Former Edgewood Warehouse Site

CHAUTAUQUA COUNTY, NEW YORK

Final Engineering Report

NYSDEC Site Number: C907032

Prepared for:

320 Roberts Road Freezer, LLC

4 Centre Drive, Orchard Park, New York 14127

Prepared by:

LaBella Associates, D.P.C.

300 Pearl Street, Suite 130, Buffalo, New York 14202

716-551-6281

DECEMBER 2019

CERTIFICATIONS

I, Daniel P. Noll, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Work Plan.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Work Plan and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established for the remedy.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by the Department.

I certify that all documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that all data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Daniel P. Noll, of LaBella Associates, D.P.C., am certifying as Owner’s Designated Site Representative and I have been authorized and designated by all site owners to sign this certification for the site.

081996	12/10/2019	
NYS Professional Engineer #	Date	Signature

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LIST OF ACRONYMS

Acronym	Definition
ACMs	Asbestos Containing Materials
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CAMP	Community Air Monitoring Plan
CFR	Code of Federal Regulations
CVOC	Chlorinated Volatile Organic Compound
DER-10	Division of Environmental Remediation-10 Technical Guidance for Site Investigation Remediation
EC	Engineering Control
FER	Final Engineering Report
EWP	Excavation Work Plan
HASP	Health and Safety Plan
IC	Institutional Control
IGTP	In-Situ Groundwater Treatment Plan
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PID	Photoionization Detector
ppb	Parts Per Billion
ppm	Part Per Million
PRAP	Proposed Remedial Action Plan
PRB	Permeable Reactive Barrier
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RAO	Remedial Action Objective
RBMs	Regulated Building Materials
RCRA	Resource Conservation and Recovery Act
RWP	Remedial Work Plan
RI	Remedial Investigation
ROD	Record of Decision
SCG	Standards, Criteria and Guidance
SCOs	Soil Cleanup Objectives
SSD	Sub-Slab Depressurization
SSHO	Site Safety and Health Officer
SVOC	Semi-volatile Organic Compounds

SMP	Site Management Plan
SWPPP	Stormwater Pollution Prevention Plan
UST	Underground Storage Tank
VOC	Volatile Organic Compound

FINAL ENGINEERING REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

The Krog Group, LLC (Krog) entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in September, 2017, to remediate an 8.6-acre property located in the City of Dunkirk, Chautauqua County, New York. Said BCA was amended on June 26, 2019 to reflect 320 Roberts Road Freezer, LLC (RRF) as the property owner and Brownfield Cleanup Program (BCP) Volunteer. The property was remediated in accordance with the Remedial Work Plan (RWP) approved by the NYSDEC, and will be used as a freezer warehouse facility.

The site is located in the County of Chautauqua New York and consists of three tax parcels identified as SBL #s 79.16-2-2, 79.16-2-77, and 79.12-4-32 on the City of Dunkirk Tax Map # 79.12. The site is situated on an approximately 8.6-acre area bounded by railroad tracks to the north, an office building to the south, the former Roblin Steel and Alumax sites to the east, and South Roberts Road to the west (see Figure 1). The boundaries of the site are fully described in Appendix A: Survey Map, Metes and Bounds.

An electronic copy of this Final Engineering Report (FER) with all supporting documentation is included as Appendix B.

2.0 SUMMARY OF SITE REMEDY

2.1 REMEDIAL ACTION OBJECTIVES

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) were identified for this site.

2.1.1 Groundwater RAOs

- Prevent ingestion of groundwater containing contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.
- Restore groundwater to pre-release conditions, to the extent feasible.

2.1.2 Surface/Subsurface Soil RAOs

- Eliminate or reduce, to the extent possible, the release of contaminants from the soil into groundwater that may create exceedances of groundwater quality standards;
- Prevent ingestion/direct contact with contaminated soil;
- Prevent inhalation of, or exposure to contaminated dust from surface soils; and
- Prevent the release of volatile organic compounds (VOCs) from the subsurface soil into the indoor air of future Site buildings through soil vapor.

2.1.3 Sediment RAOs

- Eliminate or reduce, to the extent practicable, release of contaminants from building sumps and drains into soil and groundwater.

Further, the remediation goals for the Site included attaining to the extent practicable:

- Ambient groundwater quality standards; and

- 6NYCRR Part 375 Commercial Use soil cleanup objectives (SCOs)

2.2 DESCRIPTION OF SELECTED REMEDY

The site was remediated in accordance with the remedy selected by the NYSDEC in the Record of Decision (ROD) dated March 2010 and in accordance with the RWP dated May 2018.

The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy:

1. A RWP was prepared by LaBella and subsequently approved by the NYSDEC in May 2018. The RWP described the planned remedial actions for the site as selected in the ROD.

2. Limited subsurface soil/fill removal from three contaminated "Hot Spot" areas (surrounding TP-4, TP-22 and monitoring well PH II MW-6) that were potentially adversely affecting groundwater quality. The concentrations of semi-volatile organic compounds (SVOCs) (TP-22 area), arsenic (TP-4 area), and mercury (PH-II-MW-6 area) in these sample locations were elevated relative to the concentrations found across the Site. The limits of the excavations were defined with post-excavation sampling, extending to the points at which the concentrations of the contaminants of concern were consistent with typical levels established across the Site;

3. Sediment from 21 drainage structures and the brick incinerator from within and proximate the Former Edgewood Warehouse structure and former scale house was removed prior to demolition activities. The sediments within the structures were removed, placed in roll-off containers, characterized for disposal, and transported to the Chautauqua County Landfill for disposal. Inlets/outlets of the structures were sealed with a grout mixture. Structures not removed during the demolition of the buildings were filled with concrete to an elevation above the highest inlet/outlet and the remainder of the structure was backfilled with stone or processed building demolition debris (brick, concrete block, concrete, etc.).

4. Forty 55-gallon drums of apparent food product waste were removed from the Former Edgewood Warehouse structure and placed in the two roll-off containers with the sediment removed from the site drainage structure (as discussed above). The drum waste and sediment mixture was characterized for disposal and was transported to the Chautauqua County Landfill for disposal;

5. Abatement of friable and non-friable Asbestos-Containing Materials (ACM) was performed by Fibertech Environmental prior to the demolition of the Former Edgewood Warehouse structure and scale house. Controlled demolition with non-friable ACM in place was conducted by Wargo enterprises;

6. Deteriorated, loose, flaking, or peeling paint on brick, cement block, or concrete walls within the Former Edgewood Warehouse structure and the former scale house was removed via pressure washing and manual scraping and was collected on filter fabric. Non-hazardous paint debris was transported and disposed of at the Chautauqua County Landfill. Hazardous paint debris was transported to Envirosafe Services of Ohio, Inc. for disposal;

7. Hazardous wood block flooring over an approximate 3,000 square foot area within the Former Edgewood Warehouse structure was removed and transported to Envirosafe Services of Ohio Inc. for disposal. The remaining non-hazardous wood block flooring within the Former Edgewood Warehouse structure was removed and transported to the Chautauqua County Landfill for disposal;

8. Controlled demolition of the Former Edgewood Warehouse structure and former scale house with non-friable ACM in place was conducted by Wargo enterprises. All unadulterated concrete block, concrete floor slabs/foundations and brick removed were crushed on-site and stockpiled for use as backfill on-site under the final cover system. Steel building components were removed from the site and transported to a recycling facility. All other building materials were transported off-site for disposal at the Chautauqua County Landfill. The west portion of the Former Edgewood Warehouse structure

foundation and floor slab was removed along with select areas of the floor slab elsewhere within the former warehouse footprint to facilitate the construction of the foundation for the new freezer warehouse facility. The unadulterated concrete was crushed on-site and stockpiled for use as backfill on-site under the final cover system. Approximately 9,774 tons of concrete was crushed and re-used on-Site. Copies of the crushing tickets are included in Appendix I. Stained concrete was observed on portions of the concrete floor slab that were removed as part of the Former Edgewood Warehouse structure demolition. Approximately 7.14 tons of stained concrete was transported to the Chautauqua County Landfill for disposal;

9. During removal of a portion of the foundation at the northeast corner of the Former Edgewood Warehouse structure, petroleum-impacted perched groundwater was observed entering the excavation. The water was pumped into a frac tank, characterized, treated via granular activated carbon, and upon approval from the City of Dunkirk was discharged to the municipal sanitary sewer system;

10. During the excavation of the new freezer warehouse facility foundation associated with the mechanical room area on the southeast portion of the Site, two 3,000-gallon gasoline underground storage tanks (USTs) were encountered. The contents of the USTs were removed via a vacuum truck and the USTs properly removed in accordance with DER-10. No staining, odors, or elevated photoionization detector (PID) readings were observed in the UST excavation. Confirmatory soil samples were collected from the excavation and soil sample analytical results were below NYSDEC Commercial Use Soil Cleanup Objectives (SCOs);

11. During ground intrusive activates for the northeast portion of the new freezer warehouse facility foundations, petroleum-impacted soil exhibiting odors, staining, and elevated photoionization detector (PID) readings was observed. Approximately 455 tons of petroleum impacted soil was transported to the Chautauqua County Landfill for disposal. An additional approximately 40

tons of petroleum impacted soil was encountered and disposed at the Chautauqua County Landfill during excavations for new utilities on the south and west portions of the Site;

12. The potential for soil vapor intrusion in the new freezer warehouse facility was mitigated through the installation of a passive Sub-Slab Depressurization (SSD) system. The passive SSD system includes clean aggregate gas permeable layer under the building floor slabs, a polyethylene vapor barrier under the building floor slabs, and perforated fabric wrapped pipes buried in pea stone connected to polyvinyl chloride (PVC) riser vent pipes on the exterior of the building. The system was designed to be capable of activation should conditions warrant;

13. Pre-remedial groundwater samples were collected and analyzed from four groundwater monitoring wells (MW-4R, MW-11, MW-12, and MW-13) In July and August of 2018 to evaluate the VOC concentrations at the site. Based on the results of the pre-remedial groundwater sampling, a NYSDEC-approved In-Situ Groundwater Treatment Plan was implemented. In-situ groundwater remediation included the construction of a permeable reactive barrier trench transecting the east portion of the site from the north site boundary to the south site boundary and direct-push injections over an approximate 18,300 square foot area along the east side of the freezer warehouse facility. Post-remedial groundwater samples were collected and analyzed from four groundwater monitoring wells (MW-4RR, MW-11, MW-15 and MW-16) in August 2019. Prior to the implementation of the in-situ groundwater remediation MW-12 and MW-13 were decommissioned. Subsequent the in-situ treatment MW-15 and MW-16 were installed to monitor the effectiveness of the remediation. The post-remedial groundwater results revealed the presence of VOCs at concentrations that exceed the groundwater standards in MW-15 at the up-gradient Site boundary, which is up-gradient of the in-situ treatment area. Only one VOC was detected in each of the down-gradient wells (MW-16 and MW-4RR), which are located within

the injection area. The concentration of the VOCs detected in the down-gradient wells slightly exceeded the groundwater standards. The concentration of VOCs detected in the remaining well (MW-11), which is situated between the permeable reactive barrier trench and the injection area, was similar to the level detected in the up-gradient well;

14. A cover system was constructed to prevent exposure to remaining contamination in the soil/fill at the Site. The cover system includes a 12-inch clean soil cover for all vegetated areas. The soil cover consists of six inches of clean soil underlain by an orange plastic demarcation layer to clearly mark the top surface of the un-remediated soil/fill that remains on the Site. Six inches of topsoil was placed atop the clean soil to support vegetation. Stone parking or storage areas consist of 12-inches of clean stone cover underlain by a geotextile fabric and orange plastic demarcation mesh. Areas of the site covered by impermeable surfaces (buildings, roadways, parking lots, etc.) consist of a minimum of at least six inches of asphalt pavement or concrete slabs;

15. Imposition of an institutional control in the form of an environmental easement that requires (a) limiting the use and development of the property to commercial use, which also permits industrial use; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the County health department; and (d) the property owner to complete and submit to the NYSDEC a periodic certification of institutional and engineering controls;

16. Development of this site management plan (SMP) which includes the following institutional and engineering controls: (a) management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings. Excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the NYSDEC; (b) continued

evaluation of the potential for vapor intrusion for any additional new buildings developed on the site; (c) monitoring of groundwater; (d) identification of any use restrictions on the site; and (e) provisions for the continued proper operation and maintenance of the components of the remedy.;

17. The property owner will provide periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other acceptable to the NYSDEC, until the NYSDEC notifies the property owner that the certification of no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from previous certification or are compliant with the NYSDEC-approved modification; (b) allow the NYSDEC access to the Site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the NYSDEC;

18. The operation of the components of the remedy will continue until the remedy objectives have been achieved, or until the NYSDEC determines that continued operation is technically impractical or not feasible.

3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS

The remedy for this site was performed as a single project, and no interim remedial measures, operable units or separate construction contracts were performed.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved RWP for the Former Edgewood Warehouse site (May 2018). The RWP is included as Appendix C. All deviations from the RWP are noted below.

4.1 GOVERNING DOCUMENTS

4.1.1 Site Specific Health & Safety Plan (HASP)

The Health and Safety Plan (HASP) is included as Appendix A of the RWP approved by the NYSDEC. The site-specific HASP was prepared in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120. The HASP includes the following site-specific information:

- A hazard assessment.
- Training requirements.
- Definition of exclusion, contaminant reduction, and other work zones.
- Monitoring procedures for site operations.
- Safety procedures.
- Personal protective equipment requirements for various field operations.
- Disposal and decontamination procedures.

The HASP also includes a contingency plan that addresses potential site-specific emergencies. Health and safety activities were monitored throughout the remedial activities. A member of the field team was designated to serve as the Site Safety and Health Officer (SSHO) throughout the field program. This person reported directly to the Project Manager and the Corporate Health and Safety Coordinator.

All remedial work performed under this Remedial Action was in full compliance with governmental requirements, including Site and worker safety requirements mandated by the Federal Occupational Safety and Health Administration (OSHA).

The HASP was complied with for all remedial and invasive work performed at the Site.

4.1.2 Quality Assurance Project Plan (QAPP)

The QAPP was included as Appendix 7 of the 2017 SMP for the Site and reference in the NYSDEC approved RWP. The QAPP describes the specific policies, objectives, organization, functional activities and quality assurance/ quality control activities designed to achieve the project data quality objectives.

4.1.3 Storm-Water Pollution Prevention Plan (SWPPP)

The erosion and sediment controls for all remedial construction were performed in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and the site-specific Storm Water Pollution Prevention Plan dated October 1, 2018.

4.1.4 Community Air Monitoring Plan (CAMP)

The Community Air Monitoring Plan (CAMP) is included as Appendix D of the RWP approved by the NYSDEC. The CAMP included the performance of real-time community air monitoring during remedial activities at the Site. Particulate monitoring was performed along the downwind perimeter of the work area during subgrade excavation, grading, and soil/fill handling activities in accordance with the CAMP. Particulate monitoring was performed during time periods where the potential for project-related traffic travelling directly over soil containing residual contamination to create dust existed. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the NYSDEC and New York State Department of Health (NYSDOH). Accordingly, it follows procedures and practices outlined under NYSDOH's Generic Community Air Monitoring Plan dated June 20, 2000 and NYSDEC Technical Assistance and Guidance Memorandum (TAGM) 4031: Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites.

4.1.5 Community Participation Plan

A fact sheet was distributed to the community on June 27, 2018, prior to the start of the remedial action, to provide information concerning the scope and schedule for the

cleanup program. Additionally, project documents (i.e., RWP, etc.) were placed in the Dunkirk Public Library for public access/review, as noted in the fact sheet. An additional fact sheet will be issued at the time the NYSDEC approves this FER to summarize the FER and announce the issuance of a Certificate of Completion for the project.

4.1.6 Excavation Work Plan (EWP)

The Excavation Work Plan (EWP) is included as Appendix E of the RWP approved by the NYSDEC. The EWP was developed to protect both the environment and human health during intrusive remedial activities and redevelopment of the Site. The EWP includes the following:

- Soil screening and stockpiling methods.
- Material loading, transportation, and disposal.
- Backfill requirements.
- Soil and sediment erosion control.
- CAMP, odor, dust, and nuisance controls.
- Storm water and liquids management.
- Notification and contingency information.

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.1 Contractors and Consultants

- LaBella Associates, DPC (LaBella) – Remedial construction oversight and environmental monitoring
- The Krog Group, LLC (Krog) – Development general contractor
- Fibertech Environmental (Fibertech) – Asbestos abatement contractor
- Wargo Enterprises (Wargo) – Demolition contractor
- Villager Construction, Inc. (Villager) – On-Site crushing contractor
- LaBella Environmental LLC (LaBella LLC) – Environmental contractor

- REL Construction (REL) – Site contractor
- Kimil Construction (Kimil) - Plumbing contractor
- MJ Mechanical – HVAC Contractor
- Sahlem's Roofing and Siding (Sahlems) – Roofing contractor
- Armor Construction (Armor) – Sprinkler system contractor
- Wittburn Electric (Wittburn) – Electrical contractor
- Fox Fence Inc. – Fencing contractor
- Engasser Construction Corporation (Engasser) – Concrete building footer contractor
- SJB Services, Inc. (SJB) – Concrete testing services and structural assessment oversight
- Northland Contracting, Inc. (Northland) – Concrete building foundation contractor
- Empire Contracting (Empire) – General Building Contractor
- Door Specialties Inc. – General Building Contractor
- KHEOPS Architecture, Engineering and Survey, DPC (KHEOPS)– Surveying company
- S. St. George Enterprises (S. St. George) – Waste hauler
- Hanson Aggregates – Concrete mix and sand delivery
- Gernatt Gravel – Stone and soil cover material hauler
- Test America Laboratories – Laboratory
- Alpha Analytical Laboratories – Laboratory
- Paradigm Environmental Services, Inc. – Laboratory

4.2.2 Site Preparation

- A pre-construction meeting was held with Wargo, Fibertech, and LaBella on June 22, 2018. Fibertech and Wargo mobilized to the Site on July 17, 2018 to set up for asbestos abatement, tasks to be completed prior to building demolition, and demolition activities. REL mobilized to the Site on August 27, 2018 in preparation for Site work to be conducted.
- Grubbing/clearing was performed by Wargo on July 30, 2018 and August 2, 2018 to prepare the area around the Former Edgewood Warehouse building for demolition activities. Grubbing/clearing was performed by REL on August 27, 2018, and November 14, 2018 to prepare for Site work to be conducted.
- Sediment and erosion control measures were installed at the Site on November 15, 2018 in accordance with the site-specific Storm Water Pollution Prevention Plan dated October 1, 2018.
- REL began utility and general feature layout on August 27, 2018.
- Documentation of agency approvals required by the RWP is included in Appendix D. Other non-agency permits relating to the remediation project are provided in Appendix E.
- All SEQRA requirements and all substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this Remedial Action.

