CLOSED ALUMAX EXTRUSIONS, INC. FACILITY

320 & 440 SOUTH ROBERTS ROAD

CHAUTAUQUA COUNTY

DUNKIRK, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: V00589

Prepared for:

Chautauqua County Department of Public Facilities

454 North Work Street
Falconer, New York

Prepared by:

LaBella Associates D.P.C.

300 Pearl Street, Buffalo, New York

(716) 551-6281

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
#1	11/2021	Update 2004 CICP/O&M Plan to current SMP Template	

NOVEMBER 2021

CERTIFICATION STATEMENT

I, Robert Napieralski, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375] and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ [QEP]

NOVEMBER 1, 2021

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List of Acronyms

AS	Air Sparging
ASP	Analytical Services Protocol
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAMP	Community Air Monitoring Plan
C/D	Construction and Demolition
CFR	Code of Federal Regulation
CLP	Contract Laboratory Program
COC	Certificate of Completion
CO2	Carbon Dioxide
CP	Commissioner Policy
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
GHG	Green House Gas
GWE&T	Groundwater Extraction and Treatment
HASP	Health and Safety Plan
IC	Institutional Control
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
O&M	Operation and Maintenance
OM&M	Operation, Maintenance and Monitoring
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PID	Photoionization Detector
PRP	Potentially Responsible Party
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SAC	State Assistance Contract

SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SOP	Standard Operating Procedures
SOW	Statement of Work
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-slab Depressurization
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program

ES EXECUTIVE SUMMARY

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

Site Identification:	Site ID No.V00589, Closed Alumax Extrusions, Inc. Facility Site – 320 & 440 South Roberts Road, Dunkirk, New York
Institutional Controls:	1. The property may be used for restricted-commercial or restricted-industrial use.
	2. All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP).
	3. All ECs must be inspected at a frequency and in a manner defined in the SMP.
	4. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or the Chautauqua County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
	5. Groundwater and other environmental or public health monitoring must be performed as defined in this SMP.
	6. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP.
	7. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP.

Site Identification:	Site ID No.V00589, Closed Alumax Extrusions, Inc. Facility Site – 320 & 440 South Roberts Road, Dunkirk, New York

	8. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP.
	9. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP.
	10. Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Deed Amendments/Restrictions.
	11. Vegetable gardens and farming on the site are prohibited.
Engineering Controls:	1. Cover system
	2. Vapor barrier for any new structures in the portion of the site identified as a residual source area only.

Inspections:	Frequency
1. Cover inspection	Annually
Monitoring:	
1. Groundwater	Annually
Reporting:	
1. Periodic Review Report	Annually

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

1.0 INTRODUCTION

1.1 General

This SMP is a required element of the remedial program for the Closed Alumax Extrusions, Inc. Facility located in Dunkirk, New York (hereinafter referred to as the "site"). See Figure 1. The site is currently in the New York State (NYS) Voluntary Cleanup Program (VCP), Site No. V00589, which is administered by the New York State Department of Environmental Conservation (NYSDEC). This SMP supersedes the 2004 Combined Institutional Control Plan/Operations and Maintenance Plan (CICP/OMP), which previously functioned as the SMP.

Alcoa Inc. (Alcoa) entered into a Voluntary Cleanup Agreement (VCA) in August 2002 with the NYSDEC to remediate the site. A figure showing the location and boundaries of this site is provided in Figure 3. The boundaries of the site are more fully described in the metes and bounds site description that is part of the November 2004 Deed Amendments/Restrictions provided in Appendix 1.

After completion of the remedial work, some contamination was left at this site, which is hereafter referred to as "remaining contamination". ICs and ECs have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. A Deed Restriction/Amendment granted to the NYSDEC, and recorded with the Chautauqua County Clerk, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Deed Restriction/Amendment is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Deed Restriction/Amendment and the grantor's

successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Deed Restriction/Amendment. ; Failure to comply with this SMP is a violation of Environmental Conservation Law, 6NYCRR Part 375 and the VCA (#V00589) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix 2 of this SMP.

This SMP was prepared by LaBella Associates D.P.C., on behalf of Chautauqua County, in accordance with the requirements of the NYSDEC's Division of Environmental Remediation (DER)-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Deed Restriction/Amendment for the site.

1.2 Revisions

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

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the VCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan (EWP). If the ground-intrusive activity qualifies as a change-of-use as defined in 6 NYCRR Part 375, the above-mentioned 60-day advance notice is also required.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Notice within 48 hours of any non-routine maintenance activities.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

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

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

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

The table below includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix 2.

Notifications*

Name	Contact Information
Ms. Megan Kuczka, NYSDEC Project Manager	716-851-7220 megan.kuczka@dec.ny.gov
Ms. Andrea Caprio, NYSDEC Regional Engineer	716-851-7220 andrea.caprio@dec.ny.gov
Ms. Kelly Lewandowski, Chief, Site Control Section	518-402-9553 kelly.lewandowski@dec.ny.gov
Ms. Stephanie Selmer, NYSDOH Project Manager	518-402-7890 Stephanie.selmer@health.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The site is located in Dunkirk, Chautauqua County, New York and is identified as SBL Nos. 79.16-2-4 and 79.16-2-5 on the Chautauqua County Tax Map (see Figure 2). The site is an approximately 12-acre area and is bounded by undeveloped, industrial property and a freezer warehouse to the north, undeveloped, industrial property to the east, residential properties to the west and a rail line to the south; Progress Drive, constructed in 2014, also transects the site in a northeast-southwest general direction (see Figure 3 – Site Plan). The boundaries of the site are more fully described in Appendix 1 – Deed Restriction/Amendment. The owners of the site parcels at the time of issuance of this SMP are:

- SBL No. 79.16-2-4
  Refresco Beverages US, Inc.
- SBL No. 79.16-2-5
  Chautauqua County
  454 North Work Street
  Falconer, New York 14733

Since the VCA was issued in 2002, owners of the parcels comprising the site have included:

SBL 79.16-2-4

- Alcoa, Inc. (2004)
- Star Wine LLC (2005)
- Cliffstar Corporation (2009)
- Cliffstar LLC (2010)

- Refresco Beverages US, Inc. (acquisition date is unknown at this time)

SBL 79.17-2-5

- Alcoa, Inc. (2004)
- Chautauqua County (2008)

2.2 Physical Setting

2.2.1 Land Use

The Site consists of the following: an approximately 7,200 square-foot vacant, office building. The remaining portions of the property generally consist of old concrete building foundation slabs (former 140,000 square foot building demolished in 2009) and undeveloped, fallow land. The entirety of the site is currently unoccupied. Progress Drive also transects the site in a northeast-southwest general direction. The site is zoned for commercial use.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include manufacturing, commercial, residential, and railroad properties. The property immediately south of the Site includes an active rail line; the properties immediately north of the Site include a freezer warehouse and an undeveloped, industrial property; the property immediately east of the Site includes an undeveloped, industrial property; and the properties to the west of the Site include residential properties.

2.2.2 Geology

The following geological information was compiled from the site 2004 CICP/O&M Plan, the site 2014 Corrective Measures Summary report, the site annual Periodic Review Reports completed since 2014, and the recently-approved SMP for the adjacent Edgewood property. The site stratigraphy includes soil/fill overlying native material and shale bedrock across the site. The overburden stratigraphy can be divided into three significant units, which are listed in descending order.

Soil/Fill Material

The soil/fill material on the Site is present as the uppermost unit at the site and varies in thickness. In general, the uppermost soil/fill material primarily consists of concrete rubble and crushed masonry demolition debris from the former on-site building that was spread across the ground surface in areas that are not covered by concrete building slabs or Progress Drive.

Lacustrine Native Material

A layer of lacustrine deposits, consisting of clayey silts and silty clay are located across the Site and varies in thickness.

Shale Bedrock

Weathered shale is located across the site at typically shallow depths. The weathered shale is part of the upper Dunkirk Shale, which is the uppermost bedrock layer that underlies the entire site. This layer is friable and ranges in color from gray to dark gray. Below the shale bedrock is competent shale bedrock that is also part of the Dunkirk Shale.

2.2.3 Hydrogeology

The Site is primarily covered with aged asphalt pavement, concrete building slabs and low conductivity clayey soil; therefore, groundwater recharge areas at the site are believed to be fairly limited. Historical hydrogeologic investigations at the site and the neighboring properties have indicated a fairly complex groundwater flow pattern in the shallow bedrock and is believed to be impacted by bedrock fractures, utilities, and building foundations. The effect of the utilities (sewers and water lines) and building foundations is aided by the low conductivity of both the soils and bedrock,

which allows for greater contrasts in the groundwater levels than would be expected from higher conductivity material.

Based upon well gauging performed in December 2020, the depth to groundwater within the on-site wells (AL-1, AL-2 and AL-7) generally ranges from approximately four inches to almost eight feet below the existing ground surface, and groundwater flows generally to the north across the site, with localized groundwater flow to the southwest in the vicinity of AL-1. The locations of the on-site wells can be found in Figure 3.

Fracture patterns identified in core samples historically advanced at the site indicated few fractures below a depth of 24 feet in any of the three cored locations. Although near vertical fractures may exist in the bedrock, they were not encountered at depth and the fracture patterns in the shallow bedrock seem to indicate that fractures typically terminate along bedding planes.

Slug tests were historically performed within on-site monitoring wells. The results indicated that most on-site wells had a hydraulic conductivity of between 10^{-5} and 10^{-6} ft/min (10^{-5} to 10^{-7} cm/sec).

Groundwater flow velocity was historically calculated whereas the resulting flow velocity was determined to range from approximately 0.2 to 2 feet per year. However, this was based on the site-wide hydraulic gradient and localized artificial hydraulic gradients appeared to exist. This slow flow rate was supported by what appears to be the limited migration of the chlorinated hydrocarbon plume from the Residual Source Area.

Based on historical on-site groundwater analytical results, the area impacted with TCE and its degradation products appears to be fairly isolated. Additionally, the residual source area was treated by injecting zero valent iron and it was presumed that

groundwater would show continued improvement as a result of the source area treatment.

Based on the data collected at the site and the available data from the adjacent Roblin Steel property, contaminant migration appeared limited to the respective properties, both of which are unlikely to use groundwater. Potential impacts of the groundwater to the sewer were also historically evaluated, indicating that concentrations of TCE were present in the off-Site sewer at concentrations below the drinking water standards. This sewer is a combination sanitary and storm water, which also received permitted industrial discharges from the site and adjacent properties. This sewer flows to the City of Dunkirk treatment system prior to discharge. A sewer sample was collected just prior to the influent of another water source where additional dilution was expected. Therefore, the potential exposure routes via the groundwater pathway were believed to be limited and the IRM activities should have further reduced this potential exposure.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

2.3.1 Site History

Industrial development of the project Site was initiated around 1918, when the American Locomotive Company expanded its Dunkirk operations onto the project Site. The Site use has varied over time and uses have included locomotive manufacturing and finned heat exchanger fabrication (from 1918-1962), a specialty steel manufacturer (Allegheny Ludlum from 1969-1972); and, an aluminum extrusion business (from 1972-1976). In 1976, the facility was acquired by Alumax, Inc.

(Alumax), which operated an aluminum extrusion business at the Site until 1993, operating as Alumax Extrusions, Inc. Alcoa's acquisition of Alumax in 1998 included the idle Dunkirk facility. Prior to parcel acquisition by Chautauqua County and Refresco Beverages US, Inc., the site was also historically owned by Star Wine LLC and Cliffstar LLC/Cliffstar Corporation.

The Site parcel at 440 South Roberts Road and owned by Refresco Beverages US, Inc., contains an approximately 7,200-square foot office building while the remainder of the parcel consists of parking areas. The Site parcel at 320 South Roberts Road and owned by Chautauqua County, formerly contained a 140,000-square foot building that was demolished in early 2009. It should be noted that the concrete floor slabs were left-in-place at that time. The Site parcel at 320 South Roberts Road has remained vacant and undeveloped with the exception of the construction of a segment of Progress Drive that transects the Site. Progress Drive, constructed in 2014, transects both parcels associated with the Site in a northeast-southwest general direction. The plans for the construction of Progress Drive were developed and carried out in accordance with the 2004 CICP/OMP. During construction of the roadway, select portions of the former building concrete slabs were crushed and spread out on the surface of the Site outside of the new roadway limits. Construction of the roadway was completed in Fall 2014. Refer to Appendix 7 for as-builts of the Progress Drive project.

2.3.2 Remedial Investigation

An environmental investigation conducted at the Site revealed that contamination, likely associated with the historical operations, had impacted the Site, necessitating remedial activities. Constituents of potential concern (COPCs) identified within soil/fill at the Site consisted primarily of chlorinated hydrocarbons (specifically trichloroethene (TCE) and its degradation products), polycyclic aromatic hydrocarbons, polychlorinated biphenyls and metals. A residual source area containing concentrations of TCE and its degradation products was identified in the subsurface on the north-central portion of the Site. The source of the TCE is believed

to have been a former aboveground storage tank (AST), which was removed prior to Alumax's acquisition of the property. Historically, a total of 19 samples were collected from nine soil boring locations within the former on-site building, radiating outward from a metal ring, suspected to be the location of the former AST, and were also selected based on the results of a passive soil gas survey which was completed. Soil samples collected from an additional 11 locations north of the former on-site building, did not indicate significant impact by chlorinated hydrocarbons and were not considered to be part of the Residual Source Area. However deep soil samples collected just above bedrock in this area did show some impact, presumably from impacted groundwater. The building footer was believed to be situated on or keyed into bedrock, acting as a barrier for lateral migration of groundwater and contaminants. Based on site observations, a gap in the building footer may be present in the vicinity of monitoring well AL- l, accounting for the elevated chlorinated hydrocarbon concentrations in this area in contrast to other nearby wells. Boring logs indicated ash and sand fill in the vicinity of the suspect former AST location. Moving outward, the materials encountered were predominantly clay. Bedrock was generally encountered at a depth of 10-12 feet below the ground surface. This area was treated by injecting Zero valent Iron (ZVI). Zero valent iron has been proven to dramatically reduce the concentrations of chlorinated hydrocarbons upon application. Additionally, the ZVI continues to be effective for years after applications; therefore remaining organics that may remain in soils should be treated if they become mobile. A sub-slab vent system was also placed in this area of the former on-site building to prevent build-up of vapors beneath the slab, thereby, reducing the potential for vapor intrusion.

Nine groundwater monitoring wells were also installed at the Site as part of earlier investigations. These included 6 shallow wells and three deep wells. Additionally, one former production well (PW-1) was located on the property and was also used for monitoring purposes. The former production well was reportedly never used during active plant operations due to poor production rates. The shallow monitoring wells were installed to a nominal depth of approximately 17 feet below

the ground surface and were installed in this manner initially to mirror similarly-installed wells on the former Roblin property. These wells have screens approximately ten feet in length and are screened across both the top of bedrock and the groundwater surface. The shallow wells included AL-1, AL-2, AL-3, AL-4, AL-5, and AL-6. Currently, only wells AL-1, AL-2 and AL-7 are still sampled annually as part of the PRR process. Three deep wells were installed to a maximum depth of approximately 60 feet below the ground surface.

Because the main purpose of these wells was to determine the vertical extent of groundwater contamination, care was taken to limit the length of screen and also to construct the wells in such a way as to ensure that the cross contamination from the upper zone did not impact the water quality of the lower zone.

The shallow wells and the production well were sampled for TCL volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), and Target Analyte List (TAL) metals. However, NYSDEC was informed that the deep wells did not produce sufficient water to sample for a complete suite of constituents. After consultation with NYSDEC, it was agreed that the deep wells would be sampled for TCL VOCs only, and additional analysis would be performed if the sample results from the shallow wells indicated that additional parameters should be added. AL-4D did not contain sufficient water to sample and AL-6 had poor recharge that resulted in excessive sampling time. A field decision was made to eliminate the total metals from this well due to insufficient sample volume; however, a dissolved metals sample was collected and analyzed. Results from the other wells at the Site did not indicate a significant metals issue that would require the collection of a total metals sample from AL-6.

Existing off-Site well data were acquired via public sources to incorporate into the groundwater analysis for delineation purposes. The off-site data quality was not validated during the previous investigation and some of the information was considered preliminary. Therefore, it was recommended that caution be used when

considering the off-site data and that the original source of the data be referenced for interpretation. Based on a limited review, the off- Site data appeared to be of sufficient quality to be used for the delineation purposes.

With the exception of the chlorinated hydrocarbons, groundwater has not shown impacts from the COPCs identified in the soil/fill. Analytical tables and figures associated with the environmental investigation conducted at the site can be located in the Tables and Figures appendices, respectively.

A subsequent remedial activity conducted at the Site included removal and off-site disposal of sediments within two catch basins at the Site (mid-2000s). The remedial efforts also included the development of deed restrictions, which provides guidance concerning the surface cover, soil/fill excavation and management, groundwater use, and routine monitoring for the groundwater within the residual source area.

Additionally, as indicated previously, the 140,000-square foot building formerly located on the site parcel at 320 South Roberts Road was demolished in early 2009. Prior to the demolition, the asbestos-containing-materials within the former Site building were abated in accordance with the requirements outlined in 12 NYCRR Part 56 of New York State Department of Labor Industrial Code Rule 56 (ICR 56). The abatement work was completed between November and December of 2008. Demolition of the building occurred in January and February of 2009. Operation of the SSV mitigation system associated with the building ceased in conjunction with the demolition project and this system no longer exists.

2.4 Remaining Contamination

2.4.1 Soil

Constituents of potential concern (COPCs) which remain in the subsurface fill and soil throughout the Site include chlorinated hydrocarbons, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons and metals. Soils just above bedrock proximate the residual source area are impacted by TCE and its degradation products presumably from groundwater impacted in this area of the Site. Tables and Figures from the 2004 CICP/OMP report associated with the aforementioned COPCs are appended to the current tables and figures within this report (see Table of Contents).

2.4.2 Groundwater

Groundwater proximate the residual source area is impacted by TCE and its degradation products. On-site monitoring wells AL-1, AL-2 and AL-7 are located proximate the residual source area with the highest level of impact identified in AL-1 as of the December 2020 annual groundwater monitoring event. Concentrations of total VOCs in AL-1 were identified at 482 (micrograms per liter) ug/L. Tables and Figures associated with groundwater investigation completed at the Site from the 2004 CICP/OMP report are appended to the current tables and figures within this report (see Table of Contents). Table A also depicts the laboratory groundwater analytical results for each of the annual groundwater monitoring events completed at the Site dating back to 2009. Based on the comparison of the pre-remedial and the post-remedial groundwater analytical results (as a result of periodic review reports (PRR) completed annually through December 2020), the enhanced natural attenuation appears to be achieving the goal of reducing the concentrations of chlorinated hydrocarbons in the groundwater.

2.4.3 Soil Vapor

Given the known presence of chlorinated hydrocarbon impact in the on-site soils and groundwater proximate the residual source area, there is the potential for soil vapor intrusion proximate this portion of the site.

institutional and Engineering control plan

3.0 INSTITUTIONAL & ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the site, ICs and ECs are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Deed Amendment/Restriction;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the EWP (as provided in Appendix 4) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

Adherence to the ICs on the site is required by the Deed Amendment/Restriction and will be implemented under this SMP. ICs identified in the Deed Amendment/Restriction may not be discontinued without an amendment to or

extinguishment of the Deed Amendment/Restriction. The IC boundaries are shown on Figure 3. The following includes a list of the required ICs at the site.

- The site may be used for restricted-commercial or restricted-industrial use.
- All Engineering Controls must be operated and maintained as specified in the SMP.
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Chautauqua County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP.
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP.
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP.
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP.
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP.
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Deed Amendments/Restrictions.

- Vegetable gardens and farming on the site are prohibited.

The following sub-sections include further detail regarding some of the ICs identified above.

3.2.1 Site Use Restrictions

In accordance with the deed restrictions, the Site is to be used for restricted commercial or restricted industrial uses only. The deed restrictions presents the following definitions for these use categories:

- Restricted Commercial-Residential uses are not allowed under this category. Commercial uses are allowed but require engineering controls and/or institutional controls. Some types of "commercial" uses that could create "residential" types of exposures are excluded, such as day-care and health-care facilities. Retail stores, warehouse/distribution centers, service facilities and offices would be included in the commercial definition.

- Restricted Industrial-Residential and commercial uses are not allowed. Industrial uses are allowed but they require engineering controls and/or institutional controls. Metal working, manufacturing and other industrial uses are included in this category.

3.2.2 Groundwater Use Restrictions

Previous investigations conducted at the Site and adjacent properties have determined that groundwater resources are limited, particularly within the uppermost groundwater-bearing zone at the Site. Groundwater is not generally used in the vicinity of the Site, nor would it be expected to be used in the future, given the industrial character of the area and the availability of a municipal water supply in the area. The clayey soils and shale bedrock have low hydraulic conductivities and produce limited quantities of water. The most productive zone is the top five feet of the shale bedrock,

which is fractured and weathered. This zone is also considered to be perched and may be laterally limited. Groundwater in the north-central portion of the Site (i.e. residual source area) is impacted with chlorinated hydrocarbons. Low concentrations of petroleum-related constituents were encountered in other wells. The residual source area was addressed via in-situ treatment technology; however, low-level impacts to groundwater may linger due to the low conductivity and the potential dissolution of chlorinated constituents adsorbed to the clayey soils. Therefore, groundwater use restrictions were implemented at the Site to limit potential exposure to impacted groundwater and are identified in the deed restrictions recorded with the Site deed.

Although groundwater use is not prohibited, it is restricted. Should a future owner or operator determine that groundwater use is beneficial to their operations, permission from the NYSDEC must be obtained. Additionally, the owner or operator must conduct an evaluation of the suitability for the potential use of the groundwater and define the ultimate point of discharge (e.g. sanitary sewer, surface water, or reinjection) for any once-through water or blowdown from any recirculation system(s). Use of groundwater may require appropriate treatment to meet water quality requirements for use and discharge. Groundwater extracted for testing, monitoring and remediation, while excluded from the provisions of this groundwater use restriction, must meet local, state and federal disposal requirements.

3.2.3 Excavation Work Plan

The EWP was prepared to identify environmental guidelines for the management of subsurface soil/fill and long-term maintenance of the cover system. The EWP can be found in Appendix 4 and includes requirements that address the following key components:

- Any breach of the cover system;
- Surface erosion and storm water runoff control;

- Management of excavated soil/fill;
- Allowable reuse of excavated soil/fill;
- Requirements for off-site fill and grading materials;
- Notification requirements; and,
- Annual reporting and certification results.

3.3 Engineering Controls

3.3.1 Surface Cover System

The long history of industrial use of the site has resulted in widespread, low-level impacts to site-wide soil/fill. To limit exposure to the site soil/fill, a surface soil cover system consisting of clean soil, pavement and/or concrete is required to be constructed in areas of the site where cover does not exist at the time of site redevelopment. The purpose of the cover system is to eliminate the potential for human contact with impacted soil/fill and eliminate the potential for contaminated runoff from the site. The cover system is required to consist of one or a combination of the following types of clean material:

- Soil: 12 inches of vegetated soil cover underlain by a demarcation layer in outdoor vegetated areas;
- Asphalt: A minimum of six inches of material (asphalt and sub-base material) in areas that will become roads, sidewalks and parking lots; or
- Concrete: A minimum of six inches of material (concrete and sub-base material) in areas that will become slab-on-grade structures or for roads, sidewalks and parking lots in lieu of asphalt.

The existing surface conditions at the site are depicted on Figure 4, which shows that existing site improvements consist of: (1) the office building and associated

lawn, landscaping, concrete sidewalks and asphalt parking areas that occur around the perimeter of this building situated on the western end of the site; and (2) a public roadway (Progress Drive) and associated storm water drainage ditches that dissect the site. Surface cover has previously been constructed on these two areas of the site in connection with these improvements as described below:

Office Building

The Soil Cover and Paving Plan from the 2004 CICP/OMP established the area of the site that was subject to surface cover system construction as future development occurs on the site. This area is depicted on Figure 5 and includes all areas of the site except for the existing office building and perimeter lawn, landscaping, sidewalk and parking areas. The surface cover system that exists at and around the office building is adequate and will not require modification in connection with the future development of other portions of the site.

Progress Drive Corridor

In the Summer/Fall of 2014, a new public roadway and associated storm water drainage ditches were constructed across a portion of the site. Construction details implemented for the roadway included a 12-inch sub-base followed by a 6-inch base course, 2-inch binder course and 1.5-inch top course of asphalt. Between 2-3 feet of clean, NYSDEC DER-10 approved soil, underlain by a demarcation layer (orange fencing) was placed along the margins of the roadway. The drainage ditches were then constructed within the clean soil to depths of a minimum of 12-inches above the demarcation layer. The new public roadway and associated storm water control system were constructed in accordance with the cover requirements for the site and will not require modification in connection with the future development of other portions of the site.

The remaining portions of the site are undeveloped and consist of concrete building slabs, aged asphalt, gravel or vegetated fill/soil. As further development of the site

occurs in these areas, a cover system that complies with the requirements described earlier in this section is required to be constructed in areas of the site that are currently unpaved. The required limits of this cover system are depicted on Figure 6. Components of the cover system will be inspected annually as described in Section 4.0 of this SMP and properly maintained to ensure the integrity of the cover system. To allow future site owners and developers flexibility, existing paved areas may be allowed to revert to soil cover. In this event, 12 inches of clean soil cover and vegetation will be required to be placed in these areas and the perforation of pavement left beneath the clean soil will also be required to promote drainage.

It is conceivable that a future site owner may desire to remove the cover system requirement from portions of the site. This could be achieved through soil excavation and management, and potentially more extensive sampling and evaluation in some areas of the site. Such actions are required to be discussed with the NYSDEC prior to implementation to ensure that the intent of the institutional controls is maintained and may also require certification by a NYS-licensed professional engineer. Implementation and maintenance of the cover system will be subject to annual certification by the site owner, which is discussed in Section 4.0.

The EWP provided in Appendix 4 outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed. Procedures for the inspection of the cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (Appendix 5) and associated Community Air Monitoring Plan (Appendix 6) prepared for the site. Any disturbance of the site's cover system must be overseen by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

3.3.2 Sub-slab Vapor Mitigation

The former building that occupied the Site parcel at 320 South Roberts Road contained a sub-slab venting system that was located over the residual source area. The building and sub slab venting system were demolished in early 2009. Therefore, the continued maintenance and operation of this system is no longer required.

For slab-on-grade structures, an 8-millimeter polyethylene barrier will be placed beneath the concrete for new structures built in the portion of the Site identified as the residual source area. The vapor barrier is not required in areas other than the residual source area because VOCs were not found in significant quantities on any other portion of the Site.

3.3.3 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10. Unless waived by the NYSDEC, confirmation samples of applicable environmental media are required before terminating any remedial actions at the site. Confirmation samples require Category B deliverables and a Data Usability Summary Report.

The NYSDEC may approve termination of a groundwater monitoring program. When a remedial party receives this approval, the remedial party will decommission all site-related monitoring, injection and recovery wells as per the NYSDEC CP-43 policy.

The remedial party will also conduct any needed site restoration activities, such as asphalt patching and decommissioning treatment system equipment. In addition, the remedial party will conduct any necessary restoration of vegetation coverage, trees and wetlands, and will comply with NYSDEC and United States Army Corps of Engineers

regulations and guidance. Also, the remedial party will ensure that no ongoing erosion is occurring on the site. The composite cover system is a permanent control, and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC project manager in consultation with the NYSDOH project manager, until residual groundwater concentrations are found to be consistently below the site SCGs. In the event that monitoring data indicates that monitoring for natural attenuation may no longer be required, a proposal to discontinue the monitoring will be submitted by the remedial party. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC project manager. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Quality Assurance Project Plan provided in Appendix 8.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater);

- Assessing compliance with applicable NYSDEC SCGs, particularly groundwater standards; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

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

- Sampling locations, protocol and frequency;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site – wide Inspection

Site-wide inspections will be performed at a minimum of once per year. These periodic inspections must be conducted when the ground surface is visible (i.e. no snow cover). Site-wide inspections will be performed by a qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix 9 – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- Whether stormwater management systems, such as basins and outfalls, are working as designed;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

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

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Deed Amendment/Restriction;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date; and

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental

professional, as defined in 6 NYCCR Part 375. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Post-Remediation Media Monitoring and Sampling

Groundwater Monitoring is required for evaluating the effectiveness of the ZVI application in the residual source area that was completed in December 2004. In accordance with the 2004 CICP/O&M Plan, this annual monitoring will occur at three well locations (AL-1, AL-2 and AL-7) until total concentrations of chlorinated VOCs fall below 100 ug/L in all three wells. Sampling locations, required analytical parameters and schedule are provided in the table below – Post Remediation Sampling Requirements and Schedule. Modification to the frequency or sampling requirements will require approval from the NYSDEC.

Post Remediation Sampling Requirements and Schedule

Sampling Location	Analytical Parameters	Schedule
	TCL VOCs USEPA Method 8260	
AL-1	X	Annual
AL-2	X	Annual
AL-7	X	Annual

Detailed sample collection and analytical procedures and protocols are provided Appendix 8 – Quality Assurance Project Plan (QAPP).

4.3.1 Groundwater Sampling

Groundwater monitoring will be performed annually to assess the performance of the remedy. The network of monitoring wells has been installed to monitor

groundwater conditions at the site. The network of on-site wells has been designed based on the following criteria:

- The monitoring wells are located within the area of previously identified groundwater impacts;
- Spatially, the monitoring wells are positioned to monitor groundwater quality within the residual source area.

The locations of the groundwater monitoring wells are depicted on Figure 3. A copy of the groundwater sampling field log is included in Appendix 3.

If biofouling or silt accumulation occurs in the on-site, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC.

Due to the low recharge rates, wells will be sampled by purging with a bailer until a minimum of three well volumes of groundwater are purged or the well is purged

dry. If the well is purged dry then the well will be sampled once sufficient volume has recovered in the well. One duplicate and one field rinseate sample will be collected and analyzed during each sampling event. The sampling frequency may only be modified with the approval of the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.3.2 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log as provided in Appendix 9 - Site Management Forms. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the QAPP provided as Appendix 8 of this document.

5.0 OPERATION & MAINTENANCE PLAN

5.1 General

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

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

A vulnerability assessment will be conducted subsequent to placement of engineering controls and post-development at the Site. This section provides a summary of vulnerability assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

The vulnerability assessment should include, but not be limited to, a discussion of potential vulnerabilities to be assessed during periodic reviews, subsequent to placement of engineering controls and post-development at the Site such as the following:

- Flood Plain: Identify whether the site is located in a flood plain, low-lying or low-groundwater recharge area.
- Site Drainage and Storm Water Management: Identify areas of the Site which may flood during severe rain events due to insufficient groundwater recharge capabilities or inadequate storm water management systems.
- Erosion: Identify any evidence of erosion at the Site or areas of the Site which may be susceptible to erosion during periods of severe rain events.

- High Wind: Identify areas of the Site and/or remedial system which may be susceptible to damage from the wind itself or falling objects, such as trees or utility structures during periods of high wind.

- Electricity: Identify the susceptibility of the Site/remedial system to power loss and/or dips/surges in voltage during severe weather events, including lightning strikes, and the associated impact on site equipment and operations.

- Spill/Contaminant Release: Identify areas of the Site and/or remedial system which may be susceptible to a spill or other contaminant release due to storm-related damage caused by flooding, erosion, high winds, loss of power etc.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the PRR.

There are currently no active ECs at the Site; as such, the Green Remediation Evaluation is limited to fossil fuel usage for travel to and from the Site during inspection/sampling events and water usage for decontamination purposes during groundwater sampling. Fossil fuel usage is associated with travel to and from the site (approximately 100 miles roundtrip from LaBella's Buffalo, New York office) during the annual inspection and groundwater sampling event (anticipated to be completed concurrently). Water usage is anticipated to be limited to less than 10-gallons per year of deionized or distilled water to be used for decontamination purposes during the annual groundwater sampling event. This water will be obtained from an Environmental Laboratory Accreditation Program (ELAP)-certified laboratory or purchased from another source.

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the Project Manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

6.2.2 Frequency of System Checks, Sampling and Other Periodic Activities

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks and or collect samples and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

Consideration shall be given to:

- Coordination/consolidation of activities to maximize foreman/labor time. In addition, carpooling will be utilized whenever possible.

6.2.3 Metrics and Reporting

As discussed in Section 7.0 and as shown in Appendix 8 – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and

document consistent implementation of green remediation during site management and to identify corresponding benefits; a set of metrics has been developed.

6.3 Remedial System Optimization

As no remedial systems are currently in place at the Site, a Remedial Site Optimization study is not required at the Site at this time. However, if and when a remedial system is installed and in operation at the Site, the following guidance may apply.

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC project manager or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data

and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focus on overall site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix 8. These forms are subject to NYSDEC revision. All site management inspection, maintenance, and monitoring events will be conducted by a qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of the table below and summarized in the Periodic Review Report.

Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Periodic Review Report	Annually, or as otherwise determined by the Department

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

All monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;

- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., air sampling logs, well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- Figures illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;

- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A PRR will be submitted to the Department beginning sixteen (16) months after the COC or equivalent document is issued. After submittal of the initial PRR, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix 1 –Deed Amendment/Restriction. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.

- Data summary tables and graphical representations of contaminants of concern by media (groundwater, air, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.
    - Trend monitoring graphs that present groundwater contaminant levels from before the start of the remedy implementation to the most current sampling data;
    - Trend monitoring graphs depicting system influent analytical data on a per event and cumulative basis;
    - O&M data summary tables;
    - A current plume map for sites with remaining groundwater contamination; and
    - A groundwater elevation contour map for each gauging event.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.
- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documentation.
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific Deed Amendment/Restriction;
    - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan; and
    - Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Deed Amendment/Restriction.
    - The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional as defined in 6 NYCRR Part 375 or Professional Engineer licensed to practice and registered in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

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

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices;*
- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate*

that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and

- *The information presented in this report is accurate and complete.*

Every five years the following certification will be added:

- *The assumptions made in the qualitative exposure assessment remain valid.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] [I have been authorized and designated by all site owners/remedial parties to sign this certification] for the site."

The signed certification will be included in the Periodic Review Report.

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

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition

exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

7.4 Remedial Site Optimization Report

In the event that an RSO is to be performed (see Section 6.3), upon completion of an RSO, an RSO report must be submitted to the Department for approval. A general outline for the RSO report is provided in Appendix 10. The RSO report will document the research/investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

8.0 REFERENCES

Declaration of Covenants and Restrictions, Deed Book 02560, Page 0509, Chautauqua County Clerk, November 22, 2004

DER-10/Technical Guidance for Site Investigation and Remediation, NYSDEC, May 3, 2010

Voluntary Clean-Up Program, Combined Institutional Control Plan/Operations and Maintenance Plan, URS Corp., June 23, 2004

Voluntary Clean-Up Program, Interim Remedial Measures Completion Report, URS Corp., April 30, 2004

Corrective Measures Summary Report, Former Alumax Extrusions, Inc. Facility, KHEOPS Architecture, Engineering and Survey, DPC, December 15, 2014

Periodic Review Report, Former Alumax Extrusions Site, LaBella Associates, D.P.C., January 2021

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

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TABLES

Table A
Closed Alumax Extrusions, Inc. Facility
Summary of Analytical Results
Groundwater Samples

PARAMETER	REGULATORY VALUE	AL-1													AL-2												AL-7										
Collection Date		5/31/00	1/16/03	2/10/09	2/22/11	7/19/12	8/15/13	7/15/14	12/15/15	12/14/16	2/2/18	12/12/18	12/5/19	12/3/20	5/31/00	1/16/03	2/10/09	2/22/11	7/19/12	8/15/13	7/15/14	12/15/15	12/14/16	2/2/18	12/12/18	12/5/19	12/3/20	2/25/04	2/10/09	2/22/11	7/19/12	8/15/13	7/15/14	12/15/15	12/14/16	2/2/18	12/12/18	12/5/19	12/3/20
		Pre-Remedial Results		Post-Remedial Results											Pre-Remedial Results		Post-Remedial Results											Pre-Remedial Results	Post-Remedial Results									
Volatile Organic Compounds (ug/L)																																					
1,1-Dichloroethene	5		73			9.3			24		2.2																				4.2						
cis-1,2-Dichloroethene	5	1,500	9,400	1,280	1,140	1,000	961	1,820	3,200	2,500	850	1,100	180	240			9.36	6.94	2.3	394	1160	8.7		0.87	4.3	14	25	1,100	600	473	300	517	124	42	7	6.5	7.2	2	3.4
trans-1,2-Dichloroethene	5		39			3.9			10		2.4																				1.9			0.4					
Acetone	50										7.6																					138	17.9	1.3					
Benzene	1		38	9.77	17.1	17	14.9		9.5		18	14	33	6.8		12	6.1	16.1	13	5.47		5.5	9	4.1	7	11	8.6							0.23					
Carbon Disulfide	60										0.45																												
Cyclohexane	NL		64			180			5.2		17	11	37	4		2			34			4.2		2.4	3.6	1.8	1.4				14			0.73			0.54	1	
Ethylbenzene	5		6			2.5					1.1					4						0.23																
Isopropylbenzene	5					5.9																																
Methyl Cyclohexane	NL		41			120					16	6.3	24	1.3								1.5		0.5	0.34	0.25					27			0.55			0.33		
Methylene Chloride	5									45													12																
Toluene	5		43			2.2			3.1		0.81		4.9																										
m,p-Xylene	5					4.5																																
o-Xylene	5					7.9			2.4																									0.31					
Total Xylenes	5		13			12.4					3.3		4.2															29											
Trichloroethene	5	2,400	4,600	118	197	100	192	278	88	130	55											1.5						3,000	154	138	55	109	9.26	6.7	2	0.96			
Vinyl chloride	2	240	740	977	825	460	416	1040	850	850	150	540	160	230			3.7			246	104	2.7		1.2		4.6	7	160	331	271	190	247	17.1	4.8			1.4	1.4	1.3
BTEX Compounds	-	0	87	10	17	34	15	0	15	0	20				0	16	6	16	13	5	0	6	9	4				0	0	0	0	0	0	1	0	0			
Total VOCs	-	4,140	15,057	2,385	2,179	1,913	1,584	3,138	4,192	3,525	1,124	1,671	443	482	0	18	19	23	49	645	1,264	24	21	9	15	32	42	4,289	1,085	882	592	1,011	168	57	9	7.46	9	5	5

Notes:
Regulatory values are derived from NYS Ambient Water Quality Standards TOGS 1.1.1 (Source of Drinking Water, groundwater).
(-) = No regulatory value is associated with this compound.
Shaded values represent exceedances of the regulatory value.
ug/L = Micrograms per Liter (equivalent to parts per billion (ppb)).
Only compounds with one or more detections are shown.
"NL" = Regulatory value not listed for parameter
Blank spaces indicate that the analyte was not detected.

