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## BASELINE ENVIRONMENTAL ASSESSMENT

The Anchor at Mariners Inn

Unit #1 and Unit #2 of Parcel ID No: 0200618-9 | Detroit, MI

PM Project Number 01-11288-1-0004

*Prepared for:*

**Michigan Department of Environment, Great Lakes and Energy**  
Warren District Office  
27700 Donald Court  
Warren, MI 48092

*Prepared by:*

**PM Environmental**  
4080 West Eleven Mile Road  
Berkley, Michigan 48072

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Oak Park

June 17, 2022

District Supervisor  
Michigan Department of Environment, Great Lakes, and Energy  
Warren District Office  
27700 Donald Court  
Warren, Michigan 48092

**RE: Baseline Environmental Assessment for The Anchor at Mariners Inn  
Located at Unit #1 and Unit #2 of Parcel ID No: 0200618-9  
Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0004**

Dear District Supervisor:

Enclosed is a copy of the Baseline Environmental Assessment prepared for the above referenced subject property in accordance with Section 20126(1)(c) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act (NREPA), P.A. 451 of 1994 (Part 201), as amended.

If you have any questions regarding the information in this report, please contact us at 800-313-2966.

Sincerely,  
**PM ENVIRONMENTAL**

Jeremy Meshew, P.G.  
Project Geologist

Nicholas Lieder  
Regional Manager – Site Investigation Services



June 7, 2022

Mr. Edward Potas  
The Anchor at Mariners Inn, LDHA, LP  
2111 Woodward Avenue, Suite 600  
Detroit, Michigan 48201

**RE: Baseline Environmental Assessment for The Anchor at Mariners Inn  
Located at Unit #1 and Unit #2 of Parcel ID No: 0200618-9  
Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0004**

Dear Mr. Potas

Enclosed is a copy of the Baseline Environmental Assessment prepared for the above referenced subject property in accordance with Section 20126(1)(c) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act (NREPA), P.A. 451 of 1994 (Part 201), as amended.

**THIS REPORT WAS COMPLETED FOR THE ANCHOR AT MARINERS INN LDHA LP, CINNAIRE SOLUTIONS CORPORTATION, MARINERS INN, PROTESTANT EPISCOPAL CHURCH OF THE DIOCESE OF MICHIGAN, THE CITY OF DETROIT, AND THE MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY, EACH OF WHOM MAY RELY ON THE REPORT'S CONTENTS.**

If you have any questions regarding the information in this report, please contact us at 800-313-2966.

Sincerely,  
**PM ENVIRONMENTAL**



Jeremy Meshew, P.G.  
Project Geologist



Nicholas Lieder  
Regional Manager – Site Investigation Services

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Appendix C:	Soil Boring Logs/Soil Gas Logs, June and November 2021, PM
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## **1.0 INTRODUCTION AND DISCUSSION**

PM Environmental, Inc. (PM) completed a Baseline Environmental Assessment (BEA) of for The Anchor at Mariners Inn (portions of Parcel ID: 02000618-9) located at 445 Ledyard Street, Detroit, Wayne County, Michigan, in accordance with Section 20126(1)(c) of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act (NREPA), P.A. 451 of 1994 (Parts 201), as amended.

The subject parcel consists of one parcel (Parcel ID: 02000618-9, Figure 2A) totaling 1.96 acres located on the southwest corner of Ledyard Street and Cass Avenue in Detroit, Wayne County, Michigan (Figure 1). The subject parcel land will not be legally split into smaller parcels; however, the subject parcel will be subdivided into three separate condominium units. The Anchor at Mariners Inn, LDHA, LP intends to lease and redevelop Unit #1 (0.348 acres) and Unit #2 (0.563 acres) via a long-term lease from the current property owner, Diocese of Michigan Episcopal Church (Figure 2 and Figure 2A). The Anchor at Mariners Inn, LDHA, LP will lease portions of the subject parcel identified as Unit #1, Unit #2, and the General Common Element as defined on the legal description included in Appendix A.

The subject property, containing Parcel Unit #1, Parcel Unit #2, and General Common Element, is currently developed with asphalt paved parking in the northern portion of the subject property. A concrete paved basketball court is present in the southern portion. Three unoccupied storage sheds are present in the western portion of the subject property. The remainder of the property contains groomed grass and landscaped areas (Figure 2). The subject property is currently being utilized by the west adjoining property, Mariners Inn, a homeless shelter that provides shelter, meals, private and group counseling, and transitional housing for the homeless.

### **1.1 Owner/Operator Information**

The Anchor at Mariners Inn, LDHA, LP intends to lease and operate the subject property at a date yet to be determined.

### **1.2 Intended Use of the Subject Property**

The Anchor at Mariners Inn, LDHA, LP intends to construct one four-story, slab-on-grade foundation with an elevator, mixed use apartment building containing 7,126 square feet with 44 supportive housing units and 40 recovery housing units.

The subject property is currently zoned B-4: General Business District. The intended use is consistent with Residential property use as defined under Part 201. Municipal water, sanitary sewer, natural gas, electrical, and telecommunications utilities are available at the subject property and are present in the Ledyard Street and Cass Avenue public right-of-way. No water wells are currently present on the subject property, and none will be installed at the property in the future.

### **1.3 Summary of All Appropriate Inquiry Phase I Environmental Site Assessment**

PM performed a Phase I Environmental Site Assessment (ESA) for the subject property dated May 20, 2022, in conformance with the scope and limitations of ASTM Standard Practice E1527-13. A copy of the Phase I ESA, including photographs of the subject property, is included in Appendix B.

### **1.3.1 Historical Use of Subject Property**

Standard and other historical sources document the subject property was developed prior to 1889 with several residential dwellings and outbuildings. The southernmost dwelling also included a first-floor storefront that was occupied by a doctor's office in at least 1901, a restaurant in at least 1916, a hand laundry in at least 1921, and a shoe repair business in at least 1926. Between 1912 and 1913, the dwelling in the northern portion was demolished and replaced with the Priscilla Inn, a women's correctional center and church convention center with a kitchen and six storefronts, which were occupied by a cleaning and dyeing company, a clothes cleaner, a pharmacy, a church, a grocery store, a hand laundry, a tea supplier, a baker, a library, and a beauty shop. In the 1940s, two dwellings in the southern portion were demolished and replaced with a car wash, which was demolished in 1969. By 1950, most, if not all, storefronts within Priscilla Inn were converted to shelter-related uses such as a recreation room and lobby, and the land immediately south of the inn was converted into a parking lot and was used for automotive sales in at least 1925 to 1926. The Priscilla Inn was demolished in 1984 and the northern portion has been utilized for parking since that time. Two of the three remaining dwellings in the southern portion were demolished in the 1960s and the third was demolished in the 1980s. The southern portion has been utilized for parking or a recreational lot for the west adjoining homeless shelter, Mariners Inn since at least 1987. Two of the three current sheds were constructed in the western portion between 2002 and 2005, and the third shed was constructed between 2012 and 2016.

### **1.3.2 Recognized Environmental Conditions (RECs)**

The May 2022 Phase I ESA identified the following onsite RECs and/or Vapor Encroachment Conditions (VECs):

- Concentrations of benzo(a)pyrene, benzo(b)fluoranthene fluoranthene, naphthalene, phenanthrene, and mercury were identified during PM's 2021 subsurface investigation in soil samples collected from the central portion of the proposed condominium Unit #1 on the subject property exceeding Residential Part 201 Generic Cleanup Criteria (GCC). The concentrations of naphthalene and mercury detected also exceed EGLE Residential VIAP Screening Levels. The impacted area appears to be associated with backfill associated with former dwellings. Based on the results of the 2021 subsurface investigation, the area of contamination exceeding the Part 201 GCC and Residential VIAP Screening Levels was delineated both vertically and horizontally. Based on these analytical results, the subject property would be classified as a "facility," as defined by Part 201 of P.A. 451 of the Michigan NREPA, as amended.

No adjoining and/or nearby RECs have been identified.

### **1.3.3 Phase I ESA Exceptions or Deletions**

During the completion of the May 2022 Phase I ESA, there were no exceptions or deletions from the Federal All Appropriate Inquiry Rule under 40 CFR 312, or the ASTM Standard. To the best of PM's knowledge, no special terms or conditions applied to the preparation of the Phase I ESA.

### **1.3.4 Phase I ESA Data Gaps**

PM did not identify any data gaps during the completion of the May 2022 Phase I ESA.



## **1.4 Summary of Previous Site Investigations**

### **Phase I ESA**

PM completed a previous Phase I ESA dated August 30, 2019 for the entire parent parcel, including the current subject property. At the time of the Phase I ESA, the properties were occupied by the Mariners Inn homeless shelter. Similar historical information was included in this Phase I ESA. The following on-site REC was identified associated with the subject property:

- A storefront within the former Priscilla Inn (417 Ledyard Street) was previously occupied by a clothes cleaner between at least 1935 to 1940 (and potentially from 1931 to 1945), which may have included dry cleaning operations. Dry cleaning operations during this timeframe commonly involve the usage of general hazardous substances and/or petroleum products, which, if improperly managed and/or disposed of, can be a source of contamination. This time period preceded major environmental regulations and current waste management and disposal procedures. The historical waste management practices associated with the former dry-cleaning operations are unknown and may be a source of subsurface contamination.

The following adjoining REC to the subject property was identified:

- The south adjoining property, identified as 2501 Cass Avenue, is identified as a Baseline Environmental Assessment (BEA) site. PM attempted to review regulatory file information for this property but did not receive a response within the time constraints of this report. The property was historically occupied by a movie theater equipment company, restaurants, hair salons/barbers, bars, and a popcorn company. PM was unable to determine the source of the known contamination on the property. Based on the close proximity to the subject property (i.e., directly adjoining), the potential exists that existing contamination on this property has migrated onto the subject property.

### **Phase II ESA**

On June 10, 2021, PM completed subsurface investigation activities at the subject property that consisted of the advancement of eight soil borings (SB-1 through SB-8), installation of four temporary soil gas points (TSG-1 through TSG-4), and the collection of 16 soil samples and four soil gas samples to assess the RECs identified for the subject property in PM's August 2019 Phase I ESA. The soil samples were submitted for laboratory analysis of volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PNAs), polychlorinated biphenyls (PCBs), and metals (arsenic, barium, cadmium, chromium, copper lead, mercury, selenium, silver, and zinc), or some combination thereof. The soil gas samples were submitted for laboratory analysis of VOCs.

On November 24, 2021, PM completed subsurface activities at the subject property that consisted of the advancement of six soil borings (SB-5R and SB-6A, SB-7A, SB-8A, SB-9, and SB-10), installation of two temporary soil gas points (TSG-5R and TSG-10), and the collection of 13 soil samples and two soil gas samples to further assess the concentrations identified during PM's June 2021 site investigation and to attempt to delineate the extent of impact. The soil samples were submitted for laboratory analysis of VOCs and PNAs. The soil gas samples were submitted for laboratory analysis of VOCs.

Based on the results of the 2021 subsurface investigations, the area of contamination exceeding the Part 201 GCC and Site-Specific Volatilization to Indoor Air Criteria (SSVIAC) was delineated both vertically and horizontally and the RECs identified in on the subject property identified in PM's 2019 Phase I ESA have been adequately assessed. The planned remedial actions include excavating contaminated soils exceeding the Part 201 GCC and SSVIAC with proper landfill disposal. The proposed excavation is 33 feet wide by 80 feet long by 6.0 feet deep. Following soil removal activities, verification of soil remediation (VSR) samples will consist of using biased sampling strategies and screening the floors and sidewalls prior to sample collection to document the removal of contaminated soils to concentrations below applicable Part 201 Residential cleanup criteria and SSVIAC.

## **1.5 Geology and Hydrogeology**

Based on review of the soil boring logs from PM's June and November 2021 site investigations, the site-specific geology generally consists of sand, sandy clay, or clay to depths between 4.5 and 8.0 feet below ground surface (bgs), underlain by clay to a depth of at least 20.0 feet bgs, the maximum depth explored. Various debris (concrete and brick) was identified at depths between 0.5 and 6.0 feet bgs.

Groundwater was not encountered on the subject property.

The soil boring logs from PM's site investigations, which summarize site-specific geology, sample depths, and PID readings, are included in Appendix C.

## **2.0 LOCATION OF CONTAMINATED MEDIA ON THE SUBJECT PROPERTY**

The soil analytical results from the previous site investigations were compared with the EGLE Generic Cleanup Criteria and Screening Levels as presented in Part 201 Rules 299.1 through 299.50, dated December 21, 2020 entitled "Cleanup Criteria Requirements for Response Activity", in accordance with Section 20120a(1) using the Residential and Nonresidential Cleanup Criteria RBSLs.

In accordance with Part 201, a background concentration of a hazardous substance that exists in the environment at or regionally proximate to a facility that is not attributable to any release at or regionally proximate to the facility may be substituted for a generic cleanup criterion when the background concentration is higher than a criterion. Therefore, when concentrations of metals were higher than the Part 201 cleanup criteria, the concentrations were also compared to Statewide Default Background Levels (SDBLs) and the RBLs for sand soils in the Huron-Eerie Glacial Lobe (2005 and 2015 Background Soil Survey).

PM compared the soil and soil gas analytical results with the applicable EGLE SSVIAC (June 7, 2022) for a Residential building with slab-on-grade foundation and an elevator pit extending 5 feet below grade. A copy of the EGLE issued SSVIAC is included in Appendix D.

The laboratory analytical reports and associated chain of custody documentation from PM's June and November 2021 site investigations are included in Appendix E.

## **2.1 Summary of Soil Analytical Results and Exceedances**

Soil exceedances from PM's 2021 investigations are summarized in the table below.

The sample locations and analytical summaries from PM's 2021 site investigation activities are included on PM's Figures 3 and 4 and in Tables 1 and 2.

### **Summary of Soil Analytical Results**

<b>Location (date)</b>	<b>Sample Depth (feet bgs)</b>	<b>Analysis</b>	<b>Compounds Exceeding the Part 201 Cleanup Criteria and Screening Levels</b>
SB-1 (06/2021)	<b>Soil:</b> 4.0-5.0 and 8.0-9.0	VOCs and PNAs	None
SB-2 (06/2021)	<b>Soil:</b> 4.0-5.0 and 8.0-9.0	VOCs and PNAs	None
SB-3 (06/2021)	<b>Soil:</b> 1.0-2.0 and 5.0-6.0	VOCs and PNAs	None
SB-4 (06/2021)	<b>Soil:</b> 3.5-4.5	VOCs, PNAs, PCBs, and MI-10 metals	None
	<b>Soil:</b> 6.0-7.0	VOCs, PNAs, PCBs, and MI-10 metals	None
SB-5 (06/2021)	<b>Soil:</b> 3.5-4.5	VOCs, PNAs, PCBs, and MI-10 metals	<b>DC(R):</b> benzo(a)pyrene, benzo(b)fluoranthene <b>DC(NR):</b> benzo(a)pyrene <b>GSIP:</b> fluoranthene, naphthalene, phenanthrene, mercury <b>SSVIAC:</b> naphthalene, phenanthrene, mercury
	<b>Soil:</b> 7.0-8.0	VOCs, PNAs, PCBs, and MI-10 metals	None
SB-6 (06/2021)	<b>Soil:</b> 5.5-6.5 and 14.0-15.0	VOCs, PNAs, PCBs, and MI-10 metals	None
SB-7 (06/2021)	<b>Soil:</b> 1.0-2.0 and 5.5-6.5	VOCs, PNAs, PCBs, and MI-10 metals	None
SB-8 (06/2021)	<b>Soil:</b> 1.0-2.0 and 7.0-8.0	VOCs, PNAs, PCBs, and MI-10 metals	None

Location (date)	Sample Depth (feet bgs)	Analysis	Compounds Exceeding the Part 201 Cleanup Criteria and Screening Levels
SB-5R (11/2021)	<b>Soil:</b> 0.5-1.5	VOCs and PNAs	<b>DC(R):</b> benzo(a)pyrene <b>GSIP:</b> fluoranthene, phenanthrene <b>SSVIAC:</b> ethylbenzene, xylenes, phenanthrene
	<b>Soil:</b> 4.5-5.5 and 5.5-6.5	VOCs and PNAs	None
SB-6A (11/2021)	<b>Soil:</b> 3.5-4.5 and 4.5-5.5	VOCs and PNAs	None
SB-7A (11/2021)	<b>Soil:</b> 3.5-4.5 and 4.5-5.5	VOCs and PNAs	None
SB-8A (11/2021)	<b>Soil:</b> 3.5-4.5 and 4.5-5.5	VOCs and PNAs	None
SB-9 (11/2021)	<b>Soil:</b> 3.5-4.5	VOCs and PNAs	<b>DC(R):</b> benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene <b>DC(NR):</b> benzo(a)pyrene <b>GSIP:</b> naphthalene, fluoranthene <b>DWP(R):</b> phenanthrene <b>SSVIAC:</b> 2-methylnaphthalene, naphthalene, phenanthrene
	<b>Soil:</b> 4.5-5.5	VOCs and PNAs	None
SB-10 (11/2021)	<b>Soil:</b> 3.5-4.5	VOCs and PNAs	<b>GSIP:</b> phenanthrene <b>SSVIAC:</b> phenanthrene
	<b>Soil:</b> 4.5-5.5		None

R – Residential

GSIP – Groundwater Surface Water Interface Protection

NR – Nonresidential

DC – Direct Contact

No other concentrations of VOCs, PNAs, PCBs, and Michigan ten metals were identified in any of the remaining soil samples analyzed during the June and November 2021 site investigations above the laboratory MDLs, SDBLs, RBLs, and/or the most restrictive Part 201 Residential cleanup criteria and SSVIAC.

## 2.2 Summary of Soil Gas Analytical Results

The soil gas sample locations and analytical summaries from PM's 2021 site investigation are included on Figure 4 and in Table 2.

No concentrations of VOCs were detected in the soil gas samples analyzed from the subject property above laboratory MDLs and/or the SSVIAC.

## **2.3 Subject Property Facility Status**

Concentrations of target analytes were identified in soil samples collected from the subject property during the 2021 site investigations above the Part 201 Residential and Nonresidential DWP, GSIP and/or DC cleanup criteria and the SSVIAC. Based on the identified exceedances of the Part 201 cleanup criteria and SSVIAC, the subject property meets the definition of a "Facility" in accordance with Part 201 of P.A. 451, as amended, and the rules promulgated thereunder.

## **3.0 PROPERTY INFORMATION**

### **3.1 Legal Description of Subject Property**

As indicated in Section 1.0, the subject parcel consists of one parcel (Parcel ID: 02000618-9, Figure 2A) totaling 1.96 acres located on the southwest corner of Ledyard Street and Cass Avenue in Detroit, Wayne County, Michigan (Figure 1). The subject parcel land will not be legally split into smaller parcels; however, the subject parcel will be subdivided into three separate condominium units. The Anchor at Mariners Inn, LDHA, LP intends to lease and redevelop Unit #1 (0.348 acres) and Unit #2 (0.563 acres) via a long-term lease from the current property owner, Diocese of Michigan Episcopal Church. The Anchor at Mariners Inn, LDHA, LP will lease portions of the subject parcel identified as Unit #1, Unit #2, and the General Common Element as defined on the legal description included in Appendix A.

### **3.2 Survey Map of Subject Property**

A map of the subject property that depicts the subject property/parcel boundaries is included as Figure 2.

### **3.3 Location and Analytical Summary Maps**

PM's Figures 3 and 4 provide scaled maps of the subject property with site features, sample locations, and a summary of the soil and soil gas analytical results from PM's 2021 site investigation activities.

### **3.4 Subject Property Location Map**

Figure 1 provides a scaled area map depicting the subject property location in relation to the surrounding area, and Figure 2 provides a scaled map of the subject property.

### **3.5 Subject Property Address**

As indicated in Section 1.0, the subject property consists of one parcel of land (Parcel ID: 02000618-9 located at 445 Ledyard, Detroit, Wayne County, Michigan 48210 (Figure 1).

### **3.6 Subject Property Spatial Data**

The subject property is located in an area of Detroit, Wayne County, Michigan where township, range, and section are not applicable.

According to the EGLE Environmental Mapper Website, the subject property is located at latitude 42.33979 north and a longitude of -83.05828 west.



#### **4.0 FACILITY/PROPERTY STATUS OF SUBJECT PROPERTY**

As indicated in Section 2.3, contaminant concentrations identified on the subject property indicate exceedances of the Part 201 Residential and/or Nonresidential DWP, GSIP, and DC cleanup criteria and SSVIAC. Therefore, the subject property is a facility under Part 201 of P.A. 451, as amended, and the rules promulgated thereunder.

##### **4.1 Summary Data Tables**

The soil and soil gas analytical results from PM's November 2021 site investigation are summarized in PM's Table 1 and 2.

##### **4.2 Laboratory Reports and Chain of Custody Documentation**

The laboratory reports and associated chain of custody documentation from PM's 2021 site investigations are included in Appendix E.

#### **5.0 IDENTIFICATION OF BEA AUTHOR**

This BEA was conducted on June 7, 2022 by Mr. Jeremy Meshew, P.G., Project Geologist, and reviewed by Mr. Nicholas Lieder, Regional Manager – Site Investigation Services, PM Environmental, Inc., which is prior to the purchase of the subject property. Qualification statements are provided as Appendix F.

I declare that, to the best of our professional knowledge and belief, I meet the definition of an Environmental Professional as defined in §312.10 of 40 CFR 312 and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquires in conformance with the standards and practices set forth in 40 CFR Part 312.



Jeremy Meshew, P.G.  
Project Geologist



Nicholas Lieder  
Regional Manager – Site Investigation Services

#### **6.0 AAI REPORT OR ASTM PHASE I ESA**

As indicated in Section 1.3, PM performed a Phase I ESA of the subject property dated May 20, 2022, in conformance with the scope and limitations of ASTM Standard Practice E 1527-13 for the subject property located at 445 Ledyard, Detroit, Wayne County, Michigan. The scope of the Phase I ESA included consideration of hazardous substances as defined in Section 20101(1)(x) of P.A 451 of 1994, as amended, and constituted the performance of an All Appropriate Inquiry in conformance with the standards and practices set forth in 40 CFR Part 312.

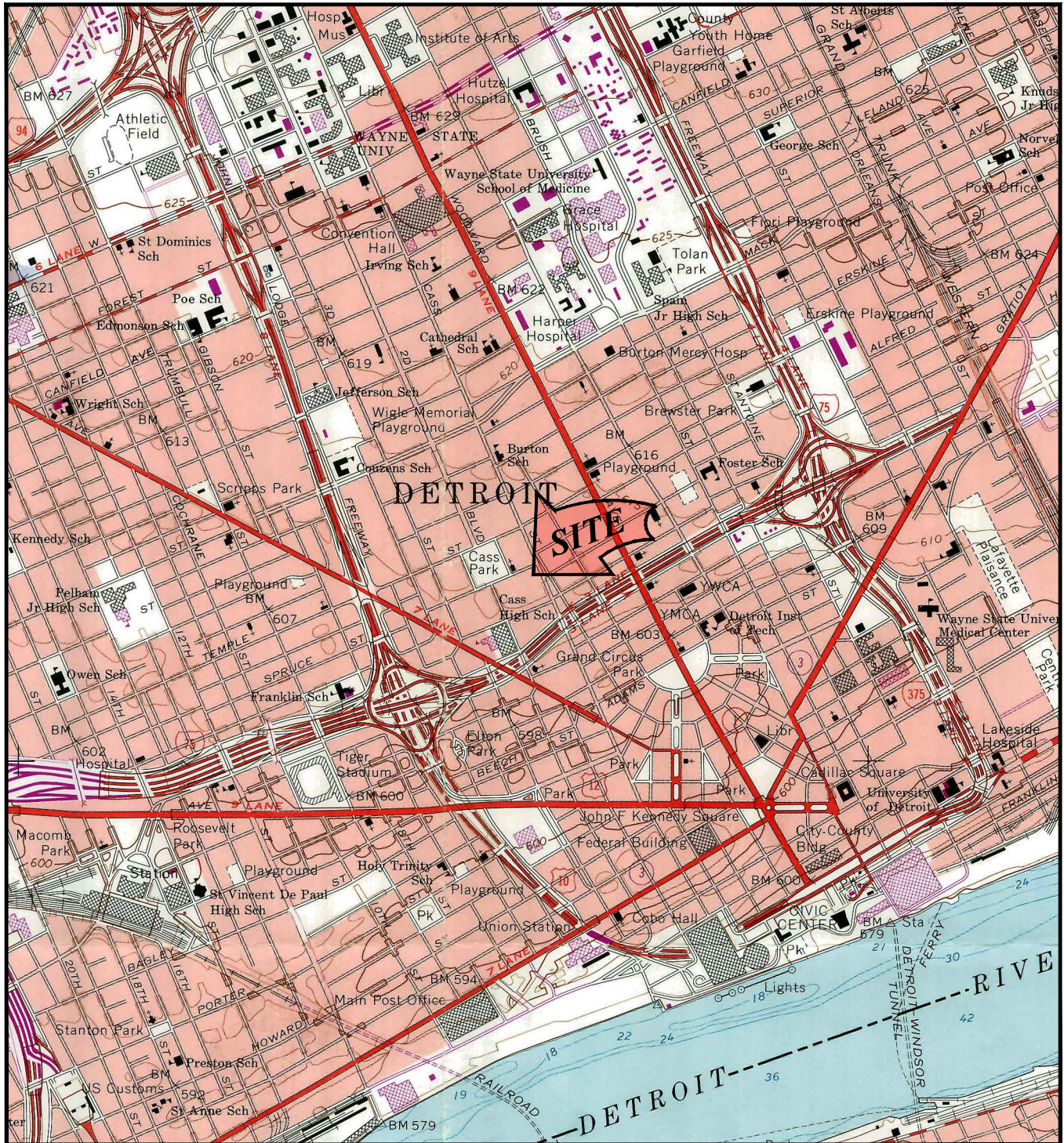
A copy of PM's May 2022 Phase I ESA is included in Appendix B.

## **7.0 REFERENCES**

- Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM, ASTM Designation E 1527-13, Published November 2013;
- EGLE Generic Cleanup Criteria and Screening Levels as presented in Part 201 Rules 299.1 through 299.50, dated December 21, 2020, entitled "Cleanup Criteria Requirements for Response Activity";
- EGLE Operational Memorandum No. 2 "Sampling and Analysis," October 22, 2004, Revised July 5, 2007;
- EGLE Guidance Document for The Vapor Intrusion Pathway, Policy and Procedure Number: 09-017, September 4, 2020 (Portions rescinded in June 2017);
- Phase I ESA, PM, August 30, 2019;
- Phase II ESA, PM, May 20, 2022; and
- EGLE SSVIAC Memo, June 7, 2022.

## Figures





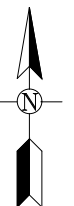
MICHIGAN QUADRANGLE LOCATION

# WAYNE COUNTY

FIGURE 1

PROPERTY VICINITY MAP

UNITED STATES GEOLOGICAL SURVEY, 7.5 MINUTE SERIES  
DETROIT, MI QUADRANGLE, 1968. PHOTO REVISED 1973 AND 1980.



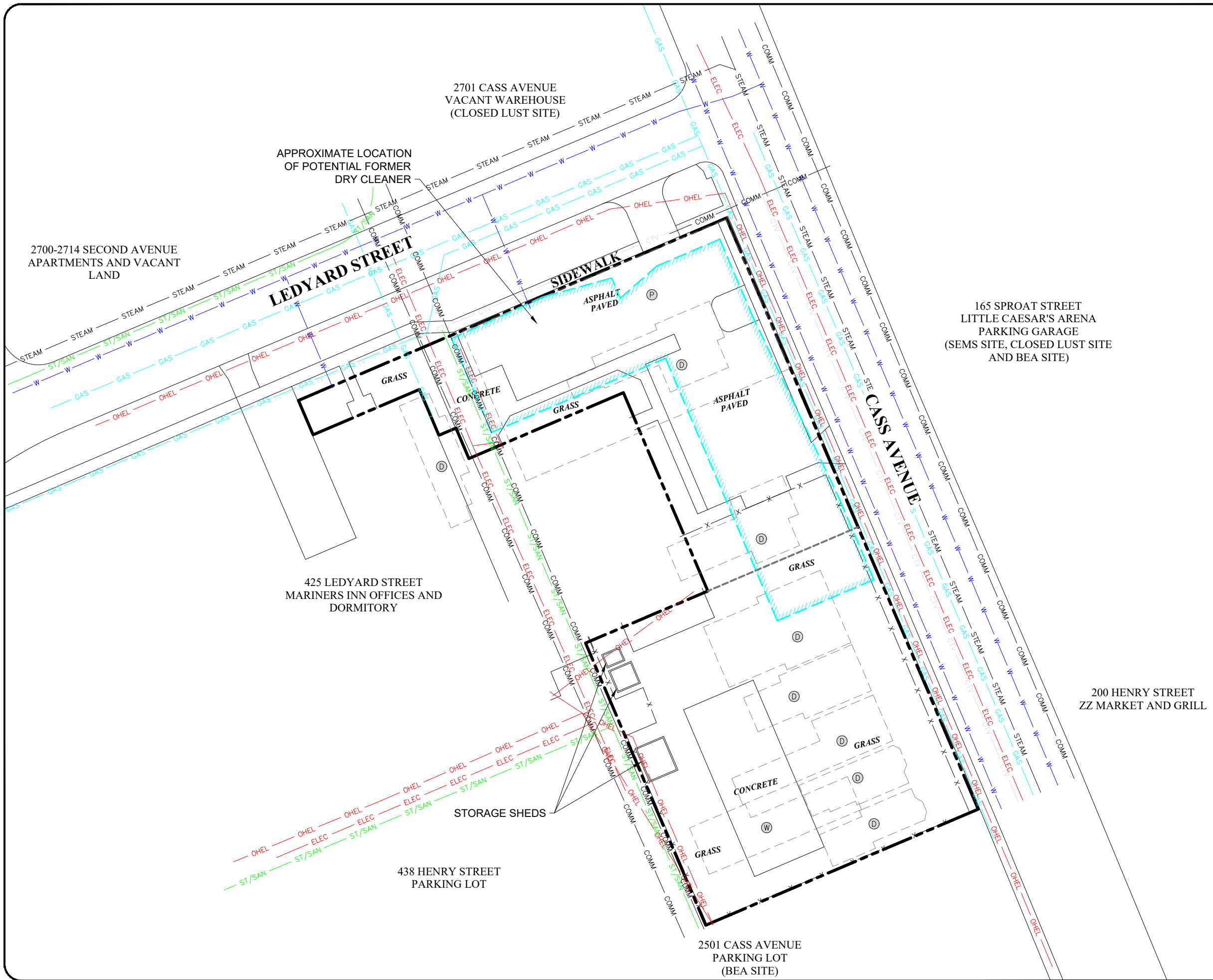
PROJ:  
THE ANCHOR AT MARINERS INN  
PROPOSED CONDOMINIUM UNITS 1 AND 2  
AND GENERAL COMMON ELEMENTS  
DETROIT, MI

THIS IS NOT A LEGAL  
SURVEY

VERIFY SCALE  
0 2,000'  
IF NOT 1" ON THIS  
SHEET, ADJUST  
SCALES ACCORDINGLY.

DRN BY: KS	DATE: 5/4/2022
CHKD BY: BP/DN	SCALE: 1" = 2,000'
FILE NAME: 01-11288-1-004F00R01	





- LEGEND:**
- SUBJECT PROPERTY
  - APPROXIMATE FORMER/HISTORICAL SITE FEATURES
  - FENCE
  - PROPOSED SITE FEATURES
  - OVERHEAD ELECTRIC LINE
  - ELECTRIC
  - WATER
  - GAS
  - COMBINATION SANITARY / STORM SEWER
  - FORMER CABLE TV
  - PHONE LINE
  - FORMER DWELLING
  - FORMER GARAGE
  - FORMER OUTBUILDING
  - FORMER "PRISCILLA INN" WOMEN'S BOARDING BUILDING
  - FORMER CAR WASH



**FIGURE 2**

SITE PLAN

PROJ: THE ANCHOR AT MARINERS INN PROPOSED CONDOMINIUM UNITS 1 AND 2 AND GENERAL COMMON ELEMENTS DETROIT, MI			
THIS IS NOT A LEGAL SURVEY	DRN BY: KS	DATE: 5/4/2022	
VERIFY SCALE 0 50'	CHKD BY: DB/DN	SCALE: 1" = 50'	
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.			
FILE NAME: 01-11288-1-004F00R01			



SB-2	SB-2
6/10/2021	6/10/2021
4.0 - 5.0'	7.0 - 8.0'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL

SB-1	SB-1
6/10/2021	6/10/2021
1.0 - 2.0'	7.0 - 8.0'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL

SB-8	SB-8
6/10/2021	6/10/2021
1.0 - 2.0'	7.0 - 8.0'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
B(k)FLA 300	PNAs <MDL
FL 500	PCBs <MDL
Ph 400	As 1,860
Py 400	Ba 60,900
OTHER PNAs <MDL	Cr 7,040
PCBs <MDL	Cu 5,370
As 1,470	Pb 5,020
Ba 61,800	Zn 18,000
Cr 5,180	OTHER METALS <MDL
Cu 6,600	
Pb 18,000	
Hg 55	
Zn 20,800	
OTHER METALS <MDL	

SB-7	SB-7
6/10/2021	6/10/2021
1.0 - 2.0'	5.5 - 6.5'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL
PCBs <MDL	PCBs <MDL
As 1,590	As 1,090
Ba 64,100	Ba 32,800
Cd 360	Cr 6,740
Cr 4,490	Cu 6,090
Cu 5,490	Pb 4,430
Pb 8,890	Zn 18,100
Zn 16,400	OTHER METALS <MDL
OTHER METALS <MDL	

SB-6	SB-6
6/10/2021	6/10/2021
5.5 - 6.5'	14.0 - 15.0'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL
PCBs <MDL	PCBs <MDL
As 1,320	As 3,950
Ba 45,400	Ba 49,700
Cd 300	Cr 8,890
Cr 6,910	Cu 11,200
Cu 4,910	Pb 6,630
Pb 4,860	Zn 26,000
Zn 19,200	OTHER METALS <MDL
OTHER METALS <MDL	

SB-9	SB-9
11/24/2021	11/24/2021
3.5 - 4.5'	4.5 - 5.5'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL
PCBs <MDL	PCBs <MDL
As 1,320	As 3,950
Ba 45,400	Ba 49,700
Cd 300	Cr 8,890
Cr 6,910	Cu 11,200
Cu 4,910	Pb 6,630
Pb 4,860	Zn 26,000
Zn 19,200	OTHER METALS <MDL
OTHER METALS <MDL	

SB-8A	SB-8A
11/24/2021	11/24/2021
3.5 - 4.5'	4.5 - 5.5'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL

SB-3	SB-3
6/10/2021	6/10/2021
1.0 - 2.0'	5.0 - 6.0'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL

SB-10	SB-10
11/24/2021	11/24/2021
3.5 - 4.5'	4.5 - 5.5'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
ANT 600	PNAs <MDL
B(a)ANTH 1,400	
B(b)FLA 2,200	
B(g,h,i)PER 500	
B(k)FLA 2,500	
CHRYSENE 1,400	
FL 2,900	
I(1,2,3-CD)PY 500	
Ph 2,800	
Py 2,800	
OTHER PNAs <MDL	

SB-5R	SB-5R	SB-5R
11/24/2021	11/24/2021	11/24/2021
0.5 - 1.5'	4.5 - 5.5'	5.5 - 6.5'
UNITS ug/Kg	UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL	PNAs <MDL
E 70		
T 110		
X 420		
OTHER VOCs <MDL		
ACETHY 400		
ANT 900		
B(a)ANTH 2,900		
B(b)FLA 6,100		
B(g,h,i)PER 800		
B(k)FLA 6,800		
CHRYSENE 3,000		
FL 6,200		
I(1,2,3-CD)PY 800		
Ph 3,200		
Py 6,300		
OTHER PNAs <MDL		

SB-7A	SB-7A
11/24/2021	11/24/2021
3.5 - 4.5'	4.5 - 5.5'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL

SB-5	SB-5
6/10/2021	6/10/2021
3.5 - 4.5'	7.0 - 8.0'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
PNAs <MDL	PNAs <MDL
PCBs <MDL	PCBs <MDL
ACE 2,200	As 1,250
ACETHY 600	Ba 37,200
ANT 7,800	Cr 6,730
B(a)ANTH 14,600	Cu 3,360
B(b)FLA 12,600	Pb 5,260
B(g,h,i)PER 4,100	Zn 15,900
B(k)FLA 26,200	OTHER METALS <MDL
CHRYSENE 14,600	
FL 30,100	
F 2,800	
I(1,2,3-CD)PY 4,600	
2-M 900	
NAPH 1,400	
Ph 27,400	
Py 25,000	
OTHER PNAs <MDL	
PCBs <MDL	
As 3,600	
Ba 224,000	
Cd 650	
Cr 8,220	
Cu 7,730	
Pb 231,000	
Hg 898	
Zn 219,000	
OTHER METALS <MDL	

SB-4	SB-4
6/10/2021	6/10/2021
3.5 - 4.5'	6.0 - 7.0'
UNITS ug/Kg	UNITS ug/Kg
VOCs <MDL	VOCs <MDL
B(k)FLA 300	PNAs <MDL
FL 400	PCBs <MDL
Ph 300	As 1,280
Py 400	Ba 43,400
OTHER PNAs <MDL	Cd 200
PCBs <MDL	Cr 6,020
As 3,190	Cu 4,950
Ba 96,700	Pb 4,990
Cd 530	Zn 16,300
Cr 6,130	OTHER METALS <MDL
Cu 19,700	
Pb 92,600	
Hg 296	
Se 470	
Ag 290	
Zn 168,000	

LEGEND:

- SUBJECT PROPERTY
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- FENCE
- PROPOSED SITE FEATURES
- OVERHEAD ELECTRIC LINE
- ELECTRIC
- WATER
- GAS
- COMBINATION SANITARY / STORM SEWER
- FORMER CABLE TV
- PHONE LINE

- FORMER DWELLING
- FORMER GARAGE
- FORMER OUTBUILDING
- FORMER "PRISCILLA INN" WOMEN'S BOARDING BUILDING
- FORMER CAR WASH
- SOIL BORING
- TEMPORARY SOIL GAS SAMPLE

- As ARSENIC
- Ba BARIUM
- Cd CADMIUM
- Cr CHROMIUM
- Pb LEAD
- Cu COPPER
- Hg MERCURY
- Se SELENIUM
- Ag SILVER
- Zn ZINC
- ACE ACENAPHTHENE
- ACETHY ACENAPHTHYLENE
- ANTH ANTHRACENE
- B(a)ANTH BENZO(a)ANTHRACENE
- B(a)PYR BENZO(a)PYRENE
- B(b)FLA BENZO(b)FLUORANTHENE
- B(g,h,i)PER BENZO(g,h,i)PERYLENE
- B(k)FLA BENZO(k)FLUORANTHENE
- F FLUORENE
- FL FLUORANTHENE
- 2-M 2-METHYLNAPHTHALENE
- NAPH NAPHTHALENE
- Ph PHENANTHRENE
- Py PYRENE
- D(A,H)ANT DIBENZO(a,h)ANTHRACENE
- VOCs VOLATILE ORGANIC COMPOUNDS
- PNAs POLYNUCLEAR AROMATIC COMPOUNDS
- PCBs POLYCHLORINATED BIPHENYLS
- MDL METHOD DETECTION LIMIT
- UNITS ug/Kg (UNLESS NOTED)
- VALUE EXCEEDS CRITERIA

NOTES: REFER TO TABLES FOR SPECIFIC COMPOUNDS ANALYZED

200 HENRY STREET  
ZZ MARKET AND GRILL



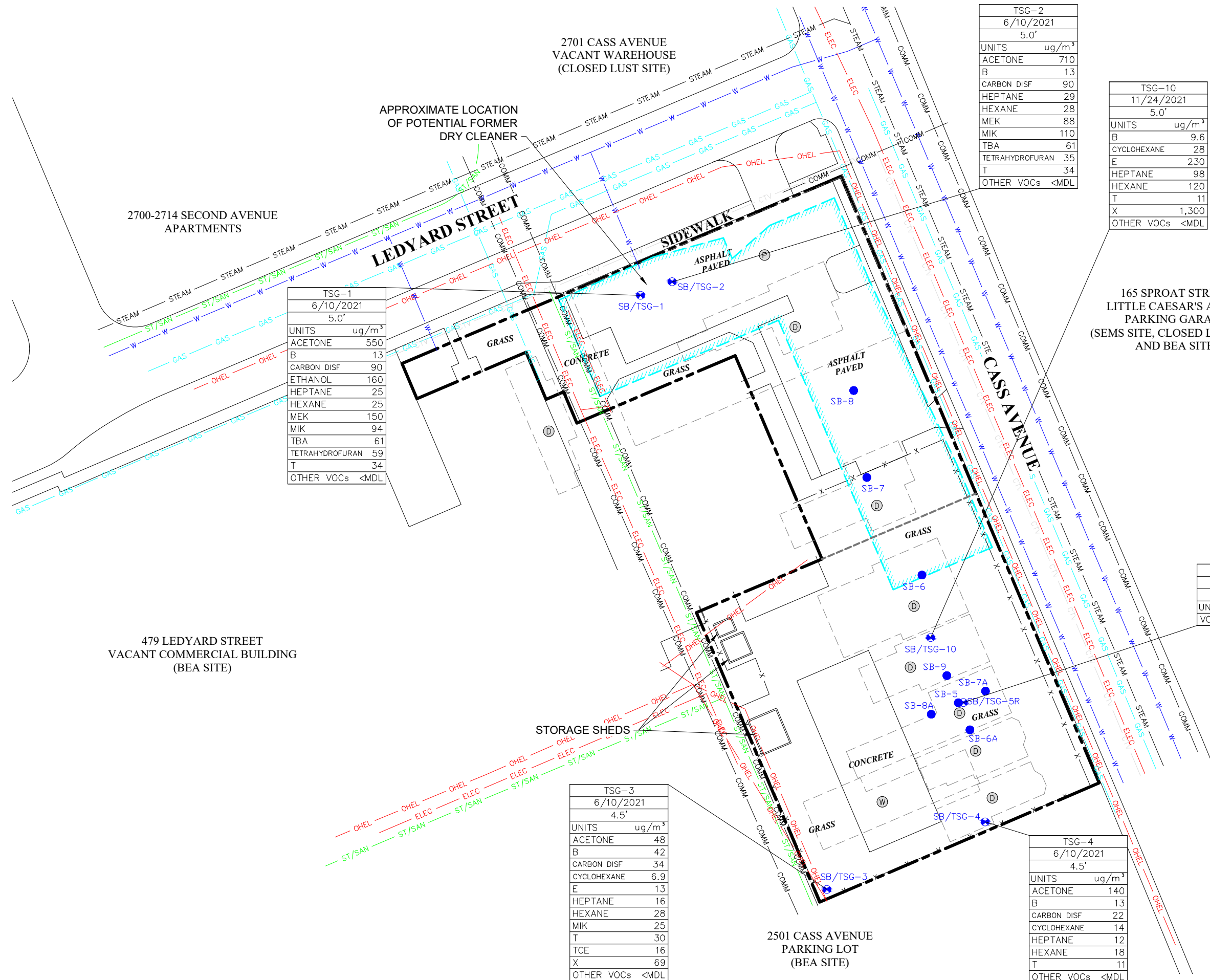
FIGURE 3

SOIL ANALYTICAL RESULTS

PROJ: THE ANCHOR AT MARINERS INN  
PROPOSED CONDOMINIUM UNITS 1 AND 2 AND  
GENERAL COMMON ELEMENTS  
DETROIT, MI

THIS IS NOT A LEGAL SURVEY  
VERIFY SCALE  
0 50'  
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRN BY: KS/CS  
DATE: 12/28/2021  
CHKD BY: DB/JB  
SCALE: 1" = 50'  
FILE NAME: 01-11288-1-004F00R01



LEGEND:

- SUBJECT PROPERTY
- APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- FENCE
- PROPOSED SITE FEATURES
- OVERHEAD ELECTRIC LINE
- ELECTRIC
- WATER
- GAS
- COMBINATION SANITARY / STORM SEWER
- FORMER CABLE TV
- PHONE LINE
- FORMER DWELLING
- FORMER GARAGE
- FORMER OUTBUILDING
- FORMER "PRISCILLA INN" WOMEN'S BOARDING BUILDING
- FORMER CAR WASH
- SOIL BORING
- TEMPORARY SOIL GAS SAMPLE
- BENZENE
- TOLUENE
- ETHYLBENZENE
- XYLENES
- TRICHLOROETHENE
- 2-BUTANONE (MEK)
- METHYL ISOBUTYL KETONE
- TERTIARYBUTYLALCOHOL
- CARBON DISULFIDE
- VOCs
- MDL
- UNITS
- REFER TO TABLES FOR SPECIFIC COMPOUNDS ANALYZED

### FIGURE 4

SOIL GAS ANALYTICAL RESULTS

PROJ: THE ANCHOR AT MARINERS INN  
PROPOSED CONDOMINIUM UNITS 1 AND 2 AND  
GENERAL COMMON ELEMENTS  
DETROIT, MI

THIS IS NOT A LEGAL SURVEY	DRN BY: KS/CS	DATE: 12/28/2021
VERIFY SCALE	CHKD BY: DB/JB	SCALE: 1" = 50'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.		
FILE NAME: 01-11288-1-004F00R01		

# Tables

TABLE 1  
SUMMARY OF SOIL ANALYTICAL RESULTS  
VOCs, PNA's, PCBs, AND METALS  
EASTERN AND SOUTHERN PORTION OF 445 LEDYARD, DETROIT, MICHIGAN  
PM PROJECT #01-11288-1-0004

Volatile Organic Compounds (VOCs), Polynuclear Aromatic Compounds (PNAs), Polychlorinated Biphenyls (PCBs), and Metals  (µg/Kg)				Ethylbenzene	2-Methylnaphthalene	Naphthalene	Toluene	Xylenes	Other VOCs	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	PCBs	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc						
Chemical Abstract Service Number (CAS#)				100414	91576	91203	108883	1330207	Various	83329	208968	120127	56553	50328	205992	191242	207089	218019	53703	206440	86737	193395	91576	91203	85018	129000	1336363	7440382	7440393	7440439	16065831	7440508	7439921	7439976	7782492	7440224	7440666						
Sample ID	Sample Date	Sample Depth (feet bgs)	VOCs						PNAs																		PCBs	Metals															
PM's June 2021 Site Investigation																																											
SB-1	06/10/2021	4.0-5.0	<80	<100	<400	<80	<280	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
		7.0-8.0	<60	<100	<300	<60	<160	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
		7.0-8.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
SB-2	06/10/2021	4.0-5.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
		7.0-8.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
		7.0-8.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
SB-3	06/10/2021	1.0-2.0	<60	<200	<400	<60	<160	<MDL	<300	<300	<300	<300	<300	<300	400	<300	500	<300	<300	400	<300	<300	<300	<300	<300	<300	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
		5.0-6.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
		7.0-8.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
SB-4	06/10/2021	3.5-4.5	<70	<100	<400	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	300	<300	<300	400	<300	<300	<300	<300	<300	300	400	<330	3,190	96,700	530	6,130	19,700	92,600	296	470	290	168,000					
		6.0-7.0	<60	<100	<300	<60	<160	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	1,280	43,400	200	6,020	4,950	4,990	<50	<400	<200	16,300					
		3.5-4.5	<70	300	600	<70	<170	<MDL	2,200	600	7,800	14,600	12,600	22,500	4,100	26,200	14,600	<300	30,100	2,800	4,600	900	1,400	27,400	25,000	<330	3,600	224,000	650	8,220	7,730	231,000	898	<400	<200	219,000							
SB-5	06/10/2021	7.0-8.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	1,250	37,200	<200	6,730	3,360	5,260	<50	<400	<200	15,900						
		5.5-6.5	<70	<100	<400	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	1,320	45,400	300	6,910	4,910	4,860	<50	<400	<200	19,200							
		14.0-15.0	<60	<100	<300	<60	<160	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	3,950	49,700	<200	8,890	11,200	6,630	<50	<400	<200	26,000						
SB-6	06/10/2021	1.0-2.0	<60	<100	<300	<60	<160	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	1,590	64,100	360	4,490	5,490	8,890	<50	<400	<200	16,400						
		5.5-6.5	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	1,090	32,800	<200	6,740	6,090	4,430	<50	<400	<200	18,100						
		1.0-2.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	300	<300	<300	500	<300	<300	<300	<300	400	400	<330	1,470	61,800	<200	5,180	6,600	18,000	55	<400	<200	20,800						
SB-7	06/10/2021	7.0-8.0	<60	<100	<300	<60	<160	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	1,860	60,900	<200	7,040	5,370	5,020	<50	<400	<200	18,000						
		5.5-6.5	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	1,090	32,800	<200	6,740	6,090	4,430	<50	<400	<200	18,100						
		1.0-2.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	300	<300	<300	500	<300	<300	<300	<300	400	400	<330	1,470	61,800	<200	5,180	6,600	18,000	55	<400	<200	20,800						
SB-8	06/10/2021	7.0-8.0	<60	<100	<300	<60	<160	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	1,860	60,900	<200	7,040	5,370	5,020	<50	<400	<200	18,000						
		5.5-6.5	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<330	1,090	32,800	<200	6,740	6,090	4,430	<50	<400	<200	18,100						
		1.0-2.0	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	300	<300	<300	500	<300	<300	<300	<300	400	400	<330	1,470	61,800	<200	5,180	6,600	18,000	55	<400	<200	20,800						
PM's November 2021 Site Investigation																																											
SB-5R	11/24/2021	0.5-1.5	70	<100	<300	110	420	<MDL	<300	400	900	2,900	2,900	6,100	800	6,800	3,000	<300	6,200	<300	800	<300	<300	3,200	6,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
		4.5-5.5	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
		5.5-6.5	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
SB-6A	11/24/2021	3.5-4.5	<70	<100	<400	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		4.5-5.5	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
		4.5-5.5	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
SB-7A	11/24/2021	3.5-4.5	<70	<100	<400	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		4.5-5.5	<70	<100	<300	<70	<170	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300																	

	Criteria Exceeded
<b>BOLD</b>	Value Exceeds Cleanup Criteria
bgs	Below Ground Surface
µg/Kg	Micrograms Per Kilogram
<MDL	Not detected at levels above the laboratory Method Detection Limit (MDL)
NA	Not Applicable
NL	Not Listed
NLL	Not Likely to Leach
NLV	Not Likely to Volatilize
ID	Insufficient Data
{G}	Metal GSP Criteria for Surface Water Not Protected for Drinking Water Use based on 146 mg/L CaCO <sub>3</sub> Hardness: Station ID 259010, Station Detroit River, near Detroit, MI.
( )	Other Alpha notation, please refer to EGLE Footnotes R 299.49 Footnotes for Generic Cleanup Criteria Tables, December 21, 2020

TABLE 2  
SUMMARY OF SOIL GAS ANALYTICAL RESULTS  
VOCs  
EASTERN AND SOUTHERN PORTION OF 445 LEDYARD, DETROIT, MICHIGAN  
PM PROJECT #01-11288-1-0004

Volatile Organic Compounds (VOCs)  (µg/m³)			Acetone	Benzene	Carbon disulfide	Cyclohexane	Ethanol	Ethylbenzene	Heptane	Hexane	Methyl ethyl ketone	Methyl Isobutyl Ketone	Tertiary Butyl Alcohol	Tetrahydrofuran	Toluene	Trichloroethylene	Xylenes (total)	Other VOCs
Chemical Abstract Service Number (CAS#)			67641	71432	75150	110827	64175	100414	142825	110543	78933	108101	75650	109999	108883	79016	1330207	Various
Sample ID	Sample Date	Sample Depth (feet bgs)	VOCs															
PM's June 2021 Site Investigation																		
TSG-1	06/10/2021	5.0	550	13	90	<6.9	160	<8.7	25	25	150	94	61	59	34	<11	<26	<MDL
TSG-2	06/10/2021	5.0	710	13	90	<6.9	<110	<8.7	29	28	88	110	61	35	34	<11	<26	<MDL
TSG-3	06/10/2021	4.5	48	42	34	6.9	<47	13	16	28	<59	25	<30	<5.9	30	16	69	<MDL
TSG-4	06/10/2021	4.5	140	13	22	14	<47	<8.7	12	18	<59	<20	<30	<5.9	11	<11	<26	<MDL
PM's November 2021 Site Investigation																		
TSG-5R	11/24/2021	5.0	<48	<6.4	<16	<6.9	<47	<8.7	<8.2	<7.0	<17	<20	<30	<5.9	<7.5	<11	<26	<MDL
TSG-10	11/24/2021	5.0	<48	9.6	<16	28	<47	230	98	120	<17	<20	<30	<5.9	11	<11	1,300	<MDL
EGLE Site-Specic Volatilization to Indoor Air Criteria (SSVIAC), June 7, 2022																		
EGLE Residential/Nonresidential Volatilization to Indoor Air Pathway (VIAP) Screening Levels (µg/m3)																		
Residential Site-Specific Volatilization to Indoor Air Criteria (VIAC)			1.0E+06 (EE)	110	24,000	2.10E+05	6.3E+05 (EE)	340	1.20E+05	24,000	1.7E+05 (DD)	27,000	2,500	70,000	1.70E+05	67 (DD)	7,600 (J)	Various

- Screening Level Exceeded
- BOLD**

Value Exceeds Applicable Screening Level
- <MDL

Not detected at or above laboratory reporting or detection limits
- NA

Not Available/Not Applicable
- bgs

Below Ground Surface
- NL

Not Listed
- ID

Insufficient Data
- µg/m³

micrograms per cubic meter
- { }

Other Alpha notation, please refer to EGLE Footnotes R 299.49 Footnotes for Generic Cleanup Criteria Tables, December 21, 2020



## Appendix A

**445 LEDYARD 48201** (Property Address)

Parcel Number: 02000618-9

**Property Owner: EPISCOPAL CHURCH, DIOCESE OF MI****Summary Information**

- > Commercial/Industrial Building Summary
  - Yr Built: 1880
  - # of Buildings: 4
  - Total Sq.Ft.: 41,466
- > Assessed Value: \$0 | Taxable Value: \$0
- > Property Tax information found

Item 1 of 15 13 Images / 2 Sketches

**Owner and Taxpayer Information**

<b>Owner</b>	EPISCOPAL CHURCH, DIOCESE OF MI 4800 WOODWARD AVE DETROIT, MI 48201-1310	<b>Taxpayer</b>	SEE OWNER INFORMATION
--------------	--	-----------------	-----------------------

**General Information for Tax Year 2022**

<b>Property Class</b>	201 201-COMMERCIAL	<b>Unit</b>	01 CITY OF DETROIT
<b>School District</b>	DETROIT CITY SCHOOL DISTRICT	<b>Assessed Value</b>	\$0
<b>WARD#</b>	02	<b>Taxable Value</b>	\$0
<b>HOPE#</b>	4	<b>State Equalized Value</b>	\$0
<b>PP CODE#</b>	Not Available	<b>Date of Last Name Change</b>	03/22/2004
<b>RELATED #</b>	Not Available	<b>Notes</b>	Not Available
<b>Historical District</b>	Not Available	<b>Census Block Group</b>	Not Available
<b>COUNCIL#</b>	Not Available	<b>Exemption</b>	No Data to Display

**Principal Residence Exemption Information****Homestead Date** No Data to Display

Principal Residence Exemption	June 1st	Final
2022	0.0000 %	-
2021	0.0000 %	0.0000 %

**Land Information**

<b>Zoning Code</b>	B4	<b>Total Acres</b>	1.865
<b>Land Value</b>	\$2,830,980	<b>Land Improvements</b>	\$40,417
<b>Renaissance Zone</b>	No	<b>Renaissance Zone Expiration Date</b>	No Data to Display
<b>ECF Neighborhood</b>	Not Available	<b>Mortgage Code</b>	No Data to Display
<b>Lot Dimensions/Comments</b>	Not Available	<b>Neighborhood Enterprise Zone</b>	No

Lot(s)	Frontage	Depth
Lot 1	170.00 ft	207.00 ft
<b>Total Frontage: 170.00 ft</b>		<b>Average Depth: 207.00 ft</b>

**Legal Description**

S LEDYARD 3 THRU 12BLK--79 SUB PT CASS FARM L1 P93 PLATS, W C R 2/18 81,226.5 SQ FT

**Sale History**

Sale Date	Sale Price	Instrument	Grantor	Grantee	Terms of Sale	Liber/Page
No sales history found.						

**Building Information - 9480 sq ft Rooming Houses (Commercial)**

<b>Floor Area</b>	9,480 sq ft	<b>Estimated TCV</b>	Not Available
<b>Occupancy</b>	Rooming Houses	<b>Class</b>	C
<b>Stories Above Ground</b>	Not Available	<b>Average Story Height</b>	Not Available
<b>Basement Wall Height</b>	Not Available	<b>Identical Units</b>	Not Available
<b>Year Built</b>	1880	<b>Year Remodeled</b>	No Data to Display
<b>Percent Complete</b>	100%	<b>Heat</b>	Forced Air Furnace
<b>Physical Percent Good</b>	49%	<b>Functional Percent Good</b>	100%
<b>Economic Percent Good</b>	100%	<b>Effective Age</b>	35 yrs

#### Building Information - 21240 sq ft Office Buildings (Commercial)

<b>Floor Area</b>	21,240 sq ft	<b>Estimated TCV</b>	<i>Not Available</i>
<b>Occupancy</b>	Office Buildings	<b>Class</b>	C
<b>Stories Above Ground</b>	<i>Not Available</i>	<b>Average Story Height</b>	<i>Not Available</i>
<b>Basement Wall Height</b>	<i>Not Available</i>	<b>Identical Units</b>	<i>Not Available</i>
<b>Year Built</b>	1956	<b>Year Remodeled</b>	<i>No Data to Display</i>
<b>Percent Complete</b>	100%	<b>Heat</b>	Package Heating & Cooling
<b>Physical Percent Good</b>	63%	<b>Functional Percent Good</b>	100%
<b>Economic Percent Good</b>	100%	<b>Effective Age</b>	23 yrs

#### Building Information - 846 sq ft Office Buildings (Commercial)

<b>Floor Area</b>	846 sq ft	<b>Estimated TCV</b>	<i>Not Available</i>
<b>Occupancy</b>	Office Buildings	<b>Class</b>	C
<b>Stories Above Ground</b>	<i>Not Available</i>	<b>Average Story Height</b>	<i>Not Available</i>
<b>Basement Wall Height</b>	<i>Not Available</i>	<b>Identical Units</b>	<i>Not Available</i>
<b>Year Built</b>	1995	<b>Year Remodeled</b>	<i>No Data to Display</i>
<b>Percent Complete</b>	100%	<b>Heat</b>	Package Heating & Cooling
<b>Physical Percent Good</b>	63%	<b>Functional Percent Good</b>	100%
<b>Economic Percent Good</b>	100%	<b>Effective Age</b>	23 yrs

#### Building Information - 9900 sq ft Office Buildings (Commercial)

<b>Floor Area</b>	9,900 sq ft	<b>Estimated TCV</b>	<i>Not Available</i>
<b>Occupancy</b>	Office Buildings	<b>Class</b>	C
<b>Stories Above Ground</b>	<i>Not Available</i>	<b>Average Story Height</b>	<i>Not Available</i>
<b>Basement Wall Height</b>	<i>Not Available</i>	<b>Identical Units</b>	<i>Not Available</i>
<b>Year Built</b>	1995	<b>Year Remodeled</b>	<i>No Data to Display</i>
<b>Percent Complete</b>	100%	<b>Heat</b>	Package Heating & Cooling
<b>Physical Percent Good</b>	63%	<b>Functional Percent Good</b>	100%
<b>Economic Percent Good</b>	100%	<b>Effective Age</b>	23 yrs

**\*\*Disclaimer:** BS&A Software provides BS&A Online as a way for municipalities to display information online and is not responsible for the content or accuracy of the data herein. This data is provided for reference only and WITHOUT WARRANTY of any kind, expressed or inferred. Please contact your local municipality if you believe there are errors in the data.

WAYNE COUNTY CONDOMINIUM SUBDIVISION PLAN NO. \_\_\_\_\_  
EXHIBIT "B" TO THE MASTER DEED OF

MARINERS INN CONDOMINIUM

CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

DEVELOPER

SCRIPPS PARK ASSOCIATES, L.L.C.  
32500 TELEGRAPH, SUITE #222  
BINGHAM FARMS, MI 48025

ENGINEERS & SURVEYORS

GIFFELS WEBSTER  
28 W. ADAMS, SUITE 1200  
DETROIT, MICHIGAN 48226

PROPERTY DESCRIPTION

PARCEL 1

LOTS 3 THROUGH 12, CASS FARM SUBDIVISION OF BLOCKS 79 AND 80, AS RECORDED IN LIBER 1, PAGE 93 OF PLATS, WAYNE COUNTY RECORDS. TOGETHER WITH ALL THAT PART OF THE NORTH-SOUTH VACATED PUBLIC ALLEY, (20 FEET WIDE) IN BLOCK BOUNDED BY SECOND BOULEVARD, CASS AVENUE, HENRY AND LEDYARD STREETS WESTERLY OF AND ABUTTING THE WEST LINE OF THE NORTH 22.83 FEET OF LOT 5, AND LOTS 6 THROUGH 9; ALSO LYING EASTERLY OF AND ABUTTING THE EAST LINE OF LOT 10 OF THE "PLAT OF THE SUBDIVISION, BLOCKS 79, 80, 81 AND 82 OF THE CASS FARM", AS RECORDED IN LIBER 1 OF PLATS, PAGES 92 AND 93, CITY OF DETROIT, WAYNE COUNTY, MICHIGAN BEING MORE PARTICULARLY DESCRIBED AS:  
BEGINNING AT THE INTERSECTION OF THE WESTERLY LINE OF CASS AVENUE (71' WIDE) AND THE SOUTHERLY LINE OF LEDYARD STREET (100' WIDE), ALSO BEING THE NORTHEAST CORNER OF LOT 9 OF BLOCK 79 OF SAID SUBDIVISION OF THE CASS FARM; THENCE ALONG SAID WESTERLY LINE, SOUTH 23 DEGREES 48 MINUTES 35 SECONDS EAST 334.34 FEET RECORD, 334.95 FEET MEASURED; THENCE SOUTH 66 DEGREES 11 MINUTES 25 SECONDS WEST 150.00 FEET; THENCE NORTH 23 DEGREES 48 MINUTES 35 SECONDS WEST 127.17 FEET; THENCE SOUTH 66 DEGREES 09 MINUTES 03 SECONDS WEST 170.00' RECORD, 170.15 FEET MEASURED; THENCE NORTH 23 DEGREES 48 MINUTES 35 SECONDS WEST 207.17 FEET RECORD, 207.41 FEET MEASURED TO THE SOUTHERLY LINE OF SAID LEDYARD STREET; THENCE ALONG SAID SOUTHERLY LINE, NORTH 66 DEGREES 06 MINUTES 12 SECONDS EAST 320.00 FEET RECORD, 320.15 FEET MEASURED TO THE POINT OF BEGINNING, AND CONTAINING 1.96 ACRES.

ATTENTION: WAYNE COUNTY REGISTER OF DEEDS  
THE CONDOMINIUM SUBDIVISION PLAN NUMBER MUST BE ASSIGNED IN CONSECUTIVE SEQUENCE. WHEN A NUMBER HAS BEEN ASSIGNED TO THIS PROJECT, IT MUST BE PROPERLY SHOWN IN THE TITLE (SHEET 1) AND THE SURVEYOR'S CERTIFICATE (SHEET 2).

SHEET INDEX

1	COVER SHEET
2	SURVEY PLAN
3	SITE PLAN
4	UTILITY PLAN
5	COORDINATES AND UNIT INFORMATION

NOTE:  
THIS CONDOMINIUM SUBDIVISION PLAN IS NOT REQUIRED TO CONTAIN DETAILED PROJECT DESIGN PLANS PREPARED BY THE APPROPRIATE LICENSED DESIGN PROFESSIONAL. SUCH PROJECT DESIGN PLANS ARE FILED, AS PART OF THE CONSTRUCTION PERMIT APPLICATION, WITH THE ENFORCING AGENCY FOR THE STATE CONSTRUCTION CODE IN THE RELEVANT GOVERNMENTAL SUBDIVISION. THE ENFORCING AGENCY MAY BE A LOCAL BUILDING DEPARTMENT OR THE STATE DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS.

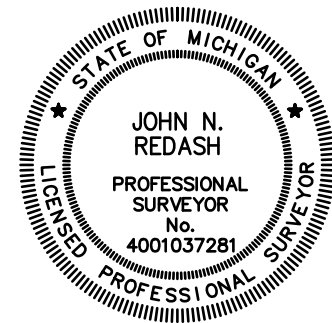


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SURVEYORS  
PLANNERS  
LANDSCAPE ARCHITECTS

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DETROIT, MI 48226  
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MANAGER:	JNR
DESIGNER:	MPM
Q. CTRL:	JNR
SECTION:	

SEAL:



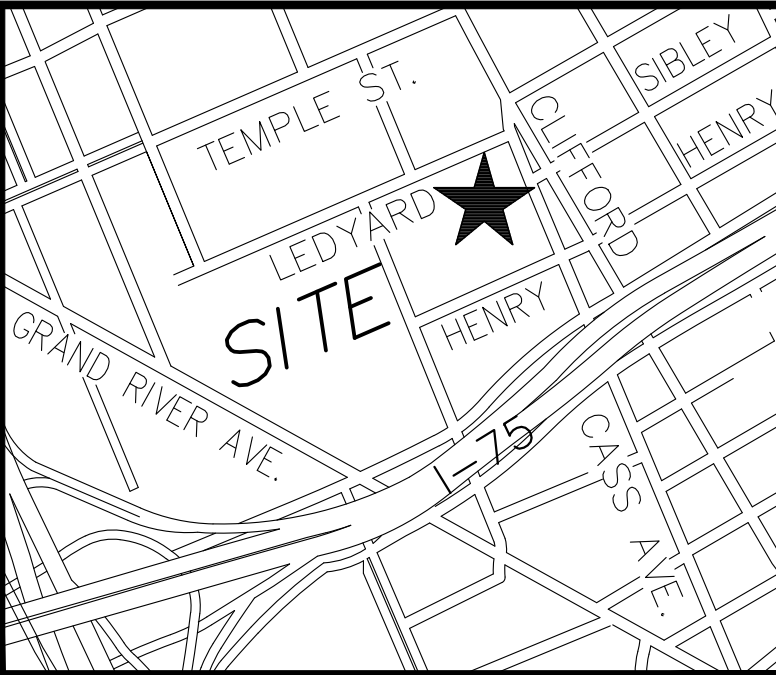
KNOW WHAT'S BELOW.  
CALL BEFORE YOU DIG.

DATE:	ISSUE:

MARINERS INN  
CONDOMINIUM  
CITY OF DETROIT  
WAYNE COUNTY  
MICHIGAN

DATE:	12.03.2020
SCALE:	NO SCALE
SHEET:	1
PROJECT:	19535.05D

PROPOSED 12.03.2020



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CONDOMINIUM  
CITY OF DETROIT  
WAYNE COUNTY  
MICHIGAN

DATE:	12.03.2020
SCALE:	1"=20'
SHEET:	2
PROJECT:	19535.05D

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1.96 ACRES

*P.O.B.*

S23°48'35"E 334.34 (R) 334.95' (M)

CASS AVENUE (71 FT. WD.)

# SURVEYOR'S CERTIFICATE

I, JOHN N. REDASH, PROFESSIONAL LAND SURVEYOR OF THE STATE OF MICHIGAN, HEREBY CERTIFY:

THAT THE SUBDIVISION PLAN KNOWN AS WAYNE COUNTY CONDOMINIUM  
SUBDIVISION PLAN NO. \_\_\_\_\_ AS SHOWN ON THE ACCOMPANYING  
DRAWINGS, REPRESENTS A SURVEY ON THE GROUND MADE UNDER MY  
DIRECTION, THAT THERE ARE EXISTING ENCROACHMENTS UPON THE  
LANDS AND THE PROPERTY HEREIN SHOWN AND DESCRIBED.

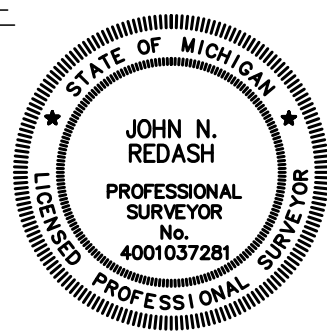
THAT THE REQUIRED MONUMENTS AND IRON MARKERS HAVE BEEN LOCATED IN THE GROUND AS REQUIRED BY RULES PROMULGATED UNDER SECTION 142 OF ACT 59 OF THE PUBLIC ACTS OF 1978, AS AMENDED.

THAT THE ACCURACY OF THIS SURVEY IS WITHIN THE LIMITS REQUIRED BY THE RULES PROMULGATED UNDER SECTION 142 OF ACT NO. 59 OF THE PUBLIC ACTS OF 1978 AS AMENDED.

THAT THE BEARINGS AS SHOWN, ARE NOTED ON THE SURVEY PLAN AS REQUIRED BY THE RULES PROMULGATED UNDER SECTION 142 OF ACT NO. 59 OF THE PUBLIC ACTS OF 1978 AS AMENDED.



12/03/2020

DATE \_\_\_\_\_



JOHN N. REDASH, P.S. NO. 4001037281  
GIFFELS WEBSTER  
28 W. ADAMS, SUITE 1200  
DETROIT, MI 48226

## LEGEND

- |   |   |
|---|---|
|  | PARCEL BOUNDARY<br>DENOTES AN ENCROACHMENT  |
| C.M.  | CONCRETE MONUMENT   |
| B.M.  | BENCH MARK  |
| (R)   | RECORDED BEARING OR DISTANCE  |
| (M)   | MEASURED BEARING OR DISTANCE  |
|  | BENCHMARK   |
| P.O.B.  | POINT OF BEGINNING  |
| CM ●  | INDICATES A SET MONUMENT WHICH IS<br>ONE-HALF (1/2) INCH DIAMETER STEEL BAR<br>THIRTY-SIX (36) INCHES LONG, ENCASED IN<br>CONCRETE FOUR (4) INCHES IN DIAMETER. |
| ●   | INDICATES A SET REBAR WHICH IS<br>ONE-HALF (1/2) INCH DIAMETER STEEL BAR<br>EIGHT (8) INCHES LONG, DRILLED AND<br>GROUTED IN PLACE.                             |

# SURVEY PLAN

## MARINERS INN CONDOMINIUM

PROPOSED 12.03.2020

NOTES:

CONDOMINIUM DOES LIE WITHIN AN AREA HAVING A ZONE DESIGNATION X (AREAS OF MINIMAL FLOODING) BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO.26163C0285E PANEL 285E OF 575) WITH AN EFFECTIVE DATE OF FEBRUARY 2, 2012 WAYNE COUNTY, MICHIGAN, (ALL JURISDICTIONS) WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY.

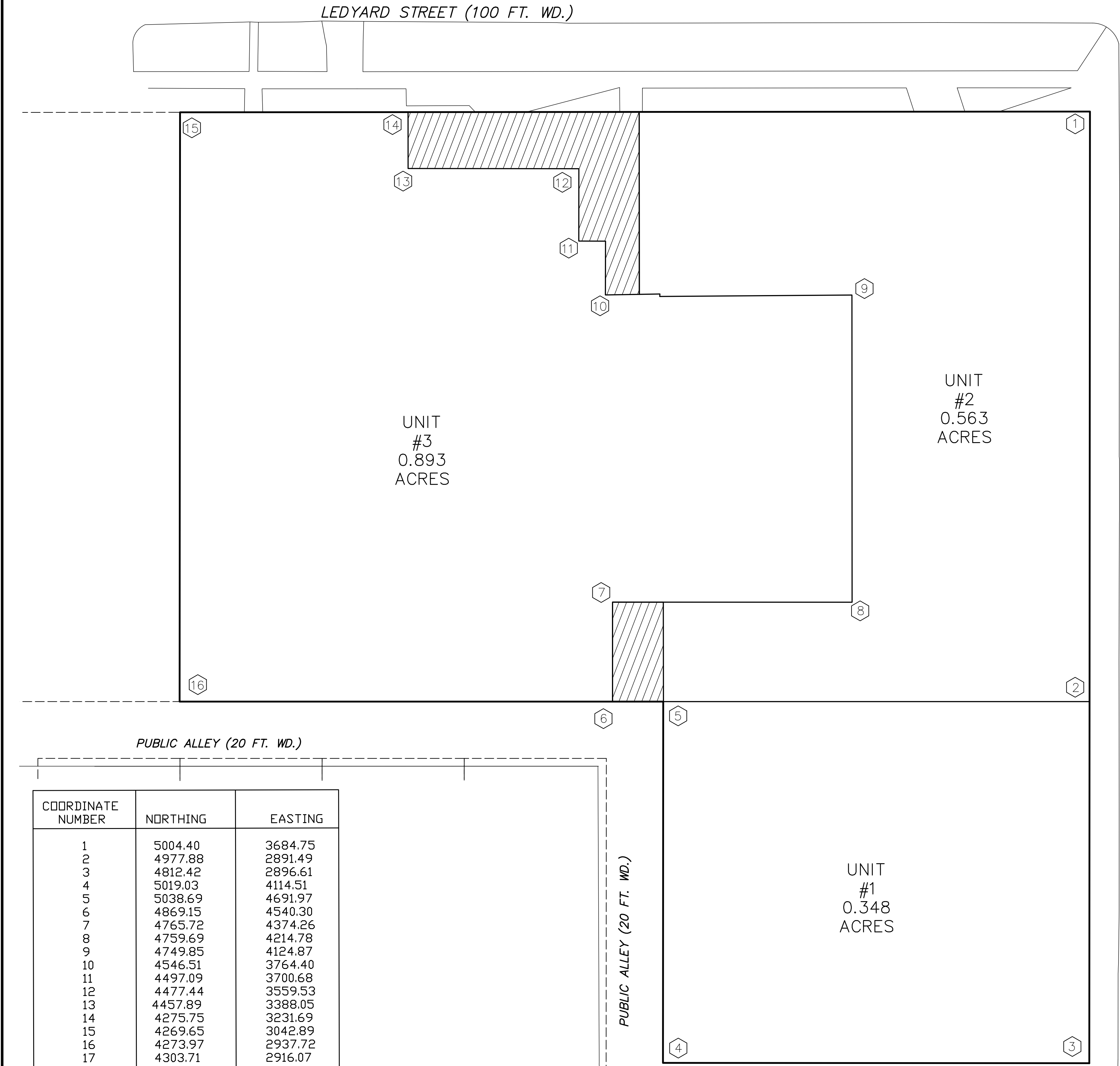
## BENCH MARK DATA

CITY OF DETROIT DATUM (ADD 479.75 TO CONVERT TO NAVD 88)  
BENCH MARK NO. 1: SET BM ARROW ON HYDRANT (1960), NW CORNER OF CASS AND  
LEDYARD STREET. ELEVATION: 133.77'

BENCHMARK NO. 104: MAG NAIL IN SW SURFACE OF LIGHT POLE 270'+/- NORTH OF  
HENRY, 210'+/- WEST OF CASS. ELEVATION: 130.84'

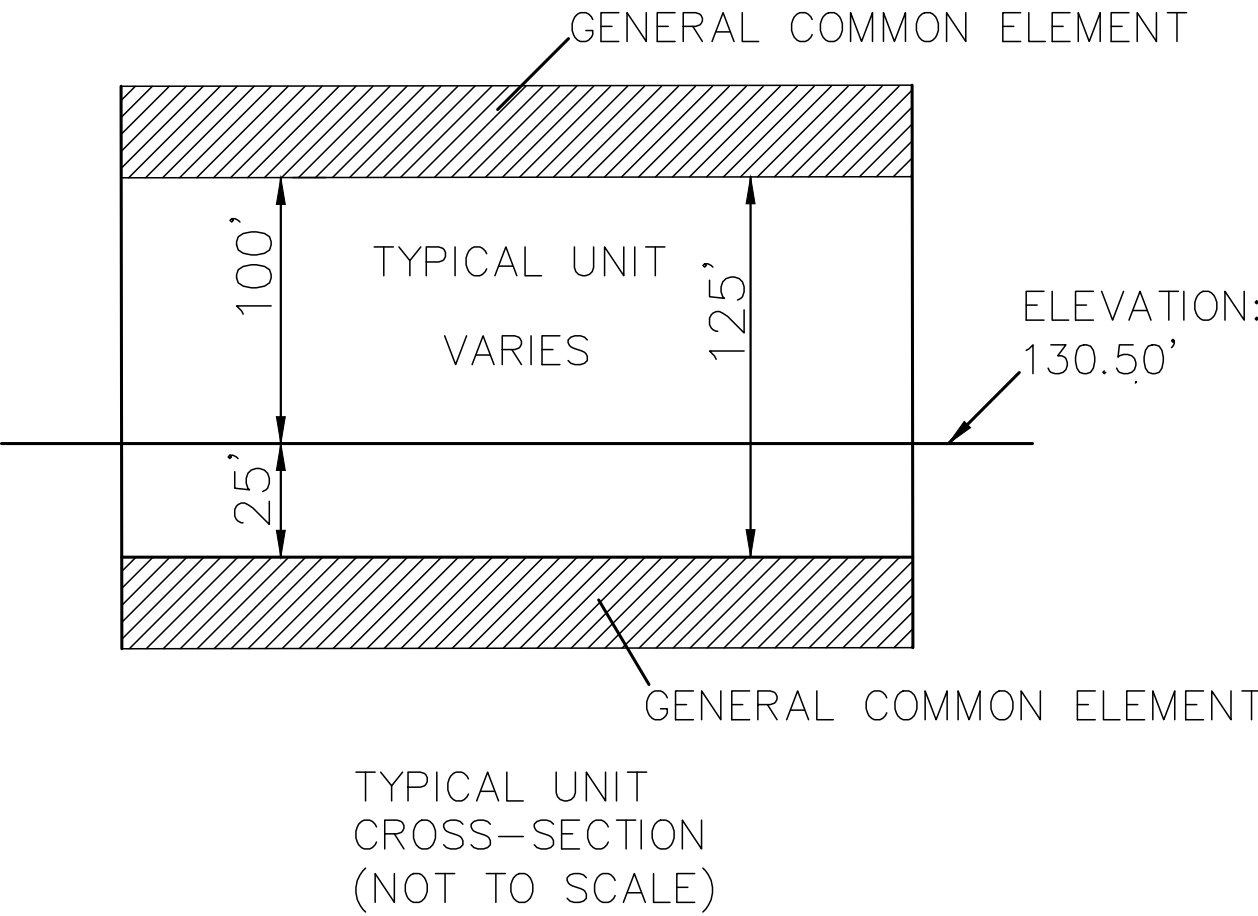
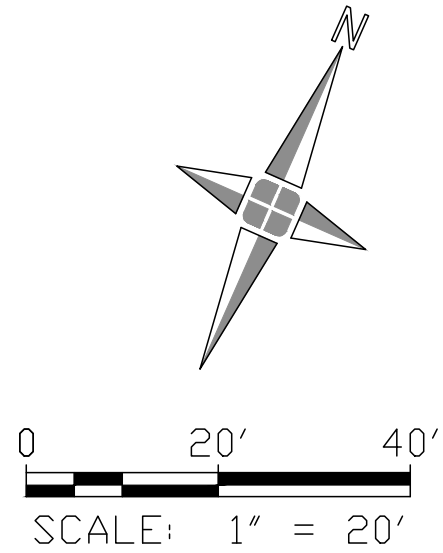
BEARINGS ARE BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE.

N:\19\1900\19535.05D - Mariners Inn\Exhibit B Docs\Drawings\Condos\2-4 Survey-Site-Util Plans.dwg



NOTES:

- ALL UNITS AND COMMON ELEMENTS ARE CONVERTIBLE AREAS AS PROVIDED BY THE MASTER DEED AND BY LAWS FOR THE CONDOMINIUM.
- UNITS 1 & 2 AND ALL IMPROVEMENT TO SERVICE SAID UNITS MUST BE BUILT. ALL OTHER UNITS AND IMPROVEMENTS NEED NOT BE BUILT.



CITY OF DETROIT DATUM (ADD 479.75 TO CONVERT TO NAVD 88)

LEGEND

- 10 COORDINATE POINT
- GENERAL COMMON ELEMENT

SITE PLAN  
MARINERS INN  
CONDOMINIUM  
PROPOSED 12.03.2020

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DESIGNER: MPM  
Q. CTRL: JNR  
SECTION:

SEAL:



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MARINERS INN  
CONDOMINIUM  
CITY OF DETROIT  
WAYNE COUNTY  
MICHIGAN

DATE: 12.03.2020  
SCALE: 1"=20'  
SHEET: 3  
PROJECT: 19535.05D

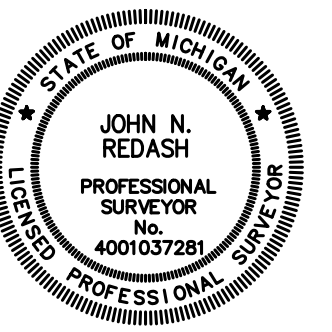
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SECTION:	

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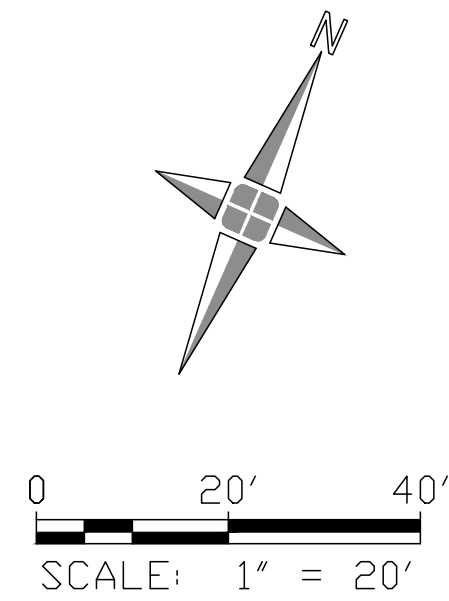
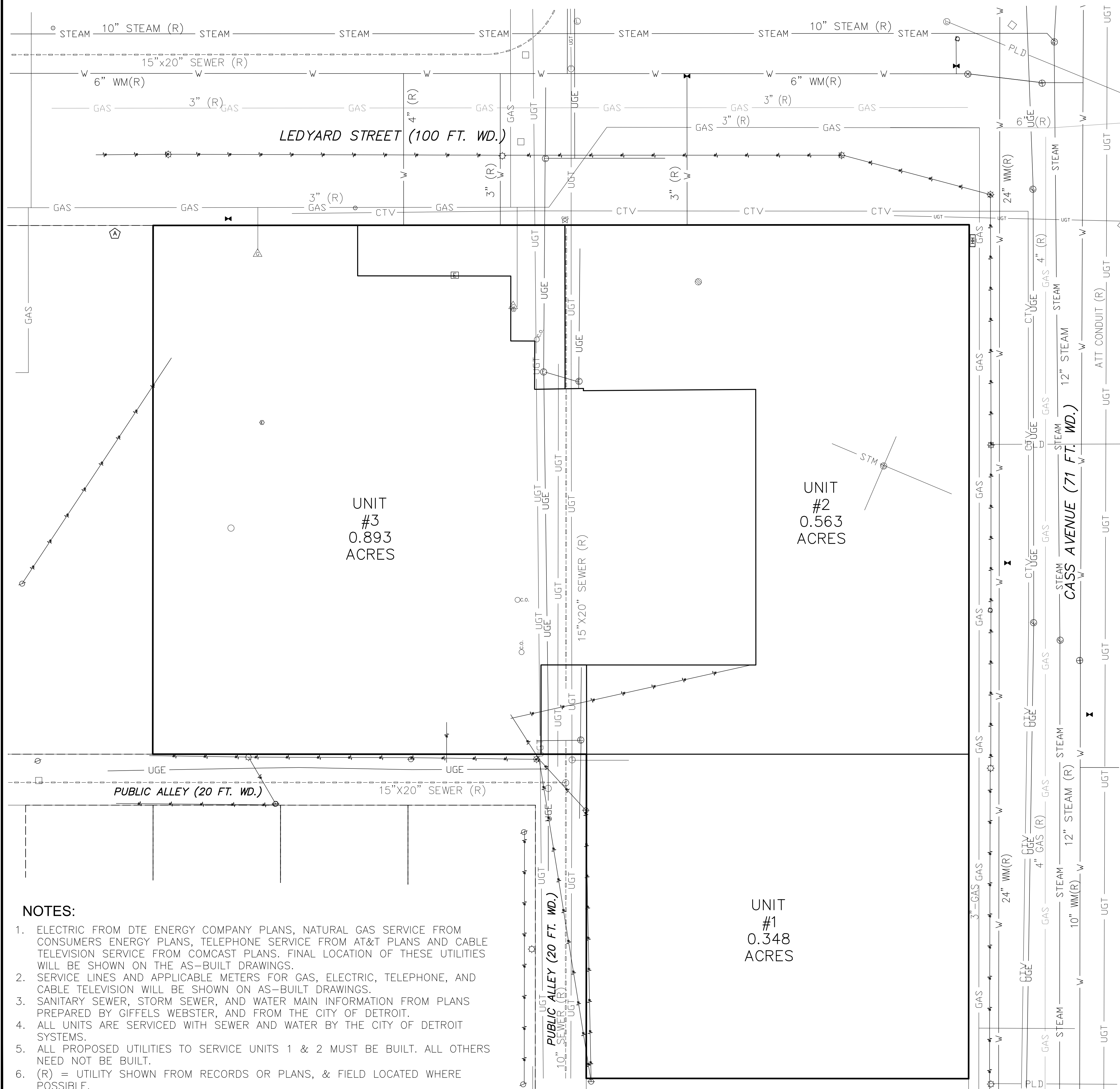
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


MARINERS INN  
CONDOMINIUM  
CITY OF DETROIT  
WAYNE COUNTY  
MICHIGAN



DATE:	12.03.2020
SCALE:	1"=20'
SHEET:	4
PROJECT:	19535.05D

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LEGEND

	E/ WALK
X	FENCE
	BLDG. LINE
OH	OVERHEAD WIRES
STM	STORM LINE
SAN	SAN. LINE
W	WATER LINE
GAS	GAS LINE
UGE	UG ELEC. LINE
UGT	UG TELE. LINE
CTV	UG CABLE TV LINE
	PAINT STRIPE
- - - - -	COMBINED SEWER
PLD	PLD LINE
STEAM	STEAM LINE
  	ELECTRIC OVERHEAD
TEL	TELEPHONE OVERHEAD

	STEAM MH		WATER VALVE
	PUBLIC LIGHTING MH		WATER METER
	GAS METER		STORM MH
	GAS RISER		CATCH BASIN
	GAS VALVE		BEEHIVE CB
	GAS MH		STORM CLEAN OUT
	TELE. RISER		ROUND CB
	TELE. MH		LIGHT POLE
	TELE. CROSS BOX		UTILITY POLE
	CABLE RISER		ELEC. TRANS.
	MANHOLE		ELEC. MH
	UTILITY FLAG		ELEC. METER
	SAN. MH		ELEC. RISER
	SAN. CLEAN OUT		TRAFFIC CONTROL BOX
	SAN. RISER		COMB. MH
	SAN. PUMP STATION		GATE VALVE
			HYDRANT

NOTES:

1. ELECTRIC FROM DTE ENERGY COMPANY PLANS, NATURAL GAS SERVICE FROM CONSUMERS ENERGY PLANS, TELEPHONE SERVICE FROM AT&T PLANS AND CABLE TELEVISION SERVICE FROM COMCAST PLANS. FINAL LOCATION OF THESE UTILITIES WILL BE SHOWN ON THE AS-BUILT DRAWINGS.
2. SERVICE LINES AND APPLICABLE METERS FOR GAS, ELECTRIC, TELEPHONE, AND CABLE TELEVISION WILL BE SHOWN ON AS-BUILT DRAWINGS.
3. SANITARY SEWER, STORM SEWER, AND WATER MAIN INFORMATION FROM PLANS PREPARED BY GIFFELS WEBSTER, AND FROM THE CITY OF DETROIT.
4. ALL UNITS ARE SERVICED WITH SEWER AND WATER BY THE CITY OF DETROIT SYSTEMS.
5. ALL PROPOSED UTILITIES TO SERVICE UNITS 1 & 2 MUST BE BUILT. ALL OTHERS NEED NOT BE BUILT.
6. (R) = UTILITY SHOWN FROM RECORDS OR PLANS, & FIELD LOCATED WHERE POSSIBLE.