4.2.3 General Site Controls

- The west portion of the Site along South Roberts Road contained a temporary chain link fence along the sidewalk to act as a barrier to the public. Orange construction cones were placed at the stabilized construction entrance at the end of each day to prevent any unwanted traffic from entering the Site after work hours. A concrete retaining wall runs along the remaining west portion of the Site along South Roberts Road to act as a barrier to the public. Orange traffic cones and signage were erected at the secondary entrance on the south/southeast portion

of the Site near the small adjacent office building to keep traffic from entering the Site from this location.

- Records such as daily reports and documentation such as waste manifests, stone and backfill receipts, recycling documentation, etc. were collected and stored within a file cabinet in the Site trailer. Documents were periodically scanned in and saved to the LaBella network throughout the project.
- Erosion and sedimentation controls were installed at the Site prior to the start of Site work. Silt sock and other erosion and sediment control measures were placed on-Site per the SWPPP.
- Equipment decontamination was completed on-Site with potable water and allowed to infiltrate the ground surface at the Site.
- During ground intrusive activities associated with the construction of the new freezer warehouse facility (i.e. excavation work associated with the new building foundation and piers and some excavation work associated with the installation of utilities) petroleum-impacted soil was discovered, appropriately segregated on concrete surfaces, covered with poly, characterized for waste stream approval and properly transported to a permitted landfill facility for disposal.
- Problems encountered included the following and are discussed in further detail in Section 4.3. During the removal of a portion of the foundation at the northeast corner of the Former Edgewood Warehouse structure, petroleum-impacted perched groundwater was observed entering the excavation. The water was pumped into a frac tank, characterized, treated using granular activated carbon, and was discharged to the municipal sanitary sewer system as authorized by the City of Dunkirk.

4.2.4 Nuisance controls

- All traffic entering and exiting the Site was limited to the stabilized construction entrance along South Roberts Road, directly across from Talcott Street. Fresh angular stone was applied when necessary to prevent any mud tracking off-Site.

- Potable water was applied to the Site when visible dust was being generated. Hoses were utilized to apply water where necessary. In addition, during controlled demolition activities, a truck-mounted dust suppression cannon was utilized to mist the affected area to reduce airborne dust.
- The routing of trucks on-site minimized the distance traveled on the unimproved ground surface.
- There were no complaints from surrounding properties over the course of the project.

4.2.5 CAMP results

Fugitive dust and particulate monitoring was conducted by LaBella during all excavation activities utilizing TSI 8530 Dust Track 2 monitors. Measurements were collected in micrograms per cubic meter (mcg/m^3) in real time for 15 minute averages. Per NYSDEC requirements, any readings of 100 mcg/m^3 above the upwind background level for the 15-minute period triggered dust suppression measures, and any readings greater than 150 mg/m^3 required temporary stoppage of work and corrective action.

An upwind station and downwind station were set up daily and were adjusted accordingly based on changes in wind direction. The downwind station was placed proximate excavation work if applicable. With few exceptions, the downwind particulate levels did not exceed the action level (100 mcg/m^3 above the upwind background level for the 15-minute period) during ground intrusive activities or during the periodic monitoring at the Site. In the limited instances where measurements exceeded the action level, dust suppression measures were administered. The downwind particulate levels did not exceed the regulatory limit (150 mcg/m^3 above the upwind background level for the 15 minute period) during ground intrusive activities or during the periodic monitoring at the Site; therefore, no temporary stoppage of work occurred.

VOCs were monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis for the duration of this project. Upwind concentrations were measured at the start of each workday and every 15 minutes thereafter to establish background conditions, particularly if wind direction changed. No

VOC levels exceeding background concentrations or the 5 PPM action level prescribed in the CAMP were identified throughout the duration of this project, and no stoppage of work was required.

Copies of all field data sheets relating to the CAMP are provided in electronic format in Appendix F.

4.2.6 Reporting

- Daily reports were prepared on-Site and identified the contractors and equipment present, any visitors, and the work performed that day. The daily reports were stored within the on-Site trailer and were periodically saved to the LaBella network throughout the project.
- Monthly reports were prepared and distributed to the NYSDEC. The monthly reports included the site work completed that month, and the work anticipated for the following month.

All daily and monthly reports are included in electronic format in Appendix G.

The digital photo log required by the RWP is included in electronic format in Appendix G.

4.3 CONTAMINATED MATERIALS REMOVAL

4.3.1 ASBESTOS CONTAINING MATERIALS (ACMS) AND FLAKING PAINT

ACM was identified in a 2008 Pre-Demolition ACM survey completed by Stohl Environmental LLC including approximately 32,045 square feet and 90 linear feet of non-friable ACM and approximately 820 linear feet of friable ACM. An updated Pre-Demolition Regulated Building Materials Inspection was conducted by LaBella in December 2017 to identify any additional ACMs that were not previously sampled and to spot check painted or glazed materials using XRF testing procedures for the presence of lead. An additional 2,217 square feet of friable and non-friable ACM in the form of incidental disturbances was identified. Additionally, several components were found to be positive for the presence of lead. Based on the results of the XRF testing, the deteriorated condition of the paint on the concrete block and brick walls within the Former Edgewood Warehouse structure and the former scale house, and the fact that the

concrete block and brick building materials were to be crushed for re-use on-Site, all deteriorated (flaking/peeling) paint was removed and properly disposed of prior to demolition of the structures. Wargo Enterprises utilized a pressure washer and manual scraping methods to remove the flaking/peeling paint and a filter fabric was utilized to collect the paint debris that was generated. All paint debris was properly disposed of at appropriately permitted landfill facilities.

Abatement of friable and non-friable ACM was performed by Fibertech Environmental prior to the demolition of the former warehouse structure and scale house. Controlled demolition with non-friable ACM in place was conducted by Wargo enterprises. Fifteen separate work areas were properly abated with air monitoring/project monitoring conducted during all abatement activities by LaBella Associates. Final visual clearance inspections were completed to verify completion of abatement within each work area. In addition, final clearance air samples for each of the applicable work areas was conducted (per the variance, the last set of samples could be utilized as the final clearance air samples). All final clearance air samples passed. Copies of the 2008 Pre-Demolition ACM survey completed by Stohl Environmental LLC, the December 2017 Pre-Demolition Regulated Building Materials Inspection completed by LaBella Associates, the Site-specific variance, the close-out documents related to the asbestos abatement performed by Fibertech Environmental, the controlled demolition with non-friable asbestos in place by Wargo Enterprises, and the air/project monitoring documents completed by LaBella are included in Appendix H.

4.3.1.1 Disposal Details

Paint debris containing hazardous concentrations of lead was combined with the hazardous wood block flooring discussed in Section 4.3.2 and transported by Tonawanda Tank Transport Service, Inc. (US EPA number NYD097644801) to Envirosafe Services of Ohio Inc. for proper disposal on September 11 and 26, 2018. All non-hazardous paint debris was combined with the non-hazardous wood block flooring discussed in Section 4.3.2 below and transported by S. St. George Enterprises, Inc. (Waste Hauler number 9A-734) to the Chautauqua County Landfill on October 26, 2018.

Approximately 12.7 tons of friable ACM and 64.7 tons of non-friable ACM was properly transported by Casella Waste of Chautauqua County (Waste Hauler number 9A-488) to the Chautauqua County Landfill on July 19, August 1, 3, 14, and 24, 2018.

Approximately 1,832.53 tons of non-friable ACM from the controlled demolition portion of the work was properly transported by S. St. George Enterprises, Inc. (Waste Hauler number 9A-734) and Artmeier Trucking, LLC (Waste Hauler number 9A-480) to the Chautauqua County Landfill on August 20, 21, 22, 23, and 24, September 10, 11, 12, 13, 19, 20, 26, 27 and 28, 2018.

4.3.2 WOOD BLOCK FLOORING

Previous investigations had identified wood block flooring in an interior area within the former Edgewood Warehouse structure occupying approximately 3,000 square feet to be hazardous based on the lead concentrations from floor block samples collected. The wood block flooring in this area was removed by Wargo Enterprises and staged on and covered with poly sheeting prior to being transported off-Site with the hazardous paint debris for disposal. The remaining non-hazardous wood block flooring at the Site was combined with the non-hazardous paint debris and removed for proper off-site disposal. Copies of the waste manifests and weigh tickets for the hazardous and non-hazardous wood block flooring are included in Appendix I. A figure depicting the former location of the hazardous and non-hazardous wood block flooring is located on Figure 2.

4.3.2.1 Disposal Details

Approximately 28.78 tons of hazardous wood blocks and hazardous paint debris were properly transported by Tonawanda Tank Transport Service, Inc. (US EPA number NYD097644801) to Envirosafe Services of Ohio Inc. for proper disposal on September 11 and 26, 2018.

Approximately 180 tons of non-hazardous wood blocks and non-hazardous paint debris were properly transported by S. St. George Enterprises, Inc. (Waste hauler number 9A-734) and disposed of as solid waste at the Chautauqua County Landfill on October 26, 2018

4.3.3 SEDIMENT

Sediment from 21 drainage structures and the brick incinerator was removed by LaBella LLC from the Former Edgewood Warehouse building and former scale house prior to demolition activities. The sediments within the structures were removed, placed in roll-off containers, combined with the contents of the food product waste drums discussed in Section 4.3.4, characterized for disposal, and transported to the Chautauqua County Landfill for disposal. Inlets/outlets of the structures were sealed with a grout mixture. Structures not removed during the demolition of the buildings were filled with concrete to an elevation above the highest inlet/outlet and the remainder of the structure was backfilled with stone or processed building demolition debris (brick, concrete block, concrete, etc.). A figure depicting the location of the drainage structures that were closed is included on Figure 2. The waste characterization sample results, landfill approval letter, and the waste manifests and weigh tickets are included in Appendix J.

4.3.3.1 Disposal Details

Waste characterization samples were collected by LaBella on August 31, 2018 and the analytical results were sent to the Chautauqua County Landfill for disposal approval (disposal approval was obtained on September 19, 2018). Approximately 41.88 tons of sediment and food process waste from the containers described in Section 4.3.4 was transported by S. St. George Enterprises, Inc. (Waste hauler number 9A-734) to the Chautauqua County Landfill on September 25, 2018.

4.3.4 CONTAINER WASTE

Forty 55-gallon drums of food product waste were removed from the Former Edgewood Warehouse structure and placed in two roll-off containers with the sediment removed from the site drainage structures (as discussed above). The drum waste and sediment was transported to the Chautauqua County Landfill for disposal. Drum waste and sediment disposal documentation is included in Appendix J.

4.3.4.1 Disposal Details

Details concerning the disposal of the food product waste are provided in Section 4.3.3.1.

4.3.5 LIMITED SUBSURFACE SOIL/FILL – THREE HOT SPOTS

Limited subsurface soil/fill removal was conducted from three contaminated areas (surrounding TP-4, TP-22, and monitoring well Phase II-MW-6) that were potentially adversely affecting groundwater quality on October 3, 4 and 5 by RE Lorenz Construction. The concentrations of SVOCs (TP-22 area), arsenic (TP-4 area), and mercury (Phase II-MW-6 area) in these sample locations were elevated relative to the concentrations found across the Site. A figure depicting each of the three excavation areas and the location of the confirmatory soil samples collected from each area is included on Figure 3. The laboratory analytical results associated with the waste characterization sample results and the confirmatory soil sample results, the landfill approval letter, and the waste manifests and weigh tickets are included in Appendix K, and Tables 1, 2 and 3 include the tabulated data for the confirmatory soil samples collected from the MW-6 Area, TP-4 Area, and the TP-22 Area, respectively.

4.3.5.1 Disposal Details

Waste characterization samples were collected by LaBella on July 19, 2018 and the analytical results were sent to the Chautauqua County Landfill for disposal approval (disposal approval was obtained on August 14, 2018). Approximately 348.33 tons of soil/fill material was removed from the TP-22 area, 350.80 tons of soil/fill was removed from the TP-4 area, and 427.44 tons of soil/fill was removed from the Phase II-MW-6 area and was transported by REL (Waste hauler number 9A-799) on October 3, 4, and 5, 2018 to the Chautauqua County Landfill for proper disposal. Confirmatory soil samples consisting of floor and wall samples in accordance with DER-10 were collected from each of the excavation areas by LaBella on October 3, 4, and 5, 2018 and were submitted for their respective parameters of concern. The analytical results for all of the confirmatory soil samples collected were at or below concentrations historically found across the Site.

4.3.6 STAINED CONCRETE

Staining was observed on some of the concrete floor slabs that were removed as part of the Former Edgewood Warehouse building demolition. The stained concrete was segregated and sampled for waste characterization purposes prior to off-Site disposal. Copies of the laboratory analytical report, the landfill approval letter, and the waste manifest, are included in Appendix L.

4.3.6.1 Disposal Details

The stained concrete was sampled on November 7, 2018 for landfill disposal approval. Chautauqua County approved the disposal of the stained concrete on November 29, 2018 and 7.14 tons was hauled by REL (Waste hauler number 9A-799) off-Site to the Chautauqua County Landfill on December 19, 2018.

4.3.7 PETROLEUM-IMPACTED PERCHED GROUNDWATER

During removal of a portion of the foundation at the northeast corner of the Former Edgewood Warehouse structure on October 4, 2018, petroleum-impacted perched groundwater was observed entering the excavation. The water from the excavation was pumped into a frac tank (Frac Tank 1) on October 24 and 26, 2018. Frac Tank 1 was sampled by LaBella on October 31, 2018 in order to determine contaminant concentrations and select an appropriate method of pre-treatment. The contents of Frac Tank 1 were subsequently pumped through granular activated carbon into a second frac tank (Frac Tank 2) on November 19, 20, and 21, 2018. Frac Tank 2 was sampled by LaBella on November 26, 2018 to obtain waste stream approval from the City of Dunkirk Publically Owned Treatment Works (POTW) for discharge to the municipal sanitary sewer system. On December 5, 2018, the City of Dunkirk POTW approved the discharge of Frac Tank 2 to the municipal sanitary sewer system and LaBella LLC discharged the contents on December 6, 2018. Copies of the analytical results from the sampled collected from Frac Tank 1 and Frac Tank 2, and the discharge approval letter are included in Appendix M.

4.3.7.1 Disposal Details

Approximately 19,000 gallons of treated perched groundwater was discharged to the municipal sewer system on December 6, 2018.

4.3.8 UNDERGROUND STORAGE TANKS (USTs)

During ground intrusive activities associated with the new building foundation proximate to the mechanical room area on the southeast portion of the Site, two 3,000 gallon gasoline USTs were encountered. The tank contents (gasoline/water mixture) were pumped and the USTs were removed from the excavation and staged on poly until the USTs could be properly cleaned. No staining, odors, or elevated PID readings were observed in the tank cavity. LaBella collected confirmatory soil samples from the floor and sidewalls of the tank cavity on December 17, 2018 in accordance with DER-10. Environmental Service Group cleaned the USTs on December 20, 2018 and drummed the tank bottoms. The cleaned USTs were taken to Mom & Pops Recycling in Cassadaga, New York for processing and disposal and the tank bottoms were taken to American Recyclers Company in Tonawanda, New York. Copies of the waste manifests associated with the vacuum truck, tank bottoms disposal, the empty tank certification for each UST, the UST recycling confirmation and the laboratory analytical report associated with the confirmatory soil samples are included in Appendix N; and Table 5 includes the tabulated data for the confirmatory soil samples collected. Figure 3 depicts the approximate location of the former USTs.

4.3.8.1 Disposal Details

Approximately 2,809 gallons of gasoline/water mixture was removed via vacuum truck by Environmental Service Group (Waste hauler number NYR000030809) on December 17, 2018 and was taken to American Recyclers Company for recycling.

Approximately 500 gallons of tank bottom contents were drummed and properly transported to American Recyclers Company for recycling on December 20, 2018 by Environmental Service Group (Waste hauler number NYR000030809).

4.3.9 PETROLEUM-IMPACTED SOIL

During ground intrusive activities associated with the new building foundation and piers proximate the northeast portion of the Site, petroleum-impacted soil exhibiting odors, staining, and elevated PID readings was encountered. The excavated petroleum-impacted soil was segregated and covered with poly. Waste characterization samples were collected for disposal approval at the Chautauqua County Landfill. Upon landfill approval, the petroleum-impacted soil was transported off-Site for disposal. Additional petroleum-impacted soil was encountered during the excavation for new utilities on April 29, 2019 and June 5, 2019. The Chautauqua County Landfill granted approval for this additional impacted soil to be disposed of under the original approval for the foundation excavation soil. The additional impacted soil was properly disposed of at the Chautauqua County Landfill. Copies of the analytical results associated with waste characterization, the landfill disposal approval letters, the waste manifests, and the weigh tickets are included in Appendix O.