TABLE 1
Residual Source Area
Soil Analytical Results
The Closed Alumax Extrusions, Inc. Facility
Dunkirk, New York

SAMPLE ID / SAMPLE DEPTH(ft) / SAMPLE DATE / PARAMETER	UNITS	NYSDEC TAGM Soil Clean-up Objectives	GP1-0-1 0 - 1 9/17/01	GP2-0-1 0 - 1 9/17/01	GP2-0-1D 0 - 1 9/17/01	GP2-9.5-10.5 9.5 - 10.5 9/17/01	GP3-0-1 0 - 1 9/17/01	GP3-7.5-8.5 7.5 - 8.5 9/17/01	GP4-0-1 0 - 1 9/17/01
Volatile Organics									
Acetone	ug/kg	200	2800U	5600U	11000U	26000U	3100U	**7.7J**	1700U
2-Butanone	ug/kg	300	2800U	5600U	11000U	26000U	3100U	**3.2J**	1700U
1,2-Dichloroethane	ug/kg	100	**13J**	1400U	2700U	6400U	780U	5.5U	430U
1,1-Dichloroethene	ug/kg	400	690U	1400U	2700U	6400U	780U	5.5U	430U
1,2-Dichloroethene (total)	ug/kg	100	**320J**	**580J**	**1,400J**	**220,000**	780U	**1.6J**	**350J**
Ethylbenzene	ug/kg	5500	690U	1400U	2700U	6400U	780U	5.5U	430U
Methylene chloride	ug/kg	100	690U	1400U	**920J**	6400U	780U	5.5U	430U
Tetrachloroethene	ug/kg	1400	**18J**	1400U	2700U	6400U	780U	5.5U	430U
Toluene	ug/kg	1500	**31JB**	**68JB**	2700U	6400U	**31JB**	**0.85J**	430U
Trichloroethene	ug/kg	700	**5,700**	**19,000**	**61,000**	**17,000**	**3,500U**	5.5U	**17,000**
Vinyl chloride	ug/kg	200	1400U	2800U	5400U	**18,000**	1600U	**1.9J**	870U
Xylenes (total)	ug/kg	1200	**70J**	**110J**	5400U	13000U	**110J**	11U	870U

Notes:
J = Estimated Value
U = Not Detected Above Stated Detection Limit
B = Identified in Blank

TABLE 1
Residual Source Area
Soil Analytical Results
The Closed Alumax Extrusions, Inc. Facility
Dunkirk, New York

SAMPLE ID SAMPLE DEPTH(ft) SAMPLE DATE PARAMETER	UNITS	NYSDEC TAGM Soil Clean-up Objectives	GP4-8.7-9.7 8.7 - 9.7 9/17/01	GP5-0-1 0 - 1 9/17/01	GP5-11-12 11 - 12 9/17/01	GP6-0-1 0 - 1 9/18/01	GP6-8-9 8 - 9 9/18/01	GP7-0-1 0 - 1 9/18/01	GP7-5-6 5 - 6 9/18/01	GP7-11-12 11 - 12 9/18/01
Volatile Organics										
Acetone	ug/kg	200	190000U	2600U	2600U	1100U	870U	1400U	18000U	1300U
2-Butanone	ug/kg	300	190000U	2600U	2600U	1100U	870U	1400U	18000U	1300U
1,2-Dichloroethane	ug/kg	100	49000U	660U	650U	270U	220U	360U	4500U	340U
1,1-Dichloroethene	ug/kg	400	49000U	660U	650U	270U	220U	360U	4500U	**75J**
1,2-Dichloroethene (total)	ug/kg	100	**33,000J**	**59J**	**230J**	270U	**720**	**240J**	**100,000**	**11,000**
Ethylbenzene	ug/kg	5500	49000U	**20J**	650U	270U	220U	360U	4500U	340U
Methylene chloride	ug/kg	100	49000U	660U	650U	270U	220U	360U	**2,000J**	340U
Tetrachloroethene	ug/kg	1400	49000U	660U	650U	270U	220U	360U	4500U	340U
Toluene	ug/kg	1500	49000U	**37JB**	**41JB**	270U	220U	**14J**	**340J**	**23J**
Trichloroethene	ug/kg	700	**1,500,000**	**1,900**	**110**	**460**	**2,200**	**13,000**	**1,100J**	**2,000**
Vinyl chloride	ug/kg	200	97000U	1300U	**31J**	540U	440U	710U	**23,000**	**3,000**
Xylenes (total)	ug/kg	1200	97000U	**74J**	**110J**	**46JB**	**19JB**	**79JB**	9000U	**180JB**

Notes:
J = Estimated Value
U = Not Detected Above Stated Detection Limit
B = Identified in Blank

TABLE 1
Residual Source Area
Soil Analytical Results
The Closed Alumax Extrusions, Inc. Facility
Dunkirk, New York

SAMPLE ID SAMPLE DEPTH(ft) SAMPLE DATE PARAMETER	UNITS	NYSDEC TAGM Soil Clean-up Objectives	GP8-0-1 0 - 1 9/18/01	GP8-8-9 8 - 9 9/18/01	GP9-0-1 0 - 1 9/18/01	GP9-5.5-6 5.5 - 6 9/18/01
Volatile Organics						
Acetone	ug/kg	200	**150J**	16000U	1000U	23U
2-Butanone	ug/kg	300	**3.8J**	16000U	1000U	23U
1,2-Dichloroethane	ug/kg	100	6.1U	4100U	260U	5.7U
1,1-Dichloroethene	ug/kg	400	6.1U	**1,100**	260U	5.7U
1,2-Dichloroethene (total)	ug/kg	100	**7.5**	**86,000**	260U	**4.3J**
Ethylbenzene	ug/kg	5500	6.1U	4100U	260U	5.7U
Methylene chloride	ug/kg	100	6.1U	**1,700J**	260U	5.7U
Tetrachloroethene	ug/kg	1400	6.1U	4100U	260U	5.7U
Toluene	ug/kg	1500	6.1U	**300J**	**11J**	5.7U
Trichloroethene	ug/kg	700	**11**	**690J**	**110J**	**13**
Vinyl chloride	ug/kg	200	**3.9J**	**4,400J**	520U	11U
Xylenes (total)	ug/kg	1200	12U	8100U	520U	11U

Notes:
J = Estimated Value
U = Not Detected Above Stated Detection Limit
B = Identified in Blank

Table 2
Sitewide Groundwater
Detected Constituents - January 2003 Sampling Event
The Closed Alumax Extrusions, Inc. Facility
Dunkirk, New York

ClientSample LabSample DateSampled	Groundwater Standards (ug/l)	AL-1 A3054908 1/16/03	AL-1D A3054909 1/16/03	AL-2 A3054907 1/16/03	AL-3 A3054903 1/16/03	AL-3D A3054901 1/16/03
Volatile Organic Compound (ug/l)						
1,1-Dichloroethene	5	**73**	20U	10U	10U	10U
Acetone	5	10U	**50**	10U	10U	10U
Benzene	1	**38**	**200**	**12**	**5J**	**120**
cis-1,2-Dichloroethene	5	**9,400**	20U	10U	10U	10U
Cyclohexane	5	**64**	**93**	**2**	**5J**	**120**
Ethylbenzene	5	**6J**	**13J**	**4**	10U	**18**
Isopropylbenzene	5	10U	20U	10U	10U	**2J**
Methylcyclohexane	5	**41**	**42**	10U	**4J**	**71**
Toluene	5	**43**	**190**	10U	**3J**	**150**
Total Xylenes	5	**13**	**100**	10U	10U	**110**
trans-1,2-Dichloroethene	5	**39**	20U	10U	10U	10U
Trichloroethene	5	**4,600**	20U	10U	10U	10U
Vinyl chloride	2	**740**	20U	10U	10U	10U
Semivolatile Organic Compounds (ug/l)						
2-Methylphenol		10U	NA	10U	10U	NA
4-Methylphenol		10U	NA	10U	10U	NA
Bis(2-ethylhexyl)phthalate	5	**2BJ**	NA	**1BJ**	**7BJ**	NA
Di-n-octylphthalate		**0.4BJ**	NA	**1BJ**	**0.5J**	NA
Fluoranthene		**0.6J**	NA	10U	10U	NA
Phenanthrene		**0.4J**	NA	10U	10U	NA
Phenol		10U	NA	10U	10U	NA
Pyrene		**0.5J**	NA	10U	10U	NA
Total Metals (ug/l)						
Aluminum-Total		628R	NA	1070R	363R	NA
Antimony-Total	3	**5.8B**	NA	**12.4B**	5.4U	NA
Arsenic-Total	25	**6.2B**	NA	**8.9B**	4U	NA
Barium-Total	1000	**837**	NA	**630**	**35B**	NA
Beryllium-Total		0.2U	NA	**0.23BJ**	0.2U	NA
Cadmium-Total	5	0.3U	NA	0.3U	**0.34B**	NA
Calcium-Total		**126,000**	NA	**86,800**	**62,800**	NA
Chromium-Total	50	**1.5B**	NA	**2.6B**	**0.84B**	NA
Cobalt-Total		**0.51B**	NA	**1.1B**	**1B**	NA
Copper-Total	200	**3.2B**	NA	**4.5B**	**2.8B**	NA
Iron-Total		**1,170**	NA	**1,550**	**761**	NA
Lead-Total	25	2.3U	NA	2.3U	2.3U	NA
Magnesium-Total		**64,600**	NA	**35,700**	**14,100**	NA
Manganese-Total		**75.6**	NA	41.3R	**559**	NA

Table 2
Sitewide Groundwater
Detected Constituents - January 2003 Sampling Event
The Closed Alumax Extrusions, Inc. Facility
Dunkirk, New York

ClientSample LabSample DateSampled	Groundwater Standards (ug/l)	AL-1 A3054908 1/16/03	AL-1D A3054909 1/16/03	AL-2 A3054907 1/16/03	AL-3 A3054903 1/16/03	AL-3D A3054901 1/16/03
Mercury-Total	0.7	0.158U	NA	0.158U	0.158U	NA
Nickel-Total	100	**1.1B**	NA	**2.5B**	**2B**	NA
Potassium-Total		**4,300B**	NA	3250BR	**5,450B**	NA
Selenium-Total	10	4U	NA	4U	4U	NA
Silver-Total	50	0.5U	NA	0.5U	0.5U	NA
Sodium-Total	20000	**87,300**	NA	**96,300**	**216,000**	NA
Thallium-Total		3.9U	NA	3.9U	3.9U	NA
Vanadium-Total		**16.6B**	NA	**13.4B**	0.7U	NA
Zinc-Total		**7.6B**	NA	**9.7B**	**8.7B**	NA
Dissolved Metals (ug/l)						
Aluminum-Soluble		**67.1B**	NA	**45B**	**37.3B**	NA
Antimony-Soluble	3	**14.9B**	NA	**7B**	4U	NA
Arsenic-Soluble	25	**3.7B**	NA	**4B**	3U	NA
Barium-Soluble	1000	**847**	NA	**80.2B**	**29.4B**	NA
Beryllium-Soluble		0.8U	NA	0.8U	0.8U	NA
Cadmium-Soluble	5	0.9U	NA	0.9U	0.9U	NA
Calcium-Soluble		**123,000**	NA	**120,000**	**59,900**	NA
Chromium-Soluble	50	1U	NA	1U	1U	NA
Cobalt-Soluble		1U	NA	1U	1U	NA
Copper-Soluble	200	1U	NA	1U	**1.2B**	NA
Iron-Soluble		**136**	NA	20U	20U	NA
Lead-Soluble	25	2U	NA	2U	2U	NA
Magnesium-Soluble		**61,500**	NA	**30,900**	**13,200**	NA
Manganese-Soluble		**70**	NA	1540R	**528**	NA
Mercury-Soluble	0.7	0.158U	NA	0.158U	0.158U	NA
Nickel-Soluble	100	**2B**	NA	**1.9B**	**2.2B**	NA
Potassium-Soluble		**4,190B**	NA	6400R	**5,850B**	NA
Selenium-Soluble	10	**9.8**	NA	**8.2**	**7.5**	NA
Silver-Soluble	50	1U	NA	1U	1U	NA
Sodium-Soluble	20000	**80,400**	NA	**75,900**	**218,000**	NA
Thallium-Soluble		7U	NA	7U	7U	NA
Vanadium-Soluble		**15.2B**	NA	**1.2B**	1U	NA
Zinc-Soluble		**5.7B**	NA	**2.6B**	**2.7B**	NA

Notes:
NA=Not Analyzed
U=Not Detected, shown with method detection limit
J=Estimated Value
B=Blank Contamination
D=Sample analyzed at second dilution factor
R=Rejected, explanation provided in DUSR
Groundwater standards from:
http://www.dec.state.ny.us/website/regs/703.htm

Table 2
Sitewide Groundwater
Detected Constituents - January 2003 Sampling Event
The Closed Alumax Extrusions, Inc. Facility
Dunkirk, New York

ClientSample LabSample DateSampled	Groundwater Standards (ug/l)	AL-4 A3054906 1/16/03	AL-5 A3054904 1/16/03	AL-6 A3054905 1/16/03	AL-3 DUP1016 A3054903FD 1/16/03	PW-1 A3054910 1/16/03
Volatile Organic Compound (ug/l)						
1,1-Dichloroethene	5	10U	10U	10U	10U	10U
Acetone	5	10U	**10**	**65**	10U	10U
Benzene	1	10U	**33**	**25**	**5J**	**2J**
cis-1,2-Dichloroethene	5	10U	10U	**2J**	10U	10U
Cyclohexane	5	**4J**	**47**	**43**	**7J**	**2J**
Ethylbenzene	5	10U	**4J**	**7J**	10U	10U
Isopropylbenzene	5	10U	10U	10U	10U	10U
Methylcyclohexane	5	**8J**	**21**	**24**	**6J**	10U
Toluene	5	10U	**36**	**64**	**3J**	10U
Total Xylenes	5	10U	**18**	**51**	10U	10U
trans-1,2-Dichloroethene	5	10U	10U	10U	10U	10U
Trichloroethene	5	10U	10U	**14**	10U	**2J**
Vinyl chloride	2	10U	10U	10U	10U	10U
Semivolatile Organic Compounds (ug/l)						
2-Methylphenol		10U	**0.8J**	19U	10U	10U
4-Methylphenol		10U	**0.4J**	19U	10U	10U
Bis(2-ethylhexyl)phthalate	5	**0.4BJ**	**2J**	**2BJ**	**0.4BJ**	**0.7BJ**
Di-n-octylphthalate		**1BJ**	**2J**	**1BJ**	10U	**0.8BJ**
Fluoranthene		10U	10U	19U	10U	10U
Phenanthrene		10U	10U	19U	10U	10U
Phenol		10U	10U	19U	10U	10U
Pyrene		10U	10U	19U	10U	10U
Total Metals (ug/l)						
Aluminum-Total		7340R	1570R	NA	630R	32.5UR
Antimony-Total	3	5.4U	5.4U	NA	5.4U	5.4U
Arsenic-Total	25	**8.2B**	4U	NA	4U	4U
Barium-Total	1000	**167B**	**21B**	NA	**36.6B**	**118B**
Beryllium-Total		**0.67B**	0.2U	NA	0.2U	0.2U
Cadmium-Total	5	**0.31B**	0.3U	NA	**0.38B**	0.3U
Calcium-Total		**135,000**	**16,200**	NA	**61,200**	**95,500**
Chromium-Total	50	**12.2**	**2.4B**	NA	**0.91B**	**0.78B**
Cobalt-Total		**7.8B**	**2.5B**	NA	**0.76B**	0.5U
Copper-Total	200	**21.2B**	**4.4B**	NA	**3.5B**	**0.7B**
Iron-Total		**15,300**	**2,190**	NA	**1310**	**1,470**
Lead-Total	25	**10.4J**	**2.3BJ**	NA	2.3U	2.3U
Magnesium-Total		**36,900**	**3,880B**	NA	**13,800**	**24,900**
Manganese-Total		**1,800**	**101**	NA	**550**	**176**

TABLE 3
Residual Source Area
Soil Analytical Results
The Closed Alumax Extrusions, Inc. Facility
Dunkirk, New York

SAMPLE ID / SAMPLE DEPTH(ft) / SAMPLE DATE / PARAMETER	UNITS	NYSDEC TAGM Soil Clean-up Objectives	GP1-0-1 0 - 1 9/17/01	GP2-0-1 0 - 1 9/17/01	GP2-0-1D 0 - 1 9/17/01	GP2-9.5-10.5 9.5 - 10.5 9/17/01	GP3-0-1 0 - 1 9/17/01	GP3-7.5-8.5 7.5 - 8.5 9/17/01	GP4-0-1 0 - 1 9/17/01
Volatile Organics									
Acetone	ug/kg	200	2800U	5600U	11000U	26000U	3100U	**7.7J**	1700U
2-Butanone	ug/kg	300	2800U	5600U	11000U	26000U	3100U	**3.2J**	1700U
1,2-Dichloroethane	ug/kg	100	**13J**	1400U	2700U	6400U	780U	5.5U	430U
1,1-Dichloroethene	ug/kg	400	690U	1400U	2700U	6400U	780U	5.5U	430U
1,2-Dichloroethene (total)	ug/kg	100	**320J**	**580J**	**1,400J**	**220,000**	780U	**1.6J**	**350J**
Ethylbenzene	ug/kg	5500	690U	1400U	2700U	6400U	780U	5.5U	430U
Methylene chloride	ug/kg	100	690U	1400U	**920J**	6400U	780U	5.5U	430U
Tetrachloroethene	ug/kg	1400	**18J**	1400U	2700U	6400U	780U	5.5U	430U
Toluene	ug/kg	1500	**31JB**	**68JB**	2700U	6400U	**31JB**	**0.85J**	430U
Trichloroethene	ug/kg	700	**5,700**	**19,000**	**61,000**	**17,000**	**3,500U**	5.5U	**17,000**
Vinyl chloride	ug/kg	200	1400U	2800U	5400U	**18,000**	1600U	**1.9J**	870U
Xylenes (total)	ug/kg	1200	**70J**	**110J**	5400U	13000U	**110J**	11U	870U

Notes:
J = Estimated Value
U = Not Detected Above Stated Detection Limit
B = Identified in Blank

TABLE 3
Residual Source Area
Soil Analytical Results
The Closed Alumax Extrusions, Inc. Facility
Dunkirk, New York

SAMPLE ID / SAMPLE DEPTH(ft) / SAMPLE DATE / PARAMETER	UNITS	NYSDEC TAGM Soil Clean-up Objectives	GP4-8.7-9.7 8.7 - 9.7 9/17/01	GP5-0-1 0 - 1 9/17/01	GP5-11-12 11 - 12 9/17/01	GP6-0-1 0 - 1 9/18/01	GP6-8-9 8 - 9 9/18/01	GP7-0-1 0 - 1 9/18/01	GP7-5-6 5 - 6 9/18/01	GP7-11-12 11 - 12 9/18/01
Volatile Organics										
Acetone	ug/kg	200	190000U	2600U	2600U	1100U	870U	1400U	18000U	1300U
2-Butanone	ug/kg	300	190000U	2600U	2600U	1100U	870U	1400U	18000U	1300U
1,2-Dichloroethane	ug/kg	100	49000U	660U	650U	270U	220U	360U	4500U	340U
1,1-Dichloroethene	ug/kg	400	49000U	660U	650U	270U	220U	360U	4500U	**75J**
1,2-Dichloroethene (total)	ug/kg	100	**33,000J**	**59J**	**230J**	270U	**720**	**240J**	**100,000**	**11,000**
Ethylbenzene	ug/kg	5500	49000U	**20J**	650U	270U	220U	360U	4500U	340U
Methylene chloride	ug/kg	100	49000U	660U	650U	270U	220U	360U	**2,000J**	340U
Tetrachloroethene	ug/kg	1400	49000U	660U	650U	270U	220U	360U	4500U	340U
Toluene	ug/kg	1500	49000U	**37JB**	**41JB**	270U	220U	**14J**	**340J**	**23J**
Trichloroethene	ug/kg	700	**1,500,000**	**1,900**	**110**	**460**	**2,200**	**13,000**	**1,100J**	**2,000**
Vinyl chloride	ug/kg	200	97000U	1300U	**31J**	540U	440U	710U	**23,000**	**3,000**
Xylenes (total)	ug/kg	1200	97000U	**74J**	**110J**	**46JB**	**19JB**	**79JB**	9000U	**180JB**

Notes:
J = Estimated Value
U = Not Detected Above Stated Detection Limit
B = Identified in Blank

TABLE 3
Residual Source Area
Soil Analytical Results
The Closed Alumax Extrusions, Inc. Facility
Dunkirk, New York

SAMPLE ID SAMPLE DEPTH(ft) SAMPLE DATE PARAMETER	UNITS	NYSDEC TAGM Soil Clean-up Objectives	GP8-0-1 0 - 1 9/18/01	GP8-8-9 8 - 9 9/18/01	GP9-0-1 0 - 1 9/18/01	GP9-5.5-6 5.5 - 6 9/18/01
Volatile Organics						
Acetone	ug/kg	200	**150J**	16000U	1000U	23U
2-Butanone	ug/kg	300	**3.8J**	16000U	1000U	23U
1,2-Dichloroethane	ug/kg	100	6.1U	4100U	260U	5.7U
1,1-Dichloroethene	ug/kg	400	6.1U	**1,100**	260U	5.7U
1,2-Dichloroethene (total)	ug/kg	100	**7.5**	**86,000**	260U	**4.3J**
Ethylbenzene	ug/kg	5500	6.1U	4100U	260U	5.7U
Methylene chloride	ug/kg	100	6.1U	**1,700J**	260U	5.7U
Tetrachloroethene	ug/kg	1400	6.1U	4100U	260U	5.7U
Toluene	ug/kg	1500	6.1U	**300J**	**11J**	5.7U
Trichloroethene	ug/kg	700	**11**	**690J**	**110J**	**13**
Vinyl chloride	ug/kg	200	**3.9J**	**4,400J**	520U	11U
Xylenes (total)	ug/kg	1200	12U	8100U	520U	11U

Notes:
J = Estimated Value
U = Not Detected Above Stated Detection Limit
B = Identified in Blank

TABLE 4a
CONSTITUENTS OF POTENTIAL CONCERN
THE CLOSED ALUMAX EXTRUSIONS INC. FACILITY
DUNKIRK, NEW YORK

Detected Constituents in Sitewide Soils	Regulatory Guidance Value (TAGM)	Maximum Detected Concentration	Maximum Detected Concentration Surface Soils	Minimum Detected Concentration	Regulatory Criteria Exceeded (Y/N)	Number of Samples w/Detections	Number of Samples Exceeding Criteria	Total Number of Analyses
Volatile Organic Compounds (ug/kg)								
1,1-Dichloroethane	200	19	ND	19	NO	1	0	35
1,1-Dichloroethene	400	3J	ND	3J	NO	1	0	35
2-Butanone	300	190J	14J (Paved)	3J	NO	6	0	35
4-Methyl-2-pentanone	1000	38	ND	38	NO	1	0	35
Acetone	200	620	17B (Paved)	4J	YES	12	3	35
Benzene (included based on GW analysis)	60	ND	ND	ND	NO	0	0	35
Carbon Disulfide	2700	2J	2J (Paved)	2J	NO	1	0	35
Chloromethane	NA	6J	ND	6J	NA	1	NA	35
cis-1,2-Dichloroethene	NA	3400	ND	3400	NA	1	NA	35
Cyclohexane	NA	2J	ND	2J	NA	1	NA	21
Dichlorodifluoromethane	NA	54J	54J	6J	NA	16	NA	21
Ethylbenzene	5500	380	380	2J	NO	2	0	35
Methylcyclohexane	NA	2J	1J	1J	NA	2	NA	21
Methylene chloride	100	24BJ	10BJ	5J	NO	18	0	35
Toluene	1500	6J	ND	6J	NO	1	0	35
Total Xylenes	1200	1700	46J	46J	YES	2	1	35
Trichloroethene	700	670	2J (Paved)	2J	NO	3	0	35
Vinyl chloride	200	ND	ND	17	NO	1	0	35
Semi-Volatile Organic Compounds (ug/kg)								
2-Methylnaphthalene	36400	3600J	3600J(Paved)	51J	NO	14	0	29
4-Methylphenol	900	78J	78J	11J	NO	2	0	29
Acenaphthene	50000	120000	120000 (Paved)	20J	YES	13	1	29
Acenaphthylene	41000	460	460	22J	NO	10	0	29
Acetophenone	NA	150BJ	79BJ	48BJ	NA	9	NA	16
Anthracene	50000	240000	240000(Paved)	10J	YES	15	1	29
Benzaldehyde	NA	30J	30J	30J	NA	2	NA	16
Benzo(a)anthracene	224	600000	600000(Paved)	18J	YES	21	20	29
Benzo(a)pyrene	61	600000	600000(Paved)	18J	YES	22	22	29
Benzo(b)fluoranthene	1100	470000	470000(Paved)	34J	YES	22	18	29
Benzo(ghi)perylene	50000	11000	11000(Paved)	22J	YES	19	1	29
Benzo(k)fluoranthene	1100	180000	180000(Paved)	16J	YES	19	7	29
Biphenyl	NA	1800J	1800J(Paved)	12J	NA	7	NA	16
Bis(2-ethylhexyl) phthalate	50000	1200J	1200J(Paved)	27J	NO	11	0	29
Butyl benzyl phthalate	50000	19J	19J	19J	NO	1	0	29
Carbazole	NA	110000	110000(Paved)	54J	NA	11	NA	29
Chrysene	400	530000	530000(Paved)	32J	YES	20	18	29
Di-n-butyl phthalate	2000	710J	710J	31J	NO	9	0	16
Di-n-octyl phthalate	50000	51J	51J	35J	NO	8	0	29
Dibenzo(a,h)anthracene	14 or MDL	74000	74000(Paved)	110J	YES	14	13	29
Dibenzofuran	6200	57000	57000(Paved)	14J	NO	12	1	29
Fluoranthene	50000	1600000	1600000(Paved)	40J	YES	24	1	29
Fluorene	50000	100000	100000(Paved)	31J	YES	12	1	29
Indeno(1,2,3-cd)pyrene	3200	150000	150000(Paved)	12J	YES	19	4	29
Naphthalene	13000	6200J	6200J(Paved)	34J	NO	12	0	29

TABLE 4a
CONSTITUENTS OF POTENTIAL CONCERN
THE CLOSED ALUMAX EXTRUSIONS INC. FACILITY
DUNKIRK, NEW YORK

Detected Constituents in Sitewide Soils	Regulatory Guidance Value (TAGM)	Maximum Detected Concentration	Maximum Detected Concentration Surface Soils	Minimum Detected Concentration	Regulatory Criteria Exceeded (Y/N)	Number of Samples w/Detections	Number of Samples Exceeding Criteria	Total Number of Analyses
Phenanthrene	50000	1200000	1200000(Paved)	24J	YES	21	1	29
Phenol	30 or MDL	47J	47J	15J	YES	3	2	29
Pyrene	50000	1300000	1300000(Paved)	30J	YES	24	1	29
PCBs(ug/kg)	**TAGM**							
Total PCBs	1000/10000*	1700J	600	57J	NO	10	0	19
Pesticides/Herbicides (ug/kg)	**TAGM**							
4,4'-DDT	2100	6.2	6.2	4.4	NO	3	0	4
Endrin aldehyde	NA	2.3J	2.3J	2.3J	NA	1	0	4
Methoxychlor	10000	8.6J	8.6J	8.6J	NO	1	0	4
PH and Total Metals (ug/kg)	**TAGM/BKG.**							
Aluminum - Total	bkg.(33,000,000)	24,500,000	24,500,000	5,930,000	NO	18	0	18
Antimony - Total	bkg.	ND	ND	ND	NO	0	0	18
Arsenic - Total	7,500 or bkg (3,000-12,000)	45,700J	45,700J	5,300	YES	23	15	23
Barium - Total	300,000 or bkg(15,000-600,000)	261,000	255,000	37,400	NO	18	0	18
Beryllium - Total	160 or bkg (0-1,750)	3,600	3,600	550B	YES	12	14	17
Cadmium - Total	1,000 or bkg (100-1,000)	1,500	1,500	250B	YES	12	5	20
Calcium - Total	bkg (130,000-35,000,000)	140,000,000	140,000,000	3,560,000	YES	18	7	18
Chromium - Total	10,000 or bkg(1,500-40,000)	308,000J	308,000J	11,800J	YES	16	12	20
Cobalt - Total	30,000 or bkg.(2,500-60,000)	13,700J	13,700J	400BJ	NO	16	0	18
Copper - Total	25,000 or bkg (1,000-50,000)	R	R	R	NA	18	NA	18
Iron - Total	2,000,000 pr bkg (2,000,000-550,000,000)	55,800,000	55,800,000	9,990,000	NO	18	0	18
Lead - Total	bkg.(4,000-500,000)	1,150,000J	1,150,000J	19,200J	YES**	20	16	20
Magnesium - Total	bkg.(100,000-5,000,000)	15,600,000	15,600,000	1,490,000	YES**	18	19	18
Manganese - Total	bkg.(50,000-5,000,000)	4,650,000	4,650,000	254,000	NO	18	0	18
Mercury - Total	100(1-200)	777	777(Paved)	35B	YES	15	13	19
Nickel - Total	13,000 or bkg (500-25,000)	115,000	97,100	30,100	YES**	6	8	8
Potassium - Total	bkg.(8,500,000-43,000,000)	1,950,000J	1,950,000J	740,000	NO	16	0	18
Selenium - Total	2,000 or bkg (100-3,900)	3,800	3,800(Paved)	650	YES**	16	5	20
Silver - Total	bkg.	2,200	2,200	80B	YES**	8	1	20
Sodium - Total	bkg.(6,000,000-8,000,000)	421,000B	421,000B	113,000	NO	10	0	18
Thallium - Total	bkg.	ND	ND	ND	NO	18	0	18
Vanadium - Total	150,000 or bkg (1,000-300,000)	23,400J	23,400J	8,100	NO	18	0	18
Zinc - Total	20,000 or bkg (9,000-50,000)	2,120,000J	2,120,000J(Paved)	28,500	YES**	18	17	18

Notes:
NA=Not Analyzed
U=Not Detected, shown with method detection limit
SB(No.)=Site Background, published Eastern US background values in parentheses
J=Estimated Value
B = Blank Contamination
P=Beneath Pavement
* = PCBs 1000 Surface/10,000 Subsurface
**=Site Background Value Is Believed to Be Elevated; However, It Has Not Been Established

TABLE 4B
CONSTITUENTS OF POTENTIAL CONCERN
THE CLOSED ALUMAX EXTRUSIONS INC. FACILITY
DUNKIRK, NEW YORK

Detected Constituents in Sitewide Groundwater	Groundwater Standards (ug/l)	Maximum Detected Concentration	Minimum Detected Concentration	Regulatory Criteria Exceeded (Y/N)	Number of Wells w/ Detections	Number of Wells Exceeding Criteria	Total Number of Wells Analyzed
Volatile Organic Compound (ug/l)							
1,1-Dichloroethene	5	73	73	**Yes**	1	1	9
Acetone	5	50	6J	**Yes**	3	3	9
Benzene	1	200	2J	**Yes**	8	8	9
cis-1,2-Dichloroethene	5	9400	9400	**Yes**	2	1	9
Cyclohexane	5	120	2	**Yes**	9	6	9
Ethylbenzene	5	18	4	**Yes**	6	4	9
Isopropylbenzene	5	2J	2J	NO	1	0	9
Methylcyclohexane	5	71	4J	**Yes**	7	6	9
Toluene	5	190	3J	**Yes**	6	5	9
Total Xylenes	5	110	13	**Yes**	5	5	9
trans-1,2-Dichloroethene	5	39	39	**Yes**	1	1	9
Trichloroethene	5	4600	2J	**Yes**	3	2	9
Vinyl chloride	2	740	740	**Yes**	1	1	9
Semivolatile Organic Compounds (ug/l)							
2-Methylphenol		0.8J	0.8J	NA	1	NA	7
4-Methylphenol		0.4J	0.4J	NA	1	NA	7
Bis(2-ethylhexyl)phthalate	5	3.7BJ	0.4BJ	NO	7	0	7
Di-n-octylphthalate		2BJ	0.4BJ	NA	7	NA	7
Fluoranthene		0.6J	0.6J	NA	1	NA	7
Phenanthrene		0.4J	0.4J	NA	1	NA	7
Pyrene		0.5J	0.5J	NA	1	NA	7
Total Metals (ug/l)							
Aluminum-Total		R	R	NA	NA	NA	6
Antimony-Total	3	12.4B	5.8B	**YES**	2	2	6
Arsenic-Total	25	8.9B	3.7B	NO	3	0	6
Barium-Total	1000	837	21B	NO	6	0	6
Beryllium-Total		0.67B	0.23BJ	NA	2	NA	6
Cadmium-Total	5	0.38B	0.31B	NO	3	0	6
Calcium-Total		135,000	16,200	NA	6	NA	6
Chromium-Total	50	12.2	0.78B	NO	5	0	6
Cobalt-Total		7.8B	0.51B	NA	4	NA	6
Copper-Total	200	21.2B	0.28B	NO	6	0	6
Iron-Total		15300	761	NA	6	NA	6
Lead-Total	25	10.4	2.3BJ	NO	2	0	6
Magnesium-Total		64,600	13,800	NA	6	NA	6
Manganese-Total		1,800	75.6	NO	6	NA	6
Mercury-Total	0.7	ND	ND	NO	0	0	6
Nickel-Total	100	20.6B	1.1B	NO	5	0	6

TABLE 4B
CONSTITUENTS OF POTENTIAL CONCERN
THE CLOSED ALUMAX EXTRUSIONS INC. FACILITY
DUNKIRK, NEW YORK

Detected Constituents in Sitewide Groundwater	Groundwater Standards (ug/l)	Maximum Detected Concentration	Minimum Detected Concentration	Regulatory Criteria Exceeded (Y/N)	Number of Wells w/ Detections	Number of Wells Exceeding Criteria	Total Number of Wells Analyzed
Potassium-Total		7,850	4,300B	NA	6	NA	6
Selenium-Total	10	7.39B	7.39B	NO	1	0	6
Sodium-Total	20000	343,000	75,900	YES**	6	6	6
Vanadium-Total		16.6B	1.2B	NA	5	NA	6
Zinc-Total		48.8	5.9B	NA	6	NA	6
Dissolved Metals (ug/l)							
Aluminum-Soluble		70.8B	33.1B	NA	7	NA	7
Antimony-Soluble	3	14.9B	6.6B	Yes	3	3	7
Arsenic-Soluble	25	4.2B	3.7B	NO	3	0	7
Barium-Soluble	1000	847	10.3B	NO	7	0	7
Beryllium-Soluble		ND	ND	NA	0	NA	7
Cadmium-Soluble	5	ND	ND	NA	0	0	7
Calcium-Soluble		123,000	18,000	NA	7	NA	7
Chromium-Soluble	50	ND	ND	NO	0	0	7
Cobalt-Soluble		2B	2B	NA	1	NA	7
Copper-Soluble	200	4.3B	1.2B	NO	3	0	7
Iron-Soluble		891	25.8B	NA	4	NA	7
Lead-Soluble	25	2.6B	2.6B	NO	1	0	7
Magnesium-Soluble		61,500	3,740B	NA	7	NA	7
Manganese-Soluble		1,580	70	NA	7	NA	7
Mercury-Soluble	0.7	ND	ND	NA	0	0	7
Nickel-Soluble	100	3.3B	1.9B	NO	6	0	7
Potassium-Soluble		6,390	4,190B	NA	6	NA	7
Selenium-Soluble	10	11.4	6.43B	Yes	7	1	7
Sodium-Soluble	20000	283,000	75,900	Yes	7	7	7
Vanadium-Soluble		15.2B	1.2B	NO	3	0	7
Zinc-Soluble		7.7B	1B	NA	7	NA	7

Notes:
NA=Not Analyzed
U=Not Detected, shown with method detection limit
N/A=Not Available
J=Estimated Value,below method detection limit
B=Blank Contamination
D=Sample analyzed at second dilution factor
R=Rejected, explanation provided in DUSR
Groundwater standards from:
http://www.dec.state.ny.us/website/regs/703.htm

TABLE 5
SITE SPECIFIC ACTION LEVELS

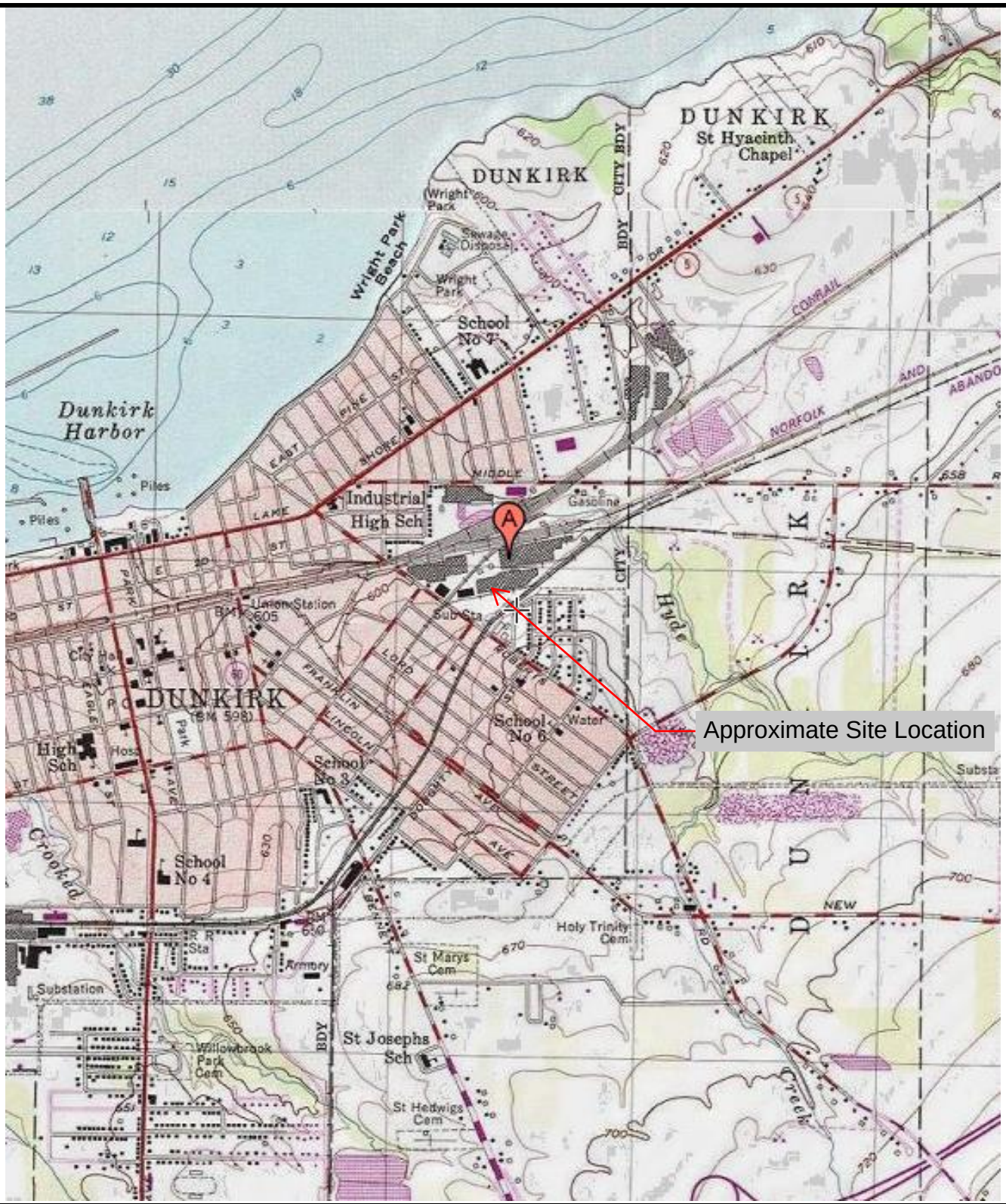
Parameter	Maximum Concentration in Soil/Fill (mg/kg) [1,2]
Individual VOC	1
Total VOCs	10
Individual SVOC	50
Total SVOCs[3]	500
Total cPAHs[4]	10
Arsenic	50
Barium	100
Beryllium	5
Cadmium	20
Chromium	1,000
Copper	250
Lead	1,000
Selenium	50
Silver	10
PCBs	10 [5]

Notes:

Use of these limits require the utilization of a site specific soil management plan and the application of a proper cover system (ie: "clean" soil, pavement, building slab, etc.) to minimize direct contact.

1. Off-site backfill material will also meet recommended soil cleanup objectives of organic pesticides/herbicides and PCBs as defined in TAGM 4046.
2. Analyses will be performed per NYSDEC Analytical Services Protocol (ASP), October 1995 mcthodology or other methods acceptable to NYSDEC.
3. Target Compound List (TCL) SVOCs per USEPA Method 8270
4. Carcinogenic polycyclic aromatic hydrocarbons (i.e., benzo(a)anthracene, benzo(a)pyrene, dibenzo(b)fluoranthene, benzo(k)flouranthene, chrysene, dibenzo(a,h)anthrancene, and ideno(1,2,3-c,d)pyrene.
5. Subsurface soil limit set in TAGM 4046.

FIGURES



N

Not To Scale

FIGURE 1

SITE LOCATION MAP

Closed Alumax Extrusions, Inc. Facility
320 and 440 South Roberts Road
Dunkirk, New York

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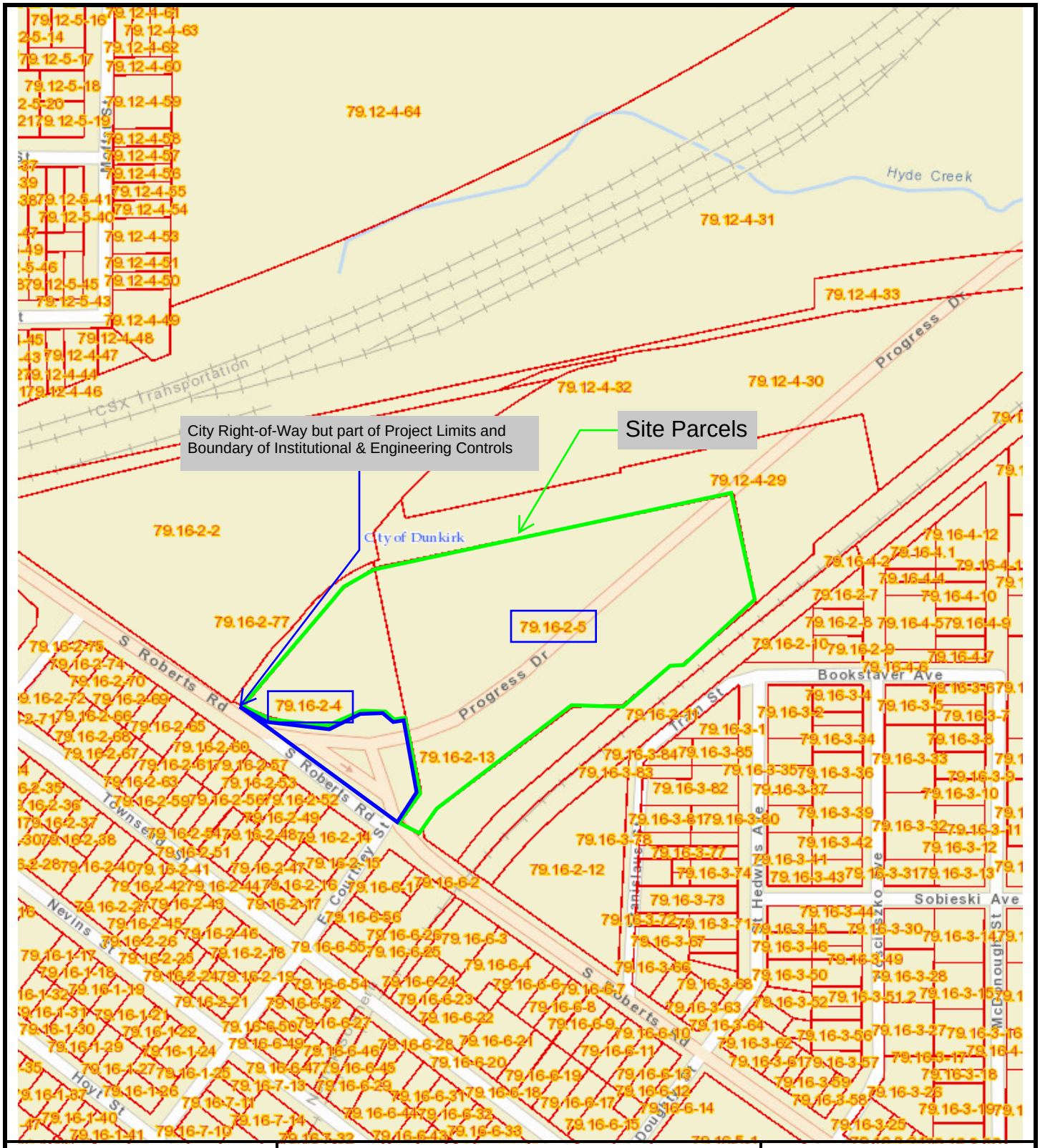
PROJECT NO. 2210039



N

Not To Scale

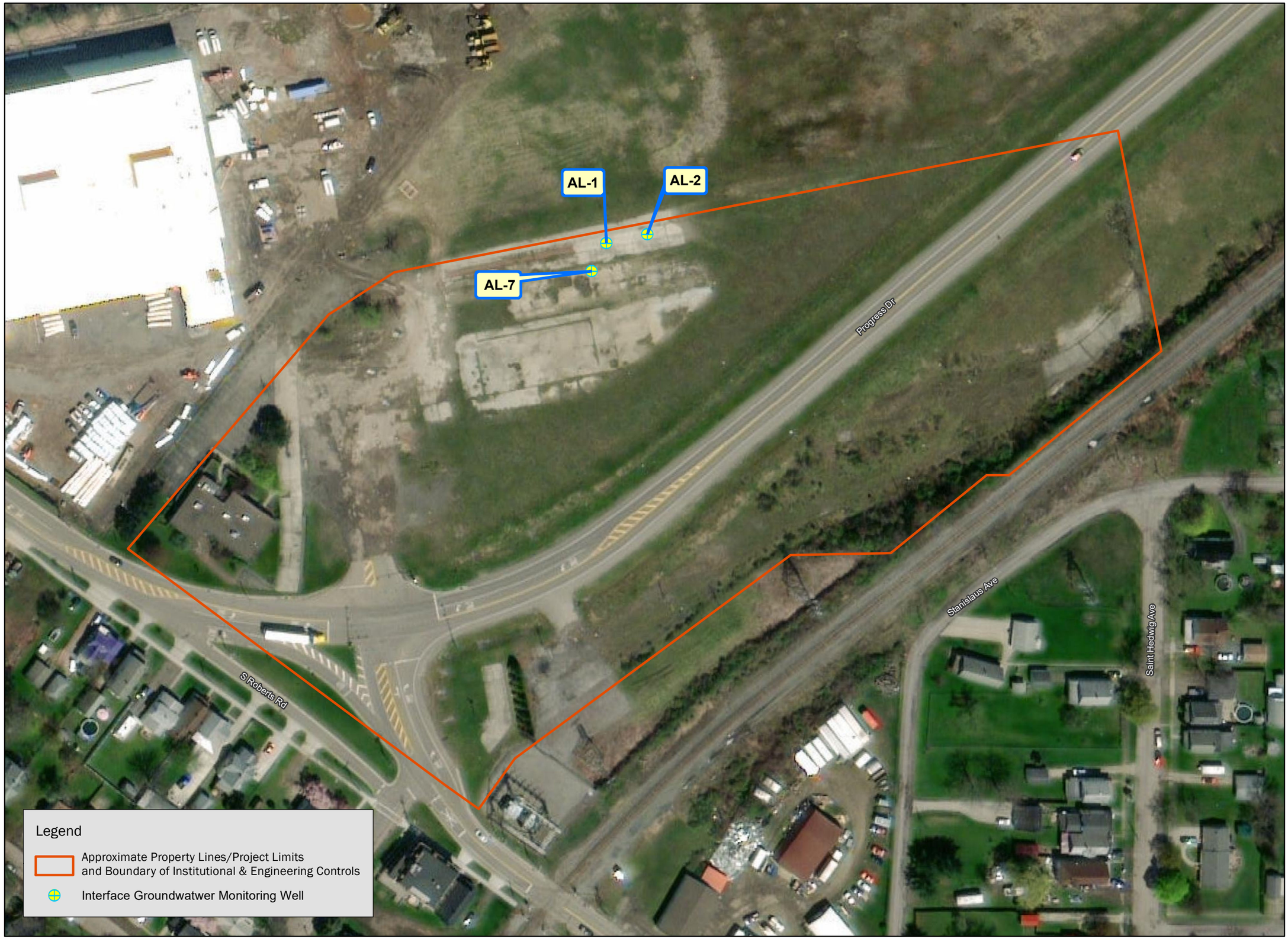
FIGURE 2

SITE TAX MAP

Closed Alumax Extrusions, Inc. Facility
320 and 440 South Roberts Road
Dunkirk, New York

LaBella
Powered by partnership.

