SESI
CONSULTING
ENGINEERS

REMEDIAL INVESTIGATION REPORT

For:

14 Le Count Standard Printing
Site #C360176

14 Le Count Place,
207, 209, and 211 North Avenue
455, 459, and 463 Main Street
New Rochelle, New York

Prepared for:

14 Le Count Place LLC
GSLM 14 Le Count Owner LLC
c/o Wilder Balter Partners, Inc
480 Bedford Road
Chappaqua, NY 10514

Prepared by:

SESI CONSULTING ENGINEERS, D.P.C.
12A Maple Avenue
Pine Brook, NJ 07058

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CERTIFICATIONS

"I Fuad Dahan certify that I am currently a [NYS registered professional engineer or Qualified Environmental Professional as defined in 6 NYCRR Part 375] and that this 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."

Fuad Dahan	11/19/2019	
NYS Professional Engineer (# 090531)	Date	Signature

It is a violation of Article 130 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 130, New York State Education Law.

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EXECUTIVE SUMMARY

The 14 Le Count Standard Printing Site (herein referred to as the "Site") was accepted into the New York Brownfield Cleanup Program (BCP) by New York Department of Environmental Conservation (NYSDEC) on September 19, 2018, and is known as BCP Site No. C360176. The Site is a relatively level parcel of land about 0.93 acres in size and is bounded to the north by commercial buildings, to the south by Main Street and multiple commercial properties across Main Street, to the east by Le Count Place and multiple commercial properties across Le Count Place, and to the west by the North Avenue and multiple commercial properties across North Avenue.

This Remedial Investigation Report (RIR) summarizes the results of prior investigations and the Remedial Investigation (RI) performed on the Site. The RI was conducted in general accordance with the Remedial Investigation Work Plan (RIWP) for the Site, which was last revised January 28, 2019, and subsequently approved by the NYSDEC in February 1, 2019, and the NYSDEC's Technical Guidance for Site Investigation and Remediation (DER-10).

The RI consisted of collecting one hundred and sixteen (116) soil samples, thirteen (13) groundwater samples, and eight (8) soil vapor/sub-slab vapor samples. 113 soil samples and 10 groundwater were collected as part of the original RIR work, then additional 3 soil samples and 3 groundwater samples were collected per the NYSDEC comment letter dated May 17, 2019. In response to this comment letter SESI presented a plan to the NYSDEC on May 24, 2019 with the additional proposed location. The proposed plan was approved by the NYSDEC in an email dated May 29, 2019.

Soil samples were collected for the investigation of Recognized Environmental Concerns (RECs) that were identified during the multiple Phase I ESA Reports prepared by TMA and SESI's review of the Site history and field observations. The RECs include suspect and confirmed heating oil tanks at 14 Le Count Place, 455, 459, and 463 Main Street, and 207, 209, and 211 North Avenue, and the former printing operations and Photo lab at 209 North Avenue. Samples were analyzed for a combination of full target

compound list (TCL) and target analyte list (TAL) analytes – which include metals (USEPA Methods 6010/7471), semi-volatile organic compounds (SVOCs – USEPA Method 8270), PCBs and pesticides (USEPA Methods 8081/8082). Duplicates were included each day sampling was conducted, and trip blanks accompanied all samples analyzed for volatile organic compounds (VOCs).

Based on the field investigation, the overall depth of the historic fill material across the site ranged to depth of 12 to 14 feet. In addition, metals contaminated soils exceeding the Unrestricted Use Soil Cleanup Objectives (URSCO) in certain spots extends down to 23 ft below ground surface (bgs). Petroleum hydrocarbon (PHC) impacted soil exceeding the URSCO was identified on the northwestern portion of the Site.

The Site's groundwater has been impacted with VOCs and polycyclic aromatic hydrocarbon (PAH) petroleum compounds above NYSDEC Technical Operational Guidance Series (TOGS) 1.1.1 GA Ambient Water Quality Standards (AWQS) groundwater standards as result of the fuel oil spill at 207 North Avenue. Light non-aqueous phase liquid (LNAPL) was measured on groundwater in this area as well. The spill at 207 North Avenue will be addressed in a separate report. PAH and pesticide impact to groundwater above the GA AWQS were identified on the eastern portion of the Site. Chlorinated VOCs (CVOCs) impacts to groundwater have been identified on the southern edge of the Site in the newly installed wells.

The Site soil vapor has been impacted with CVOCs and PHC VOC. The greatest concentrations of CVOC in soil vapors identified as trichloro-ethylene (TCE) were detected in SS-11 (160 ug/m^3) and SS-13 (200 ug/m^3) on the northern portion of the Site. The greatest concentration of PHC VOCs in soil vapors were identified as benzene in SS-10 (18 ug/m^3) and ethylbenzene in SS-9 (1,300 ug/m^3).

An Interim Remedial Measure (IRM) was also implemented at the time of this RI phase of the Project, which included removal of two (2) 275-gallon above ground storage tanks (AST), removal of PHC soil and LNAPL from the spill area at 207 North Avenue (Spill No.: 1808873). The IRM will be addressed in a separate report.

1.0 INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC) has entered into a Brownfield Cleanup Agreement (BCA) for the property located at 14 Le Count Place, 207, 209, and 211 North Avenue, and 455, 459, and 463 Main Street in the Town of New Rochelle, New York with the Volunteers 14 Le Count Place LLC and WBLM 14 Le Count Owner LLC now known as the 14 Le Count Standard Printing Site (BCP# C360176) ("Site") on September 19, 2018. A Site Location map is presented as **Figure 1.1 in Appendix A**. A Brownfields boundary map is presented as **Figure 1.2 in Appendix A.** This document consists of a Remedial Investigation report (RIR). This RIR is a summary of the investigative work that was performed in accordance with the Remedial Investigation Work Plan (RIWP) which was last revised January 28, 2019, and subsequently approved by the NYSDEC in February 1, 2019. The report also includes a summary of the Phase II investigation that was conducted prior to the BCA.

The RI was completed in accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation (DER-10), to provide a systematic assessment of environmental conditions on the Site. The RI defines the nature and extent of contamination on-Site, identifying contaminant source areas, and producing data of sufficient quantity and quality to complete an on-site exposure assessment and a qualitative off-site exposure assessment for purposes of designing the remedial action for the Site.

2.0 BACKGROUND

2.1 Site Description and Proposed development

The Site properties are identified on the Westchester County tax map as Section-Block-Lot number 1-228-0100 and 1-228-0200, and the property addresses are 14 Le Count Place and 455 Main Street, New Rochelle, NY 10801, respectively. The Site is located in an area of primarily commercial and mixed uses. The Site and nearby properties are generally level. The Site previously consisted of seven lots, which have now been merged and re-subdivided into two lots as described in a June 27, 2018 letter to NYSDEC Project Manager Mathew King. The Site totals approximately 0.93-acres, which land has been historically utilized for residential and commercial purposes, and most notably a former printing operation. **Appendix A Figure 2.1** presents a Site Plan.

