

Analysis of Brownfield Cleanup Alternatives
1101 S. Dort Highway, Flint, Michigan
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1.0 INTRODUCTION

The Genesee County Land Bank Authority (GCLBA) received EPA Multipurpose Grant funding to assist with assessment and cleanup of specific contaminants on properties within the Innovation District in Flint, Michigan. GCLBA received the subject site through involuntary transfer in December 2017. GCLBA's mission is to return formerly tax foreclosed properties to productive use with responsible owners. Since adding the subject site to its inventory, GCLBA has worked with environmental consultants on Asbestos and Hazardous Materials Survey, Phase I and Phase II Environmental Site Assessments (ESAs). Conditions of the property, present contaminants, and potential for unknown contaminants below the structure slab pose barriers to reuse of the site. EPA grant funding is available to address hazardous materials such as asbestos and petroleum contamination. The Analysis of Brownfield Cleanup Alternatives (ABCA) is a required element of the United States Environmental Protection Agency (USEPA) USEPA Hazardous Substances Assessment Grant awarded to the GCLBA. In preparing the ABCA, the GCLBA considered environmental factors, various site characteristics, surrounding properties, land use restrictions, potential future uses, and cleanup goals.

2.0 BACKGROUND

The nearly half-acre property contains an approximately 6,000 square foot vacant commercial structure previously used as an auto repair garage and/or used car sales lot.

2.1 Site Location

The site consists of one (1) parcel located at 1101 N. Dort Highway in City of Flint, in Genesee County, Michigan (herein referred to as "the Site").

2.2 Site Ownership

GCLBA is the sole owner of the Property. The Property was acquired involuntarily through tax reversion on December 20, 2017.

2.3 Previous Site Uses

The Property was developed for commercial uses, with the structure originally built in 1949. Based on a review of aerial photographs and addition was likely constructed during the late 1970s or early 1980s. The western portion of the structure comprised of approximately 1,300 square feet, contains a former office space and partial second floor. The remaining eastern portion of the structure, comprised of approximately 4,700 square feet, is a former garage which includes five bay doors. Externally, the western portion of the structure is constructed with a stone brick façade and the remaining eastern portion of the structure is constructed with concrete block walls. The approximately 6,000 square foot vacant commercial structure was previously used as an auto repair garage and/or used car sales lot between the 1960s and 2000s.; additionally, the property may have also operated a plating shop during the 1970s. It has been vacant for at least 6 years.

3.0 SITE ASSESSMENT FINDINGS

The following subsections provide a summary of previous environmental investigations, areas of known contamination, an evaluation of exposure pathways, and an evaluation of known or potential exposures at the Subject Property.

3.1 Asbestos-Containing Materials

Asbestos-Containing Materials (ACMs)– an Asbestos & Hazardous Materials Survey (Hazardous Materials Survey) was completed on June 16, 2022, by Professional Service Industries, Inc. (PSI) an Intertek company as a part of the pre-demolition evaluation. Six ACMS were identified with more than 1% asbestos including roofing, sealant, window glaze, floor tile and plaster with skimcoat.

The following table presents a summary of the materials supporting asbestos greater than 1%, based on the results of the Polarized Light Microscopy (PLM) analyses for asbestos.

Material Description ¹	Material Location ²	Estimated Quantity	F/NF ³	% Asbestos & Type ⁴	EPA NESHAP Category ⁵	OSHA Class designation ⁶
Roofing System (Black))	EA 5	6,500 SF	NF	5% Ch	Cat 1 NF	Class II
Sealant (White)	EA 1-4	875 LF	NF	2% Ch	Cat II NF	Class II
Window Glaze (Pink)	EA 1-4	10 Windows	NF	2% Ch	Cat II NF	Class II
Window Glaze (White)	EA 1-4	2 windows	NF	2% Ch	Cat II NF	Class II
12" x 12" floor tile w/adhesive (red)	FS 1	400 SF	NF	4%Ch/ 2%Ch	Cat 1 NF	Class II
Plaster w/Skimcoat (Gray/White)	FS 1-6	2,250 SF	F	Trace	RACM	Class I

¹Homogeneous materials/systems may contain an indefinite/indistinguishable number of layers that may not be visually identified by the inspector at the time of the survey.