PROJECT NO. 2210039



LaBella
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N
W E
S

0 50 100
Feet

1 inch = 100 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:

CLOSED ALUMAX EXTRUSIONS, INC. FACILITY

DRAWING NAME:

SITE PLAN

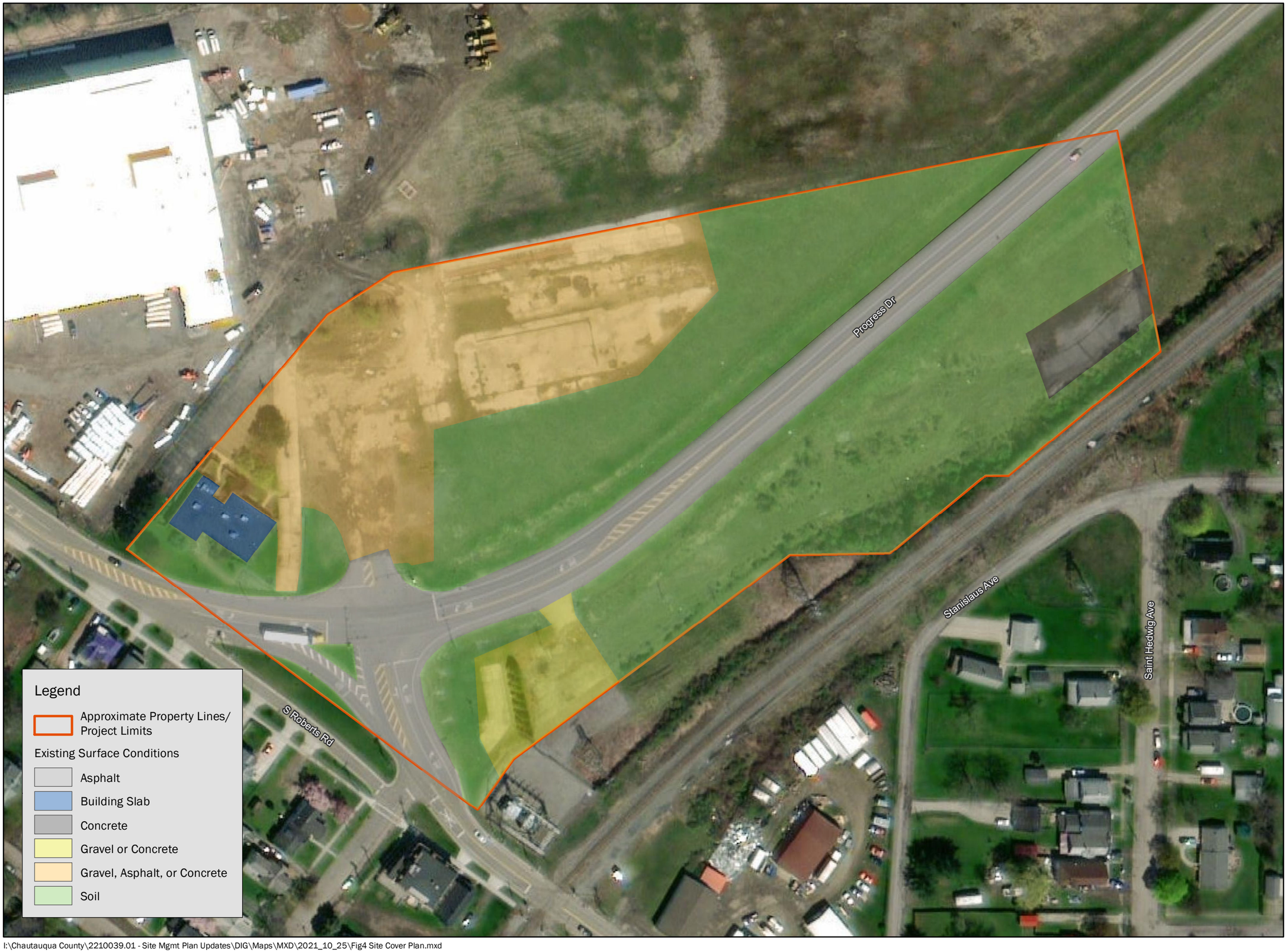
PROJECT #/DRAWING #/ DATE

2210039.01

FIGURE 3

November 2021

I:\Chautauqua County\2210039.01 - Site Mgmt Plan Updates\DIG\Maps\MXD\2021_10_25\Fig3 Site Plan.mxd



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N
W E
S

0 50 100
Feet

1 inch = 100 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:

CLOSED ALUMAX EXTRUSIONS, INC. FACILITY

DRAWING NAME:

EXISTING SURFACE CONDITIONS

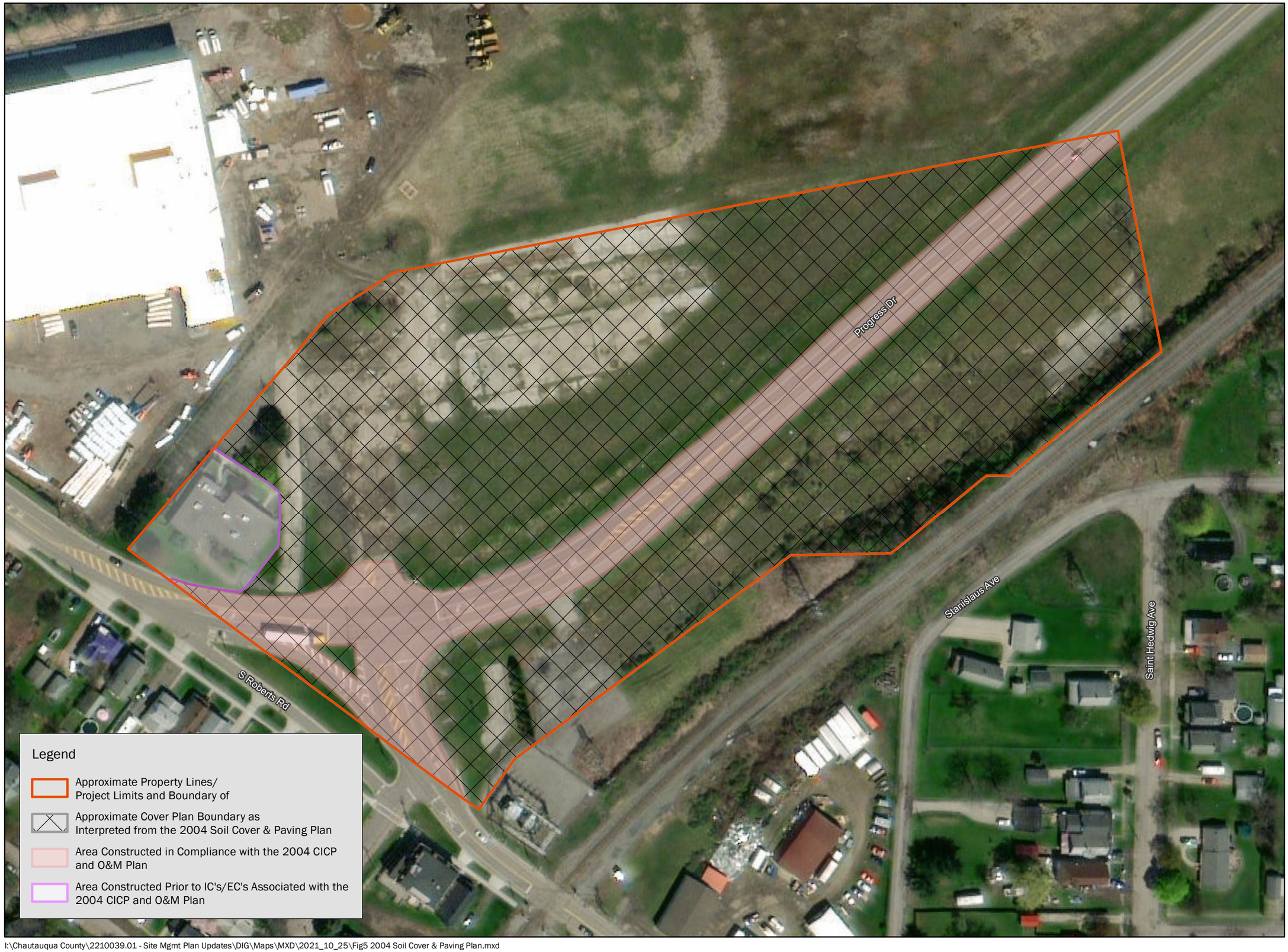
PROJECT #/DRAWING #/ DATE

2210039.01

FIGURE 4

November 2021

I:\Chautauqua County\2210039.01 - Site Mgmt Plan Updates\DIG\Maps\MXD\2021_10_25\Fig4 Site Cover Plan.mxd



LaBella
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N
W E
S

0 50 100
Feet

1 inch = 100 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:

CLOSED ALUMAX EXTRUSIONS, INC. FACILITY

DRAWING NAME:

2004 SOIL COVER & PAVING PLAN

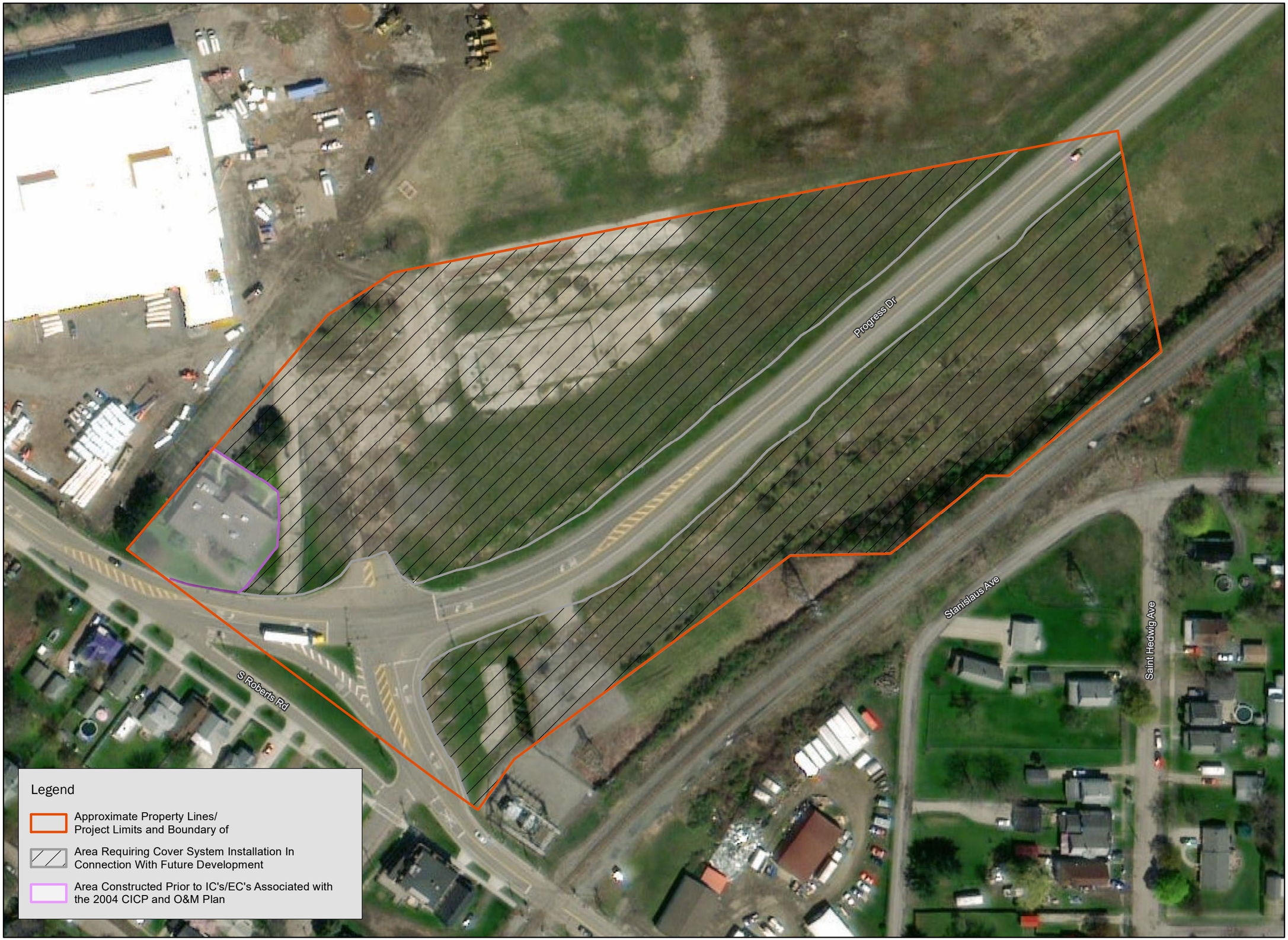
PROJECT #/DRAWING #/ DATE

2210039.01

FIGURE 5

November 2021

I:\Chautauqua County\2210039.01 - Site Mgmt Plan Updates\DIG\Maps\MXD\2021_10_25\Fig5 2004 Soil Cover & Paving Plan.mxd



LaBella
Powered by partnership.

N
W E
S

0 50 100
Feet

1 inch = 100 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:

CLOSED ALUMAX EXTRUSIONS, INC. FACILITY

DRAWING NAME:

AREA OF REQUIRED COVER SYSTEM CONSTRUCTION

PROJECT #/DRAWING #/ DATE

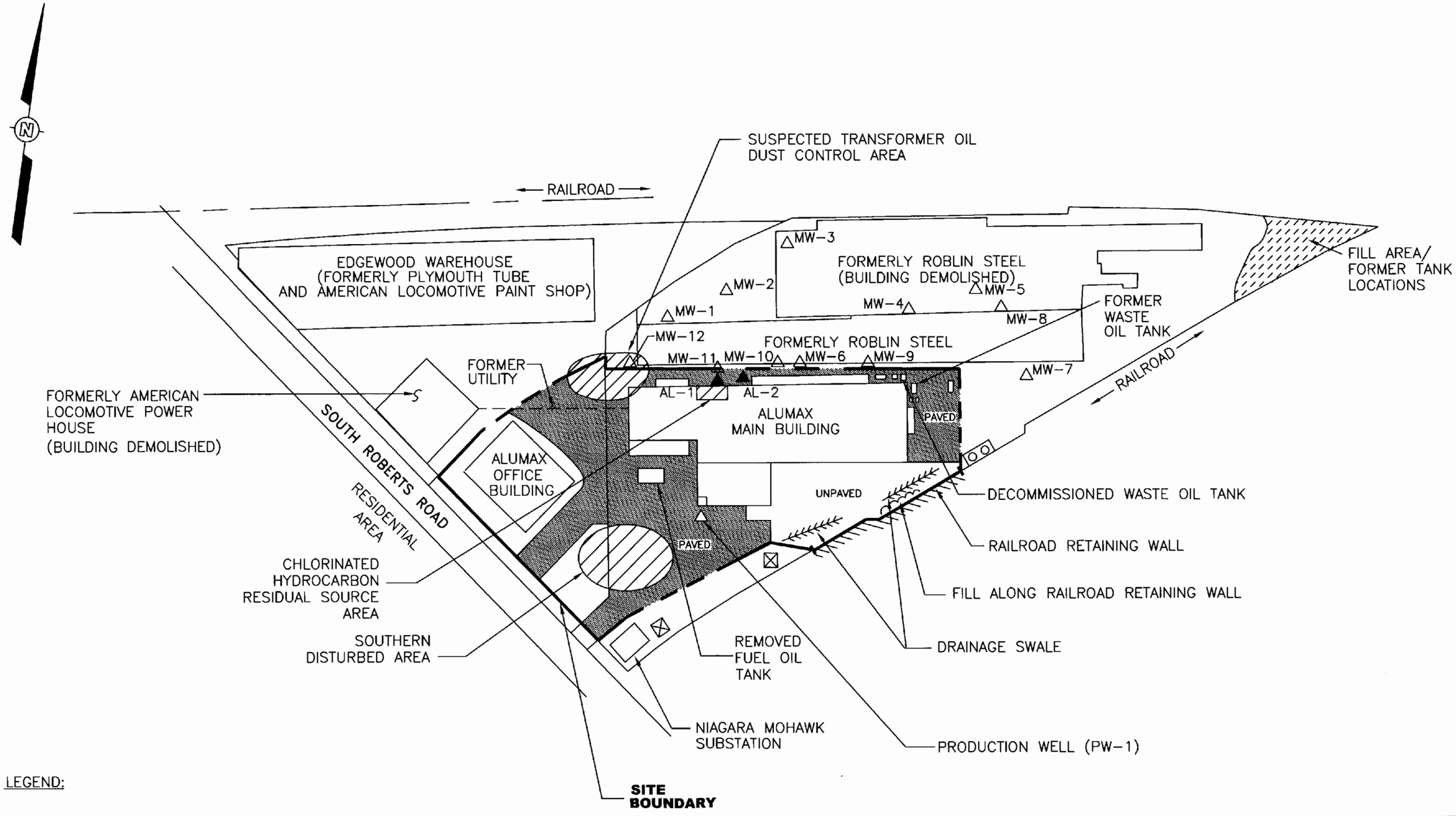
2210039.01

FIGURE 6

November 2021

I:\Chautauqua County\2210039.01 - Site Mgmt Plan Updates\DIG\Maps\MXD\2021_10_25\Fig6 Area of Required Cover System Construction.mxd

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	JEP			782745-B1
	4/9/03			



LEGEND:

- SITE BOUNDARY
- PAVED AREAS
- ▲AL-1 ON SITE WELL
- △MW-1 OFFSITE WELL

SCALE
0 50 100 FEET

URS

THE CLOSED
ALUMAX-DUNKIRK FACILITY
DUNKIRK, CHATAUQUA CO., N.Y.

GENERAL SITE PLAN

THE CLOSED ALUMAX-DUNKIRK FACILITY
DUNKIRK, CHATAUQUA CO., N.Y.

JOB NO.: 78274500100000 PLOT SCALE: 1=1

STARTED ON: 06/22/99 REVISED: 10/30/02

E/F NO.: 20155002

N

(VOCs, SVOCs, METALS, PCBs) ADNY-UT-SS01

(VOCs, SVOCs, METALS, PCBs) ADNY-UT-SS02

(PCBs ONLY) ADNY-PTO-SS01, PTO-2, PTO-3, PTO-4

ADNY-TI-SS01 (PCBs ONLY)

PSS5-0002 (VOCs, SVOCs, METALS)

SUSPECTED OIL DUST CONTROL AREA

GB-5, GB-6, GB-7

RAILROAD

EDGEWOOD WAREHOUSE (FORMERLY PLYMOUTH TUBE AND AMERICAN LOCOMOTIVE PAINT SHOP)

FORMERLY ROBLIN STEEL (BUILDING DEMOLISHED)

FORMER EQUIPMENT SUMPS

FILL AREA/ FORMER TANK LOCATIONS

CVOCs ONLY (SEE FIGURE 7 FOR LOCATIONS OF ADDITIONAL BORINGS ALONG FORMER FIRE WATER LINES)

FORMER WASTE OIL TANK

ADNY-WOT-SS02 (VOCs, SVOCs, METALS, PCBs, TPH)

ADNY-WOT-SS01 (VOCs, SVOCs, METALS, PCBs, TPH)

ADNY-UT-SS03 (VOCs, SVOCs, METALS, PCBs, TPH)

RAILROAD

ADNY-SUMP-001 SWITCH BOX

FORMERLY AMERICAN LOCOMOTIVE POWER HOUSE (BUILDING DEMOLISHED)

SOUTH ROBERTS ROAD

GB-1

GB-4

GB-2

GB-3

CVOCs & BTEX

ADNY-DKT-SS01 (VOCs, SVOCs, METALS, PCBs)

ADNY-FM-SS01 (VOCs, SVOCs, METALS, PCBs)

FORMERLY ROBLIN STEEL

PSS4-0002 (VOCs, SVOCs. METALS)

ALUMAX OFFICE BUILDING

DRAINAGE SWALE

PSS4-0002 (VOCs, SVOCs, METALS)

SS2-0002 (VOC's, SVOC's, METALS, PESTICIDES)

RESIDENTIAL AREA

FORMER DIESEL TANK

ALUMAX MAIN BUILDING

SS4-0002 (VOCs, SVOCs, METALS, PESTICIDES)

ADNY-WALL-SS02 (VOCs, SVOCs, METALS, PCBs)

DISTURBED AREA BASED ON 1938 & 1956 AERIAL PHOTOGRAPHS

SDA-A

FILL ALONG WALL RAILROAD RETAINING WALL

ADNY-WALL-SS01 (VOCs, SVOCs, METALS, PCBs)

SS2-0001 (VOC's, SVOC's, METALS, PESTICIDES)

SDA-B

ADNY-WALL-SS03 (VOCs, SVOCs, METALS, PCBs)

(VOCs, SVOCs, METALS, PCBs)

SS3-0002 (VOCs, SVOCs, METALS, PESTICIDES)

(VOCs, SVOCs, METALS, PCBs) ADNY-SDA-SS01

(VOCs, SVOCs, METALS, PCBs) ADNY-SDA-SS02

SWALE A/SWALE B/SWALE C (SVOCs, PCBs, ARSENIC)
ADNY-SWALE-SS01 (VOCs, SVOCs, METALS, PCBs)

(PCBs ONLY) ADNY-NEMO-SS01

SITE BOUNDARY

GB-8, GB-9, GB-10

NIAGARA MOHAWK SUBSTATION

GROUNDWATER WELL

PSS1-0002 (VOCs, SVOCs, METALS)

PSS2-0002 (VOCs, SVOCs, METALS)

LEGEND:

- ■ SAMPLE LOCATION
- ▲ BORING LOCATION, NO SAMPLE
- ◉ VCP SAMPLE LOCATIONS

VOC – VOLATILE ORGANIC COMPOUNDS
SVOC – SEMIVOLATILE ORGANIC COMPOUNDS
CVOC – CHLORINATED VOLATILE ORGANIC COMPOUNDS
PCBs – POLYCHLORINATED BIPHENYLS
BTEX – BENZENE, TOLUENE, ETHELBENZENE & XYLENES
PAHs – POLYNUCLEAR AROMATIC HYDROCARBONS
TCLP – TOXIC CHARACTERISTIC LEACHING PROCEDURE

SCALE

0 200 400 FEET

URS

THE CLOSED ALUMAX–DUNKIRK FACILITY
DUNKIRK, CHATAUQUA CO., N.Y.

SAMPLE LOCATIONS

THE CLOSED ALUMAX–DUNKIRK FACILITY
DUNKIRK, CHATAUQUA CO., N.Y.

DRAWING NUMBER 782745-B1

APPROVED BY

CHECKED BY

DRAWN BY JEP 3/25/02

OFFICE Pittsburgh, PA

WELL:	AL-4
DATE:	1-16-03
ACETONE	<10
BENZENE	<10
CYCLOHEXANE	4 J
ETHYLBENZENE	<10
ISOPROPYLBENZENE	<10
METHYLCYCLOHEXANE	8 J
TOLUENE	<10
TOTAL XYLENES	<10
TCE	<10
VINYL CHLORIDE	<10
TRANS-1,2-DCE	<10
CIS-1,2-DCE	<10
1,1-DCE	<10
2-BUTANONE	<10
4-HEXANONE	<10

WELL:	AL-1D
DATE:	1-16-03
ACETONE	50
BENZENE	200
CYCLOHEXANE	<20
ETHYLBENZENE	13 J
ISOPROPYLBENZENE	<20
METHYLCYCLOHEXANE	42
TOLUENE	190
TOTAL XYLENES	100
TCE	<20
VINYL CHLORIDE	<20
TRANS-1,2-DCE	<20
CIS-1,2-DCE	<20
1,1-DCE	<20
2-BUTANONE	13 J
4-HEXANONE	11 J

WELL:	AL-1
DATE:	1-16-03
ACETONE	<10
BENZENE	38
CYCLOHEXANE	64
ETHYLBENZENE	6 J
ISOPROPYLBENZENE	<10
METHYLCYCLOHEXANE	41
TOLUENE	<10
TOTAL XYLENES	13
TCE	4,800
VINYL CHLORIDE	
TRANS-1,2-DCE	39
CIS-1,2-DCE	9,400
1,1-DCE	73
2-BUTANONE	<10
4-HEXANONE	<10

WELL:	AL-2
DATE:	1-16-03
ACETONE	<10
BENZENE	12
CYCLOHEXANE	2 J
ETHYLBENZENE	4 J
ISOPROPYLBENZENE	<10
METHYLCYCLOHEXANE	<10
TOLUENE	<10
TOTAL XYLENES	<10
TCE	<10
VINYL CHLORIDE	<10
TRANS-1,2-DCE	<10
CIS-1,2-DCE	<10
1,1-DCE	<10
2-BUTANONE	<10
4-HEXANONE	<10

RAILROAD

EMW-8 EMW-7 EMW-4 EMW-2 EMW-1

EDGEWOOD WAREHOUSE
(FORMERLY PLYMOUTH TUBE
AND AMERICAN LOCOMOTIVE PAINT SHOP)

RSMW-04 RSMW-07 RSMW-12

RSMW-01 MW-3 RSMW-06

FORMERLY ROBLIN STEEL
(BUILDING DEMOLISHED)

FILL AREA/
FORMER TANK
LOCATIONS

MW-2 MW-5

RSMW-05 MW-4 MW-8 RSMW-11

MW-1 RSMW-02 RSMW-03

FORMERLY ROBLIN STEEL

MW-12 MW-11 MW-10 MW-6 MW-9 RSMW-09

MW-7

AL-4

EMW-6 EMW-3

FORMERLY AMERICAN
LOCOMOTIVE POWER
HOUSE
(BUILDING DEMOLISHED)

AL-4D

AL-2 AL-1 AL-1D ALUMAX MAIN BUILDING

AL-7

SEE FIG. 5 FOR RESIDUAL
SOURCE AREA RESULTS

AL-6

RAILROAD

SOUTH ROBERTS ROAD

RESIDENTIAL AREA

ALUMAX OFFICE BUILDING

UNPAVED

AL-5

PRODUCTION WELL (PW-1)

AL-3D

SITE BOUNDARY

AL-3

WELL:	AL-6
DATE:	1-16-03
ACETONE	6 J
BENZENE	25
CYCLOHEXANE	43
ETHYLBENZENE	7 J
ISOPROPYLBENZENE	<10
METHYLCYCLOHEXANE	24
TOLUENE	64
TOTAL XYLENES	51
TCE	14
VINYL CHLORIDE	<10
TRANS-1,2-DCE	<10
CIS-1,2-DCE	<10
1,1-DCE	<10
2-BUTANONE	<10
4-HEXANONE	<10
	<10

WELL:	AL-3	AL-6/DUP1016
DATE:	1-16-03	1-16-03
ACETONE	<10	<10
BENZENE	5 J	5 J
CYCLOHEXANE	5 J	7 J
ETHYLBENZENE	<10	<10
ISOPROPYLBENZENE	<10	<10
METHYLCYCLOHEXANE	5 J	6 J
TOLUENE	3 J	3 J
TOTAL XYLENES	<10	<10
TCE	<10	<10
VINYL CHLORIDE	<10	<10
TRANS-1,2-DCE	<10	<10
CIS-1,2-DCE	<10	<10
1,1-DCE	<10	<10
2-BUTANONE	<10	<10
4-HEXANONE	<10	<10

WELL:	AL-5
DATE:	1-16-03
ACETONE	10
BENZENE	33
CYCLOHEXANE	47
ETHYLBENZENE	4 J
ISOPROPYLBENZENE	<10
METHYLCYCLOHEXANE	21
TOLUENE	36
TOTAL XYLENES	18
TCE	<10
VINYL CHLORIDE	<10
TRANS-1,2-DCE	<10
CIS-1,2-DCE	<10
1,1-DCE	<10
2-BUTANONE	4 J
4-HEXANONE	<10
	<10

WELL:	PW-1
DATE:	1-16-03
ACETONE	<10
BENZENE	2 J
CYCLOHEXANE	2 J
ETHYLBENZENE	<10
ISOPROPYLBENZENE	<10
METHYLCYCLOHEXANE	<10
TOLUENE	<10
TOTAL XYLENES	<10
TCE	2 J
VINYL CHLORIDE	<10
TRANS-1,2-DCE	<10
CIS-1,2-DCE	<10
1,1-DCE	<10
2-BUTANONE	<10
4-HEXANONE	<10
	<10

WELL:	AL-3D
DATE:	1-16-03
ACETONE	<10
BENZENE	120
CYCLOHEXANE	120
ETHYLBENZENE	18
ISOPROPYLBENZENE	2 J
METHYLCYCLOHEXANE	71
TOLUENE	150
TOTAL XYLENES	110
TCE	<10
VINYL CHLORIDE	<10
TRANS-1,2-DCE	<10
CIS-1,2-DCE	<10
1,1-DCE	<10
2-BUTANONE	5 J
4-HEXANONE	<10
	2 J

NOTES:

1. CONCENTRATIONS IN $\mu g/kg$.

2. OFFSITE GROUNDWATER SAMPLE RESULTS PROVIDED IN APPENDIX F, WELL LOCATIONS PROVIDED FOR REFERENCE.

LEGEND:

PAVED AREAS

▲AL-1 ON SITE WELL

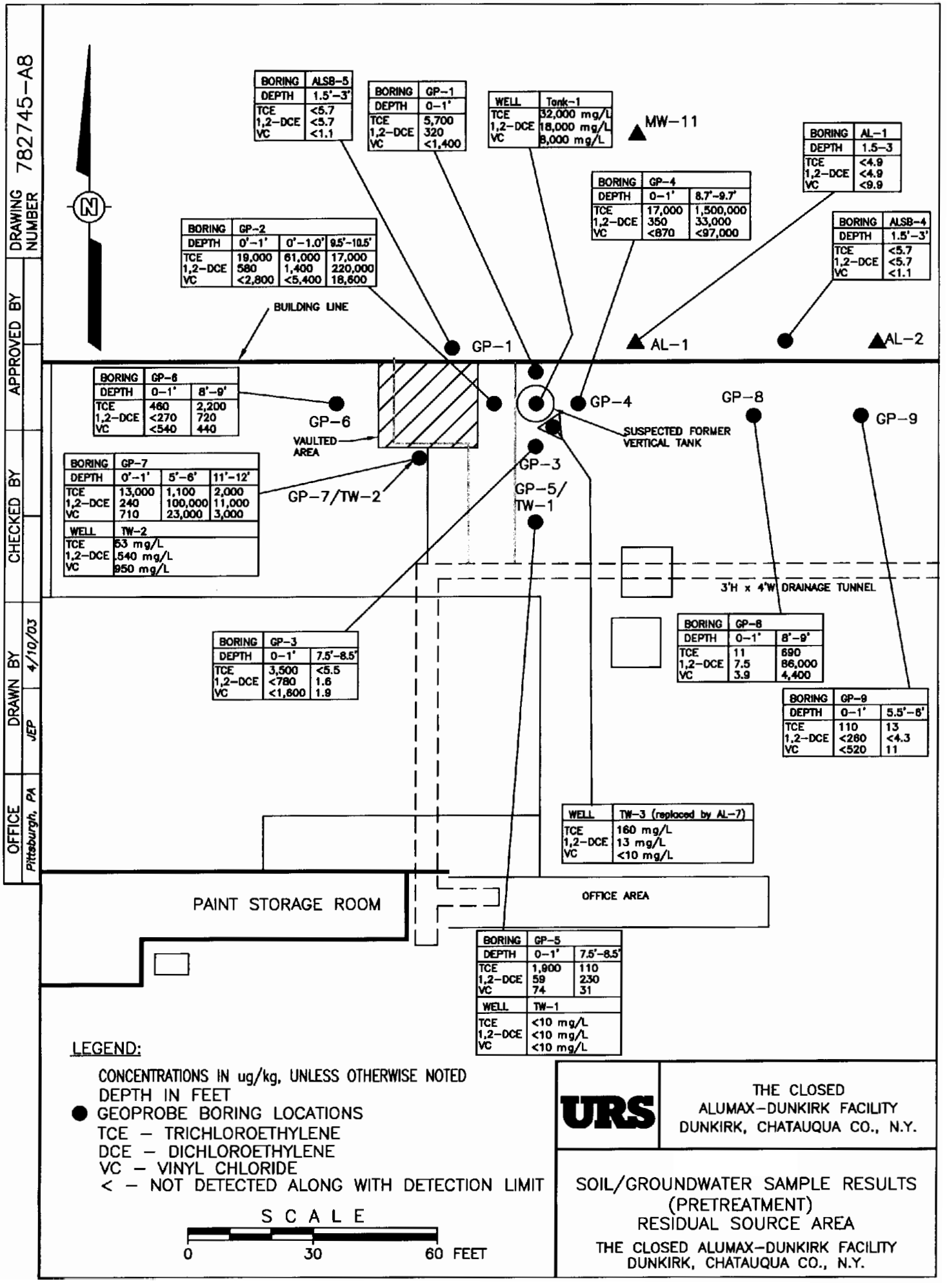
△MW-1 OFFSITE WELL

SCALE
0 200 400 FEET

URS

THE CLOSED
ALUMAX-DUNKIRK FACILITY
DUNKIRK, CHATAUQUA CO., N.Y.

GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
THE CLOSED ALUMAX-DUNKIRK FACILITY
DUNKIRK, CHATAUQUA CO., N.Y.


DRAWING NUMBER 782745-A8
APPROVED BY
CHECKED BY
DRAWN BY JEP 4/10/03
OFFICE Pittsburgh, PA
N
BUILDING LINE
GP-1
GP-2
GP-3
GP-4
GP-5/TW-1
GP-6
GP-7/TW-2
GP-8
GP-9
MW-11
AL-1
AL-2
VAULTED AREA
SUSPECTED FORMER VERTICAL TANK
3'H x 4'W DRAINAGE TUNNEL
PAINT STORAGE ROOM
OFFICE AREA
BORING ALSB-5 | DEPTH 1.5'-3' | TCE <5.7 | 1,2-DCE <5.7 | VC <1.1
BORING GP-1 | DEPTH 0-1' | TCE 5,700 | 1,2-DCE 320 | VC <1,400
WELL Tank-1 | TCE 32,000 mg/L | 1,2-DCE 18,000 mg/L | VC 8,000 mg/L
BORING AL-1 | DEPTH 1.5-3 | TCE <4.9 | 1,2-DCE <4.9 | VC <9.9
BORING GP-4 | DEPTH 0-1' 8.7'-9.7' | TCE 17,000 1,500,000 | 1,2-DCE 350 33,000 | VC <870 <97,000
BORING ALSB-4 | DEPTH 1.5'-3' | TCE <5.7 | 1,2-DCE <5.7 | VC <1.1
BORING GP-2 | DEPTH 0'-1' 0'-1.0' 9.5'-10.5' | TCE 19,000 61,000 17,000 | 1,2-DCE 580 1,400 220,000 | VC <2,800 <5,400 18,600
BORING GP-6 | DEPTH 0-1' 8'-9' | TCE 460 2,200 | 1,2-DCE <270 720 | VC <540 440
BORING GP-7 | DEPTH 0'-1' 5'-6' 11'-12' | TCE 13,000 1,100 2,000 | 1,2-DCE 240 100,000 11,000 | VC 710 23,000 3,000
WELL TW-2 | TCE 53 mg/L | 1,2-DCE 540 mg/L | VC 950 mg/L
BORING GP-3 | DEPTH 0-1' 7.5'-8.5' | TCE 3,500 <5.5 | 1,2-DCE <780 1.6 | VC <1,600 1.9
BORING GP-8 | DEPTH 0-1' 8'-9' | TCE 11 690 | 1,2-DCE 7.5 86,000 | VC 3.9 4,400
BORING GP-9 | DEPTH 0-1' 5.5'-6' | TCE 110 13 | 1,2-DCE <260 <4.3 | VC <520 11
WELL TW-3 (replaced by AL-7) | TCE 160 mg/L | 1,2-DCE 13 mg/L | VC <10 mg/L
BORING GP-5 | DEPTH 0-1' 7.5'-8.5' | TCE 1,900 110 | 1,2-DCE 59 230 | VC 74 31
WELL TW-1 | TCE <10 mg/L | 1,2-DCE <10 mg/L | VC <10 mg/L
LEGEND:
CONCENTRATIONS IN ug/kg, UNLESS OTHERWISE NOTED
DEPTH IN FEET
● GEOPROBE BORING LOCATIONS
TCE - TRICHLOROETHYLENE
DCE - DICHLOROETHYLENE
VC - VINYL CHLORIDE
< - NOT DETECTED ALONG WITH DETECTION LIMIT
SCALE
0 30 60 FEET
URS
THE CLOSED ALUMAX-DUNKIRK FACILITY
DUNKIRK, CHATAUQUA CO., N.Y.
SOIL/GROUNDWATER SAMPLE RESULTS
(PRETREATMENT)
RESIDUAL SOURCE AREA
THE CLOSED ALUMAX-DUNKIRK FACILITY
DUNKIRK, CHATAUQUA CO., N.Y.

APPENDIX 1

Deed Amendments/Restrictions

ATTACHMENT A
Deed Amendments/Restrictions

Chautauqua County Clerk

Return To:

PUBLIC ABSTRACT CORPORATION
DEFAULT SERVICES
31 E MAIN ST 3RD FL
ROCHESTER NY 14614

Index DEED BOOK

Book 02560 Page 0509

No. Pages 0007

Instrument DECLAR-DEEDS

Date : 11/22/2004

Time : 2:20:53

Control # 200411220133

INST# DE 2004 007426

ALCOA INC

NEW YORK STATE DEPARTMENT OF E
NVIRONMENTAL CONSERV ATION

Employee ID LORENZOT

COUNTY	$	27.00
	$	.00
ST ED DEPT	$	4.75
	$	.00
	$	.00
	$	.00
	$	.00
CEA	$	14.25
	$	.00
Total:	$	46.00

STATE OF NEW YORK
Chautauqua County Clerk

TRANSFER TAX

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

CONSIDERATN $ .00

Transfer Tax $ .00

Sandra K. Sopak
County Clerk

D025600509

DECLARATION of COVENANTS and RESTRICTIONS

THIS COVENANT is made the 3rd day of November 2004, by ALCOA INC., a Pennsylvania corporation, as successor in interest to Alumax Inc., a Delaware corporation, whose address is Alcoa Corporate Center, 201 Isabella Street, Pittsburgh, Pennsylvania 15212-5858 ("Alcoa").

WHEREAS Alcoa is the subject of Voluntary Agreement Index No. B9-0616-02-06, dated 08 August 2002 (the "Agreement") executed by Robert S. Bear (on behalf of Alcoa) and Susan I. Taluto, Deputy Commissioner – NYSDEC Water Quality and Environmental Remediation as part of the New York State Department of Environmental Conservation's (the "Department's) Voluntary Cleanup Program, namely that parcel of real property located at 320 South Roberts Road in the City of Dunkirk, County of Chautauqua, State of New York, which is part of lands conveyed by:

Warranty Deed made by Alumax Inc. to Alcoa, dated November 3, 2004 and recorded on November 22, 2004 in Liber 2560 of Deeds at page 505;

and being more particularly described in Appendix "A," attached to this declaration and made a part hereof, and hereinafter referred to as "the Property"; and

WHEREAS, the Department approved a remedy to eliminate or mitigate all significant threats to the environment presented by the contamination disposed at the Property and such remedy requires that the Property be subject to restrictive covenants.

NOW, THEREFORE, Alcoa, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions is as shown on a map attached to this declaration as Appendix "B" and made a part hereof, and consists of:

PARCEL A

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Dunkirk, County of Chautauqua and State of New York and more particularly described as follows:

BEGINNING on the centerline of Roberts Road at the point located 601.13

feet northwesterly along said centerline from the northerly line of lands of the Norfolk and Western Railroad, (former New York, Chicago and St. Louis Railroad); thence north 40° 28' east (assumed bearing) a distance of 396.0 feet to a point; thence north 81° 31' east a distance of 95.9 feet to a point; thence south 8° 39' east a distance of 514.37 feet to an iron pin; thence south 38° 16' west a distance of 114.28 feet to said centerline of Roberts Road; thence north 51° 44' west a distance of 456.6 feet along said centerline to the point or place of beginning.

PARCEL B

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Dunkirk, County of Chautauqua and State of New York and more particularly described as follows:

BEGINNING in the center line of the existing 30.3 foot pavement in Roberts Road at a point located 94.53 feet northwesterly along said centerline from the northwesterly line of lands of the New York, Chicago & St. Louis Railroad Company; thence north 51° 44' west along said centerline a distance of 50 feet to a point on line of lands now or formerly of Plymouth Tube Company; thence north 38° 16' east a distance of 114.28 feet to an iron pin and passing through an iron pin located 33 feet northeasterly along the last described course from the centerline of Roberts Road; thence north 8° 39' west a distance of 514.37 feet to an iron pin on point of lands now or formerly of Roblin Industries, Inc.; thence continuing along line of lands of Roblin Industries, north 81° 31' east a distance of 822 feet to an iron pin and south 8° 29' east 251.95 feet to a point on line of lands now or formerly of said Railroad Company; thence south 53° 33' west 219.15 feet to a monument; thence north 87° 18' west 24.88 feet to a monument; thence south 53° 33' west 137.59 feet to an iron pin; thence north 88° 30' west 111.6 feet to an iron pin; thence south 56° 19' 32" west 381.7 feet to a monument; thence south 38° 16' west, 102.49 feet to the point or place of beginning, and passing through an iron pin located 33 feet northeasterly along the last described course from the place of beginning.

Second, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, there shall be no construction, use or occupancy; disturbance or excavation of the Property that is inconsistent with the approved "Combined Institutional Control Plan and Operations and Maintenance Plan – Former Alumax Extrusions Site," Site No. V00589-9 (Combined Plan) and that results in unacceptable human exposure to contaminated soils.

Third, the owner of the Property shall be responsible to implement the Combined Plan or implementing any modifications to the Combined Plan after obtaining the written approval of the Relevant Agency.

Fourth, the owner of the Property shall prohibit the Property from ever being used for purposes other than for restricted industrial or restricted commercial use without the express written waiver of such prohibition by the Relevant Agency.

Fifth, the owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Relevant Agency.

Sixth, the owner of the Property shall continue in full force and effect the prohibition against uses other than restricted commercial and/or industrial uses, and shall assure that any construction, use, occupancy, disturbance or excavation on the property shall be in conformance with the "Combined Plan" as institutional and engineering controls required under the Agreemcnt, and shall continue to implement and annually report on the status, results and effectiveness of the operation, monitoring and maintenance requirements to the Relevant Agency unless the owner first obtains permission to discontinue to do so.

Seventh, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property, and shall provide that the owner and its successors and assigns consent to enforcement by the Relevant Agency of the prohibitions, restrictions and requirements set out in this Covenant, the Agreement, and the Combined Plan, and hereby covenant not to contest the authority of the Relevant Agency to seek enforcement.

Eighth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day first above written.

ALCOA INC.

By: _____ Date: November 3, 2004

Russell W. Porter, Jr.
Vice President

STATE OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

Personally appeared before me, the undersigned authority in and for the said county and state, on this 3rd day of November, 2004, within my jurisdiction, the within named Russell W. Porter, Jr., who acknowledged that he is a Vice President of Alcoa Inc., a Pennsylvania corporation, and that for and on behalf of the said corporation, and as its act and deed, he executed the above and foregoing instrument, after first having been duly authorized by said corporation so to do.

Jacqueline L. Murtha
Notary Public

My Commission Expires:

Notarial Seal
Jacqueline L. Murtha, Notary Public
City Of Pittsburgh, Allegheny County
My Commission Expires Jan. 24, 2007
Member, Pennsylvania Association Of Notaries

(SEAL)

APPENDIX "A"

PARCEL A

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Dunkirk, County of Chautauqua and State of New York and more particularly described as follows:

BEGINNING on the centerline of Roberts Road at the point located 601.13 feet northwesterly along said centerline from the northerly line of lands of the Norfolk and Western Railroad, (former New York, Chicago and St. Louis Railroad); thence north 40° 28' east (assumed bearing) a distance of 396.0 feet to a point; thence north 81° 31' east a distance of 95.9 feet to a point; thence south 8° 39' east a distance of 514.37 feet to an iron pin; thence south 38° 16' west a distance of 114.28 feet to said centerline of Roberts Road; thence north 51° 44' west a distance of 456.6 feet along said centerline to the point or place of beginning.