The Site is bounded to the north by commercial buildings, to the south by Main Street and multiple commercial properties across Main Street, to the east by Le Count Place and multiple commercial properties across Le Count Place, and to the west by the North Avenue and multiple commercial properties across North Avenue. The proposed development of the Site will consist of a proposed mixed-use residential, commercial, and retail development. The project will involve a total of approximately 511 residential units (380 constructed during Phase I and 132 constructed during Phase II) and a total of 14,230 square feet of commercial and retail space (5699 sq. ft. constructed during Phase I and 8,060 constructed during Phase II).

2.2 Description of Surrounding properties

The surrounding properties consist of multiple commercial properties.

Direction	Adjacent Property
North	Commercial Buildings
South	Main Street and Commercial Buildings Across Main Street
East	Le Count Place and Multiple Commercial Properties Across Le Count Place
West	North Avenue and Multiple Commercial Properties Across North Avenue

2.3 Previous Environmental Investigations

The following environmental reports are attached in **Appendix H** and summarized below:

- Phase I Environmental Site Assessment, 463 Main Street Property by Tim Miller Associates, Inc. (TMA), July 5, 2017
- Phase I Environmental Site Assessment, 459 Main Street Property by TMA, August 15, 2017
- Phase I Environmental Site Assessment, 455 Main Street Property by TMA, December 5, 2017
- Phase I Environmental Site Assessment, 211 North Avenue Property by TMA, March 20, 2017
- Phase I Environmental Site Assessment, 209 North Avenue Property by TMA, July 24, 2017
- Phase I Environmental Site Assessment, 207 North Avenue Property by TMA, August 16, 2017

- Phase II Environmental Site Assessment Report, 14 Le Count Place, 207, 209, and 211 North Avenue, 455, 459, and 463 Main Street by SESI Consulting Engineers, March 22, 2018

2.3.1 Phase I Environmental Site Assessments by TMA (2017)

The following recognized environmental conditions (RECs) were identified during the multiple Phase I ESA Reports prepared by TMA and SESI's review of the Site history and field observations:

- **REC 1: Former UST (455 Main Street)** - This area includes an abandoned-in-place fuel oil UST beneath the sidewalk in front of the building. According to the TMA Phase I ESA Report, dated December 5, 2017.
- **REC 2: Potential Former UST (211 North Avenue)** - According to the TMA Phase I ESA Report, dated March 20, 2017, a REC exists at the Site as the result of a potentially out of service UST at the Site. According to the TMA Phase I ESA, a survey was performed which identified the New Rochelle Fire Department records indicating the presence of a 1,000-gallon heating oil UST at the Site. A magnetometer survey indicated a large void beneath the sidewalk in front of the building, consistent with a UST. Exploratory test pits were conducted during October 2018 and no tanks were located within the suspected location. Therefore, based on the October test pit excavation this REC is no longer present.
- **REC 3: Former Printing Operations (209 North Ave)** – Based on SESI's review of the available documentation, a former newspaper printing operation was present at the building located at 209 North Avenue. The Sanborn maps identified the Evening Standard, a local newspaper that occupied the building from approximately 1911 until approximately 1932. The building first appeared on the 1903 Sanborn Map. The identified use of the site was for printing. The 1911 Sanborn Map identified the property as the Evening Standard and the 1932 Sanborn Map identified the property as the Republican Club. In subsequent investigations, documentation identifies that the Evening Standard operated the building from 1909 to 1923. The building at 209 North Avenue contained a backdoor opening directly into 14 LeCount Place. The building on 14 Le Count Place was developed between 1911 and 1932. The 1911 Sanborn Map shows a residential structure on the property, which was reportedly built between 1887 and 1892. The current structure first appeared on the 1932 Sanborn Map. The COCs in this area are a result of the chemicals that were historically used in the printing process, including cobalt and other metals.

- **REC 4: Heating Oil UST (14 LeCount Place)** - This area includes a heating oil UST immediately south of the building. According to the TMA Phase I ESA Report, dated December 12, 2016, the property contains a UST that failed a tank tightness test on December 9, 2016. It is unknown if the UST failed as a result of leaking fittings, lines, or holes in the UST shell. The UST was removed, and the case closed for this discharge.

- **REC 5: Heating Oil UST (459 Main Street) -** This area includes a 1,000-gallon fuel oil UST that was discovered beneath the basement. This UST was removed in May 2019. Petroleum contaminated soil was observed and removed from the UST excavation. The NYSDEC spills hotline was notified (Spill No.: 1901867).

- **REC 6: Heating Oil UST (463 Main Street) -** One 275-gallon UST located in the basement with no impacts observed. This UST was removed from the Site.

- **REC 7: Heating Oil AST (207 North Avenue) –** This area includes two (2) 275-gallon ASTs that were removed from the basement of 207 North Avenue. A spill occurred on November 19, 2018 (Spill No.: 1808873) due to looting of copper piping. The spill happened prior to the demolition of the building on top of the existing concrete slab. Impacted soil were collected from the top of basement slab and containerized into four (4) DOT drums and transported off-site by EWMI. In addition, 121 gallons of liquids were pumped from the tank and basement sump by Northeast Environmental (Northeast). The ASTs were removed from the site.

- **REC 8 - Heating Oil ASTs (455 Main Street)**

  This area includes two (2) existing 275-gallon ASTs in the basement level of 455 Main Street. These ASTs are not in use and will be removed prior to demolition of the buildings.

  The locations of the above RECs are presented in **Figure 2.2**.

2.3.2 Phase II Environmental Site Assessment by SESI, March 22, 2018

The field work for the Phase II ESA was conducted by Tectonic Engineering (Tectonic) between October 19, 2017 and January 3, 2018, and by SESI on January 17, 2018.

<u>Soil Sampling Summary</u>

Fourteen (14) soil borings were advanced by Tectonic using a direct push Geoprobe® rig. The soil borings were distributed throughout the Site to determine the subsurface conditions of the entire Site. A total of forty-five (45) soil samples were collected and analyzed for various parameters. The soil samples were collected from varying depths based on field screening, which

includes screening with Photo Ionization Detector (PID), visual observations, and olfactory observations. All soil samples were named based on their respective soil boring number and specified depth.

