

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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October 20, 2020

Mr. Joseph Loboizzo II
Ridgecrest Associates, L.P.
135 Orchard Park Blvd.
Rochester, NY 14609

**Subject: 820 Linden Ave Site (#C828200)
820 Linden Ave, Pittsford, NY 14625
Remedial Alternatives Analysis,
August 2020**

Dear Mr. Loboizzo II;

The New York State Departments of Environmental Conservation (NYSDEC) and Health (NYSDOH; collectively referred to as the Departments) have completed their review of the document entitled "Remedial Alternatives Analysis" (the Report) dated August, 2020 and prepared by Stantec Consulting Services, Inc. for the 820 Linden Avenue Brownfield Cleanup Program (BCP) site located in the Town of Pittsford, Monroe County. The Departments determined that the Report, with modifications, is acceptable for the purpose of initiating the public comment period and for NYSDEC to develop the Decision Document for the site.

The proposed remedy is a Track 4: Restricted use with site-specific soil cleanup objectives remedy and is referred to as the no further action (with institutional and engineering controls and site management). The Elements of the Proposed Remedy is attached.

Additionally, NYSDEC offers the following correction and clarification that some groundwater monitoring will be needed. Details of the future groundwater monitoring will be addressed in the Site Management Plan.

By October 20, 2020, please attach a copy of this letter to the Report and distribute a copy to the document repository at the Pittsford Community Library, Pittsford, NY 14534.

If you have questions or concerns, please contact me at (585) 226-5459 or tasha.mumbrue@dec.ny.gov.



Department of
Environmental
Conservation

Sincerely,

A handwritten signature in black ink, appearing to read "Tasha Mumbrue". The signature is fluid and cursive, with the first name "Tasha" and last name "Mumbrue" clearly distinguishable.

Tasha Mumbrue
Geologist Trainee

cc: Mike Storonsky, Stantec
Stephanie Reynolds Smith, Stantec
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Justin Deming, NYSDOH
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820 Linden Ave Site
Brownfield Cleanup Program
Pittsford, Monroe County
Site No. C828200
October 2020

Elements of the Proposed Remedy

Based on the results of the investigations at the site, the IRMs that have been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. This No Further Action remedy includes continued operation of the SSDS and the implementation of ICs/ECs as the remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

The elements of the IRMs already completed and the institutional and engineering controls are listed below:

IRM 1 involved the installation of a sub-slab depressurization (SSDS) in the majority of the southern tenant space footprint to address CVOCs in sub-slab soil vapor and mitigate potential soil vapor intrusion (SVI).

IRM2 involved (1) removal of the PAH-impacted debris pile for off-site disposal; (2) in-place closure of the southeast and northwest Septic Systems, including excavation and off-site disposal of black, tar-like material encountered in northwestern septic area; and removal of the southwestern septic system due to the presence of contaminated tank contents.

IRM3 involved the expansion of the IRM1 SSDS coverage to include the 1954 building area of the southern tenant space, as a result of the March 2019 SVI sampling results.

IRM4 addressed Benzo(a)pyrene impacts to shallow surface soil on the berm along the eastern property line through the installation of an Engineered Cover System.

1. Green Remediation

Green remediation principals and techniques will be implemented to the extent feasible in the site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Cover System

A site cover currently exists in areas not occupied by buildings and will be maintained to allow for commercial or industrial use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper one foot of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for commercial or industrial use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

3. Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a Site Management Plan, as described below, will be required. The remedy will achieve a Track 4 commercial cleanup at a minimum.

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- require compliance with the Department approved Site Management Plan.

4. Site Management Plan

A Site Management Plan is required, which includes the following:

1. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 3 above.

Engineering Controls: The soil cover discussed in Paragraph 2 and the sub-slab depressurization system completed as an IRM.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
 - descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
 - a provision for evaluation of the potential for soil vapor intrusion for any future occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
 - a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 2 above will be placed in any areas where the upper one foot of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
 - provisions for the management and inspection of the identified engineering controls;
 - maintaining site access controls and Department notification; and
 - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
2. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
 - monitoring groundwater, indoor air, sub-slab soil vapor, and outdoor air to assess the performance and effectiveness of the remedy;
 - a schedule of monitoring and frequency of submittals to the Department; and

- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
3. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:
- procedures for operating and maintaining the system(s); and
 - compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.



Alternatives Analysis Report
820 Linden Ave Brownfield Cleanup
Program Site #C828200
820 Linden Avenue
Pittsford, Monroe County, New York

Prepared for:

New York State Department of
Environmental Conservation
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Prepared on Behalf of:

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Prepared by:

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August 2020



August 19, 2020
File: 190500898

Ms. Tasha Mumbrue
New York State Department of Environmental Conservation
6247 East Avon-Lima Road
Avon, New York 14414-2466

**RE: Alternatives Analysis Report
Brownfield Cleanup Program Site #C828200
820 Linden Avenue
Pittsford, Monroe County, New York**

Dear Tasha:

On behalf of Ridgecrest Associates, L.P., Stantec Consulting Services Inc. has prepared this Remedial Alternatives Analysis Report for the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) site, located at 820 Linden Avenue in the town of Pittsford, Monroe County, New York. The report presents the results of Stantec's evaluation of potential remedial actions for soil vapor, soil, and groundwater impacts at the Site identified in the Remedial Investigation, Supplemental Remedial Investigations, and following implementation of Interim Remedial Measures #1 through #4.

Please contact us at any time with questions.

Sincerely,

Stantec Consulting Services Inc.

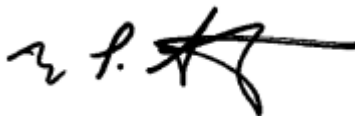


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cc: Kristin Kulow (NYSDOH)
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Alternatives Analysis Report
820 Linden Ave BCP Site #C828200
820 Linden Avenue
Pittsford, Monroe County, New York

Certification

Remedial Alternatives Analysis Report

I, Kevin Ignaszak, of Stantec Consulting Services Inc., certify that I am currently a New York State-registered professional engineer and that this Alternatives Analysis Report 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) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.



8/19/2020

Signature

Date



Executive Summary

In accordance with the New York State Department of Environmental Conservation's (NYSDEC) Division of Environmental Remediation (DER), *Technical Guidance for Site Investigation and Remediation* DER-10 (May 2010), Stantec Consulting Services Inc. (Stantec) has prepared this Alternatives Analysis Report (AAR) for the 820 Linden Ave Site located in the Town of Pittsford, Monroe County, New York. The remedial alternatives analysis documented in this AAR was performed pursuant to the Brownfield Cleanup Agreement (BCA) with the owner of the Site, Ridgecrest Associates, L.P. (Ridgecrest) (a Participant), that was executed by the New York State Department of Environmental Conservation (NYSDEC or the Department) on April 24, 2018. The Site is designated by NYSDEC as Brownfield Cleanup Program (BCP) Site #C828200.

This AAR includes the following elements:

- A summary of Site history and investigative activities performed;
- A summary of contaminants identified during the previous Site investigations;
- A summary of the Interim Remedial Measures (IRMs) performed;
- Remedial goals and the proposed BCP Cleanup Track for the Site;
- Evaluation of remedial technology alternatives with regard to effectiveness, practicality of implementation, cost effectiveness and other factors;
- Recommendations for final Site actions; and
- Proposed Institutional Controls (ICs) and Engineering Controls (ECs) to manage residual contamination.

Background

The Site consists of an approximately 7.97-acre, L-shaped property improved with an approximately 108,400 square foot, L-shaped, one-story slab-on-grade building. Based on building permit records, the building was reportedly constructed in six phases with the first building permit issued in 1954 and the final in 1967.

The southern tenant space in this building is approximately 70,200 square feet and is currently occupied by JML Optical (JML). The northern tenant space is approximately 38,200 square feet and is currently occupied by Newport Corporation (Newport). Both current tenants are optics manufacturing facilities. Historical records indicate that the Site's manufacturing building has been occupied by optical industry-related businesses since the initial portion of the southern building was first constructed in 1954. The intended future use of the property is not anticipated to change. The Site is anticipated to remain industrial. However, for flexibility in terms of potential future use and as a conservative approach, a Commercial BCP land use category was selected for clean-up of the Site.



Overview of Previous Investigation Findings

Previous investigations conducted between 2004 and 2017 demonstrated chlorinated VOC impacts to sub-slab soil vapor, for which a source was not specifically identified, and acetone impacts to soil and groundwater. The Remedial Investigation and Supplemental Remedial Investigations performed by Stantec during the period 2018-2020 further investigated the nature and extent of contamination at the Site, as summarized below.

The following four Areas of Concern (AOCs) were identified as requiring remediation due to known or potential contravention of SCGs:

- AOC 1: Chlorinated volatile organic compounds (CVOCs) in sub-slab soil vapor.
- AOCs 2 and 4: PAHs in soil on the [formerly] vegetated berm along the eastern property line, and in the debris pile. These are later referred to as Remedial Area of Concern 5 (RAOC-5; eastern surface soil area) and RAOC-4 (debris pile).
- AOC 3: Potential soil and/or groundwater Contaminant of Concern (COC) impacts associated with three historical septic systems, due to documented discharge of chemicals, no reports of appropriate closure procedures, and impacted tank contents. These are later referred to as RAOC-1 (Southeast Septic System), RAOC-2 (Southwest Septic System), and RAOC-3 (Northwest Septic System).

Instances where there were exceedances of Commercial (Site Use) or POGW SCOs, or groundwater SGVs, but the issue did not warrant implementation of an IRM included:

- Acetone in soil and groundwater. Given that acetone impacts to soil were identified beneath the building, where there is also groundwater contamination, the alternatives considered in this AAR address these impacts. No groundwater contamination was identified in the eastern parking lot area where deep soil acetone exceedances were identified.
- TCE in groundwater. Based on groundwater gauging and sampling results, the low-level TCE plume appears to be from an upgradient, off-site source; as such, the alternatives considered do not address the TCE groundwater issue given that the off-site source is not the responsibility of the Owner to address and the concentrations were relatively low. Management of residual TCE impacts to groundwater will be addressed in the Site Management Plan by the cover system maintenance, prohibition on the use of groundwater and a soil vapor intrusion evaluation if any new building is constructed in the vicinity of this contamination.

Overview of Interim Remedial Measures

The following is a summary of the IRMs implemented at the Site.

- **IRMs 1 and 3** were implemented to address **AOC1**. IRM1 involved the installation of a sub-slab depressurization (SSDS) in the majority of the southern [JML] tenant space footprint to address CVOCs in sub-slab soil vapor and mitigate potential soil vapor intrusion (SVI). IRM3 involved the expansion of the IRM1 SSDS coverage to include the 1954 building area of the southern [JML] tenant space, as a result of the March 2019 SVI sampling results.



- **IRM2** was implemented to address **AOC2/RAOC-4 and AOC3/RAOCs-1 through -3**. IRM2 involved (1) removal of the PAH-impacted debris pile for off-site disposal; (2) in-place closure of the Southeast (RAOC-1) and Northwest (RAOC-3) Septic Systems, including excavation and off-site disposal of the residual black, tar-like material encountered in RAOC-3; and removal of the Southwest (RAOC-2) Septic System due to the presence of impacted tank contents.
- **IRM4** was implemented to address **AOC4/RAOC-5**. Benzo(a)pyrene impacts to shallow surface soil on the [formerly] vegetated berm along the eastern property line was addressed through installation of an Engineered Cover System.

Alternatives Analysis and Recommended Overall Site Remedy

Based on the findings of the RI and SRIs, and the conditions that existed prior to the implementation of the IRMs, an Alternatives Analysis was performed to evaluate potential remedial options. The recommendations from the Alternatives Analysis, however, took into account the IRMs already performed for RAOCs-1 through -5.

A preliminary screening was performed for numerous remedial technologies on the basis of technical feasibility, pertinence to the environmental conditions and remedial action objectives, cost effectiveness, required time to implement, etc. The retained technologies were further scrutinized based on the nine criteria included in the NYSDEC guidance for performing an Alternatives Analysis. The following combined overall Site remedy to achieve a Track 4 Commercial/Industrial clean-up is recommended:

Impacted Area/Media	Selected Remedy	Remedial Action Implemented?
AOC 1 CVOCs in Sub-Slab Soil Vapor	1.2. EC SSDS	Yes, through IRMs 1 and 3
AOC 2/RAOC-4 PAHs in Debris Pile	2.2. Removal	Yes, through IRM2
AOC 3/RAOCs-1 through -3 Historical Septic Systems	3.2. Removal of Southwest Septic System (RAOC-2); 3.3. Closure of Southeast (RAOC-1) and Northwest (RAOC-3) Septic Systems; and 3.4. EC Cover System	Yes, through IRM2
AOC 4/RAOC-5 Benzo(a)pyrene in Shallow Surface Soil	4.4. EC Cover System	Yes, through IRM4
Acetone Impacts to Soil and Groundwater (western portion of the Site, beneath building)	5.1/5.4. NFA with EC Cover System	Yes, through cover provided by concrete building slab.



Impacted Area/Media	Selected Remedy	Remedial Action Implemented?
Acetone Impacts to Soil (eastern portion of the Site, parking lot area)	5.1/5.4. NFA with EC Cover System	Yes, through cover provided by existing parking lot asphalt.

Residual Contamination and Site Controls

Since residual contamination of soil, groundwater, and soil vapor will exist beneath portions of the Site after implementation of the remedy, a series of ICs and ECs will be utilized to protect human health and the environment. Long-term monitoring and management of residual contamination will be implemented under the Site Management Plan, which is a requirement of the Environmental Easement.

The Controlled Property (the Site) will have the following two (2) ECs:

1. Operation of an active SSDS in the southern tenant space currently occupied by JML addresses remaining CVOC-impacted sub-slab soil vapor.
2. Maintenance of the existing, composite Cover System overlying areas of the Site with remaining soil impacted by acetone, PAHs, metals, and/or pesticides at levels exceeding SCGs.

As the IRMs, EC Cover System, and ICs are considered to be sufficient to constitute a final remedy that properly addresses the AOCs and RAOCs that originated on-site, no further remedial action is warranted. The remaining contamination can be safely managed through long-term implementation of the SMP controls thereby allowing continued use of the BCP Site for ongoing industrial and commercial uses.



Table of Contents

CERTIFICATION	III
EXECUTIVE SUMMARY	IV
ABBREVIATIONS	XI
1.0 INTRODUCTION.....	1
2.0 BACKGROUND INFORMATION	2
2.1 SITE DESCRIPTION	2
2.2 LAND USE	2
2.2.1 Current Site and Surrounding Land Uses	2
2.2.2 Proposed Site Use	3
2.2.3 Past Uses of the Site and Adjacent Properties	3
2.3 GEOLOGIC AND HYDROGEOLOGIC SETTING	3
2.4 OVERVIEW OF PREVIOUS SITE INVESTIGATIONS	4
2.4.1 1995 Site Assessment and Operations Audit (GZA)	5
2.4.2 2004 Phase II ESA (ERM)	5
2.4.3 2005 Phase II ESA (LaBella)	6
2.4.4 2011 Phase I ESA (O'Brien and Gere)	6
2.4.5 2016-2017 Limited Phase II ESA (Stantec)	7
2.4.6 2017 Phase I ESA (Stantec)	8
2.4.7 2018 Remedial Investigation (Stantec)	9
2.4.8 2019 Limited Supplemental Remedial Investigation #1 (Stantec)	12
2.4.9 2020 Limited Supplemental Remedial Investigation #2 (Stantec)	13
2.5 OVERVIEW OF INTERIM REMEDIAL MEASURES (IRMS)	13
3.0 REMEDIAL GOALS AND OBJECTIVES	16
3.1 FUTURE USE OF SITE	16
3.2 REMEDIAL GOAL AND REMEDIAL ACTION OBJECTIVES	16
3.3 SOIL & GROUNDWATER CLEANUP OBJECTIVES AND BCP CLEANUP TRACK	17
3.3.1 Standards, Criteria, and Guidance Values	17
3.3.2 Brownfield Cleanup Track	17
4.0 REMEDIAL ALTERNATIVES ANALYSIS.....	19
4.1 INTRODUCTION	19
4.2 PRELIMINARY SCREENING OF REMEDIATION METHODS, TECHNOLOGIES & APPROACHES	21
5.0 EVALUATION OF REMEDIAL TECHNOLOGIES.....	24
5.1 RETAINED ALTERNATIVES	24
5.2 DESCRIPTION OF POTENTIAL ALTERNATIVES FOR INDIVIDUAL AREAS OF CONCERN	27



5.2.1	Potential Remedial Alternatives for AOC 1 – CVOCs in Sub-Slab Soil Vapor	27
5.2.2	Potential Remedial Alternatives for AOC 2/RAOC-4 – PAHs in Debris Pile	27
5.2.3	Potential Remedial Alternatives for AOC 3/RAOC-1, RAOC-2, and RAOC-3 – Septic Systems	28
5.2.4	Potential Remedial Alternatives for AOC 4/RAOC-5 – Benzo(a)pyrene in Surface Soil	29
5.2.5	Potential Remedial Alternatives for Acetone Impacts	30
5.3	COMPARATIVE ANALYSIS OF ALTERNATIVES FOR PROJECT SITE	31
5.3.1	Track 1	31
5.3.2	AOC 1 (CVOCs in Sub-Slab Soil Vapor)	31
5.3.3	AOC 2/RAOC-4 (PAHs in Debris Pile)	32
5.3.4	AOC 3/RAOC-1, RAOC-2, and RAOC-3 (Septic Systems)	32
5.3.5	AOC 4/RAOC-5 (Benzo(a)pyrene in Surface Soil)	33
5.3.6	Acetone Impacts – Soil and Groundwater – Western Portion of the Site (Beneath Building)	34
5.3.7	Acetone Impacts – Soil – Eastern Portion of the Site (Parking Lot Area)	35
5.4	GREEN REMEDIATION COMPONENTS	36
6.0	AAR CONCLUSION: RECOMMENDED REMEDIES	37
6.1	IMPACTED AREAS	37
6.2	RECOMMENDED REMEDY	37
7.0	RESIDUAL CONTAMINATION TO REMAIN ON-SITE	39
7.1	GROUNDWATER	39
7.2	SOIL	40
7.2.1	PAHs	40
7.2.2	Metals	41
7.2.3	VOCs	41
7.2.4	Unrestricted Use SCO Exceedances	41
7.3	SOIL VAPOR	42
8.0	PROPOSED ENGINEERING CONTROLS: SVI MITIGATION	43
9.0	PROPOSED ENGINEERING CONTROLS: COVER SYSTEM	44
10.0	CRITERIA FOR TERMINATION OF ENGINEERING CONTROLS	45
10.1	SSDS	45
10.2	COVER SYSTEM	45
11.0	PROPOSED INSTITUTIONAL CONTROLS	46
11.1	ENVIRONMENTAL EASEMENT	46
11.2	SITE MANAGEMENT PLAN	48
12.0	REFERENCES	50



12.1	NEW YORK STATE STANDARDS, CRITERIA AND GUIDANCE	50
12.2	SITE-SPECIFIC AND OTHER LITERATURE REFERENCES	50

LIST OF TABLES

Table 1a	Comparison of Sub-Slab Vapor and Indoor Air Results to NYSDOH Guidance Matrices (Newport)
Table 1b	Comparison of Sub-Slab Vapor and Indoor Air Results to NYSDOH Guidance Matrices (JML)
Table 2	Summary of Analytical Results for RI Soil Samples
Table 3	Summary of Groundwater Analytical Results
Table 4	Summary of Analytical Results for Southeast Septic System (RAOC-1) Investigation Soil Samples
Table 5	Summary of Analytical Results for Southwest Septic System (RAOC-2) Confirmatory Soil Samples
Table 6	Summary of Analytical Results for Northwest Septic System (RAOC-3) Investigation Soil Samples
Table 7	Summary of Analytical Results for Debris Pile (RAOC-4) Samples
Table 8	Summary of Analytical Results for Eastern Surface Soil Impacts (RAOC-5)
Table 9a	Summary of Solid Sample Results for Septic System Waste Characterization
Table 9b	Summary of Liquid Sample Results for Septic System Waste Characterization
Table 10	Summary of Excluded Remediation Technologies (<i>presented within Section 4.2</i>)
Table 11	Summary of Retained Remedial Technologies (<i>presented within Section 5.1</i>)
Table 12	Remedial Alternative Analysis Matrix

LIST OF FIGURES

Figure 1	Site Location Map
Figure 2	Site Layout Map
Figure 3	Investigation and Sample Locations
Figure 4a	Investigation and Confirmatory Sample Locations: Southeast Septic System (abandoned-in-place)
Figure 4b	Investigation and Confirmatory Sample Locations: Southwest Septic System (removed)
Figure 4c	Investigation and Confirmatory Sample Locations: Northwest Septic System (abandoned-in-place)
Figure 5	Exceedances of Standards and Guidance Values in Groundwater Samples
Figure 6a	Remaining Soil Sample Exceedances of Commercial/Industrial Use SCOs
Figure 6b	Remaining Soil Sample Exceedances of POGW SCOs
Figure 6c	Remaining Soil Sample Exceedances of Unrestricted Use SCOs
Figure 7	Area of Soil Vapor Intrusion Concern

LIST OF APPENDICES

Appendix A	Remedial Technologies and Alternatives Cost Summary and Analysis
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Abbreviations

1,1-DCE	1,1-dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
AAR	Alternatives Analysis Report
AMSL	Above Mean Sea Level
AOC	Area of Concern
ASP	Analytical Services Protocol
AS/SVE	Air Sparge/Soil Vapor Extraction
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
C/I	Commercial/Industrial [SCOs]
cis-1,2-DCE	cis-1,2-dichloroethene
cm/s	centimeter per second
COC	Contaminant of Concern
CP	Commissioner Policy
CREC	Controlled Recognized Environmental Condition
CVOC	chlorinated volatile organic compound
CY	cubic yard
Department	NYSDEC and/or NYSDOH
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
DVS	Data Validation Services, Inc.
EC	Engineering Control
ELAP	Environmental Laboratory Accreditation Program
ERM	Environmental Resources Management
ESA	Environmental Site Assessment
EWP	Excavation Work Plan
ft	feet
FOIL	Freedom of Information Law
ft bgs	feet below ground surface
GPR	Ground Penetrating Radar
GZA	GZA GeoEnvironmental, Inc.
HTMO	High-Tech Manufacturing & Office Park
IC	Institutional Control
IRM	Interim Remedial Measure
JML	JML Optical
LaBella	LaBella Associates, P.C.



**Alternatives Analysis Report
820 Linden Ave BCP Site #C828200
820 Linden Avenue
Pittsford, Monroe County, New York**

LC	Limited Commercial
Li	Light Industrial
LUST	leaking underground storage tank
MS/MSD	matrix spike/matrix spike duplicate
Newport	Newport Corporation
NFA	No Further Action
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OBG	O'Brien & Gere
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
POGW	Protection of Groundwater [SCOs]
PSG	Passive Soil Gas
QA/QC	Quality Assurance/Quality Control
RAO	Remedial Action Objective
RAOC	Remedial Area of Concern
REC	Recognized Environmental Condition
RI	Remedial Investigation
Ridgecrest	Ridgecrest Associates, L.P.
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RN	Residential Neighborhood
SCG	Standards, Criteria, and Guidance
SCO	Soil Cleanup Objective
SGV	Standards and Guidance Values
SMP	Site Management Plan
SRI	Supplemental Remedial Investigation
SSDS	sub-slab depressurization system
Stantec	Stantec Consulting Services, Inc.
SVE	Soil Vapor Extraction
SVI	soil vapor intrusion
SVOC	semi-volatile organic compound
TCE	trichloroethene
TestAmerica	TestAmerica Laboratories, Inc.
TOGS	Technical and Operational Guidance Series
µg/ft ²	microgram per square foot



Alternatives Analysis Report
820 Linden Ave BCP Site #C828200
820 Linden Avenue
Pittsford, Monroe County, New York

µg/kg	micrograms per kilogram
µg/L	micrograms per liter
µg/m ³	microgram per cubic meter
USGS	United States Geologic Survey
UU	Unrestricted Use [SCOs]
VOC	volatile organic compound



1.0 INTRODUCTION

On behalf of Ridgecrest Associates, L.P. (Ridgecrest), Stantec Consulting Services Inc. (Stantec) has prepared this Alternatives Analysis Report (AAR) for the property located at 820 Linden Avenue in the Town of Pittsford, Monroe County, New York (the “Site”; see Figure 1). Ridgecrest entered into a Brownfield Cleanup Agreement (BCA), as Site Owner and “Participant”, under the Brownfield Cleanup Program (BCP). The BCA between Ridgecrest and the New York State Department of Environmental Conservation (NYSDEC or Department) was executed on April 24, 2018. The Site is designated by the Department as BCP Site #C828200. This AAR was prepared following guidance provided in NYSDEC’s Division of Environmental Remediation (DER) *Technical Guidance for Site Investigation and Remediation* (DER-10).

This AAR includes the following elements:

- A summary of Site history and investigative activities performed;
- A summary of contaminants identified during the previous Site investigations;
- A summary of the Interim Remedial Measures (IRMs) performed;
- Remedial goals and the proposed BCP Cleanup Track for the Site;
- Evaluation of remedial technology alternatives with regard to effectiveness, practicality of implementation, cost effectiveness and other factors;
- Recommendations for final Site actions; and
- Proposed Institutional Controls (ICs) and Engineering Controls (ECs) to manage residual contamination.



2.0 BACKGROUND INFORMATION

2.1 SITE DESCRIPTION

The Site consists of an approximate 7.97-acre, L-shaped property improved with an approximate 108,400 square foot, L-shaped, one-story slab-on-grade building (Figure 2). The remainder of the Site is a mixture of paved parking lots and open, mowed-lawn areas. Mature trees and underlying shrub/grass vegetation line portions of the property boundary on the north side. A drainage ditch that runs along the western property boundary collects stormwater drainage from two roof drain outfalls and pitches to the north. Average ground surface elevation is estimated to be approximately 420 feet (ft) above mean sea level (AMSL).

The southern tenant space in this building is approximately 70,200 square feet and is currently occupied by JML Optical (JML). The northern tenant space is approximately 38,200 square feet and is currently occupied by Newport Corporation (Newport). Both current tenants are optics manufacturing facilities.

Based on building permit records, the building was reportedly constructed in six phases (see Figure 2). The first building permit was issued in 1954, with subsequent additions permitted for the rear or west side of the building in 1956, 1958, and 1959. A large addition immediately north of the original building was permitted in 1966. Each of the first five construction phases now comprise the current JML tenant space. The final construction phase, which now comprises the Newport tenant space, was permitted in 1967.

Potable water is supplied to the Site and surrounding area by the Monroe County Water Authority. Groundwater is not used as a drinking water supply in the immediate vicinity of the Site.

2.2 LAND USE

2.2.1 Current Site and Surrounding Land Uses

The land use at the Site, and surrounding area is predominantly industrial and commercial. The Site is currently occupied by two optical manufacturing facilities: JML (southern tenant space) manufactures precision optical components for commercial, industrial, and military applications. Newport (northern tenant space) manufactures diffraction gratings for spectroscopic, telecommunications, and laser applications. Historical uses of the Site are described below in Section 2.2.3.

The Site is bounded:

- To the north by undeveloped wooded land, and a cell tower facility near the northeast corner of the Site boundary;
- To the east by commercial businesses and a fitness and training facility;
- To the south by Linden Avenue, beyond which is undeveloped land and CSXT/Amtrak freight and passenger railroad lines; and
- To the west by a commercial business and undeveloped land.

The Town of Pittsford Zoning Map (December 2013) and the Town/Village of East Rochester Zoning Map (February 2017) provide zoning information for the Site and surrounding areas. The Site and immediately adjacent properties are zoned in the Light Industrial (LI) district. The surrounding area that falls within the



Town of Pittsford, within one-half mile of the Site includes High-Tech Manufacturing & Office Park (HTMO), Residential (B), and Residential Neighborhood (RN). The surrounding area that falls within Town/Village of East Rochester, within one-half mile of the Site includes Single Family Residential (R-1-70, R-1-48), Limited Commercial (LC), Industrial (I) and Mixed Commercial/ Industrial (C/I).

2.2.2 Proposed Site Use

The intended future use of the property is not anticipated to change. The Site is anticipated to remain industrial; however, to keep the use of the Site flexible, the applicable land use BCP clean-up category will be considered Commercial.

2.2.3 Past Uses of the Site and Adjacent Properties

Historical records indicate that the Site's manufacturing building has been occupied by optical industry-related businesses since the initial portion of the southern building was first constructed in 1954. A detailed list of the former and current owners and operators appears in the BCP Application. Some of these include: TKM Electric Corp, EJ Del Monte Corporation, Bausch & Lomb, Inc., Milton Roy Company, Spectronics Instruments, Inc., Thermo Spectronic, Inc., Spectra-Physics Rochester, Inc, Thermo Electron Corporation, Ridgecrest Associates, Newport Corporation, and JML Optical Industries.

Pertinent historical records for properties adjacent to the Site are described in the 2017 Phase I Environmental Site Assessment (ESA; Stantec, 2017a). One listing for an adjacent property is summarized below.

Freedom of Information Law (FOIL) information from NYSDEC was reviewed by Stantec for the adjacent Jarl Extrusions Site (860 Linden Avenue, BCP Site #828005), which is located immediately to the east of the Site (see Figure 2). Aluminum products were manufactured at the Jarl Extrusion Site, from 1953 to 1988. Site investigations conducted in the 1980s and 1990s identified on-site metals and volatile organic compound (VOC) impacts. Remedial efforts included soil excavation and the installation of an asphalt cap. Shallow (perched) groundwater monitoring was conducted from 2000 to 2005. Contaminants in shallow/perched groundwater at the Jarl Extrusions Site were demonstrated to be below NYSDEC groundwater standards at the conclusion of the 2000-2005 groundwater monitoring program. Long term monitoring of the integrity of the engineering cap is conducted.

A deep/water table well (B-1D) on the Jarl Extrusions Site (see Figure 2) was reported to have exhibited a maximum concentration of 23 parts per billion (ppb, equal to $\mu\text{g/L}$) trichloroethene (TCE) during a November 1990 sampling event as part of a focused Remedial Investigation (OBG, 1993). TCE levels observed in the three subsequent events were lower, with reported concentrations of 6 ppb (February 1991), 13 ppb (June 1992), and 9 ppb (August 1992). Based on Stantec's review of the Jarl Extrusions documents, this well was not sampled again, and it does not appear that the source was identified, nor the deep groundwater VOC impacts delineated.

2.3 GEOLOGIC AND HYDROGEOLOGIC SETTING

The general subsurface profile observed across the Site consists of the following deposits, in order of increasing depth:

- **Surface cover** of topsoil/grass, asphalt, or bare soil/detritus;



- **Fill materials** (where present) generally consisting of sand and gravel, with variable silt and clay components, ranging from 0-9.5 feet below ground surface (ft bgs). Fill materials and re-worked native soils were generally encountered in assumed previous work areas including directly beneath the slab, beneath the parking lot, and where utility construction occurred (i.e. sewer and septic system installation areas);
- **Native [outwash] sand** deposited as part of a complex series of glaciolacustrine deposits that underlie this portion of Monroe County, along the Irondequoit Creek Valley and environs (NYS Geologic Survey, 1986; United States Geologic Survey [USGS], 1985). The native soils are primarily comprised of fine to coarse sand and silty fine sand, with occasional and minor percentages of clay and gravel. The sand aquifer is the primary water-bearing zone encountered on the Site. However, lenses of variably saturated clay and silt/clay ranging from 1 to 15 ft thick were encountered in shallow subsurface soil above the deep groundwater zone water table on the eastern and southern portions of the Site. While this is indicative of a perched groundwater zone, soil boring observations indicate that perched groundwater is not laterally contiguous across the Site.
- **Bedrock** was not encountered during Stantec's investigations (Limited Phase II ESA; Remedial Investigation; and Supplemental Remedial Investigation), and the maximum test boring depth extended to 72 ft bgs. Based on the Geologic Map of New York (NYS Geologic Survey, 1970), the Site is underlain by the Upper Silurian Penfield Dolostone of the Lockport Group. It is estimated that the depth to bedrock is approximately 110-120 ft bgs based on findings from a nearby investigation at Sigismondi Landfill (Site #C828011) as posted on the NYSDEC Environmental Site Remediation Database (<https://www.dec.ny.gov/cfm/x/EXTAPPS/DEREXTERNAL/HAZ/DETAILS.CFM>).

Groundwater levels in Site monitoring wells range from approximately 41 to 62 ft bgs or 355 to 380 ft AMSL. The inferred groundwater flow direction is to the north/northeast towards Irondequoit Creek. Groundwater elevation contour maps are presented in the Remedial Investigation Report. When checked periodically, shallow monitoring well MW-104S was found to be dry. The shallow, perched groundwater zone, where present on-site, appears to be laterally discontinuous and is not expected to be a significant water-bearing unit based on Site observations.

Slug tests were performed during the Remedial Investigation (RI) at the following monitoring wells: B/MW-102, B/MW-103, B/MW-104, and B/MW-105. Hydraulic conductivities for the wells ranged from 1.1×10^{-2} centimeters per second (cm/s) to 3.4×10^{-2} cm/s. The RI wells are screened across the water table in fine to coarse sand with little fines. Estimated hydraulic conductivity for the RI wells agrees with the ranges generally observed for silty sand and clean sand (Freeze and Cherry, 1979), which is the primary native lithology observed during the subsurface investigations. The relatively homogeneous overburden observed during the RI is reflected in the agreement of hydraulic conductivity estimates Site-wide.

2.4 OVERVIEW OF PREVIOUS SITE INVESTIGATIONS

The following sub-sections summarize the previous investigations and remedial activities performed at the Site to date. The reader is referred to the cited reference for more comprehensive details.



2.4.1 1995 Site Assessment and Operations Audit (GZA)

A Phase I ESA and Operations Audit was completed by GZA GeoEnvironmental, Inc. (GZA) for Life Sciences International, PLC c/o Sheehan, Phinney, Bass and Green, in 1995 (GZA, 1995). The following is a summary of findings and recommendations from the 1995 Phase I ESA:

- The report identified Recognized Environmental Conditions (RECs) related to on-site usage of hazardous materials with waste discharge to on-site septic systems, a former outdoor storage drum area, and potential fill in the raised elevation area on the northeast portion of the property.
- The report also identified a REC relating to a database listing for a potentially upgradient leaking underground storage tank (LUST) site. (Note that the LUST site was not listed in the 2017 Phase I database report reviewed as part of Stantec's 2017 Phase I ESA summarized in Section 2.4.6). According to the NYSDEC spill incident database, the spill involved an unknown quantity and the file was closed on 5/2/2005.
- The GZA report included documentation of 1972 correspondence from Bausch and Lomb to E. J. DelMonte Corp. that reported the various waste streams discharged to three on-site septic systems. A Southeast Septic System was used for sanitary purposes, no chemicals were discharged through the system. A Southwest Septic System collected both sanitary and process discharge. Chemicals including acids, bases, poisons (arsenic, antimony, mercury, etc.), diPhospyridine, sodium pyruvate, and biological organics were discharged to the system either directly or through neutralization tanks. A Northwest Septic System collected cooling water, sanitary, and process water from the cafeteria, washrooms, and the chemistry laboratory. Discharge chemicals included organic solvents, acids, alkalis, ammonia residue, fixers and developers. In the conclusion of their report, GZA referred to the discharged materials as hazardous materials and waste. Records of removal or final pumping of the septic systems were not found.
- The operations audit portion of this investigation focused on the facility's regulatory compliance with environmental, health, and safety regulations pertaining to Site operations.

2.4.2 2004 Phase II ESA (ERM)

A Phase II ESA was completed by Environmental Resources Management (ERM) for Thermo Electron Corporation in 2004 (ERM, 2004). This investigation included a passive soil gas (PSG) survey with 60 sampling locations across the northern portion of the Site; installation and sampling of a soil boring and monitoring well in a former drum storage area; a floor drain investigation; and lead wipe testing in several indoor areas where lead dust cleaning had been previously performed. The following is a summary of findings from the 2004 Phase II ESA:

- The 2004 PSG survey showed that chlorinated volatile organic compounds (CVOCs) such as tetrachloroethene (PCE), TCE, and 1,1,1-trichloroethane (1,1,1-TCA) were present in soil vapor beneath the building footprint and toluene (a petroleum-related VOC) was present in exterior soil vapor across the northern portion of the Site. The highest concentration of toluene was observed in the parking lot area to the south of the eastern half of the Newport tenant space, and to the



east of the northeast corner of the JML tenant space. It is noted that acetone was not included on the analyte list for the PSG survey.

- VOCs were not detected in the soil samples collected from the test borings. VOCs were detected in the groundwater, but only at concentrations below NYSDEC standards, and were reportedly generally 50% lower than levels reported in an unnamed previous investigation (a report documenting this prior investigation was not provided to Stantec and is reportedly not in the possession of Ridgecrest). The groundwater table was reported to be at a depth of approximately 65 ft bgs. Soils encountered consisted of fine-grained sands and silty fine-grained sands.
- The investigation determined that a floor drain in the flammable materials storage area discharged to the sanitary sewer near Linden Avenue.
- Concentrations of lead reported in the lead wipe testing program performed after a cleaning program ranged from 6.2 to 345 micrograms per square foot ($\mu\text{g}/\text{ft}^2$). The sampling program was conducted at five areas within the building approximately 20 ft above the floor along a truss, sprinkler or light fixture.

2.4.3 2005 Phase II ESA (LaBella)

A Phase II ESA was completed by LaBella Associates, P.C. for JML Optical and Thermo Electron Corp in 2005 (LaBella, 2005). This investigation included a PSG survey with 31 sampling locations, mostly across the southern portion of the Site, with four locations duplicating those sampled in the previous PSG survey (ERM, 2004). The following is a summary of findings and recommendations from the 2005 Phase II ESA:

- The constituent detected at the highest concentration was PCE, with lesser amounts of TCE, 1,1,1-TCA, and 2- butanone reported. The highest CVOC concentrations were detected under the central portion of the building near a former hazardous waste storage area. Toluene was also detected in about two-thirds of the locations. It is noted that acetone was not included on the analyte list for the PSG survey.

2.4.4 2011 Phase I ESA (O'Brien and Gere)

A Phase I ESA was completed by O'Brien and Gere (OBG) for BB&T Capital Partners II, LLC in 2011 (OBG, 2011). The following is a summary of findings and recommendations from the 2011 Phase I ESA:

- The 2011 Phase I ESA was limited to the southern portion of the building (JML tenant space). The report identified RECs related to septic and sanitary systems, historical use of the property for optical manufacturing, and findings of historical environmental reports (ERM, 2004; LaBella, 2005) indicating the presence of primarily CVOCs and toluene in soil vapor and/or groundwater.



2.4.5 2016-2017 Limited Phase II ESA (Stantec)

Stantec conducted a Limited Phase II ESA in April 2016 through January 2017 for Ridgecrest to further evaluate impacts to the Site (Stantec, 2017b). Stantec began its investigation of the Site in April 2016 by conducting an updated soil vapor intrusion (SVI) investigation in accordance with the New York State Department of Health (NYSDOH, or Department) *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH, 2006; hereinafter referred to as the NYSDOH Vapor Guidance). In addition, the purpose of Stantec's Phase II investigation was to identify a source for the SVI results through further soil and groundwater investigation. The rationale behind the Stantec's 2016 Phase II scope included the following (1) the results of the prior PSG survey results were 11 years old; (2) the prior PSG surveys did not include any indoor air samples since the investigations pre-dated the NYSDOH Vapor Guidance; and (3) no soil or groundwater source areas were identified during the previous investigations.

The Limited Phase II ESA work scope included two SVI investigation events. The first event was conducted in April 2016 and included twelve co-located indoor air/sub-slab soil vapor sampling locations in both tenant spaces in accordance with the NYSDOH Vapor Guidance. The second event was conducted in January 2017 and included three sampling locations in the Newport tenant space. The work scope also included an interior and exterior soil and groundwater investigation. Components included the drilling of 14 test borings, collection of subsurface soil samples, and installation and sampling of four permanent and three temporary groundwater monitoring wells. A synopsis of the analytical findings of the Limited Phase II ESA is presented below. Investigation locations are depicted on Figure 3.

SVI Results: The indoor air and sub-slab vapor data were evaluated against the NYSDOH Matrices presented in the NYSDOH Vapor Guidance (NYSDOH, 2006; NYSDOH, 2017) to assign a recommended action for the co-located sample pairs. Additionally, indoor air data were compared to the NYSDOH Air Guideline Values (NYSDOH, 2006) for the three compounds with guideline values (methylene chloride, TCE, and PCE).

Based on the NYSDOH Vapor Guidance, results indicated the need for mitigation based on methylene chloride in five locations in the JML tenant space and one location in the Newport tenant space. At the time of the SVI sampling, products containing this compound were utilized in each tenant space.

Based on the NYSDOH Vapor Guidance for other compounds, results from four locations within the JML tenant space indicated the need for mitigation of potential SVI impacts based on the presence of 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), TCE, or PCE. Within the Newport tenant space, one location indicated the need for monitoring or mitigation based on TCE results.

The concentration of TCE in indoor air within the Newport tenant space at one location (2.1 micrograms per cubic meter [$\mu\text{g}/\text{m}^3$]) slightly exceeded the indoor air guideline of $2 \mu\text{g}/\text{m}^3$ during the first SVI sampling event, although it was not reported above the detection limit in the corresponding sub-slab vapor sample during either SVI sampling event. In addition, TCE was not detected above reporting limits in the indoor air samples collected during the second SVI sampling event.

Tables 1a and 1b present a summary of the analytical SVI results for matrix comparison.



Soil Results: The exceedances of NYSDEC Part 375 (NYSDEC, 2006) and Commissioner's Policy (CP)-51 (NYSDEC, 2010b) Soil Cleanup Objectives (SCOs) for Unrestricted Use (UU) and the Protection of Groundwater (POGW) SCOs in Site soil samples included common, naturally-occurring metals (aluminum, calcium, iron, and magnesium) and acetone. Acetone is considered a common laboratory contaminant. However, acetone was not detected in the corresponding Quality Assurance/Quality Control (QA/QC) samples, and is, therefore, considered to be related to Site conditions, particularly given: (1) the concentrations reported ranging from 53 micrograms per kilogram [$\mu\text{g}/\text{kg}$] to 120 $\mu\text{g}/\text{kg}$, which exceeds the UU and POGW SCOs but not the Commercial or Industrial Use SCOs; (2) historical use of acetone at the facility; and (3) its reported presence in groundwater as described below.

Table 2 presents a summary of the soil sample results.

Groundwater Results: The exceedances of NYSDEC's Technical and Operational Guidance Series (TOGS) 1.1.1 [Class GA] Standards and Guidance Values (SGVs; NYSDEC, 1998) for groundwater samples only included commonly occurring metals (iron, magnesium, manganese, and sodium) and acetone. Acetone was detected at concentrations ranging from 100 micrograms per liter [$\mu\text{g}/\text{L}$] to 1,100 $\mu\text{g}/\text{L}$. While acetone is a common laboratory contaminant, and laboratory contamination can often be responsible for low-level concentrations of acetone detected in water, the relatively high concentrations detected in these Site samples were considered indicative of a Site-related issue, given (1) the absence of acetone in the QA/QC samples; (2) its use at the facility; and (3) its elevated presence in soil samples.

Table 3 presents a summary of the groundwater sample results.

Analytical Program: Although the Limited Phase II ESA was not implemented as part of a formal remedial program with NYSDEC's input/oversight, each aspect of the investigation was performed in general conformance with NYSDEC's DER-10 (NYSDEC, 2010a). QA/QC sampling and analyses were performed as would be required for a BCP project including trip blanks, rinsate blanks, matrix spike/matrix spike duplicates (MS/MSD), and field duplicates. Analyses were performed by a laboratory accredited pursuant to the NYSDOH Environmental Laboratory Accreditation Program (ELAP). Analytical Services Protocol (ASP) Category B data packages were obtained for the Limited Phase II data. The data packages were forwarded to Data Validation Services (DVS) for review of the usability of the laboratory analytical data. Results of the data usability review were reported by DVS in the Data Usability Summary Report (DUSR) presented as an appendix to the Remedial Investigation Work Plan (RIWP; Stantec, 2017c). In summary, the Limited Phase II investigation laboratory data were found to be usable as reported by the lab or usable with qualification, and no data were rejected. Given the DUSR findings, the data from the Limited Phase II investigation was incorporated into the RI dataset.

2.4.6 2017 Phase I ESA (Stantec)

Stantec completed a Phase I ESA for Ridgecrest in September 2017. The reader is referred to the original Phase I ESA report (Stantec, 2017a) for a detailed discussion of the ESA findings. The following is a condensed list of the RECs identified by the ESA:

- Discharge of hazardous materials and waste into three septic systems formerly utilized on the Property between 1968-1975 (during the period of ownership and operation by Bausch & Lomb).



The exact locations of the septic systems were unknown; however, approximate locations were depicted in the 1995 GZA Phase I Report.

- A large, rectangular grass-covered area to the east of the Newport tenant space was noted to be generally elevated above the surrounding grade. This area may have been a pad for a building addition that was never constructed; however, this was not confirmed. The nature of the fill that comprised the pad was unknown.
- The results from three previous Phase II ESAs revealed evidence of CVOC impacts to soil vapor. However, a source area(s) for the CVOCs in soil and groundwater beneath the building and on the Site was not identified. The highest concentrations of CVOCs were reported in the central portion of the building near a former hazardous waste storage area in soil gas, and toluene was detected in two-thirds of the sampled locations. Exceedances of SCOs and groundwater SGV for commonly occurring metals and acetone were also identified.
- The building is presently serviced by municipal sanitary sewer lines. The age of the sewer connections and the locations of sewer connections and lines were unknown at the time. Based on drawings and observations, it was presumed there are two separate sewer lines servicing the building. Newport indicated they have been performing necessary maintenance on sewer lines utilized by their facility, and they recently installed a pump to a drain line to increase flow.
- The parcel adjacent to the east of the Property, 860 Linden Avenue, is the former location of Jarl Extrusions, a New York State Superfund site (Site ID #828005). The site had documented discharges to a lagoon of nitric, sulfuric, and hydrofluoric acids, sodium hydroxide, and chromium salts. The lagoon was covered by an asphalt cap, site clean-up activities were performed, and ECs and ICs are in place. Groundwater sampling on the Jarl site in 1990 revealed elevated concentrations of TCE (23 ppb) in monitoring well B-1D, located along the western property boundary, less than 500 ft from 820 Linden Avenue. The site appears to be cross-gradient from the 820 Linden Ave Site. This adjacent Superfund Site was considered to be a Controlled Recognized Environmental Condition (CREC) for the Site.

2.4.7 2018 Remedial Investigation (Stantec)

Stantec completed a Remedial Investigation (RI) for Ridgecrest during the period June 2018 through January 2019. The RI was performed in accordance with the RIWP, dated September 2017, which was approved by NYSDEC on May 21, 2018. The reader is referred to the revised RI Report (RIR; submitted under separate cover) for a detailed discussion of the RI program.

Data gaps:

Data gaps identified during preparation of the RIWP (Stantec, 2017c), and subsequently addressed through the RI (and Supplemental RIs [SRI], see Sections 2.4.8 and 2.4.9), included the following:

- Investigation of the historical building uses;
- Investigation of deep groundwater quality along the property boundary with the Jarl Extrusions Site;



- Investigation of the former septic systems identified as RECs in the 1995, 2011, and 2017 Phase I ESAs, and potential soil contamination resulting from the historical discharge of hazardous materials and waste as documented in the 1995 Phase I report (GZA);
- Investigation of the sewer connections and conditions;
- Investigation of the two large-diameter, east-west oriented roof drain outfall pipes that discharge to the drainage ditch located along the western property boundary, which drains to the north;
- Investigation of upgradient and Site-wide conditions to supplement the targeted Limited Phase II ESA (Stantec, 2017b); and
- Delineation of the acetone impacts, which were identified during the Limited Phase II ESA (Stantec, 2017b).

Investigation Activities:

The following investigation activities were performed in accordance with the approved Work Plan and DER-10: (1) floor drain and sewer video; (2) geophysical survey; (3) debris pile sampling; (4) surface soil sampling; (5) test pit program and subsurface soil sampling (6) test boring program and subsurface soil sampling; (7) monitoring well installation and development; (8) well gauging and groundwater sampling; and (9) slug testing. Figure 3 depicts the investigation and sample locations.

Laboratory Analysis and Results Tabulation:

Laboratory analysis of Site media samples was performed by the NYSDOH ELAP-certified Eurofins TestAmerica Laboratories, Inc. (TestAmerica). Third-party data usability reviews of the NYSDEC ASP Category B deliverable packages generated by TestAmerica were performed by DVS.

Analytical tables compare the qualified lab results to New York State Standards, Objectives, and Guidance (see Tables 2 and 3). The following are included in the comparison: NYSDEC 6 New York Codes, Rules and Regulations (NYCRR) Part 375 (NYSDEC, 2006) Track 1 UU SCOs; Track 2 SCOs for Commercial Use and Industrial Use ("Site use SCOs"), and POGW SCOs; NYSDEC CP-51 (NYSDEC, 2010b) Table 1 Supplemental SCOs for Commercial and Industrial Uses and POGW; and NYSDEC Class GA Water Quality SGVs for groundwater (TOGS 1.1.1; NYSDEC, 1998).