4.3.9.1 Disposal Details

Waste characterization samples were collected by LaBella on December 7, 2018 for disposal approval at the Chautauqua County Landfill. Landfill disposal approval was granted on December 27, 2018, and a total of 454.84 tons of petroleum-impacted soil was properly transported and disposed of by REL (Waste hauler number 9A-799) on January 2, 3, and 4, 2019 at the Chautauqua County Landfill. Additional petroleum-impacted soil was observed during the excavation for new utilities on April 29, 2019 and June 5, 2019. The Chautauqua County Landfill granted approval for this additional impacted soil to be disposed of under the original approval for the foundation excavation soil. Approximately 40 additional tons of impacted soil was properly transported and disposed of by REL at the Chautauqua County Landfill.

4.3.10 RAILROAD TIES

During demolition and construction activities at the Site, railroad ties were uncovered and segregated for off-Site disposal. The Waste Management Chaffee

Landfill facility approved the disposal of these railroad ties, which were transported to the landfill for proper disposal on January 28 and 29, 2019. Copies of the landfill approval letter and waste manifests are included in Appendix P.

4.3.10.1 Disposal Details

A total of 9.76 tons of railroad ties were transported to the Waste Management Chaffee Landfill facility by REL (Waste hauler number 9A-799) for proper disposal on January 28 and 29, 2019.

4.3.11 IN-SITU GROUNDWATER TREATMENT

Pre-Remedial Groundwater Sampling

A round of groundwater sampling and analysis of select wells was conducted by LaBella in order to determine current groundwater quality in the area of the previously detected groundwater contamination at the site. The condition/integrity of the groundwater monitoring wells was evaluated prior to sample collection activities. Five groundwater monitoring wells (PH II-MW-2, PH II-MW-4, MW-11, MW-12 and MW-13) where elevated VOC concentrations were previously detected were planned to be sampled. Monitoring well PH II-MW-2 could not be found and PH II-MW-4 was damaged; therefore, these wells could not be sampled. After consultation with the NYSDEC, it was agreed that well location PH II-MW-2 did not require replacement due to the proximity of MW-11, but that replacement PH II-MW-4 was necessary. Consequently, MW-4R was installed at the Site to replace monitoring well PH II-MW-4, and was included with MW-11, MW-12 and MW-13 in the pre-remedial sampling program.

Monitoring wells MW-11, MW-12 and MW-13 were sampled on July 25, 26, and 27, 2018, while MW-4R was sampled on August 7, 2018. The pre-remedial groundwater sample results revealed the presence of elevated concentrations of CVOCs in MW-11, MW-12, and MW-13 located on the east portion of the Site, proximate the southeast and northeast corners of the former Edgewood Warehouse building. No VOCs were detected in MW-4R. The approximate aerial extent of the CVOC-impacted groundwater on the Site estimated based upon the pre-remedial groundwater results is depicted on Figure 4.

The monitoring well installation log for MW-4R, the groundwater sampling logs and the laboratory analytical report associated with the pre-remedial sampling are included in Appendix Q. Table 4 includes the results of the pre-remedial sampling. Monitoring wells MW-12 and MW-13 were decommissioned in general accordance with NYSDEC Commissioner's Policy 43, Groundwater Monitoring Well Decommissioning Policy shortly after pre-remedial sampling as they were located within the footprint of the new freezer warehouse.

In-Situ Groundwater Treatment

LaBella prepared an In-Situ Groundwater Treatment Plan (IGTP) dated April 2, 2019 to address the groundwater contaminated with CVOCs. A copy of the IGTP is included in Appendix Q. As specified in the RWP, groundwater treatment via in-situ chemical reduction was performed within the area of impacted groundwater on the Site. This treatment method has been proven effective for the degradation of the contaminants of concern present in the groundwater at the Site. Pursuant to the IGTP, a combination of methods was used to apply the treatment products in the subsurface, including the construction of a permeable reactive barrier trench and direct-push injections.

Installation of the permeable reactive barrier trench commenced on May 7, 2019 and was completed on May 17, 2019. The trench was generally orientated transverse to the documented direction of groundwater flow across the Site. Daramend® granular reagent was utilized within the trench as the in-situ chemical reduction reagent. The soil/fill material from approximately six ft bgs to approximately 15 ft bgs (saturated zone) was removed in incremental 50 foot segments along the trench. Clean medium sand (grain size 0.5 to 0.25 millimeters) from Hanson Aggregates New York LLC was delivered to the Site in cement trucks. To facilitate the saturated zone application of the reagent, the Daramend® was wet mixed with the sand prior to placement in the trench to limit separation. The imported clean sand, Daramend®, and clean, potable water from the municipal system was mixed in the cement trucks prior to placement in the trench. Approximately seven cubic yards of sand was imported to the Site per truck. Based on a 1.5 % by weight Daramend® loading, approximately 315 lbs of Daramend® was added to each truck with approximately 200 gallons of clean, potable water and mechanically

blended for 10 minutes in the truck. The wet sand and Daramend® mixture was placed in the trench within the saturated zone from the base of the trench to approximately 1 – 1.5 ft above the water table and a geotextile filter fabric was placed above the wet sand and Daramend® mixture prior to backfilling the trench to the ground surface. The permeable reactive barrier trench was approximately 3.0 feet wide, 350 feet long, and the depths ranged from approximately 11 to 15 ft bgs. The depth of the trench varied due to the presence of bedrock at depths of less than 15 ft bgs near the southern margins of the trench.

Direct push injections were conducted on May 22, 29 through 31, and June 3 through 18, 2019. The injections were performed using a direct-hydraulic push rig over a 18,300 square-foot area with approximately 15-foot spacing totaling 80 injection points. The target depths for treatment were 5 to 15 ft bgs. An ELS micro emulsion, EHC® Liquid mix, and potable water was transferred into a portable tank and was circulated with a pump to mix the injection solution. The injection solution was then pumped into the hopper of the injection pump for the direct-push injections. Approximately 94 gallons of EHC ® Liquid reagent injection solution was introduced at each injection point.

Figure 4 depicts the location of the permeable reactive barrier (PRB) trench and the approximate area of the direct push injections. Copies of the receipts associated with the clean medium sand delivered to the Site for the permeable reactive barrier trench by Hanson Aggregates and the (IGTP) are included in Appendix Q.

Post-Remedial Groundwater Sampling

One round of groundwater sampling and analysis was conducted on select wells subsequent to the in-situ groundwater treatment as required per the RWP. On July 26, 2019, two new groundwater monitoring wells (MW-15 and MW-16) were installed east of the new freezer warehouse structure and one new monitoring well (MW-4RR) was installed to replace MW-4R, which was damaged during building demolition activities. Monitoring wells MW-4RR, MW-11, MW-15 and MW-16 were sampled approximately four weeks following the completion of the in-situ treatment program per the RWP.

Monitoring well MW-15 represents an up-gradient monitoring location with respect to the direction of groundwater flow across the Site, and was positioned to characterize the local "background" water quality of groundwater flowing onto the Site. This monitoring well is located up-gradient of the groundwater treatment area.

Monitoring well MW-11 is located west of the PRB trench along the northern Site boundary, while MW-16 and MW-4RR are considered down-gradient monitoring points and are located along the eastern and northern perimeters of the new freezer warehouse building, within the groundwater injection area.

The post-remedial groundwater monitoring results indicate background levels of total VOCs in up-gradient monitoring well MW-15 of 347 µg/L. A similar concentration of total VOCs (350 µg/L) was detected in MW-11. With the exception of low concentrations of one VOC in each of the down-gradient monitoring wells MW-16 and MW-4RR, no VOCs were detected in the down-gradient monitoring wells. The exceptions include chloroethane in the sample from MW-4RR detected at a concentration of 5.3 µg/L, only slightly exceeding the regulatory value of 5 µg/L; and vinyl chloride in MW-16 detected at a concentration of 26 µg/L, which is above the groundwater standard of 2 µg/L.

Copies of the monitoring well installation logs for MW-4RR, MW-15 and MW-16; the groundwater sampling logs for all post-remedial samples; and the laboratory analytical report are included in Appendix Q. Table 4 includes the results of the post-injection sampling.

4.4 REMEDIAL PERFORMANCE/DOCUMENTATION SAMPLING

4.4.1 CONFIRMATORY SOIL SAMPLE RESULTS

In accordance with the RWP, confirmatory soil samples were collected from the three soil hot spot removal areas and chemically analyzed to verify attainment of the prescribed cleanup levels. As reflected in Table 1, 2, and 3, the confirmatory soil sample results substantiated that the cleanup levels were achieved. Similarly, post-excavation samples collected from the cavity associated with the two USTs confirmed that CP-51 guidance levels had been achieved in the sidewalls and floor of the UST cavity. The

analytical results for these post-excavation samples are summarized in Table 5 relative to the applicable guidance levels.

4.4.2 POST-REMEDIAL GROUNDWATER SAMPLE RESULTS

Post-remedial groundwater monitoring was conducted approximately four weeks after the completion of the in-situ groundwater treatment program as required by the RWP. The post-remedial groundwater results indicate the absence of VOCs in the two down-gradient monitoring well locations (MW-16 and MW-4RR), with the exception of very low concentrations of one VOC in each well (see Table 4). This contrasts with the concentration of total VOCs detected in the up-gradient monitoring well (MW-15) of 347 µg/L and indicates the effectiveness of the in-situ treatment program.

Although total VOCs detected in MW-11 (350 µg/L), situated down-gradient of the PRB trench, are similar to the levels detected in the up-gradient well, the average linear groundwater flow velocity in the relatively fine grained overburden comprising the upper-most water bearing zone on the Site has been estimated at less than 1.0 feet/year based on previous investigations of the Site. The PRB trench is designed to remediate the CVOCs that are present in the groundwater migrating onto the Site from up-gradient locations as the groundwater passes through trench. Therefore, it is reasonable to expect that it will take additional time for treated groundwater that has passed through the PRB trench to reach this monitoring well.

4.4.3 INDOOR AIR SAMPLING

As specified in the RWP, the potential for soil vapor intrusion will be evaluated by conducting indoor air sampling six months subsequent to the completion of construction of the new freezer warehouse facility. A passive SSD system was installed at the Site which is capable of being converted to an active system should results of the indoor air sampling warrant. The indoor air sampling results will be submitted to the NYSDEC and a determination of whether the SSD system shall remain passive or become active will be made.

DUSRs were prepared for all data generated in this remedial performance evaluation program. These DUSRs are included in Appendix R, and associated raw data are provided electronically in Appendix R.

4.5 IMPORTED BACKFILL

During the course of this project, various types of imported backfill were utilized throughout the Site. For each type/source of backfill, one of the following was completed prior to importing the backfill.

a. Documentation was provided as to the source of the material and the consistency of the material in accordance with the exemption for no chemical testing listed in DER-10 Section 5.4(e) (5); or,

b. Chemical testing was completed in accordance with the following table:

<table>
<tr><td colspan="4">Recommended Number of Soil Samples for Soil Imported To or Exported From a Site</td></tr>
<tr><td>Contaminant</td><td>VOCs</td><td colspan="2">SVOCs, Inorganics & PCBs/Pesticides</td></tr>
<tr><td>Soil Quantity (cubic yards)</td><td>Discrete Samples</td><td>Composite</td><td>Discrete Samples/Composite</td></tr>
<tr><td>0-50</td><td>1</td><td>1</td><td rowspan="8">3-5 discrete samples from different locations in the fill being provided will comprise a composite sample for analysis</td></tr>
<tr><td>50-100</td><td>2</td><td>1</td></tr>
<tr><td>100-200</td><td>3</td><td>1</td></tr>
<tr><td>200-300</td><td>4</td><td>1</td></tr>
<tr><td>300-400</td><td>4</td><td>2</td></tr>
<tr><td>400-500</td><td>5</td><td>2</td></tr>
<tr><td>500-800</td><td>6</td><td>2</td></tr>
<tr><td>800-1000</td><td>7</td><td>2</td></tr>
<tr><td>1000</td><td colspan="3">Add an additional 2 VOC and 1 composite for each additional 1000 Cubic yards or consult with DER</td></tr>
</table>

Taken from DER-10 - Table 5.4(e)

The following imported backfill materials were utilized at the Site for activities such as backfilling excavations, utilities and infrastructure, and decommissioning structures, sewers and wells; total quantities included:

- Clean Soil Cover Material (6,814.135 tons)
- Clean Sand (282 yards)
- Cushion Sand (20.89 tons)
- Bank Run Gravel (7,890.26 tons)
- Crushed #1 Gravel (444.19 tons)
- Crushed #2 Gravel (34.45 tons)

- Underdrain Type 2 Stone (285.95 tons)
- #1 Stone (2,305.255 tons)
- Oversize Crusher Run Stone (1,102.25 tons)
- 2” Crusher Run Stone (1,927.61 tons)
- 1” Crusher Run Stone (22.04 tons)
- Stone, Surge (140.83 tons)
- CR4 Stone (45.8 tons)
- #2 Stone (17.3 tons)

Imported clean soil cover material was provided by Gernatt Asphalt Products Inc., 13870 Taylor Hollow Road in Collins, New York, clean sand was provided by Hanson Aggregates New York LLC in Pavilion New York. Imported stone backfill was provided by Gernatt Asphalt Products Inc. in Collins, New York, New Enterprises Stone and Lime Co. Inc., 500 Como Park Boulevard in Buffalo, New York, Tri-James Services, Inc., 4478 W. Fairmount Avenue in Lakewood, New York, and County Line Stone Co. Inc., PO Box 150, Crittenden Road in Akron New York. Copies of tickets associated with these imported materials, DER-10 compliance documentation, and the laboratory analytical reports associated with sampling of the clean soil cover material are included in Appendix S.

A table of all sources of imported backfill with quantities for each source is shown in Table 6. Tables summarizing chemical analytical results for backfill, in comparison to allowable levels, are provided in Table 7. A figure showing the site locations where backfill was used at the site is shown in Figures 6 and 7.

4.6 CONTAMINATION REMAINING AT THE SITE

Following the completion of the remedial program at the Site, some residual contamination remains in the subsurface of the Site. The remaining soil/fill contamination is located below the engineered cover system in all areas of the site that were not subject to remedial excavations. A demarcation layer marking the top of the remaining

contamination in soil/fill was installed below the cover system across the entire site with the exception of the areas situated immediately below concrete building slabs. The remaining contamination in groundwater is located to the east of the new freezer warehouse facility. The following subsections describe the type, location and extent of remaining contamination that is present on the Site.

Soil

Soil/fill containing contaminant concentrations that exceed the Commercial Use SCOs remains on the Site below the cover system across the entire site with the exception of the hot spot excavation areas where contaminated soil/fill was removed and replaced with clean backfill. The remaining contamination in the site-wide soil/fill consists of SVOC, arsenic, barium, cadmium, chromium, iron, and PCB concentrations exceeding the Commercial Use SCOs. Additionally, petroleum-impacted soil/fill exhibiting nuisance characteristics (i.e., staining, odor) is also present sporadically throughout the site under the cover system. The contaminated soil/fill occurs immediately below the demarcation layer or bottom of the cover system to approximate depths of 5 to 8 ft bgs. The estimated volume of contaminated soil/fill remaining at the Site is 89,000 cubic yards.

Groundwater

Residual groundwater contamination exists on a portion of the Site and is primarily characterized by the presence of chlorinated VOCs at relatively low concentrations that exceed the applicable standards, criteria and guidance (SCGs). The area of residual contamination is located to the east of the recently completed freezer warehouse and is depicted on Figure 4. In-situ groundwater treatment measures implemented at the Site are expected to result in the continued attenuation of contaminant levels in groundwater, which occurs at depths ranging from 3.4 to 7.73 ft bgs in the area of impact. The direction of the groundwater flow is generally to the west and northwest.

Soil Vapor

Volatile organic contaminants may be present in soil vapor in areas of residual groundwater contamination on the Site as a result of the volatilization and release of VOCs from the groundwater into overlying soils. The area of potential soil vapor contamination coincides with the area of remaining VOC contamination in groundwater and is shown on Figure 5. The area of this zone of potential soil vapor contamination encompasses approximately 88,430 square feet. A soil vapor mitigation system was installed beneath the new warehouse building constructed on the Site thereby preventing the intrusion of contaminated soil vapor into the building. No off-site vapor intrusion concerns have been identified.

Table 8 and Figure 6 summarize the results of all soil samples remaining at the site after completion of Remedial Action that exceed the Commercial Use SCOs.

Since contaminated soil and groundwater/soil vapor remains beneath the site after completion of the Remedial Action, Institutional and Engineering Controls are required to protect human health and the environment. These Engineering and Institutional Controls (ECs/ICs) are described in the following sections. Long-term management of these EC/ICs and residual contamination will be performed under the Site Management Plan (SMP) approved by the NYSDEC.

4.7 COVER SYSTEM

Exposure to remaining contamination in soil/fill at the site is prevented by a soil cover system placed over the site. This cover system is comprised of a minimum of 12 inches of clean soil, or asphalt pavement, concrete-covered sidewalks, and concrete building slabs. Figure 7 shows the as-built cross sections for each remedial cover type used on the site. Figure 8 shows the location of each cover type built at the Site. Figure 9 shows the cover system thickness across the Site. An Excavation Work Plan, which outlines the procedures required in the event the cover system and/or underlying residual contamination are disturbed, is provided in Appendix 4 of the SMP.