PARCEL B

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Dunkirk, County of Chautauqua and State of New York and more particularly described as follows:

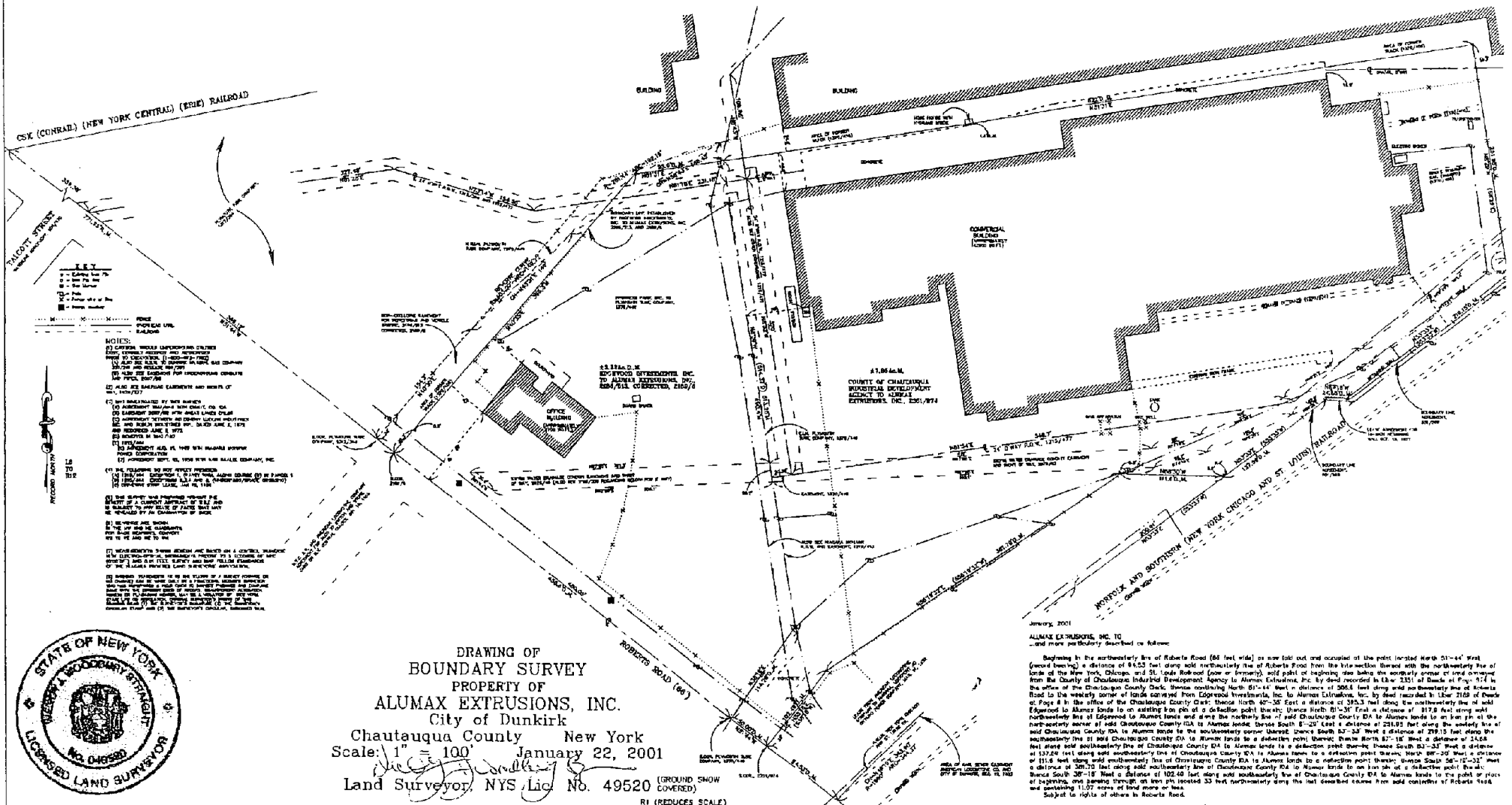
BEGINNING in the center line of the existing 30.3 foot pavement in Roberts Road at a point located 94.53 feet northwesterly along said centerline from the northwesterly line of lands of the New York, Chicago & St. Louis Railroad Company; thence north 51° 44' west along said centerline a distance of 50 feet to a point on line of lands now or formerly of Plymouth Tube Company; thence north 38° 16' east a distance of 114.28 feet to an iron pin and passing through an iron pin located 33 feet northeasterly along the last described course from the centerline of Roberts Road; thence north 8° 39' west a distance of 514.37 feet to an iron pin on point of lands now or formerly of Roblin Industries, Inc.; thence continuing along line of lands of Roblin Industries, north 81° 31' east a distance of 822 feet to an iron pin and south 8° 29' east 251.95 feet to a point on line of lands now or formerly of said Railroad Company; thence south 53° 33' west 219.15 feet to a monument; thence north 87° 18' west 24.88 feet to a monument; thence south 53° 33' west 137.59 feet to an iron pin; thence north 88° 30' west 111.6 feet to an iron pin; thence south 56° 19' 32" west 381.7 feet to a monument; thence south 38° 16' west, 102.49 feet to the point or place of beginning, and passing through an iron pin located 33 feet northeasterly along the last described course from the place of beginning.

STATE OF NEW YORK, COUNTY OF CHAUTAUQUA, A TRUE COPY OF THE ORIGINAL FILED OR RECORDED IN THIS OFFICE

NOV 2 4 2004

WITNESS MY HAND AND OFFICIAL SEAL OF THE COUNTY OF CHAUTAUQUA

CHAUTAUQUA COUNTY CLERK



DRAWING OF
BOUNDARY SURVEY
PROPERTY OF
ALUMAX EXTRUSIONS, INC.
City of Dunkirk
Chautauqua County New York
Scale: 1" = 100' January 22, 2001

Land Surveyor, NYS Lic. No. 49520 (GROUND SNOW COVERED)

R1 (REDUCES SCALE)

STATE OF NEW YORK WENDY A. WOODBURY STRAIGHT LICENSED LAND SURVEYOR NO. 049520

January, 2001

ALUMAX EXTRUSIONS, INC. TO
...and more particularly described as follows:

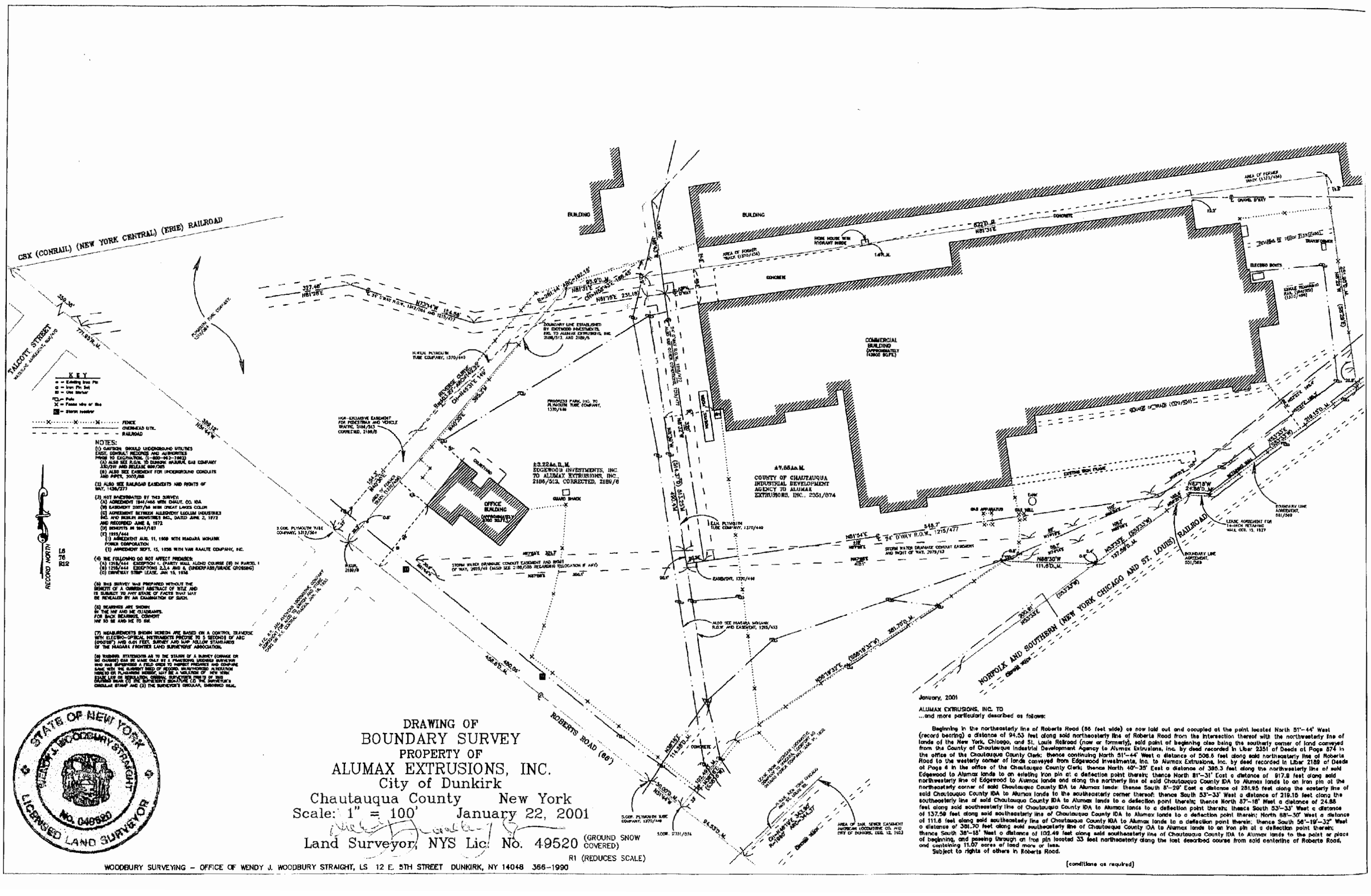
Beginning in the northeasterly line of Roberts Road (66 feet wide) as now laid out and occupied at the point located North 51°-44' West (record bearing) a distance of 66.53 feet along said northeasterly line of Roberts Road from the intersection thereof with the northwesterly line of lands of the New York, Chicago, and St. Louis Railroad (now or formerly), said point of beginning also being the southerly corner of land conveyed from the County of Chautauqua Industrial Development Agency to Alumax Extrusions, Inc. by deed recorded in Liber 2351 of Deeds at Page 474 in the office of the Chautauqua County Clerk; thence continuing North 51°-44' West a distance of 306.6 feet along said northeasterly line of Roberts Road to the westerly corner of lands conveyed from Edgewood Investments, Inc. to Alumax Extrusions, Inc. by deed recorded in Liber 2160 of Deeds at Page 8 in the office of the Chautauqua County Clerk; thence North 40°-36' East a distance of 395.3 feet along the northwesterly line of said Edgewood to Alumax lands to an existing iron pin at a deflection point therein; thence North 51°-36' East a distance of 817.8 feet along said northwesterly line of Edgewood to Alumax lands and along the northerly line of said Chautauqua County IDA to Alumax lands to an iron pin at the northeasterly corner of said Chautauqua County IDA to Alumax lands; thence South 51°-20' East a distance of 291.85 feet along the easterly line of said Chautauqua County IDA to Alumax lands to the southeasterly corner thereof; thence South 83°-33' West a distance of 219.15 feet along the southeasterly line of said Chautauqua County IDA to Alumax lands to a deflection point therein; thence North 87°-18' West a distance of 34.68 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to a deflection point therein; thence South 83°-33' West a distance of 137.24 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to a deflection point therein; thence North 88°-30' West a distance of 111.6 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to a deflection point therein; thence South 58°-15'-32" West a distance of 389.70 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to an iron pin at a deflection point therein; thence South 38°-18' West a distance of 102.46 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to the point or place of beginning, and passing through an iron pin located 33 feet northeasterly along the last described course from said centerline of Roberts Road, and containing 11.07 acres of land more or less.

Subject to rights of others in Roberts Road.

[conditions as required]

WOODBURY SURVEYING – OFFICE OF WENDY J. WOODBURY STRAIGHT, LS 12 E. 5TH STREET DUNKIRK, NY 14048 366-1990

APPENDIX "B"



DRAWING OF
BOUNDARY SURVEY
PROPERTY OF
ALUMAX EXTRUSIONS, INC.
City of Dunkirk
Chautauqua County New York
Scale: 1" = 100' January 22, 2001

Land Surveyor, NYS Lic. No. 49520

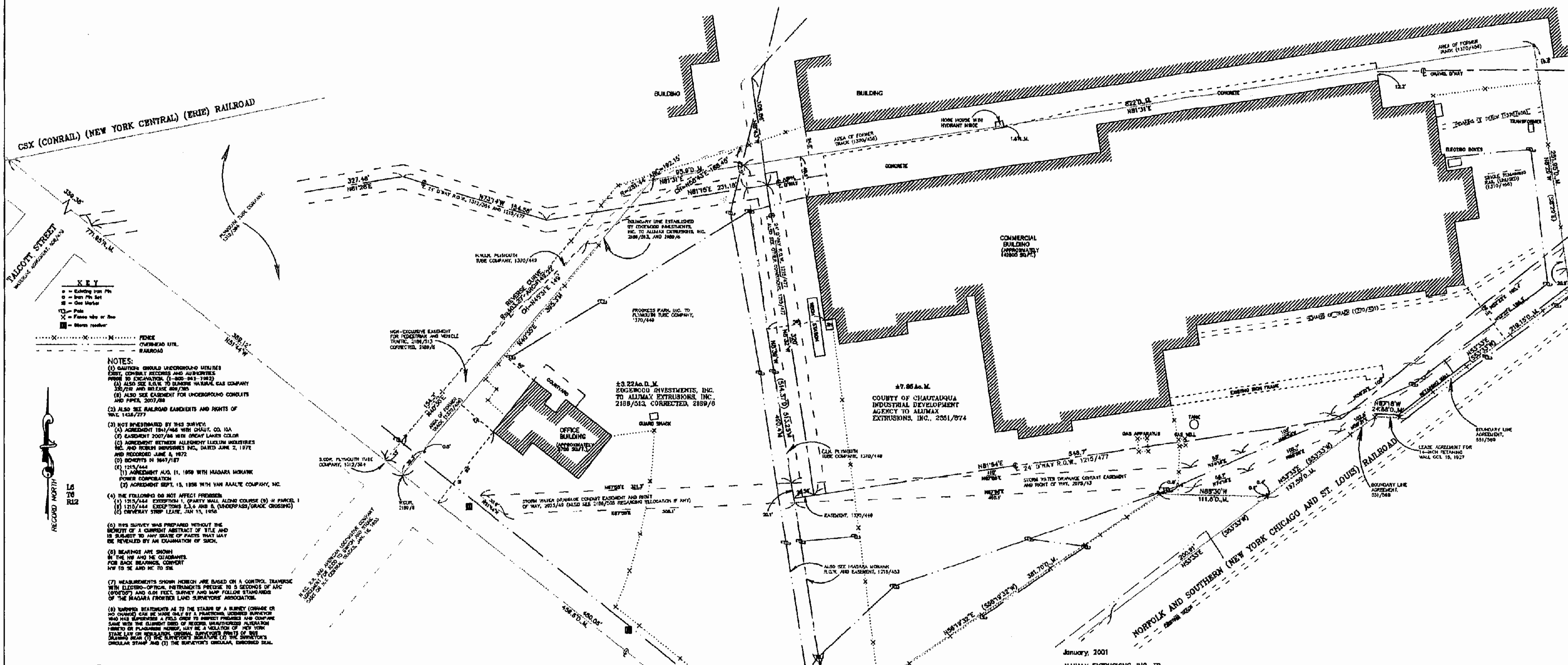
January, 2001

ALUMAX EXTRUSIONS, INC. TO
...and more particularly described as follows:

Beginning in the northeasterly line of Roberts Road (66 feet wide) as now laid out and occupied at the point located North 51°-44' West (record bearing) a distance of 94.53 feet along said northeasterly line of Roberts Road from the intersection thereof with the northwesterly line of lands of the New York, Chicago, and St. Louis Railroad (now or formerly), said point of beginning also being the southerly corner of land conveyed from the County of Chautauqua Industrial Development Agency to Alumax Extrusions, Inc. by deed recorded in Liber 2351 of Deeds at Page 874 in the office of the Chautauqua County Clerk; thence continuing North 51°-44' West a distance of 506.6 feet along said northeasterly line of Roberts Road to the westerly corner of lands conveyed from Edgewood Investments, Inc. to Alumax Extrusions, Inc. by deed recorded in Liber 2186 of Deeds at Page 6 in the office of the Chautauqua County Clerk; thence North 40°-35' East a distance of 386.3 feet along the northwesterly line of said Edgewood to Alumax lands to an existing iron pin at a deflection point therein; thence North 81°-31' East a distance of 917.8 feet along said northeasterly line of Edgewood to Alumax lands and along the northerly line of said Chautauqua County IDA to Alumax lands to an iron pin at the northeasterly corner of said Chautauqua County IDA to Alumax lands; thence South 8°-29' East a distance of 251.95 feet along the easterly line of said Chautauqua County IDA to Alumax lands to the southeasterly corner thereof; thence South 53°-33' West a distance of 219.15 feet along the southeasterly line of said Chautauqua County IDA to Alumax lands to a deflection point therein; thence North 87°-18' West a distance of 24.86 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to a deflection point therein; thence South 53°-33' West a distance of 137.58 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to a deflection point therein; North 88°-30' West a distance of 111.6 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to a deflection point therein; thence South 56°-19'-37" West a distance of 381.70 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to an iron pin at a deflection point therein; thence South 38°-18' West a distance of 102.49 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to the point or place of beginning, and passing through an iron pin located 33 feet northeasterly along the last described course from said centerline of Roberts Road, and containing 11.07 acres of land more or less.

Subject to rights of others in Roberts Road.

[conditions as required]



KEY
- ● – Existing Iron Pin
- ○ – Iron Pin Set
- ⊠ – Gas Marker
- Pole
- X – Fence tale or line
- ▣ – Storm receiver

······X······X······ FENCE
——— · · ——— OVERHEAD UTIL.
— — — — — — RAILROAD

NOTES:

(1) CAUTION: SHOULD UNDERGROUND UTILITIES EXIST, CONSULT RECORDS AND AUTHORITIES PRIOR TO EXCAVATION. (1-800-962-7962)
(A) ALSO SEE R.O.W. TO DUNKIRK NATURAL GAS COMPANY 330/217 AND RELEASE 808/385
(B) ALSO SEE EASEMENT FOR UNDERGROUND CONDUITS AND PIPES, 2007/88

(2) ALSO SEE RAILROAD EASEMENTS AND RIGHTS OF WAY, 1426/277

(3) NOT INVESTIGATED BY THIS SURVEY:
(A) AGREEMENT 1941/448 WITH CHAUT. CO. IDA
(B) EASEMENT 2007/88 WITH GREAT LAKES COLOR
(C) AGREEMENT BETWEEN ALLEGHENY LUDLUM INDUSTRIES INC. AND ROBLIN INDUSTRIES INC., DATED JUNE 2, 1972 AND RECORDED JUNE 8, 1972
(D) BENEFITS IN 1647/187
(E) 1215/444
(1) AGREEMENT AUG. 11, 1959 WITH NIAGARA MOHAWK POWER CORPORATION
(2) AGREEMENT SEPT. 15, 1958 WITH VAN RAALTE COMPANY, INC.

(4) THE FOLLOWING DO NOT AFFECT PREMISES:
(A) 1215/444 EXCEPTION 1, (PARTY WALL ALONG COURSE (9) IN PARCEL I
(B) 1215/444 EXCEPTIONS 2,3,4 AND 6, (UNDERPASS/GRADE CROSSING)
(C) DRIVEWAY STRIP LEASE, JAN 15, 1958

(5) THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT ABSTRACT OF TITLE AND IS SUBJECT TO ANY STATE OF FACTS THAT MAY BE REVEALED BY AN EXAMINATION OF SUCH.

(6) BEARINGS ARE SHOWN IN THE NW AND NE QUADRANTS. FOR BACK BEARINGS, CONVERT NW TO SE AND NE TO SW.

(7) MEASUREMENTS SHOWN HEREON ARE BASED ON A CONTROL TRAVERSE WITH ELECTRO-OPTICAL INSTRUMENTS PRECISE TO 5 SECONDS OF ARC (0°00'05") AND 0.01 FEET. SURVEY AND MAP FOLLOW STANDARDS OF THE NIAGARA FRONTIER LAND SURVEYORS' ASSOCIATION.

(8) WARNING: STATEMENTS AS TO THE STATUS OF A SURVEY (CHANGE OR NO CHANGE) CAN BE MADE ONLY BY A PRACTICING LICENSED SURVEYOR WHO HAS SUPERVISED A FIELD CREW TO INSPECT PREMISES AND COMPARE SAME WITH THE CURRENT DEED OF RECORD. UNAUTHORIZED ALTERATION HERETO OR PLAGIARISM HEREOF, MAY BE A VIOLATION OF NEW YORK STATE LAW OR REGULATION. ORIGINAL SURVEYOR'S PRINTS OF THIS DRAWING BEAR (1) THE SURVEYOR'S SIGNATURE (2) THE SURVEYOR'S CIRCULAR STAMP AND (3) THE SURVEYOR'S CIRCULAR, EMBOSSED SEAL.

STATE OF NEW YORK · WENDY J. WOODBURY STRAIGHT · NO. 049520 · LICENSED LAND SURVEYOR

DRAWING OF
BOUNDARY SURVEY
PROPERTY OF
ALUMAX EXTRUSIONS, INC.
City of Dunkirk
Chautauqua County New York
Scale: 1" = 100' January 22, 2001
Land Surveyor, NYS Lic. No. 49520 (GROUND SNOW COVERED)
R1 (REDUCES SCALE)

January, 2001

ALUMAX EXTRUSIONS, INC. TO
...and more particularly described as follows:

Beginning in the northeasterly line of Roberts Road (66 feet wide) as now laid out and occupied at the point located North 51°-44' West (record bearing) a distance of 94.53 feet along said northeasterly line of Roberts Road from the intersection thereof with the northwesterly line of lands of the New York, Chicago, and St. Louis Railroad (now or formerly), said point of beginning also being the southerly corner of land conveyed from the County of Chautauqua Industrial Development Agency to Alumax Extrusions, Inc. by deed recorded in Liber 2351 of Deeds at Page 874 in the office of the Chautauqua County Clerk; thence continuing North 51°-44' West a distance of 506.6 feet along said northeasterly line of Roberts Road to the westerly corner of lands conveyed from Edgewood Investments, Inc. to Alumax Extrusions, Inc. by deed recorded in Liber 2189 of Deeds at Page 8 in the office of the Chautauqua County Clerk; thence North 40°-35' East a distance of 395.3 feet along the northwesterly line of said Edgewood to Alumax lands to an existing iron pin at a deflection point therein; thence North 81°-31' East a distance of 817.9 feet along said northwesterly line of Edgewood to Alumax lands and along the northerly line of said Chautauqua County IDA to Alumax lands to an iron pin at the northeasterly corner of said Chautauqua County IDA to Alumax lands; thence South 8°-29' East a distance of 251.95 feet along the easterly line of said Chautauqua County IDA to Alumax lands to the southeasterly corner thereof; thence South 53°-33' West a distance of 219.15 feet along the southeasterly line of said Chautauqua County IDA to Alumax lands to a deflection point therein; thence North 87°-18' West a distance of 24.88 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to a deflection point therein; thence South 53°-33' West a distance of 137.59 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to a deflection point therein; North 88°-30' West a distance of 111.8 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to a deflection point therein; thence South 56°-19'-32" West a distance of 381.70 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to an iron pin at a deflection point therein; thence South 38°-18' West a distance of 102.49 feet along said southeasterly line of Chautauqua County IDA to Alumax lands to the point or place of beginning, and passing through an iron pin located 33 feet northeasterly along the last described course from said centerline of Roberts Road, and containing 11.07 acres of land more or less.

Subject to rights of others in Roberts Road.

[conditions as required]

APPENDIX 2

List of Site Contacts

APPENDIX 2 – LIST OF SITE CONTACTS

Name	Phone/Email Address
Mr. Brad Bentley, Director of Public Facilities for Chautauqua County	716-6618400/ BentleyB@co.chautauqua.ny.us
Mr. Steven Kaufman, Property Manager-Refresco Beverages US, Inc.	813-519-0864/ Steven.kaufman@refresco.com
Mr. Robert Napieralski, Qualified Environmental Professional	716-551-6283/rnapieralski@labellapc.com
Ms. Megan Kuczka, NYSDEC Project Manager	716-851-7220/Megan.Kuczka@dec.ny.gov
Mr. Andrew Caprio, NYSDEC Regional HW Engineer	716-851-7220/andrea.caprio@dec.ny.gov
Ms. Stephanie Selmer	518-4027860/ Stephanie.selmer@health.ny.gov
Ms. Kelly Lewandowski, NYSDEC Chief, Site Control Section	518-402-9553/ kelly.lewandowski@dec.ny.gov

APPENDIX 3

Field Logs

LABELLA ASSOCIATES, D.P.C.
Environmental Engineering Consultants

Well I.D. _____

Site Location: _____ Job No. **2210039**

Sample Date: _____

LaBella Representative:

Well I.D.	Initial Readings	1 Well Volume	2 Well Volumes	3 Well Volume	Sample	Post Sample	Details
Time							
Depth of well							
Depth to water							
Well diameter							
Well volume (gallons)							
Purging device							
Containment device							
Purge time							
Gallons purged							
Sample device							
Field Parameters							
Temperature							
pH measurement							
Conductivity (mS/cm)							
ORP/Eh (mV)							
Turbidity (NTUs)							

WEATHER:

NOTES/FIELD OBSERVATIONS:

Well Volume Purge: 1 Well Volume = (Total Well Depth – Static Depth To Water) X Well Capacity
(only if applicable) = (ft. –ft.) X . gal/ft = 0.3056 gallons

Well Capacity (Gallons per Foot): **0.75”**=0.02 **1”**=0.04 **1.5”**=0.092 **2”**=0.16 **3”**=0.37
4”=0.65 **5”**=1.02 **6”**=1.47 **12”**=5.88

1. **Stabilization Criteria for range of variation of last three consecutive Readings**

pH: ± 0.2 units; **Temperature:** ± 0.5^{0}C; **Specific Conductance:** ± 10%; **Turbidity:** ≤ 50 NTU

A minimum of three well volumes and a maximum of five well volumes are to be removed from each well prior to sampling. In the event that groundwater recharge is slow, the purging process will continue until the well is purged “dry”. After the water level has returned to its pre-purge level (or within a maximum of two hours), samples will be collected. If the water level is slow to recharge and does not reach its pre-purge level within two hours, then samples can be collected after sufficient water has recharged, and the degree of recharge indicated in field notes with time and depth to water noted.

APPENDIX 4

Excavation Work Plan

APPENDIX 4 – EXCAVATION WORK PLAN (EWP)

4-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination or breach or alter the site's cover system, the site owner or their representative will notify the NYSDEC. The table below includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix 2.

Notifications*

Ms. Megan Kuczka, NYSDEC Project Manager	716-851-7220 megan.kuczka@dec.ny.gov
Ms. Andrea Caprio, NYSDEC Regional Engineer	716-851-7220 andrea.caprio@dec.ny.gov
Kelly Lewandowski, NYSDEC Chief, Site Control Section	518-402-9553 kelly.lewandowski@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;

- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix 5 of this SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with the required request to import form and all supporting documentation including, but not limited to, chemical testing results.

4-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed during all excavations into known or potentially contaminated material (remaining contamination) or a breach of the cover system. A qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State will perform the screening. Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Section 4-6 and 4-7 of this Appendix.

4-3 SOIL STAGING METHODS

Soil/fill materials not direct-loaded onto trucks for off-site disposal will be stockpiled as follows:

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

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

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

4-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site. A site utility stakeout will be completed for all utilities prior to any ground intrusive activities at the site.

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

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

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

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials. Material accumulated from the street cleaning and egress cleaning activities will be disposed off-site at a permitted landfill facility in accordance with all applicable local, State, and Federal regulations. See Section 4-5 for additional details.

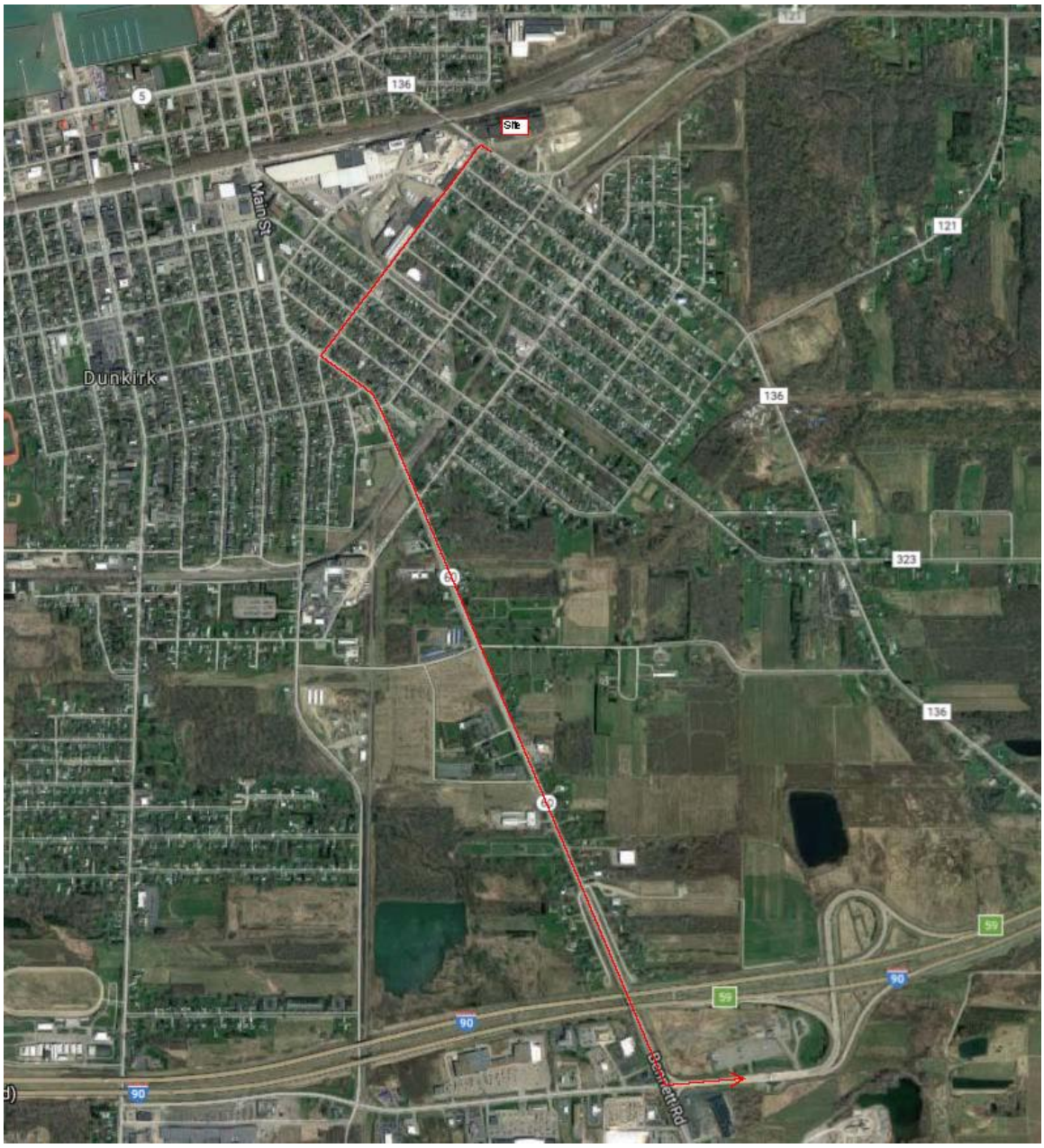
4-5 MATERIALS TRANSPORT OFF-SITE

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

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

Truck transport routes are as follows: Upon exiting the Site trucks shall travel northwest on South Roberts Road to E. Talcott Street, southwest on E. Talcott Street to Maple Avenue (NY-60), southeast on Maple Avenue (NY-60), Maple Avenue (NY-60) turns into Lamphere Street (NY-60), Lamphere Street (NY-60) turns into Bennett Road (NY-60), Bennett Road to NYS Thruway (I-90) ramp, and east on NYS Thruway (I-90) ramp.

Truck Transport Route



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

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

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

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

4-6 MATERIALS DISPOSAL OFF-SITE

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

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled consistent with 6 NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted Soil Cleanup Objectives is prohibited from being taken to a New York State C&D debris recovery facility (6 NYCRR Subpart 360-15 registered or permitted facility).

4-7 MATERIALS REUSE ON-SITE

The qualified environmental professional as defined in 6 NYCRR part 375 will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material (i.e. contaminated) does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Proposed materials for reuse on-site must be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the site-use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances [October 2020 or date of current version, whichever is later] guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

Soil/fill material for reuse on-site will be segregated and staged as described in Sections 4-2 and 4-3 of this EWP. The anticipated size and location of stockpiles will be provided in the 15-day notification to the NYSDEC project manager. Stockpile locations will be based on the location of site excavation activities and proximity to nearby site features. Material reuse on-site will comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC project manager.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

4-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge, and development water verified to be visually free of any product, non-aqueous phase liquid, odor, or other visual indications of impact, may be discharged on-site to the ground surface, with prior NYSDEC approval.

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

4-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the deed restrictions, including one of the following:

- Soil: 12 inches of vegetated soil cover underlain by a demarcation layer, in outdoor vegetated areas.
- Asphalt: a minimum of 6 inches of material (asphalt and subbase material) in areas that will become roads, sidewalks, and parking lots. Actual cross sections will be determined based on the intended use of the area.

- Concrete: a minimum of 6 inches of material (concrete and subbase material) in areas that will become slab-on-grade structures or for roads, sidewalks, and parking lots in lieu of asphalt. For slab-on-grade structures, an 8-mil polyethylene vapor barrier will be placed beneath the concrete for new structures built in the portion of the site identified as the residual source area. The vapor barrier requirement is not required in areas other than the residual source area because VOCs were not found in significant quantities on any other portions of the site. Actual cross sections will be determined based on the intended use of the area.

Most of the Site is currently paved with concrete and/or asphalt. This area is to be maintained, as necessary to prevent exposure to site soils. To allow future landowners and developer's flexibility, existing paved areas may be allowed to revert to soil cover. In this event, six inches of clean soil cover and vegetation will still be required. Breakup of any pavement left beneath the clean soil will also be recovered to promote drainage.

It is conceivable that a future site owner may wish to remove the soil cover/paving requirement from portions of the site. This could certainly be achieved through soil excavation and management and potentially more extensive sampling and evaluation in some areas of the Site. Such actions are required to be discussed with NYSDEC prior to implementation to ensure that the intent of the institutional controls is maintained and may also require certification by a NYS- licensed Professional Engineer. Implementation and maintenance of the ICs/ECs will be subject to annual certification by the Site owner.

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

4-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional, as defined in 6 NYCRR Part 375, and will be in compliance with provisions in this SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

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

All imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d) and DER-10 Appendix 5 for Industrial or Commercial use(s). Soils that meet 'general' fill requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC project manager. Soil material will be sampled for the full suite of analytical parameters, including PFAS and 1, 4-dioxane. Solid waste will not be imported onto the site.

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

4-11 STORMWATER POLLUTION PREVENTION

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

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

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

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

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

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

4-12 EXCAVATION CONTINGENCY PLAN

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

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes [TAL metals, TCL volatiles and semi-volatiles (including 1,4-dioxane), TCL pesticides and PCBs, and PFAS], unless the site history and previous sampling results provide sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC project manager for approval prior to sampling. Any tanks will be closed as per NYSDEC regulations and guidance.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone within two hours to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

4-13 COMMUNITY AIR MONITORING PLAN

The CAMP requires real-time monitoring for VOCs and particulates (i.e., dust) at the Site property boundary downwind of each designated work area when intrusive and certain non-intrusive activities are in progress at contaminated sites. All monitoring will be conducted in accordance with the Site-Specific CAMP included as Appendix 6 of the SMP.

Air sampling stations will be decided upon based on generally prevailing wind conditions proximate the Site. These locations will be adjusted on a daily or more

frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

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

4-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include screening excavated soils with a PID and storage of soils with PID readings in excess of 100 parts per million (ppm) beneath tarps or possibly within an enclosed container. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Period Review Report.

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

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

4-15 DUST CONTROL PLAN

Particulate monitoring must be conducted according to the Community Air Monitoring Plan (CAMP) provided in Section 4-13. If particulate levels at the site exceed the thresholds listed in the CAMP or if airborne dust is observed on the site or leaving the site, the dust suppression techniques listed below will be employed. The remedial party will also take measures listed below to prevent dust production on the site.

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

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, un-vegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

4-16 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

APPENDIX 5

Health and Safety Plan

Site Health and Safety Plan

Location:

Closed Alumax Extrusions, Inc. Facility
320 & 440 South Roberts Road
Dunkirk, New York
NYSDEC BCP Site #V00589

Prepared for:

Chautauqua County Department of Public Facilities
454 North Work Street
Falconer, New York

LaBella Project No. 2210039

November 2021

Olympic Towers, 300 Pearl Street, Suite 130 | Buffalo, NY 14202 | p 716-551-6281 | f 716-551-6282
www.labellapc.com

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SITE HEALTH AND SAFETY PLAN

Project Title:	Closed Alumax Extrusions, Inc. Facility – Site Management Plan
Project Location (Site):	320 & 440 South Roberts Road, Dunkirk, New York
Environmental Director:	Rob Napieralski (LaBella Associates D.P.C.)
Project Manager:	Chris Kibler (LaBella Associates D.P.C.)
Plan Review Date:	April 30, 2021
Plan Approval Date:	April 30, 2021
Plan Approved By:	Steven Szymanski (LaBella Associates D.P.C.)
Site Safety Supervisor:	Chris Kibler (LaBella Associates D.P.C.)
Site Contact:	Brad Bentley (Chautauqua County Department of Public Facilities)
Safety Director:	Steven Szymanski (LaBella Associates D.P.C.)
Proposed Date(s) of Field Activities:	N/A
Site Conditions:	Relatively flat, undeveloped site, encompassing approximately 12 acres.
Site Environmental Information Provided By:	Voluntary Clean-Up Program, Combined Institutional Control Plan/Operations and Maintenance Plan, prepared by URS Corp., dated June 2004.
Air Monitoring Provided By:	LaBella Associates D.P.C.
Site Control Provided By:	Contractor(s)

EMERGENCY CONTACTS

	Name	Phone Number
Ambulance:	As Per Emergency Service	911
Hospital Emergency:	Brooks Memorial Hospital	716-366-1111
Poison Control Center:	National Poison Control Center (serving Buffalo Area)	1-800-222-1222
Police (local, state):	Police Dunkirk Police	911 716-366-2266
Fire Department:	Dunkirk Fire Department	911
Site Contact:	Brad Bentley (Chautauqua County Department of Public Facilities)	716-661-8406
Agency Contact:	Megan Kuczka (NYSDEC)	716-851-7220
Environmental Director:	Rob Napieralski (LaBella Associates D.P.C.)	Direct: 716-551-6283
Project Manager:	Chris Kibler (LaBella.)	Direct: 716-768-4906
Site Safety Supervisor:	Chris Kibler (LaBella.)	Direct: 716-768-4906
Safety Director	Steven Szymanski (LaBella Associates D.P.C.)	Direct: 585-295-6633

MAP AND DIRECTIONS TO THE MEDICAL FACILITY:
BROOKS MEMORIAL HOSPITAL

320 S Roberts Rd

1. Head southwest toward E Courtney St
2. Keep right to continue toward County Touring Rte 81/S Roberts Rd
3. Slight right onto County Touring Rte 81/S Roberts Rd
4. Turn left onto Talcott St
5. Turn right onto Maple Ave
6. Turn left onto E 6th St
7. Turn right onto Central Ave
   Destination will be on the left

Brooks Memorial Hospital

1.0 INTRODUCTION

The purpose of this Health and Safety Plan (HASP) is to provide guidelines for responding to potential health and safety issues that may be encountered during future excavation work for the Project Site located at 320 and 440 South Roberts Road in the City of Dunkirk, Chautauqua County, New York. This document's project specifications and the Site-Specific Community Air Monitoring Plan are to be consulted for guidance in preventing and quickly abating any threat to human safety or the environment. The provisions of the HASP were developed in general accordance with 29 CFR 1910 and 29 CFR 1926 and do not replace or supersede any regulatory requirements of the USEPA, NYSDEC, OSHA or and other regulatory body. Furthermore, should the nature of the field activities and/or the site conditions warrant modifications or additions to this HASP, an addendum shall be prepared and issued by a qualified health and safety professional.

2.0 RESPONSIBILITIES

This HASP presents guidelines to minimize the risk of injury to project personnel, and to provide rapid response in the event of injury. The HASP is applicable only to activities of personnel implementing the SMP. It is the responsibility of said persons to follow the requirements of this HASP, and all applicable safety procedures. The Project Manager shall implement the provisions of this HASP for the duration of the applicable activities.

3.0 ACTIVITIES COVERED

The activities covered under this HASP include the following:

- Management of remediation activities
- Environmental monitoring
- Management of excavated soil and fill
- Management of groundwater, surface water, and excavation water
- Installation of engineering controls (i.e., site cover)

4.0 WORK AREA ACCESS AND SITE CONTROLS

The contractor(s) will have primary responsibility for work area access and site control.

5.0 POTENTIAL HEALTH AND SAFETY HAZARDS

This section lists some potential health and safety hazards that project personnel may encounter at the Project Site and some actions to be implemented by approved personnel to control and reduce the associated risk to health and safety. This is not intended to be a complete listing of any and all potential health and safety hazards. New or different hazards may be encountered as site environmental and site work conditions change. The suggested actions to be taken under this plan are not to be substituted for good judgment on the part of project personnel. At all times, the Site Safety Officer has responsibility for site safety and his or her instructions must be followed.

5.1 Hazards Due to Heavy Machinery

Potential Hazard:
Heavy machinery including trucks, excavators, backhoes, etc. will be in operation at the Project Site. The presence of such equipment presents the danger of being struck or crushed. Use caution when working near heavy machinery.

Protective Action:
Make sure that operators are aware of your activities, and heed operator's instructions and warnings. Wear bright colored clothing and walk safe distances from heavy equipment. A hard hat, safety glasses, and steel toe shoes are required.

5.2 Excavation Hazards

Potential Hazard:
Excavations and trenches can collapse, causing injury or death. Edges of excavations can be unstable and collapse. Toxic and asphyxiant gases can accumulate in confined spaces and trenches. Excavations that require working within the excavation will require air monitoring in the breathing zone (refer to Section 9.0).

Excavations left open create a fall hazard which can cause injury or death.

Protective Action:
Personnel must receive approval from the Project Manager to enter an excavation for any reason. Subsequently, approved personnel are to receive authorization for entry from the Site Safety Officer. Approved personnel are not to enter excavations over 4 feet in depth unless excavations are adequately sloped. Additional personal protective equipment may be required based on the air monitoring.

Personnel should exercise caution near all excavations at the Project Site as it is expected that excavation sidewalls will be unstable. The contractor will be responsible to ensure that all excavations are left in a safe condition.

Fencing and/or barriers accompanied by "no trespassing" signs should be placed around all excavations when left open for any period of time when work is not being conducted.

5.3 Cuts, Punctures, and Other Injuries

Potential Hazard:
In any excavation or construction work site there is the potential for the presence of sharp or jagged edges on rock, metal materials, and other sharp objects. Serious cuts and punctures can result in loss of blood and infection.

Protective Action:
The Project Manager is responsible for making First Aid supplies available at the work site to treat minor injuries. The Site Safety Officer is responsible for arranging the transportation of authorized on-site personnel to medical facilities when First Aid treatment in not sufficient. Do not move seriously injured workers. All injuries requiring treatment are to be reported to the Project Manager. Serious injuries are to be reported immediately to the Site Safety Officer.

5.4 Injury Due to Exposure of Chemical Hazards

Potential Hazards:
Volatile organic vapors from petroleum products, chlorinated solvents or other chemicals may be encountered during excavation activities at the Project Site. Inhalation of high concentrations of organic vapors can cause headache, stupor, drowsiness, confusion and other health effects. Skin contact can cause irritation, chemical burn, or dermatitis.

Protective Action:
The presence of organic vapors may be detected by their odor and by monitoring instrumentation. Approved employees will not work in environments where hazardous concentrations of organic vapors are present. Air monitoring of the work area will be performed (refer Section 9.0 and to the Site-Specific Community Air Monitoring Plan in Appendix 6 of the SMP). Personnel are to leave the work area whenever photoionization detector (PID) measurements of ambient air exceed 25 parts per million (ppm) consistently for a 5-minute period. In the event that sustained total volatile organic compound (VOC) readings of 25 ppm is encountered personnel should upgrade personal protective equipment to Level C (refer to Section 8.0) and an Exclusion Zone should be established around the work area to limit and monitor access to this area (refer to Section 6.0).

5.5 Injury Due to Extreme Hot or Cold Weather Conditions

Potential Hazards:
Extreme hot weather conditions can cause heat exhaustion, heat stress and heat stroke or extreme cold weather conditions can cause hypothermia.

Protective Action:
Precaution measures should be taken such as dress appropriately for the weather conditions and drink plenty of fluid. If personnel should suffer from any of the above conditions, proper techniques should be taken to cool down or heat up the body and taken to the nearest hospital if needed.

6.0 WORK ZONES

In the event that conditions warrant establishing various work zones (i.e., based on hazards - Section 5.0), the following work zones should be established:

Exclusion Zone (EZ):
The EZ will be established in the immediate vicinity and adjacent downwind direction of site activities that elevate breathing zone VOC and/or dust concentrations to unacceptable levels based on field screening. These site activities include contaminated soil excavation and soil sampling activities. If access to the site is required to accommodate non-project related personnel then an EZ will be established by constructing a barrier around the work area (yellow caution tape and/or construction fencing). The EZ barrier shall encompass the work area and any equipment staging/soil staging areas necessary to perform the associated work. The contractor(s) will be responsible for establishing the EZ and limiting access to approved personnel. Depending on the condition for establishing the EZ, access to the EZ may require adequate PPE (e.g., Level C).

Contaminant Reduction Zone (CRZ):
The CRZ will be the area where personnel entering the EZ will don proper PPE prior to entering the EZ and the area where PPE may be removed. The CRZ will also be the area where decontamination of equipment and personnel will be conducted as necessary.

7.0 DECONTAMINATION PROCEDURES

Upon leaving the work area, approved personnel shall decontaminate footwear as needed. Under normal work conditions, detailed personal decontamination procedures will not be necessary. Work clothing may become contaminated in the event of an unexpected splash or spill or contact with a contaminated substance. Minor splashes on clothing and footwear can be rinsed with clean water. Heavily contaminated clothing should be removed if it cannot be rinsed with water. Personnel assigned to this project should be prepared with a change of clothing whenever on site.

Personnel will use the contractor's disposal container for disposal of PPE.