Findings and Recommendations:

Based on Stantec's review of the field and analytical datasets, the following Areas of Concern (AOC) were identified:

- AOC 1: CVOCs (including 1,1-DCE; cis-1,2-DCE; PCE; and TCE) in sub-slab soil vapor beneath the JML [southern] tenant space at concentrations requiring mitigation. This AOC was addressed through IRM#1, which is described in Section 2.5
- AOC 2: The debris pile located in the northeast corner of the parking lot area, which was found to contain elevated levels of polycyclic aromatic hydrocarbons (PAHs) associated with significant crushed asphalt contents. This AOC was addressed through IRM#2, which is described in Section 2.5.



- AOC 3: The three former septic systems identified in the 1995 GZA Phase I Report were located during the test pit program. Each of the septic systems was further investigated in SRI#1 (see Section 2.4.8). This AOC was also addressed through IRM#2, which is described in Section 2.5.
- AOC 4: Benzo(a)pyrene was the single semi-volatile organic compound (SVOC) reported to exceed Commercial SCOs in surface soil. It was detected at 0-2 inches at a concentration of 1,800 µg/kg versus the respective Commercial and Industrial SCOs of 1,000 and 1,100 µg/kg in a composite sample SS-4. The SS-4 composite was derived from discrete sampling locations SS-4a, SS-4b, and SS-4c along the vegetated berm near the eastern property line. This surface soil exceedance area was further investigated in SRI#2 (see Section 2.4.9) and addressed through IRM#4 (see Section 2.5).

Instances where there were exceedances of Commercial or POGW SCOs, or groundwater standards or guidance values, but the issue does not rise to the level of an AOC included:

- TCE was identified in groundwater in the eastern parking lot area in B/MW-101, B/MW-104, and B/MW-105. Adjacent upgradient properties located at 830 and 834 Linden Avenue have a history of manufacturing and light industry, based on the directory review findings of Site occupants at these properties as reported in Stantec's Phase I ESA (Stantec, 2017a). TCE in groundwater on the eastern side of the Site does not appear to be related to the on-site soil vapor results based on the direction of groundwater flow, the horizontal distance to the building (approximately 185 ft), and vertical separation between the water table and the building sub-base (approximately 45 ft).
- Acetone impacts to groundwater beneath the building were identified during Stantec's Limited Phase II ESA (Stantec, 2017b). Delineation of these impacts was addressed during the RI, which confirmed that groundwater acetone impacts are limited to beneath the building. Levels of acetone reported in Site soil samples meet both Commercial and Industrial SCOs, but in some cases exceed the POGW SCO.

No further investigation was recommended due to the following observations:

- Groundwater is not used for drinking water purposes.
- Relating to the TCE impacts:
 - o The direction of groundwater flow indicates the likelihood of an up-gradient, off-site source.
 - o The presence of an off-site source is also supported by the absence of TCE groundwater impacts in wells beneath or downgradient of the 820 Linden Ave facility and the absence of any soil TCE impacts on-site.
 - o A deep/water table well (B-1D) on the adjacent Jarl Extrusions Site (see Figure 2) was reported to have exhibited a maximum concentration of 23 ppb TCE during a November 1990 sampling event as part of a focused Remedial Investigation (OBG, 1993). TCE levels observed in the three subsequent events were lower, with reported concentrations of 6 ppb (February 1991), 13 ppb (June 1992), and 9 ppb (August 1992). Based on Stantec's review of the Jarl Extrusions documents, this well was not sampled again, and it does not appear that the source was identified, nor the deep groundwater VOC impacts delineated.



- Relating to acetone impacts:
 - o Downgradient wells indicate that acetone in groundwater is not migrating beyond the building footprint.
 - o The potential for exposure is minimal given (1) the depth to groundwater; and (2) that the groundwater and associated soil impacts can be managed through implementation of the Site Management Plan (SMP) and SSDS operation (IRM1 and IRM3).

2.4.8 2019 Limited Supplemental Remedial Investigation #1 (Stantec)

Stantec completed a Limited Supplemental Remedial Investigation (SRI1) for Ridgecrest during the period July 22 through 25, 2019. SRI1 was performed in accordance with the Revised Work Plan dated February 21, 2019 (Stantec, 2019a) and approved on May 9, 2019. The reader is referred to the RIR (Stantec, 2020f) for a detailed discussion of the SRI program and findings. A summary is presented below.

The purpose of SRI1 was to further investigate the three historical septic systems (AOC3) to better inform the proposed IRM2 tasks. The investigation and sample locations are depicted on Figures 4a-4c. The objectives were to:

- (1) Refine understanding of the utility configuration in the proposed excavation areas;
- (2) Investigate tank contents for anticipated off-site disposal; and
- (3) Evaluate subsurface soil conditions beneath the Northwest Septic System for potential in-place closure.

Components of SRI1 included (1) ground penetrating radar (GPR) survey; (2) sanitary sewer investigation; (3) tank contents sampling; (4) leach field and tank adjacent soil investigation in the Northwest Septic System area to evaluate quality of soil with respect to Site Use; and (5) pipe video survey in the Southwest Septic System area to assess unknown pipe operational status and origin/discharge locations. Based on the findings, Stantec recommended the following be implemented under IRM2, described further in Section 2.5:

Southeast Septic System: in-place closure given favorable sample results for the tank contents and pending favorable leach field and tank adjacent soil sample results obtained during IRM2. This system was reportedly used for sanitary wastes only (GZA, 1995).

Southwest Septic System: removal of tanks, leach field and other associated piping with confirmatory sampling and off-site disposal of excavated system materials, contents, and adjacent soil as needed. The following summarizes the sampling results for this system:

- While not directly applicable for tank water destined for off-Site disposal, water samples collected from three of the four tanks were compared to NYSDEC SGVs. Freon 113 and PCE were reported at concentrations in each of the three tanks in exceedance of their 5 µg/L groundwater standard. Freon 113 ranged from 88 to 680 µg/L decreasing from Tank 1 (closest to the building) to Tank 3 (more westerly), as historical waste flow likely moved away from the building. Similarly, PCE ranged from 21 to 84 µg/L with concentrations decreasing from Tank 1 to Tank 3. The



compound 4-isopropyltoluene was also detected in Tank 3 at a concentration only slightly exceeding the 5 µg/L groundwater standard (5.4 µg/L). No other compounds were detected.

- Solids samples were collected from two of the four tanks. Tank 1 contained water and sludge while Tank 4 contained soil that appeared to be infill from surrounding soils. While not directly applicable for soil destined for off-site disposal, results were compared to SCOs. Both solid samples had a few exceedances of UU and POGW SCOs for parameters not found to exceed standards in nearby groundwater. Otherwise, mercury, Freon 113, and polychlorinated biphenyls (PCBs) exceeded the Commercial, but not the Industrial, SCOs in the Tank 1 sample (again, closest to the building). No Site use SCO exceedances were reported in the Tank 4 sample.

Northwest Septic System: in-place closure given favorable leach field, tank contents, and tank adjacent soil sample results. An isolated exceedance of the Commercial SCO for mercury in the sample collected adjacent to Northwest Septic System Tank 2 at 8-10 ft bgs was not considered an AOC due to the sample depth and resultant minimal exposure risk as well as the absence of mercury impacts to groundwater on-site. In the test pit excavated to expose the distribution box, a discrete occurrence of solid, black, tar-like material was encountered. NYSDEC required that this material be sampled; Stantec additionally collected a soil sample from the soil around the discrete occurrence that is representative of the remaining soil conditions in this area. Although the test pit spoils did not demonstrate impacts, there were elevated PAHs in the bulk sample requiring removal under IRM2.

2.4.9 2020 Limited Supplemental Remedial Investigation #2 (Stantec)

Stantec completed a second Limited Supplemental Remedial Investigation (SRI2) for Ridgecrest on April 7, 2020. SRI#2 was performed in accordance with the Work Plan dated March 19, 2020 (Stantec, 2020a) and approved on March 31, 2020. The reader is referred to the RIR (Stantec, 2020f) for a detailed discussion of the SRI program, which is summarized below. The investigation and sample locations are depicted on Figure 3.

The RI results for benzo(a)pyrene exceeded Commercial and Industrial SCOs in the composite sample SS-4 comprised of three discrete surface soil sampling locations SS-4a, SS-4b, and SS-4c. The overall objective of SRI2 was to collect three discrete surface soil samples (0-2 inches bgs) at the approximate RI surface soil sampling locations listed above to potentially delineate the benzo(a)pyrene impacts to shallow surface soil. The sampling locations were in the vegetated berm area along the eastern property boundary. Analytical results for the discrete sampling indicated benzo(a)pyrene impacts exceeding the respective Commercial and Industrial SCOs of 1,000 and 1,100 µg/kg at each of the three locations, with concentrations ranging from 2,300 to 350,000 µg/kg.

Based on these results, and in consultation with NYSDEC, Stantec designed a cover system to mitigate potential future exposure to the benzo(a)pyrene-impacted shallow surface soil in the vegetated berm area along the eastern property boundary to be installed as IRM4.

2.5 OVERVIEW OF INTERIM REMEDIAL MEASURES (IRMS)

The following is a summary of the IRMs implemented at the Site. Details regarding each IRM can be found in the documents referenced herein.



1. In order to address the NYSDOH SVI matrix recommendations for mitigation described in Section 2.4.5, the first Interim Remedial Measures Work Plan (IRM WP#1) for the Site was prepared in July 2018 to address SVI in a portion of the southern tenant space (JML) through design and installation of a sub-slab depressurization system (SSDS). IRM WP#1 was submitted to the Departments for review on July 31, 2018. Department comments and a conditional approval were received on September 19, 2018. The finalized IRM WP#1 was issued on October 2, 2018 (Stantec, 2018). Construction of the SSDS began on December 6, 2018 and was completed in March 2019. The system became operational on March 1, 2019. Two additional SVI monitoring points were installed in accordance with IRM WP#1 and per the request of NYSDEC: SS-13 in the northern tenant space (Newport) and SS-14 in the southern tenant space (JML). Post-SSDS installation SVI sampling was performed on March 31, 2019 in accordance with the approved IRM WP#1.
2. Based on the March 2019 post-SSDS SVI sampling results, a Supplemental Interim Remedial Measures Work Plan (IRM WP#3) was submitted to the Departments for review on August 12, 2019 to detail the SSDS extension into the area of the southern tenant space that was constructed in 1954 (see Figure 2). Department approval of the August 2019 IRM WP#3 (Stantec, 2019b) was received on October 1, 2019. Construction of the extended SSDS began on December 11, 2019 and was completed in January 2020. The extended system became operational on January 16, 2020. Details of the SSDS design and installation for IRMs 1 and 3 are documented in the SSDS Construction Completion Report (CCR; Stantec, 2020b).
3. In order to address findings from the RI test pit program and debris pile sampling results, IRM Work Plan #2 (IRM WP#2) was prepared following completion of SRI#1 and was submitted to the Department for review on November 20, 2019. IRM WP#2 detailed the excavation/in-place closure of three historical septic systems considered to be remedial areas of concern (RAOCs; identified as RAOC-1 through RAOC-3) as well as removal of the impacted debris pile (identified as RAOC-4). Department comments detailing disapproval of IRM WP#2 were received on March 10, 2020. A revised version of IRM WP #2 addressing Department comments was submitted on April 13, 2020 (Stantec, 2020c) and was subsequently approved on May 22, 2020. IRM2 implementation began on June 15, 2020 and was largely completed by July 28, 2020. Details of IRM2, including a refined understanding of the septic system layouts, results of investigation/confirmatory sampling, and data associated with the new septic area monitoring wells, will be documented in a Construction Completion Report (CCR; Stantec, 2020e) and/or the final RIR.

Analytical results for RAOCs-1 through -5 are presented in Tables 4 through 8. Tables 9a and 9b summarize results of solid and liquid septic system characterization sampling for off-site disposal as non-hazardous waste.

Figures 4a through 4c depict the configuration of each of the three septic system areas (RAOCs-1 through 3) and sample locations for both investigation and confirmatory sampling purposes.

4. In order to address findings from the RI and SRI2 surface soil sampling programs, IRM Work Plan #4 (IRM WP#4) was prepared and submitted to the Departments for review on June 15, 2020. IRM WP#4 detailed the design and installation of an engineered cover system for the vegetated



portion of the eastern property line area (identified as RAOC-5); previous sampling indicated that shallow surface soil was impacted by benzo(a)pyrene above Site Use SCOs (see Sections 2.4.7 and 2.4.9). Department approval of the June 2020 IRM WP#4 (Stantec, 2020d) was received on July 2, 2020. IRM4 implementation began on July 7, 2020 and was completed on July 23, 2020. Details of the implementation of IRMs 2 and 4 are documented in a CCR (Stantec, 2020e).



3.0 REMEDIAL GOALS AND OBJECTIVES

3.1 FUTURE USE OF SITE

No future additional development of the Site is currently planned or envisioned, and the Site use is anticipated to remain industrial. The potential does exist for the tenants to change, and/or the two tenants spaces to shift from industrial to commercial uses. There is enough land for potential future expansion of the facility or a new building on undeveloped portions of the property. Therefore, the remedial goal was a Track 4 Commercial remedy.

3.2 REMEDIAL GOAL AND REMEDIAL ACTION OBJECTIVES

The general remedial goal for sites in the BCP is to eliminate or mitigate significant threats to public health and the environment posed by the Site contaminants through the proper application of scientific and engineering principles. Accordingly, the identified sources of contamination at the Site have been eliminated or will continue to be mitigated to a condition acceptable under the BCP using appropriate remedial technologies, ECs, and ICs.

Based on the information presented in the preceding sections, the overall remedial action objectives (RAOs) for the Site media (groundwater, soil, and soil vapor) are to:

1. Prevent ingestion, inhalation or contact with Site contaminants of concern (COCs) that exceed applicable Standards, Criteria and Guidance (SCGs; discussed further in Section 7.0) in the identified impacted areas; and
2. Prevent exposure to post-remediation residual COCs through implementation and operation of ICs/ECs, including:
 - Execution of a NYSDEC Environmental Easement and SMP;
 - Operation of a sub-slab depressurization system for mitigation of soil vapor impacts;
 - Installation and maintenance of a cover system over residual soil contamination;
 - Prohibition of groundwater use as drinking water; and
 - Restriction of the Site usage to commercial or industrial. Unrestricted and residential uses are not permitted.

Specific RAOs for the various Site media are listed below.

Groundwater:

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, VOCs from contaminated groundwater.

Soil:

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.
- Prevent migration of contaminants that would result in groundwater or surface water contamination.



- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Soil Vapor:

- Mitigate impacts to public health resulting from existing, or the potential for SVI.

3.3 SOIL & GROUNDWATER CLEANUP OBJECTIVES AND BCP CLEANUP TRACK

3.3.1 Standards, Criteria, and Guidance Values

This section describes the SCGs used for comparison of COC concentration results for sampled/analyzed media at the Site.

The applicable SCGs used for evaluation of the Site investigation results include water quality standards and guidance values published by the NYSDEC Division of Water and SCOs published by the NYSDEC Division of Environmental Remediation. Soil vapor data are evaluated against guidance promulgated by NYSDOH.

The SCGs are derived from:

- 6 NYCRR Part 375-6.8(a-b) SCOs, NYSDEC, Division of Environmental Remediation, December 14, 2006;
- CP-51: *Soil Cleanup Guidance*, NYSDEC, October 21, 2010;
- *Technical Guidance for Site Investigation and Remediation*, NYSDEC, Division of Environmental Remediation (DER-10), May 2010;
- TOGS 1.1.1, *Ambient Water Quality Standards and Guidance Values [SGVs] and Groundwater Effluent Limitations*, NYSDEC, October 1993, Reissued June 1998 (with addenda dated April 2000 and June 2004); and
- *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, NYSDOH, Bureau of Environmental Exposure Investigation, October 2006 (with May 2017 SVI updates).

Note that pursuant to 6 NYCRR 375-6.5, the POGW SCOs are considered only to be applicable for acetone at this time because: (1) the identified POGW SCO exceedances, except for acetone, were not reflected in any co-located or nearby groundwater SGV exceedances; and (2) groundwater is not used on-site, or in the immediate vicinity, as a potable water supply.

3.3.2 Brownfield Cleanup Track

Four cleanup tracks are available for consideration at BCP sites. Track 1 cleanups achieve conditions that allow for unrestricted use, achieve UU SCOs in the soil component of the remedy, and do not rely on implementation of site use restrictions or long-term ICs or ECs. The requirements for Cleanup Tracks 2, 3 and 4 have provisions that allow limitations on the future use where appropriate based on current uses and likely future uses:



- In Track 2, the soil component of the remedial program must achieve the lowest of the applicable contaminant specific SCOs set forth in 6 NYCRR Subpart 375-6.8(b).
- Track 3 allows for modifying the generic Subpart 6 SCOs to account for site-specific conditions that may vary from the generic conditions that were the basis for the Department's SCO calculations.
- Track 4 requirements include a provision for development of a site-specific remedy that is still protective of public health and the environment without achieving all of the relevant Track 1 or 2 SCOs but rather through a source removal and long term Site Management Plan approach.

In Tracks 2 and 3, long-term ICs and ECs are permissible for media other than soil. ICs and ECs are allowed as part of the soil component of the remedy only in the short-term and only to provide protection of public health and the environment during the implementation and operation of remedial measures designed to achieve applicable SCOs.

Track 4 provisions allow for the use of long-term ICs and ECs to address all contaminated media.

This AAR concludes that a Track 4 remedial program is most appropriate for the Site although the AAR also includes evaluation of remedial alternatives that may be capable of meeting the requirements of Track 1, but which were determined to be infeasible and cost prohibitive. The Site IRMs were completed under a BCP Track 4 Commercial Use cleanup scenario, which allows the application of ECs and ICs documented in the SMP. While the Site use is anticipated to remain industrial at least in the near term, the selected land use category was considered Commercial to allow for future flexibility of Site use since tenants may become more commercial over time.

Therefore, the proposed Track 4 remedial actions performed as interim remedial measures, as described in Section 2.5, were intended to reduce on-site soil contamination, prevent off-site contaminant migration, and protect human health for the occupants of, and visitors to, the Site via a soil vapor mitigation system and cover system.



4.0 REMEDIAL ALTERNATIVES ANALYSIS

4.1 INTRODUCTION

To re-state the findings of the Phase II ESA, RI, and SRIs, the AOCs for this Site that were identified as requiring remediation due to known or potential contravention of SCGs included:

- AOC 1: CVOCs in sub-slab soil vapor. *Note:* The source of the CVOC sub-slab soil vapor impacts was not identified despite shallow and deep soil and groundwater investigations in the areas of impact beneath the building. Therefore, the only applicable alternative was implementation of ECs.
- AOCs 2 and 4: PAHs in soil on the vegetated berm along the eastern property line, and in the debris pile. These would later be referred to as RAOC-5 (eastern surface soil area) and RAOC-4 (debris pile), during planning and implementation of IRMs 2 and 4.
- AOC 3: Potential soil and/or groundwater COC impacts associated with the three historical septic systems, due to documented discharge of chemicals, no reports of appropriate closure procedures, and impacted tank contents. *Note:* further information relating to septic tank contents and adjacent soil quality was obtained during implementation of the SRIs and IRM2; therefore, that data was not available during initial development and evaluation of various remedial alternatives. Rather, the septic system themselves were identified as Remedial Areas of Concern and are addressed as such herein. These would later be referred to as RAOC-1 (Southeast Septic System), RAOC-2 (Southwest Septic System), and RAOC-3 (Northwest Septic System), during planning and implementation of IRM2.

Instances where there were exceedances of Commercial or POGW SCOs, or groundwater standards or guidance values, but the issue does not rise to the level of an AOC included:

- Acetone in soil and groundwater. Given that on-site soil impacts were identified beneath the building along with co-located groundwater impacts, the alternatives considered address the acetone contamination.
- TCE in groundwater. Based on groundwater gauging and sampling results, the low-level TCE plume appears to be from an upgradient, off-site source; as such, the alternatives considered do not address the TCE groundwater issue given that the off-site source is not the responsibility of the Owner to address and the concentrations were relatively low. Management of residual TCE impacts to groundwater will be addressed in the Site Management Plan by the cover system maintenance, prohibition on the use of groundwater, and a soil vapor intrusion evaluation if any new building is constructed in the vicinity of this contamination.

This section summarizes the alternatives evaluated for the remediation of Site conditions identified during the various investigations performed to date, as they existed prior to the implementation of IRMs. The recommendations from this evaluation, however, take into account the IRM programs implemented to date:

- Installation and operation of an active SSDS in the majority of the southern tenant space (IRMs 1 and 3).



- Closure-in-place of the Southeast and Northwest Septic Systems along with soil investigation data documenting the quality of soil remaining in place as acceptable for Commercial/Industrial Site uses (RAOC-1 and RAOC-3, respectively, addressed during IRM2).
- Removal of the Southwest Septic System (including tanks, leach field and other piping components), given the analytical results for the tank contents, combined with confirmatory sampling to document the absence of residual contamination (RAOC-2 addressed during IRM2).
- Removal of the PAH-impacted debris pile up to the northern property line, with confirmatory sampling documenting significant reduction in remaining contamination (RAOC-4 addressed during IRM2).
- Installation of an engineered Cover System atop the PAH-impacted surface soil on the vegetated berm along the eastern property line (RAOC-5 addressed during IRM4).

The options considered included the following potential processes and technologies considered in the development of the IRMs performed to date and the final remedy selected herein:

- No Action/Further Monitoring/Monitored Natural Attenuation: No direct remedial actions would be performed.
- In Situ Treatment: *In Situ* treatment technologies for contaminated soil and groundwater include such processes as *In Situ* chemical oxidation, air sparging, enhanced *In Situ* bioremediation, enhanced reductive dechlorination, thermal desorption, and Soil Vapor Extraction (SVE).
- Ex Situ Treatment (soil): *Ex Situ* treatment technologies for contaminated soils include excavation, on-Site treatment and reuse of treated soils, low-temperature thermal desorption, ex-situ vapor extraction, biopiles, land farming and off-Site disposal.
- Ex Situ treatment (groundwater): *Ex Situ* treatment technologies for impacted groundwater involve groundwater removal and such treatment processes as granular activated carbon (GAC) adsorption, air stripping, oxidation and subsequent discharge; or off-Site transport and discharge to a Publicly-Owned Treatment Works or licensed treatment/storage/disposal facility for treatment.
- Engineering Controls: ECs such as covering remaining impacted soil with clean soil or impervious cap materials (paving, concrete, structures, etc.) and installation of a SSDS were considered.
- Institutional Controls: ICs were also included as potential elements of the remedial options considered. ICs for the prevention of direct human contact with contaminated soil and groundwater include actions such as:
 - A NYSDEC-enforced Environmental Easement which would limit land use at the Site to Commercial or Industrial use and include appropriate restrictions on groundwater use; and
 - Development of a SMP to provide guidance for potential future activities that could affect the surface cover, disturb the subsurface within areas of known or potential residual impact, and provide requirements for operation, monitoring and maintenance of the active SSDS.



4.2 PRELIMINARY SCREENING OF REMEDIATION METHODS, TECHNOLOGIES & APPROACHES

This section describes the criteria that were used to evaluate two remedial alternatives and lists the remedial elements required to complete a cleanup pursuant to either Track 1 or Track 4. These two options were selected for analysis because analysis of a Track 1 remedy, which would achieve unrestricted use of the Site is required by DER-10. However, this alternative would have prohibitive implications for the current operations of the on-Site businesses. The Track 4 C/I remedy is the only practical remedy considering the current and future planned Site use and would allow for the most cost-effective remedial methods that would still achieve the RAOs. Both the Track 1 and Track 4 C/I remedies would achieve the RAOs by removing contaminants from the Site and reducing exposure to residual impacted media; however, the Track 1 remedy is prohibitively costly and essentially unnecessary given that the Site is currently Industrial and will be for the foreseeable future, given the property zoning in the surrounding area land use and the land use limitation that will be imposed by the EE to only allow for a commercial or industrial use.

According to DER-10, a cleanup pursuant to Track 1 must achieve an unrestricted use of the Site. This track requires that the remedial party implement a cleanup that achieves the UU SCOs in the table in 6 NYCRR Table 375 6.8(a). Site Controls are not allowed for a Track 1 cleanup other than for a period of less than 5 years (defined as short-term controls) where there is residual soil vapor or groundwater contamination and where a Participant has conducted remedial activities resulting in a bulk reduction in groundwater contamination to asymptotic levels. Given that a source of the CVOC-impacted soil vapor was not identified despite shallow and deep soil and groundwater investigation, there is not a practicable alternative for eliminating the soil vapor contamination other than mitigation, which is the singular viable option, and is consistent with the NYSDOH Vapor Guidance document.

According to DER-10, a cleanup pursuant to Track 4 may consider the current, intended, or reasonably-anticipated use in determining the appropriate cleanup for soil. This track allows for the removal of accessible source areas, also known as “hot spots,” and managing residual contamination in place below an engineered Cover System enforced by ICs/ECs to achieve long-term protection of public health and the environment. Soils which are not otherwise covered by structures such as buildings, sidewalks, or pavement (i.e., exposed surface soils) must be covered with soil that complies with the use-based SCOs in 6 NYCRR Table 375 6.8(b) levels for the top one ft. (C/I use).

Several on-Site remedial technologies and approaches were pre-screened on the basis of feasibility, pertinence to the environmental conditions and RAOs for the Site, and cost effectiveness. Remedial methods, technologies and approaches considered in this pre-screening process were included primarily on the basis of Stantec's past experience with remedial work involving similar Site characteristics and contaminants. Resources from general industry standards and publicly-available documentation of remedial alternatives were evaluated when necessary.

Both proven and innovative technologies were considered. Since the Site had more than one impacted media and more than one contaminant “class,” combinations of technologies were considered to form a single remedial approach.



It should be noted that technologies that have been documented to be generally slow in producing results were not considered desirable. This was because a primary goal of entering the Site into the BCP was to facilitate timely remediation of the property and protect the health of Site workers. Several methodologies were also eliminated from further consideration due to the following inadequacies or limitations:

- Unlikely to address Site issues and attain RAOs;
- Precluded by Site conditions;
- Incompatible with Site contaminants;
- Previously not fully demonstrated, unreliable, or have performed poorly;
- Inappropriate based on engineering judgment; or
- Excessively costly without adding significant technical advantages.

The following Table 10 lists the methods, technologies and approaches that were excluded, based on the above criteria, from the subsequent detailed evaluation of alternatives:

Table 10
Summary of Excluded Remediation Technologies

Method, Technology or Approach	Description/Justification
Groundwater Pump-and-Treat	Typically requires long time periods for completion; Systems are energy-intensive, with high capital and operating costs; Not applicable to vadose zone; and Can impact groundwater flow regime at distance from the Site.
Dual-Phase or Multi-Phase Extraction/Treatment	Dual-Phase systems extract and treat vapor and aqueous streams; The process can require long time periods for completion; Such a system would require equipment and piping in interior wells, would be energy-intensive and would have high capital and operating costs.
<i>In Situ</i> Conductive Heating	Involves the heating of unsaturated soils to 212° F to 500° F (followed by soil vapor extraction) and is typically a treatment applicable only to the vadose zone – does not address impacts below the water table – therefore, area to be treated must be dewatered in order to be effective; and Also typically applied to larger sites due to the very high overall costs.



Method, Technology or Approach	Description/Justification
<i>In Situ</i> , Surfactant-Enhanced Aquifer Flushing	Involves injection of an aqueous surfactant solution into a contaminated zone coupled with simultaneous downgradient groundwater extraction/treatment (and potentially re-injection); and This approach is generally cost-prohibitive and has a high potential for exacerbating the spread of contaminants.
Iron Reactive Wall	High overall cost of approach versus a limited area of groundwater impact; Physical site limitations would make implementation unfeasible.
Phytoremediation	Not applicable for deep groundwater such as that found on this Site.
Chemical Treatment/Soil Mixing	<i>In Situ</i> chemical treatment is accomplished by applying amendments to the subsurface via soil-mixing methods using large-diameter augers. Effective treatment requires sufficient contact and residence time between the COC and the chemical reagent; Not desirable based on contamination being located beneath building (excessively disruptive and costly), and lack of an apparent source area.
Soil Vapor Extraction and Thermal Desorption Soil Heating	Generally requires long time periods for completion. High capital and operating costs (electricity).
Steam Enhanced Extraction	<i>In Situ</i> remediation method consisting of a combination of shallow soil vapor extraction, shallow steam injection and shallow groundwater extraction. Only cost effective for large-scale sites.



5.0 EVALUATION OF REMEDIAL TECHNOLOGIES

5.1 RETAINED ALTERNATIVES

Several remedial technologies, including the No Action alternative were not excluded in the preliminary screening; these retained technologies are summarized in Table 11 below and evaluated in more detail in the following sections based upon the screening criteria set forth in NYSDEC's DER-10 document. Alternatives are comprised of a combination of remedial technologies that could be implemented to meet the requirements of the BCP and would address the RAOs presented in Section 3.2.

For some of the AOCs, a combination of methodologies was considered, based on the observed conditions. As noted above, this evaluation of alternatives addresses conditions as they existed before the implementation of the IRMs. The retained alternatives discussed below are based on the results of the evaluation, however they also consider the IRMs that were completed.

Table 11
Summary of Retained Remedial Technologies

Evaluated Method, Technology, or Approach	Description
All Media:	
No Action / Further Monitoring	No action recommended for various reasons including but not limited to: (1) groundwater not used for drinking water; (2) established ICs for current and reasonably anticipated use of Site as Commercial/Industrial; and (3) feasibility issues with ongoing building operations and deep soil impacts beneath the facility. SVOCs and VOCs are capable of being degraded in place by naturally occurring processes. As such, monitoring of CVOCs in sub-slab soil vapor may be performed to further evaluate continued need to mitigate potential for SVI in the southern tenant space. Similarly, strategic sampling of monitoring wells for acetone can confirm plume stability. This alternative is not effective for metals in soils. Additionally, this alternative does not address the soil vapor impacts.
Soil:	
Removal to meet Track 1 SCOs / Off-Site Disposal of all Impacted Soil	This approach would require the removal of all impacted soil on the Site above UU SCOs for a Track 1 cleanup.



Evaluated Method, Technology, or Approach	Description
Track 4 Source-Area Contaminated Soil Removal / Off- Site Disposal	This alternative includes removal of the source-area soil with the greatest COC impact (above C/I Use SCOs), disposal (at a permitted landfill/permitted facility), and replacement of the excavated soil with imported clean backfill, where required for grading purposes and a cover system. The removal of source area soil would facilitate groundwater remediation over time. Residual contaminated soil will remain on-site, but will be covered with an appropriate engineered cover system consisting of either 1 feet of non-impacted soil, other clean fill materials, or an impervious cap of asphalt or like material to minimize the potential for inadvertent future exposures.
Removal of Septic Systems and Impacted Soil	Three former septic systems were located on-site, with documented historical discharge of sanitary and industrial wastes. This alternative would include removal of the historical systems, including tanks, distribution boxes, leach field and associated piping. Underlying or adjacent impacted soil would also be removed for off-site disposal.
Abandonment/In-Place Closure of Septic Systems	Three former septic systems were located on-site, with documented historical discharge of sanitary and industrial wastes. However, portions of the systems appeared partially closed in-place. This alternative would complete the abandonment process following appropriate closure procedures. This alternative assumes that there is no underlying or adjacent impacted soil requiring removal for off-site disposal, which if present would also require remediation.
Soil Vapor Extraction (SVE)	Soil vapor from the vadose zone is extracted using a vacuum pump. The effluent is treated as necessary. This technology is not effective in the saturated zone but may be cost effective where unsaturated contaminated soils cannot be excavated (i.e. beneath the building for acetone impacts above UU and POGW SCOs.
Groundwater:	
Air Sparge with Soil Vapor Extraction (AS/SVE)	Volatilization of contaminants in groundwater using sparging, then captured and collected via combination with soil vapor extraction in the vadose zone.



Evaluated Method, Technology, or Approach	Description
Soil Vapor:	
Engineering Control: Vapor Intrusion Mitigation (Active Sub-Slab Depressurization System)	Installation and operation of an active sub-slab depressurization system beneath occupied structures with SVI data indicating need for mitigation. System to operate in perpetuity unless contaminant levels decrease to acceptable levels, as demonstrated through sampling and laboratory analyses.



5.2 DESCRIPTION OF POTENTIAL ALTERNATIVES FOR INDIVIDUAL AREAS OF CONCERN

5.2.1 Potential Remedial Alternatives for AOC 1 – CVOCs in Sub-Slab Soil Vapor

5.2.1.1 Alternative 1.1: No Action/Further Monitoring

The No Action response is considered as a remedial technology to provide a baseline effort for comparison to other technologies. With the exception of further SVI monitoring to evaluate long-term trends of soil vapor CVOC concentrations, no remedial actions would be taken for this AOC.

5.2.1.2 Alternative 1.2: Engineering Control – SSDS for Vapor Intrusion Mitigation

Alternative 1.2 consists of an EC to mitigate potential VOC vapor intrusion into the building. Based on the documented presence of CVOCs in sub-slab soil vapor, and the absence of a source area that can be addressed, mitigation of SVI is required and can be accomplished via SSDS installation and operation. The system would incorporate a system of piping connected to electric fans that evacuate air from beneath the slab, discharge those vapors above the building roof, and prevent potential buildup of VOC vapors that might enter the occupied space.

Installation and operation of an active SSDS beneath the structure would preclude infiltration of VOC vapors into the majority of the southern tenant space where SVI sampling indicated mitigation was required. Vacuum monitoring points, installed beneath the floor slab, would confirm vacuum propagation. Annual inspection of building floor integrity as a vapor barrier for optimal operation of the SSDS is a required IC for this EC.

5.2.2 Potential Remedial Alternatives for AOC 2/RAOC-4 – PAHs in Debris Pile

5.2.2.1 Alternative 2.1: No Further Action

The No Further Action (NFA) response is considered as a remedial technology to provide a baseline effort for comparison to other technologies. With the exception of installing and maintaining a fence surrounding the debris pile area to keep trespassers off the Site and prevent Site workers/visitors from contact with the material, no remedial actions would be taken for this AOC. It is noted that the use of an Engineered Cover/Cap System was not included in this AA since the debris pile was already present above grade. Due to the presence of a fully occupied building, this alternative cannot be implemented and remain protective of public health and the environment since visitors and workers could come into contact with the contaminated soil.

5.2.2.2 Alternative 2.2: Impacted Soil Removal and Off-Site Disposal

Alternative 2.2 consists of complete removal of source impacted soil exhibiting PAH concentrations in excess of Commercial/Industrial SCOs and off-Site disposal as non-hazardous waste at a permitted facility. Given that the debris pile material is above grade, no backfill would be necessary. This would involve removal and off-Site disposal of approximately 8 cubic yards (CY) of fill. This technology would only require further Controls if confirmatory sampling demonstrated remaining adjacent or underlying soil impacts above SCGs.



5.2.3 Potential Remedial Alternatives for AOC 3/RAOC-1, RAOC-2, and RAOC-3 – Septic Systems

5.2.3.1 Alternative 3.1: No Action

The No Action response is considered as a remedial technology to provide a baseline effort for comparison to other technologies. No remedial actions would be taken for this AOC. It is noted, however, that investigation of remaining soil conditions would need to be documented should this alternative be selected. Should remaining soil exhibit exceedances of SCOs, maintenance of existing Cover System (non-impacted overlying soil) would be required.

5.2.3.2 Alternative 3.2: Removal of Septic Systems [Impacted Tank Contents]

Alternative 3.2 consists of removing the historical septic system tanks/tank contents, leach field and other piping, as well as any impacted soil, for systems exhibiting impacted tank contents. Based on previous investigations, Alternative 3.2 applies to the Southwest Septic System (RAOC-2) in which impacted tank contents (solids are liquids) were encountered. The following general steps would be required: (1) removal and off-site disposal of tank and/or distribution box contents; (2) removal and off-site disposal of tanks, leach lines, and directly underlying/adjacent soil/fill; (3) cutting/sealing of pipe inlets and outlets that will remain in place; (4) removal of ancillary piping for off-site disposal; and (5) installation, development and sampling of source area and downgradient monitoring wells. Following an approved confirmatory sampling program, and assuming results indicate remaining soil quality is acceptable, the excavation area would be backfilled to grade with demonstrated clean, imported fill. If remaining soil is determined to exceed applicable SCGs, the imported backfill material would be included in the Site Cover System (see Alternative 3.4 below).

5.2.3.3 Alternative 3.3: Abandonment/In-Place Closure of Septic Systems [Non-Impacted Tank Contents]

Alternative 3.3 consists of proper closure or abandonment in-place of the historical septic systems, for which no impacted tank contents were identified. Based on previous investigations, Alternative 3.3 applies to the Southeast (RAOC-1) and Northwest (RAOC-3) Septic Systems where non-impacted tank fill material was encountered; these systems appeared to be partially previously abandoned by others given the contents (non-impacted soil fill). The following general steps would be required: (1) addition of flowable fill to empty tanks and/or distribution boxes; (2) cutting/sealing of pipe inlets and outlets; and (3) installation, development and sampling of a downgradient monitoring well if a well does not already exist in these locations. This Alternative would also include addressing the residual black-tar like material encountered within the soil overlying the distribution box within the Northwest Septic System through excavation and off-site disposal. Acceptability of this Alternative assumes there is no underlying or adjacent impacts to soil, requiring further excavation, from the former discharges. The septic system areas would be backfilled to grade with non-impacted excavation spoils, pending NYSDEC approval of appropriate analytical testing results. If re-use is not allowed, demonstrated clean, imported fill would be utilized. If remaining soil is determined to exceed applicable SCGs, the material overlying the septic system area would be included in the Site Cover System (see Alternative 3.4 below).



5.2.3.4 Alternative 3.4: Engineering Control – Cover or Cap System

Alternative 3.4 is an EC that would consist of covering remaining impacted soils left in place with either an impervious cap (such as asphalt parking lot or concrete building slab) or a clean soil (or like material such as stone) cover of sufficient thickness (1 ft for Commercial/Industrial Sites). Clean cover would consist of either on-site surplus soil or imported material; both potential re-use and imported materials would be demonstrated to meet NYSDEC requirements for potential COC presence by performing analyses in accordance with DER-10 requirements. This material could also include topsoil placed in landscaped areas. Such areas would require seeding with grass or other plant species to stabilize against erosion. Maintenance, annual inspection and certification would be required by ICs imposed on the Site; and breaches to the Cover System are subject to implementation of the Excavation Work Plan (EWP), appended to the SMP.

5.2.4 Potential Remedial Alternatives for AOC 4/RAOC-5 – Benzo(a)pyrene in Surface Soil

5.2.4.1 Alternative 4.1: No Further Action

The NFA response is considered as a remedial technology to provide a baseline effort for comparison to other technologies. With the exception of installing and maintaining a fence surrounding the vegetated berm area on the eastern side of the property to keep trespassers off the Site and prevent Site workers/visitors from contact with the material, no remedial actions would be taken for this AOC.

5.2.4.2 Alternative 4.2: Impacted Surface Soil Removal and Off-Site Disposal

Alternative 4.2 consists of removal of impacted soil exhibiting COC concentrations in excess of C/I SCOs, removal of only that soil required to meet design grades and/or to provide one foot of clean soil in landscaped (or similarly vegetated) areas, and off-Site disposal as non-hazardous waste at a permitted facility. The excavated areas would be backfilled or covered with either on-site or imported soil/stone demonstrated, as needed, to meet the requirements for potential COC presence using analytical testing (per DER-10) or covered with impervious materials such as asphalt or concrete cap. It is estimated this would involve removal and off-site disposal of 75 CY of soil. This technology would require the ECs and ICs set forth in Alternative 4.4.

5.2.4.3 Alternative 4.3: Impacted Soil Removal & Off-Site Disposal

Alternative 4.3 consists of removal of all soil exceeding UU SCOs for a Track 1 cleanup. The excavated soil would be transported off-site for disposal as non-hazardous waste at a permitted facility. The excavated areas would be backfilled or covered with either on-site or imported soil demonstrated to meet the requirements for potential COC presence using analytical testing (per DER-10) or covered with a surface cap or clean soil. It is estimated this would involve removal and off-Site disposal of 720 tons of soil. However, this Alternative would be excessive for the current and reasonably anticipated future Site use (industrial) with little added value over implementation of a Track 4 remedy and long-term ICs/ECs to manage residual UU impacts.



5.2.4.4 Alternative 4.4: Engineering Control – Cover or Cap System

Alternative 4.4 is an EC that would consist of covering impacted soils with either an impervious cap (such as asphalt parking lot or concrete building slab) or a clean soil (or similar material such as stone) cover of sufficient thickness (1 ft for Commercial/Industrial Sites). Clean cover would consist of either on-site surplus soil or imported material; both potential re-use and imported materials would be demonstrated to meet NYSDEC requirements for potential COC presence by performing analyses in accordance with DER-10 requirements. This material could also include topsoil placed in landscaped areas. Such areas would require seeding with grass or other plant species to stabilize against erosion. Maintenance, annual inspection and certification would be required by ICs imposed on the Site; and breaches to the Cover System are subject to implementation of the EWP, appended to the SMP.

5.2.5 Potential Remedial Alternatives for Acetone Impacts

5.2.5.1 Alternative 5.1: No Further Action (NFA)

The NFA response is considered as a remedial technology to provide a baseline effort for comparison to other technologies. As the acetone impacts are already beneath either the building slab or under several feet of non-impacted soil beneath pavement, no remedial actions would be taken for these impacts. This Alternative would apply to both the soil exceedances above UU/POGW SCOs and/or the groundwater SGV exceedances beneath the building footprint.

During preliminary screening, soil removal was eliminated as a feasible alternative to address the acetone soil impacts as deep excavations and particularly excavations beneath an existing building with sensitive operations would have prohibitive cost and business implications. Further, said approach is considered too invasive and aggressive an approach given that acetone soil levels are acceptable for the current and reasonably anticipated future Site Use.

5.2.5.2 Alternative 5.2: Groundwater Monitoring

The Groundwater Monitoring Alternative presented herein would require short-term (5 years) annual monitoring of groundwater quality through strategic well sampling and statistical evaluation of analytical results to confirm plume stability. Given the nature of contamination (acetone) and the low concentrations, the objective of further monitoring is to confirm that the plume is not (1) expanding or (2) migrating off-site.

5.2.5.3 Alternative 5.3: Air Sparge/Soil Vapor Extraction (AS/SVE)

Alternative 5.3 includes a AS/SVE system to address acetone impacts to groundwater and soil, respectively. Soil vapor from the vadose zone is extracted using a vacuum pump, and the effluent is treated as necessary. This technology is not effective in the saturated zone but may be cost effective where unsaturated contaminated soils cannot be excavated (i.e. beneath the building for acetone impacts above UU and POGW SCOs).

Sparging promotes enhanced aerobic biodegradation in groundwater. The volatilized contaminants are then extracted using a vacuum pump in the vadose zone. Acetone groundwater impacts do not extend outside the building footprint; therefore, the combined AS/SVE system would be limited to beneath the building. It is noted that the SSDS, which covers most of the southern tenant space, serves as a low



vacuum SVE system for the acetone impacts underlying the building footprint. Although the goal is to prevent SVI into indoor air, the design and operation of the SSDS essentially removes the impacted sub-slab soil vapor.

5.2.5.4 Alternative 5.4: Engineering Control – Cover or Cap System

Alternative 5.4 is an EC that would consist of covering remaining impacted soils left in place with either an impervious cap (such as asphalt parking lot or concrete building slab) or a clean soil (or similar material such as stone) cover of sufficient thickness (1 ft for Commercial/Industrial Sites). For acetone impacts to soil, the existing building slab and parking lot asphalt provide existing cover to the acetone-impacted media. Maintenance, annual inspection and certification would be required by ICs imposed on the Site; and breaches to the Cover System are subject to implementation of the EWP, appended to the SMP.

5.3 COMPARATIVE ANALYSIS OF ALTERNATIVES FOR PROJECT SITE

This section provides an evaluation of each of the retained technologies and potential remedial alternatives for each of the impacted media/AOCs. The retained technologies and potential remedial alternatives are discussed in light of the nine evaluation criteria contained in DER-10, Section 4.2. Refer to the attached Remedial Alternatives Analysis Matrix (Table 12) for summaries of each alternative relative to each of those criteria; numerical scores for each alternative/criterion are also provided. Details on the estimated costs for each Alternative are included in Appendix A.

5.3.1 Track 1

The Track 1 clean-up approach requires the following remedial alternatives to be implemented: SSDS installation (1.2); debris pile removal (2.2); removal of septic systems and associated soils exceeding UU SCOs (3.2/3.3); removal of surface soils exceeding UU SCOs on the vegetated berm along the eastern property boundary (4.3) and potentially in other areas of the Site pending expanding surface soil sampling results; removal of subsurface soils exceeding UU SCOs in the vicinity of B-108 and TP-6 (western side of property); and installation/operation of an AS/SVE system to remediate acetone in soil and groundwater across the Site. Although the Track 1 alternative scores high in several categories, this aggressive clean-up track is not recommended given the established and reasonably anticipated future use of the Site (Commercial/Industrial). Track 1 is not warranted given the alternatives for protecting human health and the environment through a Track 4 clean-up approach, which is more feasibly implemented, results in lower short- and long-term costs, and reduces the short- and long-term disruptions to current facility operations and building tenants. The potential safety and feasibility concerns of deep system installation – as well as the sustainability of a system with excessively high operation and maintenance costs – are not balanced by limited added value to human health and the environment particularly given the industrial setting. The Track 4 remedial alternatives explored below are generally more practicable solutions for protecting human health and the environment.

5.3.2 AOC 1 (CVOCs in Sub-Slab Soil Vapor)

Alternative 1.1 (No Action/Further Monitoring) is not considered viable primarily because it does not protect human health and the environment, it does not comply with SCGs, it does not reduce toxicity,



mobility or volume of contaminants, it would likely not gain community acceptance particularly for the current tenants' and concerns regarding exposure risk, and it would be a significant barrier to continued Site operations as well as any future redevelopment. Accordingly, this alternative is not considered further.

Alternative 1.2 (Engineering Control – SSDS for Vapor Intrusion Mitigation) Track 4: This alternative provides direct mitigation of the potential for CVOC-impacted sub-slab soil vapor to migrate into occupied interior spaces through installation and operation of an SSDS. Although the capital costs are significant, this alternative scores high for most other criteria, and is an essential part of the remedial action for the Site to allow for safe future use of the on-site building and business facilities.

5.3.3 AOC 2/RAOC-4 (PAHs in Debris Pile)

Alternative 2.1 (No Action): This alternative is not acceptable for soil. The impacted material is at the surface and levels exceed Site Use SCOs; therefore, the potential exposure risk to humans is unacceptable. Source remediation and Site Controls are required for Track 4 clean-up.

Alternative 2.2 (Source Area Soil Removal and Off-Site Disposal) Track 4: Excavation and off-site disposal of the debris pile scores very high as an alternative for several criteria, and would: provide immediate positive impact by eliminating contaminated material; rapidly achieve many SCGs; have high implementability; have long-term effectiveness and permanence; and will likely receive community acceptance due to its positive aspects.

5.3.4 AOC 3/RAOC-1, RAOC-2, and RAOC-3 (Septic Systems)

Alternative 3.1 (No Further Action): This alternative is not acceptable for the documented tank impacts in the Southwest Septic System (RAOC-2). While the impacted material is contained within the historical septic tank structures, this alternative is not protective of human health or the environment as a long-term solution. Remediation and Site Controls are required for a Track 4 clean-up and will prevent the possibility of future leaks of impacted tank contents into the environment, which could create a new potential exposure pathway to Site workers. Furthermore, the improperly or partially abandoned historical septic systems do not comply with tank closure guidelines.

Alternatives 3.2 and 3.4 (Removal of Impacted Septic Systems and Use of Cover System) Track 4: The closure approach to address the Southwest Septic System, which was found to contain impacted solids/liquids, scores high for several criteria. Notably, it would: provide immediate positive impact by addressing the improperly abandoned septic systems and remove contaminants; rapidly achieve SCGs for remaining soil; have high implementability and long-term effectiveness and permanence; and will likely receive community acceptance due to its positive aspects. Although the capital costs are moderate, the OM&M costs are relatively low, and the overall cost-effectiveness is good. The other primary advantage to system removal considered was the ability to investigate the potential for underlying/adjacent soil impacts. By removing tank contents and the system as a whole, confirmatory sampling can demonstrate the quality of remaining soil as acceptable for Site Use. If tank contents were removed, and the structures abandoned-in-place (Alternative 3.3 for Southeast/Northwest), the investigation of potential historical releases associated with the impacted tank contents would not be as comprehensive or as cost-



effective. A confirmatory soil sampling program, combined with nearby groundwater sampling, is a required element of the overall Site remedy to exclude possibility of remaining source material. Clean soil cover or impervious cap is an EC typically used for soils that are impacted with COCs to allow them to remain on-Site, while minimizing potential environmental impact and reducing the potential for exposure. Since a Track 1 clean-up is not practicable, the UU SCOs will remain in place and can be managed through the existing Site Cover System.

