PRELIMINARY PHASE II ENVIRONMENTAL SITE ASSESSMENT

of the

Proposed Solar Street Office Development

901 North Clinton Street [P/O Tax Map No. 117.-06-01.2]
931 North Clinton Street [Tax Map No. 117.-02-03.0]
967 North Clinton Street [P/O Tax Map No. 117.-02-02.0]
City of Syracuse, Onondaga County, New York

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TDK Project No. 2019070

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1.0 SUMMARY

TDK Engineering Associates, P.C. (TDK) has performed a preliminary Phase II Environmental Site Assessment (ESA) on a 7.1-acre parcel located at 901, 931 and 967 North Clinton Street in the City of Syracuse, Onondaga County, New York (Site). The Site is located in a mixed commercial and industrial use area. The ESA was performed at the request of Holder Properties, Inc. / HP Syracuse, LLC (Holder). The primary objective of the ESA was to obtain information concerning the potential presence of contaminated media, which would require specialized handling and management and therefore hinder redevelopment of the Site and warrant consideration for entry into the New York State Department of Environmental Conservation's (DEC's) Brownfield Cleanup Program (BCP).

Historic occupancy of the majority of the Site has included a petroleum bulk storage facility which was part of a larger overall collection of bulk storage terminals commonly referred to as "Oil City". In addition, an industrial building which housed the Easy Washing Machine Corporation and Furne Factory was partially located at the south corner of the Site.

Contaminants including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and regulated metals have been reported in the soils on all three parcels comprising the site, at concentrations which preclude relocation of surplus soils to a non-landfill or beneficial use determination (BUD) site. The DECs Commercial Use Soil Cleanup Objectives (SCOs) for VOCs and SVOCs and a regulated metal (arsenic) were also exceeded. The adversely impacted soils are present at construction depths within the proposed building area and will require disposal at a DEC-permitted landfill. Preliminary earthwork calculations indicate that approximately 13,000 cubic yards of surplus soils will require specialized handling and disposal.

Note that the above restrictions regarding soil management pertain only to relatively deeper soils which were present during operation of the petroleum bulk storage facility and are positioned at depths below soils that were imported to the Site in 2014-2015, as part of an approved BUD program. It is anticipated that further testing of the upper soils will be performed to assess their suitability for relocation to a non-landfill site.

Analytical data for groundwater within the building construction zone also indicates the presence of VOC, SVOC and regulated metals at levels exceeding DEC groundwater standards. The depth to groundwater in the currently proposed building area is relatively shallow (i.e., 4 feet) and as such, construction operations (e.g., excavation of pile caps, utilities) will require containment and treatment or off-site disposal of a likely substantial quantity of adversely impacted groundwater.

It is TDK's opinion that the project Site is impacted by contaminants that exceed applicable Standards, Criteria and Guidance values and that coupled with the historic use of all three parcels, will complicate the redevelopment of this vacant Site.

2.0 Introduction

2.1 OBJECTIVES

TDK Engineering Associates, P.C. (TDK) was retained by Holder Properties, Inc. / HP Syracuse, LLC (Holder) to perform a preliminary Phase II Environmental Site Assessment (ESA) on a 7.1-acre site located at 901, 931 & 967 North Clinton Street in the City of Syracuse, Onondaga County, New York (Site).

The objectives of the ESA program were as follows:

- 1. To determine if contamination is present at levels exceeding New York State Department of Environmental Conservation (DEC) soil cleanup objectives (SCOs) or other health-based or environmental standards, criteria or guidance values and as such, is hindering commercial redevelopment of the site.
- 2. To obtain information concerning the extent to which specialized management of contaminated soils (e.g., disposal at permitted facilities or relocation to approved Beneficial Use Determination (BUD) site) will be required during construction of site improvements.

2.2 SCOPE OF WORK

The preliminary Phase II ESA was conducted in general conformance with ASTM E1903 Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process. The ESA incorporated a historical records review, soil boring program and analysis of soil and groundwater samples. A brief overview of each of these elements is provided below.