# UTILITY PLAN

## MARINERS INN CONDOMINIUM

PROPOSED 12.03.2020

## Appendix B



## 2022 MSHDA Phase I Summary Cover Sheet

Project Name:			
Project Address:			
Sponsors Name:	The Anchor at Mariners Inn LDHA LP	Sponsor E-mail:	
Consulting Firm:			
Consultant Phone:	(     )	E-mail:	
Consultant Project #:		Report Date:	

Additional Site Info (please complete if known)			
Site area:	(in acres)	# Units planned:	
Vacant land: <input type="checkbox"/>	Developed: <input type="checkbox"/>	If developed, # existing buildings:	
Vacant Structure(s): <input type="checkbox"/>	# vacant	Date(s) of construction for existing structures:	
Single Site: <input type="checkbox"/>	Scattered sites: <input type="checkbox"/>	If scattered, # sites:	
Rehab of existing structure(s): <input type="checkbox"/>	New Construction <u>with</u> planned demolition of existing structure(s):		<input type="checkbox"/>
Adaptive Re-Use: <input type="checkbox"/>	New Construction <u>without</u> planned demolition of existing structure(s):		<input type="checkbox"/>
No physical changes planned: <input type="checkbox"/>	Comments:		

Please answer all questions below, noting the appropriate page or appendix in your report that contains the supporting documentation. **Summary Cover Sheets containing unknown or incomplete responses will not be processed and will be returned for correction.**

### REPORT FINDINGS

- a. **RECs** - The Phase I ESA revealed a REC(s). ☐ Yes ☐ No (See Sec. IV)
- b. The site contains a **wetland** area(s). ☐ Yes ☐ No (See Sec. IV, H.5)
- c. The site or a portion of the site is in the **Special Flood Hazard Area**.  
☐ Yes ☐ No (See Sec. IV, H.4)
- d. The site contains a **UST(s)**. ☐ Yes ☐ No (See Sec. IV, I)
- e. This site contains a **AST(s)**. ☐ Yes ☐ No (See Sec. IV, H.10)
- e. **EMF** - There are high power electrical transmission lines within 100 yds. of the subject site.  
☐ Yes ☐ No (See Sec. IV, H.6)
- f. **HP GAS** - There are buried high-pressure gas transmission lines (4" in diameter and 400 psi or greater) within 1000 feet of the subject site. ☐ Yes ☐ No (See Sec. IV, H.7)

g. **NOISE** - The subject site is near a busy roadway or within 1000 feet of a limited access freeway or 3000 feet of a rail line, or within 15 miles of an airport.

☐ Yes ☐ No

Was a noise assessment performed?

☐ Yes ☐ No (See Sec. IV, H.8)

h. **ASBESTOS** - A NESHAP-compliant asbestos survey is required for every MSHDA renovation/remodeling project, regardless of the date of construction. Was a NESHAP-compliant asbestos survey performed for this renovation/remodeling project?

☐ Yes ☐ No

If Yes, were any asbestos containing materials (ACM) identified?

☐ Yes ☐ No (See Sec. IV, H.1)

i. **LEAD** - For structures built before January 1, 1978, a combination lead Risk Assessment/Inspection satisfying state and federal requirements is required. Was a combination lead Risk Assessment/Inspection performed?

☐ Not required (*Post-1977 Date of Construction*) ☐ Yes ☐ No

If Yes, was Lead Based Paint identified? ☐ Yes ☐ No (See Sec. IV, H.2)

j. **RADON** - For developments in Michigan counties where 25% or more homes tested equal to or above the EPA action level of 4 pCi/L, as depicted by the Michigan EGLE radon map (*Barry, Berrien, Branch, Calhoun, Cass, Clinton, Dickinson, Easton, Hillsdale, Ionia, Iron, Jackson, Kalamazoo, Lapeer, Lenawee, Livingston, Monroe, Oakland, Otsego, Ottawa, St. Joseph, Shiawassee, Tuscola and Washtenaw*) was a radon assessment conducted by a Radon Professional was performed?

☐ Not required: Not in >25% county. ☐ Yes ☐ No

If Yes, was Radon above EPA action level? ☐ Yes ☐ No (See Sec. IV, H.3)

k. A "Recorded Land Records" search was performed? ☐ Yes ☐ No (See Sec. IV, C)

l. A Phase II investigation is required? ☐ Yes ☐ No (See Sec. V)

#### **BEA and ResAP - RAP**

m. A Tier I and non-invasive Tier II Vapor Encroachment Screen were performed?

☐ Yes ☐ No (See Sec. IV, H.9)

If yes, was a **Vapor Encroachment Condition (VEC)** identified and an invasive Tier II investigation is recommended.

☐ Yes ☐ No (See Sec. IV, H.9)

## **2. Report Documentation Check List. If any of the responses below are "NO," do not submit report.**

a. MSHDA Phase I Letter of Reliance completed? ☐ Yes ☐ No

- b. User's Disclosure Statement completed? ☐ Yes ☐ No
- c. Compliant ACORD 25 Certificate of insurance included? ☐ Yes ☐ No
- d. FEMA Flood Plain Map Included? ☐ Yes ☐ No
- e. Fire Insurance Maps or No Coverage Letter Included? ☐ Yes ☐ No
- f. Development Site Plan Included? ☐ Yes ☐ No
- g. Site boundaries indicated on all maps and photos? ☐ Yes ☐ No
- h. CD or flash drive (PDF versions) included? ☐ Yes ☐ No
- i. For sites with nearby or adjoining industrial uses,  
has a separate evaluation report been included (Section IV.D)? ☐ Yes ☐ No ☐ N/A

I represent that this Summary Cover Sheet accurately reflects the environmental information contained in the above captioned document.



Signature of Environmental  
Professional

Date

Print or Type Legal Name



Environmental & Engineering Services Nationwide



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INCENTIVES CONSULTING

## PHASE I ENVIRONMENTAL SITE ASSESSMENT

### **The Anchor at Mariners Inn**

Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and General  
Common Elements

Located in the Eastern and Southern Portions of 445 Ledyard Street  
Detroit, Michigan

PM Project Number 01-11288-1-0001

*Prepared for:*

### **Cinnaire Solutions Corporation**

2111 Woodward Avenue, Suite 600  
Detroit, Michigan 48201

*Prepared by:*

### **PM Environmental**

4080 West Eleven Mile Road  
Berkley, Michigan 48072

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Grand Rapids      Lansing  
Oak Park

May 20, 2022

Mr. Edward Potas  
Cinnaire Solutions Corporation  
2111 Woodward Avenue, Suite 600  
Detroit, Michigan 48201

**Re: Phase I Environmental Site Assessment of The Anchor at Mariners Inn  
Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and  
General Common Elements  
Located in the Eastern and Southern Portions of 445 Ledyard Street,  
Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0001**

Dear Mr. Potas:

Please find enclosed the Phase I Environmental Site Assessment for the subject property dated May 20, 2022 to the Michigan State Housing Development Authority.

It is our understanding that the information contained in the Phase I Environmental Site Assessment will be used by the Authority in considering proposed financing of residential development of the property and, furthermore, that the Authority may rely upon the Phase I Environmental Site Assessment as if it were issued to the Authority.

We **represent** that the attached is a true, correct, and complete copy of the Phase I Environmental Site Assessment for the above captioned property and that the report represents our professional opinion of the site as of this date and that we meet the definition of an Environmental Professional as defined in Section 312.10 of 40 CFR 312. We also **represent** that the Phase I Environmental Site Assessment including the evaluation, recommendations, and conclusions as of this date has been performed in conformance with the scope and limitations of the ASTM Practice E1527-13, ASTM Practice E 2600-15, and MSHDA's Environmental Review Requirements for 2022.

If you have any questions related to this report, please do not hesitate to contact our office at 248.336.9988.

Sincerely,  
**PM ENVIRONMENTAL**

Carey Kratz, EP  
Regional Manager – Due Diligence

Peter S. Bosanic, P.E., EP  
Principal

## 2022 MSHDA PHASE I LETTER OF RELIANCE

### PRIVILEGED AND CONFIDENTIAL

Mr. Dan Lince  
Environmental Manager  
Rental Development Division  
Michigan State Housing Development Authority  
735 East Michigan Avenue  
Lansing, Michigan 48912

**Re: Phase I Environmental Site Assessment of The Anchor at Mariners Inn  
Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and  
General Common Elements  
Located in the Eastern and Southern Portions of 445 Ledyard Street  
Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0001**

Dear Mr. Lince:

Please find enclosed the Phase I Environmental Site Assessment for the subject property dated May 20, 2022 to the Michigan State Housing Development Authority.

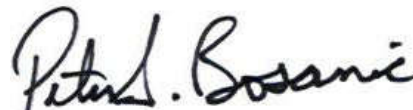
It is our understanding that the information contained in the Phase I Environmental Site Assessment will be used by the Authority in considering proposed financing of residential development of the property and, furthermore, that the Authority may rely upon the Phase I Environmental Site Assessment as if it were issued to the Authority.

We **represent** that the attached is a true, correct, and complete copy of the Phase I Environmental Site Assessment for the above captioned property and that the report represents our professional opinion of the site as of this date and that we meet the definition of an Environmental Professional as defined in Section 312.10 of 40 CFR 312. We also **represent** that the Phase I Environmental Site Assessment including the evaluation, recommendations, and conclusions as of this date has been performed in conformance with the scope and limitations of the ASTM Practice E1527-13, ASTM Practice E 2600-15, and MSHDA's Environmental Review Requirements for 2022.

Sincerely,  
**PM ENVIRONMENTAL**



Carey Kratz, EP  
Regional Manager – Due Diligence



Peter S. Bosanic, P.E., EP  
Principal

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1. Phase I ESA, PM, 445 Ledyard Street (entire parent parcel), PM, August 30, 2019.

## **SECTION 1.0: EXECUTIVE SUMMARY**

### **Section 1.1: Phase I ESA Summary and Conclusions**

PM Environmental, (PM) has completed a Phase I Environmental Site Assessment (ESA) of The Anchor at Mariners Inn, proposed Mariners Inn Condominium Units Nos. 1 and 2 and General Common Elements, located in the eastern and southern portions of 445 Ledyard Street, Detroit, Wayne County, Michigan (hereafter referred to as the “subject property”). This Phase I ESA was conducted in general accordance with (1) the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries {(AAI), 40 CFR Part 312} (2) guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process / Designation E 1527-13* (ASTM Standard Practice E 1527-13) (3) guidelines established by the ASTM in the *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions / Designation E 2600-15* (ASTM Practice E 2600-15) and (4) MSHDA's Environmental Review Requirements for 2022.

**THE REPORT WAS PREPARED FOR THE EXCLUSIVE USE OF THE ANCHOR AT MARINERS INN LDHA LP, CINNAIRE SOLUTIONS CORPORTATION, MARINERS INN, PROTESTANT EPISCOPAL CHURCH OF THE DIOCESE OF MICHIGAN, THE CITY OF DETROIT, AND THE MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY, EACH OF WHOM MAY RELY ON THE REPORT'S CONTENTS.**

<b>Main Cross Street(s)/Location</b>	Located at the southwest corner of Ledyard Street and Cass Avenue
<b>Number of Parcels and Acreage</b>	Approximately 1.07 acres of a larger parcel totaling 1.87 acres The subject property consists of Unit Nos. 1 and 2 and all general common elements of the proposed Mariners Inn Condominium
<b>Number of Building(s) and Square Footage</b>	Three sheds each containing between approximately 70 and 300 square feet
<b>Current Property Use</b>	The subject property consists of green space, a paved parking lot, three storage sheds, and a basketball court with no business operations

Reasonably ascertainable records for the subject property extended back to approximately 1889. Data failure occurred prior to that date. However, PM did not identify any significant data gaps during the completion of this Phase I ESA.

Standard and other historical sources were able to document the subject property was developed prior to 1889 with several residential dwellings and outbuildings. The southernmost dwelling also included a first-floor storefront that was occupied by a doctor's office in at least 1901, a restaurant in at least 1916, a hand laundry in at least 1921, and a shoe repair business in at least 1926. Between 1912 and 1913, the dwelling in the northern portion was demolished and replaced with the Priscilla Inn, a women's correctional center and church convention center with a kitchen and six storefronts, which were occupied by a cleaning and dying company, a clothes cleaner, a pharmacy, a church, a grocery store, a hand laundry, a tea supplier, a baker, a library, and a beauty shop. In the 1940s, two dwellings in the southern portion were demolished and replaced with a car wash, which was demolished in 1969. By 1950, most, if not all, storefronts within Priscilla Inn were converted to shelter-related uses such as a recreation room and lobby, and the land immediately south of the inn was converted into a parking lot and was used for automotive sales in at least 1925 to 1926. The Priscilla Inn was demolished in 1984 and the northern portion has

**Phase I Environmental Site Assessment of The Anchor at Mariners Inn  
Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and General Common Elements  
Located in the Eastern and Southern Portions of 445 Ledyard Street, Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0001; May 20, 2022**

been utilized for parking since that time. Two of the three remaining dwellings in the southern portion were demolished in the 1960s and the third was demolished in the 1980s. The southern portion has been utilized for parking or a recreational lot for the west adjoining homeless shelter, Mariners Inn since at least 1987. Two of the three current sheds were constructed in the western portion between 2002 and 2005, and the third shed was constructed between 2012 and 2016.

PM completed a previous Phase I ESA dated August 30, 2019 for the entire parent parcel, including the current subject property. The following RECs were identified:

- A storefront within the former Priscilla Inn (417 Ledyard Street) was previously occupied by a clothes cleaner between at least 1935 to 1940 (and potentially from 1931 to 1945), which may have included dry cleaning operations.
- The south adjoining property, identified as 2501 Cass Avenue, is identified as a Baseline Environmental Assessment (BEA) site. PM attempted to review regulatory file information for this property but did not receive a response within the time constraints of this report. The property was historically occupied by a movie theater equipment company, restaurants, hair salons/barbers, bars, and a popcorn company. PM was unable to determine the source of the known contamination on the property. Based on the close proximity to the subject property (i.e., directly adjoining), the potential exists that existing contamination on this property has migrated onto the subject property.

To address the RECs, on June 10, 2021, PM completed subsurface investigation activities consisting of the advancement of eight soil borings, installation of four temporary soil gas points, and the collection of 16 soil samples and four soil gas samples. Concentrations of the polynuclear aromatic hydrocarbons (PNAs) benzo(a)pyrene and benzo(b)fluoranthene were identified in one soil sample in the central portion of proposed condominium Unit #1 (SB-5, 3.5-4.5 feet bgs) above Part 201 Residential Generic Cleanup Criteria (GCC) for Direct Contact (DC). Additionally, concentrations of the PNAs fluoranthene, naphthalene, phenanthrene, and mercury were also identified in SB-5, 3.5-4.5 feet below ground surface (bgs) above Part 201 Residential GCC for Groundwater Surface Water Interface Protection (GSIP). The concentrations of naphthalene and mercury detected in SB-5, 3.5-4.5 feet bgs also exceed Michigan Department of Environment, Great Lakes, and Energy (EGLE) Residential Volatilization to Indoor Air Pathway (VIAP) Screening Levels.

On November 24, 2021, PM completed an additional subsurface investigation in an effort to delineate the extent of PNA contamination identified in the southern-central portion of the subject property in June 2021. The investigation consisted of the advancement of six soil borings, installation of two temporary soil gas points, and the collection of 13 soil samples and two soil gas samples. No concentrations of VOCs were detected in the soil samples above laboratory method detection limits (MDLs) or most restrictive Part 201 GCC and no soil gas samples were detected above EGLE Residential VIAP Screening Levels. The PNA benzo(a)pyrene was identified in soil boring SB-5R, 0.5-1.5 feet bgs over Part 201 Residential DC and the PNAs benzo(a)pyrene and benzo(b)fluoranthene were identified in soil boring SB-9, 3.5-4.5 feet bgs, also located in the central portion of proposed condominium Unit 1, over Part 201 Residential DC. No additional PNAs were identified above laboratory MDLs and/or the most restrictive Part 201 GCC. Based on the results of the 2021 subsurface investigation, the area of contamination exceeding the Part 201 GCC and Residential VIAP Screening Levels was delineated both vertically and horizontally. Based on these analytical results, the subject property would be classified as a "facility," as

**Phase I Environmental Site Assessment of The Anchor at Mariners Inn  
Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and General Common Elements  
Located in the Eastern and Southern Portions of 445 Ledyard Street, Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0001; May 20, 2022**

defined by Part 201 of P.A. 451 of the Michigan Natural Resources and Environmental Protection Act (NREPA), as amended.

Below is a Summary Table presenting PM's recommended actions for the subject property. PM's Findings, Opinions, and Recommendations are present in Section 8.1-8.4. In addition, any potential Non-ASTM scope related concerns identified associated with the subject property are included. Affirmative answers are further discussed below the table:

Summary Table		
Assessment Topic	Section	Recommended Action
De Minimis Condition	8.1.1	No Further Action
Significant Data Gap	8.1.2	No Further Action
Historical Recognized Environmental Condition (HREC)	8.1.3	No Further Action
Recognized Environmental Condition (REC)	8.1.4	See Below
Controlled Recognized Environmental Condition (CREC)	8.1.5	No Further Action
Potential Unsuitable Fill Material	5.5.4	See Below
Asbestos Containing Materials (ACM)	9.1	No Further Action
Lead Based Paint (LBP)	9.2	No Further Action
Radon Gas	9.3	No Further Action
100-Year Floodplain	9.4	No Further Action
Potential Wetlands	9.5	No Further Action
Electromagnetic Fields	9.6	No Further Action
High Pressure Buried Gas Mains	9.7	No Further Action
Noise Assessment	9.8	See Below
Vapor Encroachment	9.9	See Below
Onsite or Adjoining Blast Hazard	9.10	No Further Action

### **Recognized Environmental Condition**

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of The Anchor at Mariners Inn, proposed Mariners Inn Condominium Units Nos. 1 and 2 and General Common Elements, located in the eastern and southern portions of 445 Ledyard Street, Detroit, Wayne County, Michigan, the subject property. Any exceptions to, or deletions from, this practice are described in Sections 2.4 and 2.5 of this report. This assessment has revealed no evidence of recognized environmental conditions connected with the property except the following:

- Concentrations of benzo(a)pyrene, benzo(b)fluoranthene fluoranthene, naphthalene, phenanthrene, and mercury were identified during PM's 2021 subsurface investigation in soil samples collected from the central portion of the proposed condominium Unit #1 on the subject property exceeding Residential Part 201 Generic Cleanup Criteria (GCC). The concentrations of naphthalene and mercury detected also exceed EGLE Residential VIAP Screening Levels. The impacted area appears to be associated with backfill associated with former dwellings. Based on the results of the 2021 subsurface investigation, the area of contamination exceeding the Part 201 GCC and Residential VIAP Screening Levels was delineated both vertically and horizontally. Based on these analytical results, the subject property would be classified as a "facility," as defined by Part 201 of P.A. 451 of the Michigan NREPA, as amended.

No adjoining and/or nearby RECs have been identified.

**Potential Unsuitable Fill Material:** The subject property was historically developed with several residential dwellings with basements, which were demolished at various times between the 1940s and 1980. Subsurface investigations completed at the subject property in June and November 2021 documented concrete and brick debris was encountered in five soil borings within former building footprints in the southern portion between 0.5 feet and 6.0 feet below ground surface (bgs). A limited area of polynuclear aromatic hydrocarbons (PNAs) and mercury exceeding Part 201 GCC was identified in the former footprint of two former dwellings in the southern portion, which will be excavated as part of redevelopment activities.

**Noise Assessment:** Using the HUD DNL calculator, the following is a summary of the findings of the Desktop Noise Assessment.

NAL #	Combined Source DNL (decibel)	Category
1 (northwest corner of proposed building)	67	Normally Unacceptable
2 (southeast corner of proposed building)	72	Normally Unacceptable

The "Normally Unacceptable" noise zone includes community noise levels from above 65 decibel (dB) to 75 dB. Approvals in this noise zone require a minimum of 5 dB additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 dB but does not exceed 70 dB, or a minimum of 10 dB of additional sound attenuation if the day-night average sound level is greater than 70 dB but does not exceed 75 dB (HUD generally gives a 1 dB variance up to 76 dB). Additionally, I-75 is sunken approximately 13 feet below grade nearest the subject property, which will provide some noise attenuation from the traffic. The project architect will need to complete attenuation documentation for the project by completing either a Sound Transmission Classification Assessment Tool (STraCAT) form or HUD Figure 19. Interior noise levels must be mitigation for 45 dB or less.

**Vapor Encroachment:** The Tier I and non-invasive Tier II Vapor Encroachment Screen (VES) did not reveal any Vapor Encroachment Conditions (VECs) associated with the target property and/or nearby/adjoining properties; with the exception of that identified as a REC above.

## **Conclusions and Recommendations**

PM has performed an Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E-1527-13, ASTM Practice E 2600-15, and the Michigan State Housing Development Authority (MSHDA) Environmental Review Requirements for 2022 of the Mariners Inn located at the Eastern and Southern Portion of 445 Ledyard Street, Detroit, Wayne County, Michigan. Any exceptions to or deletions from this practice are described in the Limitations section of this report. These RECs have been brought to the attention of the client within the requirements of the ASTM Standard Designation E-1527-2013.

This REC have been brought to the attention of the client within the requirements of the ASTM Standard Designation E-1527-13. Based on the results of the 2021 subsurface investigation, the area of contamination exceeding the Part 201 GCC and Residential VIAP Screening Levels was delineated both vertically and horizontally. The planned remedial actions include excavating contaminated soils with proper landfill disposal. The proposed excavation is 33 feet wide by 50 feet long by 6.0 feet deep. Following soil removal activities, VSR samples will consist of using

biased sampling strategies and screening the floors and sidewalls prior to sample collection to document the removal of contaminated soils to concentrations below applicable Part 201 Residential cleanup criteria and VIAP Screening Levels. PM is currently completing a BEA on behalf of the proposed lessee - The Anchor at Mariners Inn LDHA LP. PM is also preparing a Response Activity Plan – Remedial Action Plan to be approved by the Michigan Department of Energy, Great Lakes, and Energy (EGLE).

### **Section 1.2: Identified Data Gaps**

Reasonably ascertainable records for the subject property extended back to approximately 1889. Data failure occurred prior to that date. However, PM did not identify any significant data gaps during the completion of this Phase I ESA.

### **Section 1.3: Identified Liens or Activity and Use Limitations**

The Client did not report any: (1) environmental cleanup liens against the subject property that are filed or recorded under federal, tribal, state, or local law; or (2) activity and use limitations (AULs), such as engineering controls, land use restrictions or institutional controls, that are in place at the subject property and/or have been filed or recorded in a registry under federal, tribal, state, or local law.

The summary presented above is general in nature and should not be considered apart from the entire text of the report, which contains the qualifications, considerations and subject property details mentioned herein. Details of findings and conclusions are elaborated upon in this report.

This report has been reviewed for its completeness and accuracy. Please feel free to contact our office at 248.336.9988 to discuss this report.

#### **Report Prepared By:**

PM Environmental



Devon Nagengast  
Staff Consultant

#### **Report Reviewed By:**

PM Environmental



Carey Kratz, EP  
Regional Manager – Due Diligence



Peter S. Bosanic, P.E., EP  
Principal



## **SECTION 2.0: INTRODUCTION**

PM Environmental (PM) was retained to conduct a Phase I Environmental Site Assessment (ESA) of The Anchor at Mariners Inn, proposed Mariners Inn Condominium Units Nos. 1 and 2 and General Common Elements, located in the eastern and southern portions of 445 Ledyard Street, Detroit, Wayne County, Michigan (subject property). This Phase I ESA was conducted in general accordance with (1) the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries (AAI), 40 CFR Part 312} (2) guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process / Designation E 1527-13* (ASTM Standard Practice E 1527-13) (3) guidelines established by the ASTM in the *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions / Designation E 2600-15* (ASTM Practice E 2600-15) and (4) MSHDA's Environmental Review Requirements for 2022.

### **Section 2.1: Purpose**

The purpose of this Phase I ESA was to evaluate the current and historical conditions of the subject property in an effort to identify recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs), and historical recognized environmental conditions (HRECs) in connection with the subject property. This Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs, CRECs, and HRECs in connection with the subject property.

### **Section 2.2: Detailed Scope of Services**

PM's scope-of-services is based on its proposal dated April 7, 2021, and the terms and conditions of that agreement. This Phase I ESA included the following:

- An inquiry of environmental conditions by an environmental professional.
- A review of specialized knowledge reported by the Client.
- A review of public and historical records, including those maintained by federal, state, tribal, and local government agencies.
- Interviews with regulatory officials and personnel associated or knowledgeable with the subject property, including as appropriate past and present owners, or neighbors if the property is abandoned.
- A reconnaissance of the subject property and adjoining properties.

### **Section 2.3: Significant Assumptions**

During this Phase I ESA, PM made the following significant assumptions:

- PM assumed that the information provided by Environmental Data Resources (EDR) in the regulatory database report is an accurate and complete representative summary of the information contained in the referenced regulatory agency records, except when such information is obviously contradicted by other data.
- PM assumed that the information used to prepare this assessment that was obtained from ostensibly knowledgeable individuals, regulatory agency representatives, or other secondary

sources was an accurate and complete representative summary of the information possessed by those individuals, representatives, or sources.

## **Section 2.4: Limitations and Exceptions**

There are no deviations from the ASTM Standard. Non-ASTM Scope considerations are included in Section 9.0. Any physical limitations identified during the completion of this report are referenced in Section 6.1.

Due to changing environmental regulatory conditions and potential on-site or adjacent activities occurring after this assessment, the client may not presume the continuing applicability to the subject property of the conclusions in this assessment for more than 180 days after the report's issuance date, per ASTM Standard Practice E 1527-13.

To the best of PM's knowledge, no special terms or conditions apply to the preparation of this Phase I ESA that would deviate the scope of work from the ASTM Standard Practice E 1527-13.

## **Section 2.5: Special Terms and Conditions**

To the best of PM's knowledge, no special terms or conditions apply to the preparation of this Phase I ESA.

## **Section 2.6: User Reliance**

**PM HAS PREPARED THIS REPORT FOR THE EXCLUSIVE USE OF THE ANCHOR AT MARINERS INN LDHA LP, CINNAIRE SOLUTIONS CORPORTATION, MARINERS INN, PROTESTANT EPISCOPAL CHURCH OF THE DIOCESE OF MICHIGAN, CITY OF DETROIT, AND THE MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY, EACH OF WHOM MAY RELY ON THE REPORT'S CONTENTS.**

PM acknowledges that these parties may rely on the contents and conclusions presented in this report. Unless stated otherwise in writing, PM makes no other warranty, representation, or extension of reliance upon the findings of this report to any other entity or third party.

## **SECTION 3.0: SUBJECT PROPERTY DESCRIPTION**

### **Section 3.1: Location and Legal Description**

<b>Main Cross Streets/Location</b>	Located at the southwest corner of Ledyard Street and Cass Avenue
<b>Number of Parcels and Acreage</b>	Approximately 1.07 acres of a larger parcel totaling 1.87 acres The subject property consists of Unit Nos. 1 and 2 and all general common elements of the proposed Mariners Inn Condominium
<b>Number of Building(s) and Square Footage</b>	Three sheds each containing between approximately 70 and 300 square feet
<b>Current Property Use</b>	The subject property consists of a green space, a paved parking lot, three storage sheds, and a basketball court with no business operations
<b>Proposed Property Use</b>	The Sponsor intends to construct a mixed-use building in the eastern portion, which will include an additional 84 bed capacity and retail and office space

The legal description of the subject property is presented in Section 10.4. Photographs taken during PM's subject property reconnaissance are provided in Section 10.3.

### **Section 3.2: Subject Property and Vicinity Characteristics**

The subject property is currently a parking lot and recreational yard developed with three storage sheds and is located within a commercial and residential area of Detroit. Cass Avenue is a commercial thoroughfare, with residential apartments on side streets adjacent to the commercial properties.

### **Section 3.3: Current Use of the Subject Property**

The subject property consists of green space, a paved parking lot, three storage sheds, and a basketball court with no business operations.

### **Section 3.4: Descriptions of Structures, Roads, and Other Improvements on the Subject Property**

A paved parking lot is present in the northern portion, a basketball court is present in the southern portion, and three storage sheds are present in the western portion. The remainder of the subject property contains groomed grass and landscaped areas.

#### **Section 3.4.1: Municipal Water/Water Wells**

Municipal water is currently available to the subject property; however, the subject property is not currently connected. PM attempted to obtain an initial tap date from the City of Detroit Water and Sewerage Department. However, a representative of the department indicated no tap records were available for the property. Review of Sanborn maps indicates municipal water has been available to the subject property since at least 1884. Additionally, review of the sewer main distribution map indicates municipal sewer has been available to the subject property since 1864. Municipal water was likely available during the same time frame. Based on this information and the highly urban area, the former buildings likely tapped to municipal water during construction. No records of private water wells have been identified through review of reasonably ascertainable information.

#### **Section 3.4.2: Sanitary Sewer/Septic System**

Municipal sewer is currently available to the subject property; however, the subject property is not currently connected. PM attempted to obtain an initial tap date from the City of Detroit Water and Sewerage Department. However, a representative of the department indicated no tap records were available for the property. Review of the sewer main distribution map indicates municipal sewer has been available to the subject property since 1864. Based on this information and the highly urban area, the current and former buildings on the subject property likely tapped to municipal sewer or to privies during construction. No records of private septic fields have been identified through review of reasonably ascertainable information.

### **Section 3.4.3: Storm Sewer/Storm Water Detention Ponds**

PM observed several storm water catch basins on the subject property. No staining or evidence of poor waste management practices was observed associated with these exterior catch basins.

### **Section 3.4.4: Heat Source**

Natural gas is currently available to the subject property, which is supplied by DTE Energy. Review of the natural gas distribution map documents natural gas has been available to the subject property since at least 1993. However, based on PM's experience with the area, this is likely a main replacement date and natural gas has likely been available to the subject property area since between the early 1900s and the early 1950s. Additionally, review of Sanborn maps documents that at least one of the former buildings on the subject property was previously heated with central steam heat provided by the main boiler facility for the City of Detroit. Based upon the location of the subject building in downtown Detroit, it is likely that the current and former buildings were historically heated with steam and may have historically utilized wood and/or coal-fired steam boilers prior to central steam availability. No documentation of fuel oil use was identified during review of reasonably ascertainable records, and no visual evidence of fuel oil use was identified during the site reconnaissance. There is the potential for a fuel oil AST or UST to have been used at the property and for a release to have occurred. However, based upon PM's experience, the risk of a release associated with a potential fuel oil UST is low. If a fuel oil UST is discovered in the future and/or evidence of a release of historical fuel oil is identified, further evaluation may be necessary.

### **Section 3.5: Current Uses of Adjoining Properties**

A visual inspection of the adjoining properties was made from the subject property and public thoroughfares. Color photographs are included within Section 10.3. Refer to Section 5.5 for details on historical usage. Refer to the paragraphs below for additional information.

#### **North Adjoining Properties, across Ledyard Street**

The northeast adjoining property, identified as 2701 Cass Avenue, is currently occupied by a vacant commercial warehouse.

The northwest adjoining property, identified as 2700-2714 Second Avenue, is currently occupied by an apartment building and vacant land.

#### **East Adjoining Property, across Cass Avenue**

The east adjoining property, identified as 165 Sproat Street, is currently occupied by the Little Caesar's Arena Parking Garage.

The southeast adjoining property, identified as 210 Henry Street, is currently occupied by ZZ Market and Grill.

### **South Adjoining Property**

The south adjoining property, identified as 2501 Cass Avenue, is currently occupied by a paved parking lot.

### **West Adjoining Property**

The west adjoining property \*remaining portions of the current parent parcel), identified as part of 445 Ledyard Street, is currently occupied by Mariners Inn, a homeless shelter.

The west adjoining property, identified as 438 Henry Street, is currently a parking lot.

## **SECTION 4.0: USER PROVIDED INFORMATION**

The ASTM Standard defines a User as “the party seeking to use Practice E 1527 to complete an environmental site assessment. A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager. The User has specific obligations for completing a successful application of this practice as outline in Section 6 (of the ASTM Standard E-1527-13).

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small business Liability relief and Brownfield’s Revitalization Act of 2001 (the “Brownfield’s Amendments”), the User must provide certain information (if available) included on the User Questionnaire to the environmental professional. Failure to provide this information could result in a determination that “all appropriate inquiry” is not complete.

PM provided Mr. Edward Potas (i.e., the User) with a copy of MSHDA’s User’s Environmental Questionnaire and Disclosure Statement, which was completed and returned to PM. None of the questions were answered in the affirmative or in a manner that would suggest the potential for RECs by Mr. Potas. No other specialized knowledge or experience of the subject property was provided to PM by the User.

### **Section 4.1: Title Records**

A chain of title was not conducted for the subject property. PM utilized aerial photography, city directories, assessing information, and interviews with individuals knowledgeable of the subject property area as sources to determine the historical use of the subject property (see Section 10.4). Information from these sources is referenced throughout this report.

The User provided PM with a Commitment for Title Insurance completed for the subject property in May 31, 2019. The Commitment for Title Insurance documents the subject property is owned by the Protestant Episcopal Church for the Diocese of Michigan with Mariners Inn as leasehold interest, which is consistent with current assessing records. No additional relevant information was included in the title search documents. A copy of the Commitment for Title Insurance is not included with this report but could be provided upon request.

#### **Section 4.2: Environmental Liens or Activity and Use Limitations**

The User did not report any: (1) environmental cleanup liens against the subject property that are filed or recorded under federal, tribal, state, or local law; or (2) activity and use limitations (AULs), such as engineering controls, land use restrictions or institutional controls, that are in place at the subject property and/or have been filed or recorded in a registry under federal, tribal, state, or local law.

PM reviewed the Part the 201 Enforcement Liens list available through the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Remediation and Redevelopment Division (RRD), for information about environmental liens on the subject property. There was no information regarding environmental liens encumbering the subject property, or any pending, threatened, or past environmental litigation, environmental administrative procedures, or notices from government entities regarding possible violations of environmental law or possible environmental liability.

PM has not identified any record of activity and use limitations or institutional controls or engineering controls associated with the subject property through review of reasonable ascertainable records.

#### **Section 4.3: Specialized Knowledge**

The User did not report specialized knowledge or experience, actual knowledge, or commonly known or reasonable ascertainable information that is material to identifying recognized environmental conditions in connection with the subject property.

#### **Section 4.4: Commonly Known or Reasonably Ascertainable Information**

The User did not report knowledge of any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the subject property. The User indicated past use was parking.

#### **Section 4.5: Valuation Reduction for Environmental Issues**

The User indicated that subject property will be controlled through a long-term ground lease with a discounted price due to the mission alignment of the lessor and lessee.

#### **Section 4.6: Owner, Property Manager, and Occupant Information**

The User did not report knowledge relevant information from the owner, property manager, or occupants.

#### **Section 4.7: Reason for Performing this Phase I ESA**

According to the User, this Phase I ESA was conducted to fulfill MSHDA's requirements as part of applications for funding provided by MSHDA and the City of Detroit.



## **Section 4.8: Other**

The User did not provide PM with any additional information pertaining to the subject property.

## **SECTION 5.0: RECORDS REVIEW**

### **Section 5.1: Standard Environmental Record Sources**

PM retained EDR to provide current regulatory database information compiled by a variety of federal and state regulatory agencies. A copy of the database report is included in Section 10.5. The purpose of obtaining this data was to evaluate potential environmental risks associated with the subject property, adjoining sites, and other sites that are (1) identified on target lists, and (2) within varying distances of up to one mile from the subject property. PM reviewed the following federal and state databases for such listings within the indicated search radii.

<b>Type</b>	<b>Regulatory Agency Database</b>	<b>Approximate Minimum Search Distance (AMSD)</b>	<b>Number of Sites within AMSD</b>
Federal	National Priority List (NPL) Sites	1 mile	0
Federal	Delisted National Priority List (DNPL) Sites	½ mile	0
Federal	Superfund Enterprise Management System (SEMS) (formerly CERCLIS – renamed in 2015) Sites	½ mile	2
Federal	SEMS-Archive Sites (formerly CERLIS-NFRAP – renamed 2015)	½ mile	1
Federal	Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS) Sites	1 mile	0
Federal	RCRA non-CORRACTS Treatment, Storage or Disposal Facilities (TSDF) Sites	½ mile	0
Federal	RCRA Large Quantity Generators (LQG) Sites	subject property and adjoining properties	0
Federal	RCRA Small Quantity Generators (SQG) Sites	subject property and adjoining properties	0
Federal	RCRA Very Small Quantity Generators (VSQG) Sites	subject property and adjoining properties	1
Federal	RCRA Non-Generators (NON-GEN) Sites	subject property and adjoining properties	3
Federal	Institutional Control / Engineering Control Registries	subject property	0
Federal	Environmental Response and Notification System (ERNS)	subject property	0
State & Tribal	Hazardous Waste Sites (HWS) (equivalents to NPL and CERCLIS)	1 mile	0
State & Tribal	Solid Waste Facilities/Landfill Sites (SWF/LF)	½ mile	0
State & Tribal	Leaking Underground Storage Tank (LUST) Sites	½ mile	43
State & Tribal	Registered Underground Storage Tank (UST) Sites	subject property and adjoining properties	3
State & Tribal	Institutional Control / Engineering Control Registries	subject property	0

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Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and General Common Elements  
Located in the Eastern and Southern Portions of 445 Ledyard Street, Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0001; May 20, 2022**

Type	Regulatory Agency Database	Approximate Minimum Search Distance (AMSD)	Number of Sites within AMSD
State & Tribal	Brownfield Sites	½ mile	6
State & Tribal	Michigan Inventory of Facilities (Includes Part 201 Sites and Baseline Environmental Assessment {BEA} Sites)	½ mile	278
Either	Unmappable Database Listings (a.k.a. Orphan Sites)	database-dependent	3

### **Section 5.1.1: Subject Property and Occupant Listings**

The subject property or its known occupants are not identified in the referenced databases.

### **Section 5.1.2: Adjoining and Nearby Sites**

PM's review of the referenced databases also considered the potential or likelihood of contamination from adjoining and nearby sites. To evaluate which of the adjoining and nearby sites identified in the regulatory database report present an environmental risk to the subject property, PM considered the following criteria:

- The type of database on which the site is identified.
- The topographic position of the identified site relative to the subject property.
- The direction and distance of the identified site from the subject property.
- Local soil conditions in the subject property area.
- The known or inferred groundwater flow direction in the subject property area.
- The status of the respective regulatory agency-required investigation(s) of the identified site, if any.
- Surface and subsurface obstructions and diversions (e.g., buildings, roads, sewer systems, utility service lines, rivers, lakes, and ditches) located between the identified site and the subject property.

Only those sites that are judged to present a potential environmental risk to the subject property and/or warrant additional clarification are further evaluated. Using the referenced criteria, and based upon a review of readily available information contained within the regulatory database report, PM did not identify adjoining (i.e., bordering) or nearby sites (e.g., properties within a ¼-mile radius) listed in the regulatory database report that were judged to present a potential environmental risk to the subject property, with the exception of the following:

**TSD Solution LLC/Moslem Temple Aaonms** – This site is identified as 2701 Cass Avenue and is the northeast adjoining property. Review of the regulatory database indicates this property is a closed UST site, closed LUST site with two releases reported in 2012, and a former occupant has been registered as a RCRA non-generator of hazardous waste since 2012 with no reported violations. PM attempted to review EGLE regulatory records relating to the RCRA status, however, no records were available. Review of the Waste Data System (WDS) website documents the current occupant was registered as a generator in 1984 associated with child day care activities. PM reviewed Michigan Department of Licensing and Regulatory Affairs Storage Tank Division (LARA STD) and UST file information which documented a 12,000-gallon diesel UST was installed in the southern portion of the current building in 1971, which was removed in 2012. During the removal, an orphan UST was discovered, which was filled with concrete. Review

of EGLE file information relating to the LUST indicates the property was formerly utilized for vehicle repair operations and a release was reported for each of the two UST systems. Analytical results from soil and soil gas samples collected to assess the releases indicate that contamination has migrated to the south, partially into the Ledyard Street right-of-way, and west into an alley. However, the existing contamination does not exceed any viable exposure pathways such as the current Part 201 Soil Volatilization to Indoor Air Inhalation (SVII) cleanup criteria. No groundwater was encountered up to 20.0 feet below ground surface (bgs). Additionally, a Phase II ESA was completed for the subject property in 2021 and all soil samples collected from the northern portion of the property documented concentrations of volatile organic compounds (VOCs) and polynuclear aromatic compounds (PNAs) were below laboratory method detection limits (MDLs). Based on the delineation in the direction of the subject property, distance of existing contamination from the subject property (i.e., approximately 75 feet across Ledyard Street), removal of the UST systems, and regional clay geology with insufficient groundwater to act as a transport mechanism, PM has not identified this property as a REC. Refer to Section 5.2.3 for additional information regarding the 2021 Phase II ESA for the subject property.

**Acis Laboratories/U.S. Environmental Protection Agency/Clifford Lab** – This site is identified as 2600 Clifford Street and is a former east adjoining property. Review of the regulatory database indicates this site is identified as a SEMS site, a BEA site, and a former occupant has been registered as a RCRA non-generator of hazardous waste since 2005 with no reported violations. PM attempted to review EGLE regulatory records relating to the RCRA status, however, no records were available. Review of the WDS website documents at the time of registration, the site was classified as an emergency site. Review of the 2010 BEA documents the property was previously occupied by a chemical and petroleum lab that was abandoned with thousands of chemical containers and 55-gallon drums. The EPA removed and disposed of the abandoned containers in 2005. Review of the 2010 BEA report indicates contamination is present in the soil above the current Part 201 GCC. However, the existing contamination has been delineated in the direction of the subject property. No groundwater was encountered up to 20.0 bgs. Based on the distance of contamination from the subject property (i.e., at least 180 feet across Cass Avenue), recent re-development of the property (which would have included excavation of contaminated soils), and regional clay geology with insufficient groundwater to act as a transport mechanism, PM has not identified this property as a REC.

**Gateway Gardens LLC/Detroit Repair Inc.** – This site is identified as 2500 Clifford Street and is a former east adjoining property. Review of the regulatory database indicates this site is identified as a closed UST site, closed LUST site with one reported release in 1998, a BEA site, and a former tenant has been registered as a RCRA VSQG of hazardous waste since 2011 with no reported violations. PM attempted to review EGLE regulatory records relating to the RCRA status, however, no records were available. Review of the WDS website documents the RCRA status is related to offices of other holding company activities. PM reviewed EGLE file information for this property, which included a Closure Report completed in 1998 and a Phase II ESA and BEA completed in 2010 for 2500 Clifford Street, 2520 Cass Avenue, and 201 Sibley Street. Analytical results indicated low levels of Tetrachloroethylene (PCE) and Trichloroethylene (TCE) were detected in the northeastern portion of the 2500 Clifford Street (i.e., at least 200 feet across Cass Avenue and the former Clifford Street) above the current Part 201 Generic Cleanup Criteria (GCC). Additionally, benzo(a)pyrene was detected above the current Part 201 GCC in the northwestern portion of the former median of Cass Avenue and Clifford Street. Based on the closed LUST status, distance of contamination from the subject property (i.e., at least 90 feet across Cass Avenue), recent redevelopment of the property (which would have included

excavation of contaminated soils), and regional clay geology with insufficient groundwater to act as a transport mechanism, PM has not identified this property as a REC.

**Bay Rent Inc.** – This site is identified as 2540 Cass Avenue and is a former east adjoining property in the former median between Cass Avenue and Clifford Street. Review of the regulatory database indicates this site is identified as a closed UST site. PM reviewed LARA STD and UST file information which indicates six USTs were removed from the property in April 1990. Analytical results from soil samples taken from the sidewalls and floors of the UST basins were below laboratory MDLs for all parameters, with the exception of one sample taken from a former heating oil UST basin, which documented detectable levels of Total Petroleum Hydrocarbons (TPH). The tanks were removed, and the UST basins were excavated and backfilled to grade with gravel. This area was assessed further during a 2010 BEA mentioned in the paragraph above for “Gateway Gardens LLC/Detroit Repair Inc.” Based on the distance from the subject property (i.e., at least 90 feet across Cass Avenue), recent redevelopment of the property (which would have included excavation of contaminated soils), and regional clay geology with insufficient groundwater to act as a transport mechanism, PM has not identified this property as a REC.

**Delbruck Technology, LLC** – This site is identified as 3501 Cass Avenue, however, based on review of EGLE records this listing is associated with the south adjoining property, 2501 Cass Avenue. Review of the regulatory database indicates this property is listed on the Michigan Inventory of Databases as a BEA site. PM was not provided with the 2012 BEA during the 2019 Phase I ESA, however, the BEA was provided at a later date and was reviewed as part of this Phase I ESA. The 2012 subsurface investigation was completed to assess the potential for contaminated backfill related to former structures to be present on the property and for the presence of a former dry cleaner in a former tenant space. Analytical results from the soil samples collected closest to the subject property were below the most restrictive Part 201 GCC for all parameters except for total lead. The analytical results for the soil samples collected and analyzed from borings along the southern subject property boundary during PM’s 2021 subsurface investigation were below the most restrictive Part 201 GCC for all parameters. Based on review of the 2012 BEA and these results, this property no longer represents a REC.

**466 Henry Street** – This site is identified as 466 Henry Street and is located within one-eighth mile southwest of the subject property. Review of the regulatory database indicates this property is identified on the Michigan Inventory of Databases as a BEA site. PM reviewed EGLE file information, including a 2017 BEA which documented concentrations of metals and PNAs are present in the soil above the current Part 201 GCC. No VOCs were detected. Based on the distance of contamination from the subject property (i.e., at least 60 feet across a public alley), redevelopment of the property with the current paved parking lot, and regional clay geology with insufficient groundwater to act as a transport mechanism, PM has not identified this property as a REC.

**Michigan Chronicle** – This site is identified as 479 Ledyard Street and is located within one-eighth mile west of the subject property. Review of the regulatory database indicates this site is listed on the Michigan Inventory of Databases as a BEA site. Review of the 2015 BEA a subsurface investigation was completed to assess potential unsuitable fill material in the eastern portion. Analytical results from soils samples collected from the eastern portion of the property document concentrations of metals and PCE remain onsite above the current Part 201 GCC. PM completed a Phase II ESA on the subject property in 2021, which documented analytical results collected in the northeastern portion of the subject property were below the laboratory

MDLs for all parameters. Based on distance from contamination to the subject property (i.e., approximately 100 feet), and regional clay geology with insufficient groundwater to act as a transport mechanism, PM has not identified this property as a REC.

Additional properties were listed in the regulatory database within one-eighth of a mile of the subject property; however, based on the regional clay geology, insufficient groundwater to act as a transport mechanism, and distance considerations, PM has not identified these properties as RECs. PM also utilized reasonably ascertainable information to determine the location of the “orphan” listings in the regulatory database. None of the sites were identified as concerns.

## **Section 5.2: Additional Environmental Records Sources**

The objective of reviewing historical sources is to: (1) develop a history of previous uses or specific occupancies of the subject property, (2) identify those uses or specific occupancies that are likely to have led to potential environmental concerns at the subject property, and to the extent identifiable, at adjoining properties, and (3) identify obvious uses of the subject property from the present, back to the property’s *obvious* first developed use, or back to 1940, whichever is earlier. Further, the historical review was completed to assess whether operations were conducted that involved the use, storage and/or disposal of hazardous waste, hazardous substances, and/or petroleum products.

An understanding of the subject property was obtained from reasonably ascertainable standard and other historical sources extending back to 1889. Data failure occurred prior to that date. Interviewees provided independent knowledge of subject property and surrounding area usage which in turn provided information confirming historical subject property and general adjoining and surrounding land usage. See Sections 5.4.3 and 5.5 for specific documentation of standard and other historical sources consulted and availability of these sources. The history of the subject property and adjoining and surrounding areas, which was able to be derived from standard historical sources and other sources to satisfy the ASTM standard requirements for uses of a property (except those excluded by data failure), have been described within the text of this report.

### **Section 5.2.1: Assessing Department/Building Department Records**

Reasonably ascertainable assessment online information provided by the City of Detroit Assessor’s Office was obtained and reviewed. Assessing records document that the subject property is part of one parent parcel totaling 1.87 acres that is developed with two buildings associated with the homeless shelter and transitional housing operations.

PM reviewed historical City of Detroit Assessing Department records as part of a 2019 Phase I ESA (Section 5.2.3) and no additional relevant information was documented for the subject property. Copies of available assessment records for the subject property and the current legal description are included in Section 10.4.

Reasonably ascertainable building information provided by the City of Detroit Department of Buildings, Safety Engineering and Environmental Department (BSEED) was obtained and reviewed. The table below describes the permit issued, the date of issuance, and the reason for issue.

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Address	Permit Number	Date of Issuance	Description
435-439 Ledyard Street	47996	3/3/1955	Wreck dwelling and remove debris
	50159	4/8/1955	Wreck garage building and remove debris
447 Ledyard Street	910	3/20/1911	Construct garage
	47997	3/3/1955	Wreck dwelling and remove debris
2525-2527 Cass Avenue	34106	5/1/1969	Wreck wash rack and remove debris
2527 Cass Avenue	34522-A	10/15/1930	Wreck dwelling
2531 Cass Avenue	48396	1/14/1964	Wreck rooming house (six apartments) and remove debris
	48397	1/14/1964	Wreck multiple dwelling (six apartments) and remove debris
2537 Cass Avenue	65252	3/12/1965	Use of land for private parking
2545-2547 Cass Avenue	17674	6/11/1984	Wreck rooming house and remove debris
2551 Cass Avenue	8157A	3/25/1924	Wreck two story dwelling
2557 Cass Avenue	70350	4/4/1930	Construct watchman shelter
2561 Cass Avenue	29470	4/25/1922	Construct garage
2575 Cass Avenue	53917	11/26/1924	Construct garage
2605 Cass Avenue	13220	6/28/1923	Construct office
2613 Cass Avenue	4499	10/16/1912	Construct hotel
3619 Cass Avenue	33682	6/9/1986	Wreck multi-dwelling and remove debris

Additional permits were available documenting parking lot permits and alterations/repairs to the former dwellings and mixed-use building (Pricilla's Inn). Records for 445 Ledyard Street documented permits associated with the current west adjoining buildings on the parent parcel.

PM also attempted to review BSEED oil and gas record cards, which document historical fuel oil use and are unique to Detroit. However, no records for the subject property were available for review.

### **Section 5.2.2: Zoning Department Records**

PM reviewed the City of Detroit zoning map. The subject property is currently zoned "B-4: General Business District." PM's review did not identify potential environmental concerns associated with the subject property based on its current zoning.



### **Section 5.2.3: Previous Site Investigations**

#### **Phase I ESA**

PM completed a previous Phase I ESA dated August 30, 2019 for the entire parent parcel, including the current subject property. At the time of the Phase I ESA, the properties were occupied by the Mariners Inn homeless shelter. Similar historical information was included in this Phase I ESA. The following on-site REC was identified associated with the subject property:

- A storefront within the former Priscilla Inn (417 Ledyard Street) was previously occupied by a clothes cleaner between at least 1935 to 1940 (and potentially from 1931 to 1945), which may have included dry cleaning operations. Dry cleaning operations during this timeframe commonly involve the usage of general hazardous substances and/or petroleum products, which, if improperly managed and/or disposed of, can be a source of contamination. This time period preceded major environmental regulations and current waste management and disposal procedures. The historical waste management practices associated with the former dry-cleaning operations are unknown and may be a source of subsurface contamination.

The following adjoining REC to the subject property was identified:

- The south adjoining property, identified as 2501 Cass Avenue, is identified as a Baseline Environmental Assessment (BEA) site. PM attempted to review regulatory file information for this property but did not receive a response within the time constraints of this report. The property was historically occupied by a movie theater equipment company, restaurants, hair salons/barbers, bars, and a popcorn company. PM was unable to determine the source of the known contamination on the property. Based on the close proximity to the subject property (i.e., directly adjoining), the potential exists that existing contamination on this property has migrated onto the subject property.

#### **Phase II ESA**

To address the RECs associated with the subject property, on June 10, 2021, PM completed subsurface investigation activities consisting of the advancement of eight soil borings, installation of four temporary soil gas points, and the collection of 16 soil samples and four soil gas samples. Two boring locations were selected to address the onsite former dry cleaner REC and two soil boring locations were selected to address the south adjoining BEA site RE. Additionally, five additional soil borings were advanced to address the potential for fill material to be present in the locations of former buildings in the eastern portion of the subject property. The soil samples were submitted for laboratory analysis of volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PNAs), polychlorinated biphenyls (PCBs), and ten Michigan metals (or some combination thereof). The soil gas samples were submitted for laboratory analysis of VOCs. No concentrations of VOCs or metals were detected above laboratory MDLs. No VOCs were detected exceeding the most restrictive Part 201 Generic Cleanup Criteria (GCC) and/or the most restrictive EGLE Residential Volatilization to Indoor Air Pathway (VIAP) Screening Levels. Concentrations of the PNAs benzo(a)pyrene and benzo(b)fluoranthene were identified in one soil sample in the central portion of proposed condominium Unit #1 (SB-5, 3.5-4.5 feet bgs) above Part 201 Residential Generic Cleanup Criteria (GCC) for Direct Contact (DC). Additionally, concentrations of the PNAs fluoranthene, naphthalene, and phenanthrene and the metal mercury

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were also identified in SB-5, 3.5-4.5 feet bgs above Part 201 Residential GCC for Groundwater Surface Water Interface Protection (GSIP). The concentrations of naphthalene and mercury detected in SB-5, 3.5-4.5 feet bgs also exceed EGLE Residential VIAP Screening Levels.

On November 24, 2021, PM completed an additional subsurface investigation in an effort to delineate the extent of PNA contamination identified in the southern-central portion of the subject property in June 2021. The investigation consisted of the advancement of six soil borings, installation of two temporary soil gas points, and the collection of 13 soil samples and two soil gas samples. The soil samples were submitted for laboratory analysis of VOCs and PNAs. The soil gas samples were submitted for laboratory analysis of VOCs. No concentrations of VOCs were detected in the soil samples above laboratory MDLs or most restrictive Part 201 GCC and no soil gas samples were detected above EGLE Residential VIAP Screening Levels. The PNA benzo(a)pyrene was identified in soil boring SB-5R, 0.5-1.5 feet bgs over Part 201 Residential DC and the PNAs benzo(a)pyrene and benzo(b)fluoranthene were identified in soil boring SB-9, 3.5-4.5 feet bgs, also located in the central portion of proposed condominium Unit 1, over Part 201 Residential DC. No additional PNAs were identified above laboratory MDLs and/or the most restrictive Part 201 GCC. **Based on these analytical results, the subject property would be classified as a “facility,” as defined by Part 201 of P.A. 451 of the Michigan Natural Resources and Environmental Protection Act (NREPA), as amended, which represents a REC.**

Based on the results of the 2021 subsurface investigation, the area of contamination exceeding the Part 201 GCC and Residential VIAP Screening Levels was delineated both vertically and horizontally. The planned remedial actions include excavating contaminated soils with proper landfill disposal. The proposed excavation is 33 feet wide by 50 feet long by 6.0 feet deep. Following soil removal activities, verification of soil remediation (VSR) samples will consist of using biased sampling strategies and screening the floors and sidewalls prior to sample collection to document the removal of contaminated soils to concentrations below applicable Part 201 Residential cleanup criteria and VIAP and/or Site-Specific Screening Levels.

A Draft Table of Soil Analytical Results and Draft Proposed Excavation Area figure are provided in Appendix 10.7.

### Section 5.3: Physical Setting Source(s)

PHYSICAL SETTING INFORMATION FOR THE SUBJECT PROPERTY AND SURROUNDING AREA		SOURCE
Topography: Refer to Figure 1 for an excerpt of the Topographic Map		
Site Elevation	610 feet above mean sea level (msl)	United States Geological Survey Division (U.S.G.S.) 7.5-Minute Topographic Map of the Detroit, Michigan Quadrangle, 1968 (photo revised in 1973 and 1980)
Topographic Gradient	South	
Closest Surface Water	The Detroit River, located approximately 1.10 miles south-southeast at an elevation of 575 feet above msl	
General Soil Characteristics: Refer to Section 10.4 for a copy of the soil survey map and soil type descriptions		
Soil Type	Urban land-Riverfront complex, dense substratum, 0 to 4 percent slopes	United States Department of Agriculture, Custom Soil

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PHYSICAL SETTING INFORMATION FOR THE SUBJECT PROPERTY AND SURROUNDING AREA		SOURCE
Description	Urban land consists of areas covered by buildings, paved features, railroad yards, industrial complexes, and other structures. A typical soil profile is not defined. Permeability and available water capacity vary. Corrosion risk is not defined.	Resource Report for Wayne County, Michigan (survey area data: September 7, 2021)
	A typical Riverfront soil profile consists of sandy loam to six inches bgs, very artifactual sandy loam to 16.0 inches bgs, gravelly-artifactual loam to 46.0 inches bgs, very artifactual loam to 68.0 inches, underlain by clay to 80.0 inches bgs. This soil is well drained with a depth to the water table of more than 80.0 inches. The risk of corrosion is low for both uncoated steel and concrete.	
Area Specific Geology/Hydrogeology Characteristics:		
Geology	Generally consists of sand, sandy clay, or clay to between 4.5 and 8.0 feet bgs, underlain by clay to 20.0 feet bgs, the maximum depth explored. Various debris (concrete and brick) was identified in in the southern portion between 0.5 and 6.0 feet bgs.	Previous site investigations for the subject property (June and November 2021)
Hydrogeology	Groundwater was not encountered to a depth of 20.0 feet bgs, the maximum depth explored.	
Oil and Gas Wells:		
Current Oil and Gas Wells on Subject Property	None identified	The EGLE Geologic Survey Division (GSD) web site
Historical Oil and Gas Wells on Subject property	None identified	

## **Section 5.4: Historical Use Information on the Subject Property**

### **Section 5.4.1: Aerial Photographs and Sanborn Map Coverage for the Subject Property**

PM reviewed reasonably ascertainable aerial photographs for the subject property area. The sources and years reviewed are identified in the table below. Relevant aerial photographs are included in Section 10.4.

PM reviewed reasonably ascertainable Sanborn Fire Insurance Maps for the subject property area, which were obtained from EDR. The sources and years reviewed are identified in the table below. Relevant Sanborn Maps are included in Section 10.4.

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The following table summarizes the sources reviewed and the information obtained about the subject property from these sources. Information obtained about the adjoining properties from these sources is summarized in Section 5.5.

**Aerial and Sanborn Summary for the Subject Property**

<b>Year and Source</b>	<b>Summary of Information</b>
1884 Sanborn Map (EDR)	The eastern portion is depicted with five residential dwellings, and the western portion is not depicted. Ledyard Street is visible to the north and Cass Avenue is visible to the east.
1889 Sanborn Map (EDR)	A shed, three stables, and a portion of a dwelling that extends onto the west adjoining are depicted in the western portion. Otherwise, similar to the previous Sanborn year.
1897 Sanborn Map (EDR)	An additional dwelling is depicted in the southern portion. Otherwise, similar to the previous Sanborn year.
1919 Sanborn Map (EDR)	The northern dwelling, shed, and stable have been demolished and a building identified as "Priscilla Inn" is now depicted, which extends onto the west adjoining property and includes storefronts along the northern and eastern portions of the building. A portion of the southernmost dwelling is now identified as a store.
1921 Sanborn Map (EDR)	A stable has been constructed in the western portion and a stable in the southwestern portion has been converted to a garage. Otherwise, similar to the previous Sanborn year.
1937 Aerial (EDR)	Due to scale and resolution, definitive details could not be determined. However, appears similar to the previous Sanborn year.
1949 Aerial (EDR)	Two dwellings and a garage have been demolished in the central and southern portions. The portion south of Priscilla Inn appears to be utilized for parking and a commercial building is visible in the southern portion. Otherwise, similar to the previous aerial and Sanborn years.
1950 Sanborn Map (EDR)	One of the dwellings in the southern portion is identified as "rooming" and the commercial building in the southern portion is identified as a car wash. Otherwise, similar to the previous aerial year.
1952 Aerial (EDR)	Similar to the previous aerial and Sanborn years.
1953 Sanborn Map (EDR)	Similar to the previous aerial and Sanborn years.
1956 Aerial (EDR)	The dwelling in the northwestern portion which extended onto the west adjoining property is no longer depicted. Otherwise, similar to the previous aerial and Sanborn years.
1957 Sanborn Map (EDR)	Similar to the previous aerial year.
1961 Sanborn Map (EDR)	Similar to the previous aerial and Sanborn years.
1961 Aerial (EDR)	Similar to the previous aerial and Sanborn years.
1966 Aerial (EDR)	A dwelling in the southern portion has been demolished and the location appears to be utilized for parking. Otherwise, similar to the previous aerial year.
1972 Aerial (EDR)	The car wash building in the southern portion has been demolished. Otherwise, similar to the previous aerial year.
1977 Sanborn Map (EDR)	The Priscilla Inn is now labeled as the Baptist Building/Priscilla Hall and the stores are no longer depicted. The southern portion is depicted as parking. Otherwise, similar to the previous aerial year.
1983 Aerial (EDR)	Similar to the previous Sanborn year.
1987 Aerial (EDR)	The Baptist/Priscilla building and the remaining dwelling in the southern portion are no longer visible. Otherwise, similar to the previous aerial year.

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<b>Year and Source</b>	<b>Summary of Information</b>
1988 Sanborn Map (EDR)	The former Baptist/Priscilla building remains depicted in the northern portion. Otherwise, similar to the previous aerial year.
1991 Sanborn Map (EDR)	The former Baptist/Priscilla building is no longer depicted. Otherwise, similar to the previous Sanborn year.
1996 Sanborn Map (EDR)	Similar to the previous Sanborn year.
1997 Aerial (EDR)	The current paved parking lot is visible in the northern portion. Otherwise, similar to the previous Sanborn year.
1999 Aerial (EDR)	A basketball court is visible in the southern portion. Otherwise, similar to the previous aerial year.
2002 Sanborn Map (EDR)	Similar to the previous Sanborn year.
2005 Aerial (EDR)	Two of the current sheds are visible in the western portion. Otherwise, similar to the previous aerial year.
2009 Aerial (EDR)	A temporary tent is visible in the southern portion. Otherwise, similar to the previous aerial year.
2012 Aerial (EDR)	Similar to the previous aerial year.
2016 Aerial (EDR)	The previously identified basketball court and temporary tent have been removed and the current basketball court is visible in the southern portion. An additional shed is visible in the western portion. Otherwise, similar to the previous aerial and appears similar to the current layout.
2021 Aerial (Google Earth)	Similar to the previous aerial year.

A summary of this information along with other historical sources is included in Section 5.4.3.

#### **Section 5.4.2: Local Street Directories for the Subject Property**

Reasonably ascertainable local street directories for Detroit, Michigan were researched. Directories were available from 1891 to 2014. It should be noted that prior to 1921, the address numbers in Detroit changed, and therefore listings for the former address ranges prior to 1921 when available are provided. Directories were researched in at least five-year increments, when available. It should not be construed that the earliest date represented is the initial date of occupancy.

In general, historical commercial occupants included homeless shelter, medical offices, restaurant, retail, boarding house, correctional facility, church convention center, grocery, beauty shop, hand laundry, shoe repair, bakery, car wash, retail, dressmaker, pharmacy, and professional office, dry cleaning, and dying company occupants. A copy of the listings available for the subject property are included in Appendix 10.4 and a summary of this information along with other historical sources is included in Section 5.4.3.

PM also reviewed listings for adjoining commercial properties. Information from the listings reviewed is included in Section 5.5.

#### **Section 5.4.3: Summary of Historical Use for the Subject Property**

Standard and other historical sources were able to document the subject property was developed prior to 1889 with several residential dwellings and outbuildings. The southernmost dwelling also included a first-floor storefront that was occupied by a doctor's office in at least 1901, a restaurant

in at least 1916, a hand laundry in at least 1921, and a shoe repair business in at least 1926. Between 1912 and 1913, the dwelling in the northern portion was demolished and replaced with the Priscilla Inn, a women's correctional center and church convention center with a kitchen and six storefronts, which were occupied by a cleaning and dyeing company, a clothes cleaner, a pharmacy, a church, a grocery store, a hand laundry, a tea supplier, a baker, a library, and a beauty shop. In the 1940s, two dwellings in the southern portion were demolished and replaced with a car wash, which was demolished in 1969. By 1950, most, if not all, storefronts within Priscilla Inn were converted to shelter-related uses such as a recreation room and lobby, and the land immediately south of the inn was converted into a parking lot and was used for automotive sales in at least 1925 to 1926. The Priscilla Inn was demolished in 1984 and the northern portion has been utilized for parking since that time. Two of the three remaining dwellings in the southern portion were demolished in the 1960s and the third was demolished in the 1980s. The southern portion has been utilized for parking or a recreational lot for the west adjoining homeless shelter, Mariners Inn since at least 1987. Two of the three current sheds were constructed in the western portion between 2002 and 2005, and the third shed was constructed between 2012 and 2016.

One storefront within the former Priscilla Inn (417 Cass Avenue) was previously occupied by a cleaning and dyeing company in at least 1916, which may have included dry cleaning operations. However, based on the short timeframe of operations (i.e., less than five years) and time period when solvents were not commonly utilized, PM has not identified this potential former dry-cleaning operations as a REC.

Another storefront within the former Priscilla Inn (417 Ledyard Street) was previously occupied by a clothes cleaner between at least 1935 to 1940, which may have included dry cleaning operations. Dry cleaning operations during this timeframe commonly involved the usage of general hazardous substances and/or petroleum products, which, if improperly managed and/or disposed of, can be a source of contamination. The potential former dry-cleaning operations were assessed in a previous subsurface investigation at the subject property. Refer to Section 5.2.3 for additional information.

The subject property was historically developed with several residential dwellings with basements, which were demolished at various times between the 1940s and 1980. Subsurface investigations completed at the subject property in June and November 2021 documented concrete and brick debris was encountered in five soil borings within former building footprints in the southern portion between 0.5 feet and 6.0 feet below ground surface (bgs). A limited area of polynuclear aromatic hydrocarbons (PNAs) and mercury exceeding Part 201 GCC was identified in the former footprint of two former dwellings in the southern portion, which will be excavated as part of redevelopment activities.

### **Section 5.5: Historical Use Information on the Adjoining Properties**

The same aerial photographs and Sanborn Maps described in Section 5.4.1 and city directories from Section 5.4.2 were obtained and reviewed for the adjoining properties. The following paragraphs provide information about the adjoining properties obtained during the site reconnaissance and through review of reasonably ascertainable information.

### **North Adjoining Properties, across Ledyard Street**

The northeast adjoining property, identified as 2701 Cass Avenue, was developed prior to 1884 with a residential dwelling. The dwelling was demolished, and the current warehouse building was constructed in 1945. The building was utilized as an Avis car rental garage from at least 1960 until 1973 and a bus garage from at least 1972 to 1986. The warehouse has been vacant since approximately the 1980s. This property is identified in the regulatory database. Refer to Section 5.1.2 for additional information.

The northwest adjoining property, identified as 2700-2714 Second Avenue, was developed between 1889 and 1897 with two dwellings in the southeastern portion and a church in the southwestern portion, on previously vacant land. The current residential apartment building was constructed in the northern portion between 1897 and 1919. The church and dwellings were demolished between 1961 and 1967, and a new church building was constructed. The church was demolished between 2016 and 2018 and the property has been occupied by the apartments in the northern portion and vacant land in the southern portion since that time.

### **East Adjoining Property, across Cass Avenue**

The east adjoining property, identified as 165 Sproat Street, was developed prior to 1884 with several residential dwellings and commercial storefronts. A gasoline service station, historically identified as 2524-2540 Cass Avenue, was constructed in the western portion, within a former median between Cass Avenue and Clifford Street between 1921 and 1931. The majority of the dwellings were demolished, and the property was redeveloped with numerous hotels and additional commercial storefronts in the 1930s and 1940s. Additionally, a gasoline service station, historically identified as 2500 Clifford Street, was constructed in the southern portion between 1937 and 1941. The gasoline service station in the southern portion operated until 1982 and was then occupied by a taxi company (with service operations) until approximately 2010. The gasoline service station in the western portion operated until the late 1970s. The two gasoline service stations and the remaining hotels and commercial buildings were demolished by the 2010s, and the entire area was redeveloped with the current Little Caesar's Arena parking garage, and Little Caesar's Arena beyond between 2016 and 2017. This property is identified in the regulatory database. Refer to Section 5.1.2 for additional information.

### **South Adjoining Property**

The south adjoining property, identified as 2501 Cass Avenue, was developed prior to 1884 with residential dwellings and a commercial storefront in the southeastern portion, which was occupied by a mantle, grate, and cabinet shop. Several dwellings were demolished in the southern portion and apartment and hotel buildings were constructed between 1919 and 1921. The southeastern dwelling and storefront were demolished, and a commercial building was constructed between 1921 and 1937. The building was historically occupied by various restaurants, hair salons, a theater equipment company, bars, a popcorn company, and was occupied by a dry-cleaning company between at least 1940-1941. The hotel and apartment buildings were demolished in the late 1990s and early 2000s. The commercial building in the southeastern portion was demolished in 2017, and the property was redeveloped with the current parking lot in 2018. This property is identified in the regulatory database. Refer to Section 5.1.2 for additional information.



## **West Adjoining Property**

The west adjoining property and remainder of the parent parcel, identified as 445 Ledyard Street, was developed prior to 1889 with three dwellings and the current transitional housing building. Between 1912 and 1913, a portion of Priscilla Inn, a women's correctional center and church convention center with several storefronts, was constructed in the eastern portion, which extended onto the subject property. Between 1897 and 1919, an outbuilding in the southern portion associated with the dwellings was converted into a 7-car garage with a north side heating plant addition by 1921. By 1950, most, if not all, storefronts within Pricilla Inn were converted to shelter-related uses such as a recreation room and lobby, and the land immediately south of the inn was converted into a parking lot and was used for automotive sales in at least 1925 to 1926. The three dwellings and the heated garage in the were demolished between 1955 and 1956 and replaced with the western portion of the current Mariners Inn (main office and dorm housing), which had an eastern addition completed in 1995 (offices and kitchen). The Mariners Inn has been utilized as a homeless shelter, counseling center, and transitional housing since construction.

The west adjoining property, identified as 438 Henry Street, was developed with a dwelling and stable prior to 1889. Between 1897 and 1919, the dwelling and stable were demolished and an apartment building identified as The Elms was constructed. The apartment building was demolished between 1997 and 1999 and the property consisted of vacant land until being redeveloped with the current parking lot in 2017/2018.

## **SECTION 6.0: SITE RECONNAISSANCE**

### **Section 6.1: Methodology and Limiting Conditions**

<b>Reconnaissance Information</b>	
<b>PM Field Personnel:</b>	Ms. Devon Nagengast
<b>Site Reconnaissance Date:</b>	April 14, 2022
<b>Escort:</b>	No escort
<b>Limitations:</b>	PM did not access the sheds in the western portion, which were locked at the time of the site reconnaissance. Based on the use for general storage, PM has not identified this limitation as a significant data gap.

### **Section 6.2: General Subject Property Setting**

A general property description and improvements is provided in Sections 3.1 and 3.2.

The subject property consists of approximately 1.07 acres of a parent parcel totaling 1.87 acres located south of Ledyard Street and west of Cass Avenue in Detroit, Michigan. The three sheds are present in the western portion ranging in size between approximately 70 and 300 square feet each. A parking lot is present in the northern portion, a basketball court is present in the southern portion, a small, paved area is present in the western portion, and the remainder contains groomed grass. The subject property is located in an area of Detroit that is characterized by residential and commercial properties.

### **Section 6.3: Exterior Observations**

The following table summarizes the exterior site observations. No affirmative responses were identified.

<b>Category</b>	<b>Feature</b>	<b>Observed</b>
Exterior Observations	Aboveground Storage Tanks (ASTs)	No
	Drums, Barrels and/or Containers > 5 gallons	No
	Stressed Vegetation	No
	Stained Soil or Pavement	No
	Monitoring Wells	No
	Soil Piles of Unknown Origin/Site Filling	No
	Exterior Dumpsters with Staining	No
	Leachate or Other Waste Seeps	No
	Trash, Debris, and/or Other Waste Materials	No
	Uncontrolled Dumping or Disposal Areas	No
	Surface Water Discoloration, Sheen, or Free Product	No
	Strong, Pungent or Noxious Odors	No
	Storm water retention or detention ponds	No
	Pits, Ponds, Lagoons	No
	Pad or Pole Mounted Transformers and/or Capacitors	No
	Underground Storage Tanks	No
	Fuel Dispensers	No
	Pipeline Markers	No

#### **Section 6.3.1: Underground Storage Tanks (USTs)**

Review of reasonably ascertainable standard and other historical sources, and site observations, have not identified the current and historical presence of USTs on the subject property. Specifically, no records of USTs were identified though review of reasonably ascertainable records and PM did not observe any evidence of USTs (i.e., fill ports, vent pipes, etc.) during the site reconnaissance. Additionally, the current owner indicated he had no knowledge of USTs associated with the subject property.

### **SECTION 7.0: INTERVIEWS**

The objective of completing interviews with knowledgeable site contacts is to obtain information about the uses and physical characteristics of the property.

In general, interviewees supported the information reviewed from other historical sources (i.e., aerial photos, city records, etc.).

### **Section 7.1: Interview with Owners, Occupants, or Others**

<b>Represents</b>	<b>Interviewed</b>	<b>Name and Title</b>	<b>Length of Time Associated with Subject Property</b>	<b>Comments</b>
Current Owner, Key Site Manager, and Current Occupant	Yes (during the 2019 Phase I ESA)	Mr. David Sampson, CEO of Mariners Inn	21 years	Mr. Sampson indicated the subject property has been occupied by the current nonprofit shelter for people with addiction problems and the homeless for the past 64 years. No information was reported that would be considered material for identifying recognized environmental conditions in connection with the subject property.
Former Property Owner	No	Not applicable	Not applicable	Contact information for the former owner was not reasonably ascertainable or provided by the User
Former Occupant(s)	No	Not applicable	Not applicable	Contact information for the former occupants was not reasonably ascertainable or provided by the User
Other(s)	No	Not applicable	Not applicable	No other relevant interviews were conducted as part of this Phase I ESA.

### **Section 7.2: Interview with Local Government Officials**

PM interviewed representatives from the City of Detroit municipal offices and the City of Detroit Health Department.

#### **Section 7.2.1: Local Fire Department**

PM submitted a Freedom of Information Act (FOIA) request to the City of Detroit FOIA Coordinator at the City of Detroit Law Department to review Fire Department records for the subject property. PM did not receive a response within the time constraints of this report. If PM does receive a response, and it changes the findings of the report, the client will be notified.

PM submitted a FOIA request to the City of Detroit Health Department, Division of Environmental Health and Safety to review records for the subject property. PM received a written response from a representative of the department indicating no files were available for the subject property.

## **SECTION 8.0: EVALUATION AND REPORT PREPARATION**

### **Section 8.1: Findings**

The following known or suspect environmental conditions associated with the subject property have been identified. These conditions may include de minimis conditions, RECs, both on-site

and off-site, as well as historical RECs, controlled RECs, non-ASTM findings such as Asbestos Containing Materials and/or wetland identification, and environmental non-compliance issues.

#### **Section 8.1.1: De Minimis Condition**

A de minimis condition, as defined in the ASTM Standard, is a condition that generally does not present a threat to human health or the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not RECs or CRECs. No de minimis conditions were identified during this assessment.

#### **Section 8.1.2: Significant Data Gaps**

A data gap, as defined in the ASTM Standard, is a lack of or inability to obtain information required by the ASTM Standard despite good faith efforts by the environmental professional to gather such information. The environmental professional must then determine whether these gaps are significant. PM did not identify or encounter any instances of significant data gaps during the course of this ESA

#### **Section 8.1.3: Historical Recognized Environmental Conditions (HRECs)**

An HREC, as defined in the ASTM Standard, is a past release of hazardous substances or petroleum products that has occurred in connection with the subject property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the subject property to any required controls. PM has not identified any HRECs associated with the subject property.

#### **Section 8.1.4: Recognized Environmental Conditions (RECs)**

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of The Anchor at Mariners Inn, proposed Mariners Inn Condominium Units Nos. 1 and 2 and General Common Elements, located in the eastern and southern portions of 445 Ledyard Street, Detroit, Wayne County, Michigan, the subject property. Any exceptions to, or deletions from, this practice are described in Sections 2.4 and 2.5 of this report. This assessment has revealed no evidence of recognized environmental conditions connected with the property except the following:

- Concentrations of benzo(a)pyrene, benzo(b)fluoranthene fluoranthene, naphthalene, phenanthrene, and mercury were identified during PM's 2021 subsurface investigation in soil samples collected from the central portion of the proposed condominium Unit #1 on the subject property exceeding Residential Part 201 GCC. The concentrations of naphthalene and mercury detected also exceed EGLE Residential VIAP Screening Levels. The impacted area appears to be associated with backfill associated with former dwellings. Based on the results of the 2021 subsurface investigation, the area of contamination exceeding the Part 201 GCC and Residential VIAP Screening Levels was delineated both vertically and horizontally. Based on these analytical results, the subject property would be classified as a "facility," as defined by Part 201 of P.A. 451 of the Michigan NREPA, as amended.

No adjoining and/or nearby RECs have been identified.

#### **Section 8.1.5: Controlled Recognized Environmental Conditions (CRECs)**

A CREC, as defined in the ASTM Standard, is a recognized environmental condition (REC) resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. PM has not identified any CRECs associated with the subject property.

#### **Section 8.2: Opinion**

PM has performed an Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E-1527-13, ASTM Practice E 2600-15, and the Michigan State Housing Development Authority (MSHDA) Environmental Review Guidelines for 2022 of The Anchor at Mariners Inn, proposed Mariners Inn Condominium Units Nos. 1 and 2 and General Common Elements, located in the eastern and southern portions of 445 Ledyard Street, Detroit, Wayne County, Michigan. Any exceptions to or deletions from this practice are described in the Limitations section of this report.

This assessment has revealed no evidence of recognized environmental conditions connected with the property, with the exception of the REC identified in Section 8.1.4.

#### **Section 8.3: Additional Investigation**

Based on the results of the 2021 subsurface investigation, the area of contamination exceeding the Part 201 GCC and Residential VIAP Screening Levels was delineated both vertically and horizontally. The planned remedial actions include excavating contaminated soils with proper landfill disposal. The proposed excavation is 33 feet wide by 50 feet long by 6.0 feet deep. Following soil removal activities, VSR samples will consist of using biased sampling strategies and screening the floors and sidewalls prior to sample collection to document the removal of contaminated soils to concentrations below applicable Part 201 Residential cleanup criteria and VIAP Screening Levels. PM is currently completing a BEA on behalf of the proposed lessee - The Anchor at Mariners Inn LDHA LP. PM is also preparing a Response Activity Plan – Remedial Action Plan to be approved by EGLE.

#### **Section 8.4: Conclusions**

PM has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of The Anchor at Mariners Inn, proposed Mariners Inn Condominium Units Nos. 1 and 2 and General Common Elements, located in the eastern and southern portions of 445 Ledyard Street, Detroit, Wayne County, Michigan, the subject property. Any exceptions to, or deletions from, this practice are described in Sections 2.4 and 2.5 of this report. This assessment has revealed no evidence of recognized environmental conditions connected with the property except as listed in Section 8.1.4 of this report.

## **Section 8.5: Additional Services**

Additions to the ASTM Standard include an asbestos inspection completed in accordance with NESHAP, a lead-based paint inspection, a formaldehyde insulation survey, a radon gas survey, a 100-year flood plain evaluation, an evaluation for the presence of potential wetlands, inspection for potential electromagnetic fields due to high tension power lines, an evaluation of the presence of high pressure gas mains in the vicinity of the subject property, an evaluation of communication towers and/or antenna currently located at or proposed at the subject property, and an evaluation of railroad/roadway/airport noise analysis, and a Tier I Vapor Encroachment Screen (VES) of the target property. Refer to Section 9.0 for a discussion of additional services.

## **Section 8.6: Deviations**

Refer to Section 2.4 for additional discussion.

## **Section 8.7: References**

The following published sources were utilized during completion of this Phase I ESA:

- *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, ASTM, ASTM Designation E 1527-13, Published November 2013.
- Bresser's Cross-Index City Directories, Bresser's in Detroit, Michigan. City: Detroit. Years: 1946-2014.
- R.L. Polk's Directories, obtained from the State of Michigan Library in Lansing, Michigan. City: Detroit. Years: 1891-1941.
- Michigan Department of Environment, Great Lakes, and Energy (EGLE) "Your County's Radon Levels" map, referenced March 2022.
- Federal Emergency Management Agency (FEMA) floodplain map, dated February 2, 2012 (Map No. 26163C0285E).
- U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI) Map, referenced March 2022.
- United States Geological Survey Division (U.S.G.S.) 7.5 Minute Topographic Map Detroit, Michigan Quadrangle, 1968 (photo revised in 1973 and 1980).
- *Custom Soil Resource Report for Wayne County, Michigan*, U.S. Department of Agriculture, survey area data: September 7, 2021.

In addition, PM reviewed the following previous site investigations:

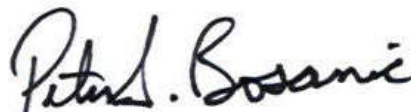
- Phase I ESA, PM, August 30, 2019.

### **Section 8.8: Signature(s) of Environmental Professional(s)**

We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental professional* as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquires in conformance with the standards and practices set forth in 40 CFR Part 312.



Carey Kratz, EP  
Regional Manager – Due Diligence



Peter S. Bosanic, P.E., EP  
Principal

### **Section 8.9: Qualification(s) of Environmental Professional(s)**

Refer to resumes included in Section 10.8 for descriptions of qualifications for the above Environmental Professionals.

## **SECTION 9.0: NON-ASTM SCOPE SERVICES**

### **Section 9.1: Friable and Non-friable Asbestos Containing Materials (ACMs)**

The storage sheds do not contain finish materials or suspect ACMs. No additional buildings or other structures were present at the subject property during the site reconnaissance. Therefore, an evaluation for the existence of suspect asbestos containing materials was not performed.

### **Section 9.2: Lead-Based Paint (LBP)**

According to MSHDA guidelines, if building permits are issued before January 1, 1978, an LBP inspection and risk assessment is required. Based upon the construction dates of the storage sheds in the 2010s, a lead based paint inspection was not requested or required for this site.

### **Section 9.3: Radon Gas**

A radon inspection was not required for the subject property, since it is not located within one of the 24 counties (Barry, Berrien, Brach, Calhoun, Cass, Clinton, Dickinson, Eaton, Hillsdale, Ionia, Iron, Jackson, Kalamazoo, Lapeer, Livingston, Lenawee, Monroe, Oakland, Otsego, Ottawa, Shiawassee, St. Joseph, Tuscola, and Washtenaw) designated by the EGLE as 25% or more homes tested equal to or above 4 picocuries/liter (pCi/L) of radon exposure. Therefore, no additional investigation is necessary.

### **Section 9.4: 100-Year Floodplain**

According to a Federal Emergency Management Agency (FEMA) floodplain map, dated February 2, 2012 (Panel No. 26163C 0285 E), the subject property is not located within the 100-year flood zone. PM did not observe any sensitive ecological areas on the subject property, including potential wetlands, during the site reconnaissance. Furthermore, topographical features present



in the subject property area are not representative of a flood plain. Documentation of the floodplain map is included in Section 10.7.

### **Section 9.5: Wetlands**

PM did not observe any wet areas potentially associated with wetlands on the subject property during the site reconnaissance. In addition, review of the National Wetlands Inventory (NWI) Map from the U.S. Fish and Wildlife Service and the EGLE Wetlands Map Viewer, did not identify any wetlands on the subject property. Documentation of the NWI and EGLE maps are included in Section 10.7.

### **Section 9.6: Electromagnetic Fields**

PM did not observe any high-tension wires or substations in the vicinity of the subject property. Additionally, no cell phone towers, antennae, or arrays were observed on the subject property during the site reconnaissance. According to the Sponsor, no building-mounted cell phone antennae arrays are planned for the subject property.