² EA = Exterior Area = Generally relating to sides of the principal structure on the site.

³ FS = Functional Space = A room, group of rooms, or homogeneous area (including crawl spaces or the space between a dropped ceiling, and the floor or roof deck above) designated by a person accredited to prepare management plans, design asbestos abatement projects, or conduct asbestos response actions.

⁴ F = Friable; NF = Non-friable

⁵ NAD = No Asbestos Detected, Ch = Chrysotile, Am = Amosite, Tr = Tremolite, Cr = Crocidolite PT = Point Count Analysis

⁶ NESHAP Category - Regulated ACM (RACM), Cat I NF=Category I Non-Friable ACM, Cat II NF= Category II Non-Friable ACM

⁷ OSHA/EPA Class Definitions:

Class I Asbestos work means activities involving the removal of TSI and surfacing ACM and PACM.

Class II Asbestos work means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

Class III Asbestos work means repair and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed.

Class IV Asbestos work means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.

Regulated ACM (RACM) and Category II Non-Friable ACM must be properly removed by a licensed asbestos abatement contractor prior to demolition that would disturb the material. Federal, State and Local regulations and guidelines should be strictly adhered to when removing the ACM. Category I Non-Friable ACM may often be left in place during demolition if not made friable by cutting, grinding or sanding. If there is a potential for the non-friable materials to be rendered friable by demolition activities, the materials must be removed prior to demolition by a certified asbestos removal contractor utilizing the appropriate engineering controls. If left in place, these materials cannot be recycled or used as clean fill.

HAZMATs

Three suspected HAZMAT categories were observed on the subject property as outlined in the table below which lists the component, container, or equipment that is suspected of containing hazardous or regulated substances, the suspected constituent of concern, and the approximate quantity. The items listed in the hazardous materials table can become hazardous during demolition.

Inspection Item	Constituent of Concern	Size/Quantity	Notes/Location
Light Ballasts	PCB	12	FS 1-9

Tires	Varied	120	EA 3
Florescent Light bulbs	Mercury	8	FS 1-6

PSI recommends disposing the hazardous materials identified on the site in accordance with applicable regulations. Any unknown containers present on the site need to be verified through testing followed by proper disposal in accordance with applicable regulations.

3.2 Phase I Environmental Site Assessment

Phase I Environmental Site Assessment - A Phase I Environmental Site Assessment (ESA) was completed on March 11, 2020 by ECT. ECT performed the Phase I ESA in conformance with the scope and limitations of ASTM Standard E 1527-13. The assessment revealed five RECs:

- 1) the Site's former use as an auto repair shop;
- 2) potential fill pipe on the southern exterior wall of the building on Site;
- 3) two hydraulic lifts observed on Site, with an estimated age for a potential for containing PCBs;
- 4) piles of debris currently and historically stored at the Site; and
- 5) black staining observed at the Site.

Based on the findings, additional site investigation activities in the form of subsurface sampling has been recommended at the Site to verify the absence or presence of environmental impact from the identified RECs.

3.3 Phase II Environmental Site Assessment

On February 21, 2022, the Mannik and Smith Group, INC (MSG) performed a Limited Phase II Environmental Assessment as a component of due diligence to understand site conditions prior to demolition. The purpose of this Limited Phase II Investigation was to assess select recognized environmental conditions (RECs) identified in Environmental Consulting & Technology's *Phase I Environmental Site Assessment*, dated March 11, 2020. The select RECs investigated during this Limited Phase II Investigation included the five RECs noted in the Phase I summary above.

To assess potential impacts associated with the select RECs, MSG advanced 6 soil borings at a depth of 15 feet below ground surface utilizing a Geoprobe® DT 8620 direct push drill rig Concurrent with soil boring activities. The 6 soil samples designated SB-01, SB-02, SB-03, SB-04, SB-05 and SB-06 were submitted to Merit Laboratories Inc. (Merit) in Lansing, Michigan, for laboratory analysis the following parameters:

Soil

- VOCs by USEPA Method 8260;
- PNAs by USEPA Method 8270;
- 10 Michigan metals by USEPA Methods 6020; and/or
- PCBs by USEPA Method 8082 (SB-06 only)