8.0 PERSONAL PROTECTIVE EQUIPMENT

Generally, Project Site conditions at this work site require level of protection of Level D or modified Level D. However, air monitoring will be conducted to determine if up-grading to Level C PPE is required (refer to Section 9.0). Descriptions of the typical safety equipment associated with Level D and Level C are provided below:

Level D:
Hard hat, safety glasses, rubber nitrile sampling gloves, steel toe construction grade boots, etc.

Level C:
Level D PPE and full or ½-face respirator and tyvek suit (if necessary). [*Note: Organic vapor cartridges are to be changed after each 8 hours of use or more frequently.*]

9.0 AIR MONITORING

According to 29 CFR 1910.120(h), air monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection required for personnel working onsite. Air monitoring will consist at a minimum of the procedures described in LaBella's Site-Specific Community Air Monitoring Plan.

The Air Monitor will utilize a PID to screen the ambient air in the work areas for total VOCs and a DustTrak tm Model 8520 aerosol monitor or equivalent for measuring particulates. Work area ambient air will generally be monitored in the work area and downwind of the work area. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 ppm above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases

(per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

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

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

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

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

All 15-minute readings will be recorded and available for State personnel to review.

10.0 EMERGENCY ACTION PLAN

In the event of an emergency, employees are to turn off and shut down all powered equipment and leave the work areas immediately. Employees are to walk or drive out of the Site as quickly as possible and wait at the assigned 'safe area'. Follow the instructions of the Site Safety Officer.

Employees are not authorized or trained to provide rescue and medical efforts. Rescue and medical efforts will be provided by local authorities.

11.0 MEDICAL SURVEILLANCE

Medical surveillance will be provided to all employees who are injured due to overexposure from an emergency incident involving hazardous substances at this site.

12.0 EMPLOYEE TRAINING

Personnel who are not familiar with this site plan will receive training on its entire content and organization before working at the Site.

Individuals involved with the field activities related to the implementation of the SMP must be 40-hour OSHA HAZWOPER trained with current 8-hour refresher certification.

APPENDIX 6

Community Air Monitoring Plan

Site-Specific Community Air Monitoring Plan

Location:

Closed Alumax Extrusions, Inc. Facility
320 & 440 South Roberts Road
Dunkirk, New York
NYSDEC BCP Site #V00589

Prepared for:

Chautauqua County Department of Public Facilities
454 North Work Street
Falconer, New York

LaBella Project No. 2210039

November 2021

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List of Attachments

1.0 INTRODUCTION

The purpose of this Site-Specific Community Air Monitoring Plan (SSCAMP) is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases related to future excavation activities at the Site located at 320 and 440 South Roberts Road in the City of Dunkirk, Chautauqua County, New York. This SSCAMP is not intended for use in establishing action levels for worker respiratory protection.

This SSAMP requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust), at the downwind perimeter of each designated work area when certain activities are in progress at the Site. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the SSAMP will help to confirm that work activities have not spread contamination off-site through the air.

2.0 RESPONSIBILITIES

This SSAMP is applicable to the remedial and redevelopment activities of contractors, engineers, consultants, facility employees, and their authorized visitors. The Project Engineer shall implement the provisions of this SSAMP for the duration of the project. It is the responsibility of all remedial and redevelopment workers to follow the requirements of this SSAMP, and all applicable air safety procedures.

3.0 ACTIVITIES COVERED

The activities covered under this SSAMP include the following:

- Environmental monitoring
- Management of excavated soil and fill
- Management of groundwater, surface water, and excavation water

4.0 WORK AREA ACCESS AND SITE CONTROLS

The contractor(s) will have primary responsibility for work area access and site control.

5.0 VOLATILE ORGANIC COMPOUND MONITORING

Monitoring for volatile organic compounds (VOCs) will be implemented in accordance with the New York State Department of Health Generic Community Air Monitoring Plan, which is included in Attachment 1.

6.0 PARTICULATE MONITORING

Monitoring for dust will be implemented in accordance with the New York State Department of Health Generic Community Air Monitoring Plan (Attachment 1) as well as NYSDEC's Fugitive Dust and Particulate Monitoring (Attachment 2).

ATTACHMENT 1

NYSDOH Community Air Monitoring Plan

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

Overview

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

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

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

Community Air Monitoring Plan

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

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

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

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

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

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

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

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

Particulate Monitoring, Response Levels, and Actions

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

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

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

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

December 2009

ATTACHMENT 2

NYSDEC Fugitive Dust and Particulate Monitoring Plan

Attachment 2
Fugitive Dust and Particulate Monitoring

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

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

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

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

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

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

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

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

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

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

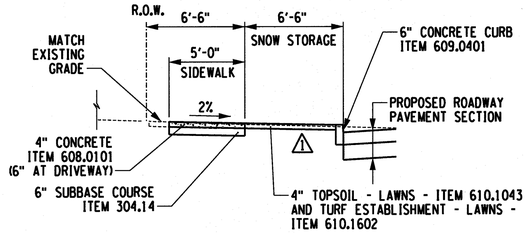
(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation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

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

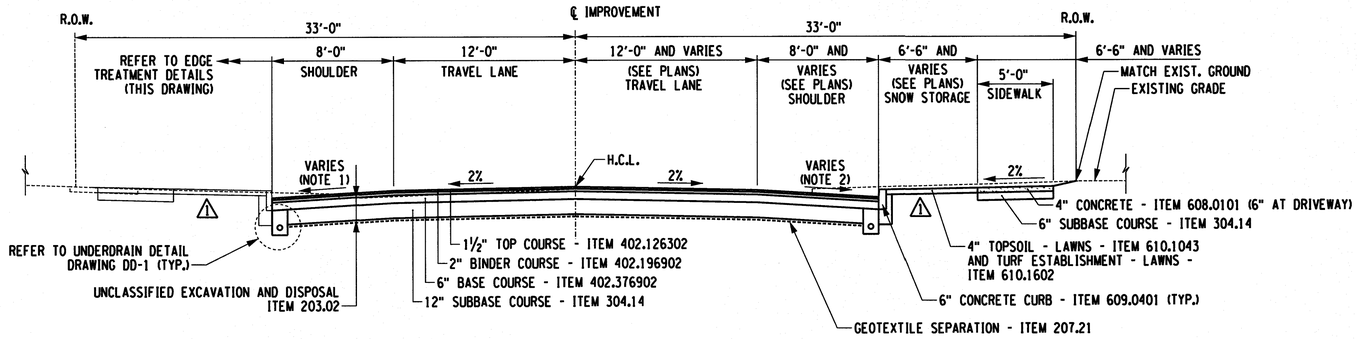
8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements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

APPENDIX 7

As-Built Drawings



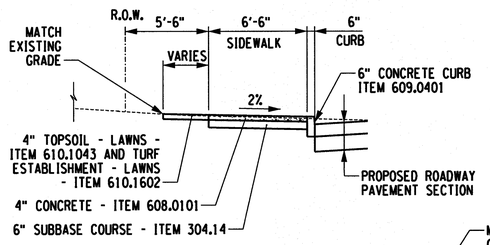
STA. TT 10+22.00 TO STA. TT 21+05.00
(TALCOTT STREET LEFT)



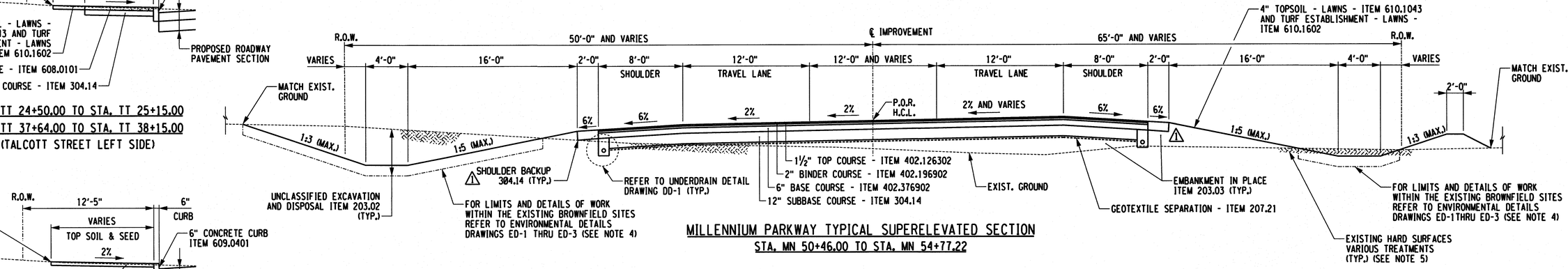
TALCOTT STREET TYPICAL SECTION
STA. TT 10+20.00 TO STA. TT 38+14.98

NOTES:

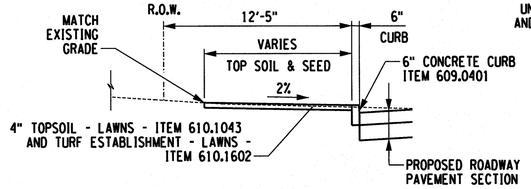
1. THE LEFT SHOULDER CROSS-SLOPE ON TALCOTT ST. SHALL BE 6% EXCEPT AS NOTED BELOW:
   - TRANSITION FROM 6% TO 2%, FROM STA. TT 22+75 TO STA. TT 23+25
   - 2%, FROM STA. TT 23+25 TO STA. TT 24+40
   - TRANSITION FROM 2% BACK TO 6% FROM STA. TT 24+40 TO STA. TT 24+90
2. THE RIGHT SHOULDER CROSS-SLOPE ON TALCOTT ST. SHALL BE 6% EXCEPT AS NOTED BELOW:
   - 2%, FROM STA. TT 10+20 TO STA. TT 20+00
   - TRANSITION FROM 2% TO 6% FROM STA. TT 20+00 TO STA. TT 20+50
3. DILUTED TACK COAT, ITEM 407.0102, SHALL BE APPLIED BETWEEN LIFTS OF NEW PAVEMENT COURSES.
4. REFER TO DRAWINGS ED-1 THRU ED-3 FOR ADDITIONAL EXCAVATION AND EMBANKMENT REQUIREMENTS, PROCEDURES, AND PAY ITEMS FOR WORK WITHIN BROWNFIELDS (STA. MN 50+84+/- TO STA. MN 66+61+/-).
5. EXISTING HARD SURFACES CONSIST OF CONCRETE, ASPHALT CONCRETE, AND RUBBLIZED CONCRETE. REFER TO ENVIRONMENTAL DETAILS DRAWING ED-1 THRU ED-3 FOR DETAILS OF WORK.



STA. TT 24+50.00 TO STA. TT 25+15.00
STA. TT 37+64.00 TO STA. TT 38+15.00
(TALCOTT STREET LEFT SIDE)

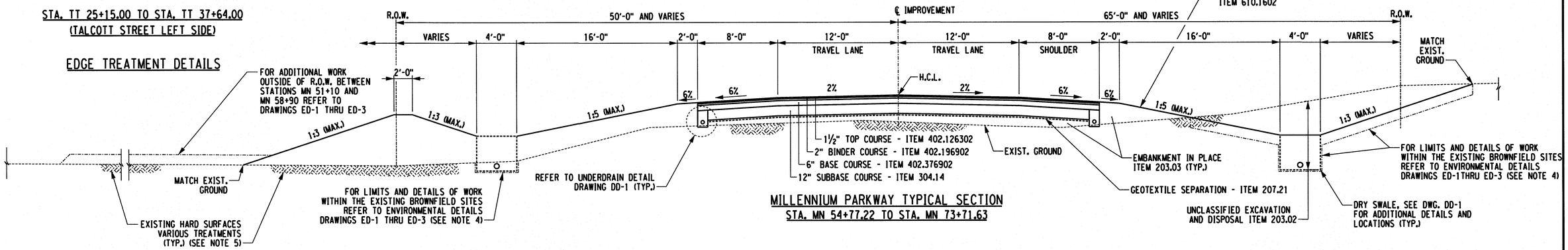


MILLENNIUM PARKWAY TYPICAL SUPERELEVATED SECTION
STA. MN 50+46.00 TO STA. MN 54+77.22



STA. TT 25+15.00 TO STA. TT 37+64.00
(TALCOTT STREET LEFT SIDE)

EDGE TREATMENT DETAILS



MILLENNIUM PARKWAY TYPICAL SECTION
STA. MN 54+77.22 TO STA. MN 73+71.63

5 0 5 10 15 20'
1" = 5'

REVISION	DESCRIPTION	DATE	BY
1	FIELD CHANGE	10-27-14	PJL

KHEOPS
ARCHITECTURE, ENGINEERING & SURVEY, DPC
300 Pearl Street, Suite 100
Buffalo, New York 14202
P. 716.849.8739
F. 716.856.0981
WWW.KHEOPSDPC.COM

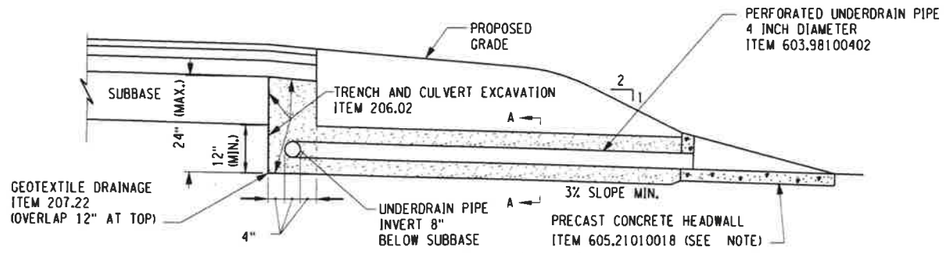
CHAUTAUQUA COUNTY DEPT. OF PUBLIC FACILITIES
454 NORTH WORK STREET - FALCONER , NEW YORK 14733

DESIGNED BY ETF	DATE 10/2012	SHEET TITLE	TYPICAL SECTIONS
DRAWN BY TJB	DATE 10/2012		
CHECKED BY AAS	DATE 10/2012		
APPROVED BY ETF	DATE 11/2012	PROJECT TITLE	CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55
PROJECT NO. 2006.0006.01	SCALE 1"=5'		

ENGINEERING DIVISION

TS-1

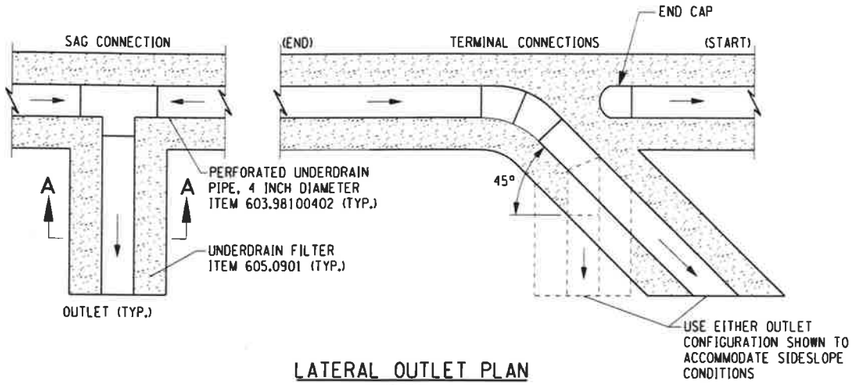
SHEET 9 OF 141



NOTE: PRECAST CONCRETE HEADWALLS SHALL BE USED INSTEAD OF GALVANIZED STEEL END SECTIONS.

UNDERDRAIN DETAIL WITH LATERAL OUTLET

N.T.S.



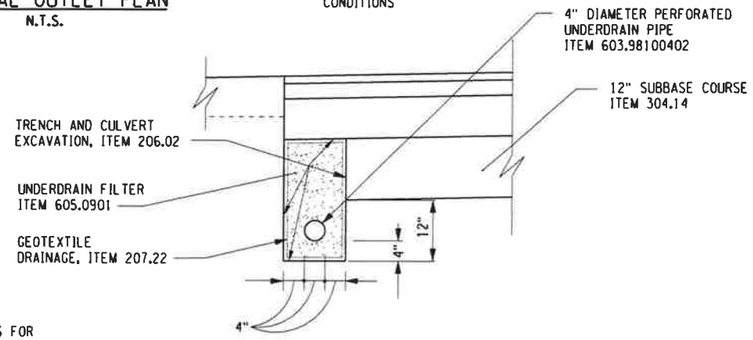
LATERAL OUTLET PLAN

N.T.S.

NOTE:
DETAIL ALSO APPLIES FOR DRY SWALE OUTLET PIPE

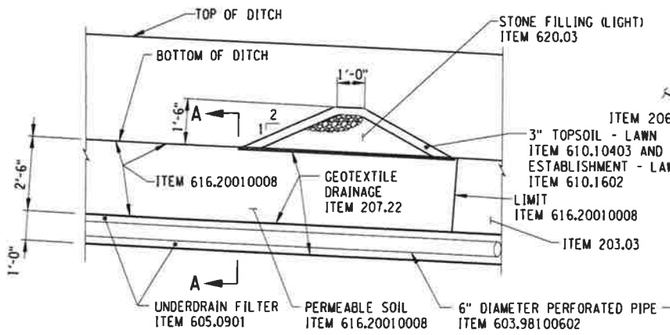
SECTION A-A OUTLET DETAIL

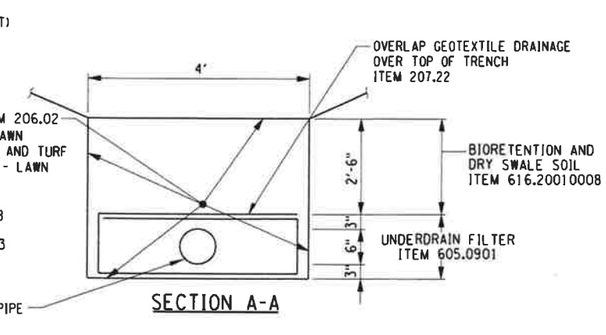
N.T.S.



UNDERDRAIN DETAIL

N.T.S.

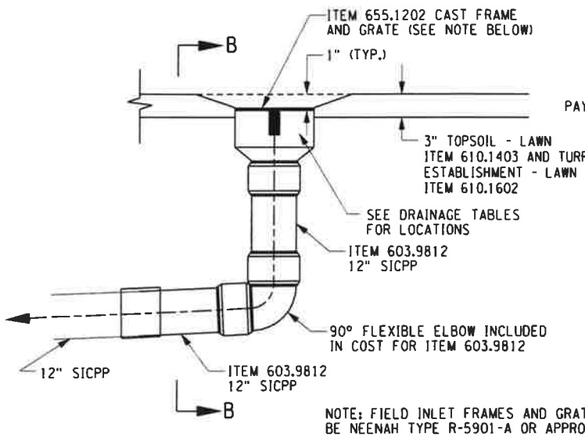




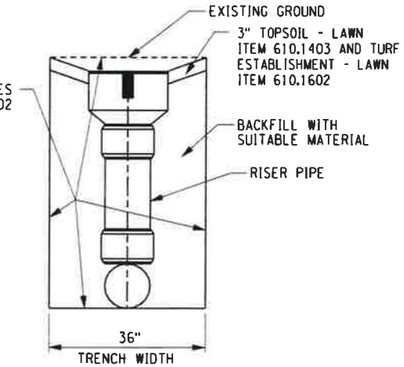
SECTION A-A

DRY SWALE AND CHECK DAM DETAILS

N.T.S.



NOTE: FIELD INLET FRAMES AND GRATES SHALL BE NEENAH TYPE R-5901-A OR APPROVED EQUAL

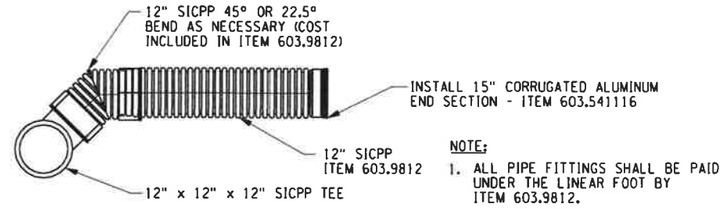


SECTION B-B

N.T.S.

FIELD INLET DETAILS

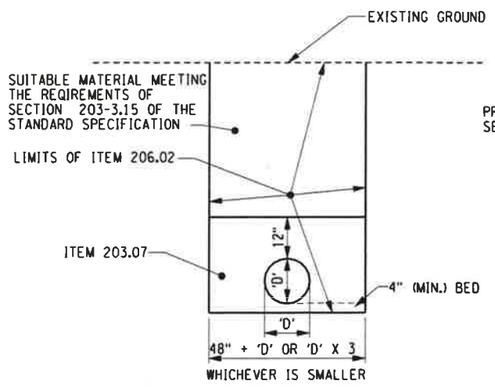
N.T.S.



NOTE:
1. ALL PIPE FITTINGS SHALL BE PAID UNDER THE LINEAR FOOT BY ITEM 603.9812.

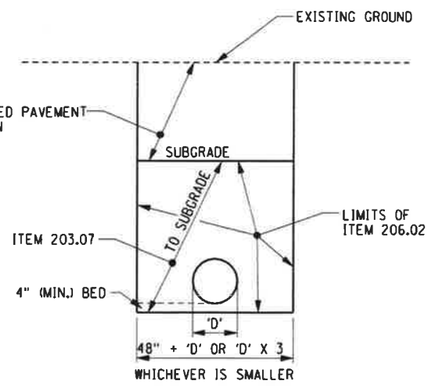
INLET DETAIL (DS 9-6, DS 10-5)

N.T.S.



DRAINAGE PIPE INSTALLATION (OUTSIDE ROADWAY)

N.T.S.



DRAINAGE PIPE INSTALLATION (WITHIN PROPOSED ROADWAY)

N.T.S.

REVISION	DESCRIPTION	DATE	BY

TVGA CONSULTANTS
620 MAIN STREET
BUFFALO, NEW YORK 14202-1906
P 716.849.8739
F 716.856.0981
www.tvga.com

CHAUTAUQUA COUNTY DEPT. OF PUBLIC FACILITIES
454 NORTH WORK STREET - FALCONER , NEW YORK 14733

DESIGNED BY ETF	DATE 11/2012	SHEET TITLE: DRAINAGE DETAILS	ENGINEERING DIVISION
DRAWN BY TJB	DATE 11/2012		
CHECKED BY GMW	DATE 11/2012	PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55	DRAWING: DD-1
APPROVED BY ETF	DATE 11/2012		
PROJECT NO. 2006.0006.01	SCALE N.T.S.		SHEET 16 OF 141

ENVIRONMENTAL NOTES

GENERAL

1. THIS CONTRACT IS DESIGNED IN GENERAL ACCORDANCE WITH THE SITE MANAGEMENT PLAN AND COMBINED INSTITUTIONAL CONTROL PLAN / OPERATIONS AND MAINTENANCE PLANS FOR THE FORMER ROBLIN STEEL AND ALUMAX SITES RESPECTIVELY. HOWEVER, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE REQUIREMENTS OF EACH OF THESE PLANS. ADDITIONAL GUIDANCE IS PROVIDED IN THE NOTES THAT FOLLOW, WITH REFERENCE TO WHERE COPIES OF THE MANAGEMENT PLANS AND ASSOCIATED GUIDANCE MATERIALS CAN BE OBTAINED.

2. CHAUTAUQUA COUNTY DEPARTMENT OF PUBLIC FACILITIES (CCDPF) WILL HAVE A DESGINATED ENVIRONMENTAL INSPECTOR ON-SITE TO ASSIST, MONITOR, AND APPROVE ALL ACTIVITIES ON BOTH OF THE BROWNFIELD SITES. THE CONTRACTOR SHALL PROVIDE WEEKLY SCHEDULES OF ANTICIPATED ACTIVITIES ON THESE SITES. ANY CHANGES TO THIS SCHEDULE SHALL BE MADE WITH PROPER ADVANCE NOTICE TO THE CCDPF.

3. WORK SHALL NOT BE PERFORMED ON THESE BROWNFIELD SITES WITHOUT PROPER NOTIFICATION.

FORMER ROBLIN STEEL (NYSDEC SITE #B-00173-9):

1. ALL WORK CONDUCTED AT THE FORMER ROBLIN STEEL SITE SHALL BE CONDUCTED IN CONFORMANCE WITH THE *NOVEMBER 2010 SITE MANAGEMENT PLAN (SMP)* A COPY OF WHICH CAN BE OBTAINED FROM THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) - DIVISION OF ENVIRONMENTAL REMEDIATION - REGION 9 AT 270 MICHIGAN AVENUE, BUFFALO, NY 14203, (716)-851-7220.

2. THE NYSDEC REQUIRES A 60 DAY CHANGE OF USE NOTIFICATION PRIOR TO ANY WORK AT THIS SITE. NOTIFICATION PROCEDURES ARE CONTAINED IN SECTION 1.4 OF NYSDEC'S DER-10 MAY 3, 2010 AVAILABLE AT: HTTP://WWW.DEC.NY.GOV/REGULATIONS/2393.HTML. ADDITIONAL NOTIFICATION PROCEDURES ARE INCLUDED IN THE EXCAVATION WORK PLAN WHICH IS INCLUDED IN THE SITE MANAGEMENT PLAN.

3. A COVER SYSTEM CONSISTING OF A VEGETATED SOIL LAYER (12-INCH) WITH AN UNDERLYING DEMARCATION LAYER (AN ORANGE PLASTIC MESH) HAS PREVIOSLY BEEN INSTALLED ACROSS THE ENTIRE FORMER ROBLIN STEEL SITE. SOIL LOCATED ABOVE THE EXISTING DEMARCATION LAYER CAN REUSED WITHOUT SAMPLING.

4. FOLLOWING ANY SOIL COVER REMOVAL AND/OR OTHER INVASIVE ACTIVITIES, THIS COVER SYSTEM MUST BE REPLACED. THE COVER SYSTEM SHALL CONSIST OF A MINIMUM OF 12-INCHES OF SOIL COVER (CAPABLE OF SUPPORTING VEGETATION) WITH AN UNDERLYING DEMARCATION LAYER. NON-VEGETATED AREAS (I.E. BUILDINGS ROADWAYS, PARKING LOTS, ETC.) MUST BE COVERED BY A PAVING SYSTEM OR CONCRETE OF AT LEAST 6-INCHES IN THICKNESS.

5. ANY INTRUSIVE WORK THAT WILL PENETRATE THE SOIL COVER SYSTEM, OR ENCOUNTER OR DISTURB THE REMAINING CONTAMINATION, INCLUDING ANY MODIFICATIONS OR REPAIRS TO THE EXISTING SOIL COVER, SHALL BE PERFORMED IN COMPLIANCE WITH THE EXCAVATION WORK PLAN.

6. THE EXCAVATION WORK PLAN DETAILS INCLUDE: SOIL SCREENING (INITIAL FIELD TESTING), STOCKPILING, EXCAVATION/LOAD OUT, OFF SITE TRANSPORT AND DISPOSAL, POTENTIAL MATERIAL REUSE, FLUIDS MANAGEMENT, COVER RESTORATION, AND PROCEDURES FOR USE OF OFF-SITE BACKFILL. THE EXCAVATION WORK PLAN ALSO IDENTIFIES THE STORMWATER, COMMUNITY AIR MONITORING, ODOR AND DUST CONTROL REQUIREMENTS, AND THE CONTINGENCY PLAN THAT MUST BE FOLLOWED.

7. STORMWATER MANAGEMENT MUST FOLLOW THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).

FORMER ALUMAX SITE (NYSDEC #VCP V00589-9):

1. ALL WORK CONDUCTED AT THE FORMER ALUMAX SITE SHALL BE CONDUCTED IN CONFORMANCE WITH THE *JUNE 23, 2004 COMBINED INSTITUTIONAL CONTROL PLAN / OPERATIONS AND MAINTENANCE PLAN,* A COPY OF WHICH CAN BE OBTAINED FROM THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) - DIVISION OF ENVIRONMENTAL REMEDIATION - REGION 9 AT 270 MICHIGAN AVENUE, BUFFALO, NY 14203, (716)-851-7220.

2. THE NYSDEC REQUIRES A 60 DAY CHANGE OF USE NOTIFICATION PRIOR TO ANY WORK ON THIS SITE. NOTIFICATION PROCEDURES ARE CONTAINED IN SECTION 1.4 OF NYSDEC'S DER-10 MAY 3, 2010 AVAILABLE AT: HTTP://WWW.DEC.NY.GOV/REGULATIONS/2393.HTML.

3. CURRENTLY THERE IS NO COVER SYSTEM ACROSS THE FORMER ALLUMAX SITE.

4. ALL PROJECT DISTURBANCE AREAS WITHIN THIS SITE MUST HAVE A COVER SYSTEM INSTALLED IN ACCORDANCE WITH THE SITE MANAGEMENT PLAN. THE COVER SYSTEM SHALL CONSIST OF ONE OF THE FOLLOWING:
   a) SOIL: 12-INCHES OF VEGETATED SOIL UNDERLAIN BY A DEMARCATION LAYER IN OUTDOOR AREAS: PAYMENT ITEM 207.21 PER SECTION 737.0101
   b) ASPHALT: A MINIMUM OF 6 INCHES OF MATERIAL (ASPHALT AND SUBBASE MATERIAL) IN AREAS THAT WILL BECOME ROADS SIDEWALKS AND PARKING LOTS.
   c) CONCRETE: A MINIMUM OF 6 INCHES OF MATERIAL (CONCRETE AND SUBBASE MATERIAL IN AREAS THAT WILL BECOME SLAB-ON-GRADE STRUCTURES, ROADS SIDEWALKS AND PARKING LOTS IN LIEU OF ASPHALT.

100 - 123 RUGGLES STREET (TALCOTT STREET RIGHT-OF-WAY (ROW) - NORTH OF RUGGLES STREET AND EAST OF TALCOTT STREET) NYSDEC SPILL NO. 0901423

1. PETROLEUM-DISPENSING FACILITIES (EG: A DISPENSING PUMP, FILL PORT AND VENT PIPES) WERE FORMERLY LOCATED IN THIS PORTION OF THE TALCOTT ROW. THESE FACILITIES WERE REMOVED IN 2011, HOWEVER, PETROLEUM CONTAMINATION MAY STILL BE LOCATED UNDER THE ADJACENT PAVEMENT AT DEPTHS GREATER THAN 4 TO 5 FEET.

2. IF PETROLEUM CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION, NOTIFY THE NEW YORK STATE SPILL HOTLINE IMMEDIATELY (WITHIN 2 HOURS OF DISCOVERY) AT (800) 457-7362. NEW YORK STATE DEPARTMENT OF CONSERVATION REGION 9 SPILLS DIVISION CAN BE REACHED AT (716) 851-7220. REFERENCE NYSDEC SPILL NO. 0901423.

3. LABORATORY ANALYSIS REQUIRED BY THE NYSDEC SHALL BE PAID UNDER ITEM 205.0401.

BROWNFIELD SITE EXCAVATION PROCEDURES AND GUIDELINES

1. PROCEDURES, METHODS, AND PAY ITEMS ASSOCIATED WITH EXCAVATIONS AND RE-USE OF, OR DISPOSAL OF, EXISTING SOILS/MATERIALS ON THE FORMER ROBLIN STEEL AND ALLUMAX SITES ARE PROVIDED HERE FOR GENERAL GUIDANCE AND FOR BIDDING PURPOSES. REFER TO THE NOTED SPECIFICATIONS FOR A FULL UNDERSTANDING OF THE WORK TO BE PERFORMED. NO SEPARATE OR ADDITIONAL PAYMENTS WILL BE MADE FOR OTHER INCIDENTAL WORK REQUIRED TO BE IN COMPLIANCE WITH THE SITE MANAGEMENT PLANS FOR THESE SITES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND, AND TO BE IN FULL COMPLIANCE WITH THESE SITE MANAGEMENT PLANS.

   a) ALL EXCAVATIONS (ITEM 203.02 OR 206.02) OF EXISTING SOILS/MATERIALS ON THESE SITES SHALL BE INSPECTED BY THE CCDPF ENVIRONMENTAL INSPECTOR DURING THE EXCAVATION. THE CONTRACTOR SHALL PROVIDE THE ENVIRONMENTAL INSPECTOR WITH PROPER ACCESS TO THESE MATERIALS FOR BASIC CONTAMINATION FIELD TESTING. AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR:

      i. EXCAVATED SOILS/MATERIALS (ITEM 203.02 AND 206.02) THAT ARE NOT VISIBLY STAINED, DISCOLORED, OR THAT PRODUCE ELEVATED PHOTOIONIZATION DETECTOR (PID) READINGS (SUSTAINED READINGS OF 5 PPM OR GREATER) CAN BE IMMEDIATELY REUSED (ITEM 203.03) ON-SITE WITHOUT ANY FURTHER TESTING.

      ii. EXCAVATED SOILS/MATERIALS (ITEM 203.02 AND 206.02) THAT ARE DETERMINED TO BE STAINED, DISCOLORED, OR THAT PRODUCES ELEVATED PID READINGS (SUSTAINED READINGS OF 5 PPM OR GREATER) SHALL BE STOCKPILED ON-SITE FOR SAMPLING AND LABORATORY TESTING. SEGREGATION AND STOCKPILING SHALL BE PAID FOR UNDER ITEM 205.02NN. LABORATORY ANALYSIS SHALL BE PAID UNDER ITEMS 205.040X. THE RESULTS OF THE LAB TESTING WILL DETERMINE IF THE SOIL/MATERIAL IS:

         1. TO BE REUSED ON-SITE UNDER ITEM 205.06NN
         2. CONTAMINATED NON-HAZARDOUS WASTE SOIL TO BE DISPOSED OF OFF-SITE UNDER ITEM 205.0502NN
         3. CONTAMINATED HAZARDOUS WASTE SOIL TO BE DISPOSED OF OFF-SITE UNDER ITEM 205.0501NN

   b) ANY EXCAVATIONS DEFINED UNDER SECTION (a) DETERMINED TO BE RE-USABLE ON-SITE SHALL:

      i. ONLY BE USED ON THE BROWNFIELD SITE FROM WHICH IT WAS EXCAVATED.
      ii. BE PLACED BELOW THE PROPOSED COVER SOIL / DEMARCATION LAYER.
      iii. NOT BE USED WITHIN A COVER SOIL LAYER (TOP 12" OF SOIL), WITHIN LANDSCAPING BERMS, OR AS BACKFILL FOR SUBSURFACE UTILITY LINES.

2. THE EXISTING SOIL COVER MATERIAL (TOP 12" +/-) LOCATED ABOVE THE DEMARCATION LAYER ON THE FORMER ROBLIN STEEL SITE, IF EXCAVATED, CAN BE REUSED WITHOUT SAMPLING. HOWEVER, SINCE ALL AREAS ON THIS SITE REQUIRE A MINIMUM OF 12-INCHES OF SOIL COVER, THESE AREAS SHOULD REMAIN UNDISTURBED EXCEPT AS SPECIFICALLY NECESSARY TO CONSTRUCT COMPONENTS OF THIS PROJECT.

3. THE FOLLOWING TABLE SUMMARIZES BOTH THE ESTIMATE OF REQUIRED EXCAVATIONS ON EACH OF THE BROWNFIELD SITES, AND BASED UPON PREVIOUSLY PERFORMED TESTS BY CCDPF, QUANTITIES OF SAMPLING AND LABORATORY TESTING, AS WELL AS QUANTITIES OF OFF-SITE DISPOSAL. NOTE THAT THESE QUANTITIES ARE ESTIMATES ONLY AND THAT ONLY ACTUAL FIELD VERIFIED QUANTITIES WILL BE PAID.

BROWNFIELD SITE (REFER TO DWG. ED-2 FOR LOCATIONS AND BOUNDARIES)	SERIALIZATION (NN)	REQUIRED EXCAVATIONS (ITEMS 203.02 & 206.02)	ESTIMATE OF MATERIALS PASSING FIELD TEST (IMMEDIATE RE-USE UNDER ITEM 205.06NN)	ESTIMATE OF MATERIALS TO BE STOCKPILED (ITEM 205.02NN)	ESTIMATE OF LABORATORY ANALYSIS 205.040X	ESTIMATE OF MATERIALS THAT WILL PASS LAB TESTS (RE-USE UNDER ITEM 205.06NN)	ESTIMATE OF CONTAMINATED NON-HAZARDOUS MATERIALS THAT WILL REQUIRE OFF-SITE DISPOSAL (ITEM 205.0502NN)	ESTIMATE OF CONTAMINATED HAZARDOUS MATERIALS THAT WILL REQUIRE OFF-SITE DISPOSAL (ITEM 205.0501NN)
FORMER ROBLIN STEEL SITE	01	325 CY	125 CY	200 CY	2	0 CY	255 TONS (180 CY)	30 TONS (20 CY)
FORMER ALUMAX SITE	02	6000 CY	3500 CY	4000 ~~2500~~ CY	6	500 CY	2100 TONS (1500 CY)	700 TONS (500 CY)

4. THE CONTRACTOR SHOULD TAKE NOTE THAT ALL SOILS/MATERIALS EXCAVATED FROM EITHER OF THESE BROWNFIELD SITES MUST EITHER BE:
   a) USED ON-SITE IN AN APPROVED LOCATION PER ITEM 205.06NN.
   b) PROPERLY DISPOSED OF AS PER ITEM 205.0501NN OR ITEM 205.0502NN

5. IF THE CONTRACTOR ELECTS TO PERFORM ANY WORK/OPERATIONS ON THESE SITES NOT SPECIFICALLY CALLED FOR ON THE PLANS, OR REQUIRED AS DETERMINED BY THE ENGINEER, HE/SHE SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE WORK AND FOR BEING IN COMPLIANCE WITH THE SITE MANAGEMENT PLANS. ANY DEVIATIONS FROM THE CONTRACT PLANS SHOULD BE DISCUSSED AND APPROVED WITH THE ENGINEER AND/OR THE CCDPF ENVIRONMENTAL INSPECTOR BEFOREHAND.

STOCKPILING / SAMPLING / LABORATORY TESTING NOTES

1. ANY SOILS/MATERIALS FAILING THE INITIAL FIELD TESTING SHALL BE STOCKPILED ON-SITE. SEGREGATION AND STOCKPILING WILL BE DONE ON A TIERED APPROACH, AS IDENTIFIED UNDER ITEM 205.02NN, BUT GENERALLY WILL NOT BE REQUIRED AT A GREATER FREQUENCY THAN ONE (1) SAMPLE LAB TEST FOR EVERY 500 CY.

2. STOCKPILES SHALL BE SEPARATED IF THE SOILS/MATERIALS SOURCE/LOCATION, AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR, IF DEEMED TO BE DIFFERENT FROM OTHER STOCKPILES.

3. ALL SAMPLING WILL BE DONE BY THE CCDPF ENVIRONMENTAL INSPECTOR WHOM WILL ALSO BE RESPONSIBLE FOR COORDINATING WITH THE LABORATORY FOR TESTING.

4. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE LABORATORY TESTING AS IDENTIFIED UNDER ITEM 205.040X.

5. THE CONTRACTOR MAY SELECT THE LABORATORY OF HIS CHOICE PROVIDED THEY ARE APPROVED AS PER ITEM 205.040X.

STOCKPILING / SAMPLING / LABORATORY TESTING NOTES (CONTINUED)

6. ALL SOILS/MATERIALS SHALL REMAIN IN THEIR STOCKPILES UNTIL THE CCDPF ENVIRONMENTAL INSPECTOR HAS RECEIVED THE RESULTS OF THE LAB TESTING AND DETERMINED IF:
   a) THE MATERIALS WILL BE USED AS FILL ON-SITE.
   b) THE MATERIALS MUST BE DISPOSED OFF OFF-SITE.

7. IF THE CCDPF ENVIRONMENTAL INSPECTOR APPROVES ANY SOILS/MATERIALS EITHER THROUGH THE INITIAL FIELD TESTING, OR AFTER LABORATORY TESTING, IT IS EXPECTED THAT THESE MATERIALS WILL BE USED IN AN APPROPRIATE LOCATION ON-SITE.

8. CONTAMINATED NON-HAZARDOUS WASTE SOILS APPROVED FOR OFF-SITE DISPOSAL UNDER ITEM 205.0502NN SHALL BE SENT TO AN APPROVED SOLID WASTE LANDFILL. APPROVAL OF THIS FACILITY SHALL BE COORDINATED WITH THE CCDPF ENVIRONMENTAL INSPECTOR. QUANTITY OF LABORATORY ANALYSIS (ITEMS 205.040X) REQUIIRED PRIOR TO DISPOSAL SHALL BE DETERMINED BY THE SOLID WASTE ANALYST.

9. CONTAMINATED HAZARDOUS WASTE SOILS APPROVED FOR OFF-SITE DISPOSAL UNDER ITEM 205.0501NN SHALL BE SENT TO AN APPROVED PART 360 HAZARDOUS WASTE LANDFILL. APPROVAL OF THIS FACILITY SHALL BE COORDINATED WITH THE CCDPF ENVIRONMENTAL INSPECTOR. PROPER WASTE MANIFESTS SHALL BE SUBMITTED ON ALL WASTE SOIL MATERIAL DISPOSED OF UNDER ITEM 205.0501NN. QUANTITY OF LABORATORY ANALYSIS (ITEMS 205.040X) SHALL BE DETERMINED BY THE HAZARDOUS WASTE LANDFILL PRIOR TO DISPOSAL.

10. IF THE CONTRACTOR ELECTS ON HIS OWN TO DISPOSE OF ANY SOILS/MATERIALS THAT HAVE OTHERWISE BEEN APPROVED OR ARE PENDING APPROVAL, HE SHALL DO SO BOTH AT HIS OWN COSTS, AND IN ACCORDANCE WITH THE SITE MANAGEMENT PLAN.

11. THE CONTRACTOR SHALL INCORPORATE THE NECESSARY STEPS AND TIMEFRAMES INTO HIS CONSTRUCTION SCHEDULE.
   a) ALL FIELD TESTING WILL BE DONE THE DAY OF (DURING) EXCAVATION.
   b) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE STOCKPILING SAMPLING, AND LABORATORY TESTING WITH THE CCDPF ENVIRONMENTAL INSPECTOR.
   c) IT IS ESTIMATED THAT SAMPLING / LAB TESTING WILL TAKE APPROXIMATELY ONE (1) WEEK, THOUGH THIS MAY VARY FROM LAB TO LAB. EXPEDITED TESTING MAY BE AVAILABLE AT SOME LABS.

12. THE ESTIMATED QUANTITIES FOR ITEMS 203.03, 205.0501NN, 205.0502NN AND 205.06NN, IN THE TABLE CONTAINED IN THESE NOTES ARE APPROXIMATE AND FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL MAKE NO CLAIM FOR EXTRA PAYMENTS OR DELAYS IF THESE ESTIMATED QUANTITIES ARE LATER DETERMINED TO BE INACCURATE. THE PROCEDURES OUTLINED IN THE PLANS AND CONTRACT BOOK SHALL BE FOLLOWED FOR ALL EXCAVATIONS ON THESE SITES AND COMPENSATION TO THE CONTRACTOR WILL BE MADE ONLY UNDER THE IDENTIFIED SPECIFICATIONS AT THE BID PRICES IN THE CONTRACT.