Alternatives 3.3 and 3.4 (Closure of Non-Impacted Septic Systems and Use of Cover System)

Track 4: The closure approach to address the Southeast and Northwest Septic Systems, both of which were partially, previously abandoned and contained non-impacted fill, scores high for several criteria. Notably, it would: provide immediate positive impact by addressing the improperly abandoned septic systems; rapidly achieve SCGs for black tar-like material in the Northwest; have high implementability (particularly when compared to removal); have long-term effectiveness and permanence; and be likely to receive community acceptance due to its positive aspects. Any future soil excavation management SMP compliance costs, if required, are relatively low, and the overall cost-effectiveness is acceptable. Other considerations included the feasibility of work near active/interconnected sewer lines (both systems) and the nearby tree line (Northwest). Using existing non-impacted fill and excavation spoils for backfill – both documented as non-impacted – reduces volume of imported material and excavated waste. Clean soil cover or impervious cap is an EC typically used for soils that are impacted with COCs to allow them to remain on-Site, while minimizing potential environmental impact and reducing the potential for exposure. Since a Track 1 clean-up is not practicable, the UU SCOs will remain in place and can be managed through the existing Site Cover System.

5.3.5 AOC 4/RAOC-5 (Benzo(a)pyrene in Surface Soil)

Alternative 4.1 (No Action): This alternative is not acceptable for soil. The impacted material is at the surface and levels exceed Site Use SCOs; therefore, the potential exposure risk to humans is unacceptable. Soil source remediation and Site Controls are required for Track 4 clean-up.

Alternative 4.2 (Surface Soil Removal and Off-Site Disposal) Track 4: Excavation and off-site disposal of PAH-impacted surface soil scores very high as an alternative for several criteria, and would: provide immediate positive impact by eliminating contaminated material; rapidly achieve many SCGs; have high implementability; have long-term effectiveness and permanence; and be likely to receive community acceptance due to its positive aspects. Site Controls would still be required due to remaining exceedances above UU SCOs. Since Site Controls would still be required, and the score is nearly identical to Alternative 4.4, the higher cost of removal (vs. capping/covering) is not preferred. Furthermore, this alternative produces more waste material destined for landfills and is generally more consumptive of resources due to increased truck travel.

Alternative 4.3 (Removal & Off-Site Disposal of All Impacted Soil) Track 1: Evaluation of this alternative is incorporated into the overall Track 1 clean-up alternative evaluation presented in Section 5.3.1. Removal or other remediation addressing UU impacts is considered excessive and not cost-effective for an overall Site remedy.



Alternative 4.4 (Engineering Control – Cover or Cap System): Clean soil cover or impervious cap is an EC typically used for soils that are impacted with COCs to allow them to remain on-Site, while minimizing potential environmental impact and reducing the potential for exposure. Use of Site Controls to manage the benzo(a)pyrene impacts scores similarly well to Alternative 4.2 (removal) as it has high implementability, long-term effectiveness and permanence, and protectiveness of human health and the environment through immediate reduction in potential exposure. Due to the lower cost, as well as the considerations for waste generation and energy resources, installation of an engineered Cover System is the preferred alternative.

5.3.6 Acetone Impacts – Soil and Groundwater – Western Portion of the Site (Beneath Building)

Alternatives 5.1 and 5.4 (No Further Action, with Cover System): The NFA approach scores high and is the preferred alternative due to: high implementability associated with the existing building slab cover; few (if any) negative short-term impacts; good long-term effectiveness and permanence; and low overall costs. While this Alternative will not attain SCGs, it is still protective of human health and the environment due to low concentrations, low exposure risks, and delineated on-site impacts. Furthermore, groundwater is not used for drinking water on-site or in the immediate vicinity of the Site. Groundwater sampling data has demonstrated that acetone [groundwater] impacts are limited to beneath the building footprint and are not migrating off-site. Acetone concentrations in groundwater ranged from 100 to 1,100 µg/L in temporary wells B-11D, B-12D, and B-13D compared to the SGV of 50 µg/L. No other wells exhibited detections of acetone above reporting limits, including wells downgradient of the impacted wells. Acetone concentrations in soil meet Commercial/Industrial SCOs and are acceptable for the current and reasonably anticipated future Site use. As such, the UU/POGW exceedances can be managed with a Cover System.

Alternatives 5.2 and 5.4 (Groundwater Monitoring with Cover System): The combination of groundwater monitoring and long-term maintenance of the existing Site Cover System as an EC scores high as an alternative to address groundwater and soil impacts, respectively. The combination of Alternatives scored high due to: the immediate positive impact by addressing potential (albeit limited) exposure risks; high implementability associated with the existing building slab cover and monitoring well network; few (if any) negative short-term impacts; good long-term effectiveness and permanence; and likely high community acceptance. However, the costs of further groundwater monitoring are not proportional to the low levels of groundwater impacts identified on-site. Groundwater sampling has demonstrated that groundwater impacts are limited to beneath the building and have not migrated off-site. Potential exposure risks are mitigated through implementation of the ICs/ECs required by the SMP, including the prohibition of groundwater use. Further, groundwater monitoring is not warranted given the low levels of the delineated groundwater impacts and the surrounding industrial setting.

Alternative 5.3 (Air Sparge/Soil Vapor Extraction): Installation and operation of an AS/SVE system was considered due to the acetone impacts beneath the existing building. Excavations beneath an operating facility, particularly to the required depths, was eliminated during preliminary screening of remedial alternatives as it was too aggressive, too invasive, and too costly. Over time, acetone volatilizes from soil and can subsequently be extracted via the SVE system; the addition of air to the groundwater



system (through sparging) further promotes volatilization of acetone. The AS/SVE system scored high on a few categories including likelihood of achieving SCGs, long-term effectiveness/performance, reduction of contaminant volume, and good community acceptance. The overall score, however, was low due to the excessive capital and long-term operating costs, the negative short-term impacts to facility operations, and the challenges associated with long-term implementation. While there is the highest likelihood of achieving SCGs, the amount of time it would take is unknown as this is understood to be a slow remedy. While this is the most aggressive approach to protecting human health and the environment, the risks of exposure that exist are already low given the location of impacts beneath the building slab in conjunction with an operating SSDS. Furthermore, groundwater is not used for drinking water. This Alternative is resource intensive and is too aggressive for such minor impacts – again, considering the depth, concentration, delineation, and COC. In general, the cost-benefit relationship is not balanced with this approach; therefore, this Alternative is not recommended. Site Controls are preferred rather than this direct remedial approach as they are more cost-effective in mitigating the already low exposure risks.

It is noted that the SSDS, which covers most of the southern tenant space, serves as a low-vacuum SVE system for the acetone impacts underlying the building footprint. Although the goal is to prevent soil vapor intrusion into indoor air, the design and operation of the SSDS essentially removes the impacted sub-slab soil vapor.

5.3.7 Acetone Impacts – Soil – Eastern Portion of the Site (Parking Lot Area)

Alternatives 5.1 and 5.4 (No Further Action with Cover or Cap System): The NFA with Cap or Cover System approach scores high because it is cost effective, highly implementable, provides a long-term solution, and does not produce negative short-term impacts. Since the acetone concentrations only slightly exceed UU SCOs (low toxicity), there are no impacts to groundwater (low mobility), the impacts are both vertically and spatially delineated (stagnant and established volume), and the impacts are limited to the deep soil zone just above the water table, there is low risk to human health or the environment. Compliance with UU SCOs may not be achieved through selection of this Alternative, but current acetone levels meet Site Use SCOs and groundwater SGVs. This Alternative manages the residual soil impacts through implementation of the Site Management Plan and required monitoring/maintenance of the EC Cover System. Therefore, a Cover System is recommended for inclusion as an Engineering Control for the Site as part of the Environmental Easement/Site Management Plan. As such, this is the preferred Alternative.

Alternative 5.3 (Soil Vapor Extraction): Installation and operation of an SVE system was considered due to the depth of soil impacts. Excavations of that depth and spatial coverage was eliminated during preliminary screening of remedial alternatives as it was too aggressive, too invasive, and too costly. Over time, acetone volatilizes from soil and can subsequently be extracted via the SVE system. The SVE system scored high on a few categories including likelihood of achieving SCGs, long-term effectiveness/performance, reduction of contaminant volume, and good community acceptance. The overall score, however, was low due to the excessive capital and long-term operating costs, the negative short-term impacts to facility operations, and the challenges associated with implementation. While there is the highest likelihood of achieving SCGs, the amount of time it would take is unknown as this is understood to be a slow remedy. While this is the most aggressive approach to protecting human health and the environment, the risks of exposure that exist are already low given the depth of impacts and the



absence of groundwater impacts. This Alternative is resource intensive and is too aggressive for such minor impacts – again, considering the depth, concentration, delineation, and COC. It is further noted that the operating SSDS is already protective of human health for soil vapor exposure pathways. In general, the cost-benefit relationship is not balanced with this approach; therefore, this Alternative is not recommended.

5.4 GREEN REMEDIATION COMPONENTS

Overall Remedial Alternative 1: Track 1 Remedy

For this Site, the Track 1 Remedy would not be considered a green remediation approach. Both direct and indirect greenhouse gases emitted due to Overall Remedial Alternative 1 would be more substantial than Overall Remedial Alternative 2 due to the increased volume of soil requiring excavation, transportation, and off-site disposal. Waste generated and sent to landfills would be increased due to the unnecessary volumes of soil and groundwater that would require removal from the Site to achieve UU SCOs. This remedy would also not conserve or efficiently utilize resources due to the larger volume of soil requiring replacement following excavation and off-Site disposal. This remedy would, however, allow for unrestricted redevelopment of the Site and may have the potential to foster green and healthy communities that balance ecological, economic, and social goals.

Overall Remedial Alternative 2: Track 4 Commercial/Industrial Remedy including Alternatives 1.2, 2.2, 3.2-3.4, 4.4, and 5.1/5.4

The collection of these alternatives, hereinafter defined as Overall Remedial Alternative 2, would be considered a green remediation approach. Direct and indirect greenhouse gases emitted due to Overall Remedial Alternative 2 would be much less substantial because of the decrease in the volume of soil requiring excavation and off-site disposal. Less waste would be generated and sent to landfills due to the smaller volumes of soil requiring removal from the Site to achieve Site Use SCOs. This remedy would also help to conserve and efficiently use resources as less imported backfill material would be required to return the Site to grade following excavation. Operation of one remedial system (the SSDS) compared to two (SSDS and AS/SVE) will conserve energy and, by extension, natural resources.



6.0 AAR CONCLUSION: RECOMMENDED REMEDIES

6.1 IMPACTED AREAS

Impacted soil, soil vapor, and groundwater were identified at the Site. COC presence was identified by pre-RI and RI/SRI investigations at levels that warranted remedial action in each media; therefore, IRMs 1 through 4 have been implemented at the Site to the impacted areas/media. The following is a summary of the impacted areas/media, and the IRMs implemented for mitigation and control:

- CVOCs in sub-slab soil vapor, addressed through installation of an SSDS under IRMs 1 and 3.
- Benzo(a)pyrene in shallow surface soil on the vegetated berm along the eastern property line, addressed through installation of an Engineered Cover System under IRM4, which is now part of the overall Site-wide Cover System.
- PAHs in the debris pile, addressed through complete removal of the debris pile fill material up to the northern property line during IRM2.
- Three historical septic systems addressed during implementation of IRM2, which included: (1) in-place closure of the Southeast and Northwest Septic Systems; and (2) complete removal of the Southwest Septic System.

Instances where there were exceedances of SCGs, but implementation of IRMs was not warranted, included the following:

- TCE in groundwater. *Note:* The low-level TCE plume appears to be from an upgradient, off-site source, based on groundwater gauging and sampling results, however, this will be addressed in the SMP through maintenance of the Cover System, a groundwater use restriction, and in the event there is a building construction in this location in the future a required soil vapor intrusion evaluation.
- Acetone in soil and groundwater, however, this will be addressed in the SMP through maintenance of the Cover System, a groundwater use restriction, and in the event there is a building construction in this location in the future a required soil vapor intrusion evaluation.

6.2 RECOMMENDED REMEDY

A Track 4 Commercial remedial program is most appropriate remedy for the Site because a true Track 1 remediation for the entire Site is not feasible, as discussed above. Based on the preceding analysis, Stantec recommends the following selected combined remedy (Overall Remedial Alternative 2) to achieve a Track 4 C/I clean-up, which provides the best cost-benefit analysis for this Site's remediation.

Impacted Area/Media	Selected Remedy	Remedial Action Implemented
AOC 1 CVOCs in Sub-Slab Soil Vapor	1.2. EC SSDS	Yes, through IRMs 1 and 3
AOC 2/RAOC-4 PAHs in Debris Pile	2.2. Removal	Yes, through IRM2



Impacted Area/Media	Selected Remedy	Remedial Action Implemented
AOC 3/RAOCs-1 through -3 Historical Septic Systems	3.2. Removal of Southwest Septic System (RAOC-2); 3.3. Closure of Southeast (RAOC-1) and Northwest (RAOC-3) Septic Systems; and 3.4. EC Cover System	Yes, through IRM2
AOC 4/RAOC-5 Benzo(a)pyrene in Shallow Surface Soil	4.4. EC Cover System	Yes, through IRM4
Acetone Impacts to Soil and Groundwater (western portion of the Site, beneath building)	5.1/5.4. NFA with EC Cover System	Yes, through cover provided by existing concrete building slab.
Acetone Impacts to Soil (eastern portion of the Site, parking lot area)	5.1/5.4. NFA with EC Cover System	Yes, through cover provided by existing parking lot asphalt.

The current industrial land use will be unaffected by the recommended remedy. Given the industrial nature of the area, and the lack of public comments on this project to date, the recommended remedy is acceptable to the community since it has had a relatively short timetable for implementation and limited construction impacts. Since the final remedy has been implemented through IRMs, a Site Management Plan and Environmental Easement will govern ongoing Site management to keep the Site safe for the continued industrial and possible future commercial use of the Site and any additional future remedial actions needed should the Site use change in the future or Site conditions are otherwise altered such that ground-intrusive work is required. As the IRMs constitute the final remedy for the Site, no further remedial action is warranted.



7.0 RESIDUAL CONTAMINATION TO REMAIN ON-SITE

Since residual contamination of soil, groundwater, and soil vapor will exist beneath the Site after implementation of the remedy, ECs and ICs will be utilized to protect human health and the environment. These ECs and ICs are described in Sections 8 through 11. Long-term management of EC/ICs and of residual contamination will be implemented under the SMP that will be submitted shortly following submittal of this AAR.

ECs will be implemented to protect public health and the environment by appropriately managing residual contamination. The Controlled Property (the Site) will have the following two (2) ECs:

3. Installation and operation of an active SSDS in the southern tenant space currently occupied by JML, which is further described in Section 8.0.
4. Installation and maintenance of a Cover System overlying areas of residual soil contamination, which is further described in Section 9.0.

Note that exceedances for commonly occurring metals such as aluminum, calcium, iron, magnesium, manganese, and sodium are not included in discussion regarding residual contamination. The observed concentrations of these metals in soil and groundwater are not considered to be related to an environmental release or historical Site use but appear representative of background-level concentrations of naturally occurring metals.

7.1 GROUNDWATER

Based on the Limited Phase II ESA, RI, and IRM2 groundwater sampling events, only two compounds are identified in groundwater beneath the Site at concentrations exceeding SGVs:

1. **Acetone** was reported to exceed its standard of 50 µg/L in the three groundwater samples collected beneath the southern building footprint at investigation locations B-11D, B-12D, and B-13D. Exterior groundwater sampling confirmed that acetone impacts to groundwater are limited to beneath the building based on two rounds of non-detect results for acetone in each of the 10 exterior wells. Additionally, the groundwater sampling results from IRM2 were non-detect for all three new [exterior] monitoring wells confirming the limits of acetone groundwater impacts to beneath the building.
2. **TCE** in groundwater beneath the Site is limited to the eastern parking lot area where it was detected in three RI monitoring wells (B/MW-101, B/MW-103, and B/MW-104) during both RI sampling events. The TCE concentrations in upgradient B/MW-103 and B/MW-104 exceeded the standard of 5 µg/L in both RI rounds of groundwater sampling. Downgradient well B/MW-101 exhibited a low-level concentration of TCE below the SGV in both RI groundwater sampling rounds. TCE was not reported to exceed SGVs in any of the three new [exterior] monitoring wells installed and sampled during IRM2, thus confirming the limits of TCE groundwater impacts to the eastern parking lot area. Furthermore, the following lines of evidence indicate likelihood of an off-site source: (1) direction of groundwater flow; (2) absence of on-site soil TCE impacts; (3)



absence of groundwater TCE impacts downgradient of 820 Linden Ave facility; and (4) historically documented TCE impacts to groundwater at adjacent Jarl Extrusions site.

As depicted on Figure 5, on-site impacts for both acetone and TCE are delineated. Potential exposure within the building and Site-wide will be addressed through implementation of the controls required by the SMP. Because groundwater is not used for drinking water and based on the depth below ground surface to the water table, no further controls beyond maintenance of a cover system, a groundwater use prohibition and a required soil vapor intrusion evaluation if a future building is constructed in the vicinity of these impacts are warranted. Further, given the TCE levels in groundwater and given that TCE was not detected in the co-located soil samples, there is not likely an on-site source of TCE. Based on the inferred direction of groundwater flow, the source of the on-site TCE groundwater plume appears to originate from an upgradient property.

7.2 SOIL

Following implementation of the IRMs, limited residual soil contamination is documented across the Site as described below. Residual soil contamination is managed under the SMP, EE, and through implementation of the EWP (appended to the SMP).

The following parameters were identified in remaining soils as exceeding their respective POGW SCOs but were not reported in groundwater above SGVs: mercury, silver, dieldrin, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene. Therefore, in accordance with Part 375-6.5, POGW SCOs are only applicable for acetone, for which groundwater SGV exceedances on the Site are delineated.

7.2.1 PAHs

Benzo(a)pyrene impacts to shallow (0-2" below ground surface) surface soil along the vegetated portion of the eastern property line remain on-site. The impacts are addressed through installation of an engineered cover system (further described in Section 9.0) during implementation of IRM4. A demarcation layer was installed to represent the base of the cover system and underlying PAH impacts. Ground-intrusive work that will extend deeper than the demarcation layer in this area of the Site requires compliance with the EWP (appended to the SMP).

The former debris pile previously located in the northeast corner of the parking lot area was found to contain elevated levels of PAHs associated with significant crushed asphalt contents. Removal of this debris pile along with required confirmatory sampling was performed as part of IRM2. Based on initial confirmatory sampling results, the PAH-impacted debris pile fill material extended to the northern property line; the material was removed up to the property boundary and a subsequent sidewall confirmatory sample was collected. The final property line sample demonstrated extensive removal of the most impacted fill material; however, limited PAH-impacted fill associated with the remnants of the removed debris pile remains at the limits of excavation along the northern property line. Ground-intrusive work near the northern property line in proximity to the removed debris pile requires compliance with the EWP (appended to the SMP).



Figure 6a summarizes the results of all soil samples collected that exceed the Commercial/Industrial Use SCOs at the Site and remain after completion of remedial action.

7.2.2 Metals

Mercury was detected in the sample adjacent to Northwest Septic System Tank 2. The reported mercury concentration of 3.2 mg/kg exceeds the UU SCO (0.18 mg/kg), Commercial Use SCO (2.8 mg/kg), and POGW SCO (0.73 mg/kg), but meets the Industrial Use SCO (5.7 mg/kg). The sample was collected at 8-10 ft bgs and, due to the depth and isolated occurrence, is not considered a concern. Further, mercury impacts to groundwater were not observed. The existing overlying clean soil cover that was placed over this excavation serves as a remedial cover system for the mercury exceedance. Therefore, should subsurface work be performed in the vicinity of the Former Northwest Septic System #3 (RAOC-3), it must be performed in compliance with the SMP and the EWP (appended to the SMP).

Figure 6a summarizes the results of all soil samples collected that exceed the Commercial/Industrial Use SCOs at the Site and remain after completion of remedial action.

7.2.3 VOCs

Acetone levels reported in Site soil samples meet both Commercial and Industrial SCOs, but in some cases exceed the POGW (and UU) SCO of 50 µg/kg. However, there are only co-located groundwater acetone impacts beneath the building footprint. Acetone concentrations in soil samples collected from exterior borings B/MW-101, B/MW-103, and B/MW-104 at depths directly above the water table ranged in concentration from 59 to 63 µg/kg, only slightly exceeding the SCO. Acetone concentrations in soil samples collected from interior borings B-10, B-11D, B-12D, B-13, and B-13D ranged in concentration from 53 to 120 µg/kg; the interior soil sample depths ranged from 3 to 60.5 ft bgs. The existing building slab and parking lot asphalt serves as a cover for the acetone soil impacts beneath the building and in the eastern parking lot area. Therefore, should subsurface work be performed in those areas, it must be performed in compliance with the SMP and monitoring is required in accordance with the EWP (appended to the SMP).

Figure 6b summarizes the results of all soil samples collected that exceed the POGW SCOs at the Site; the only parameter to exceed POGW SCOs, with co-located groundwater impacts, is acetone (note that the POGW and UU SCO for acetone are the same).

7.2.4 Unrestricted Use SCO Exceedances

As shown on Figure 6c, there are limited areas across the Site where remaining soil exceeds the UU SCOs, although the Site Use SCOs are met. Site areas and contravening compounds are listed below for clarity:

- Within the Southeast Septic System Area (RAOC-1): cadmium, copper, lead, mercury, silver, zinc, DDD, DDE, DDT, and dieldrin.
- Within the Southwest Septic System Area (RAOC-2): mercury and zinc.
- On the eastern property line berm area (RAOC-5): benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, and dieldrin.



- On the western side of the building near Outfall 1, at sample locations B-108 and TP-6: zinc.

7.3 SOIL VAPOR

Soil vapor impacts beneath the building may remain long-term, as a source was never fully identified despite shallow and deep soil and groundwater investigations. The potential for SVI is addressed and mitigated via the installation and operation of an active SSDS pursuant to the long-term operation and maintenance requirements in the SMP and Environmental Easement. Figure 7 depicts the area of SVI concern and the extent of the active, operating SSDS.



8.0 PROPOSED ENGINEERING CONTROLS: SVI MITIGATION

SVI is the migration of VOCs or SVOCs from contaminated groundwater and soil into overlying buildings. SSDSs are designed to mitigate the migration of subsurface vapors into the interior of a structure by collecting and extracting vapors from beneath an interior, occupied space, safely routing the vapors around or through the interior, occupied space and discharging them above the roof line in a manner that does not lead to their recirculation in the building's HVAC operations.

In order to mitigate potential migration of CVOC-impacted soil vapor into the southern currently JML Optical tenant space, where mitigation was recommended based on evaluating SVI data against DOH guidance matrices (Stantec, 2017b), an SSDS was designed and constructed in two phases:

1. From December 2018 through February 2019, the first phase of the SSDS was installed throughout the majority of the southern tenant space in the existing on-site building. The SSDS installation was performed concurrently with the RI as IRM#1 in accordance with the Department-approved IRM Work Plan #1 (IRMWP#1) dated July 2018 (Stantec, 2018). The system became operational on March 1, 2019.
2. To address the March 2019 SVI sampling results, a second phase of the SSDS was designed for installation in the portion of the building permitted in 1954 in the southern tenant space. From December 2019 through January 2020 construction was completed in accordance with the Department-approved IRM Work Plan #3 (IRMWP#3) dated August 2019 (Stantec, 2019b). The expanded system became operational on January 16, 2020.

Figure 8 shows the extent of the SSDS. The goal of the SSDS is to maintain a minimum pressure differential vacuum of 0.002-inches of water column between the applicable sub-slab areas and the building interior space in portions of the building's footprint where the SSDS is installed. Details of the SSDS design, construction, and operation are provided in the SSDS CCR (Stantec, 2020b). Operation, maintenance, and monitoring of the SSDS is required, as detailed in the SMP.



9.0 PROPOSED ENGINEERING CONTROLS: COVER SYSTEM

Exposure to remaining contamination in soil at the Site will be prevented by a Cover System. The Cover System is comprised of the following existing and newly-installed components:

- Existing concrete building floor slab;
- Existing landscaped, vegetated, or lawn areas with at least one foot of non-impacted soil overlying UU or C/I SCO exceedances;
- Existing paved parking lot areas; and
- An engineered Cover System consisting of a one-foot thick cap of gabion stone over a demarcation layer for the eastern vegetated property line area (RAOC-5) remediated during IRM4.

Remaining soil conditions are described in Section 7.0 of this AAR, tabulated in Tables 4 through 8, and depicted in Figures 6a-6c. Remaining contamination is also described in the SMP. The SMP will outline the procedures to be followed if the Cover System and underlying residual contamination are disturbed, as well as a description of inspection and maintenance procedures for the Cover System.



10.0 CRITERIA FOR TERMINATION OF ENGINEERING CONTROLS

10.1 SSDS

The active SSDS, covering most of the southern tenant space building footprint, is a permanent EC for the foreseeable future while residual soil vapor impacts remain on the Site. The quality and integrity of these systems will be inspected at regular intervals defined by the SMP.

A proposal to discontinue the active SSDS may be submitted by the property owner based on confirmatory data that justifies such a request. Systems would remain in place and operational until permission to discontinue use is granted in writing by NYSDEC and NYSDOH.

10.2 COVER SYSTEM

The Site-wide Cover System will serve as a permanent EC while residual soil and minor areas of groundwater contamination remains on the Site. Residual impacts are anticipated to remain or naturally attenuate over time unless a future remedial action program is completed. The quality and integrity of this system will be inspected at regular intervals defined by the SMP.



11.0 PROPOSED INSTITUTIONAL CONTROLS

After the Remedial Action is complete, the Site will have residual contamination remaining in place. ECs for the residual contamination have been incorporated into the remedy to render the overall Site protective of public health and the environment. ICs have been designed for this Site to ensure continual and proper management of residual contamination in perpetuity: an Environmental Easement including but not limited to the following land use restrictions: (1) groundwater use prohibition; (2) required implementation of the SMP by the current and future Site owner, which requires long-term operation and maintenance of the two ECs (i.e. SSDS and Site-wide Cover System); (3) commercial and industrial use restriction; and (4) a required soil vapor intrusion evaluation if new buildings are constructed on the Site. A detailed list is provided below.

A Site-specific Environmental Easement will be recorded with Monroe County to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until Track 1 SCOs are achieved and the easement is released in writing by NYSDEC. The easement requires that the grantor of the Environmental Easement, which is the Site owner, and the grantor's successors and assigns adhere to all ECs/ICs placed on this Site by this NYSDEC-approved remedy. ICs provide restrictions for on-Site usage and mandate operation, maintenance, monitoring, and reporting measures for all ECs and ICs.

The SMP describes appropriate methods and procedures to ensure compliance with all ECs and ICs that are required by the Environmental Easement. Once the SMP has been approved by the NYSDEC, compliance with the SMP is required by the grantor of the Environmental Easement and grantor's successors and assigns.

11.1 ENVIRONMENTAL EASEMENT

An Environmental Easement is required when some residual contamination is left on-site after the Remedial Action is complete. As part of this remedy, an Environmental Easement approved by NYSDEC will be filed and recorded with Monroe County. The draft Environmental Easement will be appended to the draft Site Management Plan.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement must be recorded with Monroe County before the Certificate of Completion can be issued by NYSDEC. A series of ICs are required under this remedy to implement, maintain, and monitor ECs, prevent future exposure to residual contamination by controlling disturbances of the subsurface soil, and restricting the use of the Site to Commercial or Industrial uses only. These ICs are requirements or restrictions placed on the Site that are listed in, and required by, the Environmental Easement. ICs can, generally, be subdivided between controls that support ECs, and those that place general restrictions on Site usage or other requirements as described above and below. ICs in both groups are closely integrated with the Site Management Plan, which provides the methods and procedures to be followed to comply with this remedy.

The ICs that place general restrictions on Site usage or other requirements contained within the easement are:



- The property may be used for Commercial or Industrial use, provided the long-term ECs and ICs included in the Site Management Plan are employed;
- The use of groundwater underlying the portion of the property covered by the Environmental Easement is prohibited without necessary water quality treatment as determined by the NYSDOH or the Monroe 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;
- 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 Environmental Easement;
- The potential for vapor intrusion must be evaluated for any future buildings developed within the Environmental Easement Area, and any potential impacts that are identified must be monitored or mitigated; and
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP; and
- Vegetable gardens and farming on the Site are prohibited.

The ICs that support ECs contained within the easement are:

- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be certified and inspected at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed 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; and
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP.

The ECs required by the Easement are:

- The quality and integrity of the Cover System will be inspected at regular intervals and repaired as necessary as defined in the SMP; and
- An active SSDS system is present, and must be inspected, operated and maintained as required by the SMP.



Adherence to these Institutional and Engineering Controls for the Site is mandated by the Environmental Easement and will be implemented under the SMP, as discussed in Section 11.2.

11.2 SITE MANAGEMENT PLAN

Site Management is the last phase of remediation and begins with the issuance of the Certificate of Completion for the Site following implementation of the selected remedy. The draft SMP is being prepared and will be submitted under separate cover. The SMP is intended for use as a complete and independent document. Site Management continues in perpetuity or until released in writing by NYSDEC. The property owner is responsible to ensure that all Site Management responsibilities defined in the Environmental Easement and the Site Management Plan are performed.

The SMP provides a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the remedy in accordance with the BCA with the NYSDEC. This includes:

- Development, implementation, and management of all ECs and ICs;
- Development and implementation of monitoring systems and a Monitoring Plan;
- Development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation, Maintenance, and Monitoring Manual);
- Submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and
- Defining criteria for termination of treatment system operations.

To address these needs, this SMP includes four (4) plans:

- An Engineering and Institutional Control Plan for implementation and management of EC/ICs;
- A Monitoring Plan for implementation of Site Monitoring;
- An Operation and Maintenance Plan for mechanical ECs (the SSDS); and
- A Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC. The draft SMP will be submitted shortly following the submittal of this AAR and will be prepared in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation and the guidelines provided by NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be annually. The SMP reporting will be based on a calendar year and will be due for submission as specified by NYSDEC following the reporting period.



**Alternatives Analysis Report
820 Linden Ave BCP Site #C828200
820 Linden Avenue
Pittsford, Monroe County, New York**

No exclusions for handling of residual contaminated soils will be provided in the SMP. All handling of residual contaminated material will be subject to provisions contained in the SMP.



12.0 REFERENCES

The section provides a list the various references used in preparation of this AAR and cited herein.

12.1 NEW YORK STATE STANDARDS, CRITERIA AND GUIDANCE

NYSDEC, 1998	Technical and Operational Guidance Series (TOGS 1.1.1) Memorandum: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. New York State Department of Environmental Conservation, Division of Water, October 22, 1993, Reissued June 1998, and addenda dated April 2000 and June 2004
NYSDEC, 2006	6 NYCRR Part 375 – Environmental Remediation Programs
NYSDEC, 2010a	Program Policy DER-10: Technical Guidance for Site Investigation and Remediation. New York State Department of Environmental Conservation, May 3, 2010
NYSDEC, 2010b	Commissioner Policy CP-51: Soil Cleanup Guidance. New York State Department of Environmental Conservation, October 21, 2010
NYSDOH, 2006; NYSDOH, 2017	Guidance for Evaluating Soil Vapor Intrusion in the State of New York. New York State Department of Health, October 2006 (Soil Vapor Intrusion Updates posted online, May 2017: Updates to Soil Vapor/Indoor Air Decision Matrices)

12.2 SITE-SPECIFIC AND OTHER LITERATURE REFERENCES

ERM, 2004	Results of Phase II Site Assessment Activities, Spectronic Facility, 820 Linden Avenue, Pittsford, New York. January 13, 2004.
Freeze and Cherry, 1979	<i>Groundwater</i> . Prentice Hall, Englewood Cliffs, NJ. 1979.
GZA, 1995	Site Assessment and Operations Audit, Milton Roy Analytical Products Division, 820 Linden Avenue, Rochester, New York. June 1995.
LaBella, 2005	Phase II Environmental Site Assessment: Supplemental Passive Soil Gas Survey. June 2005.
NYS Geologic Survey, 1970	Geologic Map of New York, Finger Lakes Sheet, Map and Chart Series #15, March 1970.
NYS Geologic Survey, 1986	Surficial Geologic Map of New York, Finger Lakes Sheet, Map and Chart Series #40, 1986.
OBG, 1993	Focused Remedial Investigation Addendum, Alcan Aluminum Corporation, Site #828005, Pittsford, NY. December 1993.
OBG, 2011	Environmental Site Assessment, 820 Linden Avenue, Rochester, NY. April 2011.



**Alternatives Analysis Report
820 Linden Ave BCP Site #C828200
820 Linden Avenue
Pittsford, Monroe County, New York**

Stantec, 2017a	Phase I Environmental Site Assessment, 820 Linden Avenue, Town of Pittsford, Monroe County, New York. September 2017.
Stantec, 2017b	Limited Phase II Environmental Site Assessment for 820 Linden Avenue, Pittsford, New York. September 2017.
Stantec, 2017c	Remedial Investigation Work Plan, B + L Site, 820 Linden Avenue, Pittsford, Monroe County, New York. September 2017.
Stantec, 2018	IRM Work Plan, 820 Linden Ave Site, Pittsford, New York, Site # C828200. July 31, 2018.
Stantec, 2019a	Revised Limited Supplemental Remedial Investigation Work Plan, Brownfield Cleanup Program Site #C828200, 820 Linden Avenue, Pittsford, Monroe County, New York. February 21, 2019.
Stantec, 2019b	IRM Work Plan #3 – Sub-Slab Depressurization System Extension in the 1954 Construction Area, 820 Linden Ave Site, Pittsford, New York, Site # C828200. August 12, 2019.
Stantec, 2020a	Revised Limited Supplemental Remedial Investigation Work Plan #2, Brownfield Cleanup Program Site #C828200, 820 Linden Avenue, Pittsford, Monroe County, New York. March 19, 2020.
Stantec, 2020b	Interim Remedial Measures #1 and #3 Construction Completion Report, 820 Linden Ave Site, Pittsford, New York, BCP Site # C828200. April 22, 2020.
Stantec, 2020c	Revised Interim Remedial Measure Work Plan #2, 820 Linden Ave BCP Site #828200, 820 Linden Avenue, Pittsford, Monroe County, New York. April 13, 2020.
Stantec, 2020d	Revised Interim Remedial Measure Work Plan #4 – Surface Soil Cap, 820 Linden Ave BCP Site #828200, 820 Linden Avenue, Pittsford, Monroe County, New York. June 15, 2020.
Stantec, 2020e	Interim Remedial Measures #2 and #4 Construction Completion Report, 820 Linden Ave Site, Pittsford, New York, BCP Site # C828200. August 17, 2020.
Stantec, 2020f	REVISED Remedial Investigation Report, 820 Linden Ave Brownfield Cleanup Program Site #828200, 820 Linden Avenue, Pittsford, Monroe County, New York. August 17, 2020.
USGS, 1985	Geohydrology of the Irondequoit Creek Basin Near Rochester, New York, Water Resources Investigation Report 84-4259, Yager, et al, 1985.



FIGURES

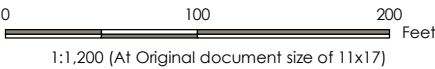


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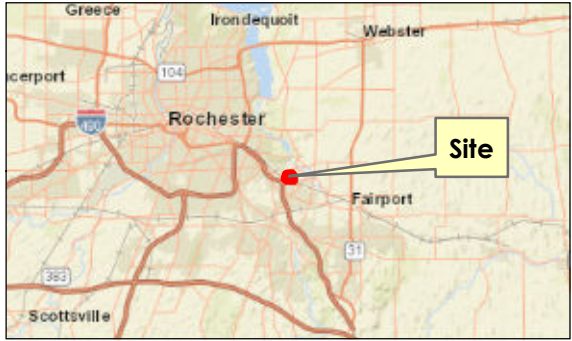


Legend

- Site Property Outline
- Building Outline
- Newport tenant space (permitted addition 1967)
- JML Optical tenant space (five construction phases, see below)
- Year of Building Permits for Construction Phases of Southern Tenant Space
 - 1954
 - 1956
 - 1958
 - 1959
 - 1966
- Nearby Parcel Boundaries
- Jarl Extrusions Monitoring Well
- Roof Drain Outfall Locations



- Notes**
- Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
 - Orthoimagery (2015) downloaded from gis.ny.gov.
 - Site building is occupied by two tenants: JML Optical in the southern building section and Newport Corporation in the northern building section. Both current tenants are optics manufacturing facilities.



Project Location: 820 Linden Avenue, Pittsford, Monroe Co., NY
Prepared by: LB on 2020-06-30
Technical Review by: SRS on 2020-08-13
Independent Review by: MPS/KI on 2020-08-13
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Client/Project
820 Linden Ave Site
BCP Site #C828200
Alternatives Analysis Report

Figure No.

2

Title

Site Layout Map

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Legend

- 2020 IRM2 Septic System Monitoring Well
- 2020 IRM2 Debris Pile Removal Sidewall Samples
- 2018 RI Soil Boring/Monitoring Well
- 2018 RI Shallow Monitoring Well
- 2018 RI Soil Boring
- 2018 RI Test Pit
- 2018 RI Discrete Surface Soil Sample for Composite*
- 2018 RI Discrete Surface Soil Sample for Composite and Grab Sample for VOCs*
- SS-4a = 2018 RI Discrete Surface Soil Sample for Composite and 2020 SRI#2 Discrete Surface Soil Grab Sample for SVOCs*
- SS-4b and SS-4c = 2018 RI Discrete Surface Soil Sample for Composite and Grab Sample for VOCs and 2020 SRI#2 Discrete Surface Soil Grab Sample for SVOCs*
- 2018 RI Debris Pile Sample
- Historical Septic Systems (Removed or Abandoned-in-Place during IRM2)
- 2016 Limited Phase II ESA Soil Boring and Monitoring Well
- 2016 Limited Phase II ESA Shallow Soil Boring
- 2017 Limited Phase II ESA Deep Soil Boring/Temporary Monitoring Well
- Previously Existing Monitoring Well
- 2016-2017 Indoor Air/Sub-Slab Vapor Sample Location
- Jarl Extrusions Monitoring Well
- Roof Drain Outfall Locations
- Site Property Outline
- Nearby Parcel Boundaries
- Building Tenant Spaces
- Historical Building Usage

Notes

- Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
- Orthomage (2015) downloaded from gis.ny.gov.
- Monitoring well MW-3 is an angled well that terminates under the building. The other monitoring wells are vertical wells.
- Interior boring/well locations and sub-slab vapor/indoor air sample locations are estimated based on building structure tie-offs. The exterior locations are based on handheld GPS (Trimble) unit measurements and/or field measurements.
- Well locations surveyed for vertical and horizontal coordinates by a Stantec surveyor.
- *Surface soil sample locations were selected based on NYSDEC's Draft Soil Screening Guidance. Soil was collected from two depths at each sample location. Of the twelve discrete sample locations, eight included the collection of additional soil for VOC analysis (in addition to the soil collected for a composite analysis of other parameters). Each of the eight composite samples (4 groups at two depths) were comprised of three discrete samples. The discrete surface soil sample locations SS-4a, SS-4b, and SS-4c were re-sampled in April 2020 as part of SRI2. Samples from 0-2" below ground cover were each analyzed for benzo(a)pyrene to delineate PAH impacts to surface soil.



Project Location: 820 Linden Avenue
Pittsford, Monroe Co., NY

Prepared by: LB on 2020-07-21
Technical Review by: SRS on 2020-08-13
Independent Review by: MPS/KI on 2020-08-13

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Client/Project
820 Linden Ave Site
BCP Site #C828200
Alternatives Analysis Report

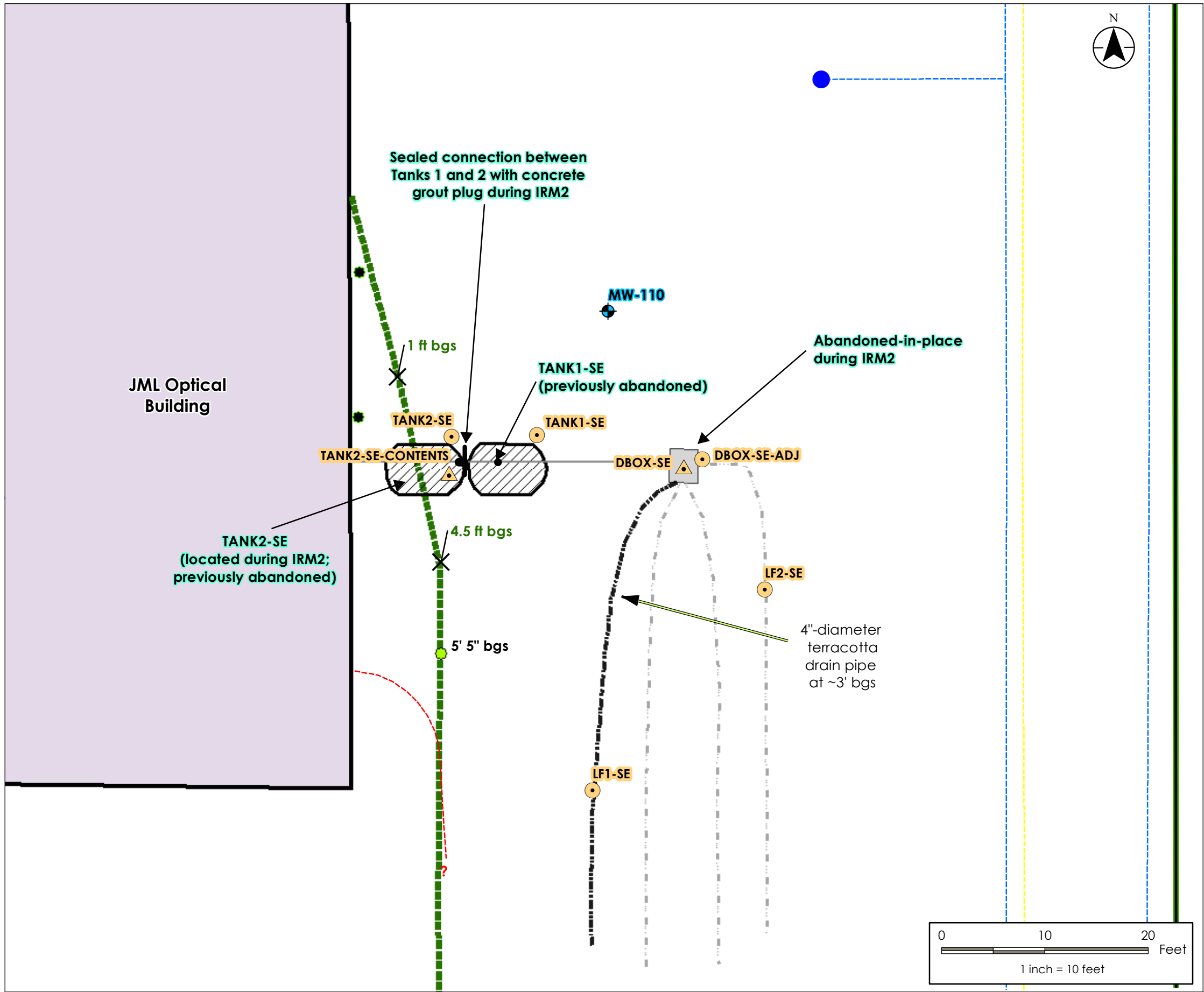
Figure No.

3

Title

Investigation and Sample Locations

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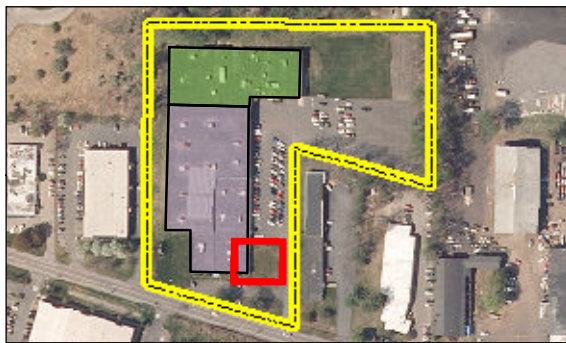


Legend

- 2020 IRM2 Septic Tank/Distribution Box/Leach Field Adjacent Soil Grab Sample
- 2020 IRM2 Septic Tank/Distribution Box Contents Grab Sample
- 2020 IRM2 Septic System Monitoring Well
- Location ID for Previous Septic Tank Contents Characterization Sampling
- Approximate Location of Septic Tank (previously abandoned)
- Approximate Location of Distribution Boxes (based on historical sketches)
- Approximate Location of Septic Drain Tiles (based on historical sketches)
- Drain Pipe Section Confirmed during SRI
- Approximate Location of Tank Connection Piping
- Exterior Sewer Lines
- Sewer Depth and Location Confirmed during SRI
- Electric (Underground)
- Gas (Underground)
- Water (Underground)
- Sewer Cleanout
- Sewer Line (location identified during RI sewer video survey; approximate depth of sewer line depicted, if known)
- Water Valve
- Site
- JML Optical tenant space
- Newport tenant space

Notes

- Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
- All locations based on approximate field observations and measurements.
- The depiction of septic tanks, distribution boxes, and associated piping is largely based on historical drawings (gray) supplemented by SRI and IRM2 field activities (black). Locations should still be considered approximate only.
- Sprinkler conduits not depicted. Additional metal conduits (unknown utility and unknown operational status) encountered, but not depicted.



Project Location: 820 Linden Avenue, Pittsford, Monroe Co., NY
Prepared by: LB on 2020-07-21
Technical Review by: SRS on 2020-08-13
Independent Review by: KI/MPS on 2020-08-13

Client/Project: 820 Linden Ave Site, BCP Site #C828200, Alternatives Analysis Report

Figure No.

4a

Title

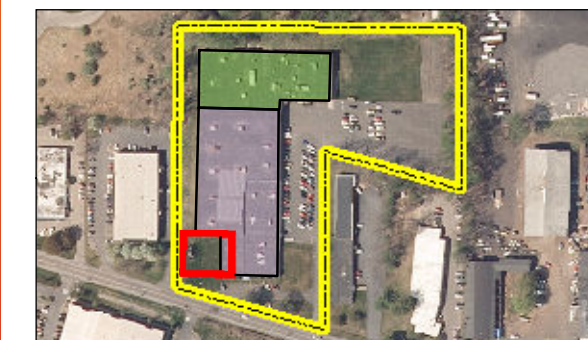
**Investigation and Confirmatory Sample Locations:
Southeast Septic System (abandoned-in-place)**

Legend

- 2020 IRM2 Confirmatory Sample Location
- 2020 IRM2 Septic System Monitoring Well
- Approximate Location of Former Septic Tanks (removed)
- Approximate Location of Distribution Boxes (removed)
- Approximate Location of Former Septic Drain Tiles (removed the 4"-diameter terracotta pipes located at approximately 3 ft bgs)
- Approximate Location of Tank Connection Piping (removed)
- Approximate Location of Tank Inlet (plugged)
- Approximate Presumed Lateral Tank Inlet Run to Building
- Exterior Sewer Lines
- Electric (Overhead, approximate)
- Electric (Underground, approximate)
- Fiberoptic (Underground, approximate)
- Apparent Historical/Inactive Sewer Line (investigated during SRI; partially removed during IRM2)
- Remaining
- Removed
- Apparent Historical/Inactive Sewer Cleanout (accessed for SRI video survey)
- Sewer Cleanout
- Sewer Line (location identified during RI sewer video survey; approximate depth of sewer line depicted, if known)
- Sprinkler Head (location of sprinkler lines largely unknown; encounters with sprinkler conduits not depicted on map)
- Overhead Electric Utility Poles
- Fenced Electric Area
- Site
- JML Optical tenant space
- Newport tenant space

Notes

- Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
- All locations based on approximate field observations and measurements.
- The depiction of septic tanks, distribution boxes, and associated piping is based on observations during IRM2 removal. Locations still considered approximate only.
- Sprinkler conduits not depicted. Additional inactive metal conduits encountered but not depicted.