2.2.1 Historical Records Review

Records were reviewed from pertinent state, federal and tribal environmental databases (ASTM radius search), in addition to a Phase I ESA report prepared by JMT of New York, Inc. (JMT)¹. The Phase I ESA report is attached [Appendix 2].

Freedom of Information Law (FOIL) requests specific to the *Property* were made to the New York State Department of Environmental Conservation (DEC) and the New York State Department of Health (NYSDOH) regional offices, in addition to the Onondaga County Department of Health (OCDOH) and the City of Syracuse.

2.2.2 Drilling Program

A total of fourteen soil borings were advanced on the property from July 16 - 22 as part of a combined environmental and geotechnical investigation drilling program. Nine (9) of the borings were designated

¹ Phase I Environmental Site Assessment – Solar/Court Street Area – Parcel 117.-02-03 and Portions of Parcels 117.-06-01.2 and 117.-02-02, prepared by JMT, JMT Project No. 19-03434-001, dated January 2020.

as environmental borings and five (5) were geotechnical investigation borings. Note however, that environmental screening and/or sampling was also performed within the upper soils (i.e., 15 to 20 feet) of the geotechnical borings. Two temporary PVC groundwater monitoring wells were also installed at the Site.

2.2.3 Analytical Program

Based on the site history, a total of seventeen (17) soil samples and three (3) groundwater samples were obtained from the soil borings and temporary wells and submitted to a New York State Department of Health (NYSDOH) ELAP-approved laboratory for volatile organic compound (VOC), semi-volatile organic compound (SVOC), metals and/or PCB analysis.

3.0 BACKGROUND INFORMATION

3.1 REGIONAL LOCATION AND PHYSICAL DESCRIPTION

The proposed Brownfield Cleanup Program (BCP) Site is located within the former Oil City – Inner Harbor area of the City of Syracuse (City), Onondaga County, New York (Site) and is comprised of the following parcels:

P/O Tax Parcel 117.-06-01.2 – 901 North Clinton Street (5.4 acres)
 Current Owner: JPD Corporation
 ["JPD Parcel"]

Tax Parcel 117.-02-03.0 – 931 North Clinton Street (1.0 acre)
 Current Owner: Sunnydale Corporation
 ["Sunnydale Parcel"]

• P/O Tax Parcel 117.-02-02.0 – 967 North Clinton Street (0.7 acre) Current Owner: Emerald Point, Inc.
["Emerald Parcel"]

Note that when P/O is indicated, it reflects that only a portion of the overall tax parcel is included within the proposed BCP site.

All three parcels are situated on the northeast side of Solar Street, at the north intersection of West Court and Solar Streets. It is anticipated that the majority of the building and site development will occur on the 901 and 931 North Clinton Street parcels, near the intersection of Court and Solar Streets. The overall limits of the proposed BCP site encompass an area of 7.1 acres.

The surrounding property uses are mixed commercial and industrial. Interstate Route 81 is positioned approximately 200 to 400 feet east of the Site and can be accessed through West Court Street, which borders the eastern boundary of the Site.

The majority of the Site ground surface slopes downward to the south, toward the Inner Harbor area of Onondaga Lake. The elevation of the Site ranges from approximately 392 at the northeastern limits of the Site (i.e., connection to North Clinton Street), to elevation 374 along Solar Street². The Site is not positioned within a flood hazard area. No federal wetlands are present within or immediately adjacent to the Site and no DEC wetlands are present within ½ mile of the Site.

Refer to the Preliminary Site Investigation Plan [Sheet SI-1] regional Site Location Map [Sheet LM-1] and Adjacent Property Map [Sheet AP-1] in Appendix 1 for additional information.