4.8 OTHER ENGINEERING CONTROLS

Since remaining contaminated soil, groundwater/soil vapor exists beneath the site, Engineering Controls (ECs) are required to protect human health and the environment. A

passive SSD system was installed under the entire footprint of the new cold storage facility on the Site to prevent vapor intrusion into the structure. The SSD system is a passive system that was designed to enable conversion to an active system should conditions warrant. The integrity of accessible components of this passive system will be inspected at defined, regular intervals in accordance with the SMP. The system will remain a passive system unless the results of indoor air sampling to be conducted six months after completion of the construction of the building indicate that activation of the system is necessary.

If the results of the indoor air sampling warrant activation of the SSD system in the future, the SMP will be amended to include an Operations and Maintenance Plan detailing the procedures for monitoring, operating and maintaining the SSD system.

4.9 INSTITUTIONAL CONTROLS

The site remedy requires that an environmental easement be placed on the property to (1) implement, maintain and monitor the Engineering Controls; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to commercial or industrial uses only.

The environmental easement for the site was executed by the Department on [date], and filed with the [County] County Clerk on [date]. The County Recording Identifier number for this filing is [number]. A copy of the easement and proof of filing is provided in Appendix T.

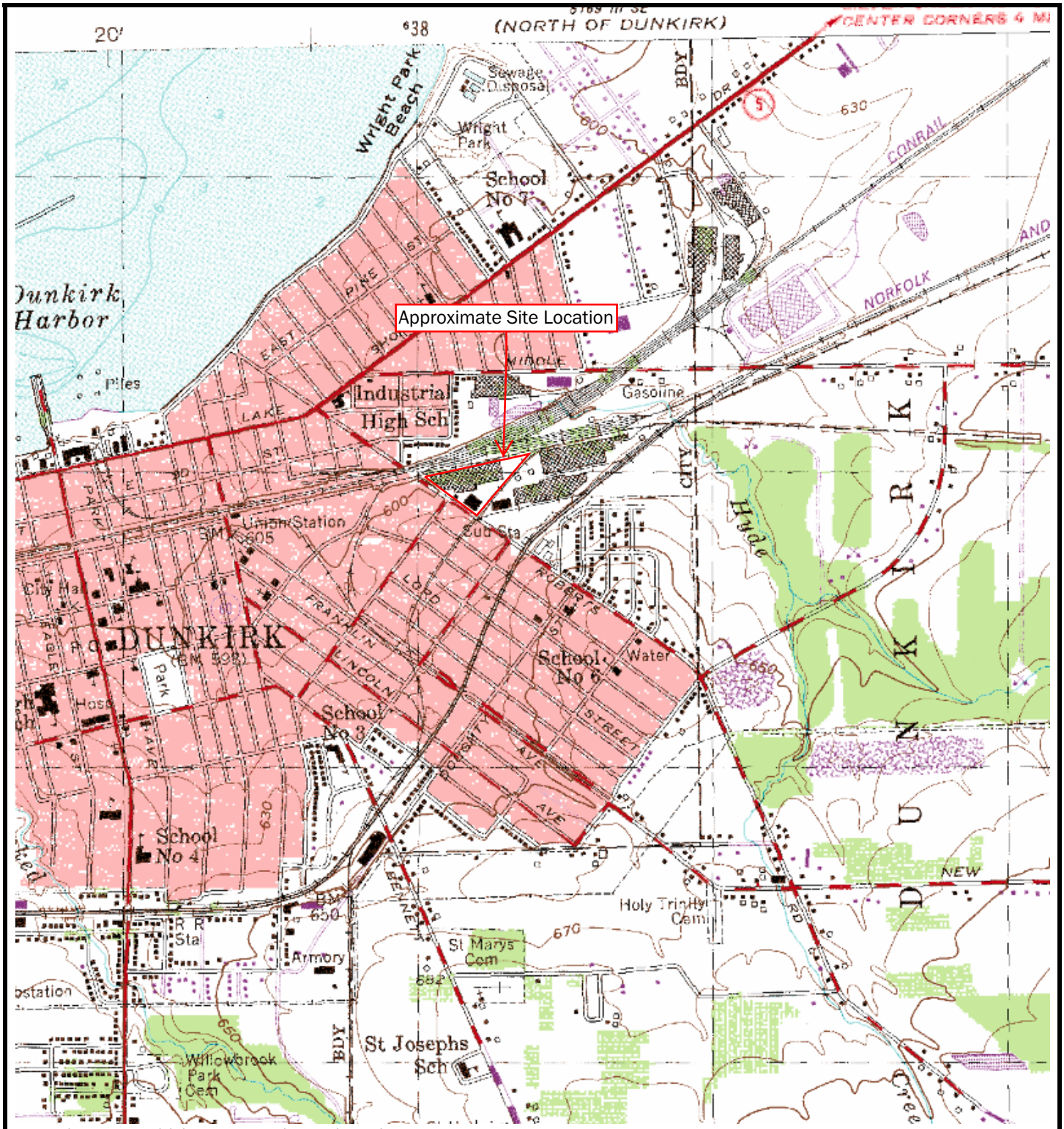
4.9 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN

Deviations from the RWP were minimal and consisted of the following (the following items are discussed in detail in Section 4.3):

- The removal and treatment of petroleum-impacted perched groundwater encountered during the removal of a portion of the foundation on the northeast corner of the Former Edgewood Warehouse and discharge of the treated effluent to the City of Dunkirk POTW;

- The removal of two 3,000 gallon gasoline USTs that were discovered during the excavation of the new freezer warehouse facility foundation associated with the mechanical room;
- The removal of petroleum-impacted soil during ground intrusive activities associated with the installation of the new building foundation and utilities;
- Two of the monitoring wells slated for inclusion in the pre-remedial groundwater monitoring program were unable to be located. Based upon consultation with NYSDEC, one of these wells was replaced with a new monitoring well (MW-4R), while the other was delimited from the pre-remedial monitoring program;

FIGURES



7.5-minute, Dunkirk, New York quadrangle USGS Map

N

Not To Scale

FIGURE 1

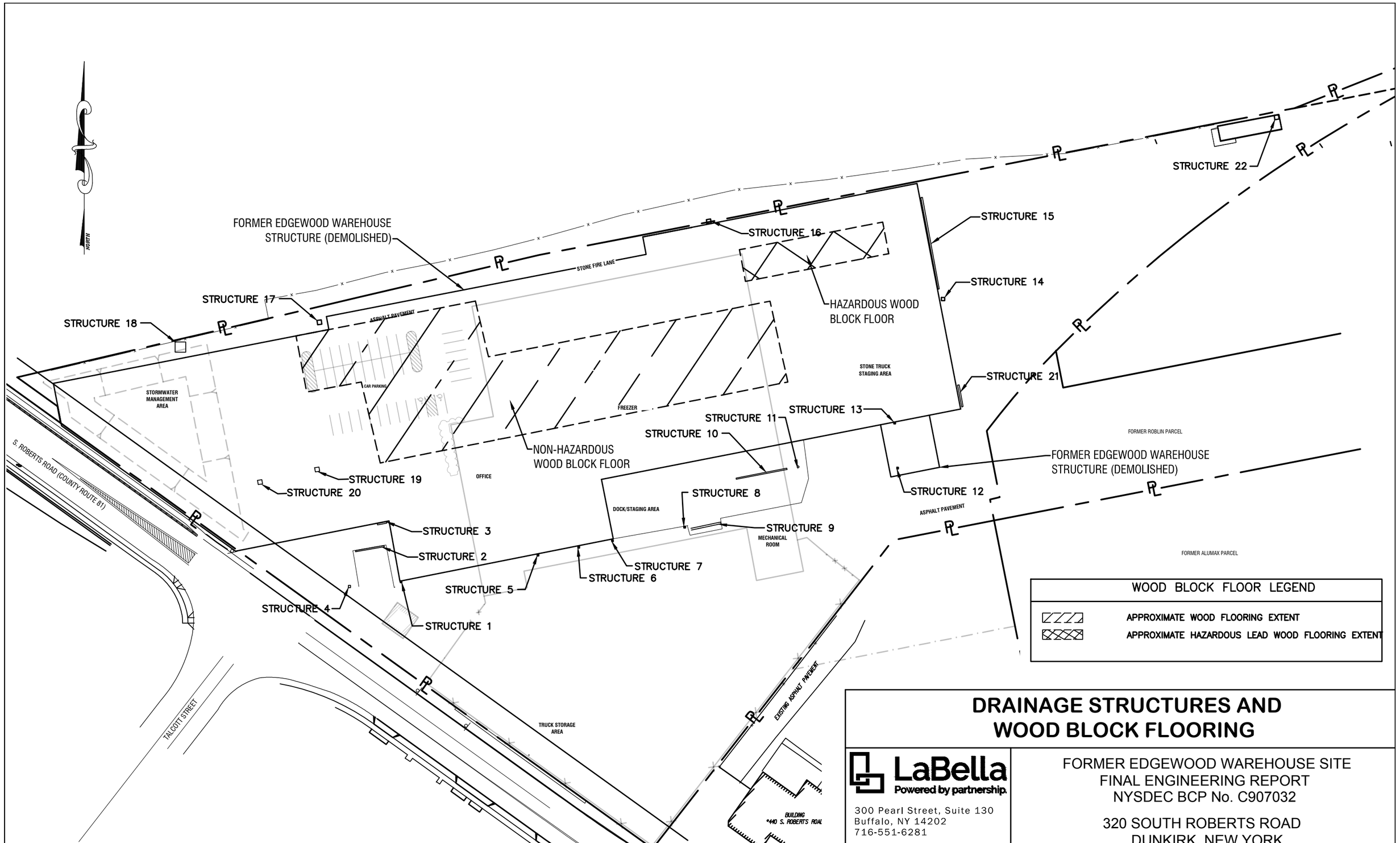
SITE LOCATION MAP

Former Edgewood Warehouse Site
320 South Roberts Road
Dunkirk, New York

LaBella
Powered by partnership.

PROJECT NO.

2171946



WOOD BLOCK FLOOR LEGEND	
	APPROXIMATE WOOD FLOORING EXTENT
	APPROXIMATE HAZARDOUS LEAD WOOD FLOORING EXTENT

DRAINAGE STRUCTURES AND WOOD BLOCK FLOORING

LaBella
Powered by partnership.
300 Pearl Street, Suite 130
Buffalo, NY 14202
716-551-6281
labellapc.com

FORMER EDGEWOOD WAREHOUSE SITE
FINAL ENGINEERING REPORT
NYSDEC BCP No. C907032

320 SOUTH ROBERTS ROAD
DUNKIRK, NEW YORK

PROJ. NO. 2171946	1" = 80'	DATE: DECEMBER 2019	**FIGURE NO. 2**

NORTH

STONE FIRE LANE

ASPHALT PAVEMENT

CAR PARKING

STORMWATER MANAGEMENT AREA

FREEZER

OFFICE

STONE TRUCK STAGING AREA

TP-22 HOTSPOT EXCAVATION

TP-22 SIDEWALL 6

TP-22 FLOOR 3

TP-22 SIDEWALL 7

TP-22 FLOOR 1

TP-22 SIDEWALL 1

TP-22 SIDEWALL 5

TP-22 SIDEWALL 4

TP-22 SIDEWALL 2

TP-22 FLOOR 2

TP-22 SIDEWALL 3

FORMER ROBLIN PARCEL

FORMER ALUMAX PARCEL

USTs EXCAVATION

DOCK/STAGING AREA

UST 4

MECHANICAL ROOM

UST 3

UST 1

UST 2

UST FLOOR

TP-4 SIDEWALL 2

TP-4 SIDEWALL 1

TP-4 SIDEWALL 8

TP-4 SIDEWALL 7

TP-4 SIDEWALL 3

TP-4 FLOOR 1

TP-4 SIDEWALL 4

TP-4 FLOOR 2

TP-4 SIDEWALL 5

TP-4 SIDEWALL 6

TP-4 HOTSPOT EXCAVATION

MW-6 SIDEWALL 1

MW-6 SIDEWALL 2

MW-6 SIDEWALL 3

MW-6 SIDEWALL 4

MW-6 TP-A

MW-6 TP-B

MW-6 FLOOR

MW-6 HOTSPOT EXCAVATION

TRUCK STORAGE AREA

S. ROBERTS ROAD (COUNTY ROUTE 81)

TALCOTT STREET

EXISTING ASPHALT PAVEMENT

BUILDING #440 S. ROBERTS RD

HOTSPOT SOIL EXCAVATION AND UST REMOVAL AREAS

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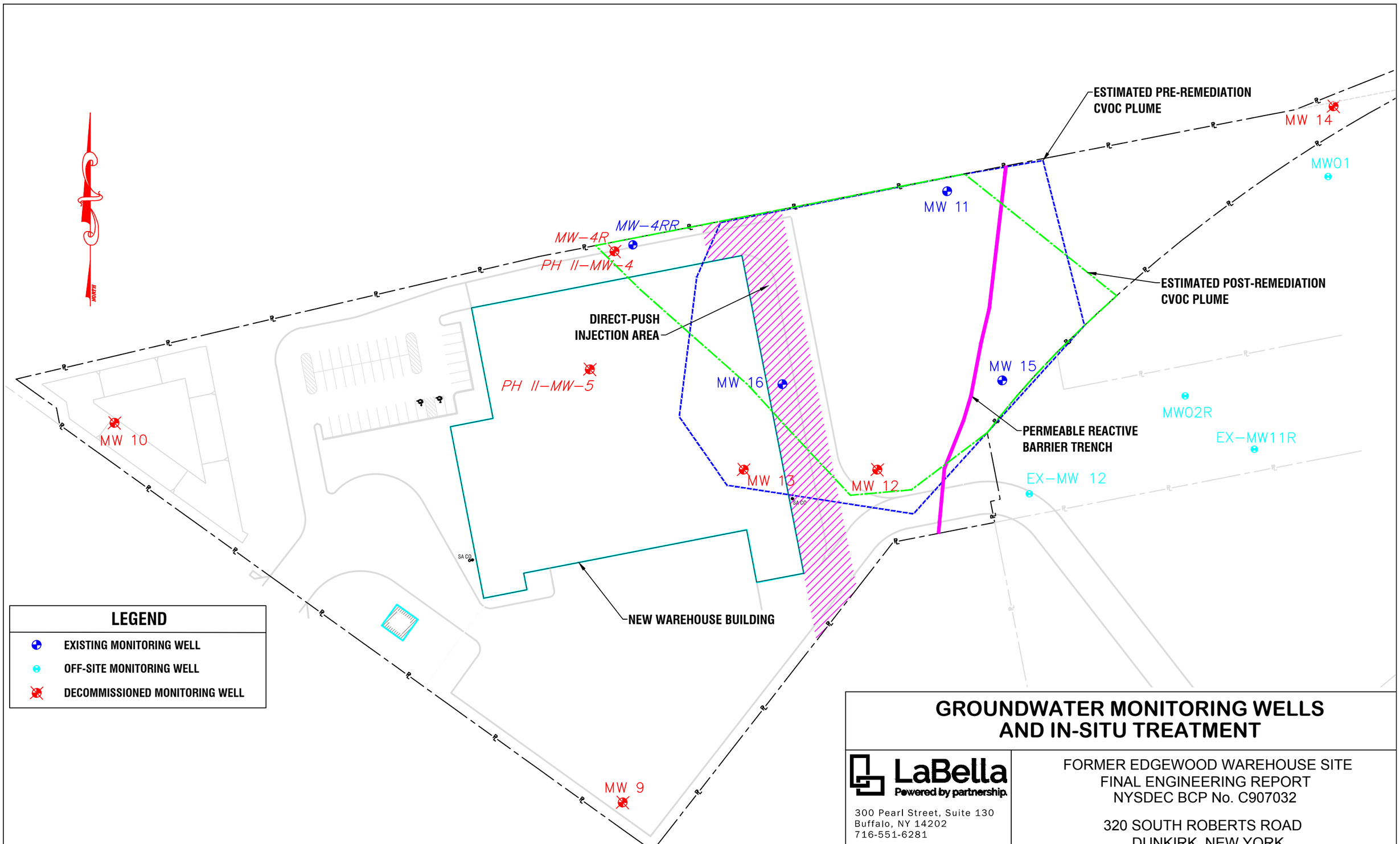
FINAL ENGINEERING REPORT
NYSDEC BCP No. C907032