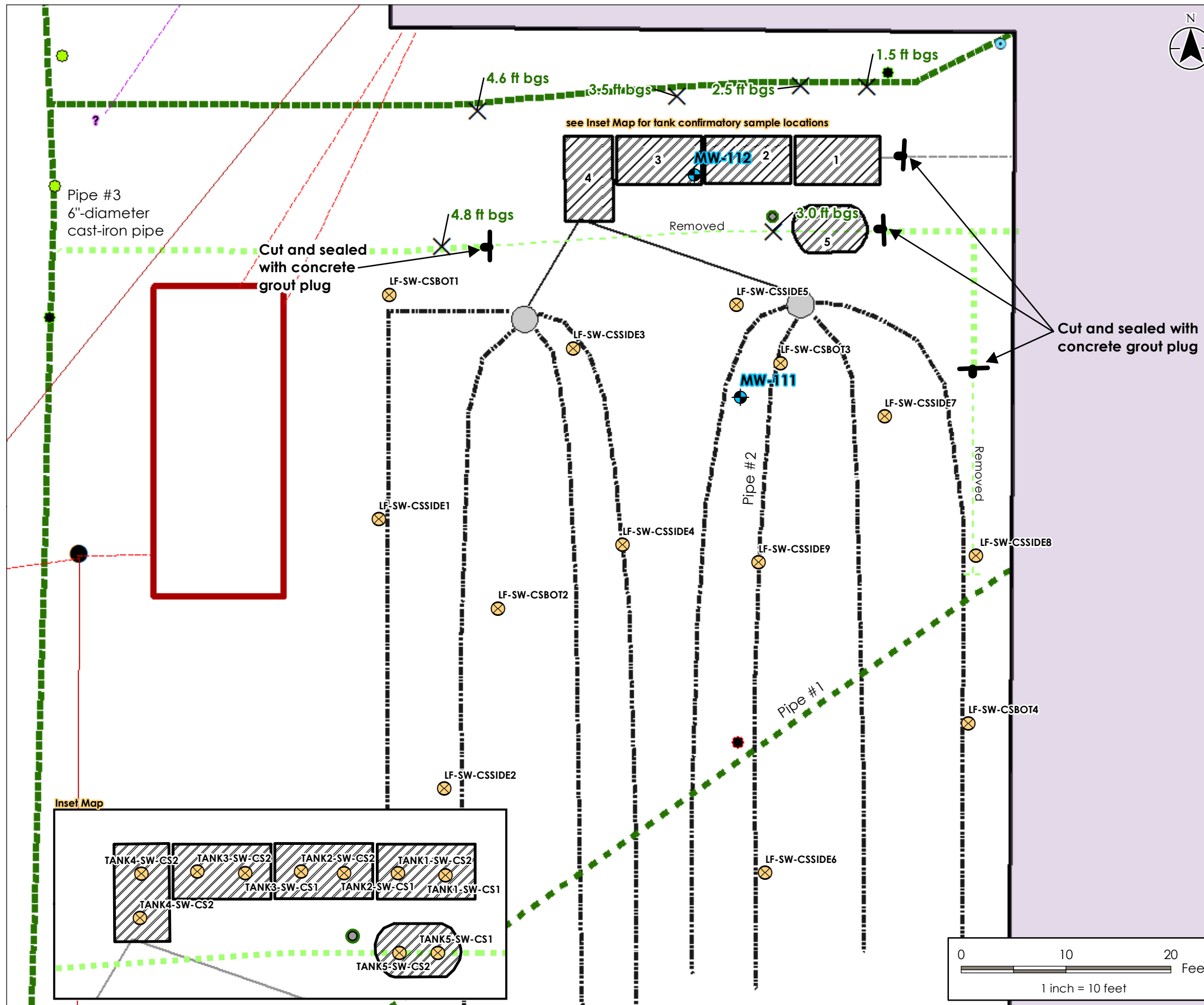


Project Location: 820 Linden Avenue
Pittsford, Monroe Co., NY

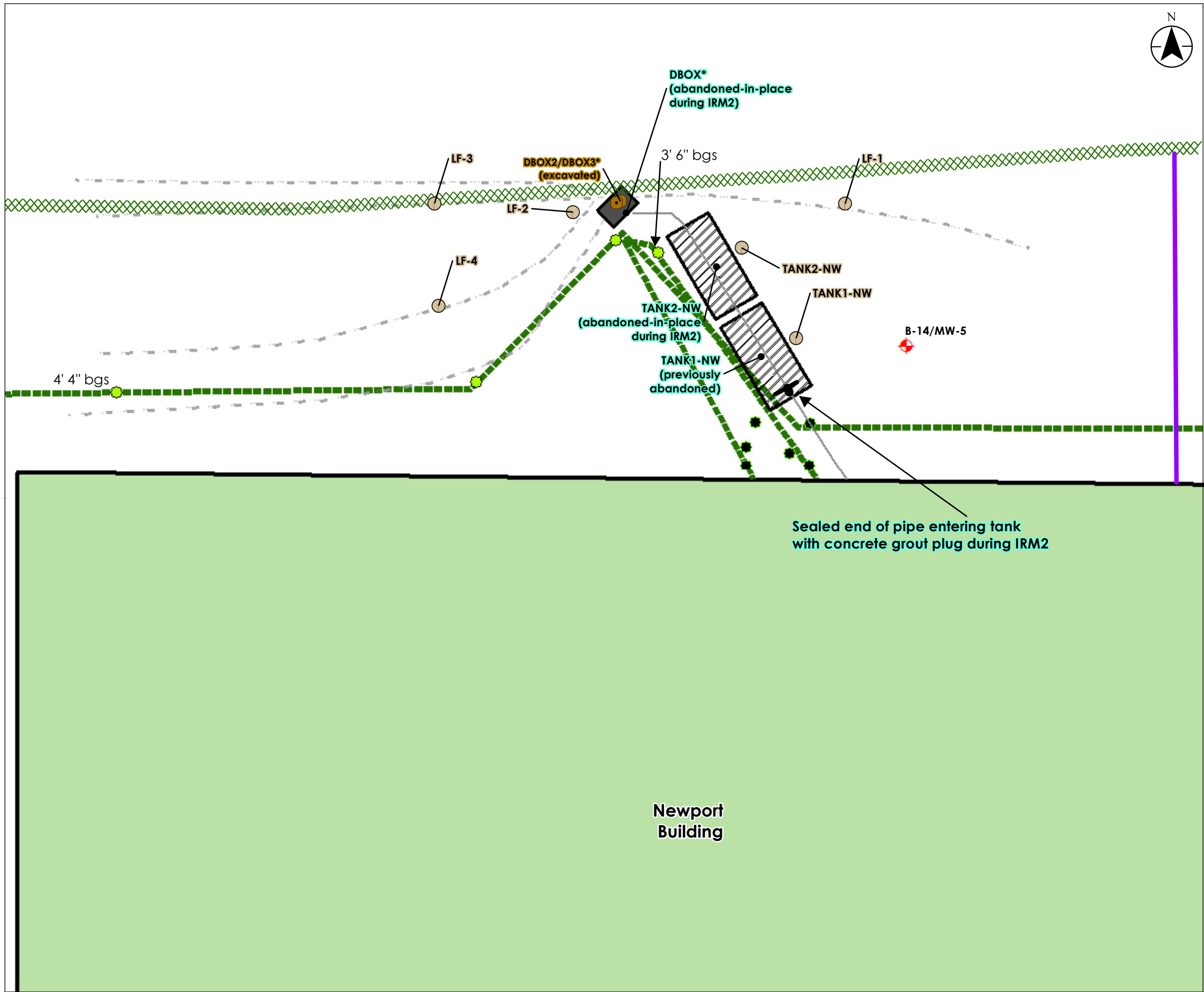
Prepared by: LB on 2020-07-23
Technical Review by: SRS on 2020-08-13
Independent Review by: KJ/MP on 2020-08-13

Client/Project: 820 Linden Ave Site
BCP Site #C828200
Alternatives Analysis Report

Figure No.: 4b
Title: Investigation and Confirmatory Sample Locations: Southwest Septic System (removed)

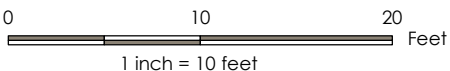


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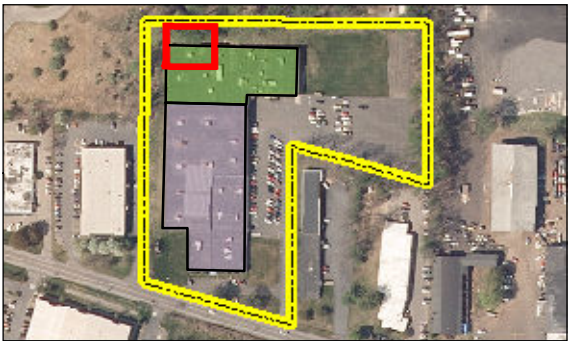
Legend

- Location ID for Septic Tank Contents Characterization Sampling
- Grab Sample
- Soil Boring
- ▨ Approximate Location of Tank (abandoned-in-place)
- ▨ Approximate Location of Distribution Box (abandoned-in-place)
- Approximate Location of Septic Drain Tiles (based on historical sketches; see Note 5**)
- Approximate Location of Tank Connection Piping (plugged as shown during IRM2)
- Exterior Sewer Lines
- Sewer Cleanout
- Sewer Line (location identified during RI sewer video survey; approximate depth of sewer line depicted, if known)
- Monitoring Well (2016 Investigation)
- ▭ Site
- ▭ JML Optical tenant space
- ▭ Newport tenant space
- ▭ Approximate Western Edge of Picnic Table Area
- ▨ Approximate Treeline



Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. All locations based on approximate field observations and measurements.
3. The depiction of septic tanks, distribution boxes, and associated piping is largely based on historical drawings (gray) supplemented by SRI field activities (black). Locations shown are approximate.
4. *DBOX is a solids sample from within distribution box for waste characterization, as depicted. The distribution box was abandoned in-place during IRM2. DBOX2 and DBOX3 are solids samples analyzed as part of the investigation dataset; DBOX2 is in situ soil in the vicinity of the distribution box excavation backfill area; DBOX3 is a bulk sample of black tar-like material encountered in a discrete occurrence while digging to the distribution box. Backfill material above distribution box containing de minimis black tar-like material was excavated for off-site disposal during IRM2.
5. **Inlet/outlet holes observed in distribution box roughly align with historical sketch of drain tiles and provided approximate depth below ground surface for leach field sampling reference. These holes were plugged during IRM2 prior to installation of flowable fill for closure of the distribution box component of the septic system.



Project Location: 820 Linden Avenue, Pittsford, Monroe Co., NY
Prepared by: LB on 2020-07-21
Technical Review by: SRS on 2020-08-13
Independent Review by: KJ/MPS on 2020-08-13

Client/Project: 820 Linden Ave Site, BCP Site #C828200, Alternatives Analysis Report

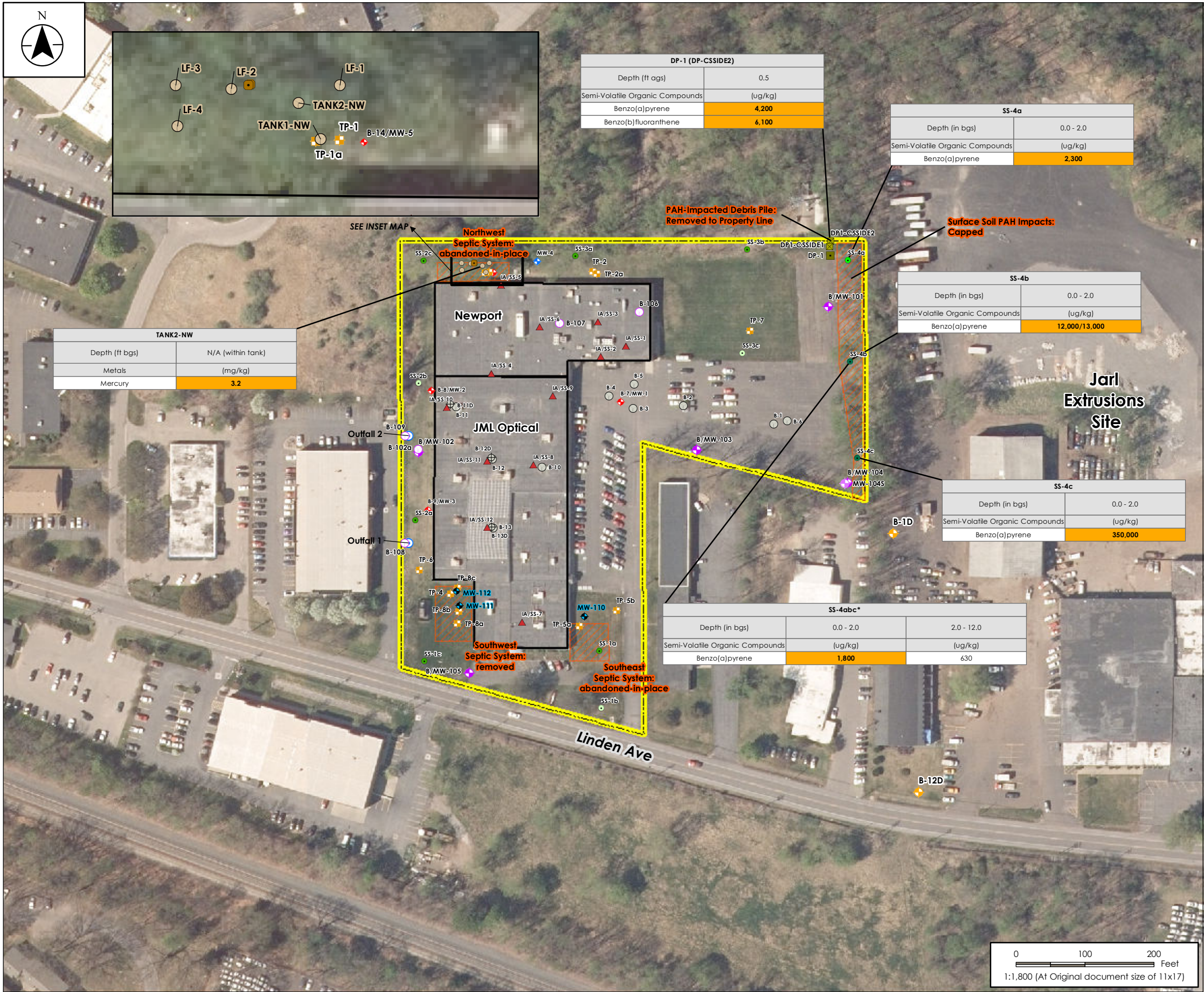
Figure No.

4c

Title

**Investigation and Confirmatory Sample Locations:
Northwest Septic System (abandoned-in-place)**

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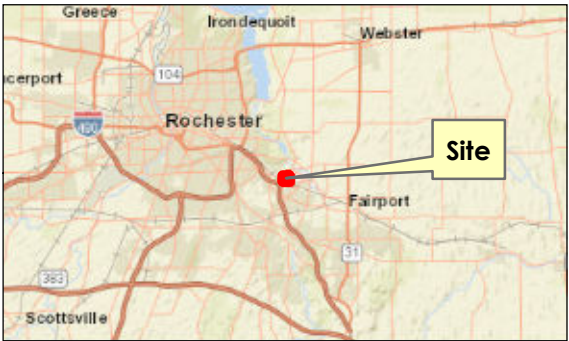


Legend

- 2020 IRM2 Septic System Monitoring Well
- 2020 IRM2 Debris Pile Removal Sidewall Samples
- 2019 SRI Grab Soil Sample
- 2019 SRI Soil Boring
- 2018 RI Soil Boring/Monitoring Well
- 2018 RI Shallow Monitoring Well
- 2018 RI Soil Boring
- 2018 RI Test Pit
- 2018 RI Discrete Surface Soil Sample for Composite*
- 2018 RI Discrete Surface Soil Sample for Composite and Grab Sample for VOCs*
- SS-4a = 2018 RI Discrete Surface Soil Sample for Composite and 2020 SRI#2 Discrete Surface Soil Grab Sample for SVOCs*
- SS-4b and SS-4c = 2018 RI Discrete Surface Soil Sample for Composite and Grab Sample for VOCs and 2020 SRI#2 Discrete Surface Soil Grab Sample for SVOCs*
- 2018 RI Debris Pile Sample
- 2016 Limited Phase II ESA Soil Boring and Monitoring Well
- 2016 Limited Phase II ESA Shallow Soil Boring
- 2017 Limited Phase II ESA Deep Soil Boring/Temporary Monitoring Well
- Previously Existing Monitoring Well
- 2016-2017 Indoor Air/Sub-Slab Vapor Sample Location
- Jarl Extrusions Monitoring Well
- Roof Drain Outfall Locations
- Area of Concern Addressed by IRMs 2 and 4
- Site Property Outline
- Building Tenant Spaces

Notes

- Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
- Orthimagery (2015) downloaded from gis.ny.gov.
- Monitoring well MW-3 is an angled well that terminates under the building. The other monitoring wells are vertical wells.
- Interior boring/well locations and sub-slab vapor/indoor air sample locations are estimated based on building structure tie-offs, the exterior locations are based on handheld GPS (Trimble) unit measurements and/or field measurements.
- Well locations surveyed for vertical and horizontal coordinates by a Stantec surveyor.
- *SS-4abc is a composite of discrete surface soil samples collected from locations SS-4a, SS-4b, and SS-4c. In April 2020, grab surface soil samples were collected at locations SS-4a, SS-4b, and SS-4c for SVOC analyses under SRI2.
- This figure depicts soil sample location exceedances of NYSDEC Commercial and Industrial Soil Cleanup Objectives (SCOs) that remain post-IRMs. Exceedances of common, naturally-occurring metals such as aluminum, calcium, iron, and magnesium are not included herein. Refer to Report Tables for a complete tabulation of solids analytical data; locations with results meeting NYSDEC SCOs are not shown on this figure. Results with concentrations exceeding the listed applicable NYSDEC SCOs are shaded in orange with bold text. Duplicate results are indicated with a slash ("/").



Project Location: 820 Linden Avenue, Pittsford, Monroe Co., NY
Prepared by: LB on 2020-07-17
Technical Review by: SRS on 2020-08-13
Independent Review by: MPS/KI on 2020-08-13

Client/Project: 820 Linden Ave Site, BCP Site #C828200, Alternatives Analysis Report

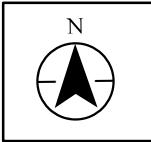
Figure No.

6a

Title

Remaining Soil Sample Exceedances of Commercial/Industrial Use SCOs

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.



B-12D			
Depth (ft bgs)	28.0 - 28.5	40.5 - 41.5	58.0 - 58.5
Volatile Organic Compounds	(ug/kg)	(ug/kg)	(ug/kg)
Acetone	42	35	95 / 92

B-11D		
Depth (ft bgs)	28.0 - 29.0	60.0 - 60.5
Volatile Organic Compounds	(ug/kg)	(ug/kg)
Acetone	ND	53

B-13D		
Depth (ft bgs)	48.0 - 48.5	54.5 - 55.5
Volatile Organic Compounds	(ug/kg)	(ug/kg)
Acetone	120	ND

B-13		
Depth (ft bgs)	2.0 - 3.0	7.0 - 8.0
Volatile Organic Compounds	(ug/kg)	(ug/kg)
Acetone	28	70 J

B-10	
Depth (ft bgs)	3.0 - 4.0
Volatile Organic Compounds	(ug/kg)
Acetone	98

B/MW-103			
Depth (ft bgs)	8.0 - 10.0	19.0 - 19.5	49.0 - 51.0
Volatile Organic Compounds	(ug/kg)	(ug/kg)	(ug/kg)
Acetone	ND	ND	61 J-

B/MW-104		
Depth (ft bgs)	10.5 - 11.0	45.0 - 49.0
Volatile Organic Compounds	(ug/kg)	(ug/kg)
Acetone	10	59

B/MW-101		
Depth (ft bgs)	15.0 - 17.0	57.0 - 60.0
Volatile Organic Compounds	(ug/kg)	(ug/kg)
Acetone	ND / 7.3	63

PAH-Impacted Debris Pile:
Removed to Property Line

Northwest
Septic System:
abandoned-in-place

Newport

JML Optical

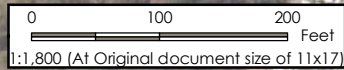
Southwest
Septic System:
removed

Southeast
Septic System:
abandoned-in-place

Surface Soil PAH Impacts:
Capped

Jarl
Extrusions
Site

Linden Ave

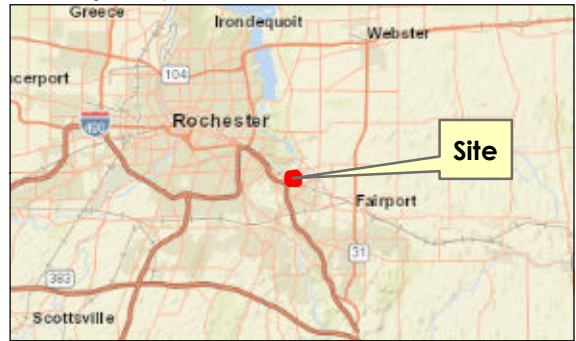


Legend

- 2020 IRM2 Septic System Monitoring Well
- 2020 IRM2 Debris Pile Removal Sidewall Samples
- 2019 SRI Grab Soil Sample
- 2019 SRI Soil Boring
- 2018 RI Soil Boring/Monitoring Well
- 2018 RI Shallow Monitoring Well
- 2018 RI Soil Boring
- 2018 RI Test Pit
- 2018 RI Discrete Surface Soil Sample for Composite
- 2018 RI Discrete Surface Soil Sample for Composite and Grab Sample for VOCs
- SS-4a = 2018 RI Discrete Surface Soil Sample for Composite and 2020 SRI#2 Discrete Surface Soil Grab Sample for SVOCs
- SS-4b and SS-4c = 2018 RI Discrete Surface Soil Sample for Composite and Grab Sample for VOCs and 2020 SRI#2 Discrete Surface Soil Grab Sample for SVOCs
- 2018 RI Debris Pile Sample
- 2016 Limited Phase II ESA Soil Boring and Monitoring Well
- 2016 Limited Phase II ESA Shallow Soil Boring
- 2017 Limited Phase II ESA Deep Soil Boring/Temporary Monitoring Well
- Previously Existing Monitoring Well
- 2016-2017 Indoor Air/Sub-Slab Vapor Sample Location
- Jarl Extrusions Monitoring Well
- Area of Concern Addressed by IRMs 2 and 4
- Site Property Outline
- Building Tenant Spaces

Notes

- Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
- Orthomagery (2015) downloaded from gls.ny.gov.
- Monitoring well MW-3 is an angled well that terminates under the building. The other monitoring wells are vertical wells.
- Interior boring/well locations and sub-slab vapor/indoor air sample locations are estimated based on building structure tie-offs. The exterior locations are based on handheld GPS (Trimble) unit measurements and/or field measurements.
- Well locations surveyed for vertical and horizontal coordinates by a Stantec surveyor.
- This figure depicts soil sample location exceedances of NYSDEC Protection of Groundwater (POGW) Soil Cleanup Objectives (SCOs) that remain post-IRMs. This does not include POGW exceedances where groundwater impacts were not reported. Exceedances of common, naturally-occurring metals such as aluminum, calcium, iron, and magnesium are not included herein. Refer to Report Tables for a complete tabulation of solids analytical data. Results with concentrations exceeding the listed applicable NYSDEC SCOs are shaded in orange with bold text. Duplicate results are indicated with a slash (/).
- Data Abbreviations:
 - J- the reported result is an estimated value.
 - J- the analyte was positive identified; the associated numerical value is an estimated quantity that may be biased low.
 - ND - "non-detect"; the analyte was not detected at a concentration greater than the reporting limit.
 - VOC - volatile organic compound



Project Location: 820 Linden Avenue
Pittsford, Monroe Co., NY

Prepared by LB on 2020-07-17
Technical Review by SRS on 2020-08-13
Independent Review by MPS/KI on 2020-08-13

Client/Project
820 Linden Ave Site
BCP Site #C828200
Alternatives Analysis Report

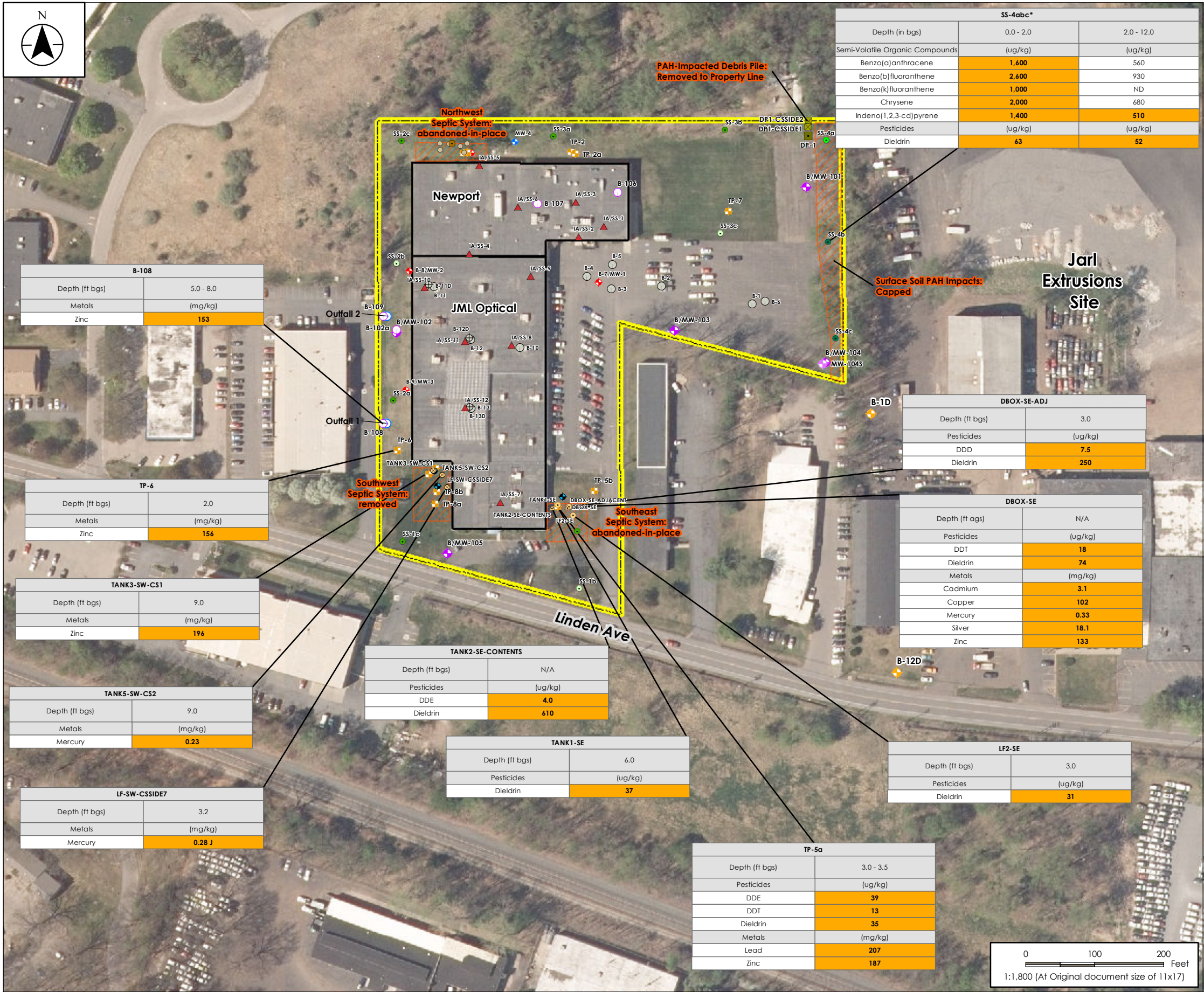
Figure No.

6b

Title

Remaining Soil Sample Exceedances of
POGW SCOs

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Legend

- 2020 IRM2 Septic System Monitoring Well
- 2020 IRM2 Septic Tank/Distribution Box/Leach Field Adjacent Soil Investigation Grab Sample
- 2020 IRM2 Septic Tank/Distribution Box Contents Investigation Grab Sample
- 2020 IRM2 Confirmatory Sample Location (Southwest Septic System, RAOC-2)
- 2020 IRM2 Debris Pile Removal Sidewall Samples
- 2019 SRI Grab Soil Sample
- 2019 SRI Soil Boring
- 2018 RI Soil Boring/Monitoring Well
- 2018 RI Shallow Monitoring Well
- 2018 RI Soil Boring
- 2018 RI Test Pit
- 2018 RI Discrete Surface Soil Sample for Composite
- 2018 RI Discrete Surface Soil Sample for Composite and Grab Sample for VOCs
- SS-4a = 2018 RI Discrete Surface Soil Sample for Composite and 2020 SRI#2 Discrete Surface Soil Grab Sample for VOCs
- SS-4b and SS-4c = 2018 RI Discrete Surface Soil Sample for Composite and Grab Sample for VOCs and 2020 SRI#2 Discrete Surface Soil Grab Sample for VOCs
- 2018 RI Debris Pile Sample
- 2016 Limited Phase II ESA Soil Boring and Monitoring Well
- 2016 Limited Phase II ESA Shallow Soil Boring
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Notes

- Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
- Orthomogery (2015) downloaded from gis.ny.gov.
- Monitoring well MW-3 is an angled well that terminates under the building. The other monitoring wells are vertical wells.
- Interior boring/well locations and sub-slab vapor/indoor air sample locations are estimated based on building structure tie-offs. The exterior locations are based on handheld GPS (Trimble) unit measurements and/or field measurements.
- Well locations surveyed for vertical and horizontal coordinates by a Stantec surveyor.
- See septic layout Figures 5a-5c for a closer view of the sample locations. See Figure 4 for site-wide sample location map.
- SS-4abc is a composite of discrete surface soil samples collected from locations SS-4a, SS-4b, and SS-4c. In April 2020, grab surface soil samples were collected at locations SS-4a, SS-4b, and SS-4c for benzo(a)pyrene analyses under SRI2.
- This figure depicts remaining (post-IRMs) soil sample locations with exceedances of NYSDEC Unrestricted Use Soil Cleanup Objectives (SCOs) only. Sample locations depicted on the Commercial/Industrial or POGW SCO figures are not included herein. Exceedances of common, naturally-occurring metals such as aluminum, calcium, iron, and magnesium are not included herein. Refer to Report Tables for a complete tabulation of solids analytical data; locations with results meeting NYSDEC SCOs are not shown on this figure. Results with concentrations exceeding the listed applicable NYSDEC SCOs are shaded in orange with bold text. Duplicate results are indicated with a slash ("/"). Non-detect results are indicated by "ND".



Project Location: 820 Linden Avenue, Pittsford, Monroe Co., NY

Prepared by: LB on 2020-07-23

Technical Review by: SRS on 2020-08-13

Independent Review by: MPS/KI on 2020-08-13

190500898

Client/Project: 820 Linden Ave Site, BCP Site #C828200, Alternatives Analysis Report

Figure No.: 6c

Title: Remaining Soil Sample Exceedances of Unrestricted Use SCOs

Sample Location	IA-9	SS-9	Matrix Output
Sample Date	April 14, 2016		
Carbon Tetrachloride (Tetrachloromethane)	1.5 U	0.38	R&P action
Dichloroethene, 1,1-	4.8 U	0.79 U	R&P action
Dichloroethene, cis-1,2-	4.8 U	0.79 U	R&P action
Methylene Chloride (Dichloromethane)	530	120	Mitigate
Tetrachloroethene (PCE)	8.2 U	16	No further action
Trichloroethane, 1,1,1-	6.6 U	5.7	No further action
Trichloroethene (TCE)	1.3 U	3.1	R&P action
Vinyl chloride	0.62 U	0.10 U	R&P action

Sample Location	IA-8	SS-8	Matrix Output
Sample Date	April 14, 2016		
Carbon Tetrachloride (Tetrachloromethane)	3.0 U	2.5 U	R&P action
Dichloroethene, 1,1-	9.6 U	7.9 U	Mitigate
Dichloroethene, cis-1,2-	9.6 U	7.9 U	Mitigate
Methylene Chloride (Dichloromethane)	500	380	Mitigate
Tetrachloroethene (PCE)	16 U	71	R&P action
Trichloroethane, 1,1,1-	13 U	4.4 J	R&P action
Trichloroethene (TCE)	2.6 U	59	Mitigate
Vinyl chloride	1.2 U	1.0 U	R&P action

Sample Location	IA-7	SS-7	Matrix Output	IA-7 (Duplicate)	SS-7 (Duplicate)	Matrix Output	IA-7	SS-7	Matrix Output
Sample Date	April 14, 2016			April 14, 2016			March 31, 2019		
Carbon Tetrachloride (Tetrachloromethane)	0.50 U	0.40	No further action	0.47 J	0.40	No further action	0.29 U	0.35	No further action
Dichloroethene, 1,1-	1.6 U	0.79 U	R&P action	1.6 U	0.79 U	R&P action	0.14 U	0.14 U	No further action
Dichloroethene, cis-1,2-	1.6 U	0.79 U	R&P action	1.6 U	0.79 U	R&P action	0.20 U	9.9	No further action
Methylene Chloride (Dichloromethane)	76	12	R&P action	99	12	R&P action	1.1 J	1.7 U	No further action
Tetrachloroethene (PCE)	2.7 U	1.9	No further action	2.7 U	1.8	No further action	1.4 U	3.7	No further action
Trichloroethane, 1,1,1-	2.2 U	0.91 J	No further action	2.2 U	0.91 J	No further action	1.1 U	0.79 J	No further action
Trichloroethene (TCE)	0.43 U	0.21 U	No further action	0.43 U	0.21 U	No further action	0.19 U	80	Mitigate
Vinyl chloride	0.20 U	0.10 U	No further action	0.20 U	0.10 U	No further action	0.20 U	2.6 J+	No further action



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Legend

IA / SS-7



APPROXIMATE INDOOR AIR AND SUB-SLAB VAPOR SAMPLE LOCATION

No further action	No further action is recommended.
R&P action	Take reasonable and practical actions to identify source(s) and reduce exposures.
Mitigate	Mitigation is recommended.



AREA OF SUB SLAB DEPRESSURIZATION SYSTEM (SSDS)



APPROXIMATE SLAB FOOTPRINTS AND YEAR OF BUILDING PERMIT

Notes

1. FIGURE DEVELOPED USING BASE BUILDING PLAN PROVIDED BY JML OPTICAL.

2. ABBREVIATIONS:

IA - INDOOR AIR
SS - SOIL SAMPLE
U - ANALYTE WAS NOT DETECTED AT A CONCENTRATION GREATER THAN THE LABORATORY REPORTING LIMIT
J - THE REPORTED RESULT IS AN ESTIMATED VALUE
J+ - THE ANALYTE WAS POSITIVELY IDENTIFIED; THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED QUANTITY THAT MAY BE BIASED HIGH

3. CONCENTRATIONS ARE PROVIDED IN $\mu\text{g}/\text{m}^3$.

4. ALL LOCATIONS SHOWN ARE APPROXIMATE.

AAR	LB	MPS	20.08.xx
SMP	LB	MPS	20.07.xx
RIR	LB	MPS	19.02.21
RWP	APL	MPS	17.09.05

Issued

File Name:	APL	SRS	LB	16.07.18
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

ALTERNATIVES ANALYSIS REPORT

820 LINDEN AVE. BCP SITE # C828200
820 LINDEN AVENUE, PITTSFORD, NY

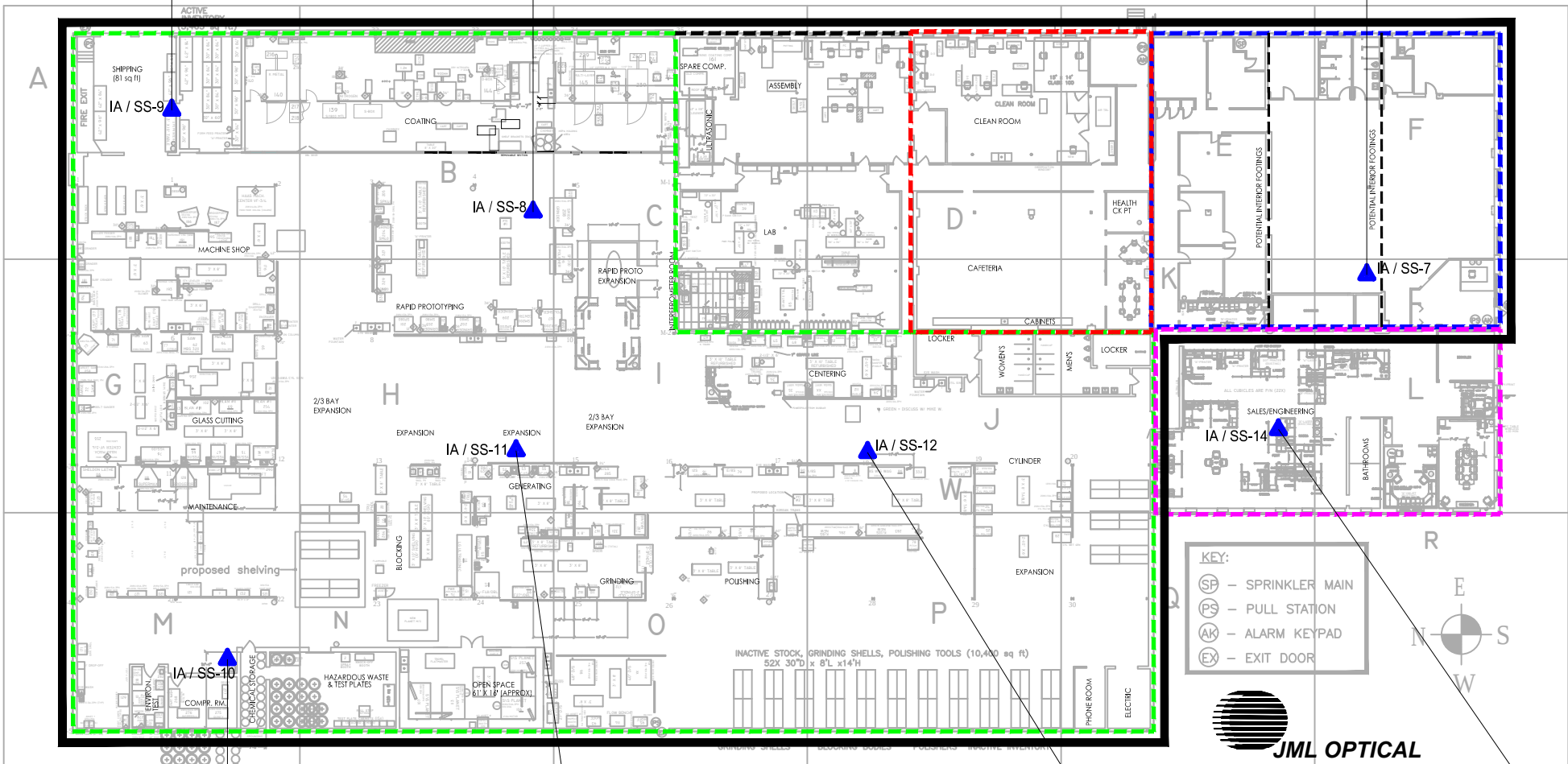
Title

Area of Soil Vapor Intrusion Concern
JML OPTICAL TENANT SPACE INTERIOR BUILDING PLAN AND SVI SAMPLING RESULTS WITH NYSDOH MATRIX RECOMMENDATIONS (JML OPTICAL)

Project No.	Scale	
190500898	NOT TO SCALE	
Drawing No.	Sheet	Revision

Figure 7

of



*SEE LEGEND



1954*



1956*



1958*



1959*



1966*

Sample Location	IA-10	SS-10	Matrix Output
Sample Date	April 14, 2016		
Carbon Tetrachloride (Tetrachloromethane)	2.8 U	0.41 J	R&P action
Dichloroethene, 1,1-	8.9 U	1.6 U	R&P action
Dichloroethene, cis-1,2-	8.9 U	1.6 U	R&P action
Methylene Chloride (Dichloromethane)	890	220	Mitigate
Tetrachloroethene (PCE)	15 U	64	R&P action
Trichloroethane, 1,1,1-	12 U	9.3	R&P action
Trichloroethene (TCE)	2.4 U	71	Mitigate
Vinyl chloride	1.1 U	0.20 U	R&P action

Sample Location	IA-11	SS-11	Matrix Output
Sample Date	April 14, 2016		
Carbon Tetrachloride (Tetrachloromethane)	2.5 U	1.5 U	R&P action
Dichloroethene, 1,1-	7.9 U	4.8 U	R&P action
Dichloroethene, cis-1,2-	7.9 U	4.8 U	R&P action
Methylene Chloride (Dichloromethane)	710	720	Mitigate
Tetrachloroethene (PCE)	14 U	89	R&P action
Trichloroethane, 1,1,1-	11 U	5.9 J	R&P action
Trichloroethene (TCE)	2.1 U	79	Mitigate
Vinyl chloride	1.0 U	0.62 U	R&P action

Sample Location	IA-14	SS-14	Matrix Output	IA-14 (Duplicate)	SS-14 (Duplicate)	Matrix Output
Sample Date	March 31, 2019			March 31, 2019		
Carbon Tetrachloride (Tetrachloromethane)	0.29	0.22 U	No further action	0.29	0.88 U	No further action
Dichloroethene, 1,1-	0.14 U	0.14 U	No further action	0.14 U	0.56 U	No further action
Dichloroethene, cis-1,2-	0.20 U	0.20 U	No further action	0.20 U	3.1	No further action
Methylene Chloride (Dichloromethane)	5.5	1.3 J	No further action	5.7	6.9 U	No further action
Tetrachloroethene (PCE)	1.4 U	12	No further action	1.4 U	13	No further action
Trichloroethane, 1,1,1-	1.1 U	0.81 J	No further action	1.1 U	4.4 U	No further action
Trichloroethene (TCE)	0.19 U	0.45 J	No further action	0.19 U	22 J	No further action
Vinyl chloride	0.20 U	0.20 U	No further action	0.20 U	1.1 J	No further action

Sample Location	IA-12	SS-12	Matrix Output
Sample Date	April 14, 2016		
Carbon Tetrachloride (Tetrachloromethane)	2.5 U	0.66 J	R&P action
Dichloroethene, 1,1-	7.9 U	2.4 U	R&P action
Dichloroethene, cis-1,2-	7.9 U	2.4 U	R&P action
Methylene Chloride (Dichloromethane)	530	320	Mitigate
Tetrachloroethene (PCE)	14 U	100	Mitigate
Trichloroethane, 1,1,1-	11 U	3.3 U	R&P action
Trichloroethene (TCE)	2.1 U	160	Mitigate
Vinyl chloride	1.0 U	0.31 U	R&P action

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2020/08/11 1:24 PM By: Essi, Aracy

ORIGINAL SHEET - ANSI D

TABLES



Table 1a
Comparison of Sub-Slab Vapor and Indoor Air Results to NYSDOH Guidance Matrices (Newport)
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location		IA-1	SS-1		IA-2	SS-2		IA-3	SS-3		IA-4	SS-4		IA-4	SS-4		IA-4	SS-4		IA-5	SS-5	
Sample Date		14-Apr-16	14-Apr-16		14-Apr-16	14-Apr-16		14-Apr-16	14-Apr-16		14-Apr-16	14-Apr-16		14-Apr-16	14-Apr-16		18-Jan-17	18-Jan-17		31-Mar-19	31-Mar-19	
Sample ID		IA-1	SS-1		IA-2	SS-2		IA-3	SS-3		IA-4	SS-4		IA-4	SS-4		IA-4	SS-4		IA-5	SS-5	
Sample Description		Indoor Air	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor	
Sampling Company		STANTEC	STANTEC	Matrix and Recommended Action ¹	STANTEC	STANTEC	Matrix and Recommended Action ¹	STANTEC	STANTEC	Matrix and Recommended Action ¹	STANTEC	STANTEC	Matrix and Recommended Action ¹	STANTEC	STANTEC	Matrix and Recommended Action ¹	STANTEC	STANTEC	Matrix and Recommended Action ¹	STANTEC	STANTEC	Matrix and Recommended Action ¹
Laboratory		TALBUR	TALBUR		TALBUR	TALBUR		TALBUR	TALBUR		TALBUR	TALBUR		TALBUR	TALBUR		TALBUR	TALBUR		TALBUR	TALBUR	
Laboratory Work Order		200-33091-1	200-33091-1		200-33091-1	200-33091-1		200-33091-1	200-33091-1		200-33091-1	200-33091-1		200-37082-1	200-37082-1		200-48131-1	200-48131-1		200-33091-1	200-33091-1	
Laboratory Sample ID		200-33091-13	200-33091-1		200-33091-14	200-33091-2		200-33091-15	200-33091-3		200-33091-16	200-33091-4		200-37082-7	200-37082-1		200-48131-1	200-48131-2		200-33091-17	200-33091-5	
Sample Type	Units																					
Volatile Organic Compounds																						
Carbon Tetrachloride (Tetrachloromethane) ²	µg/m3	0.44	0.46	No further action	0.50 U	0.26	No further action	0.53	0.48	No further action	0.56	0.34	No further action	0.39 J	0.36	No further action	0.28	0.31	No further action	0.44	0.30	No further action
Dichloroethene, 1,1- ²	µg/m3	0.79 U	0.79 U	No further action	1.6 U	0.79 U	R&P action	0.79 U	0.32 J	No further action	0.79 U	0.79 U	No further action	1.3 U	0.79 U	R&P action	0.14 U	0.14 U	No further action	0.79 U	0.79 U	No further action
Dichloroethene, cis-1,2- ²	µg/m3	0.79 U	0.79 U	No further action	1.6 U	0.79 U	R&P action	0.79 U	0.79 U	No further action	0.79 U	0.79 U	No further action	1.3 U	0.79 U	R&P action	0.20 U	0.20 U	No further action	0.32 J	0.79 U	No further action
Methylene Chloride (Dichloromethane) ³	µg/m3	2.6	2.4	No further action	1.3 J	0.62 J	No further action	1.2 J	1.7 U	No further action	1.6 J	14	No further action	46	570 D	Mitigate	1.7 U	1.7 U	No further action	1.0 J	0.70 J	No further action
Tetrachloroethene (PCE) ³	µg/m3	1.4 U	1.8	No further action	2.7 U	0.25 J	No further action	1.4 U	1.9	No further action	1.4 U	2.0	No further action	0.29 J	25	No further action	1.4 U	0.54 J	No further action	1.4 U	2.5	No further action
Trichloroethane, 1,1,1- ³	µg/m3	1.1 U	1.5	No further action	2.2 U	0.75 J	No further action	1.1 U	1.6	No further action	1.1 U	1.1	No further action	1.8 U	14	No further action	1.1 U	1.1 U	No further action	1.1 U	1.3	No further action
Trichloroethene (TCE) ²	µg/m3	0.21 U	0.21 U	No further action	0.43 U	0.21 U	No further action	0.21 U	0.60	No further action	0.21 U	12	Monitor	0.36 U	140	Mitigate	0.19 U	1.3	No further action	2.1	0.21 U	R&P action
Vinyl Chloride ⁴	µg/m3	0.10 U	0.10 U	No further action	0.20 U	0.10 U	No further action	0.10 U	0.10 U	No further action	0.10 U	0.13	No further action	0.13 J	0.10 U	No further action	0.20 U	0.20 U	No further action	0.25	0.10 U	R&P action

Notes:

¹ Soil Vapor/Indoor Air Matrices A, B and C, Evaluating Soil Vapor Intrusion in the State of New York, May 2017, New York State Department of Health Center for Environmental Health Bureau of Environmental Exposure Investigation

² The following parameters are categorized as Matrix A: Trichloroethene (TCE), cis-1,2-Dichloroethene (c12-DCE), 1,1-Dichloroethene (11-DCE), Carbon Tetrachloride

³ The following parameters are categorized as Matrix B: Tetrachloroethene (PCE), 1,1,1-Trichloroethane (111-TCA), Methylene Chloride

⁴ The following parameters are categorized as Matrix C: Vinyl Chloride

15.2 Measured concentration did not exceed the indicated standard.

0.03 U Analyte was not detected at a concentration greater than the laboratory reporting limit. The laboratory reporting limit is utilized for comparison to NYSDOH matrices for non-detect results.

D Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

J The reported result is an estimated value.

UJ Indicates estimated non-detect.

TALBUR Test America, South Burlington, VT

No further action	No additional actions are recommended to address human exposures.
R&P action	Identify source(s) and resample or mitigate.
Mitigate	Mitigation is recommended to minimize current or potential exposures associated with soil vapor intrusion.
Monitor	Monitoring is recommended to determine if concentrations have changed and/or to evaluate temporary influences.