3.2 SITE HISTORY

3.2.1 Industrial Occupancy

Two of the Site parcels (i.e., Sunnydale and Emerald) have a history of petroleum bulk storage-related activities dating from the 1930s through the 1980s. Based on environmental lien records included within the previously referenced ESA, petroleum distribution companies which either owned or operated facilities within the Site have included Canada Oil Company, Chevron USA, Inc., Socony-Vacuum Oil Company, Tide Water Associated Oil Company, Texas Oil Company and Gulf Oil Corp.

The above-ground petroleum storage tanks (ASTs) were removed from the Site from about the mid-1990s to mid-2000s. The approximate locations of historic petroleum storage and handling operations, relative to the Site limits are shown on Sheet SI-1 [Appendix 1]. Note that the tank farm from the Emerald parcel straddles or is in close proximity to the proposed northwestern Site boundary.

At least four petroleum spills (DEC No.'s 8902164, 8401284, 8403344 and 8702207) have been reported in connection with the Site. A fifth spill (No. 1101997) was reported in connection with the JPD parcel, however it reportedly did not occur within the Site limits. All of the above spills have been closed by the DEC; however, the currently available records do not provide any information concerning the presence/extent of residual contamination in connection with the reported spills.

Historic occupants of the southernmost (JPD) parcel have included the Easy Washing Machine Corporation (1930s through the 1950s) and the Furne Factory (1950s through 1970s). West Court Street also traversed a section of the JPD parcel from the 1960s through 1990s. Environmental studies conducted by Delta Environmental Consultants (2006) and C&S Engineers (2014) on this parcel reported prior plant operations for both companies that included electroplating, solvent degreasing with 1,1,1 Trichloroethane (with outside bulk storage), heat treating, machining and painting. Findings from

² Ref: Topographic and Boundary Survey – Lands Now or Formerly of Destiny USA Land Company, LLC, Dembo Development Associates, Inc., Lansing Group Inc., Emerald Point, Inc., Sunnydale Corporation, and JPD Corp., prepared by C.T. Male Associates, CT Male Project No. 02.8071, Drawing No. 12-0276, dated 06/05/12 (Revised 3/22/16) – Datum converted from City of Syracuse to NGVD29.

these studies indicated that soil and groundwater had been impacted by VOCs, chlorinated VOCs and SVOCs. These reports indicated consistent findings summarized as follows³:

A review of the soil analytical data from the 2006 site investigation indicated that chlorinated volatile organic compounds (CVOCs) including; Tetrachloroethene, Trichloroethylene, 1,2-Dichloroethene, Vinyl Chloride and 1, 1, 1-Trichloroethane were the predominant compounds detected in the majority of soil samples collected at the site. VOCs including acetone and methylene chloride, which are common parts cleaners, degreasers and paint strippers were also detected in approximately one-half of the soil samples.

Refer to JMTs Phase I ESA report [Appendix 2], Historic Sanborn Fire Insurance Maps [Appendix 3] and Aerial Photographs [Appendix 4] for additional information.

3.2.2 Historic Filling Operations

Prior to occupancy by the petroleum bulk storage facility (i.e., during early 1900s), waste materials (e.g., "Solvay waste") which potentially contained currently regulated contaminants (e.g., mercury) was disposed of at the site.

Other past Site filling operations, circa 2014-2015 have included the relocation of soils from several nearby (i.e., ¼ to ½ mile to the northwest) BCP sites that were established in connection with the construction of Destiny Mall and support features under the DEC's Beneficial Use Determination (BUD) program⁴.

The imported material was place on top of the previously existing ground surface to thicknesses ranging from 1 to 7 feet. Contaminants associated with the relocated soils included regulated VOCs, SVOCs, Metals and PCB's. Some of the material had reportedly been subject to bioremediation prior to final grading, however the limits of remediated soils and/or locations of residual contaminants relative to the Site limits cannot be discerned from the information that is currently available. Refer to JMT's Phase I ESA Report [Appendix 2] for additional information.