320 SOUTH ROBERTS ROAD
DUNKIRK, NEW YORK

PROJ. NO. 2171946	1" = 80'	DATE: DECEMBER 2019	**FIGURE NO. 3**



LEGEND

- EXISTING MONITORING WELL
- OFF-SITE MONITORING WELL
- DECOMMISSIONED MONITORING WELL

GROUNDWATER MONITORING WELLS AND IN-SITU TREATMENT

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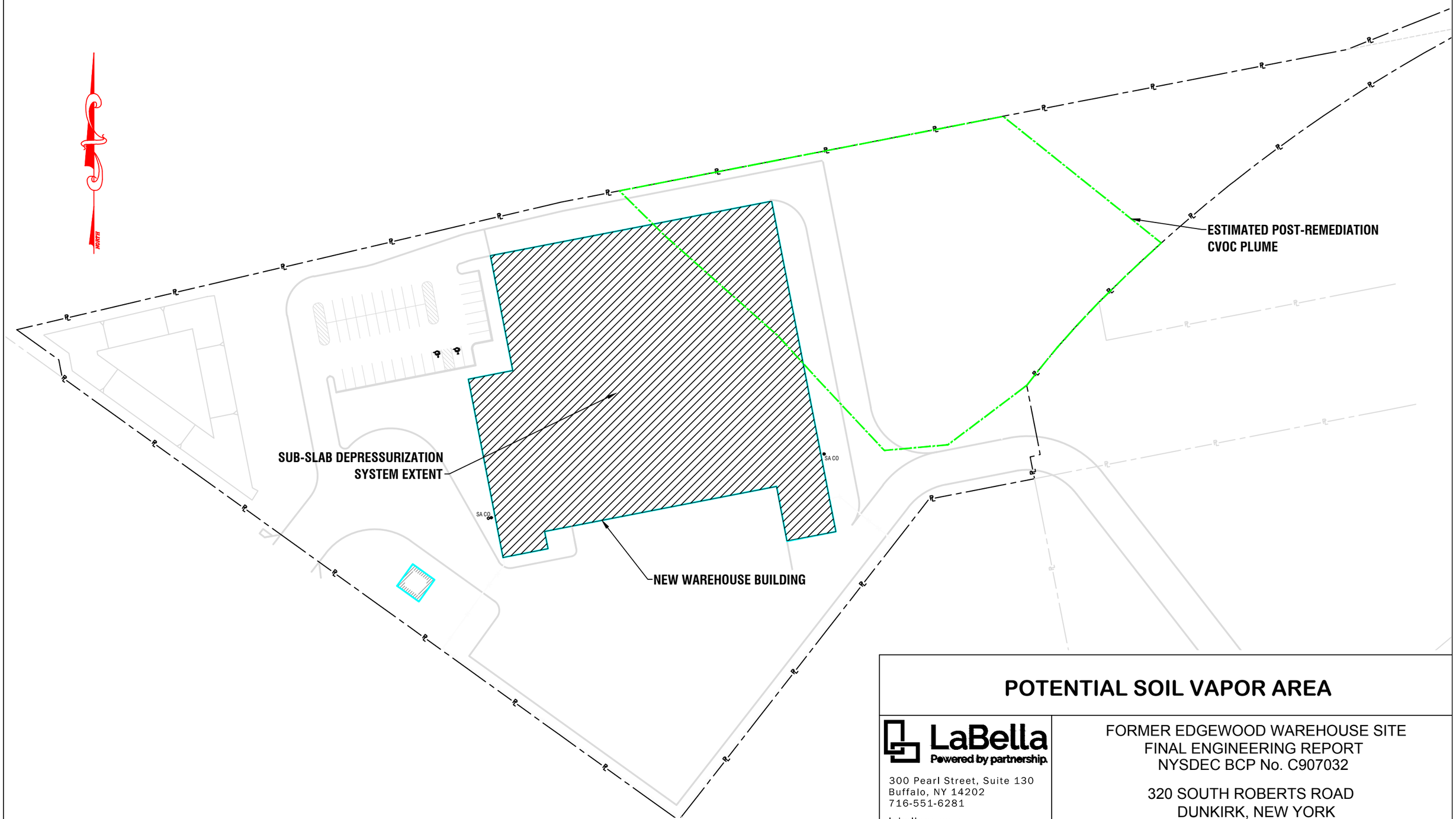
320 SOUTH ROBERTS ROAD
DUNKIRK, NEW YORK

PROJ. NO. 2171946	1" = 80'	DATE: DECEMBER 2019	**FIGURE NO. 4**



POTENTIAL SOIL VAPOR AREA

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320 SOUTH ROBERTS ROAD
DUNKIRK, NEW YORK

PROJ. NO. 2171946	1" = 80'	DATE: DECEMBER 2019	**FIGURE NO. 5**

NORTH

SS 11
STORMWATER MANAGEMENT AREA
SP 2
MW 10
PH II–TB–9
SS 12
SS 13
PH II–MW–7
PH II–MW–8
ASPHALT PAVEMENT
SP 3
CAR PARKING
SP 4
SP 13
SP 5
PH II–MW–5
SP 6
SP 7
FREEZER
STONE FIRE LANE
PH II–MW–4
SS 14
PH II–SS–6
SS 15
PH II–MW–2
PH II–SS–5
MW 11
TP 13
PH II–SS–4
MW 14
TP 15
TP 14
PH II–SS–1
PH II–MW–1
PH II–TB–1
PH II–SS–2
TP 12
SS 20
TP 16
SS 19
TP 11
SP 14
PH II–TB–2
PH II–TB–4
STONE TRUCK STAGING AREA
SP 12
TP 10
SS 18
PH II–TB–3
TP–22 SIDEWALL 7
SS 17
FORMER ROBLIN PARCEL
TP–22 FLOOR 3
PH II–TB–5
SP 15
MW 13
TP–22 SIDEWALL 5
TP–22 FLOOR 2
TP 9
ASPHALT PAVEMENT
S. ROBERTS ROAD (COUNTY ROUTE 81)
SP 11
SP 1
SP 10
SP 9
OFFICE
PH II–TB–7
DOCK/STAGING AREA
TP–4 SIDEWALL 2
TP–4 SIDEWALL 8
SS 10
MECHANICAL ROOM
TP 8
TP 7
TP 1
TP 2
TP 3
PH II–MW–3
TP 21
PH II–SS–3
SS 16
SS 8
PH II–TB–6
TP 6
SS 7
TRUCK STORAGE AREA
SS 9
TP 18
TP 5
TP 19
TP 20
MW 9
EXISTING ASPHALT PAVEMENT
BUILDING #440 S. ROBERTS RD.
TALCOTT STREET

SAMPLING LOCATION LEGEND

	TEST PIT LOCATION
SP	SOIL PROBE LOCATION
SS	SURFACE SOIL SAMPLE LOCATION
MW	MONITORING WELL TEST BORING LOCATION
PH II–MW/TB	APPROXIMATE PHASE II MONITORING WELL AND/OR TEST BORING LOCATION
TP–X SIDEWALL	HOTSPOT EXCAVATION CONFIRMATORY SAMPLE LOCATION

NOTE:
TEST PIT, SOIL PROBE, AND TEST BORING LOCATIONS DEPICTED EXHIBITED SOIL SAMPLE ANALYTICAL RESULTS EXCEEDING COMMERCIAL SCOs. RESIDUAL IMPACT REMAINS IN THE SUBSURFACE OF THE SITE UNDER THE SITE COVER SYSTEM SUBSEQUENT REMEDIAL ACTIONS.

REMAINING CONTAMINATION

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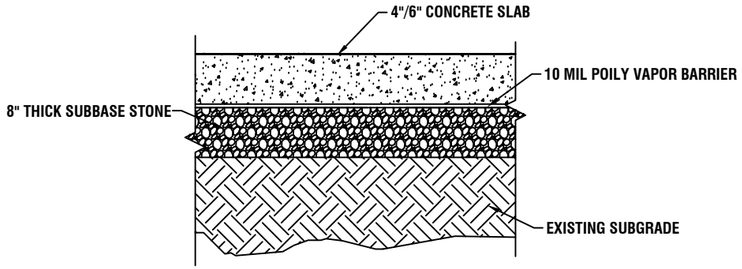
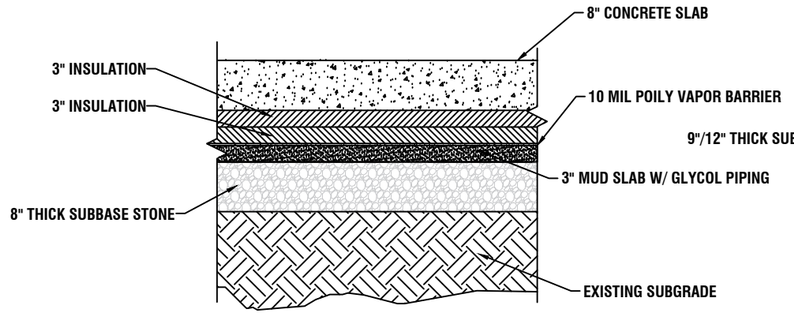
320 SOUTH ROBERTS ROAD
DUNKIRK, NEW YORK

PROJ. NO. 2171946	1" = 80'	DATE: DECEMBER 2019	**FIGURE NO. 6**



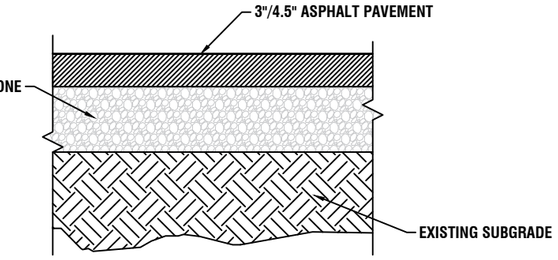
BUILDING FLOOR SLAB: NON-FREEZER FLOOR AREA

SCALE: NONE



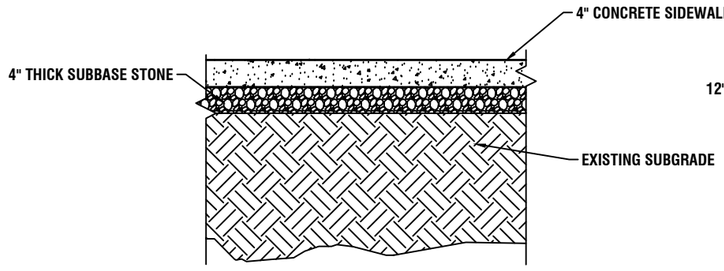
BUILDING FLOOR SLAB: FREEZER FLOOR AREA

SCALE: NONE



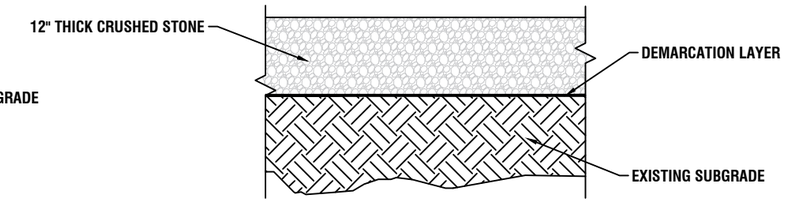
ASPHALT PAVEMENT

SCALE: NONE



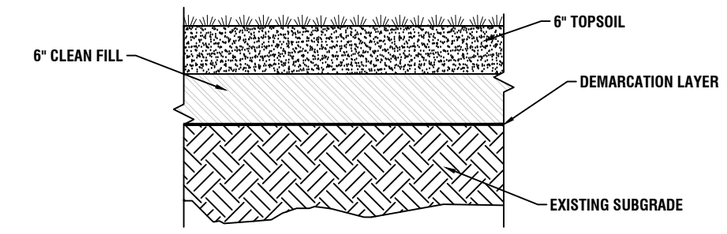
CONCRETE SIDEWALK

SCALE: NONE



GRAVEL COVER

SCALE: NONE



SOIL COVER

SCALE: NONE

COVER SYSTEM CROSS SECTIONS

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FORMER EDGEWOOD WAREHOUSE SITE
FINAL ENGINEERING REPORT
NYSDEC BCP No. C907032

320 SOUTH ROBERTS ROAD
DUNKIRK, NEW YORK

PROJ. NO. 2171946

DATE: DECEMBER 2019

FIGURE NO. 7

NORTH

ASPHALT PAVEMENT

STONE FIRE LANE

CAR PARKING

STORMWATER MANAGEMENT AREA

FREEZER

OFFICE

DOCK/STAGING AREA

MECHANICAL ROOM

STONE TRUCK STAGING AREA

FORMER ROBLIN PARCEL

ASPHALT PAVEMENT

TRUCK STORAGE AREA

EXISTING ASPHALT PAVEMENT

BUILDING
#440 S. ROBERTS RD.

S. ROBERTS ROAD (COUNTY ROUTE 81)

TALCOTT STREET

LEGEND

- SOIL COVER SYSTEM
- GRAVEL COVER SYSTEM
- CONCRETE COVER SYSTEM
- ASPHALT COVER SYSTEM
- BUILDING SLAB COVER SYSTEM

COVER SYSTEM LOCATIONS

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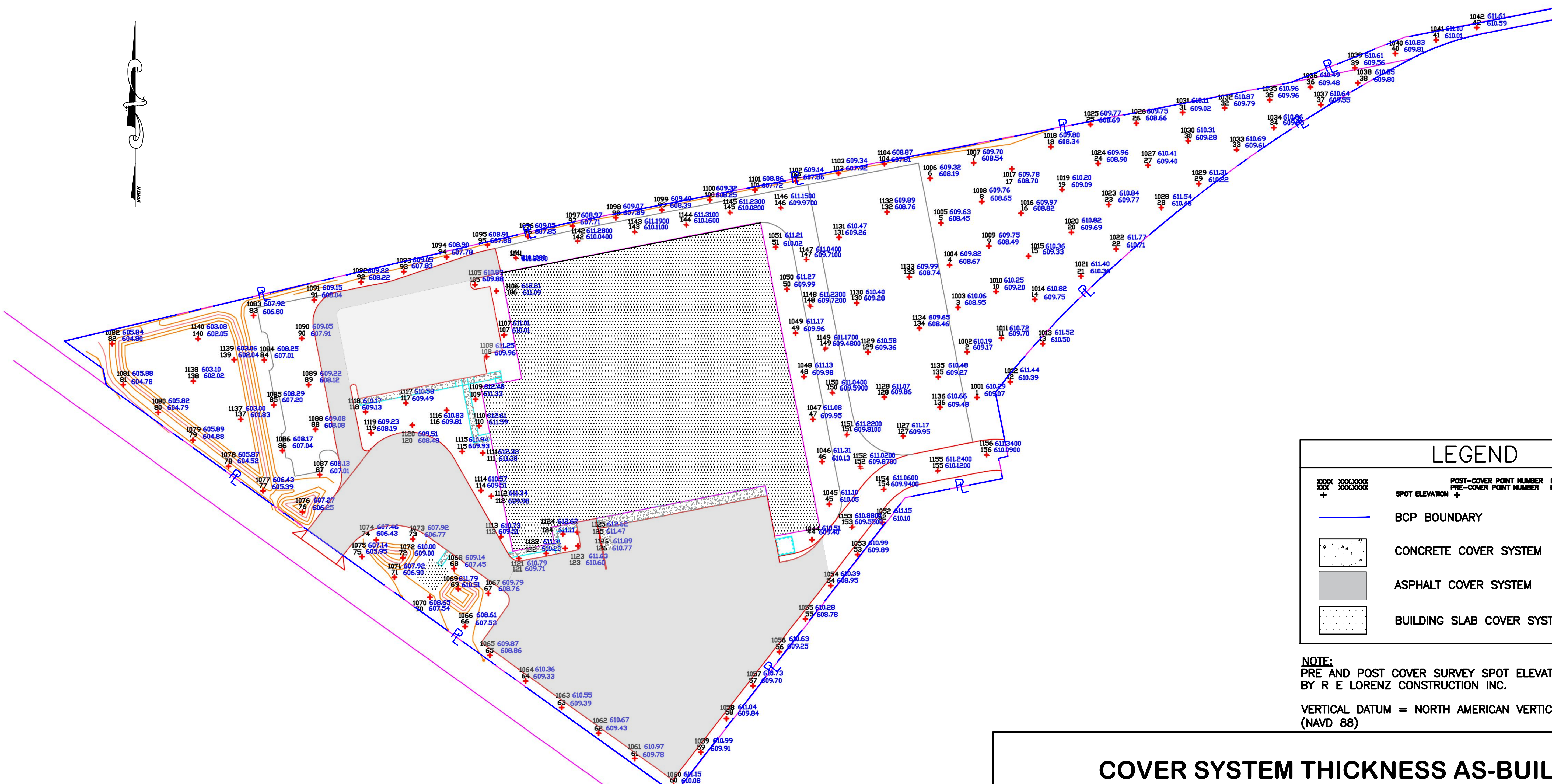
FINAL ENGINEERING REPORT
NYSDEC BCP No. C907032

320 SOUTH ROBERTS ROAD
DUNKIRK, NEW YORK

PROJ. NO. 2171946	1" = 80'	DATE: DECEMBER 2019	**FIGURE NO. 8**



LEGEND

XXXX XXX.XXXX / XXX XXX.XXXX + (SPOT ELEVATION)	POST-COVER POINT NUMBER / PRE-COVER POINT NUMBER — POST-COVER SPOT ELEVATION / PRE-COVER SPOT ELEVATION
(blue line)	BCP BOUNDARY
(pattern)	CONCRETE COVER SYSTEM
(grey fill)	ASPHALT COVER SYSTEM
(dot pattern)	BUILDING SLAB COVER SYSTEM

NOTE:
PRE AND POST COVER SURVEY SPOT ELEVATIONS COMPLETED BY R E LORENZ CONSTRUCTION INC.