Table 1a
Comparison of Sub-Slab Vapor and Indoor Air Results to NYSDOH Guidance Matrices (Newport)
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location Sample Date Sample ID Sample Description Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type		IA-5 18-Jan-17 IA-5 Indoor Air STANTEC TALBUR 200-37082-1 200-37082-2	SS-5 18-Jan-17 SS-5 Sub-Slab Soil Vapor STANTEC TALBUR 200-37082-1 200-37082-3		IA-5 31-Mar-19 IA-5 Indoor Air STANTEC TALBUR 200-48131-1 200-48131-3	SS-5 31-Mar-19 SS-5 Sub-Slab Soil Vapor STANTEC TALBUR 200-48131-1 200-48131-4		IA-6 14-Apr-16 IA-6 Indoor Air STANTEC TALBUR 200-33091-1 200-33091-18	SS-6 14-Apr-16 SS-6 Sub-Slab Soil Vapor STANTEC TALBUR 200-33091-1 200-33091-6		IA-6 18-Jan-17 IA-6 Indoor Air STANTEC TALBUR 200-37082-1 200-37082-4	SS-6 18-Jan-17 SS-6 Sub-Slab Soil Vapor STANTEC TALBUR 200-37082-1 200-37082-5		IA-13 31-Mar-19 IA-13 Indoor Air STANTEC TALBUR 200-48131-1 200-48131-6	SS-13 31-Mar-19 SS-13 Sub-Slab Soil Vapor STANTEC TALBUR 200-48131-1 200-48131-5	
	Units			Matrix and Recommended Action ¹			Matrix and Recommended Action ¹			Matrix and Recommended Action ¹			Matrix and Recommended Action ¹			Matrix and Recommended Action ¹
Volatile Organic Compounds																
Carbon Tetrachloride (Tetrachloromethane) ²	µg/m3	0.37	0.30	No further action	0.29	0.21 J	No further action	0.25	0.39	No further action	0.25 U	0.39	No further action	0.31	0.28	No further action
Dichloroethene, 1,1- ²	µg/m3	0.79 U	0.79 U	No further action	0.14 U	0.14 U	No further action	0.79 U	0.79 U	No further action	0.79 U	0.79 U	No further action	0.14 U	0.14 U	No further action
Dichloroethene, cis-1,2- ²	µg/m3	0.79 U	0.79 U	No further action	0.20 U	0.20 U	No further action	0.16 J	0.79 U	No further action	0.79 U	0.79 U	No further action	0.20 U	0.20 U	No further action
Methylene Chloride (Dichloromethane) ³	µg/m3	6.4	0.83 J	No further action	1.9	0.73 J	No further action	0.89 J	2.3	No further action	2.6	18	No further action	1.7 U	1.7 U	No further action
Tetrachloroethene (PCE) ³	µg/m3	0.19 J	2.5	No further action	1.4 U	1.1 J	No further action	1.4 U	0.56 J	No further action	1.4 U	4.0	No further action	1.4 U	18	No further action
Trichloroethane, 1,1,1- ³	µg/m3	1.1 U	2.0	No further action	1.1 U	1.3	No further action	1.1 U	0.61 J	No further action	1.1 U	8.1	No further action	1.1 U	2.8	No further action
Trichloroethene (TCE) ²	µg/m3	0.21 U	0.21 U	No further action	0.19 U	0.19 U	No further action	0.21	0.51	No further action	0.21 U	4.1	No further action	0.19 U	20	No further action
Vinyl Chloride ⁴	µg/m3	0.099 J	0.10 U	No further action	0.20 U	0.20 U	No further action	0.10 U	0.10 U	No further action	0.10 U	0.10 U	No further action	0.20 U	0.20 U	No further action
Notes:																
¹	Soil Vapor/Indoor Air Matrices A, B and C, Evaluating Soil Vapor Intrusion in the State of New York, May 2017, New York State Department of Health Center for Environmental Health Bureau of Environmental Exposure Investigation															
²	The following parameters are categorized as Matrix A: Trichloroethene (TCE), cis-1,2-Dichloroethene (c12-DCE), 1,1-Dichloroethene (11-DCE), Carbon Tetrachloride															
³	The following parameters are categorized as Matrix B: Tetrachloroethene (PCE), 1,1,1-Trichloroethane (111-TCA), Methylene Chloride															
⁴	The following parameters are categorized as Matrix C: Vinyl Chloride															
15.2	Measured concentration did not exceed the indicated standard.															
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit. The laboratory reporting limit is utilized for comparison to NYSDOH matrices for non-detect results.															
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.															
J	The reported result is an estimated value.															
UJ	Indicates estimated non-detect.															
TALBUR	Test America, South Burlington, VT															
No further action	No additional actions are recommended to address human exposures.															
R&P action	Identify source(s) and resample or mitigate.															
Mitigate	Mitigation is recommended to minimize current or potential exposures associated with soil vapor intrusion.															
Monitor	Monitoring is recommended to determine if concentrations have changed and/or to evaluate temporary influences.															

Table 1b
Comparison of Sub-Slab Vapor and Indoor Air Results to NYSDOH Guidance Matrices (JML Optical)
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location		IA-7	SS-7		IA-7	SS-7		IA-7	SS-7		IA-8	SS-8		IA-9	SS-9		IA-10	SS-10	
Sample Date		14-Apr-16	14-Apr-16		14-Apr-16	14-Apr-16		31-Mar-19	31-Mar-19		14-Apr-16	14-Apr-16		14-Apr-16	14-Apr-16		14-Apr-16	14-Apr-16	
Sample ID		IA-7	SS-7		IA-DUP-1	SS-DUP-1		IA-7	SS-7		IA-8	SS-8		IA-9	SS-9		IA-10	SS-10	
Sample Description		Indoor Air	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor		Sub-Slab Soil Vapor	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor		Indoor Air	Sub-Slab Soil Vapor	
Sampling Company		STANTEC	STANTEC		STANTEC	STANTEC		STANTEC	STANTEC		STANTEC	STANTEC		STANTEC	STANTEC		STANTEC	STANTEC	
Laboratory		TALBUR	TALBUR	Matrix and Recommended Action ¹	TALBUR	TALBUR	Matrix and Recommended Action ¹	TALBUR	TALBUR	Matrix and Recommended Action ¹	TALBUR	TALBUR	Matrix and Recommended Action ¹	TALBUR	TALBUR	Matrix and Recommended Action ¹	TALBUR	TALBUR	Matrix and Recommended Action ¹
Laboratory Work Order		200-33091-1	200-33091-1		200-33091-1	200-33091-1		200-48131-1	200-48131-1		200-33091-1	200-33091-1		200-33091-1	200-33091-1		200-33091-1	200-33091-1	
Laboratory Sample ID		200-33091-19	200-33091-7		200-33091-26	200-33091-25		200-48131-9	200-48131-10		200-33091-20	200-33091-8		200-33091-21	200-33091-9		200-33091-22	200-33091-10	
Sample Type	Units				Field Duplicate	Field Duplicate													
Volatile Organic Compounds																			
Carbon Tetrachloride (Tetrachloromethane) ²	µg/m3	0.50 U	0.40	No further action	0.47 J	0.40	No further action	0.29	0.35	No further action	3.0 U	2.5 U	R&P action	1.5 U	0.38	R&P action	2.8 U	0.41 J	R&P action
Dichloroethene, 1,1- ²	µg/m3	1.6 U	0.79 U	R&P action	1.6 U	0.79 U	R&P action	0.14 U	0.14 U	No further action	9.6 U	7.9 U	Mitigate	4.8 U	0.79 U	R&P action	8.9 U	1.6 U	R&P action
Dichloroethene, cis-1,2- ²	µg/m3	1.6 U	0.79 U	R&P action	1.6 U	0.79 U	R&P action	0.20 U	9.9	No further action	9.6 U	7.9 U	Mitigate	4.8 U	0.79 U	R&P action	8.9 U	1.6 U	R&P action
Methylene Chloride (Dichloromethane) ³	µg/m3	76	12	R&P action	99	12	R&P action	1.1 J	1.7 U	No further action	500	380	Mitigate	530	120	Mitigate	890	220	Mitigate
Tetrachloroethene (PCE) ³	µg/m3	2.7 U	1.9	No further action	2.7 U	1.8	No further action	1.4 U	3.7	No further action	16 U	71	R&P action	8.2 U	16	No further action	15 U	64	R&P action
Trichloroethane, 1,1,1- ³	µg/m3	2.2 U	0.91 J	No further action	2.2 U	0.91 J	No further action	1.1 U	0.79 J	No further action	13 U	4.4 J	R&P action	6.6 U	5.7	No further action	12 U	9.3	R&P action
Trichloroethene (TCE) ²	µg/m3	0.43 U	0.21 U	No further action	0.43 U	0.21 U	No further action	0.19 U	80	Mitigate	2.6 U	59	Mitigate	1.3 U	3.1	R&P action	2.4 U	71	Mitigate
Vinyl Chloride ⁴	µg/m3	0.20 U	0.10 U	No further action	0.20 U	0.10 U	No further action	0.20 U	2.6 J+	No further action	1.2 U	1.0 U	R&P action	0.62 U	0.10 U	R&P action	1.1 U	0.20 U	R&P action

Notes:

¹ Soil Vapor/Indoor Air Matrices A, B and C, Evaluating Soil Vapor Intrusion in the State of New York, May 2017, New York State Department of Health Center for Environmental Health Bureau of Environmental Exposure Investigation

² The following parameters are categorized as Matrix A: Trichloroethene (TCE), cis-1,2-Dichloroethene (c12-DCE), 1,1-Dichloroethene (11-DCE), Carbon Tetrachloride

³ The following parameters are categorized as Matrix B: Tetrachloroethene (PCE), 1,1,1-Trichloroethane (111-TCA), Methylene Chloride

⁴ The following parameters are categorized as Matrix C: Vinyl Chloride

15.2 Measured concentration did not exceed the indicated standard.

0.03 U Analyte was not detected at a concentration greater than the laboratory reporting limit. The laboratory reporting limit is utilized for comparison to NYSDOH matrices for non-detect results.

J The reported result is an estimated value.

J+ The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.

UJ Indicates estimated non-detect.

TALBUR Test America, South Burlington, VT

No further action	No additional actions are recommended to address human exposures.
R&P action	Identify source(s) and resample or mitigate.
Mitigate	Mitigation is recommended to minimize current or potential exposures. associated with soil vapor intrusion.
Monitor	Monitoring is recommended to determine if concentrations have changed and/or to evaluate temporary influences.

Table 1b
Comparison of Sub-Slab Vapor and Indoor Air Results to NYSDOH Guidance Matrices (JML Optical)

Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location Sample Date Sample ID Sample Description Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type		IA-11 14-Apr-16 IA-11 Indoor Air STANTEC TALBUR 200-33091-1 200-33091-23	SS-11 14-Apr-16 SS-11 Sub-Slab Soil Vapor STANTEC TALBUR 200-33091-1 200-33091-11		IA-12 14-Apr-16 IA-12 Indoor Air STANTEC TALBUR 200-33091-1 200-33091-24	SS-12 14-Apr-16 SS-12 Sub-Slab Soil Vapor STANTEC TALBUR 200-33091-1 200-33091-12		IA-14 31-Mar-19 IA-14 Indoor Air STANTEC TALBUR 200-48131-1 200-48131-7	SS-14 31-Mar-19 SS-14 Sub-Slab Soil Vapor STANTEC TALBUR 200-48131-1 200-48131-8		IA-14 31-Mar-19 IA-DUP Indoor Air STANTEC TALBUR 200-48131-1 Field Duplicate	SS-14 31-Mar-19 SS-DUP Sub-Slab Soil Vapor STANTEC TALBUR 200-48131-1 200-48131-12 Field Duplicate	
Units				Matrix and Recommended Action ¹			Matrix and Recommended Action ¹			Matrix and Recommended Action ¹			Matrix and Recommended Action ¹
Volatile Organic Compounds													
Carbon Tetrachloride (Tetrachloromethane) ²	µg/m3	2.5 U	1.5 U	R&P action	2.5 U	0.66 J	R&P action	0.29	0.22 U	No further action	0.29	0.88 U	No further action
Dichloroethene, 1,1- ²	µg/m3	7.9 U	4.8 U	R&P action	7.9 U	2.4 U	R&P action	0.14 U	0.14 U	No further action	0.14 U	0.56 U	No further action
Dichloroethene, cis-1,2- ²	µg/m3	7.9 U	4.8 U	R&P action	7.9 U	2.4 U	R&P action	0.20 U	0.20 U	No further action	0.20 U	3.1	No further action
Methylene Chloride (Dichloromethane) ³	µg/m3	710	720	Mitigate	530	320	Mitigate	5.5	1.3 J	No further action	5.7	6.9 U	No further action
Tetrachloroethene (PCE) ³	µg/m3	14 U	89	R&P action	14 U	100	Mitigate	1.4 U	12	No further action	1.4 U	13	No further action
Trichloroethane, 1,1,1- ³	µg/m3	11 U	5.9 J	R&P action	11 U	3.3 U	R&P action	1.1 U	0.81 J	No further action	1.1 U	4.4 U	No further action
Trichloroethene (TCE) ²	µg/m3	2.1 U	79	Mitigate	2.1 U	160	Mitigate	0.19 U	0.45 J	No further action	0.19 U	22 J	No further action
Vinyl Chloride ⁴	µg/m3	1.0 U	0.62 U	R&P action	1.0 U	0.31 U	R&P action	0.20 U	0.20 U	No further action	0.20 U	1.1 J	No further action

- Notes:
- 1

Soil Vapor/Indoor Air Matrices A, B and C, Evaluating Soil Vapor Intrusion in the State of New York, May 2017, New York State Department of Health Center for Environmental Health Bureau of Environmental Exposure Investigation
- 2

The following parameters are categorized as Matrix A: Trichloroethene (TCE), cis-1,2-Dichloroethene (c12-DCE), 1,1-Dichloroethene (11-DCE), Carbon Tetrachloride
- 3

The following parameters are categorized as Matrix B: Tetrachloroethene (PCE), 1,1,1-Trichloroethane (111-TCA), Methylene Chloride
- 4

The following parameters are categorized as Matrix C: Vinyl Chloride
- 15.2

Measured concentration did not exceed the indicated standard.
- 0.03 U

Analyte was not detected at a concentration greater than the laboratory reporting limit. The laboratory reporting limit is utilized for comparison to NYSDOH matrices for non-detect results.
- J

The reported result is an estimated value.
- J+

The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
- UJ

Indicates estimated non-detect.
- TALBUR

Test America, South Burlington, VT

- No further action

No additional actions are recommended to address human exposures.
- R&P action

Identify source(s) and resample or mitigate.
- Mitigate

Mitigation is recommended to minimize current or potential exposures. associated with soil vapor intrusion.
- Monitor

Monitoring is recommended to determine if concentrations have changed and/or to evaluate temporary influences.

Table 2
Summary of Analytical Results for RI Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location					B-11D		B-12	B-12D				B-13		B-13D		B-14 (MW-5)	
Sample Date	Sample ID	Sample Depth	Sampling Company	Laboratory	12-Jan-17 LIN-B11D-S1	12-Jan-17 LIN-B11D-S2	5-Jul-16 B-12 (8-9)	11-Jan-17 LIN-B12D-S1	11-Jan-17 LIN-B12D-S2	11-Jan-17 LIN-B12D-S3	11-Jan-17 LIN-DUP-S	5-Jul-16 B-13 (2-3)	5-Jul-16 B-13 (7-8)	12-Jan-17 LIN-B13D-S1	12-Jan-17 LIN-B13D-S2	13-Sep-16 B-10 (3-4)	13-Sep-16 B-10 (3-4)
Laboratory Work Order	Laboratory Sample ID	Sample Type			28 - 29 ft STANTEC TAL	60 - 60.5 ft STANTEC TAL	8 - 9 ft STANTEC TAL	28 - 28.5 ft STANTEC TAL	40.5 - 41.5 ft STANTEC TAL	58 - 58.5 ft STANTEC TAL	58 - 58.5 ft STANTEC TAL	2 - 3 ft STANTEC TAL	7 - 8 ft STANTEC TAL	48 - 48.5 ft STANTEC TAL	54.5 - 55.5 ft STANTEC TAL	3 - 4 ft STANTEC TAL	3 - 4 ft STANTEC TAL
					480-112267-1	480-112267-1	480-102705-1	480-112267-1	480-112267-1	480-112267-1	480-112267-1	480-102705-1	480-102705-1	480-112267-1	480-112267-1	480-106008-1	480-106008-1
					480-112267-6	480-112267-7	480-102705-3	480-112267-8	480-112267-9	480-112267-10	480-112267-11 Field Duplicate	480-102705-4	480-102705-5	480-112267-12	480-112267-13	480-106008-1	480-106008-1
																480-106008-3 Field Duplicate	480-106008-2
General Chemistry																	
Cyanide	mg/kg	27 ^{AB} 10,000 ^a 40 ^D			n/v	-	-	0.93 U	-	-	-	-	0.99 U	0.98 U	-	-	-
Metals																	
Aluminum	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	3,610	-	-	-	-	5,320	4,720	-	-	-	-
Antimony	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	15.1 U	-	-	-	-	16.8 U	16.5 U	-	-	-	-
Arsenic	mg/kg	13 ^A 16 ^B BCD	n/v	-	-	-	2.0 U	n/v	-	-	-	2.2 U	2.2 U	-	-	-	-
Barium	mg/kg	350 ^A 400 ^B 10,000 ^C 820 ^D	n/v	-	-	-	11.2	-	-	-	-	37.9	34.1	-	-	-	-
Beryllium	mg/kg	7.2 ^A 590 ^B 2,700 ^C 47 ^D	n/v	-	-	-	0.20 U	-	-	-	-	0.24	0.22	-	-	-	-
Cadmium	mg/kg	2.5 ^A 9.3 ^B 60 ^C 7.5 ^D	n/v	-	-	-	0.20 U	-	-	-	-	0.22 U	0.22 U	-	-	-	-
Calcium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	1,910	-	-	-	-	84,300 ^{AB} CDEFG	101,000 ^{AB} CDEFG	-	-	-	-
Chromium	mg/kg	30 ^{LA} 1,500 ^B 6,800 ^C NS ^A 4 ^D	n/v	-	-	-	6.9	-	-	-	-	6.9	6.8	-	-	-	-
Cobalt	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	2.1	-	-	-	-	2.3	2.2	-	-	-	-
Copper	mg/kg	50 ^A 270 ^B 10,000 ^C 1,720 ^D	n/v	-	-	-	3.6	-	-	-	-	7.2	10.5	-	-	-	-
Iron	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	7,350	-	-	-	-	7,020	6,670	-	-	-	-
Lead	mg/kg	63 ^m 1,000 ^F 3,900 ^C 450 ^D	n/v	-	-	-	1.4	-	-	-	-	10.7	13.1	-	-	-	-
Magnesium	mg/kg	10,000 ^a ABCD	n/v	-	-	-	1,140	n/v	-	-	-	28,600 ^{AB} C	39,200 ^{AB} C	-	-	-	-
Manganese	mg/kg	1,600 ^A 10,000 ^{BC} 2,000 ^D	n/v	-	-	-	169	-	-	-	-	271	302	-	-	-	-
Mercury	mg/kg	0.18 ^A 2.8 ^B 5.7 ^C 0.73 ^D	n/v	-	-	-	0.018 U	-	-	-	-	0.021 U	0.020 U	-	-	-	-
Nickel	mg/kg	30 ^A 310 ^B 10,000 ^C 130 ^D	n/v	-	-	-	5.0 U	-	-	-	-	5.6 U	5.7	-	-	-	-
Potassium	mg/kg	10,000 ^a ABCD	n/v	-	-	-	694	-	-	-	-	1,230	1,100	-	-	-	-
Selenium	mg/kg	3.9 ^A 1,500 ^B 6,800 ^C 4 ^D	n/v	-	-	-	4.0 U	-	-	-	-	4.5 U	4.4 U	-	-	-	-
Silver	mg/kg	2 ^A 1,500 ^B 6,800 ^C 8.3 ^D	n/v	-	-	-	0.50 U	-	-	-	-	0.56 U	0.55 U	-	-	-	-
Sodium	mg/kg	10,000 ^a ABCD	n/v	-	-	-	141 U	-	-	-	-	270	238	-	-	-	-
Thallium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	6.0 U	-	-	-	-	6.7 U	6.6 U	-	-	-	-
Vanadium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	13.0	-	-	-	-	10.4	8.6	-	-	-	-
Zinc	mg/kg	109 ^A 10,000 ^{BC} 2,480 ^D	n/v	-	-	-	10.7	-	-	-	-	37.7	37.2	-	-	-	-
Polychlorinated Biphenyls																	
Aroclor 1016	µg/kg	ABCD	n/v	-	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-
Aroclor 1221	µg/kg	ABCD	n/v	-	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-
Aroclor 1232	µg/kg	ABCD	n/v	-	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-
Aroclor 1242	µg/kg	ABCD	n/v	-	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-
Aroclor 1248	µg/kg	ABCD	n/v	-	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-
Aroclor 1254	µg/kg	ABCD	n/v	-	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-
Aroclor 1260	µg/kg	ABCD	n/v	-	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-
Aroclor 1262	µg/kg	ABCD	n/v	-	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-
Aroclor 1268	µg/kg	ABCD	n/v	-	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-
Polychlorinated Biphenyls (PCBs)	µg/kg	100 ^A 1,000 ^B 25,000 ^C 3,200 ^D	n/v	-	-	-	ND	-	-	-	-	ND	ND	-	-	-	-
Pesticides																	
Aldrin	µg/kg	5 ^A 680 ^B 1,400 ^C 190 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
BHC, alpha-	µg/kg	20 ^{AD} 3,400 ^B 6,800 ^C	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
BHC, beta-	µg/kg	36 ^A 3,000 ^B 14,000 ^C 90 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
BHC, delta-	µg/kg	40 ^A 500,000 ^B 1,000,000 ^C 250 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Camphechlor (Toxaphene)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	17 U	-	-	-	-	36 U	17 U	-	-	-	-
Chlordane, alpha-	µg/kg	94 ^A 24,000 ^B 47,000 ^C 2,900 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000 ^A 1,000,000 ^B	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
DDD (p,p'-DDD)	µg/kg	3.3 ^m 92,000 ^B 180,000 ^C 14,000 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
DDE (p,p'-DDE)	µg/kg	3.3 ^m 62,000 ^B 120,000 ^C 17,000 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
DDT (p,p'-DDT)	µg/kg	3.3 ^m 47,000 ^B 94,000 ^C 136,000 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Dieldrin	µg/kg	5 ^A 1,400 ^B 2,800 ^C 100 ^D	n/v	-	-	-	1.7 U	-	-	-	-	4.0	1.7 U	-	-	-	-
Endosulfan I	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Endosulfan II	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Endosulfan Sulfate	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 1,000,000 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Endrin	µg/kg	14 ^A 89,000 ^B 410,000 ^C 60 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Endrin Aldehyde	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Endrin Ketone	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Heptachlor	µg/kg	42 ^A 15,000 ^B 29,000 ^C 380 ^D	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Heptachlor Epoxide	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 20 ^D	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100 ^{AD} 9,200 ^F 23,000 ^F	n/v	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 900,000 ^D	-	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-

See notes on last page.

Table 2
Summary of Analytical Results for RI Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B/MW-101			B/MW-102		B-102a		B/MW-103		B/MW-104			
Sample Date				25-Jul-18	25-Jul-18	25-Jul-18	23-Jul-18	23-Jul-18	24-Jul-18		24-Jul-18	24-Jul-18	24-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18
Sample ID				LIN-B101-S1	LIN-FD1-S	LIN-B101-S2	LIN-B102-S1	LIN-B102-S2	LIN-B102a-S		LIN-B103-S1	LIN-B103-S3	LIN-B103-S2	LIN-B104-S2	LIN-FD2-S	LIN-B104-S3
Sample Depth				15 - 17 ft	15 - 17 ft	57 - 60 ft	2 - 3.5 ft	50.5 - 52 ft	7 - 8 ft		8 - 10 ft	19 - 19.5 ft	49 - 51 ft	4 - 8 ft	10.5 - 11 ft	45 - 49 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL		TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161448-1	460-161448-1	460-161448-1	460-161196-1	460-161196-1	460-161196-1		460-161196-1	460-161448-1	460-161196-5	460-161448-1	460-161448-1	460-161448-1
Laboratory Sample ID				460-161448-1	460-161448-3	460-161448-2	460-161196-1	460-161196-2	460-161196-3		460-161196-4	460-161448-4	460-161196-5	460-161448-8	460-161448-6	460-161448-9
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51		Field Duplicate									Field Duplicate		
General Chemistry																
Cyanide	mg/kg	27 ^{AB} 10,000 ^a 40 ^D	n/v	-	-	-	-	-	-	1.1 U	-	1.2 U	0.27 U	0.28 U	-	0.25 U
Metals																
Aluminum	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	3,450	4,030	2,000	4,900	2,720	-	3,260	-	2,060	10,400 ^{ABCEFG}	-	-	1,820
Antimony	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	32.0 U	29.1 U	37.8 U	33.6 UJ	36.0 U	-	30.2 U	-	37.0 U	34.2 U	-	-	30.1 U
Arsenic	mg/kg	13 ^A 16 ^{BCD}	n/v	4.3 U	3.9 U	5.0 U	1.1 J	1.3 J	-	1.2 J	-	1.4 J	4.7	-	-	4.0 U
Barium	mg/kg	350 ⁿ 400 ^B 10,000 ^a 820 ^D	n/v	12.2	14.0	21.8	13.2	18.9	-	9.0	-	21.5	53.8	-	-	13.6
Beryllium	mg/kg	7.2 ^A 590 ^B 2,700 ^C 47 ^D	n/v	0.43 U	0.39 U	0.50 U	0.27 J	0.22 J	-	0.25 J	-	0.15 J	0.63	-	-	0.40 U
Cadmium	mg/kg	2.5 ^A 9.3 ^B 60 ^C 7.5 ^D	n/v	0.43 U	0.39 U	0.50 U	0.45 U	0.48 U	-	0.40 U	-	0.49 U	0.46 U	-	-	0.40 U
Calcium	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	30,400 ^{ABCEFG}	26,000 ^{ABCEFG}	27,800 ^{ABCEFG}	1,730	34,600 ^{ABCEFG}	-	1,610	-	25,000 ^{ABCEFG}	3,220	-	-	26,600 ^{ABCEFG}
Chromium	mg/kg	30 ⁿ 1,500 ^B 6,800 ^C NS ₄ ^D	n/v	6.4	7.4	4.9	7.1	5.7	-	5.3	-	3.5	15.4	-	-	3.1
Cobalt	mg/kg	10,000 ^{ABCD}	10,000 ^a	3.1	3.6	1.8	3.7	2.4	-	2.9	-	1.8	9.0	-	-	1.9
Copper	mg/kg	50 ^A 270 ^B 10,000 ^C 1,720 ^D	n/v	6.3	7.9	4.2	8.2	6.1	-	6.4	-	4.3	18.5	-	-	4.2
Iron	mg/kg	10,000 ^a	10,000 ^{EF}	8,580	9,880	5,520	10,800 ^{ABCEFG}	8,260	-	8,030	-	5,520	22,700 ^{ABCEFG}	-	-	4,920
Lead	mg/kg	63 ⁿ 1,000 ^B 3,900 ^C 450 ^D	n/v	2.5	3.0	2.5 U	2.5	2.4	-	2.4	-	1.3 J	8.2	-	-	2.0 U
Magnesium	mg/kg	10,000 ^{ABCD}	n/v	6,100	6,460	6,290	1,410	8,260	-	1,210	-	5,480	3,800	-	-	5,110
Manganese	mg/kg	1,600 ^A 10,000 ^a BC 2,000 ^G 4 ^D	n/v	267	310	171	305	221	-	234	-	162	551	-	-	157
Mercury	mg/kg	0.18 ^A 2.8 ^B 5.7 ^C 0.73 ^D	n/v	0.018 U	0.018 U	0.021 U	0.019 U	0.020 U	-	0.017 U	-	0.021 U	0.020 U	-	-	0.017 U
Nickel	mg/kg	30 ^A 310 ^B 10,000 ^C 130 ^D	n/v	10.7 U	9.7 U	12.6 U	7.1 J	5.1 J	-	5.7 J	-	4.5 J	21.2	-	-	10.0 U
Potassium	mg/kg	10,000 ^a	n/v	533	595	356	452	445	-	379	-	340	1,310	-	-	284
Selenium	mg/kg	3.9 ^A 1,500 ^B 6,800 ^C 4 ^G 4 ^D	n/v	8.5 U	7.8 U	10.1 U	8.9 U	9.6 U	-	8.1 U	-	9.9 U	9.1 U	-	-	8.0 U
Silver	mg/kg	2 ^A 1,500 ^B 6,800 ^C 8.3 ^D	n/v	1.1 U	0.97 U	1.3 U	1.1 U	1.2 U	-	1.0 U	-	1.2 U	1.1 U	-	-	1.0 U
Sodium	mg/kg	10,000 ^{ABCD}	n/v	298 U	272 U	353 U	313 U	119 J	-	111 J	-	100 J	319 U	-	-	281 U
Thallium	mg/kg	10,000 ^a	10,000 ^{EF}	12.8 U	11.6 U	15.1 U	13.4 U	14.4 U	-	12.1 U	-	14.8 U	13.7 U	-	-	12.0 U
Vanadium	mg/kg	10,000 ^{ABCD}	10,000 ^a	10.0	11.6	6.6	13.8	11.6	-	9.8	-	6.8	23.1	-	-	6.7
Zinc	mg/kg	109 ^A 10,000 ^a BC 2,480 ^D	n/v	14.2	16.6	8.7	16.7	12.0	-	14.2	-	8.4	41.4	-	-	12.9
Polychlorinated Biphenyls																
Aroclor 1016	µg/kg	ABCD	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1221	µg/kg	ABCD	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1232	µg/kg	ABCD	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1242	µg/kg	ABCD	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1248	µg/kg	ABCD	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1254	µg/kg	ABCD	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1260	µg/kg	ABCD	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1262	µg/kg	ABCD	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1268	µg/kg	ABCD	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100 ^A 1,000 ^B 25,000 ^C 3,200 ^D	n/v	-	-	-	-	-	-	ND	-	ND	ND	ND	-	ND
Pesticides																
Aldrin	µg/kg	5 ⁿ 680 ^B 1,400 ^C 190 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
BHC, alpha-	µg/kg	20 ^{AD} 3,400 ^B 6,800 ^C	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
BHC, beta-	µg/kg	36 ^A 3,000 ^B 14,000 ^C 90 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
BHC, delta-	µg/kg	40 ^A 500,000 ^B 1,000,000 ^C 250 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Camphechlor (Toxaphene)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 4 ^{CD}	n/v	-	-	-	-	-	-	36 U	-	41 UJ	44 U	42 U	-	35 U
Chlordane, alpha-	µg/kg	94 ^A 24,000 ^B 47,000 ^C 2,900 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000 ^A 1,000,000 ^B	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
DDD (p,p'-DDD)	µg/kg	3.3 ⁿ 92,000 ^B 180,000 ^C 14,000 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
DDE (p,p'-DDE)	µg/kg	3.3 ⁿ 62,000 ^B 120,000 ^C 17,000 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
DDT (p,p'-DDT)	µg/kg	3.3 ⁿ 47,000 ^B 94,000 ^C 136,000 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Dieldrin	µg/kg	5 ⁿ 1,400 ^B 2,800 ^C 100 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endosulfan I	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endosulfan II	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endosulfan Sulfate	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 1,000,000 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endrin	µg/kg	14 ^A 89,000 ^B 410,000 ^C 60 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endrin Aldehyde	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 4 ^{CD}	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endrin Ketone	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 4 ^{CD}	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Heptachlor	µg/kg	42 ^A 15,000 ^B 29,000 ^C 380 ^D	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Heptachlor Epoxide	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 4 ^{CD}	500,000 ^E 1,000,000 ^F 20 ^G	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100 ^{AD} 9,200 ^F 23,000 ^G	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 4 ^{CD}	500,000 ^E 1,000,000 ^F 900,000 ^G	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U

See notes on last page.

Table 2
Summary of Analytical Results for RI Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				SS-2a		SS-2abc		SS-2c		SS-3a		SS-3abc		SS-3b		SS-4abc								
Sample Date	Sample ID	Sample Depth	Sampling Company	Laboratory	Laboratory Work Order	Laboratory Sample ID	Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51	30-Jul-18 LIN-SS2a-t-s 0 - 2 in STANTEC TAL 460-161576-1 460-161576-5	30-Jul-18 LIN-SS2a-b-s 2 - 12 in STANTEC TAL 460-161576-1 460-161576-6	30-Jul-18 LIN-SS2-t-s 0 - 2 in STANTEC TAL 460-161576-1 460-161576-20	30-Jul-18 LIN-SS2-b-s 2 - 12 in STANTEC TAL 460-161576-1 460-161576-21	30-Jul-18 LIN-SS2c-t-s 0 - 2 in STANTEC TAL 460-161576-1 460-161576-7	30-Jul-18 LIN-SS2c-b-s 2 - 12 in STANTEC TAL 460-161576-1 460-161576-8	30-Jul-18 LIN-SS3a-t-s 0 - 2 in STANTEC TAL 460-161576-1 460-161576-9	30-Jul-18 LIN-SS3a-b-s 2 - 12 in STANTEC TAL 460-161576-1 460-161576-10	30-Jul-18 LIN-SS3-t-s 0 - 2 in STANTEC TAL 460-161576-1 460-161576-22	30-Jul-18 LIN-SS3-b-s 2 - 12 in STANTEC TAL 460-161576-1 460-161576-23	30-Jul-18 LIN-SS3b-t-s 0 - 2 in STANTEC TAL 460-161576-1 460-161576-11	30-Jul-18 LIN-SS3b-b-s 2 - 12 in STANTEC TAL 460-161576-1 460-161576-12	30-Jul-18 LIN-SS4-t-s 0 - 2 in STANTEC TAL 460-161576-1 460-161576-24	30-Jul-18 LIN-SS4-b-s 2 - 12 in STANTEC TAL 460-161576-1 460-161576-25
General Chemistry																								
Cyanide	mg/kg	27 ^{AB} 10,000 ^a 40 ^D		n/v	-	-	0.26 U	0.26 U	-	-	-	-	-	-	-	0.27 U	1.0							
Metals																								
Aluminum	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	7,380	6,160	-	-	-	-	7,290	5,850	-	-	5,930	6,580							
Antimony	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	31.5 U	32.1 U	-	-	-	-	32.4 UJ	29.5 U	-	-	32.9 U	32.7 U							
Arsenic	mg/kg	13 ^A 16 ^B BCD	n/v	-	-	4.2 U	4.3 U	-	-	-	-	4.3 U	3.9 U	-	-	4.4 U	4.4 U							
Barium	mg/kg	350 ^A 400 ^B 10,000 ^C 820 ^D	n/v	-	-	24.8	24.8	-	-	-	-	27.9	23.3	-	-	27.4	26.2							
Beryllium	mg/kg	7.2 ^A 590 ^B 2,700 ^C 47 ^D	n/v	-	-	0.42 U	0.43 U	-	-	-	-	0.43 U	0.39 U	-	-	0.44 U	0.44 U							
Cadmium	mg/kg	2.5 ^A 9.3 ^B 60 ^C 7.5 ^D	n/v	-	-	0.42 U	0.43 U	-	-	-	-	0.43 U	0.39 U	-	-	0.44 U	0.44 U							
Calcium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	2,120	2,200	-	-	-	-	2,260	1,850	-	-	4,590	3,010							
Chromium	mg/kg	30 ^{LA} 1,500 ^B 6,800 ^C NS ^A 4 ^D	n/v	-	-	9.7	8.2	-	-	-	-	9.6	7.7	-	-	16.4	19.4							
Cobalt	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	4.8	3.7	-	-	-	-	4.0	2.9	-	-	2.4	2.7							
Copper	mg/kg	50 ^A 270 ^B 10,000 ^C 1,720 ^D	n/v	-	-	11.2	8.5	-	-	-	-	10.4	8.8	-	-	8.4	8.5							
Iron	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	13,100 ^{AB} CDEFG	10,900 ^{AB} CDEFG	-	-	-	-	10,800 ^{AB} CDEFG	8,240	-	-	7,410	8,080							
Lead	mg/kg	63 ^m 1,000 ^F 3,900 ^C 450 ^D	n/v	-	-	7.5	12.3	-	-	-	-	24.2	17.8	-	-	26.3	28.4							
Magnesium	mg/kg	10,000 ^a ABCD	n/v	-	-	1,940	1,670	-	-	-	-	1,690	1,310	-	-	2,030	1,550							
Manganese	mg/kg	1,600 ^A 10,000 ^B 2,000 ^G 2,000 ^D	n/v	-	-	356	310	-	-	-	-	283	205	-	-	181	170							
Mercury	mg/kg	0.18 ^A 2.8 ^B 5.7 ^C 0.73 ^D	n/v	-	-	0.030	0.034	-	-	-	-	0.039	0.040	-	-	0.064	0.069							
Nickel	mg/kg	30 ^A 310 ^B 10,000 ^C 130 ^D	n/v	-	-	11.2	10.7 U	-	-	-	-	10.8 U	9.8 U	-	-	11.0 U	10.9 U							
Potassium	mg/kg	10,000 ^a ABCD	n/v	-	-	672	502	-	-	-	-	654	374	-	-	454	440							
Selenium	mg/kg	3.9 ^A 1,500 ^B 6,800 ^C 4 ^D	n/v	-	-	8.4 U	8.6 U	-	-	-	-	8.6 U	7.9 U	-	-	8.8 U	8.7 U							
Silver	mg/kg	2 ^A 1,500 ^B 6,800 ^C 8.3 ^D	n/v	-	-	1.1 U	1.1 U	-	-	-	-	1.1 U	0.98 U	-	-	1.1 U	1.1 U							
Sodium	mg/kg	10,000 ^a ABCD	n/v	-	-	294 U	300 U	-	-	-	-	302 U	275 U	-	-	307 U	305 U							
Thallium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	12.6 U	12.9 U	-	-	-	-	12.9 U	11.8 U	-	-	13.2 U	13.1 U							
Vanadium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	17.7	14.7	-	-	-	-	14.9	11.5	-	-	10.9	11.8							
Zinc	mg/kg	109 ^A 10,000 ^B 2,480 ^D	n/v	-	-	30.2	31.2	-	-	-	-	43.9	44.5	-	-	47.2	46.7							
Polychlorinated Biphenyls																								
Aroclor 1016	µg/kg	ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Aroclor 1221	µg/kg	ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Aroclor 1232	µg/kg	ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Aroclor 1242	µg/kg	ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Aroclor 1248	µg/kg	ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Aroclor 1254	µg/kg	ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Aroclor 1260	µg/kg	ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Aroclor 1262	µg/kg	ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Aroclor 1268	µg/kg	ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Polychlorinated Biphenyls (PCBs)	µg/kg	100 ^A 1,000 ^B 25,000 ^C 3,200 ^D	n/v	-	-	ND	ND	-	-	-	-	-	-	-	-	ND	ND							
Pesticides																								
Aldrin	µg/kg	5 ^A 680 ^B 1,400 ^C 190 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
BHC, alpha-	µg/kg	20 ^{AD} 3,400 ^B 6,800 ^C	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
BHC, beta-	µg/kg	36 ^A 3,000 ^B 14,000 ^C 90 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
BHC, delta-	µg/kg	40 ^A 500,000 ^B 1,000,000 ^C 250 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Camphechlor (Toxaphene)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 1,000,000 ^{CD}	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U							
Chlordane, alpha-	µg/kg	94 ^A 24,000 ^B 47,000 ^C 2,900 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000 ^A 1,000,000 ^B	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
DDD (p,p'-DDD)	µg/kg	3.3 ^m 92,000 ^B 180,000 ^C 14,000 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
DDE (p,p'-DDE)	µg/kg	3.3 ^m 62,000 ^B 120,000 ^C 17,000 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
DDT (p,p'-DDT)	µg/kg	3.3 ^m 47,000 ^B 94,000 ^C 136,000 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Dieldrin	µg/kg	5 ^A 1,400 ^B 2,800 ^C 100 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	63 ^A	52 ^A							
Endosulfan I	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Endosulfan II	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Endosulfan Sulfate	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 1,000,000 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Endrin	µg/kg	14 ^A 89,000 ^B 410,000 ^C 60 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Endrin Aldehyde	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Endrin Ketone	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Heptachlor	µg/kg	42 ^A 15,000 ^B 29,000 ^C 380 ^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Heptachlor Epoxide	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 20 ^G	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100 ^{AD} 9,200 ^F 23,000 ^G	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 900,000 ^G	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U							

See notes on last page.

Table 2
Summary of Analytical Results for RI Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location					SS-4b		SS-4c		TP-1a	TP-2a	TP-4	TP-5a	TP-6	TP-7	TP-8a	TP-8c
Sample Date					30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	16-Aug-18	16-Aug-18	17-Aug-18	17-Aug-18	17-Aug-18	17-Aug-18	17-Aug-18	17-Aug-18
Sample ID					LIN-SS4b-t-s	LIN-SS4b-b-s	LIN-SS4c-t-s	LIN-SS4c-b-s	LIN-TP1-S	LIN-TP2a-s	LIN-TP4-s	LIN-TP5a-s	LIN-TP6-s	LIN-TP7-S	LIN-TP8a-s	LIN-TP8c-s
Sample Depth					0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	3 ft	2.5 ft	3.5 ft	3 - 3.5 ft	2 ft	6 ft	2.4 ft	1 ft
Sampling Company					STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory					TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order					460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1
Laboratory Sample ID					460-161576-13	460-161576-14	460-161576-15	460-161576-16	460-162801-2	460-162872-1	460-162872-3	460-162872-2	460-162872-4	460-162801-3	460-162872-5	460-162872-6
Sample Type		Units	NYSDEC-Part 375	NYSDEC CP-51												
General Chemistry																
Cyanide	mg/kg	27 ^{AB} 10,000 ^a 40 ^D		n/v	-	-	-	-	0.24 U	0.23 U	0.25 U	0.25 U	0.26 U	0.23 U	-	0.29 U
Metals																
Aluminum	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	-	-	5,450	5,500	5,490	7,230	6,070	3,600	-	5,200
Antimony	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	-	-	31.3 U	30.4 U	31.2 U	34.1 U	31.7 U	30.4 U	-	36.5 U
Arsenic	mg/kg	13 ^A 16 ^B	n/v	-	-	-	-	-	4.2 U	4.1 U	4.2 U	5.8	4.2 U	4.1 U	-	4.9 U
Barium	mg/kg	350 ^A 400 ^B 10,000 ^C 820 ^D	n/v	-	-	-	-	-	23.4	19.3	32.2	91.0	78.6	8.3	-	19.3
Beryllium	mg/kg	7.2 ^A 590 ^B 2,700 ^C 47 ^D	n/v	-	-	-	-	-	0.42 U	0.41 U	0.42 U	0.45 U	0.42 U	0.41 U	-	0.49 U
Cadmium	mg/kg	2.5 ^A 9.3 ^B 60 ^C 7.5 ^D	n/v	-	-	-	-	-	0.42 U	0.41 U	0.42 U	0.45 U	0.42 U	0.41 U	-	0.49 U
Calcium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	-	-	1,760	1,200	1,210	3,910	1,850	570	-	1,480
Chromium	mg/kg	30 ^{LA} 1,500 ^B 6,800 ^C NS ^A 4 ^D	n/v	-	-	-	-	-	6.5	6.5	6.1	14.2	6.7	3.0	-	5.2
Cobalt	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	-	-	3.5	2.8	2.5	4.3	2.1	2.0	-	2.2
Copper	mg/kg	50 ^A 270 ^B 10,000 ^C 1,720 ^D	n/v	-	-	-	-	-	12.2	4.7	8.0	15.8	13.7	3.9	-	12.1
Iron	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	-	-	8,050	6,120	7,350	12,100 ^{AB} 12,100 ^{BCDEFG}	8,500	3,940	-	6,610
Lead	mg/kg	63 ^m 1,000 ^B 3,900 ^C 450 ^D	n/v	-	-	-	-	-	7.7	3.0	22.4	207 ^A	49.9	2.0 U	-	14.0
Magnesium	mg/kg	10,000 ^a ABCD	n/v	-	-	-	-	-	1,350	1,040	998	2,510	805	876	-	1,100
Manganese	mg/kg	1,600 ^A 10,000 ^B 2,000 ^C 2,000 ^D	n/v	-	-	-	-	-	191	75.8	227	431	503	118	-	112
Mercury	mg/kg	0.18 ^A 2.8 ^B 5.7 ^C 0.73 ^D	n/v	-	-	-	-	-	0.019	0.016 U	0.033	0.088	0.043	0.016 U	-	0.031
Nickel	mg/kg	30 ^A 310 ^B 10,000 ^C 130 ^D	n/v	-	-	-	-	-	10.4 U	10.1 U	10.4 U	11.4 U	10.1 U	10.1 U	-	12.2 U
Potassium	mg/kg	10,000 ^a ABCD	n/v	-	-	-	-	-	348	209	230	317	207	143	-	249
Selenium	mg/kg	3.9 ^A 1,500 ^B 6,800 ^C 4 ^D	n/v	-	-	-	-	-	8.4 U	8.1 U	8.3 U	9.1 U	8.5 U	8.1 U	-	9.7 U
Silver	mg/kg	2 ^A 1,500 ^B 6,800 ^C 8.3 ^D	n/v	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.1 U	1.1 U	1.0 U	-	1.2 U
Sodium	mg/kg	10,000 ^a ABCD	n/v	-	-	-	-	-	293 U	284 U	291 U	318 U	296 U	284 U	-	340 U
Thallium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	-	-	12.5 U	12.2 U	12.5 U	13.6 U	12.7 U	12.2 U	-	14.6 U
Vanadium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	-	-	-	-	-	8.7	11.5	8.0	12.9	8.1	5.1	-	7.4
Zinc	mg/kg	109 ^A 10,000 ^B 2,480 ^D	n/v	-	-	-	-	-	24.3	14.8	49.4	187 ^A	156 ^A	10.4	-	36.3
Polychlorinated Biphenyls																
Aroclor 1016	µg/kg	ABCD	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1221	µg/kg	ABCD	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1232	µg/kg	ABCD	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1242	µg/kg	ABCD	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1248	µg/kg	ABCD	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1254	µg/kg	ABCD	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1260	µg/kg	ABCD	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1262	µg/kg	ABCD	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1268	µg/kg	ABCD	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100 ^A 1,000 ^B 25,000 ^C 3,200 ^D	n/v	-	-	-	-	-	ND	ND	ND	ND	ND	ND	-	ND
Pesticides																
Aldrin	µg/kg	5 ^A 680 ^B 1,400 ^C 190 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
BHC, alpha-	µg/kg	20 ^{AD} 3,400 ^B 6,800 ^C	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
BHC, beta-	µg/kg	36 ^A 3,000 ^B 14,000 ^C 90 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
BHC, delta-	µg/kg	40 ^A 500,000 ^B 1,000,000 ^C 250 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Camphechlor (Toxaphene)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 1,000,000 ^{CD}	n/v	-	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Chlordane, alpha-	µg/kg	94 ^A 24,000 ^B 47,000 ^C 2,900 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000 ^A 1,000,000 ^B	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	8.6	3.6 U	3.5 U	-	4.1 U
DDD (p,p'-DDD)	µg/kg	3.3 ^m 92,000 ^B 180,000 ^C 14,000 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
DDE (p,p'-DDE)	µg/kg	3.3 ^m 62,000 ^B 120,000 ^C 17,000 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	39 ^A	3.6 U	3.5 U	-	4.1 U
DDT (p,p'-DDT)	µg/kg	3.3 ^m 47,000 ^B 94,000 ^C 136,000 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	13 ^A	3.6 U	3.5 U	-	4.1 U
Dieldrin	µg/kg	5 ^A 1,400 ^B 2,800 ^C 100 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	35 ^A	3.6 U	3.5 U	-	5.0
Endosulfan I	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endosulfan II	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endosulfan Sulfate	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 1,000,000 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endrin	µg/kg	14 ^A 89,000 ^B 410,000 ^C 60 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endrin Aldehyde	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 1,000,000 ^{CD}	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endrin Ketone	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 1,000,000 ^{CD}	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Heptachlor	µg/kg	42 ^A 15,000 ^B 29,000 ^C 380 ^D	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Heptachlor Epoxide	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 20 ^D	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100 ^{AD} 9,200 ^F 23,000 ^G	n/v	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^C 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 900,000 ^G	-	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
See notes on last page.																

Table 2
Summary of Analytical Results for RI Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Notes:	
NYSDEC-Part 375	NYSDEC 6 NYCRR Part 375 Soil Clean-up Objectives (SCOs)
A	NYSDEC 6 NYCRR Part 375 - Unrestricted Use Soil Cleanup Objectives
B	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Commercial
C	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Industrial
D	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Groundwater
NYSDEC CP-51	New York State Department of Environmental Conservation, DEC Policy CP-51, October 21, 2010
E	Table 1 Supplemental Soil Cleanup Objectives - Commercial
F	Table 1 Supplemental Soil Cleanup Objectives - Industrial
G	Table 1 Supplemental Soil Cleanup Objectives - Protection of Groundwater
6.5 ^A	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
A	The SCOs for unrestricted use were capped at a maximum value of 100 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3
EFG	SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.
a	Based on rural background study
b	Based on rural background study. The value of 1.0 refers to SVOC analyses while the 0.17b refers to VOC analyses.
b, s1	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.
c	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
c, p	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg (Organics) and 10000 mg/kg (Inorganics). See 6 NYCRR Part 375 TSD Section 9.3.
CD	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
d, p	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
e	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3.
e, l	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
f	For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value.
g	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.
i	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
j	This SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
k	This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See 6 NYCRR Part 375 TSD Table 5.6-1.
m	For constituents where the calculated SCO was lower than the Contract Required Quantitation Limit (CRQL), the CRQL is used as the Track 1 SCO value.
n	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
n, l	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
NS, q	No SCO has been established for this compound. No SCO has been established for total chromium; however, see standards for trivalent and hexavalent chromium.
o	Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
p	The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
J	The reported result is an estimated value.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
ND	Not detected.
UJ	Indicates estimated non-detect.
R	Not reported (not representative)
TAL	Test America Laboratory
*	An asterisk in front of the Sample Location indicates that the material no longer remains on-site following implementation of Interim Remedial Measures.

