



GEOTECHNICAL
CONSULTANTS INC.

GCI PROJECT #18-E-21343-A

Phase II Environmental Site Assessment Report

HP Land Property
Spruce and Vine Streets
Columbus, Franklin County, Ohio

Prepared for:
HP Land Development, Ltd.

February 2, 2018



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REPORT OF PHASE II ENVIRONMENTAL SITE ASSESSMENT

February 2, 2018

Mr. Adam Lewin
HP Land Development, Ltd.
2700 E. Main St., Suite 107
Columbus, OH 43209

**Reference: HP Land Property
Spruce and Vine Streets
Columbus, Franklin County, Ohio
GCI Project No. 18-E-21343-A**

Dear Mr. Lewin:

1.0 INTRODUCTION

As you authorized, Geotechnical Consultants, Inc. (GCI) performed a Phase II environmental site assessment (Phase II ESA) of the above referenced property (the "property"). The property is currently used as public surface parking lot. GCI prepared a Phase I ESA report dated November 29, 2017 of the property that identified recognized environmental conditions related to historical industrial, commercial and railroad uses of the property.

Based on the forgoing, the purpose of GCI's Phase II ESA was to assess the absence or presence of a release of chemicals of concern (COCs) in soil, ground water, and soil gas underlying the property.

2.0 SCOPE OF SERVICES

The activities for this Phase II ESA included:

- Eighteen (18) soil borings (EB-1 to EB-18) installed to depths from 12 feet to 24 feet below ground surface (bgs), first ground water, or sampler refusal, whichever came first. Soil borings were used to collect grab soil and ground water samples for laboratory analysis of the COCs.
- Eight (8) temporary soil gas sampling points to collect soil gas samples for analysis of volatile organic COCs in soil gas.
- Submittal of samples to an Ohio EPA Voluntary Action Program (VAP) Certified Laboratory for analysis of COCs.
- This report summarizing the assessment methodology and findings.

3.0 PROPERTY DESCRIPTION

The property is on the east side of Neil Avenue, south side of Spruce Street, west side of Armstrong Street, and north side of Vine Street, in the Arena District neighborhood of Columbus, Franklin County, Ohio. The property generally contains a public surface parking lot with no permanent buildings. The attached **Figure 1** shows the property location on the 2013 *Southwest Columbus, Ohio* USGS 7.5-minute quadrangle topographic map. The property lies in a mixed use area that includes commercial and residential properties.

4.0 PHASE II ESA FIELD PROCEDURES

GCI performed the Phase II ESA field activities on January 15, 17, and 18, 2018. Weather conditions included cloudy skies, approximately 3-inches of snowfall on January 15, and less than 1-inch of snowfall on January 17, with the temperatures over these three days ranging from approximately 7°F to 28°F.

4.1 Soil Sampling

GCI engaged EnviroCore, Ltd. to mobilize a soil boring rig to the property to install soil borings EB-1 through EB-18. The borings were installed using a track-mounted Geoprobe® drill rig. GCI collected continuous soil sample cores from the borings in steel 4-foot long sampling tubes lined with disposable acetate liners advanced through direct-push bore holes using the rig.

Soil samples were separated into 2-foot long intervals, placed in sample baggies and/or glass jars, and logged with respect to grain size, color, texture, moisture and odor. The attached **Test Boring Logs** provide sample observations and descriptions.

The attached **Figure 2** shows sampling locations. GCI selected sampling locations based on information from the Phase I ESA, accessibility of sampling equipment and locations of parked vehicles, structures and utilities present on the property.

GCI placed each 2-foot soil sample interval collected from the borings into a food-grade, zip-lock plastic bag for headspace screening with a Mini-RAE Lite photoionization detector (PID). The PID detects total volatile organics and is used as a screening tool in selecting samples for laboratory analysis. The tip of the PID was placed into the sample bag and a reading was taken for approximately 5-20 seconds. The PID readings are shown on the Test Boring Logs. PID readings of the soils ranged from a minimum of 0.0 parts per million (ppm) to a maximum detection of 1,179 ppm in boring EB-6 at the 14 to 16 foot sampling interval.

GCI selected the soil sample collected from 0-2 feet and one deeper sample, based on PID screening results and visual assessment, from each boring for laboratory chemical analysis. The soil samples selected for laboratory submittal were placed into appropriate glassware supplied by the laboratory and placed in an ice-filled cooler for preservation.

In general, the borings encountered fill, either at ground surface or below surface cover (i.e. asphalt pavement), to depths ranging from approximately 2 feet to 12.5 feet bgs. The fill materials varied across the property, but generally included a mixture of clay-based soil, sand, gravel, and cinders, with lesser amounts of slag, brick, glass, and coal.

The underlying natural soils varied across the property ranging from sand to fat clay. No bedrock was encountered in the borings. Ground water seepage was encountered in five of the borings at depths ranging from 16 feet to 21 feet bgs.

4.2 Ground Water Sampling

In soil borings encountering ground water, GCI attempted to collect ground water samples by placing a temporary 1-inch PVC well screen into the open borehole and collecting a sample using an inertial lift pump with check ball valve attached to dedicated, disposable polyethylene tubing. Ground water samples were collected from borings EB-6, EB-14, and EB-16. Insufficient amounts of ground water were present in EB-3 and EB-5 for collection; thus, no samples were collected in those boreholes. The collected samples were placed into laboratory provided glassware with appropriate chemical preservatives and placed into ice-filled coolers for preservation for delivery to the laboratory for analysis.

4.3 Soil Gas Sampling

GCI installed eight (8) temporary soil gas sampling points (SG-1 to SG-8) at the property. The attached **Figure 2** shows the soil gas sampling locations.

The soil gas sampling points were installed using the Geoprobe® Post-Run Tubing (PRT) direct-push system. This system consisted of pushing a steel rod with disposal steel point to approximately 5.5 feet bgs. The disposable point was pushed out of the rod and the rod was lifted up 6-inches to leave a void space for sampling from 5 feet to 5.5 feet bgs. A dedicated sampling tube was connected to the rod with a reverse thread connector.

To evaluate sampling point integrity and obtain screening-level volatile organic compounds (VOC) readings, GCI performed field screening of sampling points for VOC and other gases using a multi-gas meter and photoionization detector (PID). Field screening also purged ambient air from the sampling points prior to collecting samples. Field screening and sampling documentation are included on the attached **Soil Gas Sampling Data Sheets**. Following sample collection, the sampling points were removed and the sampling point boring was backfilled with bentonite.

5.0 LABORATORY ANALYSIS

GCI submitted the collected soil, ground water, and soil gas samples via overnight delivery to ESC Lab Sciences (ESC) in Mt. Juliet, Tennessee for analysis of COCs under chain of custody. ESC is VAP Certified Laboratory #CL0069 for the requested analysis. GCI instructed ESC to analyze soil samples for two or more of the following COCs:

- VOC by EPA method 8260;
- Polynuclear aromatic hydrocarbons (PAH) by EPA method 8270C;
- Polychlorinated biphenyls (PCBs) by EPA method 8082;
- RCRA 8 metals by EPA method 7471A, and 6010B;
- Semi-volatile organic compounds (SVOC); and
- Total Petroleum hydrocarbons (TPH) by EPA method 8015B in soil only.

In accordance with GCI proposal 17E0457, the soil sample from the 0-2 feet depth interval from each boring was submitted for analysis for RCRA 8 metals and PAH to

assess fill materials within the current 0-2 foot direct contact point of compliance depth for potential receptors on the property. Also in accordance with our proposal, the COCs analyzed from the deeper soil samples in the borings were selected based on the locations of the borings in relation to historical operations at the property.

Ground water samples were analyzed for VOC, PAH, PCBs, and/or metals. The COCs were selected based on the locations of the borings in relation to historical operations at the property.

Soil gas samples were analyzed for VOC by EPA method TO-15.

The **Laboratory Analytical Reports** and sample **Chain of Custody** documentation are attached to this report. After receiving laboratory analytical results the samples, GCI reviewed and compared results with Ohio EPA VAP current single chemical generic numerical standards. The VAP standards are sourced from Ohio EPA's Chemical Information Database and Applicable Regulatory Standards (CIDARS) spreadsheet dated May 2, 2017. The laboratory results and numerical standards are summarized in the attached **Table 1A** through **Table 3**.

GCI compared soil sample results with VAP single chemical generic direct contact soil standards (GDCSS) for residential (unrestricted) land uses, commercial/ industrial (C/I) land uses, and for construction/excavation (CE) activities. In the case of arsenic, the soil results were compared with the Franklin County background soil arsenic level of 20.7 milligrams per kilogram (mg/kg). The background value is appropriate for this property due to its urban character and the lack of natural background areas on the property and adjacent properties.

GCI compared ground water sample results with VAP generic unrestricted potable use standards (GUPUS). GCI compared soil gas sample results with VAP residential and C/I generic indoor air standards (GIAS).

5.1 Soil Sample Results

As indicated in **Table 1A** and **Table 1B**, soil sample results indicate that no concentrations of VOC or PCBs exceeded VAP GDCSS for residential land use. Consequently, sample concentrations also did not exceed the higher GDCSS for C/I uses and CE activities for VOC and PCBs.

The following COCs exceeded one or more of the GDCSS for residential land use, C/I land use and CE activities:

- Arsenic concentrations exceeded the background value in the samples from EB-3 at 2-4', EB-4 at 0-2' and 2-4', EB-11 at 2-4', EB-14 at 16-18', EB-15 at 6-8', EB-16 at 0-4', EB-17 at 0-2', and EB-18 at 6-8'. The highest arsenic concentration in the samples was 33.3 mg/kg. However, the concentrations of arsenic did not exceed VAP GDCSS for C/I uses or CE exposures in any of the soil samples.
- The lead concentration in sample EB-18 at 6-8' was 763 mg/kg, which exceeded its VAP GDCSS of 400 mg/kg used for residential uses and CE exposures.
- The lead concentration in sample EB-5 at 4-6' was at 2,360 mg/kg, which exceeded its GDCSS for residential uses, C/I uses (800 mg/kg), and CE exposures.

- Benzo(a)pyrene concentrations in samples from EB-3 at 2-4', EB-5 4-6', and EB-6 at 0-2' exceeded its VAP GDCSS for residential uses, but was below its GDCSS for C/I uses and CE exposures.
- TPH in the gasoline range organics (GRO) in sample EB-6 at the 14-16 feet interval was detected at 1,390 mg/kg, which exceeds its GDCSS of 1,000 mg/kg for residential uses, C/I uses, and CE exposures.

Arsenic is a naturally occurring compound in soil, and as a result it was detected in all soil samples analyzed. Ohio EPA determined a naturally-occurring background concentration of arsenic in Franklin County soil at 20.7 mg/kg¹.

5.2 Ground Water Sample Results

GCI collected and submitted three (3) ground water samples to ESC for laboratory chemical analysis. **Table 2** summarizes ground water sample results. After receiving ground water analytical results from the laboratory, GCI compared results to VAP GUPUS.

The analytical results indicated no PCBs were detected the ground water samples.

The ground water sample collected from EB-6 had concentrations of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene above their respective GUPUS.

The ground water sample from EB-16 contained concentrations of metals exceeding GUPUS. To minimize the Phase II costs, GCI collected grab samples of the ground water without installing permanent monitoring wells. Ground water samples collected from in this manner typically have high turbidity as a result of unavoidable entrainment of soil particles. Therefore, metals concentrations exceeding VAP GUPUS in the samples are likely the result of soil particle influence, resulting in higher concentrations of metals than are likely to actually be present in the ground water.

5.3 Soil Gas Sample Results

The soil gas sample analytical results are shown in **Table 3** and indicate that VOC are present in the soil gas below the property. GCI compared soil gas results with VAP GIAS for residential and C/I land uses. Before making the comparisons, the GIAS values were divided by a 0.03 attenuation factor in accordance with current VAP guidance to account for dilution of soil gas concentrations upon entering a building.

As shown in Table 3, no soil gas concentrations exceeded the VAP single chemical GIAS for residential uses, except for:

- The concentration of trichloroethene (TCE) in SG-3 was 98.2 µg/m³, which exceeds its attenuated GIAS of 70 µg/m³ for residential use.

¹ Ohio EPA, October, 2013, Evaluation of Background Metal Soil Concentrations in Franklin County – Columbus Area, Developed in Support of the Ohio Voluntary Action Program, Summary Report.

The maximum concentrations of VOC detected in the soil gas samples were also used to calculate a multi-chemical adjustment (MCA) in accordance with VAP guidance. The MCA is used to determine if cumulative concentrations of VOC present in the vapor phase meet or exceed VAP goals for carcinogenic risk and non-carcinogenic hazard. The MCA is calculated by dividing maximum concentrations of the VOC by their individual VAP GIAS, and summing the resulting quotients. If the quotient sum exceeds a value of 1, the single chemical GIAS would require adjustment (i.e. lowering) so that sum of the cumulative risk or hazard does not exceed a value of 1.

The MCA sum exceeds a value of 1 due to the detection of TCE and several other VOC; therefore, the cumulative concentrations of the multiple chemicals in soil gas underlying the property exceed the VAP GIAS for residential land use.

The MCA sum did not exceed a value of 1 for commercial land uses.

6.0 CONCLUSIONS

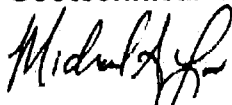
The Phase II ESA has indicated the property contains areas where COCs exceed applicable VAP standards in soil and soil gas. In GCI's opinion additional sampling would be necessary if it is desired to delineate the extent of COCs on the property exceeding applicable standards in soil and soil gas.

Ground water sample results indicate ground water may be impacted above GUPUS. However, ground water at the property and the surrounding properties is not likely to be used for potable purposes; therefore, potable use of ground water may not be of significant concern.

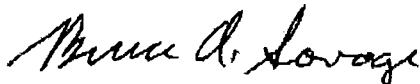
GCI is available to discuss the assessment findings along with plans for future development.

GCI appreciates the opportunity to serve you on this project. Please contact our office with any questions or concerns regarding this transmittal, or if you would like additional services.

Respectfully submitted,
Geotechnical Consultants, Inc.



Michael A. Lacher, CP, EP
Senior Project Geologist – Environmental Services



Bruce A. Savage, CP, EP
Principal – Director of Environmental Services

Attachments: Figure 1 – 2013 *Southwest Columbus, OH* USGS Topographic Map
Figure 2 – Sample Location Map
Table 1A – Soil Analytical Results (0 to 2 feet)
Table 1B – Soil Analytical Results (deeper than 2 feet)
Table 2 – Ground Water Analytical Results
Table 3 – Soil Gas Sample Analytical Results
Test Boring Logs
Soil Gas Sampling Data Sheets
ESC Lab Sciences Report and Sample Chain of Custody Forms

Cc: Mr. Aaron L. Underhill, Esq. – Underhill & Hodge, LLC
GCI File

Statement of Limitations

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GCI performed this Phase II ESA in accordance with the generally accepted practices of environmental professionals performing similar services in the same locale under similar circumstances at the time of this assessment. No statement of opinion contained in this report shall be construed to create any warranty or representation that the real property, on which the assessment was performed, is free of pollution or complies with any or all applicable regulatory or statutory requirements; or that the property is fit for any particular purpose. No attempt was made to evaluate the compliance of present or past owners of the property with federal, state or local laws and regulations.

The conclusions presented in this report were based upon the services described, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by the client. Any person or entity concerning the property shall be solely responsible for determining the adequacy of the property for any and all uses for which that person or entity shall use the property. Any person or entity considering the use, acquisition or other involvement or activity concerning the property which is the subject of this report should enter into any use, occupation, acquisition or the like on sole reliance of their own judgment and on their own personal assessment of such property and not in reliance upon any representation by GCI regarding such property, the character, quality or value thereof. GCI shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld or not fully disclosed at the time the assessment was performed.



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Michael A. Lacher, CP
Senior Project Geologist

Education:

B.A. Geology – Wittenberg University, Springfield, OH (1996)

Registrations & Certifications:

2014 Ohio EPA Voluntary Action Program (VAP) Certified Professional (CP) No. 356
2003 National Ground Water Association
2002 OSHA 8-hour Hazardous Waste Operations Supervisor
1999 OSHA 40-hour Hazardous Waste Operations

Experience & Qualifications:

Experience includes over 17 years of project management, preparation of Phase I and Phase II environmental site assessments, risk assessments, environmental drilling and sampling; underground storage tank (UST) closures, UST corrective actions, and remediation of contaminated sites. Mr. Lacher has successfully obtained multiple No Further Action (NFA) letters from Ohio's regulatory agency for UST projects. Mr. Lacher specializes in soil and ground water investigations, risk assessment, project management, and remediation of contaminated sites. He manages environmental field services personnel, providing direction, planning, scheduling, cost estimation and implementation oversight. He is an Ohio EPA Voluntary Action Program (VAP) Certified Professional and has managed field services for several VAP projects.

Mr. Lacher clients include commercial and residential real estate developers, brokers, owners and property manager; lending institutions; government entities; and insurance firms. Since joining GCI in 1997, Mr. Lacher has provided environmental consulting and due diligence for projects throughout Ohio and the Mid-West United States. Mr. Lacher has been responsible for the management of over 1,000 environmental assessments and meets the *Environmental Professional* criteria designation as defined by U.S. EPA's All Appropriate Inquiry legislation and ASTM Practice E1527-13.

Selected Projects

- Former Timken Roller Bearing Facility, Columbus, OH – VAP Phase II assessment and cleanup, resulting in VAP NFA and CNS.
- Grandview Crossing Development, Columbus and Grandview Heights, OH – VAP Phase II assessment and cleanup.
- Mid-Ohio Transit Authority, Mount Vernon, OH - BUSTR tiered corrective action process resulting in BUSTR NFA
- Former Bridgeview Golf Course, Columbus, OH – VAP Phase II assessment and cleanup, resulting in VAP NFA and CNS.
- Phase I ESAs, Phase II ESAs and/or BUSTR assessment services of automotive dealerships in Central Ohio including Segna Motors, Byers Chevrolet, Immke Crestview Cadillac, Immke Honda, Immke Used Cars, Bill Swad Chevrolet, Newlon Motors, Roush Honda, Airport Hyundai, and Saeger Buick.



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Bruce A. Savage, CP
Principal, Director Environmental Services

- **Education:**
 - 1983 BS Geology & Mineralogy, The Ohio State University
 - 1985 MS Geology, University of Cincinnati
- **Active Registrations / Certifications:**
 - 2003-present Ohio EPA Voluntary Action Program (VAP) Certified Professional No. CP265
 - 1991-present OSHA 40-Hr. Hazardous Waste Operations ("HAZWOPER")

Mr. Savage is qualified as an Environmental Professional as defined by U.S. EPA's All Appropriate Inquiry legislation, and by ASTM Practice E1527.

- **Experience & Qualifications:**

Mr. Savage's experience includes geo-environmental project management including subsurface contaminant investigation, Phase I and II environmental site assessments (ESAs), ground water investigations, soil and ground water remediation and geologic consultation. Mr. Savage has successfully completed six VAP No Further Action (NFA) Letters and obtained a Covenant-Not-to-Sue (CNS) from Ohio EPA for clients.

With over 25 years of experience as a professional geologist, Mr. Savage's project experience includes numerous conversions of former industrial properties into new commercial and residential developments, wastewater facility site characterizations; numerous underground storage tank (UST) closures resulting in regulatory NFA letters, and contaminated soil and ground water investigations. These projects utilized a variety of investigation and cleanup techniques, ranging from soil borings to ground water monitoring wells, soil gas sampling, soil/sediment/surface water sampling, ground water treatment and bio-enhancement, soil vapor investigations, and excavation and disposal of contaminated soils.

Mr. Savage has performed, overseen and/or served as lead technical reviewer of numerous Phase I ESAs of commercial, industrial, agricultural and residential properties. Since joining GCI in 1989, Mr. Savage has been responsible for supervising and conducting geo-environmental studies for projects throughout the Midwest, New England, the Southeast and several Western U.S. sites. In addition to being responsible at GCI for overall supervision of geo-science staff, Mr. Savage has also served on GCI's Executive Team and a leader with GCI's business development and marketing team. Mr. Savage has been active with GBA: The Geoprofessional Business Association, Society for Marketing Professional Services (SMPS), the Institute of Brownfield Professionals (IBP) and the Urban Land Institute (ULI).

- **Project Experience Snapshot:**
 - Grandview Yard Development Grandview Heights, Ohio
 - 600 Goodale Columbus, Ohio - Cleanup resulting VAP NFA and CNS
 - Lennox Lofts Columbus, Ohio - Cleanup resulting VAP NFA and CNS
 - Graceland Shopping Center Columbus, Ohio - VAP NFA resulting in CNS
 - Central Point Shopping Center Columbus, Ohio - VAP NFA resulting in CNS
 - Former Timken Site Columbus, Ohio - Cleanup resulting VAP NFA and CNS

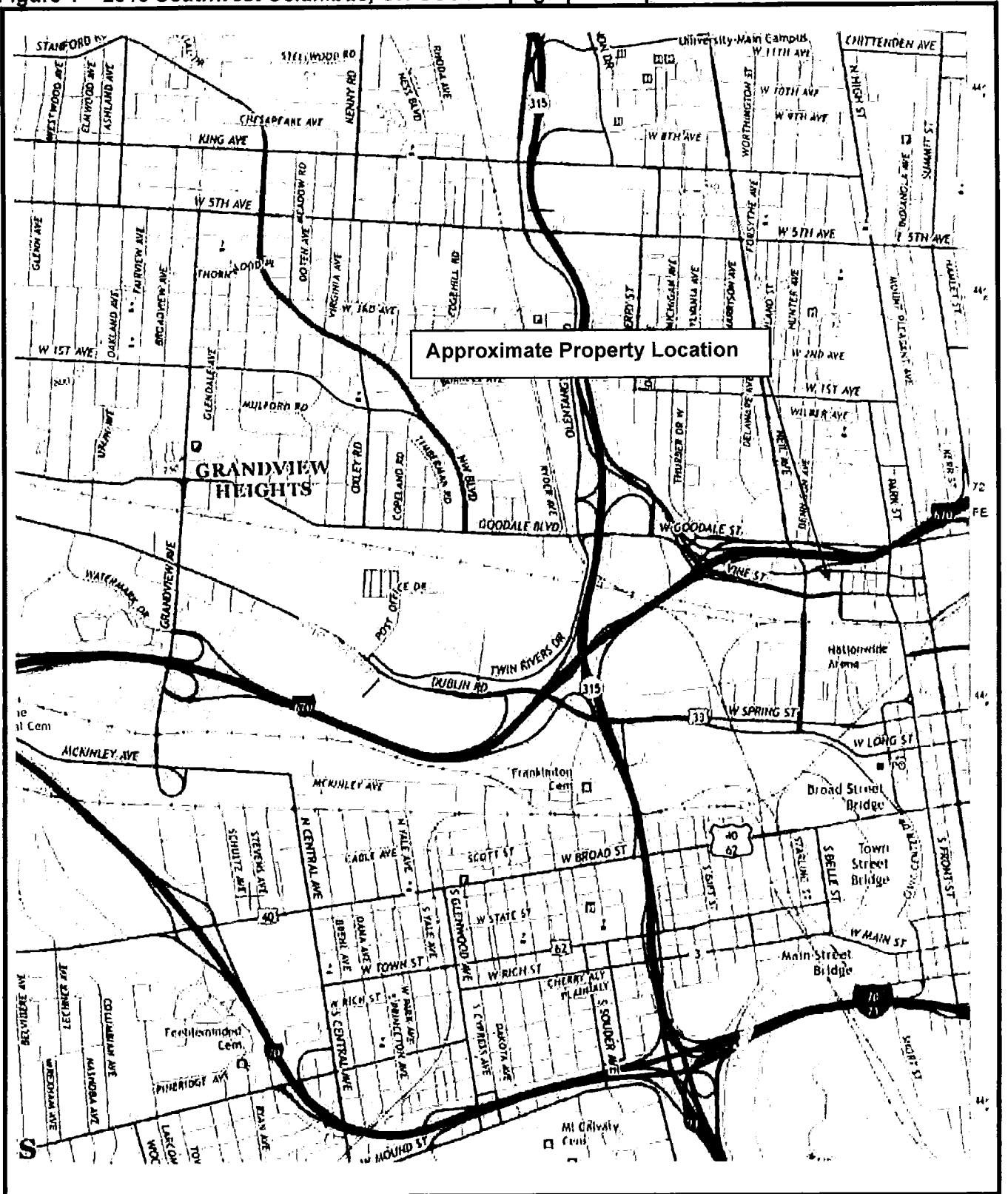


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ATTACHMENTS

Figure 1 – 2013 Southwest Columbus, OH USGS Topographic Map GCI PROJECT #18-E-21343-A



North

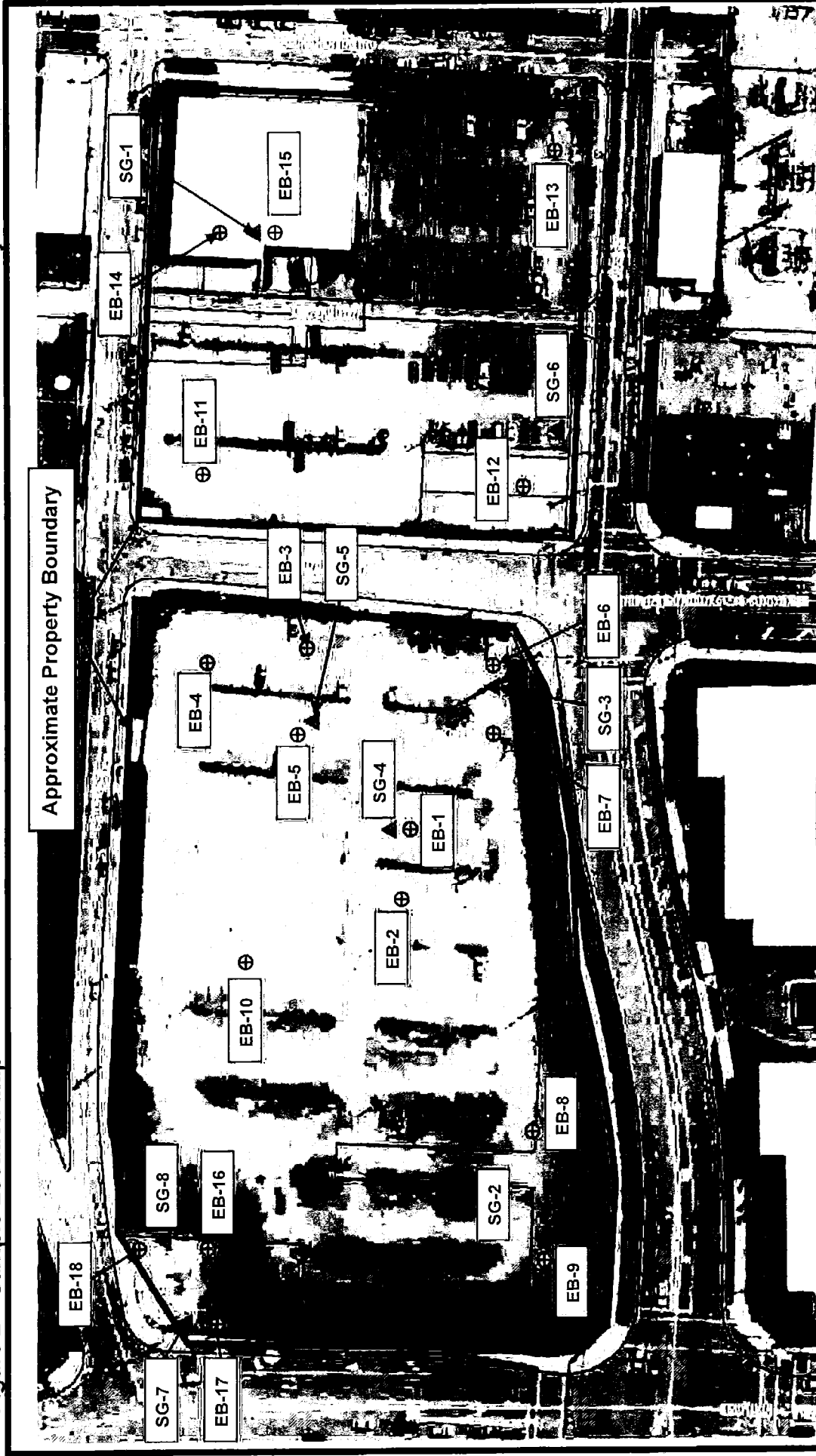
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Figure 2 – Sample Location Map

GCI Project 18-E-21343-A



HP Land Property

Spruce St. and Vine St.

Columbus, Franklin County, Ohio

Base Map: 2013 Aerial Photograph

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North