PHASE II ENVIRONMENTAL SITE INVESTIGATION REPORT

for

East Adams Redevelopment - Phase IV Area
Weiser Court
Syracuse, New York

Prepared for:

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1.0 INTRODUCTION

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan) prepared this Phase II Environmental Site Investigation (ESI) report on behalf of McCormack Baron Salazar Development, Inc. (MBSDI) for the East Adams Redevelopment – Phase IV Area property located at Weiser Court in Syracuse, Onondaga County, New York (the "site").

This Phase II ESI was conducted to investigate the recognized environmental conditions (REC) identified in the September 15, 2025 Phase I Environmental Site Assessment (ESA) prepared by Langan and to satisfy United States Department of Housing and Urban Development (HUD) and National Environmental Policy Action (NEPA) requirements.

This Phase II ESI, completed between September 15 and 19, 2025, included a geophysical survey, advancement of soil borings, installation of temporary groundwater monitoring wells and soil vapor points, and laboratory analysis of soil, groundwater, and soil vapor samples.

This report is organized in the following sections:

- Section 2.0 Background: Describes the site background
- Section 3.0 Field Investigation: Presents the Phase II ESI methodology
- Section 4.0 Observations and Results: Presents the findings of the Phase II ESI
- Section 5.0 Conclusions: Presents conclusions based on the findings
- Section 6.0 Limitations: Presents the limitations of this report

2.0 BACKGROUND

2.1 Site Location and Description

The about 3.3-acre site is located at Weiser Court and is identified as the northern part of Onondaga County Tax Parcel ID Section 095, Block 07, Lot 01.0, in Syracuse, New York. The site is identified as part of the Pioneer Homes housing development and is improved with six two-story residential row-house buildings and two three-story apartment buildings. The remainder of the site comprises asphalt-paved parking lots, landscaped areas, and concrete-paved sidewalks. The site is bound by East Adams Street to the north, South McBride Street to the east, Monroe Street to the south, and South Townsend Street to the west. A Site Location Map is included as Figure 1.

According to the United States Geological Survey (USGS) Syracuse East Quadrangle 7.5-minute Series Topographic Map, the elevation of the site is about 400[1] feet above mean sea level (msl) and is generally flat. The regional topography slopes downward toward the west and the Onondaga Creek, which is located approximately 0.4 miles west of the site. The site is within a suburban area characterized by commercial and residential buildings, private and public institutions, and preserved land.

2.2 Recognized Environmental Conditions

Langan's September 15, 2025 Phase I ESA identified the following RECs associated with the site:

Historical Use of the Site: Historic use of the site included a tin shop (1982 to 1910) and a school that contained coal burning furnaces (1910 to 1938). Inadvertent releases of petroleum products, chemicals, or other hazardous substances resulting from historical operations may have affected soil, groundwater, and/or soil vapor at the site.

Historic Infilling of the Site: According to the U.S. Department of Agriculture's (USDA) data for Onondaga County, the site is likely underlain by a layer of non-native fill. Additionally, historic Sanborn maps indicate the presence of historical structures which were likely demolished and comingled with non-native fill. Non-native fill found in urban environments typically contains ash, demolition debris, and/or municipal waste products and may contain contaminants (e.g., semi volatile organic compounds [SVOCs] or metals) at concentrations above applicable regulatory standards.

The Phase I ESA is provided in Appendix A.

2.3 Geology

According to the USDA Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) data for the subject property, soils at the site are comprised primarily of urban land. Urban land is described as excavated, filled, and made land.

[1] Elevations in this report refer to North American Vertical Datum of 1988 (NAVD88), which is about 1.1 feet above mean sea level at Sandy Hook, New Jersey.

Based on review of the USGS "Geologic Map of New York, Finger Lakes Sheet (Fisher, Isachsen, Rickard, dated March 1970)", the site is underlain by bedrock of the Syracuse Foundation, consisting of dolostone, shale, gypsum and salt. Geological surface features (e.g., rock outcroppings) were not observed on the site.