REVISION	DESCRIPTION	DATE	BY
1	PER ADDENDUM #1	10/27/14	PJL

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CHAUTAUQUA COUNTY DEPT. OF PUBLIC FACILITIES
454 NORTH WORK STREET - FALCONER , NEW YORK 14733

DESIGNED BY	ETF	DATE	10/2012
DRAWN BY	TJB	DATE	10/2012
CHECKED BY	GMW	DATE	10/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	NA

SHEET TITLE: ENVIRONMENTAL NOTES

PROJECT TITLE: CONSTRUCTION
MILLENNIUM PARKWAY
TALCOTT STREET EXTENSION
P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: ED-1

SHEET 23 OF 141

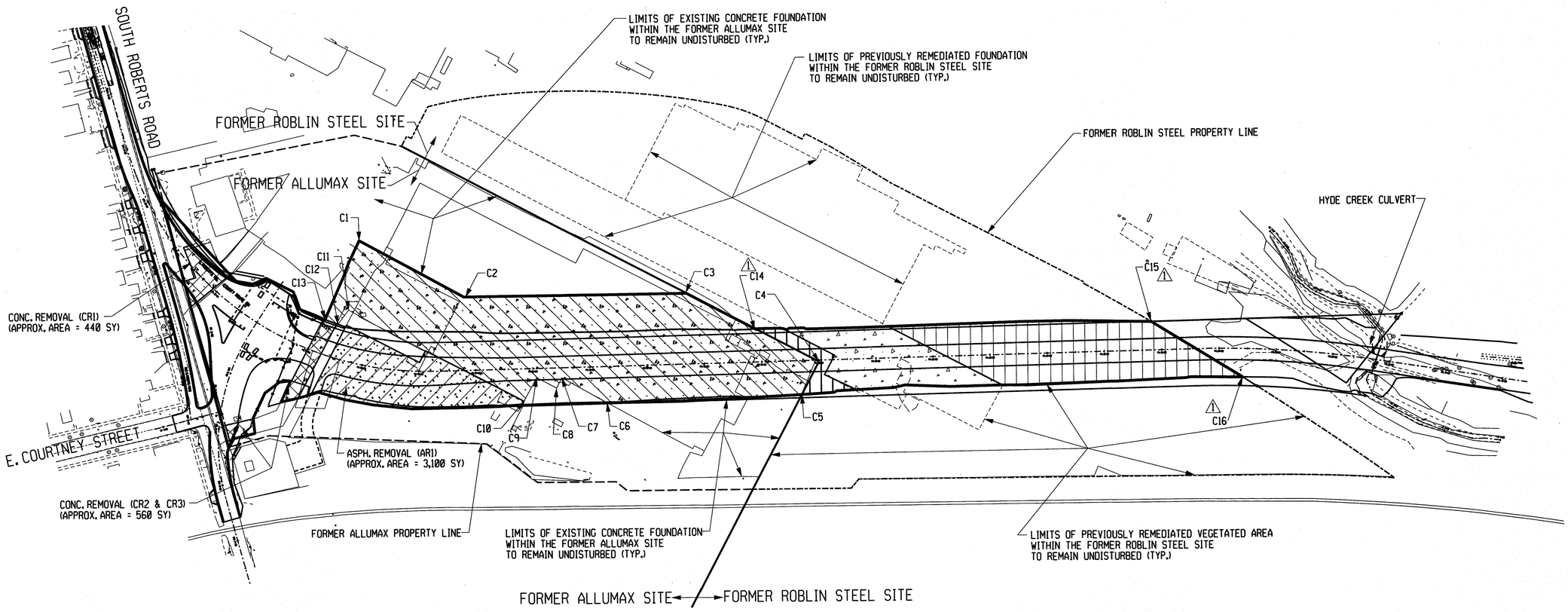

TABLE OF COORDINATES		
PNT. NO.	NORTHING	EASTING
C1	906619.38	950428.13
C2	906655.32	950633.34
C3	906902.33	950933.54
C4	906952.32	951190.9
C5	906888.67	951202.87
C6	906666.76	950944.73
C7	906651.51	950855.44
C8	906631.87	950859.43
C9	906624.34	950820.93
C10	906578.9	950829.13
C11	906512.22	950489.7
C12	906481.18	950490.51
C13	906473.63	950467.64
C14	906937.92	951067.22
1 C15	907367.21	951602.30
C16	907390.76	951788.86

LIMITS OF DISTURBED AREA WITHIN THE BROWNFIELD SITES

FORMER ALLUMAX SITE

A-1 EXISTING CONCRETE FOUNDATION AREAS OF THE FORMER ALLUMAX SITE TO BE RUBBLIZED (PLAN AREA = 13,500 SY) (SEE GRADING PLAN ON DWG. FOR PROPOSED GRADING)

A-2 EXISTING CONCRETE DRIVEWAY / PARKING AREAS ON THE FORMER ALLUMAX SITE TO BE REMOVED (PLAN AREA = 3,660 SY)

A-3 EXISTING ASPHALT CONCRETE PARKING LOT FOR THE FORMER ALLUMAX SITE TO BE REMOVED (PLAN AREA = 3,100 SY)

NOT DEPICTED BY A PATTERN A-4 EXISTING VEGETATED AREAS ON THE FORMER ALLUMAX SITE (WORK PERFORMED ONLY AS REQUIRED WITHIN R.O.W.)

FORMER ROBLIN STEEL SITE

R-1 CONCRETE FOUNDATION OF THE FORMER ROBLIN STEEL SITE THAT HAS BEEN PREVIOSULY REMEDIATED. (RUBBLIZED/ CRUSHED CONCRETE, DEMARCATION LAYER PLACED WITH 1' (MIN.) FILL OVER TOP). (SHOWN FOR INFORMATION PURPOSES ONLY)

R-2 VEGETATED AREAS ON THE FORMER ROBLIN STEEL SITE THAT HAS BEEN PREVIOUSLY BEEN REMEDIATED. (DEMARCATION LAYER PLACED WITH 1' (MIN.) FILL OVER TOP). (SHOWN FOR INFORMATION PURPOSES ONLY)

	AREA	FINISHED SECTION	DESCRIPTION OF WORK	ITEM 502.75960005	ITEM 207.21
FORMER ALLUMAX SITE	A-1	FILL > 1'	RUBBLIZE CONCRETE, PLACE ACCEPTED SITE EXCAVATED BACKFILL, AND BUILD PER PLANS (DEMARCATION LAYER REQUIRED)	13,500	13,500
		CUT OR FILL < 1'	RUBBLIZE CONCRETE, EXCAVATE TO 1' BELOW FINISHED GRADE, AND BUILD PER PLANS (DEMARCATION LAYER REQUIRED)		
	A-2	FILL > 1'	REMOVE CONCRETE, AND BUILD PER PLANS (DEMARCATION LAYER REQUIRED)	-	3,660
		CUT OR FILL < 1'	REMOVE CONCRETE, EXCAVATE TO 1' BELOW FINISHED GRADE, AND BUILD PER PLANS (DEMARCATION LAYER REQUIRED)		
	A-3	FILL > 1'	REMOVE ASPHALT CONCRETE, AND BUILD PER PLANS (DEMARCATION LAYER REQUIRED)	-	3,100
		CUT OR FILL < 1'	REMOVE ASPHALT CONCRETE, EXCAVATE TO 1' BELOW FINISHED GRADE, AND BUILD PER PLANS (DEMARCATION LAYER REQUIRED)		
	A-4	FILL > 1'	BUILD PER PLANS (DEMARCATION LAYER REQUIRED)	-	5,400
		CUT OR FILL < 1'	EXCAVATE TO 1' BELOW FINISHED GRADE, AND BUILD PER PLANS (DEMARCATION LAYER REQUIRED)		
FORMER ROBLIN STEEL	R-1	FILL	BUILD PER PLANS	-	920
	R-2	CUT	EXCAVATE TO 1' BELOW FINISHED GRADE, PLACE NEW DEMARCATION LAYER AT BOTTOM OF EXCAVATION, AND BUILD PER PLANS		

NOTES:

1. ALL WORK DONE ON THE BROWNFIELD SITES (THE FORMER ALLUMAX AND ROBLIN STEEL PROPERTIES) SHALL BE DONE IN CONFORMANCE WITH THE ASSOCIATED INDIVIDUAL SITE MANAGEMENT PLANS. SEE EVIRONMENTAL NOTES ON DWG. ED-1 AND CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION REGARDING THE REQUIREMENTS OF THESE SITE MANAGEMENT PLANS.
2. THE WORK SHOWN ON THIS DRAWING DESCRIBES THE WORK NECESSARY TO BE IN GENERAL CONFORMANCE WITH THE BROWNFIELD SITE MANAGEMENT PLANS. HOWEVER IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERSTAND THE ENTIRE SITE MANAGEMENT PLANS AND TO PERFORM HIS ACTIVITIES IN COMPLIANCE.
3. DRAINAGE EXCAVATIONS AND BACKFILLS WITHIN THESE BROWNFIELD SITES SHALL CONFORM TO THE INFORMATION SHOWN ON THIS DRAWING AND THE DETAILS ON ED-3.

   SEE DWG. ED-3 FOR ADDITIONAL DETAILS, AND FOR GRADING OUTSIDE ROW.
4. RUBBLIZATION AREA (OUTSIDE ROW) IS SHOWN AS APPROXIMATE AND IS REQUIRED PER THE PROJECT'S SWPPP. LAYOUT OF THESE AREAS TO BE VERIFIED BY THE ENGINEER.
5. QUANTITES SHOWN IN THE TABLE ON THIS DRAWING ARE ESTIMATED AND SHALL BE FIELD MEASURED FOR ACTUAL PAYMENT.
6. THE CONTRACTOR SHALL NOTE THAT THE AREAS TO BE RUBBLIZED UNDER ITEM 502.75960005 ARE EXISTING FOUNDATION SLABS ON FORMER INDUSTRIAL FACILITIES. THESE SLABS HAVE EXISTING STEEL RAIL AND STEEL CORNER ANGLES EMBEDDED IN THE CONCRETE SURFACE. ALL STEEL NEEDS TO BE REMOVED BY OTHER METHODS PRIOR TO THE RUBBLIZATION PROCESS. THE STEEL WILL BECOME THE PROPERTY OF THE CONTRACTOR, AND ALL COSTS ASSOCIATED WITH THE REMOVAL OF THE STEEL SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 502.75960005.

REVISION	DESCRIPTION	DATE	BY
1	NEW COORDINATES	10/27/14	PJL

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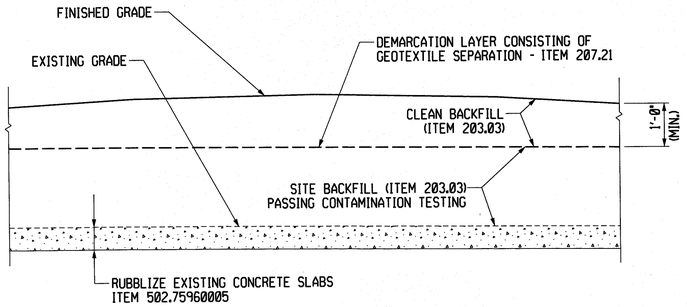
454 NORTH WORK STREET - FALCONER . NEW YORK 14733

ENGINEERING DIVISION

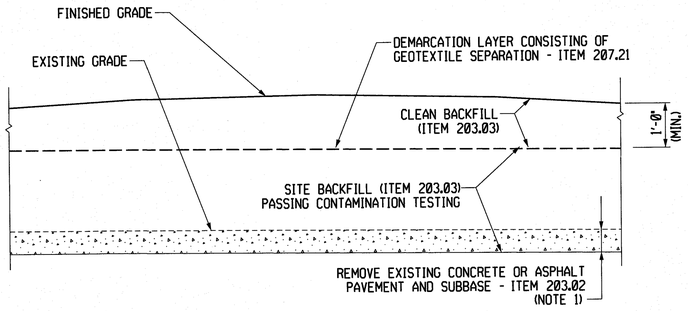
DESIGNED BY ETF	DATE 12/2012	SHEET TITLE: ENVIRONMENTAL PLANS AND DETAILS	
DRAWN BY TJB	DATE 12/2012		
CHECKED BY AAS	DATE 12/2012		
APPROVED BY ETF	DATE 12/2012	PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55	DRAWING ED-2
PROJECT NO. 2006.0006.01	SCALE 1"=100'		SHEET 24 OF 141



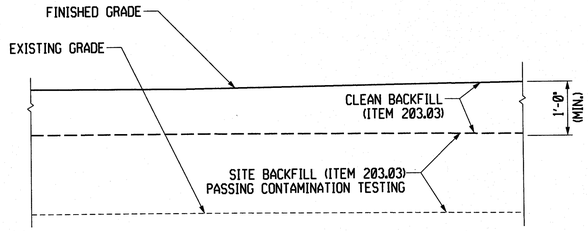
NOTE:

1. SEE NOTE 6 ON DRAWING ED-2.

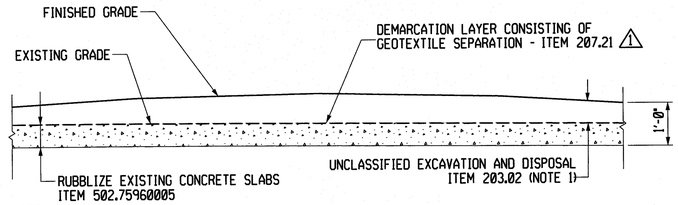
RUBBLIZATION DETAIL - AREA A-1
(FILL > 1'-0")
N.T.S.



CONCRETE AND ASPHALT REMOVAL DETAIL - AREAS A-2 AND A-3
(FILL > 1'-0")
N.T.S.



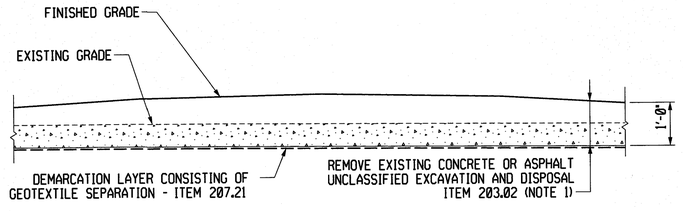
VEGETATED AREAS DETAIL - AREA A-4
(FILL > 1'-0")
N.T.S.



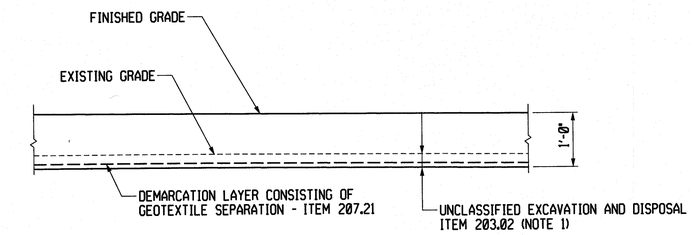
NOTE:

THE CONTRACTOR SHALL NOTE THAT THE AREAS TO RUBBLIZED UNDER ITEM 502.75960005 ARE EXISTING FOUNDATION SLABS ON FORMER INDUSTRIAL FACILITIES. THESE SLABS HAVE EXISTING STEEL RAIL AND STEEL CORNER ANGLES EMBEDDED IN THE CONCRETE SURFACE. ALL STEEL NEEDS TO BE REMOVED BY OTHER METHODS PRIOR TO THE RUBBLIZATION PROCESS. THE STEEL WILL BECOME THE PROPERTY OF THE CONTRACTOR, AND ALL COSTS ASSOCIATED WITH THE STEEL SHALL BE INCLUDED IN THE BASE BID FOR ITEM 502.75960005.

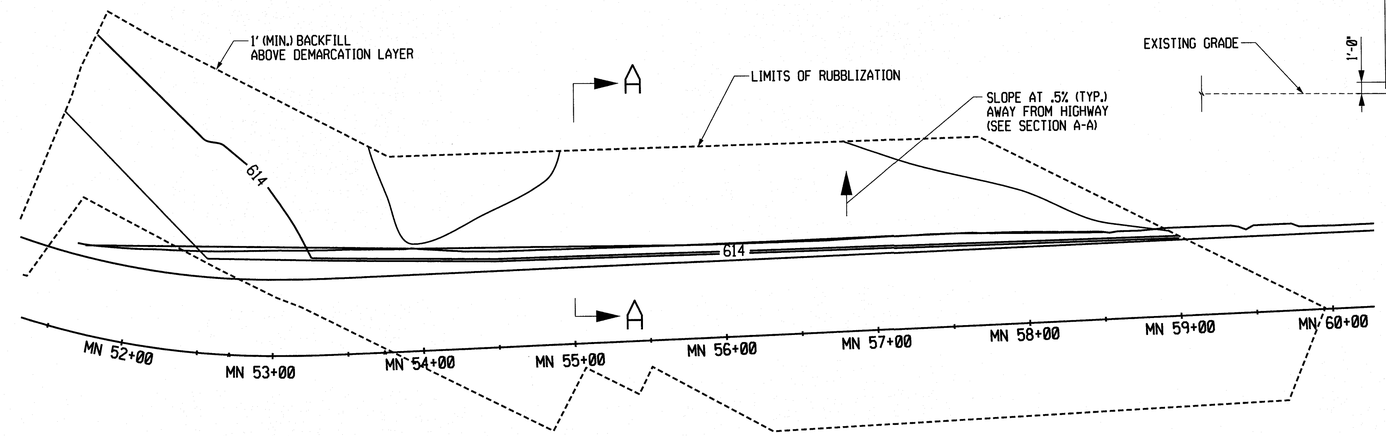
RUBBLIZATION DETAIL - AREA A-1
(CUT OR FILL < 1'-0")
N.T.S.



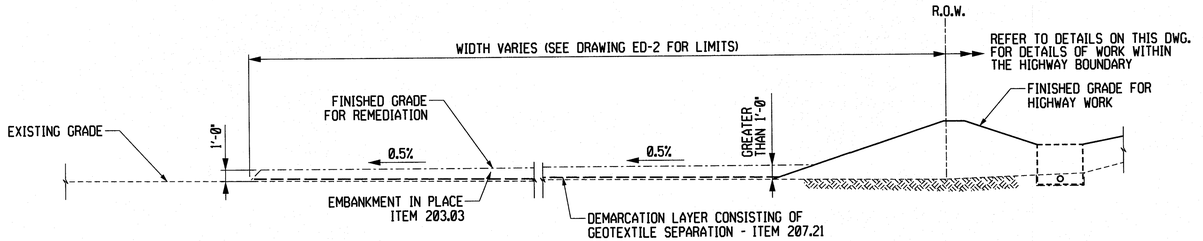
CONCRETE AND ASPHALT REMOVAL - AREAS A-2 AND A-3
(CUT OR FILL < 1'-0")
N.T.S.



VEGETATED AREAS DETAIL - AREA A-4
(CUT OR FILL < 1'-0")
N.T.S.



GRADING PLAN
N.T.S.



SECTION A-A
(WORK OUTSIDE R.O.W.)
N.T.S.

FORMER ALLUMAX SITE DETAILS

NOTES:

1. TEST AND REMEDIATE EXCAVATED SOIL/ASPHALT PER SOIL FILL MANAGEMENT PLAN.

REVISION	DESCRIPTION	DATE	BY
⚠	FIELD CHANGE	10/27/14	PJL

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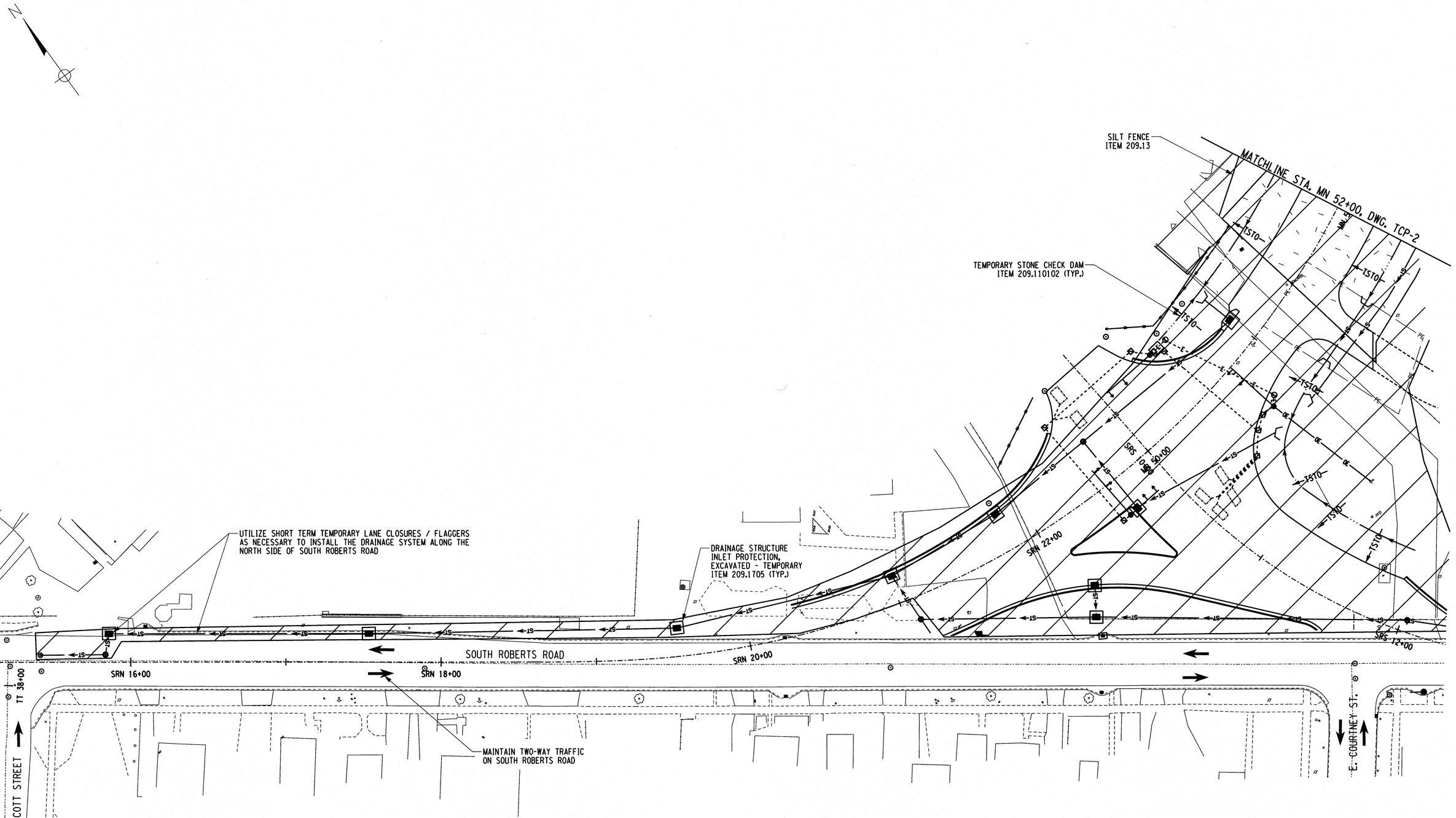
DESIGNED BY GMW	DATE 12/2012	SHEET TITLE ENVIRONMENTAL DETAILS	ENGINEERING DIVISION
DRAWN BY TJB	DATE 12/2012		
CHECKED BY GMW	DATE 12/2012		
APPROVED BY ETF	DATE 12/2012	PROJECT TITLE CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55	DRAWING ED-3
PROJECT NO. 2006.0006.01	SCALE N.T.S.		SHEET 25 OF 141



REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10/27/14	PJL

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CHAUTAUQUA COUNTY DEPT. OF PUBLIC FACILITIES
454 NORTH WORK STREET - FALCONER , NEW YORK 14733

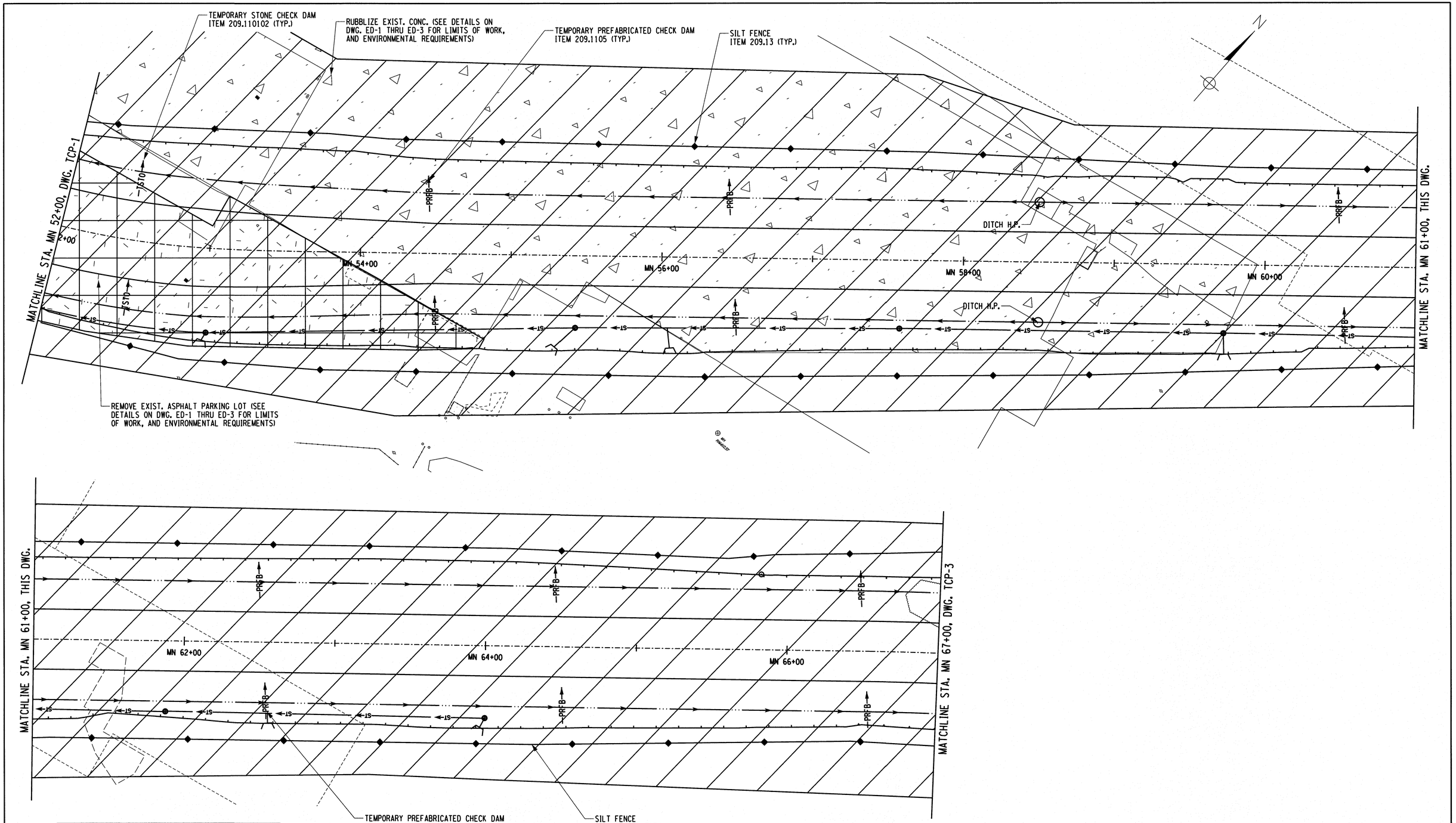
DESIGNED BY	GMW	DATE	10/2012
DRAWN BY	TJB	DATE	10/2012
CHECKED BY	GMW	DATE	10/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=30'

SHEET TITLE: TRAFFIC CONTROL AND EROSION CONTROL STAGE 1

PROJECT TITLE: CONSTRUCTION
MILLENNIUM PARKWAY
TALCOTT STREET EXTENSION
P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: TCP-1



LEGEND

WORK ZONE

30 0 30 60 90 120′

1" = 30′

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10/27/14	PJL

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454 NORTH WORK STREET - FALCONER , NEW YORK 14733

DESIGNED BY	ETF	DATE	10/2012
DRAWN BY	TJB	DATE	10/2012
CHECKED BY	GMW	DATE	10/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=30′

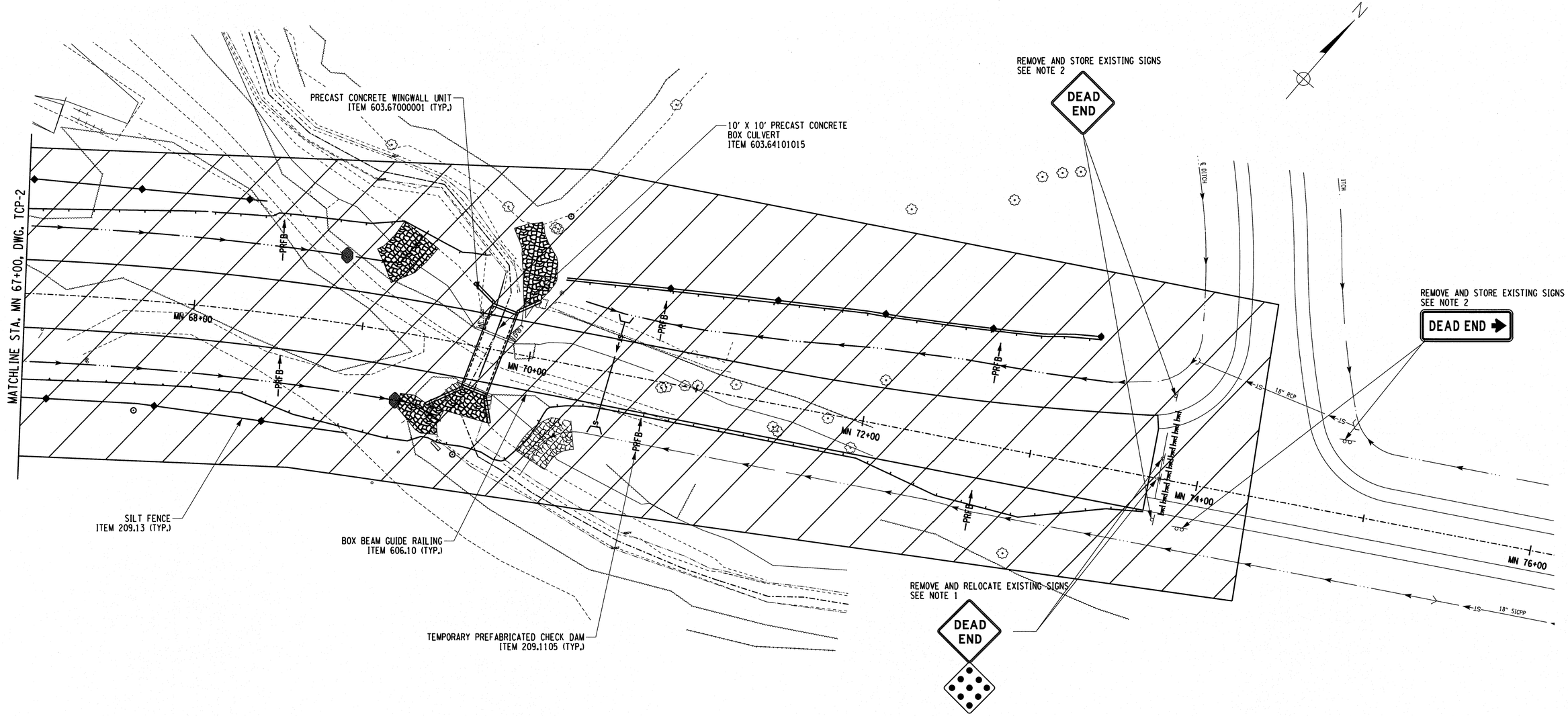
SHEET TITLE: TRAFFIC CONTROL AND EROSION CONTROL STAGE 1

PROJECT TITLE: CONSTRUCTION
MILLENNIUM PARKWAY
TALCOTT STREET EXTENSION
P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: TCP-2

SHEET 38 OF 141



NOTES:

1. REMOVE EXISTING GUIDE RAILING BARRICADE AND SIGNAGE, AND REPLACE WITH LIGHTED TYPE III CONSTRUCTION BARRICADES. RELOCATE THE EXISTING SIGNAGE ON THE TYPE III BARRICADES TEMPORARILY. COST FOR SIGN RELOCATIONS TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 619.01 - BASIC WORK ZONE TRAFFIC CONTROL. REFER TO SEQUENCE OF CONSTRUCTION, STAGE 1, STEP 3, NOTE A, ON DRAWING TKM-1 FOR LIMITATIONS ON THIS WORK.
2. REMOVE EXISTING SIGNAGE. REFER TO SEQUENCE OF CONSTRUCTION, STAGE 4, STEP 2, ON DRAWING TKM-1 FOR LIMITATIONS ON THIS WORK.
3. EXISTING SIGNS AND GUIDE RAILING SHALL BE CAREFULLY REMOVED AND TURNED OVER TO CHAUTAUQUA COUNTY.

LEGEND

- WORK ZONE
- LIGHTED TYPE III BARRICADE
- EXISTING SIGNS

30 0 30 60 90 120'

1" = 30'

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10/27/14	PJL

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454 NORTH WORK STREET - FALCONER , NEW YORK 14733

DESIGNED BY ETF	DATE 11/2012	SHEET TITLE	TRAFFIC CONTROL AND EROSION CONTROL STAGE 1
DRAWN BY TJB	DATE 11/2012		
CHECKED BY GMW	DATE 11/2012	PROJECT TITLE	CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55
APPROVED BY ETF	DATE 11/2012		
PROJECT NO. 2006.0006.01	SCALE 1"=30'		

ENGINEERING DIVISION

DRAWING TCP-3

FUTURE HIGHWAY BOUNDARY

INSTALL CHAIN LINK FENCE (BY OTHERS)

MN 51+07.82

CONCRETE PAD (ITEM 608.0101) (SEE NOTES UNDER CONTROLLERS, CABINETS AND DETECTORS ON DRAWING GN-1)

SEE DRAWING TSP-1 FOR TRAFFIC SIGNAL LAYOUT AND DETAILS

MATCHLINE MN 51+20 SEE DWG. PL-9

S. ROBERTS ROAD STA. SRS 10+00.00 = S. ROBERTS ROAD STA. SRN 22+88.53 = MILLENNIUM PARKWAY STA. MN 50+00.00

SRN 22+60.68 71.44' L

MILLENNIUM PKWY

FUTURE DRIVEWAY AND FENCE TO BE DESIGNED BY OTHERS

REMOVE EXIST. CHAIN LINK FENCE (BY OTHERS)

EXIST. CONCRETE DRIVEWAY TO BE REMOVED

FUTURE HIGHWAY BOUNDARY

CLIFFSTAR CORP. 320 SOUTH ROBERTS RD. 79J6-2-4

PROP. ℄ DITCH (TYP.)

EASEMENT FOR INGRESS/EGRESS NATIONAL GRID L2446/P691

M.7 P.7 FEE

SEE NOTE 2 ON DWG. UT-8

REMOVE AND DISPOSE CORRUGATED BEAM GUIDE RAILING ITEM 606.71 - 58 LF

NATIONAL GRID 300 ERIE BLVD. WEST SYRACUSE, NY 79J6-2-13

MOVED TO CURB LINE

S. ROBERTS RD. (COUNTY ROUTE 81)

PROPOSED ASPHALT ISLAND, SEE DWG IGP-4

REMOVE EXIST. CHAIN LINK FENCE (BY OTHERS)

INSTALL CHAIN LINK FENCE (BY OTHERS)

NORFOLK & WESTERN R.R. CO. 79J6-6-25

NATIONAL GRID

BEGIN FULL DEPTH PAVEMENT RECONSTRUCTION STA SRS. 13+62.00

M.8 P.8 FEE

S. ROBERTS ROAD STA. SRS 11+69.40 = COURTNEY STREET STA. CY 2+04.18

SRN 22+00

SRN 21+00

RA 2+00

RA 1+00

RA 3+00

PROPOSED ASPHALT ISLAND, SEE DWG IGP-4

EXIST. CHAINLINK FENCE TO BE REMOVED

SOUTH ROBERTS ROAD

OLD S. ROBERTS ROAD

OSR 11+00

OSR 12+00

OSR 13+00

OSR 13+69

SRS 11+00

SRS 11+92

SRS 12+00

SRS 13+00

SRS 14+00

CY 2+00

CY 1+00

COURTNEY ST

MATCHLINE SRN 20+10 SEE DWG. PL-7

DRIVEWAY (TYP.)

STA OSR 12+00.00

STA OSR 10+15.56

PROP. 5.0' WIDE CONC. SIDEWALK

CONC. GUTTER

TREE PLANTING (TYP.) (SEE NOTE 3)

EXISTING TREE TO BE REMOVED AND REPLACED (TYP.) (SEE NOTE 3)

SAWCUT EXIST. PAVEMENT ITEM 520.50140008 (TYP.)

BEGIN FULL DEPTH PAVEMENT RECONSTRUCTION STA. CY 1+20.00

437 SOUTH ROBERTS ROAD REPUTED OWNER ANGELA GOETZ 79J6-2-57

441 SOUTH ROBERTS ROAD REPUTED OWNER DORIS STUPOY 79J6-2-56

445 SOUTH ROBERTS ROAD REPUTED OWNER WILLIS MARTINEZ 79J6-2-53

447 SOUTH ROBERTS ROAD REPUTED OWNER WILLIS MARTINEZ 79J6-2-52

449 SOUTH ROBERTS ROAD REPUTED OWNER MATHEW J. MARTINEZ 79J6-2-49

453 SOUTH ROBERTS ROAD REPUTED OWNER GREGG T. SKUBIS 79J6-2-48

461 SOUTH ROBERTS ROAD REPUTED OWNER SCOTT SYMANS 79J6-2-14

SOUTH ROBERTS ROAD REPUTED OWNER VIOLET TALABER 79J6-6-1

503 SOUTH ROBERTS ROAD REPUTED OWNER JAMES RESSLER 79J6-6-2

NOTES:

1. SEE UTILITY PLANS FOR EXISTING STORM AND SANITARY LAYOUT, RIMS AND INVERTS.
2. SEE DRAWING IGP-4 FOR PROPOSED GRADING AND ADDITIONAL GEOMETRY INFORMATION.
3. SEE TREE REMOVAL AND TREE PLANTING TABLES ON DWG. MT-2. "R" NEXT TO A TREE REMOVAL INDICATES A NEW PLANTING.

20 0 20 40 60 80'

1" = 20'

REVISION	DESCRIPTION	DATE	BY
⚠	FIELD CHANGE	10-27-14	PJL

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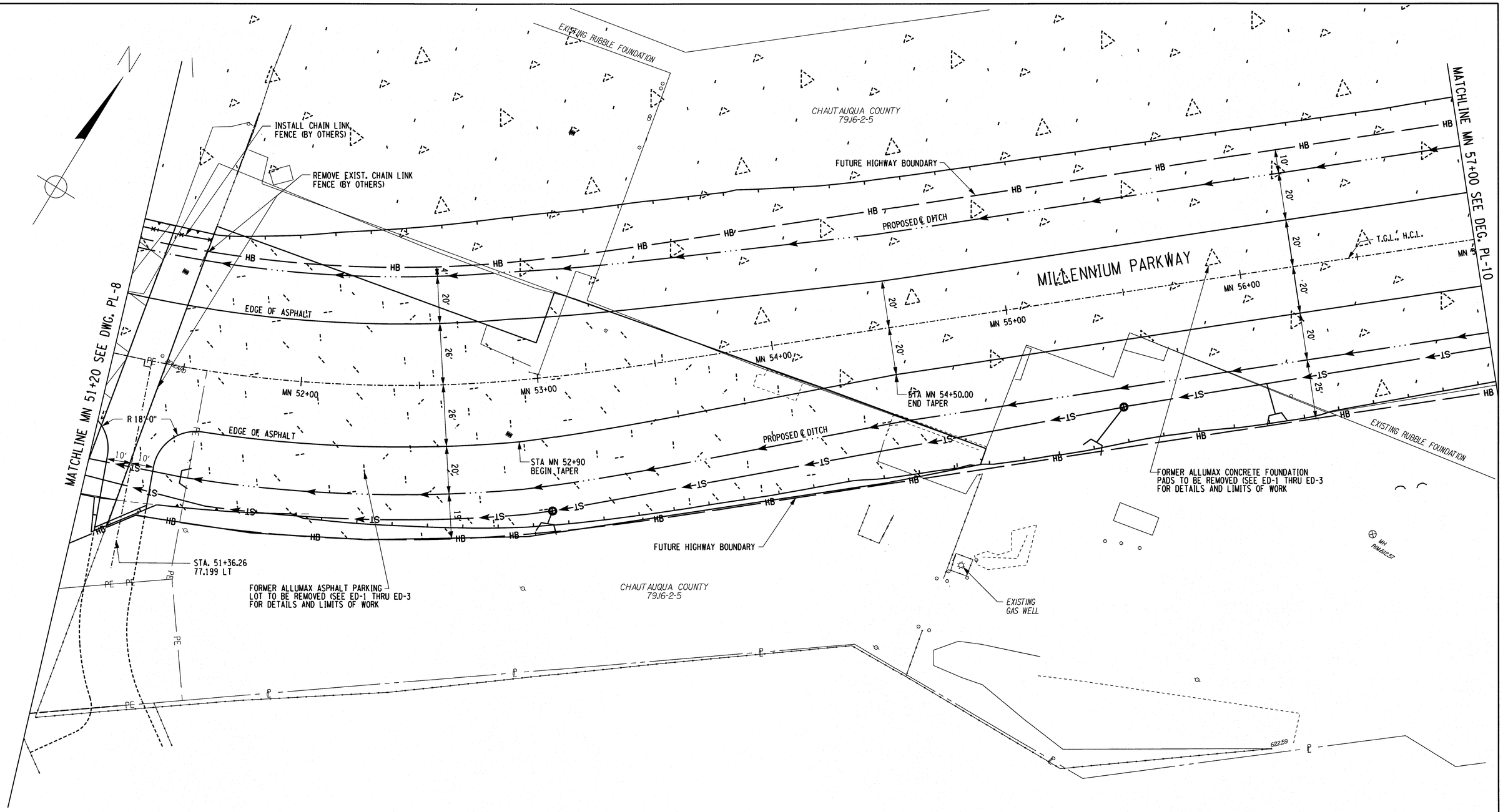
CHAUTAUQUA COUNTY DEPT. OF PUBLIC FACILITIES
454 NORTH WORK STREET - FALCONER, NEW YORK 14733

DESIGNED BY TJB	DATE 11/2012	SHEET TITLE	GENERAL PLAN STA. SRN 20+10 TO STA. MN 51+20
DRAWN BY TJB	DATE 11/2012		
CHECKED BY GMW	DATE 11/2012		
APPROVED BY ETF	DATE 11/2012	PROJECT TITLE	CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55
PROJECT NO. 2006.0006.01	SCALE 1"=20'	DRAWING	PL-8

ENGINEERING DIVISION

SHEET 53 OF 141



NOTES:

1. SEE UTILITY PLANS FOR EXISTING STORM AND SANITARY LAYOUT, RIMS AND INVERTS.

20 0 20 40 60 80'

1" = 20'

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

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454 NORTH WORK STREET - FALCONER, NEW YORK 14733

ENGINEERING DIVISION

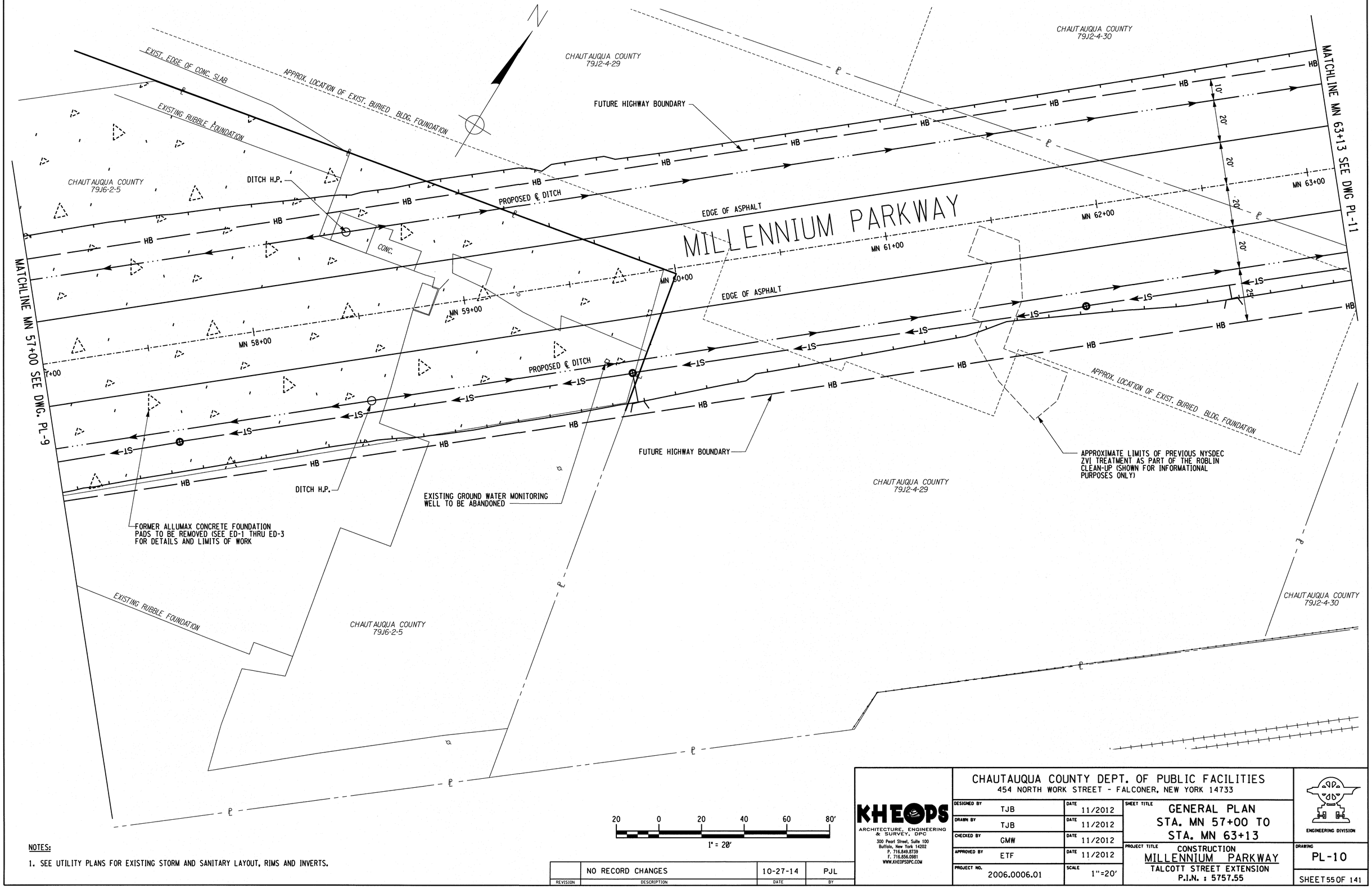
DESIGNED BY	ETF	DATE	11/2012
DRAWN BY	TJB	DATE	11/2012
CHECKED BY	GMW	DATE	11/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=20'

SHEET TITLE: GENERAL PLAN STA. MN 51+20 TO STA. MN 57+00

PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55

DRAWING: PL-9

SHEET 54 OF 141



NOTES:

1. SEE UTILITY PLANS FOR EXISTING STORM AND SANITARY LAYOUT, RIMS AND INVERTS.

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

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454 NORTH WORK STREET - FALCONER, NEW YORK 14733

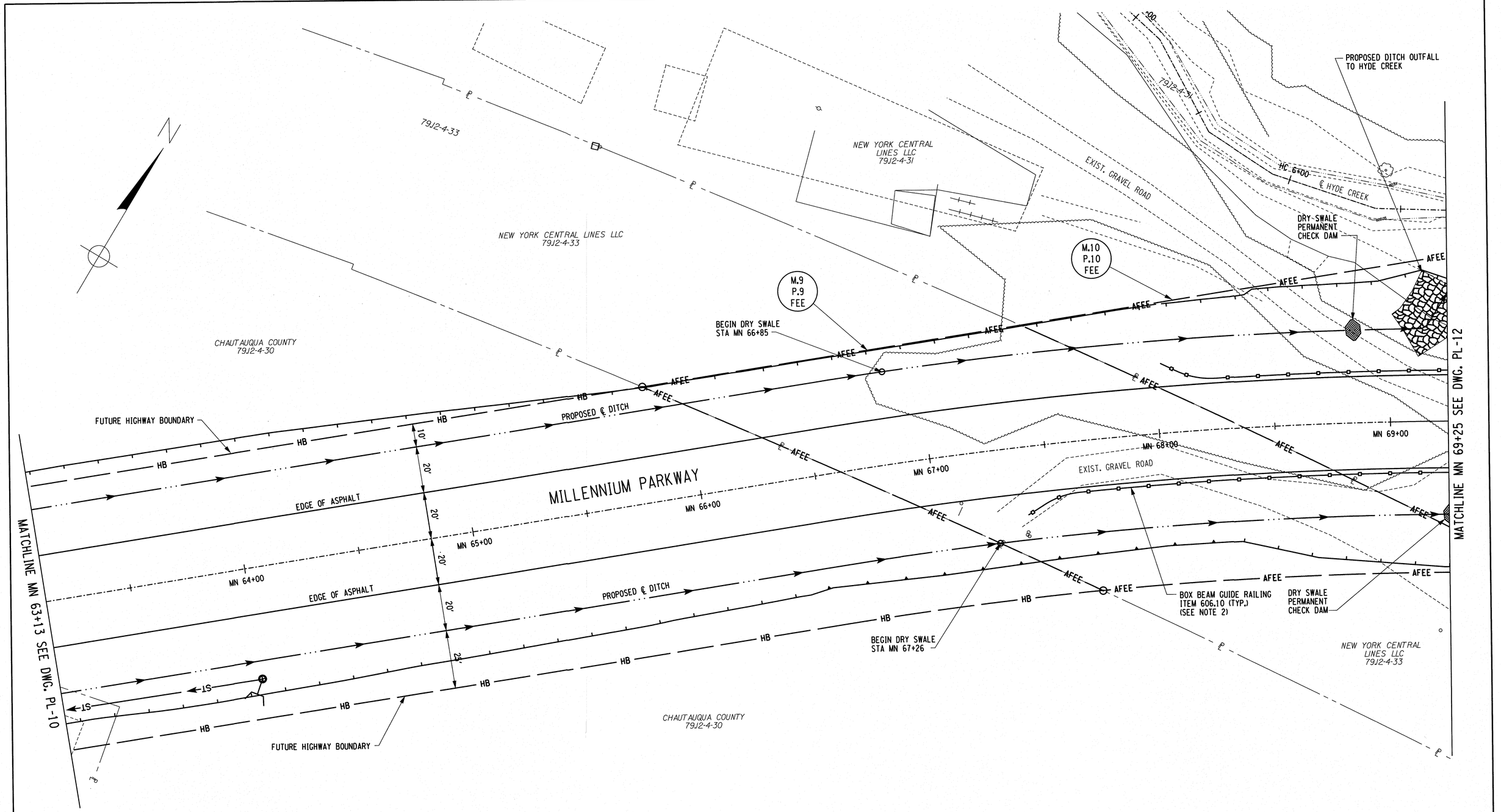
DESIGNED BY	TJB	DATE	11/2012
DRAWN BY	TJB	DATE	11/2012
CHECKED BY	GMW	DATE	11/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=20'

SHEET TITLE: GENERAL PLAN STA. MN 57+00 TO STA. MN 63+13

PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: PL-10



NOTES:

1. SEE UTILITY PLANS FOR EXISTING STORM AND SANITARY LAYOUT, RIMS AND INVERTS.
2. REFER TO GUIDE RAILING TABLE, DRAWING MT-2 FOR LIMITS.