The analytical results and comparisons to criteria are summarized in the Phase II Report, Table 1, Soil Sample Analytical Detection Summary. Copies of the laboratory analytical data reports and chain of custody are included in Appendix E, Laboratory Analytical Report and Chain of Custody. A summary of the soil sample analytical detections is provided below:

- Arsenic was detected in SB-02, SB-03 and SB-04 above drinking water protection criteria (DWPC), groundwater to surface water interface criteria (GSIPC) and direct contact criteria (DCC).
- Selenium was detected in SB-06 above GSIPC

The Michigan Background Soil Survey (MBSS), dated 2005 identifies natural background concentrations of several metals in Michigan. According to Section 20120a(10), "...background levels become the Part 201 criterion, when the background concentration level is greater than the corresponding Part 201 risk-based criterion. Therefore, arsenic concentrations detected at SB-02, SB-03 and SB-04 and selenium concentrations detected at SB-06 are below the regional background concentrations of arsenic [and selenium] located in the Saginaw Lobe in sand and clay and therefore are eliminated from concern.

The conclusion from the Limited Phase II Environmental Assessment is that the site does not meet the definition of a "Facility" as defined pursuant to Part 201, though the Limited Phase II ESA did not conduct sub-slab investigation.

4.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS

The United States Occupational Safety and Health Administration (OSHA) and the United States Environmental Protection Agency (USEPA) both have regulations that are applicable to this project. The OSHA Construction Industry Standard (29 CFR 1926.1101) covers employees engaged in demolition and construction activities likely to involve asbestos exposure. In Michigan, the Michigan Occupational Safety and Health Administration (MIOSHA) Asbestos Program enforces the federal standards. The EPA regulates asbestos application, removal, and disposal of Asbestos Containing Materials (ACM), under the National Emission Standards for Hazardous Air Pollutants (NESHAP). The asbestos NESHAP protects the public and environment by minimizing the release of asbestos fibers during renovation and demolition activities. In Michigan the Air Quality Division (AQD) of the Michigan Department of Environment, Great Lakes and Energy (EGLE) has been delegated authority to implement the NESHAP program for asbestos. MIOSHA and EGLE are made aware of and provide oversight of asbestos removal projects by receiving and reviewing the "Notification of Intent to Renovate/Demolish" forms, which are required to be submitted a minimum of 10 working days prior to starting work. Other agencies promulgating regulations on asbestos include the Department of Transportation (DOT) – establishing regulations regarding the transport of asbestos. All cleanup work proposed at the property will comply with the above regulations and notification requirements. The proposed cleanup project will comply with all other applicable local, state, and federal regulations not specifically mentioned.

5.0 CLEANUP OBJECTIVES

1101 S. Dort Highway is a blighted and abandoned auto repair garage and/or former used car sales lot along a commercial district along S. Dort Highway that includes a pawn shop, childcare facility, pharmacy, bank branch, and check cashing location. 1101 S. Dort includes regulated ACM (RACM) and Category II Non-Friable ACM. The potential exists that there may be petroleum contamination beneath the slab of the structure due to the site's historic use and evidence of hoists and hydraulic lifts. The project goal is to clean-up the damaged asbestos, abate the remaining RACMs prior to demolition, remove connected utilities, demolish the buildings, assess the area for subsurface impacts, remove remaining debris around the buildings and return to grade. This project will rid the area of a public nuisance and prepare the Property for future redevelopment.

The site will be purchased and redeveloped by Sunrise National Distributors, Inc. located at 910 Tower St Flint, MI 48503-2948, adjacent to the site to the north and east. The company was established in 1983 as a wholesale automotive accessories distributor. The warehouse moved its facility to its current location in Flint in 1995. Throughout the years, Sunrise has grown into a leading Regional Wholesale Distributor. As they are looking to expand again, the GCLBA is happy to make this site available for expansion along with the adjacent brownfield site to the north that Sunrise purchased from the Land Bank after demolition with plans of expansion. Abating asbestos and quantifying other potential contamination that may be present on this site will enable us to help keep businesses and jobs in Flint and enhance the economic viability of the corridor.