2.4 Hydrogeology

Groundwater flow is typically topographically influenced because shallow groundwater tends to originate in areas of topographic highs and flow toward areas of topographic lows, such as rivers, stream valleys, ponds, and wetlands. A broader, interconnected hydrogeologic network often governs groundwater flow at depth or in the bedrock aquifer. Groundwater depth and flow direction are also subject to hydrogeologic and anthropogenic variables such as precipitation, evaporation, extent of vegetative cover, and coverage by impervious surfaces. Other factors influencing groundwater include depth to bedrock, artificial fill, and variability in local geology and groundwater sources or sinks. Langan observed groundwater between about 7.1 to 11.91 feet below grade surface (bgs) during the Phase II ESI.

3.0 FIELD INVESTIGATION

The Phase II ESI included a geophysical survey, advancement of ten soil borings, and installation of four temporary groundwater monitoring wells and four temporary soil vapor points across the site. Soil, groundwater, soil vapor, and ambient air samples were collected for laboratory analysis. The Phase II ESI field work was completed between September 15 and 18, 2025.

Soil boring, monitoring well, soil vapor and ambient air sampling locations are shown on Figure 2, and a summary of samples and associated laboratory analyses is included as Table 1. A photograph log documenting the Phase II ESI is included as Appendix B.

3.1 Geophysical Survey

Prior to intrusive sampling, SoftDig Underground Services Inc, (SoftDig) of West Chester, Pennsylvania completed a geophysical survey of proposed sample areas between September 12 and 18, 2025. The survey included ground-penetrating radar (GPR) and electromagnetic (EM) detectors to locate potential subsurface utilities, underground storage tanks, and subsurface structures in the vicinity of proposed boring locations. A copy of the geophysical survey map is included in Appendix C.

3.2 Soil Investigation

Ten soil borings (P4SB01 through P4SB10) were advanced by Atlantic Testing Laboratories, Ltd. (ATL) of Canton, New York between September 15 and 18, 2025. Langan field personnel were on-site to document field observations and collect soil samples. Soil borings were advanced using a Geoprobe 7822DT direct push drill rig to depths of about 10 to 15 feet bgs. Soil samples were collected continuously into 5-foot-long Macro-Core® sample barrels lined with dedicated acetate sleeves.

Langan visually classified the soil samples from borings for soil type, grain size, texture, and moisture content, and screened each soil sample for visual, olfactory, and instrumental evidence of a chemical or petroleum release. Instrumental screening for the presence of organic vapors was performed using a photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp. Two soil samples were collected from each boring location. The first sample was collected from the surficial soil interval (0 to 2 feet bgs), and the second sample was collected from a representative location in the uncontrolled fill layer.

Samples submitted for analysis of volatile organic compounds (VOC) were collected directly from the acetate liner into laboratory-supplied TerraCore® soil samplers. The remaining sample volume was homogenized and placed in laboratory-supplied containers for additional analyses. The sample containers were labeled, placed in a laboratory-supplied cooler, and packed on ice to attempt to maintain a temperature of about 4°C. The samples were picked up and delivered by courier to Pace Analytical, Inc. (Pace) under standard chain-of-custody protocol. Pace is a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory in Westborough, Massachusetts.

Soil samples were analyzed using one or more of the following methods:

- NYSDEC Part 375 list and Target Compound List (TCL) VOCs by United States Environmental Protection Agency (USEPA) method 8260
- NYSDEC Part 375 list and TCL semivolatile organic compounds (SVOC) by USEPA method 8270
- Polychlorinated biphenyls (PCB) by USEPA method 8082
- NYSDEC Part 375 list and TCL pesticides by USEPA method 8081
- NYSDEC Part 375 list and TCL herbicides by USEPA method 8151
- Target Analyte List (TAL) metals (including hexavalent and trivalent chromium and cyanide) by USEPA methods 6010, 7196, 7471 9010, 9012, and 2540

After sample collection, ATL backfilled borings with non-impacted soil cuttings and restored the boring to its original surface conditions (e.g., patched with asphalt). Soil boring logs are included in Appendix D.