20 0 20 40 60 80'

1" = 20'

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

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454 NORTH WORK STREET - FALCONER, NEW YORK 14733

DESIGNED BY	TJB	DATE	11/2012
DRAWN BY	TJB	DATE	11/2012
CHECKED BY	GMW	DATE	11/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=20'

SHEET TITLE: GENERAL PLAN STA. MN 63+13 TO STA. MN 69+25

PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: PL-11

SHEET 56 OF 141

MATCHLINE MN 69+25 SEE DWG. PL-11

PROPOSED DITCH OUTFALL TO HYDE CREEK

PROPOSED 10' X 10' CONCRETE BOX CULVERT (SEE DWG'S. CUL-1 THRU CUL-4 FOR DETAILS)

NOW OR FORMERLY NEW YORK CENTRAL LINES LLC 79J2-4-31

M.10 P.10 FEE

℄ CULVERT STA. 0+27.04 = MILLENNIUM PARKWAY STA. MN 69+76.21

NOW OR FORMERLY NESTLE PURINA PET FOOD COMPANY 79J2-4-25

BOX BEAM GUIDE RAILING ITEM 606.10 (TYP.) (SEE NOTE 2)

TREE REMOVAL (TYP.) (SEE TABLE, DWG. MT-2)

EXISITNG DITCH TO BE REALIGNED

MIDDLE ROAD

EXISTING ASPHALT SHOULDER (TYP)

NOW OR FORMERLY NESTLE PURINA PET FOOD COMPANY 79J2-4-25

HB

IS

18" RCP

PROPOSED ℄ DITCH

EDGE OF ASPHALT

MILLENNIUM PARKWAY

T.G.L., H.C.L.

MN 70+00

MN 71+00

MN 72+00

MN 73+00

MN 74+00

MN 75+00

20'

28.5'

20.00

EXISTING ASPHALT SHOULDER (TYP)

EXIST. ℄ DITCH

HC 4+00

HC 3+00

HC 2+00

HC 1+00

HEADWALL

℄ HYDE CREEK

NOW OR FORMERLY NEW YORK CENTRAL LINES LLC 79J2-4-33

NOW OR FORMERLY NEW YORK CENTRAL LINES LLC 79J2-4-31

BEGIN FULL DEPTH PAVEMENT CONSTRUCTION STA MN 73+71.63 (MATCH EXISTING PAVEMENT)

PROPOSED DITCH OUTFALL TO HYDE CREEK

DRY SWALE PERMANENT CHECK DAM

EXIST. DITCH OUTFALL TO CREEK

NOTES:

1. SEE UTILITY PLANS FOR EXISTING STORM AND SANITARY LAYOUT, RIMS AND INVERTS.
2. REFER TO GUIDE RAILING TABLE, DRAWING MT-2 FOR LIMITS.

20 0 20 40 60 80'

1" = 20'

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

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CHAUTAUQUA COUNTY DEPT. OF PUBLIC FACILITIES
454 NORTH WORK STREET - FALCONER, NEW YORK 14733

DESIGNED BY	TJB	DATE	11/2012
DRAWN BY	TJB	DATE	11/2012
CHECKED BY	GMW	DATE	11/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=40'

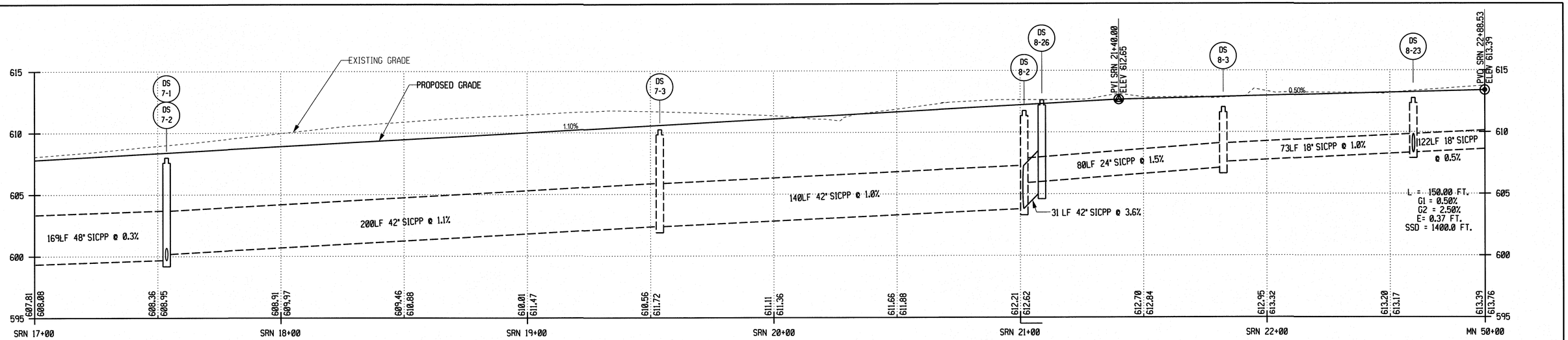
SHEET TITLE: GENERAL PLAN STA. MN 69+25 TO STA. MN 73+71.6±

PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55

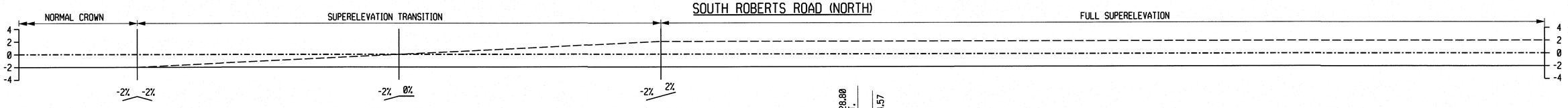
ENGINEERING DIVISION

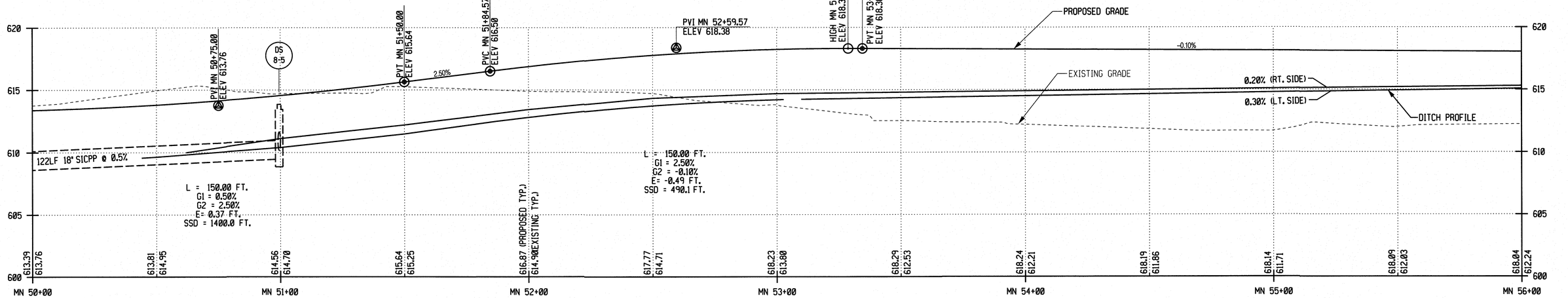
DRAWING: PL-12

SHEET 57 OF 141

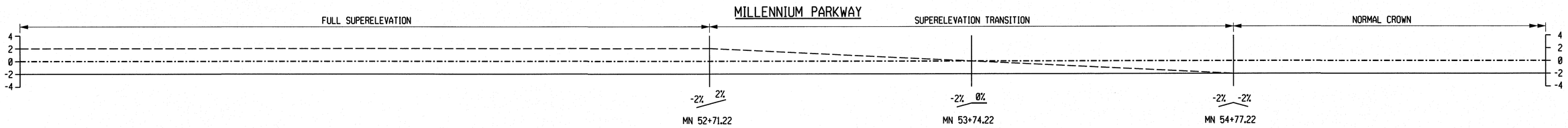


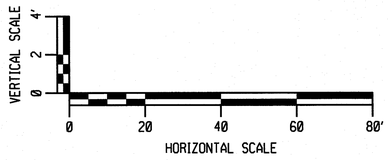
SOUTH ROBERTS ROAD (NORTH)





MILLENNIUM PARKWAY





NOTES:

1. FOR STRUCTURES AND PIPES:
   - DASHED LINES INDICATE STRUCTURES ARE ON LEFT SIDE OF ROAD (SOLID LINES FOR RIGHT SIDE)
   - DARKER LINES ARE PROPOSED STRUCTURES (LIGHTER LINES ARE EXISTING STRUCTURES)

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

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CHAUTAUQUA COUNTY DEPT. OF PUBLIC FACILITIES
454 NORTH WORK STREET – FALCONER , NEW YORK 14733

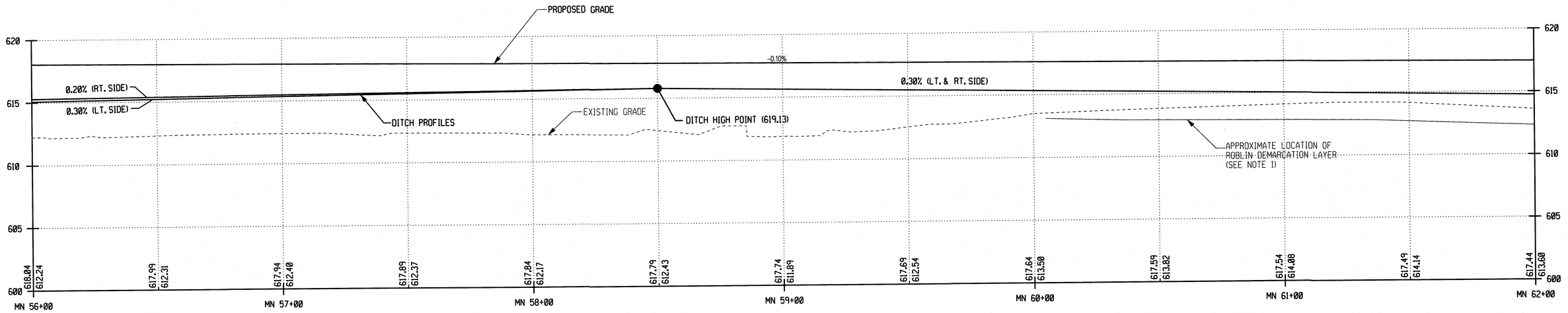
DESIGNED BY	ETF	DATE	10/2012
DRAWN BY	TJB	DATE	10/2012
CHECKED BY	GMW	DATE	10/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	AS NOTED

SHEET TITLE: S. ROBERTS N. SRN 17+00 TO MILLENNIUM PKWY. MN 56+00

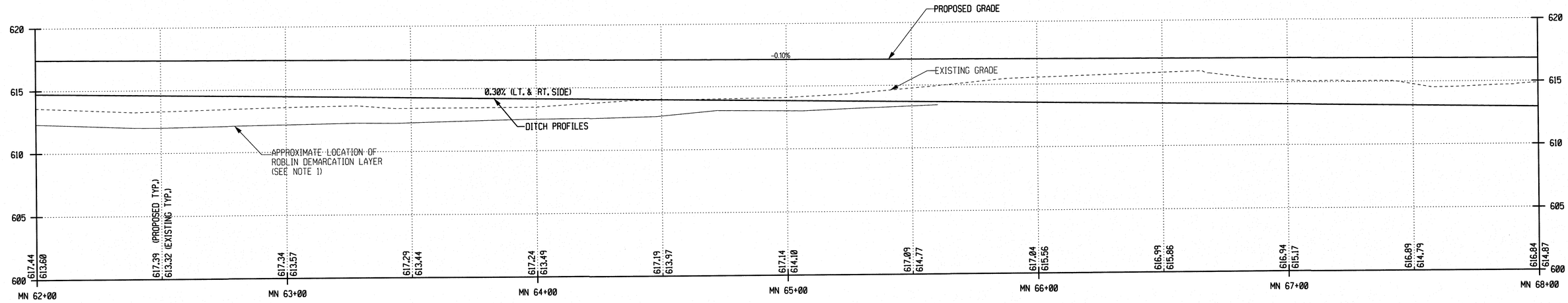
PROJECT TITLE: CONSTRUCTION
MILLENNIUM PARKWAY
TALCOTT STREET EXTENSION
P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: PR-4



MILLENNIUM PARKWAY



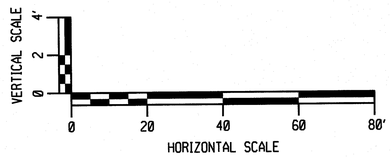
MILLENNIUM PARKWAY

NOTES:

1.

NOTES:

1. REFER TO DRAWING ED-1 FOR INFORMATION AND DETAILS REGARDING THE BROWNFIELD DEMARCATION LAYER AND SITE SOIL MANAGEMENT PLANS.
2. FOR STRUCTURES AND PIPES:
   - DASHED LINES INDICATE STRUCTURES ARE ON LEFT SIDE OF ROAD (SOLID LINES FOR RIGHT SIDE)
   - DARKER LINES ARE PROPOSED STRUCTURES (LIGHTER LINES ARE EXISTING STRUCTURES)



REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

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454 NORTH WORK STREET - FALCONER , NEW YORK 14733

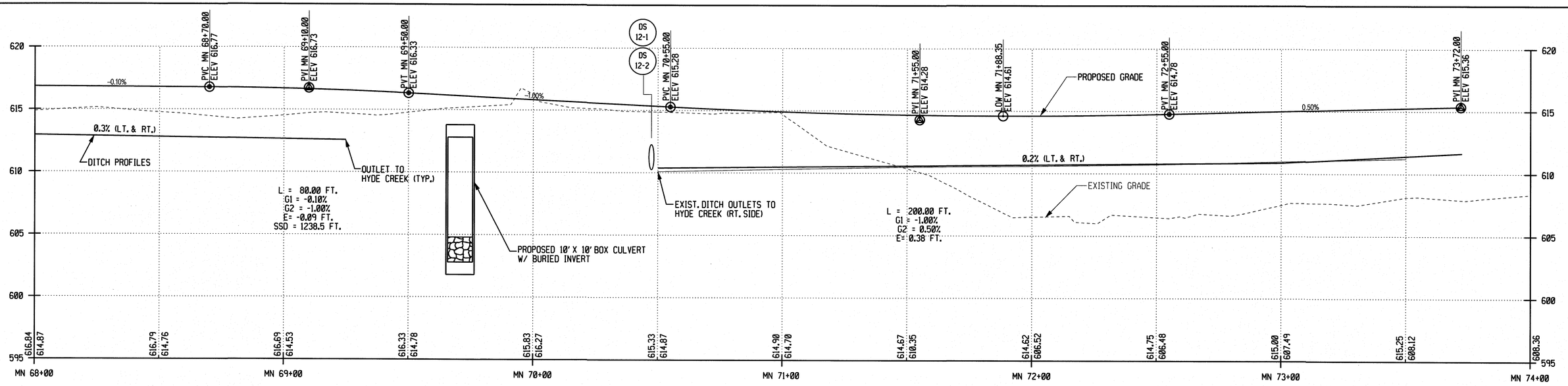
DESIGNED BY	ETF	DATE	10/2012
DRAWN BY	TJB	DATE	10/2012
CHECKED BY	GMW	DATE	10/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	AS NOTED

SHEET TITLE: MILLENNIUM PARKWAY MN 56+00 TO MN 68+00

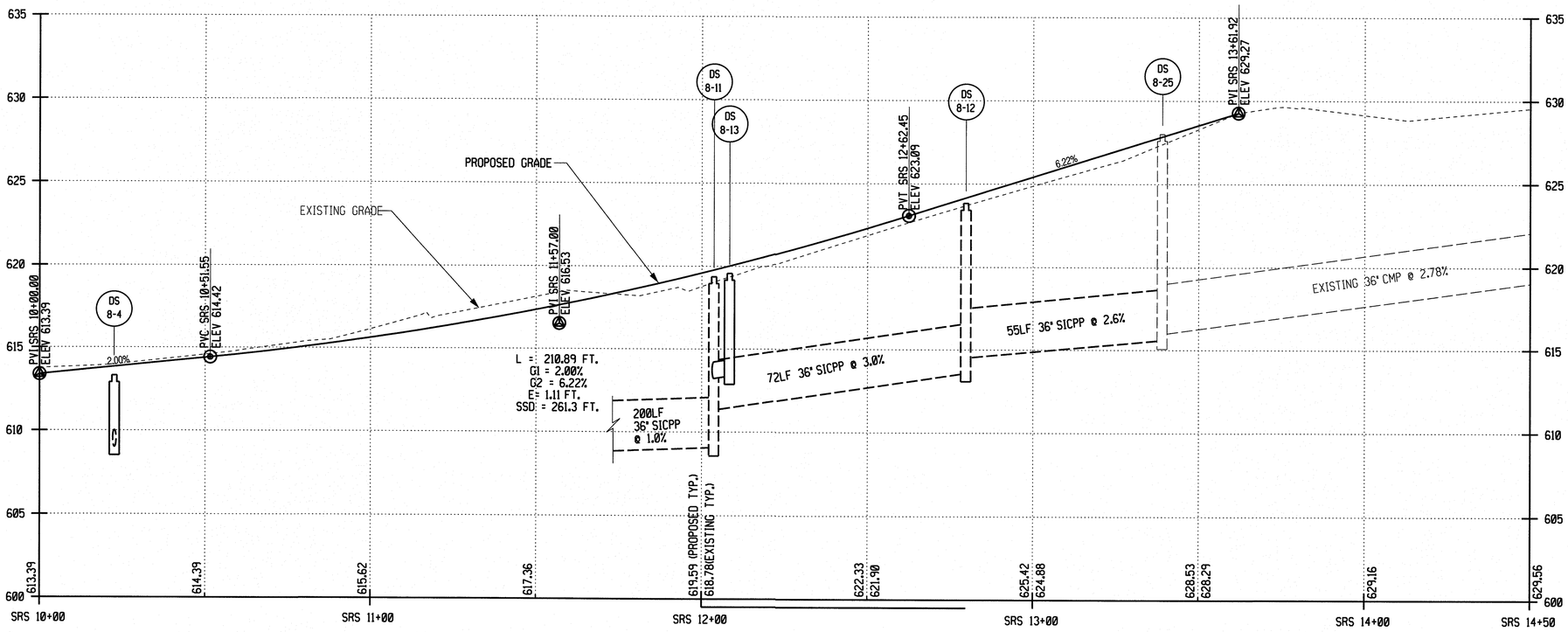
PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: PR-5



MILLENNIUM PARKWAY



SOUTH ROBERTS ROAD (SOUTH)

VERTICAL SCALE 0 2 4'

0 20 40 60 80'

HORIZONTAL SCALE

NOTES:

1. FOR STRUCTURES AND PIPES:
   - DASHED LINES INDICATE STRUCTURES ARE ON LEFT SIDE OF ROAD (SOLID LINES FOR RIGHT SIDE)
   - DARKER LINES ARE PROPOSED STRUCTURES (LIGHTER LINES ARE EXISTING STRUCTURES)

REVISION	DESCRIPTION	DATE	BY

454 NORTH WORK STREET - FALCONER , NEW YORK 14733

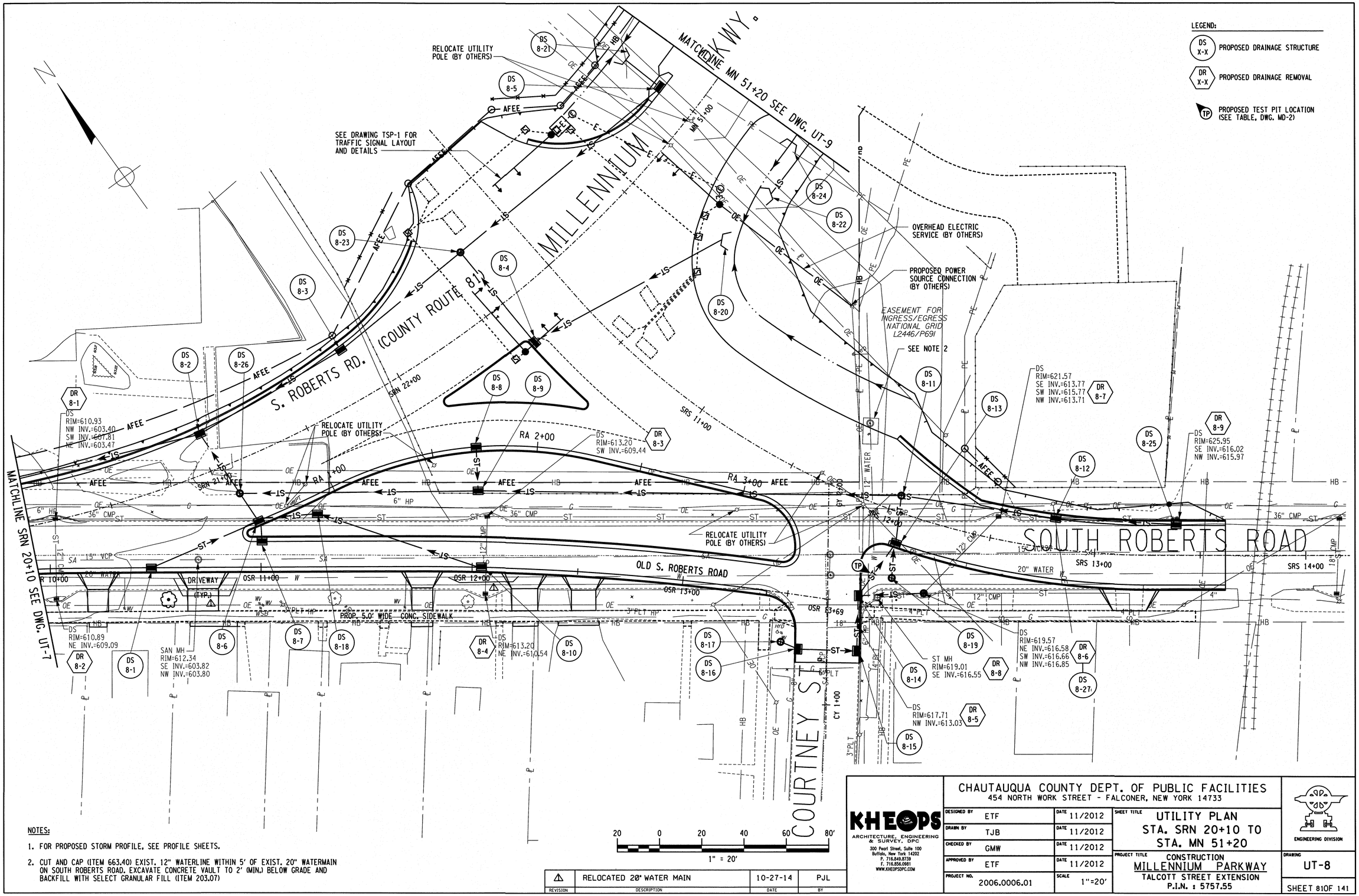
DESIGNED BY	ETF	DATE	10/2012
DRAWN BY	TJB	DATE	10/2012
CHECKED BY	GMW	DATE	10/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	AS NOTED

SHEET TITLE
MILLENNIUM PARKWAY
MN 68+00 TO MN 74+00
SRS 10+00 TO SRS 14+50

PROJECT TITLE
CONSTRUCTION
MILLENNIUM PARKWAY
TALCOTT STREET EXTENSION
P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING
PR-6



NOTES:

1. FOR PROPOSED STORM PROFILE, SEE PROFILE SHEETS.
2. CUT AND CAP (ITEM 663.40) EXIST. 12" WATERLINE WITHIN 5' OF EXIST. 20" WATERMAIN ON SOUTH ROBERTS ROAD. EXCAVATE CONCRETE VAULT TO 2' (MIN.) BELOW GRADE AND BACKFILL WITH SELECT GRANULAR FILL (ITEM 203.07)

REVISION	DESCRIPTION	DATE	BY
⚠	RELOCATED 20" WATER MAIN	10-27-14	PJL

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454 NORTH WORK STREET - FALCONER, NEW YORK 14733

DESIGNED BY	ETF	DATE	11/2012
DRAWN BY	TJB	DATE	11/2012
CHECKED BY	GMW	DATE	11/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=20'

SHEET TITLE: UTILITY PLAN STA. SRN 20+10 TO STA. MN 51+20

PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: UT-8

SHEET 81OF 141

EXISTING RUBBLE FOUNDATION

CHAUTAUQUA COUNTY
79J6-2-5

FUTURE HIGHWAY BOUNDARY

PROPOSED ℄ DITCH

T.G.L., H.C.L.

MILLENNIUM PARKWAY

MN 56+00

MN 55+00

MN 54+00

MN 53+00

MN 52+00

EDGE OF ASPHALT

EDGE OF ASPHALT

PROPOSED ℄ DITCH

MATCHLINE MN 51+20 SEE DWG. PL-8

MATCHLINE MN 57+00 SEE DEG. PL-10

EXISTING RUBBLE FOUNDATION

DS 9-6

DS 9-2

DS 9-5

DS 9-3

DS 9-1

DS 9-4

CHAUTAUQUA COUNTY
79J6-2-5

MH RIM 622.57

EXISTING GAS WELL

622.59

HB

ST

PE

℄

NOTES:

1. FOR PROPOSED STORM SEWER PROFILE, SEE PROFILE SHEETS.

20 0 20 40 60 80'

1" = 20'

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

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454 NORTH WORK STREET - FALCONER, NEW YORK 14733

ENGINEERING DIVISION

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APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=20'

SHEET TITLE: UTILITY PLAN
STA. MN 51+20 TO
STA. MN 57+00

PROJECT TITLE: CONSTRUCTION
MILLENNIUM PARKWAY
TALCOTT STREET EXTENSION
P.I.N. : 5757.55

DRAWING: UT-9

SHEET 82 OF 141

MATCHLINE MN 57+00 SEE DWG. UT-9

MATCHLINE MN 63+13 SEE DWG UT-11

MILLENNIUM PARKWAY

EDGE OF ASPHALT

EDGE OF ASPHALT

PORPOSED ℄ DITCH

PORPOSED ℄ DITCH

FUTURE HIGHWAY BOUNDARY

FUTURE HIGHWAY BOUNDARY

EXIST. EDGE OF CONC. SLAB

APPROX. LOCATION OF EXIST. BURIED BLDG. FOUNDATION

EXISTING RUBBLE FOUNDATION

CONC.

EXISTING RUBBLE FOUNDATION

APPROX. LOCATION OF EXIST. BURIED BLDG. FOUNDATION

MN 57+00

MN 58+00

MN 59+00

MN 60+00

MN 61+00

MN 62+00

MN 63+00

DS 10-1

DS 10-2

DS 10-3

DS 10-4

DS 10-5

HB

ST

OE

℄

LEGEND:

DS X-X — PROPOSED DRAINAGE STRUCTURE

NOTES:

1. FOR PROPOSED STORM SEWER PROFILE, SEE PROFILE SHEETS.

20 0 20 40 60 80′

1" = 20′

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

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CHAUTAUQUA COUNTY DEPT. OF PUBLIC FACILITIES
454 NORTH WORK STREET - FALCONER, NEW YORK 14733

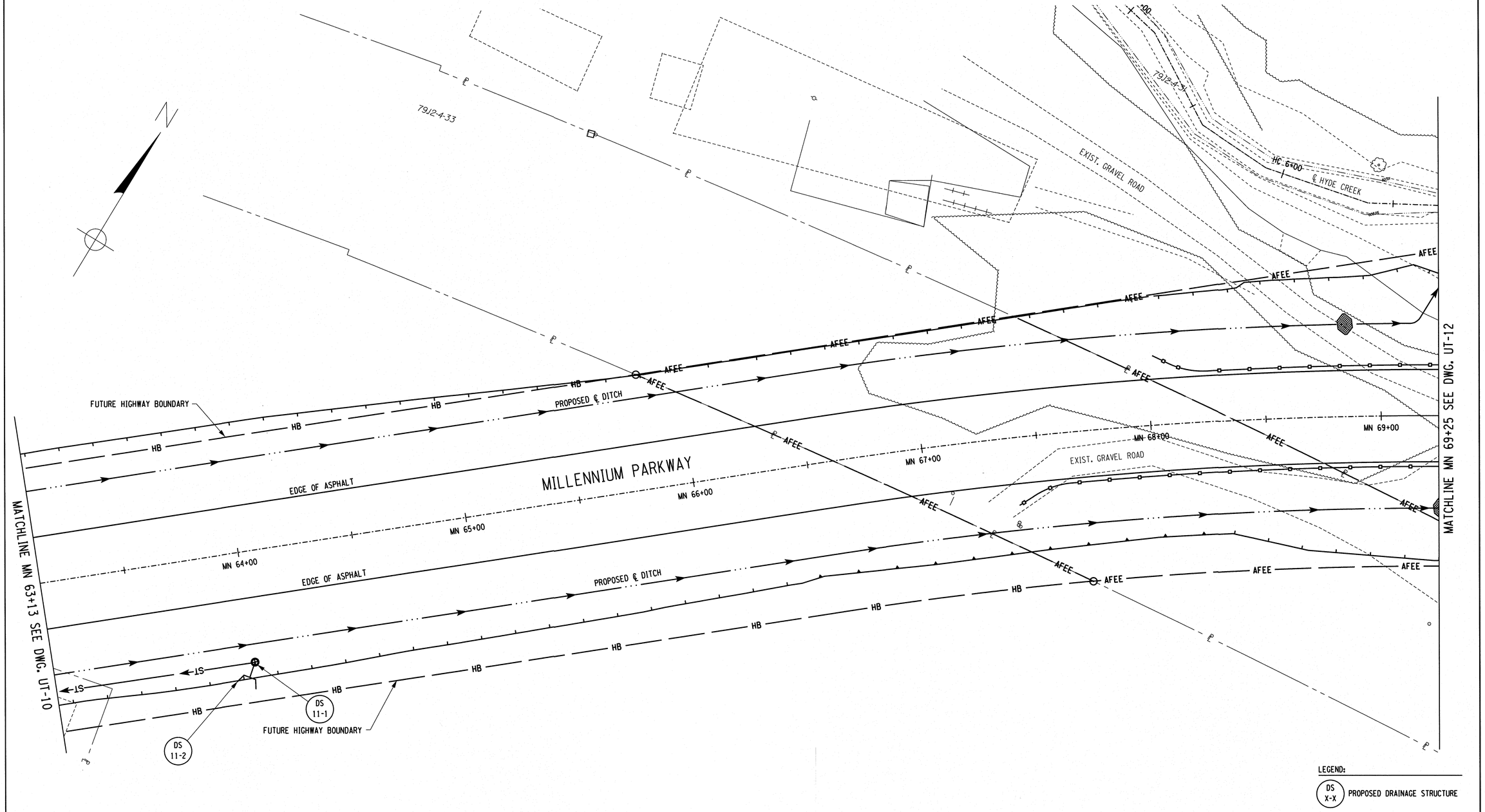
DESIGNED BY	ETF	DATE	11/2012
DRAWN BY	TJB	DATE	11/2012
CHECKED BY	GMW	DATE	11/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=20′

SHEET TITLE: UTILITY PLAN STA. MN 57+00 TO STA. MN 63+13

PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: UT-10



LEGEND:

DS X-X — PROPOSED DRAINAGE STRUCTURE

NOTES:

1. FOR PROPOSED STORM SEWER PROFILE, SEE PROFILE SHEETS.

20 0 20 40 60 80'

1" = 20'

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

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ENGINEERING DIVISION

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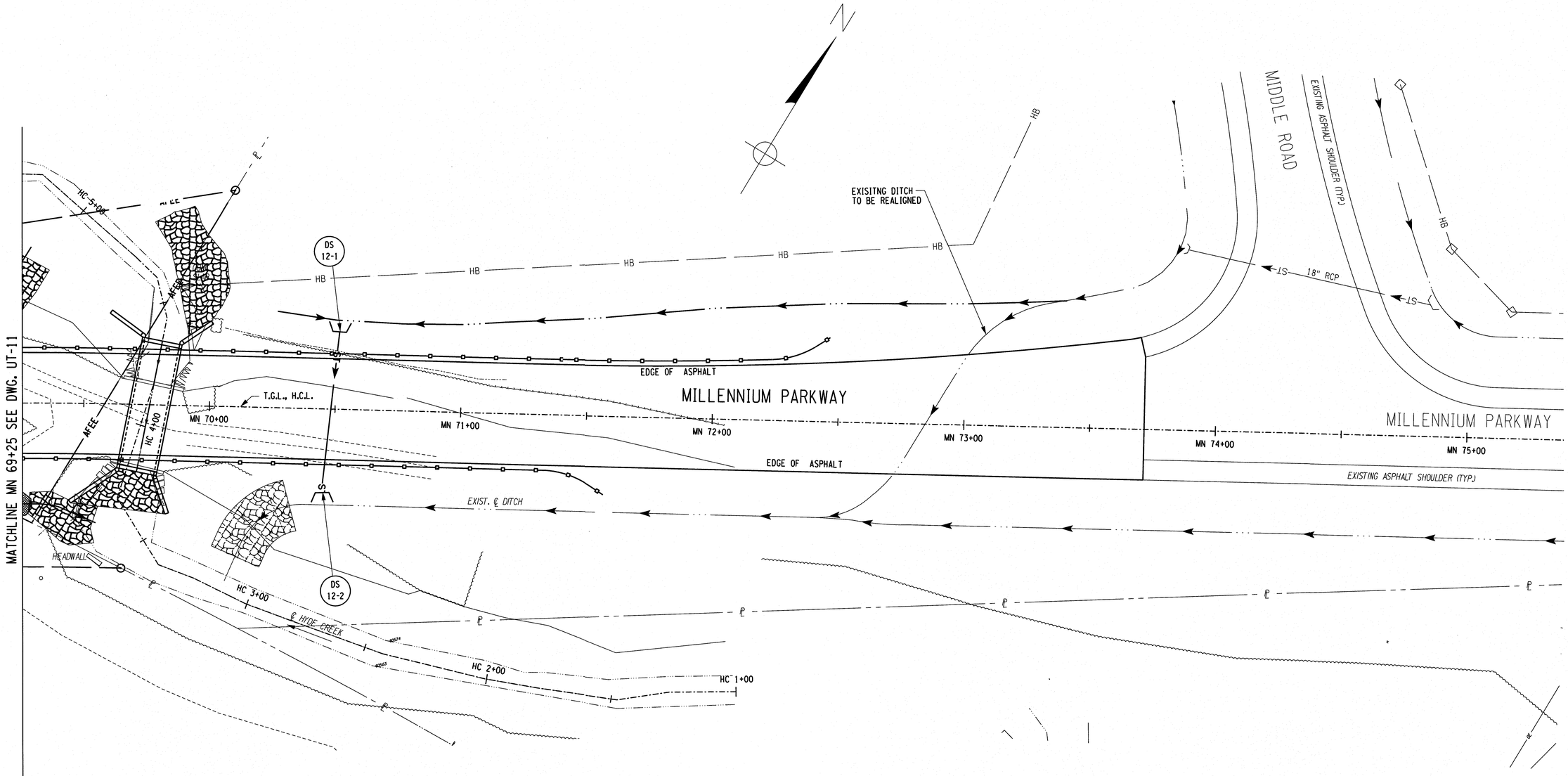
CHECKED BY	GMW	DATE	11/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=20'

SHEET TITLE: UTILITY PLAN STA. MN 63+13 TO STA. MN 69+25

PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55

DRAWING: UT-11



LEGEND:

DS X-X — PROPOSED DRAINAGE STRUCTURE

NOTES:

1. FOR PROPOSED DRAINAGE CULVERT, SEE DWG. CUL-1 THRU CUL-4 .

20 0 20 40 60 80′

1" = 20′

REVISION	DESCRIPTION	DATE	BY
	NO RECORD CHANGES	10-27-14	PJL

KHEOPS
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CHAUTAUQUA COUNTY DEPT. OF PUBLIC FACILITIES
454 NORTH WORK STREET - FALCONER, NEW YORK 14733

DESIGNED BY	ETF	DATE	11/2012
DRAWN BY	TJB	DATE	11/2012
CHECKED BY	GMW	DATE	11/2012
APPROVED BY	ETF	DATE	11/2012
PROJECT NO.	2006.0006.01	SCALE	1"=20′

SHEET TITLE: UTILITY PLAN STA. MN 69+25 TO STA. MN 73+71.6±

PROJECT TITLE: CONSTRUCTION MILLENNIUM PARKWAY TALCOTT STREET EXTENSION P.I.N. : 5757.55

ENGINEERING DIVISION

DRAWING: UT-12

APPENDIX 8

Quality Assurance Project Plan

Quality Assurance Project Plan (QAPP)

Location:

Closed Alumax Extrusions, Inc. Facility
320 & 440 South Roberts Road
Dunkirk, New York
NYSDEC Site #V00589

Prepared For:

Chautauqua County Department of Public Facilities
454 North Work Street
Falconer, New York

LaBella Project No. 2210039

November 2021

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1.0 Introduction

LaBella's Quality Assurance Project Plan (QAPP) is an integral part of its approach to environmental investigations. By maintaining a rigorous Quality Control (QC) program, our firm is able to provide accurate and reliable data. QC also provides safe working conditions for all on-Site workers.

The QAPP contains procedures which allow for the proper collection and evaluation of data and documents that QAPP procedures have been followed during field investigations. The QAPP presents the methodology and measurement procedures used in collecting quality field data. This methodology includes the proper use of equipment, documentation of sample collection, and sample handling procedures.

Procedures used in the firm's QC program are compatible with federal, state, and local regulations, as well as, appropriate professional and technical standards.

This QAPP has been organized into the following areas:

- QC Objectives and Checks
- Field Equipment, Handling, and Calibration
- Sampling Techniques
- Sample Handling and Packaging

It should be noted that project-specific work plans (e.g., Site Management Plan, Remedial Investigation Work Plans) may have project specific details that will differ from the procedures in this QAPP. In such cases, the project-specific work plan should be followed (subsequent to regulatory approval).

2.0 Quality Control Objectives

The United States Environmental Protection Agency (EPA) has identified five general levels of analytical data quality as being potentially applicable to site investigations conducted under CERCLA. These levels are summarized below:

- **Level I** - Field screening. This level is characterized by the use of portable instruments, which can provide real-time data to assist in the optimization of sampling point locations and for health and safety support. Data can be generated regarding the presence or absence of certain contaminants (especially volatiles) at sampling locations.
- **Level II** - Field analysis. This level is characterized by the use of portable analytical instruments, which can be used on site or in mobile laboratories stationed near a site (close-support labs). Depending upon the types of contaminants, sample matrix, and personnel skills, qualitative and quantitative data can be obtained.

- **Level III** - Laboratory analysis using methods other than the Contract Laboratory Program (CLP) Routine Analytical Services (RAS). This level is used primarily in support of engineering studies using standard EPA-approved procedures. Some procedures may be equivalent to CLP RAS, without the CLP requirements for documentation.
- **Level IV** - CLP Routine Analytical Services. This level is characterized by rigorous QC protocols and documentation and provides qualitative and quantitative analytical data. Some regions have obtained similar support via their own regional laboratories, university laboratories, or other commercial laboratories.
- **Level V** - Non-standard methods. Analyses, which may require method modification and/or development. CLP Special Analytical Services (SAS) are considered Level V.

Unless stated otherwise, all data will be generated in accordance with Level IV. When CLP methodology is not available, federal and state approved methods will be utilized. Level III will be utilized, as necessary, for non-CLP RAS work which may include ignitability, corrosivity, reactivity, EP toxicity, and other state approved parameters for characterization. Level I will be used throughout the RI for health and safety monitoring activities.

All measurements will be made to provide that analytical results are representative of the media and conditions measured. Unless otherwise specified, all data will be calculated and reported in units consistent with other organizations reporting similar data to allow comparability of data bases among organizations. Data will be reported in micrograms per liter (µg/L) and milligrams (mg)/L for aqueous samples, and µg/ kilogram (kg) and mg/kg (dry weight) for soils, or otherwise as applicable.

The characteristics of major importance for the assessment of generated data are accuracy, precision, completeness, representativeness, and comparability. Application of these characteristics to specific projects is addressed later in this document. The characteristics are defined below.

2.1 Accuracy

Accuracy is the degree of agreement of a measurement or average of measurements with an accepted reference or "true" value and is a measure of bias in the system.

2.2 Precision

Precision is the degree of mutual agreement among individual measurements of a given parameter.

2.3 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected to be obtained under correct normal conditions.

2.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition

Careful choice and use of appropriate methods in the field will ensure that samples are representative. This is relatively easy with water or air samples since these components are homogeneously dispersed. In soil and sediment, contaminants are unlikely to be evenly distributed, and thus it is important for the sampler and analyst to exercise good judgment when removing a sample.

2.5 Comparability

Comparability expresses the confidence with which one data set can be compared to another. The data sets may be inter- or intra- laboratory.

3.0 Measurement of Data Quality

3.1 Accuracy

Accuracy of a particular analysis is measured by assessing its performance with "known" samples. These "knowns" take the form of EPA standard reference materials, or laboratory prepared solutions of target analytes spiked into a pure water or sample matrix. In the case of gas chromatography (GC) or GC/MS (mass spectrometry) analyses, solutions of surrogate compounds are used. These solutions can be spiked into every sample and are designed to mimic the behavior of target analytes without interfering with their determination.

In each case the recovery of the analyte is measured as a percentage, correcting for analytes known to be present in the original sample if necessary, as in the case of a matrix spike analysis. For EPA supplied known solutions, this recovery is compared to the published data that accompany the solution.

For the firm's prepared solutions, the recovery is compared to EPA-developed data or the firm's historical data as available. For surrogate compounds, recoveries are compared to EPA CLP acceptable recovery tables.

If recoveries do not meet required criteria, then the analytical data for the batch (or, in the case of surrogate compounds, for the individual sample) are considered potentially inaccurate. The analyst or his supervisor must initiate an investigation of the cause of the problem and take corrective action. This can include recalibration of the instrument, reanalysis of the QC sample, reanalysis of the samples in the batch, or flagging the data as suspect if the problems cannot be resolved. For

highly contaminated samples, recovery of the matrix spike may depend on sample homogeneity. As a rule, analyses are not corrected for recovery of matrix spike or surrogate compounds.

3.2 Precision

Precision of a particular analysis is measured by assessing its performance with duplicate or replicate samples. Duplicate samples are pairs of samples taken in the field and transported to the laboratory as distinct samples. Their identity as duplicates is typically not known to the laboratory. For most purposes, precision is determined by the analysis of replicate pairs (i.e., two samples prepared at the laboratory from one original sample). Often in replicate analysis the sample chosen for replication does not contain target analytes so that quantitation of precision is impossible. For EPA CLP analyses, replicate pairs of spiked samples, known as matrix spike/matrix spike duplicate samples, are used for precision studies. This has the advantage that two real positive values for a target analyte can be compared.

Precision is calculated in terms of Relative Percent Difference (RPD).

- Where X_1 and X_2 represent the individual values found for the target analyte in the two replicate analyses or in the matrix spike/matrix spike duplicate analyses.
- RPDs must be compared to the method RPD for the analysis. The analyst or his supervisor must investigate the cause of RPDs outside stated acceptance limits. This may include a visual inspection of the sample for non-homogeneity, analysis of check samples, etc. Follow-up action may include sample reanalysis or flagging of the data as suspect if problems cannot be resolved.
- During the data review and validation process, field duplicate RPDs are assessed as a measure of the total variability of both field sampling and laboratory analysis.

3.3 Completeness

Completeness for each parameter is calculated as follows:

- The firm's target value for completeness for all parameters is 100%. A completeness value of 95% will be considered acceptable. Incomplete results will be reported to the site managers. In planning the field sample collection, the site manager will plan to collect field duplicates from identified critical areas. This procedure should assure 100% completeness for these areas.

3.4 Representativeness

The characteristic of representativeness is not quantifiable. Subjective factors to be taken into account are as follows:

- The degree of homogeneity of a site;
- The degree of homogeneity of a sample taken from one point in a site; and

- The available information on which a sampling plan is based.

To maximize representativeness of results, sampling techniques and sample locations will be carefully chosen so that they provide laboratory samples representative of the site and the specific area. Within the laboratory, precautions are taken to extract from the sample bottle an aliquot representative of the whole sample. This includes premixing the sample and discarding pebbles from soil samples.

4.0 Quality Control Targets

Target values for detection limit, percent spike recovery and percent "true" value of known check standards, and RPD of duplicates/replicates are included in the QAPP, Analytical Procedures. Note that tabulated values are not always attainable. Instances may arise where high sample concentrations, non-homogeneity of samples, or matrix interferences preclude achievement of target detection limits or other quality control criteria. In such instances, the firm will report reasons for deviations from these detection limits or noncompliance with quality control criteria.

5.0 Sampling Procedures

This section describes the sampling procedures to be utilized for each environmental medium that will be collected and analyzed in accordance with appropriate state and federal requirements. All procedures described are consistent with EPA sampling procedures as described in SW-846, third edition, September 1986, and subsequent updates. All samples will be delivered to the laboratory and analyzed within the holding times specified by the analytical method.

6.0 Soil & Groundwater Investigation

The groundwater sampling plan outlined in this subsection has been prepared in general accordance with RCRA Groundwater Monitoring Technical Enforcement Guidance Document 9950.1 (September 1986), Office of Solid Waste and Emergency Response.

Prior to drilling, all drill sites will be cleared with appropriate utility companies to avoid potential accidents relating to underground utilities.

6.1 Test Borings and Well Installation

6.1.1 Drilling Equipment

Direct Push Geoprobe Soil Borings:

Soil borings and monitoring wells will be advanced with a Geoprobe direct push sampling system. The use of direct push technology allows for rapid sampling, observation, and characterization of relatively shallow overburden soils. The Geoprobe utilizes a five-foot macrocore sampler, with

disposable polyethylene sleeves. Soil cores will be retrieved in five-foot sections, and can be easily cut from the polyethylene sleeves for observation and sampling. The macrocore sampler will be decontaminated between samples and borings using an alconox and water solution. Any investigative derived waste generated during the advancement of direct-push soil borings and monitoring well installations will be containerized and characterized for proper disposal.

Hollow-Stem Auger Advanced Soil Borings:

The drilling and installation of soil borings and monitoring wells will be performed using a rotary drill rig which will have sufficient capacity to perform 4 1/2-inch inside diameter (ID) hollow-stem auger drilling in the overburden, retrieve Macrocore or split-spoon samples, and perform necessary rock coring to provide a minimum 3-inch diameter core, known in the industry as "NX." The borehole may be reamed to 5 1/2-inch diameter prior to monitoring well installation as cased hole in the bedrock, or may be left as open hole, with regulatory concurrence. Equipment sizes and diameters may vary based on project-specific criteria. Any investigative-derived waste generated during the advancement of soil borings and monitoring well installations will be containerized and characterized for proper disposal.

6.1.2 Drilling Techniques

Direct Push Geoprobe Advanced Borings:

Prior to initiating drilling activities, the Geoprobe, Macrocores, drive rods, and pertinent equipment, will be steam cleaned or washed with an alconox and water solution. This cleaning procedure will also be used between each boring. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used. All sampling equipment will be steam cleaned or washed with an alconox and water solution upon completion of the investigation and prior to leaving the Site.

Test borings will be advanced with 2-inch (or larger) inside diameter (ID) direct push macrocore through overburden soils. Drilling fluids, other than water from a NYSDEC-approved source, will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

It will be the responsibility of the consultant to arrange for the appropriate drilling equipment to be present at the Site. Standby time to arrange for additional equipment or a water supply will not be allowed unless caused by unexpected Site conditions.

During the drilling, a properly calibrated photoionization detector (PID) will be used to screen soil cores retrieved from the Macrocores.

Direct Push Geoprobe advanced groundwater-monitoring wells typically utilize 1.25-inch threaded flush joint PVC pipe with 0.010-in. slotted screen. However, well construction will vary by project and

will be specified in the project-specific work plan. PVC piping used for risers and screens will conform to the requirements of ASTM-D 1785 Schedule 40 pipe, and shall bear markings that will identify the material as that which is specified. All materials used to construct the wells will be NSF/ASTM approved. Solvent PVC glue shall not be used at any time in the construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well. All risers and screens shall be set round, plumb, and true to line.

Hollow-Stem Auger Advanced Borings:

Prior to initiating drilling activities, the drill rig, augers, rods, Macrocore, split spoons, and/or other pertinent equipment will be steam cleaned or washed with an alconox and water solution. This cleaning procedure will also be used between each boring. These activities will be performed in a designated on-site decontamination area. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used. The drilling rig and all equipment will be steam cleaned or washed with an alconox and water solution upon completion of the investigation and prior to leaving the site.

Test borings will be advanced with 4 1/2-inch (ID) hollow stem augers through overburden, and NX-sized diamond core barrels in competent rock, driven by truck-, track-, or trailer-mounted drilling equipment. Alternative methods of drilling or equipment may be allowed or requested for project-specific criteria, but must be approved by the NYSDEC. Drilling fluids, other than water from a NYSDEC-approved source, will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

It will be the responsibility of the consultant to arrange for the appropriate drilling equipment to be present at the site. Standby time to arrange for additional equipment or a water supply will not be allowed unless caused by unexpected site conditions.

During the drilling, a (PID) will be used to screen soils retrieved from the split spoons or Macrocores.

Where bedrock wells are required, test borings shall be advanced into rock with NX (or similar) coring tools. Only water from an approved source shall be used in rock coring. The consultant shall monitor and record the petrology, core recovery, fractures, rate of advance, water levels, and water lost or produced in each test boring. The Rock Quality Determination (RQD) value shall be calculated for each 5-foot core. Each core shall be screened with a PID upon extraction to determine proper handling procedure. All core samples shall be retained and stored by the consultant in an approved wooden core box for a period of not less than one year.

The method selected may be percussion or rotary drilling at the option of the subcontractor. The method and equipment selected must be capable of penetrating the bedrock at each well location to a depth required by the work plan and will be selected based on the results of the rock coring

performed.

Bedrock well installation will involve construction of a rock socket in the weathered bedrock. The socket will be drilled into the top of rock (typically 1-ft. to 5-ft. into the top of rock) at each bedrock well location to allow a permanent steel casing to be grouted securely in place prior to completion of the well. The purpose for this is to provide a seal at the overburden/bedrock interface and into the upper bedrock surface, to prevent the entrance of overburden water into the bedrock. After the grout and casing have set up for a minimum of 12 hours, the remaining bedrock can be NX (or similar) cored through the steel casing to a depth determined by the project-specific work plan.

Bedrock wells will either be open coreholes in the rock or consist of threaded, flush-joint PVC piping. Construction will vary depending on the project and as such, specific construction of the wells will be detailed in the project-specific work plan. Bedrock wells which do utilized PVC piping for risers and screens will conform to the requirements of ASTM-D 1785 Schedule 40 pipe, and shall bear markings that will identify the material as that which is specified. All materials used to construct the wells will be NSF/ASTM approved.

The well screen slot size will be selected based on the filter pack grain size and the ability to hold back 85 percent or more of the filter pack materials. Screen and riser sections shall be joined by flush-threaded coupling to form watertight unions that retain 100% of the strength of the casing. Solvent PVC glue shall not be used at any time in the construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well. All risers and screens shall be set round, plumb, and true to line.

6.1.3 Artificial Sand Pack

When utilized, granular backfill will be chemically and texturally clean, inert, siliceous, and of appropriate grain size for the screen slot size and the host environment The sand pack will be installed using a tremie pipe, when possible (i.e., a tremie pipe may not fit into smaller, 2-in. diameter boreholes). When utilized, the well screen and casing will be installed, and the sand pack placed around the screen and casing to a depth extending 2-ft. or at least 25 percent of the screen length above the top of the screen.

An artificial sand pack will not be utilized in bedrock wells without screens (i.e., open borehole wells).

6.1.4 Bentonite Seal

A minimum 2-ft. thick seal of tamped bentonite pellets will be placed directly on top of the sand pack, and care will be taken to avoid bridging. In the event that Site geology does not allow for a 2-ft. seal (e.g., only 1-ft. of space remains between the top of the sand pack and ground surface), the remaining space in the annulus will be filled with bentonite. The seal will be measured immediately after placement, without allowance for swelling.

6.1.5 Grout Mixture

Upon completion of the bentonite seal, the well may be grouted with a non-shrinking cement grout (e.g., Volclay^{R}) mix to be placed from the top of the bentonite seal to the ground surface. The cement grout shall consist of a mixture of Portland cement (ASTM C 150) and water, in the proportion of not more than 7 gallons of clean water per bag of cement (1 cubic foot or 94 pounds). Additionally, 3% by weight of bentonite powder shall be added, if permitted.

6.1.6 Surface Protection

At all times during the progress of the work, precautions shall be used to prevent tampering with or the entrance of foreign material into the well. Upon completion of the well, a suitable lockable cap shall be installed to prevent material from entering the well. Where permanent wells are to be installed, the well riser shall be protected by a flush mounted road box set into a concrete pad. A concrete pad, sloped away from the well, shall be constructed around the flush mount road box at ground level.

Any well that is to be temporarily removed from service or left incomplete due to delay in construction shall be capped with a watertight cap and equipped with a "vandal-proof" cover, satisfying applicable NYSDEC regulations or recommendations.

6.1.7 Surveying

Coordinates and elevations will be established for each monitoring well and sampling location. Elevations to the closest 0.01 foot shall be used for the survey. These elevations shall be referenced to a regional, local, or project-specific datum. USGS benchmarks will be used whenever available. The location, identification, coordinates, and elevations of the wells will be plotted on maps with a scale large enough to show their location with reference to other structures at each site.

6.1.8 Well Development

After completion of the well, but not sooner than 24 hours after grouting is completed, development will be accomplished using pumping, bailing, or surge blocking. No dispersing agents, acids, disinfectants, or other additives will be used during development or introduced into the well at any other time. During development, water will be removed throughout the entire water column by periodically lowering and raising the pump intake (or bailer stopping point).

Development water will be either properly contained and treated as waste until the results of chemical analysis of samples are obtained or discharged on Site as determined by the Site-specific work plans and/or consultation with the NYSDEC representatives on Site.

The development process will continue until a stabilization of pH, specific conductance, temperature, and turbidity (goal of <50 NTUs) of the discharge is achieved for three consecutive intervals following the removal of a minimum of 110% of the water lost during drilling, or three well

volumes; whichever is greater. In the event that limited recharge does not allow for the recovery of all drilling water lost in the well or three (3) well volumes, the well will be allowed to stabilize to conditions deemed representative of groundwater conditions. Stabilization periods will vary by project but will be confirmed with the NYSDEC prior to sampling.

7.0 Geologic Logging and Sampling

At each investigative location, borings will be advanced through overburden using either a drill rig and hollow-stem auger or direct push technology. Soils will be evaluated for visual and olfactory evidence of impairment (i.e., staining, odors, and elevated PID readings) by a geologist, engineer or qualified Environmental Professional. Sampling devices will be decontaminated according to procedures outlined in the Decontamination section of this document. When utilized, split-spoon samplers will be driven into the soil using a minimum 140-pound safety hammer and allowed to free-fall 30-inches, in accordance with ASTM-D 1586-84 specifications. The number of blows required to drive the sampler each 6-inches of penetration will be recorded. When required, samples will be stored in glass jars until they are needed for testing or the project is complete.

If hard boulders or bedrock result in auger refusal, rock coring will be used to advance the hole to design depth. If hydrogeologic conditions are favorable for well installation at a depth less than design, the well may be installed at the boring or coring termination depth. In the event that maximum design depth is reached and hydrogeologic conditions are not suitable for well installation, the maximum drilling depth may be revised. Hydrogeologic suitability for well placement will be determined by the supervising geologist, engineer or qualified Environmental Professional in consultation with NYSDEC, based on thickness and estimated hydraulic conductivity of the saturated zone encountered. If necessary, the borehole will be advanced to water or abandoned.

Boulders and bedrock encountered during well installation may be cored by standard diamond-core drilling methods using an "NX" size core barrel. All rock cores recovered will be logged by a geologist, labeled and stored in wooden core boxes. The cores will be stored by the firm until the project is completed or for at least one year. Drilling logs will be prepared by an experienced geologist or engineer, who will be present during all drilling operations. One copy of each field boring and well construction log and groundwater data, will typically be submitted as part of the investigation summary report (e.g., Remedial Investigation Report). The RQD value shall be calculated for each 5-foot section. Information provided in the logs shall include, but not be limited to, the following:

- Date, test hole identification, and project identification;
- Name of individual developing the log;
- Name of driller and assistant(s);
- Drill, make and model, auger size;
- Identification of alternative drilling methods used and justification thereof (e.g., rotary drilling with a specific bit type to remove material from within the hollow stem augers);
- Standard penetration test (ASTM D-1586) blow counts;
- Field diagram of each monitoring well installed with the depth to bottom of screen, top of

screen, and pack, bentonite seal, etc.;
- Reference elevation for all depth measurements;
- Depth of each change of stratum;
- Thickness of each stratum;
- Identification of the material of which each stratum is composed, according to the USCS system or standard rock nomenclature, as appropriate;
- Depth interval from which each sample was taken;
- Depth at which hole diameters (bit sizes) change;
- Depth at which groundwater is encountered;
- Depth to static water level and changes in static water level with well depth;
- Total depth of completed well;
- Depth or location of any loss of tools or equipment;
- Location of any fractures, joints, faults, cavities, or weathered zones;
- Depth of any grouting or sealing;
- Nominal hole diameters;
- Amount of cement used for grouting or sealing;
- Depth and type of well casing;
- Description of well screen (to include depth, length, location, diameter, slot sizes, material, and manufacturer);
- Any sealing-off of water-bearing strata;
- Static water level upon completion of the well and after development;
- Drilling date or dates;
- Construction details of well; and
- An explanation of any variations from the work plan.

8.0 Groundwater Sampling Procedures

The groundwater in all new monitoring wells will be allowed to stabilize for at least 24-hours following development. Water levels will be measured to within 0.01 feet prior to purging and sampling. Sampling of each well will typically be accomplished in one of two ways; active or passive.

Active Sampling:

Purging will be completed prior to active sampling. During purging, the following will be recorded in field books or groundwater sampling logs:
- date
- purge start time
- weather conditions
- PID reading immediately after the well cap is removed
- presence of NAPL, if any, and approximate thickness
- pH
- dissolved oxygen
- temperature

- specific conductance
- depth of well
- depth to water
- estimated water volume
- purge end time
- volume of water purged

In general, wells will be purged until the pH, conductivity, temperature, and turbidity of the water being pumped from the well have stabilized with a turbidity goal of 50 NTU. All wells will be purged of at least three well volumes or to dryness.

Passive Sampling:

Groundwater samples will be collected via passive methods (i.e., no-purge) according to the following procedures and in the volumes specified in Table 11-1:

- Samples will be collected via passive diffusion bag (PDB) samplers. PDB samplers are made of low-density polyethylene plastic tubing (typically 4 mil), filled with laboratory grade (ASTM Type II) deionized water and sealed at both ends.
- PDB samplers will only be used to collect groundwater samples which will be analyzed for VOCs.
- PDB samplers will be deployed by hanging in the well at the middle of the well screen unless a low water table, need to deploy multiple samplers or the targeting of a specific depth interval is identified. The PDB samplers will be deployed at least 14 days prior to sampling.
- The PDB samplers will be deployed using a Teflon® coated string or synthetic rope.
- When transferring water from the PDB to sample containers, care will be taken to avoid agitating the sample, since agitation promotes the loss of volatile constituents;
- Any observable physical characteristics of the groundwater (e.g., color, sheen, odor, turbidity) at the time of sampling will be recorded; and
- Weather conditions (i.e., air temperature, sky condition, recent heavy rainfall, drought conditions) at the time of sampling will be recorded.

All groundwater samples and their accompanying QC samples will be run for volatile organic compounds (VOCs) using NYSDEC Analytical Services Protocol (ASP; revised July 2005 and subsequent amendments or revisions).

9.0 Management of Investigative-Derived Waste

Purpose:

The purposes of these guidelines are to ensure the proper holding, storage, transportation, and disposal of materials that may contain hazardous wastes. Investigation-derived waste (IDW) included the following:

- Drill cuttings, discarded soil samples, drilling mud solids, and used sample containers;
- Well development and purge waters and discarded groundwater samples;
- Decontamination waters and associated solids;
- Soiled disposable personal protective equipment (PPE);
- Used disposable sampling equipment;
- Used plastic sheeting and aluminum foil;
- Other equipment or materials that either contain or have been in contact with potentially-impacted environmental media.
- Because these materials may contain regulated chemical constituents, they must be managed as a solid waste. This management may be terminated if characterization analytical results indicate the absence of these constituents.

Procedure:

1. Contain all investigation-derived wastes in Department of Transportation (DOT)-approved 55-gallon drums, roll-off boxes, or other containers suitable for the wastes.
2. Containerize wastes from separate borings or wells in separate containers (i.e. do not combine wastes from several borings/wells in a single container, unless it is a container used specifically for transfer purposes, or unless specific permission to do so has been provided by the LaBella Project Manager). Unused samples from surface sample locations within a given area may be combined.
3. To the extent practicable, separate solids from drilling muds, decontamination waters, and similar liquids. Place solids within separate containers.
4. Transfer all waste containers to a staging area. Access to this area will be controlled. Waste containers must be transferred to the staging area as soon as practicable after the generating activity is complete.
5. Pending transfer, all containers will be covered and secured when not immediately attended,
6. Label all containers with regard to contents, origin, and date of generation. Use indelible ink for all labeling.

7. Collect samples for waste characterization purposes, use boring/well sample analytical data for characterization.

8. For wastes determined to be hazardous in character, be aware on accumulation time limitations. Coordinate the disposal of these wastes with the Owner and NYSDEC.

9. Dispose of investigation-derived wastes as follows;

   - Soil, water, and other environmental media for which analysis does not detect organic constituents, and for which inorganic constituents are at levels consistent with background, may be spread on-site (pending NYSDEC approval) or otherwise treated as a non-waste material.
   - Soils, water, and other environmental media in which organic compounds are detected or metals are present above background will be disposed as industrial waste or hazardous waste, as appropriate. Alternate disposition must be consistent with applicable State and Federal laws.
   - Personal protective equipment, disposable bailers, and similar equipment may be disposed as municipal waste, unless waste characterization results mandate disposal as industrial wastes

10. If waste is determined to be listed hazardous waste, it must be handled as hazardous waste as described above, unless a contained-in determination is accepted by the NYSDEC.

10.0 Decontamination

Sampling methods and equipment have been chosen to minimize decontamination requirements and to prevent the possibility of cross-contamination. Decontamination of equipment will be performed between discrete sampling locations. Equipment used to collect samples between composite sample locations will not require decontamination between collection of samples. All drilling equipment will be decontaminated after the completion of each drilling location. Special attention will be given to the drilling assembly and augers.

Split spoons and other non-disposable equipment will be decontaminated between each sampling event. The sampler will be cleaned prior to each use, by one of the following procedures:

- Initially cleaned of all foreign matter;
- Sanitized with a steam cleaner;

OR

- Initially cleaned of all foreign matter;
- Scrubbed with brushes in alconox solution;
- Triple rinsed; and
- Allowed to air dry.

11.0 Sample Containers

The containers required for sampling activities are pre-washed and ordered directly from a laboratory, which has the containers prepared in accordance with USEPA bottle washing procedures. The following tables detail sample volumes, containers, preservation and holding time for typical analytes.

Table 11-1
Water Samples

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Maximum Holding Time
VOCs	40-ml glass vial with Teflon-backed septum	Two (2); fill completely, no air space	Cool to 4° C (ice in cooler), Hydrochloric acid to pH <2	7 days
Semivolatile Organic Compounds (SVOCs)	1,000-ml amber glass jar	One (1); fill completely	Cool to 4° C (ice in cooler)	7/40 days
Pesticides	1,000-ml amber glass jar	One (1); fill completely	Cool to 4° C (ice in cooler)	7/40 days
Polychlorinated biphenyls (PCBs)	1,000-ml amber glass jar	One (1); fill completely	Cool to 4° C (ice in cooler)	7/40 days
Metals	500-ml polyethylene	One (1); fill completely	Cool to 4° C (Nitric acid to pH <2	6 months

*Holding time is based on verified time of sample collection.

Note: All sample bottles will be prepared in accordance with USEPA bottle washing procedures.

TABLE 11-2
Soil Samples

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Maximum Holding Time
VOCs, SVOCs, PCBs, and Pesticides	8-oz, glass jar with Teflon-lined cap	One (1), fill as completely as possible	Cool to 4° C (ice in cooler)	7 days
VOCs by USEPA Method 5035 (if specified in work plan) Closed-system Purge and Trap Method	40-ml glass vial with Teflon-backed septum	Three (3), fill with 5 grams of soil using soil syringe	Cool to 4° C (ice in cooler). Two (2) with 10 mL DI water or 5 mL sodium bisulfate, one (1) with 5 mL methanol.	14 days
RCRA/TAL Metals, and cyanide	8-oz. glass jar with Teflon-lined cap	One (1); fill completely	Cool to 4° C (ice in cooler)	Must be extracted within 10 days; analyzed with 30 days

* Holding time is based on the times from verified time of sample collection.

Note: All sample bottles will be prepared in accordance with USEPA bottle washing procedures.

TABLE 11-3
List of Major Instruments for Sampling and Analysis

- MSA 360 0_2 /Explosimeter
- LaMotte 2020WE Turbidity Meter (turbidity meter)
- EM-31 Geomics Electromagnetic Induction Device
- pH/Temperature/Conductivity Meter - Portable
- Hewlett Packard (HP) 1000 computer with RTE-6 operating system; and HP 9144 computer with RTE-4 operating system equipped with Aquarius software for control and data acquisition from gas chromatograph/mass spectrometer (GC/MS) systems; combined wiley and National Bureau of Standards (NBS) mass spectral library; and data archiving on magnetic tape
- Viriam 6000 and 37000 gas chromatrographs equipped with flame ionization, electron capture, photoionization and wall detectors as appropriate for various analyses,, and interfaced to Variam DS604 or D5634 data systems for processing data.
- Spectra-Physics Model SP 4100 and SP 4270 and Variam 4270 cam puting integrators
- Perkin Eimer (PE) 3000% and 3030% fully Automated Atomic Absorption Spectrophotometers (AAS) with Furnace Atomizer and background correction system
- PE Plasma II Inductively Coupled Argon Plasma (ICAP) Spectre meter with PE7500 laboratory computer
- Dionex 20001 ion chromatograph with conductivity detector for anion analysis, with integrating recorder

12.0 Sample Custody

This section describes standard operating procedures for sample identification and chain-of-custody to be utilized for all field activities. The purpose of these procedures is to ensure that the quality of the samples is maintained during their collection, transportation, and storage through analysis. All chain-of-custody requirements comply with standard operating procedures indicated in USEPA sample handling protocol.

Sample identification documents must be carefully prepared so that sample identification and chain-of-custody can be maintained and sample disposition controlled. Sample identification documents include:

- Field notebooks,
- Sample label,
- Custody seals, and
- Chain-of-custody records.

12.1 Chain-of-Custody

The primary objective of the chain-of-custody procedures is to provide an accurate written or computerized record that can be used to trace the possession and handling of a sample from collection to completion of all required analyses. A sample is in custody if it is:

- In someone's physical possession;
- In someone's view;
- Locked up; or
- Kept in a secured area that is restricted to authorized personnel.

12.2 Field Custody Procedures

- As few persons as possible should handle samples.
- Sample bottles will be obtained pre-cleaned from a source such as I-Chem. Coolers or boxes containing cleaned bottles should be sealed with a custody tape seal during transport to the field or while in storage prior to use.
- The sample collector is personally responsible for the care and custody of samples collected until they are transferred to another person or dispatched properly under chain-of-custody rules.
- The sample collector will record sample data in the notebook.
- The site manager will determine whether proper custody procedures were followed during the fieldwork and decide if additional samples are required.

12.3 Sample Tags

Sample tags attached to or affixed around the sample container must be used to properly identify all

samples collected in the field. The sample tags are to be placed on the bottles so as not to obscure any QC lot numbers on the bottles; sample information must be printed in a legible manner using waterproof ink. Field identification must be sufficient to enable cross-reference with the logbook. For chain-of-custody purposes, all QC samples are subject to exactly the same custodial procedures and documentation as "real" samples.

12.4 Transfer of Custody and Shipment

- The coolers in which the samples are packed must be accompanied by a chain-of-custody record. When transferring samples, the individuals relinquishing and receiving them must sign, date, and note the time on the chain-of-custody record. This record documents sample custody transfer
- Shipping containers must be sealed with custody seals for shipment to the laboratory. The method of shipment, name of courier, and other pertinent information are entered in the "Remarks" section of the chain-of-custody record and traffic reports.
- All shipments must be accompanied by the chain-of-custody record identifying their contents. The original record accompanies the shipment. The other copies are distributed appropriately to the site manager.
- If sent by mail, the package is registered with return receipt requested. If sent by common carrier, a bill of lading is used. Freight bills, Postal Service receipts, and bill of lading are retained as part of the permanent documentation.

12.5 Chain-of-Custody Record

The chain-of-custody record must be fully completed in duplicate, using black carbon paper where possible, by the field technician who has been designated by the project manager as responsible for sample shipment to the appropriate laboratory for analysis. In addition, if samples are known to require rapid turnaround in the laboratory because of project time constraints or analytical concerns (e.g., extraction time or sample retention period limitations, etc.), the person completing the chain-of-custody record should note these constraints in the "Remarks" section of the record.

12.6 Laboratory Custody Procedures

A designated sample custodian accepts custody of the shipped samples and verifies that the sample identification number matches that on the chain-of-custody record and traffic reports, if required. Pertinent information as to shipment, pickup, and courier is entered in the "Remarks" section.

12.7 Custody Seals

Custody seals are preprinted adhesive-backed seals with security slots designed to break if the seals are disturbed. Sample shipping containers (coolers, cardboard boxes, etc., as appropriate) are sealed in as many places as necessary to ensure security. Seals must be signed and dated before use. On receipt at the laboratory, the custodian must check (and certify, by completing the package

receipt log and LABMIS entries) that seals on boxes and bottles are intact. Strapping tape should be placed over the seals to ensure that seals are not accidentally broken during shipment.

13.0 Laboratory Requirements and Deliverables

This section will describe laboratory requirement and procedures to be followed for laboratory analysis. Samples collected in New York State will be analyzed by a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. When required, analyses will be conducted in accordance with the most current NYSDEC Analytical Services Protocol (ASP). For example, ASP Category B reports will be completed by the laboratory for samples representing the final delineation of the Remedial Investigation, confirmation samples, samples to determine closure of a system, and correlation samples taken using field testing technologies analyzed by an ELAP-certified laboratory to determine correlation to field results. Data Usability Summary Reports will be completed by a third party for samples requiring ASP Category B format reports. Electronic data deliverables (EDDs) will also be generated by the laboratory in EQUIS format for samples requiring ASP Category B format reports.

14.0 Documentation

14.1 Sample Identification

All containers of samples collected from the project will be identified using the following format on a label or tag fixed to the sample container:

XX-ZZ-O/D-DDMMYYYY

XX:	This set of initials indicates the Site from which the sample was collected.
ZZ:	These initials identify the sample location. Actual sample locations will be recorded in the task log.
O/D:	An "O" designates an original sample; "D" identifies it as a duplicate.
DDMMYYYY:	This set of initials indicates the date the sample was collected

Each sample will be labeled, chemically preserved (if required) and sealed immediately after collection. To minimize handling of sample containers, labels will be filled out prior to sample collection when possible. The sample label will be filled out using waterproof ink and will be firmly affixed to the sample containers. The sample label will give the following information:

- Date and time of collection
- Sample identification
- Analysis required
- Project name/number
- Preservation

14.2 Daily Logs

Daily logs and data forms are necessary to provide sufficient data and observations to enable participants to reconstruct events that occurred during the project and to refresh the memory of the field personnel if called upon to give testimony during legal proceedings.

The site log is the responsibility of the site manager and will include a complete summary of the day's activity at the site.

The **Task Log** will include:

- Name of person making entry (signature).
- Names of team members on-site.
- Levels of personnel protection:
  - Level of protection originally used;
  - Changes in protection, if required; and
  - Reasons for changes.
-
- Documentation on samples taken, including:
  - Sampling location and depth station numbers;
  - Sampling date and time, sampling personnel;
  - Type of sample (grab, composite, etc.); and
  - Sample matrix.
- On-site measurement data.
- Field observations and remarks.
- Weather conditions, wind direction, etc.
- Unusual circumstances or difficulties.
- Initials of person recording the information.

15.0 Corrections to Documentation

15.1 Notebook

As with any data logbooks, no pages will be removed for any reason. If corrections are necessary, these must be made by drawing a single line through the original entry (so that the original entry can still be read) and writing the corrected entry alongside. The correction must be initialed and dated. Most corrected errors will require a footnote explaining the correction.

15.2 Sampling Forms

As previously stated, all sample identification tags, chain-of-custody records, and other forms must be written in waterproof ink. None of these documents are to be destroyed or thrown away, even if they are illegible or contain inaccuracies that require a replacement document.

If an error is made on a document assigned to one individual, that individual may make corrections simply by crossing a line through the error and entering the corrected information. The incorrect

information should not be obliterated. Any subsequent error discovered on a document should be corrected by the person who made the entry. All corrections must be initialed and dated.

15.3 Photographs

Photographs will be taken as directed by the site manager. Documentation of a photograph is crucial to its validity as a representation of an existing situation. The following information will be noted in the task log concerning photographs:

- Date, time, location photograph was taken;
- Photographer
- Description of photograph taken;

16.0 Sample Handling, Packaging, and Shipping

The transportation and handling of samples must be accomplished in a manner that not only protects the integrity of the sample, but also prevents any detrimental effects due to the possible hazardous nature of samples. Regulations for packaging, marking, labeling, and shipping hazardous materials are promulgated by the United States DOT in the Code of Federal Regulation, 49 CFR 171 through 177. All samples will be delivered to the laboratory and analyzed within the holding times specified by the analytical method for that particular analyte.

All chain-of-custody requirements must comply with standard operating procedures in the USEPA sample handling protocol.

16.1 Sample Packaging

Samples must be packaged carefully to avoid breakage or contamination and must be shipped to the laboratory at proper temperatures. The following sample packaging requirements will be followed:

- Sample bottle lids must never be mixed. All sample lids must stay with the original containers.
- The sample volume level can be marked by placing the top of the label at the appropriate sample height, or with a grease pencil. This procedure will help the laboratory to determine if any leakage occurred during shipment. The label should not cover any bottle preparation QC lot numbers.
- All sample bottles are placed in a plastic bag to minimize the potential for cross-contamination.
- Shipping coolers must be partially filled with packing materials and ice when required, to prevent the bottles from moving during shipment.
- The sample bottles must be placed in the cooler in such a way as to ensure that they do

not touch one another. Ice will be added to the cooler to ensure that the samples reach the laboratory at temperatures no greater than 4°C.

- The environmental samples are to be placed in plastic bags. Ice is not to be used as a substitute for packing materials.
- Any remaining space in the cooler should be filled with inert packing material. Under no circumstances should material such as sawdust, sand, etc., be used.
- A duplicate custody record and traffic reports, if required must be placed in a plastic bag and taped to the bottom of the cooler lid. Custody seals are affixed to the sample cooler.

16.2 Shipping Containers

Shipping containers are to be custody-sealed for shipment as appropriate. The container custody seal will consist of filament tape wrapped around the package and custody seals affixed in such a way that access to the container can be gained only by cutting the filament tape and breaking a seal.

Field personnel will make arrangements for transportation of samples to the lab. The lab must be notified as early in the week as possible regarding samples intended for Saturday delivery.

16.3 Marking and Labeling

- Chain of custody seals shall be placed on the container, signed, and dated prior to taping the container to ensure the chain of custody seals will not be destroyed during shipment.
- If samples are designated as medium or high hazard, they must be sealed in metal paint cans, placed in the cooler with vermiculite and labeled and placarded in accordance with DOT regulations.
- In addition, the coolers must also be labeled and placarded in accordance with DOT regulations if shipping medium and high hazard samples.

17.0 Calibration Procedures and Frequency

All instruments and equipment used during sampling and analysis will be operated, calibrated, and maintained according to the manufacturer's guidelines and recommendations as well as criteria set forth in the applicable analytical methodology references. Operation, calibration, and maintenance will be performed by personnel properly trained in these procedures. Section 11 lists the major instruments to be used for sampling and analysis. In addition, brief descriptions of calibration procedures for major field and laboratory instruments follow.

18.0 Field Instrumentation

18.1 Photovac/MiniRae Photoionization Detector (PID)

Standard operating procedures for the PID require that routine maintenance and calibration be performed every six months. The packages used for calibration are non-toxic analyzed gas mixtures available in pressurized containers.

18.2 Organic Vapor Analyzer

Organic vapor analyzers (OVAs) are calibrated and routine maintenance performed every six months when the units are not in use. Calibration is performed and the major system checks are performed prior to the instrument being released for field use.

Calibration of the OVA 128 GC must be performed by a factory-authorized service representative. The instrument is removed from its protective case and the probe is connected to the base unit. After checking for an airtight seal in the sample line (plugging the sample inlet to stop the pump), the hydrogen supply is turned on and the pressure is set to 10 psi. The electronics are turned on and the instrument is allowed to warm up for at least 5 minutes. After warm up, the instrument is zeroed on the "X10" scale using the adjust knob. The flame is then lit and a gas-tight sample bag is filled with a mixture of 100 ppm methane in air. The sample bag is then attached to the probe inlet and the internal pump is allowed to draw in as much sample as is needed. R32 on the control board is adjusted to read 100 ppm on the "X10" scale and then the hydrogen supply is shut down. The pump can now be turned off and the sample bag removed. Using the adjust knob, the meter is set to read 4 ppm on the "X1" scale. Switching back to the "X10" scale the adjust knob is again used to set the meter to 40 ppm. The scale is then set to "X100" and R33 is adjusted until the meter reads 40 ppm on the "X100" scale.

The OVA has a detection limit of 0.1 ppm in methane equivalents and a working range of 0 to 1,000 ppm. During daily field use, system checks are performed which involve calibration and maintenance of the pump systems, gases, and filters. Care is taken to check for and prevent clogging or leaks. Quad rings and the burner chamber are examined on a weekly basis. Routine biannual maintenance includes a thorough cleaning as well as a re-examination of the pump system for leaks and wear. Parts are replaced as necessary. Instrument operation is verified by calibrating and running the OVA for 4 to 6 hours. An instrument specific logbook is maintained with the OVA to document its use and maintenance.

18.3 Conductance, Temperature, and pH Tester

Temperature and conductance instruments are factory calibrated. Temperature accuracy can be checked against an NBS certified thermometer prior to field use if necessary. Conductance accuracy may be checked with a solution of known conductance and recalibration can be instituted, if necessary.

18.4 Turbidity Meter

LaMotte 2020WE Turbidity Meter is calibrated before each use. The default units are set to NTU and the default calibration curve is formazin. A 0 NTU Standard (Code 1480) is included with the meter. To calibrate, rinse a clean tube three times with the blank. Fill the tube to the fill line with the blank. Insert the tube into the chamber, close the lid, and select "scan blank".

19.0 Internal Quality Control Checks

QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of field equipment. Field-based QC will comprise at least 10% of each data set generated and will consist of standards, replicates, spikes, and blanks. Field duplicates and field blanks will be analyzed by the laboratory as samples and will not necessarily be identified to the laboratory as duplicates or blanks. For each matrix, field duplicates will be provided at a rate of one per 10 samples collected or one per shipment, whichever is greater. Field blanks which consist of trip, routine field, and rinsate blanks will be provided at a rate of one per 20 samples collected for each parameter group, or one per shipment, whichever is greater.

Calculations will be performed for recoveries and standard deviations along with review of retention times, response factors, chromatograms, calibration, tuning, and all other QC information generated. All QC data, including split samples, will be documented in the site logbook. QC records will be retained and results reported with sample data.

19.1 Blank Samples

Blank samples are analyzed in order to assess possible contamination from the field and/or laboratory so that corrective measures may be taken, if necessary. Field samples are discussed in the following subsection:

19.2 Field Blanks

Various types of blanks are used to check the cleanliness of field handling methods. The following types of blanks may be used: the trip blank, the routine field blank, and the field equipment blank. They are analyzed in the laboratory as samples, and their purpose is to assess the sampling and transport procedures as possible sources of sample contamination. Field staff may add blanks if field circumstances are such that they consider normal procedures are not sufficient to prevent or control sample contamination, or at the direction of the project manager. Rigorous documentation of all blanks in the site logbooks is mandatory.

- **Routine Field Blanks** or bottle blanks are blank samples prepared in the field to access ambient field conditions. They will be prepared by filling empty sample containers with deionized water and any necessary preservatives. They will be handled like a sample and shipped to the laboratory for analysis.
- **Trip Blanks** are similar to routine field blanks with the exception that they are **not** exposed to field conditions. Their analytical results give the overall level of contamination from everything except ambient field conditions. For the RI/FS, one trip

blank will be collected with every batch of water samples for VOC analysis. Each trip blank will be prepared by filling a 40-ml vial with deionized water prior to the sampling trip, transported to the site, handled like a sample, and returned to the laboratory for analysis without being opened in the field.

- **Field Equipment Blanks** are blank samples (sometimes called transfer blanks or rinsate blanks) designed to demonstrate that sampling equipment has been properly prepared and cleaned before field use, and that cleaning procedures between samples are sufficient to minimize cross contamination. If a sampling team is familiar with a particular site, they may be able to predict which areas or samples are likely to have the highest concentration of contaminants. Unless other constraints apply, these samples should be taken last to avoid excessive contamination of sampling equipment.

19.3 Field Duplicates

Field duplicate samples consist of a set of two samples collected independently at a sampling location during a single sampling event. In some instances the field duplicate can be a blind duplicate, i.e., indistinguishable from other analytical samples so that personnel performing the analyses are not able to determine which samples are field duplicates. Field duplicates are designed to assess the consistency of the overall sampling and analytical system.

19.4 Quality Control Check Samples

Inorganic and organic control check samples are available from EPA free of charge and are used as a means of evaluating analytical techniques of the analyst. Control check samples are subjected to the entire sample procedure, including extraction, digestion, etc., as appropriate for the analytical method utilized.

APPENDIX 9

Site Management Forms

COVER INSPECTION FORM

Closed Alumax Extrusions, Inc. Facility

Property Name: Closed Alumax Extrusions, Inc. Facility Inspection Date:

Property Address: 320 & 440 South Roberts Road

City: Dunkirk State: New York Zip Code: 14048

Total Acreage: 12 acres

Weather (during inspection): Temperature_____˚F

Conditions:

SIGNATURE:

The findings of this inspection were discussed with appropriate personnel, corrective actions were identified and implementation was mutually agreed upon:

Inspector_____ Date:_____

Next Scheduled Inspection Date: _____

COVER & VEGETATION

	Yes	No
1. Final Cover in acceptable condition?	_____	_____
2. Is there evidence of sloughing, erosion, ponding, or settlement?	_____	_____
3. Is there evidence of unintended traffic; rutting?	_____	_____
4. Is there evidence of distressed vegetation/turf	_____	_____
5. Final Cover sufficiently covers soil/fill material?	_____	_____
6. Are any cracks visible in the soil or pavement?	_____	_____
7. Any activity on-Site that mechanically disturbed soil cover?	_____	_____

INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS & ENVIRONMENTAL EASEMENT

8. Are the IC/ECs established for the Site being implemented appropriately? _____ _____

9. Is the Site in compliance with the Deed Amendment/Restriction? _____ _____

ADDITIONAL FACILITY CONDITIONS

Is there development on or near the Site? (specify size and type of development)

COMMENTS

_____

_____

_____

_____

_____

_____

ATTATCHMENTS

1. Site Sketch
2. Photographs
3. Laboratory Analytical Report (s)

Summary of Green Remediation Metrics for Site Management

Site Name: _____ Site Code: _____
Address: _____ City: _____
State: _____ Zip Code: _____ County: _____

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: _____

Current Reporting Period
Reporting Period From: _____ To: _____

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	Total to Date
Fuel Type 1 (e.g. natural gas (cf))		
Fuel Type 2 (e.g. fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g. solar, wind)		
Other energy sources (e.g. geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	Total to Date (tons)
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

III. **Transportation/Shipping:** Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	Total to Date (miles)
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. **Water Usage:** Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gallons)	Total to Date (gallons)
Total quantity of water used on-site		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. **Land Use and Ecosystems:** Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

	Current Reporting Period (acres)	Total to Date (acres)
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Other:

CERTIFICATION BY CONTRACTOR
I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief, all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including that last day of the period covered by this application. _____ **Date** **Contractor**

APPENDIX 10

Remedial System Optimization Table of Contents

REMEDIAL SYSTEM OPTIMIZATION FOR [Closed Alumax Extrusions, Inc. Facility]

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