Nine (9) of the forty-five (45) samples had detections of mostly metals, which exceeded the unrestricted use soil cleanup objectives (URSCOs), residential soil cleanup objectives (SCOs) or the CP-51 standards. Cobalt, which is not a typical metal found in historic fill soils, was detected in every soil sample, and two soil samples exceeded the CP-51 Residential Use SCO. As mentioned above in the REC 3 description, cobalt has been historically used in printing processes as drying agent. Nickel and Lead also exceeded the URSCO in several samples spread throughout the property at 14 LeCount Place. Three sample locations resulted in exceedances for lead of the URSCO. One sample location resulted in an exceedance for mercury of the URSCO. Two samples resulted in pesticide exceedances of the URSCO. There were no exceedances of PCBs, VOCs or SVOCs reported in soil data. In addition to the printing related metal, non-native, historic fill soils were encountered from 0-12' below grade surface.

Groundwater Sampling Summary

Tectonic collected one groundwater sample from a temporary well installed in one of the soil borings at the Site. The groundwater sample was analyzed for VOCs and SVOCs. The analytical results were compared with their respective NYSDEC AWQS. The groundwater sample results exceeded the Class GA AWQS for chloroform and phenol.

Soil Vapor Sampling Summary

Ten (10) soil vapor samples (8 sub slab and 2 sub pavement) were collected from the Site by SESI. The vapor samples were collected from within the first 1-foot interval below grade (basement slab or pavement). The samples were for VOC in accordance with EPA Method TO-15. Five (5) sub slab samples exceeded the soil gas New York State Department of Health (NYSDOH) Guideline Values or the USEPA June 2015 Sub-slab Soil Vapor Technical Guidance concentration levels. The exceedances of the soil gas guidance values were for benzene, naphthalene, chloroform and trichloroethene (TCE).

Indoor Air

Five (5) indoor air samples were collected from the Site by SESI. One sample was collected from within the breathing zone in each building. The samples were analyzed for VOCs by EPA Method TO-15 analysis. No samples exceeded the applicable NYSDOH Air Guideline Values or USEPA

2.6 DESCRIPTION OF AREAS OF CONCERN

Based on the summary of investigations above, which identified a number of RECs, and the following areas of concerns (AOCs) have been addressed in this RIR:

- **REC 1: Former UST (455 Main Street)** - abandoned-in-place fuel oil UST beneath the sidewalk in front of the building.
- **REC 2: Potential Former UST (211 North Avenue)** - A potential fuel oil UST beneath the sidewalk in front of the building.
- **REC 3: Former Printing Operations (209 North Ave)** – The Sanborn maps identified the Evening Standard, a local newspaper that occupied the building from approximately 1911 until approximately 1932.
- **REC 4: Heating Oil UST (14 LeCount Place)** - A heating oil UST was located immediately south of the building. The UST was removed, and the case closed for this discharge.
- **REC 5: Heating Oil UST (459 Main Street) -** This area includes a 1,000-gallon fuel oil UST that was discovered beneath the basement. This UST was removed in May 2019. Petroleum contaminated soil was observed and removed from the UST excavation. The NYSDEC spills hotline was notified (Spill No.: 1901867).
- **REC 6: Heating Oil UST (463 Main Street) -** One 275-gallon UST located in the basement has been moved from its original location and no impacts were observed.
- **REC 7: Heating Oil AST (207 North Avenue) –** Two (2) 275-gallon ASTs that were removed from the basement of 207 North Avenue. A small spill occurred on November 19, 2018 (Spill No.: 1808873) due to looting of copper piping.
- **REC 8 - Heating Oil ASTs (455 Main Street)**

  This area includes two (2) existing 275-gallon ASTs in the basement level of 455 Main Street.

  The locations of the above RECs are presented in **Appendix A Figure 2.2.**

3.0 SITE SETTING

3.1 TOPOGRAPHY

According to the United States Geological Survey (USGS) Mount Vernon NY, 2013 topographic map, the Site's average topographic elevation is approximately 91-feet above mean

sea level (msl). The topographic map indicates that the topography at the Site is relatively level and is located in an urban area.

3.2 SURFACE WATER AND DRAINAGE

There are no surface water bodies or streams on or directly adjacent to the Site. SESI did not observe any areas suspected to be wetlands on the Site. Storm water drainage patterns are generally consistent with the surrounding topography and primarily flow to the east toward Echo Bay.

3.3 GEOLOGY

The subsurface conditions consist of fill to depth ranging from approximately 0 to 12 feet below ground surface (bgs). The fill consists of gray coarse gravel, little sand and trace silt and wood fibers. Native sand and gravel is present beneath the fill. The native sand and gravel layer extends to depths ranging from 15 to greater than 50 feet bgs.

3.4 HYDROGEOLOGY

Groundwater was encountered at a depth of approximately 8 ft to 15 ft bgs in soil borings performed by SESI. The groundwater gradient was determined to be in an easterly direction across the Site.

3.5 ASBESTOS ABATEMENT AND BUILDING DEMOLITION

Advanced Environmental Corp. (AEC) and Environmental and Management Services (ECMS) were retained directly by the Volunteer to perform a pre-demolition Surveys. A New York State Department of Labor (NYSDOL) Certified Asbestos Inspector collected bulk material samples for suspect asbestos containing materials (ACM), PCB and lead based paint materials, conduct ACM abatement, and conduct post ACM abatement air clearance monitoring from the Site buildings. All work was conducted between October 2, 2017 and February 11, 2019. The inspection reports and results are included in **Appendix G**.

AMCS Environmental, a NYSDOL licensed contractor, was retained directly by the Volunteer to compete the asbestos abatement of the Site buildings. The abatement work for the buildings located at 14 Le Count, 207, 209, and 211 North Avenue was conducted between October 8, 2018 and February 5, 2019. AEC, a NYSDOL certified company, performed the third-party project monitoring activities throughout the duration of abatement. Prior to the commencement of the abatement activities, AEC Certified Project Monitors collected pre-

abatement air samples to establish background levels. Additionally, AEC certified project monitor collected area air samples continuously during each work shift for the whole duration of the abatement project. Air samples were logged and transported under a chain-of-custody to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) accredited laboratory. All samples collected inside the work area for post abatement finals were below the NYC DOL mandated clearance criteria of 0.01 fibers per cubic centimeter (f/cc). AEC's third-party monitoring report is included in **Appendix G**. The ACM was disposed of at properly licensed facility; the disposal manifests are included in **Appendix G**.

The buildings at 14 Le Count, 207, 209, and 211 North Avenue were demolished by the Site contractor after the asbestos clearance was granted. The demolition for the Site buildings at 455, 457, 459, and 463 Main Street is planned for May 2019.