3.2.3 Restrictive Covenants

Deed records dating back to the 1950s include establishment of easements for the installation of petroleum supply pipelines. Restrictive covenants established in 2014 prohibit the use of groundwater under the Site unless permission is obtained from the DEC. The Emerald parcel is also subject to a restriction regarding the construction of a residence, hospital, school or clinic on the property.

³ Ref: Phase II Environmental Site Assessment – 128 Spencer St., Syracuse, New York, prepared by C&S Engineers, dated December 2014.

⁴ BUD No. 1091-7-34.

4.0 SAMPLING AND ANALYSIS PROGRAM

4.1 SOIL BORING PROGRAM

The drilling program was completed by Kenney Geotechnical Services (Kenney) from July 16 -23, 2020. A representative of TDK was on-site to observe the drilling program, collect soil samples and document the subsurface profile.

The environmental boring locations (SB-1 through SB-9) are shown on the Preliminary Site Investigation Plan [Sheet SI-1, Appendix 1] and were selected based on the approximate locations of historic petroleum bulk storage / transfer facilities and support (e.g., "garage") buildings. The borings were advanced to depths using a mobile drill rig equipped with hollow-stem augers, in addition to a percussion soil sampler (i.e., Geoprobe) capabilities.

Soil samples were obtained during drilling at continuous (2-foot) intervals in the environmental borings⁵. Representative samples were field-screened for the presence of volatile organic compounds (VOC's) using a photo-ionization detection (PID) meter. Refer to Section 4.3 for a summary of PID responses.

Samples for laboratory analysis were obtained at depths based on PID responses and/or visual indications of potential contamination. The sample locations and depths are indicated on the Analytical Data Summary Tables [Appendix 5].

4.2 SOIL PROFILE

The environmental borings (SB-1 through SB-9) were advanced to depths ranging from 7 to 20 feet and the geotechnical borings (GT-1 through GT-5) were extended to depths ranging from 34 to 50 feet. In general, soil profile throughout the majority (i.e., southwestern $\sim 2/3$) of the Site consisted of the following:

0 - 0.5 feet: Topsoil.

0.5 – 8 feet: Mixture of varying amounts of silt, sand and gravel. Traces of construction and

demolition (C&D) debris (i.e., concrete, glass, wood) encountered in SB-5 & 7).

8 – 16 feet: White/gray sand (i.e., "marl") with intermittent lenses of peat.

16 – 27 feet: Fine sand with little to some (i.e., 10 to 35%) fine to medium gravel and little to some

silt.

27 – 43 feet: Silt and clay.

43 - 50 feet: Fine to coarse sand and fine gravel.

Note: The above depths represent generalized averages and are approximate.

⁵ Sampling interval varied in the geotechnical borings.

Soil within the up-gradient (northeastern 1/3) of the Site consisted of silt and gravel with traces of C&D (asphalt) fill to a depth of 6 feet, overlying silt and clay from 6 to 14 feet+.

Refer to the Representative Soil Profile on Sheet SI-1 for additional information.

4.3 FIELD SCREENING FOR CONTAMINATION

In addition to visual observations, soils samples obtained during drilling were field-screened for the presence of VOC's using a calibrated photo-ionization (PID) meter. The highest PID responses at each boring are summarized in the Table below. Where no PID response was obtained (i.e., no reading above 0 ppm), the reading at the approximate groundwater depth is reported.

Boring Number	Sample Depth Range (feet)	PID Response (ppm)	Comment
SB-1	16 to 18	9	
SB-2	6 to 8	352	
SB-3	2 to 4	297	Black Soils (Staining)
SB-4	6 to 8	47	
SB-5	6 to 8	<1	
SB-6	10 to 12	0	
SB-7	12 to 14	25	
SB-8	6 to 8	1	Black Soils (Staining)
SB-9	6 to 8	9	
GT-1	5 to 7	2	
GT-2	8 to 10	3	
GT-3	5 to 7	306	Black Soils (Staining)
GT-4	8 to 10	4	
GT-5	8 to 10	1	

No obvious visual or olfactory indications of non-aqueous phase liquid (NAPL), or "free product" was noted in any of the soil borings.