3.3 Groundwater Investigation

ATL converted four soil borings (P4SB01, P4SB03, P4SB07, P4SB08) into temporary groundwater monitoring wells (P4TMW01, P4TMW03, P4TMW07, P4TMW08) by advancing a 4-inch direct push drill to about 15 feet bgs. Monitoring wells consisted of about ten feet of 1-inch polyvinyl chloride (PVC) 20-slot (0.020-inch) well screen connected to about five feet of solid 1-inch PVC riser pipe. The well screens were installed from about 5 to 15 feet bgs with riser from 5 feet bgs to grade surface. The annular space of the monitoring well was backfilled with No. 1 sand to about 1 foot bgs. Following installation, Langan purged each well to remove any accumulated sediments and debris. After purging and groundwater sampling, monitoring wells were removed by ATL and the boring was backfilled. Monitoring well construction logs and groundwater sampling logs are included in Appendix E.

Langan collected one groundwater sample from monitoring well P4TMW07 for laboratory analyses. Due to clayey soil conditions and poor recharge, the remaining wells could not be sampled. Monitoring wells were gauged with an oil-water interface probe to record a depth to groundwater reading and for free product. Well headspaces were also screened with a PID. Before collecting a groundwater sample, Langan monitored groundwater-quality parameters (pH, conductivity, turbidity, dissolved oxygen, temperature, and oxidation-reduction potential) while purging monitoring well P4TMW07. Groundwater quality measurements could not be collected from the remaining wells.

The sample from P4TMW07 was collected with a peristaltic pump and dedicated polyethylene tubing, directly from the pump effluent into laboratory-supplied containers and delivered via courier to Pace under standard chain-of-custody protocol. Purged groundwater was containerized into a labeled 55-gallon drum staged at the East Adams Redevelopment – Phase VIII Area property for future off-site disposal at a permitted facility (Section 3.5).

The sample containers were labeled, placed in a laboratory-supplied cooler, packed on ice to maintain a temperature of about 4 °C, and delivered by courier to Pace under standard chain-of-custody protocol.

The groundwater sample was analyzed for NYSDEC Part 375 list and TCL VOCs by USEPA method 8260.

3.4 Soil Vapor Investigation

ATL installed four temporary soil vapor points (P4SV01, P4SV03, P4SV07, P4SV08) in accordance with the October 2006 NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York with updates (2017, 2024). Soil vapor implants were installed to about 5 feet bgs using a track-mounted Geoprobe 7822DT drill rig. Each soil vapor collection probe consisted of a 1.875-inch polyethylene implant and dedicated teflon-lined polyethylene tubing. The annulus around the soil vapor implant and tube was filled with a clean, coarse sand pack followed by a hydrated bentonite seal to surface grade. Hydrated bentonite was also used to create a seal around the tubing at the surface of the soil vapor point.

A helium tracer gas was used in accordance with the NYSDOH protocols to serve as quality assurance/quality control (QA/QC) technique to document the integrity of the seal at each sampling point before and after sampling. The tracer gas was introduced into an overturned container, sealed at the ground surface with bentonite, which acted as a shroud for the vapor point and seal. Helium was measured from the sampling tube and inside the container with an MGD-2002 helium-leak detector. If the sample tube contained more than 10% of the tracer gas concentration introduced into the container, the seal was considered compromised and was enhanced or reconstructed to reduce air infiltration in the subsurface. All sample points had sufficiently tight seals.

Before collecting vapor samples, a minimum of three implant volumes (i.e., the volume of the sample probe and tube) were purged from each sample port at a rate of 200 milliliters per minute (mL/min) using a RAE Systems MultiRAE® Plus meter. The purged soil vapor was monitored for VOCs during purging using the MultiRAE® Plus meter.

One ambient air sample (P4AA01) was collected concurrently with and for the duration of the soil vapor samples. P4AA01 was collected about 4.5 feet above the ground to represent the breathing zone.

Soil vapor and ambient air samples were collected into laboratory-supplied, batch-certified clean, 6-liter Summa® canisters with flow controllers calibrated for a 2-hour sample interval. Summa® canisters were labeled and delivered by courier to Pace under standard chain-of-custody protocol. Soil vapor and ambient air samples were analyzed for VOCs by USEPA Method TO-15.