4.0 REMEDIAL INVESTIGATION ACTIVITIES

The RI was conducted in accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation (DER-10), and in accordance with the Site approved RIWP (January 2019). The objective of the RI was to complete the investigation of soil, soil vapor, and groundwater on the Site and to delineate the nature and extent of the contamination on Site. Interim remedial measure (IRM) activities were conducted for removal of two (2) ASTs, PHC impacted soil and LNAPL at monitoring well MW-6 in a series of Enhanced Fluid Recovery (EFR) events to recover the free product detected. IRM activities for the USTs/ASTs are not completed at the time of writing this report, and hence the completed IRM for the residual PHC soil and LNAPL will be reported in a separate IRM report.

4.1 RI SAMPLING SUMMARY

Field activities were completed between February and March 2019 and the additional work per the NYSDEC comment letter was conducted in June 2019. Table 1 includes a summary of the samples collected and their analyses in **Appendix C**. **Figures 4.1, 4.2, and 4.3 in Appendix A** present the sample locations for soil, groundwater, and soil vapor respectively. All tables and figures have been updated to include the additional sampling of June 2019.

Twenty-two (22) soil probes/borings were advanced on the north half of the Site where buildings along Le Count Place and North Avenue have been demolished, and fifteen (15) probes/borings were advanced on the south half of the Site and within the basements of the

existing structures along Main Street. seven (7) permanent groundwater monitoring wells were installed (MW-1 through MW-7), and six (6) temporary wells (GW-1 through GW-6) were sampled to investigate groundwater. Six (6) additional temporary piezometers (TW-1 through TW-6) were installed at 10 to 20 foot from MW-6 for delineation of free product. The installation and results from TW-1 through TW-6 will be reported in the IRM report.

The soil and groundwater samples that were collected were analyzed for TCL/TAL +30 including metals (USEPA Methods 6010/7471), SVOCs (USEPA Method 8270), VOCs (USEPA Method 8270), PCBs and pesticides (USEPA Methods 8081/8082). Additionally, 2 monitoring wells (MW-2 and MW-4) were analyzed for PFAS in accordance with EPA Method 573 and 1,4 dioxane in accordance with EPA Method 8260 SIM. Field Blanks were collected each day sampling was conducted, and trip blanks accompanied all samples analyzed for VOCs.

4.2 INVESTIGATION METHODOLOGY

All the field work was completed under the on-Site observation of a SESI field engineer and the environmental professional engineer (PE). The field work involved advancing borings, installing permanent monitoring wells, temporary wells, and removal of ASTs. Disposable field equipment was utilized to collect soil and groundwater samples. SESI observed the work completed by the following subcontractors:

- AARCO Drilling - advanced soil borings thirty-seven (37) soil borings and installed six (6) temporary and seven (7) permanent monitoring wells utilizing direct-push and hollow stem auger drilling techniques for laboratory analysis.
- Enviroprobe Drilling – Installed six (6) temporary piezometers for delineation of LNAPL at MW-6.
- Northeast Environmental (Northeast) - conducted spill response activities in connection with the fuel oil spill at 207 Main Street. In addition, Northeast conducted two (2) EFR event with a vacuum truck for removal of LNAPL identified in MW-6,and temporary piezometers TW-1, TW-3, and TW-6.
- Eurofins – Test America, New Jersey – Analyzed soil and groundwater samples as per requested analytical methods.
- Eurofins – Test America, Vermont – Analyzed soil vapor samples as per requested analytical methods.

4.3 SOIL BORINGS AND SAMPLING

A total of one hundred and thirteen (113) soil samples were collected from thirty-four (34) soil borings (SESI-SB-1 through SESI-SB-34). Three additional soils samples and three additional groundwater samples were collected per the NYSDEC Comment Letter of May 24, 2019. The borings were advanced utilizing direct-push and hollow stem augur drilling techniques. Specifically, twenty-two (22) soil probes/borings were advanced on the north side of the Site where buildings along Le Count Place and North Avenue have been demolished, and fifteen (15) probes/borings were advanced within the basements of the existing structures along Main Street. Borings were advanced to the depths ranging from 12 to 25 ft below ground surface (bgs). Soil samples collected utilizing a marco-core and split–spoon samplers. Samples for laboratory chemical analyses were collected based on field screening, which includes visual and olfactory observations and screening with PID.

In addition to the remedial investigation grab samples, composite samples were collected for waste characterization purposes. The waste characterization samples were collected at a frequency of 1 composite per 750 cubic yards (CY) of soils based on site grid of 50 foot-wide by 50 foot-long and 7 foot deep. The waste characterization sample results and site grids are included in **Appendix I**.

4.4 MONITORING WELL INSTALLATIONS

A total of seven (7) permanent groundwater monitoring wells were installed and six (6) temporary wells were sampled to investigate groundwater including the additional samples of May 2019. Groundwater samples were analyzed for TCL/TAL +30. Additionally, two (2) monitoring wells (MW-2 and MW-4) were analyzed for PFAS.

The depth of the wells ranged from 20 to 25 ft bgs. The depth of water table was determined to vary from 8 to 15 ft bgs at the Site. All the wells were constructed utilizing 2-inch PVC pipe with a 10-foot, 20 (0.020 inches) slot screen. The PVC screen was surrounded by #2 filter sand. The filter sand extends at least about 1 foot above the screen. Bentonite about 1 foot thick was then placed on top of the filter sand and the remaining annular space around the PVC riser was grouted with cement/bentonite mix. The wells were subsequently completed with protective steel stickup and/or flush mount manholes as appropriate.

The monitoring wells were developed until the purge water being pumped was free of sediment, or the well no longer had groundwater present, whichever was encountered first. The development water was collected in drums for disposal off-site. **Appendix B** includes the monitoring well construction logs.

4.5 GROUNDWATER SAMPLING

From February 11 to February 19, 2019 the temporary and permanent water wells were sampled in accordance with USEPA low flow sampling procedures. The additional three water samples were collected in May 2019. At least three (3) well volumes were purged and the purge water was piped to a "flow cell," where groundwater geochemical parameters such as pH, redox potential, specific conductance, dissolved oxygen, salinity and turbidity were measured at three (3) minute intervals. Drawdown during the well sampling was also measured. Field parameters including pH, dissolved oxygen, turbidity, specific conductance and oxidation/reduction potential (ORP) were measured. "Redi-flow" purging techniques were implemented to achieve stabilization. Groundwater samples were collected once the geochemical parameters stabilized for three consecutive readings. **Appendix D** includes the purge data for the groundwater monitoring wells.

