MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

In the Matter of:

Stanco Metal Products, Inc.
105 Fulton Avenue
Grand Haven, Ottawa County
Michigan 49417

EGLE Reference No. AOC-RRD-20-003

and

SSS Leasing, LLC
2101 168th Avenue
Grand Haven, MI 49417

ADMINISTRATIVE ORDER BY CONSENT

A. This Administrative Order by Consent (Order) is entered into voluntarily by and between the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the Michigan Department of Attorney General (MDAG) (collectively, the "State"), and Stanco Metal Products, Inc. and SSS Leasing, LLC (Respondents), pursuant to the authority vested in the MDAG and EGLE by Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.20101, et seq. All terms used in this Order, which are defined in Part 201 of the NREPA, shall have the same meaning in this Order as in Part 201 of the NREPA.

B. This Order concerns the settlement between the State and the Respondents for Respondents' liability under Part 201 related to the former Stanco Metal Products site, located at 105 Fulton Avenue, Grand Haven, Ottawa County, Michigan, and as identified in Attachment A (the Property). The Property and any area, place, parcel or parcels of property, or portion of a parcel of property where a hazardous substance in excess of the concentrations that satisfy the cleanup criteria for

unrestricted residential use, has been released, deposited, disposed of, or otherwise comes to be located is a facility as defined by Part 201 (the Facility) and is subject to regulation under Part 201.

C. Respondent Stanco Metal Products operated a metal stamping business at the Property from 1927 until the late 1980s, from which time the Property has remained vacant. Respondent SSS Leasing, LLC, acquired part of the property in 2014 from SSS Leasing, a Michigan co-partnership, without performing a baseline environmental assessment. A developer has presented plans to redevelop the Property and return to productive use. As part of the redevelopment, the developer will perform response activities necessary to mitigate risks at the Property. In order to encourage redevelopment and return of the Property to productive use, Respondents will record one or more restrictive covenants at the Property prior to redevelopment in accordance with Paragraph 3.

D. The State contends that Respondent Stanco Metal Products is an "owner" or "operator" as defined in Part 201 and is responsible for an activity causing a release or threat of release pursuant to MCL 324.20126(1)(a) with respect to the Facility and is therefore liable under Section 20126 of Part 201. The State contends that Respondent SSS Leasing, LLC, is an "owner" or "operator" as defined in Part 201 that acquired the property after June 5, 1995 and failed to complete a baseline environmental assessment pursuant to MCL 324.20126(1)(c) with respect to the Facility and is therefore liable under Section 20126 of Part 201. Pursuant to MCL 324.20126a, a person that is liable under Section 20126 of Part 201 of the NREPA is jointly and severally liable for all response activity costs lawfully incurred by the State relating to selection and implementation of response activity under Part 201. Pursuant to Part 201 of the NREPA, the State may incur costs in responding to the release(s) or threat(s) of release of hazardous substances at the Facility. The Respondents to this Order desire to enter into a binding agreement in which the Respondents agree to pay the estimated cost of remedial actions to address contamination for which the Respondents are liable. Settlement of this claim is in the public interest and will minimize litigation.

E. The execution of this Order by the Respondents is neither an admission of liability with respect to any issue covered under this Order nor an admission or denial of any findings of fact or legal determinations stated or implied herein.

F. This Order shall apply to and be binding upon the Respondents and its successors. No change or changes in the ownership or corporate status of the Respondents shall alter in any way the Respondents' obligations under this Order. The signatories to this Order certify that they are authorized to execute this Order and legally bind the parties they represent.

BASED UPON THE FOREGOING FACTS AND DETERMINATIONS, THE STATE HEREBY ORDERS, AND THE RESPONDENTS HEREBY AGREE, TO THE FOLLOWING:

1. Within thirty (30) days of the effective date of this Order, the Respondents shall pay to EGLE the sum of three hundred and ten thousand, five-hundred Dollars ($310,500.00) to resolve all State claims under Part 201 against Respondents for liability at the Facility for Known Past Releases, as described in the December 11, 2019 PM Environmental Report, Attachment B, and any migration and degradation products of the Known Past Releases.

2. Payment is to be made by check payable to the "State of Michigan - Environmental Response Fund" and shall be sent to:

By first class mail:
Michigan Department of Environment, Great Lakes, and Energy
Cashier's Office for EGLE
P.O. Box 30657
Lansing, Michigan 48909-8157

Via courier:
MDOT Accounting Services Division
Cashier's Office for EGLE
Van Wagoner Building, 1st Floor West
425 W. Ottawa Street
Lansing, Michigan 48933-2125

To ensure proper credit, payments made pursuant to this Order must be made by check referencing Stanco Metal Products, the EGLE Reference No. AOC-RRD-20-003, and the RRD Account Number RRD-50125. A copy of the transmittal letter and the check shall be provided simultaneously to:

As to EGLE:

Nancy Johnson, Project Manager
Grand Rapids District
Remediation and Redevelopment Division
Michigan Department of Environment, Great Lakes, and Energy
State Office Building, 5th Floor 350 Ottawa Avenue Northwest, Unit 10
Grand Rapids, Michigan 49503-2341
Phone: 616-550-0996
E-mail Address: JohnsonN@michigan.gov

and to MDAG at:

Megen Miller, Assistant Attorney General
Environment, Natural Resources, and Agriculture Division
Michigan Department of Attorney General
G. Mennen Williams Building, 6th Floor
P.O. Box 30755
Lansing, Michigan 48909
Phone: 517-373-7540
Email: MillerM59@michigan.gov

Costs recovered pursuant to this Order shall be deposited in the Environmental Response Fund in accordance with the provisions of MCL 324.20108(3).

3. The Respondents shall record the restrictive covenant(s) in the form attached as Attachment C or as otherwise approved by the Respondents and EGLE, for the respective parcels that each owns, with the Ottawa County Register of Deeds within thirty (30) days of the effective date of this order.

4. If the Respondents fail to make the full payment in accordance with Paragraphs 1 and 2 pursuant to the schedule set forth therein, the Respondents also shall pay EGLE interest on those unreimbursed costs at the rate specified in MCL 324.20126a(3). If Respondents' payment is more than thirty (30) days past due, the Respondents also shall pay EGLE stipulated penalties of $500.00 per day for every day of its noncompliance with Paragraphs 1 and 2 of this Order. If Respondents fail to record the restrictive covenant(s) as set forth in Paragraph 3, the Respondents shall pay EGLE stipulated penalties of $250.00 per day for every day of its noncompliance with Paragraph 3 of this Order.

5. In consideration of the payments to be made and the recording of restrictive covenant(s) by the Respondents under the terms of this Order, except as otherwise provided in this Order, the State covenants not to sue or to take further administrative action against the Respondents and, in their individual capacity, Respondents' officers, directors, shareholders, members, managers, employees, and agents, to compel performance of response activities or to recover any costs that may be incurred by EGLE for response activities as it relates to the Respondents' liability under Part 201 for Known Past Releases at the Facility, and any migration and degradation products of such Known Past Releases. The covenant not to sue shall take effect upon Respondents' satisfaction of the obligations in Paragraphs 1, 2, 3 and 4. The covenant not to sue applies only to the Known Past Releases defined in Paragraph 1 and any migration and degradation products of such Known Past Releases, and shall not be construed as a release of any other liability for the Facility that the Respondents may have. The covenant not to sue extends only to the Respondents and, in their individual capacity, Respondents' officers, directors, shareholders, members, managers, employees, and agents, as described in this Paragraph, and does not extend to any other person.

6. Nothing in this Order shall be construed as releasing or discharging any liability of any person to the Respondents and the Respondents specifically reserves their respective rights against such persons.

7. The Respondents agree that all applicable statutes of limitation are tolled until the Respondents have complied with Paragraphs 1, 2, 3, and 4 of this Order.

8. Subject to the covenant not to sue provided in Paragraph 5 and except as otherwise provided in this Order, the State reserves all of its rights under state and federal law to perform response activities and to take enforcement action, including action to seek injunctive relief; the recovery of response activity costs not addressed by this Order; the recovery of natural resource damages and costs incurred to assess natural resource damages; stipulated penalties for any violation of this Order; liability for criminal acts; any issue addressed in MCL 324.20132(6); and any applicable due care responsibilities under federal law (statutory law or common law) or state law (statutory law or common law), including but not limited to MCL 324.20107a. The State expressly reserves all of its rights and defenses pursuant to any available legal authority to enforce this Order. The Respondents expressly reserve all of their rights and defenses with regard to the ownership and operation of the Property.

9. Nothing in this Order shall limit the power and authority of EGLE or the State of Michigan, pursuant to MCL 324.20119 and MCL 324.20137, as provided for under MCL 324.20132(8), to direct or order all appropriate action to protect the public health, safety, or welfare, or the environment; or to prevent, abate, or minimize a release or threatened release of hazardous substances, pollutants, or contaminants on, at, or from the Facility, but nothing in this Paragraph 9 limits or modifies the covenant not to sue or take any new or further administrative action in Paragraph 5.

10. Pursuant to MCL 324.20129(5), and to the extent provided in Paragraph 5, the Respondents shall not be liable for claims for contribution for the matters addressed in Paragraph 5 of this Order. Entry of this Order does not discharge the liability of any other person that may be liable under MCL 324.20126 or Sections 107 and 113 of the CERCLA, 42 U.S.C. Sections 9607 and 9613, to the extent allowable by law. Pursuant to MCL 324.20129(9), any action by both or either Respondent for contribution from any person not a party to this Order shall be subordinate to the rights

of the State if the State files an action pursuant to Part 201 of the NREPA or other applicable federal or state law.

11. This Order shall become effective on the date that the RRD Assistant Director signs this Order. All dates for the performance of obligations under this Order shall be calculated from the effective date of this Order. For the purposes of this Order, the term “day” shall mean a calendar day unless otherwise noted.

IT IS SO AGREED AND ORDERED BY:

Joshua M. Mosher, Assistant Director — 04/08/2021 (Date)
Remediation and Redevelopment Division
Michigan Department of Environment, Great Lakes, and Energy

/s/ *Megen E. Miller* — 4/8/2021 (Date)
Megen E. Miller (P78901)
Assistant Attorney General
Environment, Natural Resources and Agriculture Division
Michigan Department of Attorney General

IT IS SO AGREED BY:

Stanco Metal Products, Incorporated
2101 168th Avenue
Grand Haven, MI 49417

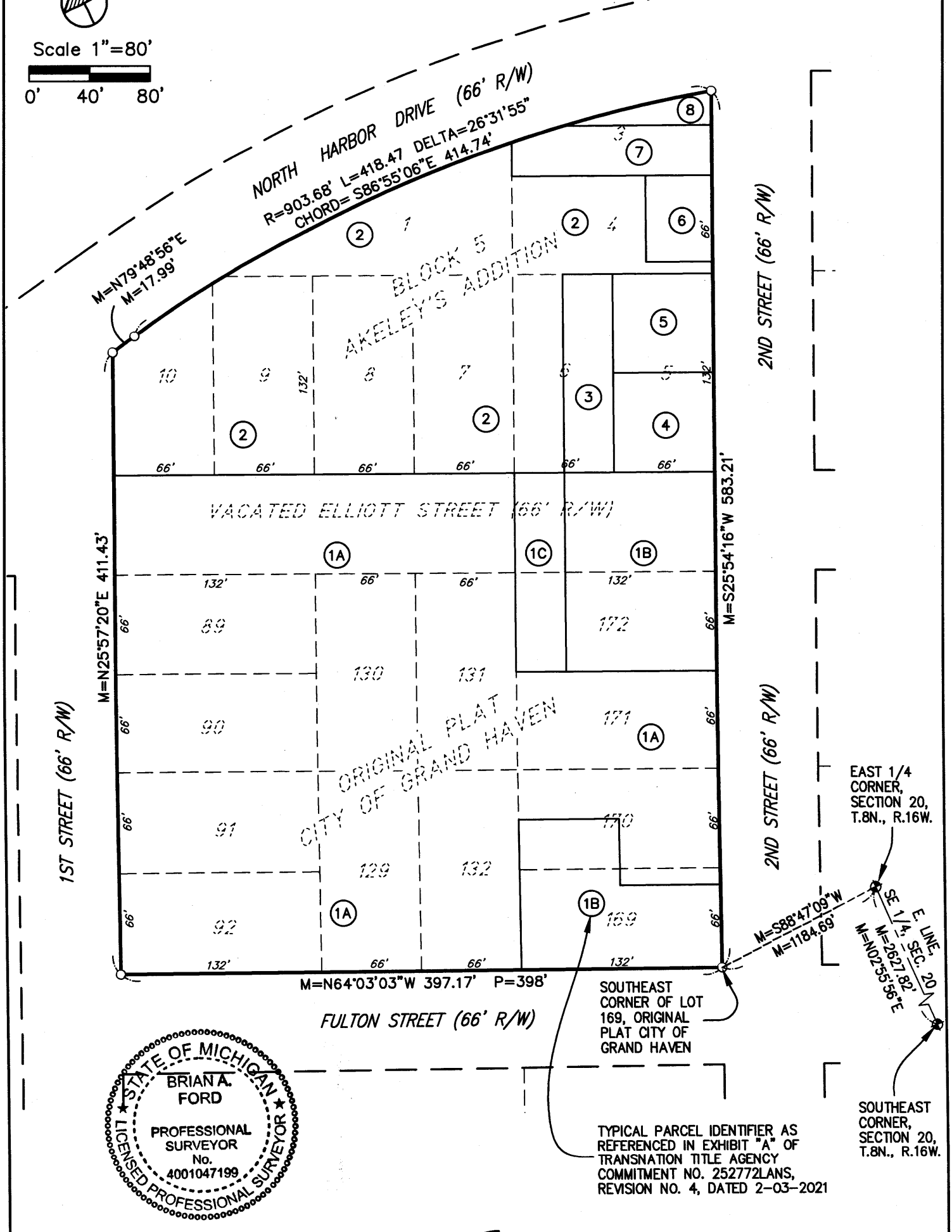
Signature — 4/8/2021 (Date)
Gerald L. Slagel, its Chief Operating Officer

SSS Leasing, LLC
2101 168th Avenue
Grand Haven, MI 49417

Signature — 4/8/2021 (Date)
Gerald L. Slagel, its Manager

ATTACHMENT A

Property Description



Brian A. Ford Professional Surveyor No. 4001047199

This survey was made from the legal description shown above. The description

LEGEND

☐ SET CON. MON

Milanowski and Englert
Engineering and Surveying
403 Oak Street – Spring Lake, Michigan 49456
Phone(616)847-4070 Fax(616)847-6626

Ottawa County, Michigan described as: All of Lots 89, 90, 91, 92, 129, 130, 131, 132, 169, 170, 171 and 172 of the Original Plat of the Village (now City) of Grand Haven, AND All of Lots 1, 3, 4, 5, 6, 7, 8, 9 and 10 of Block 5, Akeley's Addition to the City of Grand Haven lying South of North Harbor Drive, AND that portion of vacated Elliot Street adjacent to Lots 89, 130, 131 and 172, Original Plat of the Village (now City) of Grand Haven. (Also known as that portion lying between the Easterly line of 1st Street and the Westerly line of 2nd Street).

More Particularly Described As:
Land located in Section 20, Town 8 North, Range 16 West, City of Grand Haven, Ottawa County, Michigan described as: Commencing at the Southeast corner of Section 20; thence North 02 degrees 55 minutes 56 seconds East 2627.82 feet along the East line of the Southeast 1/4 of Section 20 to the East 1/4 corner of Section 20; thence South 88 degrees 47 minutes 09 seconds West 1184.69 feet to the Southeasterly corner of Lot 169, Original Plat of the Village (now City) of Grand Haven and the POINT OF BEGINNING; thence North 64 degrees 03 minutes 03 seconds West 397.17 feet along the Northerly line of Fulton Street as platted (66 feet wide) to the Southwesterly corner of Lot 92, Original Plat of the Village (now City) of Grand Haven and the Easterly line of 1st Street as platted (66 feet wide); thence North 25 degrees 57 minutes 20 seconds East 411.43 feet along the Easterly line of said 1st Street to the South line of North Harbor Drive (66 feet wide); thence the following two (2) courses being along the South line of North Harbor Drive (66' feet wide) North 79 degrees 48 minutes 56 seconds East 17.99 feet; thence along a curve to the right 418.47 feet, said curve having a radius of 903.68 feet, a delta angle of 26 degrees 31 minutes 55 seconds and a chord which bears South 86 degrees 55 minutes 06 seconds East 414.74 feet to the Westerly line of 2nd Street as platted (66 feet wide); thence South 25 degrees 54 minutes 16 seconds West 583.21 feet along the Westerly line of said 2nd Street to the point of beginning. Containing 4.71 acres.

Brian A. Ford Professional Surveyor No. 4001047199

Milanowski and Englert
Engineering and Surveying
403 Oak Street – Spring Lake, Michigan 49456
Phone(616)847-4070 Fax(616)847-6626

This survey was made from the legal description shown above. The description

LEGEND
☐ SET CON. MON

ATTACHMENT B

December 11, 2019 Environmental Report

PM ENVIRONMENTAL
Risk Well Managed

Environmental & Engineering Services Nationwide

ENVIRONMENTAL SERVICES

BUILDING ARCHITECTURE, ENGINEERING & SCIENCE

INDUSTRIAL HYGIENE SERVICES

BROWNFIELDS & ECONOMIC INCENTIVES CONSULTING

SUMMARY OF CONCEPTUAL SCENARIO AND CONCEPTUAL BUDGETARY COSTS FOR PURSUING NO FURTHER ACTION

105 Fulton Avenue | Grand Haven, Michigan
PM Project Number 01-10150-0-0009

Prepared for:

RiverCaddis Development, LLC
1038 Trowbridge Road
East Lansing, Michigan 48823

Prepared by:

PM Environmental, Inc.
560 5th Street NW, Suite 301
Grand Rapids, Michigan 49504

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Risk Well Managed

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
Chesterfield
Lansing

December 11, 2019

Ms. Darlene Pearson
Michigan Department of Environment, Great Lakes and Energy
Grand Rapids District Office
350 Ottawa Avenue NW, Unit 10
Grand Rapids, MI 49503-2341

Re: Summary of Conceptual Scenario and Conceptual Budgetary Costs for Pursuing No Further Action for the Property Located at 105 Fulton Avenue (125 Elliott Avenue) in Grand Haven, Michigan
PM Environmental, Inc. Project Number 01-10150-0-0009;

Dear Ms. Pearson:

On behalf of RiverCaddis Development, LLC, PM developed a conceptual scenario for investigating the extent of soil, groundwater and soil gas concentrations identified at the subject property, and pursuing a Limited Residential NFA determination from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) based on the current development of the subject property. Conceptual budgetary costs were also developed for the conceptual scenario.

The subject property is intended to be redeveloped with up to seven multi-residential buildings, a community building, and associated parking lot, and landscaping areas, which will meet the significant community need for such housing in the City of Grand Haven, improve aesthetics in the area, and enhance productive use of the subject property.

Soil, groundwater, and soil gas concentrations are present at the subject property exceeding the Part 201 Generic Cleanup Criteria (GCC) and/or site-specific Volatilization to Indoor Air Criteria (VIAC) issued by EGLE. Management and response activity requirements associated with the identified concentrations will result in development costs well above those typical to non-contaminated property. As such Brownfield funding, including state and local tax increment financing, as well as EGLE Brownfield Grant and Loan funding are being sought, and are critical to filling the financial gap that results from the contaminated site conditions, to make this project a reality.

The conceptual scenario and associated conceptual budgetary costs in this document are intended to be used for discussion purposes with EGLE to facilitate potential incentives eligibility for the proposed development, and determine a settlement value for NFA related activities.

