e., a

total of two locations). CAMP data will be provided as an appendix to the Southeast Corner Soil and Groundwater Delineation Characterization Report.

3.4 Southeast Corner Delineation

The purpose of this task is to delineate the soil and groundwater impacts in the southeast corner of the Site within Town of Cheektowaga's utility right-of-way. The delineation work includes the following activities:

- Advance up to 20 soil borings to the top of bedrock along north-south oriented transects, as shown on **Figure 3**, to evaluate the distribution of groundwater contamination previously identified between the sanitary and storm sewers.
- All soil borings will be completed as temporary monitoring wells.
- An additional 19 soil borings may be advanced to the top of bedrock and groundwater samples collected, as shown on **Figure 3**. The need for additional borings will be determined in consultation with NYSDEC following receipt of analytical results from initial soil and groundwater sampling.
- All sampling and analyses will be completed in accordance with the Site-specific Quality Assurance Project Plan (ERM 2020).
- Temporary monitoring wells will be decommissioned at a later date, after consultation with NYSDEC.

3.4.1 Soil Borings

Soil borings will be completed at the initial 20 locations following completion of subsurface clearance activities. Soil will be continuously logged by an ERM geologist and screened using a PID with an 11.7 eV lamp, and up to three soil samples will be collected from each boring based on field screening and observations. Samples will be biased toward the 1-foot interval of greatest visual, olfactory, or PID evidence of contamination. If no such evidence exists, a soil sample will be collected from the 1-foot interval above the water table, and an additional sample will be collected from the bedrock-overburden interface. Soil samples will be submitted on ice, under standard chain-of-custody procedures to Eurofins Environment Testing of Buffalo, New York for analysis of VOCs by United States Environmental Protection Agency (USEPA) Method 8260. Additionally, up to 6 duplicate samples, 12 matrix spike / matrix spike duplicate samples, and 6 equipment blanks will be collected for quality assurance / quality control (QA/QC).

3.4.2 Temporary Monitoring Wells

Each soil boring will be finished as a temporary monitoring well for the purpose of extracting grab groundwater samples for analysis. Each temporary monitoring well will be constructed using 10-slot, 1-inch pre-pack polyvinyl chloride well screen and solid riser pipe. The well will be set on top of bedrock or at the depth of drilling refusal and consist of either a 5- or 10-foot long well screen depending upon the borehole depth, water table depth, and depth of any identifiable contamination. The annular space surrounding the pre-pack well will be filled with filter sand to a minimum of 1 foot above the top of the well screen, with hydrated bentonite chips from the filter sand to the ground surface (minimum of 3 feet). After construction, the well will be developed using inertial-lift pumping techniques to facilitate collection of representative groundwater samples. Field parameters (temperature, specific conductivity, dissolved oxygen, pH, turbidity [nepholometric turbidity units], and oxidation-reduction potential) will be measured and recorded during well development activities using a calibrated multi-parameter meter with a flow cell and a water level indicator will be used to measure depth to groundwater.

A full horizontal and vertical control survey will be conducted for the temporary monitoring wells by a licensed surveyor.

3.4.3 Groundwater Sampling

The new temporary wells will be allowed to equilibrate for two weeks following well development. ERM will then collect groundwater samples using low-flow purging and sampling techniques (USEPA 2010) from all new temporary wells and monitoring wells installed in May 2022 (MW-47 through MW-54). If a well does not satisfy stabilization criteria after one hour of purging, the sample will be collected. If a well purges dry prior to stabilization, the well will be allowed to recharge, and a sample will be collected if recharge occurs. Groundwater samples will be submitted on ice, under standard chain-of-custody procedures to Eurofins of Buffalo, New York for analysis of VOCs by USEPA Method 8260. Additionally, up to three duplicate samples, six matrix spike / matrix spike duplicate samples, and three equipment blanks will be collected for QA/QC.

4. DATA QUALITY AND VALIDATION

All samples will be placed in laboratory supplied sample containers and placed in pre-chilled laboratory provided coolers, packed with additional ice, and submitted to Eurofins Environment Testing of Amherst, New York (Environmental Laboratory Accreditation Program (ELAP) Number 10026). A Data Usability Summary Report will be prepared for all samples collected during the investigation, consistent with the NYSDEC guidance contained in DER-10 Appendix 2B. The results of the data usability evaluation will be presented in an Electronic Data Summary consistent with the requirements of DER-10 Section 3.14(b).

Data Quality Objectives are qualitative and quantitative criteria required to support the decision-making process. Data Quality Objectives define the uncertainty in an analytical data set and are expressed in terms of precision, accuracy, representativeness, completeness, and comparability (PARCC)—outlined below:

- Precision is a measure of mutual agreement among measurement of the same property usually under prescribed similar conditions. Precision is best expressed in terms of the standard deviation.
- Accuracy is the degree of agreement of a measurement (or an average of measurements) with an accepted reference of “true value”. Accuracy is an estimate of potential numerical bias (i.e., low or high) in analytical data.
- Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point a process condition, or an environmental condition.
- Completeness is a measure of the amount of valid data obtained compared to the amount that was expected to be obtained under correct normal conditions.
- Comparability expresses the confidence with which one data set can be compared with another. Comparability is a qualitative measurement. Comparability is assessed by reviewing results or procedures for analytical data that do not agree with expected results.

A Site-specific QAPP is included as Appendix G of the *Site Management Plan* (ERM 2020). The QAPP describes sampling and analysis procedures to be used during implementation of these investigation activities along with QA/QC criteria. The field team will collect representative samples. The chemist at the laboratory will analyze samples using accepted protocols resulting in data that meet PARCC standards.

5. WASTE MANAGEMENT

Management of investigation-derived waste will comply with DER-10 Section 3.3(e). Investigation-derived wastes including soil cuttings, decontamination water, and well development and purge water, including those exhibiting visual, olfactory, or field screening evidence of potential contamination, will be containerized into 55-gallon steel drums or other appropriate containers for waste characterization and disposal. The containers will be labeled and moved to a designated on-Site staging area until characterized and disposed. Existing waste profiles will be used, if acceptable by the receiving facility. If waste characterization samples are required, they will be analyzed for the following parameters or others as required by the receiving facility:

- Toxicity Characteristic Leaching Procedure VOCs
- Toxicity Characteristic Leaching Procedure semi-volatile organic compounds
- Polychlorinated biphenyls
- Resource Conservation and Recovery Act metals
- Ignitability (solids) or flammability (liquids)
- Reactivity
- pH

6. REPORTING

A Southeast Corner Soil and Groundwater Delineation Characterization Report will be prepared in a manner consistent with NYSDEC requirements contained in DER-10 Section 3.14. The report will build upon the results presented in the *Data Gap Investigation Status Report* and will seek to complete the following:

- define the horizontal and vertical distribution of VOCs in soil and groundwater within overburden; and
- support selection and design of an appropriate remedial technology to minimize the potential for contaminated groundwater to enter the deteriorating Town of Cheektowaga sewers in this area.

Conclusions and recommendations will be provided, including the potential need for additional work. Analytical reports from the project laboratory will be included as an appendix to the report, and data collected during the characterization work (including analytical data) will be submitted electronically to NYSDEC via EQuIS electronic data deliverable (EDD) as required.

7. REFERENCES

ERM. 2020. *Site Management Plan, Former Leica, Inc. Facility.* October 2020.

ERM. 2022. *Data Gap Investigation Status Report*. November 11.

NYSDEC. 2010a. DER-10: *Technical Guidance for Site Investigation and Remediation*. NYSDEC Division of Environmental Remediation, Albany, May 2010.

NYSDEC. 2010b. *Analytical Services Protocol*. NYSDEC Division of Environmental Remediation, Albany, May 2010.

USEPA. 2010. *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*.

FIGURES

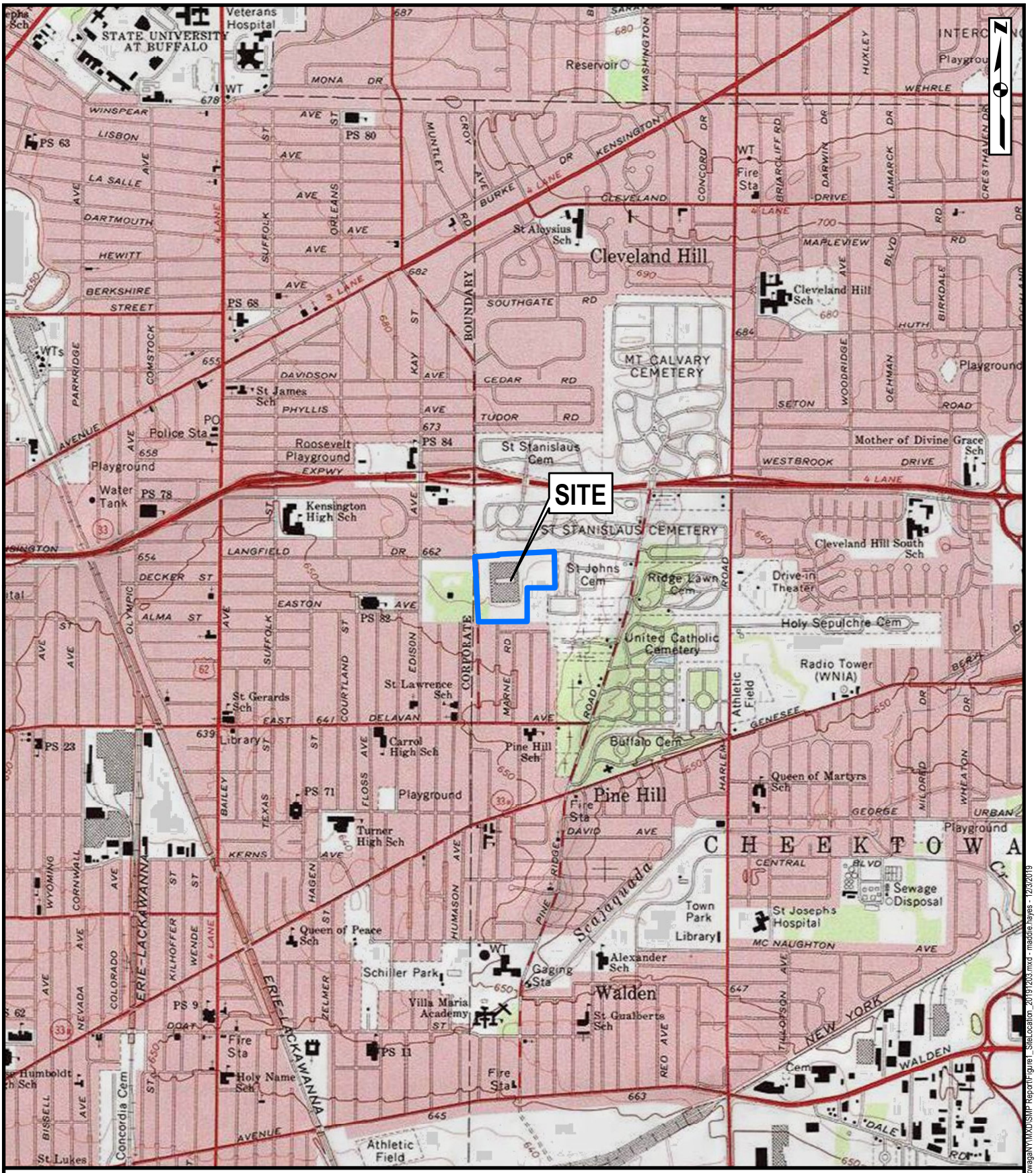

Figure 1: Site Location
Former Leica, Inc. Facility
203 Eggert Road
Cheektowaga, New York

SOURCE: USGS scanned topographic quad maps provided by National Geographic Society (© 2022).

ERM

Q:\Boston\Teams\DMM\Clients_A_E\Cheektowaga\NY\MXD\SMP Report\Figure1_SiteLocation_20191203.mxd - maddie.hayes - 12/3/2019

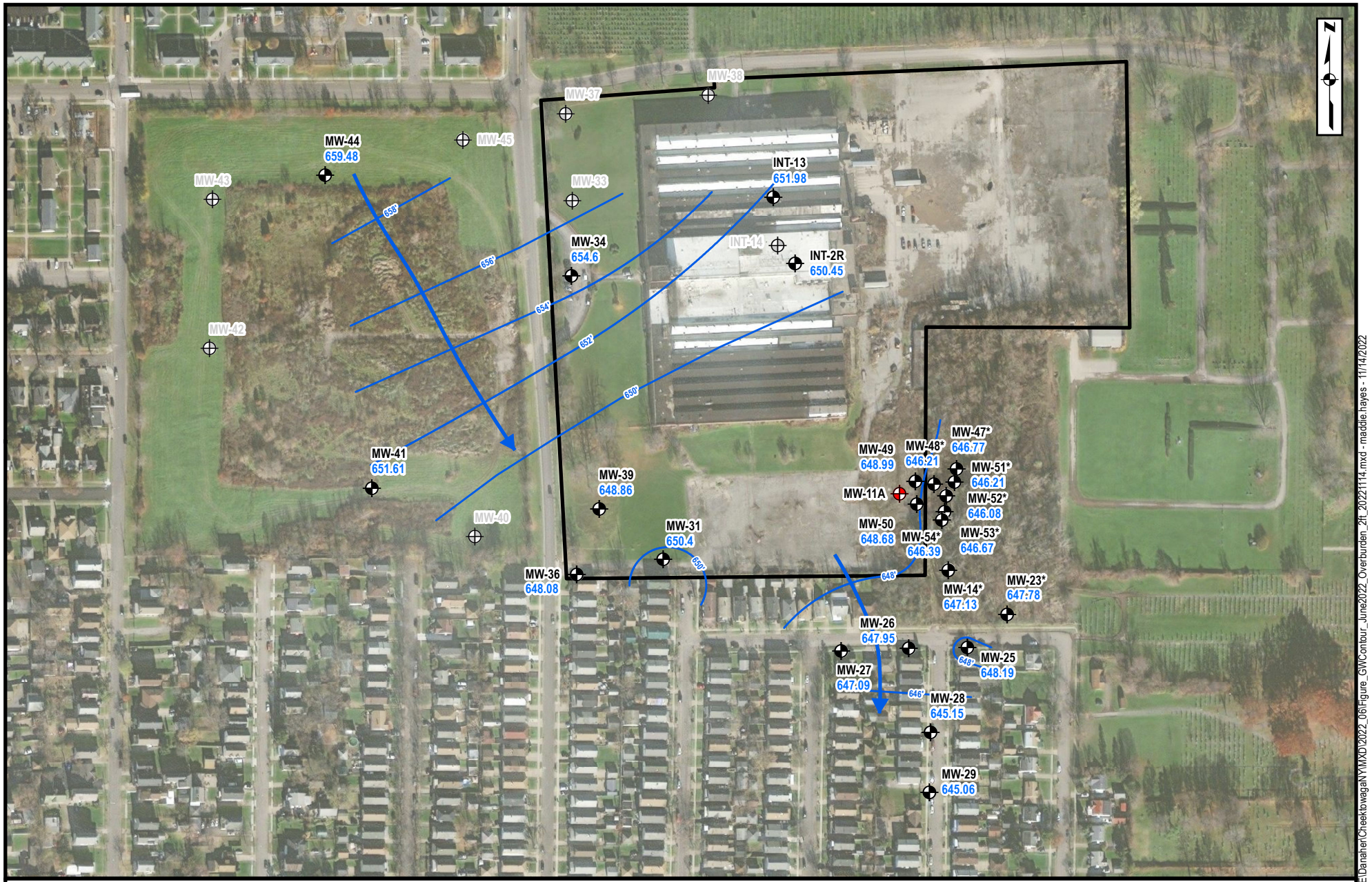

Figure 2: Overburden Groundwater Contours - June 2022
Former Leica, Inc. Facility
203 Eggert Road
Cheektowaga, New York

ERM

Q:\Boston\Team\DMMV\Clients_A_E\Danaher\Cheektowaga\MXD\2022_06\Figure_GWContour_June2022_Overburden_2ft_20221114.mxd - maddie.hayes - 11/14/2022

Legend

- Extraction Well Location
- Monitoring Well Location
- Temporary Well Location
- Proposed Soil Borings
- Potential Soil Borings
- Proposed Transects
- Water
- Sewers and Drain Lines
- Site Property Boundary

0 50 100 200 Feet

Figure 3: Proposed Transects and Existing Wells
Former Leica, Inc. Facility
203 Eggert Road
Cheektowaga, New York

ERM

M:\US\Projects\D-F\Danaher\Cheektowaga\NYMXD\DGI_Addendum_2022\Figure3_ProposedTransects_ExistingWells_20221114.mxd - Olivia.Botting - 12/22/2022

APPENDIX A COMMUNITY AIR MONITORING PLAN

COMMUNITY AIR MONITORING PLAN
FORMER LEICA FACILITY
203 EGGERT ROAD – CHEEKTOWAGA, NEW YORK

This Community Air Monitoring Plan (CAMP) involves real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of the designated work area when intrusive activities are in progress. Intrusive activities may include soil excavation, grading, staging, movement, or handling; test pitting or trenching; and/or the installation of soil borings and monitoring wells. The CAMP provides a measure of protection for on-Site workers and the downwind community (i.e., potential off-Site receptors including residences, parks, businesses, etc.) not directly involved with the subject work activities. Routine monitoring is required to evaluate concentrations and corrective action and/or work stoppage may be required to abate emissions detected at concentrations above specified action levels. Routine data collected during implementation of the CAMP may also help document that work activities did not spread compounds of potential concern off-Site through the air. Reliance on the procedures and action levels described in this CAMP should not preclude simple, common sense measures to keep VOCs, dust, and odors at a minimum around work areas.