### **Section 9.7: High Pressure Buried Gas Lines**

No high-pressure gas lines were identified within 1,000 feet of the subject property.

### **Section 9.8: Noise Analysis**

MSHDA requires that a HUD desktop noise assessment be completed for properties that are located within 1,000 feet of a major roadway, 3,000 feet of a railroad, or 15 miles of a military or FAA-regulated airports. The subject property is located within the applicable distance of Coleman A. Young International Airport, Windsor Airport, and 13 busy roadways. PM conducted a Desktop Noise Assessment in general accordance with the US Department of Housing and Urban Development (HUD) Noise Abatement and Control standards contained in 24 CFR 51B. The Desktop Noise Assessment is provided in Appendix 10.7. Two NALs (NAL #1 and NAL #2) were used at the northwestern and southeastern corners of the proposed building on the subject property for this analysis, based on proximity to noise sources.

Using the HUD DNL calculator, the following is a summary of the findings of the Desktop Noise Assessment.

<b>NAL #</b>	<b>Combined Source DNL (dB)</b>	<b>Category</b>
1 (northwest corner of proposed building)	67	Normally Unacceptable
2 (southeast corner of proposed building)	72	Normally Unacceptable

The "Normally Unacceptable" noise zone includes community noise levels from above 65 dB to 75 dB. Approvals in this noise zone require a minimum of 5 dB additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 dB but does not exceed 70 dB, or a minimum of 10 dB of additional sound attenuation if the day-night average sound level is greater than 70 dB but does not exceed 75 dB (HUD generally gives a 1 dB variance up to 76 dB). Additionally, I-75 is sunken approximately 13 feet below grade nearest

the subject property, which will provide some noise attenuation from the traffic. The project architect will need to complete attenuation documentation for the project by completing either a Sound Transmission Classification Assessment Tool (STraCAT) form or HUD Figure 19. Interior noise levels must be mitigation for 45 dB or less.

### **Section 9.9: Assessment of Potential Vapor Encroachment Conditions (VECs)**

PM completed a Tier I Vapor Encroachment Screen (VES) of the target property. The Tier I VES were conducted in general accordance with the guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions Designation E 2600-15* (ASTM Standard Practice E 2600-15).

The purpose of the VES was to determine if potential Vapor Encroachment Concerns (pVECs) or Vapor Encroachment Concerns (VECs) exist associated with the target property. ASTM's Standard Practice E 2600-15 defines the term VEC as the presence or likely presence of any contaminant of concern (COC) in the indoor air environment of existing or planned structures on a property caused by the release of vapor from contaminated soil or groundwater either on the property or within close proximity to the property, at a concentration that presents or may present an unacceptable health risk to occupants. A VEC can be further defined as any COC within 100 feet for soil impacts or ground water impacts of an existing/planned structure or to the target property boundary if there are no planned structures.

The scope of this Tier I VES included a review of the geologic, hydrologic, hydrogeologic, topographic maps, aerial photography, city directories, Sanborn Fire Insurance Maps, a review of previous site investigations, regulatory databases and other pertinent data obtained during the preparation of the Phase I. No subsurface investigation of the property was undertaken as part of this Tier I VES.

#### **Section 9.9.1: Additional Historical Record Sources**

Screening tests: 1) search distance test to determine if there are any known or suspected contaminated properties in the area of concern (AOC); 2) a chemical of concern (COC) test to determine for those known or suspect contaminated properties within the AOC whether or not COC are likely to be present. The critical distance is defined as the lineal distance in any direction between the nearest edge of the contaminated plume and the nearest property boundary. For contaminated properties downgradient of the subject property, the AOC is reduced to the area within the critical distance.

- Critical distance = 30 feet for dissolved petroleum hydrocarbon COC
- Critical distance = 100 feet for COC and petroleum hydrocarbon/non-petroleum/chlorinated solvents COC

PM conducted additional historical record review beyond the scope of a Phase I ESA consisting of review of city directories, aerial photography, and the regulatory database to identify additional potentially contaminated sources of COCs within the ASTM E 2600-15 Approximate Minimum Search Distances (AMSDs). The primary area of concern included a radius of 1/3 mile (1,742 feet) and 1/10 mile (528 feet) for COCs using various factors (geology, hydrogeology, COCs,

**Phase I Environmental Site Assessment of The Anchor at Mariners Inn  
Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and General Common Elements  
Located in the Eastern and Southern Portions of 445 Ledyard Street, Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0001; May 20, 2022**

etc.). The additional historical review did not identify any further potential sources of COCs within ASTM E 2600-15 AMSDs, with the exception of:

<b>Property Address</b>	<b>Distance and direction from Property</b>	<b>Suspect Historical Usage (dates of usage)</b>	<b>Historical Source</b>	<b>Represents VEC (yes or no with justification)</b>
Northwestern portion of proposed Condominium Unit #2	Historical subject property address 417 Ledyard Street, former storefront within the former Priscila Inn	Clothes cleaners, potential dry cleaning between at least 1935 and 1940	City directories and PM's 2021 subsurface investigation	No, refer to Section 5.2.3.
<b>Central portion of proposed Condominium Unit #1</b>	<b>Historical subject property addresses 395 and 401 Cass Avenue</b>	<b>Backfill from former dwelling</b>	<b>Sanborn maps and PM's 2021 subsurface investigation</b>	<b>Yes, refer to Section 5.2.3.</b>
417 Cass Avenue	Historical subject property address, former storefront within the former Priscilla Inn	Kaufman Cleaning and Dye Company, potential dry cleaning 1916	City directories	No, based on the short timeframe of operations (i.e., less than five years) and timeframe of operations, which would not have included chlorinated solvents at the time.
2501 Cass Avenue	South adjoining property	Dry cleaner between at least 1940 and 1941, BEA site	City directories, Sanborn maps, and regulatory database	No, based on delineation of contamination in the direction of the subject property, results of PM 2021 subsurface investigation, and geology/hydrology.
479 Ledyard Street	West adjoining property	Printing operations (1967 to 2014)	City directories, Sanborn maps, and regulatory database	No, based on distance of contamination from the subject property and geology/hydrology.
2701 Cass Avenue	North adjoining property	Car rental garage (1960 to 1973), bus garage (1972 to 1986), former fuel dispensing, closed LUST site	City directories, Sanborn maps, and regulatory database	No, based on delineation of contamination in the direction of the subject property and geology/hydrology considerations.
2524-2540 Cass Avenue	Former east adjoining property, 70 feet east across Cass Avenue	Gasoline service station (1931 to 1976)	City directories, Sanborn maps, and regulatory database	No, based on lack of contamination identified near the subject property, redevelopment of the property, and geology/hydrology considerations.
2600 Clifford Street	Former east adjoining property, 140 feet east across Cass Avenue and former Clifford Street	Chemical and petroleum laboratory (1965 to 2004)	City directories, Sanborn maps, and regulatory database	No, based on delineation of contamination in the direction of the subject property, distance considerations, redevelopment of the property, and geology/hydrology considerations.

**Phase I Environmental Site Assessment of The Anchor at Mariners Inn  
Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and General Common Elements  
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Property Address	Distance and direction from Property	Suspect Historical Usage (dates of usage)	Historical Source	Represents VEC (yes or no with justification)
2500 Clifford Street	Former east adjoining property, 180 feet across Cass Avenue and former Clifford Street	Gasoline service station (1941 to 1982), taxi company with automotive service (1982 to 2010)	City directories, Sanborn maps, and regulatory database	No, based on delineation of contamination in the direction of the subject property, distance considerations, redevelopment of the property, and geology/hydrology considerations.

\*Bold indicates a VEC exists

Additional properties were listed in the regulatory database, Sanborn maps, and/or city directory listings, however, based on distance considerations and regional clay geology with insufficient groundwater to act as a transport mechanism, PM has not identified these properties as VECs.

### **Section 9.9.2: Conclusions/Opinion**

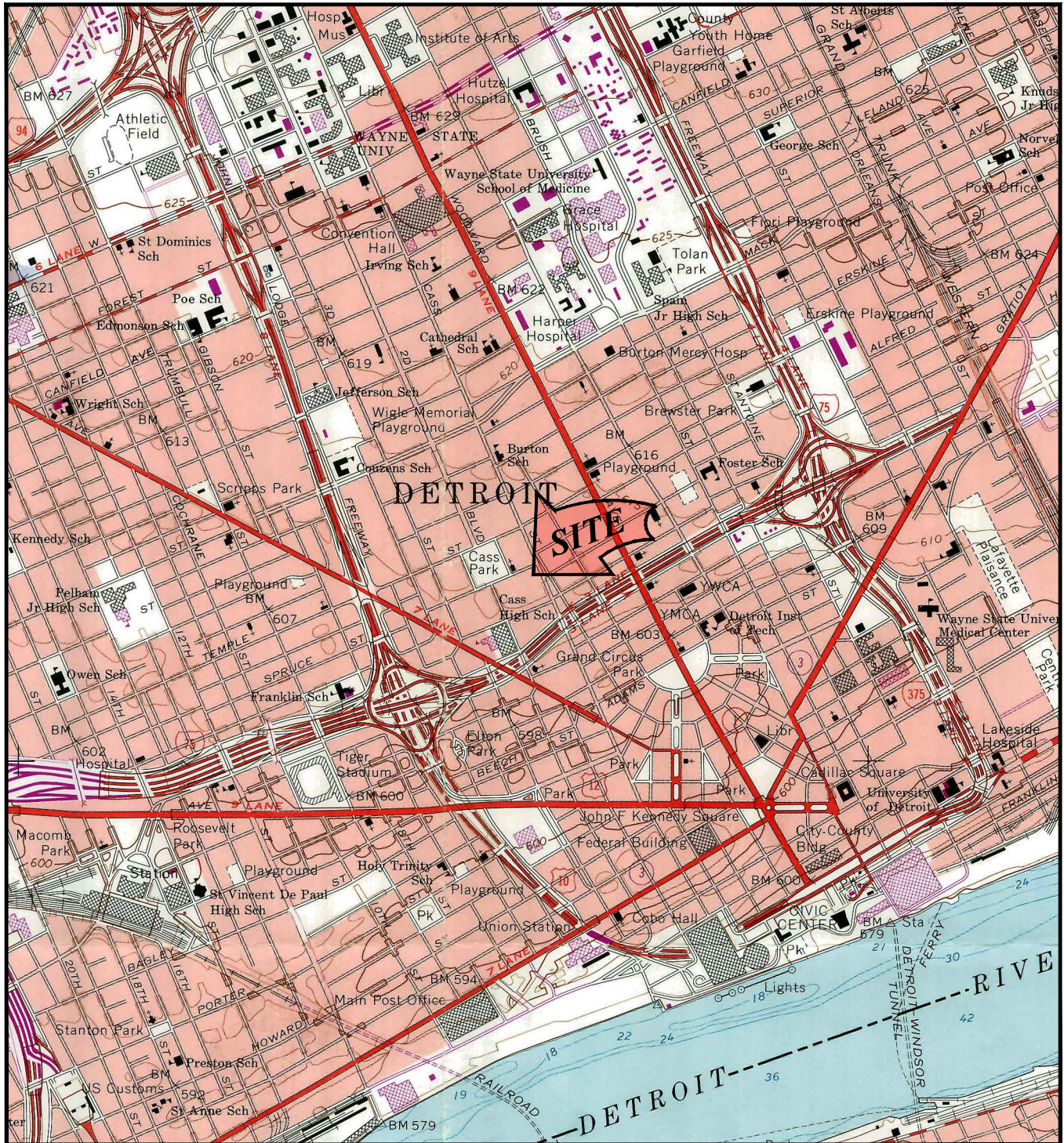
This Tier I VES did not reveal any VECs associated with the target property and/or nearby/adjoining properties; with the exception of that identified in Section 8.1.4 of this report. The screening process concludes that a VEC exists.

### **Section 9.10 Onsite or Nearby Blast Hazard**

MSHDA requires site that contain onsite or nearby above ground storage tanks (ASTs) be evaluated according to HUD's Guidebook on Acceptable Separation Distance (ASD). PM searched an acceptable distance from the subject property in which potential ASTs could be a hazard. PM did not identify any ASTs that would require the calculation of acceptable separation distances (ASD) for thermal radiation and/or blast overpressure.

## **Section 10.1: Site (Vicinity) Map**





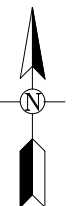
MICHIGAN QUADRANGLE LOCATION

## WAYNE COUNTY

FIGURE 1

PROPERTY VICINITY MAP

UNITED STATES GEOLOGICAL SURVEY, 7.5 MINUTE SERIES  
DETROIT, MI QUADRANGLE, 1968. PHOTO REVISED 1973 AND 1980.



**Environmental  
& Engineering  
Services**

PROJ:  
THE ANCHOR AT MARINERS INN  
PROPOSED CONDOMINIUM UNITS 1 AND 2  
AND GENERAL COMMON ELEMENTS  
DETROIT, MI

THIS IS NOT A LEGAL  
SURVEY

VERIFY SCALE

0 2,000'

IF NOT 1" ON THIS  
SHEET, ADJUST  
SCALES ACCORDINGLY.

DRN BY: KS

DATE: 5/4/2022

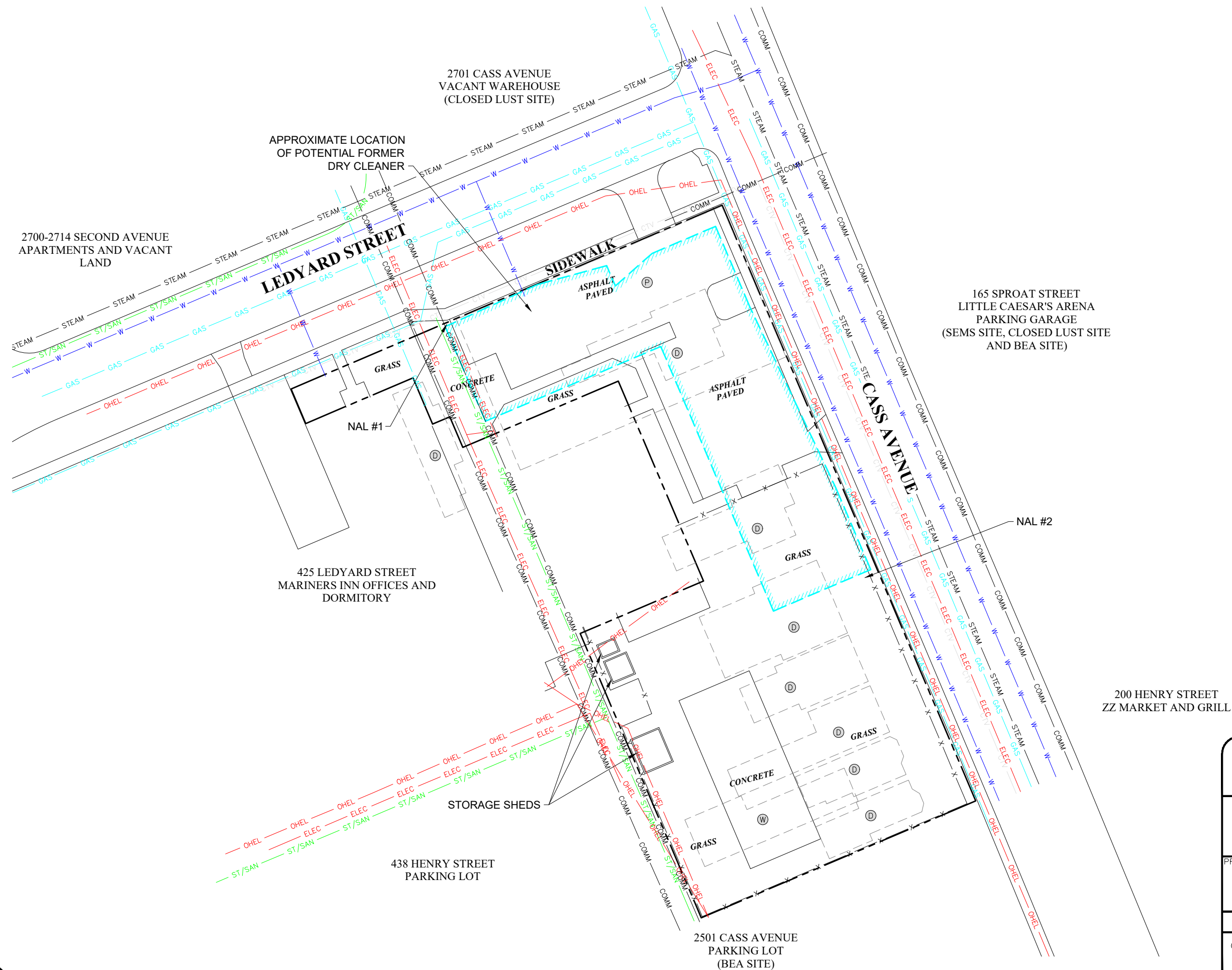
CHKD BY: BP/DN

SCALE: 1" = 2,000'

FILE NAME: 01-11288-1-001F00R00

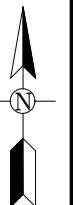



## **Section 10.2: Development Site Plan**



**LEGEND:**

- SUBJECT PROPERTY
- - - APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- X- FENCE
- - - PROPOSED SITE FEATURES
- OHEL OVERHEAD ELECTRIC LINE
- ELEC ELECTRIC
- W WATER
- GAS GAS
- ST/SAN COMBINATION SANITARY / STORM SEWER
- CTV FORMER CABLE TV
- COMM FORMER PHONE LINE
- ⓓ FORMER DWELLING
- ⓖ FORMER GARAGE
- Ⓢ FORMER OUTBUILDING
- Ⓟ FORMER "PRISCILLA INN" WOMEN'S BOARDING BUILDING
- Ⓦ FORMER CAR WASH





Environmental  
& Engineering  
Services

**FIGURE 2**  
SITE PLAN

PROJ: THE ANCHOR AT MARINERS INN  
PROPOSED CONDOMINIUM UNITS 1 AND 2 AND  
GENERAL COMMON ELEMENTS  
DETROIT, MI

THIS IS NOT A LEGAL SURVEY	DRN BY: KS	DATE: 5/4/2022
VERIFY SCALE 0 50'	CHKD BY: DB/DN	SCALE: 1" = 50'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.		
FILE NAME: 01-11288-1-001F00R00		



WAYNE COUNTY CONDOMINIUM SUBDIVISION PLAN NO. \_\_\_\_\_  
EXHIBIT "B" TO THE MASTER DEED OF

MARINERS INN CONDOMINIUM

CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

DEVELOPER

SCRIPPS PARK ASSOCIATES, L.L.C.  
32500 TELEGRAPH, SUITE #222  
BINGHAM FARMS, MI 48025

ENGINEERS & SURVEYORS

GIFFELS WEBSTER  
28 W. ADAMS, SUITE 1200  
DETROIT, MICHIGAN 48226

PROPERTY DESCRIPTION

PARCEL 1

LOTS 3 THROUGH 12, CASS FARM SUBDIVISION OF BLOCKS 79 AND 80, AS RECORDED IN LIBER 1, PAGE 93 OF PLATS, WAYNE COUNTY RECORDS. TOGETHER WITH ALL THAT PART OF THE NORTH-SOUTH VACATED PUBLIC ALLEY, (20 FEET WIDE) IN BLOCK BOUNDED BY SECOND BOULEVARD, CASS AVENUE, HENRY AND LEDYARD STREETS WESTERLY OF AND ABUTTING THE WEST LINE OF THE NORTH 22.83 FEET OF LOT 5, AND LOTS 6 THROUGH 9; ALSO LYING EASTERLY OF AND ABUTTING THE EAST LINE OF LOT 10 OF THE "PLAT OF THE SUBDIVISION, BLOCKS 79, 80, 81 AND 82 OF THE CASS FARM", AS RECORDED IN LIBER 1 OF PLATS, PAGES 92 AND 93, CITY OF DETROIT, WAYNE COUNTY, MICHIGAN BEING MORE PARTICULARLY DESCRIBED AS:  
BEGINNING AT THE INTERSECTION OF THE WESTERLY LINE OF CASS AVENUE (71' WIDE) AND THE SOUTHERLY LINE OF LEDYARD STREET (100' WIDE), ALSO BEING THE NORTHEAST CORNER OF LOT 9 OF BLOCK 79 OF SAID SUBDIVISION OF THE CASS FARM; THENCE ALONG SAID WESTERLY LINE, SOUTH 23 DEGREES 48 MINUTES 35 SECONDS EAST 334.34 FEET RECORD, 334.95 FEET MEASURED; THENCE SOUTH 66 DEGREES 11 MINUTES 25 SECONDS WEST 150.00 FEET; THENCE NORTH 23 DEGREES 48 MINUTES 35 SECONDS WEST 127.17 FEET; THENCE SOUTH 66 DEGREES 09 MINUTES 03 SECONDS WEST 170.00' RECORD, 170.15 FEET MEASURED; THENCE NORTH 23 DEGREES 48 MINUTES 35 SECONDS WEST 207.17 FEET RECORD, 207.41 FEET MEASURED TO THE SOUTHERLY LINE OF SAID LEDYARD STREET; THENCE ALONG SAID SOUTHERLY LINE, NORTH 66 DEGREES 06 MINUTES 12 SECONDS EAST 320.00 FEET RECORD, 320.15 FEET MEASURED TO THE POINT OF BEGINNING, AND CONTAINING 1.96 ACRES.

ATTENTION: WAYNE COUNTY REGISTER OF DEEDS

THE CONDOMINIUM SUBDIVISION PLAN NUMBER MUST BE ASSIGNED IN CONSECUTIVE SEQUENCE. WHEN A NUMBER HAS BEEN ASSIGNED TO THIS PROJECT, IT MUST BE PROPERLY SHOWN IN THE TITLE (SHEET 1) AND THE SURVEYOR'S CERTIFICATE (SHEET 2).

SHEET INDEX

1	COVER SHEET
2	SURVEY PLAN
3	SITE PLAN
4	UTILITY PLAN
5	COORDINATES AND UNIT INFORMATION

NOTE:  
THIS CONDOMINIUM SUBDIVISION PLAN IS NOT REQUIRED TO CONTAIN DETAILED PROJECT DESIGN PLANS PREPARED BY THE APPROPRIATE LICENSED DESIGN PROFESSIONAL. SUCH PROJECT DESIGN PLANS ARE FILED, AS PART OF THE CONSTRUCTION PERMIT APPLICATION, WITH THE ENFORCING AGENCY FOR THE STATE CONSTRUCTION CODE IN THE RELEVANT GOVERNMENTAL SUBDIVISION. THE ENFORCING AGENCY MAY BE A LOCAL BUILDING DEPARTMENT OR THE STATE DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS.

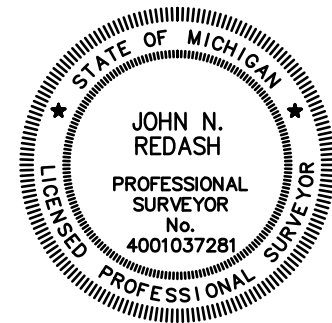


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MANAGER:	JNR
DESIGNER:	MPM
Q. CTRL:	JNR
SECTION:	

SEAL:



KNOW WHAT'S BELOW.  
CALL BEFORE YOU DIG.

DATE:	ISSUE:

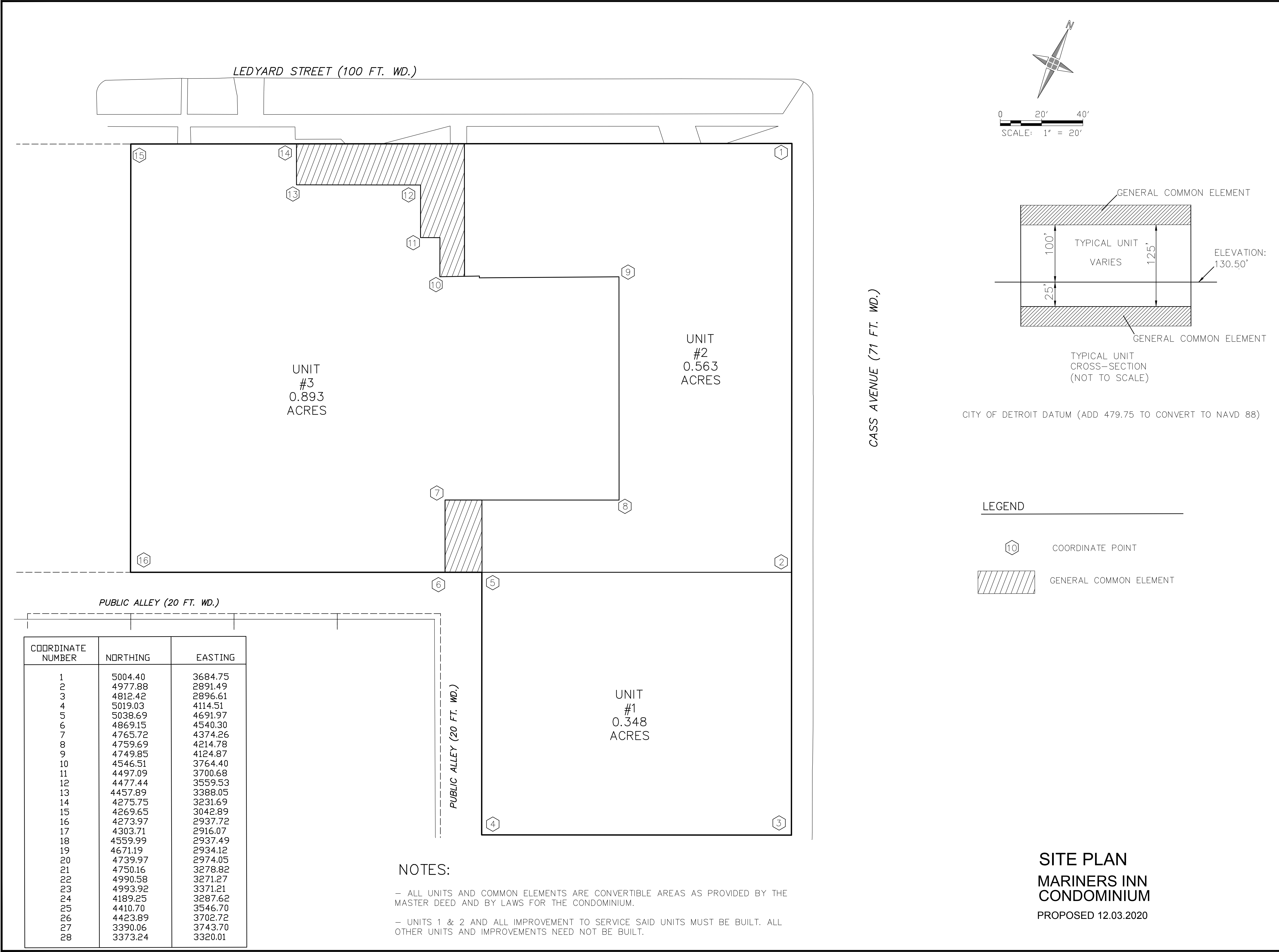
MARINERS INN  
CONDOMINIUM  
CITY OF DETROIT  
WAYNE COUNTY  
MICHIGAN

DATE:	12.03.2020
SCALE:	NO SCALE
SHEET:	1
PROJECT:	19535.05D

PROPOSED 12.03.2020



N:\19\1900\19535.05D - Mariners Inn\Exhibit B Docs\Drawings\Condos\2-4 Survey-Site-Util Plans.dwg



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SECTION:

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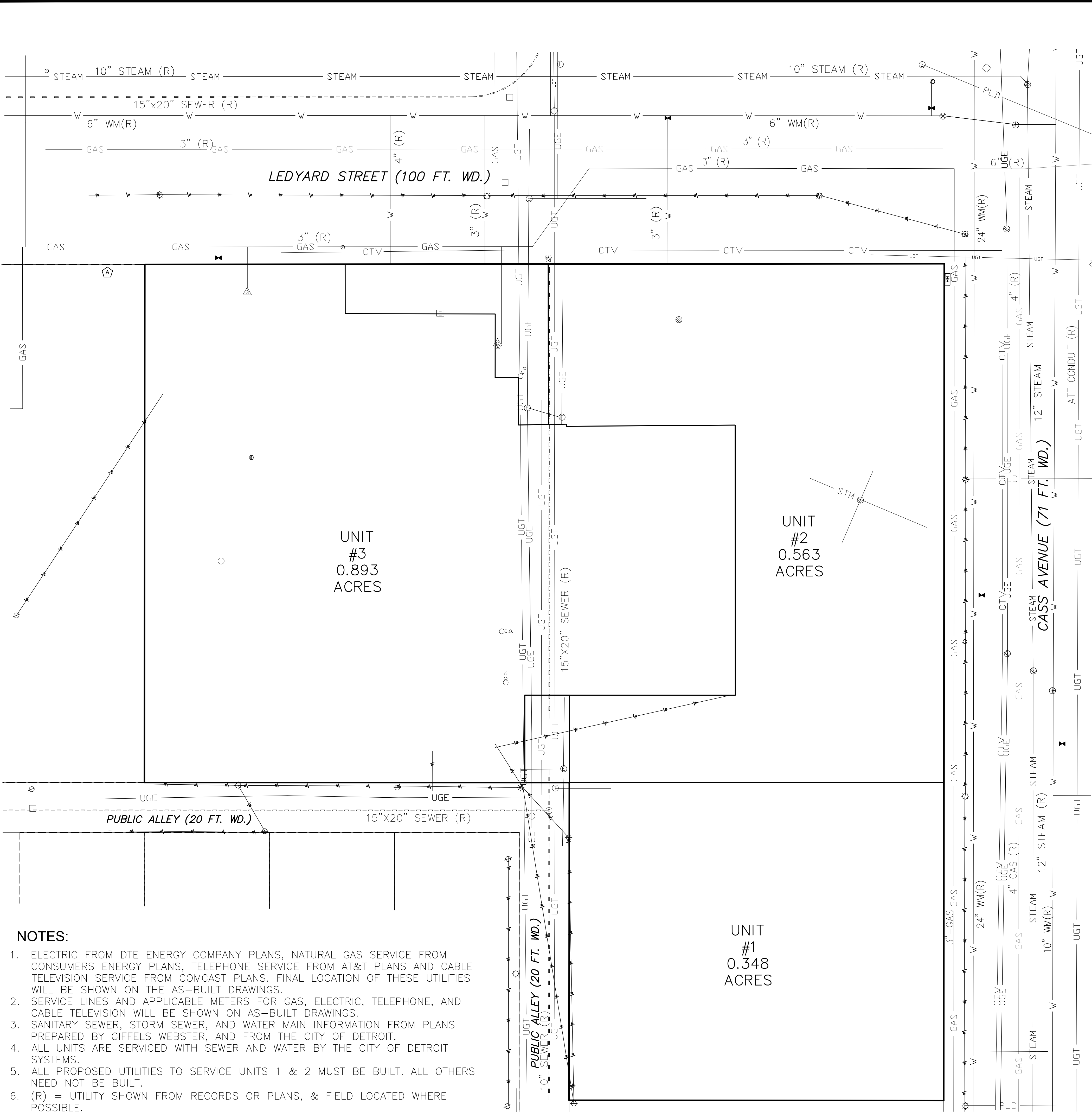
DATE:	ISSUE:

MARINERS INN  
CONDOMINIUM  
CITY OF DETROIT  
WAYNE COUNTY  
MICHIGAN

DATE: 12.03.2020  
SCALE: 1"=20'  
SHEET: 3  
PROJECT: 19535.05D

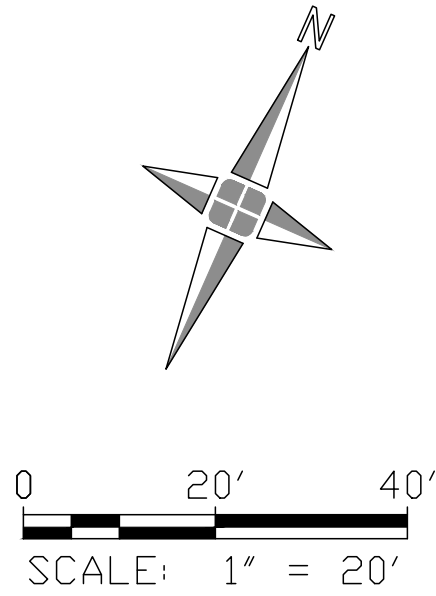
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NOTES:

1. ELECTRIC FROM DTE ENERGY COMPANY PLANS, NATURAL GAS SERVICE FROM CONSUMERS ENERGY PLANS, TELEPHONE SERVICE FROM AT&T PLANS AND CABLE TELEVISION SERVICE FROM COMCAST PLANS. FINAL LOCATION OF THESE UTILITIES WILL BE SHOWN ON THE AS-BUILT DRAWINGS.
2. SERVICE LINES AND APPLICABLE METERS FOR GAS, ELECTRIC, TELEPHONE, AND CABLE TELEVISION WILL BE SHOWN ON AS-BUILT DRAWINGS.
3. SANITARY SEWER, STORM SEWER, AND WATER MAIN INFORMATION FROM PLANS PREPARED BY GIFFELS WEBSTER, AND FROM THE CITY OF DETROIT.
4. ALL UNITS ARE SERVICED WITH SEWER AND WATER BY THE CITY OF DETROIT SYSTEMS.
5. ALL PROPOSED UTILITIES TO SERVICE UNITS 1 & 2 MUST BE BUILT. ALL OTHERS NEED NOT BE BUILT.
6. (R) = UTILITY SHOWN FROM RECORDS OR PLANS, & FIELD LOCATED WHERE POSSIBLE.



LEGEND

—	E/ WALK
— X —	FENCE
—	BLDG. LINE
— OH —	OVERHEAD WIRES
— STM —	STORM LINE
— SAN —	SAN. LINE
— W —	WATER LINE
— GAS —	GAS LINE
— UGE —	UG ELEC. LINE
— UGT —	UG TELE. LINE
— CTV —	UG CABLE TV LINE
—	PAINT STRIPE
- - - - -	COMBINED SEWER
— PLD —	PLD LINE
— STEAM —	STEAM LINE
— TEL —	TELEPHONE OVERHEAD

⊙	STEAM MH	⋈	WATER VALVE
⊙	PUBLIC LIGHTING MH	⊙	WATER METER
⊙	GAS METER	⊙	STORM MH
⊙	GAS RISER	⊙	CATCH BASIN
⊙	GAS VALVE	⊙	BEEHIVE CB
⊙	GAS MH	⊙	STORM CLEAN OUT
⊙	TELE. RISER	⊙	ROUND CB
⊙	TELE. MH	⊙	LIGHT POLE
⊙	TELE. CROSS BOX	⊙	UTILITY POLE
⊙	CABLE RISER	⊙	ELEC. TRANS.
⊙	MANHOLE	⊙	ELEC. MH
⊙	UTILITY FLAG	⊙	ELEC. METER
⊙	SAN. MH	⊙	ELEC. RISER
⊙	c.o. SAN. CLEAN OUT	⊙	TRAFFIC CONTROL BOX
⊙	SAN. RISER	⊙	COMB. MH
⊙	SAN. PUMP STATION	⊙	GATE VALVE
		⊙	HYDRANT

UTILITY PLAN  
MARINERS INN  
CONDOMINIUM  
PROPOSED 12.03.2020

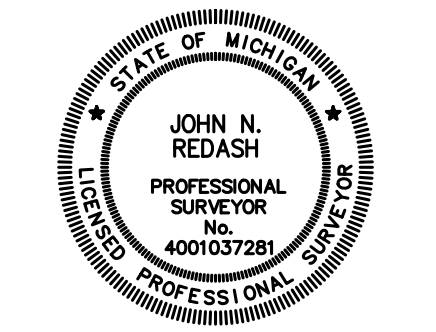
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DESIGNER: MPM  
Q. CTRL: JNR  
SECTION:

SEAL:



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MARINERS INN  
CONDOMINIUM  
CITY OF DETROIT  
WAYNE COUNTY  
MICHIGAN

DATE: 12.03.2020  
SCALE: 1"=20'  
SHEET: 4  
PROJECT: 19535.05D

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## **Section 10.3: Site Photographs**

## SITE PHOTOGRAPHS





## Photographs From Site Reconnaissance

PM Project No. 01-11288-1-0001

Location: Eastern and Southern Portion of 445 Ledyard Street  
Detroit, Michigan

### Photograph 1



Subject property facing north

### Photograph 2



Subject property facing east



**Photographs From Site Reconnaissance**  
**PM Project No. 01-11288-1-0001**  
**Location: Eastern and Southern Portion of 445 Ledyard Street**  
**Detroit, Michigan**

### Photograph 3



Subject property facing south

### Photograph 4



Subject property facing west





**Photographs From Site Reconnaissance**

**PM Project No. 01-11288-1-0001**

**Location: Eastern and Southern Portion of 445 Ledyard Street  
Detroit, Michigan**

**Photograph 5**



Northeast adjoining property, 2701 Cass  
Avenue

**Photograph 6**



Northwest adjoining property, 2700-2714  
Second Avenue



## Photographs From Site Reconnaissance

PM Project No. 01-11288-1-0001

Location: Eastern and Southern Portion of 445 Ledyard Street  
Detroit, Michigan

### Photograph 7



East adjoining property, 165 Sproat Street

### Photograph 8



Southeast adjoining property, 210 Henry Street



**Photographs From Site Reconnaissance**  
**PM Project No. 01-11288-1-0001**  
**Location: Eastern and Southern Portion of 445 Ledyard Street**  
**Detroit, Michigan**

### Photograph 9



South adjoining property, 2501 Cass Avenue

### Photograph 10



West adjoining property, 455-457 Ledyard  
Street

## **Section 10.4: Historical Research Documentation**

## AERIAL PHOTOGRAPHS





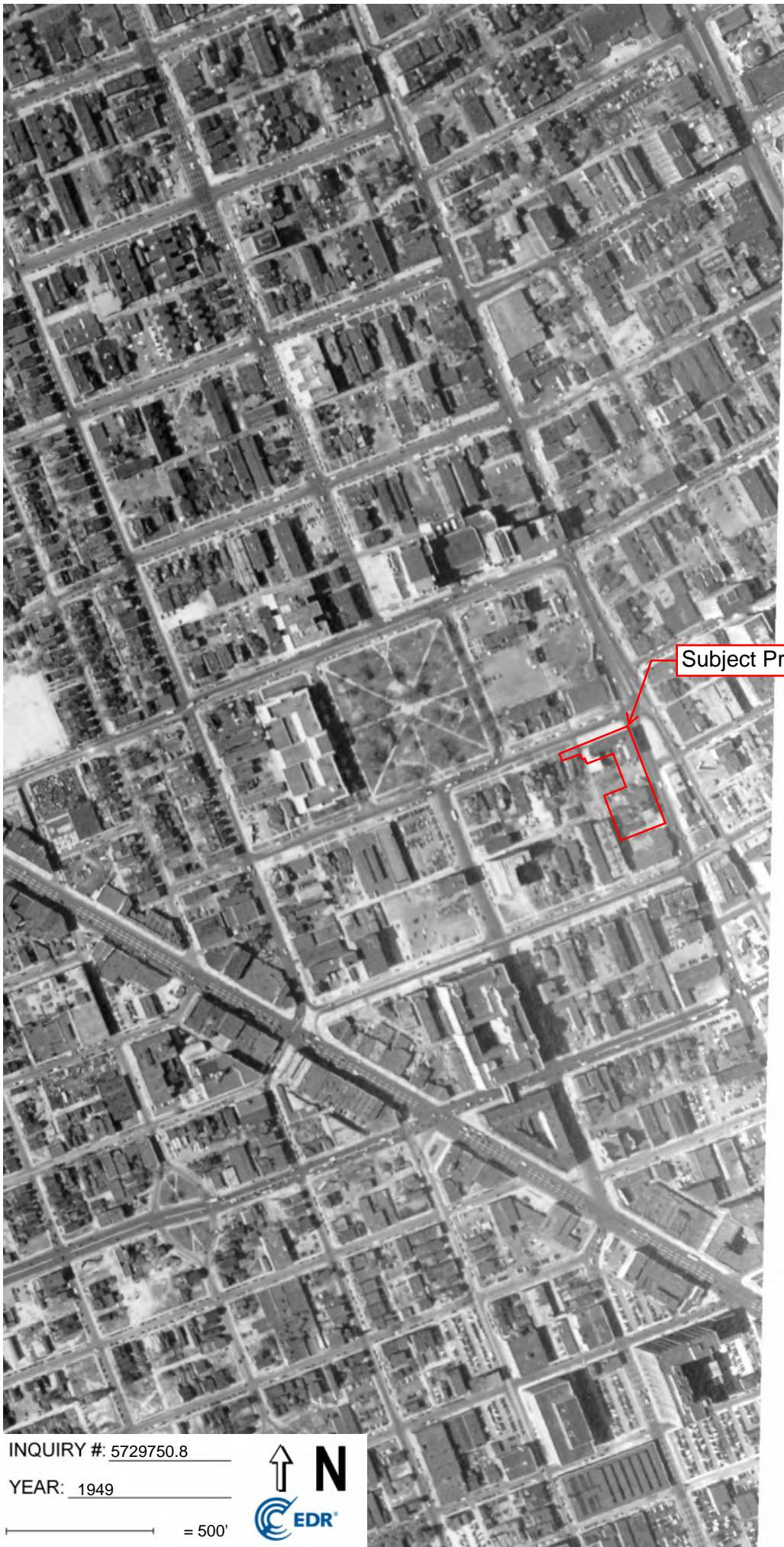
INQUIRY #: 5729750.8

YEAR: 1937

— = 500'







Subject Property

INQUIRY #: 5729750.8

YEAR: 1949

— = 500'







Subject Property

INQUIRY #: 5729750.8

YEAR: 1952

— = 500'







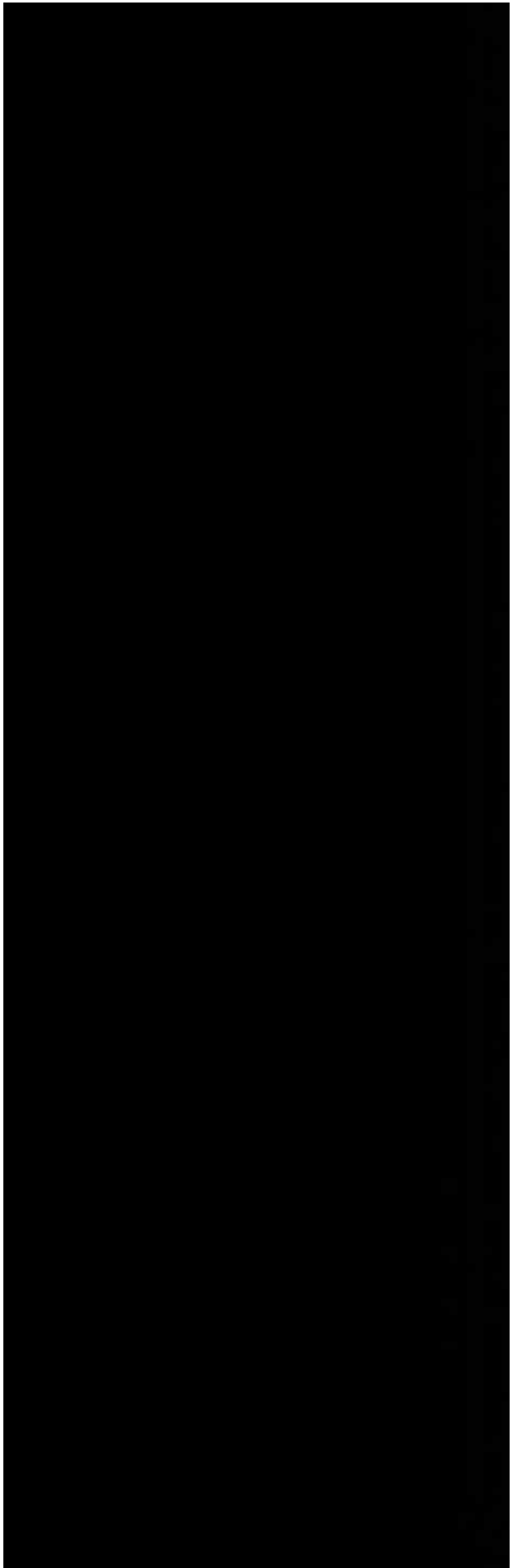
INQUIRY #: 5729750.8

YEAR: 1956

— = 500'











INQUIRY #: 5729750.8

YEAR: 1966

— = 500'







Subject Property

INQUIRY #: 5729750.8

YEAR: 1972

— = 500'







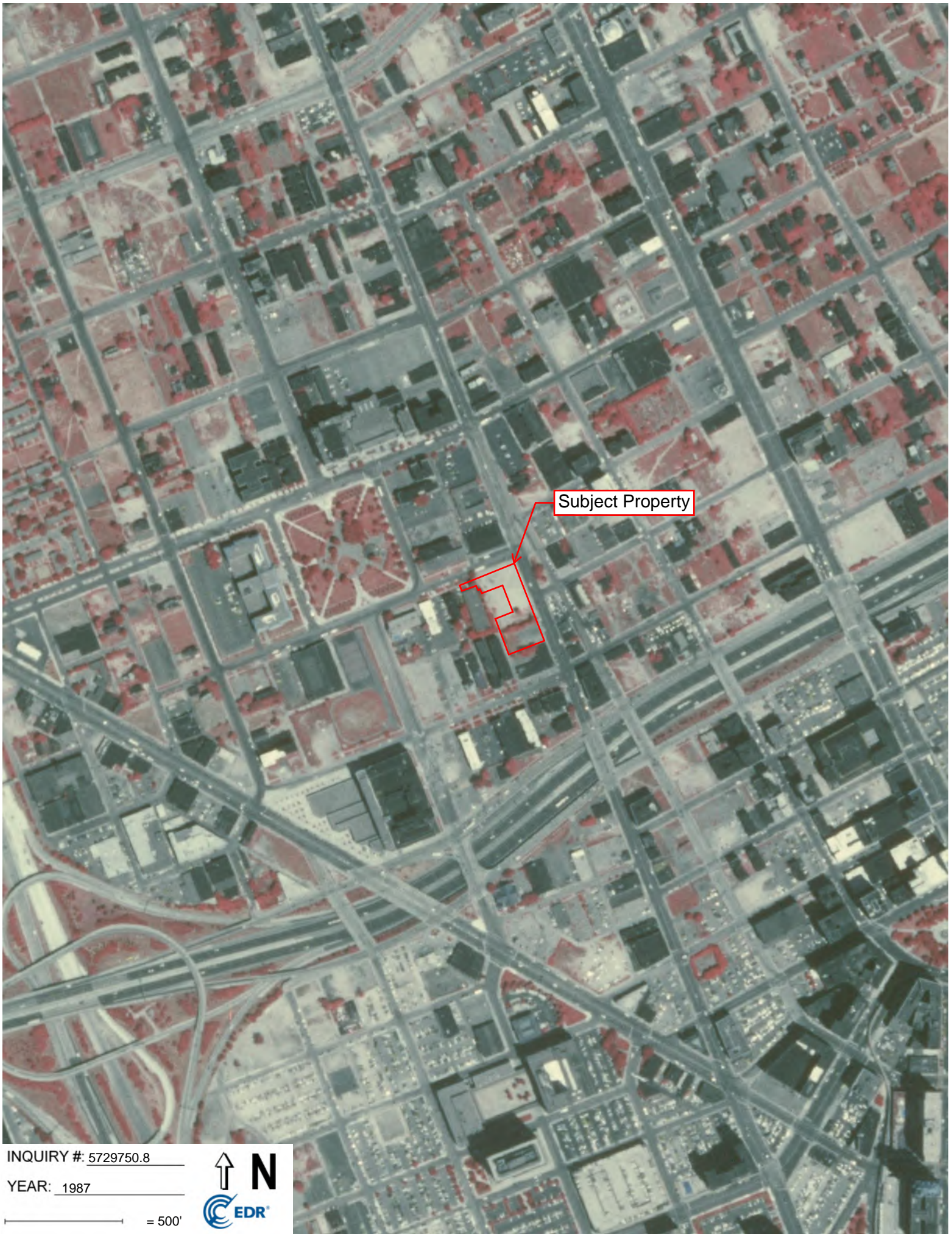
INQUIRY #: 5729750.8

YEAR: 1983

— = 500'







Subject Property

INQUIRY #: 5729750.8

YEAR: 1987

— = 500'







Subject Property

INQUIRY #: 5729750.8

YEAR: 1997

— = 500'







Subject Property

INQUIRY #: 5729750.8

YEAR: 1999

— = 500'







Subject Property

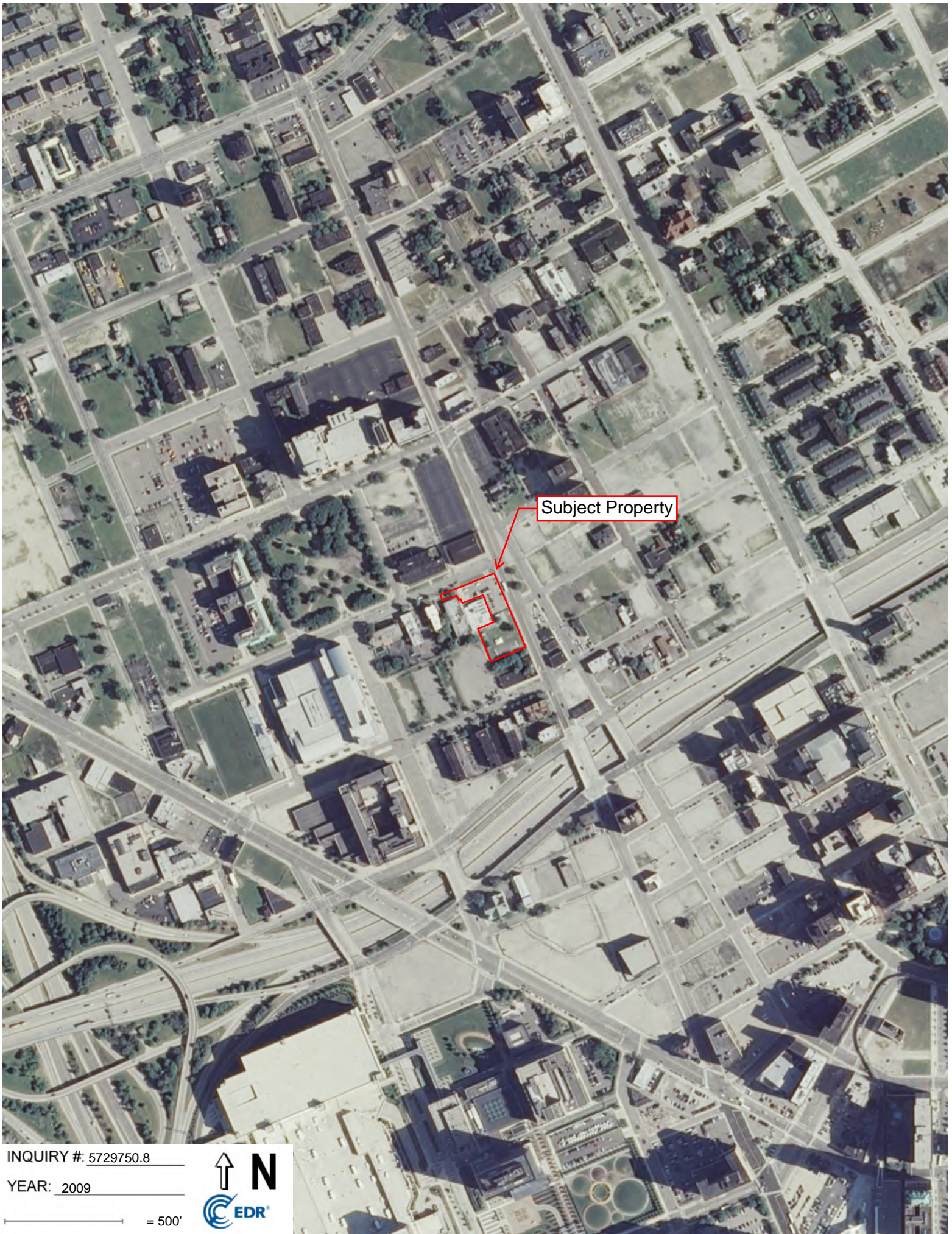
INQUIRY #: 5729750.8

YEAR: 2005

— = 500'







Subject Property

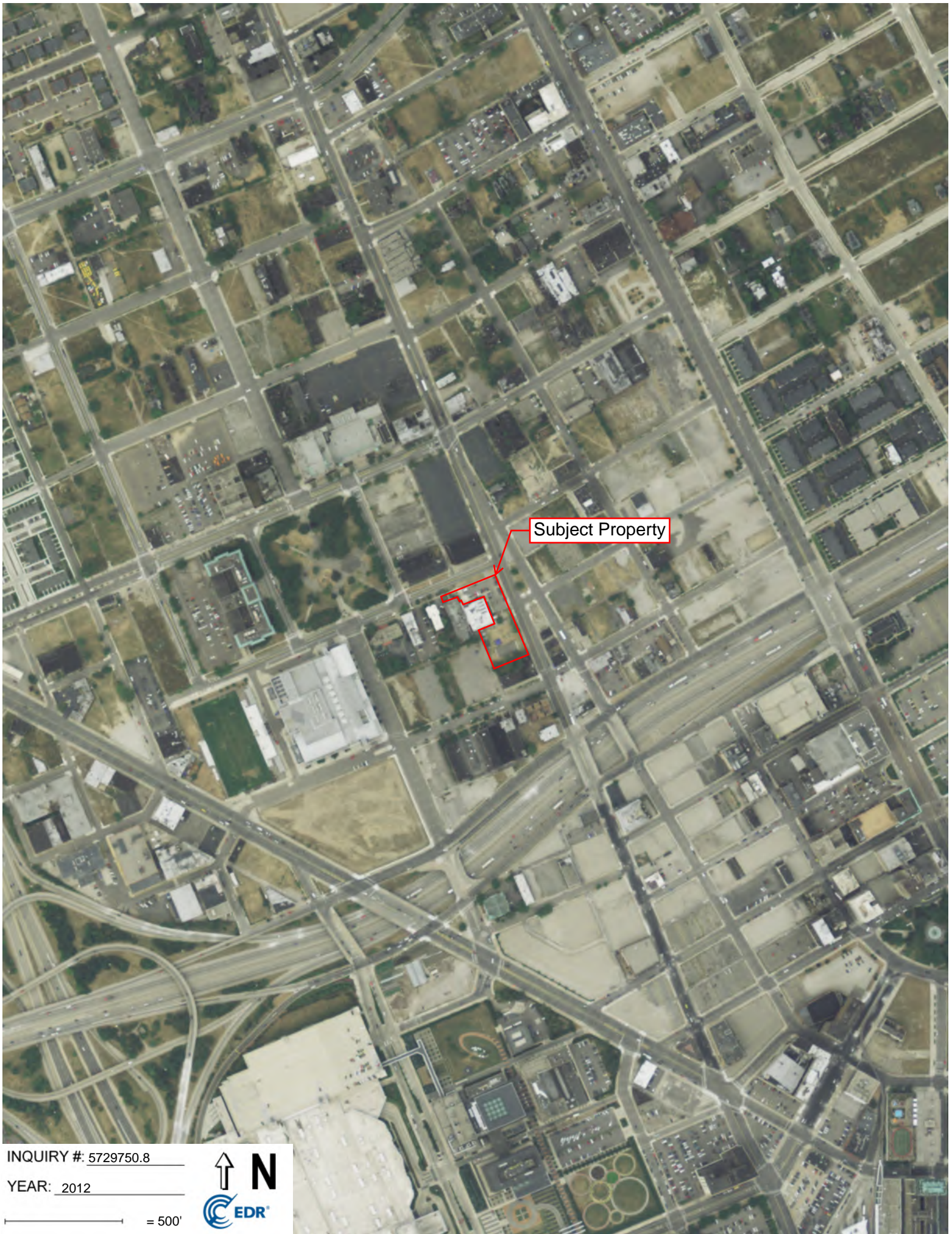
INQUIRY #: 5729750.8

YEAR: 2009

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Subject Property

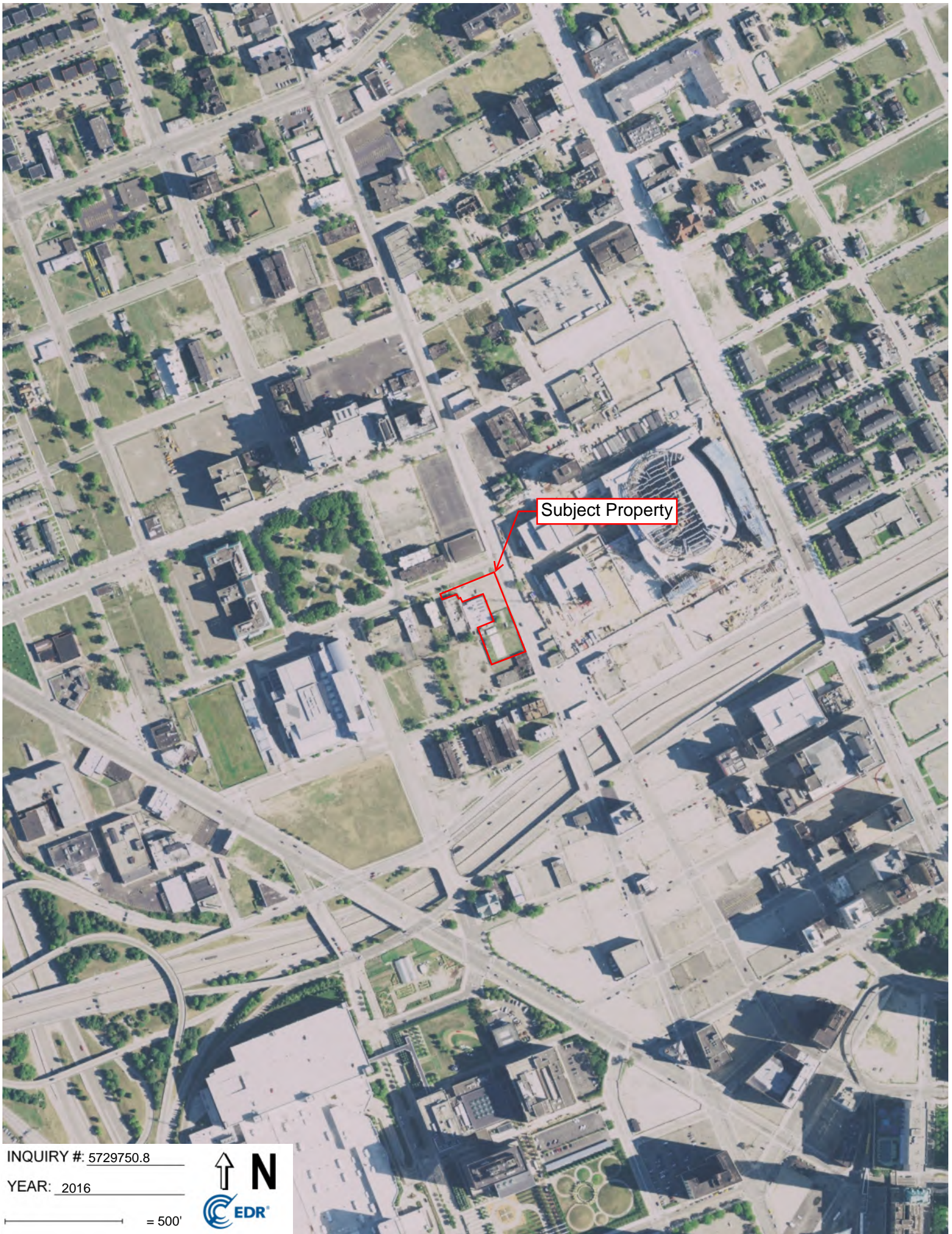
INQUIRY #: 5729750.8

YEAR: 2012

— = 500'







INQUIRY #: 5729750.8



YEAR: 2016

— = 500'








	<b>Location: The Southern and Eastern Portion of 445 Ledyard Street Detroit, Michigan</b>	
	<b>PM Project No. 01-11288-1-0001</b>	
	<b>Aerial Year: 2021</b>	
	<b>Source: Google Earth</b>	

## SANBORN FIRE INSURANCE MAPS





445 Ledyard  
445 Ledyard  
Detroit, MI 48201

Inquiry Number: 5729750.3

July 26, 2019

## Certified Sanborn® Map Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

## Certified Sanborn® Map Report

07/26/19

**Site Name:**

445 Ledyard  
445 Ledyard  
Detroit, MI 48201  
EDR Inquiry # 5729750.3

**Client Name:**

PM Environmental, Inc.  
3340 Ranger Road  
Lansing, MI 48906  
Contact: Alaina Matthews



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by PM Environmental, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting [www.edrnet.com/sanborn](http://www.edrnet.com/sanborn).

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

### Certified Sanborn Results:

**Certification #** 8D0A-47AC-9BBB

**PO #** NA

**Project** 01-11288-0-0001

**Maps Provided:**

2002	1957
1996	1953
1991	1950
1989	1921
1988	1919
1983	1897
1977	1889
1961	1884



Sanborn® Library search results

Certification #: 8D0A-47AC-9BBB

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☒ Library of Congress
- ☒ University Publications of America
- ☒ EDR Private Collection

*The Sanborn Library LLC Since 1866™*

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## Sanborn Sheet Key

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### 2002 Source Sheets



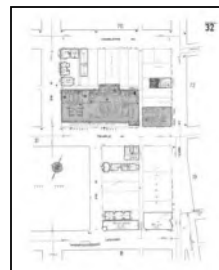
Volume 2, Sheet 18  
2002



Volume 2, Sheet 19  
2002



Volume 2, Sheet 20  
2002



Volume 2, Sheet 32  
2002



Volume Central Business District, Sheet 5  
2002

### 1996 Source Sheets



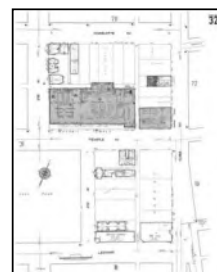
Volume 2, Sheet 18  
1996



Volume 2, Sheet 19  
1996



Volume 2, Sheet 20  
1996



Volume 2, Sheet 32  
1996

### 1991 Source Sheets



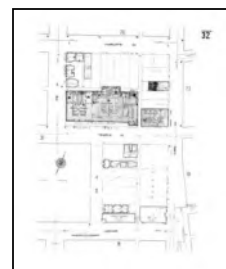
Volume 2, Sheet 18  
1991



Volume 2, Sheet 19  
1991



Volume 2, Sheet 20  
1991



Volume 2, Sheet 32  
1991

## Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.



### 1991 Source Sheets



Volume Central Business District, Sheet 5  
1991



Volume Central Business District, Sheet 5  
1991

### 1989 Source Sheets



Volume Central Business District, Sheet 5  
1989



Volume Central Business District, Sheet 5  
1989



Volume Central Business District, Sheet 5  
1989

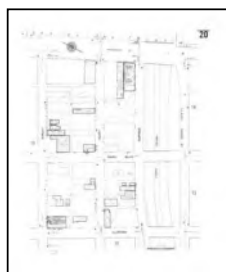
### 1988 Source Sheets



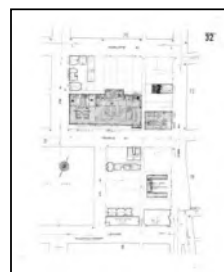
Volume 2, Sheet 18  
1988



Volume 2, Sheet 19  
1988



Volume 2, Sheet 20  
1988



Volume 2, Sheet 32  
1988

### 1983 Source Sheets



Volume Central Business District, Sheet 5  
1983

## Sanborn Sheet Key

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### 1977 Source Sheets



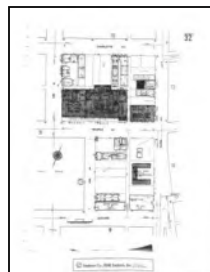
Volume 2, Sheet 18  
1977



Volume 2, Sheet 19  
1977

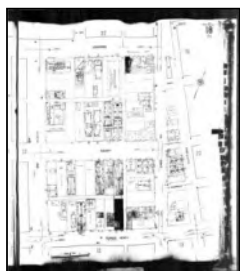


Volume 2, Sheet 20  
1977



Volume 2, Sheet 32  
1977

### 1961 Source Sheets



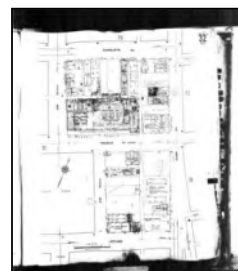
Volume 2, Sheet 18  
1961



Volume 2, Sheet 19  
1961



Volume 2, Sheet 20  
1961



Volume 2, Sheet 32  
1961

### 1957 Source Sheets



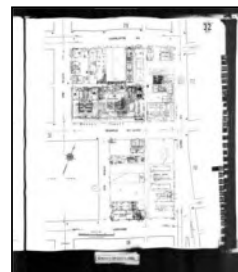
Volume 2, Sheet 18  
1957



Volume 2, Sheet 19  
1957



Volume 2, Sheet 20  
1957



Volume 2, Sheet 32  
1957

### 1953 Source Sheets



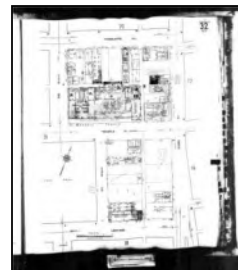
Volume 2, Sheet 18  
1953



Volume 2, Sheet 19  
1953



Volume 2, Sheet 20  
1953



Volume 2, Sheet 32  
1953



## Sanborn Sheet Key

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### 1950 Source Sheets



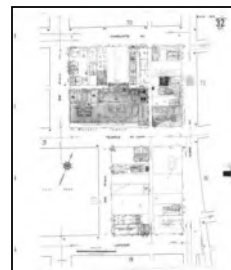
Volume 2, Sheet 18  
1950



Volume 2, Sheet 19  
1950



Volume 2, Sheet 20  
1950

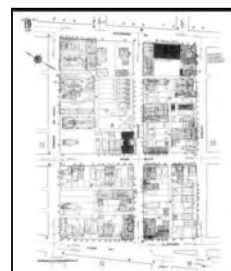


Volume 2, Sheet 32  
1950

### 1921 Source Sheets



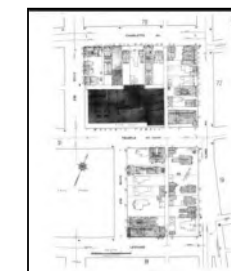
Volume 2, Sheet 18  
1921



Volume 2, Sheet 19  
1921



Volume 2, Sheet 20  
1921

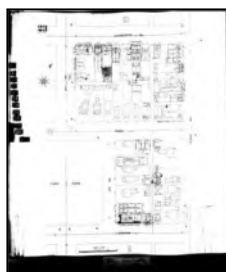


Volume 2, Sheet 32  
1921

### 1919 Source Sheets



Volume 2, Sheet 5  
1919



Volume 2, Sheet 23  
1919

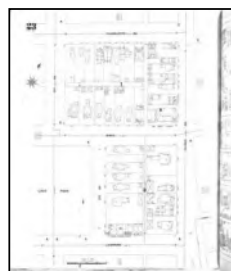


Volume 2, Sheet 24  
1919

### 1897 Source Sheets



Volume 2, Sheet 5  
1897



Volume 2, Sheet 23  
1897



Volume 2, Sheet 24  
1897



## Sanborn Sheet Key

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### 1889 Source Sheets



Volume 3, Sheet 96  
1889

### 1884 Source Sheets



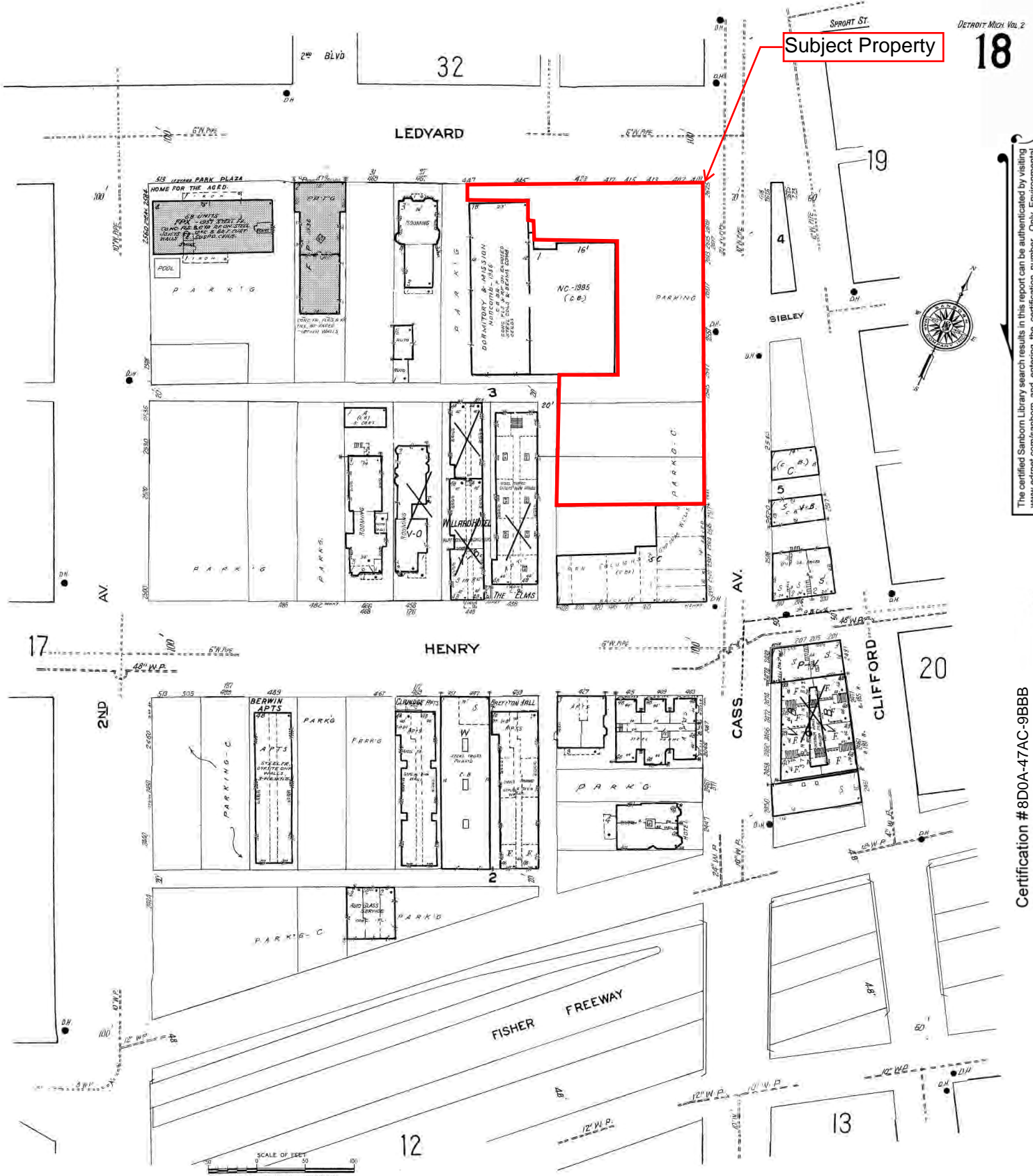
Volume 1, Sheet 4  
1884



Volume 1, Sheet 4  
1884



Volume 1, Sheet 8  
1884



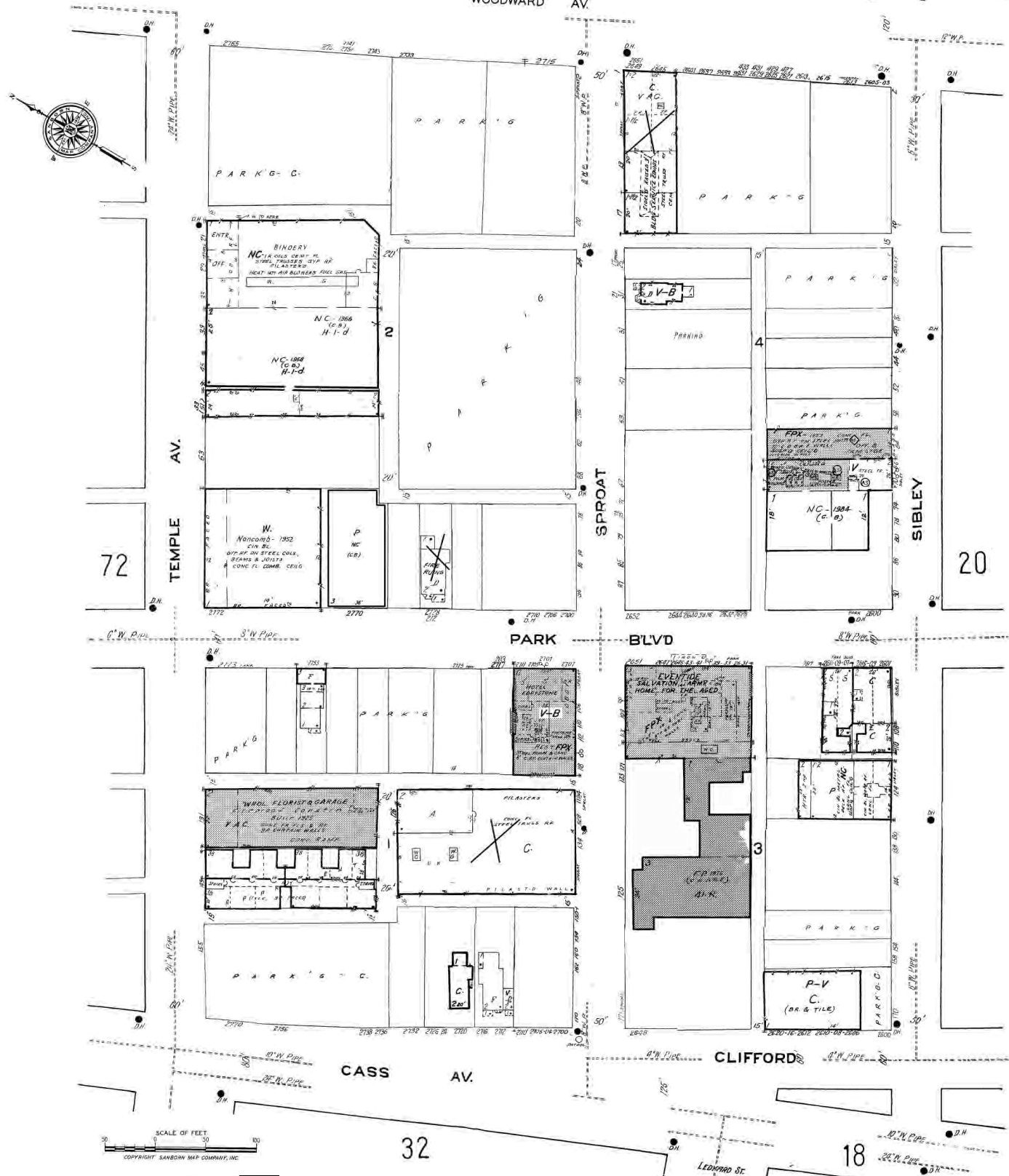
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DETROIT, MICH., VOL. 2.