After sample collection, the sampling media (probes, tubes, etc.) were removed, the sample locations were backfilled to grade with clean soil cuttings, clean sand, and/or bentonite grout, and the holes were patched at grade with asphalt (where applicable). Soil vapor point construction logs and soil vapor and ambient air sampling logs are included in Appendix F.

3.5 Investigation-Derived Waste Management

Langan containerized investigation-derived waste (IDW), consisting of purged groundwater into one labeled and sealed 55-gallon drum. The drum is staged at the East Adams Redevelopment – Phase VIII Area site pending transport by a licensed waste hauler for disposal at an approved facility.

4.0 OBSERVATIONS AND RESULTS

4.1 Geophysical Survey

The geophysical survey identified municipal water, sewer, electric, telecom, drainage and unknown utility lines entering and throughout the subsurface of the site. Geophysical anomalies indicative of underground storage tanks (UST) were not identified; however, subsurface interference was encountered throughout the site due to clayey subsurface conditions. A copy of the geophysical survey map is included in Appendix C.

4.2 Subsurface Observations

The site is underlain by non-native fill, predominantly consisting of brown to gray fine-grained sand with varying amounts of gravel and clay that extends from grade surface to approximately 2 feet bgs. Gray and brown clay with varying amounts of fine sand was observed below the uncontrolled fill layer and was densely packed. Evidence of impacts (i.e., visual, olfactory, and/or PID readings above 0.0 parts per million [ppm]) were not observed in the boring locations. Bedrock was not encountered during the Phase II ESI.

Groundwater was observed between 7.10 to 11.91 feet bgs in temporary monitoring wells across the site. The well headspaces were screened with a PID prior to purging; organic vapors were not observed from the well headspaces, and impacts to purged groundwater (e.g., odors, sheen) was not observed. Poor groundwater recharge was observed site-wide, likely due to the dense clay material present at the site. The inferred regional groundwater flow direction for the area surrounding the site is to the west.

4.3 Soil Sample Results

Soil sample analytical results were compared to the NYSDEC Title 6 of the New York Codes, Rules and Regulations (NYCRR) Part 375 Unrestricted Use (UU) and Restricted Use Restricted-Residential (RURR) Soil Cleanup Objectives (SCO). Ranges of compounds detected at concentrations above the SCOs are listed below. RURR SCO exceedances are in bold text.

<u>SVOCs</u>

- Benzo(a)anthracene: **1.4 milligrams per kilogram (mg/kg)** in P4SB09_0-1 to **10 mg/kg** in P4SB06_1-2
- Benzo(a)pyrene: **1.3 mg/kg** in P4SB09_0-1 to **8.3 mg/kg** in P4SB06_1-2
- Benzo(b)fluoranthene: **1.1 mg/kg** in P4SB05_1-2 to **10 mg/kg** in P4SB06_1-2
- Benzo(k)fluoranthene: 1.9 mg/kg in P4SB02_1-2 to 3.3 mg/kg in P4SB06_1-2
- Chrysene: **1.4 mg/kg** in P4SB09_0-1 to **8.5 mg/kg** in P4SB06_1-2
- Dibenzo(a,h)anthracene: **0.77 mg/kg** in P4SB02_1-2 to **1.3 mg/kg** P4SB06_1-2
- Indeno(1,2,3-c,d)pyrene: **0.56 mg/kg** in P4SB05_1-2 to **4.9 mg/kg** in P4SB06_1-2

<u>Metals</u>

- Arsenic: 13.3 mg/kg in P4SB04 1-2 to **18 mg/kg** in P4SB08_1-2
- Barium: 390 mg/kg in P4SB04_1-2

- Copper: 113 mg/kg in P4SB04_1-2 to 143 mg/kg in P4SB06_1-2
- Lead: 92.1 mg/kg in P4SB01_1-2 to **954 mg/kg** in P4SB04_1-2
- Mercury: 0.202 mg/kg in P4SB09_0-1 to **2.45 mg/kg** in P4SB04_1-2
- Nickel: 31.4 mg/kg in P4SB01_1-2 to 35.5 mg/kg in P4SB03_0-1
- Zinc: 112 mg/kg in P4SB08_1-2 to 309 mg/kg in P4SB04_1-2

Pesticides

- 4,4'-DDE: 0.0039 mg/kg in P4SB01_1-2 to 0.00748 mg/kg in P4SB09_0-1
- 4,4'-DDT: 0.0054 mg/kg in P4SB01_1-2 to 0.0163 mg/kg in P4SB09_0-1

VOCs, herbicides, and PCBs were not identified at concentrations above the UU or RURR SCOs. Soil sample analytical results are shown in Table 2, and analytical laboratory reports are included in Appendix G.

4.4 Groundwater Sample Results

Groundwater sample analytical results were compared to the NYSDEC Title 6 NYCRR Part 703.5 and the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values for Class GA water (collectively referred to as SGVs).

Due to low sample volume, groundwater was only analyzed for TCL VOCs in one temporary monitoring well, P4TMW07. VOCs were not detected at concentrations above the SGVs. Groundwater sample analytical results are shown in Table 3, and analytical laboratory reports are included in Appendix G.

4.5 Soil Vapor Sample Results

There are no standards established for soil vapor in New York State; however, the NYSDOH has developed guidance documents addressing the risk of vapor intrusion into buildings from detected concentrations. The soil vapor and ambient air sample results were compared to the Decision Matrices provided in the October 2006 NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York Decision Matrices for Sub-Slab Vapor and Indoor Air and subsequent updates (2017, 2024).

NYSDOH Decision Matrices evaluate eight chlorinated volatile organic compounds (CVOC) and 13 petroleum-related VOCs using six matrices that evaluate the relationship between soil vapor and indoor air concentrations and provide recommendations for actions such as monitoring or mitigation. Soil vapor samples were compared against the matrix values for which monitoring or mitigation may be recommended; however, these recommendations are dependent not only on sub-slab concentrations but also on indoor air concentrations.

Total VOCs detected in soil vapor samples ranged between 79.219 micrograms per cubic meter ($\mu g/m^3$) in P4SV07 to 787.015 $\mu g/m^3$ in P4SV08. Of the eight CVOCs and 13 petroleum-related VOCs that are evaluated under the NYSDOH Decision Matrices, 1,2,4-trimethlybenzene (1,2,4-TMB), 1,3,5-trimethylbenzene (1,3,5-TMB), 2,2,4-trimethlypentane (2,2,4-TMP), benzene, cyclohexane, ethylbenzene, m,p-xylene, n-heptane, n-hexane, o-xylene, and toluene were detected in the soil vapor samples. The following is a summary of concentration ranges for the detected matrix compounds in soil vapor samples:

Compound	NYSDOH Decision Matrices Minimum Concentration (µg/m³)	Soil Vapor Concentration Range (µg/m³)	Number of Detections
1,2,4-TMB	60	7.62 (P4SV08) – 8.26 (P4SV07)	4
1,3,5-TMB	60	1.55 (P4SV03) – 2.43 (P4SV07)	4
2,2,4-TMP	60	4.76 (P4SV03)	1
Benzene	60	0.891 (P4SV07) – 2.18 (P4SV08)	4
Cyclohexane	60	0.726 (P4SV01) – 1.16 (P4SV08)	3
Ethylbenzene	60	0.977 (P4SV03) – 2.05 (P4SV08)	4
m,p-Xylene	200	4.05 (P4SV03) – 8.69 (P4SV07)	4
n-Heptane	200	1.16 (P4SV01)	1
n-Hexane	200	2.34 (P4SV07) – 7.72 (P4SV03)	4
o-Xylene	60	2.73 (P4SV03) – 5.38 (P4SV07)	4
Toluene	300	2.1 (P4SV07) – 693 (P4SV08)	4

1. µg/m³ – microgram per cubic meter

When 1,2,4-TMB, 1,3,5-TMB, 2,2,4-TMP, benzene, cyclohexane, ethylbenzene, m,p-xylene, n-heptane, n-hexane, and o-xylene are evaluated against the minimum mitigation threshold concentrations using the NYSDOH Decision Matrices, no further action is recommended; however, when toluene is evaluated against the NYSDOH Decision Matrices, mitigation is recommended. The Phase II investigation did not include the collection of indoor air samples so the matrix could not be applied as fully intended in the guidance.

Soil vapor and ambient air sample analytical results are shown in Table 4, and analytical laboratory reports are included in Appendix G.

5.0 FINDINGS AND CONCLUSIONS

The following is a summary of Phase II ESI findings and conclusions:

- The geophysical survey identified municipal water, sewer, electric, telecom, drainage and unknown utility lines entering and throughout the site. Geophysical anomalies indicative of USTs were not identified; however, subsurface interference was encountered throughout the site due to clayey subsurface conditions.
- The site is underlain by non-native fill, predominantly consisting of brown to gray fine-grained sand with varying amounts of gravel and clay that extends from grade surface to approximately 2 feet bgs. Gray and brown clay with varying amounts of fine sand was observed below the uncontrolled fill layer and was densely packed. Bedrock was not encountered during the Phase II ESI. Evidence of impacts (i.e., odors, staining, and organic vapors) was not observed.
- Soil analytical results identified SVOCs, metals, and pesticides above UU and/or RURR SCOs. Impacts may be attributed to historic site operations and/or historic infilling of the site.
- VOCs were not detected above the SGVs in the groundwater sample. Additional groundwater analysis could not be completed due to poor recharge from the monitoring wells, likely the result of the dense clay subsurface conditions.
- Total VOCs were detected in soil vapor at concentrations ranging from 79.219 µg/m^3 in P4SV07 to 787.015 µg/m^3 in P4SV08. When soil vapor concentrations are evaluated against the minimum mitigation threshold concentrations using the NYSDOH Decision Matrices, recommendations range between "no further action" to "mitigate" for occupied structures.

6.0 RECOMMEDATIONS

SVOCs, metals, and pesticides were detected at concentrations exceeding the UU and/or RURR SCOs throughout the site. At a minimum, these areas should be delineated, excavated and removed from the site as part of future development in accordance with MBSDI policy. Any soil exported from the property during construction must be characterized, profiled, and properly disposed in accordance with the project specifications and applicable local, state, and federal regulations, including the revised Title 6 of the New York Codes, Rules, and Regulations (NYCRR) Part 360. Trucks used to haul material off-site may require NYSDEC Part 364 transporter permits.

One groundwater sample was analyzed for TCL VOCs as part of the Phase II ESI. Additional sampling may be required if dewatering is anticipated for the future development.

One petroleum-related VOC, toluene, was identified in soil vapor at concentrations that may warrant mitigation. Installation of a sub-membrane depressurization system (SSDS) beneath future structures is recommended to mitigate potential for vapor intrusion. Indoor air testing may be required prior to building occupancy to ensure adequate vacuum conditions beneath the building foundation. The system should also be compatible with requirements for radon mitigation systems, as the site is located within Radon Zone 1.

Based on the presence of contaminants of concern in soil above applicable regulatory standards related to former historic operations of the site, application to the NYSDEC Brownfield Cleanup Program (BCP) is recommended.

7.0 LIMITATIONS

This report was prepared expressly for MBSDI for the East Adams Redevelopment - Phase IV Area property, located at Weiser Court in Syracuse, New York, and for the objectives defined here. Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions. Even a comprehensive sampling and testing program implemented in accordance with a professional standard of care may fail to detect certain conditions. The environmental, geologic, geotechnical, geochemical, and hydrogeologic conditions that Langan interprets to exist between sampling points may differ from those that actually exist. Actual conditions will vary from those encountered at the locations where borings, sampling, surveys, observations or explorations are made by Langan or its subcontractors and the data, interpretation, and recommendations of Langan are based solely on the information available to it. Furthermore, the passage of time, natural occurrences, and/or direct or indirect human intervention at or near the site may substantially alter discovered conditions. Langan cannot be responsible for interpretations by others of the information Langan develops or provides to MBSDI without specific written authorization from Langan.