5.1 Cleanup Alternatives

Three alternatives were considered for the Site which include:

- Alternative #1: No Action
- Alternative #2: Asbestos Hazard Mitigation
- Alternative #3: Remediation of Asbestos-Containing Materials prior to Demolition of Site Structures

5.1.1 Alternative # 1 – No Action Alternative

Effectiveness – The No Action alternative is not effective in controlling or preventing the exposure of ACM contamination at the Site.

Implementation – No Action is easy to implement since no actions will be conducted.

Cost - \$0, but a No Action alternative would leave the Site in its existing condition making it undesirable for redevelopment, and difficult to obtain private interest for the redevelopment of the Site. Additionally, there will be costs to secure the building that will continue indefinitely.

Summary - The Site would be left in the current dilapidated state. The ACMs would still pose a health risk to legal and illegal visitors entering the buildings. The potential presence of subsurface contaminants may be a barrier to acquisition and development. Transfer of the property to other parties would require notification of the presence of asbestos-containing materials, and controls would be necessary to manage exposure to those entering the buildings. Under the No Action Alternative, if the Site remains unused for an extended period of time, the Site will continue to deteriorate, creating an attractive nuisance and increasing the risk to those entering the Site Building. It is additionally of note that vacant and abandoned buildings in Flint are often the target of arson. The No Action Alternative increases the risk of further fire damage to identified contaminants.

5.1.2 Alternative #2 – Asbestos Hazard Mitigation

Effectiveness – Because of the presence of ACMs, this method is a short-term fix to protect site entrants from potential exposure to friable asbestos found in the plaster. However, the material identified as nonfriable is noted in severely damaged condition and is likely to become friable over time. In addition if the structure were to be the target of arson, the non-friable material would be significantly damaged and become friable. For these reasons, abating only the friable material does not provide a long-term solution to preventing exposure. Further, abating only ACM identified as friable does not assess whether there exists other contaminants of concern below the slab of the former auto repair shop which is of concern for future development.

Implementation – The implementation of this alternative will require that the structure is secured by means of sealing door and window entrances to prevent easy access to the interior and reduce exposure to weather and minimize further degradation of the building interior and deterioration of ACMs left in place. In addition, all debris on horizontal surfaces will be cleaned and all damaged friable ACMs removed where damaged and the surrounding material stabilized to minimize further deterioration. All the above work will need to be completed using Class I asbestos removal techniques in a negative pressure enclosure. This method will suffice as a short-term solution if demolition is delayed.

Cost - \$32,531(\$14,781.00 for abatement; \$17,750 for site security fencing)

Summary - The Hazard Mitigation alternative would leave some hazardous building materials and components in place and would pose a health risk as already damaged material continues to deteriorate or if targeted by arsonists.

5.1.3 Alternative #3 – Remediation of Asbestos Containing Materials and Demolition of Site Structures

Effectiveness – Removal of ACMs is an effective method for preventing exposure to and stopping further deterioration and exacerbation.

Implementation - Removal and disposal of ACMs and building demolition are technically feasible and are common actions for reducing or eliminating the human health risks of exposure to hazardous building materials. Services and materials are readily available.