VERTICAL DATUM = NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88)

COVER SYSTEM THICKNESS AS-BUILT

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FORMER EDGEWOOD WAREHOUSE SITE
FINAL ENGINEERING REPORT
NYSDEC BCP No. C907032

320 SOUTH ROBERTS ROAD
DUNKIRK, NEW YORK

PROJ. NO. 2171946 | 1" = 100' | DATE: DECEMBER 2019 | **FIGURE NO. 9**

TABLES

Table 1

Former Edgewood Warehouse Site

320 South Roberts Road, Dunkirk, New York

Limited Soil/Fill Excavation - MW-6 Area

Summary of Confirmatory Soil/Fill Analytical Results

(Detected Compounds Only)

Excavation	MW-6								
Sample ID	Sidewall 1	Sidewall 2	Sidewall 3	Sidewall 4	Floor-1	TP-A	TP-B	Commercial Use Soil Cleanup Objectives	Typical Site Range (subsurface)
Sample Date	10/5/2018	10/5/2018	10/5/2018	10/5/2018	10/5/2018	10/5/2018	10/5/2018		
Metals (mg/kg)									
Mercury	0.17	0.14	0.17	0.027	0.12	0.33	0.23	2.8	0.011-1.1

Commercial Use Soil Cleanup Objectives =NYSDEC Part 375 Commercial Use Soil Cleanup Objectives, Table 375-6.8(b) (December 2006)

mg/kg = miligrams per kiliogram

Table 2

Former Edgewood Warehouse Site

320 South Roberts Road, Dunkirk, New York

Limited Soil/Fill Excavation - TP-4 Area

Summary of Confirmatory Soil/Fill Analytical Results

(Detected Compounds Only)

Excavation	TP-4											
Sample ID	Sidewall 1	Sidewall 2	Sidewall 3	Sidewall 4	Sidewall 5	Sidewall 6	Sidewall 7	Sidewall 8	Floor-1	Floor-2	Commercial Use Soil Cleanup Objectives	Typical Site Range (subsurface)
Sample Date	10/3/2018	10/3/2018	10/3/2018	10/3/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018	10/4/2018		
Metals (mg/kg)												
Arsenic	6.8	**17.5**	11.1	12.6	14.4	6.1	9.1	**16.6**	13.9	12.4	16	3.9-24.3

Commercial Soil Cleanup Objectives =NYSDEC Part 375 Commercial Use Soil Cleanup Objectives, Table 375-6.8(b) (December 2006)

mg/kg = miligrams per kiliogram

Concentrations in bold exceed the Part 375 Commercial Use SCOs

Table 3
Former Edgewood Warehouse Site
320 South Roberts Road, Dunkirk, New York
Limited Soil/Fill Excavation - TP-22 Area
Summary of Confirmatory Soil/Fill Analytical Results
(Detected Compounds Only)

Excavation	TP-22											
Sample ID	Sidewall 1	Sidewall 2	Sidewall 3	Sidewall 4	Sidewall 5	Sidewall 6	Sidewall 7	Floor-1	Floor-2	Floor-3	Commercial Use Soil Cleanup Objectives	Typical Site Range (subsurface)
Sample Date	10/3/2018	10/3/2018	10/3/2018	10/5/2018	10/5/2018	10/5/2018	10/5/2018	10/3/2018	10/3/2018	10/5/2018		
Semi-Volatile Organic Compounds (µg/kg)												
Acenaphthene	<	<	<	<	69	<	1,800	<	<	150	500,000	51-4,100
Acenaphthylene	<	500	<	<	86	<	590	<	<	170	500,000	45-3,600
Anthracene	<	<	<	<	490	<	3,900	<	<	860	500,000	41-11,000
Benzo(a)anthracene	<	2,900	<	<	1,300	170	**12,000**	<	<	1,800	5,600	45-21,000
Benzo(b)fluoranthene	<	3,300	<	410	1,100	200	**14,000**	<	<	2,000	5,600	45-29,000
Benzo(k)fluoranthene	<	1,800	<	<	<	120	6,100	<	<	1,000	56,000	52-12,000
Benzo(g,h,i)perylene	<	1,800	<	<	750	160	6,900	<	<	1,400	500,000	64-8,100
Benzo(a)pyrene	<	**2,800**	<	<	**1,100**	170	**10,000**	<	<	**1,700**	1,000	40-16,000
Biphenyl	<	<	<	<	<	<	<	<	<	71	NL	NL
Caprolactam	<	<	<	<	160	<	<	<	<	<	NL	NL
Carbazole	<	<	<	<	200	22	2,900	<	<	330	NL	63-5,400
Chrysene	<	2,500	<	<	1,300	190	11,000	<	<	1,800	56,000	41-21,000
Dibenzofuran	<	<	<	<	130	<	1,200	<	<	490	NL	57-6,200
2,4-Dimethylphenol	<	<	<	<	130	<	<	<	<	150	NL	66
bis(2-Ethylhexyl)phthalate	<	<	<	<	<	<	<	<	<	590	NL	53-360
Fluoranthene	81	5,000	40	620	3,300	370	27,000	<	<	4,300	500,000	52-54,000
Fluorene	<	<	<	<	270	24	1,600	<	<	720	500,000	43-6,100
Indeno(1,2,3-cd)pyrene	<	1,700	<	320	680	120	**6,100**	<	<	1,100	5,600	42-9,100
2-Methylnaphthalene	<	<	<	<	69	<	<	<	<	250	NL	42-2,200
Naphthalene	<	<	<	<	1,400	<	2,100	<	<	770	500,000	44-2,100
Phenanthrene	57	1,500	<	<	2,600	230	20,000	<	<	4,400	500,000	57-56,000
Pyrene	62	4,200	35	580	2,900	390	21,000	<	<	4,100	500,000	75-42,000

µg/kg = micrograms per kiliogram

< = Not detected

NL=Not listed

Concentrations in gray are approaching the Typical Site Range (subsurface)

Concentrations in **bold** exceed the Part 375 Commercial Use SCOs

Table 4
Former Edgewood Warehouse Site
Summary of Pre and Post-Remedial Groundwater Analytical Results

	REGULATORY VALUE	PH II-MW-4	MW-4R (Replaced PH II-MW-4)	MW-11		MW-12		MW-13		MW-4RR (Replaced MW-4R)	MW-11	MW-15	MW-16
Date Collected		Mar-99	Aug-18	Oct-08	Jul-18	Oct-08	Jul-18	Oct-08	Jul-18	Aug-19	Aug-19	Aug-19	Aug-19
		Pre-Remedial Groundwater Analytical Results								**Post-Remedial Groundwater Analytical Results**			
Volatile Organic Compounds (µg/L)													
Acetone	50**	<	<	<	8.9	<	9.4	<	13	<	52	29	<
2-Butanone (MEK)	50**	<	<	<		<		<		<	190	22	<
Benzene	1	<	<	<		<		<		<	<	2.8	<
Chloroethane	5	65	<	<	2.3	<	0.95	<	<	5.3	32	<	<
Chloroform	7	<	<	21	<	<	<	<	<	<	<	<	<
cis-1,2-Dichloroethene	5	<	<	17	6	200	15	8	0.9	<	2.6	<	<
Cyclohexane	-	<	<	<	<	12	<	<	<	<	<	<	<
Ethylbenzene	5	<	<	<	<		<	<	<	<	<	14	<
Isopropylbenzene		<	<	<	<		<	<	<	<	<	7.0	<
4-Isopropyltoluene	5	<	<	<	<	<	<	<	<	<	<	2.0	<
Methylcyclohexane	-	<	<	<	<	18	<	<	<	<	<	7.9	<
Tetrachloroethene	5	<	<	<	<	8.5	<	<	<	<	<	<	<
Trichloroethene	5	9	<	6.4	1.3	15	<	5.2	<	<	<	<	<
Toluene	5	<	<	<	<	<	<	<	<	<	44	<	<
trans-1,2-Dichloroethene	5	<	<	<	<	2.5	<	<	<	<	<	<	<
Vinyl Chloride	2	<	<	11	13	130	27	4.1	6.5	<	8.2	<	26
Xylene (Total)	5**	<	<	<	<	5.2	<	<	<	<	<	53	<
1,1,1-Trichloroethane	5	110	<	<	5.6	<	<	<	<	<	<	<	<
1,1-Dichloroethane	5	82	<	62	44	53	7.3	<	<	<	21	2.8	<
1,1-Dichloroethene	5	<	<	5	1.3	6.5	0.31	<	<	<	<	<	<
1,2,4-Trimethylbenzene	5	<	<	<	<	<	<	<	<	<	<	130	<
1,3,5-Trimethylbenzene	5	<	<	<	<	<	<	<	<	<	<	37	<
Napthalene	10	<	<	<	<	<	<	<	<	<	<	8.6	<
n-Butylbenzene	5	<	<	<	<	<	<	<	<	<	<	9.5	<
n-Propylbenzene	5	<	<	<	<	<	<	<	<	<	<	21	<
1,2-Dichloroethane	-	<	<	<	0.32	<	<	<	<	<	<	<	<
Total VOCs	-	**266**	**0**	**122.4**	**82.8**	**450.7**	**60**	**16.8**	**20.4**	**5.3**	**350**	**347**	**26**

Notes:

1. Class GA regulatory values are derived from NYS Ambient Water Quality Standards TOGS 1.1.1 (Source of Drinking Water, groundwater), June 1998
2. Only compounds with one or more detections are shown.
3. µg/l = micrograms per Liter (equivalent to parts per billion or ppb)
4. < = analyte was not detected
5. Analytical results from 1999 and 2008 were obtained from the Remdial Investigation Report dated May 2009, prepared by TVGA Consultants.
6. (-) indicates that a regulatory value is not associated with this parameter
7. (**) = New York state guidance value was used where no groundwater standard was available
8. Shaded values represents concentration exceeded the Regulatory Value

Table 5

Former Edgewood Warehouse Site

320 South Roberts Road, Dunkirk, New York

Final Engineering Report - UST Closure

Summary of Confirmatory Soil Analytical Results

(Detected Analytes Only)

Sample ID	UST - Conf. Floor- 1	UST - Conf. Sidewall -1	UST - Conf. Sidewall -2	UST - Conf. Sidewall -3	UST - Conf. Sidewall -4	CP-51 Soil Cleanup Objectives	Commercial Use Soil Cleanup Objectives
Depth (ft bgs)	8	7	6	7	6		
Sample Date	12/17/2018	12/17/2018	12/17/2018	12/17/2018	12/17/2018		
Volatile Organic Compounds (µg/kg)							
Benzene	ND	ND	1.7 J	9.5	ND	60	44,000

New York State Department of Environmental Conservation (NYSDEC) Commissioner Policy, 51 (CP-51) Soil Cleanup Guidance (SCG) for Gasoline and Fuel Oil Contaminated Soils, Tables 2 and 3 (December 2010)

NYSDEC Part 375 Commercial Use Soil Cleanup Objectives (SCOs), Table 375-6.8(b) (December 2006)

ft bgs = Feet below the ground surface

µg/kg = Micrograms per kilogram

J=The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample

ND = Not Detected

Table 6
Former Edgewood Warehouse BCP Site #C907032
320 South Roberts Road, Dunkirk, New York
Final Engineering Report
Backfill Types and Quantities

Facility Name	***Backfill Type***	***Amount (TONS)***	***Hauled By***
Tri-James	#1 Stone	2305.255	REL
Tri-James	Oversize Crusher Run	1102.25	REL
New Enterprises Stone and Lime	2'' Crusher Run	1927.61	REL
New Enterprises Stone and Lime	1'' Crusher Run	22.04	REL
New Enterprises Stone and Lime	Stone, Surge	140.83	REL
County Line Stone	CR4	45.8	Wargo
County Line Stone	#2	17.3	Wargo
Gernatt	Bank Run Gravel	7890.26	REL
Gernatt	Crushed #1	444.19	REL
Gernatt	Crushed #2	34.45	REL
Gernatt	Underdrain Type 2	285.95	Kimil
Gernatt	Classifier Silt	6814.135	REL
Gernatt	Cushion Sand	20.89	REL
Facility Name	***Backfill Type***	***Amount (Yards)***	***Hauled By***
Hanson Aggregates	Sand	282	Hanson

Table 7

Former Edgewood Warehouse BCP Site #C907032

320 South Roberts Road, Dunkirk, New York

Final Engineering Report

Summary of Soil Cover Analytical Results

(Detected Analytes Only)

Sample ID	Soil	DISCRETE 1	COMPOSITE 1	
Sample Date	**6/5/2019**	**6/24/2019**	**6/24/2019**	**DER-10 Commercial Use**
Volatile Organic Compounds (µg/kg)				
Acetone	66	8.7 J	40	50
Benzene	0.37 J	<	<	60
Chloroform	0.2 J	<	0.16 J	370
Methyl Acetate	<	11	11	NL
Methyl-tert-butyl-ether	<	<	0.52 J	930
Tetrachloroethene	0.35 J	<	<	1,300
Toluene	1.6	<	<	700
Xylenes (mixed)	0.76 J	<	<	1,600
Semi-Volatile Organic Compounds (µg/kg)				
Benzo(a)anthracene	58 J	NA	48 J	1,000
Benzo(b)fluoranthene	70 J	NA	57 J	1,700
Benzo(g,h,i)perylene	29 J	NA	29 J	500,000
Benzo(a)pyrene	55 J	NA	51 J	1,000
Chrysene	53 J	NA	43 J	1,000
Fluoranthene	20	NA	85 J	500,000
Indeno(1,2,3-cd)pyrene	35 J	NA	33 J	5,600
Phenanthrene	57 J	NA	41 J	500,000
Pyrene	100 J	NA	71 J	500,000
Pesticides / Herbicides (µg/Kg)				
4,4-DDE	1.48 J	NA	2.52	17,000
4,4-DDT	1.82 JIP	NA	1.74 JIP	47,000
Chlordane	0.703 J	NA	<	2,900
PCBs (ug/Kg)				
PCBs were non-detect for all samples				
Metals (mg/kg)				
Aluminum	7,310	NA	<	NL
Antimony	1.22 J	NA	<	NL
Arsenic	11	NA	10.4	16
Barium	98.2	NA	115	400
Beryllium	0.304 J	NA	0.302	47
Cadmium	0.350 J	NA	0.617	7.5
Calcium	7,320	NA	<	NL
Chromium	22.9	NA	22.0	19/1,500*
Cobalt	8.48	NA	<	NL
Copper	26.2	NA	24.7	270
Iron	20,500	NA	<	NL
Lead	15.7	NA	10.0	450
Magnesium	4,540	NA	<	NL
Manganese	497	NA	539	2,000
Nickel	19.1	NA	18.5	130
Potassium	478	NA	<	NL
Selenium	0.506 J	NA	0.283 J	4
Sodium	53.9 J	NA	<	NL
Vanadium	10.5	NA	<	NL
Zinc	73.7	NA	57.7	2,480
Perfluorinated Alkyl Acids (ug/kg)				
Perfluorooctanoic Acid (PFOA)	0.071 J	NA	<	NL
Perfluorooctanesulfonic Acid (PFOS)	0.150 J	NA	<	NL
Perfluoroundecanoic Acid (PFUnA)	<	NA	0.035 J	NL
PFOA/PFOS, Total	0.221 J	NA	<	NL
Perfluorinated Alkyl Acids SPLP (ng/L)				
Perfluorobutanoic Acid (PFBA)	NA	NA	0.690 J	NL
Perfluoropentanoic Acid (PFPeA)	NA	NA	0.361 J	NL
Perfluorohexanoic Acid (PFHxA)	NA	NA	0.422 J	NL
Perfluorooctanoic Acid (PFOA)	NA	NA	0.708 J	NL
PFOA/PFOS, Total	NA	NA	0.708 J	NL

DER-10 Commercial Use = Appendix 5: Allowable Constituent Levels for Imported Fill or Soil Subdivision 5.4(e)

< = Not detected

NL = Not listed

NA = Not applicable

µg/kg = Micrograms per kilogram

mg/kg = Milligrams per kilogram

J = The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.

I = The lower value for the two columns has been reported due to obvious interference.

P = The RPD between the results for the two columns exceeds the method-specified criteria.

* = Chromium, hexavalent/Chromium, trivalent (The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.)

Shaded = Exceeds DER-10 Commercial Use

Table 7 (continued)
Former Edgewood Warehouse BCP Site #C907032
320 South Roberts Road, Dunkirk, New York
Final Engineering Report
Summary of Bank Run Gravel Analytical Results
(Detected Analytes Only)

Sample ID	Bank Run - DISCRETE 1	Bank Run - DISCRETE 2	Bank Run - DISCRETE 3	Bank Run - COMPOSITE 1	
Sample Date	**8/13/2019**	**9/9/2019**	**9/9/2019**	**8/13/2019**	**DER-10 Commercial Use**
Volatile Organic Compounds (µg/kg)					
Acetone	<	78	21	NA	50
trans-1,2-Dichloroethene	0.2 J	<	<	NA	190
Semi-Volatile Organic Compounds (µg/kg)					
Fluoranthene	NA	NA	NA	20 J	500,000
Pyrene	NA	NA	NA	20 J	500,000
Pesticides / Herbicides (µg/Kg)					
Pesticides were non-detect for Bank Run-Composite-1					
PCBs (µg/Kg)					
PCBs were non-detect for Bank Run-Composite-1					
Metals (mg/kg)					
Arsenic	NA	NA	NA	7.40	16
Barium	NA	NA	NA	38.1	400
Beryllium	NA	NA	NA	0.187 J	47
Chromium	NA	NA	NA	6.08	19/1,500*
Copper	NA	NA	NA	19.2	270
Lead	NA	NA	NA	10.0	450
Manganese	NA	NA	NA	423	2,000
Nickel	NA	NA	NA	10.2	130
Zinc	NA	NA	NA	47.6	2,480
Perfluorinated Alkyl Acids (µg/kg)					
Perfluorinated Alkyl Acids were non-detect for Bank Run Composite-1					
Perfluorinated Alkyl Acids SPLP (ng/L)					
Perfluorobutanoic Acid (PFBA)	NA	NA	NA	0.406	NL
Perfluoropentanoic Acid (PFPeA)	NA	NA	NA	0.417	NL
Perfluorohexanoic Acid (PFHxA)	NA	NA	NA	0.489	NL
PFOA/PFOS, Total	NA	NA	NA	1.312	NL

Eastern USA Background = NYSDEC Division Technical and Administrative Guidance Memorandum HWR-92-4060, Eastern US Background Concentrations for Soil

DER-10 Commercial Use = Appendix 5: Allowable Constituent Levels for Imported Fill or Soil Subdivision 5.4(e)

< = Not detected

NL = Not listed

NA = Not applicable

µg/kg = Micrograms per kilogram

mg/kg = Milligrams per kilogram

J = The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.

I = The lower value for the two columns has been reported due to obvious interference.

P = The RPD between the results for the two columns exceeds the method-specified criteria.

* = Chromium, hexavalent/Chromium, trivalent (The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.)

Shaded = Exceeds DER-10 Commercial Use

Table 8
Former Edgewood Warehouse Site
Final Engineering Report
Remaining Soil Contamination
Summary of Analytical Results

	SOIL CLEANUP OBJECTIVE COMMERCIAL USE	PH II- SS-1	PH II- SS-2	PH II- SS-3	PH II- SS-4	PH II- SS-5	PH II- SS-6	SS-7	SS-8	SS-9	SS-10	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16	SS-17	SS-18	SS-19	SS-20
Date Collected		Mar-99	Mar-99	Mar-99	Mar-99	Mar-99	Mar-99	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08	Jun-08
Semi-Volatile Organic Compounds (µg/Kg)																					
Acenaphthene	500,000							260	11,000	650	560	330,000	8,700	2,400	7,900	370		34,000		250	110
Acenaphthylene	500,000					310		740	930	730	1,400	21,000	2,300	270			480	5,300	880		570
Acetophenone	500,000*											15,000	2,200					4,400			
Anthracene	500,000		690	3,600	430	590	5,000	140	20,000	1,500	2,400		21,000	4,500	12,000	940	640	65,000	1,000	510	840
Benzaldehyde	500,000*											10,000		1,100				2,700			
Benzo(a)anthracene	5,600	1,500	2,100	11,000	2,400	1,500	14,000	6,600	60,000	7,100	10,000	UJ	63,000	13,000	5,000 J	2,700	3,600	210,000	1,600	2,700	2,000
Benzo(a)pyrene	1,000	2,000 J	1,900	10,000 J	2,400	1,400	12,000	8,100 J	57,000	8,200 J	12,000 J	UJ	59,000	13,000	37,000	2,500	4,200 J	180,000	2,000	3,300 J	2,400
Benzo(b)fluoranthene	5,600	3,600 J	2,300	16,000 J	3,300	2,100	16,000	11,000 J	84,000	12,000 J	19,000 J	UJ	67,000	19,000	58,000	3,000	5,800 J	190,000	2,200	6,200 J	3,200
Benzo(g,h,i)perylene	500,000	1,500 J	880	5,600 J	970	760	9,100	5,400 J	22,000	5,900 J	6,700 J	350,000	25,000	6,900	22,000	1,000	2,700 J	53,000	710	810 J	540
Benzo(k)fluoranthene	56,000		1,000	5,300 J	1,100	580	6,000	5,500 J	41,000	4,500 J	6,600 J	UJ	39,000	9,600	20,000	1,700	2,800 J	98,000	1,700	2,200 J	2,000
1,1'-biphenyl	500,000*								1,100			29,000			780			2,200			
Carbazole	500,000*					590	4,300	590	10,000	1,200	1,100			3,800	10,000	670	260		270	400	590
Indeno(1,2,3-cd)pyrene	5,600		970	5,700 J	1,200	820	9,700	4,900 J	25,000	6,700 J	8,500 J	UJ	32,000	7,100	20,000	1,200	2,600 J	78,000	920	1,700 J	1,300
Chrysene	56,000	1,600	1,900	11,000	2,300	1,500	14,000	7,600	63,000	8,000	11,000	J	66,000	15,000	45,000	2,800	3,500	72,000	1,700	3,700	2,700
Dibenzo(a,h)anthracene	560				320			1,300 J	7,600	1,800 J	2,300 J	170,000		UJ	5,800 J	380	710 J	44,000	330	500 J	450
Dibenzofuran	500,000*							250	7,400	360	520	220,000	4,700	1,900	5,600	230		20,000			110
Bis(2-ethylhexyl)phthalate	500,000*								UJ	210 J	200 J	UJ			340 J				82 NJ		170
Fluoranthene	500,000	2,500	3,400	22,000	3,400	3,400	28,000	12,000	120,000	12,000	16,000	2,600,000	120,000	31,000	94,000	6,800	6,000	440,000	2,700	5,300	3,900
Fluorene	500,000					280		460	9,900	590	1,000	340,000	7,200	2,100	7,100	340	210	26,000	73		110
2-methylnaphthalene	500,000*							210	3,000		360	84,000	1,600	690	1,900			8,100	92		250
4-methylphenol	500,000*											4,800									
Naphthalene	500,000							210	6,600	320	410	430,000	4,400	2,300	7,900			20,000			200
Phenanthrene	500,000		2,200	17,000	2,000	3,100	23,000	5,400	100,000	7,400	9,600	2,100,000	78,000	19,000	81,000	4,500	2,500	310,000	920	3,000	1,700
Phenol	500,000											550,000									
Pyrene	500,000	3,100	3,200	24,000	3,700	3,100	25,000	16,000	110,000	19,000	21,000	2,000,000	100,000	32,000	92,000	6,300	7,600	340,000	2,800	6,100	3,500
TOTAL SVOCs	-	15,800	20,540	131,200	23,520	20,030	166,100	86,400	748,530	97,510	130,090	8,923,800 J	692,400	182,260	525,420	35,060	43,600	2,168,700	19,977	36,420	26,530
PCBs (µg/Kg)																					
Aroclor-1248	1,000							2100	360 J		2800 J						75	520 J	510 J	160 J	1,700
Aroclor-1254	1,000				1,000																
Metals (mg/Kg)																					
Total Solids	-	84.92	89.25	87.1	82.41	86.18	72.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aluminum	10,000*	21,800	31,100	10,300	9,150	8,030	8,830	13,700	20,400	9,330	15,300	6,620	8,570	9,550	13,600	7,150	9,710	16,900	20,000	10,700	19,600
Antimony	10,000*	6.12					10	0.56 J	0.91 J	0.11 J	0.4 J	2.8 J	1.8 J	0.87 J	1.6 J	0.08 J	0.37 J	0.28 J	1.3 J	0.54 J	1.5 J
Arsenic	16				165		40.1	13 J	35.3 J	5 J	9.9 J	62.4 J	22.2 J	17.5 J	8.6 J	7.1 J	5.7 J	22.1 J	9.1 J	10 J	5.2 J
Barium	400	183	237	114	111	59	137	138	223	86.7	144	214	232	122	690	63.4	97	502	288	73.4	330
Berylium	590	4.23	5.76	1.61	0.979	0.456	0.938	1.7	2.8	1.3	2.5	0.67	0.54	0.51	0.99	0.35	1.5	2.2	3.5	0.53	1.9
Cadmium	9.3	3.26	2.94	0.582	1.89	1.37	1.45	0.52 J	1.3 J	0.68 J	0.99 J	2.2 J	1.3 J	1.3 J	3.1 J	0.31 J	0.22 J	19.9 J	2.9 J	0.38 J	2.4 J
Calcium	10,000*	110,700	155,000	90,400	15,400	1,890	17,400	66,700 J	101,000 J	67,000 J	132,000 J	9,280 J	4,470 J	8,750 J	22,700 J	1,160 J	136,000 J	54,000 J	133,000 J	21,500 J	76,300 J
Chromium	400	158	90.5	18	40.5	39.4	32.8	23.3	51.4	15	84.7	209	50	34.4	154	19.1	13.1	199	195	24.4	142
Cobalt	10,000*	4.57	2.45	3.67	7.81	5.77	5.39	4.9 J	8.1 J	3.3 J	4.2 J	8.5 J	10.6 J	10 J	8.7 J	6.3 J	2.7 J	10.3 J	5.6 J	9.2 J	3.9 J
Copper	270	49.9	35.4	30	72.9	34.3	59.9	37.1 J	65.9 J	17.8 J	42.6 J	166 J	250 J	51.9 J	103 J	30 J	18.6 J	193 J	106 J	46.4 J	45.2 J
Iron	10,000*	31,200	17,900	12,600	30,500	17,900	20,800	16,700	30,100	11,100	18,200	27,000	47,000	27,600	41,500	17,800	12,100	40,400	31,500	25,300	18,500
Lead	1,000	179	147	109	195	43.9	256	82.8	228	26.5	66.4	313	673	76	281	25.2	18.6	558	205	29.4	153
Magnesium	10,000*	30,000	49,900	14,400	4,220	2,590	5,030	11,600	21,100	9,820	37,000	2,460	3,170	3,180	10,600	2,530	13,500	13,000	23,400	5,750	8,420
Manganese	10,000	2,060	2,810	1,100	1,190	551	670	1370	1660	803	1580	450	685	718	958	780	1170	2550	2,100	807	3,000
Mercury	2.8				0.18	0.047	0.13	0.14 J	0.28 J	UJ	0.28 J	0.27 J	0.19 J	0.1 J	0.11 J	0.0098 J	UJ	0.38 J	0.1 J	0.012 J	0.084 J
Nickel	310	103	35.1	19.1	75.2	34.5	33.2	22.1	37.9	11.4	44.6	98.3	45.1	42	74.5	23.2	11.3	120	85	26.6	65.8
Potasium	10,000*	1,410	2,130	979	1,160	760	1,170	1,480	2,280	840	1,420	1,350	1,450	1,640	2,100	793	871	2,340	1,840	1,210	1,150
Selenium	1,500							UJ	3.6 J	1.5 J	2.2 J	4 J	UJ	0.8 J	4.4 J	2.9 J	0.24 J	8.1 J	UJ	1.7 J	2.4 J
Silver	1,500							0.52 J	0.65 J	0.44 J	0.86 J	2.4 J	3.3 J	2.3 J	0.5 J		0.8 J	1 J	1.3 J	0.047 J	1.1 J
Sodium	10,000*	697	1,120	313	158	57	144	450	867	310	778	285	89	77.8	203	48.1	347	666	663	111	510
Thallium	10,000*							1.8 J	1.6 J	0.94 J	0.39 J	UJ	UJ	UJ	UJ	0.75 J	UJ	1.4 J	2.6 J	UJ	6.9 J
Vandium	10,000*	11.2	10.3	16.9	15.8	13.1	15.3	19.6	24	11.4	13.6	19.2	17	17.7	29	11.7	10.6	22.5	16.6	15.8	13.8
Zinc	10,000	1,820	1870	140	582	575	215	164 J	336 J	86 J	285 J	708 J	478 J	340 J	818 J	122 J	59.7 J	1950 J	1320 J	236 J	1420 J

Notes:

1. Soil Cleanup Objectives source is 6NYCRR Part 375 Environmental Remediation Programs December 2006 Edition (Part 375)
2. Only compounds with one or more detections are shown.
3. µg/Kg = micrograms per Kilogram (equivalent to parts per billion or ppb)
4. mg/Kg = milligrams per Kilogram (equivalent to parts per million or ppm)
5. Blank spaces indicate that the analyte was not detected.
6. Analytical results from 1999, during the May 1999 Phase II ESA completed by Clough, Harbour & Associates LLP are differenciated with the prefix PH II. Analytical results from the Phase II were not validated by an independent validator, but by the analytical laboratory.
7. (*) = The cap for individual VOCs and SVOCs that do not have an SCO is 100,000 ug/Kg for residential use, 500,000 ug/Kg for commercial use and 1,000,000 ug/Kg for industrial use. The cap for individual metals that do not have an SCO is 10,000 mg/Kg.
8. (-) = No regulatory value is associated with this parameter
9. NA = parameter not analyzed
10. Analytes that were detected at concentrations exceeding Commercial Soil Cleanup Objectives are depicted in shaded cells
11. Remedial Investigation sample data qualifers were applied by Judy Harry, Data Validation Services
12. Analytical results from June 2008 where completed by TVGA Consultants during the Remedial Investigation for the Site

Table 8 (Continued)
Former Edgewood Warehouse Site
Final Engineering Report
Remaining Soil Contamination
Summary of Analytical Results

	SOIL CLEANUP OBJECTIVE COMMERCIAL USE	PH II- MW-1	PH II- MW-4	PH II- MW-5	PH II- MW-7	PH II- MW-8	PH II- TB-1	PH II- TB-3	PH II- TB-4	PH II- TB-9	TP-2	TP-2	TP-2	TP-5
Date Collected		Mar-99	Mar-99	Mar-99	Mar-99	Mar-99	Mar-99	Mar-99	Mar-99	Mar-99	Jun-08	Jun-08	Jun-08	Jun-08
Interval Sampled (feet below grade)		2-4	2-3	2	2-4	2	1-3	1-3	1-3	1-3	2.5	3.5	8	1-5
Volatile Organic Compounds (µg/Kg)														
Acetone	500,000	130	47	61	130	100 J			100			8.7	UJ	
2-Butanone (MEK)	500,000*				37								UJ	
Benzene	44,000									7	UJ		UJ	
Carbon Disulfide	500,000*			8	7	26 J							UJ	
Carbon Tetrachloride	22,000								7		UJ		UJ	
Chloroethane	500,000*		12										UJ	
Chloroform	350,000					8 J							UJ	
Methylene Chloride	500,000					9 J							UJ	
Styrene	500,000*										UJ		UJ	UJ
Tetrachloroethene	150,000							370 J			UJ		UJ	UJ
Trichloroethene	200,000		19			8 J		47 J		23	UJ		3.5 J	
Xylene (Total)	500,000										UJ		10 J	UJ
1,1,1-Trichloroethane	500,000		25				10	25 J			UJ		UJ	
1,1,2,2-Tetrachloroethane	500,000*		6 J								UJ		UJ	UJ
1,1-Dichloroethane	240,000		12										UJ	
1,1-Dichloroethene	500,000									8			UJ	
Total VOCs	-	130	121	69	174	151	10	442	107	38	0 J	8.7	13.5 J	0 J
Semi-Volatile Organic Compounds (µg/Kg)														
Acenaphthene	500,000										220	52	140	4,100
Acenaphthylene	500,000					2,100					110			220
Anthracene	500,000		2,200			3,500					940	220	260	9,000
Benzo(a)anthracene	5,600	320	4,700			7,700					3,200	960	620	21,000
Benzo(a)pyrene	1,000		3,700			6,700					2,700 J	880	640 J	18,000 J
Benzo(b)fluoranthene	5,600		4,900			9,700					3,300 J	1,300	790 J	29,000 J
Benzo(g,h,i)perylene	500,000					2,600					640 J	270	170 J	4,500 J
Benzo(k)fluoranthene	56,000		1,600			3,500					1,700 J	470	570 J	12,000 J
Carbazole	500,000*		1,600			3,000					490	80	170	5,400
Indeno(1,2,3-cd)pyrene	5,600					3,100					700 J	300	170 J	4,700 J
Chrysene	56,000	310	5,100			8,100					2,300	1,100	750	21,000
Dibenz(a,h)anthracene	560										250 J	110	56 J	1,600 J
Dibenzofuran	500,000*					1,500					150		130	2,000
Bis(2-ethylhexyl)phthalate	500,000*								360					UJ
Fluoranthene	500,000	720	8,100			16,000					5,500	1,900	1,400	45,000
Fluorene	500,000		1,800			2,200					230	46	120	3,000
2-methylnaphthalene	500,000*										63		300	710
4-methylphenol	500,000*													72
Naphthalene	500,000					2,100					74		220	1,800
Phenanthrene	500,000	830	13,000			17,000					3,700	690	1,100	34,000
Pyrene	500,000	630	8,800			13,000					7,200	1,600	1,400	50,000
TOTAL SVOCs	-	2,810	55,500	0	0	101,800	0	0	360	0	33,247 J	9,926	8,866 J	263,222 J
PCBs (µg/Kg)														
Aroclor-1254	1,000					1,000								
Aroclor- 1260	1,000												94	
Metals (mg/Kg)														
Total Solids	-	81.1	77.45	78.67	63.14	78.34	84.21	66.71	71.33	81.18	NA	NA	NA	NA
Aluminum	10,000*	12,400	8,780	12,400	23,100	6,150	13,200	18,300	16,900	8,410	8,510	11,000	4,050	11,100
Antimony	10,000*										1.1 J	UJ	1.1 J	UJ
Arsenic	16		24.3				15.3				19.2 J	13.4 J	22.2 J	8.1 J
Barium	400	65	138	101	174	103	92.4	155	126	41	123	119	74.2	158
Berylium	590	0.691	1.1	0.758	1.11	0.422	1.14	1.03	0.929	0.494	1	0.63	0.84	1.4
Cadmium	9.3			0.93	1.36	0.865	0.637	1.29	1.2		0.47	0.19	0.45	0.4
Calcium	10,000*	2,010	9,880	1,890	3,300	3,140	20,600	2,620	1,710	9,570	49,900	26,400	7,280	76,800
Chromium	400	16.5	48.9	79.1	19.7	15.7	28.7	27	19.9	11.9	27	20.5	17.6	11.2
Cobalt	10,000*	10.4	10.6	15.9	7.02	6.01	11.4	15.9	13.1	9.41	7.1	12	5.9	3.9
Copper	270	18	231	43.1	31.1	214	26.4	15.8	13.9	25.9	102	57.9	128	26.5
Iron	10,000*	27,400	36,800	37,500	20,000	18,900	257,400	33,700	28,500	22,800	24,000	34,200	22,400	15,400
Lead	1,000	16.5	796	34.1	26.2	77	30	32.9	28.1	16.2	145	97.1	177	255
Magnesium	10,000*	3,340	2,910	3,510	3,250	2,260	5,880	3,750	3,010	8,050	11,800	6,860	1,530	10,400
Manganese	10,000	389	462	226	210	374	588	492	856	277	667	551	297	1,060
Mercury	2.8	0.018	0.066	0.023	0.43	0.3	0.2	1.1	0.039		0.29	0.085	0.96	0.093
Nickel	310	25.2	23	213	21.6	24.5	45.2	34.5	25.2	23.3	57.4	40.7	151	12.9
Potasium	10,000*	1,500	1,050	1,680	1,650	788	1,430	1,940	1,190	1,080	952	1,440	612	877
Selenium	1,500										1.2 J	UJ	UJ	3.3 J
Silver	1,500					12.9					0.79	0.5	0.54	0.46
Sodium	10,000*	153	165	114	128	88.8	164	146	129	116	344 J	242 J	181 J	429 J
Thallium	10,000*										UJ	UJ	UJ	UJ
Vandium	10,000*	24.6	31.9	21.9	24.8	13	20.4	33.9	31.3	17.4	14.2	20.1	14.2	15.7
Zinc	10,000	79.3	187	110	110	167	108	161	100	71.8	214	117	131	223

Notes:

1. Soil Cleanup Objectives source is 6NYCRR Part 375 Environmental Remediation Programs December 2006 Edition (Part 375)
2. Only compounds with one or more detections are shown.
3. µg/Kg = micrograms per Kilogram (equivalent to parts per billion or ppb)
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7. (*) = The cap for individual VOCs and SVOCs that do not have an SCO is 100,000 ug/Kg for residential use, 500,000 ug/Kg for commercial use and 1,000,000 ug/Kg for industrial use. The cap for individual metals that do not have an SCO is 10,000 mg/Kg.
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10. Analytes that were detected at concentrations exceeding Commercial Soil Cleanup Objectives are depicted in shaded cells
11. Remedial Investigation sample data quailifers were applied by Judy Harry, Data Validation Services
12. Analytical results from June 2008 where completed by TVGA Consultants during the Remedial Investigation for the Site

Table 8 (Continued)
Former Edgewood Warehouse Site
Final Engineering Report
Remaining Soil Contamination
Summary of Analytical Results

	SOIL CLEANUP OBJECTIVE COMMERCIAL USE	TP-8	TP-9	TP-10	TP-10	TP-11	TP-12	TP-13	TP-14	TP-15	TP-15	SP-1	SP-2	SP-3
Date Collected		Jun-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08
Depth		5	3	2	3.5	2	2	5	3	5	6	2	4	4
Volatile Organic Compounds (µg/Kg)														
Acetone	500,000	43 J	UJ		55	UJ	21 J	36		85	100			NA
2-Butanone (MEK)	500,000*	8.3 J	UJ		7.1	UJ	11 J	6	UJ	19	15			NA
4-Methyl-2-Pentanone	100,000*		UJ			UJ	20 J		UJ					NA
Carbon Disulfide	500,000*	UJ	UJ			UJ	4 J			9.3				NA
cis-1,2-Dichloroethene	500,000*	UJ	UJ			3.2 J	UJ	5.6	11					NA
Cyclohexane	500,000*		UJ			UJ	UJ		UJ	31				NA
Ethylbenzene	500,000*	UJ	UJ			UJ	UJ		UJ	7.2				NA
Isopropylbenzene	500,000*	UJ	UJ			UJ	UJ		UJ		13			NA
Methyl Acetate	500,000*		UJ			UJ	UJ		UJ					NA
Methylcyclohexane	500,000*		UJ			UJ	UJ		UJ	4.5	4.6			NA
Methylene Chloride	500,000	UJ	UJ			UJ	UJ							NA
Tetrachloroethene	150,000	UJ	UJ			UJ	UJ		UJ			5.4		NA
Trichloroethene	200,000		UJ			81 J	9.1 J	11	14 J	8.2				NA
Toluene	500,000	UJ	UJ			UJ	3.8 J		UJ			15	12	NA
Vinyl Chloride	13,000	UJ	UJ			UJ	UJ							NA
Xylene (Total)	500,000	UJ	UJ			15 J	6.9 J		5.2 J	13	10			NA
1,1,1-Trichloroethane	500,000		UJ			6.2 J	11 J	4.7	11 J					NA
1,1-Dichloroethane	240,000	UJ	UJ			UJ	UJ	22						NA
Total VOCs	-	51.3 J	0 J	0	62.1	105.4 J	86.8 J	85.3	41.2 J	177.2	142.6	20.4	12	NA
Semi-Volatile Organic Compounds (µg/Kg)														
Acenaphthene	500,000			51		140		60						
Acenaphthylene	500,000		100											
Anthracene	500,000	54	160	140		340		86	41	95	240			
Benzaldehyde	500,000*													
Benzo(a)anthracene	5,600	200	640	290		840			230	71				
Benzo(a)pyrene	1,000	140	650	250		810			260	76				
Benzo(b)fluoranthene	5,600	150	880	340		1,100	47	46	300	84	45			
Benzo(g,h,i)perylene	500,000		230	110		230			99					
Benzo(k)fluoranthene	56,000	110	680	140		750			270	63				
1,1'-biphenyl	500,000*													
Caprolactam	500,000*										950 J			
Carbazole	500,000*		66			210								
Indeno(1,2,3-cd)pyrene	5,600		270	130		260			120	42				
4-Chlorophenyl-phenylether	500,000*							420						
Chrysene	56,000	300	650	280		1,000		65	340	96	53		53	
Dibenz(a,h)anthracene	560		86			97			45					
Dibenzofuran	500,000*					170		82			290			
Fluoranthene	500,000	250	1,200	590		1,900	52	52	380	130	79		53	
Fluorene	500,000	43	44	54		130		99			340			
2-methylnaphthalene	500,000*	71	75			340		45	59		190			
4,6-dinitro-2-methylphenol	500,000*							1,100						
4-methylphenol	500,000*													
Naphthalene	500,000	44	54			280								
4-nitroaniline	500,000*							1,100						
N-nitrosodiphenylamine	500,000*							420						
Phenanthrene	500,000	130	640	420		1,600		180	230	86	1,300		57	
Pyrene	500,000	290	1,100	460		1,600	41	89	360	220	240			
TOTAL SVOCs	-	1,782	7,525	3,204	0	11,657	140	3,784	2,734	963	3,727 J	0	163	0
PCBs (µg/Kg)														
Aroclor-1248	1,000		84				280							
Aroclor- 1260	1,000		38											
Metals (mg/Kg)														
Total Solids	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aluminum	10,000*	8,940	10,500	14,600	12,600	9,760	21,900	11,900	8,540	10,000	17,600	10,300	14,400	14,200
Antimony	10,000*	0.76 J	0.31 J	2 J	UJ	0.67 J	2 J	UJ	UJ	0.19 J	UJ	0.18 J	UJ	0.51 J
Arsenic	16	10.7 J	19.6 J	15.7 J	19.4 J	17.5 J	10 J	12.5 J	22.4 J	13.7 J	8.4 J	3.9 J	10.8 J	8.9 J
Barium	400	75.9	102	153	83.5	142	602	167	137	78.7	88.7	112	131	136
Beryllium	590	0.52	0.71	0.36	0.65	0.67	2.6	0.67	0.39	0.49	0.61	0.47	0.86	0.73
Cadmium	9.3	0.13	0.32	0.2		0.97	1.6	0.1		0.12		0.26	0.58	0.69
Calcium	10,000*	27,600	4,520	8,920		4,900	90,900	1,180	376	775	913	2,240	3,540	4,940
Chromium	400	14.8	15.5	626	17.8	214	93.4	15.6	19.7	12	18.9	12.5	19.9	19.3
Cobalt	10,000*	12.5	10.6 J	5.9 J	13.6 J	11.9 J	3.6 J	13.7 J	7 J	9.7 J	7.3 J	7.8	14	17.9
Copper	270	61	55.9	130	47.2	85.3	44.4	35.1	47.6	34.5	11.6	10.4	69.3	29.8
Iron	10,000*	37,400	28,900	33,200	32,300	41,000	14,300	29,900	44,900	23,400	28,600	20,800	28,200	31,300
Lead	1,000	36.9	94.1	116	20.8	121	455	22	44.4	19	13.6	15.5	107	24.7
Magnesium	10,000*	9,070	4,440	3,450	3,230	2,580	4,320	3,020	2,920	3,150	3,660	2,210	3,380	4,590
Manganese	10,000	427	723 J	232 J	311 J	484 J	7,640 J	323 J	222 J	422 J	195 J	744	205	1,650
Mercury	2.8	0.012	0.095			0.067		0.016	0.1	0.026	0.024	0.03	0.27	0.05
Nickel	310	34	31	50.2	30.6	110	38.6	32.5	22.4	23.6	18.1	13	27.5	37
Potasium	10,000*	1,600	931	2,770	860	1,180	1,240	959	1,500	698	982	722	1,510	1,140
Selenium	1,500	3.1 J	1.2 J	1.3 J	0.75 J	1.6 J	1.5 J	3.4 J	2.9 J	0.75 J	1.7 J	1.5 J	2.5 J	0.17 J
Silver	1,500	0.57	0.035	0.11	0.15	0.22	0.59	0.2	0.49	0.054	0.24	0.12		
Sodium	10,000*	118 J	96.5	683	100	126	835	99	122	66.9	177	118 J	122 J	141 J
Thallium	10,000*	1.5 J			1.6	0.46		0.87			0.65	0.51		0.85
Vandium	10,000*	17	15.1	28.2	21	31.4	15	20.7	15.8	15.2	27.9	17.7	24.6	25.2
Zinc	10,000	116	243 J	228 J	103 J	280 J	903 J	114 J	91.4 J	98 J	74.7 J	66.5 J	191 J	91.8 J

Notes:

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9. NA = parameter not analyzed
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Table 8 (Continued)
Former Edgewood Warehouse Site
Final Engineering Report
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Summary of Analytical Results

	SOIL CLEANUP OBJECTIVE COMMERCIAL USE	SP-4	SP-6	SP-7	SP-8	SP-9	SP-9	SP-10	SP-12	SP-14	SP-15	TP-4 Sidewall 2	TP-4 Sidewall 8	TP-22 Sidewall 2	TP-22 Sidewall 5	TP-22 Sidewall 7	TP-22 Floor 3
Date Collected		Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Jul-08	Oct-18	Oct-18	Oct-18	Oct-18	Oct-18	Oct-18
Depth		2	4	1.5	10	2	7	6	3	2.5	9						
Volatile Organic Compounds (µg/Kg)																	
Acetone	500,000					NA	130	49		2400		NA	NA	NA	NA	NA	NA
2-Butanone (MEK)	500,000*	3.7			5.5	NA	47	16		110	6.5	NA	NA	NA	NA	NA	NA
Benzene	44,000					NA				5.7		NA	NA	NA	NA	NA	NA
Carbon Disulfide	500,000*					NA	7.1			3.1 NJ		NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	500,000*					NA	4.9		80			NA	NA	NA	NA	NA	NA
Cyclohexane	500,000*					NA				44		NA	NA	NA	NA	NA	NA
Ethylbenzene	500,000*					NA				17		NA	NA	NA	NA	NA	NA
Isopropylbenzene	500,000*					NA				69		NA	NA	NA	NA	NA	NA
Methylcyclohexane	500,000*		13		12	NA	2.8			130	29	NA	NA	NA	NA	NA	NA
Tetrachloroethene	150,000					NA	4.9		8.6			NA	NA	NA	NA	NA	NA
Trichloroethene	200,000					NA			280		8	NA	NA	NA	NA	NA	NA
Toluene	500,000	5	5.2		3.8	NA	7.1	5.8	3.2	44	7	NA	NA	NA	NA	NA	NA
Vinyl Chloride	13,000					NA	2.9					NA	NA	NA	NA	NA	NA
Xylene (Total)	500,000					NA				190		NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	500,000		2.6			NA						NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	500,000*					NA			2.6			NA	NA	NA	NA	NA	NA
Total VOCs	-	9	21	0	21	NA	207	71	374	3,013 J	51	NA	NA	NA	NA	NA	NA
Semi-Volatile Organic Compounds (µg/Kg)																	
Acenaphthene	500,000	51	69	57	98	2,300				51		NA	NA		69	1,800	150
Acenaphthylene	500,000	140		82		3,600	45			49		NA	NA	500	89	590	170
Anthracene	500,000	240	310	200	240	11,000				81		NA	NA		490	3,900	860
Benzaldehyde	500,000*	UJ	UJ	UJ	UJ	91 J	UJ	UJ	UJ	UJ	UJ	NA	NA				
Benzo(a)anthracene	5,600	400	250	640	350	3,500 J	56		45	140	120	NA	NA	2,900	1,300	12,000	1,800
Benzo(a)pyrene	1,000	340	270	520	290	16,000			40	120		NA	NA	2,800	1,100	10,000	1,700
Benzo(b)fluoranthene	5,600	450	350	680	410	20,000	96		49	150	190	NA	NA	3,300	1,100	14,000	2,000
Benzo(g,h,i)perylene	500,000	200	150	290	170	8,100	64			75	71	NA	NA	1,800	750	6,900	1,400
Benzo(k)fluoranthene	56,000	150	130	300	160	3,100				52	89	NA	NA	1,800		6,100	1,000
1,1'-biphenyl	500,000*					790						NA	NA				
Carbazole	500,000*	81	63	120	110	3,600						NA	NA		200	2,900	330
Indeno(1,2,3-cd)pyrene	5,600	230	140	300	190	9,100	60			79	60	NA	NA	1,700	680	6,100	1,100
Chrysene	56,000	390	270	640	370	17,000	58		41	160	320	NA	NA	2,500	1,300	11,000	1,800
Dibenz(a,h)anthracene	560	72	47	96	60	3,000 J						NA	NA				
Dibenzofuran	500,000*	150	59	57	98	6,200				62 NJ		NA	NA		130	1,200	490
2,4-dimethylphenol	500,000*					66						NA	NA		130		150
Bis(2-ethylhexyl)phthalate	500,000*	53		100		210 J	130			73 NJ	310	NA	NA				590
Fluoranthene	500,000	930	990	1,700	950	54,000	100		86	320	370	NA	NA	5,000	3,300	27,000	4,300
Fluorene	500,000	140	59	80	120	6,100				110		NA	NA		270	1,600	720
4-methylphenol	500,000*					150						NA	NA				
Naphthalene	500,000	460	150	76	88	2,100					68	NA	NA		1,400	2,100	770
Phenanthrene	500,000	850	740	1,200	980	56,000	74		66	130	270	NA	NA	1,500	2,600	20,000	4,400
Phenol	500,000					100						NA	NA				
Pyrene	500,000	820	520	1,500	780	42,000	93		75	280	170	NA	NA	4,200	2,900	21,000	4,100
TOTAL SVOCs	-	6,266	4,590	8,623	5,366	268,007 J	776	0	402	1,881 J	2,089	NA	NA	28,000	17,808	148,190	27,830
PCBs (µg/Kg)																	
Aroclors	1,000				UJ	UJ						NA	NA	NA	NA	NA	NA
Metals (mg/Kg)																	
Total Solids	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aluminum	10,000*	11,500	9,840	12,200	11,300	9,030	NA	12,200	8,480	9,760	11,900	NA	NA	NA	NA	NA	NA
Antimony	10,000*	UJ		UJ	UJ	UJ	NA	UJ	UJ	UJ	UJ	NA	NA	NA	NA	NA	NA
Arsenic	16	7.7 J	11.6	9.1 J	10.1 J	10.5 J	NA	4.9 J	16.5 J	11.6 J	10.1 J	17.5	16.6	NA	NA	NA	NA
Barium	400	104	132	191	133	108	NA	96.5	548	158	351	NA	NA	NA	NA	NA	NA
Berylium	590	0.55	0.78	0.6	0.62	0.56	NA	0.37	0.45	0.68	0.57	NA	NA	NA	NA	NA	NA
Cadmium	9.3	0.25	0.096	0.3	0.32	0.27	NA	0.17	0.44	0.53	0.43	NA	NA	NA	NA	NA	NA
Calcium	10,000*	6,630	9,110	27,300	18,700	8,000	NA	1,910	19,900	6,270	6,700	NA	NA	NA	NA	NA	NA
Chromium	400	15.7	20.3	19.3	18.4	18.5	NA	12.6	14.6	19.2	62.8	NA	NA	NA	NA	NA	NA
Cobalt	10,000*	9.8	11.9	14.5	14	11.3	NA	6.2	11	25	15.7	NA	NA	NA	NA	NA	NA
Copper	270	26.4	28	33	39.3	24.9	NA	9.5	45	68.4	30.8	NA	NA	NA	NA	NA	NA
Iron	10,000*	24,200	24,200	27,800	28,100	21,000	NA	20,100	32,800	35,800	22,000	NA	NA	NA	NA	NA	NA
Lead	1,000	17.8	29.9	22.1	38.9	33.8	NA	13.7	16.3	432	16.3	NA	NA	NA	NA	NA	NA
Magnesium	10,000*	4,180	2,400	10,600	3,920	3,270	NA	2,360	6,240	4,440	5,450	NA	NA	NA	NA	NA	NA
Manganese	10,000	231	282	361	276	303	NA	219	315	425	317	NA	NA	NA	NA	NA	NA
Mercury	2.8	0.038	0.013	0.011	0.017	0.074	NA	0.06	0.014	0.17	0.042	NA	NA	NA	NA	NA	NA
Nickel	310	26	22	38.5	27.8	23.1	NA	12.5	36.3	79.9	73.8	NA	NA	NA	NA	NA	NA
Potasium	10,000*	993	1,000	2,160	1,130	895	NA	835	1,020	1,280	1,110	NA	NA	NA	NA	NA	NA
Selenium	1,500	UJ	2	2.6 J	2.7 J	3 J	NA	1.4	1.1 J	4.3 J	2.1 J	NA	NA	NA	NA	NA	NA
Sodium	10,000*	157 J	102	203 J	123 J	199 J	NA	127	111 J	139 J	157 J	NA	NA	NA	NA	NA	NA
Thallium	10,000*						NA			0.33		NA	NA	NA	NA	NA	NA
Vandium	10,000*	19.6	19.6	19.9	19.6	17.8	NA	20.5	16.4	15.7	20.4	NA	NA	NA	NA	NA	NA
Zinc	10,000	76 J	75.9	85.4 J	77.8 J	90.6 J	NA	63.7	176 J	219 J	76.4 J	NA	NA	NA	NA	NA	NA

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