Table 3
Summary of Groundwater Analytical Results
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B/MW-102		B/MW-103		B/MW-104		B/MW-105		MW-110	MW-111	MW-112	
Sample Date				5-Oct-18	23-Jan-19	1-Oct-18	23-Jan-19	23-Jan-19	23-Jan-19	3-Oct-18	23-Jan-19	17-Jul-20	17-Jul-20	17-Jul-20	17-Jul-20
Sample ID				LIN-MW102-W	LIN-MW102-W	LIN-MW103-W	LIN-MW103-W	LIN-MW104-W	LIN-MW104-W	LIN-MW105-W	LIN-MW105-W	LIN-MW110-W	LIN-MW111-W	LIN-MW112-W	LIN-FD4-W
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-166345-1	480-148275-1	460-165839-1	480-148275-1	460-166040-1	480-148275-1	480-148275-1	460-166040-1	480-148275-1	480-172564-1	480-172564-1	480-172564-1
Laboratory Sample ID				460-166345-1	480-148275-2	460-165839-2	480-148275-3	460-166040-7	480-148275-4	480-148275-6	460-166040-8	460-166040-10	480-172564-5	480-172564-4	480-172564-2
Sample Type	Units	TOGS	EPA						Field Duplicate		Field Duplicate				Field Duplicate
Semi-Volatile Organic Compounds															
Acenaphthene	µg/L	20 ^B	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Acenaphthylene	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Acetophenone	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Anthracene	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Atrazine	µg/L	7.5 ^B	n/v	-	-	2.0 U	-	2.0 U	-	-	2.0 U	2.0 U	-	-	-
Benzaldehyde	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Benzo(a)anthracene	µg/L	0.002 ^A	n/v	-	-	1.0 U	-	1.0 U	-	-	1.0 U	1.0 U	-	-	-
Benzo(a)pyrene	µg/L	n/v	n/v	-	-	1.0 U	-	1.0 U	-	-	1.0 U	1.0 U	-	-	-
Benzo(b)fluoranthene	µg/L	0.002 ^A	n/v	-	-	2.0 U	-	2.0 U	-	-	2.0 U	2.0 U	-	-	-
Benzo(g,h,i)perylene	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Benzo(k)fluoranthene	µg/L	0.002 ^A	n/v	-	-	1.0 U	-	1.0 U	-	-	1.0 U	1.0 U	-	-	-
Biphenyl	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Bis(2-Chloroethoxy)methane	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Bis(2-Chloroethyl)ether	µg/L	1 ^B	n/v	-	-	1.0 U	-	1.0 U	-	-	1.0 U	1.0 U	-	-	-
Bis(2-Chloroisopropyl)ether (2,2-oxybis(1-Chloropropane))	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	5 ^B	n/v	-	-	2.0 U	-	2.0 U	-	-	2.0 U	2.0 U	-	-	-
Bromophenyl Phenyl Ether, 4-	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Butyl Benzyl Phthalate	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Caprolactam	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Carbazole	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Chloro-3-methyl phenol, 4-	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Chloroaniline, 4-	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Chloronaphthalene, 2-	µg/L	10 ^B	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Chlorophenol, 2- (ortho-Chlorophenol)	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Chlorophenyl Phenyl Ether, 4-	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Chrysene	µg/L	0.002 ^A	n/v	-	-	2.0 U	-	2.0 U	-	-	2.0 U	2.0 U	-	-	-
Cresol, o- (Methylphenol, 2-)	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Cresol, p- (Methylphenol, 4-)	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Dibenzo(a,h)anthracene	µg/L	n/v	n/v	-	-	1.0 U	-	1.0 U	-	-	1.0 U	1.0 U	-	-	-
Dibenzofuran	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Dibutyl Phthalate (DBP)	µg/L	50 ^B	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Dichlorobenzidine, 3,3'-	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Dichlorophenol, 2,4-	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Diethyl Phthalate	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Dimethyl Phthalate	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Dimethylphenol, 2,4-	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Dinitro-o-cresol, 4,6-	µg/L	n/v	n/v	-	-	20 U	-	20 U	-	-	20 U	20 U	-	-	-
Dinitrophenol, 2,4-	µg/L	10 ^A	n/v	-	-	20 U	-	20 U	-	-	20 U	20 U	-	-	-
Dinitrotoluene, 2,4-	µg/L	5 ^{-B}	n/v	-	-	2.0 U	-	2.0 U	-	-	2.0 U	2.0 U	-	-	-
Dinitrotoluene, 2,6-	µg/L	5 ^{-B}	n/v	-	-	2.0 U	-	2.0 U	-	-	2.0 U	2.0 U	-	-	-
Di-n-Octyl phthalate	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Dioxane, 1,4-	µg/L	n/v	n/v	-	-	-	-	0.19 U	-	-	0.19 U	0.19 U	-	-	-
Fluoranthene	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Fluorene	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Hexachlorobenzene	µg/L	0.04 ^B	n/v	-	-	1.0 U	-	1.0 U	-	-	1.0 U	1.0 U	-	-	-
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/L	0.5 ^B	n/v	-	-	1.0 U	-	1.0 U	-	-	1.0 U	1.0 U	-	-	-
Hexachlorocyclopentadiene	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Hexachloroethane	µg/L	5 ^{-B}	n/v	-	-	2.0 U	-	2.0 U	-	-	2.0 U	2.0 U	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	0.002 ^A	n/v	-	-	2.0 U	-	2.0 U	-	-	2.0 U	2.0 U	-	-	-
Isophorone	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Methylnaphthalene, 2-	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Naphthalene	µg/L	10 ^B	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Nitroaniline, 2-	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Nitroaniline, 3-	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Nitroaniline, 4-	µg/L	5 ^{-B}	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Nitrobenzene	µg/L	0.4 ^B	n/v	-	-	1.0 U	-	1.0 U	-	-	1.0 U	1.0 U	-	-	-
Nitrophenol, 2-	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Nitrophenol, 4-	µg/L	n/v	n/v	-	-	20 U	-	20 U	-	-	20 U	20 U	-	-	-
N-Nitrosodi-n-Propylamine	µg/L	n/v	n/v	-	-	1.0 U	-	1.0 U	-	-	1.0 U	1.0 U	-	-	-
n-Nitrosodiphenylamine	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Pentachlorophenol	µg/L	1.0 ^B	n/v	-	-	20 U	-	20 U	-	-	20 U	20 U	-	-	-
Phenanthrene	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Phenol	µg/L	1.0 ^B	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Pyrene	µg/L	50 ^A	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Trichlorophenol, 2,4,5-	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Trichlorophenol, 2,4,6-	µg/L	n/v	n/v	-	-	10 U	-	10 U	-	-	10 U	10 U	-	-	-
Total SVOC	µg/L	n/v	n/v	-	-	ND	-	ND	-	-	ND	ND	-	-	-
SVOC - Tentatively Identified Compounds															
Total SVOC TICs	µg/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-
See notes on last page.															

Table 3
Summary of Groundwater Analytical Results
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B/MW-102		B/MW-103		B/MW-104		B/MW-105		MW-110	MW-111	MW-112	
Sample Date				5-Oct-18	23-Jan-19	1-Oct-18	23-Jan-19	3-Oct-18	23-Jan-19	3-Oct-18	23-Jan-19	17-Jul-20	17-Jul-20	17-Jul-20	17-Jul-20
Sample ID				LIN-MW102-W	LIN-MW102-W	LIN-MW103-W	LIN-MW103-W	LIN-MW104-W	LIN-MW104-W	LIN-MW105-W	LIN-MW105-W	LIN-MW110-W	LIN-MW111-W	LIN-MW112-W	LIN-MW112-W
Sampling Company				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory				460-166345-1	480-148275-1	460-165839-1	480-148275-1	460-166040-1	480-148275-1	460-166040-1	460-166040-1	480-148275-1	480-172564-1	480-172564-1	480-172564-1
Laboratory Work Order				460-166345-1	480-148275-2	460-165839-2	480-148275-3	460-166040-7	480-148275-4	480-148275-1	480-148275-6	480-172564-1	480-172564-1	480-172564-2	480-172564-3
Laboratory Sample ID										Field Duplicate					Field Duplicate
Sample Type	Units	TOGS	EPA												
Volatile Organic Compounds															
Acetone	µg/L	50 ^A	n/v	10 U	10 U	5.0 U	10 U	5.0 U	10 U	10 U	5.0 U	5.0 U	10 U	10 U	10 U
Benzene	µg/L	1 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	50 ^A	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform (Tribromomethane)	µg/L	50 ^A	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Butylbenzene, n-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Butylbenzene, sec- (2-Phenylbutane)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Butylbenzene, tert-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	µg/L	60 ^A	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride (Tetrachloromethane)	µg/L	5 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene (Monochlorobenzene)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane (Ethyl Chloride)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	7 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	1.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	µg/L	n/v	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/L	0.04 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	50 ^A	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorobenzene, 1,2-	µg/L	3 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorobenzene, 1,3-	µg/L	3 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorobenzene, 1,4-	µg/L	3 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (Freon 12)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloroethane, 1,1-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloroethane, 1,2-	µg/L	0.6 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloroethene, 1,1-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloroethene, cis-1,2-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloroethene, trans-1,2-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloropropane, 1,2-	µg/L	1 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloropropene, cis-1,3-	µg/L	0.4 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichloropropene, trans-1,3-	µg/L	0.4 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/L	0.0006 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/L	50 ^A	n/v	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyltoluene, p- (Cymene)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Acetate	µg/L	n/v	n/v	2.5 U	2.5 U	5.0 U	2.5 U	5.0 U	2.5 U	5.0 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/L	50 ^A	n/v	10 U	10 U	5.0 U	10 U	5.0 U	10 U	10 U	5.0 U	10 U	10 U	10 U	10 U
Methyl Isobutyl Ketone (MIBK)	µg/L	n/v	n/v	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert-butyl ether (MTBE)	µg/L	10 ^A	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylcyclohexane	µg/L	n/v	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride (Dichloromethane)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	µg/L	10 ^A	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Propylbenzene, n-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethane, 1,1,2,2-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene (PCE)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorobenzene, 1,2,4-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethane, 1,1,1-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethane, 1,1,2-	µg/L	1 ^B	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene (TCE)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	13 ^B	12 ^B	17 ^B	9.7 ^B	9.8 ^B	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (Freon 11)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Trichlorotrifluoroethane (Freon 113)	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trimethylbenzene, 1,2,4-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trimethylbenzene, 1,3,5-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	µg/L	2 ^B	n/v	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U
Xylene, m & p-	µg/L	5 ^{-B}	n/v	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Xylene, o-	µg/L	5 ^{-B}	n/v	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes, Total	µg/L	5 ^{-B}	n/v	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOC	µg/L	n/v	n/v	ND	ND	13	12	17	11.1	11.3	ND	ND	ND	ND	ND
VOC - Tentatively Identified Compounds															
Total VOC TICs	µg/L	n/v	n/v	3.4 J	-	-	-	-	-	-	-	-	-	-	-
See notes on last page.															

Table 3
Summary of Groundwater Analytical Results
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Notes:	
TOGS	NYSDEC TOGS 1.1.1 (Reissued June 1998 with errata in January 1999 and addenda in April 2000 and June 2004)
A	TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Guidance
B	TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Standards
EPA	United States Environmental Protection Agency
C	Fact Sheet PFOA & PFOS Drinking Water Health Advisories (2016) Lifetime Health Advisories
6.5 ^A	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
.	The standard for Iron and Manganese is 500 ug/L, which applies to the sum of these substances. As individual standards, the standard is 300 ug/L.
--	The principal organic contaminant standard for groundwater of 5 ug/L (described elsewhere in the TOGS table) applies to this substance.
b	Standard applies to the sum of all polychlorinated biphenyls.
p	Applies to the sum of cis- and trans-1,3-dichloropropene.
J	The reported result is an estimated value.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
ND	Not detected.
UU	Indicates estimated non-detect.
TAL	Test America Laboratory

Table 4
Summary of Analytical Results for Southeast Septic System (RAOC-1) Investigation Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				DBOX-SE		LF-SE		TP-5a	TANK1-SE			TANK2-SE	
Sample Date				18-Jun-20	18-Jun-20	18-Jun-20	18-Jun-20	17-Aug-18	24-Jul-19	18-Jun-20	18-Jun-20	18-Jun-20	18-Jun-20
Sample ID				DBOX-SE	DBOX-SE-ADJ	LF2-SE	LF1-SE	LIN-TP5a-s	LIN-TANK1SE-WC-S	TANK1-SE	DUP-1	TANK2-SE	TANK2-SE-CONTENTS
Sample Depth				N/A	3 ft	3 ft	4 ft	3 - 3.5 ft	N/A	6 ft	6 ft	6 ft	N/A
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-171430-3	480-171430-3	480-171430-3	480-171430-3	460-162801-1	480-156763-1	480-171430-3	480-171430-3	480-171430-3	480-171430-3
Laboratory Sample ID				480-171430-2	480-171430-5	480-171430-6	480-171430-7	460-162872-2	480-156764-2	480-171430-1	480-171430-11	480-171430-3	480-171430-4
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51								Field Duplicate		
General Chemistry													
Cyanide	mg/kg	27 ^{AB} 10,000 ^a 40 ^D	n/v	0.95 U	0.95 U	1.0 U	0.97 U	0.25 U	-	0.98 U	0.89 U	0.98 U	0.99 U
Flashpoint	deg F	n/v	n/v	-	-	-	-	-	> 176	-	-	-	-
pH, lab	S.U.	n/v	n/v	-	-	-	-	-	7.0 J	-	-	-	-
Temperature, Lab	deg C	n/v	n/v	-	-	-	-	-	20.6 J	-	-	-	-
Metals													
Aluminum	mg/kg	10,000 ^{ABCD}	10,000 ^{EPFG}	4,910	5,520	4,970	4,440	7,230	-	4,290	4,720	3,450	5,490
Antimony	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	15.4 U	15.6 U	16.3 U	16.1 U	34.1 U	-	15.6 U	15.7 U	15.0 U	15.9 U
Arsenic	mg/kg	13 ^a 16 ^a BCD	n/v	2.0 U	2.1 U	2.2 U	2.1 U	5.8	-	2.1 U	2.2	2.0 U	2.3
Barium	mg/kg	350 ⁿ 400 ^B 10,000 ^a 820 ^D	n/v	44.4	20.7	7.1	19.4	91.0	-	13.3	15.0	11.0	27.9
Beryllium	mg/kg	7.2 ^A 590 ^B 2,700 ^C 47 ^D	n/v	0.20	0.21 U	0.22 U	0.21 U	0.45 U	-	0.21 U	0.21 U	0.20 U	0.21 U
Cadmium	mg/kg	2.5 ^A 9.3 ^B 60 ^C 7.5 ^D	n/v	3.1 ^A	0.21 U	0.22 U	0.21 U	0.45 U	-	0.21 U	0.21 U	0.20 U	0.23
Calcium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	10,800 ^{ABCEFG}	1,410	821	1,550 J-	3,910	-	1,300	1,270	1,010	2,440
Chromium	mg/kg	30 ^{n,1} 1,500 ^B 6,800 ^C NS ⁴ D	n/v	17.0	7.0	5.1	27.9 J	14.2	-	5.8	5.7	4.2	7.9
Cobalt	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	8.7	2.1	1.7	1.7	4.3	-	2.2	2.3	1.8	2.4
Copper	mg/kg	50 ^A 270 ^B 10,000 ^a 1,720 ^D	n/v	102 ^A	7.7	3.5	13.0 J	15.8	-	4.1	4.8	3.3	8.9
Iron	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	8,810	7,850	6,250	8,340	12,100 ^{ABCEFG}	-	8,120	7,560	5,800	8,120
Lead	mg/kg	63 ^A 1,000 ^B 3,900 ^C 450 ^D	n/v	27.7	5.7	2.1	4.6	207 ^A	-	2.4	3.0	1.6	15.0
Magnesium	mg/kg	10,000 ^a ABCD	n/v	3,170	1,020	863	1,080 J-	2,510	-	1,020	1,020	868	1,180
Manganese	mg/kg	1,600 ^A 10,000 ^a BC 2,000 ^a D	n/v	128	140	50.7	77.9 J	431	-	158	162	135	161
Mercury	mg/kg	0.18 ⁿ 2.8 ^a 5.7 ^a 0.73 ^D	n/v	0.33 ^A	0.028	0.022 U	0.022 U	0.088	-	0.022 U	0.021 U	0.020 U	0.098
Nickel	mg/kg	30 ^A 310 ^B 10,000 ^a C 130 ^D	n/v	9.3	5.2 U	5.4 U	5.4 U	11.4 U	-	5.2 U	5.2	5.0 U	5.4
Potassium	mg/kg	10,000 ^a ABCD	n/v	1,030	475	353	542	317	-	619	683	521	542
Selenium	mg/kg	3.9 ⁿ 1,500 ^B 6,800 ^C 4 ^a D	n/v	4.1 U	4.2 U	4.4 U	4.3 U	9.1 U	-	4.2 U	4.2 U	4.0 U	4.2 U
Silver	mg/kg	2 ^A 1,500 ^B 6,800 ^C 8.3 ^D	n/v	18.1 ^{AD}	0.52 U	0.54 U	0.70 J	1.1 U	-	0.52 U	0.52 U	0.50 U	0.53 U
Sodium	mg/kg	10,000 ^a ABCD	n/v	180	146 U	152 U	150 U	318 U	-	145 U	146 U	140 U	148 U
Thallium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	6.1 U	6.2 U	6.5 U	6.4 U	13.6 U	-	6.2 U	6.3 U	6.0 U	6.4 U
Vanadium	mg/kg	10,000 ^a ABCD	10,000 ^a EFG	13.5	13.9	11.4	14.6	12.9	-	14.6	13.5	10.2	14.1
Zinc	mg/kg	109 ⁿ 1,000 ^a BC 2,480 ^D	n/v	133 ^A	16.6	11.8	14.5	187 ^A	-	11.0	11.3	8.7	32.0
Polychlorinated Biphenyls													
Aroclor 1016	µg/kg	o ABCD	n/v	240 U	210 U	250 U	210 U	39 U	-	250 U	220 U	230 U	250 U
Aroclor 1221	µg/kg	o ABCD	n/v	240 U	210 U	250 U	210 U	39 U	-	250 U	220 U	230 U	250 U
Aroclor 1232	µg/kg	o ABCD	n/v	240 U	210 U	250 U	210 U	39 U	-	250 U	220 U	230 U	250 U
Aroclor 1242	µg/kg	o ABCD	n/v	240 U	210 U	250 U	210 U	39 U	-	250 U	220 U	230 U	250 U
Aroclor 1248	µg/kg	o ABCD	n/v	240 U	210 U	250 U	210 U	39 U	-	250 U	220 U	230 U	250 U
Aroclor 1254	µg/kg	o ABCD	n/v	240 U	210 U	250 U	210 U	39 U	-	250 U	220 U	230 U	250 U
Aroclor 1260	µg/kg	o ABCD	n/v	240 U	210 U	250 U	210 U	39 U	-	250 U	220 U	230 U	250 U
Aroclor 1262	µg/kg	o ABCD	n/v	240 U	210 U	250 U	210 U	39 U	-	250 U	220 U	230 U	250 U
Aroclor 1268	µg/kg	o ABCD	n/v	240 U	210 U	250 U	210 U	39 U	-	250 U	220 U	230 U	250 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100 ^A 1,000 ^B 25,000 ^C 3,200 ^D	n/v	ND	ND	ND	ND	ND	-	ND	ND	ND	ND
Pesticides													
Aldrin	µg/kg	5 ⁿ 680 ^B 1,400 ^C 190 ^D	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
BHC, alpha-	µg/kg	20 ^{AD} 3,400 ^B 6,800 ^C	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
BHC, beta-	µg/kg	36 ^A 3,000 ^B 14,000 ^C 90 ^D	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
BHC, delta-	µg/kg	40 ^A 500,000 ^B 1,000,000 ^a 250 ^D	n/v	1.7 U	1.7 U	6.1	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	7.5
Camphchclor (Toxaphene)	µg/kg	100,000 ^A 500,000 ^a 1,000,000 ^a CD	n/v	17 U	17 U	18 U	17 U	39 U	-	17 U	17 U	17 U	18 U
Chlordane, alpha-	µg/kg	94 ^A 24,000 ^B 47,000 ^C 2,900 ^D	n/v	1.7 U	22 J	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	46 NJ
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000 ^A 1,000,000 ^a D	n/v	1.7 U	5.0	1.8 U	1.7 U	8.6	-	1.7 U	1.7 U	1.7 U	20
DDD (p,p'-DDD)	µg/kg	3.3 ^m 92,000 ^B 180,000 ^C 14,000 ^D	n/v	1.7 U	7.5 ^A	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
DDE (p,p'-DDE)	µg/kg	3.3 ^m 62,000 ^B 120,000 ^C 17,000 ^D	n/v	1.7 U	1.7 U	1.8 U	1.7 U	39 ^A	-	1.7 U	1.7 U	1.7 U	4.0 ^A
DDT (p,p'-DDT)	µg/kg	3.3 ^m 47,000 ^B 94,000 ^C 136,000 ^D	n/v	18 ^A	2.4	1.8 U	1.7 U	13 ^A	-	1.7 U	1.7 U	1.7 U	1.8 U
Dieldrin	µg/kg	5 ⁿ 1,400 ^B 2,800 ^C 100 ^D	n/v	74 ^A	250 ^{AD}	31 ^A	1.7 U	35 ^A	-	37 ^A	34 ^A	2.7	610 ^{AD}
Endosulfan I	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
Endosulfan II	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
Endosulfan Sulfate	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 1,000,000 ^a D	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
Endrin	µg/kg	14 ^A 89,000 ^B 410,000 ^C 60 ^D	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	4.1
Endrin Aldehyde	µg/kg	100,000 ^A 500,000 ^a 1,000,000 ^a CD	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
Endrin Ketone	µg/kg	100,000 ^A 500,000 ^a 1,000,000 ^a CD	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
Heptachlor	µg/kg	42 ^A 15,000 ^B 29,000 ^C 380 ^D	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
Heptachlor Epoxide	µg/kg	100,000 ^A 500,000 ^a 1,000,000 ^a CD	500,000 ^E 1,000,000 ^a F 20 ^G	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	2.2
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100 ^{AD} 9,200 ^B 23,000 ^C	n/v	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000 ^a 500,000 ^a 1,000,000 ^a CD	500,000 ^E 1,000,000 ^a F 900,000 ^G	1.7 U	1.7 U	1.8 U	1.7 U	3.9 U	-	1.7 U	1.7 U	1.7 U	1.8 U

See notes on last page.

Table 4
Summary of Analytical Results for Southeast Septic System (RAOC-1) Investigation Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location Sample Date Sample ID Sample Depth Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type				DBOX-SE		LF-SE		TP-5a	TANK1-SE			TANK2-SE	
				18-Jun-20	18-Jun-20	18-Jun-20	18-Jun-20	17-Aug-18	24-Jul-19	18-Jun-20	18-Jun-20	18-Jun-20	18-Jun-20
				DBOX-SE	DBOX-SE-ADJ	LF2-SE	LF1-SE	LIN-TP5a-s	LIN-TANK1SE-WC-S	TANK1-SE	DUP-1	TANK2-SE	TANK2-SE-CONTENTS
				N/A	3 ft	3 ft	4 ft	3 - 3.5 ft	N/A	6 ft	6 ft	6 ft	N/A
				STANTEC TAL	STANTEC TAL	STANTEC TAL	STANTEC TAL	STANTEC TAL	STANTEC TAL	STANTEC TAL	STANTEC TAL	STANTEC TAL	STANTEC TAL
	Units	NYSDEC-Part 375	NYSDEC CP-51	480-171430-3 480-171430-2	480-171430-3 480-171430-5	480-171430-3 480-171430-6	480-171430-3 480-171430-7	460-162801-1 460-162872-2	480-156763-1 480-156764-2	480-171430-3 480-171430-1	480-171430-3 Field Duplicate	480-171430-3 480-171430-3	480-171430-3 480-171430-4
Volatile Organic Compounds													
Acetone	µg/kg	50 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	26 U	26 U	27 U	26 U	5.2 U	-	26 U	22 U	26 U	26 U
Benzene	µg/kg	60 ^{AD} 44,000 ^B 89,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Bromodichloromethane	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Bromoform (Tribromomethane)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Bromomethane (Methyl bromide)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Butylbenzene, n-	µg/kg	12,000 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Butylbenzene, tert-	µg/kg	5,900 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Carbon Disulfide	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F 2,700 ^G	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760 ^{AD} 22,000 ^F 44,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Chloroethane (Ethyl Chloride)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F 1,900 ^G	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Chloroform (Trichloromethane)	µg/kg	370 ^{AD} 350,000 ^B 700,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Chloromethane	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Cyclohexane	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dibromochloromethane	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichlorobenzene, 1,2-	µg/kg	1,100 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichlorobenzene, 1,3-	µg/kg	2,400 ^{AD} 280,000 ^B 560,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichlorobenzene, 1,4-	µg/kg	1,800 ^{AD} 130,000 ^B 250,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichloroethane, 1,1-	µg/kg	270 ^{AD} 240,000 ^F 480,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichloroethane, 1,2-	µg/kg	20, ^A 30,000 ^B 60,000 ^C 20 ^B	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichloroethene, 1,1-	µg/kg	330 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichloroethene, cis-1,2-	µg/kg	250 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichloroethene, trans-1,2-	µg/kg	190 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichloropropane, 1,2-	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichloropropene, cis-1,3-	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Dichloropropene, trans-1,3-	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Ethylbenzene	µg/kg	1,000 ^{AD} 390,000 ^B 780,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	26 U	26 U	27 U	26 U	5.2 U	-	26 U	22 U	26 U	26 U
Isopropylbenzene	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F 2,300 ^G	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Isopropyltoluene, p- (Cymene)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F 10,000 ^G	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Methyl Acetate	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	26 U	26 U	27 U	26 U	5.2 U	-	26 U	22 U	26 U	26 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120 ^{AD} 500,000, ^B 1,000,000, ^C	500,000, ^E 1,000,000, ^F 300 ^G	26 U	26 U	27 U	26 U	5.2 U	-	26 U	22 U	26 U	26 U
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F 1,000 ^G	26 U	26 U	27 U	26 U	5.2 U	-	26 U	22 U	26 U	26 U
Methyl tert-butyl ether (MTBE)	µg/kg	930 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Methylcyclohexane	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Methylene Chloride (Dichloromethane)	µg/kg	50 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	8.9	8.3	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Naphthalene	µg/kg	12,000 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Propylbenzene, n-	µg/kg	3,900 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Styrene	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F 600 ^G	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Tetrachloroethene (PCE)	µg/kg	1,300 ^{AD} 150,000 ^B 300,000 ^C	500,000, ^E 1,000,000, ^F	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Toluene	µg/kg	700 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Trichlorobenzene, 1,2,4-	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F 3,400 ^G	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Trichloroethane, 1,1,1-	µg/kg	680 ^{AD} 500,000, ^B 1,000,000, ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Trichloroethane, 1,1,2-	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Trichloroethene (TCE)	µg/kg	470 ^{AD} 200,000 ^B 400,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Trichlorofluoromethane (Freon 11)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000, ^A 500,000, ^B 1,000,000, ^{CD}	500,000, ^E 1,000,000, ^F 6,000 ^G	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Trimethylbenzene, 1,2,4-	µg/kg	3,600 ^{AD} 190,000 ^B 380,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Trimethylbenzene, 1,3,5-	µg/kg	8,400 ^{AD} 190,000 ^B 380,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Vinyl Chloride	µg/kg	20 ^{AD} 13,000 ^B 27,000 ^C	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
Xylene, m & p-	µg/kg	260 ^A 500,000, ^B 1,000,000, ^{CD} 1,600, ^D	n/v	10 U	10 U	11 U	10 U	1.0 U	-	10 U	8.8 U	10 U	10 U
Xylene, o-	µg/kg	260 ^A 500,000, ^B 1,000,000, ^{CD} 1,600, ^D	n/v	5.1 U	5.1 U	5.4 U	5.2 U	1.0 U	-	5.2 U	4.4 U	5.2 U	5.1 U
XYlenes, Total	µg/kg	260 ^A 500,000, ^B 1,000,000, ^C 1,600 ^D	n/v	10 U	10 U	11 U	10 U	2.1 U	-	10 U	8.8 U	10 U	10 U
Total VOC	µg/kg	n/v	n/v	8.9	8.3	ND	ND	ND	-	ND	ND	ND	ND

See notes on last page.

Table 4
Summary of Analytical Results for Southeast Septic System (RAOC-1) Investigation Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Notes:	
NYSDEC-Part 375	NYSDEC 6 NYCRR Part 375 Soil Clean-up Objectives (SCOs)
A	NYSDEC 6 NYCRR Part 375 - Unrestricted Use Soil Cleanup Objectives
B	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Commercial
C	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Industrial
D	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Groundwater
NYSDEC CP-51	New York State Department of Environmental Conservation, DEC Policy CP-51, October 21, 2010
E	Table 1 Supplemental Soil Cleanup Objectives - Commercial
F	Table 1 Supplemental Soil Cleanup Objectives - Industrial
G	Table 1 Supplemental Soil Cleanup Objectives - Protection of Groundwater
6.5 ^A	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/V	No standard/guideline value.
-	Parameter not analyzed / not available.
A	The SCOs for unrestricted use were capped at a maximum value of 100 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3
a	SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.
EFG	
a	Based on rural background study
b	Based on rural background study. The value of 1.0 refers to SVOC analyses while the 0.17b refers to VOC analyses.
b,1	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.
c	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
c,p	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
d	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg (Organics) and 10000 mg/kg (Inorganics). See 6 NYCRR Part 375 TSD Section 9.3.
d,p	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
e	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3.
e,i	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
f	For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value.
g	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.
i	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
j	This SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
k	This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See 6 NYCRR Part 375 TSD Table 5.6-1.
m	For constituents where the calculated SCO was lower than the Contract Required Quantitation Limit (CRQL), the CRQL is used as the Track 1 SCO value.
n	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
n,l	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SC
NS,d	No SCO has been established for this compound. No SCO has been established for total chromium; however, see standards for trivalent and hexavalent chromium.
o	Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
p	The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
>	Greater than.
J	The reported result is an estimated value.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
N	Presumptive evidence of material.
ND	Not detected.
T	Result is a tentatively identified compound (TIC) and an estimated value.
UJ	Indicates estimated non-detect.
TAL	Eurofins Test America Laboratory

Table 5
Summary of Analytical Results for Southwest Septic System (RAOC-2) Confirmatory Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				LF-SW (bottom)				LF-SW (sidewall)											
Sample Date				30-Jun-20	1-Jul-20	1-Jul-20	29-Jun-20	1-Jul-20	29-Jun-20	30-Jun-20	30-Jun-20	1-Jul-20	30-Jun-20	30-Jun-20	30-Jun-20	1-Jul-20	1-Jul-20		
Sample ID				LF-SW-CSBOT-3	LF-SW-CSBOT 1	LF-SW-CSBOT 2	LF-SW-CSBOT 4	LF-SW-CSSIDE 4	LF-SW-CSSIDE 8	LF-SW-CSSIDE-5	LF-SW-CSSIDE-6	LF-SW-CSSIDE 1	LF-SW-CSSIDE7	LF-SW-CSDUP-2	LF-SW-CSSIDE-9	LF-SW-CSSIDE 2	LF-SW-CSSIDE 3		
Sample Depth				4.3 ft	4.3 ft	4.3 ft	4.7 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3.2 ft	3.2 ft	3.2 ft	3.2 ft	3.2 ft		
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL		
Laboratory Work Order				460-212321-1	460-212454-1	460-212454-1	460-212188-1	460-212454-1	460-212188-1	460-212321-1	460-212321-1	460-212454-1	460-212321-1	460-212321-1	460-212321-1	460-212454-1	460-212454-1		
Laboratory Sample ID				460-212321-3	460-212454-6	460-212454-4	460-212188-11	460-212454-5	460-212188-12	460-212321-4	460-212321-6	460-212454-3	460-212321-1	460-212321-2	460-212321-5	460-212454-2	460-212454-1		
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51											Field Duplicate					
Metals																			
Aluminum	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	6,410	5,680	3,800	8,320	9,440	7,030	7,670	7,020	4,920	8,630	8,340	9,080	6,160	7,850		
Antimony	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	29.4 U	31.0 U	28.7 U	30.6 U	29.2 U	32.4 U	30.0 U	31.6 U	29.0 UJ	31.2 U	30.2 U	30.3 U	30.3 U	30.1 U		
Arsenic	mg/kg	13 _n ^A 16 _a ^{BCD}	n/v	3.9 U	4.1 U	3.8 U	4.1 U	3.9 U	4.4	4.0 U	4.2 U	3.9 U	4.2 U	4.0 U	4.0 U	4.0 U	4.0 U		
Barium	mg/kg	350 _n ^A 400 ^B 10,000 _a ^C 820 ^D	n/v	9.0	12.0	10.3	15.2	16.0	25.0	31.1	35.6	9.5	41.0 J	11.7 J	24.6	11.7	19.5		
Beryllium	mg/kg	7.2 ^A 590 ^B 2,700 ^C 47 ^D	n/v	0.39 U	0.41 U	0.38 U	0.41 U	0.39 U	0.43 U	0.40 U	0.42 U	0.39 U	0.42 U	0.40 U	0.40 U	0.40 U	0.40 U		
Cadmium	mg/kg	2.5 _n ^A 9.3 ^B 60 ^C 7.5 ^D	n/v	0.39 U	0.41 U	0.38 U	0.41 U	0.39 U	0.43 U	0.47	0.42 U	0.39 U	0.84	0.40 U	0.40 U	0.40 U	0.40 U		
Calcium	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	1,050	1,630	1,480	638	516	2,390	1,160	1,670	1,060	1,410	995	990	997	1,080		
Chromium	mg/kg	30 _{nJ} ^A 1,500 _a ^B 6,800 _a ^C NS _a ^D	n/v	6.4	6.0	5.4	8.0	8.7	7.9	7.2	8.4	5.2	9.0	7.9	8.6	6.0	7.6		
Cobalt	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	2.9	4.6	3.2	3.3	3.4	2.2	1.9	2.1	2.1	1.9	2.2	2.7	3.4	2.8		
Copper	mg/kg	50 ^A 270 ^B 10,000 _a ^C 1,720 ^D	n/v	7.5	8.5	7.5	6.2	7.5	15.5	5.2	15.5	6.2	17.6 J	5.7 J	7.3	7.7	15.2		
Iron	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	8,700	9,450	8,120	10,300 ^{ABCEFG}	10,100 ^{ABCEFG}	9,900	8,250	7,000	6,980	7,940	11,100 ^{ABCEFG}	8,090	8,430	7,770		
Lead	mg/kg	63 _n ^A 1,000 ^B 3,900 ^C 450 ^D	n/v	2.9	3.5	2.9	4.0	4.7	27.2	14.5	21.6	3.6	12.2 J	4.0 J	6.6	4.0	6.8		
Magnesium	mg/kg	10,000 _a ^{ABCD}	n/v	1,250	1,630	1,160	1,160	1,380	1,030	909	963	1,120	978	1,030	1,120	1,440	1,320		
Manganese	mg/kg	1,600 _a ^A 10,000 _a ^{BC} 2,000 _a ^D	n/v	65.4	287	77.4	110	64.6	209	186	58.6	73.6	65.0	61.8	106	89.6	59.9		
Mercury	mg/kg	0.18 _a ^A 2.8 _a ^B 5.7 _a ^C 0.73 ^D	n/v	0.017 U	0.017 U	0.016 U	0.033	0.018 U	0.047	0.037	0.16	0.026	0.28 J ^A	0.064 J	0.073	0.019	0.079		
Nickel	mg/kg	30 ^A 310 ^B 10,000 _a ^C 130 ^D	n/v	9.8 U	10.3 U	9.6 U	10.2 U	9.7 U	10.8 U	10.0 U	10.5 U	9.7 U	10.4 U	10.1 U	10.1 U	10.1 U	10.0 U		
Potassium	mg/kg	10,000 _a ^{ABCD}	n/v	314	468	405	282	262	290	253	347	325	299	288	264	338	287		
Selenium	mg/kg	3.9 _a ^A 1,500 ^B 6,800 ^C 4 _a ^D	n/v	7.8 U	8.3 U	7.7 U	8.2 U	7.8 U	8.6 U	8.0 U	8.4 U	7.7 U	8.3 U	8.1 U	8.1 U	8.1 U	8.0 U		
Silver	mg/kg	2 ^A 1,500 ^B 6,800 ^C 8.3 ^D	n/v	0.98 U	1.0 U	0.96 U	1.0 U	0.97 U	1.1 U	1.0 U	1.1 U	0.97 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U		
Sodium	mg/kg	10,000 _a ^{ABCD}	n/v	275 U	290 U	268 U	286 U	273 U	302 U	280 U	295 U	271 U	291 U	282 U	282 U	283 U	281 U		
Thallium	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	11.8 U	12.4 U	11.5 U	12.3 U	11.7 U	12.9 U	12.0 U	12.6 U	11.6 U	12.5 U	12.1 U	12.1 U	12.1 U	12.1 U		
Vanadium	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	14.2	12.2	10.9	16.4	16.4	12.2	11.5	11.6	10.2	12.9	14.2	14.5	11.6	11.4		
Zinc	mg/kg	109 _n ^A 10,000 _a ^{BC} 2,480 ^D	n/v	15.7	19.3	16.2	23.6	27.9	50.1	97.0	39.6	18.8	44.5 J	24.9 J	38.5	16.6	33.8		
Polychlorinated Biphenyls																			
Aroclor 1016	µg/kg	ABCD	n/v	35 U	36 U	35 U	36 U	35 U	37 U	36 U	37 U	35 U	37 U	37 U	36 U	35 U	35 U		
Aroclor 1221	µg/kg	ABCD	n/v	35 U	36 U	35 U	36 U	35 U	37 U	36 U	37 U	35 U	37 U	37 U	36 U	35 U	35 U		
Aroclor 1232	µg/kg	ABCD	n/v	35 U	36 U	35 U	36 U	35 U	37 U	36 U	37 U	35 U	37 U	37 U	36 U	35 U	35 U		
Aroclor 1242	µg/kg	ABCD	n/v	35 U	36 U	35 U	36 U	35 U	37 U	36 U	37 U	35 U	37 U	37 U	36 U	35 U	35 U		
Aroclor 1248	µg/kg	ABCD	n/v	35 U	36 U	35 U	36 U	35 U	37 U	36 U	37 U	35 U	37 U	37 U	36 U	35 U	35 U		
Aroclor 1254	µg/kg	ABCD	n/v	35 U	36 U	35 U	36 U	35 U	37 U	36 U	37 U	35 U	37 U	37 U	36 U	35 U	35 U		
Aroclor 1260	µg/kg	ABCD	n/v	35 U	36 U	35 U	36 U	35 U	37 U	36 U	37 U	35 U	37 U	37 U	36 U	35 U	35 U		
Aroclor 1262	µg/kg	ABCD	n/v	35 U	36 U	35 U	36 U	35 U	37 U	36 U	37 U	35 U	37 U	37 U	36 U	35 U	35 U		
Aroclor 1268	µg/kg	ABCD	n/v	35 U	36 U	35 U	36 U	35 U	37 U	36 U	37 U	35 U	37 U	37 U	36 U	35 U	35 U		
Polychlorinated Biphenyls (PCBs)	µg/kg	100 ^A 1,000 ^B 25,000 ^C 3,200 ^D	n/v	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		

See notes on last page.

Table 5
Summary of Analytical Results for Southwest Septic System (RAOC-2) Confirmatory Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location Sample Date Sample ID Sample Depth Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type				TANK1-SW		TANK2-SW		TANK3-SW		TANK4-SW		TANK5-SW	
				29-Jun-20 TANK1-SW-CS1 8 ft STANTEC TAL 460-212188-1 460-212188-1	29-Jun-20 TANK1-SW-CS2 8 ft STANTEC TAL 460-212188-1 460-212188-2	29-Jun-20 TANK2-SW-CS1 8 ft STANTEC TAL 460-212188-1 460-212188-3	29-Jun-20 TANK2-SW-CS2 8 ft STANTEC TAL 460-212188-1 460-212188-4	29-Jun-20 TANK3-SW-CS1 9 ft STANTEC TAL 460-212188-1 460-212188-5	29-Jun-20 TANK3-SW-CS2 9 ft STANTEC TAL 460-212188-1 460-212188-6	29-Jun-20 TANK4-SW-CS1 9 ft STANTEC TAL 460-212188-1 460-212188-7	29-Jun-20 TANK4-SW-CS2 9 ft STANTEC TAL 460-212188-1 460-212188-8	29-Jun-20 TANK5-SW-CS1 9 ft STANTEC TAL 460-212188-1 460-212188-9	29-Jun-20 TANK5-SW-CS2 9 ft STANTEC TAL 460-212188-1 460-212188-10
	Units	NYSDEC-Part 375	NYSDEC CP-51										
Metals													
Aluminum	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	3,120	3,090	2,740	2,320	2,640	3,680	3,360	2,830	5,900	6,430
Antimony	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	30.8 U	32.0 UJ	30.4 U	30.9 U	30.9 U	29.4 U	29.7 U	31.2 U	29.6 U	29.8 U
Arsenic	mg/kg	13 _n ^A 16 _a ^{BCD}	n/v	4.1 U	4.3 U	4.1 U	4.1 U	4.1 U	3.9 U	4.0 U	4.2 U	3.9 U	4.0 U
Barium	mg/kg	350 _n ^A 400 _n ^B 10,000 _a ^C 820 ^D	n/v	8.9	8.2	9.6	8.1	9.9	10.1	10.0	10.1	15.4	24.9
Beryllium	mg/kg	7.2 ^A 590 ^B 2,700 ^C 47 ^D	n/v	0.41 U	0.43 U	0.41 U	0.41 U	0.41 U	0.39 U	0.40 U	0.42 U	0.39 U	0.40 U
Cadmium	mg/kg	2.5 _n ^A 9.3 ^B 60 ^C 7.5 ^D	n/v	0.41 U	0.43 U	0.41 U	0.41 U	0.41 U	0.39 U	0.40 U	0.42 U	0.39 U	0.62
Calcium	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	1,360	1,300	1,380	1,360	1,450	1,300	1,230	1,100	1,060	1,140
Chromium	mg/kg	30 _{UL} ^A 1,500 _a ^B 6,800 _a ^C NS _a ^D	n/v	4.0	4.1	4.2	3.8	4.4	4.2	4.0	3.9	5.6	6.8
Cobalt	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	2.4	2.5	2.6	2.3	2.6	2.5	2.3	2.3	2.1	2.9
Copper	mg/kg	50 ^A 270 ^B 10,000 _a ^C 1,720 ^D	n/v	17.1	5.8	5.8	12.1	49.5	6.7	5.5	5.5	5.5	8.5
Iron	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	7,060	6,980	7,180	6,310	7,160	7,520	7,040	6,730	7,530	9,200
Lead	mg/kg	63 _n ^A 1,000 _a ^B 3,900 ^C 450 ^D	n/v	3.7	2.3	2.5	2.9	6.9	3.2	2.6	2.3	4.9	8.8
Magnesium	mg/kg	10,000 _a ^{ABCD}	n/v	907	916	908	824	918	987	972	917	1,030	1,270
Manganese	mg/kg	1,600 _a ^A 10,000 _a ^{B/C} 2,000 _a ^D	n/v	206	167	202	181	172	174	181	162	90.5	211
Mercury	mg/kg	0.18 _a ^A 2.8 _a ^B 5.7 _a ^C 0.73 ^D	n/v	0.017 U	0.018 U	0.018 U	0.017 U	0.018 U	0.017 U	0.017 U	0.018 U	0.17	0.23 ^A
Nickel	mg/kg	30 ^A 310 ^B 10,000 _a ^C 130 ^D	n/v	10.3 U	10.7 U	10.1 U	10.3 U	10.3 U	9.8 U	9.9 U	10.4 U	9.9 U	9.9 U
Potassium	mg/kg	10,000 _a ^{ABCD}	n/v	335	359	335	319	371	351	349	327	251	357
Selenium	mg/kg	3.9 _a ^A 1,500 ^B 6,800 ^C 4 _a ^D	n/v	8.2 U	8.5 U	8.1 U	8.2 U	8.2 U	7.8 U	7.9 U	8.3 U	7.9 U	7.9 U
Silver	mg/kg	2 ^A 1,500 ^B 6,800 ^C 8.3 ^D	n/v	1.0 U	1.1 U	1.0 U	1.0 U	1.0 U	0.98 U	0.99 U	1.0 U	0.99 U	0.99 U
Sodium	mg/kg	10,000 _a ^{ABCD}	n/v	287 U	299 U	284 U	288 U	289 U	274 U	278 U	291 U	276 U	278 U
Thallium	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	12.3 U	12.8 U	12.2 U	12.3 U	12.4 U	11.7 U	11.9 U	12.5 U	11.8 U	11.9 U
Vanadium	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	9.7	9.1	9.0	8.1	9.1	10	9.3	8.5	10.6	12.4
Zinc	mg/kg	109 _n ^A 10,000 _a ^{BC} 2,480 ^D	n/v	64.4	17.8	19.2	51.5	196 ^A	35.8	16.2	18.0	24.5	30.3
Polychlorinated Biphenyls													
Aroclor 1016	µg/kg	ABCD	n/v	36 U	36 U	36 U	35 U	35 U	35 U	35 U	36 U	35 U	36 U
Aroclor 1221	µg/kg	ABCD	n/v	36 U	36 U	36 U	35 U	35 U	35 U	35 U	36 U	35 U	36 U
Aroclor 1232	µg/kg	ABCD	n/v	36 U	36 U	36 U	35 U	35 U	35 U	35 U	36 U	35 U	36 U
Aroclor 1242	µg/kg	ABCD	n/v	36 U	36 U	36 U	35 U	35 U	35 U	35 U	36 U	35 U	36 U
Aroclor 1248	µg/kg	ABCD	n/v	36 U	36 U	36 U	35 U	35 U	35 U	35 U	36 U	35 U	36 U
Aroclor 1254	µg/kg	ABCD	n/v	36 U	36 U	36 U	35 U	35 U	35 U	35 U	36 U	35 U	36 U
Aroclor 1260	µg/kg	ABCD	n/v	36 U	36 U	36 U	35 U	35 U	35 U	35 U	36 U	35 U	36 U
Aroclor 1262	µg/kg	ABCD	n/v	36 U	36 U	36 U	35 U	35 U	35 U	35 U	36 U	35 U	36 U
Aroclor 1268	µg/kg	ABCD	n/v	36 U	36 U	36 U	35 U	35 U	35 U	35 U	36 U	35 U	36 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100 ^A 1,000 ^B 25,000 ^C 3,200 ^D	n/v	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

See notes on last page.