DESCRIPTION AND BACKGROUND OF THE SUBJECT PROPERTY

The subject property consists of ten parcels containing a total of approximately 4.0 acres and is located south of North Harbor Drive, west of North 2nd Street, north of Fulton Street, and east of Jackson Street in Grand Haven, Michigan (Figure 1). Elliott Avenue divides the property, running generally east to west. The property is developed with three residential dwellings, each containing 744 to 1,476 square feet, and a commercial building containing 11,548 square feet that is currently utilized for unoccupied storage (Figure 2). Surface parking lots were present east of the commercial building and in the northwestern portion of the property. The dwellings are located in the northeastern portion of the property. The remainder of the property contains groomed grass.

The legal parcels and addresses associated with the subject property are listed in the table below:

Parcel ID Number	Street Address
70-03-20-279-017	125 Elliot Avenue
70-03-20-278-015	105 Fulton Avenue
70-03-20-278-006	215 North 2nd Street
70-03-20-278-005	132 Elliot Avenue
70-03-20-279-020	133 Elliot Avenue
70-03-20-279-019	309 North 2nd Street
70-03-20-279-008	311 North 2nd Street
70-03-20-279-025	317 North 2nd Street
70-03-20-279-024	No address
70-03-20-279-023	No address

Adjoining properties include a church (former radio and piano manufacturing facility) to the south, residential condominiums (former piano manufacturing facility and foundry) to the west, a city-owned parking lot and park with a vacant former coal tipple structure (former rail yard, coal yard, and railroad) to the north, and residential properties to the east.

Standard and other historical sources documented multiple residential dwellings, a hotel, and associated axillary buildings (sheds, garages, etc.) have been present on the property since at least 1883. All of the dwellings/axillary buildings, with the exception of the current dwellings, were demolished at various times between 1906 and 2012. The current dwellings (125 and 133 Elliott Avenue and 309 North 2nd Street) were constructed in 1908, 1910, and 1918 and have been utilized for residential purposes since construction. The northwestern portion of the property has been utilized for temporary surface parking since at least 1986.

A commercial building (historically located between 102 and 106 Elliott Avenue), which was present in at least 1883, was vacant of occupants in at least 1883, occupied by a saw shop in 1892, and vacant of occupants in at least 1899. A majority of the building was demolished by 1906 and the remainder was likely utilized for storage for an adjacent dwelling until it was demolished between 1931 and 1938.

The original portion of the commercial building (currently located at 105 Fulton Avenue), which was located in the southwestern portion of the property was constructed in 1920, with multiple additions through 1985. A majority of the building, with the exception of the current portion, was demolished in 2001. The buildings were occupied by Peerless Novelty Co. (a metal products manufacturer) from construction until at least 1976, was occupied by Stanco Metal Products Inc. (i.e. Stanco, a metal stamping business) from at least 1981 until the late 1980s, and the building has been vacant of occupants since that time.

A railroad track was installed, running form north to south, in the central portion of the property, was installed on the property by 1920 and was removed by 1986.

A former storefront building was constructed in the southeastern portion of the property between 1938 and 1949 and was demolished by 1968. The former building was occupied by a barber shop from at least 1956 until 1971, vacant of occupants in 1976, and a retail tenant in at least 1981.

A warehouse and an oil house building were constructed in the north-central portion of the property (north of Elliot Avenue) between 1949 and 1955 and were demolished by 1986.

A commercial building (formerly 120 Elliot Avenue) was present in the central portion of the property (south of Elliot Avenue) from at least 1950 until 1968. The former building was demolished by 1986. This building was occupied by a machine shop from at least 1950 until 1960 and vacant of occupants from at least 1963 to 1971.

PM completed a Phase I ESA, dated August 30, 2019 for the subject property, which identified the following onsite Recognized Environmental Condition (REC):

- The subject property was formerly occupied by various metal product manufacturing or metal stamping businesses from 1920 until the late 1980s. Previous site assessment activities completed in 2015 and 2018 document soil and groundwater contamination exists on-site above the current Part 201 Residential and Nonresidential 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 Environmental Protection Act (NREPA), as amended.

No adjoining and/or nearby RECs were identified in the August 2019 Phase I ESA. However, historical Sanborn maps reviewed during completion of that Phase I ESA and an earlier November 8, 2019 Phase I ESA prepared by PM documented historical manufacturing processes (metal plating, lacquer coating, gluing etc.) on the south and west adjoining properties, which were used for piano and radio manufacturing. Also, several properties located on the north and south sides of Fulton Avenue approximately one block west of the subject property were historically used for gasoline filling and/or vehicle/bus service operations.

The area north of Jackson Avenue was also historically used as a rail yard with coal storage and railroad right of way dating back to at least the turn of the 20th century.

Operations at these adjoining and nearby properties would have include the use, management, and storage of petroleum and other hazardous substances that could result in contaminant concentrations exceeding the Part 201/213 GCC and Risk-Based Screening Levels, if released.

SUMMARY OF PREVIOUS SITE INVESTIGATIONS

PM reviewed the following previous environmental reports for the subject property.

Name of Report	Date of Report	Company that Prepared Report
Draft Phase II ESA	10-16-2015	Environmental Resources Management, Inc. (ERM)
Phase I ESA	11-8-2018	PM
Phase II ESA	11-13-2018	

2015 Draft Phase II ESA

Review of the 2015 Draft Phase II ESA indicates locations for soil boring and monitoring wells were determined based on operations identified on Sanborn maps (historic plating and metal product manufacturing). Eight soil borings and four temporary monitoring wells were advanced/installed in the western and central portions of the property located south of Elliot Avenue and in the central portion of the property located north of Elliot Avenue. Eight soil samples and four groundwater samples were collected and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals (arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, selenium, silver, and zinc). VOCs (including trichloroethene (TCE), trimethylbenzene, and methyl chloride) and metals (cadmium, chromium, copper, manganese, and lead) exceeded Part 201 GCC in soil and/or groundwater at various locations on the subject property. Although the detected copper and manganese concentrations exceeded the Part 201 GCC for drinking water based on aesthetics, Health-Based Drinking Water values not exceeded.

Appendix A contains analytical tables and a sample location figure from the Draft 2015 Phase II ESA.

2018 Phase I ESA

At the time of the Phase I ESA, the subject property consisted of vacant land, with the exception of the dwellings at 125 and 133 Elliott Avenue and 309 North 2nd Street, and the warehouse at 105 Fulton Avenue. The Phase I ESA documented that the property was developed in at least 1883 for residential and commercial purposes.

The Phase I ESA identified on-site RECs associated with metal product manufacturing operations between at least 1920 and 1984, a warehouse and oil house building present on the subject property from between 1949 and 1955 until 1986, and the limited scope of the previous subsurface investigation. The Phase I ESA also identified one offsite REC associated with several properties to the south and west of the subject property which were occupied by a piano manufacturing company from 1901 until 1984.

2018 Phase II ESA

PM completed a subsurface investigation in November 2018 to assess the RECs identified in PM's Number 2018 Phase I ESA. Site assessment activities consisted of the advancement of 18 soil borings, the installation of 14 temporary monitoring wells to a maximum depth of 20.0 feet below ground surface (bgs), the installation of eight temporary soil gas sampling points, and the collection of soil, groundwater, and soil gas samples.

A total of 18 soil samples and 14 groundwater samples were submitted for laboratory analysis of VOCs, polynuclear aromatic compounds (PNAs), per- and polyfluoroalkyl substances (PFAS), cadmium, chromium, mercury, and selenium, or a combination thereof. The eight soil gas samples were submitted for laboratory analysis of VOCs.

Soil analytical results documented concentrations of VOCs including benzene and TCE at concentrations exceeding Part 201 Residential and Nonresidential GCC and the Residential site-specific VIAC issued by EGLE. Chromium, selenium, and mercury were identified above Part 201 GCC at various locations on the property.

With the exception of soil boring SB-1, where TCE was identified above the Part 201 Residential and Nonresidential DWP and Residential site-specific VIAC issued by EGLE, the identified soil mercury concentrations do not correlate to detections of other compounds (i.e. VOC, PFAS, etc.) that are indicative of a release. The mercury concentration at SB-1 (150 µg/Kg) only slightly exceeds the 130 µg/Kg default soil background concentrations, and is generally consistent with the typical range of data (25 to 600 µg/Kg) included in the EGLE Michigan Background Metals Survey (updated 2015). Therefore, the identified mercury soil concentrations do not appear to be associated with a release of mercury at the subject property.

Concentrations of the PFAS compounds PFOA and PFOS were identified in soil samples collected from within the commercial building above laboratory method detection limits (MDLs) and/or the Part 201 Groundwater Surface Water Interface Protection (GSIP) GCC.

Groundwater analytical results documented concentrations of various VOCs including TCE, cis-1,2-dichloroethene, vinyl chloride were at concentrations exceeding Part 201 Residential and Nonresidential GCC and/or the Residential site-specific VIAC issued by EGLE. Cadmium and chromium were identified above the Part 201 DW and/or GSI GCC. No mercury or selenium concentrations were identified in groundwater above laboratory MDLs.

A concentration of the PFAS compound PFOS was identified in the central portion at a concentration exceeding Part 201 Groundwater Surface Water Interface (GSI) GCC. A concentration of PFAS compound PFOA was also identified in the south-central portion above the laboratory MDL, but below the most restrictive Part 201 Residential GCC.

Soil gas analytical results documented concentrations of TCE in soil gas samples at the property above the Residential and/or Nonresidential site-specific VIAC developed by EGLE. Concentrations of 1,3-dichlorobenzene were also identified in the soil gas samples collected form the subject property above the Residential and Nonresidential site-specific VIAC but are not correlated to soil and groundwater concentrations and are thought to be associated with historical residential pest control product use, not an onsite release from the operations of Stanco.

Tables 1A, 2A, and 3A and Figures 3, 4A, 4B, and 5 include a summary of the analytical results from PM's 2018 Phase II ESA.

SUMMARY OF NOVEMBER 2019 SUBSURFACE INVESTIGATION

To further document the extent of soil, groundwater, and soil gas concentrations identified at the subject property during the previous investigations summarized above, determine whether other contamination unrelated to the subject property may be present, and facilitate preparation of this summary, PM conducted additional subsurface investigation activities in the public right of way areas adjoining the subject property to the north, south, east, and west.

Those activities included the advancement of soil borings to a maximum depth of 20.0 feet bgs in seven locations (SB-19 through SB-25); installing both shallow temporary monitoring wells to intersect the groundwater table and deeper temporary monitoring wells at the terminal depth of each soil boring (i.e. TMW-19S through TMW-25S and TMW-19D through TMW-25D); and installing temporary soil gas monitoring points at each location (SG-19 through SG-25). Refer to the attached Figures 3 through 5, which depict the November sampling locations along with a summary of the associated soil, groundwater, and soil gas analytical results.

A top of casing survey of the temporary monitoring wells was conducted using a total station and a benchmark set to an arbitrary elevation of 100-feet. Static groundwater elevations in each well were then measured, which documented that groundwater flow at the subject property and surrounding right of ways to the north (Figure 6).

Soil and groundwater samples collected from each location were submitted for laboratory analysis of VOCs, PNAs, and the metals cadmium, chromium, and mercury. Soil gas samples were submitted for laboratory analysis of VOCs. The attached Tables 1 through 3 provide a summary of the November 2019 soil, groundwater, and soil gas analytical results along with a comparison to the Part 201 GCC and site-specific VIAC issued by EGLE.

November 2019 Soil Analytical Results

Refer to Table 1B and Figure 3 for a summary of the November 2019 soil analytical results.

Soil analytical results identified concentrations of various petroleum VOCs in soil at soil borings SB-23 and SB-24 exceeding EGLE site-specific VIAC, with only the VOC species xylenes at SB-24 exceeding the Part 201 GSIP GCC. However, the petroleum VOCs concentrations identified in soil at those locations are generally higher than those detected on the subject property, including soil borings located hydraulically up gradient (i.e. PM soil borings SB-4 and SB-5). Therefore, the petroleum VOC concentrations identified at soil borings SB-23 and SB-24 are not associated with the subject property and likely result from long-term historical rail yard operations north of the subject property.

No chlorinated VOCs were identified above laboratory MDLs in any of the soil samples collected.

A concentration of chromium was identified in soil at soil boring SB-23 that exceeds the Part 201 GSIP cleanup criteria, and concentrations of mercury were identified at soil borings SB-21 through SB-23 exceeding the Part 201 GSIP cleanup criteria or site-specific VIAC developed by EGLE. However, due to the variable nature of the identified chromium and mercury concentrations and lack of consistently correlating concentrations of other compounds exceeding the Part 201 GCC or laboratory MDLs and because metals including mercury are commonly found in coal, the soil chromium and mercury concentrations are likely associated with the historical use of the area for rail operations, coal storage, and as a rail yard, and are not a result of contaminant migration from the subject property.

Concentrations of the PFAS compound PFOS were identified above the Part 201 GSIP GCC in soil borings SB-19 and SB-21 through SB-25. The PFOS concentration identified in soil at SB-19 (5.5 µg/kg) is significantly higher than PFOS concentrations identified at the subject property (maximum onsite concentration is 2.57 µg/kg at SB-18) and indicates that an up gradient source of PFAS compounds is present on the south adjoining property. The PFOS concentrations identified in soil in areas west (SB-21), north, (SB-22 through S-24), and east (SB-25) of the subject property is also indicative of area-wide PFAS concentrations that are not sourced from the subject property.

A concentration of the PFAS compound PFOA were also identified in soils at soil borings SB-19, SB-21, SB-22, SB-24, and SB-25 above laboratory MDL, but below the Part 201 GCC.

November 2019 Groundwater Analytical Results

Refer to Table 2B and Figures 4A and 4B for a summary of the November 2019 groundwater analytical results.

Concentrations of various chlorinated VOCs were identified in groundwater samples collected from temporary monitoring wells TMW-21S, TMW-21D, TMW-22S, TMW-22D, TMW-24S, TMW-24D, and TMW-25D exceeding the Part 201 Residential and Nonresidential DW cleanup criteria and site-specific Residential VIAC issued by EGLE.

Review of the detected VOC concentrations in temporary monitoring wells set with shallow well screens intersecting the groundwater table and comparison to VOC concentrations in deeper temporary monitoring wells indicates that there is not a consistent pattern of higher concentrations in shallow or deeper groundwater; therefore, the November 2019 groundwater VOC results are not indicative of "diving" plume conditions.

Temporary monitoring well TMW-25D is located side gradient of the subject property and does not exhibit chlorinated VOCs at concentrations consistent with those identified in groundwater on the eastern portion of the subject property (i.e. at TMW-5 and TMW-6). Therefore, it is likely that another up gradient source of chlorinated VOCs may exist from the TMW-25 area such as the former vehicle service garages historically present along Fulton Avenue, up gradient of TMW-25. Additional groundwater monitoring would be conducted to further document whether an up gradient source exists and its location (refer to the Conceptual Scenario for Pursuing No Further Action below).

The horizontal extent of VOC concentrations in groundwater exceeding the Part 201 GCC and site-specific Residential VIAC issued by EGLE have not been fully defined to the north, east, and west. However, groundwater VOC concentrations documented in groundwater samples collected at TMW-21S, TMW-21D, TMW-22S, TMW-22D, TMW-24S, TMW-24D, and TMW-25D do not exceed the Part 201 GSI cleanup criteria to the north, east, and west; therefore, the GSI pathway is unlikely complete for VOCs in groundwater. Further, due to the lack of building structures intended for occupancy on the north adjoining city owned park and parking lot properties, the vapor intrusion pathway is not complete on those properties.

Concentrations of the PFAS species PFOS were identified in groundwater samples collected from temporary monitoring wells TMW-19S, TMW-19D, TMW-20S, TMW-20D, and TMW-22D exceeding the Part 201 Residential and Nonresidential DW cleanup criteria and/or the Part 201 GSI cleanup criteria. A concentration of PFOS was also identified at TMW-21D above laboratory MDLs, but did not exceed the Part 201 GCC. No PFOA concentrations were identified in any of the groundwater samples exceeding laboratory MDLs.

The identified PFOS concentrations generally correlate with locations where elevated PFOS concentrations were identified in soil, including soil boring SB-19, where the greatest PFOS concentrations were identified in both soil (5.5 µg/kg) and groundwater (1.5 µg/L), indicating that a significant up gradient source of PFOA contamination is present on the south adjoining property. When the northern direction of groundwater flow in the subject property area and the locations where PFOA concentrations were identified in groundwater on the subject property are taken into account, the November 2019 groundwater results document that PFOS concentrations in groundwater sourced from the south adjoining property are migrating northward across the southern/western portion of the subject property and within the First Street right of way towards

the area of temporary monitoring well TMW-22D (Figure 4). The PFOS plume traversing the subject property from the south adjoining property is believed to be the source of PFOS concentrations at TMW-22D, not the subject property. Additional groundwater monitoring would be conducted as part of pursuing NFA to further document PFOA concentrations and concentration trends (refer to the Conceptual Scenario for Pursuing No Further Action below); however, the GSI pathway is not believed to be complete for PFOS as it pertains to the subject property.

Concentrations of mercury were identified in groundwater exceeding the Part 201 GSI cleanup criteria and/or the site-specific VIAC issued by EGLE at temporary monitoring well locations TMW19S, TMW-19D, TMW-20S, TMW-20D, TMW-23D, TMW-24S, TMW-24D, and TMW-25D. However, the detected mercury concentrations were all identified at a similar concentration (i.e., 0.2 to 0.3 µg/L and do not correlate to areas where elevated mercury concentrations were identified in soil. Therefore, mercury concentrations in groundwater are not believed to be associated with a mercury release at the subject property, as none were identified exceeding laboratory MDLs in groundwater samples collected on the subject property by PM. Rather they are likely an area-wide condition associated with long term historical coal yard, rail yard and railroad operations in areas surrounding the subject property, including the northern adjoining property.

No cadmium or chromium concentrations were identified above laboratory MDLs in any of the groundwater samples collected.

November 2019 Soil Gas Analytical Results

Refer to Table 3B and Figure 5 for a summary of the November 2019 soil gas analytical results.

Concentrations of various VOCs were identified above laboratory MDLs in the soil gas samples collected from temporary soil gas monitoring points SG-19 through SG-25; however, none of the identified concentrations exceed the site-specific Residential VIAC issued by EGLE.

EXPOSURE PATHWAY EVALUATION

The following exposure pathways were evaluated, including: groundwater ingestion, soil leaching to groundwater, groundwater surface water interface, direct contact, and ambient and indoor air inhalation from contaminated soil and groundwater. The elimination of exposure pathways demonstrates that unacceptable exposures do not exist and that response activities are not required to prevent or mitigate unacceptable exposures.

Site-specific VIAC issued by EGLE were used to evaluate the vapor intrusion pathway as it relates to the soil, groundwater, and soil gas samples collected by PM.

The subject property is currently occupied by one commercial building used for unoccupied storage, and three residential buildings. However, the property intended to be redeveloped with up to seven multi-residential buildings, a community building, and associated parking lot, and landscaping areas.

No restrictive covenants or land use restrictions exist in association with the subject property. Based upon the current and planned Residential use of the subject property, the Part 201 Residential GCC are applicable to the subject property.

As indicated on Page 2, adjoining properties include a church (former radio and piano manufacturing facility) to the south, residential condominiums (former piano manufacturing facility and foundry) to the west, a city-owned parking lot and park with a vacant former coal tipple structure (former rail yard, coal yard, and railroad) to the north, and residential properties to the east. No restrictive covenants or land use restrictions are known to exist in association with those adjoining properties. Therefore, the Part 201 Residential GCC are currently applicable to those adjoining properties.