19



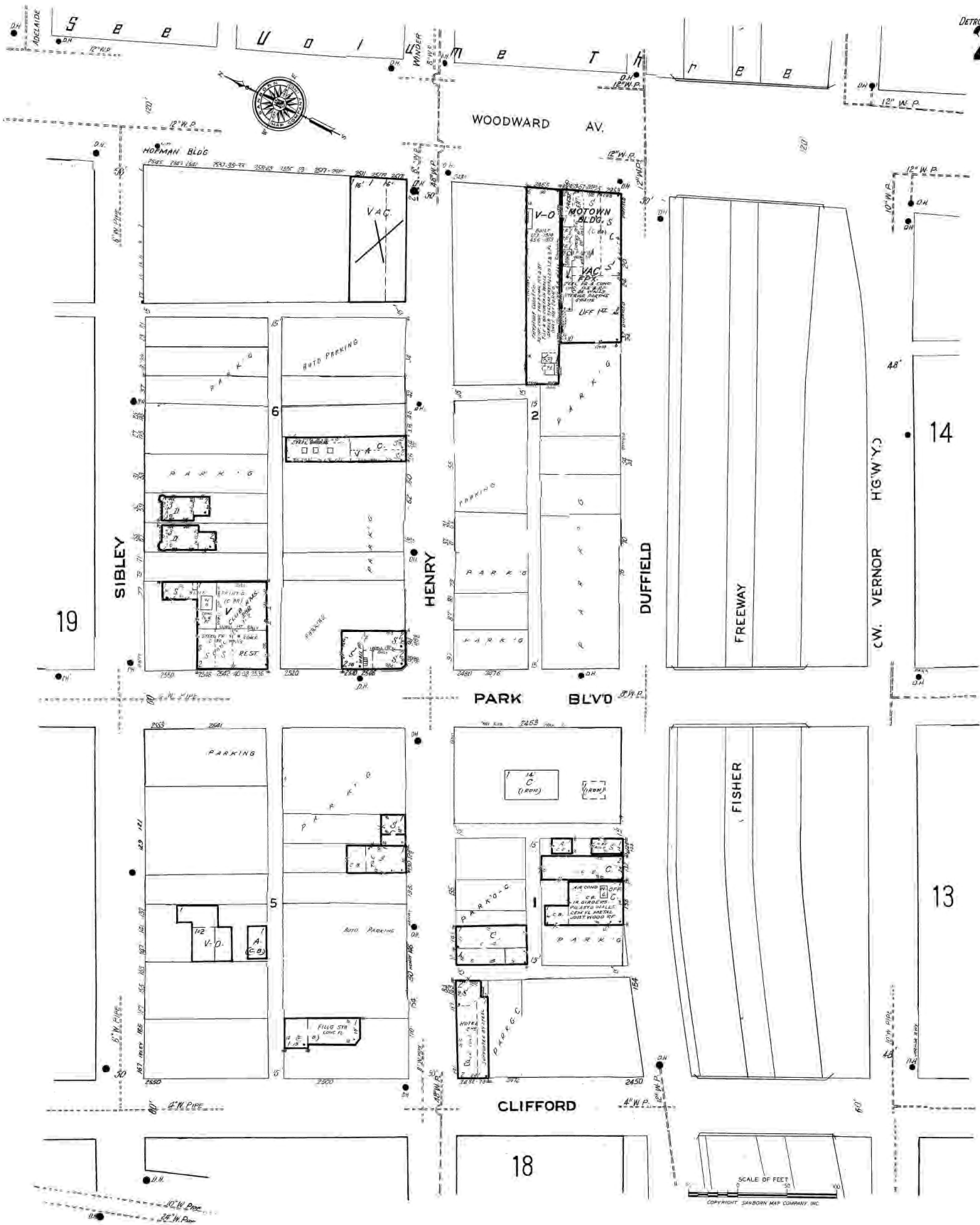
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 City, ST, ZIP: Detroit, MI 48201  
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 EDR Inquiry: 5729750.3  
 Order Date: 07/26/2019  
 Certification #: 8DOA-47AC-9BBB  
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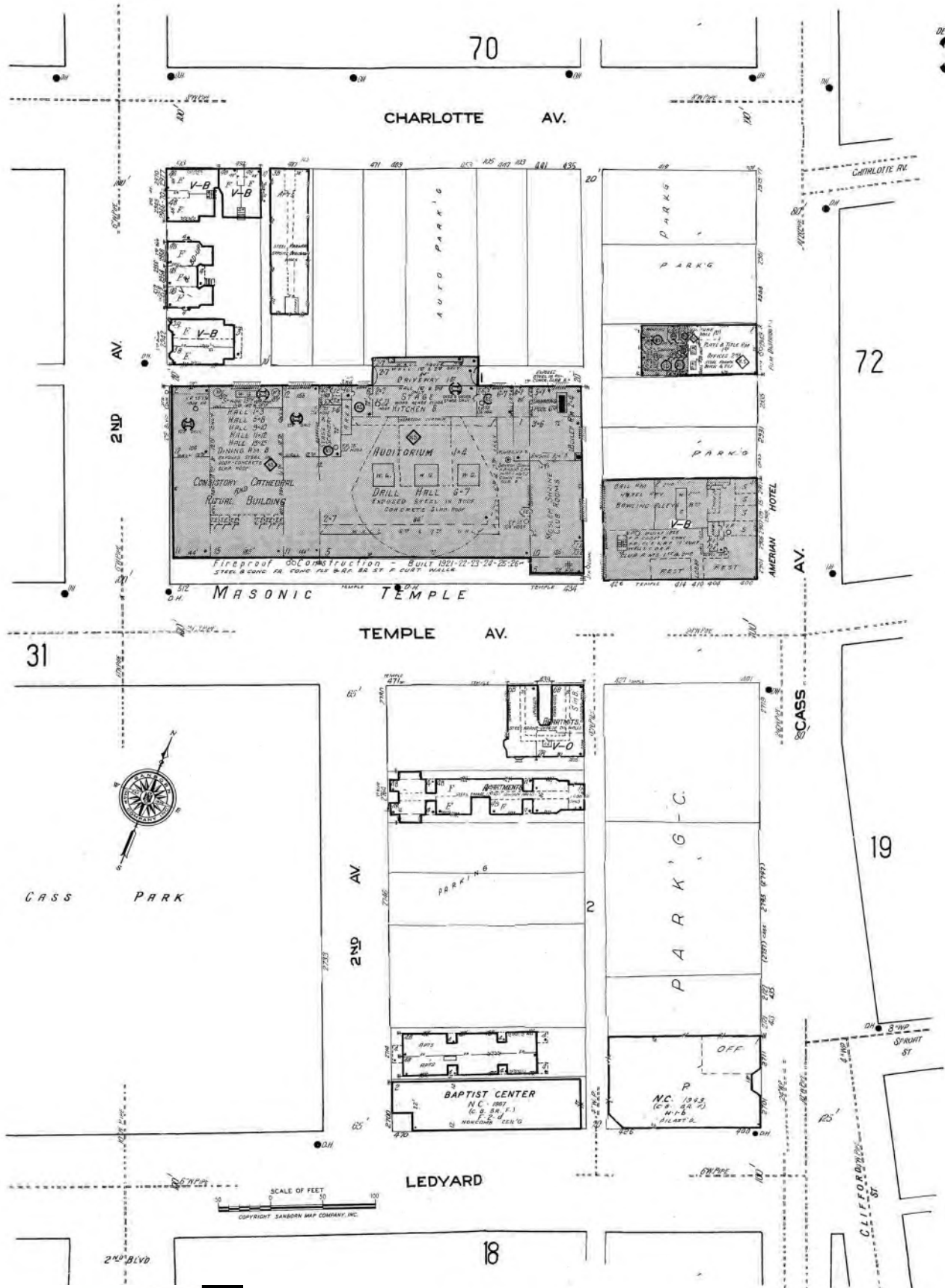


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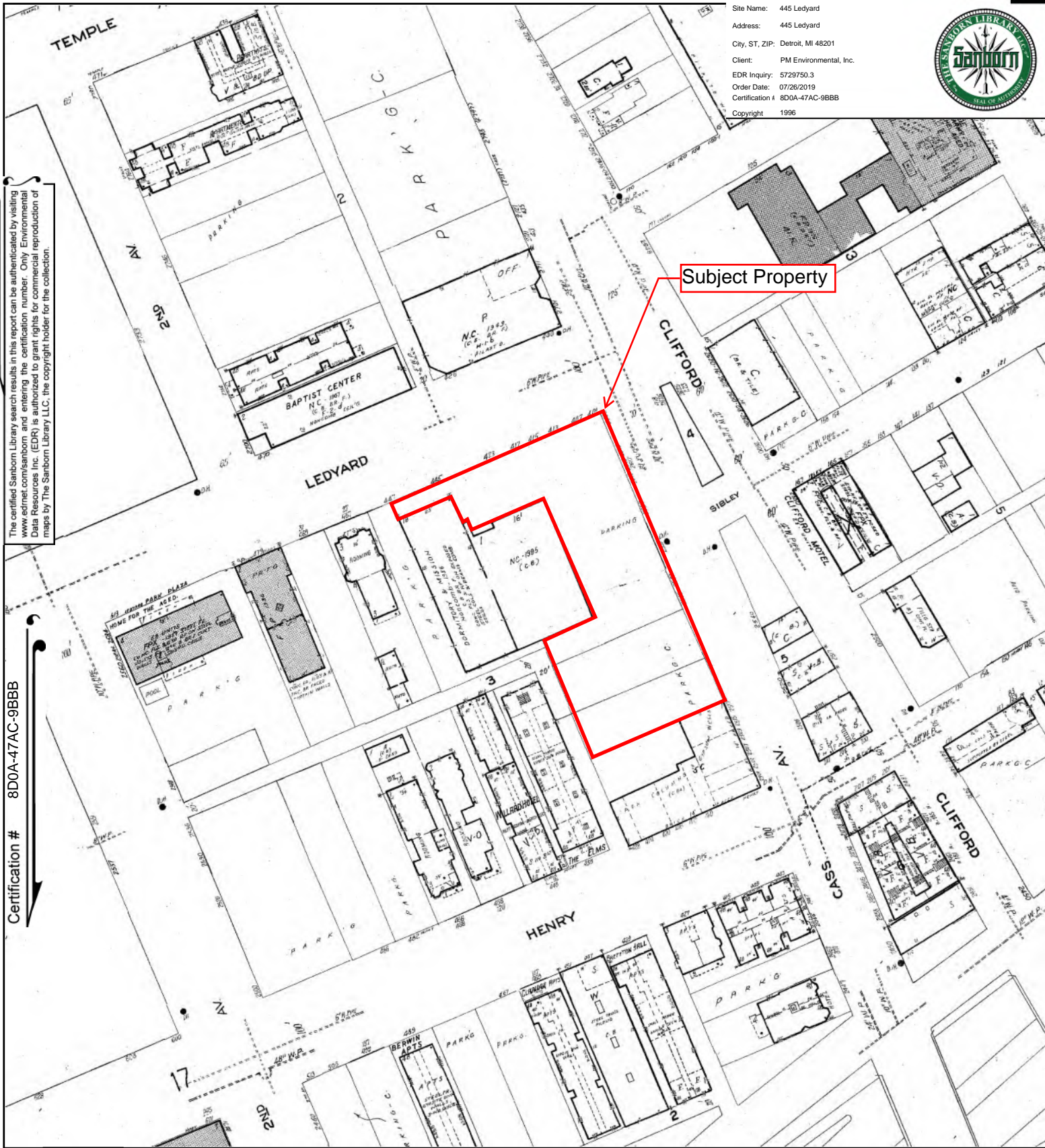


Site Name: 445 Ledyard  
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 City, ST, ZIP: Detroit, MI 48201  
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 EDR Inquiry: 5729750.3  
 Order Date: 07/26/2019  
 Certification #: 8DOA-47AC-9BBB  
 Copyright 1996

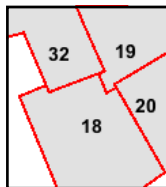
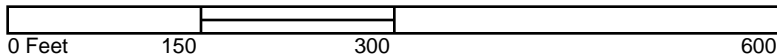


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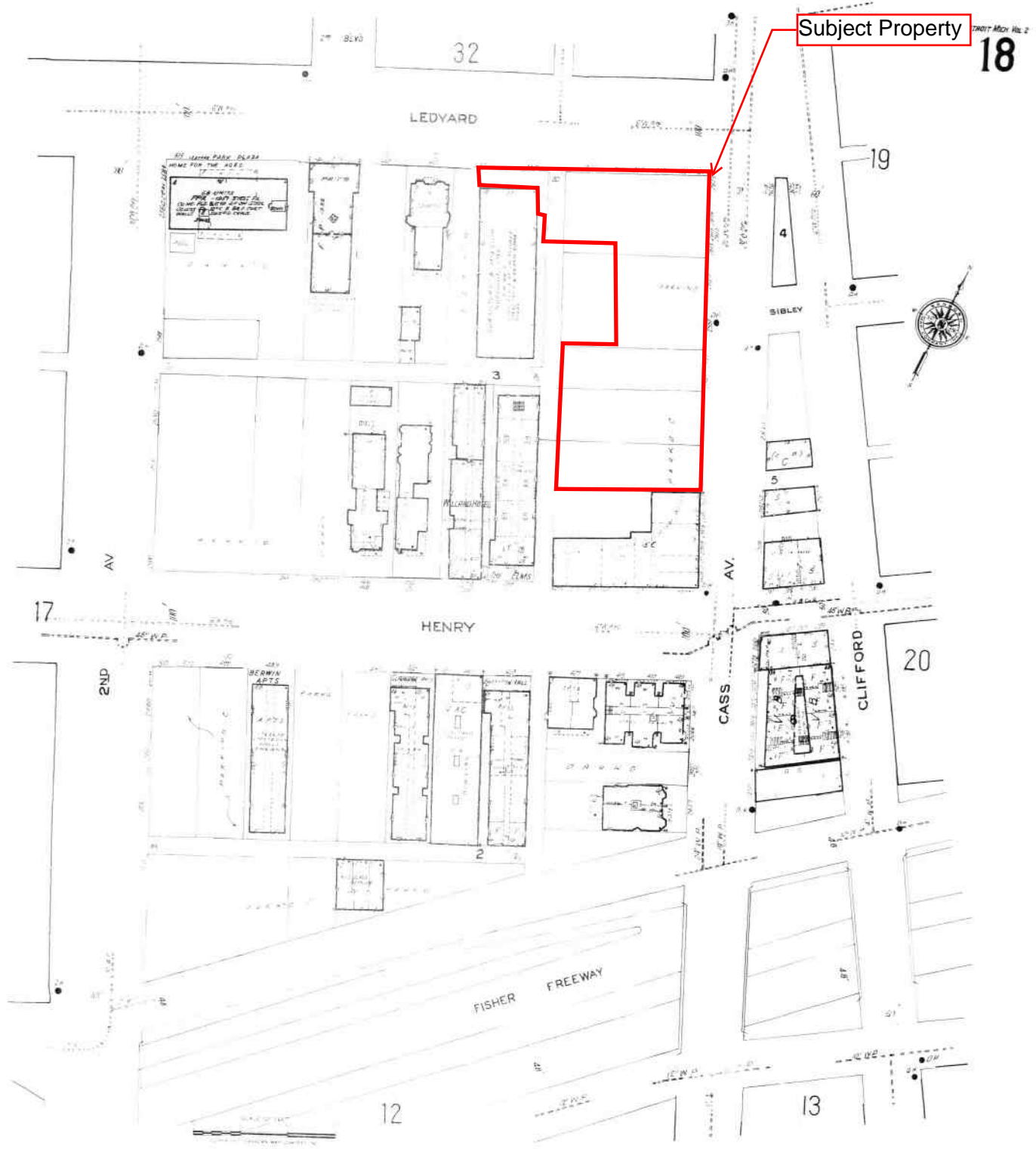
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Volume 2, Sheet 32  
 Volume 2, Sheet 20  
 Volume 2, Sheet 19  
 Volume 2, Sheet 18







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 Address: 445 Ledyard  
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 Copyright: 1991



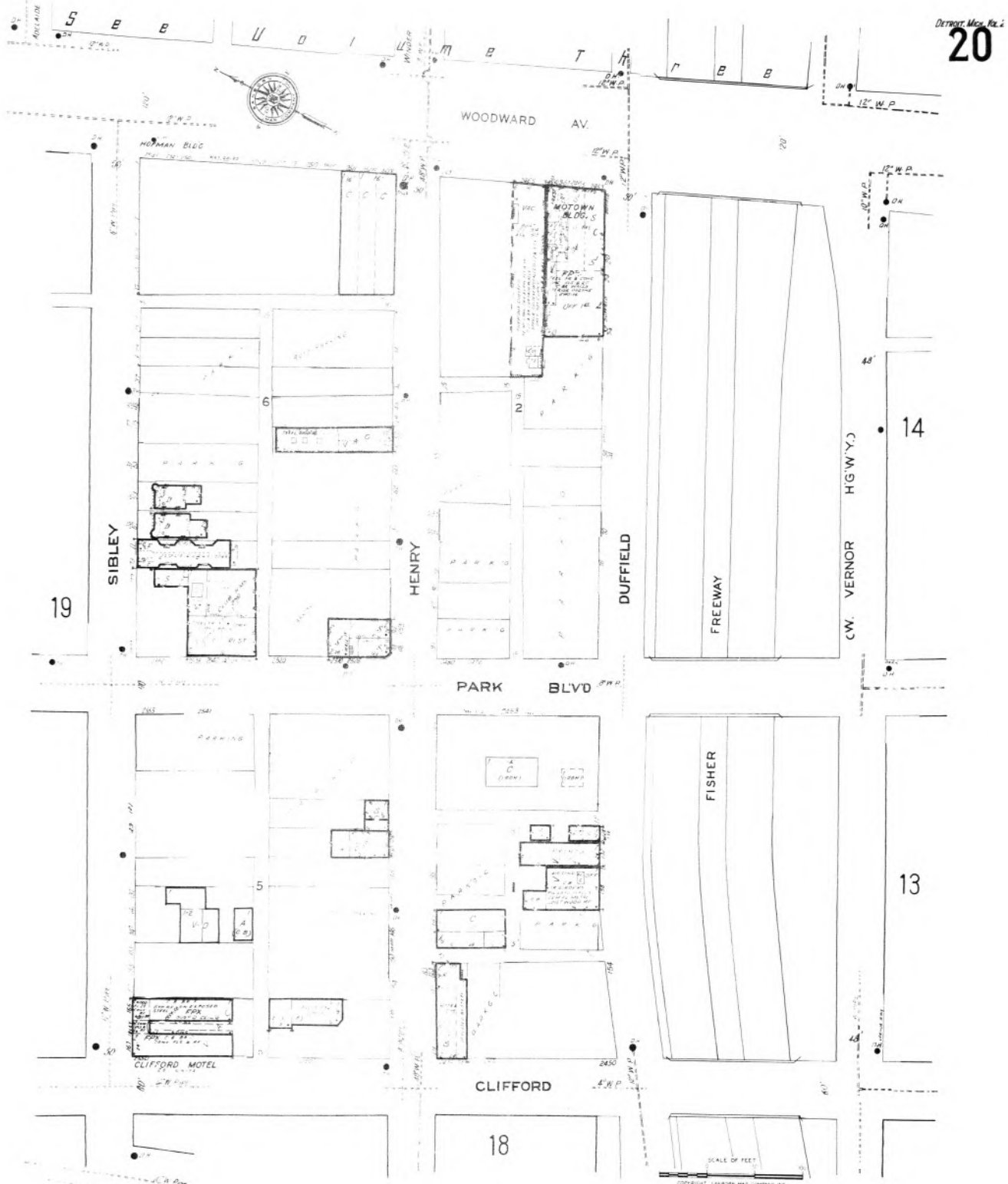


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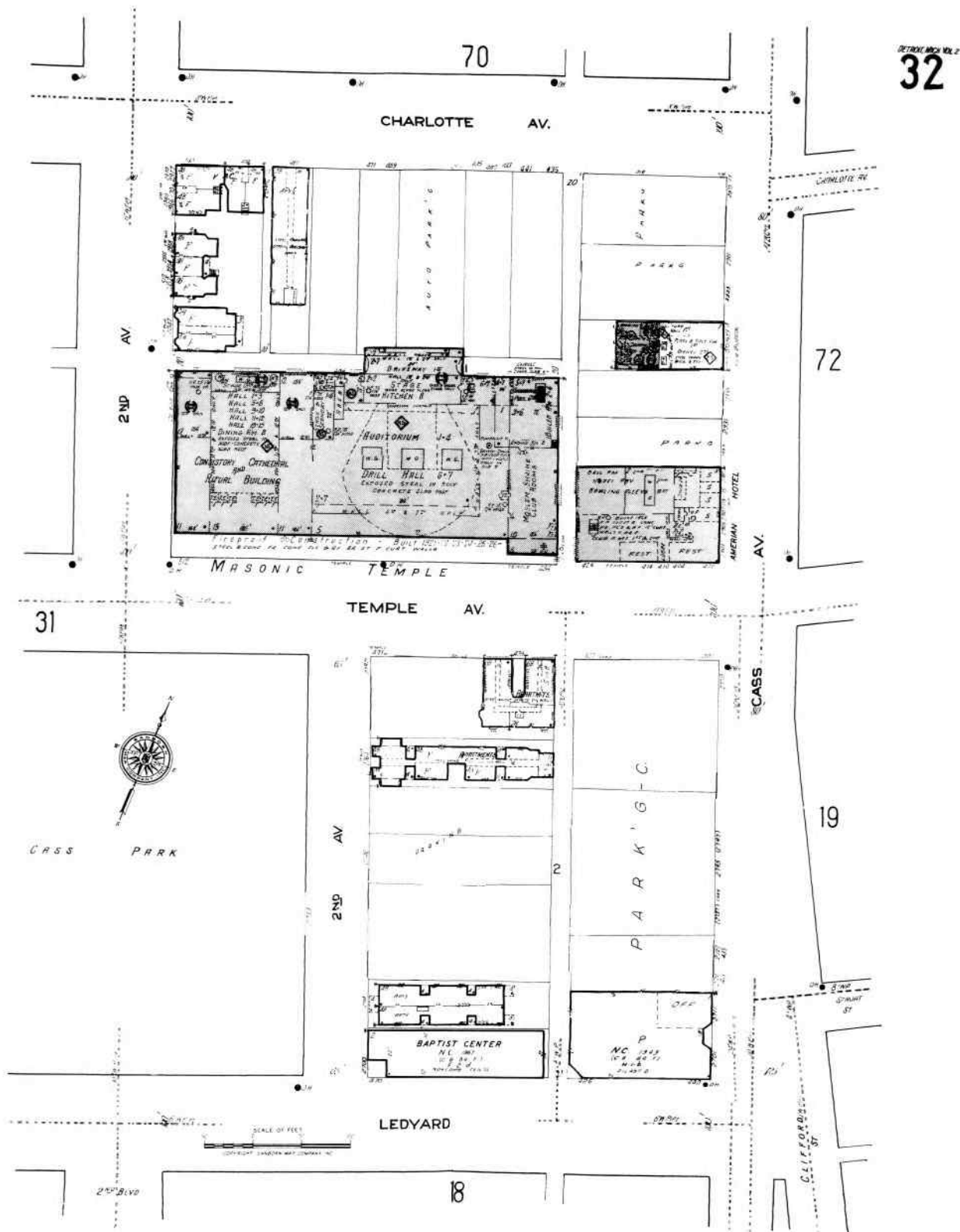




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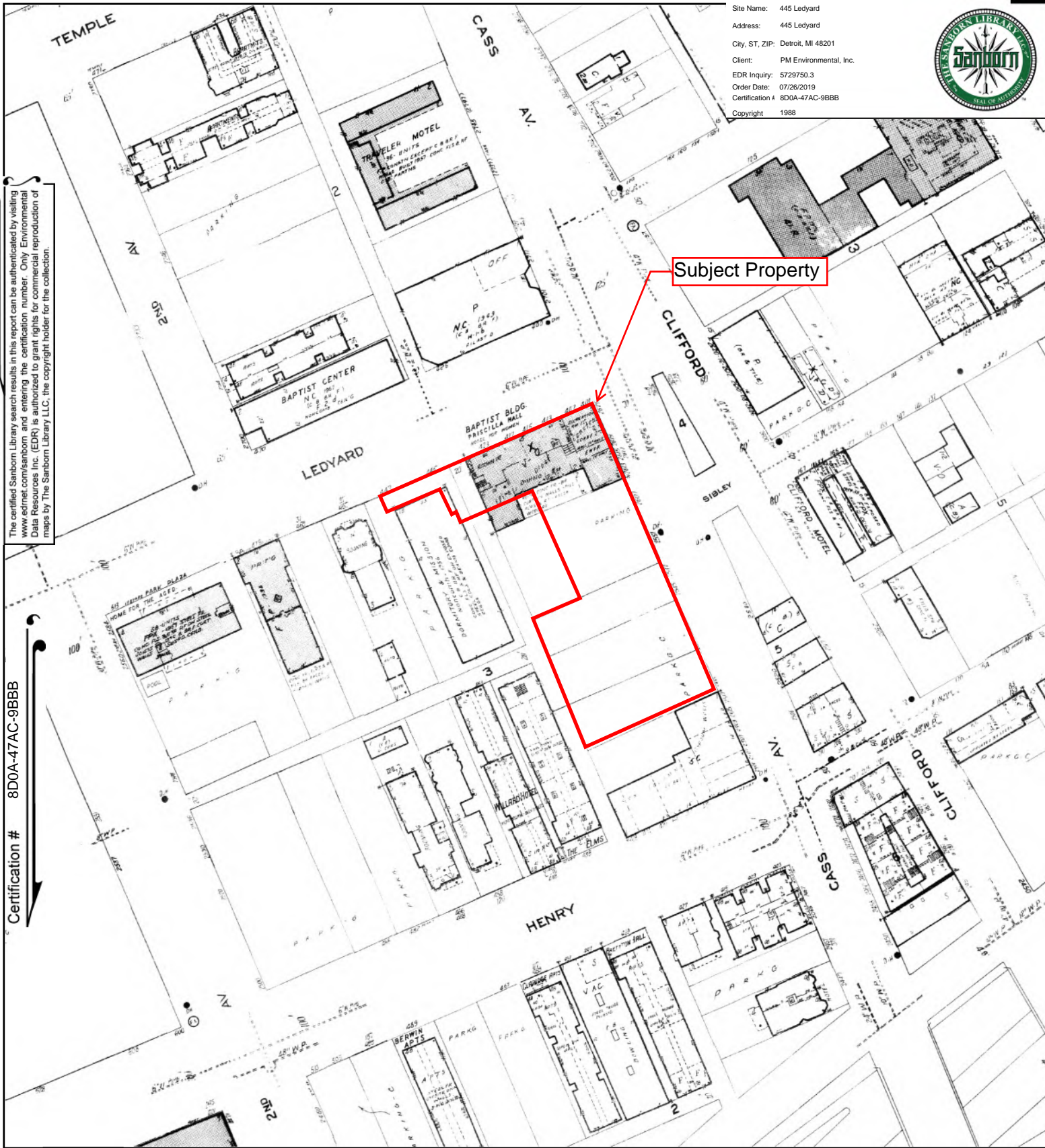


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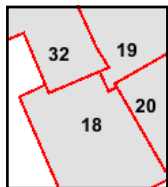
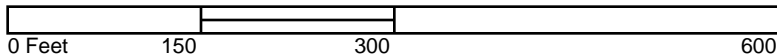


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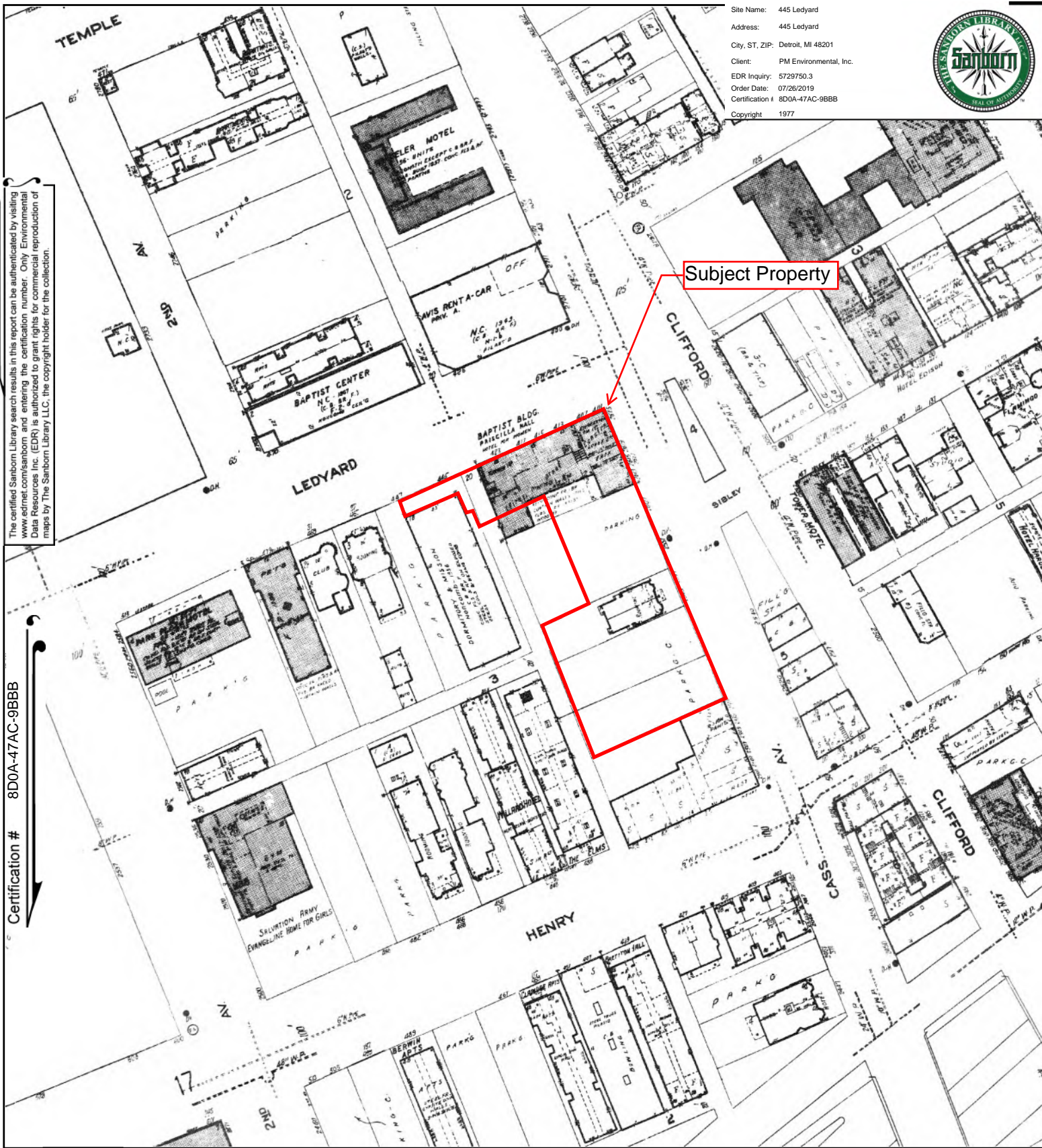




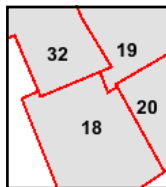
Site Name: 445 Ledyard  
Address: 445 Ledyard  
City, ST, ZIP: Detroit, MI 48201  
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EDR Inquiry: 5729750.3  
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Volume 2, Sheet 18

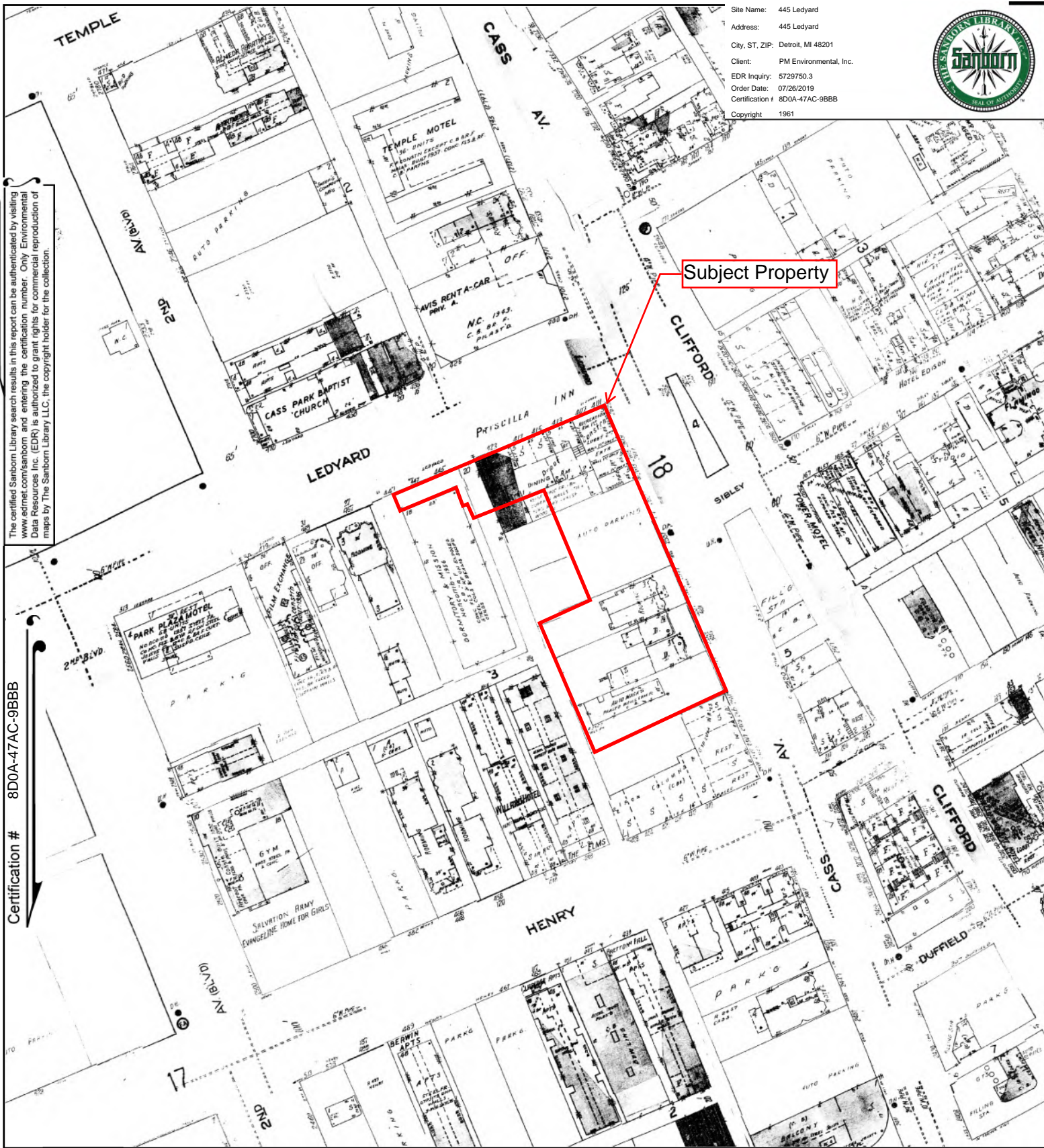


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City, ST, ZIP: Detroit, MI 48201  
Client: PM Environmental, Inc.  
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Copyright 1961

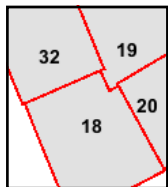
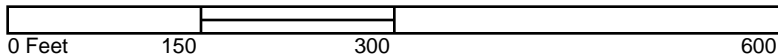


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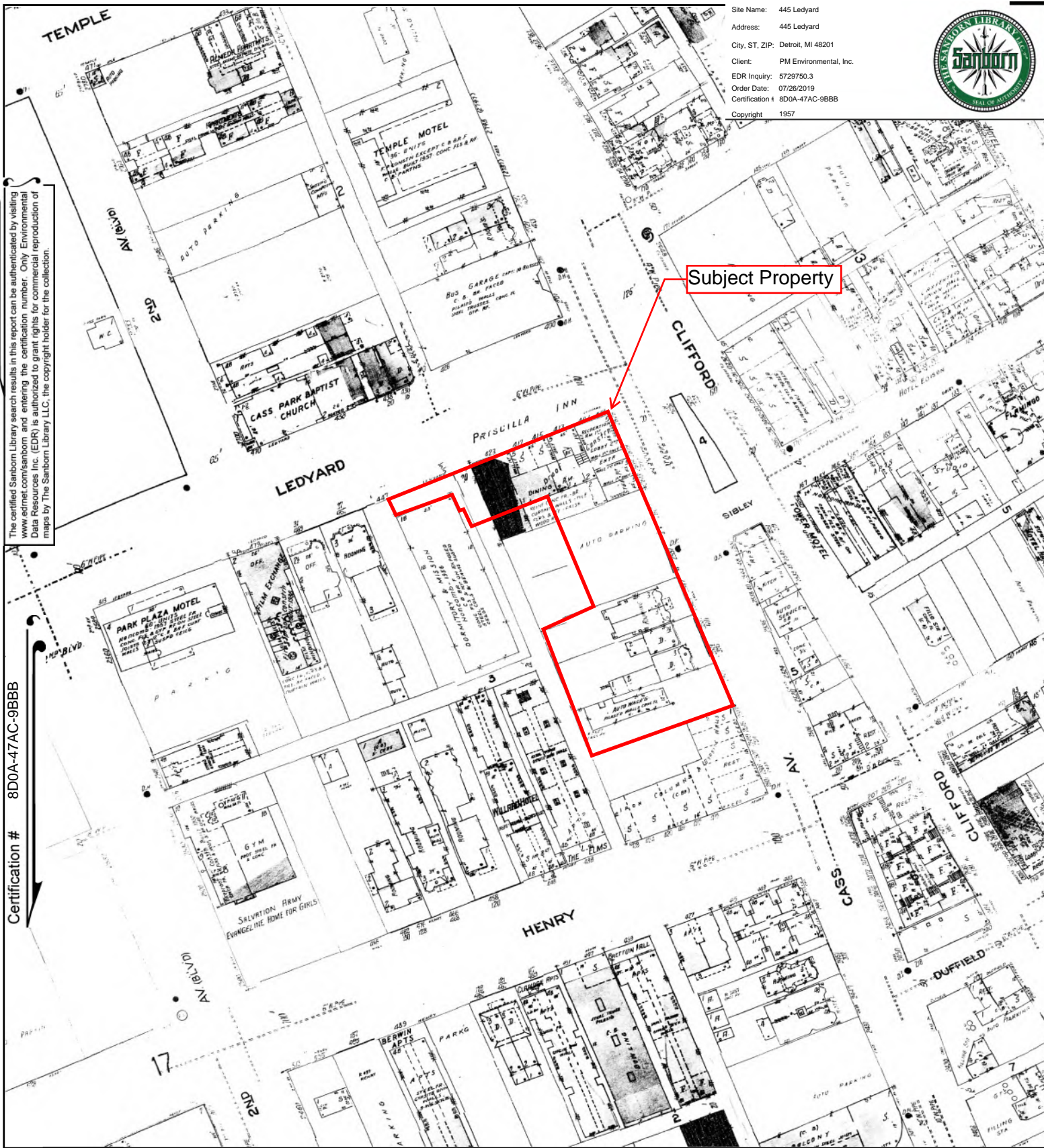


Site Name: 445 Ledyard  
 Address: 445 Ledyard  
 City, ST, ZIP: Detroit, MI 48201  
 Client: PM Environmental, Inc.  
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 Copyright: 1957

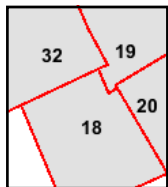
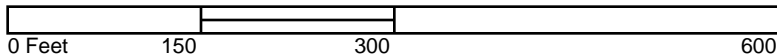


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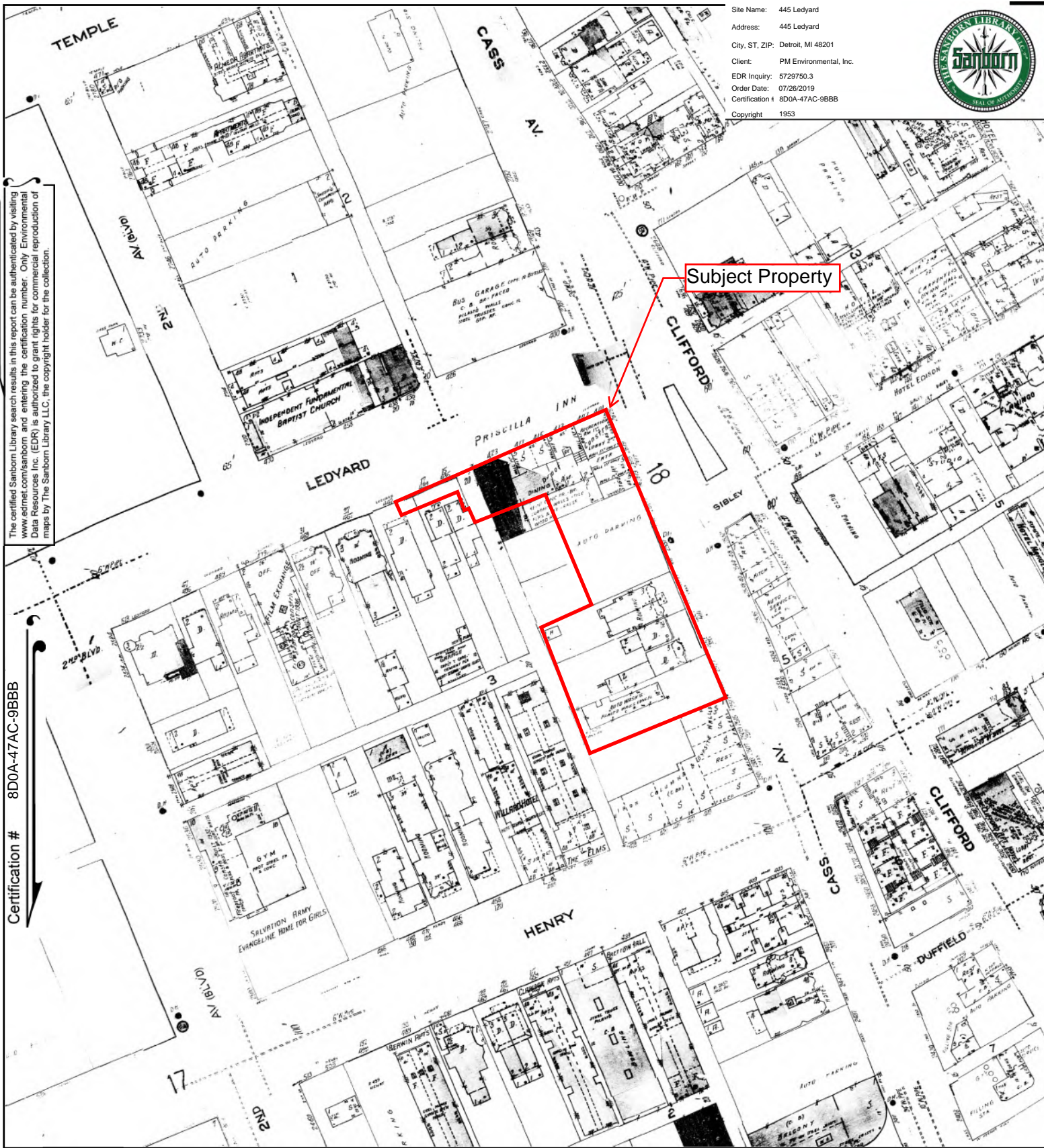


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City, ST, ZIP: Detroit, MI 48201  
Client: PM Environmental, Inc.  
EDR Inquiry: 5729750.3  
Order Date: 07/26/2019  
Certification #: 8D0A-47AC-9BBB  
Copyright: 1953

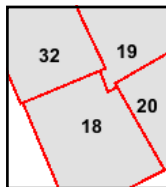
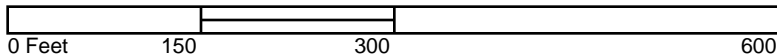


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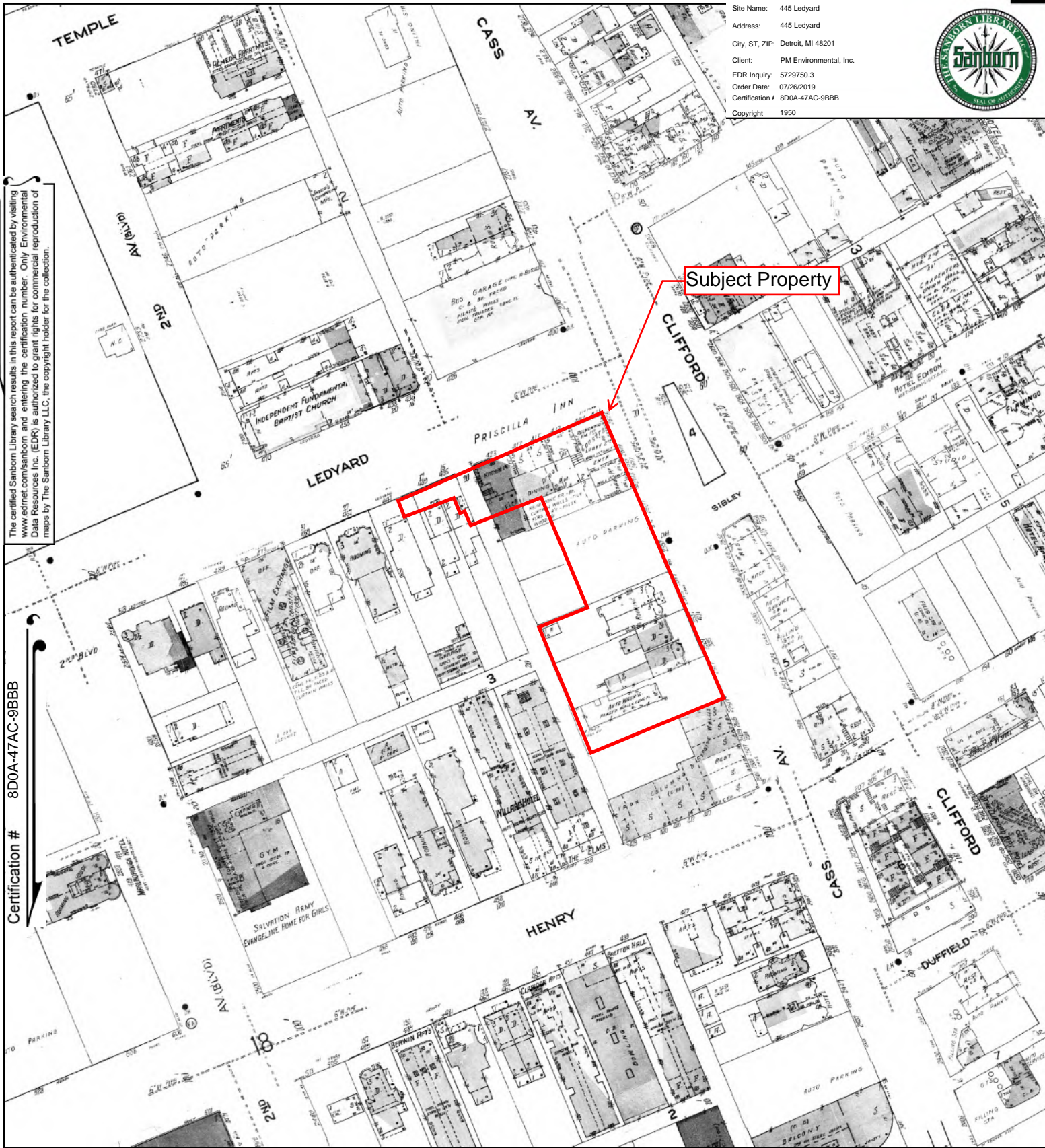


Volume 2, Sheet 32  
Volume 2, Sheet 20  
Volume 2, Sheet 19  
Volume 2, Sheet 18





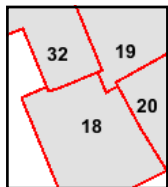
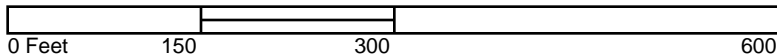
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 City, ST, ZIP: Detroit, MI 48201  
 Client: PM Environmental, Inc.  
 EDR Inquiry: 5729750.3  
 Order Date: 07/26/2019  
 Certification #: 8D0A-47AC-9BBB  
 Copyright: 1950



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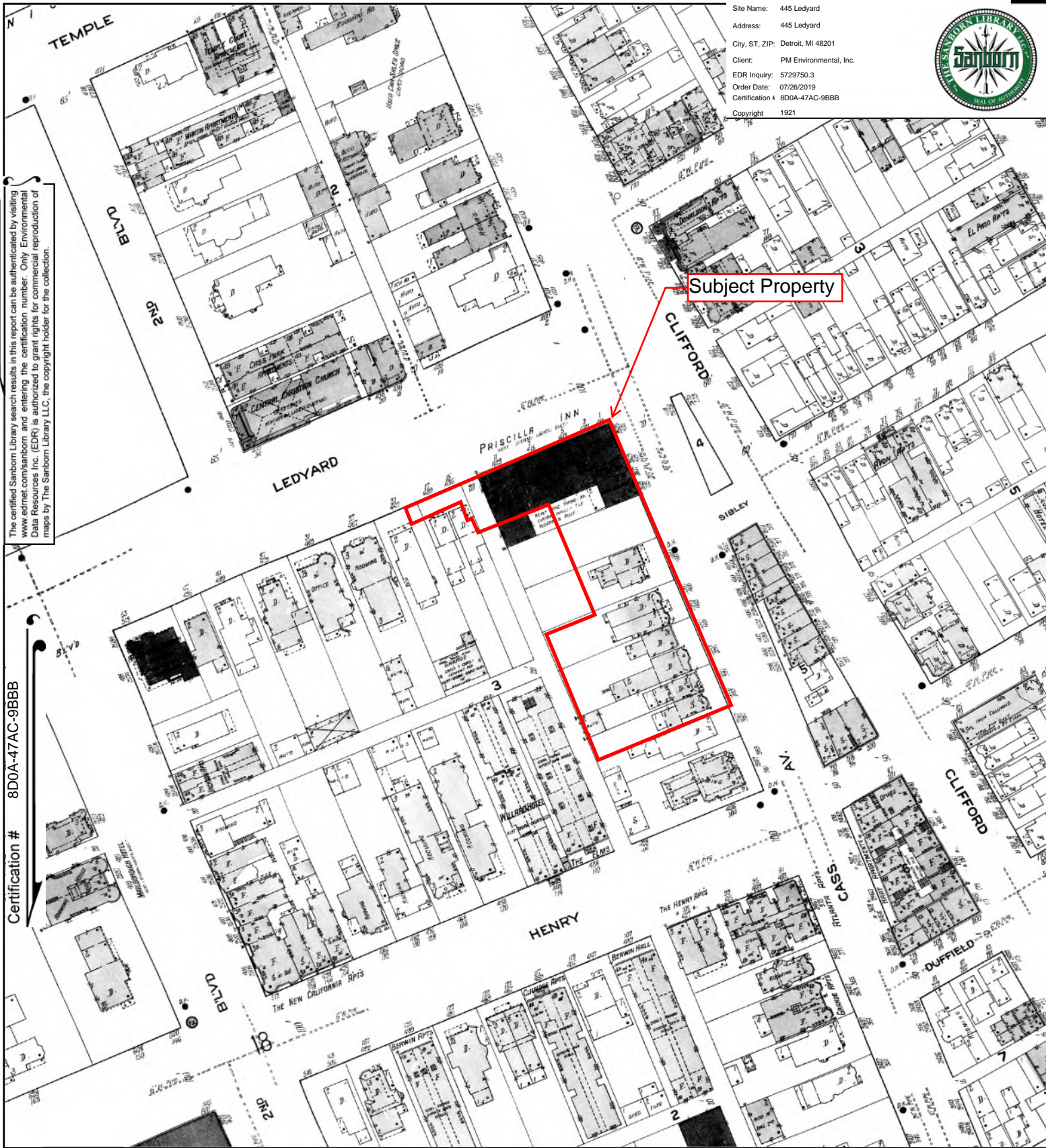


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 Certification #: 8D0A-47AC-9BBB  
 Copyright: 1921

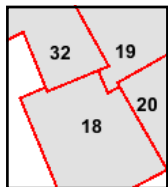
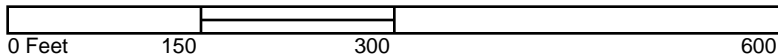


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 Volume 2, Sheet 20  
 Volume 2, Sheet 19  
 Volume 2, Sheet 18



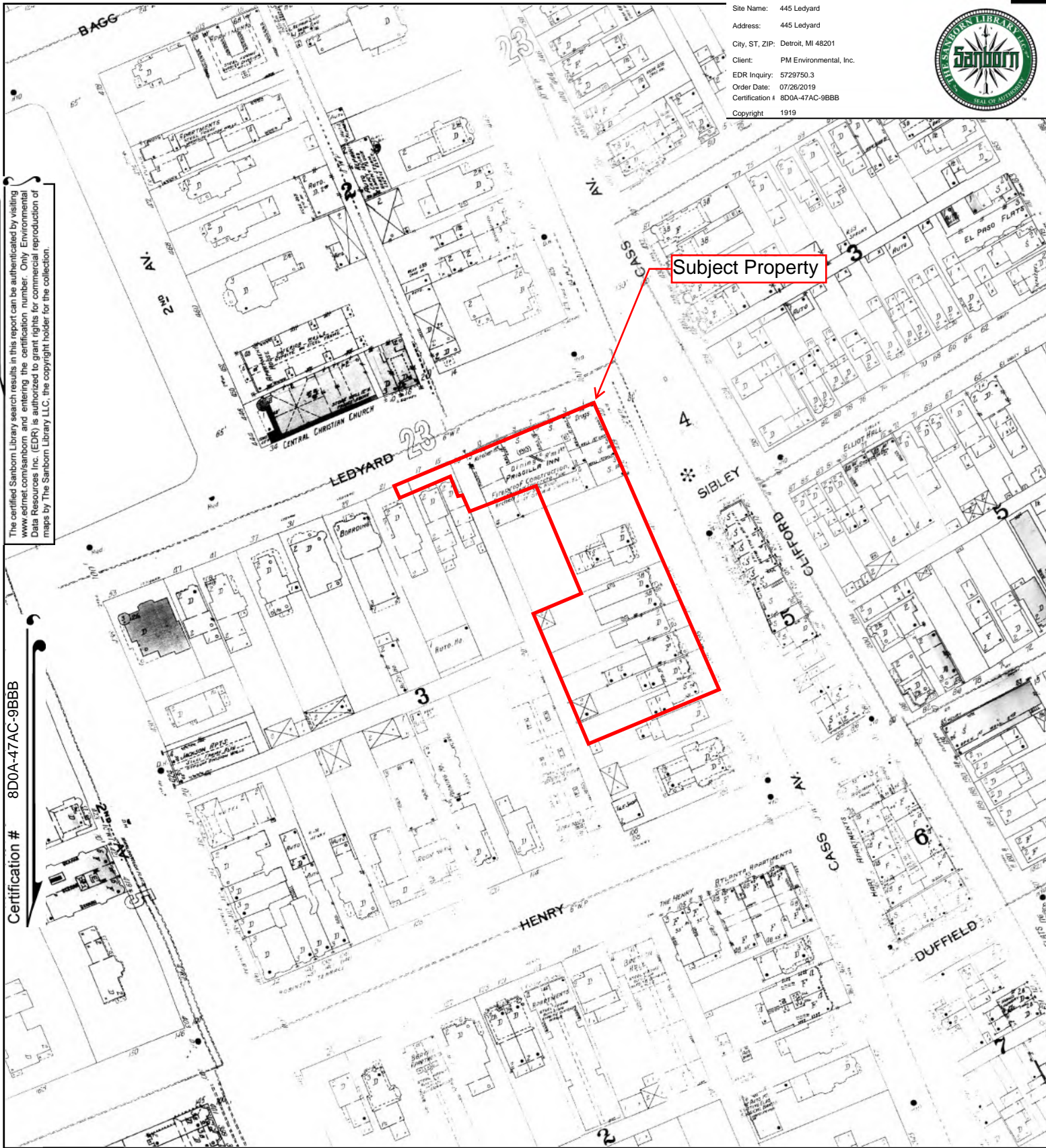


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 City, ST, ZIP: Detroit, MI 48201  
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 EDR Inquiry: 5729750.3  
 Order Date: 07/26/2019  
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 Copyright: 1919

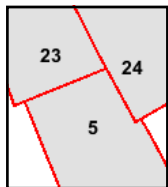
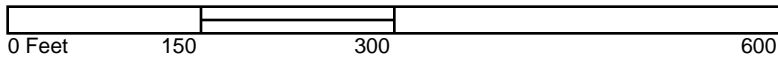


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Volume 2, Sheet 24  
 Volume 2, Sheet 23  
 Volume 2, Sheet 5



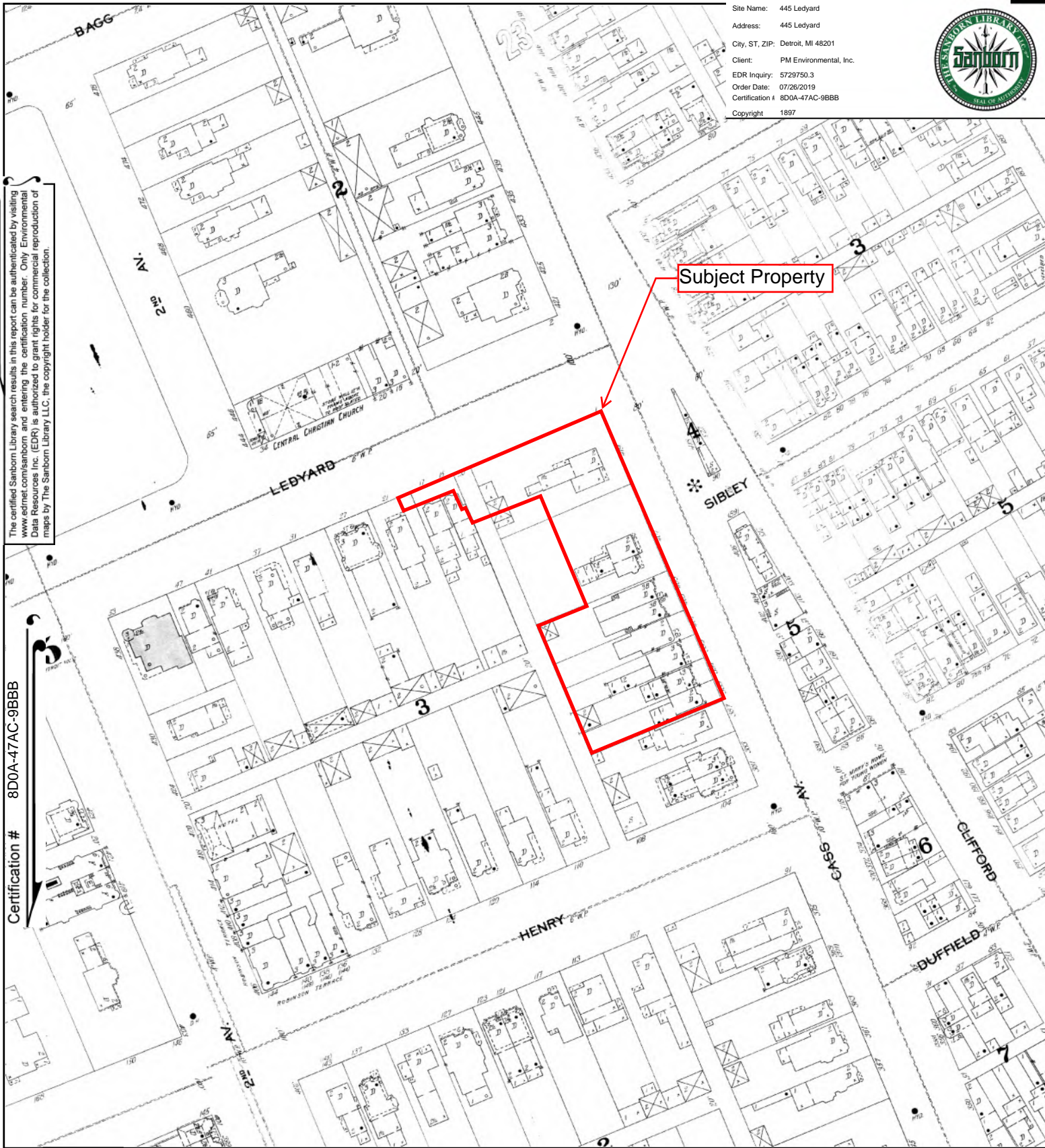


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 City, ST, ZIP: Detroit, MI 48201  
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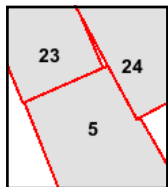
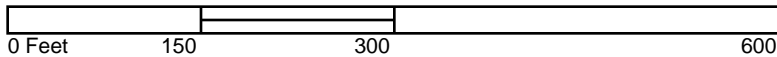


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Volume 2, Sheet 24  
 Volume 2, Sheet 23  
 Volume 2, Sheet 5







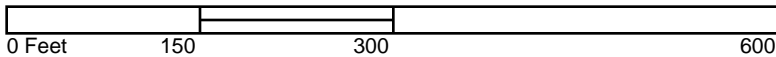
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 EDR Inquiry: 5729750.3  
 Order Date: 07/26/2019  
 Certification #: 8D0A-47AC-9BBB  
 Copyright: 1889

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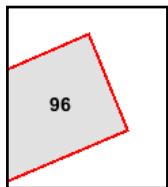


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Volume 3, Sheet 96

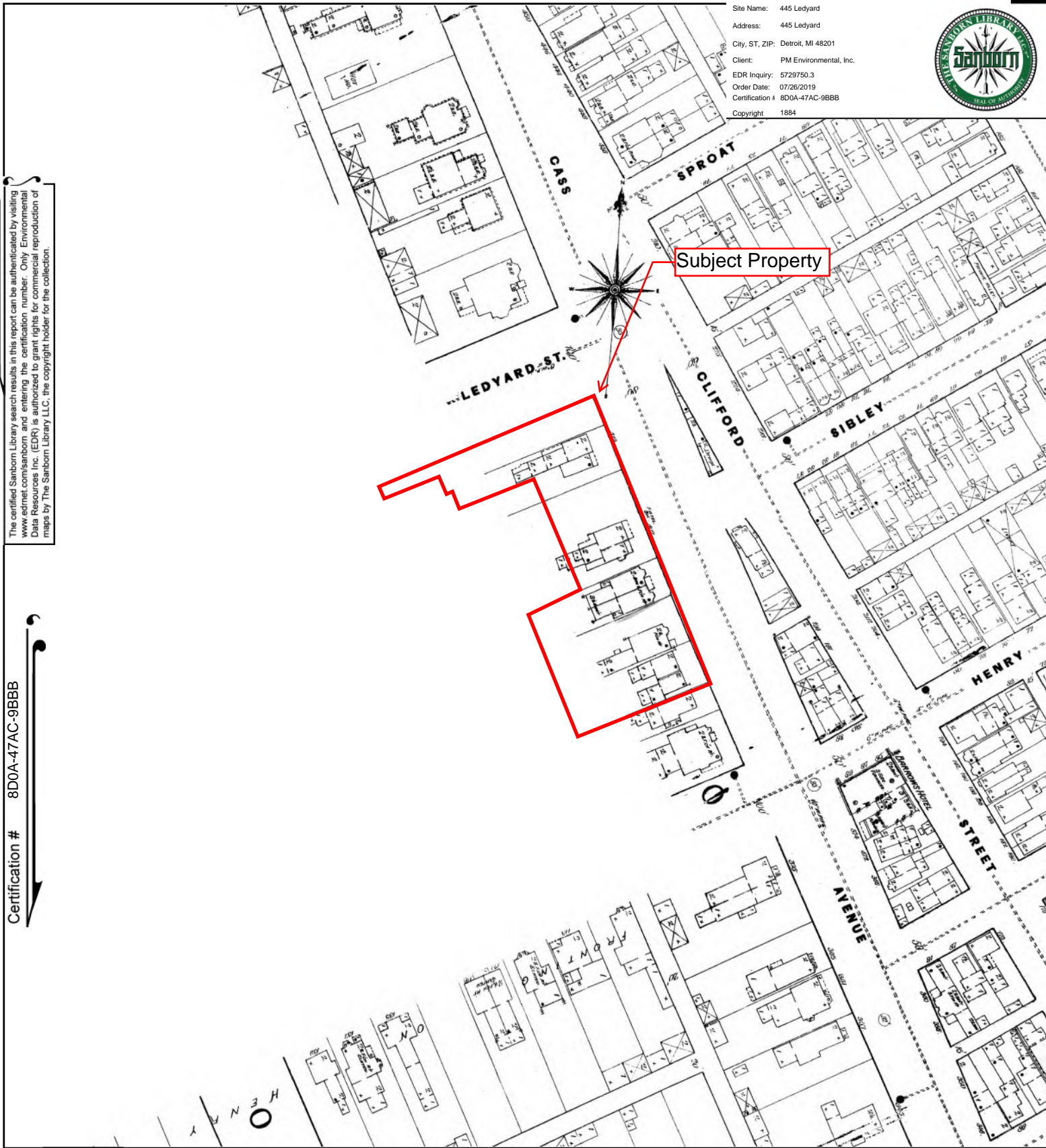


Site Name: 445 Ledyard  
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 City, ST, ZIP: Detroit, MI 48201  
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 Certification #: 8DOA-47AC-9BBB  
 Copyright: 1884

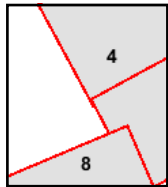
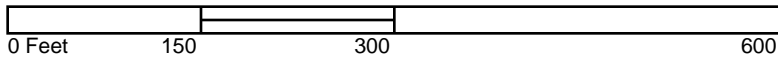


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Volume 1, Sheet 8  
 Volume 1, Sheet 4  
 Volume 1, Sheet 4



## SOIL SURVEY INFORMATION





United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Wayne County, Michigan**



March 25, 2022




# Custom Soil Resource Report Soil Map



# Custom Soil Resource Report


## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)


### Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot


 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry


 Miscellaneous Water


 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip

 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals


### Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Wayne County, Michigan  
Survey Area Data: Version 7, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 5, 2020—Aug 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UrbarB	Urban land-Riverfront complex, dense substratum, 0 to 4 percent slopes	1.0	100.0%
<b>Totals for Area of Interest</b>		<b>1.0</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Wayne County, Michigan

### UrbarB—Urban land-Riverfront complex, dense substratum, 0 to 4 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2whsx  
*Elevation:* 560 to 720 feet  
*Mean annual precipitation:* 28 to 38 inches  
*Mean annual air temperature:* 45 to 52 degrees F  
*Frost-free period:* 135 to 210 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Urban land:* 80 percent  
*Riverfront, dense substratum, and similar soils:* 19 percent  
*Minor components:* 1 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Urban Land

##### Properties and qualities

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* 0 inches to manufactured layer  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

#### Description of Riverfront, Dense Substratum

##### Setting

*Landform:* Deltas, water-lain moraines, wave-worked till plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex, linear  
*Parent material:* Loamy human-transported material over clayey lodgment till

##### Typical profile

*^Au - 0 to 6 inches:* sandy loam  
*^Cu1 - 6 to 16 inches:* very artifactual sandy loam  
*^Cu2 - 16 to 46 inches:* gravelly-artifactual loam  
*^Cu3 - 46 to 68 inches:* very artifactual loam  
*2Cd - 68 to 80 inches:* clay

##### Properties and qualities

*Slope:* 0 to 4 percent  
*Depth to restrictive feature:* 56 to 78 inches to densic material  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)



## Custom Soil Resource Report

*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 28 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline (0.1 to 1.5 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Low (about 4.9 inches)

### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8  
*Hydrologic Soil Group:* B  
*Ecological site:* F099XY007MI - Lake Plain Flats  
*Hydric soil rating:* No

### **Minor Components**

#### **Riverfront, dense substratum, steep**

*Percent of map unit:* 1 percent  
*Landform:* Deltas, water-lain moraines, wave-worked till plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex, linear  
*Hydric soil rating:* No

# Soil Information for All Uses

---

## Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

## Soil Qualities and Features

This folder contains tabular reports that present various soil qualities and features. The reports (tables) include all selected map units and components for each map unit. Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## Soil Features

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Subsidence* is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected

initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity ( $K_{sat}$ ), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.



# Custom Soil Resource Report

Soil Features—Wayne County, Michigan									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>Low-RV-High</i>	<i>Range</i>		<i>Low-High</i>	<i>Low-High</i>			
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
UrbanB—Urban land-Riverfront complex, dense substratum, 0 to 4 percent slopes									
Urban land	Manufactured layer	0	3-16	Very strongly cemented	—	—			
Riverfront, dense substratum	Densic material	56-68-78	2-24	Noncemented	0	0	Moderate	Low	Low
Riverfront, dense substratum, steep	Densic material	56-68-78	2-24	Noncemented	0	0	Moderate	Low	Low

## ASSESSING DEPARTMENT RECORDS

**445 LEDYARD 48201** (Property Address)

Parcel Number: 02000618-9

**Property Owner: EPISCOPAL CHURCH, DIOCESE OF MI****Summary Information**

- > Commercial/Industrial Building Summary
  - Yr Built: 1880
  - # of Buildings: 4
  - Total Sq.Ft.: 41,466
- > Assessed Value: \$0 | Taxable Value: \$0
- > Property Tax information found

Item 1 of 15 13 Images / 2 Sketches

**Owner and Taxpayer Information**

<b>Owner</b>	EPISCOPAL CHURCH, DIOCESE OF MI 4800 WOODWARD AVE DETROIT, MI 48201-1310	<b>Taxpayer</b>	SEE OWNER INFORMATION
--------------	--	-----------------	-----------------------

**General Information for Tax Year 2022**

<b>Property Class</b>	201 201-COMMERCIAL	<b>Unit</b>	01 CITY OF DETROIT
<b>School District</b>	DETROIT CITY SCHOOL DISTRICT	<b>Assessed Value</b>	\$0
<b>WARD#</b>	02	<b>Taxable Value</b>	\$0
<b>HOPE#</b>	4	<b>State Equalized Value</b>	\$0
<b>PP CODE#</b>	Not Available	<b>Date of Last Name Change</b>	03/22/2004
<b>RELATED #</b>	Not Available	<b>Notes</b>	Not Available
<b>Historical District</b>	Not Available	<b>Census Block Group</b>	Not Available
<b>COUNCIL#</b>	Not Available	<b>Exemption</b>	No Data to Display

**Principal Residence Exemption Information****Homestead Date** No Data to Display

Principal Residence Exemption	June 1st	Final
2022	0.0000 %	-
2021	0.0000 %	0.0000 %

**Land Information**

<b>Zoning Code</b>	B4	<b>Total Acres</b>	1.865
<b>Land Value</b>	\$2,830,980	<b>Land Improvements</b>	\$40,417
<b>Renaissance Zone</b>	No	<b>Renaissance Zone Expiration Date</b>	No Data to Display
<b>ECF Neighborhood</b>	Not Available	<b>Mortgage Code</b>	No Data to Display
<b>Lot Dimensions/Comments</b>	Not Available	<b>Neighborhood Enterprise Zone</b>	No

Lot(s)	Frontage	Depth
Lot 1	170.00 ft	207.00 ft
<b>Total Frontage: 170.00 ft</b>		<b>Average Depth: 207.00 ft</b>

**Legal Description**

S LEDYARD 3 THRU 12BLK--79 SUB PT CASS FARM L1 P93 PLATS, W C R 2/18 81,226.5 SQ FT

**Sale History**

Sale Date	Sale Price	Instrument	Grantor	Grantee	Terms of Sale	Liber/Page
No sales history found.						

**Building Information - 9480 sq ft Rooming Houses (Commercial)**

<b>Floor Area</b>	9,480 sq ft	<b>Estimated TCV</b>	Not Available
<b>Occupancy</b>	Rooming Houses	<b>Class</b>	C
<b>Stories Above Ground</b>	Not Available	<b>Average Story Height</b>	Not Available
<b>Basement Wall Height</b>	Not Available	<b>Identical Units</b>	Not Available
<b>Year Built</b>	1880	<b>Year Remodeled</b>	No Data to Display
<b>Percent Complete</b>	100%	<b>Heat</b>	Forced Air Furnace
<b>Physical Percent Good</b>	49%	<b>Functional Percent Good</b>	100%
<b>Economic Percent Good</b>	100%	<b>Effective Age</b>	35 yrs



#### Building Information - 21240 sq ft Office Buildings (Commercial)

<b>Floor Area</b>	21,240 sq ft	<b>Estimated TCV</b>	<i>Not Available</i>
<b>Occupancy</b>	Office Buildings	<b>Class</b>	C
<b>Stories Above Ground</b>	<i>Not Available</i>	<b>Average Story Height</b>	<i>Not Available</i>
<b>Basement Wall Height</b>	<i>Not Available</i>	<b>Identical Units</b>	<i>Not Available</i>
<b>Year Built</b>	1956	<b>Year Remodeled</b>	<i>No Data to Display</i>
<b>Percent Complete</b>	100%	<b>Heat</b>	Package Heating & Cooling
<b>Physical Percent Good</b>	63%	<b>Functional Percent Good</b>	100%
<b>Economic Percent Good</b>	100%	<b>Effective Age</b>	23 yrs

#### Building Information - 846 sq ft Office Buildings (Commercial)

<b>Floor Area</b>	846 sq ft	<b>Estimated TCV</b>	<i>Not Available</i>
<b>Occupancy</b>	Office Buildings	<b>Class</b>	C
<b>Stories Above Ground</b>	<i>Not Available</i>	<b>Average Story Height</b>	<i>Not Available</i>
<b>Basement Wall Height</b>	<i>Not Available</i>	<b>Identical Units</b>	<i>Not Available</i>
<b>Year Built</b>	1995	<b>Year Remodeled</b>	<i>No Data to Display</i>
<b>Percent Complete</b>	100%	<b>Heat</b>	Package Heating & Cooling
<b>Physical Percent Good</b>	63%	<b>Functional Percent Good</b>	100%
<b>Economic Percent Good</b>	100%	<b>Effective Age</b>	23 yrs

#### Building Information - 9900 sq ft Office Buildings (Commercial)

<b>Floor Area</b>	9,900 sq ft	<b>Estimated TCV</b>	<i>Not Available</i>
<b>Occupancy</b>	Office Buildings	<b>Class</b>	C
<b>Stories Above Ground</b>	<i>Not Available</i>	<b>Average Story Height</b>	<i>Not Available</i>
<b>Basement Wall Height</b>	<i>Not Available</i>	<b>Identical Units</b>	<i>Not Available</i>
<b>Year Built</b>	1995	<b>Year Remodeled</b>	<i>No Data to Display</i>
<b>Percent Complete</b>	100%	<b>Heat</b>	Package Heating & Cooling
<b>Physical Percent Good</b>	63%	<b>Functional Percent Good</b>	100%
<b>Economic Percent Good</b>	100%	<b>Effective Age</b>	23 yrs

**\*\*Disclaimer:** BS&A Software provides BS&A Online as a way for municipalities to display information online and is not responsible for the content or accuracy of the data herein. This data is provided for reference only and WITHOUT WARRANTY of any kind, expressed or inferred. Please contact your local municipality if you believe there are errors in the data.

## HEALTH DEPARTMENT RECORDS



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**LAW DEPARTMENT**

Coleman A. Young Municipal Center  
2 Woodward Avenue, Suite 500  
Detroit, Michigan 48226-3437

Phone 313•224•4550  
Fax 313•224•5505  
[www.detroitmi.gov](http://www.detroitmi.gov)

April 11, 2022

Samantha Joines  
PM Environmental  
560 5<sup>th</sup> Street NW Ste. 301  
Grand Rapids, MI 49504

**RE: Freedom of Information Act Request No. A22-04674, Dated March 25, 2022,  
Concerning City of Detroit Records Pertaining to the Following Addresses/Properties  
445 Ledyard St, Detroit (PID: 02000618-9), 401-457 Ledyard Street, 2527-2625 Cass  
Ave, 1-27 Ledyard St 389-419 Cass Ave**

Dear Ms. Joines:

This letter serves as the City of Detroit's response to the above-referenced matter. Your request was received at the City of Detroit Law Department Freedom of Information Act Section, via facsimile or email, on March 25, 2022. Because your request was received by electronic transmission, pursuant to Section 5(1) of the Michigan Freedom of Information Act (the "Act"), MCL 15.235(1); it is deemed to have been received at the Law Department on the next business day, March 28, 2022.

Your request seeks:

Requesting all City records concerning the following

445 Ledyard St, Detroit (PID: 02000618-9)

Historical:

401-457 Ledyard Street

2527-2625 Cass Ave

Pre-1921 Addresses:

1-27 Ledyard St

389-419 Cass Ave

We are interested in obtaining files related to records of health department inspections, violations, historical well log or septic information, environmental concerns or issues, etc.

Your request is denied pursuant to MCL 15.235(5)(b), for the reason that based on information provided by Detroit Health Department (DHD) it is our understanding that DHD does not possess any record that corresponds to the description in your request.

You can find the summary of the City of Detroit Freedom of Information Act procedures and guidelines at [www.detroitmi.gov](http://www.detroitmi.gov) and specifically at <https://detroitmi.gov/document/foia-procedures-and-guidelines> and <https://detroitmi.gov/how-do-i/request-document/foia-freedom-information-act-request>.





Please be advised that, due to the COVID-19 pandemic, the City of Detroit Law Department would prefer that all letters, payments and other correspondence pertaining to new or pending FOIA requests be sent via email or the U.S. Mail. We will send all correspondence to members of the public via U.S. Mail and/or Email as appropriate. Please contact Jack Dietrich at 313-237-5030, if this policy creates a hardship for you. Thank you in advance for your compliance with this policy.

Please note that pursuant to Section 10 and 10a of the Act, MCL 15.240 and 15.240a, a person receiving a written denial of a request or receiving a letter to submit the labor costs may do one of the following:

- 1) Submit a written appeal to the head of the public body denying the request. Such appeal, if submitted, should specifically state the word “appeal” and identify the reason or reasons for reversal of the disclosure denial. MCL 15.240(1)(a) and MCL 15.240a(1)(a); or
- 2) Commence an action in the circuit court to compel the disclosure of the public records within 180 days after the public body’s denial of the request, MCL 15.240(1)(b), or 45 days after the public body’s request for labor costs, MCL 15.240a(1)(b). If a court finds that the information withheld by a public body is not exempt from disclosure, or that the labor costs requested by the public body exceeds the amount permitted, the requesting party may receive the requested record and, at the discretion of the court, reasonable attorney fees and /or cost. MCL 15.240(6) and (7), and MCL 15.240a(6) and (7).

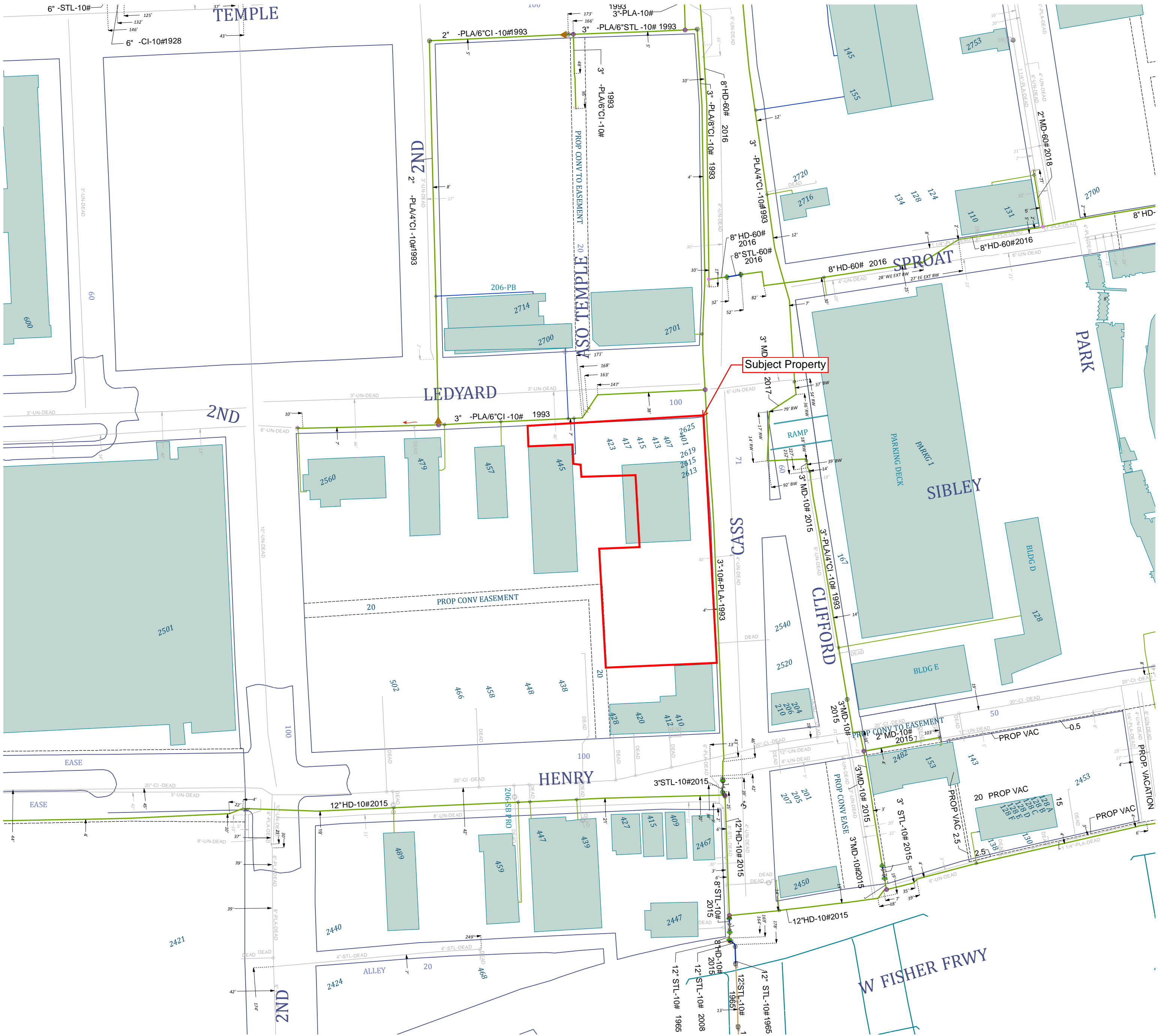
Very truly yours,

*Marwa Elshazly*

Marwa ElShazly  
Paralegal  
Freedom of Information Section  
City of Detroit  
(313) 237-6665

MME/

## NATURAL GAS CONNECTION MAP



DTE GAS COMPANY FACILITIES AS SHOWN  
INDICATE APPROXIMATE LOCATIONS ONLY AS DISCLOSED BY THE  
COMPANY'S RECORDS AND NO GUARANTEE IS MADE EITHER AS  
TO COMPLETENESS OR ACCURACY.

**DTE GAS COMPANY**

SIGNED: *IS/ Christopher C. Porter* August 02, 2019

CONSTRUCTION PLANS MADE SUBSEQUENT TO THIS DATE  
SHOULD BE CHECKED WITH DTE GAS COMPANY

**Pipe Material**

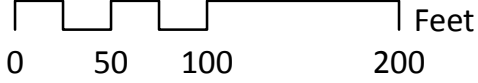
- CU - Copper
- PLA - Plastic
- STL - Bare Steel
- STL - Coated Steel
- CI - Cast Iron
- WI - Wrought Iron
- UN - Unknown
- Inactive
- Abandoned

**Main Line Styles**

- In Design Main (Proposed)
- Distribution Main
- Joint Trench
- Exposed Pipe
- Pipe Lining (CI or WI)
- Transmission Main
- Subtransmission Main



STATE LAW ACT 174  
3 WORKING DAYS  
BEFORE YOU DIG  
DIAL TOLL FREE  
1-800-482-7171 OR 811



**WARNING**

HIGH PRESSURE MAINS ARE HIGHLIGHTED ———  
THEY SUPPLY GAS TO A LARGE NUMBER OF HOMES AND  
INDUSTRIES OF DETROIT AND VICINITY

IT IS OF THE UTMOST IMPORTANCE THAT EVERY PRECAUTION  
BE TAKEN SO AS NOT TO ENDANGER ITS USE DURING OR  
FOLLOWING YOUR CONSTRUCTION

**DTE GAS COMPANY**



## FREEDOM OF INFORMATION ACT REQUESTS



**Corporate Headquarters**  
Lansing, Michigan  
3340 Ranger Road, Lansing, MI 48906  
f: 877.884.6775  
t: 517.321.3331

**Michigan Locations**  
Berkley      Bay City  
Grand Rapids      Lansing  
Oak Park

March 25, 2022

City of Detroit FOIA Coordinator  
City of Detroit Law Department  
2 Woodward Avenue, Suite 500  
Detroit, Michigan 48226

FOIA Coordinator:

Please accept this as a request to review and possibly copy FIRE DEPARTMENT files for the following address(es):

**445 Ledyard St, Detroit (PID: 02000618-9)**

**Historical:**

**401-457 Ledyard Street  
2527-2625 Cass Ave**

**Pre-1921 Addresses:**

**1-27 Ledyard St  
389-419 Cass Ave**

Information we are interested in obtaining includes:

- Records of emergency responses or HAZMAT responses;
- Illegal Dumping; and
- Historic records of UST/ASTs.

Please contact me regarding the availability of information and potential fees associated with reproduction prior to reproducing any material.

***When the information has been gathered, please send files to me at [Nagengast@pmenv.com](mailto:Nagengast@pmenv.com) or by fax to 877-884-6775. Please contact me via phone if it is required that I pick up any information that is available in person.*** If you have any questions or concerns regarding this request, please contact me by email or by phone at (248) 414-1429. Thank you.

Sincerely,  
**PM Environmental, Inc.**

Devon Nagengast  
Staff Consultant  
4080 West Eleven Mile Road  
Berkley, MI 48072  
PME Project No: 01-11988-1-0001 DN (5/4/22)



**Corporate Headquarters**  
Lansing, Michigan  
3340 Ranger Road, Lansing, MI 48906  
f: 877.884.6775  
t: 517.321.3331

**Michigan Locations**  
Berkley      Bay City  
Grand Rapids      Lansing  
Oak Park

March 25, 2022

Detroit Health Department  
Environmental Safety  
3245 E. Jefferson Ave. / Ste. 100  
Detroit, MI 48207-4222  
Phone: 313-876-0135

Dear Lisa Jones:

Please accept this FOIA request to receive copies of information in your files relative to the following site:

**445 Ledyard St, Detroit (PID: 02000618-9)**

**Historical:**  
**401-457 Ledyard Street**  
**2527-2625 Cass Ave**

**Pre-1921 Addresses:**  
**1-27 Ledyard St**  
**389-419 Cass Ave**

We are interested in obtaining files related to records of health department inspections, violations, historical well log or septic information, environmental concerns or issues, etc.

Please contact me regarding the availability of information and potential fees associated with reproduction prior to reproducing any material.

***When the information has been gathered, please send the files to the address in the signature below.*** In addition, please contact me at 616-330-2950 or email me at [Joines@pmenv.com](mailto:Joines@pmenv.com) if you have any questions or concerns regarding this request. Thank you.

Sincerely,  
**PM Environmental, Inc.,**

Samantha Joines  
Staff Consultant  
560 5<sup>th</sup> Street NW, Suite 301  
Grand Rapids, MI 49504  
PME Project No: 01-11988-1-0001 DN (5/4/2022)

Previous Site  
Investigations  
are included  
in Adobe Tab





## **Section 10.5: Regulatory Records Documentation**

## ENVIRONMENTAL DATABASE SEARCH

**445 Ledyard Street**

445 Ledyard Street

Detroit, MI 48201

Inquiry Number: 06914804.2r

March 25, 2022

## The EDR Radius Map™ Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

APPENDIX OMITTED



## **Section 10.6: Interview Documentation**

## USER QUESTIONNAIRE



## SECTION VIII: 2021 - USER'S ENVIRONMENTAL QUESTIONNAIRE AND DISCLOSURE STATEMENT

The Authority requires the completion of its "User's Environmental Questionnaire and Disclosure Statement" to fulfill Section 6, User's Responsibilities of the ASTM Standard E 1527-13. The checklist is to be completed and signed by the sponsor (developer), and returned to the Environmental Professional conducting the Phase I. This questionnaire is to be reviewed by the Environmental Professional and incorporated into their Phase I report (the completed User's Questionnaire is to be included in Appendix 10.6 of the Phase I report). Failure to properly complete this process will result in delays.

In preparing this document, the "User" (Sponsor) must make a good faith effort to answer the questions in the checklist. The User or a preparer designated by the User presents that to the best of his/her knowledge, the above statements and facts are true and correct and that to the best of the preparer's knowledge, no material facts have been omitted or misstated. Time and care should be taken to check whatever records are in the User's possession. If any of the following questions are answered in the affirmative or if answers are unknown, are qualified, or cannot be obtained, the burden is on the Environmental Professional to determine whether further inquiry is appropriate. The User should document the reason for any affirmative answer to provide the Environmental Professional with all appropriate information. Moreover, the Environmental Professional must determine if further inquiry in any area where the property owner provides incomplete information is warranted, providing written explanation for their recommendation(s).

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Relief and Brownfield's Revitalization Act of 2001 (the "Brownfield's Amendments"), the User must provide the following information (if available) to the Environmental Professional. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

User's (Sponsor's) Name: Cinnaire Solutions Corporation

User's (Sponsor's) Telephone No.: 313-544-4009

User's (Sponsor's) Fax No.: \_\_\_\_\_

Subject Property: The Anchor at Mariners Inn (New Construction)

Property Address: 445 Ledyard

City: Detroit State: MI Zip: 48201

### 1.0 Environmental Cleanup Liens:

Are you aware of any environmental cleanup liens against the property that are filed, recorded, or unrecorded under federal, tribal, state, or local law?

\_\_\_\_ YES ☒ NO (If "YES," please describe)

### 2.0 Activity and Land Use Limitations:

Are you aware of any activity and land use limitations, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed, recorded or unrecorded in a registry under federal, tribal, state or local law?

\_\_\_\_ YES ☒ NO (If "YES," please describe)

### 3.0 Specialized Knowledge or Experience of the User:

As the user of this ESA do you have any knowledge or experience related to the property or nearby properties that could be material to any environmental conditions of this property?

\_\_\_\_ YES ☒ NO (If "YES," please describe)

Are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

\_\_\_\_ YES ☒ NO (If "YES," please describe)

### 4.0 Relationship of Purchase Price to Fair Market Value:

Does the purchase price being paid for this property reasonably reflect the fair market value of the property?

\_\_\_\_ YES ☒ NO (If "YES," please describe)

If you conclude that there is a difference, have you considered whether the lower price is because contamination is known or believed to be present at the property?

☒ YES \_\_\_\_ NO (If "YES," please describe)

The property will be controlled through a long term ground lease and a discounted price due to the mission alignment of the lessor and lessee.



## 5.0 Commonly Known or Reasonably Ascertainable Information:

Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

Do you know the past uses of the property? Please list:

**Parking**

Do you know the specific chemicals that are present or once were present at the property?

\_\_\_\_ YES ☒ NO (If "YES," please describe)

Do you know of spills or other chemical releases that have taken place at the property?

\_\_\_\_ YES ☒ NO (If "YES," please describe)

Do you know of any environmental cleanups that have taken place at the property?

\_\_\_\_ YES ☒ NO (If "YES," please describe)

## 6.0 Presence or Likely Presence of Contamination:

As the user of this ESA and based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property?

\_\_\_\_ YES ☒ NO (If "YES," please describe)

User's Signature:  Date 4/14/2021

User's Printed Name: Edward Potas

## **Section 10.7: Special Contractual Conditions between User and Environmental Professional**

RADON



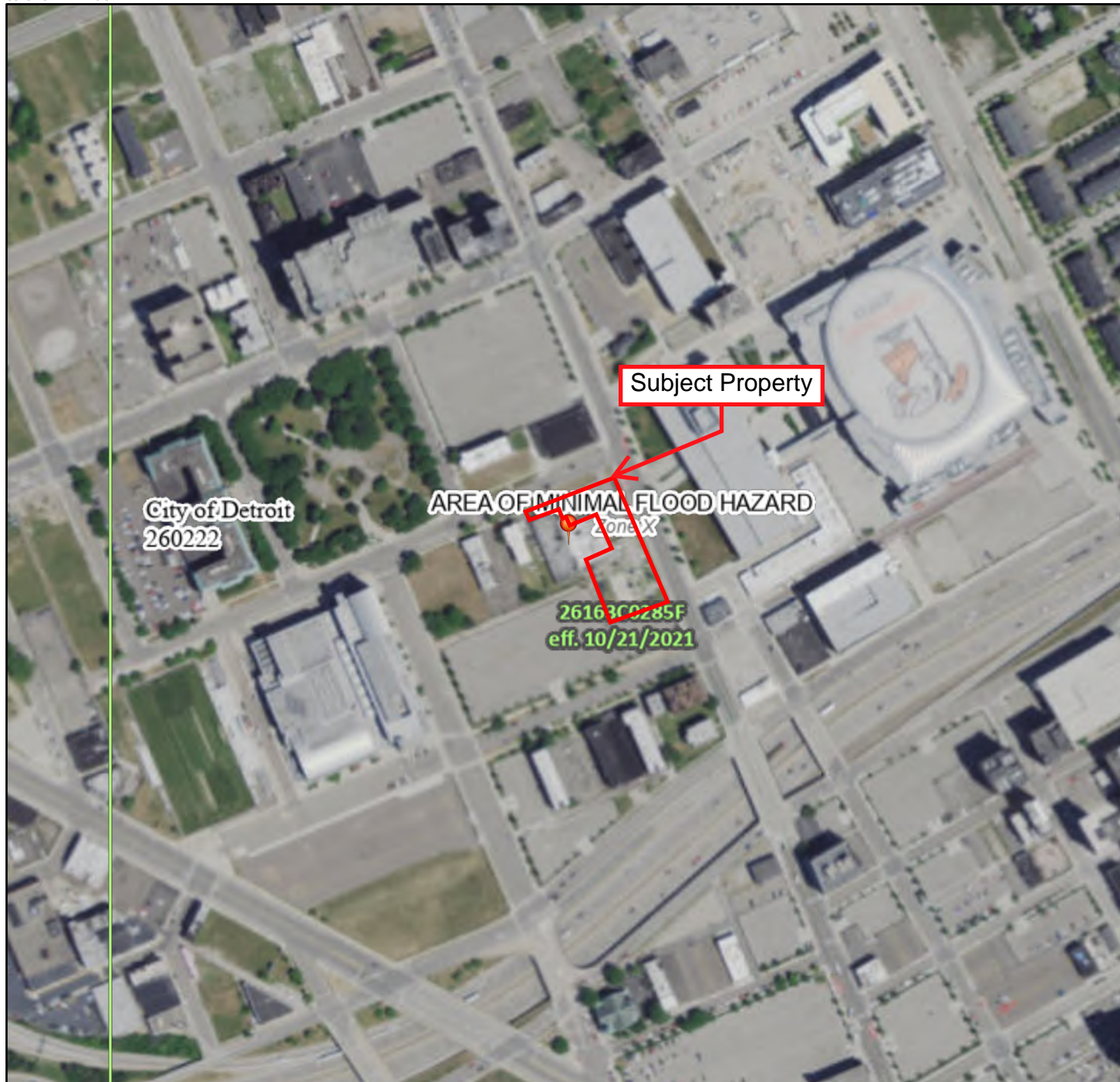


FLOODPLAIN

# National Flood Hazard Layer FIRMette



83°3'48"W 42°20'37"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **4/1/2022 at 8:36 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

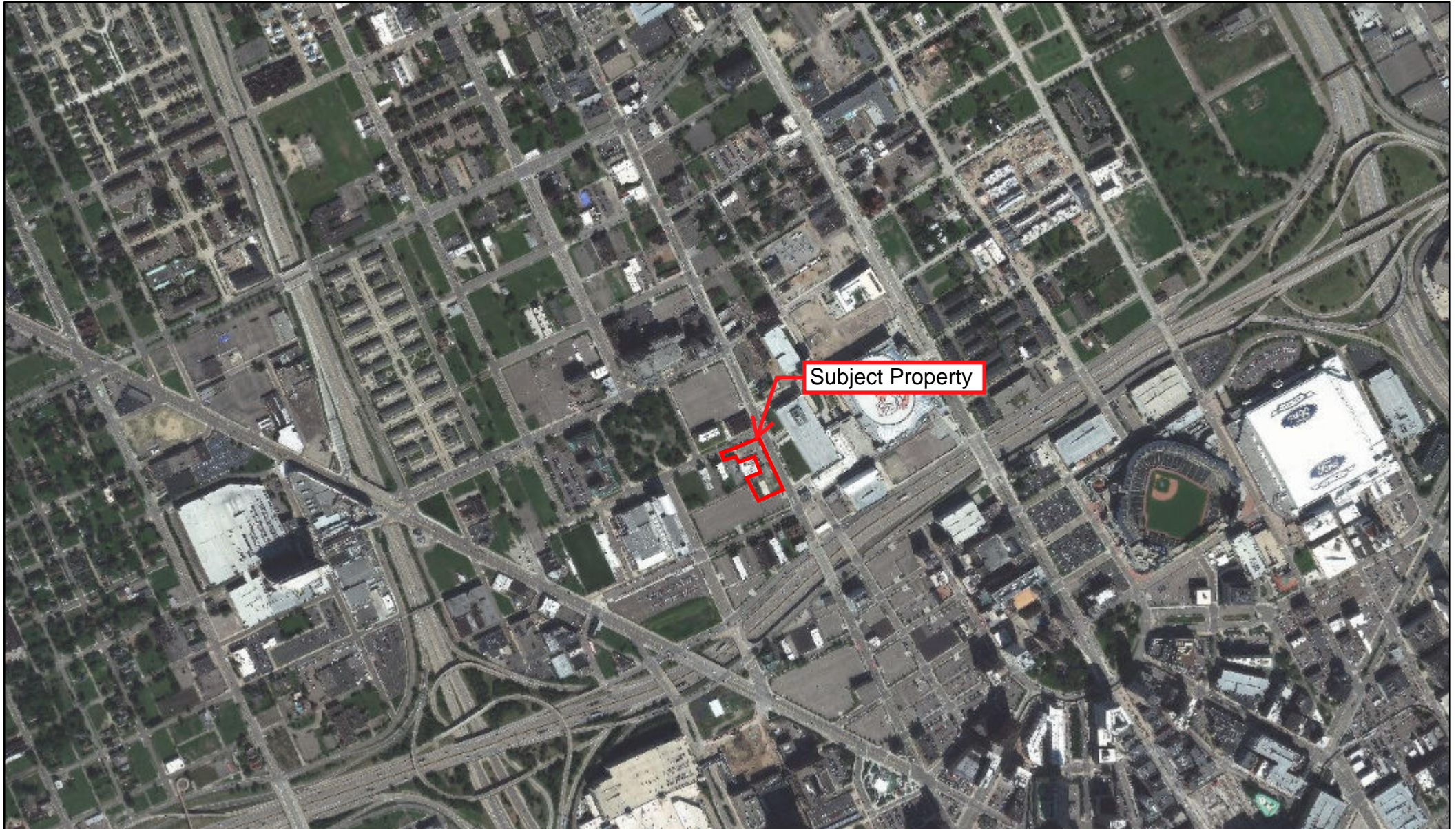
83°3'11"W 42°20'10"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

## WETLANDS MAP






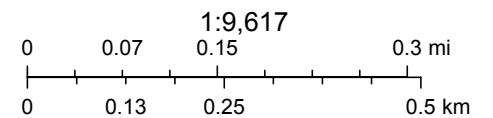
# Wetlands Map Viewer



April 1, 2022

Part 303 Final Wetlands Inventory

-  Wetlands as identified on NWI and MIRIS maps
-  Soil areas which include wetland soils
-  Wetlands as identified on NWI and MIRIS maps and soil areas which include wetland soils



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap

Disclaimer: This map is not intended to be used to determine the specific





U.S. Fish and Wildlife Service

# National Wetlands Inventory

## Wetlands



April 1, 2022

### Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

## NOISE ANALYSIS





Environmental & Engineering Services Nationwide



ENVIRONMENTAL SERVICES

BUILDING ARCHITECTURE,  
ENGINEERING & SCIENCE

INDUSTRIAL HYGIENE SERVICES

BROWNFIELDS & ECONOMIC  
INCENTIVES CONSULTING

## DESKTOP NOISE ASSESSMENT

### **The Anchor at Mariners Inn**

Proposed Mariners Inn Condominium Unit Nos. 1 and 2  
and General Common Elements

Located in the Eastern and Southern Portions of  
445 Ledyard Street, Detroit, Michigan

PM Project Number 01-11288-1-0001

*Prepared for:*

### **Cinnaire Solutions Corporation**

2111 Woodward Avenue, Suite 600

Detroit, Michigan 48201

*Prepared by:*

### **PM Environmental**

4080 West Eleven Mile Road

Berkley, Michigan 48072

Know Your Risk.  
Take Control.  
Work with the Experts.