Table 5
Summary of Analytical Results for Southwest Septic System (RAOC-2) Confirmatory Soil Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Notes:	
NYSDEC-Part 375	NYSDEC 6 NYCRR Part 375 Soil Clean-up Objectives (SCOs)
A	NYSDEC 6 NYCRR Part 375 - Unrestricted Use Soil Cleanup Objectives
B	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Commercial
C	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Industrial
D	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Groundwater
NYSDEC CP-51	New York State Department of Environmental Conservation, DEC Policy CP-51, October 21, 2010
E	Table 1 Supplemental Soil Cleanup Objectives - Commercial
F	Table 1 Supplemental Soil Cleanup Objectives - Industrial
G	Table 1 Supplemental Soil Cleanup Objectives - Protection of Groundwater
6.5 ^A	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/V	No standard/guideline value.
-	Parameter not analyzed / not available.
A _a	The SCOs for unrestricted use were capped at a maximum value of 100 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3
EFG _a	SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.
c	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.
c,p	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
d	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg (Organics) and 10000 mg/kg (Inorganics). See 6 NYCRR Part 375 TSD Section 9.3.
d,p	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
e	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3.
g	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.
i	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
k	This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See 6 NYCRR Part 375 TSD Table 5.6-1.
m	For constituents where the calculated SCO was lower than the Contract Required Quantitation Limit (CRQL), the CRQL is used as the Track 1 SCO value.
n	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
n,j	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
NS,q	No SCO has been established for this compound. No SCO has been established for total chromium; however, see standards for trivalent and hexavalent chromium.
o	Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
p	The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
J	The reported result is an estimated value.
ND	Not detected.
UJ	Indicates estimated non-detect.
TAL	Eurofins Test America Laboratory

Table 7
Summary of Analytical Results for Debris Pile (RAOC-4) Samples
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location					DP-1	
Sample Date					19-Jun-20	6-Jul-20
Sample ID					*DP-CSSIDE1	DP-CSSIDE2
Sampling Company					STANTEC	STANTEC
Laboratory					TAL	TAL
Laboratory Work Order					460-161576-1	460-212667-1
Laboratory Sample ID	Units	NYSDEC-Part 375	NYSDEC CP-51	30-Jul-18 *LIN-DP-s STANTEC TAL 460-161576-1 460-161576-17	480-171508-1 480-171508-1	460-212667-1 460-212667-1
Volatile Organic Compounds						
Acetone	µg/kg	50 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	5.3 U	-	-
Benzene	µg/kg	60 ^{AD} 44,000 ^B 89,000 ^C	n/v	1.1 U	-	-
Bromodichloromethane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Bromoform (Tribromomethane)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Bromomethane (Methyl bromide)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Butylbenzene, n-	µg/kg	12,000 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Butylbenzene, tert-	µg/kg	5,900 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Carbon Disulfide	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 2,700 ^G	1.1 U	-	-
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760 ^{AD} 22,000 ^B 44,000 ^C	n/v	1.1 U	-	-
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Chloroethane (Ethyl Chloride)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 1,900 ^G	1.1 U	-	-
Chloroform (Trichloromethane)	µg/kg	370 ^{AD} 350,000 ^B 700,000 ^C	n/v	1.1 U	-	-
Chloromethane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Cyclohexane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Dibromochloromethane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F	1.1 U	-	-
Dichlorobenzene, 1,2-	µg/kg	1,100 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Dichlorobenzene, 1,3-	µg/kg	2,400 ^{AD} 280,000 ^B 560,000 ^C	n/v	1.1 U	-	-
Dichlorobenzene, 1,4-	µg/kg	1,800 ^{AD} 130,000 ^B 250,000 ^C	n/v	1.1 U	-	-
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Dichloroethane, 1,1-	µg/kg	270 ^{AD} 240,000 ^B 480,000 ^C	n/v	1.1 U	-	-
Dichloroethane, 1,2-	µg/kg	20 ⁿ ^A 30,000 ^B 60,000 ^C 20 ^D	n/v	1.1 U	-	-
Dichloroethene, 1,1-	µg/kg	330 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Dichloroethene, cis-1,2-	µg/kg	250 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Dichloroethene, trans-1,2-	µg/kg	190 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Dichloropropane, 1,2-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F	1.1 U	-	-
Dichloropropene, cis-1,3-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Dichloropropene, trans-1,3-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Ethylbenzene	µg/kg	1,000 ^{AD} 390,000 ^B 780,000 ^C	n/v	1.1 U	-	-
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	5.3 U	-	-
Isopropylbenzene	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 2,300 ^G	1.1 U	-	-
Isopropyltoluene, p- (Cymene)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 10,000 ^G	1.1 U	-	-
Methyl Acetate	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	5.3 U	-	-
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120 ^{AD} 500,000 ^B 1,000,000 ^C	500,000 ^E 1,000,000 ^F 300 ^G	5.3 U	-	-
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 1,000 ^G	5.3 U	-	-
Methyl tert-butyl ether (MTBE)	µg/kg	930 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Methylcyclohexane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Methylene Chloride (Dichloromethane)	µg/kg	50 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Naphthalene	µg/kg	12,000 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Propylbenzene, n-	µg/kg	3,900 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Styrene	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F	1.1 U	-	-
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 600 ^G	1.1 U	-	-
Tetrachloroethene (PCE)	µg/kg	1,300 ^{AD} 150,000 ^B 300,000 ^C	500,000 ^E 1,000,000 ^F	1.1 U	-	-
Toluene	µg/kg	700 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Trichlorobenzene, 1,2,4-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 3,400 ^G	1.1 U	-	-
Trichloroethane, 1,1,1-	µg/kg	680 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	1.1 U	-	-
Trichloroethane, 1,1,2-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Trichloroethene (TCE)	µg/kg	470 ^{AD} 200,000 ^B 400,000 ^C	n/v	1.1 U	-	-
Trichlorofluoromethane (Freon 11)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	1.1 U	-	-
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 6,000 ^G	1.1 U	-	-
Trimethylbenzene, 1,2,4-	µg/kg	3,600 ^{AD} 190,000 ^B 380,000 ^C	n/v	1.1 U	-	-
Trimethylbenzene, 1,3,5-	µg/kg	8,400 ^{AD} 190,000 ^B 380,000 ^C	n/v	1.1 U	-	-
Vinyl Chloride	µg/kg	20 ^{AD} 13,000 ^B 27,000 ^C	n/v	1.1 U	-	-
Xylene, m & p-	µg/kg	260 ^A 500,000 ^{C,P} ^B 1,000,000 ^{A,P} ^C 1,600 ^D	n/v	1.1 U	-	-
Xylene, o-	µg/kg	260 ^A 500,000 ^{C,P} ^B 1,000,000 ^{A,P} ^C 1,600 ^D	n/v	1.1 U	-	-
Xylenes, Total	µg/kg	260 ^A 500,000 ^B 1,000,000 ^C 1,600 ^D	n/v	2.1 U	-	-
Total VOC	µg/kg	n/v	n/v	ND	-	-
VOC - Tentatively Identified Compounds						
Total VOC TICs	µg/kg	n/v	n/v	10 JN	-	-

Notes:

NYSDEC-Part 375 NYSDEC 6 NYCRR Part 375 Soil Clean-up Objectives (SCOs)

 A NYSDEC 6 NYCRR Part 375 - Unrestricted Use Soil Cleanup Objectives

 B NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Commercial

 C NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Industrial

 D NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Groundwater

NYSDEC CP-51 New York State Department of Environmental Conservation, DEC Policy CP-51, October 21, 2010

 E Table 1 Supplemental Soil Cleanup Objectives - Commercial

 F Table 1 Supplemental Soil Cleanup Objectives - Industrial

 G Table 1 Supplemental Soil Cleanup Objectives - Protection of Groundwater

6.5^A Concentration exceeds the indicated standard.

15.2 Measured concentration did not exceed the indicated standard.

0.03 U Analyte was not detected at a concentration greater than the laboratory reporting limit.

n/v No standard/guideline value.

- Parameter not analyzed / not available.

A The SCOs for unrestricted use were capped at a maximum value of 100 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3

EFG SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.

a Based on rural background study

b Based on rural background study. The value of 1.0 refers to SVOC analyses while the 0.17b refers to VOC analyses.

b,s1 The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.

c The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.

c,p The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg (Organics) and 10000 mg/kg (Inorganics). See 6 NYCRR Part 375 TSD Section 9.3.

d The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.

d,p The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3.

e The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3.

e,l The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

f For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value.

g For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

i The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

j This SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

k This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See 6 NYCRR Part 375 TSD Table 5.6-1.

m For constituents where the calculated SCO was lower than the Contract Required Quantitation Limit (CRQL), the CRQL is used as the Track 1 SCO value.

n For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

n,l For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

 The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

NS,q No SCO has been established for this compound. No SCO has been established for total chromium; however, see standards for trivalent and hexavalent chromium.

o Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.

p The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.

J The reported result is an estimated value.

N Presumptive evidence of material.

ND Not detected.

T Result is a tentatively identified compound (TIC) and an estimated value.

UJ Indicates estimated non-detect.

TAL Eurofins Test America Laboratory

* An asterisk in front of the Sample ID indicates that the material no longer remains on-site following implementation of Interim Remedial Measures.

Table 8
Summary of Analytical Results for Eastern Surface Soil Impacts (RAOC-5)
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				SS-4a	SS-4abc		SS-4b				SS-4c		
Sample Date				7-Apr-20	30-Jul-18	30-Jul-18	30-Jul-18	7-Apr-20	7-Apr-20	30-Jul-18	30-Jul-18	7-Apr-20	30-Jul-18
Sample ID				LIN-SS4a-t-S2	LIN-SS4-t-s	LIN-SS4-b-s	LIN-SS4b-t-s	LIN-SS4b-t-S2	LIN-SS-DUP-S2	LIN-SS4b-b-s	LIN-SS4c-t-s	LIN-SS4c-t-S2	LIN-SS4c-b-s
Sample Depth				0 - 2 in	0 - 2 in	2 - 12 in	0 - 2 in	0 - 2 in	0 - 2 in	2 - 12 in	0 - 2 in	0 - 2 in	2 - 12 in
Sample Depth				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-168313-1	460-161576-1	460-161576-1	460-161576-1	480-168313-1	480-168313-1	460-161576-1	460-161576-1	480-168313-1	460-161576-1
Laboratory Sample ID				480-168313-1	460-161576-24	460-161576-25	460-161576-13	480-168313-2	480-168313-2	460-161576-14	460-161576-15	480-168313-3	460-161576-16
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51						Field Duplicate				
General Chemistry													
Cyanide	mg/kg	27 ^{AB} 10,000 _a ^C 40 ^D	n/v	-	0.27 U	1.0	-	-	-	-	-	-	-
Metals													
Aluminum	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	-	5,930	6,580	-	-	-	-	-	-	-
Antimony	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	-	32.9 U	32.7 U	-	-	-	-	-	-	-
Arsenic	mg/kg	13 _a ^A 16 _a ^{BCD}	n/v	-	4.4 U	4.4 U	-	-	-	-	-	-	-
Barium	mg/kg	350 _a ^A 400 _a ^B 10,000 _a ^C 820 ^D	n/v	-	27.4	26.2	-	-	-	-	-	-	-
Beryllium	mg/kg	7.2 ^A 590 ^B 2,700 ^C 47 ^D	n/v	-	0.44 U	0.44 U	-	-	-	-	-	-	-
Cadmium	mg/kg	2.5 _a ^A 9.3 _a ^B 60 ^C 7.5 ^D	n/v	-	0.44 U	0.44 U	-	-	-	-	-	-	-
Calcium	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	-	4,590	3,010	-	-	-	-	-	-	-
Chromium	mg/kg	30 _{UL} ^A 1,500 _a ^B 6,800 _a ^C ^{NS,q} 19.4	n/v	-	16.4	19.4	-	-	-	-	-	-	-
Cobalt	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	-	2.4	2.7	-	-	-	-	-	-	-
Copper	mg/kg	50 ^A 270 ^B 10,000 _a ^C 1,720 ^D	n/v	-	8.4	8.5	-	-	-	-	-	-	-
Iron	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	-	7,410	8,080	-	-	-	-	-	-	-
Lead	mg/kg	63 _a ^A 1,000 _a ^B 3,900 ^C 450 ^D	n/v	-	26.3	28.4	-	-	-	-	-	-	-
Magnesium	mg/kg	10,000 _a ^{ABCD}	n/v	-	2,030	1,550	-	-	-	-	-	-	-
Manganese	mg/kg	1,600 _a ^A 10,000 _a ^B ^{NS} 2,000 _a ^D	n/v	-	181	170	-	-	-	-	-	-	-
Mercury	mg/kg	0.18 _a ^A 2.8 _a ^B 5.7 _a ^C 0.73 ^D	n/v	-	0.064	0.069	-	-	-	-	-	-	-
Nickel	mg/kg	30 ^A 310 ^B 10,000 _a ^C 130 ^D	n/v	-	11.0 U	10.9 U	-	-	-	-	-	-	-
Potassium	mg/kg	10,000 _a ^{ABCD}	n/v	-	454	440	-	-	-	-	-	-	-
Selenium	mg/kg	3.9 _a ^A 1,500 _a ^B 6,800 _a ^C 4 _a ^D	n/v	-	8.8 U	8.7 U	-	-	-	-	-	-	-
Silver	mg/kg	2 ^A 1,500 ^B 6,800 ^C 8.3 ^D	n/v	-	1.1 U	1.1 U	-	-	-	-	-	-	-
Sodium	mg/kg	10,000 _a ^{ABCD}	n/v	-	307 U	305 U	-	-	-	-	-	-	-
Thallium	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	-	13.2 U	13.1 U	-	-	-	-	-	-	-
Vanadium	mg/kg	10,000 _a ^{ABCD}	10,000 _a ^{EFG}	-	10.9	11.8	-	-	-	-	-	-	-
Zinc	mg/kg	109 _a ^A 10,000 _a ^B ^{NS} 2,480 ^D	n/v	-	47.2	46.7	-	-	-	-	-	-	-
Polychlorinated Biphenyls													
Aroclor 1016	µg/kg	^{ABCD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Aroclor 1221	µg/kg	^o ^{ABCD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Aroclor 1232	µg/kg	^o ^{ABCD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Aroclor 1242	µg/kg	^o ^{ABCD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Aroclor 1248	µg/kg	^o ^{ABCD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Aroclor 1254	µg/kg	^o ^{ABCD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Aroclor 1260	µg/kg	^o ^{ABCD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Aroclor 1262	µg/kg	^o ^{ABCD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Aroclor 1268	µg/kg	^o ^{ABCD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs)	µg/kg	100 ^A 1,000 ^B 25,000 ^C 3,200 ^D	n/v	-	ND	ND	-	-	-	-	-	-	-
Pesticides													
Aldrin	µg/kg	5 _a ^A 680 ^B 1,400 ^C 190 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
BHC, alpha-	µg/kg	20 ^{AD} 3,400 ^B 6,800 ^C	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
BHC, beta-	µg/kg	36 ^A 3,000 ^B 14,000 ^C 90 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
BHC, delta-	µg/kg	40 _a ^A 500,000 _a ^B 1,000,000 _a ^C 250 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Camphochlor (Toxaphene)	µg/kg	100,000 _a ^A 500,000 _a ^B 1,000,000 _a ^{CD}	n/v	-	38 U	37 U	-	-	-	-	-	-	-
Chlordane, alpha-	µg/kg	94 ^A 24,000 ^B 47,000 ^C 2,900 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000 _a ^A 1,000,000 _a ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
DDD (p,p'-DDD)	µg/kg	3.3 _m ^A 92,000 ^B 180,000 ^C 14,000 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
DDE (p,p'-DDE)	µg/kg	3.3 _m ^A 62,000 ^B 120,000 ^C 17,000 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
DDT (p,p'-DDT)	µg/kg	3.3 _m ^A 47,000 ^B 94,000 ^C 136,000 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Dieldrin	µg/kg	5 _a ^A 1,400 ^B 2,800 ^C 100 ^D	n/v	-	63 ^A	52 ^A	-	-	-	-	-	-	-
Endosulfan I	µg/kg	2,400 _a ^A 200,000 _a ^B 920,000 _a ^C 102,000 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Endosulfan II	µg/kg	2,400 _a ^A 200,000 _a ^C 920,000 _a ^C 102,000 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Endosulfan Sulfate	µg/kg	2,400 _a ^A 200,000 _a ^B 920,000 _a ^C 1,000,000 _a ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Endrin	µg/kg	14 ^A 89,000 ^B 410,000 ^C 60 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Endrin Aldehyde	µg/kg	100,000 _a ^A 500,000 _a ^B 1,000,000 _a ^{CD}	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Endrin Ketone	µg/kg	100,000 _a ^A 500,000 _a ^B 1,000,000 _a ^{CD}	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Heptachlor	µg/kg	42 ^A 15,000 ^B 29,000 ^C 380 ^D	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Heptachlor Epoxide	µg/kg	100,000 _a ^A 500,000 _a ^B 1,000,000 _a ^{CD}	500,000 _a ^E 1,000,000 _a ^F 20 ^G	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100 ^{AD} 9,200 ^B 23,000 ^C	n/v	-	3.8 U	3.7 U	-	-	-	-	-	-	-
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000 _a ^A 500,000 _a ^B 1,000,000 _a ^{CD}	500,000 _a ^E 1,000,000 _a ^F 900,000 ^G	-	3.8 U	3.7 U	-	-	-	-	-	-	-

See notes on last page.

Table 8
Summary of Analytical Results for Eastern Surface Soil Impacts (RAOC-5)
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				SS-4a	SS-4abc			SS-4b				SS-4c		
Sample Date				7-Apr-20	30-Jul-18	30-Jul-18	30-Jul-18	7-Apr-20	7-Apr-20	30-Jul-18	30-Jul-18	30-Jul-18	7-Apr-20	30-Jul-18
Sample ID				LIN-SS4a-t-S2	LIN-SS4-t-s	LIN-SS4-b-s	LIN-SS4b-t-s	LIN-SS4b-t-S2	LIN-SS-DUP-S2	LIN-SS4b-b-s	LIN-SS4c-t-s	LIN-SS4c-t-S2	LIN-SS4c-b-s	LIN-SS4c-b-s
Sample Depth				0 - 2 in	0 - 2 in	2 - 12 in	0 - 2 in	0 - 2 in	0 - 2 in	2 - 12 in	0 - 2 in	0 - 2 in	2 - 12 in	2 - 12 in
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-168313-1	460-161576-1	460-161576-1	460-161576-1	480-168313-1	480-168313-1	460-161576-1	460-161576-1	480-168313-1	460-161576-1	460-161576-1
Laboratory Sample ID				480-168313-1	460-161576-24	460-161576-25	460-161576-13	480-168313-2	480-168313-4	460-161576-14	460-161576-15	480-168313-3	460-161576-16	460-161576-16
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51						Field Duplicate					
Volatile Organic Compounds														
Acetone	µg/kg	50 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	5.5 U	-	-	5.2 U	7.7	-	5.0 U	
Benzene	µg/kg	60 ^{AD} 44,000 ^B 89,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Bromodichloromethane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	7.1	
Bromoform (Tribromomethane)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Bromomethane (Methyl bromide)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Butylbenzene, n-	µg/kg	12,000 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Butylbenzene, tert-	µg/kg	5,900 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Carbon Disulfide	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 2,700 ^G	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760 ^{AD} 22,000 ^B 44,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100 ^{CD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Chloroethane (Ethyl Chloride)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 1,900 ^G	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Chloroform (Trichloromethane)	µg/kg	370 ^{AD} 350,000 ^B 700,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	23	
Chloromethane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Cyclohexane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dibromochloromethane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	1.9	
Dichlorobenzene, 1,2-	µg/kg	1,100 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichlorobenzene, 1,3-	µg/kg	2,400 ^{AD} 280,000 ^B 560,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichlorobenzene, 1,4-	µg/kg	1,800 ^{AD} 130,000 ^B 250,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichloroethane, 1,1-	µg/kg	270 ^{CD} 240,000 ^B 480,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichloroethane, 1,2-	µg/kg	20 ^m 30,000 ^B 60,000 ^C 20 ^D	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichloroethene, 1,1-	µg/kg	330 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichloroethene, cis-1,2-	µg/kg	250 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichloroethene, trans-1,2-	µg/kg	190 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichloropropane, 1,2-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichloropropene, cis-1,3-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Dichloropropene, trans-1,3-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Ethylbenzene	µg/kg	1,000 ^{AD} 390,000 ^B 780,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	5.5 U	-	-	5.2 U	5.7 U	-	5.0 U	
Isopropylbenzene	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 2,300 ^G	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Isopropyltoluene, p- (Cymene)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 10,000 ^G	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Methyl Acetate	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	5.5 U	-	-	5.2 U	5.7 U	-	5.0 U	
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120 ^{AD} 500,000 ^B 1,000,000 ^C	500,000 ^E 1,000,000 ^F 300 ^G	-	-	-	5.5 U	-	-	5.2 U	5.7 U	-	5.0 U	
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 1,000 ^G	-	-	-	5.5 U	-	-	5.2 U	5.7 U	-	5.0 U	
Methyl tert-butyl ether (MTBE)	µg/kg	930 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Methylcyclohexane	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Methylene Chloride (Dichloromethane)	µg/kg	50 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Naphthalene	µg/kg	12,000 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Propylbenzene, n-	µg/kg	3,900 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Styrene	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 600 ^G	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Tetrachloroethene (PCE)	µg/kg	1,300 ^{AD} 150,000 ^B 300,000 ^C	500,000 ^E 1,000,000 ^F	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Toluene	µg/kg	700 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Trichlorobenzene, 1,2,4-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 3,400 ^G	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Trichloroethane, 1,1,1-	µg/kg	680 ^{AD} 500,000 ^B 1,000,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Trichloroethane, 1,1,2-	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Trichloroethene (TCE)	µg/kg	470 ^{AD} 200,000 ^B 400,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Trichlorofluoromethane (Freon 11)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000 ^A 500,000 ^B 1,000,000 ^{CD}	500,000 ^E 1,000,000 ^F 6,000 ^G	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Trimethylbenzene, 1,2,4-	µg/kg	3,600 ^{AD} 190,000 ^B 380,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Trimethylbenzene, 1,3,5-	µg/kg	8,400 ^{AD} 190,000 ^B 380,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Vinyl Chloride	µg/kg	20 ^{AD} 13,000 ^B 27,000 ^C	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Xylene, m & p-	µg/kg	260 ^A 500,000 ^B 1,000,000 ^{CD} 1,600 ^D	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Xylene, o-	µg/kg	260 ^A 500,000 ^B 1,000,000 ^{CD} 1,600 ^D	n/v	-	-	-	1.1 U	-	-	1.0 U	1.1 U	-	0.99 U	
Xylenes, Total	µg/kg	260 ^A 500,000 ^B 1,000,000 ^C 1,600 ^D	n/v	-	-	-	2.2 U	-	-	2.1 U	2.3 U	-	2.0 U	
Total VOC	µg/kg	n/v	n/v	-	-	-	ND	-	-	ND	7.7	-	32	

See notes on last page.

Table 8
Summary of Analytical Results for Eastern Surface Soil Impacts (RAOC-5)
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Notes:	
NYSDEC-Part 375	NYSDEC 6 NYCRR Part 375 Soil Clean-up Objectives (SCOs)
A	NYSDEC 6 NYCRR Part 375 - Unrestricted Use Soil Cleanup Objectives
B	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Commercial
C	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Industrial
D	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Groundwater
NYSDEC CP-51	New York State Department of Environmental Conservation, DEC Policy CP-51, October 21, 2010
E	Table 1 Supplemental Soil Cleanup Objectives - Commercial
F	Table 1 Supplemental Soil Cleanup Objectives - Industrial
G	Table 1 Supplemental Soil Cleanup Objectives - Protection of Groundwater
6.5 ^A	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
A	The SCOs for unrestricted use were capped at a maximum value of 100 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3
a	SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.
EFG	
s	Based on rural background study
b	Based on rural background study. The value of 1.0 refers to SVOC analyses while the 0.17b refers to VOC analyses.
b,s1	
c	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.
c,p	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
d	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg (Organics) and 10000 mg/kg (Inorganics). See 6 NYCRR Part 375 TSD Section 9.3.
d,p	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
e	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3.
e,l	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
f	For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value.
g	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.
i	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
j	This SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
k	This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See 6 NYCRR Part 375 TSD Table 5.6-1.
m	For constituents where the calculated SCO was lower than the Contract Required Quantitation Limit (CRQL), the CRQL is used as the Track 1 SCO value.
n	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
n,l	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
NS,q	No SCO has been established for this compound. No SCO has been established for total chromium; however, see standards for trivalent and hexavalent chromium.
o	Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
p	The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
J	The reported result is an estimated value.
ND	Not detected.
T	Result is a tentatively identified compound (TIC) and an estimated value.
TAL	Eurofins Test America Laboratory

Table 9a
Summary of Solid Sample Results for Septic System Waste Characterization
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location Sample Date Sample ID Sample Depth Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type				25-Jul-19 LIN-DBOX2-NW-S N/A STANTEC TAL 480-156805-1 480-156805-9	*DBOX-NW 25-Jul-19 LIN-DBOX-NW-S N/A STANTEC TAL 480-156805-2 480-156805-13	26-Jul-19 LIN-DBOX3-NW-SLD N/A STANTEC TAL 480-156805-1 480-156853-1	18-Jun-20 LIN-RAOC2-LF1-WC-S 2 ft STANTEC TAL 480-171430-1 480-171430-8	18-Jun-20 LIN-RAOC2-LF1-WC-S 2 ft STANTEC TAL 480-171430-2 480-171430-8	*LF-SW 18-Jun-20 LIN-RAOC2-LF2-WC-S 2 ft STANTEC TAL 480-171430-1 480-171430-9	18-Jun-20 LIN-RAOC2-LF2-WC-S 2 ft STANTEC TAL 480-171430-2 480-171430-9	23-Jul-19 LIN-TANK1SW-WC-SED N/A STANTEC TAL 480-156763-1 480-156764-4	*TANK1-SW 18-Jun-20 LIN-RAOC2-TANK1-WC-SLG N/A STANTEC TAL 480-171430-1 480-171430-10	18-Jun-20 LIN-RAOC2-TANK1-WC-SLG N/A STANTEC TAL 480-171430-2 480-171430-10	*TANK4-SW 23-Jul-19 LIN-TANK4SW-WC-S N/A STANTEC TAL 480-156763-1 480-156764-7	
	Units	NYSDEC-Part 375	NYSDEC CP-51												
General Chemistry															
Cyanide	mg/kg	27 ^{AB} 10,000 ^a 40 ^D	n/v	0.96 U	1.1 U	0.95 U	-	-	-	-	3.9 U	-	-	-	1.1 U
Flashpoint	deg F	n/v	n/v	-	> 176	> 180	-	-	-	-	-	-	-	-	-
pH, lab	S.U.	n/v	n/v	-	7.9 J	7.6	-	-	-	-	-	-	-	-	-
Temperature, Lab	deg C	n/v	n/v	-	21.1 J	21.1	-	-	-	-	-	-	-	-	-
Metals															
Aluminum	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	7,060	6,530	1,680	-	8,060	-	7,520	751	-	-	-	10,400 ^{ABCEFG}
Antimony	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	16.2 U	16.9 U	15.3 U	-	16.2 U	-	15.9 U	68.7 U	-	-	-	17.5 U
Arsenic	mg/kg	13, ^A 16 ^{BCD}	n/v	3.0	10.1	2.0 U	-	2.2 U	-	2.1 U	9.2 U	-	-	-	2.3 U
Barium	mg/kg	350, ^A 400 ^B 10,000 ^C 820 ^D	n/v	22.8	209	7.2	-	30.9 ^A	-	16.0 ^A	36.4	-	-	-	39.0
Beryllium	mg/kg	7.2 ^A 590 ^B 2,700 ^C 47 ^D	n/v	0.30	0.28	0.20 U	-	0.26	-	0.22	0.92 U	-	-	-	0.39
Cadmium	mg/kg	2.5, ^A 9.3 ^B 60 ^C 7.5 ^D	n/v	0.22 U	5.7 ^A	0.20 U	-	0.22 U	-	0.21 U	1.1	-	-	-	0.57
Calcium	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	1,890	6,040	468	-	879	-	790	7,010	-	-	-	2,930
Chromium	mg/kg	30 _{UL} ^A 1,500 ^B 6,800 ^C NS _q ^D	n/v	8.9	61.2 ^A	2.6	-	8.5	-	7.7	7.7	-	-	-	11.5
Cobalt	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	4.0	7.4	0.76	-	2.4	-	2.8	2.3 U	-	-	-	3.7
Copper	mg/kg	50 ^A 270 ^B 10,000 ^C 1,720 ^D	n/v	8.9	48.0	3.2	-	5.2	-	5.5	75.3 ^A	-	-	-	30.5
Iron	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	10,600 ^{ABCEFG}	14,600 ^{ABCEFG}	2,380	-	9,000	-	8,800	1,500	-	-	-	10,400 ^{ABCEFG}
Lead	mg/kg	63 _n ^A 1,000 ^B 3,900 ^C 450 ^D	n/v	6.4	95.2 ^A	5.9	-	13.3	-	4.2	55.1	-	-	-	25.7
Magnesium	mg/kg	10,000 ^{ABCD}	n/v	1,660	1,920	392	-	1,080	-	1,260	237	-	-	-	1,550
Manganese	mg/kg	1,600, ^A 10,000 ^{B,C} 2,000 ^D	n/v	239 B	129 B	52.8 B	-	171	-	67.1	16.0	-	-	-	164
Mercury	mg/kg	0.18, ^A 2.8, ^B 5.7, ^C 0.73 ^D	n/v	0.021 U	0.95 ^{AD}	0.021 U	-	0.029	-	0.020	3.1 ^{ABD}	-	-	-	0.41 ^A
Nickel	mg/kg	30 ^A 310 ^B 10,000 ^C 130 ^D	n/v	8.9	13.1	5.1 U	-	6.0	-	6.0	22.9 U	-	-	-	7.6
Potassium	mg/kg	10,000 ^{ABCD}	n/v	1,040	931	241	-	486	-	583	196	-	-	-	848
Selenium	mg/kg	3.9, ^A 1,500 ^B 6,800 ^C 4 _g ^D	n/v	4.3 U	4.5 U	4.1 U	-	4.3 U	-	4.2 U	18.3 U	-	-	-	4.7 U
Silver	mg/kg	2 ^A 1,500 ^B 6,800 ^C 8.3 ^D	n/v	0.54 U	117 ^{AD}	0.51 U	-	0.54 U	-	0.53 U	2.3 U	-	-	-	0.58 U
Sodium	mg/kg	10,000 ^{ABCD}	n/v	151 U	158 U	143 U	-	151 U	-	149 U	641 U	-	-	-	164 U
Thallium	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	6.5 U	6.8 U	6.1 U	-	6.5 U	-	6.4 U	27.5 U	-	-	-	7.0 U
Vanadium	mg/kg	10,000 ^{ABCD}	10,000 ^{EF}	17.2	15.5	19.9	-	14.7	-	14.8	2.3 U	-	-	-	16.7
Zinc	mg/kg	109 _n ^A 10,000 ^{B,C} 2,480 ^D	n/v	22.2	36.9	10.6	-	37.2	-	19.4	223 ^A	-	-	-	77.4
Polychlorinated Biphenyls															
Aroclor 1016	µg/kg	^{ABCD} _o	n/v	190 U	270 U	11,000 U	-	260 U	-	240 U	1,100 UJ	-	-	560 U	270 U
Aroclor 1221	µg/kg	^{ABCD} _o	n/v	190 U	270 U	11,000 U	-	260 U	-	240 U	1,100 UJ	-	-	560 U	270 U
Aroclor 1232	µg/kg	^{ABCD} _o	n/v	190 U	270 U	11,000 U	-	260 U	-	240 U	1,100 UJ	-	-	560 U	270 U
Aroclor 1242	µg/kg	^{ABCD} _o	n/v	190 U	270 U	11,000 U	-	260 U	-	240 U	1,100 UJ	-	-	560 U	270 U
Aroclor 1248	µg/kg	^{ABCD} _o	n/v	190 U	270 U	11,000 U	-	260 U	-	240 U	1,100 UJ	-	-	560 U	270 U
Aroclor 1254	µg/kg	^{ABCD} _o	n/v	190 U	270 U	11,000 U	-	260 U	-	240 U	5,200 J-	-	-	2,300	270 U
Aroclor 1260	µg/kg	^{ABCD} _o	n/v	190 U	270 U	11,000 U	-	260 U	-	240 U	1,100 UJ	-	-	560 U	270 U
Aroclor 1262	µg/kg	^{ABCD} _o	n/v	190 U	270 U	11,000 U	-	260 U	-	240 U	1,100 UJ	-	-	560 U	270 U
Aroclor 1268	µg/kg	^{ABCD} _o	n/v	190 U	270 U	11,000 U	-	260 U	-	240 U	1,100 UJ	-	-	560 U	270 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100 ^A 1,000 ^B 25,000 ^C 3,200 ^D	n/v	ND	ND	ND	-	-	-	-	5,200 J- ^{ABD}	-	-	-	ND
Pesticides															
Aldrin	µg/kg	5, ^A 680 ^B 1,400 ^C 190 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
BHC, alpha-	µg/kg	20 ^{AD} 3,400 ^B 6,800 ^C	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
BHC, beta-	µg/kg	36 ^A 3,000 ^B 14,000 ^C 90 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
BHC, delta-	µg/kg	40, ^A 500,000 ^B 1,000,000 ^C 250 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Camphechlor (Toxaphene)	µg/kg	100,000, ^A 500,000 ^B 1,000,000 ^{C,D}	n/v	18 U	180 U	68,000 U	-	-	-	-	3,800 U	-	-	-	98 U
Chlordane, alpha-	µg/kg	94 ^A 24,000 ^B 47,000 ^C 2,900 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	54 J
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000, ^A 1,000,000 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	27 J
DDD (p,p'-DDD)	µg/kg	3.3 _m ^A 92,000 ^B 180,000 ^C 14,000 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
DDE (p,p'-DDE)	µg/kg	3.3 _m ^A 62,000 ^B 120,000 ^C 17,000 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
DDT (p,p'-DDT)	µg/kg	3.3 _m ^A 47,000 ^B 94,000 ^C 136,000 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Dieldrin	µg/kg	5, ^A 1,400 ^B 2,800 ^C 100 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	180 ^{AD}
Endosulfan I	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Endosulfan II	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 102,000 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Endosulfan Sulfate	µg/kg	2,400 ^A 200,000 ^B 920,000 ^C 1,000,000 _g ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Endrin	µg/kg	14 ^A 89,000 ^B 410,000 ^C 60 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Endrin Aldehyde	µg/kg	100,000, ^A 500,000 _n ^B 1,000,000 _g ^{C,D}	n/v	1.8 U	59	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Endrin Ketone	µg/kg	100,000, ^A 500,000 _n ^B 1,000,000 _g ^{C,D}	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Heptachlor	µg/kg	42 ^A 15,000 ^B 29,000 ^C 380 ^D	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Heptachlor Epoxide	µg/kg	100,000, ^A 500,000 _n ^B 1,000,000 _g ^{C,D}	500,000 _n ^E 1,000,000 _g ^F 20 ^G	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100 ^{AD} 9,200 ^B 23,000 ^C	n/v	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000, ^A 500,000 _n ^B 1,000,000 _g ^{C,D}	500,000 _n ^E 1,000,000 _g ^F 900,000 ^G	1.8 U	18 U	6,800 U	-	-	-	-	380 U	-	-	-	9.8 U

See notes on last page.

Table 9a
Summary of Solid Sample Results for Septic System Waste Characterization
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Notes:	
NYSDEC-Part 375	NYSDEC 6 NYCRR Part 375 Soil Clean-up Objectives (SCOs)
A	NYSDEC 6 NYCRR Part 375 - Unrestricted Use Soil Cleanup Objectives
B	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Commercial
C	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Industrial
D	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Groundwater
NYSDEC CP-51	New York State Department of Environmental Conservation, DEC Policy CP-51, October 21, 2010
E	Table 1 Supplemental Soil Cleanup Objectives - Commercial
F	Table 1 Supplemental Soil Cleanup Objectives - Industrial
G	Table 1 Supplemental Soil Cleanup Objectives - Protection of Groundwater
6.5 ^A	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
0.50 U	Laboratory reporting limit was greater than the applicable standard.
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
A	The SCOs for unrestricted use were capped at a maximum value of 100 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3
a	SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.
EFG	
a	Based on rural background study
b	Based on rural background study. The value of 1.0 refers to SVOC analyses while the 0.17b refers to VOC analyses.
b,1	
c	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.
c,p	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
d	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg (Organics) and 10000 mg/kg (Inorganics). See 6 NYCRR Part 375 TSD Section 9.3.
d,p	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
e	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3.
e,j	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
f	For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value.
g	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.
i	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
j	This SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
k	This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See 6 NYCRR Part 375 TSD Table 5.6-1.
m	For constituents where the calculated SCO was lower than the Contract Required Quantitation Limit (CRQL), the CRQL is used as the Track 1 SCO value.
n	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
n,j	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
NS,q	No SCO has been established for this compound. No SCO has been established for total chromium; however, see standards for trivalent and hexavalent chromium.
o	Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
p	The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
A	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
>	Greater than.
B	Indicates analyte was found in associated blank, as well as in the sample.
J	The reported result is an estimated value.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
ND	Not detected.
T	Result is a tentatively identified compound (TIC) and an estimated value.
UJ	Indicates estimated non-detect.
TAL	Eurofins Test America Laboratory
*	An asterisk in front of the Sample Location indicates that the material no longer remains on-site following implementation of Interim Remedial Measures.

Table 9b
Summary of Liquid Sample Results for Septic System Waste Characterization
 Alternatives Analysis Report
 820 Linden Ave Site BCP #C828200
 820 Linden Avenue, Pittsford, NY

Sample Location Sample Date Sample ID Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID	Units	TOGS	NYSDEC	*TANK1-SW 23-Jul-19 LIN-TANK1SW-WC-W STANTEC TALBU 480-156763-1 480-156764-3	*TANK2-SW 23-Jul-19 LIN-TANK2SW-WC-W STANTEC TALBU 480-156763-1 480-156764-5	*TANK3-SW 23-Jul-19 LIN-TANK3SW-WC-W STANTEC TALBU 480-156763-1 480-156764-6
Volatile Organic Compounds						
Acetone	µg/L	50 ^A	n/v	200 U	40 U	20 U
Benzene	µg/L	1 ^B	500 ^C	20 U	4.0 U	2.0 U
Bromodichloromethane	µg/L	50 ^A	n/v	20 U	4.0 U	2.0 U
Bromoform (Tribromomethane)	µg/L	50 ^A	n/v	20 U	4.0 U	2.0 U
Bromomethane (Methyl bromide)	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Butylbenzene, n-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Butylbenzene, sec- (2-Phenylbutane)	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Butylbenzene, tert-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Carbon Disulfide	µg/L	60 ^A	n/v	20 U	4.0 U	2.0 U
Carbon Tetrachloride (Tetrachloromethane)	µg/L	5 ^B	500 ^C	20 U	4.0 U	2.0 U
Chlorobenzene (Monochlorobenzene)	µg/L	5 ^{-B}	100,000 ^C	20 U	4.0 U	2.0 U
Chloroethane (Ethyl Chloride)	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Chloroform (Trichloromethane)	µg/L	7 ^B	6,000 ^C	20 U	4.0 U	2.0 U
Chloromethane	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Cyclohexane	µg/L	n/v	n/v	20 U	4.0 U	2.0 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/L	0.04 ^B	n/v	20 U	4.0 U	2.0 U
Dibromochloromethane	µg/L	50 ^A	n/v	20 U	4.0 U	2.0 U
Dichlorobenzene, 1,2-	µg/L	3 ^B	n/v	20 U	4.0 U	2.0 U
Dichlorobenzene, 1,3-	µg/L	3 ^B	n/v	20 U	4.0 U	2.0 U
Dichlorobenzene, 1,4-	µg/L	3 ^B	7,500 ^C	20 U	4.0 U	2.0 U
Dichlorodifluoromethane (Freon 12)	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Dichloroethane, 1,1-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Dichloroethane, 1,2-	µg/L	0.6 ^B	500 ^C	20 U	4.0 U	2.0 U
Dichloroethane, 1,1-	µg/L	5 ^{-B}	700 ^C	20 U	4.0 U	2.0 U
Dichloroethane, cis-1,2-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Dichloroethane, trans-1,2-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Dichloropropane, 1,2-	µg/L	1 ^B	n/v	20 U	4.0 U	2.0 U
Dichloropropene, cis-1,3-	µg/L	0.4 ^{-B}	n/v	20 U	4.0 U	2.0 U
Dichloropropene, trans-1,3-	µg/L	0.4 ^{-B}	n/v	20 U	4.0 U	2.0 U
Ethylbenzene	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Ethylene Dibromide (Dibromomethane, 1,2-)	µg/L	0.0006 ^B	n/v	20 U	4.0 U	2.0 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/L	50 ^A	n/v	100 U	20 U	10 U
Isopropylbenzene	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Isopropyltoluene, p- (Cymene)	µg/L	5 ^{-B}	n/v	20 U	4.0 U	5.4 ^B
Methyl Acetate	µg/L	n/v	n/v	50 U	10 U	5.0 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/L	50 ^A	200,000 ^C	200 U	40 U	20 U
Methyl Isobutyl Ketone (MIBK)	µg/L	n/v	n/v	100 U	20 U	10 U
Methyl tert-butyl ether (MTBE)	µg/L	10 ^A	n/v	20 U	4.0 U	2.0 U
Methylcyclohexane	µg/L	n/v	n/v	20 U	4.0 U	2.0 U
Methylene Chloride (Dichloromethane)	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Naphthalene	µg/L	10 ^B	n/v	20 U	4.0 U	2.0 U
Propylbenzene, n-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Styrene	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Tetrachloroethane, 1,1,2,2-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Tetrachloroethene (PCE)	µg/L	5 ^{-B}	700 ^C	84 ^B	25 ^B	21 ^B
Toluene	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Trichlorobenzene, 1,2,4-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Trichloroethane, 1,1,1-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Trichloroethane, 1,1,2-	µg/L	1 ^B	n/v	20 U	4.0 U	2.0 U
Trichloroethene (TCE)	µg/L	5 ^{-B}	500 ^C	20 U	4.0 U	2.0 U
Trichlorofluoromethane (Freon 11)	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Trichlorotrifluoroethane (Freon 113)	µg/L	5 ^{-B}	n/v	680 ^B	120 ^B	88 ^B
Trimethylbenzene, 1,2,4-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Trimethylbenzene, 1,3,5-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Vinyl Chloride	µg/L	2 ^B	200 ^C	20 U	4.0 U	2.0 U
Xylene, m & p-	µg/L	5 ^{-B}	n/v	40 U	8.0 U	4.0 U
Xylene, o-	µg/L	5 ^{-B}	n/v	20 U	4.0 U	2.0 U
Xylenes, Total	µg/L	5 ^{-B}	n/v	40 U	8.0 U	4.0 U
Total VOC	µg/L	n/v	n/v	764	145	114.4
VOC - Tentatively Identified Compounds						
Total VOC TICs	µg/L	n/v	n/v	-	-	8.8 TJN

Notes:

- TOGS NYSDEC TOGS 1.1.1 (Reissued June 1998 with errata in January 1999 and addenda in April 2000 and June 2004)
- A TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Guidance
- B TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Standards
- NYSDEC New York State Department of Environmental Conservation, September 5, 2006
- C Part 371.3: Characteristics of Hazardous Waste, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic
- 6.5^A Concentration exceeds the indicated standard.
- 15.2 Measured concentration did not exceed the indicated standard.
- 0.03 U Analyte was not detected at a concentration greater than the laboratory reporting limit.
- n/v No standard/guideline value.
- Parameter not analyzed / not available.
- The principal organic contaminant standard for groundwater of 5 µg/L (described elsewhere in the TOGS table) applies to this substance.
- p Applies to the sum of cis- and trans-1,3-dichloropropene.
- TJN Result is a tentatively identified compound (TIC) and an estimated value. / Indicates an Estimated Value for TICs. / Presumptive evidence of material.
- * An asterisk in front of the Sample Location indicates that the material no longer remains on-site following implementation of Interim Remedial Measures.

Table 12
Remedial Alternative Analysis Matrix
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

	Remedial Alternative		Description of Alternative	1 - Protection of Human Health and the Environment		2 - Standards, Criteria, & Guidance (SCG)		3 - Short-term Impacts		4 - Long-term Effectiveness & Permanence	
				Score	Discussion	Score	Discussion	Score	Discussion	Score	Discussion
	Scoring System:			0 = Least protective 10 = Most protective		0 = Least likely to meet SCGs 10 = Most likely to meet SCGs		0 = Most short-term impact 10 = Least short-term impact		0 = Least effective & permanent 10 = Most effective & permanent	
ALL MEDIA	1.2, 2.2, 3.2/3.3, 4.3, 5.2	Track 1	- Installation of SSDS - Debris Pile removal - Removal of Septic Systems and associated soils exceeding UU SCOs - Removal of subsurface soils exceeding UU SCOs in the vicinity of B-108 and TP-6 (western side of property) - Removal of surface soils exceeding UU SCOs on eastern property boundary - Installation of an AS/SVE system to remediate acetone in soil and groundwater across Site	9	- Immediate positive impact through the removal of source contaminated soil/systems, SSDS installation, and soil/groundwater treatment.	9	- High degree of compliance with SCGs by replacing all impacted soil with clean backfill soil.	5	- Short term impacts include truck traffic (dump trucks for soil); potential for exposure due to dust generation and potential vapor release from soil; noise of AS/SVE operation. - Installation of AS/SVE system will likely disrupt facility operations.	8	- High degree of long-term effectiveness and permanence, since all soil with UU SCO exceedances is physically removed from the Site, groundwater is treated and soil vapor is mitigated.
CVOCs IN SUB-SLAB SOIL VAPOR	1.1	No Action / Further Monitoring	- Assume 30 years of annual SVI sampling.	1	- Immediate risks associated with intrusion of CVOCs in sub-slab vapor into indoor air are not mitigated in the short term. - Potential on-site exposure risks for facility employees, visitors, and guests.	1	- Compliance with SCGs will not be achieved for an extended period of time, assuming natural mechanisms are in place to degrade contaminants.	2	- Endangers Site occupants through lack of significant engineering controls.	2	- Natural processes that induce attenuation of contaminant impacts to the subsurface are dependent upon several factors such as subsurface ogeologic/geochemical conditions. Given this uncertainty, exposure risks are most likely to persist for an undetermined period of time; - Monitoring alone will not mitigate exposure risks but will provide some quantification; - High degree of uncertainty associated with meeting remedial action objectives in the future. - Potentially require additional Institutional Controls to protect from exposure to CVOCs.
	1.2	Engineering Control: Vapor Intrusion Mitigation using Sub-Slab Depressurization System	- Installation and operation of sub-slab depressurization system under majority of southern tenant space, where mitigation was recommended based on the NYSDOH Guidance Matrices.	9	- Immediate positive impact through the mitigation of SVI impacts.	8	- High degree of compliance with SCGs by mitigating potential impacts.	7	- Immediate short-term impacts to building operations during installation of system. However, following installation, operation has no impact on existing building operations. - Short term impacts include potential disruption of the tenant's operations; potential for exposure due to dust generation and potential vapor release from soil.	7	- High degree of long-term effectiveness provided system remains in continuous operation. - Will likely require periodic replacement of blowers or other electrical components.
PAHs IN DEBRIS PILE	2.1	No Further Action (NFA)	No further action besides installing and maintaining a fence.	4	- Low to moderate level of protection by blocking access to the debris pile.	1	- Not in compliance with SCGs as no contaminated material is removed.	6	- Short-term impacts include noise of fence construction; potential for exposure due to dust generation and potential vapor release from installation of fence posts.	4	- Low to moderate degree of long-term effectiveness and permanence, required maintenance of the fence.
	2.2	Removal and Off-Site Disposal	Removal and off-site disposal of impacted soil exhibiting PAH concentrations in excess of Commercial/Industrial SCOs.	8	- Immediate positive impact through the removal of the contaminant source.	8	- Relatively high degree of compliance with SCGs by excavating source area soil.	6	- Short-term impacts include truck traffic (dump trucks for soil); potential for exposure due to dust generation and potential vapor release from soil.	8	- High degree of long-term effectiveness and permanence, since source area contaminated soil is largely physically removed from the Site.

Table 12
Remedial Alternative Analysis Matrix
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

	Remedial Alternative		Description of Alternative	1 - Protection of Human Health and the Environment		2 - Standards, Criteria, & Guidance (SCG)		3 - Short-term Impacts		4 - Long-term Effectiveness & Permanence	
				Score	Discussion	Score	Discussion	Score	Discussion	Score	Discussion
	Scoring System:			0 = Least protective 10 = Most protective		0 = Least likely to meet SCGs 10 = Most likely to meet SCGs		0 = Most short-term impact 10 = Least short-term impact		0 = Least effective & permanent 10 = Most effective & permanent	
SEPTIC SYSTEMS	3.1	No Further Action (NFA)	No further action beyond maintaining existing Cover System over septic systems.	3	- Current cover eliminates contact with potentially-impacted soils and septic contents; - Does not comply with tank closure guidelines; - Does not provide protection from potential migration of contaminants.	2	- Impacted tank contents are not removed, so there is not compliance with SCGs.	3	- Hinders or precludes successful Site re-development or maintenance of existing active utilities in close proximity. - Does not address or monitor in areas of impacted tank contents.	4	- Poor long-term effectiveness and permanence due to not addressing lack of closure of tanks or the impacted material in the SW tanks. - Requires Institutional Controls to maintain ECs, protect public from exposure to contamination.
	3.2, 3.4	Removal of system(s) with impacts in tanks; Cover System for exceedances of SCOs	Removal of SW septic system and use of approved backfill as Cover System for remaining SCO exceedances.	9	- Immediate positive impact through removal of impacted tank contents and associated septic system.	9	- High degree of compliance with SCGs by excavating source area materials. - The only remaining SCO exceedances would be UU and thus there would be compliance with Site Use SCOs.	6	- Short term impacts include truck traffic (dump trucks for soil and system materials); potential for exposure due to dust generation and potential vapor release from soil/system.	9	- High degree of long-term effectiveness and permanence, since all contaminated material (except for UU exceedances) is physically removed from the Site.
	3.3, 3.4	Abandonment in place of system(s) without impacts in tanks, removal of shallow impacted material, Cover System for exceedances of SCOs	Abandonment in place of NW and SE septic systems; removal of black tar-like material overlying NW distribuiaon box; and use of existing soils and approved backfill as Cover System for remaining SCO exceedances.	9	- Human health and the environment are protected as tanks are properly abandoned, black tar-like material is removed and existing soils and approved backfill serve as Cover System for remaining SCO exceedances.	8	- Exceedance of SCGs are met or managed via a Cover System.	6	- Short term impacts include truck traffic (dump trucks for soil and system materials); potential for exposure due to dust generation.	9	- Anticipated to have long-term effectiveness and permanence as tanks are permanently and properly closed in place and exceedances of SCOs are managed via a Cover System.
BENOZO(A)PYRENE IN SURFACE SOIL	4.1	No Further Action (NFA)	No further action besides installing and maintaining a fence.	4	- Low to moderate level of protection by blocking access to the impacted surface soil.	1	- Not in compliance with SCGs as no contaminated material is removed.	6	- Short term impacts include noise of fence construction; potential for exposure due to dust generation and potential vapor release from installation of fence posts.	4	- Low to moderate degree of long-term effectiveness and permanence; required maintenance of the fence.
	4.2	Removal of soils exceeding C/I SCOs	Removal and off-site disposal of impacted soil exhibiting COC concentrations in excess of C/I SCOs.	9	- Immediate positive impact through the removal of the contaminant source.	8	- Relatively high degree of compliance with SCGs by excavating source-area soil. Only exceedances that remain are of UU SCOs.	5	- Short term impacts include truck traffic (dump trucks for soil); potential for exposure due to dust generation and potential vapor release from soil. - Greater generation of waste material for off-site disposal (contribution to landfill volume).	8	- High degree of long-term effectiveness and permanence, since all contaminated material (except for UU exceedances) is physically removed from the Site.
	4.4	Engineering Control: Installation of a Cap or Cover System	Covering impacted soils which are left in place.	7	- Immediate positive impact through the covering/capping of the contaminant source.	7	- Exceedances of SCGs are managed via a cover system.	6	- Short term impacts include truck traffic (dump trucks for cap material); potential for exposure due to dust generation and potential vapor release from soil.	7	- High degree of long-term effectiveness and permanence, since all contaminated material is capped. - Maintenance of Cap/Cover System is required.