A groundwater contour map was developed using well gauging and surveying data (**Figure 4.4, Appendix A**) the map depicts groundwater flow east/southeast across the site. This follows the Site topography. The Well gauging and Survey data is presented on **Table 5 in Appendix C.**

4.6 SOIL GAS INVESTIGATION

4.6.1 Soil Vapor Sampling

SESI collected seven (7) soil vapor samples (SS-9 through SS-13, and SS-16), and one (1) sub-slab vapor point (SS-15) in the basement of 459 Main Street. The soil vapor points were collected at depths ranging from 5 to 10 feet bgs which is approximately 2 to 3 feet above the groundwater table. Soil gas samples were collected in accordance with the Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

4.6.2 Sampling Procedure

Semi-permanent soil vapor probes were installed with an adequate surface seal to prevent outdoor air infiltration at each sampling location. Soil gas implants were installed using a direct

push Geoprobe® to attain the depths as noted in Table 1. Porous, inert backfill packer sand was used to create a sampling column of 2 feet in length. The implants were fitted with inert Teflon® tubing to the surface. Soil vapor probes were sealed above the sampling zone with a bentonite slurry for a minimum distance of 3 feet. The remainder of the borehole was backfilled with clean material.

Prior to sampling, the soil vapor points were purged three times the volume of the sample probe and tube. Flow rates for both purging and collecting were maintained below 0.2 liters per minute to minimize outdoor air infiltration during sampling. Samples were collected in certified 1-L Summa ® canisters provided by the laboratory. The ground surface was unpaved at the time of sampling which would not allow for sealing a helium trap over the vapor points, and therefore the helium tracer test was not conducted. All the samples were sent to Eurofins – Test America (an ELAP-accredited) laboratory for EPA TO-15 analysis.

5.0 REMEDIAL INVESTIGATION RESULTS

The laboratory analytical results are included as Tables 2 through 4. Plans depicting the soil sample locations where analytes have exceeded applicable SCOs and associated summaries are included as Figures 4.1 and 4.2. For purposes of evaluating the remedial alternatives associated with the proposed Site redevelopment, the analytical results of the soil samples were compared to the NYSDEC URSCOs and restricted residential soil cleanup objectives (RRSCOs). The constituent concentrations in groundwater were compared to the applicable NYSDEC AWQS. The laboratory data packages for soil, soil vapor and groundwater results are included as **Appendix E**. The Data Usability Summary Report (DUSR) are included in **Appendix F** of this report.

5.1 SOIL INVESTIGATION RESULTS

Polyaromatic hydrocarbons (PAHs) including benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo(a)pyrene, chrysene, dibenz (a,h) anthracene dibenzofuran, fluoranthene, phenanthrene, and ideno (1,2,3-cd) pyrene were identified in eight (8) soil samples from eight (8) soil borings SESI-SB-1 (8’), SESI-SB-2 (5’), SESI-SB-5 (8’), SESI-SB-7 (3’), SESI-SB-8 (4’), SESI-SB-10 (4’), SESI-SB-25 (3’), and SESI-SB-26(3’) at concentrations that exceeded the URSCO and RRSCO. The logs of these borings indicated the presence of historic fill which consists of concrete, ash asphalt and brick up to 14 feet below ground surface (ft-bgs). The soil samples with PAHs exceeding the URSCOs is presented on Table 5.1 below.

Table 5.1 Summary of PAHs Exceeding the NYSDEC URSCO and RRSCO

Analyte	Part 375-6.8(a) URSCO	Part 375-6.8(b) RRSCO	SESI-SB-1 (8')	SESI-SB-2 (5')	SESI-SB-5 (8')	SESI-SB-7 (3')	4SESI-SB-8 (4')	SESI-SB-10 (4')	SESI-SB-25 (3')	SESI-SB-26 (3')
SOIL BY 8270D (MG/KG)										
Benzo[a]anthracene	1	1	**0.90**	**0.83**	**2.0**	**1.3**	**0.86**	**0.35**	**58**	**2.0**
Benzo[a]pyrene	1	1	**0.95**	**0.71**	**1.7**	**1.3**	**0.93**	**0.52**	**49**	**1.9**
Benzo[b]fluoranthene	1	1	**1.6**	**1.2**	**3.4**	**2.2**	**1.4**	**0.93**	**72**	**2.8**
Benzo[g,h,i]perylene	100	100	**0.75**	**0.51**	**0.69**	**0.88**	**0.64**	**0.44**	**30**	**1.3**
Benzo[k]fluoranthene	0.8	3.9	**0.56**	**0.40**	**1.1**	**0.65**	**0.48**	**0.29**	**24**	**1.0**
Chrysene	1	3.9	**1.2**	**0.98**	**2.4**	**1.6**	**1.1**	**0.68**	**57**	**1.9**
Dibenz(a,h)anthracene	0.33	0.33	**0.22**	**0.12**	**0.21**	**0.28**	**0.15**	**0.10**	**8.0**	**0.28**
Fluoranthene	100	100	**2.7**	**2.8**	**6.1**	**3.7**	**2.6**	**1.2**	**130**	**4.9**
Indeno[1,2,3-cd]pyrene	0.5	0.5	**0.97**	**0.67**	**0.81**	**1.1**	**0.83**	**0.57**	**41**	**1.6**
Phenanthrene	100	100	**1.3**	**2.2**	**4.3**	**2.7**	**1.7**	**0.55**	**130**	**6.3**

Notes:
Bold = Compound Detected
U = Compounds Not Detected
Indicates compound Exceeds NYSDEC URSCO
Indicates compound Exceeds NYSDEC RRSCO

Metals including arsenic, barium, copper, lead, mercury, nickel, and zinc were identified in twenty-nine (29) soil samples from twenty-nine (29) soil borings at concentrations exceeding their URSCO and/or RRSCO. The depth of metals impacts ranged from 2 feet to 22 feet across the Site exceeding their URSCOs.

Barium was detected in SESI-SB-25 (3') at a concentration of 705 mg/kg, exceeding its RRSCO of 400 mg/kg. Lead was detected in borings SESI-SB-2 (3'), SESI-SB-25 (3') and SESI-SB-26 (3') at concentrations of 438 mg/kg, 1,580 mg/kg, and 528 mg/kg, exceeding the RRSCO (400 mg/kg) for lead. Mercury was detected in SESI-SB-26 (3') at a concentration of 3.6 mg/kg exceeding the RRSCO of 0.81 mg/kg. The soil samples with metals exceeding the RRSCOs are presented on Table 5.2 below.