Relevant Exposure Pathway?		
Pathway	**Yes/No**	**Justification**
Groundwater Ingestion	Yes	• Municipal water is provided to the subject property and all adjoining properties; • No drinking water supply wells are known to be present on the subject property or adjoining properties; • Groundwater is present within a shallow sand aquifer with a thickness greater than 5 feet; • Unless a Restrictive Covenant (RC) is filed with the County Registrar of Deeds, an alternate institutional control is implemented in association with adjoining right of ways, or an ordinance is passed that prohibits the installation of water supply wells, the groundwater ingestion pathway will remain relevant and the associated DW/DWP cleanup criteria will remain applicable to the subject property and adjoining properties; • Therefore, pursuit of NFA would include recording an RC on the subject property and impacted adjoining properties, implementing an alternate institutional control, or passage of an ordinance prohibiting the installation of water supply wells and the use of groundwater for any purpose at those locations.
Groundwater Surface Water Interface	Yes	• Groundwater beneath the subject property is representative of an aquifer and has been documented to flow to the north, towards the Grand River, which is located within 500-feet north of the subject property and is the presumed discharge point for shallow groundwater in the subject property area. • Therefore, the GSI pathway is relevant and the Part 201 GSI/GSIP cleanup criteria are applicable to the subject property and adjoining properties. • VOC concentrations in groundwater are delineated to within the Part 201 GSI cleanup criteria within right of way areas surrounding the subject property such that the GSI pathway is not complete for VOCs. • Further, PFOS concentrations in groundwater in right of way areas surrounding the subject property are associated with a migrating PFOS plume sourced from the south adjoining property that traverses the southern and western portions of the subject property and is the source of PFOS concentrations in groundwater at TMW-22D. Therefore, the GSI pathway is not believed to be complete for PFOS as it pertains to the subject property. • Although, groundwater concentrations associated with a release at the subject property have not been documented to be venting to the Grand River, pursuit of NFA would include additional groundwater monitoring to document the stability of groundwater concentrations associated with the subject property and that groundwater concentrations sourced from the subject property are not venting to the Grand River above the Part 201 GSI cleanup criteria.

Relevant Exposure Pathway?		
Pathway	**Yes/No**	**Justification**
Indoor Air Inhalation	Yes	• Concentrations of various VOCs were identified in soil and groundwater on the subject property and within the adjoining road right of ways to the west, north, and east exceeding the site-specific Residential VIAC issued by EGLE. • No VOC concentrations were identified in the adjoining right of ways exceeding the site-specific Residential VIAC issued by EGLE. • Concentrations of VOCs were also identified in soil gas samples collected from the subject property exceeding the site-specific Residential VIAC issued by EGLE. • Based on the soil, groundwater, and soil gas concentrations identified, and the presence of building structures within 100-feet of those concentrations, the indoor air inhalation pathway is relevant and site-specific VIAC issued by EGLE are applicable to the subject property and adjoining properties. • Pursuit of NFA would include additional groundwater and soil gas monitoring to document whether a potential vapor intrusion condition exists on adjoining properties; recording a RC that prohibits the construction of additional building structures without an evaluation of the vapor intrusion pathway, and/or implementation of vapor controls on buildings to preclude vapor intrusion. If vapor controls were implemented, they would also be included in a recorded restrictive covenant that required operation and maintenance of those controls.
Ambient Air Volatile Soil/Particulate Soil Inhalation	Yes	• The Volatile Soil Inhalation (VSI) and Particulate Soil. Inhalation (PSI) pathways are relevant and the associated cleanup criteria are relevant; however, no VSI or PSI exceedances were identified in association with a release at the subject property.
Direct Contact	Yes	• The direct contact pathway is relevant and the associated cleanup criteria are applicable; however, no DC exceedances were identified in soil.

OTHER PATHWAYS	
Migration Via Utility Corridors	Utility corridors on and adjacent to the subject property may represent pathways for contaminant migration. However, based the predominantly sand geology and continuous nature of groundwater, utility corridors are unlikely to act as a preferential migration pathways.
Fire and Explosion Hazards	No compounds were identified above the flammability and explosively screening levels, and no Non-Aqueous Phase Liquid (NAPL) was identified in any of the temporary monitoring wells installed at the subject property and in the adjoining right of ways.

CONCEPTUAL SCENARIO FOR PURSUING NO FURTHER ACTION AND CONCEPTUAL BUDGETARY COST ESTIMATES

As indicated above, subsurface investigations conducted at the subject property documented the presence of soil, groundwater, and soil gas concentrations at the subject property, the full horizontal and vertical extent of which has not been defined to within Michigan's Part 201 Residential and Nonresidential GCC or site-specific VIAC. Also the stability of the groundwater and soil gas concentrations has not yet been documented.

As requested by EGLE, PM evaluated a conceptual scenario under which a Limited Residential NFA determination could potentially be pursued for the current development of the subject property, which is based upon an assumed conceptual extent of soil, groundwater, and soil gas concentrations associated with releases at the subject property. Conceptual budgetary costs were also developed for discussion purposes with EGLE.

The scenario includes the following:

- Limited Residential NFA for the current development with contamination sourced from the subject property confined to the subject property and adjoining right of ways, and limited offsite migration to the west adjoining residential property, across North First Street, and limited offsite migration onto the north adjoining property, with no contamination venting to surface water exceeding the Part 201 GSI cleanup criteria.

As indicated in the summary of soil and groundwater analytical results above, mercury concentrations in soil and groundwater are not associated with a mercury release at the subject property; therefore, NFA will not be pursued for mercury and no response activities have been proposed for mercury.

Also, PFAS concentrations, including PFOS, in groundwater sourced from the south adjoining property are migrating northward across the southern/western portions of the subject property and within the First Street right of way towards the area of temporary monitoring well TMW-22D. The PFOS plume traversing the subject property from the south adjoining property is believed to be the source of PFOS concentrations at TMW-22D, not the subject property. Although soil and groundwater sampling and monitoring activities would be conducted to pursue NFA, and would include PFAS, the GSI pathway is not believed to be complete for PFOS as it pertains to the subject property. Therefore, no response activities will be required, and none have been proposed for PFOS as it pertains to the GSI pathway.

TCE concentrations in groundwater at TMW-25D, which is located side gradient from the subject property are not believed to be associated with the subject property and are likely due to another up gradient source of chlorinated VOCs such as former vehicle service garages historically present along Fulton Avenue, up gradient of TMW-25. Additional groundwater monitoring would be conducted to further document whether an up gradient source exists and its location (refer to the Conceptual Scenario for Pursuing No Further Action below). However, no other response activities beyond monitoring have been proposed.

The following subsections outline conceptual investigation and response activities to pursue NFA, including contingency actions and present associated conceptual budgetary costs.

Conceptual Scenario: Limited Residential No Further Action - Current Development - Contamination Confined to Site, Adjoining Right of Ways, and Limited Areas of the West and North Adjoining Properties

Under this conceptual scenario, it is assumed that the extent of soil, groundwater and soil gas concentrations associated with the subject property are defined to onsite locations, adjoining right of ways and limited areas of the west adjoining property and north adjoining property.

It must be noted that the south and west adjoining properties were historically used as a foundry, for radio manufacturing (includes metal plating operations), and for long-term piano

manufacturing, and the north adjoining property used as a rail yard, coal yard, and railroad right of way. Those uses would have included the use, storage, and management of a variety of potentially polluting substances including petroleum products, paints/varnishes, plating line vapor suppressants, coal metals, etc. Concentrations of various compounds (VOCs, PFAS, etc.) have been documented in road right of way areas immediately adjacent to those properties. Therefore, if concentrations exceeding the Part 201 GCC and/or site-specific VIAC are documented to be present on the adjoining properties they may not be sourced from the subject property.

The following tasks would be completed to pursue a Limited Residential NFA determination under this scenario:

Task 1A: Soil, Groundwater, and Soil Gas Delineation and Monitoring Well/Point Installation

To delineate the extent of contamination and provide a means for monitoring that extent over time, the following additional investigation activities would be completed:

- Advance up to twenty two (22) soil borings using a direct push drill rig to a maximum depth of 30-feet and install up to twenty two (22) shallow permanent monitoring wells (2" diameter, 10-foot maximum depth) to intersect the groundwater table. These soil borings and monitoring wells will serve to delineate the horizontal extent of soil and groundwater contamination, and the vertical extent of contamination if clay is present at the terminal depth of each soil boring (i.e. via the collection of deeper clay samples using discrete/dual-tube methods), and to act as monitoring points in a groundwater monitoring program. In combination with the deeper monitoring wells summarized in the next bulleted item below, these soil borings and monitoring wells will also serve to document the stability of groundwater concentrations and to document whether other up gradient sources of contamination are present south of SB/TMW-25.

- Install up to nineteen (19) deeper permanent monitoring wells (2" diameter, 30-foot maximum depth) to define and monitor the vertical extent of groundwater contamination. These wells would be installed as co-located pairs with eighteen of the shallow monitoring wells. These monitoring wells would be surveyed along with the shallow wells relative to a common benchmark to establish top of casing elevations for use in documenting both the groundwater flow direction and vertical gradients.

- Install up to twenty soil gas monitoring points and up to three (3) additional sub-slab soil gas monitoring points on the subject property, and up to nine (9) additional sub-slab soil gas monitoring points on the west adjoining property to delineate, document and monitor soil gas concentrations onsite, within the surrounding road right of ways, and on the west and north adjoining properties.

- The soil and groundwater samples would be submitted for laboratory analysis of VOCs, PFAS, and the metals specie cadmium, chromium, selenium.

  Soil gas samples would be analyzed for VOCs.

- Following installation and sampling of the soil borings, monitoring wells, and soil gas points, a summary report would be prepared outlining the results of the laboratory

analysis, documented plume extents, and recommendations for actions required to pursue and obtain a Limited Residential No Further Action (NFA) Determination from EGLE.

Refer to the attached Figure 7, which depicts the conceptual soil boring, monitoring well, and soil gas point locations.

Task 2A: Groundwater and Soil Gas Monitoring

To document that the groundwater and soil gas plume are stable and/or decreasing, and to document seasonal trends, up to five monitoring events would be completed, and would include the installed groundwater monitoring wells and soil gas monitoring points.

- During the first year following the initial Task 1A delineation and sampling activities, three additional quarterly monitoring events would be conducted such that in combination with the original delineation sampling, four continuous quarters of monitoring data would be generated to document seasonal concentration and groundwater elevation trends.

  Groundwater samples would be submitted for laboratory analysis of VOCs, PFAS, and the metals specie cadmium, chromium, selenium, with the potential for those analytes to be reduced over time on an analyte or monitoring point location basis if adequate plume stability was documented or if contamination is documented to be from an offsite source. Due to the documented offsite sources of PFAS concentrations in soil and groundwater in November 2019, PFAS will not be included in the groundwater sampling program other than in monitoring wells located in areas north and east of the onsite commercial building unless a trend of increasing concentrations is identified.

- Following each quarterly event, a data package/summary would be issued to EGLE, with an annual status report also issued to EGLE following the final quarterly monitoring event.

- Assuming that plume stability is documented during the initial year of monitoring and that no vapor intrusion condition is identified for onsite or nearby receptors, the monitoring frequency would be decreased to bi-annual (i.e. every six months) and two additional monitoring events would be completed.

- Similar to the quarterly monitoring events, a data package/summary would be issued to EGLE following the first bi-annual monitoring event, with an annual status report also issued to EGLE following the second bi-annual monitoring event.

Task 3A: Implementation of Institutional Controls and NFA Report Preparation

If the groundwater and soil gas plumes remained stable and/or decreasing, monitoring activities would cease and a Limited Residential NFA report would be prepared. It is assumed that NFA would be pursued for all contamination resulting from releases at the subject property and the full extent of contamination associated with the subject property.

The NFA report would include the following elements, the preparation and/or implementation of which may be conducted concurrently with Task 2A:

- A summary of all investigation, monitoring and response activities conducted to address contamination associated with the subject property.

- A Restrictive Covenant for the subject property and north adjoining city-owned property that restricts the installation and use of water supply wells; requires that all future building structures be equipped with vapor barriers or that the vapor intrusion pathway be evaluated prior to construction; and requires that soil and groundwater sourced from the subject property be appropriately characterized and managed (i.e. during construction or if disturbed, etc.). Other restrictions may also be required depending on the use and development of the subject property at the time NFA is sought.

- Targeted alternate institutional controls approved by the City of Grand Haven and/or the County Road Commission to allow contamination to remain in the adjoining road right of ways and to ensure proper management of contaminated media during future construction.

- Implementation of an area-wide groundwater ordinance precluding the installation and use of water supply wells in the area of the groundwater plume associated with the subject property. As an alternate, or in conjunction with the ordinance, targeted restrictive covenants could also be implemented with the permission of impacted offsite properties to the east and west (if any and if required) that would prevent water supply well installation/use, and could include other provisions similar to the onsite restrictive covenant and the restrictive covenant for the north adjoining property.

- A Postclosure Plan for managing any controls implemented as response activities to address onsite or offsite contamination (see Contingencies below); abandoning or removing all monitoring wells/points at the subject property or in adjoining areas and properties; and any record keeping and reporting activities required in a Postclosure Agreement brokered with the State of Michigan/EGLE.

- A Postclosure agreement and an associated Financial Assurance Mechanism (if applicable) for any ongoing operation, maintenance, and reporting activities needed to ensure the effectiveness of engineering controls implemented as Response Activities to address contamination sourced from the subject property.

Contingencies

Although monitoring may document that the extent of contamination is confined to the subject property, immediate right of ways and/or the north and west adjoining properties with no complete pathways to offsite receptors, it is possible that response activities may be required to address a potential vapor intrusion condition related to groundwater and soil gas plumes associated with the subject property. Therefore, contingency costs have been outlined below for vapor mitigation:

<u>Vapor Intrusion to Onsite Structures</u>

The three onsite residential structures are intended to be disused and demolished as part of the proposed redevelopment. Even if redevelopment did not occur, due to their age and condition, the most likely scenario would be to maintain them in a vacant state and/or demolish them if a vapor intrusion condition was identified.

Similarly, the onsite commercial building is vacant and has not been used for an extended number of years. There are no plans to use or occupy the building, which is also slated to be demolished as part of the proposed redevelopment.

Based on the above, no contingency vapor mitigation costs have been proposed or developed for the buildings present at the subject property.

Vapor Intrusion to Offsite Residential Structures (up to $180,000)

A potential scenario is offsite migration to the west adjoining property, which is currently occupied by a multi-residential building. If a vapor intrusion condition is present there that is attributable to a release at the subject property, targeted vapor mitigation systems could be installed to prevent vapor intrusion.

Assuming that no more than six residential units were impacted, and that each unit has a first floor area equal to or less than 1,000 square feet, a sub-slab depressurization system or similar vapor barrier could be installed each unit at an estimated cost of $30,000 per unit ($180,000 total). Operation and maintenance costs, and electrical costs for operation of the system following installation are not included in the estimated per system value.

If vapor mitigation systems are installed, they would be incorporated into Restrictive Covenants, Postclosure Plans and Postclosure Agreements prepared as part of NFA reporting, including any required operation and maintenance/monitoring activities.

SUMMARY OF CONCEPTUAL BUDGETARY COSTS

The following conceptual budgetary costs were developed for the Task 1 through Task 3A, and contingency actions above:

Task	Conceptual Budgetary Cost
Task 1A: Delineation and Monitoring Well/Point Installation	$143,500
Task 2A: Groundwater and Soil Gas Monitoring[1]	$172,000
Task 3A: Institutional Controls and NFA Preparation[2]	$35,000
Conceptual Budgetary Total	$350,500
Contingency Costs[3]	$180,000
Conceptual Budgetary Total with Contingency Costs	$530,500

1 Assumes that all monitoring points will be monitored during every event and that all parameters (PFAS, VOCs, metals) will be included.
2 Excludes legal fees and the value of a financial assurance mechanism (if required).
3 If required

PROPOSED VALUE FOR SETTLEMENT PURPOSES

A proposed settlement value is proposed below for discussion with EGLE.

Although soil, groundwater, and soil gas sampling and monitoring well/point installation activities would be conducted to pursue NFA for releases at the subject property and to further document

the extent of contamination, response activities will not be conducted and NFA will not be sought for contamination sourced/migrating from offsite sources, including PFAS contamination unrelated to the subject property.

The cost of environmental site assessment and investigation, and consulting activities conducted at the subject property in 2018 and 2019 exceeds $120,000, with the cost of the investigation activities completed in November 2019, to facilitate preparation of this summary, comprising $40,000 of that value. While the November 2019 investigation provided important information regarding the extent and magnitude of contamination associated with releases on the subject property and identified other offsite sources of soil and groundwater contamination, the data could have been obtained as part of the conceptual NFA investigation activities outlined in Task 1A above.

VOC concentrations were not identified in soil gas samples collected from temporary soil gas monitoring points SG-19 through SG-25, which were installed in right of way areas, including adjacent to residential structures present on the west adjoining property in November 2019. Although soil borings, monitoring wells, and soil gas sampling points would be installed and sampled to pursue NFA, soil gas concentrations in SG-19 through SG-25 did not exceed the site-specific Residential VIAC issued by EGLE and did not document an immediate vapor intrusion condition to adjoining structures. Therefore, the contingency vapor mitigation scenario and associated costs ($180,000) outlined in this summary may not be needed.

As summarized in the conceptual budgetary cost summary above, a conceptual non-contingency cost of up to $350,500 was estimated for NFA activities, excluding contingencies. Because activities that would have otherwise been included in Task 1A were conducted in November 2019 ($40,000), a settlement value of $310,500 is proposed.

PM looks forward to meeting with the EGLE team and appreciates the opportunity to discuss a path forward to redevelopment of the subject property.

Sincerely,
PM ENVIRONMENTAL, INC.