Cost – \$150,949.50

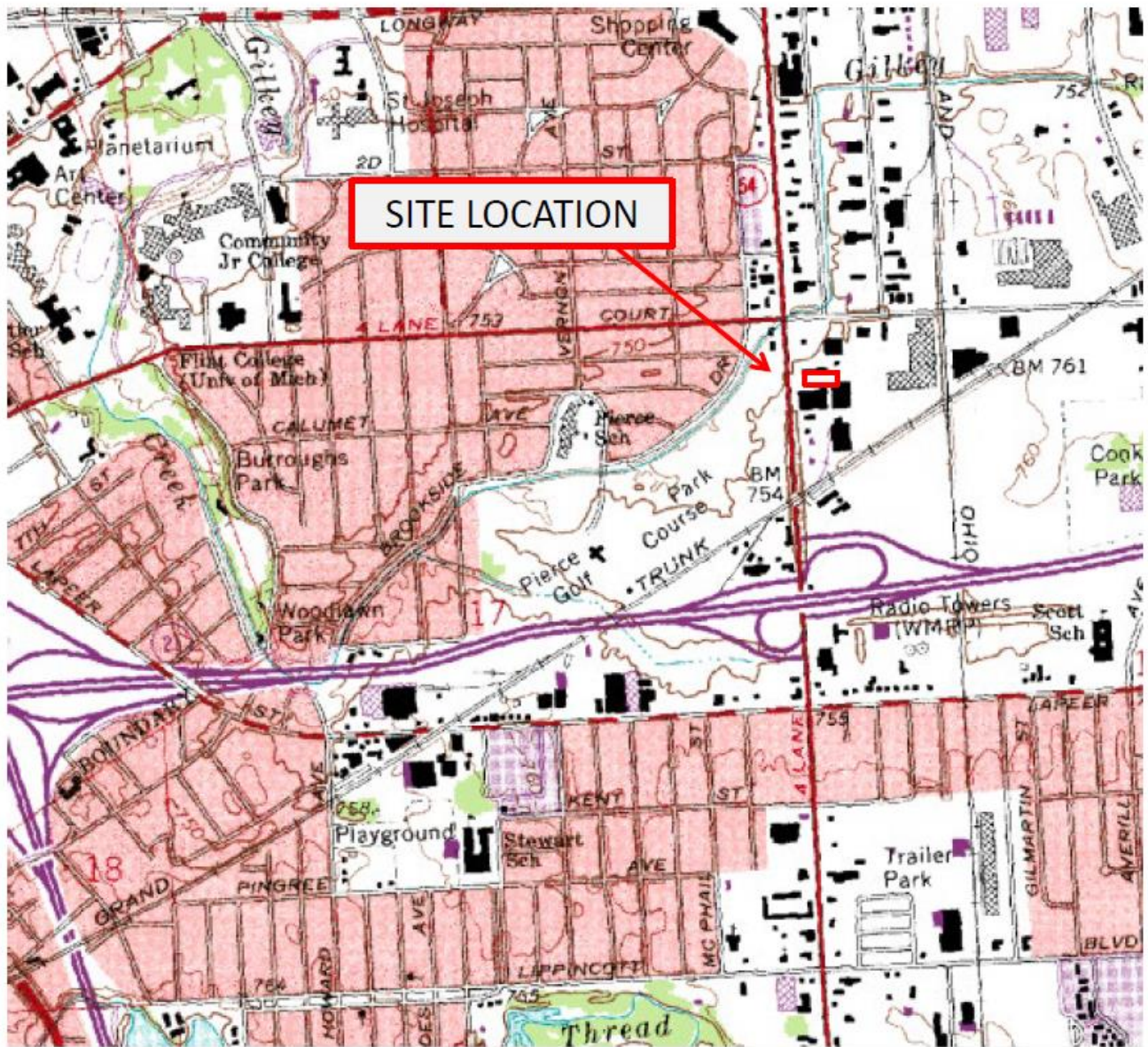
Summary - The ACM Remediation and Building Demolition alternative will properly manage the hazardous building materials and achieve the project goals of protecting human health and environment and making the site more attractive for redevelopment. The removal of the Site buildings and subsurface investigation will provide the maximum flexibility for site redevelopment.

5.1.4 Recommended Cleanup Alternative

The recommended cleanup alternative is Alternative #3: Remediation of Asbestos Containing Materials and Demolition of Site Structures. Alternative #1: No Action cannot be recommended since it does not address Site risks or project objectives. Alternative #2: Hazard Mitigation of ACMs is a short-term solution and more difficult to implement considering the state of disrepair to the building and the costs to secure and maintain the Site indefinitely while leaving the property unusable until the building is demolished.