Table 5.2 Summary of Metals Exceeding the NYSDEC URSCO and RRSCO

Analyte	Part 375-6.8(a) URSCO	Part 375-6.8(b) RRSCO	SESI-SB-1 (3')	SESI-SB-1 (15')	SESI-SB-2 (3')	SESI-SB-3 (2')	SESI-SB-6 (2')	SESI-SB-6 (20-22')	SESI-SB-7 (15'-17')	SESI-SB-8 (4')
Mercury	0.18	0.81	**0.21**	0.011 U	**0.13**	0.011 U	**0.12**	0.013 U	0.010 U	**0.097**
Arsenic	13	16	**2.5 J**	1.1 U	**3.2**	**3.4**	**2.4 J**	**1.4 J**	1.3 U	**5.2**
Barium	350	400	**83**	**230**	**146**	**110**	**76.9**	**104**	**220**	**132**
Copper	50	270	**11.4**	**34.6**	**54.1**	**21.9**	**16.6**	**9.4**	**23**	**13**
Lead	63	400	**44.8**	**7**	**438**	**181**	**89.6**	**4.1**	**6.3**	**127**
Nickel	30	310	**11.8**	**46**	**28.5**	**14.8**	**14.2**	**44**	**30.7**	**5.8 J**
Zinc	109	10000	**32.1**	**76.1**	**791**	**114**	**38.9**	**50.2**	**70.4**	**72.2**

Analyte	Part 375-6.8(a) URSCO	Part 375-6.8(b) RRSCO	SESI-SB-8 (9')	SESI-SB-8 (18')	SESI-SB-10 (4')	SESI-SB-10 (18')	SESI-SB-11 (14')	SESI-SB-13 (3')	SESI-SB-15 (15'-17')	SESI-SB-18 (13')
Mercury	0.18	0.81	0.012 U	0.011 U	**0.077**	0.012 U	0.011 U	**0.29**	0.011 U	0.011 U
Arsenic	13	16	**4.4**	1.1 U	**15.4**	**1.4 J**	1.0 U	**3.8**	1.3 U	1.3 U
Barium	350	400	**92.7**	**277**	**53.7**	**288**	**144**	**111**	**188**	**192**
Copper	50	270	**37**	**164**	**17.5**	**27.8**	**21.6**	**19**	**22.2**	**28.7**
Lead	63	400	**24.6**	**6.5**	**37.4**	**6.6**	**6.1**	**127**	**4**	**4.8**
Nickel	30	310	**17.5**	**36.2**	**10.1**	**42.6**	**31.2**	**14.2**	**30**	**30.9**
Zinc	109	10000	**156**	**88.2**	**25.4**	**92.8**	**60.2**	**47.5**	**69.5**	**66.2**

Analyte	Part 375-6.8(a) URSCO	Part 375-6.8(b) RRSCO	SESI-SB-8 (9')	SESI-SB-8 (18')	SESI-SB-10 (4')	SESI-SB-10 (18')	SESI-SB-11 (14')	SESI-SB-13 (3')	SESI-SB-15 (15'-17')	SESI-SB-18 (13')
Mercury	0.18	0.81	0.012 U	0.011 U	**0.077**	0.012 U	0.011 U	**0.29**	0.011 U	0.011 U
Arsenic	13	16	**4.4**	1.1 U	**15.4**	**1.4 J**	1.0 U	**3.8**	1.3 U	1.3 U
Barium	350	400	**92.7**	**277**	**53.7**	**288**	**144**	**111**	**188**	**192**
Copper	50	270	**37**	**164**	**17.5**	**27.8**	**21.6**	**19**	**22.2**	**28.7**
Lead	63	400	**24.6**	**6.5**	**37.4**	**6.6**	**6.1**	**127**	**4**	**4.8**
Nickel	30	310	**17.5**	**36.2**	**10.1**	**42.6**	**31.2**	**14.2**	**30**	**30.9**
Zinc	109	10000	**156**	**88.2**	**25.4**	**92.8**	**60.2**	**47.5**	**69.5**	**66.2**

Analyte	Part 375-6.8(a) URSCO	Part 375-6.8(b) RRSCO	SESI-SB-28 (10')	SESI-SB-28 (15')	SESI-SB-29 (9')	SESI-SB-29 (12')	SESI-SB-31 (14')	SESI-SB-34 (6')
Mercury	0.18	0.81	0.011 U	0.011 U	0.0095 U	0.012 U	0.011 U	0.010 U
Arsenic	13	16	1.3 U	1.4 U	1.1 U	1.3 U	1.3 U	**1.3 J**
Barium	350	400	**175**	**280**	**125**	**198**	**126**	**209**
Copper	50	270	**39.4**	**37.2**	**75.2**	**24.7**	**15.8**	**18.6**
Lead	63	400	**3.6**	**5.8**	**2.8**	**3.8**	**4.4**	**5.9**
Nickel	30	310	**35.3**	**47.7**	**19.4**	**32.1**	**30.8**	**39.3**
Zinc	109	10000	**73.3**	**107**	**50.1**	**75**	**48.4**	**69.7**

Notes:
Bold = Compound Detected
U = Compounds Not Detected
J = Estimated Concentration
Indicates compound Exceeds NYSDEC URSCO
Indicates compound Exceeds NYSDEC RRSCO

The pesticides 4,4- DDT was detected in borings SESI-SB-3(2'), SESI-SB-9(17') and SESI-SB(12), at concentrations exceeding its URSCO of 0.0033 mg/kg, but below its RRSCO of 7.9 mg/kg.

Table 5.3 Summary of Pesticides Exceeding the NYSDEC URSCOs

Analyte	Part 375-6.8(a) URSCO	Part 375-6.8(b) RRSCO	SESI-SB-3 (2')	SESI-SB-9 (17')	SESI-SB-29 (12')
SOIL BY 8081B (MG/KG)					
4,4'-DDT	0.0033	7.9	**0.0052 J**	**0.0049 J**	**0.0035 J p**

Notes:
Bold = Compound Detected
U = Compounds Not Detected
J = Estimated Concentration
Indicates compound Exceeds NYSDEC URSCO
Indicates compound Exceeds NYSDEC RRSCO

No exceedances of the VOCs or PCB SCOs were identified in any of the soil samples collected.

Sampling locations and concentrations of the SCO exceedances are identified in **Figure 4.1 in Appendix A**. Analytical data is presented in **Tables 2A through 2E in Appendix C**.

5.2 GROUNDWATER

Total of seven (7) permanent groundwater wells (MW-1 through MW-7) and six (6) temporary wells (GW-1 to GW-6) were sampled TCL VOCs, SVOCs, PCBs, pesticides, and metals. In addition, monitoring wells MW-2 and MW-4 were sampled for PFAS. Monitoring well MW-6 was also tested for Total petroleum hydrocarbons (TPH) diesel range organics (DRO) to confirm if the free product identified can be connected with the spill at 207 North Avenue.

Dissolved VOCs including benzene (110 ug/L), ethylbenezene (130 ug/L), isopropylbenzene (20 ug/L), toluene (240 ug/L), and o,m,p-xylenes (720 ug/L) were detected in the groundwater sample collected from monitoring well MW-6 at concentrations exceeding their AWQS of 1 ug/L for benzene and 5 ug/L for the other VOCs. However, MW-6 continued investigation and remediation will be addressed as part of the spill IRM. Isopropylbenzene was also detected in

monitoring well MW-1 (8 ug/L) and temporary well GW-6 (9 ug/L), which were installed in May 2019, exceeding its AWQS of 5 ug/L.