4.4 TEMPORARY GROUNDWATER MONITORING WELLS

Two temporary ground monitoring wells (TW-3 and TW-8) were installed, each to a depth of approximately 13 feet below ground surface (bgs).

The wells are comprised of 1-inch diameter (PVC), 10-slot (0.010-inch aperture opening) screens. The screened sections are surrounded by filter sand compatible with the screen size and extend above and below the groundwater surface. Bentonite (clay) seals were provided over the sand packs, up to the ground surface and 1-inch diameter PVC riser pipes were extended to approximately $1\frac{1}{2}$ feet above the ground surface and capped.

The PVC rims of the temporary wells were surveyed, along with a previously existing monitoring well (MW-5) relative to the Site topographic survey datum for generation of groundwater contour maps.

Depths to groundwater measurements were obtained on July 25, 2020 and were converted into elevations for the generation of contours. The depths to groundwater ranged from an average of 4.3 feet below ground surface (bgs) along the southwestern (Solar Street) boundary of the Site to 10 feet bgs along the northeastern (North Clinton Street) boundary of the Site. The contours indicate a south-southwesterly flow direction, from the former petroleum bulk storage areas toward Solar Street.

4.5 ANALYTICAL PROGRAM

The analytical program included laboratory analysis of the following:

4.5.1 Soil

- Analysis of seven (7) samples for volatile organic compounds (VOCs) per EPA Method 8260 DER-10⁶ List).
- Analysis of six (6) samples for semi-volatile organic compounds (SVOCs) per EPA Method 8270 (DER-10 List).
- Analysis of six (6) samples for metals per EPA Methods 6010, 7471, 7196 and 9014 (DER-10 List).
- Analysis of six (6) samples for PCBs per EPA Method 8082.

Results are summarized in the Analytical Data Summary Tables 1 through 4 [Appendix 5] and on the Preliminary Site Investigation Plan [Sheet SI-1, Appendix 1]. The reported constituent detections were compared to DEC Soil Cleanup Objectives (SCOs) relative to both proposed Site use and construction soil management considerations, as described below:

⁶ DEC DER-10 / Technical Guidance for Site Investigation and Remediation, Issued May 3, 2010.

VOC's: Exceedances of the DEC's SCO's for Unrestricted Use (UNR) and the lower of

Protection of Public Health – Residential Site Use / Protection of Groundwater (R/GW) SCOs were reported within soil borings SB-2, 3, 4, 8 and GT-3 at depths

ranging from 4 to 7 feet (17 feet in SB-1).

Exceedances of the DEC's SCO's for Commercial Site Use were reported within soil

boring GT-3 at a depth of approximately 6 feet.

SVOCs: Exceedances of the DEC's Commercial, R/GW and UNR SCOs were reported within

soil boring GT-3 at a depth of approximately 6 feet and a composite sample from soil

borings SB-1/4 at a depth of 1 foot.

The DEC's R/GW SCOs were exceeded in a composite sample from borings SB-4/7 (6

feet).

Metals: Exceedances of the DEC's Commercial, R/GW and UNR SCOs were reported within

the composite sample from SB-1/4, at a depth of 1 foot.

The R/GW and UNR SCOs were exceeded in samples from borings SB-4/7, 8 and GT-

3 at depths ranging from 4 to 8 feet.

PCBs: The DEC's UNR SCO for Aroclor 1260 was exceeded in the sample from SB-8 (4 to 8

feet).

4.5.2 Groundwater

• Analysis of three (3) samples for VOCs per EPA Method 8260.

- Analysis of three (3) samples for semi-volatile organic compounds (SVOCs) per EPA Method 8270.
- Analysis of three samples for metals per EPA Methods 200.8, 7470, 7196 and 9014.
- Analysis of three (3) samples for PCBs per EPA Method 8082.