Figures

- 1 Site Location Map
- 2 Site Features Map



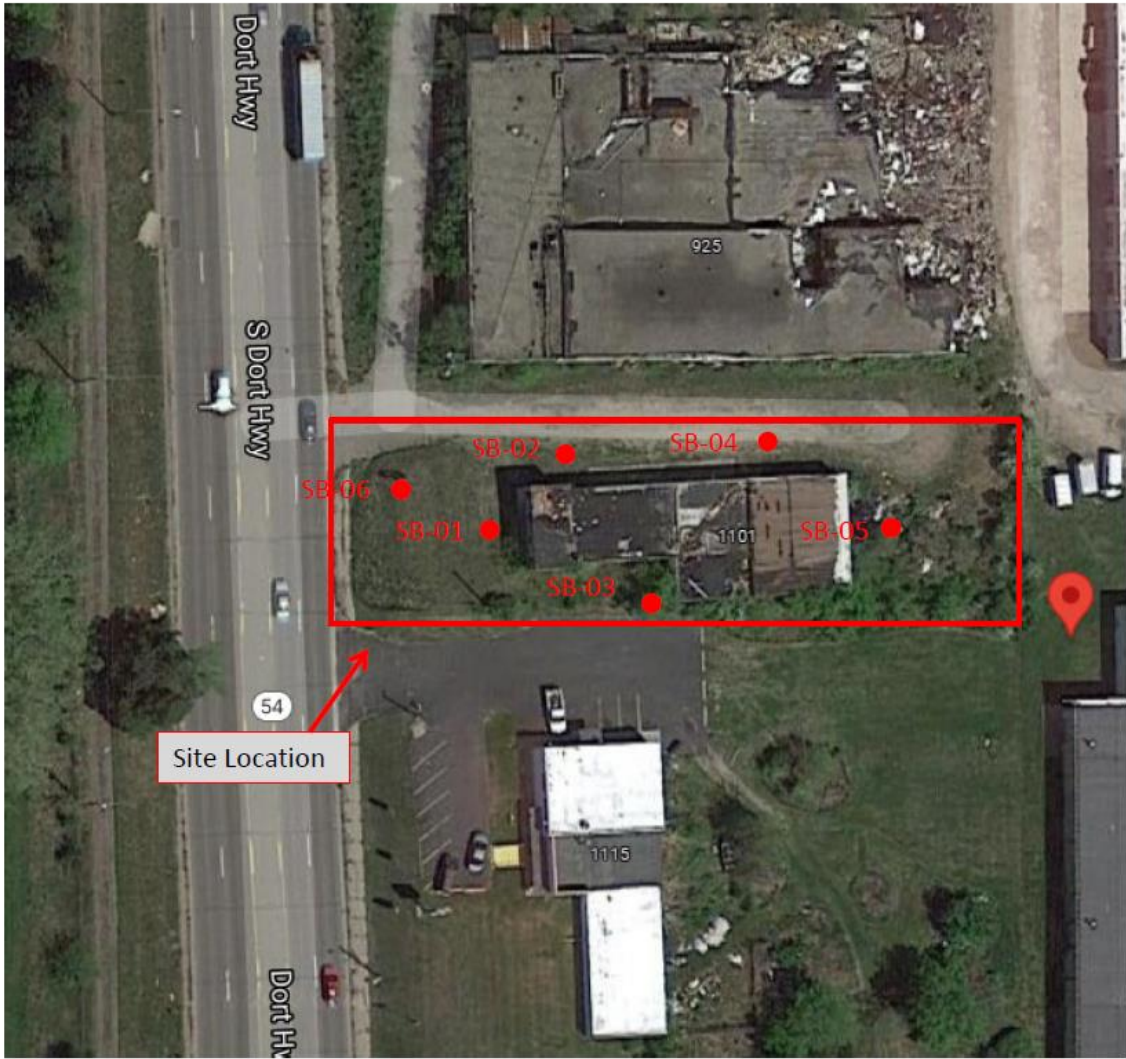
NOTE: MAP ADAPTED FROM USGS TOPOGRAPHIC QUADRANGLES, TAKEN FROM http://www.dnr.state.mi.us/spatialdatalibrary/pdf_maps/topomaps/county_files/Genesee/Genesee_topo.htm



FIGURE 1 SITE LOCATION MAP

1101 S. Dort Hwy.
Flint, Genesee County, Michigan

DATE 03/10/2022	DRAWN BY SSR	 Approximate Site Boundary	PROJECT # G2760068
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NOTE: MAP ADAPTED FROM GOOGLE EARTH
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Drawing 2
SITE SCHEMATIC
1101 S. Dort Hwy.
Flint, Genesee County, Michigan

DATE
2/9/2022

DRAWN BY
SSR

 Approximate Site Boundary

PROJECT #
G2760068