[www.pmenv.com](http://www.pmenv.com)



**Corporate Headquarters**  
Lansing, Michigan  
3340 Ranger Road, Lansing, MI 48906  
f: 877.884.6775  
t: 517.321.3331

**Michigan Locations**  
Berkley      Bay City  
Grand Rapids      Lansing  
Oak Park

May 19, 2022

Mr. Edward Potas  
Cinnaire Solutions Corporation  
2111 Woodward Avenue, Suite 600  
Detroit, Michigan 48201

**Re: Phase I Environmental Site Assessment of The Anchor at Mariners Inn  
Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and  
General Common Elements  
Located in the Eastern and Southern Portions of 445 Ledyard Street,  
Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0001**

Dear Mr. Potas:

PM Environmental (PM) has completed the Desktop Noise Assessment of the above referenced property. This Desktop Noise Assessment was conducted in general accordance with the US Department of Housing and Urban Development (HUD) Noise Abatement and Control standards contained in 24 CFR 51B. This report was also prepared in conformance with Michigan State Housing Development Authority's (MSHDA's) Environmental Review Requirements for 2022.

The purpose of the Desktop Noise Assessment was to gather sufficient information to develop an independent professional opinion regarding possible noise concerns associated with the subject property through designated Noise Assessment Locations (NALs) on the subject property.

The Desktop Noise Assessment for the above referenced property represents the product of PM's professional expertise and judgment in the environmental consulting industry, and it is reasonable for **THE ANCOR AT MARINERS INN, LDHA, LP, CINNAIRE SOLUTIONS CORPORATION, MARINERS INN, PROTESTANT EPISCOPAL CHURCH OF THE DIOCESE OF MICHIGAN, AND THE MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY** to rely on PM's Desktop Noise Assessment report.

If you have any questions related to this report, please do not hesitate to contact our office at 248.336.9988.

Sincerely,  
**PM ENVIRONMENTAL**

Devon Nagengast  
Staff Consultant

Peter S. Bosanic, P.E., EP  
Principal



## **TABLE OF CONTENTS**

1.0	Introduction .....	1
2.0	Evaluation of Noise Sources .....	2
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2.2:	Major Roadways .....	2
2.3:	Railroads.....	4
3.0	Calculations .....	4
4.0	Conclusions .....	4
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## **APPENDICES**

- Appendix A: NAL Location Map
- Appendix B: Airport Noise Contour Map
- Appendix C: Noise Source Information
- Appendix D: Day-Night Level Electronic Assessments

## 1.0 INTRODUCTION

PM Environmental, Inc. (PM) was retained to conduct a Desktop Noise Assessment of the Mariners Inn located at the Eastern and Southern Portion of 445 Ledyard Street, Detroit, Wayne County, Michigan (hereafter referred to as the “subject property”). This Desktop Noise Assessment was conducted in general accordance with the US Department of Housing and Urban Development (HUD) Noise Abatement and Control standards contained in 24 CFR 51B. This report was also prepared in conformance with MSHDA’s Environmental Review Requirements for 2022.

**THIS REPORT WAS PREPARED FOR THE EXCLUSIVE USE OF THE ANCOR AT MARINERS INN, LDHA, LP, CINNAIRE SOLUTIONS CORPORATION, MARINERS INN, PROTESTANT EPISCOPAL CHURCH OF THE DIOCESE OF MICHIGAN, AND THE MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY, EACH OF WHOM MAY RELY ON THE REPORT’S CONTENTS.**

The proposed development/rehabilitation utilizes state sources of funding. This assessment was conducted to provide the noise level and associated noise category at each designated Noise Assessment Location (NAL) at the subject property. This assessment does not include an evaluation of noise attenuation but general guidance is provided at the end of this assessment.

MSHDA requires that a noise assessment be completed properties that are located within 1,000 feet of a major roadway, 3,000 feet of a railroad, or 15 miles of a military or FAA-regulated airports.

The noise level calculated at a NAL is known as the day-night average sound level or DNL. A calculated DNL can fall within three categories:

1. Acceptable: DNL not exceeding 65 decibels (dB)
2. Normally Unacceptable: DNL above the 65 dB threshold but not exceeding 75 dB
3. Unacceptable: DNL above 75 dB

Two NALs (NAL #1 and NAL #2) on the subject property were used for this analysis based on proximity to noise sources. A map with the subject property boundaries, buildings, and NALs is included as Appendix A.

The following is a summary of the applicable noise sources identified at each NAL.

### **NAL #1 (northwest corner of proposed building)**

Noise Source with Applicable Distance	Name	Distance to NAL
Airports	Coleman A. Young International Airport	4.80 miles northeast
	Windsor Airport	6.34 miles southeast
Busy Road(s)	Ledyard Street	50 feet north
	Temple Street	582 feet north
	2 <sup>nd</sup> Avenue	450 feet west
	Cass Avenue	194 feet east
	Clifford Street	600 feet southeast
	Southbound Interstate-75 (I-75) Service Drive	773 feet south

Noise Source with Applicable Distance	Name	Distance to NAL
	Southbound I-75 Off Ramp	815 feet south
	I-75	912 feet south

**NAL #2 (southeast corner of proposed building)**

Noise Source with Applicable Distance	Name	Distance to NAL
Airports	Coleman A. Young International Airport	4.80 miles northeast
	Windsor Airport	6.30 miles southeast
Busy Road(s)	Ledyard Street	225 feet north
	Temple Street	760 feet north
	Cass Avenue	38 feet east
	Clifford Street	340 feet southeast
	Southbound I-75 Service Drive	563 feet south
	Southbound I-75 Off Ramp	604 feet south
	I-75	680 feet south
	Northbound I-75 Service Drive	780 feet south
	2 <sup>nd</sup> Avenue	620 feet west

The noise sources identified within the table are further discussed below.

## **2.0 EVALUATION OF NOISE SOURCES**

### **2.1: Airports**

Coleman A. Young is located approximately 4.80 miles northeast of the subject property. Based on the Noise Contour Map for the airport (Appendix B), the airport is not within a distance of concern.

Windsor International Airport is located approximately 6.32 miles southeast. Based on the Noise Contour Map for the airport (Appendix B), the site is not within a distance of concern.

### **2.2: Major Roadways**

The major roadways near the site are:

- Ledyard Street
- Temple Street
- 2<sup>nd</sup> Avenue
- Cass Avenue
- Clifford Street
- Southbound I-75 Service Drive
- Southbound I-75 Off Ramp
- I-75
- Northbound I-75 Service Drive

AADT data was available Michigan Department of Transportation (MDOT) for 2020. However, due to what appeared to be much lower than expected traffic associated with COVID restrictions,

the 2020 data was not utilized in the calculations. Traffic projections for all roadways are provided in Appendix C.

Ledyard Street has one-lane eastbound and westbound sections. Speed limit signs were not posted along Ledyard Street; however, based on the nearby speed limits and residential area, the speed limit is likely 25 mph. A stop sign is located within 160 feet of NAL #1 and within 225 feet of NAL #2. Traffic counts were obtained through the Michigan Department of Transportation (MDOT). Projections were calculated through 2032. A growth rate of 1% per year compounded was judged appropriate as traffic levels are expected to remain relatively stable.

Temple Street has one-lane eastbound and westbound sections, with a center turn lane. Speed limit signs were not posted along Temple Street; however, based on the nearby speed limits and downtown commercial area, the speed limit is likely 35 mph. There are no stop signs or stop lights within 600 feet of the subject property. Traffic counts were obtained through the Michigan MDOT. Projections were calculated through 2032. A growth rate of 1% per year compounded was judged appropriate as traffic levels are expected to remain relatively stable.

Cass Avenue has one-lane northbound and southbound sections, with a center turn lane. The speed limit is 35 mph near the subject property. There are no stop signs or stop lights within 600 feet of the subject property. Traffic counts were obtained through MDOT. Projections were calculated through 2032. A growth rate of 1% per year compounded was judged appropriate as traffic levels are expected to remain relatively stable.

Clifford Street has three-lane northbound sections. Speed limit signs were not posted along Clifford Street; however, based on the nearby speed limits and downtown commercial area, the speed limit is likely 35 mph. A stop sign is located within 600 feet of NAL #1 and 340 feet of NAL #2. Traffic counts were obtained through MDOT. Projections were calculated through 2032. A growth rate of 1% per year compounded was judged appropriate as traffic levels are expected to remain relatively stable.

Southbound I-75 Service Drive has three-lane southbound sections. The speed limit is expected to vary based on the nature of the roadway; however, PM approximated the average speed near the subject property to be 35 mph. There are no stop signs or stop lights within 600 feet of the subject property. Traffic counts were obtained through MDOT. Projections were calculated through 2032. A growth rate of 1% per year compounded was judged appropriate as traffic levels are expected to remain relatively stable.

Southbound I-75 Off Ramp has two-lane southbound sections. The speed limit is expected to vary based on the nature of the roadway; however, PM approximated the average speed near the subject property to be 50 mph. There are no stop signs or stop lights within 600 feet of the subject property. Traffic counts were obtained through MDOT. Projections were calculated through 2032. A growth rate of 1% per year compounded was judged appropriate as traffic levels are expected to remain relatively stable.

I-75 has a four-lane northbound and southbound sections. The speed limit is 55 mph near the subject property. There are no stop signs or stop lights within 600 feet of the subject property. Traffic counts were obtained through the MDOT. Projections were calculated through 2032. A growth rate of 1% per year compounded was judged appropriate as traffic levels are expected to remain relatively stable.



Northbound I-75 Service Drive has three-lane northbound sections. The speed limit is expected to vary based on the nature of the roadway; however, PM approximated the average speed near the subject property to be 35 mph. There are no stop signs or stop lights within 600 feet of the subject property. Traffic counts were obtained through MDOT. Projections were calculated through 2032. A growth rate of 1% per year compounded was judged appropriate as traffic levels are expected to remain relatively stable.

2nd Avenue four-lane northbound sections. The speed limit is 25 mph near the subject property. A stop sign is located within 450 feet of NAL #1. Traffic counts were obtained through MDOT. Projections were calculated through 2032. A growth rate of 1% per year compounded was judged appropriate as traffic levels are expected to remain relatively stable.

### **N2.3: Railroads**

No railroad tracks were identified within 3,000 feet of the subject property.

## **3.0 CALCULATIONS**

Using the HUD DNL calculator, the noise level at NAL #1 from the noise sources, as predicted for operations in 2032, is 67 dB. This result is Normally Unacceptable.

Using the HUD DNL calculator, the noise level at NAL #2 from the noise sources, as predicted for operations in 2032, is 72 dB. This result is Normally Unacceptable.

Noise DNL calculator worksheets for each NAL are provided in Appendix D.

## **4.0 CONCLUSIONS**

The following is a summary of the findings of this assessment.

<b>NAL #</b>	<b>Combined Source DNL (dB)</b>	<b>Category</b>
1 (northwest corner of proposed building)	67	Normally Unacceptable
2 (southeast corner of proposed building)	72	Normally Unacceptable

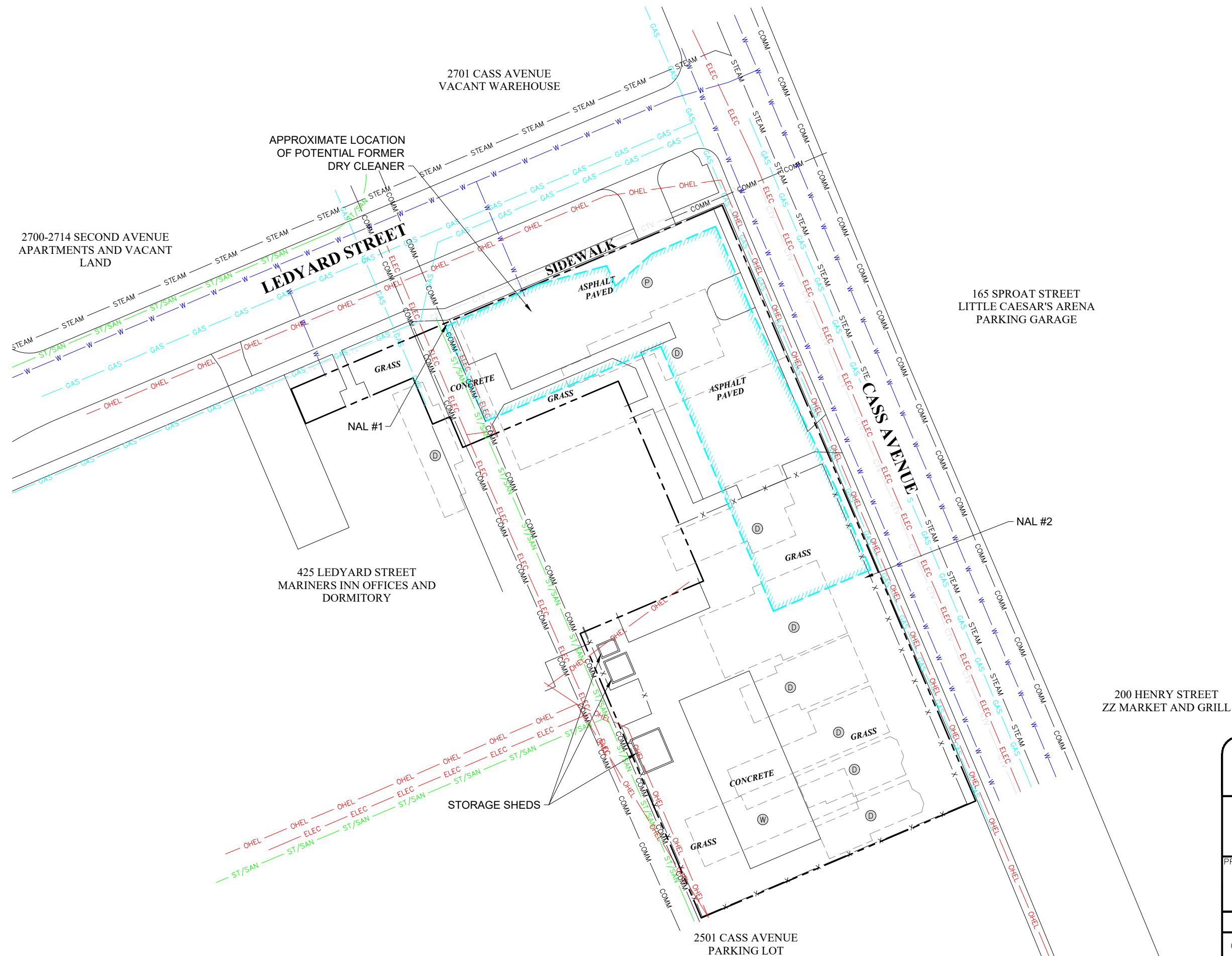
### **HUD ATTENUATION GUIDANCE**

The "Normally Unacceptable" noise zone includes community noise levels from above 65 dB to 75 dB. Approvals in this noise zone require a minimum of 5 dB additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 dB but does not exceed 70 dB, or a minimum of 10 dB of additional sound attenuation if the day-night average sound level is greater than 70 dB but does not exceed 75 dB (HUD generally gives a 1 dB variance up to 76 dB). Additionally, I-75 is sunken approximately 13 feet below grade nearest the subject property, which will provide some noise attenuation from the traffic. The project architect will need to complete attenuation documentation for the project by completing either a Sound Transmission Classification Assessment Tool (STraCAT) form or HUD Figure 19. Interior noise levels must be mitigation for 45 dB or less.

## **5.0 REFERENCES**

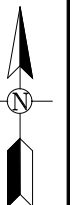
- 24 CFR Part 51 Subpart B
- The Noise Guidebook, U.S. Department of Housing and Urban Development,
- Michigan Department of Transportation (MDOT)
- <https://www.hudexchange.info/programs/environmental-review/dnl-calculator/>

# Appendix A



**LEGEND:**

- SUBJECT PROPERTY
- - - APPROXIMATE FORMER/HISTORICAL SITE FEATURES
- X- FENCE
- - - PROPOSED SITE FEATURES
- OHEL OVERHEAD ELECTRIC LINE
- ELEC ELECTRIC
- W WATER
- GAS GAS
- ST/SAN COMBINATION SANITARY / STORM SEWER
- CTV FORMER CABLE TV
- COMM FORMER PHONE LINE
- D FORMER DWELLING
- G FORMER GARAGE
- O FORMER OUTBUILDING
- P FORMER "PRISCILLA INN" WOMEN'S BOARDING BUILDING
- W FORMER CAR WASH



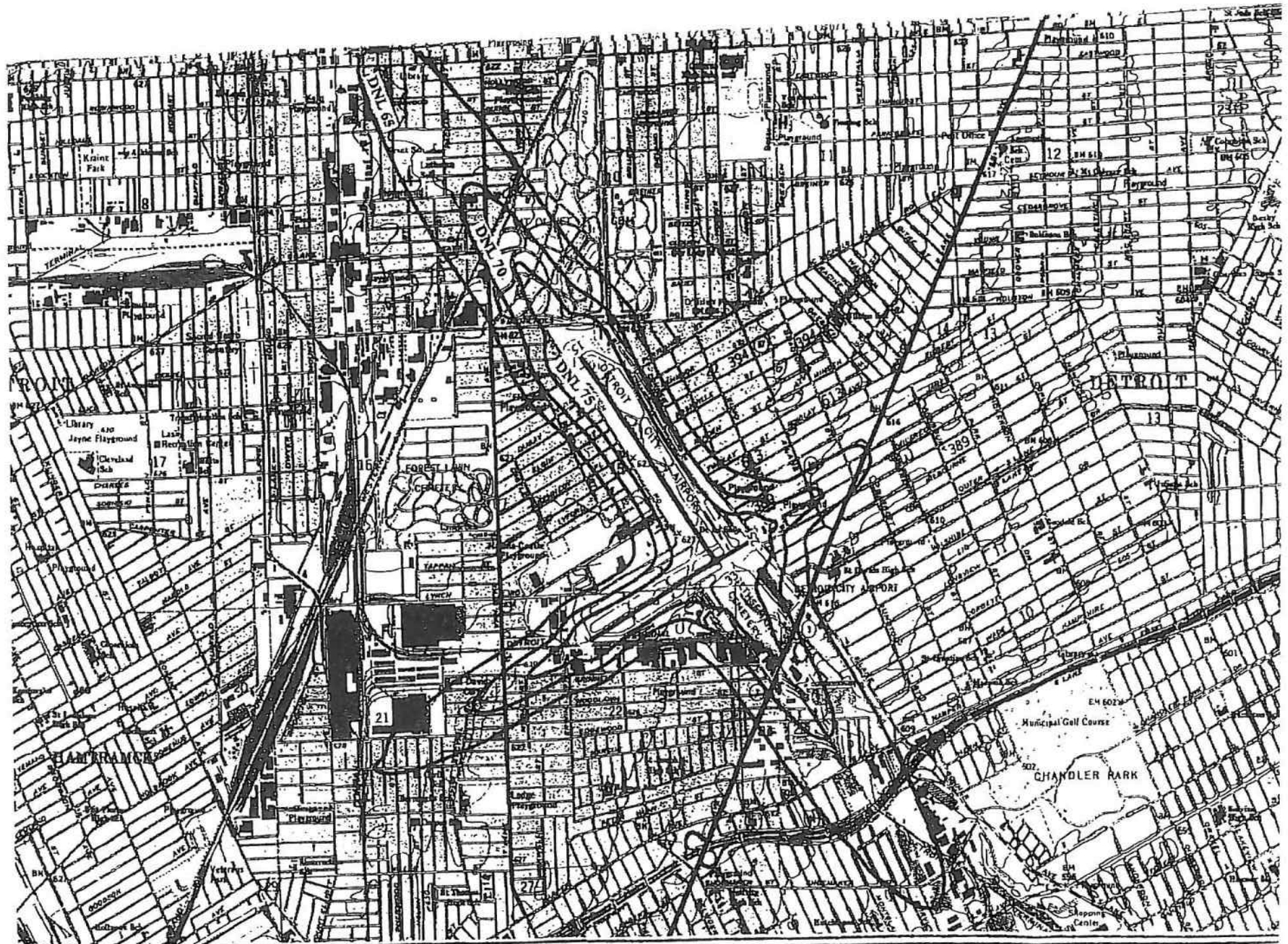
**FIGURE 2**

NOISE ASSESSMENT LOCATION MAP

PROJ: MARINERS INN EASTERN AND SOUTHERN PORTION OF 445 LEDYARD STREET DETROIT, MI		
THIS IS NOT A LEGAL SURVEY	DRN BY: KS	DATE: 5/4/2022
VERIFY SCALE 0 50'	CHKD BY: DB/DN	SCALE: 1" = 50'
IF NOT 1" ON THIS SHEET, ADJUST SCALES ACCORDINGLY.		
FILE NAME: 01-11288-1-001F00R00		

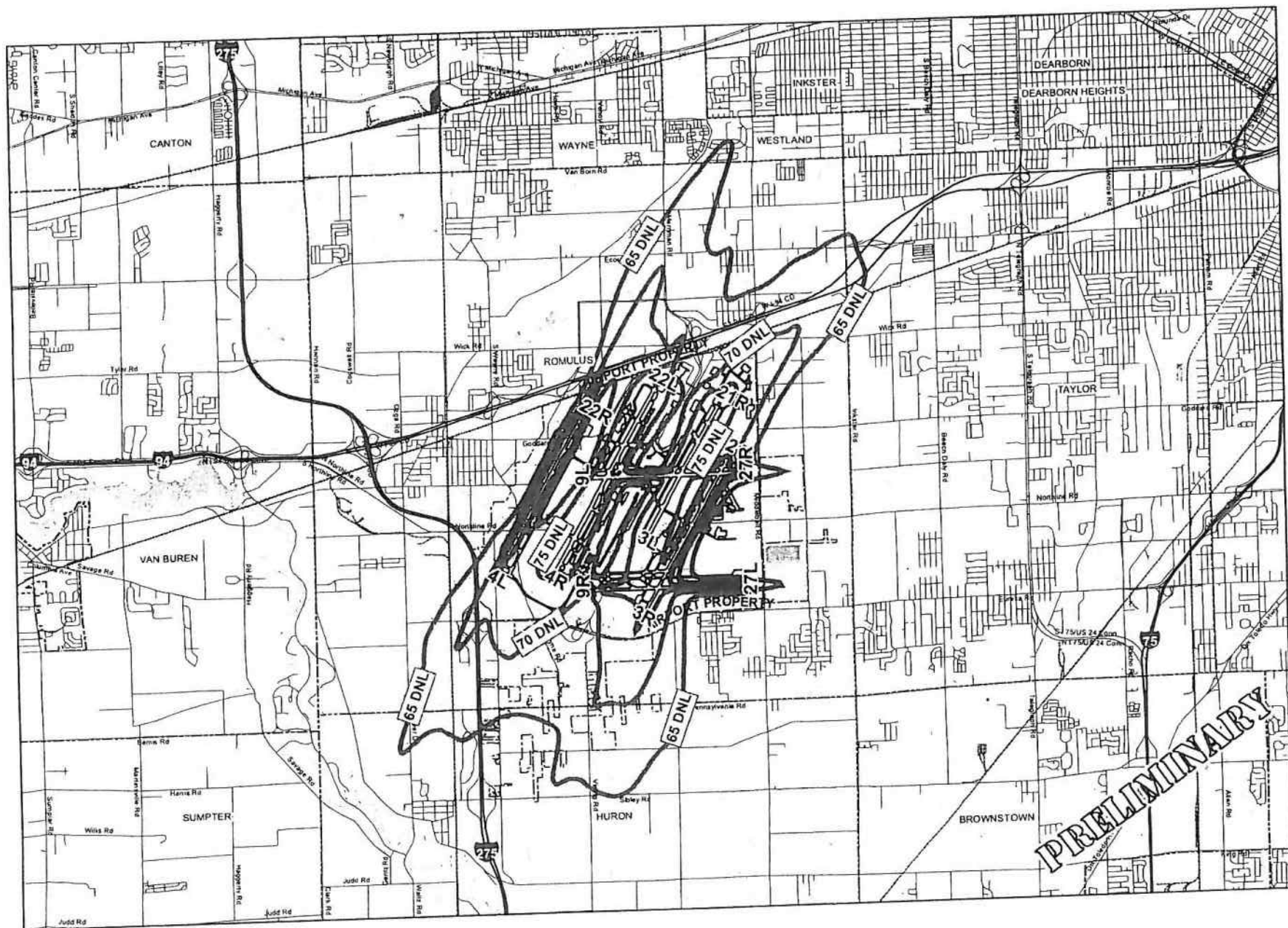


## Appendix B



CITY OF DETROIT  
 AIRPORT DEPARTMENT

1996 BAS 'E  
 NOISE EXPOSURE CONTOURS

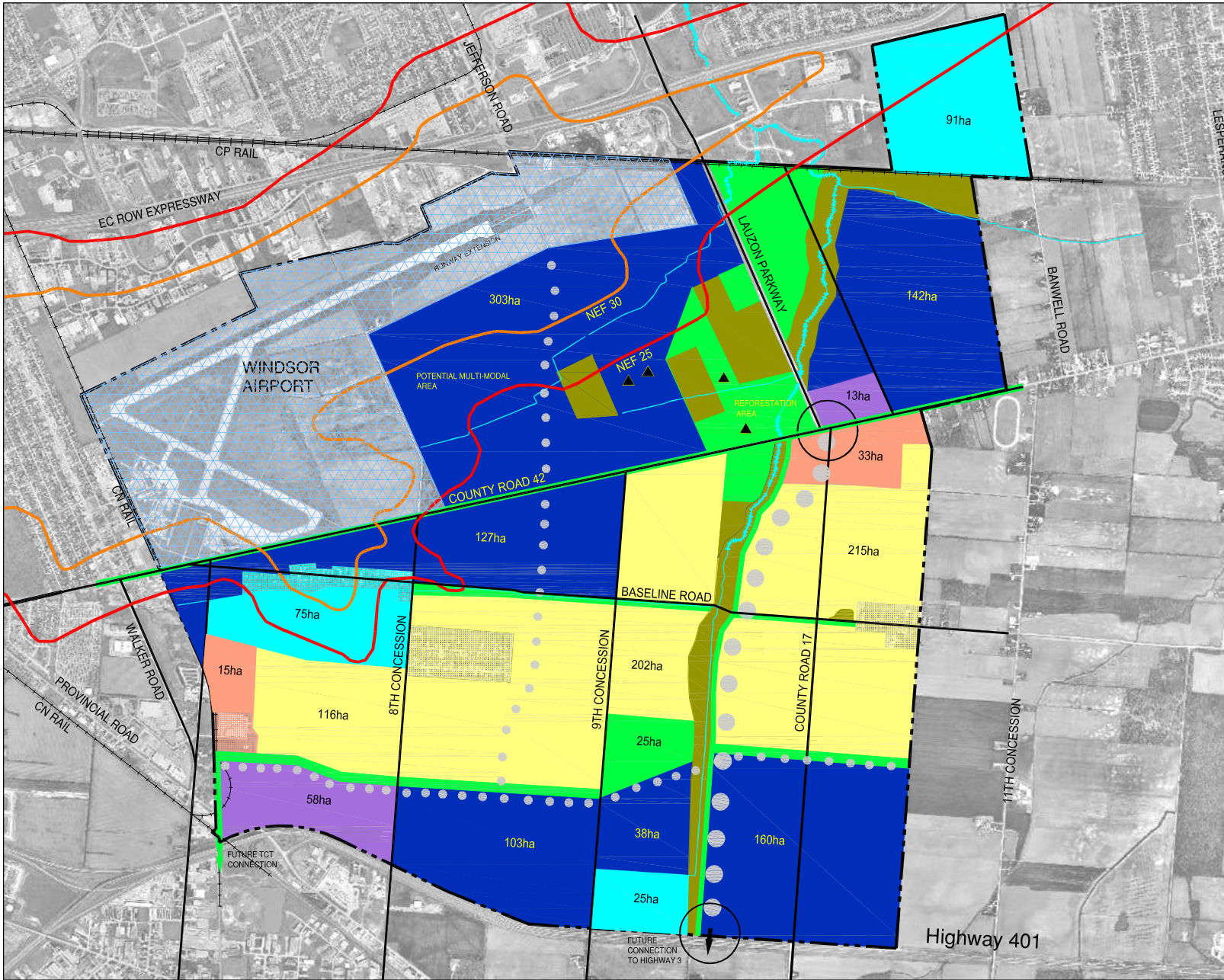


Existing (2004) Noise Contour

Source: Michigan Department of Natural Resources, SEMCOG

DETROIT METROPOLITAN WAYNE COUNTY AIRPORT





**LEGEND:**

- Residential
- Commercial
- Mixed Use
- Industrial
- Business Park
- Natural Heritage/EPA
- Open Space
- Airport Lands
- Future Roads (potential location\*)
- Potential Interchange
- Natural Corridor Linkage Opportunities

\* Final location to be determined through the Class EA process.

**LAND USE:**

Residential	550ha
Mixed Use	50ha
Commercial	70ha
Business Park	190ha
Industrial	875ha
Airport	420ha

Stantec Consulting Limited

N6A 5J7  
Tel. (519)645-2007  
Fax. (519)645-6575  
www.stantec.com

CITY OF WINDSOR

**WINDSOR ANNEXED AREA  
MASTER PLAN STUDY**

CONCEPT 1

September 2006 | 614-01073CP1.dwg

0 250 750 1250m  
1:25000



## Appendix C

# Auto and Heavy Truck 10-year ADT Projections

Nothbound 2nd Avenue

	Cars	% Change	Trucks	% Change
2018	671	#REF!	17	#REF!
2019	668	0	28	65
	Avg % change:	#REF!	Avg % change:	#REF!
	Avg % change (Last 5-yr Trend):	#REF!	Avg % change (Last 5-yr Trend):	#REF!
	% Change/Year Assumption	1	%/Year Change Assumption	1

## 2031 Projections

	Cars	Trucks
2018	671	17
2019	668	28
2020	675	28
2021	681	29
2022	688	29
2023	695	29
2024	702	29
2025	709	30
2026	716	30
2027	723	30
2028	731	31
2029	738	31
2030	745	31
2031	753	32
2032	760	32

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
760	32

## Auto and Heavy Truck 10-year ADT Projections

Cass Avenue

	Cars	% Change	Trucks	% Change
2018	6115	NA	152	NA
2019	6084	-1	237	56
	Avg % change:	-1	Avg % change:	56
	Avg % change (Last 5-yr Trend):	-1	Avg % change (Last 5-yr Trend):	56
	% Change/Year Assumption	1	%/Year Change Assumption	1

### 2032 Projections

	Cars	Trucks
2018	6115	152
2019	6084	237
2020	6145	239
2021	6206	242
2022	6268	244
2023	6331	247
2024	6394	249
2025	6458	252
2026	6523	254
2027	6588	257
2028	6654	259
2029	6721	262
2030	6788	264
2031	6856	267
2032	6924	270

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
6924	270

## Auto and Heavy Truck 10-year ADT Projections

Clifford Street

	Cars	% Change	Trucks	% Change
2018	2329	NA	58	NA
2019	2317	-1	92	59
	Avg % change:	-1	Avg % change:	59
	Avg % change (Last 5-yr Trend):	-1	Avg % change (Last 5-yr Trend):	59
	% Change/Year Assumption	1	%/Year Change Assumption	1

### 2032 Projections

	Cars	Trucks
2018	2329	58
2019	2317	92
2020	2340	93
2021	2364	94
2022	2387	95
2023	2411	96
2024	2435	97
2025	2460	98
2026	2484	99
2027	2509	100
2028	2534	101
2029	2559	102
2030	2585	103
2031	2611	104
2032	2637	105

58

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
2637	105



# Auto and Heavy Truck 10-year ADT Projections

I-75

	Cars	% Change	Trucks	% Change
2018	88699	NA	11082	NA
2019	106103	20	13687	24
	Avg % change:	20	Avg % change:	24
	Avg % change (Last 5-yr Trend):	20	Avg % change (Last 5-yr Trend):	24
	% Change/Year Assumption	1	%/Year Change Assumption	1

## 2032 Projections

	Cars	Trucks
2018	88699	11082
2019	106103	13687
2020	107164	13824
2021	108236	13962
2022	109318	14102
2023	110411	14243
2024	111515	14385
2025	112630	14529
2026	113757	14674
2027	114894	14821
2028	116043	14969
2029	117204	15119
2030	118376	15270
2031	119560	15423
2032	120755	15577

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
120755	15577

# Auto and Heavy Truck 10-year ADT Projections

Ledyard Street

	Cars	% Change	Trucks	% Change
2018	1679	NA	42	NA
2019	1671	0	68	62
	Avg % change:	0	Avg % change:	62
	Avg % change (Last 5-yr Trend):	0	Avg % change (Last 5-yr Trend):	62
	% Change/Year Assumption	1	%/Year Change Assumption	1

## 2032 Projections

	Cars	Trucks
2018	1679	42
2019	1671	68
2020	1688	69
2021	1705	69
2022	1722	70
2023	1739	71
2024	1756	71
2025	1774	72
2026	1792	73
2027	1809	74
2028	1828	74
2029	1846	75
2030	1864	76
2031	1883	77
2032	1902	77

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
1902	77

# Auto and Heavy Truck 10-year ADT Projections

Northbound I-75 Service Drive

	Cars	% Change	Trucks	% Change
2018	3779	NA	95	NA
2019	3760	-1	151	59
	Avg % change:	-1	Avg % change:	59
	Avg % change (Last 5-yr Trend):	-1	Avg % change (Last 5-yr Trend):	59
	% Change/Year Assumption	1	%/Year Change Assumption	1

## 2032 Projections

	Cars	Trucks
2018	3779	95
2019	3760	151
2020	3798	153
2021	3836	154
2022	3874	156
2023	3913	157
2024	3952	159
2025	3991	160
2026	4031	162
2027	4072	164
2028	4112	165
2029	4153	167
2030	4195	168
2031	4237	170
2032	4279	172

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
4279	172

# Auto and Heavy Truck 10-year ADT Projections

Southbound Cass Avenue

	Cars	% Change	Trucks	% Change
2018	705	NA	19	NA
2019	433	-39	105	453
	Avg % change:	-39	Avg % change:	453
	Avg % change (Last 5-yr Trend):	-39	Avg % change (Last 5-yr Trend):	453
	% Change/Year Assumption	1	%/Year Change Assumption	1

## 2032 Projections

	Cars	Trucks
2018	705	19
2019	433	105
2020	437	106
2021	442	107
2022	446	108
2023	451	109
2024	455	110
2025	460	111
2026	464	113
2027	469	114
2028	474	115
2029	478	116
2030	483	117
2031	488	118
2032	493	119

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
493	119



## Auto and Heavy Truck 10-year ADT Projections

Southbound I-75 Off Ramp

	Cars	% Change	Trucks	% Change
2018	7077	NA	566	NA
2019	7042	0	563	-1
	Avg % change:	0	Avg % change:	-1
	Avg % change (Last 5-yr Trend):	0	Avg % change (Last 5-yr Trend):	-1
	% Change/Year Assumption	1	%/Year Change Assumption	1

2032 Projections

	Cars	Trucks
2018	7077	566
2019	7042	563
2020	7112	569
2021	7184	574
2022	7255	580
2023	7328	586
2024	7401	592
2025	7475	598
2026	7550	604
2027	7625	610
2028	7702	616
2029	7779	622
2030	7857	628
2031	7935	634
2032	8014	641

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
8014	641

# Auto and Heavy Truck 10-year ADT Projections

Southbound I-75 Service Drive

	Cars	% Change	Trucks	% Change
2018	1296	NA	31	NA
2019	1290	0	50	61
	Avg % change:	0	Avg % change:	61
	Avg % change (Last 5-yr Trend):	0	Avg % change (Last 5-yr Trend):	61
	% Change/Year Assumption	1	%/Year Change Assumption	1

## 2032 Projections

	Cars	Trucks
2018	1296	31
2019	1290	50
2020	1303	51
2021	1316	51
2022	1329	52
2023	1342	52
2024	1356	53
2025	1369	53
2026	1383	54
2027	1397	54
2028	1411	55
2029	1425	55
2030	1439	56
2031	1454	56
2032	1468	57

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
1468	57

# Auto and Heavy Truck 10-year ADT Projections

Temple Street

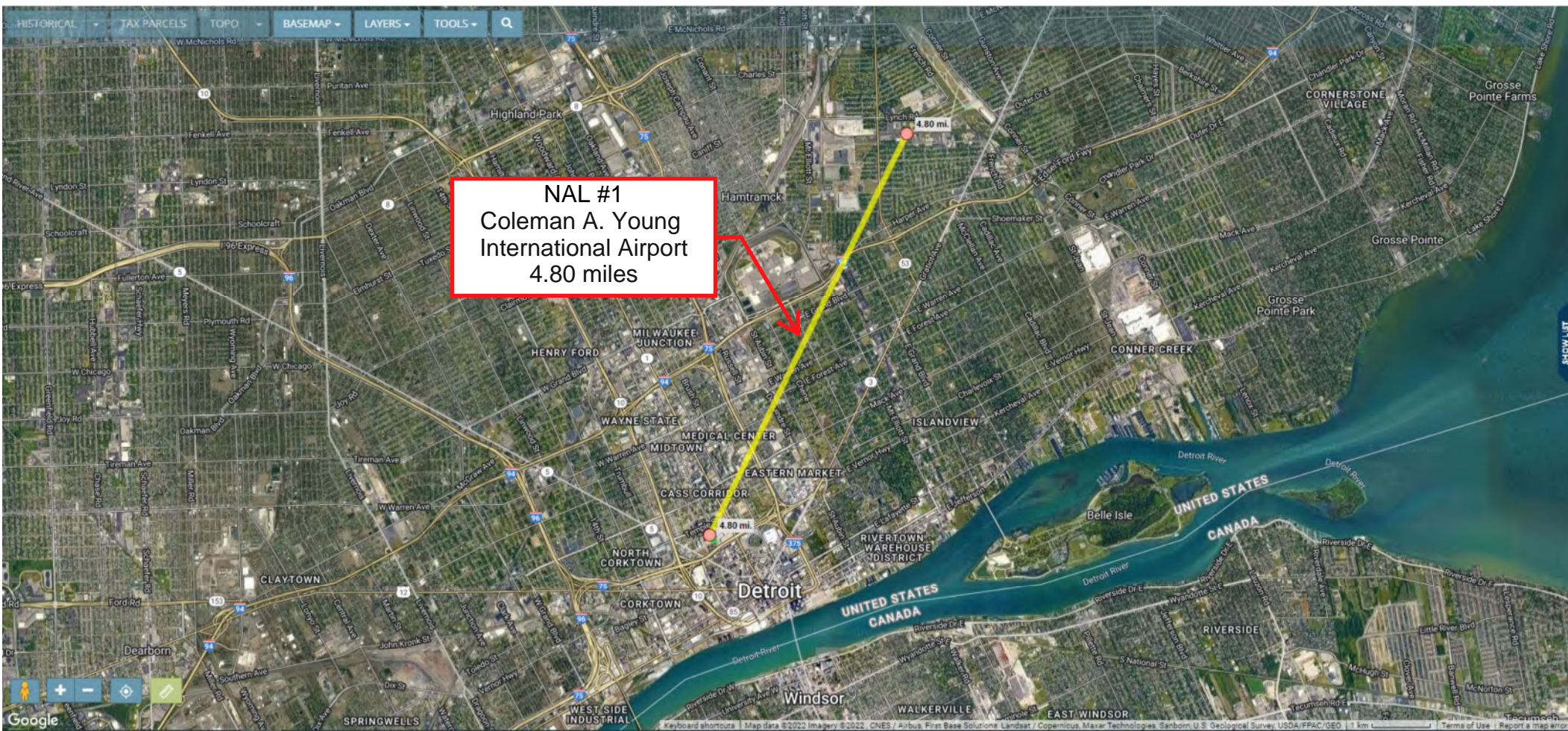
	Cars	% Change	Trucks	% Change
2018	4139	NA	103	NA
2019	4118	-1	164	59
	Avg % change:	-1	Avg % change:	59
	Avg % change (Last 5-yr Trend):	-1	Avg % change (Last 5-yr Trend):	59
	% Change/Year Assumption	1	%/Year Change Assumption	1

## 2032 Projections

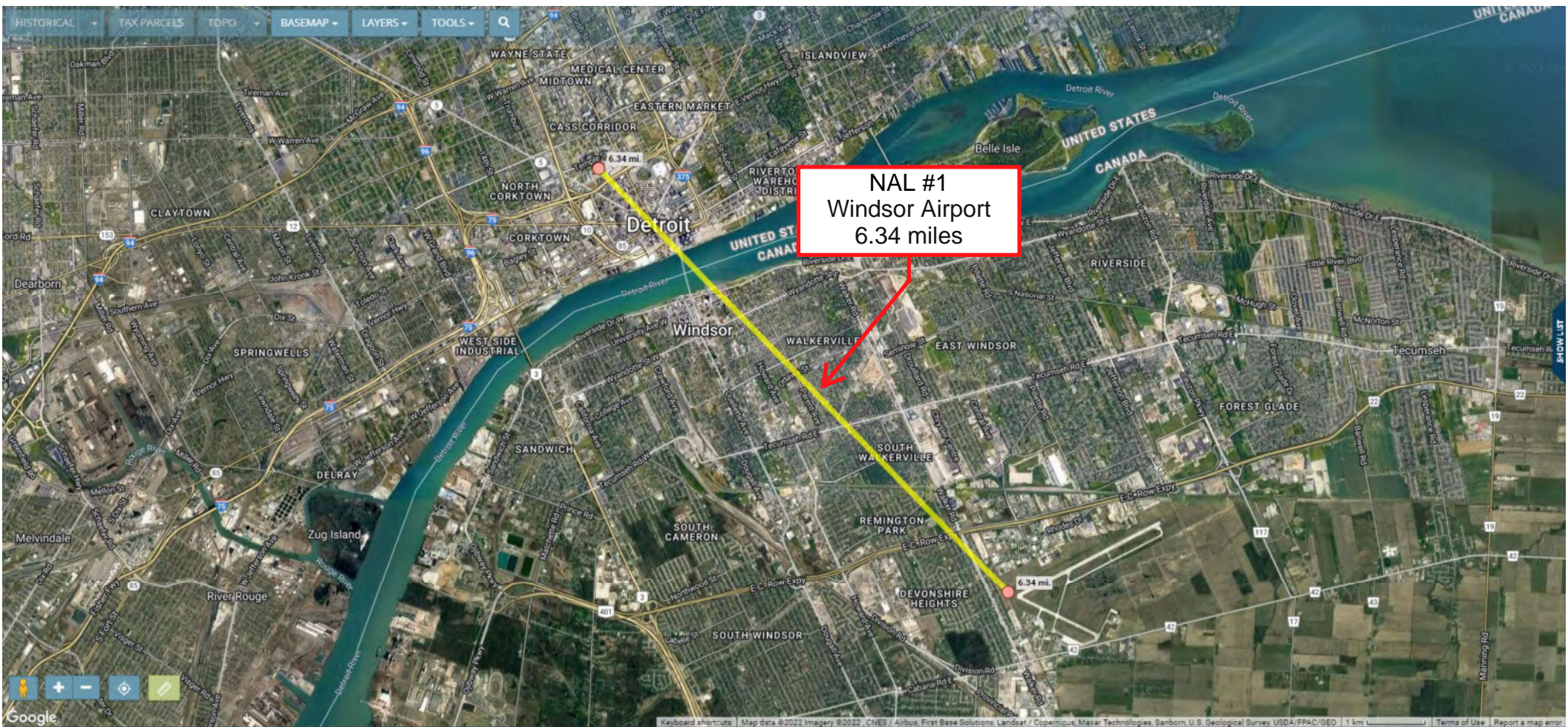
	Cars	Trucks
2018	4139	103
2019	4118	164
2020	4159	166
2021	4201	167
2022	4243	169
2023	4285	171
2024	4328	172
2025	4371	174
2026	4415	176
2027	4459	178
2028	4504	179
2029	4549	181
2030	4594	183
2031	4640	185
2032	4687	187

Predicted 2032 Auto AADT	Predicted 2032 Truck AADT
4687	187





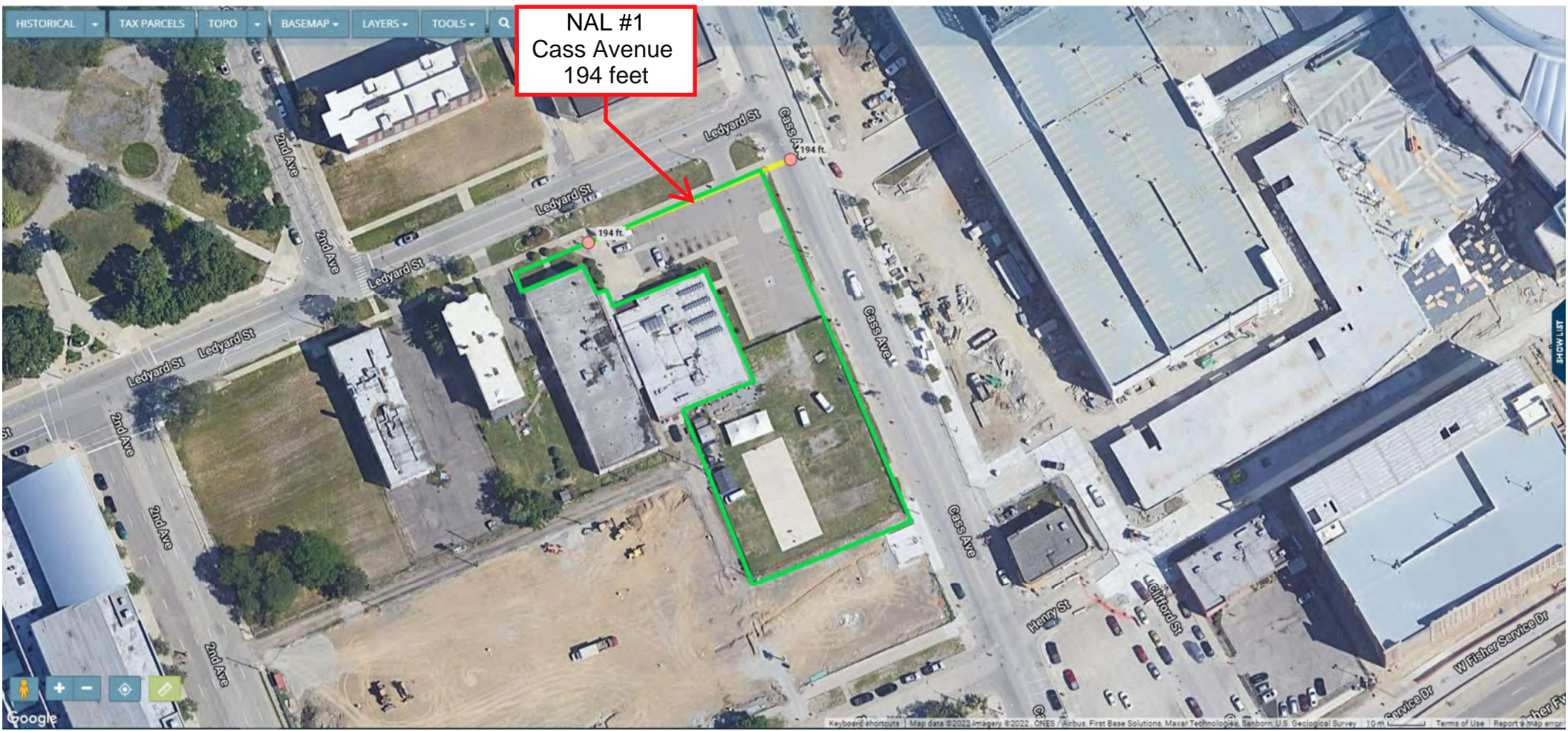






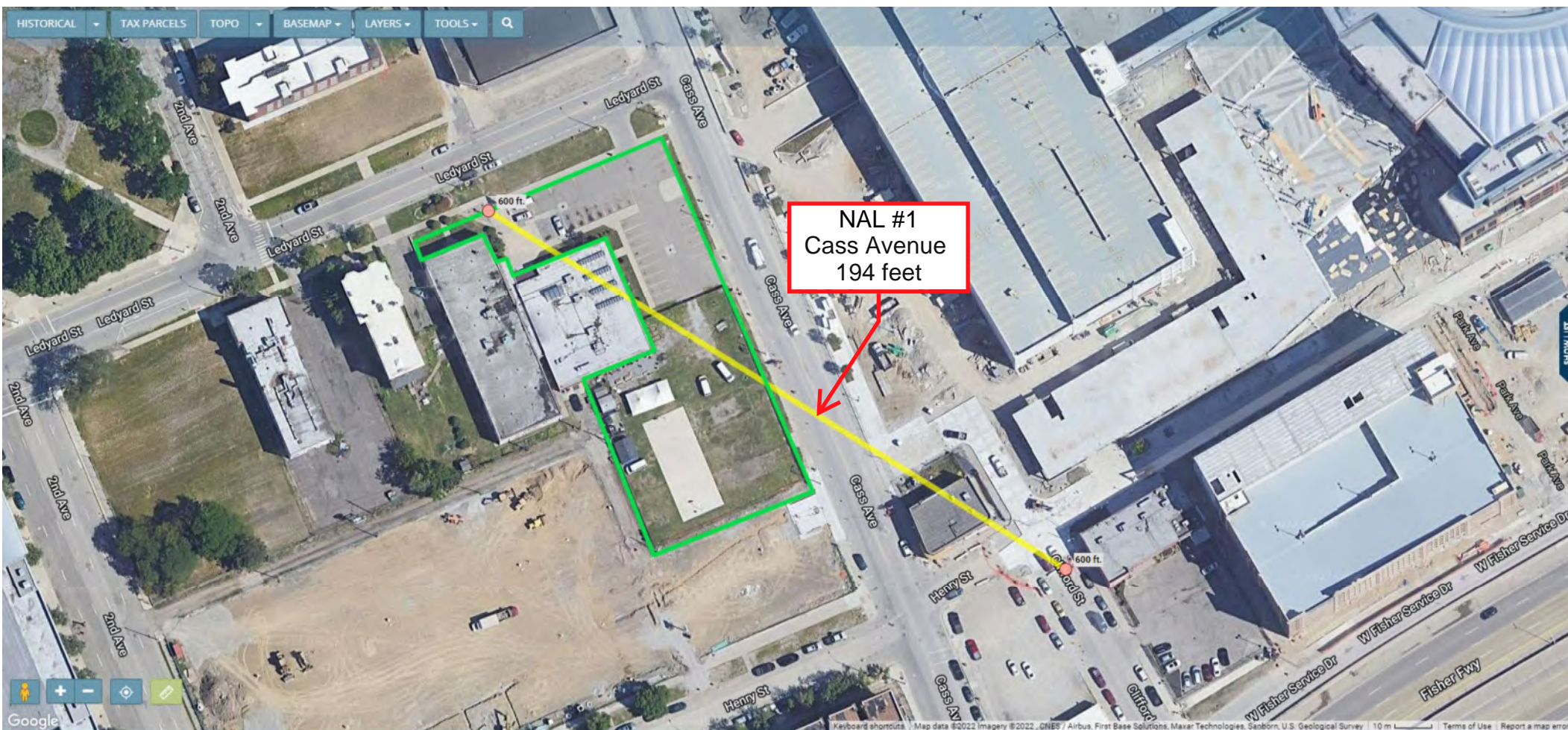






NAL #1  
Cass Avenue  
194 feet







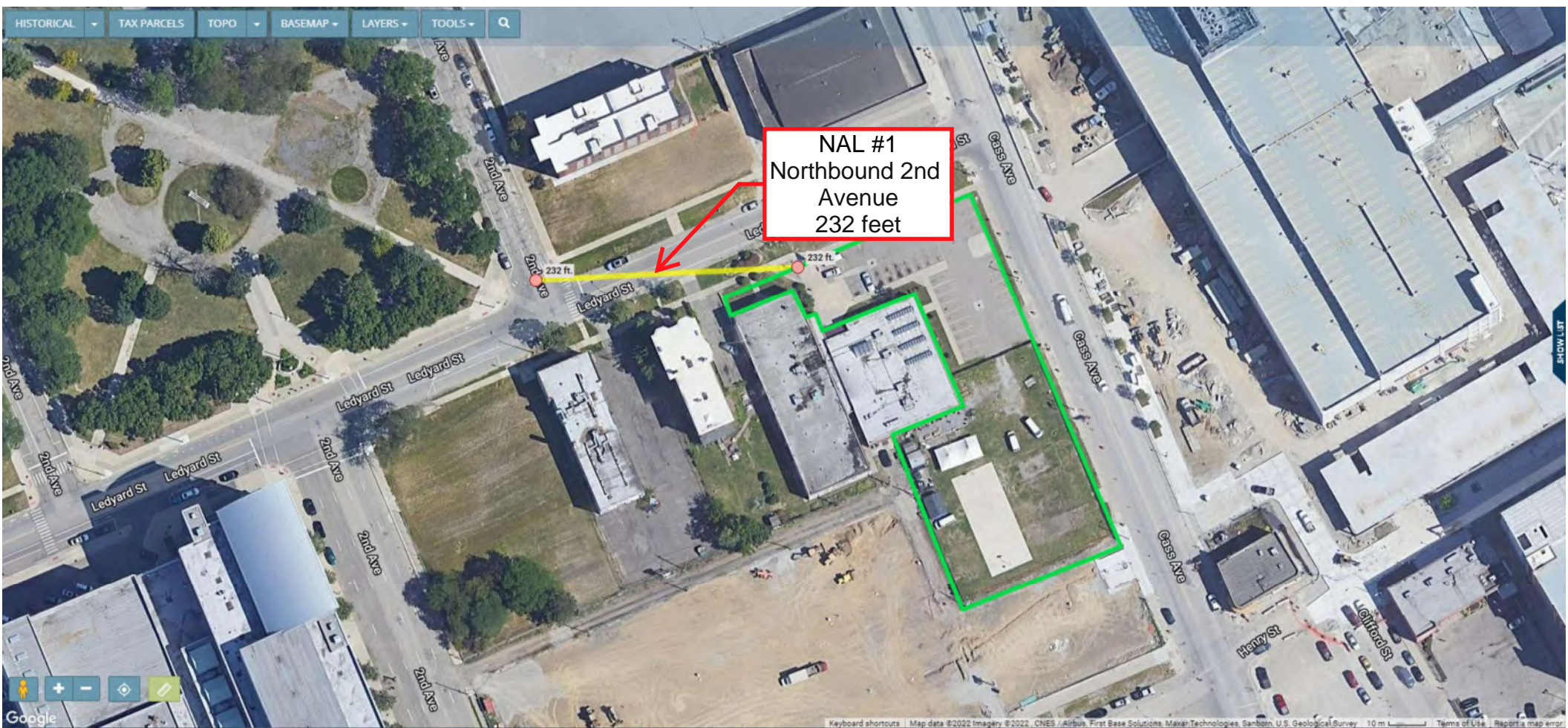






NAL #1  
Ledyard Street  
50 feet





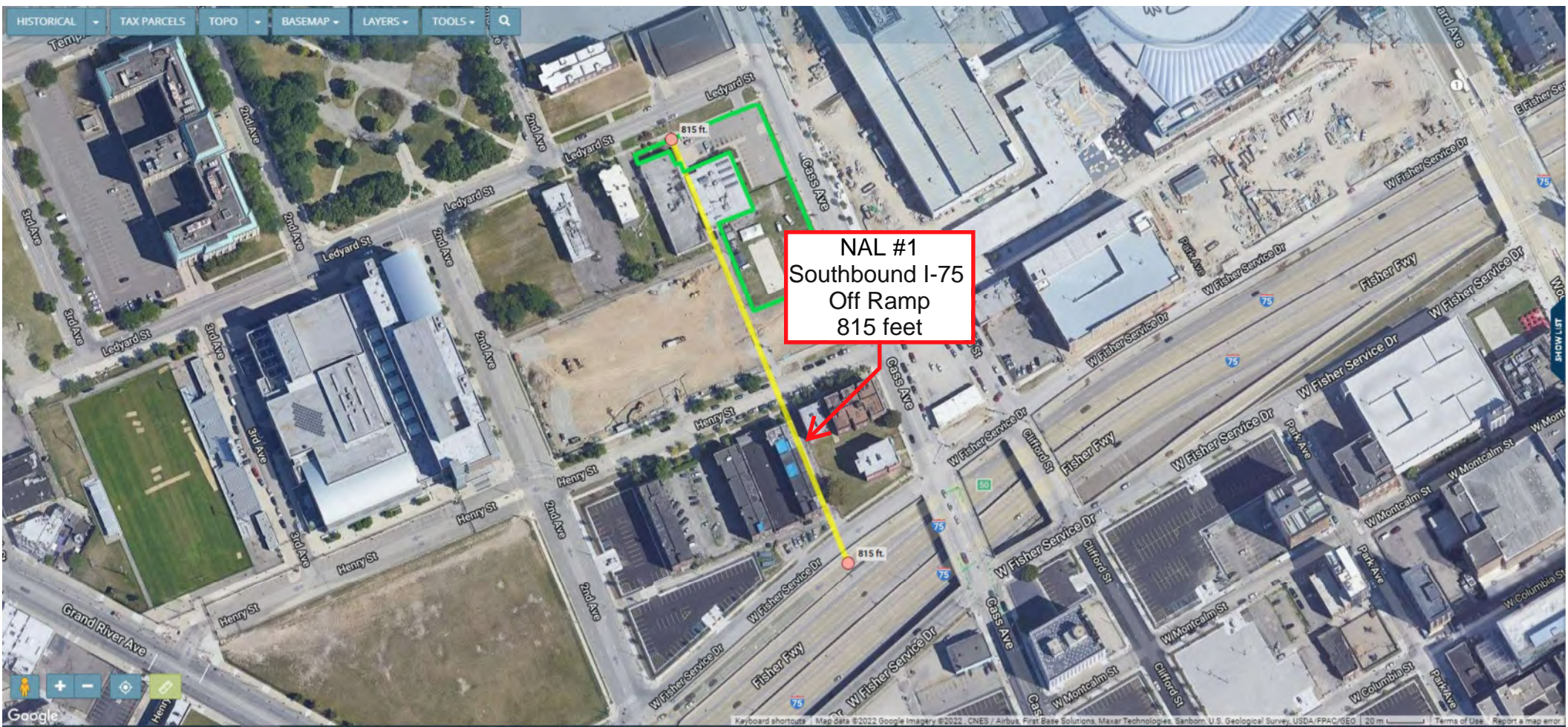
NAL #1  
Northbound 2nd  
Avenue  
232 feet



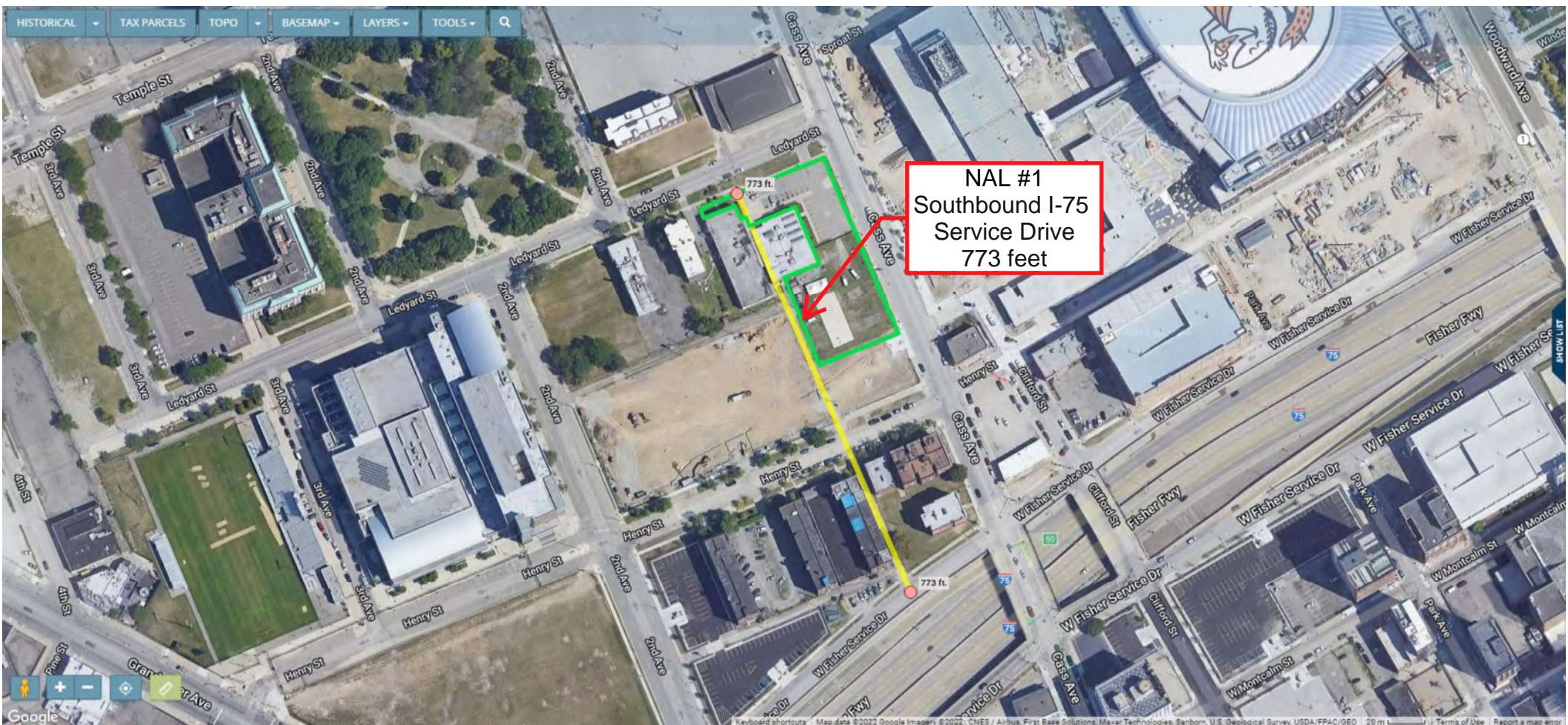


NAL #1  
Southbound 2nd  
Avenue  
685 feet

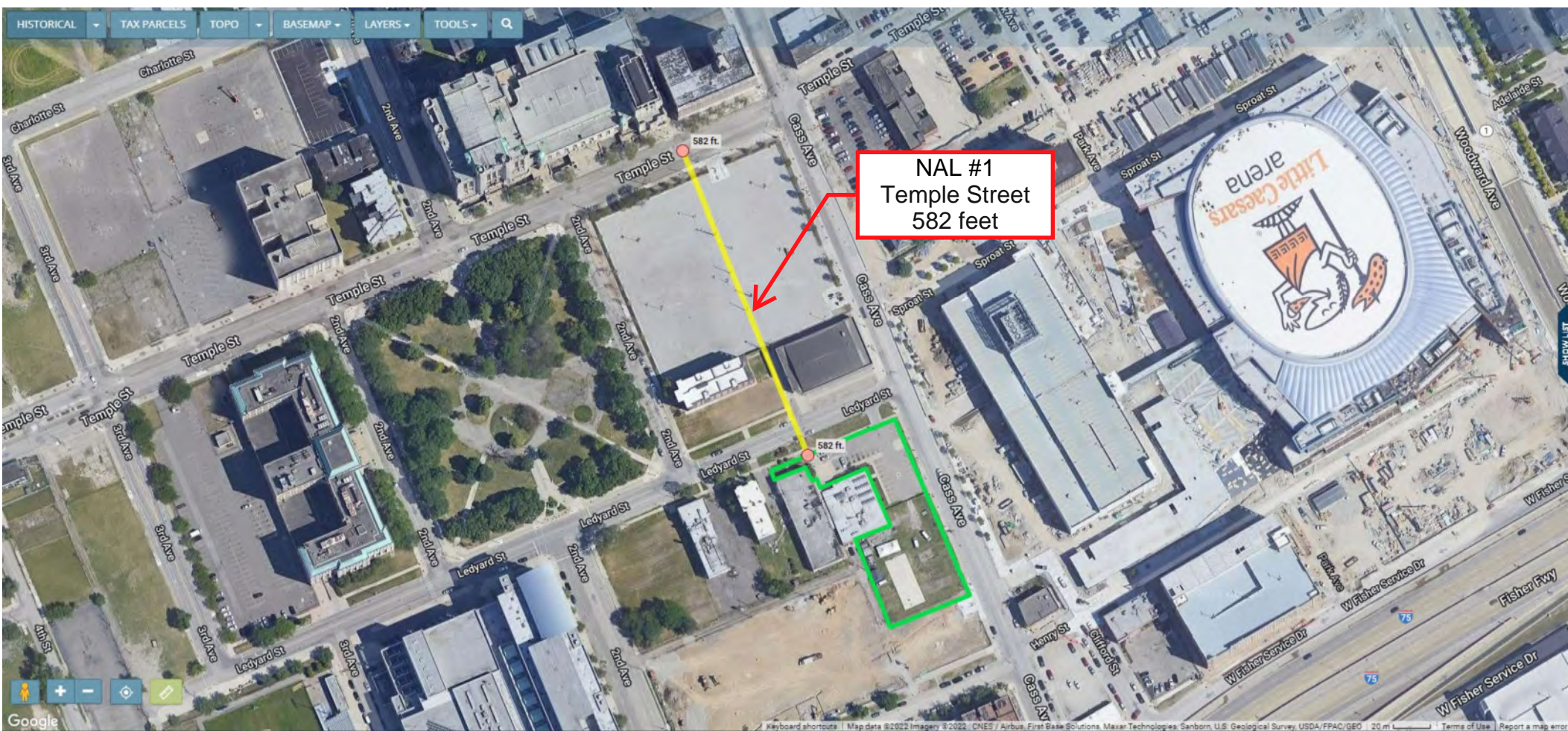




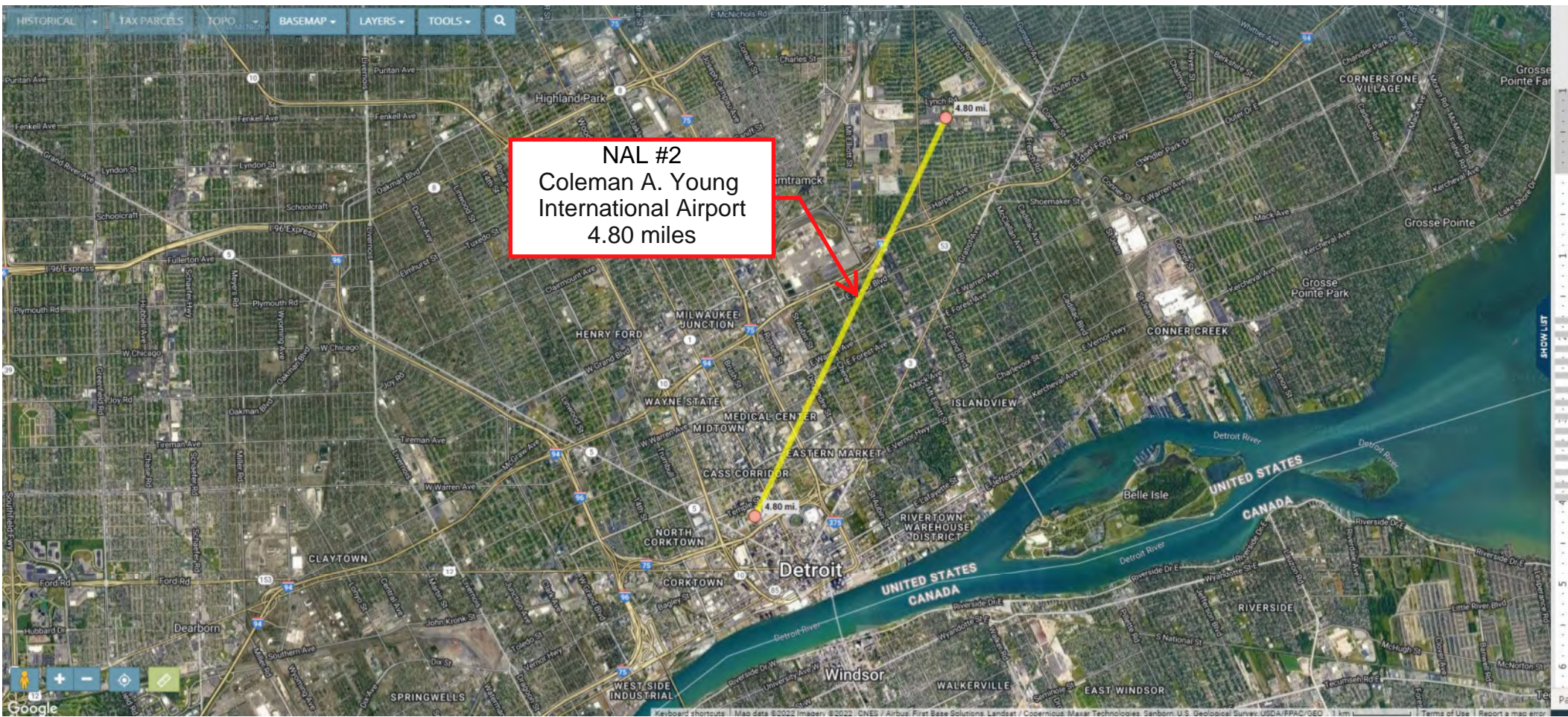














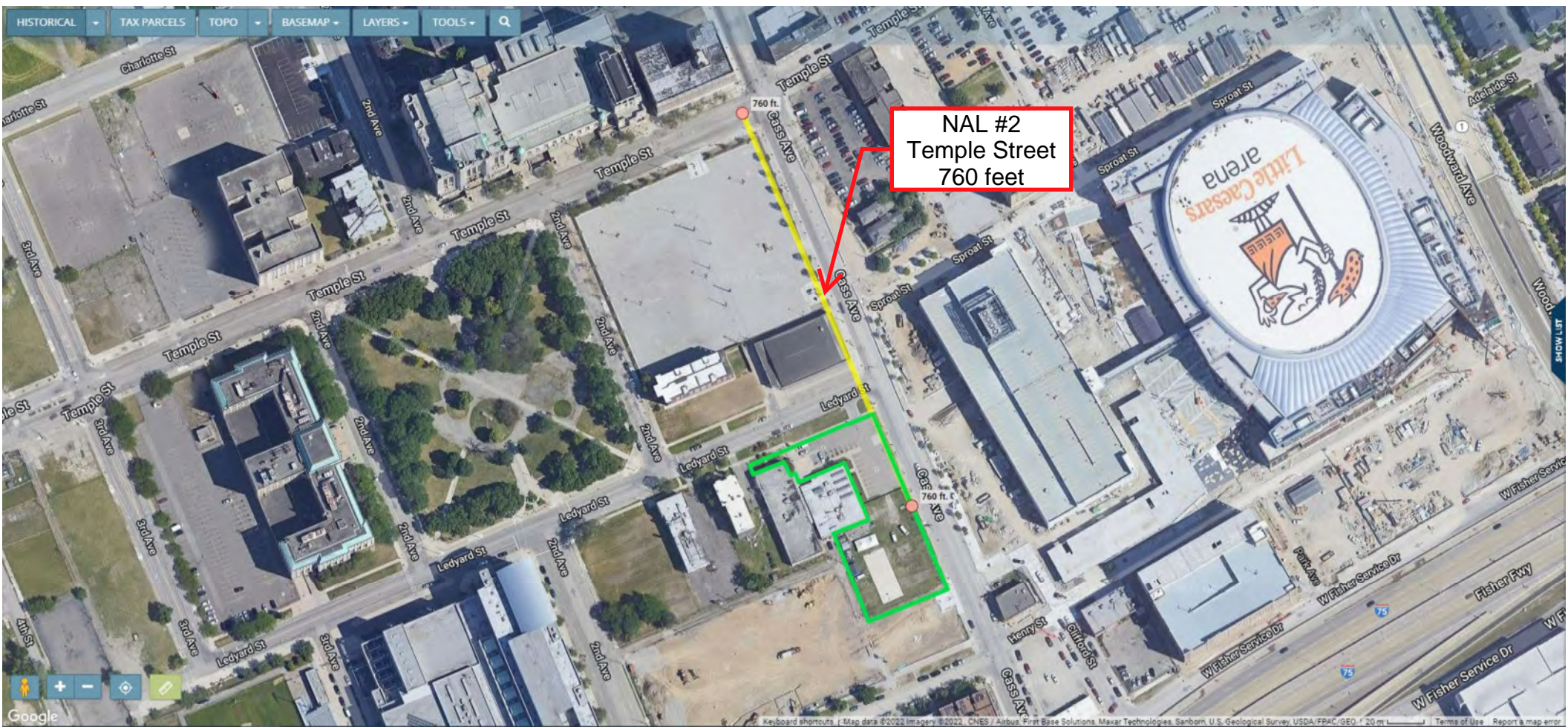




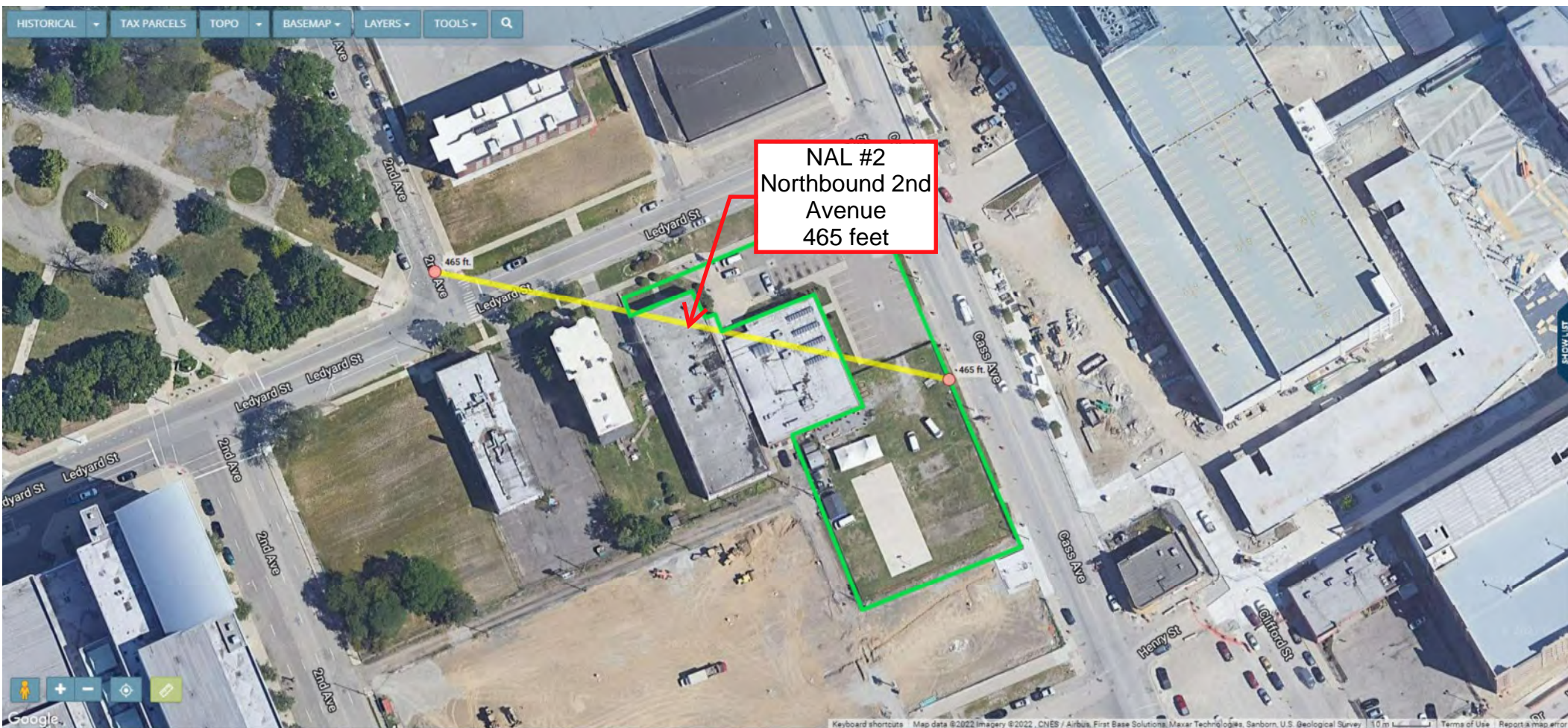


NAL #2  
Cass Avenue  
225 feet

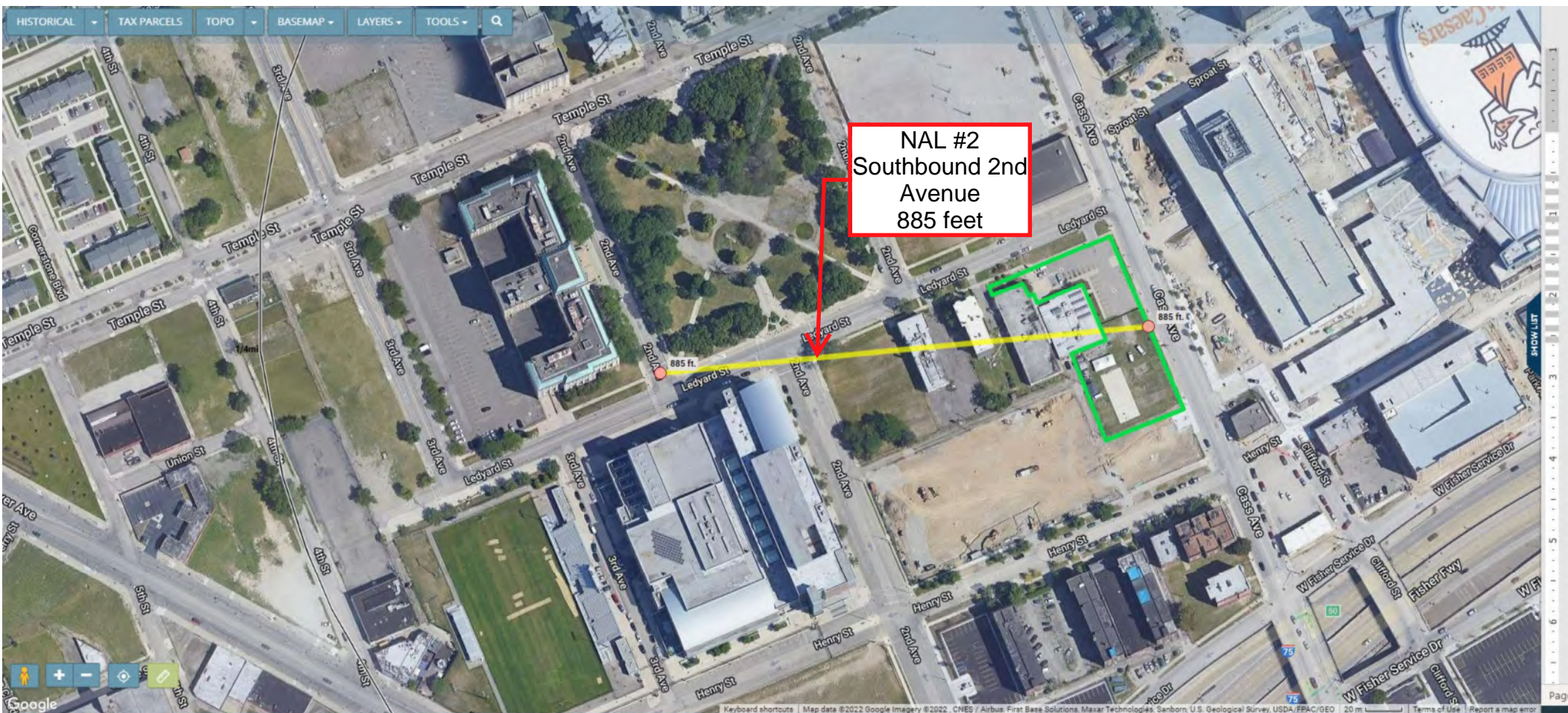










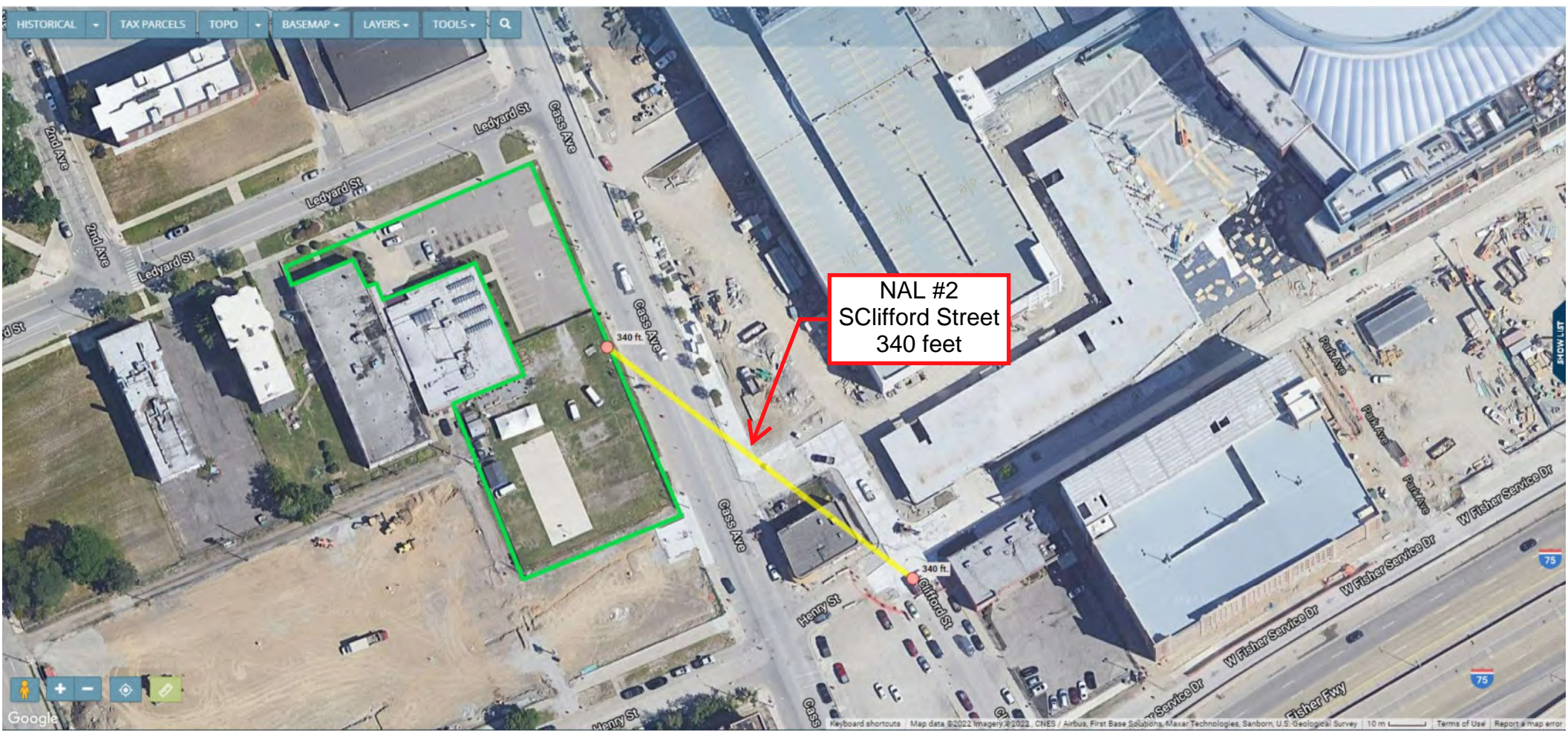






NAL #2  
Cass Avenue  
38 feet





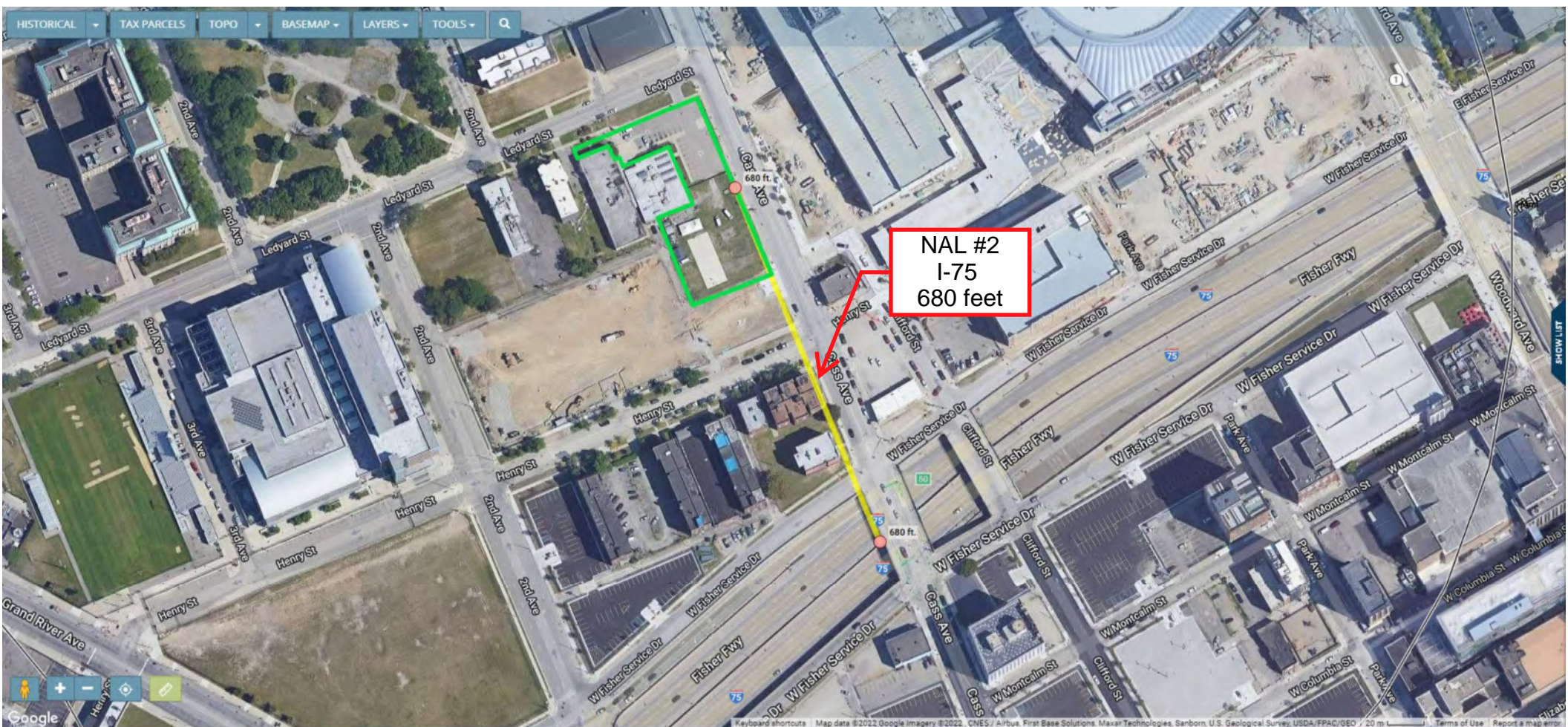




















## Appendix D



[Home \(/\)](#) > [Programs \(/programs/\)](#) > [Environmental Review \(/programs/environmental-review/\)](#) > DNL Calculator

## DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the [Day/Night Noise Level Calculator Electronic Assessment Tool Overview \(/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/\)](#).

### Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- Note #2:** DNL Calculator assumes roadway data is always entered.

## DNL Calculator

Site ID	The Anchor at Mariners II
Record Date	05/17/2022
User's Name	DNL 1

Road # 1 Name:	Ledyard Street
----------------	----------------

#### Road #1

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	50	50	50
Distance to Stop Sign	160	160	160
Average Speed	25	25	25
Average Daily Trips (ADT)	1902	39	38
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	49	42	63
Calculate Road #1 DNL	63	Reset	

Road # 2 Name:	Temple Street
----------------	---------------

#### Road #2

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	582	582	582

Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	4687	94	93
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	45	38	48
Calculate Road #2 DNL	50	Reset	

**Road # 3 Name:** 2nd Avenue

#### Road #3

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	232	232	232
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	760	16	16
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	40	33	46
Calculate Road #3 DNL	47	Reset	

**Road # 4 Name:** Cass Avenue

#### Road #4

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	194	194	194
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	6924	135	135
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	53	46	57
Calculate Road #4 DNL	59	Reset	

<b>Road # 5 Name:</b>	Clifford Street
-----------------------	-----------------

**Road #5**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	600	600	600
Distance to Stop Sign	600	600	600
Average Speed	35	35	35
Average Daily Trips (ADT)	2637	53	52
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	42	35	48
Calculate Road #5 DNL	49	Reset	

<b>Road # 6 Name:</b>	Southbound I-75 Service Drive
-----------------------	-------------------------------

**Road #6**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	733	733	733
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	1468	29	28
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	38	31	41
Calculate Road #6 DNL	43	Reset	

<b>Road # 7 Name:</b>	Southbound I-75 Off Ramp
-----------------------	--------------------------

**Road #7**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	815	815	815
Distance to Stop Sign			
Average Speed	50	50	50
Average Daily Trips (ADT)	8014	221	220



Average Daily Trips (ADT)	8014	321	320
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	48	44	51
Calculate Road #7 DNL	53	Reset	

Road # 8 Name:

I-75

## Road #8

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	912	912	912
Distance to Stop Sign			
Average Speed	55	55	55
Average Daily Trips (ADT)	120755	779	778
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	60	48	55
Calculate Road #8 DNL	61	Reset	

Road # 9 Name:

Southbound Cass Avenue

## Road #9

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	685	685	685
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	493	59	59
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	31	32	45
Calculate Road #9 DNL	45	Reset	

Vehicles with a Gross 26,000 pounds and th carry more than 15 se trucks, as well as sem recreational vehicles, commercial vehicles f stated.

Add Road Source

Add Rail Source

Airport Noise Level

Loud Impulse Sounds?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Combined DNL for all Road and Rail sources	67
Combined DNL including Airport	N/A
Site DNL with Loud Impulse Sound	
<input type="button" value="Calculate"/>	<input type="button" value="Reset"/>

## Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative:** Cancel the project at this location
- **Other Reasonable Alternatives:** Choose an alternate site
- **Mitigation**
  - Contact your Field or Regional Environmental Officer (</programs/environmental-review/hud-environmental-staff-contacts/>)
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See *The Noise Guidebook* (</resource/313/hud-noise-guidebook/>)
  - Construct noise barrier. See the **Barrier Performance Module** (</programs/environmental-review/bpm-calculator/>)

## Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (</resource/3822/day-night-noise-level-assessment-tool-user-guide/>)

Day/Night Noise Level Assessment Tool Flowcharts (</resource/3823/day-night-noise-level-assessment-tool-flowcharts/>)

[Home \(/\)](#) > [Programs \(/programs/\)](#) > [Environmental Review \(/programs/environmental-review/\)](#) > DNL Calculator

## DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the [Day/Night Noise Level Calculator Electronic Assessment Tool Overview \(/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/\)](#).

## Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

## DNL Calculator

Site ID

The Anchors at Mariners Inn

Record Date

05/17/2022

User's Name

NAL 2

Road # 1 Name:

Ledyard Street

Road #1



Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="225"/>	<input type="text" value="225"/>	<input type="text" value="225"/>
Distance to Stop Sign	<input type="text" value="160"/>	<input type="text" value="160"/>	<input type="text" value="160"/>
Average Speed	<input type="text" value="25"/>	<input type="text" value="25"/>	<input type="text" value="25"/>
Average Daily Trips (ADT)	<input type="text" value="1902"/>	<input type="text" value="39"/>	<input type="text" value="38"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="2"/>
Vehicle DNL	<input type="text" value="39"/>	<input type="text" value="32"/>	<input type="text" value="53"/>
<input type="button" value="Calculate Road #1 DNL"/>	<input type="text" value="53"/>	<input type="button" value="Reset"/>	

**Road # 2 Name:**

### Road #2

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="760"/>	<input type="text" value="760"/>	<input type="text" value="760"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="35"/>	<input type="text" value="35"/>	<input type="text" value="35"/>
Average Daily Trips (ADT)	<input type="text" value="4687"/>	<input type="text" value="94"/>	<input type="text" value="93"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="2"/>
Vehicle DNL	<input type="text" value="43"/>	<input type="text" value="36"/>	<input type="text" value="46"/>
<input type="button" value="Calculate Road #2 DNL"/>	<input type="text" value="48"/>	<input type="button" value="Reset"/>	

Road # 3 Name: 2nd Avenue

**Road #3**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	620	620	620
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	760	16	16
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	33	27	40
Calculate Road #3 DNL	41	Reset	

Road # 4 Name: Cass Avenue

**Road #4**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	38	38	38
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	6924	135	135
Night Fraction of ADT	15	15	15

Road Gradient (%)			2
Vehicle DNL	64	57	67
Calculate Road #4 DNL	69	Reset	

Road # 5 Name:

Clifford Street

## Road #5

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	340	340	340
Distance to Stop Sign	340	340	340
Average Speed	35	35	35
Average Daily Trips (ADT)	3637	53	52
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	45	36	51
Calculate Road #5 DNL	52	Reset	

Road # 6 Name:

Southbound I-75 Service Drive

## Road #6

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	563	563	563
Distance to Stop Sign			



Average Speed	35	35	35
Average Daily Trips (ADT)	1468	29	28
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	40	33	43
Calculate Road #6 DNL	45	Reset	

**Road # 7 Name:** Southbound I-75 Off Ramp

#### Road #7

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	604	604	604
Distance to Stop Sign			
Average Speed	50	50	50
Average Daily Trips (ADT)	8014	321	320
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	50	46	53
Calculate Road #7 DNL	55	Reset	

**Road # 8 Name:** I-75

#### Road #8

**Road #8**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="680"/>	<input type="text" value="680"/>	<input type="text" value="680"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="55"/>	<input type="text" value="55"/>	<input type="text" value="55"/>
Average Daily Trips (ADT)	<input type="text" value="120755"/>	<input type="text" value="7789"/>	<input type="text" value="7788"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="2"/>
Vehicle DNL	<input type="text" value="62"/>	<input type="text" value="60"/>	<input type="text" value="67"/>
<div>Calculate Road #8 DNL</div>	<input type="text" value="69"/>	<div>Reset</div>	

**Road # 9 Name:****Northbound I-75 Service Drive****Road #9**

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	<input type="text" value="780"/>	<input type="text" value="780"/>	<input type="text" value="780"/>
Distance to Stop Sign	<input type="text"/>	<input type="text"/>	<input type="text"/>
Average Speed	<input type="text" value="25"/>	<input type="text" value="25"/>	<input type="text" value="25"/>
Average Daily Trips (ADT)	<input type="text" value="4279"/>	<input type="text" value="86"/>	<input type="text" value="86"/>
Night Fraction of ADT	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="15"/>
Road Gradient (%)	<input type="text"/>	<input type="text"/>	<input type="text" value="2"/>
Vehicle DNL	<input type="text" value="39"/>	<input type="text" value="32"/>	<input type="text" value="46"/>
<div>Calculate Road #9 DNL</div>	<input type="text" value="17"/>	<div>Reset</div>	

Calculate Road & Rail DNL

47

Reset

Add Road Source

Add Rail Source

Airport Noise Level

Loud Impulse Sounds?

YesNo

Combined DNL for all Road and Rail sources

72

Combined DNL including Airport

N/A

Site DNL with Loud Impulse Sound

Calculate

Reset

## Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- No Action Alternative:** Cancel the project at this location



- **Other Reasonable Alternatives:** Choose an alternate site
- **Mitigation**
  - Contact your Field or Regional Environmental Officer (</programs/environmental-review/hud-environmental-staff-contacts/>)
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See *The Noise Guidebook* (</resource/313/hud-noise-guidebook/>)
  - Construct noise barrier. See the Barrier Performance Module (</programs/environmental-review/bpm-calculator/>)

## Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (</resource/3822/day-night-noise-level-assessment-tool-user-guide/>)

Day/Night Noise Level Assessment Tool Flowcharts (</resource/3823/day-night-noise-level-assessment-tool-flowcharts/>)

### Draft Summary of Soil Analytical Results

Location (date)	Sample Depth (feet bgs)	Analysis	Compounds Exceeding the Part 201 Cleanup Criteria and Screening Levels
SB-1 (06/2021)	<b>Soil:</b> 4.0-5.0 and 8.0-9.0	VOCs and PNAs	None
SB-2 (06/2021)	<b>Soil:</b> 4.0-5.0 and 8.0-9.0	VOCs and PNAs	None
SB-3 (06/2021)	<b>Soil:</b> 1.0-2.0 and 5.0-6.0	VOCs and PNAs	None
SB-4 (06/2021)	<b>Soil:</b> 3.5-4.5	VOCs, PNAs, PCBs, and MI-10 metals	None
	<b>Soil:</b> 6.0-7.0	VOCs, PNAs, PCBs, and MI-10 metals	None
SB-5 (06/2021)	<b>Soil:</b> 3.5-4.5	VOCs, PNAs, PCBs, and MI-10 metals	<b>DC(R):</b> benzo(a)pyrene, benzo(b)fluoranthene <b>DC(NR):</b> benzo(a)pyrene <b>GSIP:</b> fluoranthene, naphthalene, phenanthrene, mercury
	<b>Soil:</b> 7.0-8.0	VOCs, PNAs, PCBs, and MI-10 metals	None
SB-6 (06/2021)	<b>Soil:</b> 5.5-6.5 and 14.0-15.0	VOCs, PNAs, PCBs, and MI-10 metals	None
SB-7 (06/2021)	<b>Soil:</b> 1.0-2.0 and 5.5-6.5	VOCs, PNAs, PCBs, and MI-10 metals	None
SB-8 (06/2021)	<b>Soil:</b> 1.0-2.0 and 7.0-8.0	VOCs, PNAs, PCBs, and MI-10 metals	None
SB-5R (11/2021)	<b>Soil:</b> 0.5-1.5	VOCs and PNAs	<b>DC(R):</b> benzo(a)pyrene <b>GSIP:</b> fluoranthene
	<b>Soil:</b> 4.5-5.5 and 5.5-6.5	VOCs and PNAs	None
SB-6A (11/2021)	<b>Soil:</b> 3.5-4.5 and 4.5-5.5	VOCs and PNAs	None

Location (date)	Sample Depth (feet bgs)	Analysis	Compounds Exceeding the Part 201 Cleanup Criteria and Screening Levels
SB-7A (11/2021)	<b>Soil:</b> 3.5-4.5 and 4.5-5.5	VOCs and PNAs	None
SB-8A (11/2021)	<b>Soil:</b> 3.5-4.5 and 4.5-5.5	VOCs and PNAs	None
SB-9 (11/2021)	<b>Soil:</b> 4.5-5.5	VOCs and PNAs	<b>DC(R):</b> benzo(a)pyrene, benzo(b)fluoranthene <b>DC(NR):</b> benzo(a)pyrene <b>GSIP:</b> naphthalene, fluoranthene
	<b>Soil:</b> 4.5-5.5	VOCs and PNAs	None
SB-10 (11/2021)	<b>Soil:</b> 3.5-4.5 and 4.5-5.5	VOCs and PNAs	None

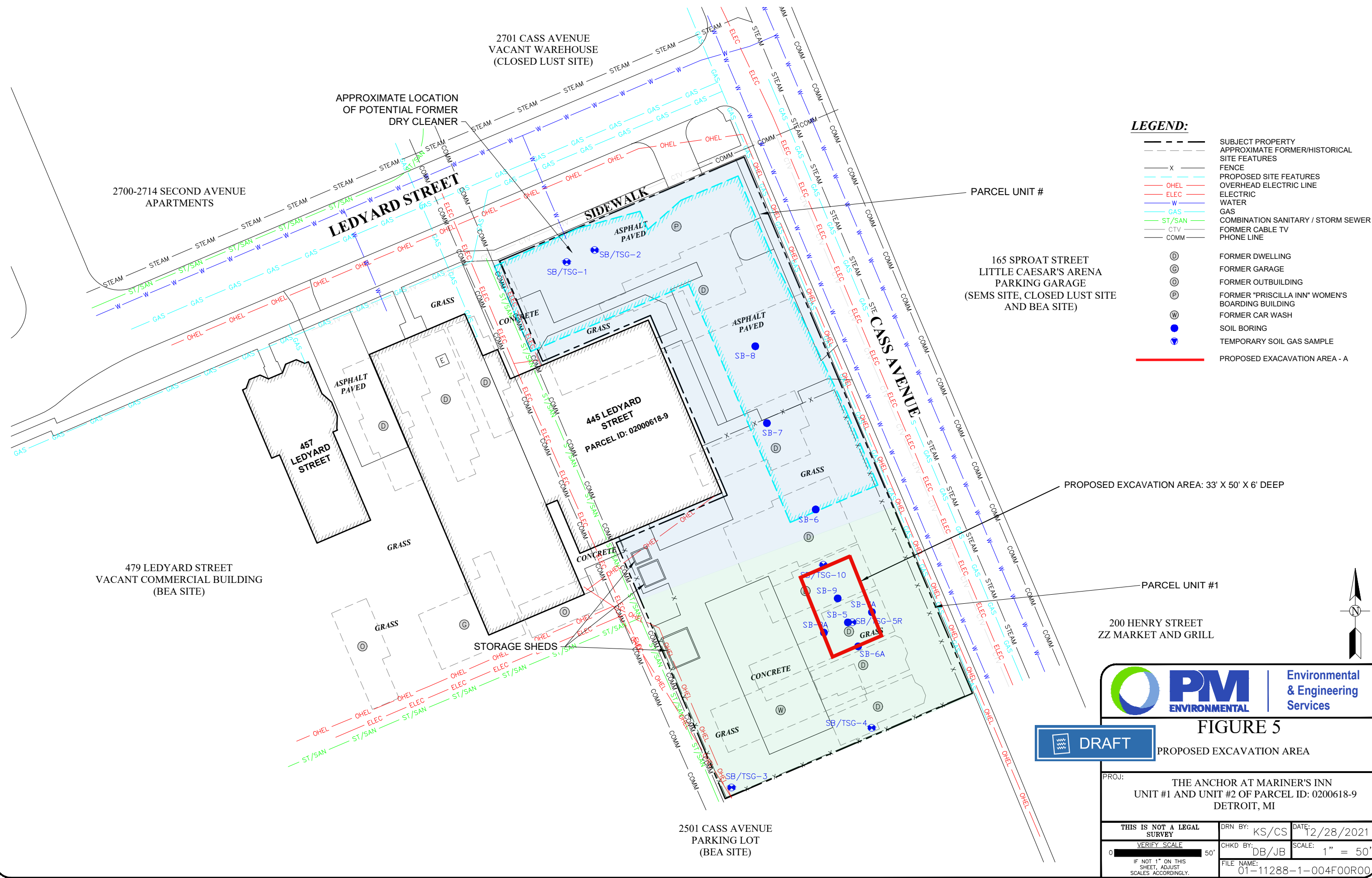
R – Residential

GSIP – Groundwater Surface Water Interface Protection

NR – Nonresidential

DC – Direct Contact





## **Section 10.8: Qualifications of the Environmental Professionals**

## PM PROFESSIONAL RESUMES



# DEVON NAGENGAST

## STAFF CONSULTANT

1.800.313.2966

[www.pmenv.com](http://www.pmenv.com)

[nagengast@pmenv.com](mailto:nagengast@pmenv.com)

Devon Nagengast is a Staff Consultant at PM Environmental, Inc. She specializes in Environmental Due Diligence by managing Phase I Environmental Site Assessments throughout the Midwest.

### AREAS OF EXPERTISE

- Staff consultant for Phase I Environmental Site Assessments (ESAs)
- Assists with data collection and evaluation for Transaction Screen Assessments, Phase I ESAs and other due diligence reports
- History of biological surveying strengthens site assessment skills
- Experience in implementation and completion of various site assessment standards and professional protocol and commercial lending requirements (ASTM E-1527)



### EDUCATION

- Oakland University  
B.S. Environmental Science,  
concentration in Sustainability and  
Resource Management

# CAREY S. KRATZ

## REGIONAL MANAGER—DUE DILIGENCE

1.800.313.2966    [www.pmenv.com](http://www.pmenv.com)    [kratz@pmenv.com](mailto:kratz@pmenv.com)

Carey Kratz is the Regional Manager of Due Diligence at PM Environmental, Inc. She has over 21 years of environmental experience and specializes in Environmental Due Diligence including Phase I Environmental Site Assessments and customized environmental assessments to support all forms of real estate transactions. She has managed a variety of environmental due diligence projects including environmental risk reviews and affordable housing including low income housing tax credit (LIHTC) and HUD lending clients.

### AREAS OF EXPERTISE

- Regional coordination and management of due diligence group
- Data collection, site investigation, and preparation of Phase I ESA and Transaction Screen projects
- Experience in implementation and completion of various site assessment standards and professional protocol and commercial lending requirements (ASTM E-1527, ASTM E-1528)
- Peer technical review of Phase I ESA projects using ASTM Standard 1527
- Experience in real estate portfolio analysis for evaluation of environmental risk associated with single and multi property transactions for the lending industry
- Experience with local, state, and federal regulatory acts
- Experience with NEPA Part 50 and Part 58 projects



### EDUCATION

- Lake Superior State University  
B.S. Environmental Science,  
minor in Chemistry

### CERTIFICATIONS

- Certified Asbestos Inspector, Michigan  
#A27278
- Meets the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312
- OSHA 1910.120 40-hour Hazardous Waste Operations Training (HAZWOPER)
- HAZWOPER Incident Commander
- HUD CFR24 Part 58 Environmental Review Process Training

# PETER S. BOSANIC, P.E., EP, Q.C.

## FOUNDER

1.800.313.2966    [www.pmenv.com](http://www.pmenv.com)    [bosanic@pmenv.com](mailto:bosanic@pmenv.com)

Peter Bosanic is the Co-founder of PM Environmental, Inc. He has over 30 years of relevant experience in environmental risk management, environmental & engineering due diligence, M&A, Brownfield redevelopment and economic development incentives, leaking UST management, remediation, environmental compliance, industrial hygiene projects and government contracts. PM regularly works with financial institutions, investors, developers, retail petroleum clients, municipalities, industries, business and government agencies and regulators.

### AREAS OF EXPERTISE

- Environmental Due Diligence for financial institutions, investors, developers and government agencies including:
  - Phase I & II Environmental Site Assessments (ESAs)
  - Vapor intrusion investigations
  - Baseline Environmental Assessments (BEAs)
  - Due Care Plans and Continuing Obligations Evaluations
  - Property Condition Assessments (PCAs)
- Leaking UST and industrial site investigations, feasibility studies and corrective action plans and remediation
- Environmental compliance audits
- Brownfield redevelopment economic development consulting including grants and other incentives
- Industrial hygiene services experience including asbestos, lead based paint and other hazardous materials
- Government environmental contract project management on projects for state owned or funded projects
- Multifamily (privately owned and public housing agencies) environmental and engineering services including Phase I and II ESAs, NEPA Investigations, HUD environmental assessments and Capital Needs Assessments (CNAs)



### EDUCATION

- Michigan State University B.S. Civil and Environmental Engineering
- Michigan State University Graduate Studies Environmental Engineering
- Various Continuing Education and Professional Development Classes
- ASTM Risk Based Corrective Action Training
- Zweig White Principals Academy

### CERTIFICATIONS

- OSHA 40 Hours Hazwoper and 8-hour Supervisor Training
- Environmental Professional (EP) as defined in § 312.10 of 40 CFR 312
- ASTM PCA Training
- HUD MAP CNA Training
- Qualified UST Consultant (QC) in Michigan

### PROFESSIONAL ACTIVITIES

- National Brownfield Association
- Mortgage Bankers Association
- Environmental Bankers Association
- Michigan Association of Environmental Professional
- Michigan Petroleum Association
- Chi Epsilon Civil Engineering Honor Society
- Michigan Housing Council

### REGISTRATION

- Professional Engineer in the following States: Alabama, Kentucky, Michigan, Mississippi, Ohio, Illinois, Indiana and Tennessee



## **Section 10.9: MSHDA Phase I Letter of Reliance**

## 2022 MSHDA PHASE I LETTER OF RELIANCE

### PRIVILEGED AND CONFIDENTIAL

Mr. Dan Lince  
Environmental Manager  
Rental Development Division  
Michigan State Housing Development Authority  
735 East Michigan Avenue  
Lansing, Michigan 48912

**Re: Phase I Environmental Site Assessment of The Anchor at Mariners Inn  
Proposed Mariners Inn Condominium Unit Nos. 1 and 2 and  
General Common Elements  
Located in the Eastern and Southern Portions of 445 Ledyard Street  
Detroit, Michigan  
PM Environmental Project No. 01-11288-1-0001**

Dear Mr. Lince:

Please find enclosed the Phase I Environmental Site Assessment for the subject property dated May 20, 2022 to the Michigan State Housing Development Authority.

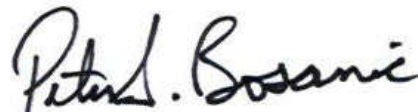
It is our understanding that the information contained in the Phase I Environmental Site Assessment will be used by the Authority in considering proposed financing of residential development of the property and, furthermore, that the Authority may rely upon the Phase I Environmental Site Assessment as if it were issued to the Authority.

We **represent** that the attached is a true, correct, and complete copy of the Phase I Environmental Site Assessment for the above captioned property and that the report represents our professional opinion of the site as of this date and that we meet the definition of an Environmental Professional as defined in Section 312.10 of 40 CFR 312. We also **represent** that the Phase I Environmental Site Assessment including the evaluation, recommendations, and conclusions as of this date has been performed in conformance with the scope and limitations of the ASTM Practice E1527-13, ASTM Practice E 2600-15, and MSHDA's Environmental Review Requirements for 2022.

Sincerely,  
**PM ENVIRONMENTAL**



Carey Kratz, EP  
Regional Manager – Due Diligence



Peter S. Bosanic, P.E., EP  
Principal

**Section 10.10: Copy of Environmental Professional Insurance  
Certificates**





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

2/2/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION** IS **WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Arthur J. Gallagher Risk Management Services, Inc. 4000 Midlantic Drive Suite 200 Mount Laurel NJ 08054	<b>CONTACT NAME:</b> Tim Fyock <b>PHONE (A/C, No, Ext):</b> 888-273-8155 <b>E-MAIL ADDRESS:</b> Tim_Fyock@ajg.com <b>FAX (A/C, No):</b> 856-273-3663
<b>INSURED</b> P.M. Environmental, Inc. 3340 Ranger Road Lansing, MI 48906	<b>INSURER(S) AFFORDING COVERAGE</b> <b>INSURER A:</b> Nautilus Insurance Company <b>INSURER B:</b> Great Northern Insurance Company <b>INSURER C:</b> Bankers Standard Insurance Company <b>INSURER D:</b> <b>INSURER E:</b> <b>INSURER F:</b>
License#: BR-724491 PMENVIR-01	<b>NAIC #</b> 17370 20303 18279

**COVERAGES****CERTIFICATE NUMBER:** 1430273800**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Prof. Liability <input checked="" type="checkbox"/> Contractors Poll GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:			ECP2034012-11	2/1/2022	2/1/2023	EACH OCCURRENCE \$2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$100,000 MED EXP (Any one person) \$5,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 Contract Pollution \$2,000,000
B	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			73583024	2/1/2022	2/1/2023	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ Comp/Coll Deductible \$2,000
A	<b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			FFX2034013-11	2/1/2022	2/1/2023	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 \$
C	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input checked="" type="checkbox"/> N	N/A	71745612	2/1/2022	2/1/2023	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
A	Errors & Omissions Claims Made			ECP2034012-11	2/1/2022	2/1/2023	Aggregate Limit \$2,000,000 SIR \$25,000

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**

MSHDA is included as Additional Insured in accordance with the policy provisions of the General Liability policy. General Liability policy evidenced herein is Primary and Non-Contributory to other insurance available to an Additional Insured, but only in accordance with the policy's provisions.

**CERTIFICATE HOLDER****CANCELLATION**

MSHDA  
Attn: Daniel Lince  
735 East Michigan Avenue  
Lansing MI 48909-7544

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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## Appendix C



**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 6/10/2021  
**Logged By:** SE

## Well Log

**Well No.:** SB/TSG-1  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			Completion Details
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				<p>           Bentonite Seal            Temporary Air Sampling Point (4.5')            Sand            1/8" ID PolyTubing            Ground Surface         </p>
	ASPHALT AND BRICK			100	0.0	
2	CL- (Very Stiff) CLAY (moist)	Brown/Gray mottled, medium plasticity, trace sand and gravel		100	0.0	
				100	0.0	
4				100	0.0	
			SB-1 4.0 - 5.0'	100	0.0	
6				100	0.0	
				100	0.0	
8			SB-1 7.0 - 8.0'	100	0.0	
				100	0.0	
10				100	0.0	
				100	0.0	
12				100	0.0	
				100	0.0	
14	CL- (Medium Stiff) CLAY (moist)	Gray mottled, medium plasticity, trace sand and gravel		100	0.0	
				100	0.0	
16				100	0.0	
				100	0.0	
18				100	0.0	
				100	0.0	
20						

**Completion Notes:** EOB @ 20.0' bgs.

### Legend:

EOB End of Boring  
 bgs Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet  
 in Inches





**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 6/10/2021  
**Logged By:** SE

## Well Log

**Well No.:** SB/TSG-2  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			Completion Details	
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)		
0		Ground Surface					
		<b>ASPHALT</b> Fine to coarse fill sand		100	0.0		
2		<b>CL- (Very Stiff) CLAY (moist)</b> Brown/Gray mottled, medium plasticity, trace sand and gravel		100	0.0		
				100	0.0		
4				100	0.0		
				100	0.0		
6			SB-2 4.0 - 5.0'	100	0.0		
				100	0.0		
8			SB-2 7.0 - 8.0'	100	0.0		
				100	0.0		
10		<b>CL- (Medium Stiff) CLAY (moist)</b> Gray mottled, medium plasticity, trace sand and gravel		100	0.0		
				100	0.0		
12				100	0.0		
				100	0.0		
14				100	0.0		
				100	0.0		
16				100	0.0		
				100	0.0		
18				100	0.0		
				100	0.0		
20							

**Completion Notes:** EOB @ 20.0' bgs.

### Legend:

EOB End of Boring  
 bgs Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet  
 in Inches



**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 6/10/2021  
**Logged By:** SE

## Well Log

**Well No.:** SB/TSG-3  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			Completion Details
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
	<b>TOPSOIL</b> Fine to coarse fill sand			75	0.0	
	<b>CL- (Medium Stiff) CLAY (moist)</b> Brown, low plasticity, some sand, trace building debris		SB-3 1.0 - 2.0'	75	0.1	
2				75	0.0	
	<b>CL- (Very Stiff) CLAY (moist)</b> Brown/Gray mottled, medium plasticity, trace sand and gravel			75	0.0	
4				75	0.0	
			SB-3 5.0 - 6.0'	100	0.0	
6				100	0.0	
				100	0.0	
8				100	0.0	
				100	0.0	
10				100	0.0	
				100	0.0	
12				100	0.0	
				100	0.0	
14				100	0.0	
				100	0.0	
16				100	0.0	
				100	0.0	
18	<b>CL- (Medium Stiff) CLAY (moist)</b> Gray, medium plasticity, trace sand and gravel			100	0.0	
				100	0.0	
20				100	0.0	

**Completion Notes:** EOB @ 20.0' bgs.

### Legend:

EOB End of Boring  
 bgs Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet  
 in Inches



**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 6/10/2021  
**Logged By:** SE

## Well Log

**Well No.:** SB/TSG-4  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			Completion Details
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>TOPSOIL</b>		50	0.0	
		<b>CONCRETE AND BRICK DEBRIS</b>		50	0.0	
2		<b>CL- (Medium Stiff) CLAY (moist)</b> Brown/Gray mottled, medium plasticity, trace gravel and building debris		50	0.0	
4			SB-4 3.5 - 4.5'	50	0.0	
				50	0.0	
6		<b>CL- (Very Stiff) CLAY (moist)</b> Brown/Gray mottled, medium plasticity, trace sand and gravel	SB-4 6.0 - 7.0'	100	0.0	
8				100	0.0	
				100	0.0	
10				100	0.0	
				100	0.0	
12				100	0.0	
				100	0.0	
14				100	0.0	
				100	0.0	
16				100	0.0	
				100	0.0	
18		<b>CL- (Medium Stiff) CLAY (moist)</b> Gray, medium plasticity, trace gravel		100	0.0	
				100	0.0	
20						

**Completion Notes:** EOB @ 20.0' bgs.

### Legend:

EOB End of Boring  
 bgs Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet  
 in Inches





**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 6/10/2021  
**Logged By:** SE

## Boring Log

**Boring No.:** SB-5  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			No Well Installed
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>TOPSOIL</b>		75	0.0	
		<b>SW- (Medium Dense) SAND (moist)</b> Brown, fine to medium, trace clay and brick debris		75	0.0	
2				75	0.0	
			SB-5	75	0.0	
4		<b>CL- (Stiff) CLAY (moist)</b> Brown, medium plasticity, trace sand and gravel	3.5 - 4.5'	75	0.0	
				100	0.0	
6				100	0.0	
				100	0.0	
8				100	0.0	
				100	0.0	
10				100	0.0	
				100	0.0	
12		<b>CL- (Stiff) CLAY (moist)</b> Brown/Gray mottled, medium plasticity, trace sand and gravel		100	0.0	
				100	0.0	
14		<b>CL- (Medium Stiff) CLAY (moist)</b> Gray, medium plasticity, trace gravel		100	0.0	
				100	0.0	
16						

**Completion Notes:** EOB @ 15.0' bgs.

### Legend:

EOB End of Boring  
 Bgs. Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet



**Project No.:** 01-11288-1-004  
**Project Name:** Marlners Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 11/24/2021  
**Logged By:** H. Iglewski

## Well Log

**Well No.:** SB/TSG-5R  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			Completion Details
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>TOPSOIL/GRAVEL</b>				
		<b>SW- (Dense) SAND (damp)</b> Brown, fine to medium, trace gravel, some clay, brick debris	SB-5R	90	34.1	
			0.5-1.5'	90	27.5	
2				90	3.2	
				90	1.2	
4				90	0.4	
		<b>CL- (Medium Stiff) CLAY (moist)</b> Brown, medium plasticity, trace gravel, some sand, brick debris	SB-5R	100	0.0	
			4.5-5.5'	100	0.0	
6			SB-5R	100	0.0	
			5.5-6.5'	100	0.0	
8		<b>SC- (Dense) CLAYEY SAND (moist)</b> Brown, fine to medium, trace gravel		100	0.0	
		<b>CL- (Medium Stiff) CLAY (moist)</b> Brown, medium plasticity, trace gravel		100	0.0	
				100	0.0	
10						

**Completion Notes:** EOB @ 10.0' bgs.

### Legend:

EOB End of Boring  
 bgs Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet  
 in Inches



**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 6/10/2021  
**Logged By:** SE

## Boring Log

**Boring No.:** SB-6  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			No Well Installed
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>COMPACTED GRAVEL AND TOPSOIL</b>		75	0.0	
2		<b>CL- (Medium Dense) SANDY CLAY (moist)</b> Brown, fine to medium, trace gravel and brick debris		75	0.0	
				75	0.0	
4				75	0.0	
		<b>CONCRETE</b>		75	0.0	
6		<b>CL- (Very Stiff) CLAY (moist)</b> Brown/Gray mottled, medium plasticity, trace gravel	SB-6 5.5- 6.5'	100	0.0	
				100	0.0	
8				100	0.0	
				100	0.0	
10				100	0.0	
				100	0.0	
12				100	0.0	
				100	0.0	
14			SB-6 14.0 - 15.0'	100	0.0	
16						

**Completion Notes:** EOB @ 15.0' bgs.

### Legend:

EOB End of Boring  
 Bgs. Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet





**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 11/24/21  
**Logged By:** H. Iglewski

## Boring Log

**Boring No.:** SB-6A  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			No Well Installed
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>TOP SOIL</b>				
		<b>SC- (Dense) CLAYEY SAND (damp)</b>		90	0.0	
		Brown, fine to medium, trace gravel, brick/concrete debris				
		<b>CONCRETE/BRICK/ASPHALT DEBRIS</b>		90	0.0	
2				90	0.0	
		<b>CL- (Medium Stiff) CLAY (damp)</b>		90	0.0	
		Brown/Gray, low plasticity, trace gravel, trace sand, concrete/brick debris				
4			SB-6A 3.5-4.5'	90	0.0	
			SB-6A 4.5-5.5'	90	0.0	
				100	0.0	
6		<b>CL- (Stiff) CLAY (moist)</b>		100	0.0	
		Brown, low plasticity, trace gravel				
			SB-6A 7.0-8.0'	100	0.0	
8				100	0.0	
				100	0.0	
10						

**Completion Notes:** EOB @ 10.0' bgs.

### Legend:

EOB End of Boring  
 Bgs. Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet



**Project No.:** 01-11288-1-004  
**Project Name:** Marlners Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 6/10/2021  
**Logged By:** SE

## Boring Log

**Boring No.:** SB-7  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			No Well Installed
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>COMPACTED GRAVEL AND BRICK DEBRIS</b>		100	0.0	
2		<b>CL- (Medium Stiff) CLAY (moist)</b> Brown/Gray mottled, medium plasticity, trace sand and gravel	SB-7 1.0 - 2.0'	100	0.0	
				100	0.0	
4				100	0.0	
				100	0.0	
6			SB-7	100	0.0	
			5.5- 6.5'	100	0.0	
8				100	0.0	
				100	0.0	
10				100	0.0	
				100	0.0	
12				100	0.0	
				100	0.0	
14				100	0.0	
				100	0.0	
16						

**Completion Notes:** EOB @ 15.0' bgs.

### Legend:

EOB End of Boring  
 Bgs. Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet



**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 11/24/21  
**Logged By:** H. Iglewski

## Boring Log

**Boring No.:** SB-7A  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			No Well Installed
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>TOP SOIL</b>				
		<b>BRICK DEBRIS</b>		80	0.0	
		<b>SW- SAND (damp)</b> Brown/Gray, fine to medium, trace gravel, some clay, brick/concrete/asphalt debris		80	0.0	
2				80	0.0	
		<b>CL- (Stiff) CLAY (damp)</b> Brown/Gray, low plasticity, trace gravel, some sand, concrete/brick debris		80	0.0	
4			SB_7A 3.5-4.5'	80	0.0	
			SB-7A 4.5-5.5'	80	0.0	
				100	0.0	
6				100	0.0	
			SB-7A 7.0-8.0'	100	0.0	
8				100	0.0	
				100	0.0	
10						

**Completion Notes:** EOB @ 10.0' bgs.

**Legend:**

EOB End of Boring  
 Bgs. Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet





**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 6/10/2021  
**Logged By:** SE

## Boring Log

**Boring No.:** SB-8  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			No Well Installed
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>ASPHALT</b> Fill sand, fine to coarse		100	0.0	
2		<b>CL- (Very Stiff) CLAY (moist)</b> Brown/Gray mottled, medium plasticity, trace sand and gravel	SB-8 1.0 - 2.0'	100	0.0	
				100	0.0	
4				100	0.0	
				100	0.0	
6				100	0.0	
				100	0.0	
8			SB-8 7.0 - 8.0'	100	0.0	
				100	0.0	
10				100	0.0	
				100	0.0	
12				100	0.0	
				100	0.0	
14		<b>CL- (Medium Stiff) CLAY (moist)</b> Gray, medium plasticity, trace sand and gravel		100	0.0	
16						

**Completion Notes:** EOB @ 15.0' bgs.

### Legend:

EOB End of Boring  
 Bgs. Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet



**Project No.:** 01-11288-1-004  
**Project Name:** Mariner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 11/24/21  
**Logged By:** H. Iglewski

## Boring Log

**Boring No.:** SB-8A  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			No Well Installed
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>TOP SOIL</b>				
		<b>SC- (Medium Dense) CLAYEY SAND (damp)</b> Dark Brown, fine to medium, trace gravel, concrete/brick debris		100	0.7	
2				100	0.3	
		<b>CL- (Soft) CLAY (damp)</b> Dark Brown, low plasticity, trace gravel, some sand, concrete/brick debris		100	0.1	
4		<b>CL- (Soft) CLAY (damp)</b> Brown, high plasticity, trace gravel	SB-8A 3.5-4.5'	100	0.1	
			SB-8A	100	0.0	
		<b>CL- (Stiff) CLAY (damp)</b> Brown, low plasticity, trace gravel	4.5-5.5'	100	0.0	
6				100	0.0	
				100	0.0	
8				100	0.0	
				100	0.0	
10				100	0.0	

**Completion Notes:** EOB @ 10.0' bgs.

### Legend:

EOB End of Boring  
 Bgs. Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet



**Project No.:** 01-11288-1-004  
**Project Name:** Marlner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 11/24/21  
**Logged By:** H. Iglewski

## Boring Log

**Boring No.:** SB-9  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			No Well Installed
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>TOP SOIL/GRAVEL</b>				
		<b>SW- (Dense) SAND (damp)</b> Brown, fine to medium, trace gravel, some clay, brick/concrete/asphalt debris		80	0.0	
				80	0.0	
2				80	0.0	
				80	0.0	
4		<b>CL- (Medium Stiff) CLAY (damp)</b> Brown/Gray, medium plasticity, trace gravel, some sand, brick debris,	SB-9A 3.5-4.5'	80	0.0	
				80	0.0	
				100	0.0	
6				100	0.0	
		<b>CL- (Stiff) CLAY (damp)</b> Brown, meidum plasticity, trace gravel, brick debris		100	0.0	
8				100	0.0	
				100	0.0	
10				100	0.0	

**Completion Notes:** EOB @ 10.0' bgs.

**Legend:**

EOB End of Boring  
Bgs. Below Ground Surface  
NR No Recovery  
NA Not Applicable  
ft Feet





**Project No.:** 01-11288-1-004  
**Project Name:** Marlner's Inn  
**Address:** 445 Ledyard St, Detroit, MI  
**Facility ID#:**  
**Date Drilled:** 11/24/21  
**Logged By:** H. Iglewski

## Well Log

**Well No.:** SB/TSG-10  
**Drill Rig:** 6712 DT  
**Drilling Method:** Direct Push  
**Sampling Method:** Grab  
**Drilling Contractor:** PM

SUBSURFACE PROFILE			SAMPLE			Completion Details
Depth (ft)	Soil Type Graphic	Description and Comments	Sample Interval	% Recovery	PID (ppm)	
0		Ground Surface				
		<b>TOPSOIL</b>		75	0.5	
		<b>CL- (Medium Stiff) CLAY (damp)</b> Brown, low plasticity, trace gravel		75	0.1	
2		<b>CONCRETE AND BRICK DEBRIS</b>		75	0.1	
		<b>CL- (Soft) CLAY (damp)</b> Brown, low plasticity, trace gravel, concrete/brick debris		75	0.1	
4		<b>CONCRETE AND BRICK DEBRIS</b>	SB-10	75	0.1	
		<b>CL- (Soft) CLAY (damp)</b> Brown, low plasticity, trace gravel, some sand concrete/brick debris	3.5 - 4.5'	75	0.1	
			4.5-5.5'	100	0.0	
6		<b>CL- (Stiff) CLAY (moist)</b> Brown, low plasticity, trace gravel, some sand concrete/brick debris		100	0.0	
				100	0.0	
			SB-10	100	0.0	
			7.0-8.0'	100	0.0	
8				100	0.0	
				100	0.0	
10				100	0.0	
				100	0.0	
12				100	0.0	
				100	0.0	
14				100	0.0	
				100	0.0	
16				100	0.0	
				100	0.0	
18				100	0.0	
				100	0.0	
20						

**Completion Notes:** EOB @ 20.0' bgs.

### Legend:

EOB End of Boring  
 bgs Below Ground Surface  
 NR No Recovery  
 NA Not Applicable  
 ft Feet  
 in Inches

## Appendix D



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
WARREN DISTRICT OFFICE



LIESL EICHLER CLARK  
DIRECTOR

June 7, 2022

**MEMO**

DELIVERED VIA ELECTRONIC MAIL 6/7/2022

TO: Nicholas Lieder, PM Environmental

FROM: Jeanne Schlaufman, EQS  
Remediation and Redevelopment Division  
Southeast Michigan District

SUBJECT: Request for Site-Specific Criteria  
The Anchor at Mariners Inn  
445 Ledyard Street, Detroit, Wayne County  
Site ID # 82008730

The Department of Environment, Great Lakes, and Energy (EGLE) has developed site-specific volatilization to indoor air criteria and site-specific target levels for the volatilization to indoor air pathways for the subject site in response to your request received May 11, 2022.

Inserted within the body of this memo are tables that contain site-specific volatilization to indoor air criteria (SSVIAC) under Part 201 of the Natural Resources and Environmental Protection Act, 1994 PA 451 as amended (NREPA), which represent EGLE's determination of values that reflect best available information regarding the toxicity and exposure risks posed by the hazardous substances present at the The Anchor at Mariners Inn, 445 Ledyard Street, Detroit, Wayne County. These values may be used as SSVIAC without further documentation to evaluate the volatilization to indoor air pathway (VIAP). If representative groundwater and soil sampling indicate that site concentrations are below unrestricted residential SSVIAC, there is not a vapor source and there is not a requirement to evaluate the migration of vapors with vapor sampling. Exceedance of unrestricted residential SSVIAC for any media necessitates a representative vapor investigation to evaluate the VIAP. Other values may be developed by a person consistent with the statutory provisions for development of site-specific criteria or screening levels and provided for EGLE review and approval.

Exceedances of these residential SSVIAC will require restrictions or institutional controls for closure or aid in the determination of off-site migration.

The results of this evaluation are as follows:



**Table 1.** Residential Part 201 SSVIAC or Part 213 VIAP STTLs. The following **restricted** site-specific values apply to a residential house that has a **slab-on-grade** foundation and an **elevator pit extending 5 feet below grade**, the depth to groundwater submitted for this site (i.e. 20 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Groundwater Not In Contact (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
83329	Acenaphthene	3,900 (S) sol	2.1E+05 nc	7,300 nc
208968	Acenaphthylene	65 (CC) nc	DATA	7,300 nc
67641	Acetone	2.9E+07 (EE) st	2.6E+05 (EE) st	1.0E+06 (EE) st
107131	Acrylonitrile	110 ca	1.2 (M) ca	12 ca
994058	t-Amyl methyl ether (TAME)	3,400 nc	34 (M) nc	2,200 nc
120127	Anthracene	43 (S) sol	1.3E+07 nc	35,000 nc
71432	Benzene	31 ca	1.7 (M) ca	110 ca
56553	Benzo(a)anthracene	9.4 (S) (MM) sol	1.6E+05 (MM) mut	5.8 (MM) mut
108861	Bromobenzene	3,100 nc	160 nc	2,100 nc
75274	Bromodichloromethane	56 ca	0.61 (M) ca	48 ca
75252	Bromoform	5,900 ca	45 (M) ca	770 ca
74839	Bromomethane	55 nc	0.90 (M) nc	350 nc
78933	2-Butanone (MEK)	3.7E+06 (DD) dev	31,000 (DD) dev	1.7E+05 (DD) dev
75650	t-Butyl alcohol	3.5E+05 nc	3,200 nc	2,500 nc
104518	n-Butylbenzene	1,900 nc	560 nc	7,000 nc
135988	sec-Butylbenzene	8,000 nc	3,800 nc	14 nc
98066	t-Butylbenzene	3.2 nc	0.64 (M) nc	14 nc
75150	Carbon disulfide	2,100 nc	52 (M) nc	24,000 nc
56235	Carbon tetrachloride	13 ca	0.31 (M) ca	150 ca
108907	Chlorobenzene	1,200 nc	82 nc	1,700 nc
75003	Chloroethane	14,000 nc	330 nc	1.4E+05 nc
67663	Chloroform	17 ca	0.26 (M) ca	37 ca
74873	Chloromethane	320 nc	6.9 (M) nc	3,100 nc
110827	Cyclohexane	2,400 nc	320 (M) nc	2.1E+05 nc

**Table 1.** Residential Part 201 SSVIAC or Part 213 VIAP STTLs. The following **restricted** site-specific values apply to a residential house that has a **slab-on-grade** foundation and an **elevator pit extending 5 feet below grade**, the depth to groundwater submitted for this site (i.e. 20 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Groundwater Not In Contact (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
124481	Dibromochloromethane	53 (MM) mut	0.40 (MM) (M) mut	14 (MM) mut
96128	Dibromochloropropane	4.5E-04 (MM) (M) (CC) mut	DATA	6.2E-02 (MM) mut
95501	1,2-Dichlorobenzene	18,000 nc	1,500 nc	10,000 nc
541731	1,3-Dichlorobenzene	120 nc	10 (M) nc	100 nc
106467	1,4-Dichlorobenzene	290 ca	23 (M) ca	220 ca
75718	Dichlorodifluoromethane	66 nc	12 (M) nc	11,000 nc
75343	1,1-Dichloroethane	150 ca	2.6 (M) ca	530 ca
107062	1,2-Dichloroethane	47 ca	0.82 (M) ca	33 ca
75354	1,1-Dichloroethylene	380 nc	12 (M) nc	7,000 nc
156592	cis-1,2-Dichloroethylene	110 nc	2.1 (M) nc	280 nc
156605	trans-1,2-Dichloroethylene	440 nc	12 (M) nc	2,800 nc
78875	1,2-Dichloropropane	97 nc	2.1 (M) nc	140 nc
542756	1,3-Dichloropropene	120 (J) ca	3.1 (M) (J) ca	210 (J) ca
60297	Diethyl ether	41,000 nc	350 nc	35,000 nc
108203	Diisopropyl ether	19,000 (DD) dev	200 (M) (DD) dev	23,000 (DD) dev
64175	Ethanol	1.2E+08 (EE) st	1.3E+06 (EE) st	6.3E+05 (EE) st
637923	Ethyl-tert-butyl ether (ETBE)	22 (CC) nc	DATA	13,000 nc
100414	Ethylbenzene	100 ca	12 (M) ca	340 ca
106934	Ethylene dibromide	7.3 ca	7.4E-02 (M) ca	1.4 ca
86737	Fluorene	1,700 (S) sol	4.7E+05 nc	4,900 nc
142825	n-Heptane	150 (GW) nc	130 nc	1.2E+05 nc
67721	Hexachloroethane	120 ca	3.3 (M) ca	85 ca
110543	n-Hexane	29 (GW) nc	25 nc	24,000 nc
67630	Isopropyl alcohol	1.0E+06 nc	9,900 nc	7,000 nc

**Table 1.** Residential Part 201 SSVIAC or Part 213 VIAP STTLs. The following **restricted** site-specific values apply to a residential house that has a **slab-on-grade** foundation and an **elevator pit extending 5 feet below grade**, the depth to groundwater submitted for this site (i.e. 20 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Groundwater Not In Contact (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
98828	Isopropyl benzene	24 ca	3.8 (M) ca	81 ca
Varies	Mercury (Total)	3.4 nc	22 (M) nc	10 nc
108101	4-Methyl-2-pentanone (MIBK)	3.9E+05 (EE) st	3,300 (EE) st	27,000 (EE) st
1634044	Methyl-tert-butyl ether (MTBE)	9,200 ca	74 (M) ca	3,300 ca
96377	Methylcyclopentane	120 nc	29 (M) nc	24,000 nc
75092	Methylene chloride	8,500 nc	130 nc	21,000 nc
91576	2-Methylnaphthalene	3,200 nc	1,700 nc	350 nc
91203	Naphthalene	180 ca	67 (M) ca	25 ca
109660	Pentane	42 (M) nc	36 (M) nc	35,000 nc
85018	Phenanthrene	420 nc	1,700 nc	3.5 nc
1336363	Polychlorinated biphenyls (PCBs)	3.1E-02 (M) (CC) (J) ca	DATA	8.5 (J) ca
103651	n-Propylbenzene	9,600 (DD) dev	1,800 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	2.5E+07 nc	3,500 nc
100425	Styrene	1,300 ca	150 ca	1,500 ca
630206	1,1,1,2-Tetrachloroethane	170 ca	3.2 (M) ca	110 ca
79345	1,1,2,2-Tetrachloroethane	120 ca	2.7 (M) ca	15 ca
127184	Tetrachloroethylene	230 (EE) st	6.2 (M) (EE) st	1,400 (EE) st
109999	Tetrahydrofuran	1.2E+06 nc	13,000 nc	70,000 nc
108883	Toluene	52,000 nc	3,700 nc	1.7E+05 nc
87616	1,2,3-Trichlorobenzene	3,800 nc	840 nc	940 nc
120821	1,2,4-Trichlorobenzene	240 nc	53 (M) nc	70 nc
71556	1,1,1-Trichloroethane	20,000 (EE) st	450 (EE) st	1.7E+05 (EE) st
79005	1,1,2-Trichloroethane	19 nc	0.37 (M) nc	7.0 nc
79016	Trichloroethylene	14 (DD) dev	0.33 (M) (DD) dev	67 (DD) dev



**Table 1.** Residential Part 201 SSVIAC or Part 213 VIAP STTLs. The following **restricted** site-specific values apply to a residential house that has a **slab-on-grade** foundation and an **elevator pit extending 5 feet below grade**, the depth to groundwater submitted for this site (i.e. 20 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Groundwater Not In Contact (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
75694	Trichlorofluoromethane	280 nc	19 (M) nc	15,000 nc
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	6,600 nc	860 nc	6.6E+05 nc
540841	2,2,4-Trimethyl pentane	160 (GW) nc	130 (M) nc	1.2E+05 nc
526738	1,2,3-Trimethylbenzene	1,900 (JT) nc	270 (JT) nc	2,100 (JT) nc
95636	1,2,4-Trimethylbenzene	1,000 (JT) nc	150 (JT) nc	2,100 (JT) nc
108678	1,3,5-Trimethylbenzene	740 (JT) nc	100 (JT) nc	2,100 (JT) nc
75014	Vinyl chloride	2.0 (MM) mut	8.2E-02 (MM) (M) mut	54 (MM) mut
1330207	Xylenes	2,800 (J) nc	280 (J) nc	7,600 (J) nc

**Table 2.** Residential Part 201 SSVIAC or Part 213 VIAP STTLs. The following unrestricted site-specific values apply to a residential house that has a basement foundation, the depth to groundwater submitted for this site (i.e. 20 ft), and USDA soil type of sand.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
83329	Acenaphthene	3,900 (S) sol	2.0E+05 nc	7,300 nc
208968	Acenaphthylene	65 (CC) nc	DATA	7,300 nc
67641	Acetone	1.9E+07 (EE) st	2.6E+05 (EE) st	1.0E+06 (EE) st
107131	Acrylonitrile	73 ca	1.2 (M) ca	12 ca
994058	t-Amyl methyl ether (TAME)	2,100 nc	34 (M) nc	2,200 nc
120127	Anthracene	43 (S) sol	1.3E+07 nc	35,000 nc
71432	Benzene	20 ca	1.7 (M) ca	110 ca
56553	Benzo(a)anthracene	9.4 (S) (MM) sol	1.6E+05 (MM) mut	5.8 (MM) mut
108861	Bromobenzene	1,900 nc	160 nc	2,100 nc
75274	Bromodichloromethane	34 ca	0.61 (M) ca	48 ca
75252	Bromoform	3,500 ca	45 (M) ca	770 ca
74839	Bromomethane	35 nc	0.90 (M) nc	350 nc
78933	2-Butanone (MEK)	2.4E+06 (DD) dev	31,000 (DD) dev	1.7E+05 (DD) dev
75650	t-Butyl alcohol	2.3E+05 nc	3,200 nc	2,500 nc
104518	n-Butylbenzene	1,100 nc	550 nc	7,000 nc
135988	sec-Butylbenzene	5,000 nc	3,800 nc	14 nc
98066	t-Butylbenzene	1.9 nc	0.64 (M) nc	14 nc
75150	Carbon disulfide	1,300 nc	52 (M) nc	24,000 nc
56235	Carbon tetrachloride	7.8 ca	0.31 (M) ca	150 ca
108907	Chlorobenzene	770 nc	82 nc	1,700 nc
75003	Chloroethane	9,300 nc	330 nc	1.4E+05 nc
67663	Chloroform	11 ca	0.26 (M) ca	37 ca
74873	Chloromethane	210 nc	6.9 (M) nc	3,100 nc

**Table 2.** Residential Part 201 SSVIAC or Part 213 VIAP STTLs. The following **unrestricted** site-specific values apply to a residential house that has a **basement** foundation, the depth to groundwater submitted for this site (i.e. 20 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
110827	Cyclohexane	1,500 nc	320 (M) nc	2.1E+05 nc
124481	Dibromochloromethane	32 (MM) mut	0.40 (MM) (M) mut	14 (MM) mut
96128	Dibromochloropropane	4.5E-04 (MM) (M) (CC) mut	DATA	6.2E-02 (MM) mut
95501	1,2-Dichlorobenzene	11,000 nc	1,500 nc	10,000 nc
541731	1,3-Dichlorobenzene	76 nc	10 (M) nc	100 nc
106467	1,4-Dichlorobenzene	180 ca	23 (M) ca	220 ca
75718	Dichlorodifluoromethane	41 nc	12 (M) nc	11,000 nc
75343	1,1-Dichloroethane	95 ca	2.6 (M) ca	530 ca
107062	1,2-Dichloroethane	29 ca	0.82 (M) ca	33 ca
75354	1,1-Dichloroethylene	240 nc	12 (M) nc	7,000 nc
156592	cis-1,2-Dichloroethylene	67 nc	2.1 (M) nc	280 nc
156605	trans-1,2-Dichloroethylene	280 nc	12 (M) nc	2,800 nc
78875	1,2-Dichloropropane	61 nc	2.1 (M) nc	140 nc
542756	1,3-Dichloropropene	75 (J) ca	3.1 (M) (J) ca	210 (J) ca
60297	Diethyl ether	26,000 nc	350 nc	35,000 nc
108203	Diisopropyl ether	11,000 (DD) dev	190 (M) (DD) dev	23,000 (DD) dev
64175	Ethanol	8.3E+07 (EE) st	1.3E+06 (EE) st	6.3E+05 (EE) st
637923	Ethyl-tert-butyl ether (ETBE)	22 (CC) nc	DATA	13,000 nc
100414	Ethylbenzene	64 ca	12 (M) ca	340 ca
106934	Ethylene dibromide	4.4 ca	7.4E-02 (M) ca	1.4 ca
86737	Fluorene	1,700 (S) sol	4.7E+05 nc	4,900 nc
142825	n-Heptane	150 (GW) nc	130 nc	1.2E+05 nc
67721	Hexachloroethane	70 ca	3.2 (M) ca	85 ca
110543	n-Hexane	29 (GW) nc	25 nc	24,000 nc

**Table 2.** Residential Part 201 SSVIAC or Part 213 VIAP STTLs. The following **unrestricted** site-specific values apply to a residential house that has a **basement** foundation, the depth to groundwater submitted for this site (i.e. 20 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
67630	Isopropyl alcohol	6.7E+05 nc	9,800 nc	7,000 nc
98828	Isopropyl benzene	15 ca	3.8 (M) ca	81 ca
Varies	Mercury (Total)	2.1 nc	22 (M) nc	10 nc
108101	4-Methyl-2-pentanone (MIBK)	2.4E+05 (EE) st	3,300 (EE) st	27,000 (EE) st
1634044	Methyl-tert-butyl ether (MTBE)	5,800 ca	74 (M) ca	3,300 ca
96377	Methylcyclopentane	73 nc	29 (M) nc	24,000 nc
75092	Methylene chloride	5,400 nc	130 nc	21,000 nc
91576	2-Methylnaphthalene	1,900 nc	1,700 nc	350 nc
91203	Naphthalene	110 ca	67 (M) ca	25 ca
109660	Pentane	40 (M) (GW) nc	36 (M) nc	35,000 nc
85018	Phenanthrene	250 nc	1,700 nc	3.5 nc
1336363	Polychlorinated biphenyls (PCBs)	3.1E-02 (M) (CC) (J) ca	DATA	8.5 (J) ca
103651	n-Propylbenzene	5,900 (DD) dev	1,800 (DD) dev	33,000 (DD) dev
129000	Pyrene	140 (S) sol	2.5E+07 nc	3,500 nc
100425	Styrene	800 ca	150 ca	1,500 ca
630206	1,1,1,2-Tetrachloroethane	100 ca	3.2 (M) ca	110 ca
79345	1,1,2,2-Tetrachloroethane	72 ca	2.7 (M) ca	15 ca
127184	Tetrachloroethylene	140 (EE) st	6.2 (M) (EE) st	1,400 (EE) st
109999	Tetrahydrofuran	7.6E+05 nc	13,000 nc	70,000 nc
108883	Toluene	32,000 nc	3,700 nc	1.7E+05 nc
87616	1,2,3-Trichlorobenzene	2,300 nc	830 nc	940 nc
120821	1,2,4-Trichlorobenzene	150 nc	53 (M) nc	70 nc
71556	1,1,1-Trichloroethane	12,000 (EE) st	450 (EE) st	1.7E+05 (EE) st
79005	1,1,2-Trichloroethane	12 nc	0.37 (M) nc	7.0 nc



**Table 2.** Residential Part 201 SSVIAC or Part 213 VIAP STTLs. The following **unrestricted** site-specific values apply to a residential house that has a **basement** foundation, the depth to groundwater submitted for this site (i.e. 20 ft), and USDA soil type of **sand**.

CAS#	Hazardous Substance	Shallow Groundwater (µg/L)	Soil (µg/kg)	Soil Vapor** (µg/m³)
79016	Trichloroethylene	8.8 (DD) dev	0.33 (M) (DD) dev	67 (DD) dev
75694	Trichlorofluoromethane	170 nc	19 (M) nc	15,000 nc
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	3,900 nc	860 nc	6.6E+05 nc
540841	2,2,4-Trimethyl pentane	160 (GW) nc	130 (M) nc	1.2E+05 nc
526738	1,2,3-Trimethylbenzene	1,200 (JT) nc	270 (JT) nc	2,100 (JT) nc
95636	1,2,4-Trimethylbenzene	640 (JT) nc	150 (JT) nc	2,100 (JT) nc
108678	1,3,5-Trimethylbenzene	450 (JT) nc	100 (JT) nc	2,100 (JT) nc
75014	Vinyl chloride	1.3 (MM) mut	8.2E-02 (MM) (M) mut	54 (MM) mut
1330207	Xylenes	1,700 (J) nc	280 (J) nc	7,600 (J) nc

## **FOOTNOTES**

\*\*Soil vapor site-specific volatilization to indoor air criteria (SSVIAC) are applicable for all depths.

- Acceptable Air Values (AAV) endpoint basis used for SSVIAC: **(ca)** = Carcinogenic; **(nc)** = Non-Carcinogenic; **(dev)** = Developmental; **(mut)** = Mutagenic cancer; **(st)** = Short-term (i.e., less than chronic exposure).
- Footnote **(#)**: Acceptable air concentrations (AAC) cannot be adjusted to a 12-hour exposure time for hazardous substance.
- Footnote **AA**: Health-based groundwater SSVIAC are not available due to insufficient toxicological data. Dissolved-phase methane in groundwater is not explosive; however, if liberated and allowed to accumulate in an enclosed structure the principle health and safety concerns are explosive, flammable, and asphyxiant properties of gas phase methane. The acceptable groundwater concentration is the flammability and explosivity screening level (**FESL**) of 10,000 µg/L.
- Footnote **C**: The health-based SSVIAC exceeds the chemical-specific soil saturation screening level (**Csat**). Because this table does not list Csat values both were provided, with the calculated (health-based) value listed first and Csat provided in parenthesis. The person proposing or implementing response activity must document whether additional response activity is required to control non aqueous phase liquid (**NAPL**) to protect against risks associated with NAPL by using methods appropriate for the NAPL present.
- Footnote **CC**: Insufficient chemical-physical input parameters have been identified to allow the development of a health-based SSVIAC using standard methods. The health based SSVIAC for groundwater is developed based solely on the approach that the department uses for shallow groundwater. If groundwater detections are present, soil vapor may be the most appropriate media to evaluate risk posed from the VIAP.
- Footnote **DATA**: Insufficient physical chemical parameters to calculate a health based SSVIAC for specified media. If detections are present in specified media, health-based soil vapor SSVIAC should be used to evaluate risk.
- Footnote **DD**: Hazardous substance causes developmental effects. Residential SSVIAC are protective of both prenatal exposure using a pregnant female receptor and postnatal exposure using a child receptor. Nonresidential SSVIAC are protective of prenatal exposure using a pregnant female receptor. Prenatal developmental effects may occur after an acute (i.e. short-term) or full-term exposure.
- Footnote **EE**: The acceptable air concentration (**AAC**) for the volatile hazardous substances is not derived using standard methods. The hazardous substance may cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The AAC for these hazardous substances is the acute or intermediate minimum risk level (MRL) developed by the Agency for Toxic Substances and Disease Registry (ATSDR), a United States Environmental Protection Agency Integrated Risk Information System (IRIS) acute reference concentration, or EGLE's Air Quality Division acute initial threshold screening level (ITSL).
- Footnote **FF**: The AAC for the volatile hazardous substances are based on toxicity values that have been identified to have the potential to cause adverse human health effects for less than chronic exposures (i.e. short-term or acute). The short-term exposure for shallow groundwater health based SSVIAC are based on modification of the standard methods by the department to develop applicable shallow groundwater values.
- Footnote **GG**: Health-based SSVIAC for soil vapor are not available due to insufficient toxicological data. The soil vapor value addresses the health and safety concerns of explosive, flammable, and asphyxiant properties of gas phase methane. The acceptable soil vapor concentration is derived based on 25% of the lower explosive level (**LEL**) for methane.
- Footnote **GW**: The calculated health based SSVIAC for a hazardous substance based upon shallow groundwater is considered protective when it is greater than the calculated value for groundwater.
- Footnote **ID**: Requires further evaluation to determine the appropriate media to sample.
- Footnote **J**: Hazardous substance may be present in several isomer forms. Isomer-specific concentrations must be added together for comparison to criteria.
- Footnote **JT**: Hazardous substance may be present in several isomer forms. The health-based SSVIAC may be used for the individual isomer provided that it is the sole isomer detected; however, when multiple isomers are detected in a medium, the isomer-specific concentrations must be added together and compared to the most restrictive health-based SSVIAC of the detected isomers.
- Footnote **M**: The health based SSVIAC may be below target detection limits (**TDL**). In accordance with Sec. 20120a(10) when the TDL for a hazardous substance is greater than the developed health-based SSVIAC, the TDL is used to evaluate the risk posed from the pathway.
- Footnote **MM**: Hazardous substance is a carcinogen with a mutagenic mode of action. The cancer potency values used in calculating health-based SSVIAC are modified using age-dependent adjustment factors for those carcinogenic chemicals identified as mutagenic.
- Footnote **NA**: The hazardous substance does not meet the department's definition of a volatile; therefore, no health based SSVIAC were developed.
- Footnote **NR**: The hazardous substance has not been previously evaluated by the Remediation and Redevelopment Division Toxicology Unit. The identification, collection, and evaluation of toxicological literature and chemical-physical data cannot be completed within the timeframe requested.
- Footnote **S**: Calculated health-based SSVIAC exceeds the hazardous substance-specific water solubility limit; therefore, the water solubility limit is used to evaluate the risk posed from the pathway. When this occurs the basis for the screening level is noted as "sol".
- Footnote **TX**: The Remediation and Redevelopment Division Toxicology Unit has not identified an inhalation toxicity value for the hazardous substance.

## Appendix E



# Analytical Laboratory Report

Report ID: S25191.01(01)  
Generated on 06/16/2021

## Report to

Attention: Jana Beumel  
PM Environmental, Inc.  
4080 W. Eleven Mile  
Berkley, MI 48072

Phone: O:248-336-9988 D:248-414-1859 FAX:  
Email: Beumel@pmenv.com

## Report produced by

Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:  
John Lavery (johnlavery@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

## Report Summary

Lab Sample ID(s): S25191.01-S25191.16  
Project: 01-11288-1-0004  
Collected Date(s): 06/10/2021  
Submitted Date/Time: 06/11/2021 11:10  
Sampled by: Shawn Elswick  
P.O. #: 01-11288-1-0004

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Maya Murshak  
Technical Director





# Analytical Laboratory Report

## General Report Notes

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Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (\*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884

## Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

## Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



# Analytical Laboratory Report

## Method Summary

Method	Version
SM2540B	Standard Method 2540 B 2011
SW3050B	SW 846 Method 3050B Revision 2 December 1996
SW3546	SW 846 Method 3546 Revision 0 February 2007
SW3550C	SW 846 Method 3550C Revision 3 February 2007
SW5035A	SW 846 Method 5035A Revision 1 July 2002
SW5035A/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5035A Revision 1 July 2002
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW7471B	SW 846 Method 7471B Revision 2 February 2007
SW8082A	SW 846 Method 8082A Revision 1 February 2007
SW8270D	SW 846 Method 8270D Revision 4 February 2007



## Analytical Laboratory Report

### Sample Summary (16 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S25191.01	SB-3 1-2'	Soil	06/10/21 09:25
S25191.02	SB-3 5-6'	Soil	06/10/21 09:30
S25191.03	SB-4 3.5-4.5'	Soil	06/10/21 10:10
S25191.04	SB-4 6-7'	Soil	06/10/21 10:15
S25191.05	SB-5 3.5-4.5'	Soil	06/10/21 10:55
S25191.06	SB-5 7-8'	Soil	06/10/21 11:00
S25191.07	SB-6 5.5-6.5'	Soil	06/10/21 11:25
S25191.08	SB-6 14-15'	Soil	06/10/21 11:30
S25191.09	SB-7 1-2'	Soil	06/10/21 12:10
S25191.10	SB-7 5.5-6.5'	Soil	06/10/21 12:15
S25191.11	SB-8 1-2'	Soil	06/10/21 12:45
S25191.12	SB-8 7-8'	Soil	06/10/21 12:50
S25191.13	SB-2 4-5'	Soil	06/10/21 13:35
S25191.14	SB-2 7-8'	Soil	06/10/21 13:40
S25191.15	SB-1 4-5'	Soil	06/10/21 14:05
S25191.16	SB-1 7-8'	Soil	06/10/21 14:10





# Analytical Laboratory Report

Lab Sample ID: S25191.01

Sample Tag: SB-3 1-2'

Collected Date/Time: 06/10/2021 09:25

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	06/14/21 17:00	TTV	
Sample wt. (g) / Methanol (ml)*	8.487/10	SW5035A	06/14/21 11:08	REC	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 09:10, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	85	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 21:41, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	400	300		ug/kg	10	205-99-2	p
Benzo(k)fluoranthene	500	300		ug/kg	10	207-08-9	p
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	400	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	400	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 00:47, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	78.1	60-29-7	
Acetone	Not detected	2,000		ug/kg	78.1	67-64-1	
Methyl iodide	Not detected	200		ug/kg	78.1	74-88-4	
Carbon disulfide	Not detected	400		ug/kg	78.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	78.1	1634-04-4	
Acrylonitrile	Not detected	200		ug/kg	78.1	107-13-1	
2-Butanone (MEK)	Not detected	1,200		ug/kg	78.1	78-93-3	
Dichlorodifluoromethane	Not detected	400		ug/kg	78.1	75-71-8	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S25191.01 (continued)

Sample Tag: SB-3 1-2'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 00:47, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	400		ug/kg	78.1	74-87-3	
Vinyl chloride	Not detected	80		ug/kg	78.1	75-01-4	
Bromomethane	Not detected	300		ug/kg	78.1	74-83-9	
Chloroethane	Not detected	400		ug/kg	78.1	75-00-3	
Trichlorofluoromethane	Not detected	200		ug/kg	78.1	75-69-4	
1,1-Dichloroethene	Not detected	80		ug/kg	78.1	75-35-4	
Methylene chloride	Not detected	200		ug/kg	78.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	80		ug/kg	78.1	156-60-5	
1,1-Dichloroethane	Not detected	80		ug/kg	78.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	80		ug/kg	78.1	156-59-2	
Tetrahydrofuran*	Not detected	2,000		ug/kg	78.1	109-99-9	
Chloroform	Not detected	80		ug/kg	78.1	67-66-3	
Bromochloromethane	Not detected	200		ug/kg	78.1	74-97-5	
1,1,1-Trichloroethane	Not detected	80		ug/kg	78.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	4,000		ug/kg	78.1	108-10-1	
2-Hexanone	Not detected	4,000		ug/kg	78.1	591-78-6	
Carbon tetrachloride	Not detected	80		ug/kg	78.1	56-23-5	
Benzene	Not detected	80		ug/kg	78.1	71-43-2	
1,2-Dichloroethane	Not detected	80		ug/kg	78.1	107-06-2	
Trichloroethene	Not detected	80		ug/kg	78.1	79-01-6	
1,2-Dichloropropane	Not detected	80		ug/kg	78.1	78-87-5	
Bromodichloromethane	Not detected	200		ug/kg	78.1	75-27-4	
Dibromomethane	Not detected	400		ug/kg	78.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	80		ug/kg	78.1	10061-01-5	
Toluene	Not detected	80		ug/kg	78.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	80		ug/kg	78.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	80		ug/kg	78.1	79-00-5	
Tetrachloroethene	Not detected	80		ug/kg	78.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	80		ug/kg	78.1	110-57-6	
Dibromochloromethane	Not detected	200		ug/kg	78.1	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	78.1	106-93-4	M
Chlorobenzene	Not detected	80		ug/kg	78.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	200		ug/kg	78.1	630-20-6	
Ethylbenzene	Not detected	80		ug/kg	78.1	100-41-4	
p,m-Xylene	Not detected	200		ug/kg	78.1		
o-Xylene	Not detected	80		ug/kg	78.1	95-47-6	
Styrene	Not detected	80		ug/kg	78.1	100-42-5	
Isopropylbenzene	Not detected	400		ug/kg	78.1	98-82-8	
Bromoform	Not detected	200		ug/kg	78.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	80		ug/kg	78.1	79-34-5	
1,2,3-Trichloropropane	Not detected	200		ug/kg	78.1	96-18-4	
n-Propylbenzene	Not detected	80		ug/kg	78.1	103-65-1	
Bromobenzene	Not detected	200		ug/kg	78.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	80		ug/kg	78.1	108-67-8	
tert-Butylbenzene	Not detected	80		ug/kg	78.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	80		ug/kg	78.1	95-63-6	
sec-Butylbenzene	Not detected	80		ug/kg	78.1	135-98-8	
p-Isopropyltoluene	Not detected	200		ug/kg	78.1	99-87-6	
1,3-Dichlorobenzene	Not detected	200		ug/kg	78.1	541-73-1	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.01 (continued)

Sample Tag: SB-3 1-2'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 00:47, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	200		ug/kg	78.1	106-46-7	
1,2-Dichlorobenzene	Not detected	200		ug/kg	78.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	80		ug/kg	78.1	526-73-8	
n-Butylbenzene	Not detected	80		ug/kg	78.1	104-51-8	
Hexachloroethane	Not detected	500		ug/kg	78.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	400		ug/kg	78.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	520		ug/kg	78.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	520		ug/kg	78.1	87-61-6	
Naphthalene	Not detected	400		ug/kg	78.1	91-20-3	
2-Methylnaphthalene	Not detected	200		ug/kg	78.1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.02

Sample Tag: SB-3 5-6'

Collected Date/Time: 06/10/2021 09:30

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	06/14/21 17:00	TTV	
Sample wt. (g) / Methanol (ml)*	11.466/11	SW5035A	06/14/21 11:08	REC	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 09:10, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	86	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 22:03, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 01:09, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	63.9	60-29-7	
Acetone	Not detected	1,000		ug/kg	63.9	67-64-1	
Methyl iodide	Not detected	100		ug/kg	63.9	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	63.9	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	63.9	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	63.9	107-13-1	
2-Butanone (MEK)	Not detected	960		ug/kg	63.9	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	63.9	75-71-8	
Chloromethane	Not detected	300		ug/kg	63.9	74-87-3	



Lab Sample ID: S25191.02 (continued)

Sample Tag: SB-3 5-6'

**Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 01:09, Analyst: KAG (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	60		ug/kg	63.9	75-01-4	
Bromomethane	Not detected	300		ug/kg	63.9	74-83-9	
Chloroethane	Not detected	300		ug/kg	63.9	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	63.9	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	63.9	75-35-4	
Methylene chloride	Not detected	100		ug/kg	63.9	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	63.9	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	63.9	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	63.9	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	63.9	109-99-9	
Chloroform	Not detected	60		ug/kg	63.9	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	63.9	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	63.9	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	63.9	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	63.9	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	63.9	56-23-5	
Benzene	Not detected	60		ug/kg	63.9	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	63.9	107-06-2	
Trichloroethene	Not detected	60		ug/kg	63.9	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	63.9	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	63.9	75-27-4	
Dibromomethane	Not detected	300		ug/kg	63.9	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	63.9	10061-01-5	
Toluene	Not detected	60		ug/kg	63.9	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	63.9	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	63.9	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	63.9	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	63.9	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	63.9	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	63.9	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	63.9	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	63.9	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	63.9	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	63.9		
o-Xylene	Not detected	60		ug/kg	63.9	95-47-6	
Styrene	Not detected	60		ug/kg	63.9	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	63.9	98-82-8	
Bromoform	Not detected	100		ug/kg	63.9	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	63.9	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	63.9	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	63.9	103-65-1	
Bromobenzene	Not detected	100		ug/kg	63.9	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	63.9	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	63.9	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	63.9	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	63.9	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	63.9	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	63.9	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	63.9	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.02 (continued)

Sample Tag: SB-3 5-6'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 01:09, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	63.9	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	63.9	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	63.9	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	63.9	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	63.9	96-12-8	
1,2,4-Trichlorobenzene	Not detected	420		ug/kg	63.9	120-82-1	
1,2,3-Trichlorobenzene	Not detected	420		ug/kg	63.9	87-61-6	
Naphthalene	Not detected	300		ug/kg	63.9	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	63.9	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.03

Sample Tag: SB-4 3.5-4.5'

Collected Date/Time: 06/10/2021 10:10

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction*	Completed	SW3546	06/14/21 17:00	TTV	
Sample wt. (g) / Methanol (ml)*	9.448/10	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 09:10, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	84	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:27, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	3.19	0.20		mg/kg	282	7440-38-2	
Barium	96.7	1.0		mg/kg	282	7440-39-3	
Cadmium	0.53	0.20		mg/kg	282	7440-43-9	
Chromium	6.13	0.50		mg/kg	282	7440-47-3	
Copper	19.7	0.50		mg/kg	282	7440-50-8	
Lead	92.6	0.30		mg/kg	282	7439-92-1	
Silver	0.29	0.20		mg/kg	282	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:46, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	0.47	0.40		mg/kg	282	7782-49-2	
Zinc	168	0.50		mg/kg	282	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:04, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	0.296	0.050		mg/kg	74	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 18:15, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	

Lab Sample ID: S25191.03 (continued)

Sample Tag: SB-4 3.5-4.5'

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 22:25, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	300	300		ug/kg	10	207-08-9	p
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	400	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	300	300		ug/kg	10	85-01-8	
Pyrene	400	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 01:32, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	72.5	60-29-7	
Acetone	Not detected	1,000		ug/kg	72.5	67-64-1	
Methyl iodide	Not detected	100		ug/kg	72.5	74-88-4	
Carbon disulfide	Not detected	400		ug/kg	72.5	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	72.5	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	72.5	107-13-1	
2-Butanone (MEK)	Not detected	1,100		ug/kg	72.5	78-93-3	
Dichlorodifluoromethane	Not detected	400		ug/kg	72.5	75-71-8	
Chloromethane	Not detected	400		ug/kg	72.5	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	72.5	75-01-4	
Bromomethane	Not detected	300		ug/kg	72.5	74-83-9	
Chloroethane	Not detected	400		ug/kg	72.5	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	72.5	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	72.5	75-35-4	
Methylene chloride	Not detected	100		ug/kg	72.5	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	72.5	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	72.5	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	72.5	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	72.5	109-99-9	
Chloroform	Not detected	70		ug/kg	72.5	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	72.5	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	72.5	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	4,000		ug/kg	72.5	108-10-1	
2-Hexanone	Not detected	4,000		ug/kg	72.5	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	72.5	56-23-5	
Benzene	Not detected	70		ug/kg	72.5	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	72.5	107-06-2	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.