The dissolved CVOC cis-1,2-dichloroethene (cis-1,2 DCE) was detected in monitoring wells MW-1 (9.3 ug/L), MW-7 (14 ug/L), and temporary well GW-6 (5.96 ug/L) on the southern edge of the Site at concentrations exceeding its AWQS of 5 ug/L. The cis-1,2 DCE is a breakdown product of tetrachloroethene (PCE) and trichloroethene (TCE), which were also detected in these wells, but at concentrations below their AWQSs of 5 ug/L.

SVOCs including benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, ideno(1,2,3-cd)pyrene and 2,4-dimethylphenol were detected in groundwater samples collected from temporary wells GW-1 and GW-2 at concentrations exceeding their GA AWQS. Benzo(a)anthracene and benzo(b)fluoranthene were detected in permanent monitoring wells MW-3 and MW-4 at concentrations exceeding their AWQS. Finally, 2,4-dimethylphenol and benzo(a)anthracene were detected in permanent monitoring well MW-6 exceeding their AWQS. TPH DRO was identified at a concentration of 0.70 mg/L.

Several metals including arsenic, barium, beryllium, chromium, copper, iron, lead, magnesium, nickel, selenium, sodium, and thallium were also detected at levels that exceeded their AWQS in each of the groundwater samples for total metals analysis. However, the dissolved concentrations of these metals were below the AQWS. Exceedances of secondary metals such as iron, magnesium, manganese were detected in the dissolved samples.

The pesticide heptachlor was detected in temporary monitoring wells GW-2 (0.074 ug/L) and GW-3 (0.051 ug/L) at concentrations exceeding its GA AWQS of 0.04 ug/L.

No PCBs were detected in any of the groundwater samples.

Sampling locations and concentrations of the NYSDEC AWQS exceedances are identified in **Figure 4.2 in Appendix A**. Analytical data is presented in **Tables 3A through 3F in Appendix C**.

The following conclusions can be made based on the above groundwater results:

- Dissolved VOCs, SVOCs, and TPH DRO identified in MW-6 can be attributed to the oil spill at 207 Main Street. The source of these contaminants will be further remediated and residual impacts will be addressed in the continued IRM.

- Dissolved SVOCs identified in temporary wells GW-1, GW-2, and permanent wells MW-3 and MW-4 are generally consistent with SVOC concentration is soil detected on the northeastern portion of the property.
- The pesticide Heptachlor is not known to have been used on-site and was not detected in any soil on-site.
- Chlorinated VOCs were detected in the south and southwestern wells, that were installed in May 2019. The low detection levels and the type of the some COVCs, which are breakdown chemicals of other CVOCs (PCE and TCE) indicate that the source of CVOC is resulting from off-site.

5.3 SOIL GAS RESULTS

The soil vapor results are presented in **Figure 4.3 in Appendix A** and laboratory results are included in **Table 4 Appendix E**. The results were compared to the New York State Department of Health (NYSDOH) October 2006 air guideline values. A summary of results is presented on **Table 4 in Appendix C**.

CVOCs including, 1,1-dichloroethene, chloroform, and TCE were identified across the Site at concentration exceeding their respective NYSDOH . The highest concentration of CVOCs were detected in vapor samples SS-11, SS-12, and SS-13. TCE was identified at concentrations ranging from 76 ug/m3 (SS-12) to 200 ug/m3 (SS-13), exceeding its NYSDOH sub-slab vapor guidance value of 6 ug/m3.

The highest concentration of PHC VOCs were detected in vapor samples SS-9, SS-10, and SS-13. Benzene was detected at a concentration of 18 ug/m3 in vapor sample SS-10. In addition, ethylbenzene was detected at concentrations ranging from 39 ug/m3 in SS-13 to 1,300 ug/m3 in SS-9.

The following conclusions can be made based on the above groundwater results:

- The highest concentrations of CVOC in soil vapors were identified as TCE and were detected in SS-11 and SS-13 located on the northeastern portion of the Site.
- The highest concentration of PHC VOCs in soil vapors were identified as benzene (SS-10) and ethylbenzene (SS-9) detected in soil vapor on the northern portion of the Site.

6.0 INTERIM REMEDIAL MEASURES

SESI observed IRM activities including the removal of two (2) ASTs from the basement of 207 North Avenue and a fuel oil spill cleanup, and the removal of LNAPL from permanent monitoring well MW-6 and temporary monitoring wells TW-3 and TW-6 that were installed for delineation of the LNAPL. SESI will provide an IRM addendum upon completion of IRM activities.

The UST at 459 Main street was removed after the submission of the RIR in March 2019. Upon removal of the UST stained soils and odors were observed in the resulting excavation the NYSDEC Spills Hotline was called and Spill number 1901867 was assigned to the UST.

The UST remedial excavation continued until the field screening resulted in no visual impacts or PID readings. Then the following confirmatory post excavation samples were collected (the table of results and sample schematic are included in Appendix J):

- South side of the excavation, which was approximately 7-foot long: SW-S1 was collected on 05/22. SW-S2 was collected after further excavation to the south on 05/23.
- West side of the excavation, which was approximately 20-foot long: SW-W1 was collected on 05/22. SW-W2 was collected after further excavation to the west on 05/23
- East side of the excavation, which was approximately 20-foot long: SW-E1 was collected on 05/23.
- North side of the excavation, which was approximately 7-foot long: SW-N1 was collected on 05/23.
- Bottom: three samples BW-1, BW-2, and BW-3 were collected from the bottom of the excavation based on 1 sample per 5 linear feet of the UST, which was 11 foot-long.

As shown in the attached excel, the results of all the samples were below the unrestricted soil clean-up objectives (URSCO) for VOCs, SVOCs, PCBs, and pesticides. Based on these results and the field screening the soil remediation for the UST at 459 Main Ave is considered completed.

Samples SW-N1, BW-1, and BW-3 resulted in Nickel exceedances of the URSCO. These exceedances will be addressed in the RAWP.

7.0 REMEDIAL INVESTIGATION FINDINGS AND SUMMARY

7.1 CONCEPTUAL SITE MODEL

The soil and geotechnical investigation revealed that the entire Site is underlain with a thick contaminated fill layer that extends down as deep as 12 to 14 ft-bgs. Eight samples of the contaminated fill resulted in PAHs and metals (Lead, mercury, nickel and barium) exceedances of both the URSCOs and RRSCO. In addition, metal impacts to soil exceeding the Unrestricted SCOs were identified at depth of up to 22 ft bgs at several isolated locations of the Site.