J. Adam Patton, CHMM
National Manager - Site Investigation Services

Attachments:

TABLES

Table 1A: Summary of 2018 Soil Analytical Results
Table 1B: Summary of 2019 Soil Analytical Results
Table 2A: Summary of 2018 Groundwater Analytical Results
Table 2B: Summary of 2019 Groundwater Analytical Results
Table 3A: Summary of 2018 Soil Gas Analytical Results
Table 3B: Summary of 2019 Soil Gas Analytical Results

FIGURES

Figure 1: Property Vicinity Map
Figure 2: Generalized Diagram of the Subject Property and Adjoining Properties
Figure 3: Generalized Diagram of the Subject Property and Adjoining Properties with 2018 and 2019 Soil Analytical Results
Figure 4A: Generalized Diagram of the Subject Property and Adjoining Properties with 2018 and 2019 Groundwater Analytical Results – Extent of Groundwater Concentrations Excluding PFAS and Mercury
Figure 4B: Generalized Diagram of the Subject Property and Adjoining Properties with 2018 and 2019 Groundwater Analytical Results – Extent of Groundwater PFAS Concentrations
Figure 5: Generalized Diagram of the Subject Property and Adjoining Properties with 2018 and 2019 Soil Gas Analytical Results
Figure 6: Groundwater Potentiometric Surface Map
Figure 7: Generalized Diagram of the Subject Property and Adjoining Properties with Conceptual Sampling Locations

APPENDICES

Appendix A: Analytical Table and Figure from Draft 2015 Phase II ESA

cc:

Mr. Kevin McGraw, RiverCaddis Development, LLC
Mr. Richard Barr, Honigman, LLP

Tables

PM ENVIRONMENTAL Environmental & Engineering Services

tile Organic Compounds (VOCs), ar Aromatic Compounds (PNAs), Metals (µg/Kg) and d Polyfluoroalkyl Substances (PFAS) (ng/Kg)		Benzene	2-Methylnaphthalene	Toluene	Trichloroethene	Xylenes	Other VOCs	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Other PNAs	PFOA	PFOS	Other PFAS	Cadmium	Chromium
cal Abstract Service Number (CAS#)		71432	91576	108883	79016	1330207	Various	56553	50328	205992	191242	207089	218019	206440	193395	85018	129000	Various	335671	1763231	Various	7440439	16065
Sample Date	Sample Depth (feet bgs)	VOCs (µg/Kg)						PNAs (µg/Kg)											PFAS (ng/Kg)				Mo
09/10/2018	6.0-7.0	<60	<100	<60	**110**	<160	<MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<200	1,1
09/10/2018	1.0-2.0	<50	<100	<50	**550**	<150	<MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	950	**37,0**
09/11/2018	3.5-4.5	<90	<200	<90	<90	<290	<MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	8,1
09/11/2018	1.5-2.5	<50	<100	<50	<50	<150	<MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<200	74
09/11/2018	1.5-2.5	<60	<100	<60	<60	<160	<MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200	1,0
09/11/2018	4.0-5.0	<50	<100	80	<50	<150	<MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<200	80
09/10/2018	5.0-6.0	<50	<100	<50	<50	<150	<MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<200	<5
09/10/2018	4.0-5.0	<60	<100	<60	<60	<160	<MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	400	2,0
09/10/2018	4.5-5.5	<50	<100	<50	<50	<150	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<MDL	NA	NA	NA	<200	<5
09/10/2018	3.0-4.0	<60	<100	<60	<60	<160	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<MDL	NA	NA	NA	<200	4,8
09/11/2018	1.5-2.5	<50	<100	<50	<50	<150	<MDL	1,200	1,900	2,800	1,100	3,700	1,500	2,500	1,100	1,300	2,300	<MDL	NA	NA	NA	2,820	7,6
09/11/2018	3.5-4.5	<100	400	200	**10,000**	200	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<MDL	NA	NA	NA	240	5,8
09/11/2018	1.5-2.5	<50	<100	<50	<50	<150	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<MDL	NA	NA	NA	860	**44,3**
09/11/2018	3.5-4.5	<200	<300	<200	<200	<500	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<MDL	NA	NA	NA	1,700	12,0
09/11/2018	4.0-5.0	<100	<200	<100	<100	<300	<MDL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	790	14,1
09/10/2018	2.0-3.0	**130**	<100	<50	<50	<150	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<MDL	31	103	<MDL	<200	85
09/10/2018	6.5-7.5	<60	<100	<60	<60	<160	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<MDL	<26	410	<MDL	<200	2,7
09/10/2018	6.0-7.0	<50	<100	<50	<50	<150	<MDL	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<MDL	<26	2,570	<MDL	<200	2,9

Cleanup Criteria Requirements for Response Activity (R 299.1 - R 299.50)
Generic Soil Cleanup Criteria Tables 2 and 3: Residential and Non-Residential Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based Screening Levels, December 30, 2013; Michigan Background Soil Survey 2005; and EGLE Site-Specific Volatilization to Indoor Air Criteria (September 5, 2019)

Residential (µg/Kg)																							
und Levels	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,200	18,0
und Concentrations	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NL	50-2,500	1,400-5
(Res DWP)	100	57,000	16,000	100	5,600	Various	NLL	NLL	NLL	NLL	NLL	NLL	7.30E+05	NLL	56,000	4.80E+05	Various	NL	NL	NL	6,000	30,0
r Interface Protection (GSIP)	4,000 {X}	4,200	5,400	4,000 {X}	820	Various	NLL	NLL	NLL	NLL	NLL	NLL	5,500	NLL	2,100	ID	Various	NL	NL	NL	3,000 {G,X}	3,3
r Air Inhalation (Res SVII)	1,600	2.70E+06	3.3E+05 {C}	1,000	6.3E+06 {C}	Various	NLV	NLV	ID	NLV	NLV	ID	1.0E+9 {D}	NLV	2.8E+06	1.0E+9 {D}	Various	NL	NL	NL	NLV	NL
e Volatile Soil Inhalation (Res VSI)	13,000	1.50E+06	2.80E+06	11,000	4.60E+07	Various	NLV	NLV	ID	NLV	NLV	ID	7.40E+08	NLV	1.60E+05	6.5E+08	Various	NL	NL	NL	NLV	NL
5 Meter Source Thickness	34,000	1.50E+06	5.10E+06	25,000	6.10E+07	Various	NLV	NLV	ID	NLV	NLV	ID	7.4E+08	NLV	1.60E+05	6.5E+08	Various	NL	NL	NL	NLV	NL
2 Meter Source Thickness	79,000	1.50E+06	1.20E+07	57,000	1.30E+08	Various	NLV	NLV	ID	NLV	NLV	ID	7.4E+08	NLV	1.60E+05	6.5E+08	Various	NL	NL	NL	NLV	NL
il Inhalation (Res PSI)	3.80E+08	8.70E+08	2.70E+10	1.30E+08	2.90E+11	Various	ID	1.5E+06	ID	8.0E+08	ID	ID	9.3E+09	ID	6.7E+06	6.7E+09	Various	NL	NL	NL	1.70E+06	2.60E
	1.80E+05	3.10E+06	5.0E+07 {C}	5.0E+5 {C,DD}	4.1E+08 {C}	Various	20,000	2,000	20,000	2.5E+06	2.00E+05	2.0E+06	4.6E+07	20,000	1.6E+06	2.9E+07	Various	NL	NL	NL	5.50E+05	2.50E
Nonresidential (µg/Kg)																							
(Nonres DWP)	100	1.70E+05	16,000	100	5,600	Various	NLL	NLL	NLL	NLL	NLL	NLL	7.30E+05	NLL	1.60E+05	4.80E+05	Various	NL	NL	NL	6,000	30,0
r Air Inhalation (Nonres SVII)	8,400	4.90E+06	6.1E+05 {C}	1,900	1.2E+07 {C}	Various	NLV	NLV	ID	NLV	NLV	ID	1.0E+9 {D}	NLV	5.1E+06	1.0E+9 {D}	Various	NL	NL	NL	NLV	NL
e Volatile Soil Inhalation (Nonres VSI)	45,000	1.80E+06	3.30E+06	14,000	5.40E+07	Various	NLV	NLV	ID	NLV	NLV	ID	8.9E+08	NLV	1.90E+05	7.8E+08	Various	NL	NL	NL	NLV	NL
5 Meter Source Thickness	99,000	1.80E+06	3.60E+07	25,000	6.50E+07	Various	NLV	NLV	ID	NLV	NLV	ID	8.8E+08	NLV	1.90E+05	7.8E+08	Various	NL	NL	NL	NLV	NL
2 Meter Source Thickness	2.30E+05	1.80E+06	3.60E+07	58,000	1.30E+08	Various	NLV	NLV	ID	NLV	NLV	ID	8.8E+08	NLV	1.90E+05	7.8E+08	Various	NL	NL	NL	NLV	NL
il Inhalation (Nonres PSI)	4.70E+08	2.90E+08	1.20E+10	5.90E+07	1.30E+11	Various	ID	1.9E+06	ID	3.5E+08	ID	ID	4.1E+09	ID	2.9E+06	2.9E+09	Various	NL	NL	NL	2.20E+06	2.40E
)	8.40E+05 {C}	2.60E+07	1.6E+08 {C}	6.6E+05 {C,DD}	1.0E+09 {C}	Various	80,000	8,000	80,000	7.0E+06	8.00E+05	8.0E+06	1.3E+08	80,000	5.2E+06	8.4E+07	Various	NL	NL	NL	2.10E+06	9.20E
Screening Levels (µg/Kg)																							
ion Screening Levels (Csat)	4.00E+05	NA	2.50E+05	5.00E+05	1.50E+05	Various	Various	Various	Various	Various	Various	Various	Various	Various	Various	Various	Various	NL	NL	NL	NA	NA
EGLE Restricted Residential Site-Specific Volatilization to Indoor Air Criteria (VIAC)1																							
-Specific VIAC	1.7	1,700	3,700	0.33	280	Various	1.60E+05	NV	NV	NV	NV	NV	NV	NV	DATA	2.50E+07	NV	NV	NV	NV	NA	NA
EGLE Unrestricted Site-Specific Volatilization to Indoor Air Criteria (VIAC)2																							
te-Specific VIAC	1.7	1,700	3,700	0.33	280	Various	1.60E+05	NV	NV	NV	NV	NV	NV	NV	DATA	2.50E+07	NV	NV	NV	NV	NA	NA

] Criterion Exceeded
Value Exceeds Criterion
Below Ground Surface (feet)
] Other Alpha notation, please refer to MDEQ Footnotes R 299.49 Footnotes for Generic Cleanup Crtieria Tables, December 30, 2013

{G} Metal GSIP Criteria for Surface Water Protected for Drinking Wa
an assumed 400 mg/L C

Volatile Organic Compounds (VOCs), Metals and Per- and Polyfluoroalkyl Substances (PFAS) (µg/Kg)			Ethyl benzene	2-Methylnaphthalene	Naphthalene	n-Propylbenzene	Toluene	1,2,3-Trimethylbenzene*	1,2,4-Trimethylbenzene	Xylenes	Other VOCs	PFOA	PFOS	Other PFAS	Cadmium	Chromium	
Chemical Abstract Service Number (CAS#)			100414	91576	91203	103651	108883	526738	95636	1330207	Various	335671	1763231	Various	7440439	16065831	743
Sample ID	Sample Date	Sample Depth (feet bgs)	VOCs									PFAS			Metals		
SB-19	11/12/2019	6.0-7.0	<60	<100	<300	<60	<60	<60	<60	<160	<MDL	0.062	**5.5**	5.368	<200	1,280	<
SB-20	11/12/2019	4.0-5.0	<60	<100	<300	<60	<60	<60	<60	<160	<MDL	<MDL	<MDL	<MDL	<200	1,290	5
SB-21	11/12/2019	2.0-3.0	<100	<200	<500	<100	<100	<100	<100	<300	<MDL	0.099	**1.1**	1.06	<200	1,700	**4**
SB-22	11/12/2019	1.0-2.0	<100	<200	<500	<100	<100	<100	<100	<300	<MDL	0.16	**2.5**	2.50	410	9,430	**5**
SB-23	11/12/2019	1.0-2.0	<70	300	<400	<70	250	<70	130	**550**	<MDL	<MDL	**0.48**	0.47	820	**47,500**	**1**
SB-24	11/13/2019	1.0-2.0	**120**	500	**500**	130	390	110	**200**	**910**	<MDL	0.11	**0.44**	0.42	550	9,120	1
SB-25	11/13/2019	1.0-2.0	<60	<100	<300	<60	<60	<60	<60	<160	<MDL	0.073	**0.3**	0.284	<200	1,390	<

Cleanup Criteria Requirements for Response Activity (R 299.1 - R 299.50)
Generic Soil Cleanup Criteria Tables 2 and 3: Residential and Non-Residential Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based Screening Levels, December 30, 2013; Michigan Background Soil Survey 2005; and EGLE Site-Specific Volatilization to Indoor Air Criteria (September 5, 2019)

Residential (µg/Kg)																
vide Default Background Levels	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,200	18,000	1
ng Water Protection (Res DWP)	1,500	57,000	35,000	1,600	16,000	1,800	2,100	5,600	Various	NL	NL	NL	6,000	30,000	1,7
dwater Surface Water Interface Protection (GSIP)	360	4,200	730	ID	5,400	570	570	820	Various	10000 {X}	0.24 {X}	NL	3,000 {G,X}	3,300	50 {M
olatilization to Indoor Air Inhalation (Res SVII)	87,000	2.70E+06	2.50E+05	ID	3.3E+05 {C}	2.6E+06 {C}	4.3E+06 {C}	6.3E+06 {C}	Various	NL	NL	NL	NLV	NLV	48,
nt Air Infinite Source Volatile Soil Inhalation (Res VSI)	7.20E+05	1.50E+06	3.00E+05	ID	2.80E+06	1.60E+07	2.10E+07	4.60E+07	Various	NL	NL	NL	NLV	NLV	52,
nt Air Finite VSI for 5 Meter Source Thickness	1.00E+06	1.50E+06	3.00E+05	ID	5.10E+06	3.80E+08	5.00E+08	6.10E+07	Various	NL	NL	NL	NLV	NLV	52,
nt Air Finite VSI for 2 Meter Source Thickness	2.20E+06	1.50E+06	3.00E+05	ID	1.20E+07	3.80E+08	5.00E+08	1.30E+08	Various	NL	NL	NL	NLV	NLV	52,
nt Air Particulate Soil Inhalation (Res PSI)	1.00E+10	6.70E+08	2.00E+08	1.30E+09	2.70E+10	8.20E+10	8.20E+10	2.90E+11	Various	NL	NL	NL	1.70E+06	2.60E+05	2.00
Contact (Res DC)	2.2E+07 {C}	8.10E+06	1.60E+07	2.50E+06	5.0E+07 {C}	3.2E+07 {C}	3.2E+07 {C}	4.1E+08 {C}	Various	NL	NL	NL	5.50E+05	2.50E+06	1.60
Nonresidential (µg/Kg)															
ng Water Protection (Nonres DWP)	1,500	1.70E+05	1.00E+05	4,600	16,000	1,800	2,100	5,600	Various	NL	NL	NL	6,000	30,000	1,7
olatilization to Indoor Air Inhalation (Nonres SVII)	4.5E+05 {C}	4.90E+06	4.70E+05	ID	6.1E+05 {C}	4.8E+06 {C}	8.0E+06 {C}	1.2E+07 {C}	Various	NL	NL	NL	NLV	NLV	89,
nt Air Infinite Source Volatile Soil Inhalation (Nonres VSI)	2.40E+06	1.80E+06	3.50E+05	ID	3.30E+06	1.90E+07	2.50E+07	5.40E+07	Various	NL	NL	NL	NLV	NLV	62,
nt Air Finite VSI for 5 Meter Source Thickness	3.10E+06	1.80E+06	3.50E+05	ID	3.60E+07	4.60E+08	6.00E+08	6.50E+07	Various	NL	NL	NL	NLV	NLV	62,
nt Air Finite VSI for 2 Meter Source Thickness	6.50E+06	1.80E+06	3.50E+05	ID	3.60E+07	4.60E+08	6.00E+08	1.30E+08	Various	NL	NL	NL	NLV	NLV	62,
nt Air Particulate Soil Inhalation (Nonres PSI)	1.30E+10	2.90E+08	8.80E+07	5.90E+08	1.20E+10	3.60E+10	3.60E+10	1.30E+11	Various	NL	NL	NL	2.20E+06	2.40E+05	8.80
Contact (Nonres DC)	7.1E+07 {C}	2.60E+07	5.20E+07	8.00E+06	1.6E+08 {C}	1.0E+08 {C}	1.0E+08 {C}	1.0E+09 {C}	Various	NL	NL	NL	2.10E+06	9.20E+06	5.80
Screening Levels (µg/Kg)															
aturation Concentration Screening Levels (Csat)	1.40E+05	NA	NA	1.00E+07	2.50E+05	94,000	1.10E+05	1.50E+05	Various	NL	NL	NL	NA	NA	N
EGLE Restricted Residential Site-Specific Volatilization to Indoor Air Criteria (VIAC)1															
cted Residential Site-Specific VIAC	12	1,700	67	1,800	3,700	270	150	280	Various	NV	NV	NV	NA	NA	2
EGLE Unrestricted Site-Specific Volatilization to Indoor Air Criteria (VIAC)2															
tricted Residential Site-Specific VIAC	12	1,700	67	1,800	3,700	270	150	280	Various	NV	NV	NV	NA	NA	2

Criterion Exceeded
BOLD Value Exceeds Criterion
Value Exceeds Screening Level
underline Screening Level Exceeded
bgs Below Ground Surface (feet)
100 {M} Other Alpha notation, please refer to MDEQ Footnotes R 299.49 Footnotes for Generic Cleanup Criteria Tables, December 30, 2013

{G} Metal GSIP Criteria for Surface Water Protected for Drinking Water Use based on an assumed 400 mg/L CaCO3 Hardness

Volatile Organic Compounds (VOCs), Polynuclear Aromatic Compounds (PNAs), Metals (µg/L) and Per- and Polyfluoroalkyl Substances (PFAS) (ng/L)				1,3-Dichlorobenzene	cis-1,2-Dichloroethene	Trichloroethene	Vinyl chloride	Other VOCs	PNAs	PFOA	PFOS	Other PFAS	Cadmium	Chromium	Mercury	Selenium
Chemical Abstract Service Number (CAS#)				541731	156592	79016	75014	Various	Various	335671	1763231	Various	7440439	16065831	7439976	7782492
Sample ID	Sample Date	Screen Depth (bgs)	Depth to Groundwater (bgs)	VOCs (µg/L)					PNAs (µg/L)	PFAS (ng/L)			Metals (µg/L)			
TMW-1	09/10/2018	4.74-9.74	7.10	<1	<1	**6**	<1	<MDL	NA	NA	NA	NA	<0.5	<5	<0.2	<5
TMW-2	09/10/2018	3.21-8.21	5.45	<1	2	**7**	<1	<MDL	NA	NA	NA	NA	**22.1**	**66**	<0.2	<5
TMW-3	09/11/2018	1.98-6.98	4.27	<1	2	<1	<1	<MDL	NA	NA	NA	NA	<0.5	<5	<0.2	<5
TMW-4	09/11/2018	0.03-5.03	2.27	<1	**15**	1	**4**	<MDL	NA	NA	NA	NA	<0.5	5	<0.2	<5
TMW-5	09/11/2018	0.10-5.10	2.45	<1	**4**	1	<1	<MDL	NA	NA	NA	NA	<0.5	<5	<0.2	<5
TMW-6	09/11/2018	2.62-7.62	4.97	<1	**4**	<1	<1	<MDL	NA	NA	NA	NA	<0.5	<5	<0.2	<5
TMW-7	09/10/2018	3.47-8.47	5.83	<1	<1	<1	<1	<MDL	NA	NA	NA	NA	<0.5	<5	<0.2	<5
TMW-8	09/10/2018	2.49-7.49	4.76	<1	<1	<1	<1	<MDL	NA	NA	NA	NA	<0.5	<5	<0.2	<5
TMW-9	09/10/2018	3.19-8.19	5.61	<1	<1	<1	<1	<MDL	<5	NA	NA	NA	<0.5	<5	<0.2	<5
TMW-10	09/10/2018	2.70-7.70	5.05	<1	<1	<1	<1	<MDL	<5	<10	**20**	<MDL	<0.5	11	<0.2	<5
TMW-15	09/11/2018	2.71-7.71	4.88	<1	<1	<1	<1	<MDL	NA	NA	NA	NA	<0.5	**14**	<0.2	<5
TMW-16	09/10/2018	4.86-9.86	7.23	2	<1	<1	<1	<MDL	<5	10	<10	<MDL	<0.5	<5	<0.2	<5
TMW-17	09/10/2018	4.92-9.92	7.34	<1	<1	<1	<1	<MDL	<5	NA	NA	NA	<0.5	<5	<0.2	<5
TMW-18	09/10/2018	4.83-9.83	7.25	<1	<1	<1	<1	<MDL	<5	NA	NA	NA	<0.5	<5	<0.2	<5

Cleanup Criteria Requirements for Response Activity (R 299.1 - R 299.50)
Generic Groundwater Cleanup Criteria Table 1: Residential and Non-Residential Part 201 Generic Cleanup Criteria and Screening Levels/ Part 213 Risk-Based Screening Levels, December 30, 2013, and EGLE Site-Specific Volatilization to Indoor Air Criteria (September 5, 2019)