Groundwater standards for VOCs were exceeded in monitoring wells MW-5 and TW-8. Exceedances for metals were reported in all three wells and a guidance value for one SVOC (Naphthalene) was exceeded in well TW-3. Refer to Analytical Data Summary Tables 5 - 8 [Appendix 5] and Preliminary Site Investigation Plan [Appendix 1] for additional information.

Note that analytical results for a previous (December 12, 2013) groundwater sampling event conducted by others indicated the presence of several VOCs, in MW-5 at levels exceeding groundwater standards. Refer to Sheet SI-1 for additional information.

5.0 CONCLUSIONS

TDK Engineering has performed a preliminary Phase II ESA on a 7.1-acre site located at 901, 931 & 967 North Clinton Street in the City of Syracuse, Onondaga County, New York (Site). The ESA was based on ASTM Standard E1903.

The Site is located within a mixed commercial and industrial area. The earliest (i.e., pre-1930s) developed occupancy of the Site appears to have been salt storage sheds, followed by a petroleum bulk storage facility from the 1930s to 1990s on the Sunnydale and Emerald parcels and a heavy-industry building on the 901 N. Clinton Street parcel.

With regard to the ESA objectives, we conclude the following:

- The results of the Phase II ESA have identified contaminated soil and groundwater across the subject Site at varying concentrations. Based on the groundwater flow direction to the south, the source of the petroleum-related contamination appears to be the former tank farms on both the Sunnydale parcel and the Emerald Point parcel.
- The primary source of the VOCs, chlorinated VOC (vinyl chloride) and PCBs on the JDP parcel appears to be the former Easy Washing Machine Corporation and Furne factory whose operations included electroplating, parts washing/degreasing and painting, among others.
- Contaminants including VOCs, SVOCs and metals have been reported in the soils on all three parcels at concentrations exceeding the DEC's Commercial Use and/or lower of Protection of Groundwater / public health for residential use SCOs. These levels preclude relocation of the impacted, deeper soils to a non-landfill or beneficial use determination (BUD) site and as such, the impacted soils will require disposal at a DEC-permitted landfill.
- Contaminated soil is present at depths ranging from 4 to 7 feet below the ground surface, within the currently proposed building area along the southwestern boundary of the Site. Based on these depths, adversely impacted soils can be expected to be encountered during excavation for building foundation features such as pile caps and grade beams, in addition to utility services and the stormwater management area (SWMA).
- Preliminary earthwork calculations indicate that approximately 13,000 cubic yards of surplus soils will be generated in connection with construction of the building and support features across the Site, which will require specialized handling/management (i.e., disposal at permitted landfill, etc.).
- Analytical data for groundwater samples indicate VOC, SVOC and metals concentrations which exceed DEC groundwater standards or guidance values. Based on the groundwater surface depths within the building area (i.e., approximately 4 feet), the adversely impacted groundwater can be expected to be encountered during construction and will also require specialized handling (i.e., treatment/discharge to sanitary sewer or off-site disposal at permitted facility).

Based on the above factors, it is anticipated that additional contaminated media will be encountered during the remedial investigation program. This contamination (soil and groundwater) will result in a substantial elevation of construction costs and is therefore hindering development of the Site. As such, it would appear that the Site is a viable candidate for acceptance into the DEC's Brownfield Cleanup Program.

6.0 RECOMMENDATIONS

Based on the results of this ESA, we recommend the following:

- This report be included as a component of the BCP Application (i.e., Section III Property's Environmental History).
- An expanded subsurface investigation be performed to obtain additional information concerning horizontal and vertical limits of residual contamination upon which former petroleum bulk storage facilities and industrial buildings were situated. This approach can be incorporated into the Remedial Investigation (RI) Program that is associated with the BCP.
- A site management plan be developed, consistent with BCP requirements with regard to segregation, handling and management of surplus soils generated during construction of the proposed office building and related site improvements.