Table 12
Remedial Alternative Analysis Matrix
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Remedial Alternative			Description of Alternative		1 - Protection of Human Health and the Environment		2 - Standards, Criteria, & Guidance (SCG)		3 - Short-term Impacts		4 - Long-term Effectiveness & Permanence	
					Score	Discussion	Score	Discussion	Score	Discussion	Score	Discussion
			Scoring System:		0 = Least protective 10 = Most protective		0 = Least likely to meet SCGs 10 = Most likely to meet SCGs		0 = Most short-term impact 10 = Least short-term impact		0 = Least effective & permanent 10 = Most effective & permanent	
ACETONE IN SOIL AND GROUNDWATER (western portion of Site, beneath building)	5.1, 5.4	No Further Action (NFA) with Existing Cover System	No further action is proposed. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing concrete building slab comprises the Cover System.		6	- Acetone impacts are currently limited to the area under the building. The soil and groundwater are inaccessible and overlain by soil as well as the concrete building slab. - Operation of the SSDS also affords protection to potential infiltration of sub-slab vapors into the building interior.	6	- SCG exceedances are limited to beneath the building and managed through the existing Cover System.	9	- No short-term impacts identified.	8	- Given that the impacts are limited to under the building, this alternative has the potential to provide long-term effectiveness and permanence, although this alternative has no metric or mechanism for assessing the long-term continuity of current Site conditions. - The Cover System is a permanent Site feature; and the repair/maintenance costs are reasonably sustainable.
	5.2, 5.4	Groundwater Monitoring with Existing Cover System	Long-term monitoring of groundwater quality through strategic well sampling and statistical evaluation of analytical and geochemical results. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing concrete building slab comprises the Cover System.		7	- Positive impact through monitoring for migration of acetone out from under the building and potentially off-site. - Operation of the SSDS also affords protection to potential infiltration of sub-slab vapors into the building interior.	7	- SCG exceedances are managed through monitoring and via the existing Cover System.	9	- No short-term impacts identified.	8	- Residual contamination would remain on-site following implementation of MNA, but long-term reduction is expected. - Natural processes that induce attenuation of contaminant impacts to the subsurface are dependent upon several factors such as subsurface conditions, amount of contaminant present, etc. - Monitoring alone will not mitigate exposure risks but will provide some quantification. - High degree of uncertainty associated with meeting remedial action objectives in the future. - High degree of long-term effectiveness and permanence, since all contaminated material is capped.
	5.3	Air Sparge/Soil Vapor Extraction (AS/SVE)	Installation of an AS/SVE system to address soil and groundwater impacts.		8	- Positive impact through the reduction of the contaminant source; however, reduction will take time to achieve.	8	- This alternative has the highest likelihood of achieving SCGs since it involves treatment of the acetone in both soil and water.	5	- Short-term impacts include potential disruption of the tenants' operations; potential for exposure due to dust generation and potential vapor release from soil; potential disruption from noise of system operation.	8	- Expected to have long-term effectiveness and permanence as this alternative treats the acetone contamination. - System sustainability concerns relating to ongoing capital and OM&M costs as well as other negative impacts are considered here.
ACETONE IN SOIL (eastern portion of Site, parking lot area)	5.1, 5.4	No Further Action (NFA) with Existing Cover System	No further action is proposed. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing paved parking lot comprises the Cover System.		6	- Acetone impacts have low concentrations (59-63 µg/kg versus UU standard of 50 µg/kg) and are limited to deep soil (>45 ft); generally, inaccessible as they are overlain by soil and the parking lot. It is assumed that any breach to the overlying material would not extend to depths of impact.	6	- Exceedances of SCGs are slight and are managed via the Cover System, which is comprised of the asphalt parking lot cap. - Impacted soil is beneath at least 45 ft of overlying soil. - No co-located groundwater impacts.	9	- No significant short-term impacts identified	7	- High degree of long-term effectiveness and permanence, since all contaminated material is covered.
	5.3	Soil Vapor Extraction (SVE)	Installation of an SVE system to address soil impacts.		8	- Positive impact through the reduction of the contaminant source; however, reduction will take time to achieve.	8	- This alternative has the highest likelihood of achieving SCGs since it involves direct treatment of the acetone.	5	- Short-term impacts include potential disruption of the tenants' operations; potential for exposure due to dust generation and potential vapor release from soil; potential disruption from noise of system operation.	8	- Expected to have long-term effectiveness and permanence as this alternative treats the acetone contamination. - System sustainability concerns relating to ongoing capital, operational, and OM&M costs as well as other negative impacts is considered here.

Notes:
1. Opinion of Probably Cost (OPC) details provided in Appendix A.
2. Land Use scoring based on the 16 criteria presented in 6NYCCR Part 375-1.8(f)(9).

Table 12
Remedial Alternative Analysis Matrix
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

	Remedial Alternative		Description of Alternative	5 - Reduction of Toxicity, Mobility, or Volume		6 - Implementability		7a - Cost Effectiveness - Capital			7b - Cost Effectiveness - OM&M		
				Score	Discussion	Score	Discussion	Score	Opinion of Probable Costs (OPC) ⁽¹⁾	Discussion	Score	Opinion of Probable Costs (OPC) ⁽¹⁾	Discussion
	Scoring System:			0 = Least reduction 10 = Most reduction		0 = Least implementable 10 = Most implementable		0 = Least cost effective 10 = Most cost effective			0 = Least cost effective 10 = Most cost effective		
ALL MEDIA	1.2, 2.2, 3.2/3.3, 4.3, 5.2	Track 1	- Installation of SSDS - Debris Pile removal - Removal of Septic Systems and associated soils exceeding UU SCOs - Removal of subsurface soils exceeding UU SCOs in the vicinity of B-108 and TP-6 (western side of property) - Removal of surface soils exceeding UU SCOs on eastern property boundary - Installation of an AS/SVE system to remediate acetone in soil and groundwater across Site	8	- High degree of reduction of toxicity, mobility and volume, due to immediate physical removal of contaminated soil, treatment of soil/groundwater, and mitigation of soil vapor impacts.	4	- Most aspects have high implementability with no specialty contractor or highly-technical equipment required. - Installation of an SSDS in an existing building typically presents some logistical challenges. - Installation of an AS/SVE system underneath the building and at the required depths will be challenging to implement; soil removal beneath building not practicably implementable. - Year-round implementation feasible.	1	\$3,060,200	- Addressing UU soil impacts is much more costly than addressing source area soil impacts only (where C/I SCOs are exceeded). - Considered impracticable given that acetone impacts to soil exist beneath the building and costs to excavate beneath a building are prohibitive particularly due to low exposure risks; AS/SVE system results will likely be slow and may not achieve SCGs.	3	\$313,000	- OM&M costs will be needed for operation and maintenance of SSDS and AS/SVE systems.
CVOCs IN SUB-SLAB SOIL VAPOR	1.1	No Action / Further Monitoring	- Assume 30 years of annual SVI sampling.	2	- Toxicity and volume very slowly reduced through natural degradation.	7	- Successful implementation depends largely on the pressure gradient between indoor/sub-slab vapor, flow pathways, degradation over time, and facility use of solvents. - If natural degradation phenomena are observed, implementation would be straightforward, using existing vapor monitoring network.	5	\$6,000	- SVI monitoring network was largely established. - Low cost but not effective at protecting human health.	2	\$540,000	- Highest OM&M costs of all alternatives, due to the projected duration of monitoring program, and maintenance of institutional controls.
	1.2	Engineering Control: Vapor Intrusion Mitigation using Sub-Slab Depressurization System	- Installation and operation of sub-slab depressurization system under majority of southern tenant space, where mitigation was recommended based on the NYSDOH Guidance Matrices.	7	- High degree of reduction of potential toxicity, mobility and volume in the building interior, due to immediate mitigation of potential soil vapor intrusion; however, does not address or remove source of VOCs.	7	- Installation of an SSDS in an existing building typically presents some logistical challenges. - Requires collaboration with existing tenants particularly with consideration of sensitive operations. - Year-round implementation feasible.	8	\$410,000	- Moderate to high design and construction fee but high degree of effectiveness.	8	\$175,000	- Requires annual inspection, certification, and OM&M. - Reporting incorporated into PRR.
PAHs IN DEBRIS PILE	2.1	No Further Action (NFA)	No further action besides installing and maintaining a fence.	2	- Low degree of reduction of toxicity, mobility and volume, as access to contaminants is reduced, but contaminants are not removed.	9	- High implementability; no specialty contractor or highly-technical equipment required. - Year-round implementation feasible.	5	\$4,000	- Less costly but not as effective a remedy.	7	\$15,000	- Low costs would be required to maintain fence.
	2.2	Removal and Off-Site Disposal	Removal and off-site disposal of impacted soil exhibiting PAH concentrations in excess of Commercial/Industrial SCOs.	8	- High degree of reduction of toxicity, mobility and volume, due to immediate physical removal of source area contaminants.	7	- High implementability; relatively simple operations of excavation, truck loading, and T&D by permitted contractor. - Environmental (engineer) oversight required. - Year-round implementation feasible.	7	\$9,200	- More costly, but also more effective compared to fence construction.	10	\$0	- No OM&M would be required.

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Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

	Remedial Alternative		Description of Alternative	5 - Reduction of Toxicity, Mobility, or Volume		6 - Implementability		7a - Cost Effectiveness - Capital			7b - Cost Effectiveness - OM&M		
				Score	Discussion	Score	Discussion	Score	Opinion of Probable Costs (OPC) ⁽¹⁾	Discussion	Score	Opinion of Probable Costs (OPC) ⁽¹⁾	Discussion
	Scoring System:			0 = Least reduction 10 = Most reduction		0 = Least implementable 10 = Most implementable		0 = Least cost effective 10 = Most cost effective			0 = Least cost effective 10 = Most cost effective		
SEPTIC SYSTEMS	3.1	No Further Action (NFA)	No further action beyond maintaining existing Cover System over septic systems.	2	- Low degree of reduction of toxicity, mobility and volume, as access to contaminants is minimized by existing Cover System, but contaminants are not removed.	9	- High implementability as no action beyond maintaining the existing cover is needed.	4	\$0	- Lower cost than other septic alternatives, but not as high effectiveness.	7	\$90,000	- OM&M costs related primarily to periodic inspection and reporting. - Possible minor maintenance costs related to potential occasional cover material repair. - Assume 30 years of annual inspections
	3.2, 3.4	Removal of system(s) with impacts in tanks; Cover System for exceedances of SCOs	Removal of SW septic system and use of approved backfill as Cover System for remaining SCO exceedances.	9	- High degree of reduction of toxicity, mobility and volume, due to immediate physical removal of source-area contaminants.	8	- High implementability; no specialty contractor or highly-technical equipment required. - Only slight challenge to work around existing active utilities. - Year-round implementation feasible.	8	\$269,000	- Moderate design and construction fee but high degree of effectiveness.	7	\$90,000	- Only OM&M costs are for maintenance of the Cover System. - Possible minor maintenance costs related to potential occasional cover material repair. - Assume 30 years of annual inspections
	3.3, 3.4	Abandonment in place of system(s) without impacts in tanks, removal of shallow impacted material, Cover System for exceedances of SCOs	Abandonment in place of NW and SE septic systems; removal of black tar-like material overlying NW distribuiaon box; and use of existing soils and approved backfill as Cover System for remaining SCO exceedances.	7	- Reduction is anticipated to be minor with the removal of residual black tar-like material (Northwest Septic System). - The goals of the other aspects of this alternative is not to reduce toxicity, mobility or volume (since the only impacts remaining are UU exceedances).	8	- High implementability; no specialty contractor or highly-technical equipment required. - Only slight challenge to work around existing active utilities. - Year-round implementation feasible.	8	\$57,000	- Moderate design and construction fee but high degree of effectiveness.	7	\$90,000	- Only OM&M costs are for maintenance of the Cover System. - Possible minor maintenance costs related to potential occasional cover material repair. - Assume 30 years of annual inspections
BENOZO(A)PYRENE IN SURFACE SOIL	4.1	No Further Action (NFA)	No further action besides installing and maintaining a fence.	2	- Low degree of reduction of toxicity, mobility and volume, as access to contaminants is reduced, but contaminants are not removed.	9	- High implementability; no specialty contractor or highly-technical equipment required. - Year-round implementation feasible.	5	\$54,200	- Less costly but not as effective a remedy.	7	\$15,000	- Low costs would be required to maintain fence.
	4.2	Removal of soils exceeding C/I SCOs	Removal and off-site disposal of impacted soil exhibiting COC concentrations in excess of C/I SCOs.	9	- High degree of reduction of toxicity, mobility and volume, due to immediate physical removal of source area contaminants.	8	- High implementability; no specialty contractor or highly-technical equipment required. More ground-intrusive. - Year-round implementation feasible.	4	\$115,600	- Effective remedy due to removal of contaminants, but more costly, and still require OM&M costs.	6	\$90,000	- Only OM&M costs are for maintenance of the Cover System, due to UU exceedances.
	4.4	Engineering Control: Installation of a Cap or Cover System	Covering impacted soils which are left in place.	7	- The toxicity and mobility are reduced as the exposure to the contaminated soils is removed. - There is no change to the volume.	9	- High implementability; no specialty contractor or highly-technical equipment required. - Year-round implementation feasible.	9	\$70,700	- Effective remedy with lower cost.	6	\$90,000	- Only OM&M costs are for maintenance of the Cover System.

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Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Remedial Alternative			Description of Alternative		5 - Reduction of Toxicity, Mobility, or Volume		6 - Implementability		7a - Cost Effectiveness - Capital			7b - Cost Effectiveness - OM&M		
					Score	Discussion	Score	Discussion	Score	Opinion of Probable Costs (OPC) ⁽¹⁾	Discussion	Score	Opinion of Probable Costs (OPC) ⁽¹⁾	Discussion
Scoring System:			0 = Least reduction 10 = Most reduction				0 = Least implementable 10 = Most implementable		0 = Least cost effective 10 = Most cost effective			0 = Least cost effective 10 = Most cost effective		
ACETONE IN SOIL AND GROUNDWATER (western portion of Site, beneath building)	5.1, 5.4	No Further Action (NFA) with Existing Cover System	No further action is proposed. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing concrete building slab comprises the Cover System.		5	- There is no direct reduction of toxicity, mobility and volume anticipated; however, without a continual acetone source, concentrations are expected to decline over time. This alternative has no metric or mechanism for assessing the long-term reductions.	9	- High implementability as no action beyond Cover System OM&M is needed.	9	\$0	- No capital costs. Effectiveness relies on the impacts remaining limited to beneath the building.	9	\$90,000	- Most cost-effective due to low costs for Cover System OM&M.
	5.2, 5.4	Groundwater Monitoring with Existing Cover System	Long-term monitoring of groundwater quality through strategic well sampling and statistical evaluation of analytical and geochemical results. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing concrete building slab comprises the Cover System.		5	- Long-term reduction of toxicity, mobility or volume are anticipated through natural attenuation of the acetone in groundwater. This alternative will monitor the reduction.	8	- High implementability as no action beyond groundwater monitoring and Cover System OM&M is needed.	9	\$0	- No capital costs. Highly effective at monitoring for natural degradation processes, changing Site conditions, and potential future off-site migration.	5	\$155,000	- Higher cost for MNA for addressing low-level impacts that are delineated and not migrating off-site. - Good cost-effectiveness for Cover System OM&M.
	5.3	Air Sparge/Soil Vapor Extraction (AS/SVE)	Installation of an AS/SVE system to address soil and groundwater impacts.		8	- High degree of reduction of toxicity, mobility and volume are anticipated, due to treatment of contaminants in soil and groundwater.	3	- Installation of an AS/SVE system underneath the building and at the required depths will be challenging to implement. Safety concerns associated with deep excavations and disruptions to facility operations are considered here.	2	\$798,000	- Though effective, very high capital costs for installation of system, with little added value for Site Use: - Existing Cover System and SSDS operation address exposure risk; and - UU clean-up is not necessary for current and anticipated future Site use.	5	\$103,000	- Though effective, quite high OM&M costs for operation and maintenance of the system, with little added value for Site Use: - Existing Cover System and SSDS operation address exposure risk; and - UU clean-up is not necessary for current and anticipated future Site use.
ACETONE IN SOIL (eastern portion of Site, parking lot area)	5.1, 5.4	No Further Action (NFA) with Existing Cover System	No further action is proposed. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing paved parking lot comprises the Cover System.		5	- There is no reduction of toxicity, mobility and volume anticipated in this alternative. Without a continual source, however, soil impacts are expected to reduce over time. No groundwater impacts are present.	9	- High implementability as no further action beyond maintaining the existing Cover System is needed.	9	\$0	- No capital costs. Effectiveness relies on the impacts being delineated to the deep soil zone (directly above the water table) in the area underneath the eastern parking lot.	7	\$90,000	- Minor and effective OM&M costs associated with inspecting, maintaining, and annually certifying the Cover System.
	5.3	Soil Vapor Extraction (SVE)	Installation of an SVE system to address soil impacts.		8	- High degree of reduction of toxicity, mobility and volume are anticipated, due to treatment of contaminants in soil.	3	- Installation of an SVE system at the required depths will be challenging to implement. Safety concerns associated with deep excavations and disruptions to facility operations are considered here.	2	\$266,000	- Excessively high capital costs for system installation, with little added value for Site Use: - No guarantee that SCGs will be met, and groundwater impacts have not been identified. - UU clean-up is not necessary for current and anticipated future Site use.	2	\$35,000	- Excessively high OM&M costs for system operations, with little added value for Site Use: - No guarantee that SCGs will be met, and groundwater impacts have not been identified. - UU clean-up is not necessary for current and anticipated future Site use.

Notes:
1. Opinion of Probably Cost (OPC) details provided in Appendix A.
2. Land Use scoring based on the 16 criteria presented in 6NYCCR Part 375-1.8(f)(9).

Table 12
Remedial Alternative Analysis Matrix
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

	Remedial Alternative		Description of Alternative	8 - Community Acceptance (see CPP)		9 - Land Use		Overall (sum of all scores)		
				Score	Discussion	Score	Discussion	Total Score	Total Opinion of Probable Cost	Conclusions and recommendations
	Scoring System:			0 = Least accepted 10 = Most accepted		0 = Worst based on 16 criteria ⁽²⁾ 10 = Best based on 16 criteria ⁽²⁾		0 = Worst overall 100 = Best overall		
ALL MEDIA	1.2, 2.2, 3.2/3.3, 4.3, 5.2	Track 1	- Installation of SSDS - Debris Pile removal - Removal of Septic Systems and associated soils exceeding UU SCOs - Removal of subsurface soils exceeding UU SCOs in the vicinity of B-108 and TP-6 (western side of property) - Removal of surface soils exceeding UU SCOs on eastern property boundary - Installation of an AS/SVE system to remediate acetone in soil and groundwater across Site	7	- Anticipated to be relatively high due to permanent nature of the method. - There may be challenges to tenant acceptance given the significant disruption to facility operations for AS/SVE installation.	9	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would not be needed for most soil due to removal of most impacted soil.	63	\$3,373,200	High scores in many categories; however, much more costly than other alternatives. Track 1 is not recommended given the established and reasonably anticipated future use of the Site. Track 1 is not warranted given the alternatives for protecting human health and the environment through Track 4 clean-up approach, which is more feasibly implemented and incurs much lower costs.
CVOCs IN SUB-SLAB SOIL VAPOR	1.1	No Action / Further Monitoring	- Assume 30 years of annual SVI sampling.	1	- Community acceptance is anticipated to be low due to the facility workers and potential exposure to CVOCs.	2	- Proposed land use at the Site is Commercial/Industrial. - Engineering and Institutional controls will be required at the Site under this alternative for an undetermined period of time. - Occupancy may not be possible given SVI results and NYSDOH guidance matrices indicating mitigation recommended.	25	\$546,000	- Least favorable alternative overall due to poor performance with the 'protection of human health and the environment', 'SCG', 'long-term effectiveness and permanence' and 'reduction of toxicity, mobility or volume' criteria. - Poor remedial 'value': costs of this alternative approach versus that of an aggressive remedial program that is more likely to comply with regulatory agency requirements.
	1.2	Engineering Control: Vapor Intrusion Mitigation using Sub-Slab Depressurization System	- Installation and operation of sub-slab depressurization system under majority of southern tenant space, where mitigation was recommended based on the NYSDOH Guidance Matrices.	8	- High due to direct positive impact on potential human exposure. - There may be challenges to tenant acceptance given the disruption to facility operations for SSDS installation.	6	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would be needed to maintain system.	75	\$585,000	Favorable alternative for vapor intrusion mitigation due to good overall performance and generally high-scoring criteria, particularly effective for mitigating exposure risks thereby protecting human health.
PAHs IN DEBRIS PILE	2.1	No Further Action (NFA)	No further action besides installing and maintaining a fence.	4	- Anticipated to be low to moderate due to remaining contamination and presence of a fence.	6	- Proposed land use is Commercial or Industrial. Institutional Controls would be needed to maintain fencing.	48	\$19,000	Least favorable alternative for the Debris Pile. Low scores in many categories. Does not provide as high a degree of protection of human health the environment as soil removal.
	2.2	Removal and Off-Site Disposal	Removal and off-site disposal of impacted soil exhibiting PAH concentrations in excess of Commercial/Industrial SCOs.	9	- Anticipated to be high due to relatively quick and permanent nature of the method.	8	- Proposed land use is Commercial or Industrial. Institutional and Engineering Controls would probably not be needed due to removal of source-impacted soil.	79	\$9,200	Best alternative of those considered for the Debris Pile. High scores in all categories and high cost effectiveness.

Table 12
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Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

	Remedial Alternative		Description of Alternative	8 - Community Acceptance (see CPP)		9 - Land Use		Overall (sum of all scores)		
				Score	Discussion	Score	Discussion	Total Score	Total Opinion of Probable Cost	Conclusions and recommendations
	Scoring System:			0 = Least accepted 10 = Most accepted		0 = Worst based on 16 criteria ⁽²⁾ 10 = Best based on 16 criteria ⁽²⁾		0 = Worst overall 100 = Best overall		
SEPTIC SYSTEMS	3.1	No Further Action (NFA)	No further action beyond maintaining existing Cover System over septic systems.	4	- Anticipated to be low as it leaves residual contamination on the Site.	6	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would be needed to maintain Cover System.	44	\$90,000	Least favorable alternative due to poor performance with respect to protection of human health and the environment, adherence to SDGs and effectiveness.
	3.2, 3.4	Removal of system(s) with impacts in tanks; Cover System for exceedances of SCOs	Removal of SW septic system and use of approved backfill as Cover System for remaining SCO exceedances.	9	- Anticipated to be high due to relatively quick and permanent nature of the method.	6	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would be needed to maintain Cover System.	80	\$359,000	Favorable alternative for SW septic system as only contamination remaining would be exceedances of UU SCOs. High scores in most categories. Costs are not low, but are cost effective given the mitigation of tank impacts. High community acceptance and protection of human health and the environment anticipated.
	3.3, 3.4	Abandonment in place of system(s) without impacts in tanks, removal of shallow impacted material, Cover System for exceedances of SCOs	Abandonment in place of NW and SE septic systems; removal of black tar-like material overlying NW distributaion box; and use of existing soils and approved backfill as Cover System for remaining SCO exceedances.	9	- Anticipated to be high due to relatively quick and permanent nature of the method.	6	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would be needed to maintain Cover System.	77	\$147,000	Favorable alternative for SE and NW septic systems as only contamination remaining [UU SCOs and Commercial SCO for one deep metal] would be managed via Cover System. High scores in most categories. Costs are not low, but are cost effective given the proper closure of historical systems. High community acceptance and protection of human health and the environment anticipated.
BENOZO(A)PYRENE IN SURFACE SOIL	4.1	No Further Action (NFA)	No further action besides installing and maintaining a fence.	4	- Anticipated to be low to moderate due to remaining contamination and presence of a fence.	6	- Proposed land use is Commercial or Industrial. Institutional Controls would be needed to maintain fencing.	48	\$69,200	Least favorable alternative for the surface soil. Low scores in many categories, and does not provide as high a degree of protection of human health the environment as soil removal or an engineered Cap/Cover System.
	4.2	Removal of soils exceeding C/I SCOs	Removal and off-site disposal of impacted soil exhibiting COC concentrations in excess of C/I SCOs.	9	- Anticipated to be high due to relatively quick and permanent nature of the method.	6	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would be needed for Cover System.	72	\$205,600	This is an effective remedy, yet it is more costly than capping; and produces more landfill waste.
	4.4	Engineering Control: Installation of a Cap or Cover System	Covering impacted soils which are left in place.	9	- Anticipated to be high due to relatively quick and permanent nature of the method.	6	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would be needed for Cover System.	73	\$160,700	This is the preferred remedy, mainly due to cost considerations; and lesser waste generation.

Table 12
Remedial Alternative Analysis Matrix
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

	Remedial Alternative		Description of Alternative	8 - Community Acceptance (see CPP)		9 - Land Use		Overall (sum of all scores)		
				Score	Discussion	Score	Discussion	Total Score	Total Opinion of Probable Cost	Conclusions and recommendations
	Scoring System:			0 = Least accepted 10 = Most accepted		0 = Worst based on 16 criteria ⁽²⁾ 10 = Best based on 16 criteria ⁽²⁾		0 = Worst overall 100 = Best overall		
ACETONE IN SOIL AND GROUNDWATER (western portion of Site, beneath building)	5.1, 5.4	No Further Action (NFA) with Existing Cover System	No further action is proposed. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing concrete building slab comprises the Cover System.	7	- Community acceptance anticipated to be moderate to high primarily due to mitigation of exposure risks through implementation of the Cover System EC. - Furthermore, groundwater is not used for drinking water on or near the Site and the Site is located in an industrial setting.	6	- Proposed land use is Commercial or Industrial. Institutional and Engineering Controls would be needed.	74	\$90,000	Preferred alternative for addressing acetone in soil and groundwater. This alternative is highly implementable, protects human health through exposure risk mitigation by implementing cover system EC maintenance, and is cost-effective. This alternative is recommended due to the low levels of acetone in groundwater and the ICs that will be required by the SMP including the prohibition of groundwater use and commercial/industrial use restrictions for the Site.
		Groundwater Monitoring with Existing Cover System	Long-term monitoring of groundwater quality through strategic well sampling and statistical evaluation of analytical and geochemical results. This	8	- Community acceptance anticipated to be high when applied with Cover System Engineering Control to address remaining soil impacts.	6	- Proposed land use is Commercial or Industrial. Institutional and Engineering Controls would be needed.	72	\$155,000	Strong alternative for addressing groundwater impacts due to protection of human health and the environment and high implementability. The existing Cover System has high implementability and low costs associated with the long-term remedy and permanence of this alternative. However, MNA is not the preferred alternative due to the higher long-term costs which have little added value. NFA is preferable because groundwater is not used on-site or nearby, the impacts are low-level and delineated to beneath the building, and the contaminants are not migrating off-site.
	5.2, 5.4		alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing concrete building slab comprises the Cover System.							
		5.3	Air Sparge/Soil Vapor Extraction (AS/SVE)	Installation of an AS/SVE system to address soil and groundwater impacts.	9	- Community acceptance anticipated to be high due to treatment of contamination.	6	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would be needed to maintain system.	62	\$901,000
ACETONE IN SOIL (eastern portion of Site, parking lot area)	5.1, 5.4	No Further Action (NFA) with Existing Cover System	No further action is proposed. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing paved parking lot comprises the Cover System.	9	- Community acceptance anticipated to be high due to Engineering Control management of remaining contamination.	6	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would be needed for Cover System.	73	\$90,000	Favorable alternative due to a combination of cost considerations, the low concentrations of the UU exceedances, and the depth of the soil impacts (with no impacts to groundwater). Preferred alternative due to the ongoing mechanism for managing residual soil impacts with relatively low OM&M costs. Costs not reflected herein would include remedial engineering costs associated with any parking lot repairs.
	5.3	Soil Vapor Extraction (SVE)	Installation of an SVE system to address soil impacts.	9	- Community acceptance anticipated to be high due to treatment of contamination.	6	- Proposed land use is Commercial or Industrial. Engineering and Institutional Controls would be needed for treatment system.	59	\$301,000	Effective remedy, but difficult to implement and has a high cost that is not balanced by the benefits (which would be slow and minor, particularly since the exposure risk is low to none); therefore, not the preferred remedy. Further, the existing and future Site use (Industrial) does not warrant a UU clean-up.

Notes:
1. Opinion of Probably Cost (OPC) details provided in Appendix A.
2. Land Use scoring based on the 16 criteria presented in 6NYCCR Part 375-1.8(f)(9).

Alternatives Analysis Report
820 Linden Ave BCP Site #C828200
820 Linden Avenue
Pittsford, Monroe County, New York

APPENDIX A

Remedial Technologies and Alternatives Cost Summary and Analysis



Appendix A
Remedial Alternatives Cost Summary and Analysis
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

	Remedial Alternative		Description of Alternative	Capital	OM&M	Total
ALL MEDIA	1.2, 2.2, *3.2/3.3, 4.3, 5.3	Track 1	A Track 1 Remedy would include the following elements; (1) Installation/Operation of SSDS; (2) Debris Pile removal; (3) Removal and/or closure of Septic Systems and associated soils exceeding UU SCOs*; (4) Removal of subsurface soils exceeding UU SCOs in the vicinity of B-108 and TP-6 (western side of property); (5) Removal of surface soils exceeding UU SCOs on eastern property boundary and in other assumed areas (1 acre); and (6) Installation/Operation of an AS/SVE system to remediate acetone in soil and groundwater across Site. <i>*Note that Alternatives 3.2 and 3.3 below do not address soils exceeding UU SCOs, as they can be managed through Site Controls. The Track 1 Alternative included here expands on cost estimates from Alternatives 3.2 and 3.3 by incorporating the added costs associated with removal of soils exceeding UU SCOs (and removing costs associated with the Cover System Engineering Control).</i>	\$3,060,200	\$313,000	\$3,373,200
CVOCs IN SUB-SLAB SOIL VAPOR	1.1	No Action / Further Monitoring	Assume 30 years of annual SVI sampling.	\$6,000	\$540,000	\$546,000
	1.2	Engineering Control: Vapor Intrusion Mitigation using Sub-Slab Depressurization System	Installation and operation of a sub-slab depressurization system under majority of southern tenant space, where mitigation was recommended based on the NYSDOH Guidance Matrices.	\$410,000	\$175,000	\$585,000
PAHs IN DEBRIS PILE	2.1	No Further Action (NFA)	No further action besides installing and maintaining a fence.	\$4,000	\$15,000	\$19,000
	2.2	Removal and Off-Site Disposal	Removal and off-site disposal of impacted soil exhibiting PAH concentrations in excess of Commercial/Industrial SCOs.	\$9,200	\$0	\$9,200
SEPTIC SYSTEMS	3.1	No Further Action (NFA)	No further action beyond maintaining existing Cover System over septic systems.	\$0	\$90,000	\$90,000
	3.2, 3.4	Removal of system(s) with impacts in tanks; Cover System for exceedances of SCOs	Removal of SW septic system and use of approved backfill as Cover System for remaining SCO exceedances.	\$269,000	\$90,000	\$359,000
	3.3, 3.4	Abandonment in place of system(s) without impacts in tanks, removal of shallow impacted material, Cover System for exceedances of SCOs	Abandonment in place of NW and SE septic systems; removal of black tar-like material overlying NW distributaion box; and use of existing soils and approved backfill as Cover System for remaining SCO exceedances.	\$57,000	\$90,000	\$147,000

Appendix A
Remedial Alternatives Cost Summary and Analysis
Alternatives Analysis Report
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

	Remedial Alternative		Description of Alternative	Capital	OM&M	Total
BENOZO(A)PYRENE IN SURFACE SOIL	4.1	No Further Action (NFA)	No further action besides installing and maintaining a fence.	\$54,200	\$15,000	\$69,200
	4.2	Removal of soils exceeding C/I SCOs	Removal and off-site disposal of impacted soil exhibiting COC concentrations in excess of C/I SCOs.	\$115,600	\$90,000	\$205,600
	4.4	Engineering Control: Installation of a Cap or Cover System	Covering impacted soils.	\$70,700	\$90,000	\$160,700
ACETONE IN SOIL AND GROUNDWATER <i>(western portion of Site, beneath building)</i>	5.1, 5.4	No Further Action (NFA) with existing Cover System	No further action is proposed. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing concrete building slab comprises the Cover System.	\$0	\$90,000	\$90,000
	5.2, 5.4	Groundwater Monitoring with Existing Cover System	Long-term monitoring of groundwater quality through strategic well sampling and statistical evaluation of analytical and geochemical results. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing concrete building slab comprises the Cover System.	\$0	\$155,000	\$155,000
	5.3	Air Sparge/Soil Vapor Extraction (AS/SVE)	Installation of an AS/SVE system to address soil and groundwater impacts.	\$798,000	\$103,000	\$901,000
ACETONE IN SOIL <i>(eastern portion of Site, parking lot area)</i>	5.1, 5.4	No Further Action (NFA) with existing Cover System	No further action is proposed. This alternative would be utilized in association with an Engineering Control to manage residual impacts; the existing asphalt parking lot comprises the Cover System.	\$0	\$90,000	\$90,000
	5.3	Soil Vapor Extraction (SVE)	Installation of an SVE system to address soil impacts.	\$266,000	\$35,000	\$301,000

Notes:

1. See attached cost summary sheets for more detailed breakdown of costs for each alternative.
2. Costs for engineering services and/or environmental oversight related to implementation of the Excavation Work Plan, as required by the Site Management Plan for breaches of the Cover System, are not included herein.

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Track 1 Alternative

Cost Totals

I. Capital Costs

Assumptions

- The following elements of this Alternative are required:
 1. Installation of SSDS and AS/SVE system;
 2. Debris Pile removal (estimated 6 CY);
 3. Removal of subsurface soils above UU SCOs (includes Northwest Septic System area, Southeast Septic System area, and an area on the western side of the property in the vicinity of investigation locations B-108 and TP-6);
 4. Removal of surface soils above UU SCOs (includes surface soil impacts to approximately 1 ft bgs on the eastern side of the Site, RAOC-5) as well as approximately 1 additional acre across the Site pending additional sitewide surface soil sampling; and
 5. Southwest Septic System removal, including subsurface soils above SCOs.
- All waste is non-hazardous.
- Oversight and reporting costs are included in each line item task below.

Costs

- SSDS Design, Installation, and Reporting (see Alternative 1.2):	\$410,000
- AS/SVE Design, Installation, and Reporting (see Alternative 5.3):	\$1,064,000
- Debris Pile Excavation and Off-Site Disposal (see Alternative 2.2):	\$9,200
- Subsurface Soil Excavation and Off-Site Disposal:	\$240,000
- Surface Soil Excavation and Off-Site Disposal:	\$1,068,000
- Southwest Septic System Removal (see Alternative 3.2):	\$269,000
- Groundwater Investigation in Southeast (see Alternative 3.3):	\$17,000
<i>Capital Costs Subtotal</i>	<i>\$3,060,200</i>

II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- 30 years of operation and associated annual reporting for SSDS.
- One year of operation and associated annual reporting for AS/SVE.
- No additional monitoring or maintenance activities required.
- No long-term groundwater monitoring is warranted under the Track 1 Alternative, as the acetone source area and resulting groundwater plume are directly remediated.

Costs

- SSDS OM&M (see Alternative 1.2):	\$175,000
- AS/SVE OM&M (see Alternative 5.3):	\$138,000
<i>OM&M Costs Subtotal</i>	<i>\$313,000</i>

Track 1 Alternative Total \$3,373,200

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 1.1: No Action / Further Monitoring

Cost Totals

I. Capital Costs

Assumptions

- Total of 12 existing Vapor Monitoring Points in SVI monitoring network.
- Requirement by NYSDEC/NYSDOH to add two locations for spatial distribution.
- Environmental oversight costs included below.

Costs

- Installation of 2 Permanent VMPs:		<u>\$6,000</u>
	<i>Capital Costs Subtotal</i>	<u>\$6,000</u>

II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- Annual SVI monitoring (up to 30 years).
- Incorporate data into periodic review reporting (30 years).

Costs

- Vapor Monitoring Points Repair (5 repair events x \$3,000 per event):		\$15,000
- Sampling Events and Reporting:		<u>\$525,000</u>
	<i>OM&M Costs Subtotal</i>	<u>\$540,000</u>

Remedial Alternative 1.1 Total \$546,000

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 1.2: Sub-slab Depressurization System (SSDS)

Cost Totals

I. Capital Costs

Assumptions

- Installation of SSDS by Contractor.
- Design and oversight by Engineer.
- Development of Work Plan, OM&M Plan, and CCR would be required; reporting costs are incorporated below.

Costs

- | | |
|--|-------------------------|
| - SSDS Design, Installation, Environmental Oversight, and Reporting: | \$410,000 |
| <i>Capital Costs Subtotal</i> | <u>\$410,000</u> |
-

II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- Operation of 9 fans for 30 years.
- Quarterly monitoring by Owner/Tenant; annual monitoring by Engineer; reporting incorporated into annual PRR.
- Periodic maintenance of fans and other system components.

Costs

- | | |
|--|-------------------------|
| - Electric Costs (9 fans x 24 hrs/day x 30 years): | \$42,500 |
| - Monitoring and Reporting: | \$97,500 |
| - Periodic Maintenance: | <u>\$35,000</u> |
| <i>OM&M Costs Subtotal</i> | <u>\$175,000</u> |
-

<i>Remedial Alternative 1.2 Total</i>	<u>\$585,000</u>
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Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 2.1: No Further Action (NFA) for Debris Pile

Cost Totals

I. Capital Costs

Assumptions

- Fence extends for 15 ft (East-West) and up to Northern property boundary (20 ft).
- Total estimated fence perimeter is 50 ft.
- Cost from DOT Item 607.31030010 - Steel Chain Link Fence with Top Tension Wire, 8 ft High at State average rate of \$67.33.

Costs

- Fence Installation around Debris Pile Perimeter:	<u>\$4,000</u>
<i>Capital Costs Subtotal</i>	<u>\$4,000</u>

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II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- No reporting required.
- Periodic fence repairs may be needed.

Costs

- Fence Repair (assume \$500/year):	<u>\$15,000</u>
<i>OM&M Costs Subtotal</i>	<u>\$15,000</u>

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<i>Remedial Alternative 2.1 Total</i>	<u>\$19,000</u>
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Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 2.2: Excavation and Off-Site Disposal of Debris Pile

Cost Totals

I. Capital Costs

Assumptions

- Approximately 8 CY of PAH-impacted Debris Pile material.
- Non-hazardous waste.

Costs

- Contractor Costs:	\$2,200
- Oversight and Reporting Costs:	\$6,100
- Laboratory Costs (confirmatory sampling):	<u>\$900</u>
<i>Capital Costs Subtotal</i>	<u>\$9,200</u>

II. Operation, Monitoring and Maintenance (OM&M)

Assumptions:

- No remaining contamination requiring Site Controls.

Costs:

- None.	<u>\$0</u>
<i>OM&M Costs Subtotal</i>	<u>\$0</u>

Remedial Alternative 2.2 Total **\$9,200**

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 3.1: No Further Action (NFA) for Septic Systems

Cost Totals

I. Capital Costs

Assumptions

- Existing 1 ft of overlying soil serves as cover; therefore, no cover/cap installation or imported fill required.

Costs

- None.

Capital Costs Subtotal \$0
\$0

II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- Existing Cover over Septic Systems to be maintained/inspected annually.
- 30 years of annual inspection and reporting, with periodic maintenance.

Costs

- Periodic Inspections and Reporting (30 events x \$2,000 per event):	\$60,000
- Periodic Maintenance (15 events x \$2,000 per event):	<u>\$30,000</u>
<i>OM&M Costs Subtotal</i>	\$90,000

Remedial Alternative 3.1 Total **\$90,000**

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 3.2/3.4: Southwest System Removal with Site Cover System Engineering

Control

Cost Totals

I. Capital Costs

Assumptions

- Removal of tank contents, tanks, distribution boxes, piping, etc.
- Remove approximately 2,000 gallons of tank liquid and approximately 2.4 tons of tank solids for off-site disposal.
- Approximately 525 tons of adjacent soil to be excavated for off-site disposal, if impacted.
- All disposal waste considered non-hazardous.
- Backfill with ~350 CY of imported bank gravel and ~85 CY of topsoil.
- Applicable to the Southwest Septic System, due to tank impacts.
- Monitoring well installation with groundwater sampling required to investigate groundwater quality within and downgradient of the Southwest Septic System tank area.

Costs

- Contractor Costs (excavation-related):	\$58,000
- Contractor Costs (drilling-related):	\$8,000
- Oversight and Reporting Costs:	\$180,000
- Laboratory/Validation Costs:	<u>\$23,000</u>
<i>Capital Costs Subtotal</i>	<u>\$269,000</u>

II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- Imported backfill serves as part of the Site Cover System for residual contamination.
- 30 years of annual inspection and reporting.

Costs

- Periodic Inspections and Reporting (30 events x \$2,000 per event):	\$60,000
- Periodic Maintenance (15 events x \$2,000 per event):	<u>\$30,000</u>
<i>OM&M Costs Subtotal</i>	<u>\$90,000</u>

Remedial Alternative 3.2/3.4 Total* **\$359,000*

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 3.3/3.4: Southeast and Northwest System Closure with Site Cover System
Engineering Control

Cost Totals

I. Capital Costs

Assumptions

- Proper closure of septic systems includes filling tanks/boxes with flowable fill and capping/plugging piping where needed.
- Approximately 18 tons of non-hazardous soil for off-site disposal (residual black tar-like material in RAOC-3).
- Backfill with imported clean soil, as needed.
- Applicable to the Southeast and Northwest Septic Systems, due to absence of tank impacts.
- Soil sampling required to demonstrate remaining soil quality is acceptable.
- Monitoring well installation with groundwater sampling required to investigate groundwater quality downgradient of Southeast Septic System (monitoring well MW-5 near the Northwest Septic System previously fulfilled this requirement).

Costs

- Contractor Costs (system-related):	\$10,000
- Contractor Costs (drilling-related):	\$5,000
- Oversight and Reporting Costs:	\$35,000
- Laboratory/Validation Costs:	<u>\$7,000</u>
<i>Capital Costs Subtotal</i>	<u>\$57,000</u>

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II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- At least one foot of imported backfill or existing non-impacted soil serves as part of the Site Cover System for residual contamination.
- 30 years of annual inspection and reporting.

Costs

- Periodic Inspections and Reporting (30 events x \$2,000 per event):	\$60,000
- Periodic Maintenance (15 events x \$2,000 per event):	<u>\$30,000</u>
<i>OM&M Costs Subtotal</i>	<u>\$90,000</u>

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Remedial Alternative 3.3/3.4 Total **\$147,000**

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 4.1: No Further Action (NFA) for Eastern Surface Soil Impacts

Cost Totals

I. Capital Costs

Assumptions

- Assume approximately 805-ft perimeter for Eastern Surface Soil
Impacts area extending between the north and south property
boundaries along eastern property line.
- Cost from DOT Item 607.31030010 - Steel Chain Link Fence with Top
Tension Wire, 8 ft High at State average rate of \$67.33.

Costs

- Fence Installation around Impacted Area:		\$54,200
	<i>Capital Costs Subtotal</i>	\$54,200

II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- No reporting required.
- Periodic fence repairs may be needed.

Costs

- Fence Repair (assume \$500/year):		\$15,000
	<i>OM&M Costs Subtotal</i>	\$15,000

Remedial Alternative 4.1 Total **\$69,200**

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 4.2: Removal of Benzo(a)pyrene-impacted Shallow Surface Soil

Cost Totals

I. Capital Costs

Assumptions

- Approximately 75 CY.
- Non-hazardous waste.
- Imported backfill from off-site source requires testing per DER-10.

Costs

- Contractor Costs:	\$20,200
- Oversight and Reporting Costs:	\$43,200
- Laboratory Costs (imported fill, confirmatory and waste characterization):	\$52,200
<i>Capital Costs Subtotal</i>	<i>\$115,600</i>

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II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- Only exceedances that remain are for UU SCOs.
- Imported backfill serves as part of the Site Cover System.
- 30 years of annual inspection and reporting.

Costs

- Periodic Inspections and Reporting (30 events x \$2,000 per event):	\$60,000
- Periodic Maintenance (15 events x \$2,000 per event):	\$30,000
<i>OM&M Costs Subtotal</i>	<i>\$90,000</i>

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Remedial Alternative 4.2 Total \$205,600

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 4.4: Engineered Cover System to Manage Shallow Surface Soil Impacts

Cost Totals

I. Capital Costs

Assumptions

- No off-site disposal of soil.
- Import of approximately 720 tons of cover material.
- Imported material from off-site source requires testing per DER-10.

Costs

- Contractor Costs (Labor and Installation) :	\$42,000
- Oversight and Reporting Costs:	\$28,700
<i>Capital Costs Subtotal</i>	<i>\$70,700</i>

II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- Only exceedances that remain are for UU SCOs.
- Imported backfill serves as part of the Site Cover System.
- 30 years of annual inspection and reporting.

Costs

- Periodic Inspections and Reporting (30 events x \$2,000 per event):	\$60,000
- Periodic Maintenance (15 events x \$2,000 per event):	\$30,000
<i>OM&M Costs Subtotal</i>	<i>\$90,000</i>

Remedial Alternative 4.4 Total \$160,700

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 5.1/5.4: No Further Action (NFA), with Cover System, to Address Acetone
Impacts to Soil or Groundwater

Cost Totals

I. Capital Costs

Assumptions

- Existing building slab and asphalt parking lot serve as cover.

Costs

- None.

Capital Costs Subtotal **\$0**
\$0

II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- 30 years of annual inspection and reporting.

Costs

- Periodic Inspections and Reporting (30 events x \$2,000 per event):	\$60,000
- Periodic Maintenance (15 events x \$2,000 per event):	<u>\$30,000</u>
<i>OM&M Costs Subtotal</i>	<u>\$90,000</u>

Remedial Alternative 5.1/5.4 Total **\$90,000**

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 5.2/5.4: Groundwater Monitoring with Cover System
(western portion of the Site)

Cost Totals

I. Capital Costs

Assumptions

- Monitoring wells already installed.
- Existing building slab serves as cover for soil impacts.

Costs

- None.

Capital Costs Subtotal **\$0**
\$0

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II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- Annual groundwater monitoring for 5 years.
- Cover System inspection required annually for 30 years.
- Incorporate data into periodic review reporting.

Costs

- Annual Inspection Site Visit (30 events x \$2,000 per event): \$60,000
- Periodic Maintenance (15 events x \$2,000 per event): \$30,000
- Monitoring Well Repair (2 repair events x \$2,500 per event): \$5,000
- Groundwater Sampling Events and Reporting: \$60,000

OM&M Costs Subtotal **\$155,000**

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Remedial Alternatives 5.2/5.4 Total **\$155,000**

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 5.3: Air Sparge/Soil Vapor Extraction System (western portion of the Site)

0. General Notes

- Air Sparge plus Soil Vapor Extraction (AS/SVE) System to address acetone soil and groundwater impacts beneath the building

Cost Totals

I. Capital Costs

Assumptions

- System installation by Contractor.
- Design, installation oversight, and reporting by Engineer.

Costs

- System Design:	\$116,000
- System Installation, Environmental Oversight, and Reporting:	<u>\$682,000</u>
<i>Capital Costs Subtotal</i>	<i>\$798,000</i>

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II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- Electric costs for one year of operation included in cost.
- Maintenance/repairs of system components incorporated into OM&M event costs.
- One year of operation and associated OM&M and reporting activities.
- Incorporate data into annual PRR (included in monitoring costs).

Costs

- OM&M Events (various frequency throughout one year of operation):	\$103,000
<i>OM&M Costs Subtotal</i>	<i>\$103,000</i>

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Remedial Alternative 5.3 Total \$901,000

Remedial Alternative Cost Estimate Detail
Alternatives Analysis Report
820 Linden Ave Site
Brownfield Cleanup Program Site #C828200

Alternative 5.3: Soil Vapor Extraction System (eastern portion of the Site)

0. General Notes

- Soil Vapor Extraction (SVE) System to address acetone impacts to deep soil in eastern parking lot area

Cost Totals

I. Capital Costs

Assumptions

- System installation by Contractor.
- Design, installation oversight, and reporting by Engineer.

Costs

- System Design:	\$39,000
- System Installation, Environmental Oversight, and Reporting:	<u>\$227,000</u>
<i>Capital Costs Subtotal</i>	<u>\$266,000</u>

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II. Operation, Monitoring and Maintenance (OM&M)

Assumptions

- Electric costs for one year of operation included in cost.
- Maintenance/repairs of system components incorporated into OM&M event costs.
- One year of operation and associated OM&M and reporting activities.
- Incorporate data into annual PRR (included in monitoring costs).

Costs

- OM&M Events (various frequency throughout one year of operation):	<u>\$35,000</u>
<i>OM&M Costs Subtotal</i>	<u>\$35,000</u>

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Remedial Alternative 5.3 Total \$301,000