Residential/Nonresidential (µg/L)														
Residential Drinking Water (Res DW)	6.6	70 {A}	5.0 {A}	2.0 {A}	Various	Various	70*	70*	Various	5.0 {A}	100 {A}	2.0 {A}	50 {A}
Residential Health Based Drinking Water Values	NL	NL	NL	NL	Various	Various	NL	NL	Various	NL	NL	NL	NL
Nonresidential Drinking Water (Nonres DW)	19	70 {A}	5.0 {A}	2.0 {A}	Various	Various	70*	70*	Various	5.0 {A}	100 {A}	2.0 {A}	50 {A}
Nonresidential Health Based Drinking Water Values	NL	NL	NL	NL	Various	Various	NL	NL	Various	NL	NL	NL	NL
Groundwater Surface Water Interface (GSI)	28	620	200 {X}	13 {X}	Various	Various	12	12	Various	2.5 {G,X}	11	0.0013	5.0
Residential Groundwater Volatilization to Indoor Air Inhalation (Res GVII) [1]	ID	93,000	2,200	1,100	Various	Various	NL	NL	Various	NLV	NLV	56 {S}	NLV
Nonresidential Groundwater Volatilization to Indoor Air Inhalation (Nonres GVII) [1]	ID	2.10E+05	4,900	13,000	Various	Various	NL	NL	Various	NLV	NLV	56 {S}	NLV
EGLE Restricted Residential Site-Specific Volatilization to Indoor Air Criteria (VIAC)1														
Restricted Residential Site-Specific VIAC	2.6	2.4	7.3E-02	0.12	Various	NV	NV	NV	NV	NL	NL	8.8E-02	NL
EGLE Unrestricted Site-Specific Volatilization to Indoor Air Criteria (VIAC)2														
Unrestricted Residential Site-Specific VIAC	2.6	3.4	7.3E-02	0.12	Various	NV	NV	NV	NV	NL	NL	8.8E-02	NL
Screening Levels (µg/L)														
Water Solubility	1.11E+05	3.50E+06	1.10E+06	2.76E+06	Various	Various	NL	NL	NL	NA	NA	56	NA
Flammability and Explosivity Screening Level	ID	5.30E+05	ID	33,000	Various	Various	NL	NL	NL	ID	ID	ID	ID

Criteria Exceeded
BOLD Value Exceeds Criteria
bgs Below Ground Surface (feet)
<MDL Not detected at levels above the laboratory Method Detection Limit (MDL) or Minimum Quantitative Level (MQL)
[1] Tier 1 GVII Criteria based on 3 meter (or greater) groundwater depth
70* Criteria is for combined concentrations of PFOA and PF0S

{G} Metal GSI Criteria for Surface Water Protected for Drinking Water Use based on an assumed 400 mg/L CaCO3 Hardness

TABLE 2B
SUMMARY OF NOVEMBER 2019 GROUNDWATER ANALYTICAL RESULTS
VOCs, PFAS, AND METALS
125 ELLIOT AVENUE, GRAND HAVEN, MICHIGAN
PM PROJECT #01-10150-0-0009

Volatile Organic Compounds (VOCs), Metals and Per- and Polyfluoroalkyl Substances (PFAS) (µg/L)				1,1-Dichloroethane	cis-1,2-Dichloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	Other VOCs	PFOA	PFOS	Other PFAS (Total)	Cadmium	Chromium	Mercury
Chemical Abstract Service Number (CAS#)				75343	156592	71556	79016	75014	Various	335671	1763231	Various	7440439	16065831	7439976
Sample ID	**Sample Date**	**Screen Depth (bgs)**	**Depth to Groundwater (bgs)**	**VOCs**						**PFAS**			**Metals**		
TMW-19S	11/13/2019	4.92-9.92	7.31	<1	<1	<1	<1	<1	<MDL	<MDL	**1.5**	1.745	<0.5	<5	**0.2**
TMW-19D	11/13/2019	14.70-19.70	7.87	<1	<1	<1	<1	<1	<MDL	<MDL	**0.25**	0.252	<0.5	<5	**0.2**
TMW-20S	11/13/2019	4.84-9.84	6.49	<1	<1	<1	<1	<1	<MDL	<MDL	**0.033**	0.029	<0.5	<5	**0.3**
TMW-20D	11/13/2019	14.49-19.49	6.22	<1	<1	<1	<1	<1	<MDL	<MDL	**0.28**	0.426	<0.5	<5	**0.3**
TMW-21S	11/13/2019	0.71-5.71	2.80	4	**4**	5	**14**	**3**	<MDL	<MDL	<MDL	<MDL	<0.5	<5	<0.2
TMW-21D	11/13/2019	14.44-19.44	3.08	<1	<1	<1	**3**	<1	<MDL	<MDL	0.010	<MDL	<0.5	<5	<0.2
TMW-22S	11/13/2019	0.36-5.36	2.15	<1	<1	<1	<1	**11**	<MDL	<MDL	<MDL	<MDL	<0.5	<5	<0.2
TMW-22D	11/13/2019	12.75-17.75	2.08	<1	**16**	<1	**2**	<1	<MDL	<MDL	**0.018**	<MDL	<0.5	<5	<0.2
TMW-23S	11/13/2019	0.84-5.84	3.15	<1	<1	<1	<1	<1	<MDL	<MDL	<MDL	<MDL	<0.5	<5	<0.2
TMW-23D	11/13/2019	14.68-19.68	2.99	<1	2	<1	<1	<1	<MDL	<MDL	<MDL	<MDL	<0.5	<5	**0.21**
TMW-24S	11/13/2019	0.95-5.95	3.26	<1	**24**	<1	**3**	<1	<MDL	<MDL	<MDL	<MDL	<0.5	<5	**0.23**
TMW-24D	11/13/2019	15.20-20.20	3.50	<1	**22**	<1	**2**	<1	<MDL	<MDL	<MDL	<MDL	<0.5	<5	**0.24**
TMW-25S	11/13/2019	0.91-5.91	3.90	<1	<1	<1	<1	<1	<MDL	<MDL	<MDL	<MDL	<0.5	<5	**0.22**
TMW-25D	11/13/2019	14.20-19.20	4.14	<1	**16**	<1	**13**	<1	<MDL	<MDL	<MDL	<MDL	<0.5	<5	<0.2
Cleanup Criteria Requirements for Response Activity (R 299.1 - R 299.50) **Generic Groundwater Cleanup Criteria Table 1: Residential and Non-Residential Part 201 Generic Cleanup Criteria and Screening Levels/** **Part 213 Risk-Based Screening Levels, December 30, 2013, and EGLE Site-Specific Volatilization to Indoor Air Criteria (September 5, 2019)**															
Residential/Nonresidential (µg/L)															
Residential Drinking Water (Res DW)				880	70 {A}	200 {A}	5.0 {A}	2.0 {A}	Various	0.07*	0.07*	Various	5.0 {A}	100 {A}	2.0 {A}
Residential Health Based Drinking Water Values				NL	NL	NL	NL	NL	Various	NL	NL	Various	NL	NL	NL
Nonresidential Drinking Water (Nonres DW)				2,500	70 {A}	200 {A}	5.0 {A}	2.0 {A}	Various	0.07*	0.07*	Various	5.0 {A}	100 {A}	2.0 {A}
Nonresidential Health Based Drinking Water Values				NL	NL	NL	NL	NL	Various	NL	NL	Various	NL	NL	NL
Groundwater Surface Water Interface (GSI)				740	620	89	200 {X}	13 {X}	Various	12	0.012	Various	2.5 {G,X}	11	0.0013
Residential Groundwater Volatilization to Indoor Air Inhalation (Res GVII) [1]				1.00E+06	93,000	6.60E+05	2,200	1,100	Various	NL	NL	Various	NLV	NLV	56 {S}
Nonresidential Groundwater Volatilization to Indoor Air Inhalation (Nonres GVII) [1]				2.30E+06	2.10E+05	1.3E+6 {S}	4,900	13,000	Various	NL	NL	Various	NLV	NLV	56 {S}
EGLE Restricted Residential Site-Specific Volatilization to Indoor Air Criteria (VIAC)1															
Restricted Residential Site-Specific VIAC				4.7	2.4	180	7.3E-02	0.12	Various	NV	NV	NV	NL	NL	8.8E-02
EGLE Unrestricted Site-Specific Volatilization to Indoor Air Criteria (VIAC)2															
Unrestricted Residential Site-Specific VIAC				4.7	3.4	180	7.3E-02	0.12	Various	NV	NV	NV	NL	NL	8.8E-02
Screening Levels (µg/L)															
Water Solubility				5.06E+06	3.50E+06	1.33E+06	1.10E+06	2.76E+06	Various	9.50E+06	3.1	NL	NA	NA	56
Flammability and Explosivity Screening Level				3.80E+05	5.30E+05	ID	ID	33,000	Various	NL	NL	NL	ID	ID	ID

	Criteria Exceeded
BOLD	Value Exceeds Criteria
	Value Exceeds Screening Level
underline	Screening Level Exceeded
bgs	Below Ground Surface (feet)
<MDL	Not detected at levels above the laboratory Method Detection Limit (MDL) or Minimum Quantitative Level (MQL)
[1]	Tier 1 GVII Criteria based on 3 meter (or greater) groundwater depth
0.07*	Criteria is for combined concentrations of PFOA and PFOS
NL	Not Listed
NLL	Not Likely to Leach
NLV	Not Likely to Volatilize
NV	Does not meet EGLE's definition of a volatile; therefore, no criteria were developed
ID	Insufficient Data
VIAC	Volitilization to Indoor Air Criteria
[1]	Restricted Site-Specific VIAC apply to a slab-on-grade residential structure
[2]	Unrestricted Site-Specific VIAC apply to a residential house with a basement

{G} Metal GSI Criteria for Surface Water Protected for Drinking Water Use based on an assumed 400 mg/L CaCO3 Hardness

	Acetone	Benzene	Carbon disulfide	1,3-Dichlorobenzene	Ethylbenzene	Heptane	Hexane	Isopropyl Alcohol	Methyl ethyl ketone	Methyl Isobutyl Ketone	1,1,1-Trichloroethane	1,2,4-Trimethylbenzene	Toluene	Trichloroethylene	Vinyl chloride	
(CAS#)	67641	71432	75150	541731	100414	142825	110543	67630	78933	108101	71556	95636	108883	79016	75014	10
ample Depth (feet bgs)	**VOCs**															
5.0	<780	<96	<250	<180	<130	<120	<110	<810	<500	<330	220	<150	<110	**8,550**	<77	<
3.5	48	<6.4	<16	<12	<8.7	<8.2	<7.0	<49	<29	<20	<11	<9.8	<7.5	<11	15	
2.0	140	6.4	16	**180**	<8.7	8.2	18	660	29	<20	<11	9.8	15	<11	<5.1	
4.5	400	<6.4	<16	**1,050**	35	<8.2	<7.0	9,760	88	<20	<11	<9.8	15	<11	<5.1	
4.0	48	22	<16	<12	<8.7	<8.2	<7.0	<49	<29	<20	<11	15	34	<11	<5.1	
4.0	120	9.6	<16	<12	<8.7	8.2	18	<49	<29	<20	<11	<9.8	11	32	<5.1	
5.0	48	<6.4	<16	<12	<8.7	<8.2	<7.0	<49	<29	<20	27	15	7.5	<11	<5.1	
5.0	95	<6.4	<16	<12	<8.7	<8.2	11	<49	<29	29	22	9.8	23	<11	<5.1	
	EGLE Site-Specific Volatilization to Indoor Air Criteria (September 5, 2019)															
	EGLE Restricted Residential Site-Specific Volatilization to Indoor Air Criteria (VIAC)[1]															
	1.0E+06	110	24,000	100	340	1.2E+05	24,000	7,000	1.7E+05	1.0E+05	1.7E+05	2,100	1.7E+05	67	54	
	EGLE Unrestricted Site-Specific Volatilization to Indoor Air Criteria (VIAC)[2]															
	1.0E+06	110	24,000	100	340	1.2E+05	24,000	7,000	1.7E+05	1.0E+05	1.7E+05	2,100	1.7E+05	67	54	

e laboratory reporting or detection limits
able

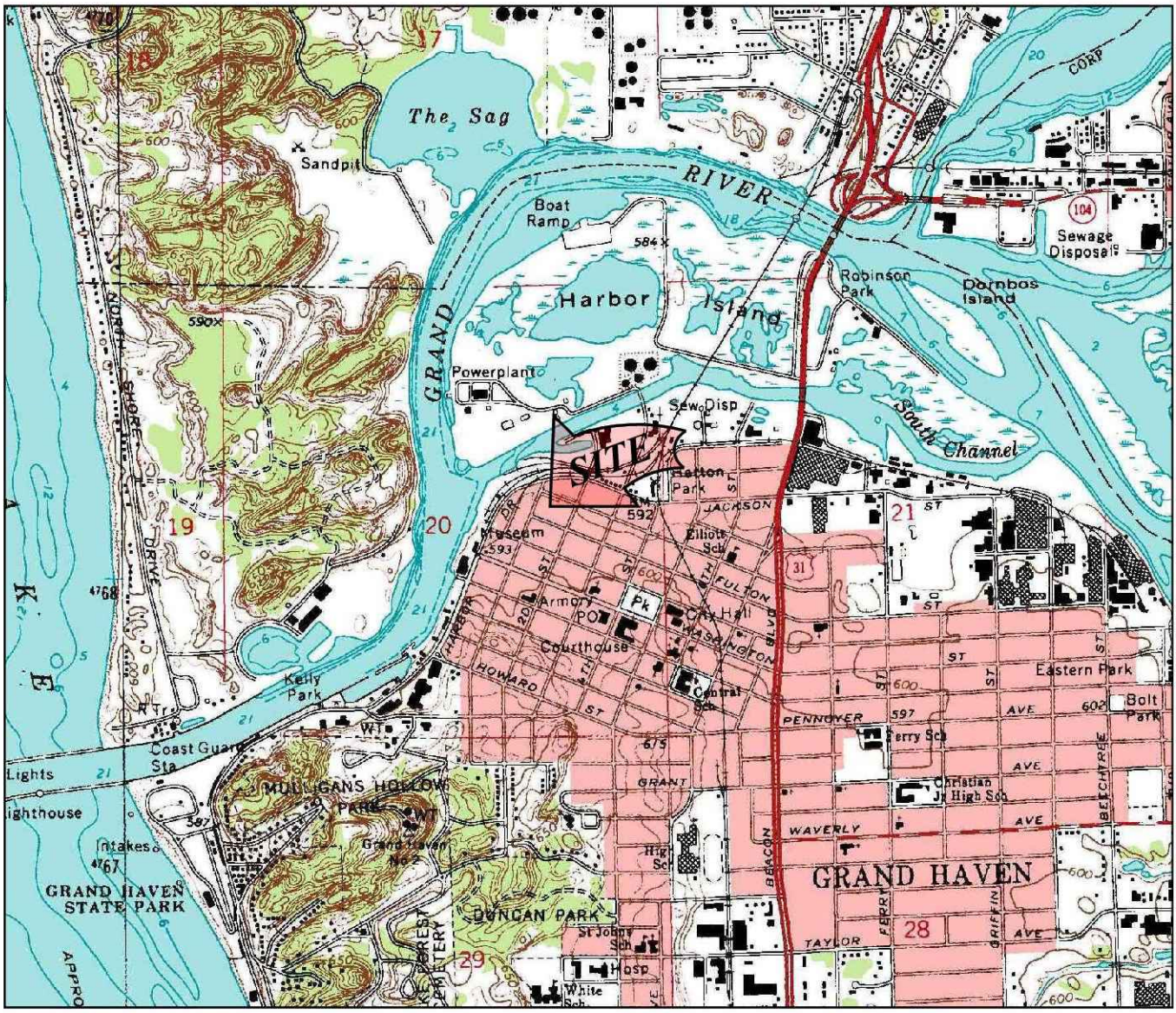
eter
r Criteria
VIAC apply to a slab-on-grade residential structure
c VIAC apply to a residential house with a basement

ic Compounds g/m^3)		Acetone	Carbon disulfide	Cyclohexane	Ethylbenzene	Heptane	Hexane	Methyl ethyl ketone	Propylene	Toluene	m,p-Xylene	o-Xylene
ervice Number (CAS#)		67641	75150	110827	100414	142825	110543	78933	115071	108883	108383	9547
le Date	Sample Depth (feet bgs)	VOCs										
3/2019	5.0	48	<16	<6.9	<8.7	<8.2	<7.0	<29	<3.4	<7.5	22	<8.7
3/2019	3.5	71	<16	<6.9	<8.7	<8.2	<7.0	<29	<3.4	<7.5	35	8.7
3/2019	1.5	<48	<16	<6.9	8.7	<8.2	<7.0	<29	<3.4	7.5	48	13
3/2019	1.5	170	<16	<6.9	17	12	11	29	5.2	15	65	17
3/2019	2.0	330	<16	<6.9	26	<8.2	<7.0	<29	6.9	<7.5	87	17
3/2019	2.0	480	19	38	26	8.2	11	<29	26	11	74	17
3/2019	2.5	640	<16	<6.9	30	<8.2	<7.0	29	6.9	<7.5	100	22
EGLE Site-Specific Volatilization to Indoor Air Criteria (September 5, 2019)												
EGLE Restricted Residential Site-Specific Volatilization to Indoor Air Criteria (VIAC)1												
ecific VIAC		1.0E+06	24,000	NC	340	1.2E+05	24,000	1.7E+05	NC	1.7E+05	NL	NL
EGLE Unrestricted Site-Specific Volatilization to Indoor Air Criteria (VIAC)2												
C		1.0E+06	24,000	NC	340	1.2E+05	24,000	1.7E+05	NC	1.7E+05	NL	NL

Exceeded
xceeds Criteria
cted at or above laboratory reporting or detection limits
lable/Not Applicable
round Surface
ed
ria currently available
ent Data
ams per cubic meter
ed Value
tion to Indoor Air Criteria
ed Site-Specific VIAC apply to a slab-on-grade residential structure
cted Site-Specific VIAC apply to a residential house with a basement

Figures

PM ENVIRONMENTAL Environmental & Engineering Services



MICHIGAN QUADRANGLE LOCATION

OTTAWA COUNTY

SCALE 1:24,000

1 MILE 1/2 MILE 0 1 MILE

FIGURE 1

PROPERTY VICINITY MAP

USGS, 7.5 MINUTE SERIES

GRAND HAVEN, MI QUADRANGLE, 1972. PHOTO REVISED 1980.