COMMUNITY AIR MONITORING PLAN

VOC concentrations in air will be measured using calibrated photoionization detectors (PIDs). Particulate matter concentrations will be measured using calibrated electronic aerosol monitors.

Relevant weather conditions including wind direction, speed, humidity, temperature, and precipitation will be evaluated and recorded prior to the initiation of subsurface intrusive activities. Background readings of VOCs and particulate matter will be collected on Site prior to the initiation of field work on each day that subsurface intrusive work will be performed. Additional background measurements may be collected if weather conditions change significantly.

Continuous monitoring for VOCs and particulate matter will be performed upwind and downwind of the work area during subsurface intrusive activities.

Periodic monitoring for VOCs will be performed during non-intrusive activities if requested by a New York State Department of Environmental Conservation (NYSDEC) and/or New York State Department of Health (NYSDOH) on-Site representative. Non-intrusive activities include any work activity that does not disturb the subsurface or staged soil piles, including routine Site visits,

installation of remedial equipment, operations and maintenance (O&M), surveying, etc. Periodic monitoring, if performed, will consist of collecting readings downwind of the work area at the following intervals:

- upon arrival at a sample location or other work activity location;
- during performance of the relevant work activity; and
- prior to leaving a sample location or other work activity location.

VOC MONITORING, RESPONSE LEVELS, AND ACTIONS

VOCs will be monitored at the downwind perimeter on a continuous basis during intrusive activities. Upwind concentrations will be measured continuously or at the start of each workday, during the work activity, and at the end of each work day to establish background conditions. Monitoring equipment will be calibrated at least once a day (excludes equipment that requires factory calibration). Calibration may be performed more frequently if Site conditions or instrument operating conditions are highly variable. The monitoring equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below. The monitoring equipment will be equipped with an alarm to indicate an exceedance of a specified action level.

1. If the ambient air concentration of total VOCs at the downwind perimeter exceeds 5 parts per million (ppm) above background (upwind perimeter) for the 15-minute time-weighted average, work activities will be temporarily halted and monitoring continued. If the total VOC concentration readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total VOC concentrations at the downwind perimeter persists at concentrations greater than 5 ppm over background but less than 25 ppm, work activities will be halted, the source of the VOCs identified, corrective action will be taken to abate emissions (if the source is related to Site remedial activities), and monitoring will be continued. After these steps, work activities will resume provided that the total VOC concentration 200 feet downwind of the work area, or half the distance to the nearest potential receptor, whichever is less (but in no case less than 20 feet), is below 5 ppm above background for the 15-minute average.

3. If the total VOC concentration is greater than 25 ppm above background at the downwind perimeter, intrusive work activities will be halted and the source of the VOCs will be identified. Work will resume when additional continuous monitoring demonstrates that VOC concentrations have dropped below 25 ppm for a minimum of one-half hour, and the total VOC concentration 200 feet downwind of the work area, or half the distance to the

nearest potential receptor, whichever is less (but in no case less than 20 feet), is below 5 ppm above background for the 15-minute time-weighted average.

4. All 15-minute readings will be recorded and will be available for review by NYSDEC and/or NYSDOH personnel. Instantaneous VOC readings (if any) used for decision purposes will also be recorded.

PARTICULATE MONITORING, RESPONSE LEVELS, AND ACTIONS

Fugitive dust migration from the work area will be visually assessed during intrusive activities. Particulate concentrations will be monitored continuously at the downwind perimeter during intrusive activities. Particulate monitoring will be performed using real-time electronic aerosol monitoring equipment capable of measuring particulate matter less than 10-micrometers in size (PM-10) and capable of integrating over a period of 15 minutes for comparison to the airborne particulate action levels referenced below. The monitoring equipment will be equipped with an alarm to indicate an exceedance of a specified action level.

1. If the downwind PM-10 concentration is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background for the 15-minute period, or if airborne dust is observed leaving the work area, dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 concentration does not exceed 150 $\mu g/m^3$ above background and provided that significant visible dust is not migrating from the work area.

2. If downwind PM-10 concentrations are greater than 150-$\mu g/m^3$ above background after the implementation of dust suppression activities, intrusive activities will be stopped and a re-evaluation of the intrusive activities will be initiated. Work can resume provided that dust suppression measures and/or other controls are successful in reducing the downwind PM-10 concentration to within 150 mcg/m^3 of background and in preventing significant visible dust migration.

3. All 15-minute readings will be recorded and will be available for review by NYSDEC and/or NYSDOH personnel. Instantaneous readings (if any) used for decision purposes will also be recorded.