# Analytical Laboratory Report

Lab Sample ID: S25191.03 (continued)

Sample Tag: SB-4 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 01:32, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	70		ug/kg	72.5	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	72.5	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	72.5	75-27-4	
Dibromomethane	Not detected	400		ug/kg	72.5	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	72.5	10061-01-5	
Toluene	Not detected	70		ug/kg	72.5	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	72.5	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	72.5	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	72.5	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	72.5	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	72.5	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	72.5	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	72.5	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	72.5	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	72.5	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	72.5		
o-Xylene	Not detected	70		ug/kg	72.5	95-47-6	
Styrene	Not detected	70		ug/kg	72.5	100-42-5	
Isopropylbenzene	Not detected	400		ug/kg	72.5	98-82-8	
Bromoform	Not detected	100		ug/kg	72.5	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	72.5	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	72.5	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	72.5	103-65-1	
Bromobenzene	Not detected	100		ug/kg	72.5	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	72.5	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	72.5	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	72.5	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	72.5	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	72.5	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	72.5	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	72.5	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	72.5	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	72.5	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	72.5	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	72.5	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	400		ug/kg	72.5	96-12-8	
1,2,4-Trichlorobenzene	Not detected	480		ug/kg	72.5	120-82-1	
1,2,3-Trichlorobenzene	Not detected	480		ug/kg	72.5	87-61-6	
Naphthalene	Not detected	400		ug/kg	72.5	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	72.5	91-57-6	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.04

Sample Tag: SB-4 6-7'

Collected Date/Time: 06/10/2021 10:15

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction*	Completed	SW3546	06/14/21 17:00	TTV	
Sample wt. (g) / Methanol (ml)*	9.829/10	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 09:10, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:29, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	1.28	0.20		mg/kg	270	7440-38-2	
Barium	43.4	1.0		mg/kg	270	7440-39-3	
Cadmium	0.20	0.20		mg/kg	270	7440-43-9	
Chromium	6.02	0.50		mg/kg	270	7440-47-3	
Copper	4.95	0.50		mg/kg	270	7440-50-8	
Lead	4.99	0.30		mg/kg	270	7439-92-1	
Silver	Not detected	0.20		mg/kg	270	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:47, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	Not detected	0.40		mg/kg	270	7782-49-2	
Zinc	16.3	0.50		mg/kg	270	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:13, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	Not detected	0.050		mg/kg	62	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 18:26, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	

Lab Sample ID: S25191.04 (continued)

Sample Tag: SB-4 6-7'

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 22:47, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 01:54, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	65.9	60-29-7	
Acetone	Not detected	1,000		ug/kg	65.9	67-64-1	
Methyl iodide	Not detected	100		ug/kg	65.9	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	65.9	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	65.9	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	65.9	107-13-1	
2-Butanone (MEK)	Not detected	990		ug/kg	65.9	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	65.9	75-71-8	
Chloromethane	Not detected	300		ug/kg	65.9	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	65.9	75-01-4	
Bromomethane	Not detected	300		ug/kg	65.9	74-83-9	
Chloroethane	Not detected	300		ug/kg	65.9	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	65.9	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	65.9	75-35-4	
Methylene chloride	Not detected	100		ug/kg	65.9	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	65.9	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	65.9	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	65.9	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	65.9	109-99-9	
Chloroform	Not detected	70		ug/kg	65.9	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	65.9	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	65.9	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	65.9	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	65.9	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	65.9	56-23-5	
Benzene	Not detected	70		ug/kg	65.9	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	65.9	107-06-2	
Trichloroethene	Not detected	70		ug/kg	65.9	79-01-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.04 (continued)

Sample Tag: SB-4 6-7'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 01:54, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloropropane	Not detected	70		ug/kg	65.9	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	65.9	75-27-4	
Dibromomethane	Not detected	300		ug/kg	65.9	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	65.9	10061-01-5	
Toluene	Not detected	70		ug/kg	65.9	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	65.9	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	65.9	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	65.9	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	65.9	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	65.9	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	65.9	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	65.9	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	65.9	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	65.9	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	65.9		
o-Xylene	Not detected	70		ug/kg	65.9	95-47-6	
Styrene	Not detected	70		ug/kg	65.9	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	65.9	98-82-8	
Bromoform	Not detected	100		ug/kg	65.9	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	65.9	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	65.9	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	65.9	103-65-1	
Bromobenzene	Not detected	100		ug/kg	65.9	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	65.9	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	65.9	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	65.9	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	65.9	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	65.9	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	65.9	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	65.9	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	65.9	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	65.9	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	65.9	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	65.9	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	65.9	96-12-8	
1,2,4-Trichlorobenzene	Not detected	430		ug/kg	65.9	120-82-1	
1,2,3-Trichlorobenzene	Not detected	430		ug/kg	65.9	87-61-6	
Naphthalene	Not detected	300		ug/kg	65.9	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	65.9	91-57-6	

M-Result reported to MDL not RDL





# Analytical Laboratory Report

Lab Sample ID: S25191.05

Sample Tag: SB-5 3.5-4.5'

Collected Date/Time: 06/10/2021 10:55

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction*	Completed	SW3546	06/14/21 17:00	TTV	
Sample wt. (g) / Methanol (ml)*	10.060/10	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 09:10, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	90	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:30, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	3.60	0.20		mg/kg	249	7440-38-2	
Barium	224	1.0		mg/kg	249	7440-39-3	
Cadmium	0.65	0.20		mg/kg	249	7440-43-9	
Chromium	8.22	0.50		mg/kg	249	7440-47-3	
Copper	7.73	0.50		mg/kg	249	7440-50-8	
Lead	231	0.30		mg/kg	249	7439-92-1	
Silver	Not detected	0.20		mg/kg	249	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:48, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	Not detected	0.40		mg/kg	249	7782-49-2	
Zinc	219	0.50		mg/kg	249	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:14, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	0.898	0.050		mg/kg	62	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 18:39, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	

Lab Sample ID: S25191.05 (continued)

Sample Tag: SB-5 3.5-4.5'

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/16/21 01:21, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	2,200	300		ug/kg	10	83-32-9	
Acenaphthylene	600	300		ug/kg	10	208-96-8	
Anthracene	7,800	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	14,600	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	12,600	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	22,500	300		ug/kg	10	205-99-2	p
Benzo(k)fluoranthene	26,200	300		ug/kg	10	207-08-9	p
Benzo(ghi)perylene	4,100	300		ug/kg	10	191-24-2	
Chrysene	14,600	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	30,100	300		ug/kg	10	206-44-0	
Fluorene	2,800	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	4,600	300		ug/kg	10	193-39-5	
Naphthalene	1,400	300		ug/kg	10	91-20-3	
Phenanthrene	27,400	300		ug/kg	10	85-01-8	
Pyrene	25,000	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	900	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 02:17, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	60.8	60-29-7	
Acetone	Not detected	1,000		ug/kg	60.8	67-64-1	
Methyl iodide	Not detected	100		ug/kg	60.8	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	60.8	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	60.8	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	60.8	107-13-1	
2-Butanone (MEK)	Not detected	910		ug/kg	60.8	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	60.8	75-71-8	
Chloromethane	Not detected	300		ug/kg	60.8	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	60.8	75-01-4	
Bromomethane	Not detected	200		ug/kg	60.8	74-83-9	
Chloroethane	Not detected	300		ug/kg	60.8	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	60.8	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	60.8	75-35-4	
Methylene chloride	Not detected	100		ug/kg	60.8	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	60.8	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	60.8	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	60.8	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	60.8	109-99-9	
Chloroform	Not detected	60		ug/kg	60.8	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	60.8	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	60.8	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	60.8	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	60.8	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	60.8	56-23-5	
Benzene	Not detected	60		ug/kg	60.8	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	60.8	107-06-2	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S25191.05 (continued)

Sample Tag: SB-5 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 02:17, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	60		ug/kg	60.8	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	60.8	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	60.8	75-27-4	
Dibromomethane	Not detected	300		ug/kg	60.8	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	60.8	10061-01-5	
Toluene	Not detected	60		ug/kg	60.8	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	60.8	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	60.8	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	60.8	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	60.8	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	60.8	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	60.8	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	60.8	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	60.8	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	60.8	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	60.8		
o-Xylene	Not detected	60		ug/kg	60.8	95-47-6	
Styrene	Not detected	60		ug/kg	60.8	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	60.8	98-82-8	
Bromoform	Not detected	100		ug/kg	60.8	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	60.8	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	60.8	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	60.8	103-65-1	
Bromobenzene	Not detected	100		ug/kg	60.8	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	60.8	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	60.8	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	60.8	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	60.8	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	60.8	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	60.8	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	60.8	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	60.8	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	60.8	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	60.8	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	60.8	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	60.8	96-12-8	
1,2,4-Trichlorobenzene	Not detected	400		ug/kg	60.8	120-82-1	
1,2,3-Trichlorobenzene	Not detected	400		ug/kg	60.8	87-61-6	
Naphthalene	600	300		ug/kg	60.8	91-20-3	
2-Methylnaphthalene	300	100		ug/kg	60.8	91-57-6	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.06

Sample Tag: SB-5 7-8'

Collected Date/Time: 06/10/2021 11:00

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction*	Completed	SW3546	06/14/21 17:00	TTV	
Sample wt. (g) / Methanol (ml)*	9.509/10	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	88	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:32, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	1.25	0.20		mg/kg	261	7440-38-2	
Barium	37.2	1.0		mg/kg	261	7440-39-3	
Cadmium	Not detected	0.20		mg/kg	261	7440-43-9	
Chromium	6.73	0.50		mg/kg	261	7440-47-3	
Copper	3.36	0.50		mg/kg	261	7440-50-8	
Lead	5.26	0.30		mg/kg	261	7439-92-1	
Silver	Not detected	0.20		mg/kg	261	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:49, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	Not detected	0.40		mg/kg	261	7782-49-2	
Zinc	15.9	0.50		mg/kg	261	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:18, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	Not detected	0.050		mg/kg	67	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 18:50, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	



Lab Sample ID: S25191.06 (continued)

Sample Tag: SB-5 7-8'

## Organics - Semi-Volatiles

**Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 23:09, Analyst: PL**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

**Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 02:40, Analyst: KAG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	66.6	60-29-7	
Acetone	Not detected	1,000		ug/kg	66.6	67-64-1	
Methyl iodide	Not detected	100		ug/kg	66.6	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	66.6	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	66.6	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	66.6	107-13-1	
2-Butanone (MEK)	Not detected	1,000		ug/kg	66.6	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	66.6	75-71-8	
Chloromethane	Not detected	300		ug/kg	66.6	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	66.6	75-01-4	
Bromomethane	Not detected	300		ug/kg	66.6	74-83-9	
Chloroethane	Not detected	300		ug/kg	66.6	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	66.6	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	66.6	75-35-4	
Methylene chloride	Not detected	100		ug/kg	66.6	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	66.6	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	66.6	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	66.6	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	66.6	109-99-9	
Chloroform	Not detected	70		ug/kg	66.6	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	66.6	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	66.6	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	66.6	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	66.6	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	66.6	56-23-5	
Benzene	Not detected	70		ug/kg	66.6	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	66.6	107-06-2	
Trichloroethene	Not detected	70		ug/kg	66.6	79-01-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.06 (continued)

Sample Tag: SB-5 7-8'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 02:40, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloropropane	Not detected	70		ug/kg	66.6	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	66.6	75-27-4	
Dibromomethane	Not detected	300		ug/kg	66.6	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	66.6	10061-01-5	
Toluene	Not detected	70		ug/kg	66.6	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	66.6	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	66.6	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	66.6	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	66.6	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	66.6	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	66.6	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	66.6	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	66.6	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	66.6	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	66.6		
o-Xylene	Not detected	70		ug/kg	66.6	95-47-6	
Styrene	Not detected	70		ug/kg	66.6	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	66.6	98-82-8	
Bromoform	Not detected	100		ug/kg	66.6	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	66.6	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	66.6	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	66.6	103-65-1	
Bromobenzene	Not detected	100		ug/kg	66.6	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	66.6	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	66.6	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	66.6	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	66.6	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	66.6	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	66.6	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	66.6	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	66.6	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	66.6	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	66.6	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	66.6	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	66.6	96-12-8	
1,2,4-Trichlorobenzene	Not detected	440		ug/kg	66.6	120-82-1	
1,2,3-Trichlorobenzene	Not detected	440		ug/kg	66.6	87-61-6	
Naphthalene	Not detected	300		ug/kg	66.6	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	66.6	91-57-6	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.07

Sample Tag: SB-6 5.5-6.5'

Collected Date/Time: 06/10/2021 11:25

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction*	Completed	SW3546	06/14/21 17:00	TTV	
Sample wt. (g) / Methanol (ml)*	8.861/10	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:33, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	1.32	0.20		mg/kg	247	7440-38-2	
Barium	45.4	1.0		mg/kg	247	7440-39-3	
Cadmium	0.30	0.20		mg/kg	247	7440-43-9	
Chromium	6.91	0.50		mg/kg	247	7440-47-3	
Copper	4.91	0.50		mg/kg	247	7440-50-8	
Lead	4.86	0.30		mg/kg	247	7439-92-1	
Silver	Not detected	0.20		mg/kg	247	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:51, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	Not detected	0.40		mg/kg	247	7782-49-2	
Zinc	19.2	0.50		mg/kg	247	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:19, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	Not detected	0.050		mg/kg	67	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 17:09, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	



# Analytical Laboratory Report

Lab Sample ID: S25191.07 (continued)

Sample Tag: SB-6 5.5-6.5'

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 23:31, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 03:03, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	72.3	60-29-7	
Acetone	Not detected	1,000		ug/kg	72.3	67-64-1	
Methyl iodide	Not detected	100		ug/kg	72.3	74-88-4	
Carbon disulfide	Not detected	400		ug/kg	72.3	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	72.3	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	72.3	107-13-1	
2-Butanone (MEK)	Not detected	1,100		ug/kg	72.3	78-93-3	
Dichlorodifluoromethane	Not detected	400		ug/kg	72.3	75-71-8	
Chloromethane	Not detected	400		ug/kg	72.3	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	72.3	75-01-4	
Bromomethane	Not detected	300		ug/kg	72.3	74-83-9	
Chloroethane	Not detected	400		ug/kg	72.3	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	72.3	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	72.3	75-35-4	
Methylene chloride	Not detected	100		ug/kg	72.3	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	72.3	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	72.3	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	72.3	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	72.3	109-99-9	
Chloroform	Not detected	70		ug/kg	72.3	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	72.3	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	72.3	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	4,000		ug/kg	72.3	108-10-1	
2-Hexanone	Not detected	4,000		ug/kg	72.3	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	72.3	56-23-5	
Benzene	Not detected	70		ug/kg	72.3	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	72.3	107-06-2	
Trichloroethene	Not detected	70		ug/kg	72.3	79-01-6	





# Analytical Laboratory Report

Lab Sample ID: S25191.07 (continued)

Sample Tag: SB-6 5.5-6.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 03:03, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloropropane	Not detected	70		ug/kg	72.3	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	72.3	75-27-4	
Dibromomethane	Not detected	400		ug/kg	72.3	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	72.3	10061-01-5	
Toluene	Not detected	70		ug/kg	72.3	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	72.3	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	72.3	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	72.3	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	72.3	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	72.3	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	72.3	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	72.3	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	72.3	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	72.3	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	72.3		
o-Xylene	Not detected	70		ug/kg	72.3	95-47-6	
Styrene	Not detected	70		ug/kg	72.3	100-42-5	
Isopropylbenzene	Not detected	400		ug/kg	72.3	98-82-8	
Bromoform	Not detected	100		ug/kg	72.3	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	72.3	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	72.3	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	72.3	103-65-1	
Bromobenzene	Not detected	100		ug/kg	72.3	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	72.3	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	72.3	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	72.3	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	72.3	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	72.3	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	72.3	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	72.3	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	72.3	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	72.3	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	72.3	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	72.3	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	400		ug/kg	72.3	96-12-8	
1,2,4-Trichlorobenzene	Not detected	480		ug/kg	72.3	120-82-1	
1,2,3-Trichlorobenzene	Not detected	480		ug/kg	72.3	87-61-6	
Naphthalene	Not detected	400		ug/kg	72.3	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	72.3	91-57-6	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.08

Sample Tag: SB-6 14-15'

Collected Date/Time: 06/10/2021 11:30

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction*	Completed	SW3546	06/15/21 13:00	TTV	
Sample wt. (g) / Methanol (ml)*	11.518/11	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:35, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	3.95	0.20		mg/kg	250	7440-38-2	
Barium	49.7	1.0		mg/kg	250	7440-39-3	
Cadmium	Not detected	0.20		mg/kg	250	7440-43-9	
Chromium	8.89	0.50		mg/kg	250	7440-47-3	
Copper	11.2	0.50		mg/kg	250	7440-50-8	
Lead	6.63	0.30		mg/kg	250	7439-92-1	
Silver	Not detected	0.20		mg/kg	250	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:52, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	Not detected	0.40		mg/kg	250	7782-49-2	
Zinc	26.0	0.50		mg/kg	250	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:21, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	Not detected	0.050		mg/kg	68	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 17:20, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	



# Analytical Laboratory Report

Lab Sample ID: S25191.08 (continued)

Sample Tag: SB-6 14-15'

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 20:02, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 03:25, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	62.4	60-29-7	
Acetone	Not detected	1,000		ug/kg	62.4	67-64-1	
Methyl iodide	Not detected	100		ug/kg	62.4	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	62.4	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	62.4	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	62.4	107-13-1	
2-Butanone (MEK)	Not detected	940		ug/kg	62.4	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	62.4	75-71-8	
Chloromethane	Not detected	300		ug/kg	62.4	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	62.4	75-01-4	
Bromomethane	Not detected	200		ug/kg	62.4	74-83-9	
Chloroethane	Not detected	300		ug/kg	62.4	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	62.4	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	62.4	75-35-4	
Methylene chloride	Not detected	100		ug/kg	62.4	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	62.4	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	62.4	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	62.4	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	62.4	109-99-9	
Chloroform	Not detected	60		ug/kg	62.4	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	62.4	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	62.4	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	62.4	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	62.4	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	62.4	56-23-5	
Benzene	Not detected	60		ug/kg	62.4	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	62.4	107-06-2	
Trichloroethene	Not detected	60		ug/kg	62.4	79-01-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.08 (continued)

Sample Tag: SB-6 14-15'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 03:25, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloropropane	Not detected	60		ug/kg	62.4	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	62.4	75-27-4	
Dibromomethane	Not detected	300		ug/kg	62.4	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	62.4	10061-01-5	
Toluene	Not detected	60		ug/kg	62.4	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	62.4	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	62.4	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	62.4	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	62.4	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	62.4	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	62.4	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	62.4	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	62.4	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	62.4	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	62.4		
o-Xylene	Not detected	60		ug/kg	62.4	95-47-6	
Styrene	Not detected	60		ug/kg	62.4	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	62.4	98-82-8	
Bromoform	Not detected	100		ug/kg	62.4	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	62.4	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	62.4	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	62.4	103-65-1	
Bromobenzene	Not detected	100		ug/kg	62.4	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	62.4	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	62.4	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	62.4	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	62.4	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	62.4	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	62.4	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	62.4	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	62.4	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	62.4	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	62.4	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	62.4	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	62.4	96-12-8	
1,2,4-Trichlorobenzene	Not detected	410		ug/kg	62.4	120-82-1	
1,2,3-Trichlorobenzene	Not detected	410		ug/kg	62.4	87-61-6	
Naphthalene	Not detected	300		ug/kg	62.4	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	62.4	91-57-6	

M-Result reported to MDL not RDL





# Analytical Laboratory Report

Lab Sample ID: S25191.09

Sample Tag: SB-7 1-2'

Collected Date/Time: 06/10/2021 12:10

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction	Completed	SW3550C	06/15/21 18:30	PL	
Sample wt. (g) / Methanol (ml)*	11.213/11	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	85	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:36, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	1.59	0.20		mg/kg	277	7440-38-2	
Barium	64.1	1.0		mg/kg	277	7440-39-3	
Cadmium	0.36	0.20		mg/kg	277	7440-43-9	
Chromium	4.49	0.50		mg/kg	277	7440-47-3	
Copper	5.49	0.50		mg/kg	277	7440-50-8	
Lead	8.89	0.30		mg/kg	277	7439-92-1	
Silver	Not detected	0.20		mg/kg	277	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:53, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	Not detected	0.40		mg/kg	277	7782-49-2	
Zinc	16.4	0.50		mg/kg	277	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:23, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	Not detected	0.050		mg/kg	63	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 17:31, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	

Lab Sample ID: S25191.09 (continued)

Sample Tag: SB-7 1-2'

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 20:22, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 03:48, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	66.5	60-29-7	
Acetone	Not detected	1,000		ug/kg	66.5	67-64-1	
Methyl iodide	Not detected	100		ug/kg	66.5	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	66.5	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	66.5	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	66.5	107-13-1	
2-Butanone (MEK)	Not detected	1,000		ug/kg	66.5	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	66.5	75-71-8	
Chloromethane	Not detected	300		ug/kg	66.5	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	66.5	75-01-4	
Bromomethane	Not detected	300		ug/kg	66.5	74-83-9	
Chloroethane	Not detected	300		ug/kg	66.5	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	66.5	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	66.5	75-35-4	
Methylene chloride	Not detected	100		ug/kg	66.5	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	66.5	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	66.5	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	66.5	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	66.5	109-99-9	
Chloroform	Not detected	70		ug/kg	66.5	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	66.5	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	66.5	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	66.5	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	66.5	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	66.5	56-23-5	
Benzene	Not detected	70		ug/kg	66.5	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	66.5	107-06-2	
Trichloroethene	Not detected	70		ug/kg	66.5	79-01-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.09 (continued)

Sample Tag: SB-7 1-2'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 03:48, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloropropane	Not detected	70		ug/kg	66.5	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	66.5	75-27-4	
Dibromomethane	Not detected	300		ug/kg	66.5	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	66.5	10061-01-5	
Toluene	Not detected	70		ug/kg	66.5	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	66.5	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	66.5	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	66.5	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	66.5	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	66.5	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	66.5	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	66.5	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	66.5	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	66.5	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	66.5		
o-Xylene	Not detected	70		ug/kg	66.5	95-47-6	
Styrene	Not detected	70		ug/kg	66.5	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	66.5	98-82-8	
Bromoform	Not detected	100		ug/kg	66.5	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	66.5	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	66.5	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	66.5	103-65-1	
Bromobenzene	Not detected	100		ug/kg	66.5	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	66.5	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	66.5	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	66.5	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	66.5	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	66.5	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	66.5	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	66.5	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	66.5	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	66.5	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	66.5	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	66.5	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	66.5	96-12-8	
1,2,4-Trichlorobenzene	Not detected	440		ug/kg	66.5	120-82-1	
1,2,3-Trichlorobenzene	Not detected	440		ug/kg	66.5	87-61-6	
Naphthalene	Not detected	300		ug/kg	66.5	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	66.5	91-57-6	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.10

Sample Tag: SB-7 5.5-6.5'

Collected Date/Time: 06/10/2021 12:15

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction*	Completed	SW3546	06/15/21 13:00	TTV	
Sample wt. (g) / Methanol (ml)*	11.027/11	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	86	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:38, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	1.09	0.20		mg/kg	255	7440-38-2	
Barium	32.8	1.0		mg/kg	255	7440-39-3	
Cadmium	Not detected	0.20		mg/kg	255	7440-43-9	
Chromium	6.74	0.50		mg/kg	255	7440-47-3	
Copper	6.09	0.50		mg/kg	255	7440-50-8	
Lead	4.43	0.30		mg/kg	255	7439-92-1	
Silver	Not detected	0.20		mg/kg	255	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:55, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	Not detected	0.40		mg/kg	255	7782-49-2	
Zinc	18.1	0.50		mg/kg	255	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:25, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	Not detected	0.050		mg/kg	65	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 17:42, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	



Lab Sample ID: S25191.10 (continued)

Sample Tag: SB-7 5.5-6.5'

## Organics - Semi-Volatiles

**Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 20:41, Analyst: PL**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

**Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 04:11, Analyst: KAG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	66.1	60-29-7	
Acetone	Not detected	1,000		ug/kg	66.1	67-64-1	
Methyl iodide	Not detected	100		ug/kg	66.1	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	66.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	66.1	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	66.1	107-13-1	
2-Butanone (MEK)	Not detected	990		ug/kg	66.1	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	66.1	75-71-8	
Chloromethane	Not detected	300		ug/kg	66.1	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	66.1	75-01-4	
Bromomethane	Not detected	300		ug/kg	66.1	74-83-9	
Chloroethane	Not detected	300		ug/kg	66.1	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	66.1	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	66.1	75-35-4	
Methylene chloride	Not detected	100		ug/kg	66.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	66.1	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	66.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	66.1	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	66.1	109-99-9	
Chloroform	Not detected	70		ug/kg	66.1	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	66.1	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	66.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	66.1	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	66.1	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	66.1	56-23-5	
Benzene	Not detected	70		ug/kg	66.1	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	66.1	107-06-2	
Trichloroethene	Not detected	70		ug/kg	66.1	79-01-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.10 (continued)

Sample Tag: SB-7 5.5-6.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 04:11, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloropropane	Not detected	70		ug/kg	66.1	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	66.1	75-27-4	
Dibromomethane	Not detected	300		ug/kg	66.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	66.1	10061-01-5	
Toluene	Not detected	70		ug/kg	66.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	66.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	66.1	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	66.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	66.1	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	66.1	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	66.1	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	66.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	66.1	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	66.1	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	66.1		
o-Xylene	Not detected	70		ug/kg	66.1	95-47-6	
Styrene	Not detected	70		ug/kg	66.1	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	66.1	98-82-8	
Bromoform	Not detected	100		ug/kg	66.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	66.1	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	66.1	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	66.1	103-65-1	
Bromobenzene	Not detected	100		ug/kg	66.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	66.1	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	66.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	66.1	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	66.1	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	66.1	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	66.1	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	66.1	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	66.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	66.1	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	66.1	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	66.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	66.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	440		ug/kg	66.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	440		ug/kg	66.1	87-61-6	
Naphthalene	Not detected	300		ug/kg	66.1	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	66.1	91-57-6	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.11

Sample Tag: SB-8 1-2'

Collected Date/Time: 06/10/2021 12:45

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction*	Completed	SW3546	06/15/21 13:00	TTV	
Sample wt. (g) / Methanol (ml)*	10.085/10	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	86	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:39, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	1.47	0.20		mg/kg	253	7440-38-2	
Barium	61.8	1.0		mg/kg	253	7440-39-3	
Cadmium	Not detected	0.20		mg/kg	253	7440-43-9	
Chromium	5.18	0.50		mg/kg	253	7440-47-3	
Copper	6.60	0.50		mg/kg	253	7440-50-8	
Lead	18.0	0.30		mg/kg	253	7439-92-1	
Silver	Not detected	0.20		mg/kg	253	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:56, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	Not detected	0.40		mg/kg	253	7782-49-2	
Zinc	20.8	0.50		mg/kg	253	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:27, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	0.055	0.050		mg/kg	64	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 19:02, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	

Lab Sample ID: S25191.11 (continued)

Sample Tag: SB-8 1-2'

## Organics - Semi-Volatiles

**Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 21:01, Analyst: PL**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	300	300		ug/kg	10	207-08-9	p
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	500	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	400	300		ug/kg	10	85-01-8	
Pyrene	400	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

**Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 04:33, Analyst: KAG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	65.8	60-29-7	
Acetone	Not detected	1,000		ug/kg	65.8	67-64-1	
Methyl iodide	Not detected	100		ug/kg	65.8	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	65.8	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	65.8	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	65.8	107-13-1	
2-Butanone (MEK)	Not detected	990		ug/kg	65.8	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	65.8	75-71-8	
Chloromethane	Not detected	300		ug/kg	65.8	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	65.8	75-01-4	
Bromomethane	Not detected	300		ug/kg	65.8	74-83-9	
Chloroethane	Not detected	300		ug/kg	65.8	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	65.8	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	65.8	75-35-4	
Methylene chloride	Not detected	100		ug/kg	65.8	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	65.8	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	65.8	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	65.8	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	65.8	109-99-9	
Chloroform	Not detected	70		ug/kg	65.8	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	65.8	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	65.8	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	65.8	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	65.8	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	65.8	56-23-5	
Benzene	Not detected	70		ug/kg	65.8	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	65.8	107-06-2	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.





# Analytical Laboratory Report

Lab Sample ID: S25191.11 (continued)

Sample Tag: SB-8 1-2'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 04:33, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	70		ug/kg	65.8	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	65.8	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	65.8	75-27-4	
Dibromomethane	Not detected	300		ug/kg	65.8	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	65.8	10061-01-5	
Toluene	Not detected	70		ug/kg	65.8	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	65.8	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	65.8	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	65.8	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	65.8	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	65.8	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	65.8	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	65.8	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	65.8	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	65.8	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	65.8		
o-Xylene	Not detected	70		ug/kg	65.8	95-47-6	
Styrene	Not detected	70		ug/kg	65.8	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	65.8	98-82-8	
Bromoform	Not detected	100		ug/kg	65.8	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	65.8	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	65.8	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	65.8	103-65-1	
Bromobenzene	Not detected	100		ug/kg	65.8	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	65.8	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	65.8	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	65.8	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	65.8	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	65.8	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	65.8	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	65.8	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	65.8	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	65.8	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	65.8	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	65.8	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	65.8	96-12-8	
1,2,4-Trichlorobenzene	Not detected	430		ug/kg	65.8	120-82-1	
1,2,3-Trichlorobenzene	Not detected	430		ug/kg	65.8	87-61-6	
Naphthalene	Not detected	300		ug/kg	65.8	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	65.8	91-57-6	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.12

Sample Tag: SB-8 7-8'

Collected Date/Time: 06/10/2021 12:50

Matrix: Soil

COC Reference: 137738

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3050B	06/15/21 13:15	JRH	
Extraction, PCB*	Completed	SW3546	06/15/21 17:00	JWR	
PNA Extraction*	Completed	SW3546	06/15/21 13:00	TTV	
Sample wt. (g) / Methanol (ml)*	10.007/10	SW5035A	06/14/21 11:08	REC	
Mercury Digestion	Completed	SW7471B	06/15/21 11:15	JRH	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Metals

Method: SW6020A, Run Date: 06/15/21 14:41, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Arsenic	1.86	0.20		mg/kg	258	7440-38-2	
Barium	60.9	1.0		mg/kg	258	7440-39-3	
Cadmium	Not detected	0.20		mg/kg	258	7440-43-9	
Chromium	7.04	0.50		mg/kg	258	7440-47-3	
Copper	5.37	0.50		mg/kg	258	7440-50-8	
Lead	5.02	0.30		mg/kg	258	7439-92-1	
Silver	Not detected	0.20		mg/kg	258	7440-22-4	

Method: SW6020A, Run Date: 06/15/21 15:57, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Selenium	Not detected	0.40		mg/kg	258	7782-49-2	
Zinc	18.0	0.50		mg/kg	258	7440-66-6	

Method: SW7471B, Run Date: 06/15/21 14:28, Analyst: JRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Mercury	Not detected	0.050		mg/kg	64	7439-97-6	

## Organics - PCBs/Pesticides

PCB List, Method: SW8082A, Run Date: 06/15/21 17:53, Analyst: JANB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PCB-1016	Not detected	330		ug/kg	1	12674-11-2	
PCB-1242	Not detected	330		ug/kg	1	53469-21-9	
PCB-1221	Not detected	330		ug/kg	1	11104-28-2	
PCB-1232	Not detected	330		ug/kg	1	11141-16-5	
PCB-1248	Not detected	330		ug/kg	1	12672-29-6	
PCB-1254	Not detected	330		ug/kg	1	11097-69-1	
PCB-1260	Not detected	330		ug/kg	1	11096-82-5	

Lab Sample ID: S25191.12 (continued)

Sample Tag: SB-8 7-8'

## Organics - Semi-Volatiles

**Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 21:21, Analyst: PL**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

**Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 04:56, Analyst: KAG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	64.9	60-29-7	
Acetone	Not detected	1,000		ug/kg	64.9	67-64-1	
Methyl iodide	Not detected	100		ug/kg	64.9	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	64.9	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	64.9	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	64.9	107-13-1	
2-Butanone (MEK)	Not detected	970		ug/kg	64.9	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	64.9	75-71-8	
Chloromethane	Not detected	300		ug/kg	64.9	74-87-3	
Vinyl chloride	Not detected	60		ug/kg	64.9	75-01-4	
Bromomethane	Not detected	300		ug/kg	64.9	74-83-9	
Chloroethane	Not detected	300		ug/kg	64.9	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	64.9	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	64.9	75-35-4	
Methylene chloride	Not detected	100		ug/kg	64.9	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	64.9	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	64.9	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	64.9	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	64.9	109-99-9	
Chloroform	Not detected	60		ug/kg	64.9	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	64.9	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	64.9	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	64.9	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	64.9	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	64.9	56-23-5	
Benzene	Not detected	60		ug/kg	64.9	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	64.9	107-06-2	
Trichloroethene	Not detected	60		ug/kg	64.9	79-01-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.12 (continued)

Sample Tag: SB-8 7-8'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 04:56, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichloropropane	Not detected	60		ug/kg	64.9	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	64.9	75-27-4	
Dibromomethane	Not detected	300		ug/kg	64.9	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	64.9	10061-01-5	
Toluene	Not detected	60		ug/kg	64.9	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	64.9	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	64.9	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	64.9	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	64.9	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	64.9	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	64.9	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	64.9	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	64.9	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	64.9	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	64.9		
o-Xylene	Not detected	60		ug/kg	64.9	95-47-6	
Styrene	Not detected	60		ug/kg	64.9	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	64.9	98-82-8	
Bromoform	Not detected	100		ug/kg	64.9	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	64.9	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	64.9	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	64.9	103-65-1	
Bromobenzene	Not detected	100		ug/kg	64.9	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	64.9	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	64.9	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	64.9	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	64.9	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	64.9	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	64.9	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	64.9	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	64.9	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	64.9	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	64.9	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	64.9	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	64.9	96-12-8	
1,2,4-Trichlorobenzene	Not detected	430		ug/kg	64.9	120-82-1	
1,2,3-Trichlorobenzene	Not detected	430		ug/kg	64.9	87-61-6	
Naphthalene	Not detected	300		ug/kg	64.9	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	64.9	91-57-6	

M-Result reported to MDL not RDL





# Analytical Laboratory Report

Lab Sample ID: S25191.13

Sample Tag: SB-2 4-5'

Collected Date/Time: 06/10/2021 13:35

Matrix: Soil

COC Reference: 137739

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	06/15/21 13:00	TTV	
Sample wt. (g) / Methanol (ml)*	10.499/10	SW5035A	06/14/21 11:08	REC	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	89	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 21:41, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 05:18, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	59.7	60-29-7	
Acetone	Not detected	1,000		ug/kg	59.7	67-64-1	
Methyl iodide	Not detected	100		ug/kg	59.7	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	59.7	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	59.7	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	59.7	107-13-1	
2-Butanone (MEK)	Not detected	900		ug/kg	59.7	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	59.7	75-71-8	
Chloromethane	Not detected	300		ug/kg	59.7	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S25191.13 (continued)

Sample Tag: SB-2 4-5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 05:18, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	60		ug/kg	59.7	75-01-4	
Bromomethane	Not detected	200		ug/kg	59.7	74-83-9	
Chloroethane	Not detected	300		ug/kg	59.7	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	59.7	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	59.7	75-35-4	
Methylene chloride	Not detected	100		ug/kg	59.7	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	59.7	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	59.7	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	59.7	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	59.7	109-99-9	
Chloroform	Not detected	60		ug/kg	59.7	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	59.7	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	59.7	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	59.7	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	59.7	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	59.7	56-23-5	
Benzene	Not detected	60		ug/kg	59.7	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	59.7	107-06-2	
Trichloroethene	Not detected	60		ug/kg	59.7	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	59.7	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	59.7	75-27-4	
Dibromomethane	Not detected	300		ug/kg	59.7	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	59.7	10061-01-5	
Toluene	Not detected	60		ug/kg	59.7	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	59.7	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	59.7	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	59.7	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	59.7	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	59.7	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	59.7	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	59.7	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	59.7	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	59.7	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	59.7		
o-Xylene	Not detected	60		ug/kg	59.7	95-47-6	
Styrene	Not detected	60		ug/kg	59.7	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	59.7	98-82-8	
Bromoform	Not detected	100		ug/kg	59.7	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	59.7	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	59.7	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	59.7	103-65-1	
Bromobenzene	Not detected	100		ug/kg	59.7	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	59.7	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	59.7	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	59.7	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	59.7	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	59.7	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	59.7	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	59.7	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.13 (continued)

Sample Tag: SB-2 4-5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 05:18, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	59.7	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	59.7	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	59.7	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	59.7	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	59.7	96-12-8	
1,2,4-Trichlorobenzene	Not detected	390		ug/kg	59.7	120-82-1	
1,2,3-Trichlorobenzene	Not detected	390		ug/kg	59.7	87-61-6	
Naphthalene	Not detected	300		ug/kg	59.7	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	59.7	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.14

Sample Tag: SB-2 7-8'

Collected Date/Time: 06/10/2021 13:40

Matrix: Soil

COC Reference: 137739

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	06/15/21 13:00	TTV	
Sample wt. (g) / Methanol (ml)*	9.176/10	SW5035A	06/14/21 11:08	REC	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	88	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 22:01, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 05:41, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	68.7	60-29-7	
Acetone	Not detected	1,000		ug/kg	68.7	67-64-1	
Methyl iodide	Not detected	100		ug/kg	68.7	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	68.7	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	68.7	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	68.7	107-13-1	
2-Butanone (MEK)	Not detected	1,000		ug/kg	68.7	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	68.7	75-71-8	
Chloromethane	Not detected	300		ug/kg	68.7	74-87-3	





# Analytical Laboratory Report

Lab Sample ID: S25191.14 (continued)

Sample Tag: SB-2 7-8'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 05:41, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	70		ug/kg	68.7	75-01-4	
Bromomethane	Not detected	300		ug/kg	68.7	74-83-9	
Chloroethane	Not detected	300		ug/kg	68.7	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	68.7	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	68.7	75-35-4	
Methylene chloride	Not detected	100		ug/kg	68.7	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	68.7	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	68.7	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	68.7	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	68.7	109-99-9	
Chloroform	Not detected	70		ug/kg	68.7	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	68.7	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	68.7	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	68.7	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	68.7	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	68.7	56-23-5	
Benzene	Not detected	70		ug/kg	68.7	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	68.7	107-06-2	
Trichloroethene	Not detected	70		ug/kg	68.7	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	68.7	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	68.7	75-27-4	
Dibromomethane	Not detected	300		ug/kg	68.7	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	68.7	10061-01-5	
Toluene	Not detected	70		ug/kg	68.7	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	68.7	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	68.7	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	68.7	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	68.7	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	68.7	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	68.7	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	68.7	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	68.7	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	68.7	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	68.7		
o-Xylene	Not detected	70		ug/kg	68.7	95-47-6	
Styrene	Not detected	70		ug/kg	68.7	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	68.7	98-82-8	
Bromoform	Not detected	100		ug/kg	68.7	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	68.7	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	68.7	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	68.7	103-65-1	
Bromobenzene	Not detected	100		ug/kg	68.7	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	68.7	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	68.7	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	68.7	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	68.7	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	68.7	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	68.7	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	68.7	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.14 (continued)

Sample Tag: SB-2 7-8'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 05:41, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	68.7	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	68.7	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	68.7	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	68.7	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	68.7	96-12-8	
1,2,4-Trichlorobenzene	Not detected	450		ug/kg	68.7	120-82-1	
1,2,3-Trichlorobenzene	Not detected	450		ug/kg	68.7	87-61-6	
Naphthalene	Not detected	300		ug/kg	68.7	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	68.7	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.15

Sample Tag: SB-1 4-5'

Collected Date/Time: 06/10/2021 14:05

Matrix: Soil

COC Reference: 137739

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	06/15/21 13:00	TTV	
Sample wt. (g) / Methanol (ml)*	8.760/10	SW5035A	06/14/21 11:08	REC	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	88	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 22:20, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 06:04, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	71.7	60-29-7	
Acetone	Not detected	1,000		ug/kg	71.7	67-64-1	
Methyl iodide	Not detected	100		ug/kg	71.7	74-88-4	
Carbon disulfide	Not detected	400		ug/kg	71.7	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	71.7	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	71.7	107-13-1	
2-Butanone (MEK)	Not detected	1,100		ug/kg	71.7	78-93-3	
Dichlorodifluoromethane	Not detected	400		ug/kg	71.7	75-71-8	
Chloromethane	Not detected	400		ug/kg	71.7	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S25191.15 (continued)

Sample Tag: SB-1 4-5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 06:04, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	70		ug/kg	71.7	75-01-4	
Bromomethane	Not detected	300		ug/kg	71.7	74-83-9	
Chloroethane	Not detected	400		ug/kg	71.7	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	71.7	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	71.7	75-35-4	
Methylene chloride	Not detected	100		ug/kg	71.7	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	71.7	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	71.7	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	71.7	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	71.7	109-99-9	
Chloroform	Not detected	70		ug/kg	71.7	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	71.7	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	71.7	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	4,000		ug/kg	71.7	108-10-1	
2-Hexanone	Not detected	4,000		ug/kg	71.7	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	71.7	56-23-5	
Benzene	Not detected	70		ug/kg	71.7	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	71.7	107-06-2	
Trichloroethene	Not detected	70		ug/kg	71.7	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	71.7	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	71.7	75-27-4	
Dibromomethane	Not detected	400		ug/kg	71.7	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	71.7	10061-01-5	
Toluene	Not detected	70		ug/kg	71.7	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	71.7	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	71.7	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	71.7	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	71.7	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	71.7	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	71.7	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	71.7	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	71.7	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	71.7	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	71.7		
o-Xylene	Not detected	70		ug/kg	71.7	95-47-6	
Styrene	Not detected	70		ug/kg	71.7	100-42-5	
Isopropylbenzene	Not detected	400		ug/kg	71.7	98-82-8	
Bromoform	Not detected	100		ug/kg	71.7	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	71.7	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	71.7	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	71.7	103-65-1	
Bromobenzene	Not detected	100		ug/kg	71.7	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	71.7	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	71.7	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	71.7	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	71.7	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	71.7	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	71.7	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	71.7	106-46-7	

M-Result reported to MDL not RDL





# Analytical Laboratory Report

Lab Sample ID: S25191.15 (continued)

Sample Tag: SB-1 4-5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 06:04, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	71.7	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	71.7	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	71.7	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	71.7	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	400		ug/kg	71.7	96-12-8	
1,2,4-Trichlorobenzene	Not detected	470		ug/kg	71.7	120-82-1	
1,2,3-Trichlorobenzene	Not detected	470		ug/kg	71.7	87-61-6	
Naphthalene	Not detected	400		ug/kg	71.7	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	71.7	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S25191.16

Sample Tag: SB-1 7-8'

Collected Date/Time: 06/10/2021 14:10

Matrix: Soil

COC Reference: 137739

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	4.2	IR
1	4oz Glass	None	Yes	4.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	06/15/21 13:00	TTV	
Sample wt. (g) / Methanol (ml)*	10.574/10	SW5035A	06/14/21 11:08	REC	

## Inorganics

Method: SM2540B, Run Date: 06/12/21 16:30, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	88	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 06/15/21 22:40, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 06:26, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	60.6	60-29-7	
Acetone	Not detected	1,000		ug/kg	60.6	67-64-1	
Methyl iodide	Not detected	100		ug/kg	60.6	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	60.6	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	60.6	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	60.6	107-13-1	
2-Butanone (MEK)	Not detected	910		ug/kg	60.6	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	60.6	75-71-8	
Chloromethane	Not detected	300		ug/kg	60.6	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S25191.16 (continued)

Sample Tag: SB-1 7-8'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 06:26, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	60		ug/kg	60.6	75-01-4	
Bromomethane	Not detected	200		ug/kg	60.6	74-83-9	
Chloroethane	Not detected	300		ug/kg	60.6	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	60.6	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	60.6	75-35-4	
Methylene chloride	Not detected	100		ug/kg	60.6	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	60.6	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	60.6	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	60.6	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	60.6	109-99-9	
Chloroform	Not detected	60		ug/kg	60.6	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	60.6	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	60.6	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	60.6	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	60.6	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	60.6	56-23-5	
Benzene	Not detected	60		ug/kg	60.6	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	60.6	107-06-2	
Trichloroethene	Not detected	60		ug/kg	60.6	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	60.6	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	60.6	75-27-4	
Dibromomethane	Not detected	300		ug/kg	60.6	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	60.6	10061-01-5	
Toluene	Not detected	60		ug/kg	60.6	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	60.6	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	60.6	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	60.6	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	60.6	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	60.6	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	60.6	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	60.6	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	60.6	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	60.6	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	60.6		
o-Xylene	Not detected	60		ug/kg	60.6	95-47-6	
Styrene	Not detected	60		ug/kg	60.6	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	60.6	98-82-8	
Bromoform	Not detected	100		ug/kg	60.6	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	60.6	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	60.6	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	60.6	103-65-1	
Bromobenzene	Not detected	100		ug/kg	60.6	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	60.6	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	60.6	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	60.6	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	60.6	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	60.6	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	60.6	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	60.6	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S25191.16 (continued)

Sample Tag: SB-1 7-8'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 06/15/21 06:26, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	60.6	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	60.6	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	60.6	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	60.6	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	60.6	96-12-8	
1,2,4-Trichlorobenzene	Not detected	400		ug/kg	60.6	120-82-1	
1,2,3-Trichlorobenzene	Not detected	400		ug/kg	60.6	87-61-6	
Naphthalene	Not detected	300		ug/kg	60.6	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	60.6	91-57-6	



# Merit Laboratories Login Checklist

Lab Set ID:S25191

Client:PME02 (PM Environmental, Inc. - Berkley)

Project: 01-11288-1-0004

Submitted:06/11/2021 11:10 Login User: MMC

Attention: Jana Beumel

Address: PM Environmental, Inc.  
4080 W. Eleven Mile  
Berkley, MI 48072

Phone: O:248-336-9988

FAX:

Email: Beumel@pmenv.com

Selection	Description	Note
<b>Sample Receiving</b>		
01. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.2
02. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Received on ice/ cooling process begun	
03. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped	
04. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box	
05. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked	
<b>Chain of Custody</b>		
06. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC adequately filled out	
07. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC signed and relinquished to the lab	
08. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample tag on bottles match COC	
09. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontracted to:	
<b>Preservation</b>		
10. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation	
11. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)	
12. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?	
<b>Bottle Conditions</b>		
13. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact	
14. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used	
15. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used	
16. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received	
17. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration	
18. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time	
19. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_



## REPORT TO

CONTACT NAME				Jana Beumel			
COMPANY				PM Environmental			
ADDRESS				4080 West Eleven Mile Rd.			
CITY				STATE		ZIP CODE	
Berkley				MI			
PHONE NO.			FAX NO.		P.O. NO.		
E-MAIL ADDRESS					QUOTE NO.		
Beumel@pmenv.com							

## CHAIN OF CUSTODY RECORD

CONTACT NAME		<input checked="" type="checkbox"/> SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.	E-MAIL ADDRESS		

**INVOICE TO**

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME <b>01-11288-1-0004</b>	SAMPLER(S) - PLEASE PRINT/SIGN NAME <b>Shawn Elswick</b>
TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____	
DELIVERABLES REQUIRED <input type="checkbox"/> STD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> OTHER _____	

## Certifications

☐ OHIO VAP    ☐ Drinking Water☐ DoD ☐ NPDES

## Project Locations

☐ Detroit ☐ New York☐ Other \_\_\_\_\_

### Special Instructions

25191	.13	6/10/21	1335	SB-2	4-5'	'	5	2	1	1	X	X
	.14		1340	SB-2	7-8'	'	↓	↓	↓	↓	X	X
	.15		1405	SB-1	4-5'	'	↓	↓	↓	↓	X	X
	.16		1410	SB-1	7-8'	'	↓	↓	↓	↓	X	X

SE

RELINQUISHED BY: AT 3 — /DN ☒ Sampler

SIGNATURE/ORGANIZATION *X/K-C/PP*

RECEIVED BY: Dr. J. L. Smith

SIGNATURE/ORGANIZATION PM Cold Storage

REINQUISHED BY: \_\_\_\_\_

SIGNATURE/ORGANIZATION 

RECEIVED BY: 

SIGNATURE/ORGANIZATION \_\_\_\_\_

RELINQUISHED BY:

SIGNATURE/ORGANIZATION

RECEIVED BY: \_\_\_\_\_

SIGNATURE/ORGANIZATION

SEAL NO.

SEAL NO.: 009806-780023

SEAL NO. \_\_\_\_\_

SEAL NO.

DATE 11/12 TIME 11:00

4/1/11 6/1/11 8/1/11 DATE 1/1/11

DATE TIME

\*M. Chakraborty 10/11/21 11/11/21

INITIALS	NOTES	THREAT CALLED

INITIALS: \_\_\_\_\_ NOTES: \_\_\_\_\_ TEMP. ON ARRIVAL: \_\_\_\_\_

INITIALS	42
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INITIALS	112
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PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



# Analytical Laboratory Report

Report ID: S25193.01(01)  
Generated on 06/17/2021

## Report to

Attention: Jana Beumel  
PM Environmental, Inc.  
4080 W. Eleven Mile  
Berkley, MI 48072

Phone: O:248-336-9988 D:248-414-1859 FAX:  
Email: Beumel@pmenv.com

## Report produced by

Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:  
John Lavery (johnlavery@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

## Report Summary

Lab Sample ID(s): S25193.01-S25193.04  
Project: 01-11288-1-0004  
Collected Date(s): 06/10/2021  
Submitted Date/Time: 06/11/2021 11:10  
Sampled by: Shawn Elswick  
P.O. #: 01-11288-1-0004

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Maya Murshak  
Technical Director





# Analytical Laboratory Report

## General Report Notes

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Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (\*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884

## Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

## Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



# Analytical Laboratory Report

**Method Summary**

Method	Version
N/A	Not Applicable
TO-15	EPA TO-15 Second Edition January 1999



## Analytical Laboratory Report

### Sample Summary (4 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S25193.01	TSG-4	Air	06/10/21 13:00 - 06/10/21 13:05
S25193.02	TSG-3	Air	06/10/21 12:53 - 06/10/21 12:58
S25193.03	TSG-2	Air	06/10/21 13:42 - 06/10/21 13:50
S25193.04	TSG-1	Air	06/10/21 14:10 - 06/10/21 14:15





# Analytical Laboratory Report

Lab Sample ID: S25193.01

Sample Tag: TSG-4

Collected Date/Time: 06/10/2021 13:00 - 06/10/2021 13:05

Matrix: Air

COC Reference: A4218

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	Air Canister	None	No	RT	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Pressure check for TO-15*	-8	N/A	06/14/21 15:30	KAG	

## Organics - Volatiles

TO-15, Method: TO-15, Run Date: 06/15/21 17:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	60	20		ppbv	10	67-64-1	
1,3-Butadiene	Not detected	10		ppbv	10	106-99-0	
Benzene	4	2		ppbv	10	71-43-2	
Bromodichloromethane	Not detected	2		ppbv	10	75-27-4	
Bromoform	Not detected	2		ppbv	10	75-25-2	
Bromomethane	Not detected	2		ppbv	10	74-83-9	
Vinyl bromide	Not detected	2		ppbv	10	593-60-2	
Benzyl chloride	Not detected	2		ppbv	10	100-44-7	
Carbon disulfide	7	5		ppbv	10	75-15-0	
Chlorobenzene	Not detected	2		ppbv	10	108-90-7	
Chloroethane	Not detected	20		ppbv	10	75-00-3	
Chloroform	Not detected	2		ppbv	10	67-66-3	
Chloromethane	Not detected	20		ppbv	10	74-87-3	
3-Chloropropene	Not detected	2		ppbv	10	107-05-1	
2-Chlorotoluene	Not detected	2		ppbv	10	95-49-8	
Carbon tetrachloride	Not detected	2		ppbv	10	56-23-5	
Cyclohexane	4	2		ppbv	10	110-82-7	
1,1-Dichloroethane	Not detected	2		ppbv	10	75-34-3	
1,1-Dichloroethene	Not detected	2		ppbv	10	75-35-4	
1,2-Dibromoethane	Not detected	2		ppbv	10	106-93-4	
1,2-Dichloroethane	Not detected	2		ppbv	10	107-06-2	
1,2-Dichloropropane	Not detected	2		ppbv	10	78-87-5	
1,4-Dioxane	Not detected	25		ppbv	10	123-91-1	
Dichlorodifluoromethane	Not detected	2		ppbv	10	75-71-8	
Dibromochloromethane	Not detected	2		ppbv	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	2		ppbv	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	2		ppbv	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	2		ppbv	10	541-73-1	
1,2-Dichlorobenzene	Not detected	2		ppbv	10	95-50-1	
1,4-Dichlorobenzene	Not detected	2		ppbv	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-02-6	
Ethanol*	Not detected	25		ppbv	10	64-17-5	
Ethylbenzene	Not detected	2		ppbv	10	100-41-4	
Ethyl Acetate*	Not detected	20		ppbv	10	141-78-6	
4-Ethyltoluene	Not detected	2		ppbv	10	622-96-8	
Freon 113	Not detected	2		ppbv	10	76-13-1	



# Analytical Laboratory Report

Lab Sample ID: S25193.01 (continued)

Sample Tag: TSG-4

TO-15, Method: TO-15, Run Date: 06/15/21 17:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Freon 114	Not detected	2		ppbv	10	76-14-2	
Heptane	3	2		ppbv	10	142-82-5	
Hexachlorobutadiene	Not detected	2		ppbv	10	87-68-3	
Hexane	5	2		ppbv	10	110-54-3	
2-Hexanone*	Not detected	5		ppbv	10	591-78-6	
Isopropyl Alcohol*	Not detected	20		ppbv	10	67-63-0	
Methylene chloride	Not detected	5		ppbv	10	75-09-2	
2-Butanone (MEK)	Not detected	20		ppbv	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	Not detected	5		ppbv	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	2		ppbv	10	1634-04-4	
Methyl methacrylate	Not detected	2		ppbv	10	80-62-6	
Naphthalene	Not detected	2		ppbv	10	91-20-3	
Propylene*	Not detected	231		ppbv	10	115-07-1	X
Styrene	Not detected	2		ppbv	10	100-42-5	
1,1,1-Trichloroethane	Not detected	2		ppbv	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	2		ppbv	10	79-34-5	
1,1,2-Trichloroethane	Not detected	2		ppbv	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	5		ppbv	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	2		ppbv	10	95-63-6	
1,3,5-Trimethylbenzene	Not detected	2		ppbv	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	2		ppbv	10	540-84-1	
Tert-butyl Alcohol	Not detected	10		ppbv	10	75-65-0	
Tetrachloroethene	Not detected	2		ppbv	10	127-18-4	
Tetrahydrofuran*	Not detected	2		ppbv	10	109-99-9	
Toluene	3	2		ppbv	10	108-88-3	
Trichloroethene	Not detected	2		ppbv	10	79-01-6	
Trichlorofluoromethane	Not detected	2		ppbv	10	75-69-4	
Vinyl chloride	Not detected	2		ppbv	10	75-01-4	
Vinyl acetate	Not detected	2		ppbv	10	108-05-4	
p,m-Xylene	4	4		ppbv	10		
o-Xylene	Not detected	2		ppbv	10	95-47-6	
Total Xylenes	Not detected	6		ppbv	10	1330-20-7	

TO-15, Method: TO-15, Run Date: 06/15/21 17:24, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	140	48		ug/m3	10	67-64-1	
1,3-Butadiene	Not detected	22		ug/m3	10	106-99-0	
Benzene	13	6.4		ug/m3	10	71-43-2	
Bromodichloromethane	Not detected	13		ug/m3	10	75-27-4	
Bromoform	Not detected	21		ug/m3	10	75-25-2	
Bromomethane	Not detected	7.8		ug/m3	10	74-83-9	
Vinyl bromide	Not detected	8.7		ug/m3	10	593-60-2	
Benzyl chloride	Not detected	10		ug/m3	10	100-44-7	
Carbon disulfide	22	16		ug/m3	10	75-15-0	
Chlorobenzene	Not detected	9.2		ug/m3	10	108-90-7	
Chloroethane	Not detected	53		ug/m3	10	75-00-3	
Chloroform	Not detected	9.8		ug/m3	10	67-66-3	
Chloromethane	Not detected	41		ug/m3	10	74-87-3	
3-Chloropropene	Not detected	6.3		ug/m3	10	107-05-1	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S25193.01 (continued)

Sample Tag: TSG-4

TO-15, Method: TO-15, Run Date: 06/15/21 17:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Chlorotoluene	Not detected	10		ug/m3	10	95-49-8	
Carbon tetrachloride	Not detected	13		ug/m3	10	56-23-5	
Cyclohexane	14	6.9		ug/m3	10	110-82-7	
1,1-Dichloroethane	Not detected	8.1		ug/m3	10	75-34-3	
1,1-Dichloroethene	Not detected	7.9		ug/m3	10	75-35-4	
1,2-Dibromoethane	Not detected	15		ug/m3	10	106-93-4	
1,2-Dichloroethane	Not detected	8.1		ug/m3	10	107-06-2	
1,2-Dichloropropane	Not detected	9.2		ug/m3	10	78-87-5	
1,4-Dioxane	Not detected	90		ug/m3	10	123-91-1	
Dichlorodifluoromethane	Not detected	9.9		ug/m3	10	75-71-8	
Dibromochloromethane	Not detected	17		ug/m3	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	12		ug/m3	10	541-73-1	
1,2-Dichlorobenzene	Not detected	12		ug/m3	10	95-50-1	
1,4-Dichlorobenzene	Not detected	12		ug/m3	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-02-6	
Ethanol*	Not detected	47		ug/m3	10	64-17-5	
Ethylbenzene	Not detected	8.7		ug/m3	10	100-41-4	
Ethyl Acetate*	Not detected	72		ug/m3	10	141-78-6	
4-Ethyltoluene	Not detected	9.8		ug/m3	10	622-96-8	
Freon 113	Not detected	15		ug/m3	10	76-13-1	
Freon 114	Not detected	14		ug/m3	10	76-14-2	
Heptane	12	8.2		ug/m3	10	142-82-5	
Hexachlorobutadiene	Not detected	21		ug/m3	10	87-68-3	
Hexane	18	7.0		ug/m3	10	110-54-3	
2-Hexanone*	Not detected	20		ug/m3	10	591-78-6	
Isopropyl Alcohol*	Not detected	49		ug/m3	10	67-63-0	
Methylene chloride	Not detected	17		ug/m3	10	75-09-2	
2-Butanone (MEK)	Not detected	59		ug/m3	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	Not detected	20		ug/m3	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	7.2		ug/m3	10	1634-04-4	
Methyl methacrylate	Not detected	8.2		ug/m3	10	80-62-6	
Naphthalene	Not detected	10		ug/m3	10	91-20-3	
Propylene*	Not detected	398		ug/m3	10	115-07-1	X
Styrene	Not detected	8.5		ug/m3	10	100-42-5	
1,1,1-Trichloroethane	Not detected	11		ug/m3	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	14		ug/m3	10	79-34-5	
1,1,2-Trichloroethane	Not detected	11		ug/m3	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	37		ug/m3	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	9.8		ug/m3	10	95-63-6	
1,3,5-Trimethylbenzene	Not detected	9.8		ug/m3	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	9.3		ug/m3	10	540-84-1	
Tert-butyl Alcohol	Not detected	30		ug/m3	10	75-65-0	
Tetrachloroethene	Not detected	14		ug/m3	10	127-18-4	
Tetrahydrofuran*	Not detected	5.9		ug/m3	10	109-99-9	
Toluene	11	7.5		ug/m3	10	108-88-3	
Trichloroethene	Not detected	11		ug/m3	10	79-01-6	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S25193.01 (continued)

Sample Tag: TSG-4

TO-15, Method: TO-15, Run Date: 06/15/21 17:24, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichlorofluoromethane	Not detected	11		ug/m3	10	75-69-4	
Vinyl chloride	Not detected	5.1		ug/m3	10	75-01-4	
Vinyl acetate	Not detected	7.0		ug/m3	10	108-05-4	
p,m-Xylene	17	17		ug/m3	10		
o-Xylene	Not detected	8.7		ug/m3	10	95-47-6	
Total Xylenes	Not detected	26		ug/m3	10	1330-20-7	





# Analytical Laboratory Report

Lab Sample ID: S25193.02

Sample Tag: TSG-3

Collected Date/Time: 06/10/2021 12:53 - 06/10/2021 12:58

Matrix: Air

COC Reference: A4218

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	Air Canister	None	No	RT	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Pressure check for TO-15*	-8	N/A	06/14/21 15:30	KAG	

## Organics - Volatiles

TO-15, Method: TO-15, Run Date: 06/15/21 17:56, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	20	20		ppbv	10	67-64-1	
1,3-Butadiene	Not detected	10		ppbv	10	106-99-0	
Benzene	13	2		ppbv	10	71-43-2	
Bromodichloromethane	Not detected	2		ppbv	10	75-27-4	
Bromoform	Not detected	2		ppbv	10	75-25-2	
Bromomethane	Not detected	2		ppbv	10	74-83-9	
Vinyl bromide	Not detected	2		ppbv	10	593-60-2	
Benzyl chloride	Not detected	2		ppbv	10	100-44-7	
Carbon disulfide	11	5		ppbv	10	75-15-0	
Chlorobenzene	Not detected	2		ppbv	10	108-90-7	
Chloroethane	Not detected	20		ppbv	10	75-00-3	
Chloroform	Not detected	2		ppbv	10	67-66-3	
Chloromethane	Not detected	20		ppbv	10	74-87-3	
3-Chloropropene	Not detected	2		ppbv	10	107-05-1	
2-Chlorotoluene	Not detected	2		ppbv	10	95-49-8	
Carbon tetrachloride	Not detected	2		ppbv	10	56-23-5	
Cyclohexane	2	2		ppbv	10	110-82-7	
1,1-Dichloroethane	Not detected	2		ppbv	10	75-34-3	
1,1-Dichloroethene	Not detected	2		ppbv	10	75-35-4	
1,2-Dibromoethane	Not detected	2		ppbv	10	106-93-4	
1,2-Dichloroethane	Not detected	2		ppbv	10	107-06-2	
1,2-Dichloropropane	Not detected	2		ppbv	10	78-87-5	
1,4-Dioxane	Not detected	25		ppbv	10	123-91-1	
Dichlorodifluoromethane	Not detected	2		ppbv	10	75-71-8	
Dibromochloromethane	Not detected	2		ppbv	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	2		ppbv	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	2		ppbv	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	2		ppbv	10	541-73-1	
1,2-Dichlorobenzene	Not detected	2		ppbv	10	95-50-1	
1,4-Dichlorobenzene	Not detected	2		ppbv	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-02-6	
Ethanol*	Not detected	25		ppbv	10	64-17-5	
Ethylbenzene	3	2		ppbv	10	100-41-4	
Ethyl Acetate*	Not detected	20		ppbv	10	141-78-6	
4-Ethyltoluene	Not detected	2		ppbv	10	622-96-8	
Freon 113	Not detected	2		ppbv	10	76-13-1	



# Analytical Laboratory Report

Lab Sample ID: S25193.02 (continued)

Sample Tag: TSG-3

TO-15, Method: TO-15, Run Date: 06/15/21 17:56, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Freon 114	Not detected	2		ppbv	10	76-14-2	
Heptane	4	2		ppbv	10	142-82-5	
Hexachlorobutadiene	Not detected	2		ppbv	10	87-68-3	
Hexane	8	2		ppbv	10	110-54-3	
2-Hexanone*	Not detected	5		ppbv	10	591-78-6	
Isopropyl Alcohol*	Not detected	20		ppbv	10	67-63-0	
Methylene chloride	Not detected	5		ppbv	10	75-09-2	
2-Butanone (MEK)	Not detected	20		ppbv	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	6	5		ppbv	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	2		ppbv	10	1634-04-4	
Methyl methacrylate	Not detected	2		ppbv	10	80-62-6	
Naphthalene	Not detected	2		ppbv	10	91-20-3	
Propylene*	Not detected	201		ppbv	10	115-07-1	X
Styrene	Not detected	2		ppbv	10	100-42-5	
1,1,1-Trichloroethane	Not detected	2		ppbv	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	2		ppbv	10	79-34-5	
1,1,2-Trichloroethane	Not detected	2		ppbv	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	5		ppbv	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	2		ppbv	10	95-63-6	
1,3,5-Trimethylbenzene	Not detected	2		ppbv	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	2		ppbv	10	540-84-1	
Tert-butyl Alcohol	Not detected	10		ppbv	10	75-65-0	
Tetrachloroethene	Not detected	2		ppbv	10	127-18-4	
Tetrahydrofuran*	Not detected	2		ppbv	10	109-99-9	
Toluene	8	2		ppbv	10	108-88-3	
Trichloroethene	3	2		ppbv	10	79-01-6	
Trichlorofluoromethane	Not detected	2		ppbv	10	75-69-4	
Vinyl chloride	Not detected	3		ppbv	10	75-01-4	X
Vinyl acetate	Not detected	2		ppbv	10	108-05-4	
p,m-Xylene	12	4		ppbv	10		
o-Xylene	4	2		ppbv	10	95-47-6	
Total Xylenes	16	6		ppbv	10	1330-20-7	

TO-15, Method: TO-15, Run Date: 06/15/21 17:56, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	48	48		ug/m3	10	67-64-1	
1,3-Butadiene	Not detected	22		ug/m3	10	106-99-0	
Benzene	42	6.4		ug/m3	10	71-43-2	
Bromodichloromethane	Not detected	13		ug/m3	10	75-27-4	
Bromoform	Not detected	21		ug/m3	10	75-25-2	
Bromomethane	Not detected	7.8		ug/m3	10	74-83-9	
Vinyl bromide	Not detected	8.7		ug/m3	10	593-60-2	
Benzyl chloride	Not detected	10		ug/m3	10	100-44-7	
Carbon disulfide	34	16		ug/m3	10	75-15-0	
Chlorobenzene	Not detected	9.2		ug/m3	10	108-90-7	
Chloroethane	Not detected	53		ug/m3	10	75-00-3	
Chloroform	Not detected	9.8		ug/m3	10	67-66-3	
Chloromethane	Not detected	41		ug/m3	10	74-87-3	
3-Chloropropene	Not detected	6.3		ug/m3	10	107-05-1	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S25193.02 (continued)

Sample Tag: TSG-3

TO-15, Method: TO-15, Run Date: 06/15/21 17:56, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Chlorotoluene	Not detected	10		ug/m3	10	95-49-8	
Carbon tetrachloride	Not detected	13		ug/m3	10	56-23-5	
Cyclohexane	6.9	6.9		ug/m3	10	110-82-7	
1,1-Dichloroethane	Not detected	8.1		ug/m3	10	75-34-3	
1,1-Dichloroethene	Not detected	7.9		ug/m3	10	75-35-4	
1,2-Dibromoethane	Not detected	15		ug/m3	10	106-93-4	
1,2-Dichloroethane	Not detected	8.1		ug/m3	10	107-06-2	
1,2-Dichloropropane	Not detected	9.2		ug/m3	10	78-87-5	
1,4-Dioxane	Not detected	90		ug/m3	10	123-91-1	
Dichlorodifluoromethane	Not detected	9.9		ug/m3	10	75-71-8	
Dibromochloromethane	Not detected	17		ug/m3	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	12		ug/m3	10	541-73-1	
1,2-Dichlorobenzene	Not detected	12		ug/m3	10	95-50-1	
1,4-Dichlorobenzene	Not detected	12		ug/m3	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-02-6	
Ethanol*	Not detected	47		ug/m3	10	64-17-5	
Ethylbenzene	13	8.7		ug/m3	10	100-41-4	
Ethyl Acetate*	Not detected	72		ug/m3	10	141-78-6	
4-Ethyltoluene	Not detected	9.8		ug/m3	10	622-96-8	
Freon 113	Not detected	15		ug/m3	10	76-13-1	
Freon 114	Not detected	14		ug/m3	10	76-14-2	
Heptane	16	8.2		ug/m3	10	142-82-5	
Hexachlorobutadiene	Not detected	21		ug/m3	10	87-68-3	
Hexane	28	7.0		ug/m3	10	110-54-3	
2-Hexanone*	Not detected	20		ug/m3	10	591-78-6	
Isopropyl Alcohol*	Not detected	49		ug/m3	10	67-63-0	
Methylene chloride	Not detected	17		ug/m3	10	75-09-2	
2-Butanone (MEK)	Not detected	59		ug/m3	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	25	20		ug/m3	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	7.2		ug/m3	10	1634-04-4	
Methyl methacrylate	Not detected	8.2		ug/m3	10	80-62-6	
Naphthalene	Not detected	10		ug/m3	10	91-20-3	
Propylene*	Not detected	346		ug/m3	10	115-07-1	X
Styrene	Not detected	8.5		ug/m3	10	100-42-5	
1,1,1-Trichloroethane	Not detected	11		ug/m3	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	14		ug/m3	10	79-34-5	
1,1,2-Trichloroethane	Not detected	11		ug/m3	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	37		ug/m3	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	9.8		ug/m3	10	95-63-6	
1,3,5-Trimethylbenzene	Not detected	9.8		ug/m3	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	9.3		ug/m3	10	540-84-1	
Tert-butyl Alcohol	Not detected	30		ug/m3	10	75-65-0	
Tetrachloroethene	Not detected	14		ug/m3	10	127-18-4	
Tetrahydrofuran*	Not detected	5.9		ug/m3	10	109-99-9	
Toluene	30	7.5		ug/m3	10	108-88-3	
Trichloroethene	16	11		ug/m3	10	79-01-6	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S25193.02 (continued)

Sample Tag: TSG-3

TO-15, Method: TO-15, Run Date: 06/15/21 17:56, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichlorofluoromethane	Not detected	11		ug/m3	10	75-69-4	
Vinyl chloride	Not detected	7.7		ug/m3	10	75-01-4	X
Vinyl acetate	Not detected	7.0		ug/m3	10	108-05-4	
p,m-Xylene	52	17		ug/m3	10		
o-Xylene	17	8.7		ug/m3	10	95-47-6	
Total Xylenes	69	26		ug/m3	10	1330-20-7	

X-Elevated reporting limit due to matrix interference





# Analytical Laboratory Report

Lab Sample ID: S25193.03

Sample Tag: TSG-2

Collected Date/Time: 06/10/2021 13:42 - 06/10/2021 13:50

Matrix: Air

COC Reference: A4218

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	Air Canister	None	No	RT	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Pressure check for TO-15*	-8.5	N/A	06/14/21 15:30	KAG	

## Organics - Volatiles

TO-15, Method: TO-15, Run Date: 06/15/21 18:27, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	300	20		ppbv	10	67-64-1	
1,3-Butadiene	Not detected	10		ppbv	10	106-99-0	
Benzene	4	2		ppbv	10	71-43-2	
Bromodichloromethane	Not detected	2		ppbv	10	75-27-4	
Bromoform	Not detected	2		ppbv	10	75-25-2	
Bromomethane	Not detected	2		ppbv	10	74-83-9	
Vinyl bromide	Not detected	2		ppbv	10	593-60-2	
Benzyl chloride	Not detected	2		ppbv	10	100-44-7	
Carbon disulfide	29	5		ppbv	10	75-15-0	
Chlorobenzene	Not detected	2		ppbv	10	108-90-7	
Chloroethane	Not detected	20		ppbv	10	75-00-3	
Chloroform	Not detected	2		ppbv	10	67-66-3	
Chloromethane	Not detected	20		ppbv	10	74-87-3	
3-Chloropropene	Not detected	7		ppbv	10	107-05-1	X
2-Chlorotoluene	Not detected	2		ppbv	10	95-49-8	
Carbon tetrachloride	Not detected	2		ppbv	10	56-23-5	
Cyclohexane	Not detected	2		ppbv	10	110-82-7	
1,1-Dichloroethane	Not detected	2		ppbv	10	75-34-3	
1,1-Dichloroethene	Not detected	2		ppbv	10	75-35-4	
1,2-Dibromoethane	Not detected	2		ppbv	10	106-93-4	
1,2-Dichloroethane	Not detected	2		ppbv	10	107-06-2	
1,2-Dichloropropane	Not detected	2		ppbv	10	78-87-5	
1,4-Dioxane	Not detected	25		ppbv	10	123-91-1	
Dichlorodifluoromethane	Not detected	2		ppbv	10	75-71-8	
Dibromochloromethane	Not detected	2		ppbv	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	2		ppbv	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	2		ppbv	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	2		ppbv	10	541-73-1	
1,2-Dichlorobenzene	Not detected	2		ppbv	10	95-50-1	
1,4-Dichlorobenzene	Not detected	2		ppbv	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-02-6	
Ethanol*	Not detected	59		ppbv	10	64-17-5	X
Ethylbenzene	Not detected	2		ppbv	10	100-41-4	
Ethyl Acetate*	Not detected	20		ppbv	10	141-78-6	
4-Ethyltoluene	Not detected	2		ppbv	10	622-96-8	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S25193.03 (continued)

Sample Tag: TSG-2

TO-15, Method: TO-15, Run Date: 06/15/21 18:27, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Freon 113	Not detected	2		ppbv	10	76-13-1	
Freon 114	Not detected	2		ppbv	10	76-14-2	
Heptane	7	2		ppbv	10	142-82-5	
Hexachlorobutadiene	Not detected	2		ppbv	10	87-68-3	
Hexane	8	2		ppbv	10	110-54-3	
2-Hexanone*	Not detected	5		ppbv	10	591-78-6	
Isopropyl Alcohol*	Not detected	20		ppbv	10	67-63-0	
Methylene chloride	Not detected	5		ppbv	10	75-09-2	
2-Butanone (MEK)	30	20		ppbv	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	27	5		ppbv	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	2		ppbv	10	1634-04-4	
Methyl methacrylate	Not detected	2		ppbv	10	80-62-6	
Naphthalene	Not detected	2		ppbv	10	91-20-3	
Propylene*	Not detected	201		ppbv	10	115-07-1	X
Styrene	Not detected	2		ppbv	10	100-42-5	
1,1,1-Trichloroethane	Not detected	2		ppbv	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	2		ppbv	10	79-34-5	
1,1,2-Trichloroethane	Not detected	2		ppbv	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	5		ppbv	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	3		ppbv	10	95-63-6	X
1,3,5-Trimethylbenzene	Not detected	2		ppbv	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	2		ppbv	10	540-84-1	
Tert-butyl Alcohol	20	10		ppbv	10	75-65-0	
Tetrachloroethene	Not detected	2		ppbv	10	127-18-4	
Tetrahydrofuran*	12	2		ppbv	10	109-99-9	
Toluene	9	2		ppbv	10	108-88-3	
Trichloroethene	Not detected	2		ppbv	10	79-01-6	
Trichlorofluoromethane	Not detected	2		ppbv	10	75-69-4	
Vinyl chloride	Not detected	2		ppbv	10	75-01-4	
Vinyl acetate	Not detected	2		ppbv	10	108-05-4	
p,m-Xylene	5	4		ppbv	10		
o-Xylene	Not detected	2		ppbv	10	95-47-6	
Total Xylenes	Not detected	6		ppbv	10	1330-20-7	

TO-15, Method: TO-15, Run Date: 06/15/21 18:27, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	710	48		ug/m3	10	67-64-1	
1,3-Butadiene	Not detected	22		ug/m3	10	106-99-0	
Benzene	13	6.4		ug/m3	10	71-43-2	
Bromodichloromethane	Not detected	13		ug/m3	10	75-27-4	
Bromoform	Not detected	21		ug/m3	10	75-25-2	
Bromomethane	Not detected	7.8		ug/m3	10	74-83-9	
Vinyl bromide	Not detected	8.7		ug/m3	10	593-60-2	
Benzyl chloride	Not detected	10		ug/m3	10	100-44-7	
Carbon disulfide	90	16		ug/m3	10	75-15-0	
Chlorobenzene	Not detected	9.2		ug/m3	10	108-90-7	
Chloroethane	Not detected	53		ug/m3	10	75-00-3	
Chloroform	Not detected	9.8		ug/m3	10	67-66-3	
Chloromethane	Not detected	41		ug/m3	10	74-87-3	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S25193.03 (continued)

Sample Tag: TSG-2

TO-15, Method: TO-15, Run Date: 06/15/21 18:27, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
3-Chloropropene	Not detected	22		ug/m3	10	107-05-1	X
2-Chlorotoluene	Not detected	10		ug/m3	10	95-49-8	
Carbon tetrachloride	Not detected	13		ug/m3	10	56-23-5	
Cyclohexane	Not detected	6.9		ug/m3	10	110-82-7	
1,1-Dichloroethane	Not detected	8.1		ug/m3	10	75-34-3	
1,1-Dichloroethene	Not detected	7.9		ug/m3	10	75-35-4	
1,2-Dibromoethane	Not detected	15		ug/m3	10	106-93-4	
1,2-Dichloroethane	Not detected	8.1		ug/m3	10	107-06-2	
1,2-Dichloropropane	Not detected	9.2		ug/m3	10	78-87-5	
1,4-Dioxane	Not detected	90		ug/m3	10	123-91-1	
Dichlorodifluoromethane	Not detected	9.9		ug/m3	10	75-71-8	
Dibromochloromethane	Not detected	17		ug/m3	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	12		ug/m3	10	541-73-1	
1,2-Dichlorobenzene	Not detected	12		ug/m3	10	95-50-1	
1,4-Dichlorobenzene	Not detected	12		ug/m3	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-02-6	
Ethanol*	Not detected	110		ug/m3	10	64-17-5	X
Ethylbenzene	Not detected	8.7		ug/m3	10	100-41-4	
Ethyl Acetate*	Not detected	72		ug/m3	10	141-78-6	
4-Ethyltoluene	Not detected	9.8		ug/m3	10	622-96-8	
Freon 113	Not detected	15		ug/m3	10	76-13-1	
Freon 114	Not detected	14		ug/m3	10	76-14-2	
Heptane	29	8.2		ug/m3	10	142-82-5	
Hexachlorobutadiene	Not detected	21		ug/m3	10	87-68-3	
Hexane	28	7.0		ug/m3	10	110-54-3	
2-Hexanone*	Not detected	20		ug/m3	10	591-78-6	
Isopropyl Alcohol*	Not detected	49		ug/m3	10	67-63-0	
Methylene chloride	Not detected	17		ug/m3	10	75-09-2	
2-Butanone (MEK)	88	59		ug/m3	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	110	20		ug/m3	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	7.2		ug/m3	10	1634-04-4	
Methyl methacrylate	Not detected	8.2		ug/m3	10	80-62-6	
Naphthalene	Not detected	10		ug/m3	10	91-20-3	
Propylene*	Not detected	346		ug/m3	10	115-07-1	X
Styrene	Not detected	8.5		ug/m3	10	100-42-5	
1,1,1-Trichloroethane	Not detected	11		ug/m3	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	14		ug/m3	10	79-34-5	
1,1,2-Trichloroethane	Not detected	11		ug/m3	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	37		ug/m3	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	15		ug/m3	10	95-63-6	X
1,3,5-Trimethylbenzene	Not detected	9.8		ug/m3	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	9.3		ug/m3	10	540-84-1	
Tert-butyl Alcohol	61	30		ug/m3	10	75-65-0	
Tetrachloroethene	Not detected	14		ug/m3	10	127-18-4	
Tetrahydrofuran*	35	5.9		ug/m3	10	109-99-9	
Toluene	34	7.5		ug/m3	10	108-88-3	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S25193.03 (continued)

Sample Tag: TSG-2

TO-15, Method: TO-15, Run Date: 06/15/21 18:27, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichloroethene	Not detected	11		ug/m3	10	79-01-6	
Trichlorofluoromethane	Not detected	11		ug/m3	10	75-69-4	
Vinyl chloride	Not detected	5.1		ug/m3	10	75-01-4	
Vinyl acetate	Not detected	7.0		ug/m3	10	108-05-4	
p,m-Xylene	22	17		ug/m3	10		
o-Xylene	Not detected	8.7		ug/m3	10	95-47-6	
Total Xylenes	Not detected	26		ug/m3	10	1330-20-7	





# Analytical Laboratory Report

Lab Sample ID: S25193.04

Sample Tag: TSG-1

Collected Date/Time: 06/10/2021 14:10 - 06/10/2021 14:15

Matrix: Air

COC Reference: A4218

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	Air Canister	None	No	RT	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Pressure check for TO-15*	-6.5	N/A	06/14/21 15:30	KAG	

## Organics - Volatiles

TO-15, Method: TO-15, Run Date: 06/15/21 18:59, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	230	20		ppbv	10	67-64-1	
1,3-Butadiene	Not detected	10		ppbv	10	106-99-0	
Benzene	4	2		ppbv	10	71-43-2	
Bromodichloromethane	Not detected	2		ppbv	10	75-27-4	
Bromoform	Not detected	2		ppbv	10	75-25-2	
Bromomethane	Not detected	2		ppbv	10	74-83-9	
Vinyl bromide	Not detected	2		ppbv	10	593-60-2	
Benzyl chloride	Not detected	2		ppbv	10	100-44-7	
Carbon disulfide	29	5		ppbv	10	75-15-0	
Chlorobenzene	Not detected	2		ppbv	10	108-90-7	
Chloroethane	Not detected	20		ppbv	10	75-00-3	
Chloroform	Not detected	2		ppbv	10	67-66-3	
Chloromethane	Not detected	20		ppbv	10	74-87-3	
3-Chloropropene	Not detected	2		ppbv	10	107-05-1	
2-Chlorotoluene	Not detected	2		ppbv	10	95-49-8	
Carbon tetrachloride	Not detected	2		ppbv	10	56-23-5	
Cyclohexane	Not detected	2		ppbv	10	110-82-7	
1,1-Dichloroethane	Not detected	2		ppbv	10	75-34-3	
1,1-Dichloroethene	Not detected	2		ppbv	10	75-35-4	
1,2-Dibromoethane	Not detected	2		ppbv	10	106-93-4	
1,2-Dichloroethane	Not detected	2		ppbv	10	107-06-2	
1,2-Dichloropropane	Not detected	2		ppbv	10	78-87-5	
1,4-Dioxane	Not detected	25		ppbv	10	123-91-1	
Dichlorodifluoromethane	Not detected	2		ppbv	10	75-71-8	
Dibromochloromethane	Not detected	2		ppbv	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	2		ppbv	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	2		ppbv	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	2		ppbv	10	541-73-1	
1,2-Dichlorobenzene	Not detected	2		ppbv	10	95-50-1	
1,4-Dichlorobenzene	Not detected	2		ppbv	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-02-6	
Ethanol*	84	25		ppbv	10	64-17-5	
Ethylbenzene	Not detected	2		ppbv	10	100-41-4	
Ethyl Acetate*	Not detected	20		ppbv	10	141-78-6	
4-Ethyltoluene	Not detected	2		ppbv	10	622-96-8	
Freon 113	Not detected	2		ppbv	10	76-13-1	



# Analytical Laboratory Report

Lab Sample ID: S25193.04 (continued)

Sample Tag: TSG-1

TO-15, Method: TO-15, Run Date: 06/15/21 18:59, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Freon 114	Not detected	2		ppbv	10	76-14-2	
Heptane	6	2		ppbv	10	142-82-5	
Hexachlorobutadiene	Not detected	2		ppbv	10	87-68-3	
Hexane	7	2		ppbv	10	110-54-3	
2-Hexanone*	Not detected	5		ppbv	10	591-78-6	
Isopropyl Alcohol*	Not detected	20		ppbv	10	67-63-0	
Methylene chloride	Not detected	5		ppbv	10	75-09-2	
2-Butanone (MEK)	50	20		ppbv	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	23	5		ppbv	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	2		ppbv	10	1634-04-4	
Methyl methacrylate	Not detected	2		ppbv	10	80-62-6	
Naphthalene	Not detected	2		ppbv	10	91-20-3	
Propylene*	Not detected	127		ppbv	10	115-07-1	X
Styrene	Not detected	2		ppbv	10	100-42-5	
1,1,1-Trichloroethane	Not detected	2		ppbv	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	2		ppbv	10	79-34-5	
1,1,2-Trichloroethane	Not detected	2		ppbv	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	5		ppbv	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	3		ppbv	10	95-63-6	X
1,3,5-Trimethylbenzene	Not detected	2		ppbv	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	2		ppbv	10	540-84-1	
Tert-butyl Alcohol	20	10		ppbv	10	75-65-0	
Tetrachloroethene	Not detected	2		ppbv	10	127-18-4	
Tetrahydrofuran*	20	2		ppbv	10	109-99-9	
Toluene	9	2		ppbv	10	108-88-3	
Trichloroethene	Not detected	2		ppbv	10	79-01-6	
Trichlorofluoromethane	Not detected	2		ppbv	10	75-69-4	
Vinyl chloride	Not detected	2		ppbv	10	75-01-4	
Vinyl acetate	Not detected	2		ppbv	10	108-05-4	
p,m-Xylene	5	4		ppbv	10		
o-Xylene	Not detected	2		ppbv	10	95-47-6	
Total Xylenes	Not detected	6		ppbv	10	1330-20-7	

TO-15, Method: TO-15, Run Date: 06/15/21 18:59, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	550	48		ug/m3	10	67-64-1	
1,3-Butadiene	Not detected	22		ug/m3	10	106-99-0	
Benzene	13	6.4		ug/m3	10	71-43-2	
Bromodichloromethane	Not detected	13		ug/m3	10	75-27-4	
Bromoform	Not detected	21		ug/m3	10	75-25-2	
Bromomethane	Not detected	7.8		ug/m3	10	74-83-9	
Vinyl bromide	Not detected	8.7		ug/m3	10	593-60-2	
Benzyl chloride	Not detected	10		ug/m3	10	100-44-7	
Carbon disulfide	90	16		ug/m3	10	75-15-0	
Chlorobenzene	Not detected	9.2		ug/m3	10	108-90-7	
Chloroethane	Not detected	53		ug/m3	10	75-00-3	
Chloroform	Not detected	9.8		ug/m3	10	67-66-3	
Chloromethane	Not detected	41		ug/m3	10	74-87-3	
3-Chloropropene	Not detected	6.3		ug/m3	10	107-05-1	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S25193.04 (continued)

Sample Tag: TSG-1

TO-15, Method: TO-15, Run Date: 06/15/21 18:59, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Chlorotoluene	Not detected	10		ug/m3	10	95-49-8	
Carbon tetrachloride	Not detected	13		ug/m3	10	56-23-5	
Cyclohexane	Not detected	6.9		ug/m3	10	110-82-7	
1,1-Dichloroethane	Not detected	8.1		ug/m3	10	75-34-3	
1,1-Dichloroethene	Not detected	7.9		ug/m3	10	75-35-4	
1,2-Dibromoethane	Not detected	15		ug/m3	10	106-93-4	
1,2-Dichloroethane	Not detected	8.1		ug/m3	10	107-06-2	
1,2-Dichloropropane	Not detected	9.2		ug/m3	10	78-87-5	
1,4-Dioxane	Not detected	90		ug/m3	10	123-91-1	
Dichlorodifluoromethane	Not detected	9.9		ug/m3	10	75-71-8	
Dibromochloromethane	Not detected	17		ug/m3	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	12		ug/m3	10	541-73-1	
1,2-Dichlorobenzene	Not detected	12		ug/m3	10	95-50-1	
1,4-Dichlorobenzene	Not detected	12		ug/m3	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-02-6	
Ethanol*	160	47		ug/m3	10	64-17-5	
Ethylbenzene	Not detected	8.7		ug/m3	10	100-41-4	
Ethyl Acetate*	Not detected	72		ug/m3	10	141-78-6	
4-Ethyltoluene	Not detected	9.8		ug/m3	10	622-96-8	
Freon 113	Not detected	15		ug/m3	10	76-13-1	
Freon 114	Not detected	14		ug/m3	10	76-14-2	
Heptane	25	8.2		ug/m3	10	142-82-5	
Hexachlorobutadiene	Not detected	21		ug/m3	10	87-68-3	
Hexane	25	7.0		ug/m3	10	110-54-3	
2-Hexanone*	Not detected	20		ug/m3	10	591-78-6	
Isopropyl Alcohol*	Not detected	49		ug/m3	10	67-63-0	
Methylene chloride	Not detected	17		ug/m3	10	75-09-2	
2-Butanone (MEK)	150	59		ug/m3	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	94	20		ug/m3	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	7.2		ug/m3	10	1634-04-4	
Methyl methacrylate	Not detected	8.2		ug/m3	10	80-62-6	
Naphthalene	Not detected	10		ug/m3	10	91-20-3	
Propylene*	Not detected	219		ug/m3	10	115-07-1	X
Styrene	Not detected	8.5		ug/m3	10	100-42-5	
1,1,1-Trichloroethane	Not detected	11		ug/m3	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	14		ug/m3	10	79-34-5	
1,1,2-Trichloroethane	Not detected	11		ug/m3	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	37		ug/m3	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	15		ug/m3	10	95-63-6	X
1,3,5-Trimethylbenzene	Not detected	9.8		ug/m3	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	9.3		ug/m3	10	540-84-1	
Tert-butyl Alcohol	61	30		ug/m3	10	75-65-0	
Tetrachloroethene	Not detected	14		ug/m3	10	127-18-4	
Tetrahydrofuran*	59	5.9		ug/m3	10	109-99-9	
Toluene	34	7.5		ug/m3	10	108-88-3	
Trichloroethene	Not detected	11		ug/m3	10	79-01-6	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S25193.04 (continued)  
Sample Tag: TSG-1

TO-15, Method: TO-15, Run Date: 06/15/21 18:59, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichlorofluoromethane	Not detected	11		ug/m3	10	75-69-4	
Vinyl chloride	Not detected	5.1		ug/m3	10	75-01-4	
Vinyl acetate	Not detected	7.0		ug/m3	10	108-05-4	
p,m-Xylene	22	17		ug/m3	10		
o-Xylene	Not detected	8.7		ug/m3	10	95-47-6	
Total Xylenes	Not detected	26		ug/m3	10	1330-20-7	



# Merit Laboratories Login Checklist

Lab Set ID:S25193

Client:PME02 (PM Environmental, Inc. - Berkley)

Project: 01-11288-1-0004

Submitted:06/11/2021 11:10 Login User: MMC

Attention: Jana Beumel

Address: PM Environmental, Inc.  
4080 W. Eleven Mile  
Berkley, MI 48072

Phone: O:248-336-9988 FAX:

Email: Beumel@pmenv.com

Selection	Description	Note
<b>Sample Receiving</b>		
01. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples are received at 4C +/- 2C	Thermometer # RT
02. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Received on ice/ cooling process begun	
03. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped	
04. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box	
05. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked	
<b>Chain of Custody</b>		
06. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC adequately filled out	
07. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC signed and relinquished to the lab	
08. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample tag on bottles match COC	
09. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontacted to:	
<b>Preservation</b>		
10. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation	
11. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)	
12. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?	
<b>Bottle Conditions</b>		
13. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact	
14. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used	
15. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used	
16. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received	
17. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration	
18. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time	
19. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_



C.O.C. PAGE # 1 OF 1

A 4218

## REPORT TO

CONTACT NAME				Jana Beumel							
COMPANY				PM Environmental							
ADDRESS								4080 West Eleven Mile Rd.			
CITY						STATE		ZIP CODE			
Berkley						MI					
PHONE NO.				FAX NO.				P.O. NO.			
EMAIL ADDRESS								QUOTE NO.			
Beumel@pmenv.com											

## AIR/GAS SAMPLES CHAIN OF CUSTODY RECORD

CONTACT NAME		<input checked="" type="checkbox"/> SAME
COMPANY		
ADDRESS		
CITY		STATE ZIP CODE
PHONE NO.	EMAIL ADDRESS	

**INVOICE TO**

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME 01-11288-1-0004

SAMPLER(S) - PLEASE PRINT/SIGN NAME

## Certifications

**Sample Type**

## Analyses

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

☐ OHIO VAP    ☐ NELAP☐ DoD ☐ NPDESDELIVERABLES REQUIRED ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER☐ DoD ☐ NPDES[illegible]

Temperature (Fahrenheit)				Pressure (inches of Hg)				Notes
	Interior	Ambient	Notes		Interior	Ambient	Notes	
Start		83		Start		29.98		
Stop		83		Stop		29.98		

RELINQUISHED BY:  
SIGNATURE/ORGANIZATION

RECEIVED BY:  
SIGNATURE/ORGANIZATION

RELINQUISHED BY:  
SIGNATURE/ORGANIZATION

RECEIVED BY: \_\_\_\_\_  
SIGNATURE/ORGANIZATION \_\_\_\_\_

☒ Sampler

DATE 6/10/21 TIME 1610

DATE 6/10/21 TIME 1610

DATE	TIME
------	------

DATE 1/21 TIME 0921

RELINQUISHED BY:  
SIGNATURE/ORGANIZATION

RECEIVED BY:  
SIGNATURE/ORGANIZATION

SEAL NO.

SEAL NO.

SEAL INTACT

SEAL INTACT

INITIALS

INITIALS

TEMP. ON ARRIVAL

ZT



# Analytical Laboratory Report

Report ID: S30741.01(01)  
Generated on 12/03/2021

## Report to

Attention: Jana Beumel  
PM Environmental, Inc.  
4080 W. Eleven Mile  
Berkley, MI 48072

Phone: O:248-336-9988 D:248-414-1859 FAX:  
Email: Beumel@pmenv.com

## Report produced by

Merit Laboratories, Inc.  
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Contacts for report questions:  
John Lavery (johnlavery@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

## Report Summary

Lab Sample ID(s): S30741.01-S30741.18  
Project: 01-11288-1-0004 / Mariner's Inn  
Collected Date(s): 11/24/2021  
Submitted Date/Time: 11/29/2021 14:30  
Sampled by: Hailey Iglewski  
P.O. #: 01-11288-1-0004

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (\*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

## Report Narrative

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There is no additional narrative for this analytical report





# Analytical Laboratory Report

## Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

## Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

## Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



# Analytical Laboratory Report

## Method Summary

Method	Version
SM2540B	Standard Method 2540 B 2011
SW3546	SW 846 Method 3546 Revision 0 February 2007
SW5035A	SW 846 Method 5035A Revision 1 July 2002
SW5035A/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5035A Revision 1 July 2002
SW8270D	SW 846 Method 8270D Revision 4 February 2007



# Analytical Laboratory Report

Sample Summary (18 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S30741.01	SB-5R 0.5-1.5'	Soil	11/24/21 10:00
S30741.02	SB-5R 4.5-5.5'	Soil	11/24/21 09:35
S30741.03	SB-5R 5.5-6.5'	Soil	11/24/21 09:40
S30741.04	SB-6 3.5-4.5'	Soil	11/24/21 11:55
S30741.05	SB-6 4.5-5.5'	Soil	11/24/21 12:00
S30741.06	SB-6 7-8'	Soil	11/24/21 12:05
S30741.07	SB-7 3.5-4.5'	Soil	11/24/21 12:20
S30741.08	SB-7 4.5-5.5'	Soil	11/24/21 12:25
S30741.09	SB-7 7-8'	Soil	11/24/21 12:30
S30741.10	SB-8 3.5-4.5'	Soil	11/24/21 11:25
S30741.11	SB-8 4.5-5.5'	Soil	11/24/21 11:30
S30741.12	SB-8 7-8'	Soil	11/24/21 11:35
S30741.13	SB-9 3.5-4.5'	Soil	11/24/21 11:00
S30741.14	SB-9 4.5-5.5'	Soil	11/24/21 11:05
S30741.15	SB-9 7-8'	Soil	11/24/21 11:10
S30741.16	SB-10 3.5-4.5'	Soil	11/24/21 10:40
S30741.17	SB-10 4.5-5.5'	Soil	11/24/21 10:35
S30741.18	SB-10 7-8'	Soil	11/24/21 10:30



# Analytical Laboratory Report

Lab Sample ID: S30741.01

Sample Tag: SB-5R 0.5-1.5'

Collected Date/Time: 11/24/2021 10:00

Matrix: Soil

COC Reference: 146347

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	9.743/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:45, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	88	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/02/21 03:16, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	400	300		ug/kg	10	208-96-8	
Anthracene	900	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	2,900	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	2,900	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	6,100	300		ug/kg	10	205-99-2	p
Benzo(k)fluoranthene	6,800	300		ug/kg	10	207-08-9	p
Benzo(ghi)perylene	800	300		ug/kg	10	191-24-2	
Chrysene	3,000	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	6,200	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	800	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	3,200	300		ug/kg	10	85-01-8	
Pyrene	6,300	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 00:45, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	65.1	60-29-7	
Acetone	Not detected	1,000		ug/kg	65.1	67-64-1	
Methyl iodide	Not detected	100		ug/kg	65.1	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	65.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	65.1	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	65.1	107-13-1	
2-Butanone (MEK)	Not detected	980		ug/kg	65.1	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	65.1	75-71-8	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.





# Analytical Laboratory Report

Lab Sample ID: S30741.01 (continued)

Sample Tag: SB-5R 0.5-1.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 00:45, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	300		ug/kg	65.1	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	65.1	75-01-4	
Bromomethane	Not detected	300		ug/kg	65.1	74-83-9	
Chloroethane	Not detected	300		ug/kg	65.1	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	65.1	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	65.1	75-35-4	
Methylene chloride	Not detected	100		ug/kg	65.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	65.1	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	65.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	65.1	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	65.1	109-99-9	
Chloroform	Not detected	70		ug/kg	65.1	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	65.1	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	65.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	65.1	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	65.1	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	65.1	56-23-5	
Benzene	Not detected	70		ug/kg	65.1	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	65.1	107-06-2	
Trichloroethene	Not detected	70		ug/kg	65.1	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	65.1	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	65.1	75-27-4	
Dibromomethane	Not detected	300		ug/kg	65.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	65.1	10061-01-5	
Toluene	110	70		ug/kg	65.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	65.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	65.1	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	65.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	65.1	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	65.1	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	65.1	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	65.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	65.1	630-20-6	
Ethylbenzene	70	70		ug/kg	65.1	100-41-4	
p,m-Xylene	300	100		ug/kg	65.1		
o-Xylene	120	70		ug/kg	65.1	95-47-6	
Styrene	Not detected	70		ug/kg	65.1	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	65.1	98-82-8	
Bromoform	Not detected	100		ug/kg	65.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	65.1	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	65.1	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	65.1	103-65-1	
Bromobenzene	Not detected	100		ug/kg	65.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	65.1	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	65.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	65.1	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	65.1	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	65.1	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	65.1	541-73-1	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.01 (continued)

Sample Tag: SB-5R 0.5-1.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 00:45, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	100		ug/kg	65.1	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	65.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	65.1	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	65.1	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	65.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	65.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	430		ug/kg	65.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	430		ug/kg	65.1	87-61-6	
Naphthalene	Not detected	300		ug/kg	65.1	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	65.1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.02

Sample Tag: SB-5R 4.5-5.5'

Collected Date/Time: 11/24/2021 09:35

Matrix: Soil

COC Reference: 146347

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	9.638/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:45, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	86	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/01/21 21:00, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 01:08, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	68.5	60-29-7	
Acetone	Not detected	1,000		ug/kg	68.5	67-64-1	
Methyl iodide	Not detected	100		ug/kg	68.5	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	68.5	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	68.5	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	68.5	107-13-1	
2-Butanone (MEK)	Not detected	1,000		ug/kg	68.5	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	68.5	75-71-8	
Chloromethane	Not detected	300		ug/kg	68.5	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S30741.02 (continued)

Sample Tag: SB-5R 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 01:08, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	70		ug/kg	68.5	75-01-4	
Bromomethane	Not detected	300		ug/kg	68.5	74-83-9	
Chloroethane	Not detected	300		ug/kg	68.5	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	68.5	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	68.5	75-35-4	
Methylene chloride	Not detected	100		ug/kg	68.5	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	68.5	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	68.5	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	68.5	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	68.5	109-99-9	
Chloroform	Not detected	70		ug/kg	68.5	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	68.5	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	68.5	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	68.5	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	68.5	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	68.5	56-23-5	
Benzene	Not detected	70		ug/kg	68.5	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	68.5	107-06-2	
Trichloroethene	Not detected	70		ug/kg	68.5	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	68.5	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	68.5	75-27-4	
Dibromomethane	Not detected	300		ug/kg	68.5	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	68.5	10061-01-5	
Toluene	Not detected	70		ug/kg	68.5	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	68.5	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	68.5	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	68.5	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	68.5	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	68.5	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	68.5	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	68.5	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	68.5	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	68.5	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	68.5		
o-Xylene	Not detected	70		ug/kg	68.5	95-47-6	
Styrene	Not detected	70		ug/kg	68.5	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	68.5	98-82-8	
Bromoform	Not detected	100		ug/kg	68.5	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	68.5	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	68.5	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	68.5	103-65-1	
Bromobenzene	Not detected	100		ug/kg	68.5	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	68.5	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	68.5	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	68.5	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	68.5	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	68.5	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	68.5	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	68.5	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.02 (continued)

Sample Tag: SB-5R 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 01:08, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	68.5	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	68.5	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	68.5	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	68.5	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	68.5	96-12-8	
1,2,4-Trichlorobenzene	Not detected	450		ug/kg	68.5	120-82-1	
1,2,3-Trichlorobenzene	Not detected	450		ug/kg	68.5	87-61-6	
Naphthalene	Not detected	300		ug/kg	68.5	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	68.5	91-57-6	





# Analytical Laboratory Report

Lab Sample ID: S30741.03

Sample Tag: SB-5R 5.5-6.5'

Collected Date/Time: 11/24/2021 09:40

Matrix: Soil

COC Reference: 146347

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	9.396/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:45, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/01/21 21:22, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 01:30, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	68.6	60-29-7	
Acetone	Not detected	1,000		ug/kg	68.6	67-64-1	
Methyl iodide	Not detected	100		ug/kg	68.6	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	68.6	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	68.6	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	68.6	107-13-1	
2-Butanone (MEK)	Not detected	1,000		ug/kg	68.6	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	68.6	75-71-8	
Chloromethane	Not detected	300		ug/kg	68.6	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S30741.03 (continued)

Sample Tag: SB-5R 5.5-6.5'

**Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 01:30, Analyst: KAG (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	70		ug/kg	68.6	75-01-4	
Bromomethane	Not detected	300		ug/kg	68.6	74-83-9	
Chloroethane	Not detected	300		ug/kg	68.6	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	68.6	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	68.6	75-35-4	
Methylene chloride	Not detected	100		ug/kg	68.6	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	68.6	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	68.6	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	68.6	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	68.6	109-99-9	
Chloroform	Not detected	70		ug/kg	68.6	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	68.6	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	68.6	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	68.6	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	68.6	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	68.6	56-23-5	
Benzene	Not detected	70		ug/kg	68.6	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	68.6	107-06-2	
Trichloroethene	Not detected	70		ug/kg	68.6	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	68.6	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	68.6	75-27-4	
Dibromomethane	Not detected	300		ug/kg	68.6	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	68.6	10061-01-5	
Toluene	Not detected	70		ug/kg	68.6	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	68.6	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	68.6	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	68.6	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	68.6	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	68.6	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	68.6	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	68.6	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	68.6	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	68.6	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	68.6		
o-Xylene	Not detected	70		ug/kg	68.6	95-47-6	
Styrene	Not detected	70		ug/kg	68.6	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	68.6	98-82-8	
Bromoform	Not detected	100		ug/kg	68.6	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	68.6	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	68.6	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	68.6	103-65-1	
Bromobenzene	Not detected	100		ug/kg	68.6	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	68.6	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	68.6	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	68.6	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	68.6	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	68.6	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	68.6	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	68.6	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.03 (continued)

Sample Tag: SB-5R 5.5-6.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 01:30, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	68.6	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	68.6	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	68.6	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	68.6	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	68.6	96-12-8	
1,2,4-Trichlorobenzene	Not detected	450		ug/kg	68.6	120-82-1	
1,2,3-Trichlorobenzene	Not detected	450		ug/kg	68.6	87-61-6	
Naphthalene	Not detected	300		ug/kg	68.6	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	68.6	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.04

Sample Tag: SB-6 3.5-4.5'

Collected Date/Time: 11/24/2021 11:55

Matrix: Soil

COC Reference: 146347

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	9.261/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:45, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	85	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/01/21 21:44, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 01:52, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	72.3	60-29-7	
Acetone	Not detected	1,000		ug/kg	72.3	67-64-1	
Methyl iodide	Not detected	100		ug/kg	72.3	74-88-4	
Carbon disulfide	Not detected	400		ug/kg	72.3	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	72.3	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	72.3	107-13-1	
2-Butanone (MEK)	Not detected	1,100		ug/kg	72.3	78-93-3	
Dichlorodifluoromethane	Not detected	400		ug/kg	72.3	75-71-8	
Chloromethane	Not detected	400		ug/kg	72.3	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S30741.04 (continued)

Sample Tag: SB-6 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 01:52, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	70		ug/kg	72.3	75-01-4	
Bromomethane	Not detected	300		ug/kg	72.3	74-83-9	
Chloroethane	Not detected	400		ug/kg	72.3	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	72.3	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	72.3	75-35-4	
Methylene chloride	Not detected	100		ug/kg	72.3	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	72.3	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	72.3	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	72.3	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	72.3	109-99-9	
Chloroform	Not detected	70		ug/kg	72.3	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	72.3	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	72.3	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	4,000		ug/kg	72.3	108-10-1	
2-Hexanone	Not detected	4,000		ug/kg	72.3	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	72.3	56-23-5	
Benzene	Not detected	70		ug/kg	72.3	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	72.3	107-06-2	
Trichloroethene	Not detected	70		ug/kg	72.3	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	72.3	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	72.3	75-27-4	
Dibromomethane	Not detected	400		ug/kg	72.3	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	72.3	10061-01-5	
Toluene	Not detected	70		ug/kg	72.3	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	72.3	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	72.3	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	72.3	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	72.3	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	72.3	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	72.3	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	72.3	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	72.3	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	72.3	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	72.3		
o-Xylene	Not detected	70		ug/kg	72.3	95-47-6	
Styrene	Not detected	70		ug/kg	72.3	100-42-5	
Isopropylbenzene	Not detected	400		ug/kg	72.3	98-82-8	
Bromoform	Not detected	100		ug/kg	72.3	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	72.3	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	72.3	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	72.3	103-65-1	
Bromobenzene	Not detected	100		ug/kg	72.3	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	72.3	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	72.3	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	72.3	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	72.3	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	72.3	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	72.3	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	72.3	106-46-7	

M-Result reported to MDL not RDL





# Analytical Laboratory Report

Lab Sample ID: S30741.04 (continued)

Sample Tag: SB-6 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 01:52, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	72.3	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	72.3	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	72.3	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	72.3	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	400		ug/kg	72.3	96-12-8	
1,2,4-Trichlorobenzene	Not detected	480		ug/kg	72.3	120-82-1	
1,2,3-Trichlorobenzene	Not detected	480		ug/kg	72.3	87-61-6	
Naphthalene	Not detected	400		ug/kg	72.3	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	72.3	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.05

Sample Tag: SB-6 4.5-5.5'

Collected Date/Time: 11/24/2021 12:00

Matrix: Soil

COC Reference: 146347

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	9.569/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:45, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/01/21 22:06, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 02:15, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	67.5	60-29-7	
Acetone	Not detected	1,000		ug/kg	67.5	67-64-1	
Methyl iodide	Not detected	100		ug/kg	67.5	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	67.5	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	67.5	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	67.5	107-13-1	
2-Butanone (MEK)	Not detected	1,000		ug/kg	67.5	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	67.5	75-71-8	
Chloromethane	Not detected	300		ug/kg	67.5	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S30741.05 (continued)

Sample Tag: SB-6 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 02:15, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	70		ug/kg	67.5	75-01-4	
Bromomethane	Not detected	300		ug/kg	67.5	74-83-9	
Chloroethane	Not detected	300		ug/kg	67.5	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	67.5	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	67.5	75-35-4	
Methylene chloride	Not detected	100		ug/kg	67.5	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	67.5	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	67.5	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	67.5	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	67.5	109-99-9	
Chloroform	Not detected	70		ug/kg	67.5	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	67.5	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	67.5	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	67.5	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	67.5	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	67.5	56-23-5	
Benzene	Not detected	70		ug/kg	67.5	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	67.5	107-06-2	
Trichloroethene	Not detected	70		ug/kg	67.5	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	67.5	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	67.5	75-27-4	
Dibromomethane	Not detected	300		ug/kg	67.5	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	67.5	10061-01-5	
Toluene	Not detected	70		ug/kg	67.5	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	67.5	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	67.5	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	67.5	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	67.5	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	67.5	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	67.5	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	67.5	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	67.5	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	67.5	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	67.5		
o-Xylene	Not detected	70		ug/kg	67.5	95-47-6	
Styrene	Not detected	70		ug/kg	67.5	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	67.5	98-82-8	
Bromoform	Not detected	100		ug/kg	67.5	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	67.5	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	67.5	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	67.5	103-65-1	
Bromobenzene	Not detected	100		ug/kg	67.5	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	67.5	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	67.5	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	67.5	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	67.5	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	67.5	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	67.5	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	67.5	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.05 (continued)

Sample Tag: SB-6 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 02:15, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	67.5	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	67.5	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	67.5	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	67.5	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	67.5	96-12-8	
1,2,4-Trichlorobenzene	Not detected	450		ug/kg	67.5	120-82-1	
1,2,3-Trichlorobenzene	Not detected	450		ug/kg	67.5	87-61-6	
Naphthalene	Not detected	300		ug/kg	67.5	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	67.5	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.06  
Sample Tag: SB-6 7-8'  
Collected Date/Time: 11/24/2021 12:05  
Matrix: Soil  
COC Reference: 146347

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

Other / Misc.

Method: , Run Date: 11/30/21 09:00, Analyst: MMC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hold until notified*	Completed				1		





# Analytical Laboratory Report

Lab Sample ID: S30741.07

Sample Tag: SB-7 3.5-4.5'

Collected Date/Time: 11/24/2021 12:20

Matrix: Soil

COC Reference: 146347

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	9.803/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:45, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	84	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/01/21 22:28, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 02:37, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	70.2	60-29-7	
Acetone	Not detected	1,000		ug/kg	70.2	67-64-1	
Methyl iodide	Not detected	100		ug/kg	70.2	74-88-4	
Carbon disulfide	Not detected	400		ug/kg	70.2	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	70.2	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	70.2	107-13-1	
2-Butanone (MEK)	Not detected	1,100		ug/kg	70.2	78-93-3	
Dichlorodifluoromethane	Not detected	400		ug/kg	70.2	75-71-8	
Chloromethane	Not detected	400		ug/kg	70.2	74-87-3	

Lab Sample ID: S30741.07 (continued)

Sample Tag: SB-7 3.5-4.5'

**Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 02:37, Analyst: KAG (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	70		ug/kg	70.2	75-01-4	
Bromomethane	Not detected	300		ug/kg	70.2	74-83-9	
Chloroethane	Not detected	400		ug/kg	70.2	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	70.2	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	70.2	75-35-4	
Methylene chloride	Not detected	100		ug/kg	70.2	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	70.2	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	70.2	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	70.2	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	70.2	109-99-9	
Chloroform	Not detected	70		ug/kg	70.2	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	70.2	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	70.2	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	4,000		ug/kg	70.2	108-10-1	
2-Hexanone	Not detected	4,000		ug/kg	70.2	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	70.2	56-23-5	
Benzene	Not detected	70		ug/kg	70.2	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	70.2	107-06-2	
Trichloroethene	Not detected	70		ug/kg	70.2	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	70.2	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	70.2	75-27-4	
Dibromomethane	Not detected	400		ug/kg	70.2	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	70.2	10061-01-5	
Toluene	Not detected	70		ug/kg	70.2	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	70.2	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	70.2	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	70.2	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	70.2	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	70.2	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	70.2	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	70.2	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	70.2	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	70.2	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	70.2		
o-Xylene	Not detected	70		ug/kg	70.2	95-47-6	
Styrene	Not detected	70		ug/kg	70.2	100-42-5	
Isopropylbenzene	Not detected	400		ug/kg	70.2	98-82-8	
Bromoform	Not detected	100		ug/kg	70.2	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	70.2	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	70.2	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	70.2	103-65-1	
Bromobenzene	Not detected	100		ug/kg	70.2	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	70.2	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	70.2	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	70.2	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	70.2	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	70.2	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	70.2	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	70.2	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.07 (continued)

Sample Tag: SB-7 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 02:37, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	70.2	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	70.2	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	70.2	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	70.2	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	400		ug/kg	70.2	96-12-8	
1,2,4-Trichlorobenzene	Not detected	460		ug/kg	70.2	120-82-1	
1,2,3-Trichlorobenzene	Not detected	460		ug/kg	70.2	87-61-6	
Naphthalene	Not detected	400		ug/kg	70.2	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	70.2	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.08

Sample Tag: SB-7 4.5-5.5'

Collected Date/Time: 11/24/2021 12:25

Matrix: Soil

COC Reference: 146347

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	9.470/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:45, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	86	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/01/21 22:51, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 03:00, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	69.5	60-29-7	
Acetone	Not detected	1,000		ug/kg	69.5	67-64-1	
Methyl iodide	Not detected	100		ug/kg	69.5	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	69.5	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	69.5	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	69.5	107-13-1	
2-Butanone (MEK)	Not detected	1,000		ug/kg	69.5	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	69.5	75-71-8	
Chloromethane	Not detected	300		ug/kg	69.5	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S30741.08 (continued)

Sample Tag: SB-7 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 03:00, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	70		ug/kg	69.5	75-01-4	
Bromomethane	Not detected	300		ug/kg	69.5	74-83-9	
Chloroethane	Not detected	300		ug/kg	69.5	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	69.5	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	69.5	75-35-4	
Methylene chloride	Not detected	100		ug/kg	69.5	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	69.5	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	69.5	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	69.5	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	69.5	109-99-9	
Chloroform	Not detected	70		ug/kg	69.5	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	69.5	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	69.5	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	69.5	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	69.5	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	69.5	56-23-5	
Benzene	Not detected	70		ug/kg	69.5	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	69.5	107-06-2	
Trichloroethene	Not detected	70		ug/kg	69.5	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	69.5	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	69.5	75-27-4	
Dibromomethane	Not detected	300		ug/kg	69.5	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	69.5	10061-01-5	
Toluene	Not detected	70		ug/kg	69.5	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	69.5	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	69.5	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	69.5	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	69.5	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	69.5	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	69.5	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	69.5	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	69.5	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	69.5	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	69.5		
o-Xylene	Not detected	70		ug/kg	69.5	95-47-6	
Styrene	Not detected	70		ug/kg	69.5	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	69.5	98-82-8	
Bromoform	Not detected	100		ug/kg	69.5	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	69.5	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	69.5	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	69.5	103-65-1	
Bromobenzene	Not detected	100		ug/kg	69.5	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	69.5	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	69.5	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	69.5	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	69.5	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	69.5	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	69.5	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	69.5	106-46-7	

M-Result reported to MDL not RDL





# Analytical Laboratory Report

Lab Sample ID: S30741.08 (continued)  
Sample Tag: SB-7 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 03:00, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	69.5	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	69.5	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	69.5	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	69.5	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	69.5	96-12-8	
1,2,4-Trichlorobenzene	Not detected	460		ug/kg	69.5	120-82-1	
1,2,3-Trichlorobenzene	Not detected	460		ug/kg	69.5	87-61-6	
Naphthalene	Not detected	300		ug/kg	69.5	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	69.5	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.09  
Sample Tag: SB-7 7-8'  
Collected Date/Time: 11/24/2021 12:30  
Matrix: Soil  
COC Reference: 146347

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

Other / Misc.

Method: , Run Date: 11/30/21 09:00, Analyst: MMC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hold until notified*	Completed				1		



# Analytical Laboratory Report

Lab Sample ID: S30741.10

Sample Tag: SB-8 3.5-4.5'

Collected Date/Time: 11/24/2021 11:25

Matrix: Soil

COC Reference: 146347

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	10.090/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:45, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/01/21 23:13, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 03:23, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	64.4	60-29-7	
Acetone	Not detected	1,000		ug/kg	64.4	67-64-1	
Methyl iodide	Not detected	100		ug/kg	64.4	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	64.4	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	64.4	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	64.4	107-13-1	
2-Butanone (MEK)	Not detected	970		ug/kg	64.4	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	64.4	75-71-8	
Chloromethane	Not detected	300		ug/kg	64.4	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S30741.10 (continued)

Sample Tag: SB-8 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 03:23, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	60		ug/kg	64.4	75-01-4	
Bromomethane	Not detected	300		ug/kg	64.4	74-83-9	
Chloroethane	Not detected	300		ug/kg	64.4	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	64.4	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	64.4	75-35-4	
Methylene chloride	Not detected	100		ug/kg	64.4	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	64.4	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	64.4	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	64.4	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	64.4	109-99-9	
Chloroform	Not detected	60		ug/kg	64.4	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	64.4	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	64.4	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	64.4	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	64.4	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	64.4	56-23-5	
Benzene	Not detected	60		ug/kg	64.4	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	64.4	107-06-2	
Trichloroethene	Not detected	60		ug/kg	64.4	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	64.4	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	64.4	75-27-4	
Dibromomethane	Not detected	300		ug/kg	64.4	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	64.4	10061-01-5	
Toluene	Not detected	60		ug/kg	64.4	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	64.4	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	64.4	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	64.4	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	64.4	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	64.4	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	64.4	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	64.4	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	64.4	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	64.4	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	64.4		
o-Xylene	Not detected	60		ug/kg	64.4	95-47-6	
Styrene	Not detected	60		ug/kg	64.4	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	64.4	98-82-8	
Bromoform	Not detected	100		ug/kg	64.4	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	64.4	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	64.4	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	64.4	103-65-1	
Bromobenzene	Not detected	100		ug/kg	64.4	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	64.4	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	64.4	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	64.4	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	64.4	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	64.4	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	64.4	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	64.4	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.10 (continued)

Sample Tag: SB-8 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 03:23, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	64.4	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	64.4	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	64.4	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	64.4	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	64.4	96-12-8	
1,2,4-Trichlorobenzene	Not detected	430		ug/kg	64.4	120-82-1	
1,2,3-Trichlorobenzene	Not detected	430		ug/kg	64.4	87-61-6	
Naphthalene	Not detected	300		ug/kg	64.4	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	64.4	91-57-6	





# Analytical Laboratory Report

Lab Sample ID: S30741.11

Sample Tag: SB-8 4.5-5.5'

Collected Date/Time: 11/24/2021 11:30

Matrix: Soil

COC Reference: 146347

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	10.827/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:50, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	88	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/01/21 23:35, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 03:45, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	200		ug/kg	59.3	60-29-7	
Acetone	Not detected	1,000		ug/kg	59.3	67-64-1	
Methyl iodide	Not detected	100		ug/kg	59.3	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	59.3	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	200		ug/kg	59.3	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	59.3	107-13-1	
2-Butanone (MEK)	Not detected	890		ug/kg	59.3	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	59.3	75-71-8	
Chloromethane	Not detected	300		ug/kg	59.3	74-87-3	



# Analytical Laboratory Report

Lab Sample ID: S30741.11 (continued)

Sample Tag: SB-8 4.5-5.5'

**Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 03:45, Analyst: KAG (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	60		ug/kg	59.3	75-01-4	
Bromomethane	Not detected	200		ug/kg	59.3	74-83-9	
Chloroethane	Not detected	300		ug/kg	59.3	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	59.3	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	59.3	75-35-4	
Methylene chloride	Not detected	100		ug/kg	59.3	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	59.3	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	59.3	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	59.3	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	59.3	109-99-9	
Chloroform	Not detected	60		ug/kg	59.3	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	59.3	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	59.3	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	59.3	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	59.3	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	59.3	56-23-5	
Benzene	Not detected	60		ug/kg	59.3	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	59.3	107-06-2	
Trichloroethene	Not detected	60		ug/kg	59.3	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	59.3	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	59.3	75-27-4	
Dibromomethane	Not detected	300		ug/kg	59.3	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	59.3	10061-01-5	
Toluene	Not detected	60		ug/kg	59.3	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	59.3	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	59.3	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	59.3	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	59.3	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	59.3	124-48-1	
1,2-Dibromoethane	Not detected	20		ug/kg	59.3	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	59.3	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	59.3	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	59.3	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	59.3		
o-Xylene	Not detected	60		ug/kg	59.3	95-47-6	
Styrene	Not detected	60		ug/kg	59.3	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	59.3	98-82-8	
Bromoform	Not detected	100		ug/kg	59.3	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	59.3	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	59.3	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	59.3	103-65-1	
Bromobenzene	Not detected	100		ug/kg	59.3	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	59.3	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	59.3	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	59.3	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	59.3	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	59.3	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	59.3	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	59.3	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.11 (continued)

Sample Tag: SB-8 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 03:45, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	59.3	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	59.3	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	59.3	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	59.3	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	59.3	96-12-8	
1,2,4-Trichlorobenzene	Not detected	390		ug/kg	59.3	120-82-1	
1,2,3-Trichlorobenzene	Not detected	390		ug/kg	59.3	87-61-6	
Naphthalene	Not detected	300		ug/kg	59.3	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	59.3	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.12  
Sample Tag: SB-8 7-8'  
Collected Date/Time: 11/24/2021 11:35  
Matrix: Soil  
COC Reference: 146347

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

Other / Misc.

Method: , Run Date: 11/30/21 09:00, Analyst: MMC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hold until notified*	Completed				1		



# Analytical Laboratory Report

Lab Sample ID: S30741.13

Sample Tag: SB-9 3.5-4.5'

Collected Date/Time: 11/24/2021 11:00

Matrix: Soil

COC Reference: 146351

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	11/30/21 14:30	JW	
Sample wt. (g) / Methanol (ml)*	9.700/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:50, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/02/21 02:54, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	8,400	600		ug/kg	20	83-32-9	Y
Acenaphthylene	1,200	600		ug/kg	20	208-96-8	Y
Anthracene	22,400	600		ug/kg	20	120-12-7	Y
Benzo(a)anthracene	40,500	600		ug/kg	20	56-55-3	Y
Benzo(a)pyrene	34,800	600		ug/kg	20	50-32-8	Y
Benzo(b)fluoranthene	72,500	600		ug/kg	20	205-99-2	Yp
Benzo(k)fluoranthene	80,300	600		ug/kg	20	207-08-9	Yp
Benzo(ghi)perylene	8,300	600		ug/kg	20	191-24-2	Y
Chrysene	38,900	600		ug/kg	20	218-01-9	Y
Dibenzo(ah)anthracene	900	600		ug/kg	20	53-70-3	Y
Fluoranthene	85,800	600		ug/kg	20	206-44-0	Y
Fluorene	9,400	600		ug/kg	20	86-73-7	Y
Indeno(1,2,3-cd)pyrene	9,300	600		ug/kg	20	193-39-5	Y
Naphthalene	7,700	600		ug/kg	20	91-20-3	Y
Phenanthrene	77,700	600		ug/kg	20	85-01-8	Y
Pyrene	81,000	600		ug/kg	20	129-00-0	Y
2-Methylnaphthalene	3,600	600		ug/kg	20	91-57-6	Y

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 14:25, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	66.7	60-29-7	
Acetone	Not detected	1,000		ug/kg	66.7	67-64-1	
Methyl iodide	Not detected	100		ug/kg	66.7	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	66.7	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	66.7	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	66.7	107-13-1	
2-Butanone (MEK)	Not detected	1,000		ug/kg	66.7	78-93-3	

Y-Elevated reporting limit due to high target concentration

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.





# Analytical Laboratory Report

Lab Sample ID: S30741.13 (continued)

Sample Tag: SB-9 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 14:25, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dichlorodifluoromethane	Not detected	300		ug/kg	66.7	75-71-8	
Chloromethane	Not detected	300		ug/kg	66.7	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	66.7	75-01-4	
Bromomethane	Not detected	300		ug/kg	66.7	74-83-9	
Chloroethane	Not detected	300		ug/kg	66.7	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	66.7	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	66.7	75-35-4	
Methylene chloride	Not detected	100		ug/kg	66.7	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	66.7	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	66.7	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	66.7	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	66.7	109-99-9	
Chloroform	Not detected	70		ug/kg	66.7	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	66.7	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	66.7	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	66.7	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	66.7	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	66.7	56-23-5	
Benzene	Not detected	70		ug/kg	66.7	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	66.7	107-06-2	
Trichloroethene	Not detected	70		ug/kg	66.7	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	66.7	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	66.7	75-27-4	
Dibromomethane	Not detected	300		ug/kg	66.7	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	66.7	10061-01-5	
Toluene	Not detected	70		ug/kg	66.7	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	66.7	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	66.7	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	66.7	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	66.7	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	66.7	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	66.7	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	66.7	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	66.7	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	66.7	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	66.7		
o-Xylene	Not detected	70		ug/kg	66.7	95-47-6	
Styrene	Not detected	70		ug/kg	66.7	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	66.7	98-82-8	
Bromoform	Not detected	100		ug/kg	66.7	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	66.7	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	66.7	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	66.7	103-65-1	
Bromobenzene	Not detected	100		ug/kg	66.7	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	66.7	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	66.7	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	66.7	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	66.7	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	66.7	99-87-6	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.13 (continued)  
Sample Tag: SB-9 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 14:25, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,3-Dichlorobenzene	Not detected	100		ug/kg	66.7	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	66.7	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	66.7	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	66.7	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	66.7	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	66.7	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	66.7	96-12-8	
1,2,4-Trichlorobenzene	Not detected	440		ug/kg	66.7	120-82-1	
1,2,3-Trichlorobenzene	Not detected	440		ug/kg	66.7	87-61-6	
Naphthalene	4,900	300		ug/kg	66.7	91-20-3	
2-Methylnaphthalene	1,900	100		ug/kg	66.7	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.14

Sample Tag: SB-9 4.5-5.5'

Collected Date/Time: 11/24/2021 11:05

Matrix: Soil

COC Reference: 146351

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	12/01/21 15:00	DMP	
Sample wt. (g) / Methanol (ml)*	9.502/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:50, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	82	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/02/21 16:50, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	600	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	400	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	700	300		ug/kg	10	205-99-2	p
Benzo(k)fluoranthene	800	300		ug/kg	10	207-08-9	p
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	500	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	1,200	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	900	300		ug/kg	10	85-01-8	
Pyrene	1,100	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 04:31, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	75.1	60-29-7	
Acetone	Not detected	2,000		ug/kg	75.1	67-64-1	
Methyl iodide	Not detected	200		ug/kg	75.1	74-88-4	
Carbon disulfide	Not detected	400		ug/kg	75.1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	75.1	1634-04-4	
Acrylonitrile	Not detected	200		ug/kg	75.1	107-13-1	
2-Butanone (MEK)	Not detected	1,100		ug/kg	75.1	78-93-3	
Dichlorodifluoromethane	Not detected	400		ug/kg	75.1	75-71-8	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S30741.14 (continued)

Sample Tag: SB-9 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 04:31, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	400		ug/kg	75.1	74-87-3	
Vinyl chloride	Not detected	80		ug/kg	75.1	75-01-4	
Bromomethane	Not detected	300		ug/kg	75.1	74-83-9	
Chloroethane	Not detected	400		ug/kg	75.1	75-00-3	
Trichlorofluoromethane	Not detected	200		ug/kg	75.1	75-69-4	
1,1-Dichloroethene	Not detected	80		ug/kg	75.1	75-35-4	
Methylene chloride	Not detected	200		ug/kg	75.1	75-09-2	
trans-1,2-Dichloroethene	Not detected	80		ug/kg	75.1	156-60-5	
1,1-Dichloroethane	Not detected	80		ug/kg	75.1	75-34-3	
cis-1,2-Dichloroethene	Not detected	80		ug/kg	75.1	156-59-2	
Tetrahydrofuran*	Not detected	2,000		ug/kg	75.1	109-99-9	
Chloroform	Not detected	80		ug/kg	75.1	67-66-3	
Bromochloromethane	Not detected	200		ug/kg	75.1	74-97-5	
1,1,1-Trichloroethane	Not detected	80		ug/kg	75.1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	4,000		ug/kg	75.1	108-10-1	
2-Hexanone	Not detected	4,000		ug/kg	75.1	591-78-6	
Carbon tetrachloride	Not detected	80		ug/kg	75.1	56-23-5	
Benzene	Not detected	80		ug/kg	75.1	71-43-2	
1,2-Dichloroethane	Not detected	80		ug/kg	75.1	107-06-2	
Trichloroethene	Not detected	80		ug/kg	75.1	79-01-6	
1,2-Dichloropropane	Not detected	80		ug/kg	75.1	78-87-5	
Bromodichloromethane	Not detected	200		ug/kg	75.1	75-27-4	
Dibromomethane	Not detected	400		ug/kg	75.1	74-95-3	
cis-1,3-Dichloropropene	Not detected	80		ug/kg	75.1	10061-01-5	
Toluene	Not detected	80		ug/kg	75.1	108-88-3	
trans-1,3-Dichloropropene	Not detected	80		ug/kg	75.1	10061-02-6	
1,1,2-Trichloroethane	Not detected	80		ug/kg	75.1	79-00-5	
Tetrachloroethene	Not detected	80		ug/kg	75.1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	80		ug/kg	75.1	110-57-6	
Dibromochloromethane	Not detected	200		ug/kg	75.1	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	75.1	106-93-4	M
Chlorobenzene	Not detected	80		ug/kg	75.1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	200		ug/kg	75.1	630-20-6	
Ethylbenzene	Not detected	80		ug/kg	75.1	100-41-4	
p,m-Xylene	Not detected	200		ug/kg	75.1		
o-Xylene	Not detected	80		ug/kg	75.1	95-47-6	
Styrene	Not detected	80		ug/kg	75.1	100-42-5	
Isopropylbenzene	Not detected	400		ug/kg	75.1	98-82-8	
Bromoform	Not detected	200		ug/kg	75.1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	80		ug/kg	75.1	79-34-5	
1,2,3-Trichloropropane	Not detected	200		ug/kg	75.1	96-18-4	
n-Propylbenzene	Not detected	80		ug/kg	75.1	103-65-1	
Bromobenzene	Not detected	200		ug/kg	75.1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	80		ug/kg	75.1	108-67-8	
tert-Butylbenzene	Not detected	80		ug/kg	75.1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	80		ug/kg	75.1	95-63-6	
sec-Butylbenzene	Not detected	80		ug/kg	75.1	135-98-8	
p-Isopropyltoluene	Not detected	200		ug/kg	75.1	99-87-6	
1,3-Dichlorobenzene	Not detected	200		ug/kg	75.1	541-73-1	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.14 (continued)

Sample Tag: SB-9 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 04:31, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	200		ug/kg	75.1	106-46-7	
1,2-Dichlorobenzene	Not detected	200		ug/kg	75.1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	80		ug/kg	75.1	526-73-8	
n-Butylbenzene	Not detected	80		ug/kg	75.1	104-51-8	
Hexachloroethane	Not detected	500		ug/kg	75.1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	400		ug/kg	75.1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	500		ug/kg	75.1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	500		ug/kg	75.1	87-61-6	
Naphthalene	Not detected	400		ug/kg	75.1	91-20-3	
2-Methylnaphthalene	Not detected	200		ug/kg	75.1	91-57-6	





# Analytical Laboratory Report

Lab Sample ID: S30741.15  
Sample Tag: SB-9 7-8'  
Collected Date/Time: 11/24/2021 11:10  
Matrix: Soil  
COC Reference: 146351

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

Other / Misc.

Method: , Run Date: 11/30/21 09:00, Analyst: MMC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hold until notified*	Completed				1		



# Analytical Laboratory Report

Lab Sample ID: S30741.16

Sample Tag: SB-10 3.5-4.5'

Collected Date/Time: 11/24/2021 10:40

Matrix: Soil

COC Reference: 146351

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	12/01/21 15:00	DMP	
Sample wt. (g) / Methanol (ml)*	9.418/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:50, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/02/21 22:15, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	600	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	1,400	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	1,200	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	2,200	300		ug/kg	10	205-99-2	p
Benzo(k)fluoranthene	2,500	300		ug/kg	10	207-08-9	p
Benzo(ghi)perylene	500	300		ug/kg	10	191-24-2	
Chrysene	1,400	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	2,900	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	500	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	2,800	300		ug/kg	10	85-01-8	
Pyrene	2,800	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 04:54, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	68.5	60-29-7	
Acetone	Not detected	1,000		ug/kg	68.5	67-64-1	
Methyl iodide	Not detected	100		ug/kg	68.5	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	68.5	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	68.5	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	68.5	107-13-1	
2-Butanone (MEK)	Not detected	1,000		ug/kg	68.5	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	68.5	75-71-8	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S30741.16 (continued)

Sample Tag: SB-10 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 04:54, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloromethane	Not detected	300		ug/kg	68.5	74-87-3	
Vinyl chloride	Not detected	70		ug/kg	68.5	75-01-4	
Bromomethane	Not detected	300		ug/kg	68.5	74-83-9	
Chloroethane	Not detected	300		ug/kg	68.5	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	68.5	75-69-4	
1,1-Dichloroethene	Not detected	70		ug/kg	68.5	75-35-4	
Methylene chloride	Not detected	100		ug/kg	68.5	75-09-2	
trans-1,2-Dichloroethene	Not detected	70		ug/kg	68.5	156-60-5	
1,1-Dichloroethane	Not detected	70		ug/kg	68.5	75-34-3	
cis-1,2-Dichloroethene	Not detected	70		ug/kg	68.5	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	68.5	109-99-9	
Chloroform	Not detected	70		ug/kg	68.5	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	68.5	74-97-5	
1,1,1-Trichloroethane	Not detected	70		ug/kg	68.5	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	68.5	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	68.5	591-78-6	
Carbon tetrachloride	Not detected	70		ug/kg	68.5	56-23-5	
Benzene	Not detected	70		ug/kg	68.5	71-43-2	
1,2-Dichloroethane	Not detected	70		ug/kg	68.5	107-06-2	
Trichloroethene	Not detected	70		ug/kg	68.5	79-01-6	
1,2-Dichloropropane	Not detected	70		ug/kg	68.5	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	68.5	75-27-4	
Dibromomethane	Not detected	300		ug/kg	68.5	74-95-3	
cis-1,3-Dichloropropene	Not detected	70		ug/kg	68.5	10061-01-5	
Toluene	Not detected	70		ug/kg	68.5	108-88-3	
trans-1,3-Dichloropropene	Not detected	70		ug/kg	68.5	10061-02-6	
1,1,2-Trichloroethane	Not detected	70		ug/kg	68.5	79-00-5	
Tetrachloroethene	Not detected	70		ug/kg	68.5	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	70		ug/kg	68.5	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	68.5	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	68.5	106-93-4	M
Chlorobenzene	Not detected	70		ug/kg	68.5	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	68.5	630-20-6	
Ethylbenzene	Not detected	70		ug/kg	68.5	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	68.5		
o-Xylene	Not detected	70		ug/kg	68.5	95-47-6	
Styrene	Not detected	70		ug/kg	68.5	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	68.5	98-82-8	
Bromoform	Not detected	100		ug/kg	68.5	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	70		ug/kg	68.5	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	68.5	96-18-4	
n-Propylbenzene	Not detected	70		ug/kg	68.5	103-65-1	
Bromobenzene	Not detected	100		ug/kg	68.5	108-86-1	
1,3,5-Trimethylbenzene	Not detected	70		ug/kg	68.5	108-67-8	
tert-Butylbenzene	Not detected	70		ug/kg	68.5	98-06-6	
1,2,4-Trimethylbenzene	Not detected	70		ug/kg	68.5	95-63-6	
sec-Butylbenzene	Not detected	70		ug/kg	68.5	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	68.5	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	68.5	541-73-1	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.16 (continued)

Sample Tag: SB-10 3.5-4.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 04:54, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,4-Dichlorobenzene	Not detected	100		ug/kg	68.5	106-46-7	
1,2-Dichlorobenzene	Not detected	100		ug/kg	68.5	95-50-1	
1,2,3-Trimethylbenzene	Not detected	70		ug/kg	68.5	526-73-8	
n-Butylbenzene	Not detected	70		ug/kg	68.5	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	68.5	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	68.5	96-12-8	
1,2,4-Trichlorobenzene	Not detected	450		ug/kg	68.5	120-82-1	
1,2,3-Trichlorobenzene	Not detected	450		ug/kg	68.5	87-61-6	
Naphthalene	Not detected	300		ug/kg	68.5	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	68.5	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.17

Sample Tag: SB-10 4.5-5.5'

Collected Date/Time: 11/24/2021 10:35

Matrix: Soil

COC Reference: 146351

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
PNA Extraction*	Completed	SW3546	12/01/21 15:00	DMP	
Sample wt. (g) / Methanol (ml)*	10.380/10	SW5035A	11/30/21 11:16	WAT	

## Inorganics

Method: SM2540B, Run Date: 11/30/21 16:50, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	87	1		%	1		

## Organics - Semi-Volatiles

Polynuclear Aromatics, Method: SW8270D, Run Date: 12/02/21 17:07, Analyst: PL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acenaphthene	Not detected	300		ug/kg	10	83-32-9	
Acenaphthylene	Not detected	300		ug/kg	10	208-96-8	
Anthracene	Not detected	300		ug/kg	10	120-12-7	
Benzo(a)anthracene	Not detected	300		ug/kg	10	56-55-3	
Benzo(a)pyrene	Not detected	300		ug/kg	10	50-32-8	
Benzo(b)fluoranthene	Not detected	300		ug/kg	10	205-99-2	
Benzo(k)fluoranthene	Not detected	300		ug/kg	10	207-08-9	
Benzo(ghi)perylene	Not detected	300		ug/kg	10	191-24-2	
Chrysene	Not detected	300		ug/kg	10	218-01-9	
Dibenzo(ah)anthracene	Not detected	300		ug/kg	10	53-70-3	
Fluoranthene	Not detected	300		ug/kg	10	206-44-0	
Fluorene	Not detected	300		ug/kg	10	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	300		ug/kg	10	193-39-5	
Naphthalene	Not detected	300		ug/kg	10	91-20-3	
Phenanthrene	Not detected	300		ug/kg	10	85-01-8	
Pyrene	Not detected	300		ug/kg	10	129-00-0	
2-Methylnaphthalene	Not detected	300		ug/kg	10	91-57-6	

## Organics - Volatiles

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 05:16, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	300		ug/kg	62.8	60-29-7	
Acetone	Not detected	1,000		ug/kg	62.8	67-64-1	
Methyl iodide	Not detected	100		ug/kg	62.8	74-88-4	
Carbon disulfide	Not detected	300		ug/kg	62.8	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	300		ug/kg	62.8	1634-04-4	
Acrylonitrile	Not detected	100		ug/kg	62.8	107-13-1	
2-Butanone (MEK)	Not detected	940		ug/kg	62.8	78-93-3	
Dichlorodifluoromethane	Not detected	300		ug/kg	62.8	75-71-8	
Chloromethane	Not detected	300		ug/kg	62.8	74-87-3	





# Analytical Laboratory Report

Lab Sample ID: S30741.17 (continued)

Sample Tag: SB-10 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 05:16, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	60		ug/kg	62.8	75-01-4	
Bromomethane	Not detected	300		ug/kg	62.8	74-83-9	
Chloroethane	Not detected	300		ug/kg	62.8	75-00-3	
Trichlorofluoromethane	Not detected	100		ug/kg	62.8	75-69-4	
1,1-Dichloroethene	Not detected	60		ug/kg	62.8	75-35-4	
Methylene chloride	Not detected	100		ug/kg	62.8	75-09-2	
trans-1,2-Dichloroethene	Not detected	60		ug/kg	62.8	156-60-5	
1,1-Dichloroethane	Not detected	60		ug/kg	62.8	75-34-3	
cis-1,2-Dichloroethene	Not detected	60		ug/kg	62.8	156-59-2	
Tetrahydrofuran*	Not detected	1,000		ug/kg	62.8	109-99-9	
Chloroform	Not detected	60		ug/kg	62.8	67-66-3	
Bromochloromethane	Not detected	100		ug/kg	62.8	74-97-5	
1,1,1-Trichloroethane	Not detected	60		ug/kg	62.8	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	3,000		ug/kg	62.8	108-10-1	
2-Hexanone	Not detected	3,000		ug/kg	62.8	591-78-6	
Carbon tetrachloride	Not detected	60		ug/kg	62.8	56-23-5	
Benzene	Not detected	60		ug/kg	62.8	71-43-2	
1,2-Dichloroethane	Not detected	60		ug/kg	62.8	107-06-2	
Trichloroethene	Not detected	60		ug/kg	62.8	79-01-6	
1,2-Dichloropropane	Not detected	60		ug/kg	62.8	78-87-5	
Bromodichloromethane	Not detected	100		ug/kg	62.8	75-27-4	
Dibromomethane	Not detected	300		ug/kg	62.8	74-95-3	
cis-1,3-Dichloropropene	Not detected	60		ug/kg	62.8	10061-01-5	
Toluene	Not detected	60		ug/kg	62.8	108-88-3	
trans-1,3-Dichloropropene	Not detected	60		ug/kg	62.8	10061-02-6	
1,1,2-Trichloroethane	Not detected	60		ug/kg	62.8	79-00-5	
Tetrachloroethene	Not detected	60		ug/kg	62.8	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	60		ug/kg	62.8	110-57-6	
Dibromochloromethane	Not detected	100		ug/kg	62.8	124-48-1	
1,2-Dibromoethane	Not detected	30		ug/kg	62.8	106-93-4	M
Chlorobenzene	Not detected	60		ug/kg	62.8	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	100		ug/kg	62.8	630-20-6	
Ethylbenzene	Not detected	60		ug/kg	62.8	100-41-4	
p,m-Xylene	Not detected	100		ug/kg	62.8		
o-Xylene	Not detected	60		ug/kg	62.8	95-47-6	
Styrene	Not detected	60		ug/kg	62.8	100-42-5	
Isopropylbenzene	Not detected	300		ug/kg	62.8	98-82-8	
Bromoform	Not detected	100		ug/kg	62.8	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	60		ug/kg	62.8	79-34-5	
1,2,3-Trichloropropane	Not detected	100		ug/kg	62.8	96-18-4	
n-Propylbenzene	Not detected	60		ug/kg	62.8	103-65-1	
Bromobenzene	Not detected	100		ug/kg	62.8	108-86-1	
1,3,5-Trimethylbenzene	Not detected	60		ug/kg	62.8	108-67-8	
tert-Butylbenzene	Not detected	60		ug/kg	62.8	98-06-6	
1,2,4-Trimethylbenzene	Not detected	60		ug/kg	62.8	95-63-6	
sec-Butylbenzene	Not detected	60		ug/kg	62.8	135-98-8	
p-Isopropyltoluene	Not detected	100		ug/kg	62.8	99-87-6	
1,3-Dichlorobenzene	Not detected	100		ug/kg	62.8	541-73-1	
1,4-Dichlorobenzene	Not detected	100		ug/kg	62.8	106-46-7	

M-Result reported to MDL not RDL



# Analytical Laboratory Report

Lab Sample ID: S30741.17 (continued)

Sample Tag: SB-10 4.5-5.5'

Volatile Organics 5035, Method: SW5035A/8260C, Run Date: 12/01/21 05:16, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	100		ug/kg	62.8	95-50-1	
1,2,3-Trimethylbenzene	Not detected	60		ug/kg	62.8	526-73-8	
n-Butylbenzene	Not detected	60		ug/kg	62.8	104-51-8	
Hexachloroethane	Not detected	400		ug/kg	62.8	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	300		ug/kg	62.8	96-12-8	
1,2,4-Trichlorobenzene	Not detected	410		ug/kg	62.8	120-82-1	
1,2,3-Trichlorobenzene	Not detected	410		ug/kg	62.8	87-61-6	
Naphthalene	Not detected	300		ug/kg	62.8	91-20-3	
2-Methylnaphthalene	Not detected	100		ug/kg	62.8	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S30741.18  
Sample Tag: SB-10 7-8'  
Collected Date/Time: 11/24/2021 10:30  
Matrix: Soil  
COC Reference: 146351

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	MeOH	Yes	3.2	IR
1	4oz Glass	None	Yes	3.2	IR

Other / Misc.

Method: , Run Date: 11/30/21 09:00, Analyst: MMC

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hold until notified*	Completed				1		

# Merit Laboratories Login Checklist

Lab Set ID:S30741

Client:PME02 (PM Environmental, Inc. - Berkley)

Project: 01-11288-1-0004 / Mariner's Inn

Submitted: 11/29/2021 14:30 Login User: MMC

Attention: Jana Beumel

Address: PM Environmental, Inc.  
4080 W. Eleven Mile  
Berkley, MI 48072

Phone: O:248-336-9988 FAX:

Email: Beumel@pmenv.com

Selection	Description	Note
<b>Sample Receiving</b>		
01.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples are received at 4C +/- 2C Thermometer # IR 3.2
02.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Received on ice/ cooling process begun
03.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped
04.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box
05.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked
<b>Chain of Custody</b>		
06.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC adequately filled out
07.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC signed and relinquished to the lab
08.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample tag on bottles match COC
09.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontacted to:
<b>Preservation</b>		
10.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation
11.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)
12.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?
<b>Bottle Conditions</b>		
13.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact
14.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used
15.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used
16.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received
17.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration
18.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time
19.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_





## REPORT TO

## CHAIN OF CUSTODY RECORD

**INVOICE TO**

CONTACT NAME Jana Beumel				CONTACT NAME X SAME			
COMPANY PM Environmental				COMPANY			
ADDRESS 4080 W Eleven Mile Rd				ADDRESS			
CITY Berkley			STATE MI	ZIP CODE 48072			
PHONE NO.		FAX NO.		P.O. NO.		E-MAIL ADDRESS	
E-MAIL ADDRESS Beumel@pmenv.com				QUOTE NO.			
ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)							

PROJECT NO./NAME <b>01-11288-1-0004</b>	SAMPLER(S) - PLEASE PRINT/SIGN NAME <b>Hailey Igleski / gti / 06</b>
TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER _____	
DELIVERABLES REQUIRED <input type="checkbox"/> STD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> OTHER _____	

MATRIX	GW=GROUNDWATER	WW=WASTEWATER	S=SOIL	L=LIQUID	SD=SOLID
CODE:	SL=SLUDGE	DW=DRINKING WATER	O=OIL	WP=WIPE	A=AIR W=WASTE

## # Containers & Preservatives

[illegible]

RELINQUISHED BY:	<i>Handwritten Signature</i>	<input checked="" type="checkbox"/> Sampler	DATE	TIME
SIGNATURE/ORGANIZATION	<i>Handwritten Signature</i> / PME		11/29/21	1350
RECEIVED BY:	<i>Handwritten Signature</i>		DATE	TIME
SIGNATURE/ORGANIZATION	PM Cold Storage		11/29/21	1750
RELINQUISHED BY:	<i>Handwritten Signature</i>		DATE	TIME
SIGNATURE/ORGANIZATION	<i>Handwritten Signature</i>		11/29/21	1830
RECEIVED BY:	<i>Handwritten Signature</i>		DATE	TIME
SIGNATURE/ORGANIZATION	<i>Handwritten Signature</i>		11/29/21	1430

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE		TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE		TIME
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	NOTES: TEMP. ON ARRIVAL	
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	3.2	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



# Analytical Laboratory Report

Report ID: S30744.01(01)  
Generated on 12/02/2021

## Report to

Attention: Jana Beumel  
PM Environmental, Inc.  
4080 W. Eleven Mile  
Berkley, MI 48072

Phone: O:248-336-9988 D:248-414-1859 FAX:  
Email: Beumel@pmenv.com

## Report produced by

Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:  
John Lavery (johnlavery@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

## Report Summary

Lab Sample ID(s): S30744.01-S30744.02  
Project: 01-11288-1-0004 / Mariner's Inn  
Collected Date(s): 11/24/2021  
Submitted Date/Time: 11/29/2021 14:30  
Sampled by: Jarrett Humpula  
P.O. #: 01-11288-1-0004

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (\*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

## Report Narrative

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There is no additional narrative for this analytical report

## Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

## Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

## Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



# Analytical Laboratory Report

## Method Summary

Method	Version
N/A	Not Applicable
TO-15	EPA TO-15 Second Edition January 1999





# Analytical Laboratory Report

## Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S30744.01	SG-5R	Air	11/24/21 12:20 - 11/24/21 12:27
S30744.02	SG-10	Air	11/24/21 12:30 - 11/24/21 12:39



# Analytical Laboratory Report

Lab Sample ID: S30744.01

Sample Tag: SG-5R

Collected Date/Time: 11/24/2021 12:20 - 11/24/2021 12:27

Matrix: Air

COC Reference: A6832

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	Air Canister	None	No	RT	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Pressure check for TO-15*	-4	N/A	11/29/21 16:50	NDK	

## Organics - Volatiles

TO-15, Method: TO-15, Run Date: 11/30/21 20:00, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	20		ppbv	10	67-64-1	
1,3-Butadiene	Not detected	20		ppbv	10	106-99-0	
Benzene	Not detected	2		ppbv	10	71-43-2	
Bromodichloromethane	Not detected	2		ppbv	10	75-27-4	
Bromoform	Not detected	2		ppbv	10	75-25-2	
Bromomethane	Not detected	2		ppbv	10	74-83-9	
Vinyl bromide	Not detected	2		ppbv	10	593-60-2	
Benzyl chloride	Not detected	2		ppbv	10	100-44-7	
Carbon disulfide	Not detected	5		ppbv	10	75-15-0	
Chlorobenzene	Not detected	2		ppbv	10	108-90-7	
Chloroethane	Not detected	20		ppbv	10	75-00-3	
Chloroform	Not detected	2		ppbv	10	67-66-3	
Chloromethane	Not detected	20		ppbv	10	74-87-3	
3-Chloropropene	Not detected	20		ppbv	10	107-05-1	
2-Chlorotoluene	Not detected	2		ppbv	10	95-49-8	
Carbon tetrachloride	Not detected	2		ppbv	10	56-23-5	
Cyclohexane	Not detected	2		ppbv	10	110-82-7	
1,1-Dichloroethane	Not detected	2		ppbv	10	75-34-3	
1,1-Dichloroethene	Not detected	2		ppbv	10	75-35-4	
1,2-Dibromoethane	Not detected	2		ppbv	10	106-93-4	
1,2-Dichloroethane	Not detected	2		ppbv	10	107-06-2	
1,2-Dichloropropane	Not detected	2		ppbv	10	78-87-5	
1,4-Dioxane	Not detected	25		ppbv	10	123-91-1	
Dichlorodifluoromethane	Not detected	2		ppbv	10	75-71-8	
Dibromochloromethane	Not detected	2		ppbv	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	2		ppbv	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	2		ppbv	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	2		ppbv	10	541-73-1	
1,2-Dichlorobenzene	Not detected	2		ppbv	10	95-50-1	
1,4-Dichlorobenzene	Not detected	2		ppbv	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-02-6	
Ethanol*	Not detected	25		ppbv	10	64-17-5	
Ethylbenzene	Not detected	2		ppbv	10	100-41-4	
Ethyl Acetate*	Not detected	20		ppbv	10	141-78-6	
4-Ethyltoluene	Not detected	2		ppbv	10	622-96-8	
Freon 113	Not detected	2		ppbv	10	76-13-1	



# Analytical Laboratory Report

Lab Sample ID: S30744.01 (continued)

Sample Tag: SG-5R

TO-15, Method: TO-15, Run Date: 11/30/21 20:00, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Freon 114	Not detected	2		ppbv	10	76-14-2	
Heptane	Not detected	2		ppbv	10	142-82-5	
Hexachlorobutadiene	Not detected	2		ppbv	10	87-68-3	
Hexane	Not detected	2		ppbv	10	110-54-3	
2-Hexanone*	Not detected	5		ppbv	10	591-78-6	
Isopropyl Alcohol*	Not detected	20		ppbv	10	67-63-0	
Methylene chloride	Not detected	5		ppbv	10	75-09-2	
2-Butanone (MEK)	Not detected	20		ppbv	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	Not detected	5		ppbv	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	2		ppbv	10	1634-04-4	
Methyl methacrylate	Not detected	2		ppbv	10	80-62-6	
Naphthalene	Not detected	2		ppbv	10	91-20-3	
Propylene*	Not detected	100		ppbv	10	115-07-1	
Styrene	Not detected	2		ppbv	10	100-42-5	
1,1,1-Trichloroethane	Not detected	2		ppbv	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	2		ppbv	10	79-34-5	
1,1,2-Trichloroethane	Not detected	2		ppbv	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	5		ppbv	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	2		ppbv	10	95-63-6	
1,3,5-Trimethylbenzene	Not detected	2		ppbv	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	2		ppbv	10	540-84-1	
Tert-butyl Alcohol	Not detected	10		ppbv	10	75-65-0	
Tetrachloroethene	Not detected	2		ppbv	10	127-18-4	
Tetrahydrofuran*	Not detected	2		ppbv	10	109-99-9	
Toluene	Not detected	2		ppbv	10	108-88-3	
Trichloroethene	Not detected	2		ppbv	10	79-01-6	
Trichlorofluoromethane	Not detected	2		ppbv	10	75-69-4	
Vinyl chloride	Not detected	2		ppbv	10	75-01-4	
Vinyl acetate	Not detected	20		ppbv	10	108-05-4	
p,m-Xylene	Not detected	4		ppbv	10		
o-Xylene	Not detected	2		ppbv	10	95-47-6	
Total Xylenes	Not detected	6		ppbv	10	1330-20-7	

TO-15, Method: TO-15, Run Date: 11/30/21 20:00, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	48		ug/m3	10	67-64-1	
1,3-Butadiene	Not detected	44		ug/m3	10	106-99-0	
Benzene	Not detected	6.4		ug/m3	10	71-43-2	
Bromodichloromethane	Not detected	13		ug/m3	10	75-27-4	
Bromoform	Not detected	21		ug/m3	10	75-25-2	
Bromomethane	Not detected	7.8		ug/m3	10	74-83-9	
Vinyl bromide	Not detected	8.7		ug/m3	10	593-60-2	
Benzyl chloride	Not detected	10		ug/m3	10	100-44-7	
Carbon disulfide	Not detected	16		ug/m3	10	75-15-0	
Chlorobenzene	Not detected	9.2		ug/m3	10	108-90-7	
Chloroethane	Not detected	53		ug/m3	10	75-00-3	
Chloroform	Not detected	9.8		ug/m3	10	67-66-3	
Chloromethane	Not detected	41		ug/m3	10	74-87-3	
3-Chloropropene	Not detected	63		ug/m3	10	107-05-1	
2-Chlorotoluene	Not detected	10		ug/m3	10	95-49-8	



# Analytical Laboratory Report

Lab Sample ID: S30744.01 (continued)

Sample Tag: SG-5R

TO-15, Method: TO-15, Run Date: 11/30/21 20:00, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Carbon tetrachloride	Not detected	13		ug/m3	10	56-23-5	
Cyclohexane	Not detected	6.9		ug/m3	10	110-82-7	
1,1-Dichloroethane	Not detected	8.1		ug/m3	10	75-34-3	
1,1-Dichloroethene	Not detected	7.9		ug/m3	10	75-35-4	
1,2-Dibromoethane	Not detected	15		ug/m3	10	106-93-4	
1,2-Dichloroethane	Not detected	8.1		ug/m3	10	107-06-2	
1,2-Dichloropropane	Not detected	9.2		ug/m3	10	78-87-5	
1,4-Dioxane	Not detected	90		ug/m3	10	123-91-1	
Dichlorodifluoromethane	Not detected	9.9		ug/m3	10	75-71-8	
Dibromochloromethane	Not detected	17		ug/m3	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	12		ug/m3	10	541-73-1	
1,2-Dichlorobenzene	Not detected	12		ug/m3	10	95-50-1	
1,4-Dichlorobenzene	Not detected	12		ug/m3	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-02-6	
Ethanol*	Not detected	47		ug/m3	10	64-17-5	
Ethylbenzene	Not detected	8.7		ug/m3	10	100-41-4	
Ethyl Acetate*	Not detected	72		ug/m3	10	141-78-6	
4-Ethyltoluene	Not detected	9.8		ug/m3	10	622-96-8	
Freon 113	Not detected	15		ug/m3	10	76-13-1	
Freon 114	Not detected	14		ug/m3	10	76-14-2	
Heptane	Not detected	8.2		ug/m3	10	142-82-5	
Hexachlorobutadiene	Not detected	21		ug/m3	10	87-68-3	
Hexane	Not detected	7.0		ug/m3	10	110-54-3	
2-Hexanone*	Not detected	20		ug/m3	10	591-78-6	
Isopropyl Alcohol*	Not detected	49		ug/m3	10	67-63-0	
Methylene chloride	Not detected	17		ug/m3	10	75-09-2	
2-Butanone (MEK)	Not detected	59		ug/m3	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	Not detected	20		ug/m3	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	7.2		ug/m3	10	1634-04-4	
Methyl methacrylate	Not detected	8.2		ug/m3	10	80-62-6	
Naphthalene	Not detected	10		ug/m3	10	91-20-3	
Propylene*	Not detected	170		ug/m3	10	115-07-1	
Styrene	Not detected	8.5		ug/m3	10	100-42-5	
1,1,1-Trichloroethane	Not detected	11		ug/m3	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	14		ug/m3	10	79-34-5	
1,1,2-Trichloroethane	Not detected	11		ug/m3	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	37		ug/m3	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	9.8		ug/m3	10	95-63-6	
1,3,5-Trimethylbenzene	Not detected	9.8		ug/m3	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	9.3		ug/m3	10	540-84-1	
Tert-butyl Alcohol	Not detected	30		ug/m3	10	75-65-0	
Tetrachloroethene	Not detected	14		ug/m3	10	127-18-4	
Tetrahydrofuran*	Not detected	5.9		ug/m3	10	109-99-9	
Toluene	Not detected	7.5		ug/m3	10	108-88-3	
Trichloroethene	Not detected	11		ug/m3	10	79-01-6	
Trichlorofluoromethane	Not detected	11		ug/m3	10	75-69-4	
Vinyl chloride	Not detected	5.1		ug/m3	10	75-01-4	



# Analytical Laboratory Report

Lab Sample ID: S30744.01 (continued)  
Sample Tag: SG-5R

TO-15, Method: TO-15, Run Date: 11/30/21 20:00, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl acetate	Not detected	70		ug/m3	10	108-05-4	
p,m-Xylene	Not detected	17		ug/m3	10		
o-Xylene	Not detected	8.7		ug/m3	10	95-47-6	
Total Xylenes	Not detected	26		ug/m3	10	1330-20-7	





# Analytical Laboratory Report

Lab Sample ID: S30744.02

Sample Tag: SG-10

Collected Date/Time: 11/24/2021 12:30 - 11/24/2021 12:39

Matrix: Air

COC Reference: A6832

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	Air Canister	None	No	RT	IR

## Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Pressure check for TO-15*	-4	N/A	11/29/21 16:50	NDK	

## Organics - Volatiles

TO-15, Method: TO-15, Run Date: 11/30/21 20:32, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	20		ppbv	10	67-64-1	
1,3-Butadiene	Not detected	20		ppbv	10	106-99-0	
Benzene	3	2		ppbv	10	71-43-2	
Bromodichloromethane	Not detected	2		ppbv	10	75-27-4	
Bromoform	Not detected	2		ppbv	10	75-25-2	
Bromomethane	Not detected	2		ppbv	10	74-83-9	
Vinyl bromide	Not detected	2		ppbv	10	593-60-2	
Benzyl chloride	Not detected	2		ppbv	10	100-44-7	
Carbon disulfide	Not detected	5		ppbv	10	75-15-0	
Chlorobenzene	Not detected	2		ppbv	10	108-90-7	
Chloroethane	Not detected	20		ppbv	10	75-00-3	
Chloroform	Not detected	2		ppbv	10	67-66-3	
Chloromethane	Not detected	20		ppbv	10	74-87-3	
3-Chloropropene	Not detected	20		ppbv	10	107-05-1	
2-Chlorotoluene	Not detected	2		ppbv	10	95-49-8	
Carbon tetrachloride	Not detected	2		ppbv	10	56-23-5	
Cyclohexane	8	2		ppbv	10	110-82-7	
1,1-Dichloroethane	Not detected	2		ppbv	10	75-34-3	
1,1-Dichloroethene	Not detected	2		ppbv	10	75-35-4	
1,2-Dibromoethane	Not detected	2		ppbv	10	106-93-4	
1,2-Dichloroethane	Not detected	2		ppbv	10	107-06-2	
1,2-Dichloropropane	Not detected	2		ppbv	10	78-87-5	
1,4-Dioxane	Not detected	25		ppbv	10	123-91-1	
Dichlorodifluoromethane	Not detected	2		ppbv	10	75-71-8	
Dibromochloromethane	Not detected	2		ppbv	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	2		ppbv	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	2		ppbv	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	2		ppbv	10	541-73-1	
1,2-Dichlorobenzene	Not detected	2		ppbv	10	95-50-1	
1,4-Dichlorobenzene	Not detected	2		ppbv	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	2		ppbv	10	10061-02-6	
Ethanol*	Not detected	25		ppbv	10	64-17-5	
Ethylbenzene	54	2		ppbv	10	100-41-4	
Ethyl Acetate*	Not detected	20		ppbv	10	141-78-6	
4-Ethyltoluene	Not detected	2		ppbv	10	622-96-8	
Freon 113	Not detected	2		ppbv	10	76-13-1	



# Analytical Laboratory Report

Lab Sample ID: S30744.02 (continued)

Sample Tag: SG-10

TO-15, Method: TO-15, Run Date: 11/30/21 20:32, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Freon 114	Not detected	2		ppbv	10	76-14-2	
Heptane	24	2		ppbv	10	142-82-5	
Hexachlorobutadiene	Not detected	2		ppbv	10	87-68-3	
Hexane	33	2		ppbv	10	110-54-3	
2-Hexanone*	Not detected	5		ppbv	10	591-78-6	
Isopropyl Alcohol*	Not detected	20		ppbv	10	67-63-0	
Methylene chloride	Not detected	5		ppbv	10	75-09-2	
2-Butanone (MEK)	Not detected	20		ppbv	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	Not detected	5		ppbv	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	2		ppbv	10	1634-04-4	
Methyl methacrylate	Not detected	2		ppbv	10	80-62-6	
Naphthalene	Not detected	2		ppbv	10	91-20-3	
Propylene*	Not detected	201		ppbv	10	115-07-1	X
Styrene	Not detected	2		ppbv	10	100-42-5	
1,1,1-Trichloroethane	Not detected	2		ppbv	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	2		ppbv	10	79-34-5	
1,1,2-Trichloroethane	Not detected	2		ppbv	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	5		ppbv	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	2		ppbv	10	95-63-6	
1,3,5-Trimethylbenzene	Not detected	2		ppbv	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	2		ppbv	10	540-84-1	
Tert-butyl Alcohol	Not detected	10		ppbv	10	75-65-0	
Tetrachloroethene	Not detected	2		ppbv	10	127-18-4	
Tetrahydrofuran*	Not detected	2		ppbv	10	109-99-9	
Toluene	3	2		ppbv	10	108-88-3	
Trichloroethene	Not detected	2		ppbv	10	79-01-6	
Trichlorofluoromethane	Not detected	2		ppbv	10	75-69-4	
Vinyl chloride	Not detected	2		ppbv	10	75-01-4	
Vinyl acetate	Not detected	20		ppbv	10	108-05-4	
p,m-Xylene	235	4		ppbv	10		
o-Xylene	75	2		ppbv	10	95-47-6	
Total Xylenes	310	6		ppbv	10	1330-20-7	

TO-15, Method: TO-15, Run Date: 11/30/21 20:32, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Acetone	Not detected	48		ug/m3	10	67-64-1	
1,3-Butadiene	Not detected	44		ug/m3	10	106-99-0	
Benzene	9.6	6.4		ug/m3	10	71-43-2	
Bromodichloromethane	Not detected	13		ug/m3	10	75-27-4	
Bromoform	Not detected	21		ug/m3	10	75-25-2	
Bromomethane	Not detected	7.8		ug/m3	10	74-83-9	
Vinyl bromide	Not detected	8.7		ug/m3	10	593-60-2	
Benzyl chloride	Not detected	10		ug/m3	10	100-44-7	
Carbon disulfide	Not detected	16		ug/m3	10	75-15-0	
Chlorobenzene	Not detected	9.2		ug/m3	10	108-90-7	
Chloroethane	Not detected	53		ug/m3	10	75-00-3	
Chloroform	Not detected	9.8		ug/m3	10	67-66-3	
Chloromethane	Not detected	41		ug/m3	10	74-87-3	
3-Chloropropene	Not detected	63		ug/m3	10	107-05-1	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S30744.02 (continued)

Sample Tag: SG-10

TO-15, Method: TO-15, Run Date: 11/30/21 20:32, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
2-Chlorotoluene	Not detected	10		ug/m3	10	95-49-8	
Carbon tetrachloride	Not detected	13		ug/m3	10	56-23-5	
Cyclohexane	28	6.9		ug/m3	10	110-82-7	
1,1-Dichloroethane	Not detected	8.1		ug/m3	10	75-34-3	
1,1-Dichloroethene	Not detected	7.9		ug/m3	10	75-35-4	
1,2-Dibromoethane	Not detected	15		ug/m3	10	106-93-4	
1,2-Dichloroethane	Not detected	8.1		ug/m3	10	107-06-2	
1,2-Dichloropropane	Not detected	9.2		ug/m3	10	78-87-5	
1,4-Dioxane	Not detected	90		ug/m3	10	123-91-1	
Dichlorodifluoromethane	Not detected	9.9		ug/m3	10	75-71-8	
Dibromochloromethane	Not detected	17		ug/m3	10	124-48-1	
trans-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-60-5	
cis-1,2-Dichloroethene	Not detected	7.9		ug/m3	10	156-59-2	
cis-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-01-5	
1,3-Dichlorobenzene	Not detected	12		ug/m3	10	541-73-1	
1,2-Dichlorobenzene	Not detected	12		ug/m3	10	95-50-1	
1,4-Dichlorobenzene	Not detected	12		ug/m3	10	106-46-7	
trans-1,3-Dichloropropene	Not detected	9.1		ug/m3	10	10061-02-6	
Ethanol*	Not detected	47		ug/m3	10	64-17-5	
Ethylbenzene	230	8.7		ug/m3	10	100-41-4	
Ethyl Acetate*	Not detected	72		ug/m3	10	141-78-6	
4-Ethyltoluene	Not detected	9.8		ug/m3	10	622-96-8	
Freon 113	Not detected	15		ug/m3	10	76-13-1	
Freon 114	Not detected	14		ug/m3	10	76-14-2	
Heptane	98	8.2		ug/m3	10	142-82-5	
Hexachlorobutadiene	Not detected	21		ug/m3	10	87-68-3	
Hexane	120	7.0		ug/m3	10	110-54-3	
2-Hexanone*	Not detected	20		ug/m3	10	591-78-6	
Isopropyl Alcohol*	Not detected	49		ug/m3	10	67-63-0	
Methylene chloride	Not detected	17		ug/m3	10	75-09-2	
2-Butanone (MEK)	Not detected	59		ug/m3	10	78-93-3	
4-Methyl-2-pentanone (MIBK)	Not detected	20		ug/m3	10	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	7.2		ug/m3	10	1634-04-4	
Methyl methacrylate	Not detected	8.2		ug/m3	10	80-62-6	
Naphthalene	Not detected	10		ug/m3	10	91-20-3	
Propylene*	Not detected	346		ug/m3	10	115-07-1	X
Styrene	Not detected	8.5		ug/m3	10	100-42-5	
1,1,1-Trichloroethane	Not detected	11		ug/m3	10	71-55-6	
1,1,2,2-Tetrachloroethane	Not detected	14		ug/m3	10	79-34-5	
1,1,2-Trichloroethane	Not detected	11		ug/m3	10	79-00-5	
1,2,4-Trichlorobenzene	Not detected	37		ug/m3	10	120-82-1	
1,2,4-Trimethylbenzene	Not detected	9.8		ug/m3	10	95-63-6	
1,3,5-Trimethylbenzene	Not detected	9.8		ug/m3	10	108-67-8	
2,2,4-Trimethylpentane	Not detected	9.3		ug/m3	10	540-84-1	
Tert-butyl Alcohol	Not detected	30		ug/m3	10	75-65-0	
Tetrachloroethene	Not detected	14		ug/m3	10	127-18-4	
Tetrahydrofuran*	Not detected	5.9		ug/m3	10	109-99-9	
Toluene	11	7.5		ug/m3	10	108-88-3	
Trichloroethene	Not detected	11		ug/m3	10	79-01-6	

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Lab Sample ID: S30744.02 (continued)  
Sample Tag: SG-10

TO-15, Method: TO-15, Run Date: 11/30/21 20:32, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Trichlorofluoromethane	Not detected	11		ug/m3	10	75-69-4	
Vinyl chloride	Not detected	5.1		ug/m3	10	75-01-4	
Vinyl acetate	Not detected	70		ug/m3	10	108-05-4	
p,m-Xylene	1,020	17		ug/m3	10		
o-Xylene	330	8.7		ug/m3	10	95-47-6	
Total Xylenes	1,300	26		ug/m3	10	1330-20-7	

# Merit Laboratories Login Checklist

Lab Set ID:S30744

Client:PME02 (PM Environmental, Inc. - Berkley)

Project: 01-11288-1-0004 / Mariner's Inn

Submitted: 11/29/2021 14:30 Login User: PFD

Attention: Jana Beumel

Address: PM Environmental, Inc.  
4080 W. Eleven Mile  
Berkley, MI 48072

Phone: O:248-336-9988 FAX:

Email: Beumel@pmenv.com

Selection	Description	Note
<b>Sample Receiving</b>		
01.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples are received at 4C +/- 2C Thermometer #
02.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Received on ice/ cooling process begun
03.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped
04.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box
05.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked
<b>Chain of Custody</b>		
06.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC adequately filled out
07.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC signed and relinquished to the lab
08.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample tag on bottles match COC
09.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontacted to:
<b>Preservation</b>		
10.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation
11.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)
12.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?
<b>Bottle Conditions</b>		
13.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact
14.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used
15.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used
16.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received
17.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration
18.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time
19.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_



## REPORT TO

CONTACT NAME				Jana Beumel			
COMPANY				PM Environmental			
ADDRESS							
4080 W Eleven Mile Rd							
CITY						STATE	ZIP CODE
Berkley						MI	48072
PHONE NO.			FAX NO.			P.O. NO.	
EMAIL ADDRESS						QUOTE NO.	
Beumel@pmenv.com							

## AIR/GAS SAMPLES CHAIN OF CUSTODY RECORD

CONTACT NAME		<del>X</del> SAME	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.	EMAIL ADDRESS		

**INVOICE TO**

PROJECT NO./NAME 01-11288-1-0004/ Mariner's Inn		SAMPLER(S) - PLEASE PRINT/SIGN NAME James Hungate		Certifications <input type="checkbox"/> DoD <input type="checkbox"/> NELAP		Sample Type				Analyses		
TURNAROUND TIME REQUIRED <input type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> OTHER						r	Air	Gas	(notes)		(notes)	
DELIVERABLES REQUIRED <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> LEVEL IV <input type="checkbox"/> EDD <input type="checkbox"/> OTHER												

[illegible]

Temperature (Fahrenheit)				Pressure (inches of Hg)				Notes
	Interior	Ambient	Notes		Interior	Ambient	Notes	
Start		38°		Start		30.15		Analysis: VOCs
Stop		38°		Stop		30.13		

RELINQUISHED BY: SIGNATURE/ORGANIZATION <i>James H. [Signature]</i>	<input checked="" type="checkbox"/> Sampler	DATE 11/24/21	TIME 1350	RELINQUISHED BY: SIGNATURE/ORGANIZATION <i>[Signature]</i>	DATE 11/24/21	TIME 1330	
RECEIVED BY: SIGNATURE/ORGANIZATION <i>PM Cold Storage</i>		DATE 11/24/21	TIME 1350	RECEIVED BY: SIGNATURE/ORGANIZATION <i>[Signature]</i>		TIME 1330	
RELINQUISHED BY: SIGNATURE/ORGANIZATION <i>[Signature]</i>		DATE 11/29/21	TIME 1430	SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	TEMP. ON ARRIVAL
RECEIVED BY: SIGNATURE/ORGANIZATION <i>M. [Signature]</i>		DATE 11/29/21	TIME 1430	SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	RT

## Appendix F

# JEREMY MESHEW, P.G.

## PROJECT GEOLOGIST

1.800.313.2966    [www.pmenv.com](http://www.pmenv.com)    [meshew@pmenv.com](mailto:meshew@pmenv.com)

Jeremy Meshew is a Project Geologist at PM Environmental, Inc. and has served clients in 26 states since 2015. He specializes in environmental investigations and remediation, including Phase II ESAs, long term monitoring projects, UST closures, installation of engineered storm water and sediment control systems, accident prevention plans, sampling plans, project work plans, storm water pollution and prevention plans, and project reports .

### AREAS OF EXPERTISE

- Management of Phase II ESAs regarding PFAS and PFOA
- Management of UST closures and removal
- Management of soil boring drilling operations
- Installation of monitoring wells
- Development of monitoring wells
- Collection of soil and groundwater samples
- Aquifer testing
- Experience with local, state and federal regulatory acts
- OSHA and USACE safety compliance
- Site-Specified Health and Safety plan evaluation and development
- Quality control and peer review of documentation
- Sit Safety and Health Officer



### EDUCATION

- Western Michigan University  
B.S. Geology

### CERTIFICATIONS

- OSHA 30 Hour Construction Industry Outreach
- OSHA 40 hour HAZWOPER
- OSHA 30 Hour Construction Safety and Health
- OSHA 10 Hour General
- OSHA Hazard Communications HAZCOM & Global Harmonization System GHS
- OSHA Competent Person Excavation Trenching & Shoring
- OSHA Fall Protection
- OSHA Lead Awareness for Construction
- OSHA Blood borne Pathogens
- EM 385-1-1 8 Hour Awareness
- USACE Construction Quality Management for Contractors
- Tennessee Erosion Prevention & Sediment Control Level 1
- Georgia Soil & Water Conservation Commission Level II Design Professional
- OSHA 8 Hour HAZWOPER Refresher Training
- OSHA 8 Hour HAZWOPER Supervisor Training
- OSHA Confined Space Safety Training

### ADVANCED TRAINING

- ASBOG PG for State of Georgia (PG002323), Tennessee (6106), Missouri (2021044596 ) & Kentucky (262293)

### PROFESSIONAL ORGANIZATIONS

- American Institute of Professional Geologists (AIPG)

# NICHOLAS P. LIEDER

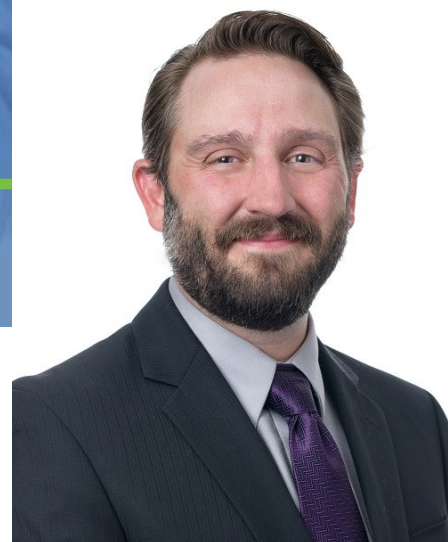
## REGIONAL MANAGER—SITE INVESTIGATION SERVICES

1.800.313.2966    [www.pmenv.com](http://www.pmenv.com)    [lieder@pmenv.com](mailto:lieder@pmenv.com)

Nicholas Lieder is a Regional Manager of Site Investigation Services at PM Environmental, Inc. and has served clients in four states since 2013. He specializes in Phase II Environmental Site Assessments (ESAs), Baseline Environmental Assessments (BEAs), Documentation of Due Care Compliance (DDCC), site assessments, and Brownfield redevelopments.

### AREAS OF EXPERTISE

- Application of field techniques including drilling of soil borings, installation of monitoring wells, collection of soil, groundwater, and soil gas samples, development of monitoring wells, aquifer testing, installation of remediation/mitigation systems, and operation and maintenance of remediation/mitigation systems
- Regional Management of the Site Investigation Services group and staff technical lead
- Project Geologist for underground storage tank (UST) system site assessment projects including removal and in-place closures, contaminant delineation, and remediation of leaking underground storage tank (LUST) Sites using Risk-Based Corrective Action (RBCA) procedures
- Project Geologist for Phase II Environmental Site Assessments (ESAs), Baseline Environmental Assessments (BEAs), and Documentation of Due Care Compliance (DDCC) projects in accordance with the Natural Resource and Environmental Protection Act, P.A., 451 of 1994, Parts 201 and 213
- Site-specific health and safety plan evaluation, development, and implementation
- Construction/Development focused environmental oversight and consulting, soil, groundwater, and waste management, and remedial system installation activities.
- Data management and report preparation for quarterly monitoring events
- Project Geologist/Technical Consulting for Brownfield redevelopment projects in accordance with the Brownfield Redevelopment Financing Act, P.A., 381 of 1996 and various state-specific Brownfield programs



### EDUCATION

- Wayne State University  
B.S. Geology  
B.S. Environmental Science

### CERTIFICATIONS

- OSHA 29 CFR 1910.120 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Training
- OSHA 29 CFR 1910.120 8-hour Annual Refresher Training
- American Red Cross CPR/AED and First Aid Training
- ASTM International Risk-Based Corrective Action at Petroleum Release Sites
- EPRO/Geo-Seal Certified Gas Vapor Barrier Inspector
- Cetco Liquid Boot Authorized Inspector
- EGLE Establishing Soil Background for Metals
- Environmental Professional (EP) as defined in § 312.10 of 40 CFR 312