PM ENVIRONMENTAL | Environmental & Engineering Services

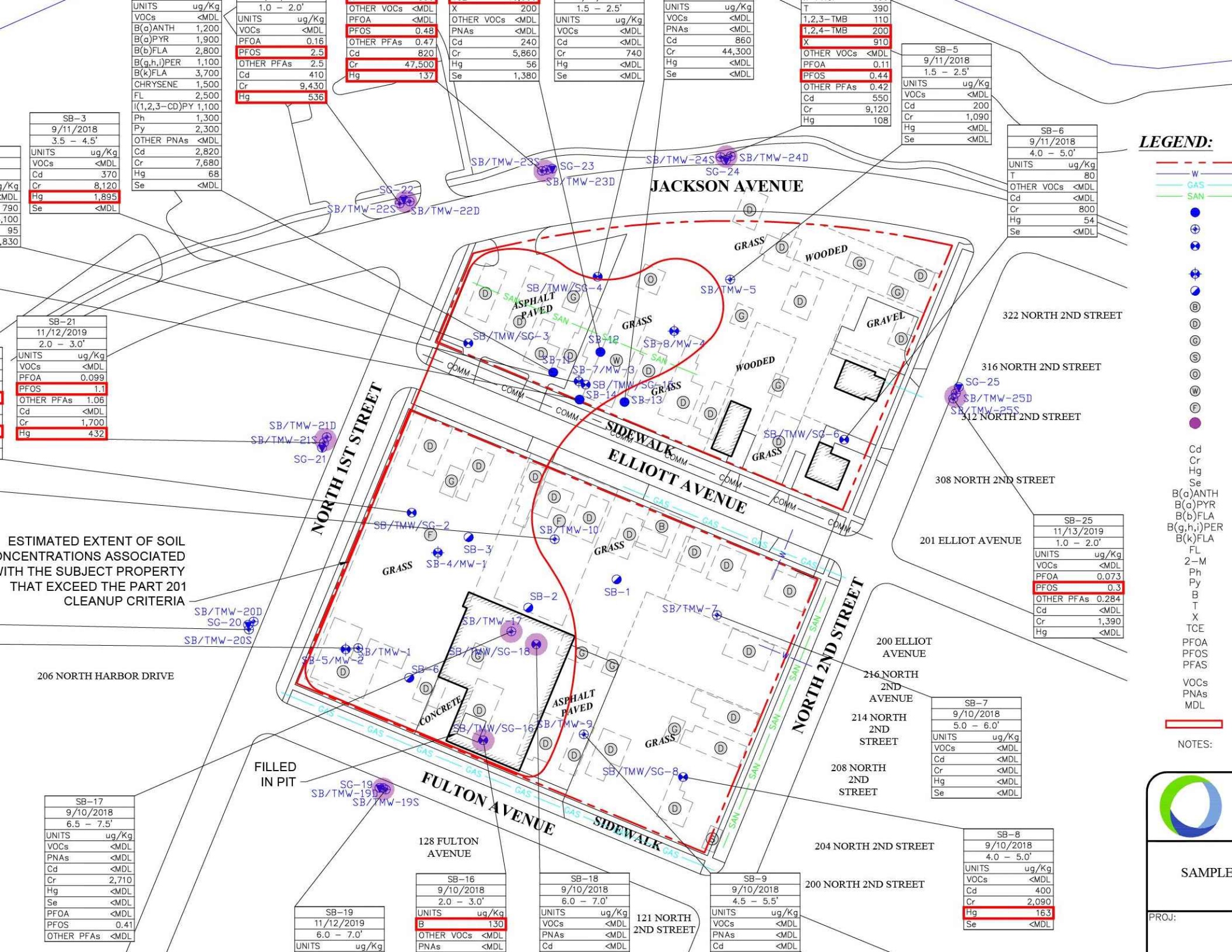
PROJ:
COMMERCIAL PROPERTY
105 FULTON AVENUE
(125 ELLIOT AVENUE)
GRAND HAVEN, MI

THIS IS NOT A LEGAL SURVEY

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

DRN BY: KS
CHKD BY: JG
DATE: 9/25/2018
SCALE: 1" = 2,000'
FILE NAME: 01-10150-0-009F00R00


JACKSON AVENUE
NORTH 1ST STREET
ELLIOTT AVENUE
FULTON AVENUE
NORTH 2ND STREET
SIDEWALK
105 FULTON AVENUE
70-03-20-278-015
132 ELLIOT AVENUE
70-03-20-278-005
215 NORTH 2ND STREET
70-03-20-278-006
317 NORTH 2ND STREET
70-03-20-279-025
311 NORTH 2ND STREET
70-03-20-279-008
309 NORTH 2ND STREET
70-03-20-279-019
125 ELLIOT AVENUE
70-03-20-279-017
133 ELLIOT AVENUE
70-03-20-279-020
70-03-20-279-024
70-03-20-279-023
GRASS
WOODED
GRAVEL
ASPHALT PAVED
CONCRETE
COMM
GAS
SAN
322 NORTH 2ND STREET
316 NORTH 2ND STREET
312 NORTH 2ND STREET
308 NORTH 2ND STREET
201 ELLIOT AVENUE
200 ELLIOT AVENUE
216 NORTH 2ND AVENUE
214 NORTH 2ND STREET
208 NORTH 2ND STREET
204 NORTH 2ND STREET
200 NORTH 2ND STREET
101 COLUMBUS AVENUE
128 FULTON AVENUE
FILLED IN PIT
LEGEND:
W
GAS
SAN
B
D
G
S
O
W
F
GENER
PROPI
PROJ:



SB-3	
9/11/2018	
3.5 – 4.5'	
UNITS	ug/Kg
VOCs	<MDL
Cd	370
Cr	8,120
Hg	1,895
Se	<MDL

UNITS	ug/Kg
B(a)ANTH	1,200
B(a)PYR	1,900
B(b)FLA	2,800
B(g,h,i)PER	1,100
B(k)FLA	3,700
CHRYSENE	1,500
FL	2,500
I(1,2,3-CD)PY	1,100
Ph	1,300
Py	2,300
OTHER PNAs	<MDL
Cd	2,820
Cr	7,680
Hg	68
Se	<MDL

UNITS	ug/Kg
VOCs	<MDL
PFOA	0.16
PFOS	2.5
OTHER PFAs	2.5
Cd	410
Cr	9,430
Hg	536

OTHER VOCs	<MDL
PFOA	<MDL
PFOS	0.48
OTHER PFAs	0.47
Cd	820
Cr	47,500
Hg	137

X	200
OTHER VOCs	<MDL
PNAs	<MDL
Cd	240
Cr	5,860
Hg	56
Se	1,380

UNITS	ug/Kg
VOCs	<MDL
Cd	<MDL
Cr	740
Hg	<MDL
Se	<MDL

UNITS	ug/Kg
VOCs	<MDL
PNAs	<MDL
Cd	860
Cr	44,300
Hg	<MDL
Se	<MDL

T	390
1,2,3-TMB	110
1,2,4-TMB	200
X	910
OTHER VOCs	<MDL
PFOA	0.11
PFOS	0.44
OTHER PFAs	0.42
Cd	550
Cr	9,120
Hg	108

SB-5	
9/11/2018	
1.5 – 2.5'	
UNITS	ug/Kg
VOCs	<MDL
Cd	200
Cr	1,090
Hg	<MDL
Se	<MDL

SB-6	
9/11/2018	
4.0 – 5.0'	
UNITS	ug/Kg
T	80
OTHER VOCs	<MDL
Cd	<MDL
Cr	800
Hg	54
Se	<MDL

SB-21	
11/12/2019	
2.0 – 3.0'	
UNITS	ug/Kg
VOCs	<MDL
PFOA	0.099
PFOS	1.1
OTHER PFAs	1.06
Cd	<MDL
Cr	1,700
Hg	432

SB-25	
11/13/2019	
1.0 – 2.0'	
UNITS	ug/Kg
VOCs	<MDL
PFOA	0.073
PFOS	0.3
OTHER PFAs	0.284
Cd	<MDL
Cr	1,390
Hg	<MDL

SB-7	
9/10/2018	
5.0 – 6.0'	
UNITS	ug/Kg
VOCs	<MDL
Cd	<MDL
Cr	<MDL
Hg	<MDL
Se	<MDL

SB-8	
9/10/2018	
4.0 – 5.0'	
UNITS	ug/Kg
VOCs	<MDL
Cd	400
Cr	2,090
Hg	163
Se	<MDL

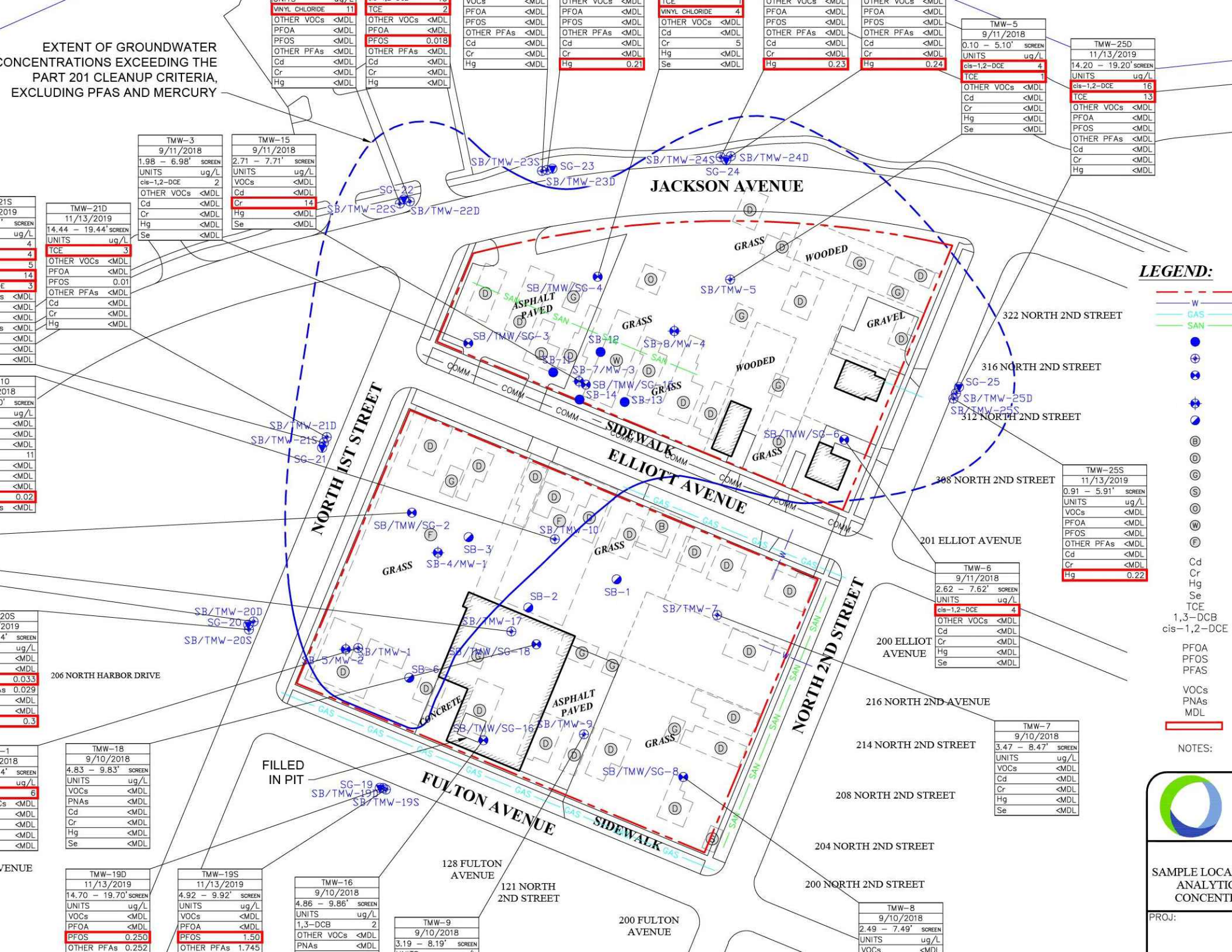
SB-17	
9/10/2018	
6.5 – 7.5'	
UNITS	ug/Kg
VOCs	<MDL
PNAs	<MDL
Cd	<MDL
Cr	2,710
Hg	<MDL
Se	<MDL
PFOA	<MDL
PFOS	0.41
OTHER PFAs	<MDL

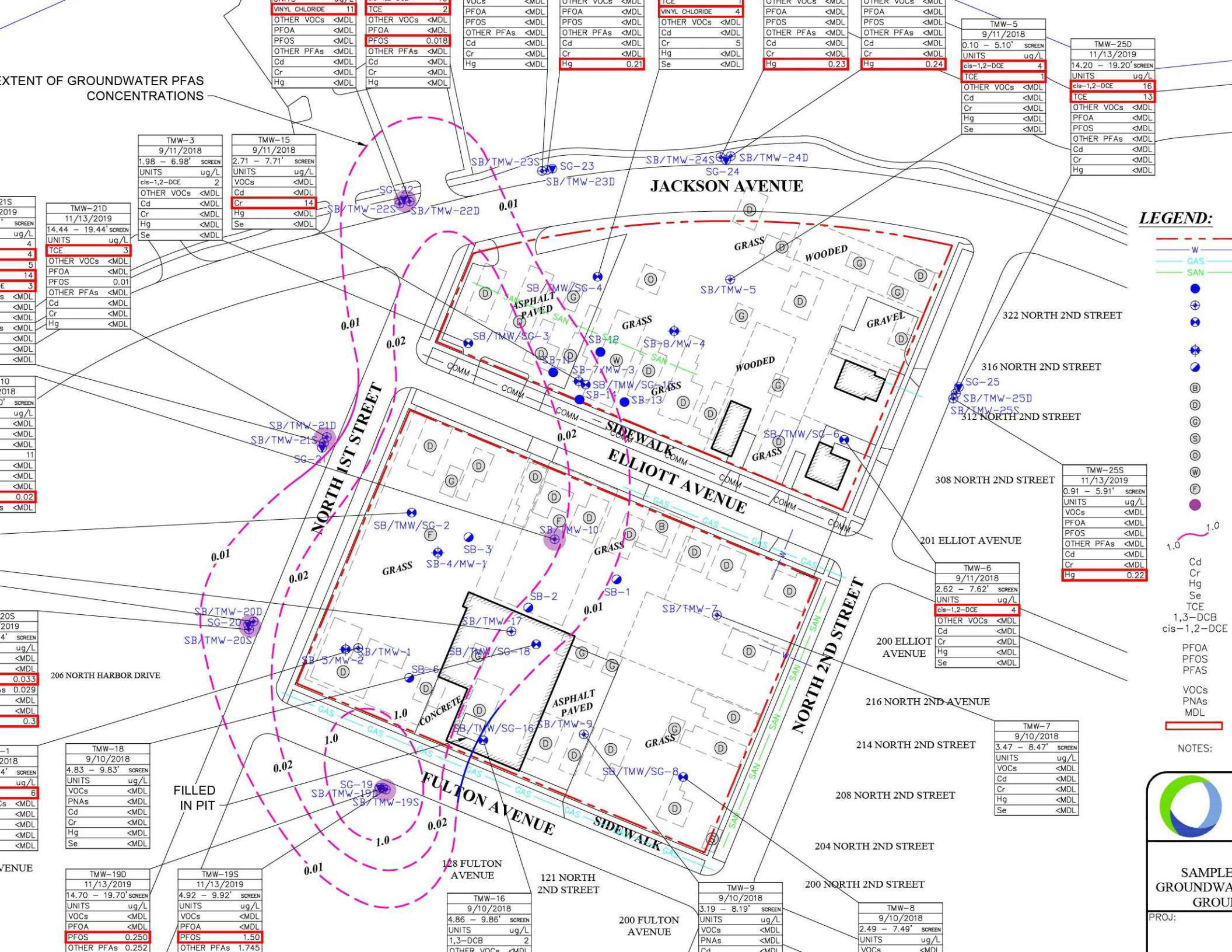
SB-19	
11/12/2019	
6.0 – 7.0'	
UNITS	ug/Kg

SB-16	
9/10/2018	
2.0 – 3.0'	
UNITS	ug/Kg
B	130
OTHER VOCs	<MDL
PNAs	<MDL

SB-18	
9/10/2018	
6.0 – 7.0'	
UNITS	ug/Kg
VOCs	<MDL
PNAs	<MDL
Cd	<MDL

SB-9	
9/10/2018	
4.5 – 5.5'	
UNITS	ug/Kg
VOCs	<MDL
PNAs	<MDL
Cd	<MDL


EXTENT OF GROUNDWATER CONCENTRATIONS EXCEEDING THE PART 201 CLEANUP CRITERIA, EXCLUDING PFAS AND MERCURY
JACKSON AVENUE
NORTH 1ST STREET
ELLIOTT AVENUE
SIDEWALK
NORTH 2ND STREET
FULTON AVENUE
SIDEWALK
FILLED IN PIT
GRASS
WOODED
GRAVEL
ASPHALT PAVED
CONCRETE
COMM
GAS
SAN
322 NORTH 2ND STREET
316 NORTH 2ND STREET
312 NORTH 2ND STREET
308 NORTH 2ND STREET
201 ELLIOT AVENUE
200 ELLIOT AVENUE
216 NORTH 2ND AVENUE
214 NORTH 2ND STREET
208 NORTH 2ND STREET
204 NORTH 2ND STREET
200 NORTH 2ND STREET
206 NORTH HARBOR DRIVE
128 FULTON AVENUE
121 NORTH 2ND STREET
200 FULTON AVENUE
SB/TMW-23S
SG-23
SB/TMW-23D
SB/TMW-24S
SG-24
SB/TMW-24D
SG-22
SB/TMW-22S
SB/TMW-22D
SB/TMW/SG-4
SB/TMW-5
SB/TMW/SG-3
SB-12
SB-8/MW-4
SB-11
SB-7/MW-3
SB/TMW/SG-15
SB-14
SB-13
SB/TMW/SG-6
SG-25
SB/TMW-25D
SB/TMW-25S
SB/TMW-21D
SB/TMW-21S
SG-21
SB/TMW/SG-2
SB-3
SB-4/MW-1
SB/TMW-10
SB-2
SB-1
SB/TMW-7
SB/TMW-20D
SG-20
SB/TMW-20S
SB/TMW-17
SB/TMW-1
SB-5/MW-2
SB/TMW/SG-18
SB-6
SB/TMW/SG-16
SB/TMW-9
SB/TMW/SG-8
SG-19
SB/TMW-19D
SB/TMW-19S
TMW-3
9/11/2018
1.98 – 6.98' SCREEN
UNITS ug/L
cis-1,2-DCE 2
OTHER VOCs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-15
9/11/2018
2.71 – 7.71' SCREEN
UNITS ug/L
VOCs <MDL
Cd <MDL
Cr 14
Hg <MDL
Se <MDL
TMW-21D
11/13/2019
14.44 – 19.44' SCREEN
UNITS ug/L
TCE 3
OTHER VOCs <MDL
PFOA <MDL
PFOS 0.01
OTHER PFAs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
TMW-5
9/11/2018
0.10 – 5.10' SCREEN
UNITS ug/L
cis-1,2-DCE 4
TCE 1
OTHER VOCs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-25D
11/13/2019
14.20 – 19.20' SCREEN
UNITS ug/L
cis-1,2-DCE 16
TCE 13
OTHER VOCs <MDL
PFOA <MDL
PFOS <MDL
OTHER PFAs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
TMW-25S
11/13/2019
0.91 – 5.91' SCREEN
UNITS ug/L
VOCs <MDL
PFOA <MDL
PFOS <MDL
OTHER PFAs <MDL
Cd <MDL
Cr <MDL
Hg 0.22
TMW-6
9/11/2018
2.62 – 7.62' SCREEN
UNITS ug/L
cis-1,2-DCE 4
OTHER VOCs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-7
9/10/2018
3.47 – 8.47' SCREEN
UNITS ug/L
VOCs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-8
9/10/2018
2.49 – 7.49' SCREEN
UNITS ug/L
VOCs <MDL
TMW-18
9/10/2018
4.83 – 9.83' SCREEN
UNITS ug/L
VOCs <MDL
PNAs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-19D
11/13/2019
14.70 – 19.70' SCREEN
UNITS ug/L
VOCs <MDL
PFOA <MDL
PFOS 0.250
OTHER PFAs 0.252
TMW-19S
11/13/2019
4.92 – 9.92' SCREEN
UNITS ug/L
VOCs <MDL
PFOA <MDL
PFOS 1.50
OTHER PFAs 1.745
TMW-16
9/10/2018
4.86 – 9.86' SCREEN
UNITS ug/L
1,3-DCB 2
OTHER VOCs <MDL
PNAs <MDL
TMW-9
9/10/2018
3.19 – 8.19' SCREEN
LEGEND:
W
GAS
SAN
Cd
Cr
Hg
Se
TCE
1,3-DCB
cis-1,2-DCE
PFOA
PFOS
PFAS
VOCs
PNAs
MDL
NOTES:
SAMPLE LOCA
ANALYTIC
CONCENTI
PROJ:


EXTENT OF GROUNDWATER PFAS CONCENTRATIONS
JACKSON AVENUE
ELLIOTT AVENUE
FULTON AVENUE
NORTH 1ST STREET
NORTH 2ND STREET
SIDEWALK
COMM
GAS
SAN
GRASS
WOODED
GRAVEL
ASPHALT PAVED
CONCRETE
FILLED IN PIT
322 NORTH 2ND STREET
316 NORTH 2ND STREET
312 NORTH 2ND STREET
308 NORTH 2ND STREET
206 NORTH HARBOR DRIVE
201 ELLIOT AVENUE
200 ELLIOT AVENUE
216 NORTH 2ND AVENUE
214 NORTH 2ND STREET
208 NORTH 2ND STREET
204 NORTH 2ND STREET
200 NORTH 2ND STREET
128 FULTON AVENUE
121 NORTH 2ND STREET
200 FULTON AVENUE
SB/TMW-23S
SG-23
SB/TMW-23D
SB/TMW-24S
SG-24
SB/TMW-24D
SG-22
SB/TMW-22S
SB/TMW-22D
SB/TMW-21D
SB/TMW-21S
SG-21
SB/TMW-20D
SG-20
SB/TMW-20S
SG-19
SB/TMW-19D
SB/TMW-19S
SB/TMW/SG-4
SB/TMW-5
SB/TMW/SG-3
SB-12
SB-8/MW-4
SB-11
SB-7/MW-3
SB/TMW/SG-15
SB-14
SB-13
SG-25
SB/TMW-25D
SB/TMW-25S
SB/TMW/SG-6
SB/TMW/SG-2
SB-3
SB-4/MW-1
SB/TMW-10
SB-2
SB-1
SB/TMW-7
SB/TMW-17
SB/TMW/SG-18
SB/TMW-1
SB-5/MW-2
SB-6
SB/TMW/SG-16
SB/TMW-9
SB/TMW/SG-8
0.01
0.02
1.0
TMW-3
9/11/2018
1.98 – 6.98' SCREEN
UNITS ug/L
cis-1,2-DCE 2
OTHER VOCs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-15
9/11/2018
2.71 – 7.71' SCREEN
UNITS ug/L
VOCs <MDL
Cd <MDL
Cr 14
Hg <MDL
Se <MDL
TMW-21D
11/13/2019
14.44 – 19.44' SCREEN
UNITS ug/L
TCE 3
OTHER VOCs <MDL
PFOA <MDL
PFOS 0.01
OTHER PFAs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
TMW-5
9/11/2018
0.10 – 5.10' SCREEN
UNITS ug/L
cis-1,2-DCE 4
TCE 1
OTHER VOCs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-25D
11/13/2019
14.20 – 19.20' SCREEN
UNITS ug/L
cis-1,2-DCE 16
TCE 13
OTHER VOCs <MDL
PFOA <MDL
PFOS <MDL
OTHER PFAs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
TMW-25S
11/13/2019
0.91 – 5.91' SCREEN
UNITS ug/L
VOCs <MDL
PFOA <MDL
PFOS <MDL
OTHER PFAs <MDL
Cd <MDL
Cr <MDL
Hg 0.22
TMW-6
9/11/2018
2.62 – 7.62' SCREEN
UNITS ug/L
cis-1,2-DCE 4
OTHER VOCs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-7
9/10/2018
3.47 – 8.47' SCREEN
UNITS ug/L
VOCs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-18
9/10/2018
4.83 – 9.83' SCREEN
UNITS ug/L
VOCs <MDL
PNAs <MDL
Cd <MDL
Cr <MDL
Hg <MDL
Se <MDL
TMW-19D
11/13/2019
14.70 – 19.70' SCREEN
UNITS ug/L
VOCs <MDL
PFOA <MDL
PFOS 0.250
OTHER PFAs 0.252
TMW-19S
11/13/2019
4.92 – 9.92' SCREEN
UNITS ug/L
VOCs <MDL
PFOA <MDL
PFOS 1.50
OTHER PFAs 1.745
TMW-16
9/10/2018
4.86 – 9.86' SCREEN
UNITS ug/L
1,3-DCB 2
TMW-9
9/10/2018
3.19 – 8.19' SCREEN
UNITS ug/L
VOCs <MDL
PNAs <MDL
TMW-8
9/10/2018
2.49 – 7.49' SCREEN
UNITS ug/L
VOCs <MDL
LEGEND:
W
GAS
SAN
Cd
Cr
Hg
Se
TCE
1,3-DCB
cis-1,2-DCE
PFOA
PFOS
PFAS
VOCs
PNAs
MDL
NOTES:
SAMPLE
GROUNDWA
GROU
PROJ:

SG-25	
11/13/2019	
2.5'	
UNITS	ug/m³
ACETONE	640
E	30
MEK	29
PROPYLENE	6.9
m,p-XYLENE	100
o-XYLENE	22
X (TOTAL)	120
OTHER VOCs	<MDL

SG-6	
9/11/2018	
4.5'	
UNITS	ug/m³
ACETONE	400
1,3-DCB	1,050
E	35
ISOP ALCOHOL	9,760
MEK	88
T	15
m,p-XYLENE	100
o-XYLENE	35
X (TOTAL)	140
OTHER VOCs	<MDL

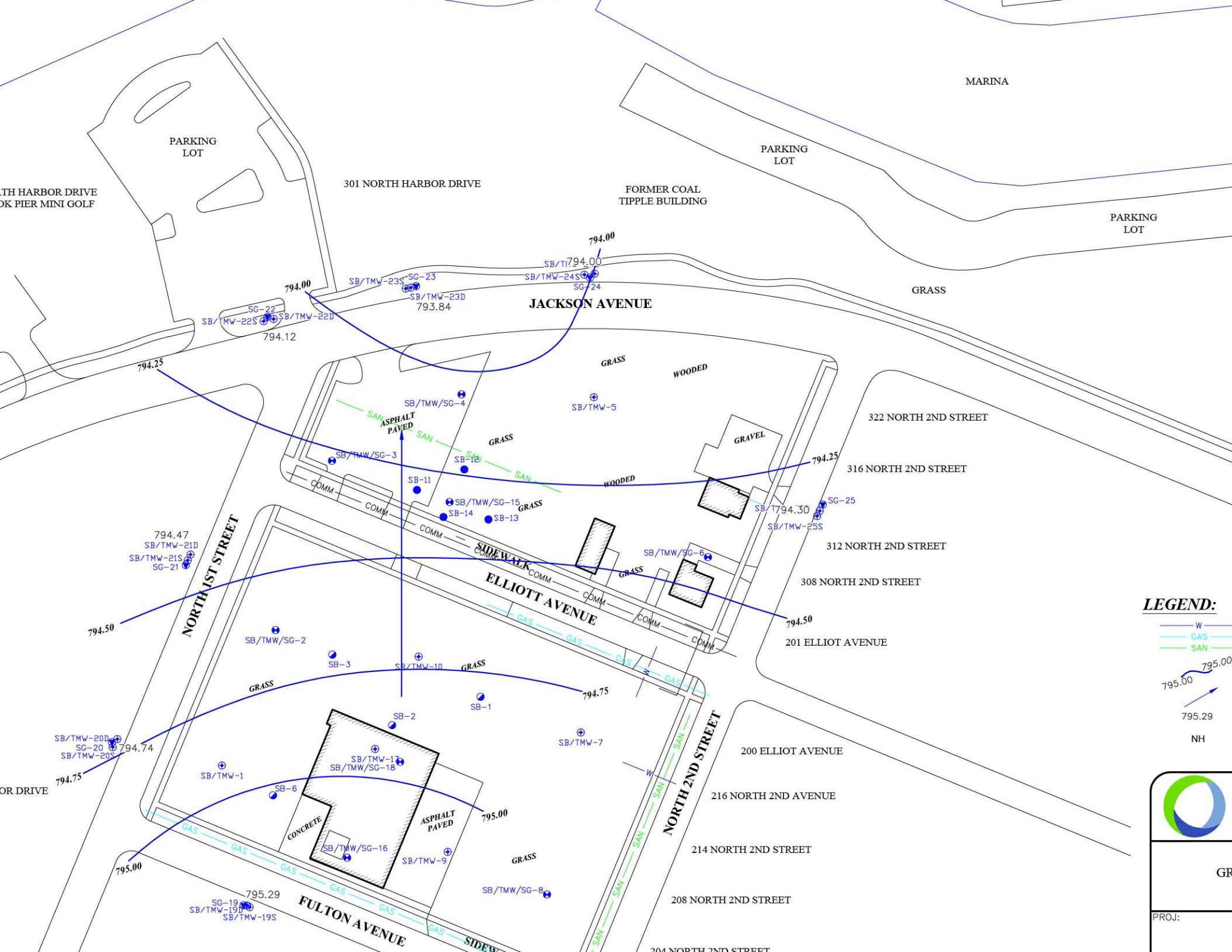
SG-8	
9/11/2018	
4.0'	
UNITS	ug/m³
ACETONE	48
B	22

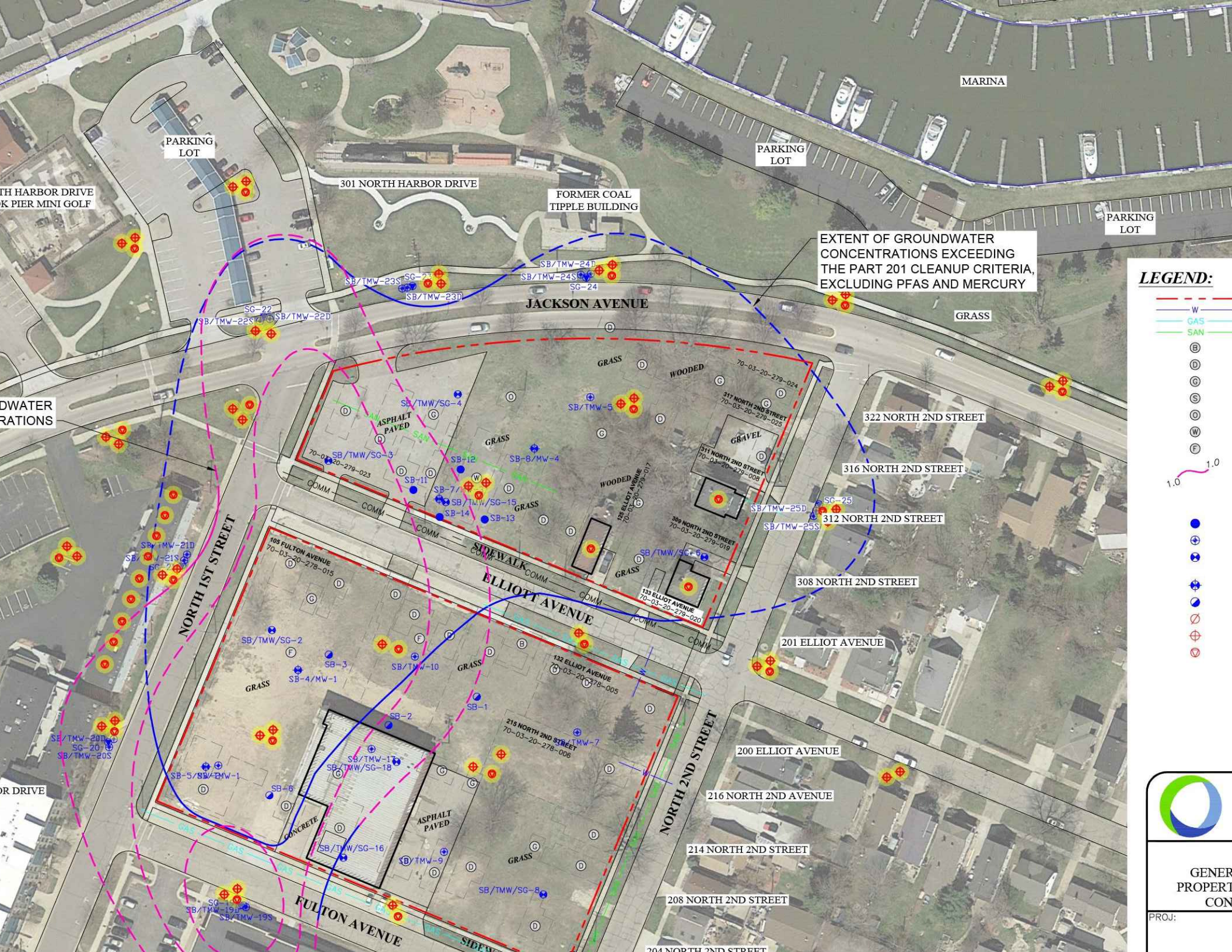
SG-16	
9/11/2018	
5.0'	
UNITS	ug/m³
ACETONE	48
1,1,1-TCA	27
1,2,4-TMB	15
T	7.5

ACETONE	170
E	17
HEPTANE	12
HEXANE	11
MEK	29
PROPYLENE	5.2
T	15
m,p-XYLENE	65
o-XYLENE	17
X (TOTAL)	82
OTHER VOCs	<MDL

o-XYLENE	17
X (TOTAL)	110
OTHER VOCs	<MDL

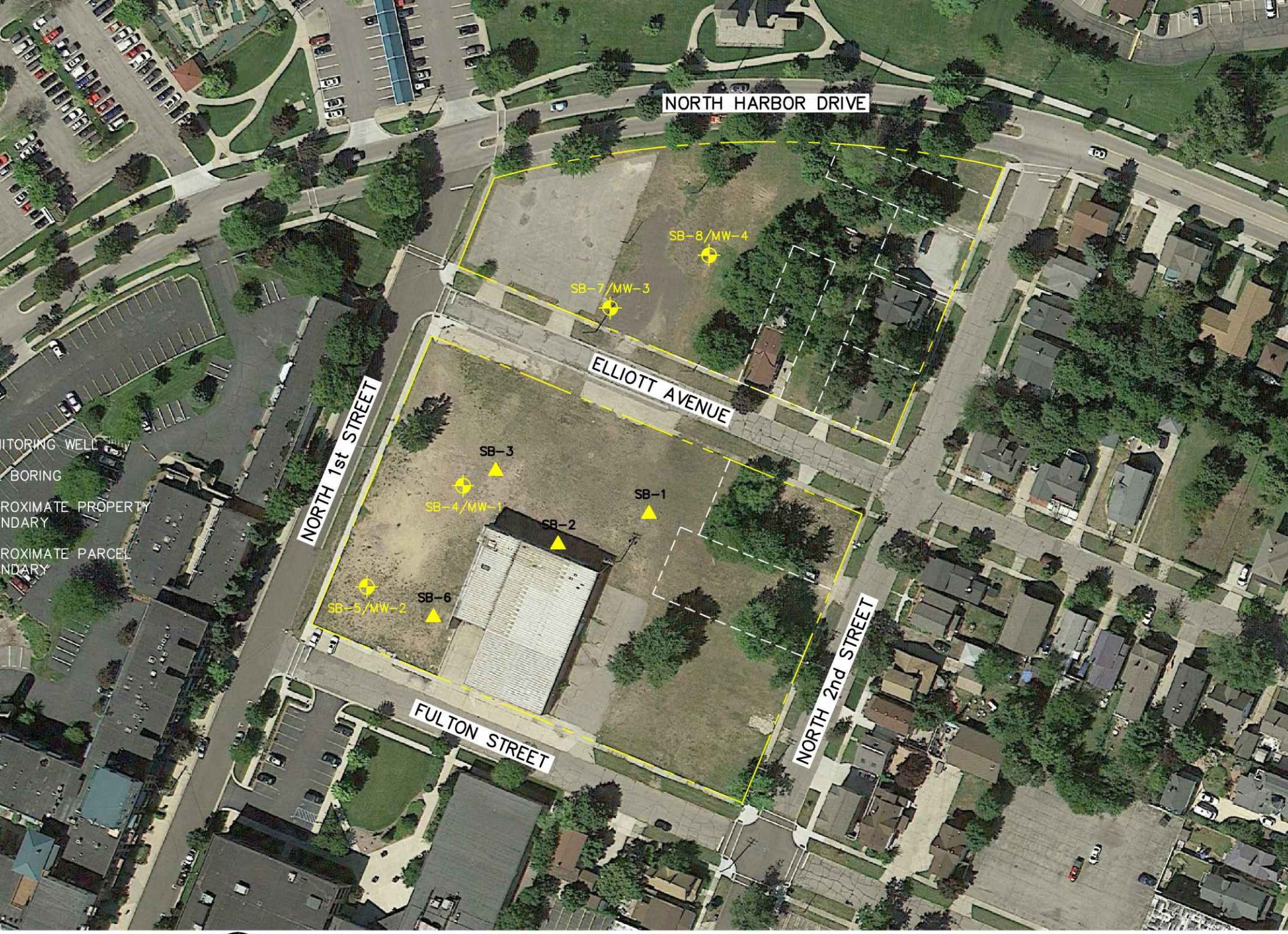
2.0'	
UNITS	ug/m³
ACETONE	480
CARBON DISF	19
CYCLOHEXANE	38
E	26
HEPTANE	8.2
HEXANE	11
PROPYLENE	26
T	11
m,p-XYLENE	74
o-XYLENE	17
X (TOTAL)	91
OTHER VOCs	<MDL


PARKING LOT
301 NORTH HARBOR DRIVE
FORMER COAL TIPPLE BUILDING
MARINA
PARKING LOT
PARKING LOT
GRASS
JACKSON AVENUE
794.00
794.12
793.84
794.25
794.50
794.75
795.00
795.29
794.47
794.74
794.30
SB/TMW-23S
SG-23
SB/TMW-23D
SB/TMW-24S
SG-24
SB/TMW-22S
SG-22
SB/TMW-22D
SB/TMW-21D
SB/TMW-21S
SG-21
SB/TMW-20D
SG-20
SB/TMW-20S
SB/TMW-19D
SG-19
SB/TMW-19S
SB/TMW-25S
SG-25
SB/TMW/SG-4
SB/TMW-5
SB/TMW/SG-3
SB-12
SB-11
SB/TMW/SG-15
SB-14
SB-13
SB/TMW/SG-6
SB/TMW/SG-2
SB-3
SB/TMW-10
SB-1
SB-2
SB/TMW-7
SB/TMW-17
SB/TMW/SG-18
SB/TMW-1
SB-6
SB/TMW/SG-16
SB/TMW-9
SB/TMW/SG-8
ASPHALT PAVED
GRASS
WOODED
GRAVEL
CONCRETE
SAN
COMM
GAS
W
NORTH 1ST STREET
ELLIOTT AVENUE
SIDEWALK
FULTON AVENUE
NORTH 2ND STREET
322 NORTH 2ND STREET
316 NORTH 2ND STREET
312 NORTH 2ND STREET
308 NORTH 2ND STREET
201 ELLIOT AVENUE
200 ELLIOT AVENUE
216 NORTH 2ND AVENUE
214 NORTH 2ND STREET
208 NORTH 2ND STREET
204 NORTH 2ND STREET
LEGEND:
NH
PROJ:


MARINA
PARKING LOT
PARKING LOT
PARKING LOT
301 NORTH HARBOR DRIVE
FORMER COAL TIPPLE BUILDING
JACKSON AVENUE
EXTENT OF GROUNDWATER CONCENTRATIONS EXCEEDING THE PART 201 CLEANUP CRITERIA, EXCLUDING PFAS AND MERCURY
LEGEND:
GRASS
322 NORTH 2ND STREET
316 NORTH 2ND STREET
312 NORTH 2ND STREET
308 NORTH 2ND STREET
201 ELLIOT AVENUE
200 ELLIOT AVENUE
216 NORTH 2ND AVENUE
214 NORTH 2ND STREET
208 NORTH 2ND STREET
NORTH 1ST STREET
NORTH 2ND STREET
ELLIOTT AVENUE
FULTON AVENUE
SIDEWALK
ASPHALT PAVED
CONCRETE
GRAVEL
WOODED
105 FULTON AVENUE
70-03-20-278-015
132 ELLIOT AVENUE
70-03-20-278-005
133 ELLIOT AVENUE
70-03-20-279-020
215 NORTH 2ND STREET
70-03-20-278-006
317 NORTH 2ND STREET
70-03-20-279-025
311 NORTH 2ND STREET
70-03-20-279-008
309 NORTH 2ND STREET
70-03-20-279-019
128 ELLIOT AVENUE
70-03-20-279-017
70-03-20-279-024
70-03-20-279-023
SB/TMW-23S
SB/TMW-23D
SB/TMW-24D
SB/TMW-24S
SB/TMW-22S
SB/TMW-22D
SB/TMW/SG-4
SB/TMW-5
SB/TMW/SG-3
SB-8/MW-4
SB-12
SB-11
SB-7/
SB/TMW/SG-15
SB-14
SB-13
SB/TMW-25D
SB/TMW-25S
SB/TMW/SG-6
SB/TMW-21D
SB/TMW-21S
SB/TMW/SG-2
SB-3
SB-4/MW-1
SB/TMW-10
SB-1
SB-2
SB/TMW-7
SB/TMW-17
SB/TMW/SG-18
SB-5/SB/TMW-1
SB-6
SB/TMW/SG-16
SB/TMW-9
SB/TMW/SG-8
SB/TMW-20D
SB/TMW-20S
SB/TMW-19D
SB/TMW-19S
SG-22
SG-23
SG-24
SG-25
W
GAS
SAN
1.0
1.0