The applicable standards criteria and guidance (SCGs) for the Site groundwater are the NYSDEC AWQS (cf. Section 703.5). The Site groundwater was impacted by discharges from the fuel oil spill, which will be addressed under a separate IRM report. Petroleum hydrocarbons (e.g. BTEXs and PAHs) were detected in the dissolved phase on the western portion of the Site groundwater at levels that exceed the NYSDEC AWQS.

IRM for LNAPL recovery has been implemented, and the remaining impacted source area soils and LNAPL will be removed as part of the planned remedial action. The detected PHC levels in groundwater are expected to decrease with time as a result of the ongoing remediation.

The site groundwater flow direction is to the east. The groundwater table is at 8-15 ft bgs. The range in groundwater depth is a result of the time of the year and the method (e.g. boring or permanent well) with which the groundwater depth was reported.

The pathway of the contaminated groundwater to human receptors is limited to the ingestion of the groundwater or direct exposure through excavation work. However, groundwater in this area of New Rochelle is not used for drinking. In addition, the impacted Site groundwater is not likely to have an ecological pathway.

Finally, the PHC VOCs detected in soil and PHC VOCs detected in soil vapor can result in soil vapor intrusion into the future on-Site buildings. While the NYSDOH guidelines do not include exceedances for the contaminants remaining in groundwater at the Site, the new 2015 EPA Vapor Intrusion Guidance document includes a much longer list of standards and at least a vapor barrier may be needed for this Site not only as a result of the residual PHC VOCs, but due to CVOCs detected in soil vapor Site. These PHC VOCs and CVOCs may result in soil vapor intrusion into the future on-Site buildings.

7.2 HUMAN HEALTH EXPOSURE ASSESSMENT

There are some exposure pathways related to the contamination if left unaddressed:

The PHC pathway into groundwater can be through direct physical contact with the discharged products or contact with the PHC impacted soils. However, the soil source and LNAPL will be removed through the IRM, therefore this pathway will be eliminated via the IRM activities. The pathway of the contaminated groundwater to human receptors is limited to the direct ingestion of the groundwater or direct exposure through excavation work. However, groundwater in this area in New Rochelle is not used for drinking water and once the site is redeveloped, excavation to the depths at which groundwater is present (between 12-14 feet) is unlikely. The groundwater will naturally attenuate with time and is not anticipated to be a pathway for human heath exposure.

PAHs and metal exceedances of the RRSCOs in the Site soil that consist of contaminated fill from 0 to approximately 14 feet below grade pose a risk to human health. The exposure pathway to humans can be through direct dermal contact with the contaminate soils or incidental ingestion.

The CVOC levels in the Site soil vapors were found to exceed the NYSDOH guidance values. In addition, the PHC VOCs exceed the EPA Target Sub Slab values for benzene, ethylbezene, butadiene, and 1,1-dichloroethene. The exposure route for soil vapor is through the inhalation of the contaminated soil vapor that may intrude into the enclosed spaces of any planned Site development.

7.3 FISH AND WILDLIFE IMPACT ANALYSIS

The Site does not contain any ecologically sensitive resources and hence the contaminated soils are not expected to have any impacts on any ecological resources.

7.4 DATA USABILITY SUMMARY REPORT

To validate laboratory analytical data, Data Usability Summary Reports (DUSR) for each laboratory analytical data package have been will be prepared. The reports are included as **Appendix F** to this report.

7.5 RECOMMENDATIONS

7.5.1 Summary of RI Results

The RI filled in the missing data gaps building on prior investigations and completed the nature and extent delineation in all on-site media of contamination at the Site to the extent required to determine a remedial action for the Site. Track 1 through 4 cleanup remedies will be evaluated in the Remedial Action Work Plan (RAWP).

The RI has also determined that there is a 12-14- foot thick contaminated fill layer underlaying the entire Site, which is found to be impacted with lead, mercury, nickel, barium and PAHs at levels impacting groundwater. In addition, metal exceedances of the URSCOs were found in certain spots of the Site.

In order to render the Site usable foe future development, the RAWP will address the remedial alternatives to limit the exposure to the impacted soils and mitigate the impact to groundwater from on-site sources. It will also address alternatives to mitigate exposures to any VOC vapor intrusion into the proposed development.

7.5.2 Data Limitations and Recommendations for Future Work

The RI results provide sufficient data to develop a feasible, conceptual remedy for the impacted groundwater and soils.

7.5.3 Recommended Remedial Action Objectives

The RI has determined that remedial action needs to be implemented to remediate the contaminated fill, which is cause an exposure and impact to groundwater risks. The specific alternatives proposed will be fully evaluated in the RAWP.

8.0 DEVIATIONS FROM THE RIWP

Field conditions have resulted in deviations from the proposed work at RIWP. The following is a list of the RIWP deviations and the corresponding reasons:

- Proposed monitoring wells MW-1 and MW-7 were not installed due to access constraints in the basement levels of buildings along Main Street. These wells will be installed once the buildings have been demolished and the elevations are brought up to grade. However, these were installed in May 2019 after the demolition of the buildings along Main Street.

9.0 REFERENCES

Phase I Environmental Site Assessment, 463 Main Street Property by Tim Miller Associates, Inc. (TMA), July 5, 2017

Phase I Environmental Site Assessment, 459 Main Street Property by TMA, August 15, 2017

Phase I Environmental Site Assessment, 455 Main Street Property by TMA, December 5, 2017

Phase I Environmental Site Assessment, 211 North Avenue Property by TMA, March 20, 2017

Phase I Environmental Site Assessment, 209 North Avenue Property by TMA, July 24, 2017

Phase I Environmental Site Assessment, 207 North Avenue Property by TMA, August 16, 2017

Phase II Environmental Site Assessment Report, 14 Le Count Place, 207, 209, and 211 North Avenue, 455, 459, and 463 Main Street by SESI Consulting Engineers, March 22, 2018

APPENDIX A
FIGURES

APPENDIX B
BORING/MONITORING WELL CONSTRUCTION LOGS

APPENDIX C
TABLES
(ELECTRONIC)

APPENDIX D
GROUNDWATER MONITORING WELL SAMPLING LOGS

APPENDIX E
LABORATORY ANALYTICAL REPORTS
(ELECTRONIC)

APPENDIX F
DATA USABILITY STUDY REPORT
(ELECTRONIC)

APPENDIX G
Air MONITORING AND ASBESTOS ABATEMENT REPORTS
(ELECTRONIC)

APPENDIX H
PREVIOUS ENVIRONMENTAL REPORTS
(ELECTRONIC)

APPENDIX I
WASTE CHARACTERIZATION DATA
(ELECTRONIC)

APPENDIX J

459 Main Street UST Sample Schematic and Lab Results