Appendix A

PM ENVIRONMENTAL Environmental & Engineering Services



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Drawn By
GML

Cunningham Dalman

Background Levels			Inhalation Criteria				Surface Water Interface Protection Criteria	1-2'	1-2'	4-5'	1-2'	1-2'	1-2'	
	Residential	Non Residential	Residential	Non Residential	Residential	Non Residential		10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10
NA	**2,100**	**2,100**	4.3E+06	8.0E+06	3.2E+07	1.0E+08	**570**	BDL	BDL	BDL	BDL	BDL	BDL	1
NA	**1,800**	**1,800**	2.6E+06	4.8E+06	3.2E+07	1.0E+08	**1,100**	BDL	BDL	BDL	BDL	BDL	BDL	
NA	4,000	4,000	2.5E+05	4.6E+05	4.6E+05	1.0E+09	1,800	BDL	BDL	BDL	BDL	BDL	**65**	
NA	57,000	1.7E+05	2.7E+06	4.9E+06	8.1E+06	2.6E+07	4,200	BDL	BDL	BDL	**220**	BDL	BDL	
NA	**100**	**100**	4,500	240,000		5.8E+06	**47**	BDL	BDL	BDL	BDL	BDL	**56**	
NA	1,600	4,600	ID	ID	2.5E+06	8.0E+06	ID	BDL	BDL	BDL	BDL	BDL	BDL	
NA	100	100	11,000	2.1E+04	2.0E+05	9.3E+05	**11**	BDL	BDL	BDL	BDL	BDL	**87**	
NA	5,600	5,600	6.3E+06	1.2E+07	4.1E+08	1.0E+09	820	BDL	BDL	**110**	**66**	BDL	**100**	
NA	**100**	**100**	1,000	1,900	5.0E+05	6.6E+05	4,000	BDL	BDL	**670**	**240**	**110**	**1,200**	
NA	35,000	1.0E+05	2.5E+05	4.7E+05	1.6E+07	5.2E+07	730	BDL	BDL	BDL	**310**	BDL	BDL	
NA	57,000	170,000	2.7E+06	4.9E+06	8.1E+06	2.6E+07	4,200	BDL	BDL	**14**	**7.5**	BDL	**36**	
NA	300,000	880,000	1.9E+08	3.5E+08	4.1E+07	1.3E+08	8,700	BDL	BDL	**14**	BDL	BDL	**9.8**	
NA	41,000	41,000	1.0E+09	1.0E+09	2.3E+08	7.3E+08	ID	BDL	BDL	**48**	**21**	**12**	**41**	
NA	5,900	17,000	1.6E+06	3.0E+06	1.6E+06	5.2E+06	ID	BDL	BDL	**14**	**11**	BDL	**19**	
NA	NLL	NLL	NLV	NLV	20,000	80,000	NLL	**17**	**15**	**110**	**66**	**34**	**94**	
NA	NLL	NLL	NLV	NLV	2,000	8,000	NLL	**16**	**17**	**98**	**64**	**38**	**78**	
NA	NLL	NLL	ID	ID	20,000	80,000	NLL	**21**	**26**	**130**	**100**	**62**	**120**	
NA	NLL	NLL	NLV	NLV	2,500,000	7,000,000	NLL	**10**	**18**	**71**	**55**	**32**	**52**	
NA	NLL	NLL	ID	ID	200,000	800,000	NLL	**8.0**	**9.8**	**46**	**34**	**19**	**43**	
NA	NLL	NLL	NLV	NLV	2,000,000	8,000,000	NLL	**15**	**16**	**110**	**77**	**47**	**100**	
NA	730,000	730,000	1.0E+09	1.0E+09	4.6E+07	1.3E+08	5,500	**25**	**16**	**230**	**130**	**81**	**210**	
NA	390,000	890,000	5.8E+08	1.0E+09	2.7E+07	8.7E+07	5,300	BDL	BDL	**22**	**9.5**	BDL	**18**	
NA	NLL	NLL	NLV	NLV	20,000	80,000	NLL	**11**	**22**	**80**	**61**	**35**	**64**	
NA	35,000	100,000	250,000	4.7E+05	1.6E+07	5.2E+07	730	BDL	BDL	**19**	**7.2**	BDL	**31**	
NA	56,000	160,000	2.8E+06	5.1E+06	1.6E+06	5.2E+06	2,100	**20**	BDL	**180**	**83**	**49**	**210**	
NA	480,000	480,000	1.0E+09	1.0E+09	2.9E+07	8.4E+07	ID	**25**	**17**	**190**	**110**	**67**	**170**	
Various	Various	Various	Various	Various	Various	Various	Various	BDL	BDL	BDL	BDL	BDL	BDL	
5,800	4,600	4,600	NLV	NLV	7,600	37,000	4,600	**2,400**	BDL	**1,700**	**960**	**700**	**2,700**	
75,000	1,300,000	1,300,000	NLV	NLV	3.7E+07	1.3E+08	440,000	**30,000**	**7,000**	**34,000**	**21,000**	**16,000**	**30,000**	4
1,200	**6,000**	**6,000**	NLV	NLV	550,000	2.1E+06	**3,000**	BDL	BDL	**2,200**	**15,000**	BDL	BDL	
18,000	**30,000**	**30,000**	NLV	NLV	2.5E+06	1.0E+09	**3,300***	**3,000**	**14,000**	**150,000**	**100,000**	**2,900**	**3,400**	2
32,000	5,800,000	5,800,000	NLV	NLV	2.0E+07	7.3E+07	**75,000**	**6,100**	**78,000**	**35,000**	**33,000**	**4,300**	**6,600**	2
21,000	700,000	700,000	NLV	NLV	400,000	900,000	2.5E+06	**24,000**	**20,000**	**43,000**	**17,000**	**8,900**	**91,000**	
440,000	1,000*	1,000*	NLV	NLV	2.5E+07	9.0E+07	**26,000***	**48,000**	**11,000**	**49,000**	**38,000**	**51,000**	**65,000**	4
130	1,700	1,700	48,000	89,000	160,000	580,000	**50***	**53**	BDL	**150**	**34**	**67**	**110**	
410	4,000	4,000	NLV	NLV	2.6E+06	9.6E+06	**400**	BDL	BDL	**650**	**1,100**	BDL	**400**	
1,000	4,500	13,000	NLV	NLV	2.5E+06	9.0E+06	100	BDL	BDL	BDL	BDL	BDL	BDL	
47,000	2,400,000	2,400,000	NLV	NLV	1.7E+08	6.3E+08	170,000	**35,000**	**6,900**	**80,000**	**68,000**	**20,000**	**70,000**	3

ndum #1, Attachment 1, 12/30/13.
an Drinking Water Protection Criteria or GSI Protection Criteria, the Background Criteria apply.
alent form.
oncentrations are shown on this table. See analytical laboratory report for full list of compounds analyzed.
here applicable.

ost soil conditions.
er most soil conditions.
available for this parameter.
iterion.
water protection criteria.
il volatilization to indoor air inhalation criteria.
on criteria.

	CAS Number	Part 201 Generic Cleanup Criteria					Analytical Results			
		Drinking Water Criteria		Groundwater Surface Water Interface Criteria	Groundwater Volatilization to Indoor Air Inhalation Criteria		MW-1	MW-2	MW-3	
		Residential	Non Residential		Residential	Non Residential	1510170-02	1510170-01	1510170-03	15
							10/1/2015	10/1/2015	10/1/2015	10
	71-55-6	200	200	890	1,300,000	660,000	BDL	**1.1**	BDL	
	95636	63	63	**17**	56,000	56,000	BDL	BDL	**29**	
	108678	1,200	1,400	NA	NLV	NLV	BDL	BDL	**4.5**	
	79-01-6	**5.0**	**5.0**	200	22,000	2,200	**6.9**	**3.6**	BDL	
L)										
	Various	Various	Various	Various	Various	Various	BDL	BDL	BDL	
	Various	Various	Various	Various	Various	Various	BDL	BDL	BDL	
)										
	7440-38-2	10	10	10	NLV	NLV	BDL	**5.3**	BDL	
	7440-39-3	2,000	2,000	674	NLV	NLV	**7.2**	**8.2**	**41**	
	7440-43-9	5.0	5.0	2.48	NLV	NLV	BDL	BDL	BDL	
	16065831	**100**	**100**	**103**	NLV	NLV	**170**	BDL	**82**	
	7440-50-8	1,000	1,000	**12.7**	NLV	NLV	**18**	**23**	BDL	
	7439-92-1	**4.0**	**4.0**	16	NLV	NLV	BDL	BDL	BDL	
	7439-96-5	**50**	**50**	ID	9,100,000	NLV	BDL	BDL	**200**	
	7439-97-6	2.0	2.0	0.0013	56	56	BDL	BDL	BDL	
	7782-49-2	50	50	5	NLV	NLV	BDL	BDL	BDL	
	7440-22-4	34	98	0.2	NLV	NLV	BDL	BDL	BDL	
	7440-66-6	2,400	5,000	167	NLV	NLV	**10**	BDL	**11**	

Operational Memorandum #1, Attachment 1, 12/30/13.
detected parameters are shown on this table. See analytical laboratory report for full list of parameters analyzed.
value of 150 mg/L where applicable.
imit.
levelop criterion.
ikely to volatilize under most conditions.
ferenced residential and nonresidential drinking water criteria.
ferenced GSI criteria.

ATTACHMENT C

Restrictive Covenant

DECLARATION OF RESTRICTIVE COVENANT
FOR A RESTRICTED RESIDENTIAL REMEDIAL ACTION

EGLE Reference No: DRAFT

This Declaration of Restrictive Covenant (Restrictive Covenant) has been recorded with the Ottawa County Register of Deeds for the purpose of protecting public health, safety, and welfare, and the environment by prohibiting or restricting activities that could result in unacceptable exposure to environmental contamination present at the property located at 105 Fulton Avenue, 125 Elliot Avenue, 132 Elliott Avenue, 133 Elliot Avenue, 215 North 2nd Street, 309 North 2nd Street, 311 North 2nd Street, 317 North 2nd Street, and two parcels with no addresses (Parcel Identification Numbers 70-03-20-279-023 and 70-03-20-279-024), all in Grand Haven, Michigan 49417 and legally described in Exhibit 1 attached hereto (Property).

The Property is associated with 105 Fulton Avenue, Grand Haven, Michigan 49417, Site ID Number 70000780, for which response activitites were implemented pursuant to Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.20101 *et seq*. The Property described contains hazardous substances in excess of the concentrations developed as the unrestricted residential criteria under Section 20120a(1)(a) or (17) of the NREPA. EGLE recommends that prospective purchasers or users of the Property undertake appropriate due diligence prior to acquiring or using this Property, and undertake appropriate actions to comply with the due care requirements of Section 20107a of the NREPA.

The restrictions contained in this Restrictive Covenant, recorded pursuant to Section 20121(2) of the NREPA, are based upon information available at the time the response activities were implemented. Failure of the response activities to achieve and maintain the criteria, exposure controls, and any requirements specified by the response activities; future changes in the environmental condition of the Property or changes in the cleanup criteria as defined in the NREPA; the discovery of environmental conditions at the Property that were not accounted for during implementation of the response activities; or use of the Property in a manner inconsistent with the restrictions described herein, may result in this Restrictive Covenant not being protective of public health, safety, and welfare, and the environment.

Exhibit 2 provides a survey of the Property that is subject to the land use or resource use restrictions specified herein.

Definitions

For the purposes of this Restrictive Covenant, the following definitions shall apply:

"EGLE" means the Michigan Department of Environment, Great Lakes, and Energy, its successor entities, and those persons or entities acting on its behalf.

"Owner" means at any given time the then current title holder of the Property or any portion thereof.

All other terms used in this document which are defined in Part 3, Definitions, of the NREPA; Part 201 of the NREPA; or the Part 201 Administrative Rules, Michigan Administrative Code, 2013 AACS R 299.1 – R 299.50, shall have the same meaning in this document as in Parts 3 and 201 of the NREPA and the Part 201 Administrative Rules, as of the date of filing of this Restrictive Covenant.

Summary of Response Activities and Environmental Contamination

Hazardous substances including volatile organic compounds (VOCs), per and polyfluorinated compounds (PFAS), and the metals cadmium, chromium, mercury, and selenium are present in soil, groundwater, and/or soil gas exceeding the Part 201 Residential and/or Nonresidential Drinking Water Protection (DWP)/Drinking Water (DW), Groundwater Surface Water Interface Protection (GSIP)/Groundwater Surface Water Interface (GSI) cleanup criteria, and Residential and/or Nonresidential site-specific Volatilization to Indoor Air Criteria developed by EGLE. Response activities consist primarily of land and resource use restrictions.

NOW THEREFORE,

1. Declaration of Land Use or Resource Use Restrictions

   [OWNERSHIP ENTITY], as the Owner of the property hereby declares and covenants that the Property shall be subject to the following restrictions and conditions:

   a. Activity and Use Limitations

The Owner shall prohibit activities on the Property that may result in unacceptable exposures to hazardous substances at the Property. These prohibited activities include:

I. Except for wells and devices that are part of an EGLE-approved response activity, construction or use of additional water supply wells or other devices to extract groundwater for irrigation, or any other use will be prohibited, without prior evaluation and/or implementation of appropriate treatment or other engineering controls required to prevent potential exposures through ingestion or to prevent exacerbation of existing soil and/or groundwater impact. Short-term dewatering for construction purposes is permitted, provided the dewatering, including management and disposal of the groundwater, is conducted in accordance with all applicable local, state, and federal laws and regulations and does not cause or result in a new release, exacerbation of contamination, or any other violation of local, state, and federal environmental laws and regulations including, but not limited to, Part 201 of the NREPA, as amended.

II. The Owner shall prohibit the construction and/or use of any buildings or structures on the Property unless the Owner complies with one of the following:

(a) The building or structure is an establishment used and classified for manufacturing use consistent with Section 31-33 – Manufacturing , of the North American Industry Classification System, United States, 2012, and the Owner complies with all of the provisions of Section 20120a(18) of the NREPA.

(b) The Owner performs an evaluation of the potential for hazardous substances to volatilize into indoor air that demonstrates the protection of persons who may be present within any building or structure and complies with Section 20107a of the NREPA.

(c) The Owner installs appropriate engineering controls on any building or structure designed to eliminate the potential for subsurface vapor phase hazardous substances to migrate into the building or structure at concentrations greater than applicable criteria.

b. Contaminated Soil Management The Owner shall manage all soils, media and/or debris located on the property in accordance with the applicable requirements of Section 20120c of the NREPA; Part 111, Hazardous Waste Management, of the NREPA; Toxic Substances Control Act (TSCA), 15 USC 2601 *et seq.*; Subtitle C of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 *et seq*.; the administrative rules promulgated thereunder; and all other relevant state and federal laws.

2. Term of Restrictive Covenant. This Restrictive Covenant shall run with the Property and shall be binding on the Owner; future owners; and their successors and assigns, lessees, easement holders, and any authorized agents, employees, or persons acting under their direction and control. This Restrictive Covenant shall continue in effect until EGLE or its successor determines that hazardous substances no longer present an unacceptable risk to the public health, safety, or welfare, or the environment. This Restrictive Covenant may only be modified or rescinded with the written approval of [OWNERSHIP ENTITY] and EGLE.

3. Enforcement of Restrictive Covenant. The State of Michigan, through EGLE, and [OWNERSHIP ENTITY], may individually enforce the restrictions set forth in this Restrictive Covenant by legal action in a court of competent jurisdiction.

4. Severability. If any provision of this Restrictive Covenant is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions hereof, and all such other provisions shall continue unimpaired and in full force and effect.

5. Authority to Execute Restrictive Covenant. The undersigned person executing this Restrictive Covenant is the Owner, or has the express written permission of the Owner, and represents and certifies that he or she is duly authorized and has been empowered to execute and record this Restrictive Covenant.

IN WITNESS WHEREOF, [OWNERSHIP ENTITY], the current and legal Owner of the Property, has caused this Restrictive Covenant to be executed on this _____ day of _____, 202__.

[OWNERSHIP ENTITY]

By: _____
Signature

Name: _____
Print or Type Name

Its: _____
Title

STATE OF Michigan
COUNTY OF Ottawa

The foregoing instrument was acknowledged before me this _____, 202__ by _____ of [OWNERSHIP ENTITY], a Michigan limited liability company, on behalf of the limited liability company.

_____
Notary Public Signature

_____
Print Name
Notary Public, State of _____
County of _____
My Commission Expires: _____
Acting in the County of _____

Prepared by:
J. Adam Patton, PM Environmental, Inc., 3340 Ranger Road, Lansing, Michigan 48906

When recorded return to:
Richard A. Barr, Esq.
Honigman LLP
660 Woodward, Ste. 2290
Detroit, MI 48226

EXHIBIT 1

LEGAL DESCRIPTION OF PROPERTY

Property in Grand Haven, Ottawa County described as follows:

LOTS 89 THRU 92, 129 THRU 132, 169,170 & W 33 FT OF LOT 172. ORIGINAL PLAT OF GRAND HAVEN

and

E 99 FT OF LOT 172. ORIGINAL PLAT OF GRAND HAVEN

and

W 1/2 OF LOT 6 BLK 5 AKELEYS ADD

and

S 1/2 OF LOT 5 BLK 5 AKELEYS ADD

and

LOT 171 ORIGINAL PLAT

and

N 1/2 OF LOT 5 BLK 5 AKELEYS ADD

and

E 44 FT OF LOT 4 BLK 5 EXC THE S 8 FT THEREOF AKELEYS ADD

and

SLY 1/2 LOT 3 BLK 5 LYING S OF HARBOR DR. AKELEY'S ADD BEING SLY 33 F OF LOT 3, NLY LI PARALLEL WITH SLY LI

and

LOT 1 & 7 THRU 10 BLK 5 LYING S OF HARBOR DR, ALSO LOT 4 BLK 5 EXC E'LY 44 FT OF N'LY 58 FT, ALSO W'LY 33 FT OF LOT 6 BLK 5. AKELEY'S ADD

and

LOT 3 BLK 5 LYING S OF HARBOR DR, EXC THE S 33 FT. AKELEY'S ADD

TAX PARCEL NUMBERS: _70-03-20-279-023, 70-03-20-279-023 AND

EXHIBIT 2

SURVEY OF LIMITS OF LAND OR RESOURCE USE RESTRICTION

[MAY NOT NEED IF RESTRICTION APPLIES TO ENTIRE PROPERTY


JACKSON AVENUE
NORTH 1ST STREET
ELLIOTT AVENUE
SIDEWALK
NORTH 2ND STREET
FULTON AVENUE
SIDEWALK
GRASS
WOODED
ASPHALT PAVED
GRASS
GRAVEL
WOODED
GRASS
GRASS
GRASS
GRASS
ASPHALT PAVED
CONCRETE
GRASS
322 NORTH 2ND STREET
316 NORTH 2ND STREET
312 NORTH 2ND STREET
308 NORTH 2ND STREET
201 ELLIOT AVENUE
200 ELLIOT AVENUE
216 NORTH 2ND AVENUE
214 NORTH 2ND STREET
208 NORTH 2ND STREET
204 NORTH 2ND STREET
200 NORTH 2ND STREET
206 NORTH HARBOR DRIVE
121 NORTH 2ND STREET
PROJ: