

Online Public Meeting

Wolverine's Draft House Street Property Feasibility Study

Wednesday, March 31, 2021
6:00 – 7:30pm



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

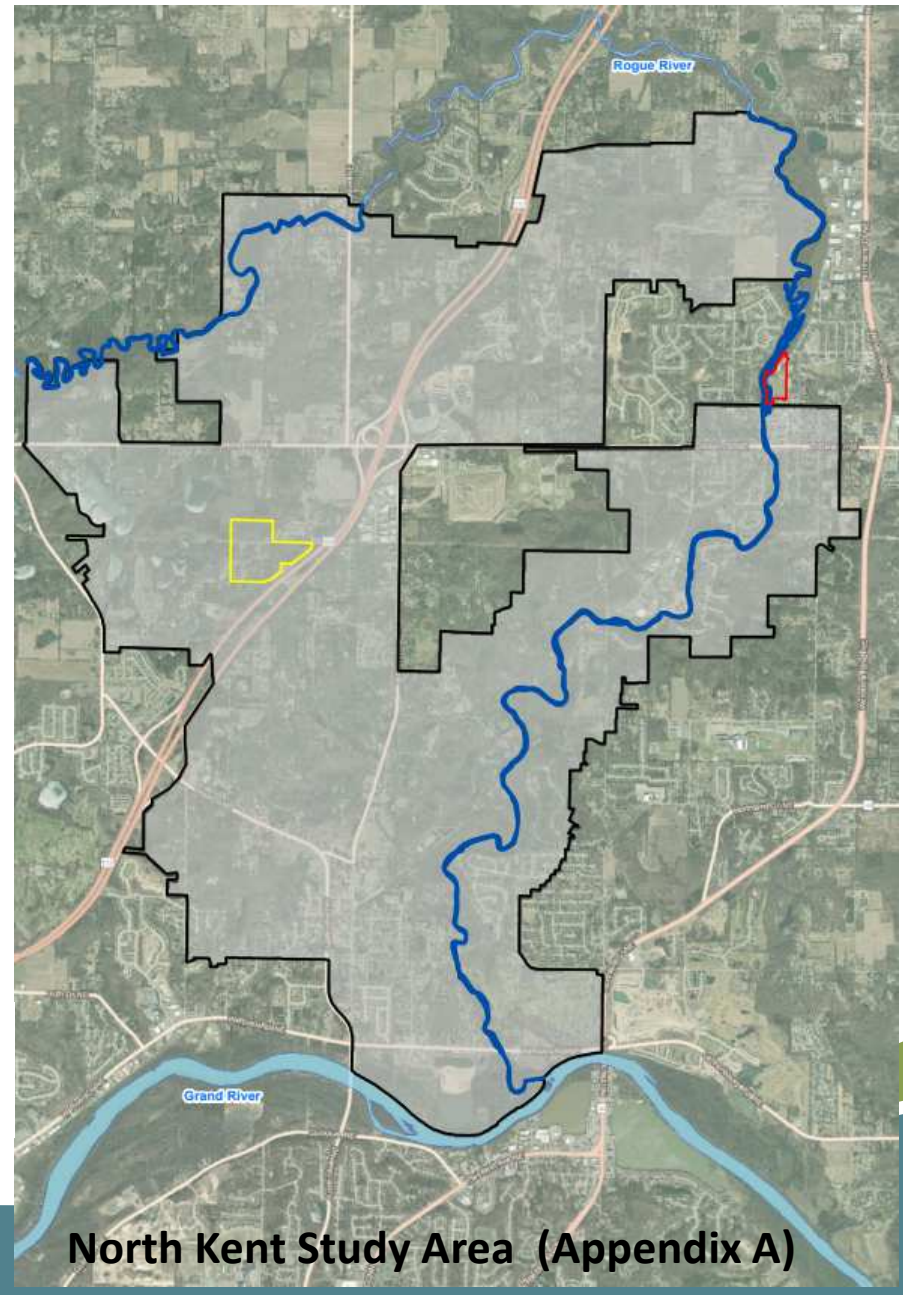
Meeting Agenda

- Overview of the 2020 Consent Decree
- House Street Property Location
- House Street Property Consent Decree Requirements
- Wolverine's Draft Feasibility Study Submittal
- Next Steps & Public Comment Period
- Questions / Informal Public Comments

February 19, 2020 Consent Decree

- Consent Decree between the State of Michigan (Plaintiff), Plainfield and Algoma Townships (Intervening Plaintiffs) and Wolverine (Defendant) became effective on Feb. 19, 2020
- Serves as the framework for all future PFAS response activities performed by Wolverine in the “North Kent Study Area”
- Wolverine will conduct these activities under EGLE oversight

Consent Decree posted online at:
www.Michigan.gov/belmont



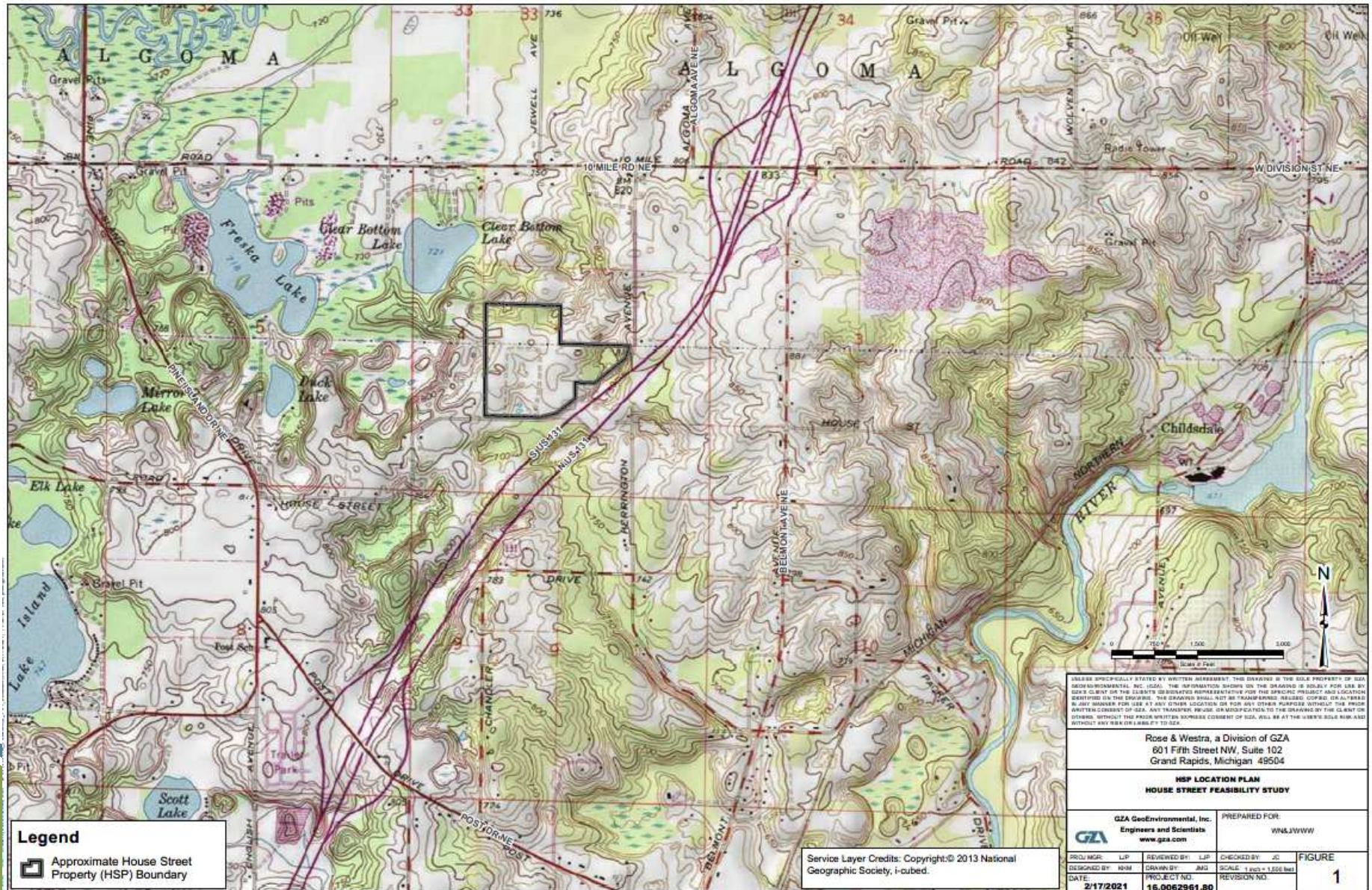
Requirements of Consent Decree

General actions Wolverine must take under the Consent Decree:

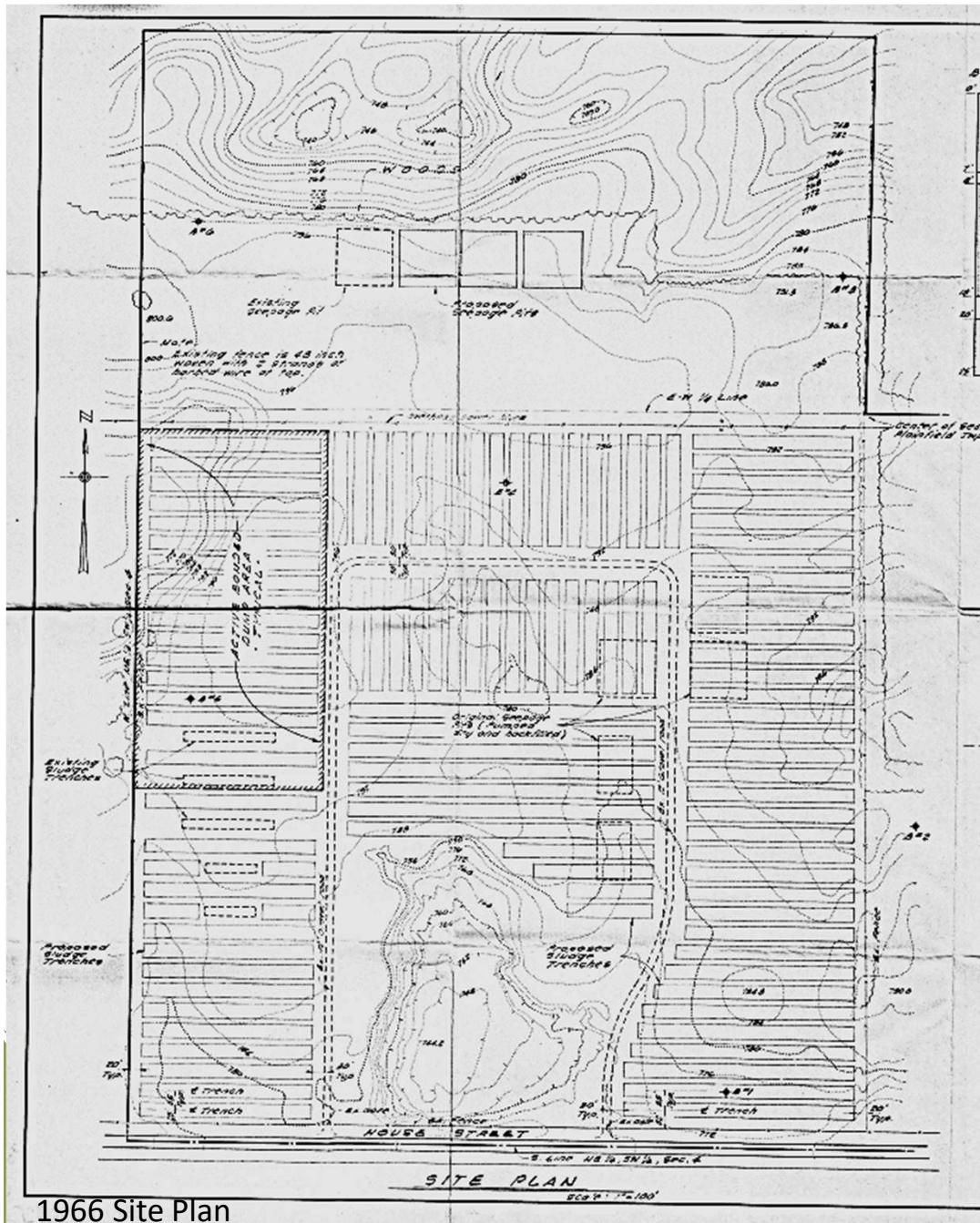
- Municipal Water Expansion (Section 6.0)
- Filter Operation & Maintenance (Section 7.5)
- Residential Drinking Water Well Sampling (Section 7.6)
- Tannery Site Source Control (Section 7.7)
- House Street Disposal Site (Section 7.8)
- Groundwater Investigations (Section 7.9)
- Groundwater-Surface Water Interface (GSI) Investigation (Section 7.10)

House Street Feasibility Study

House Street Property Location



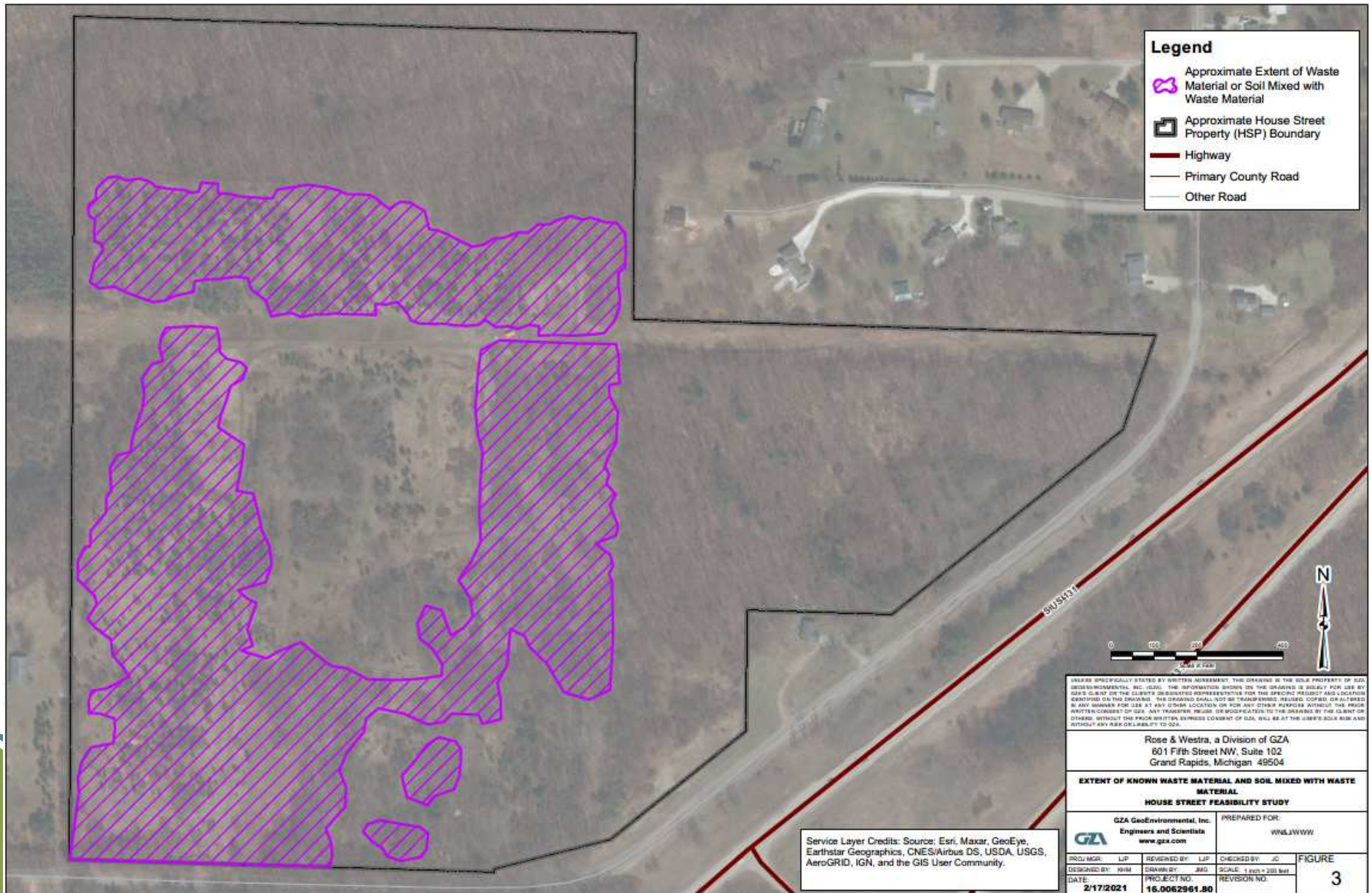
Historical House Street Property Use



1966 Site Plan

- Late 1930s- First reference to Wolverine disposal activities on House Street
- 1964 - Wolverine purchases the property
- 1966 – Licensed disposal facility
- 1970 – Disposal activities stop
- Waste materials disposed of in unlined trenches, ponds, lagoons and into lowlands/ravines

Extent of Known Waste Materials



Waste Materials & PFAS Groundwater Contamination

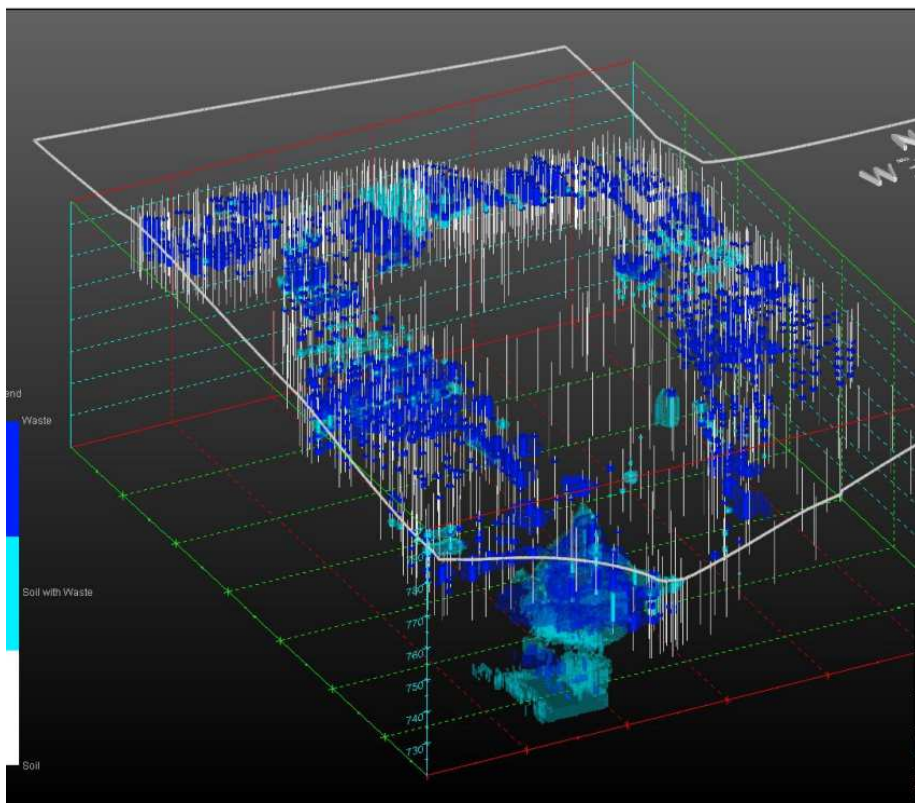


Figure 8F – Implementation of 2018 Work Plan Summary Report – House Street

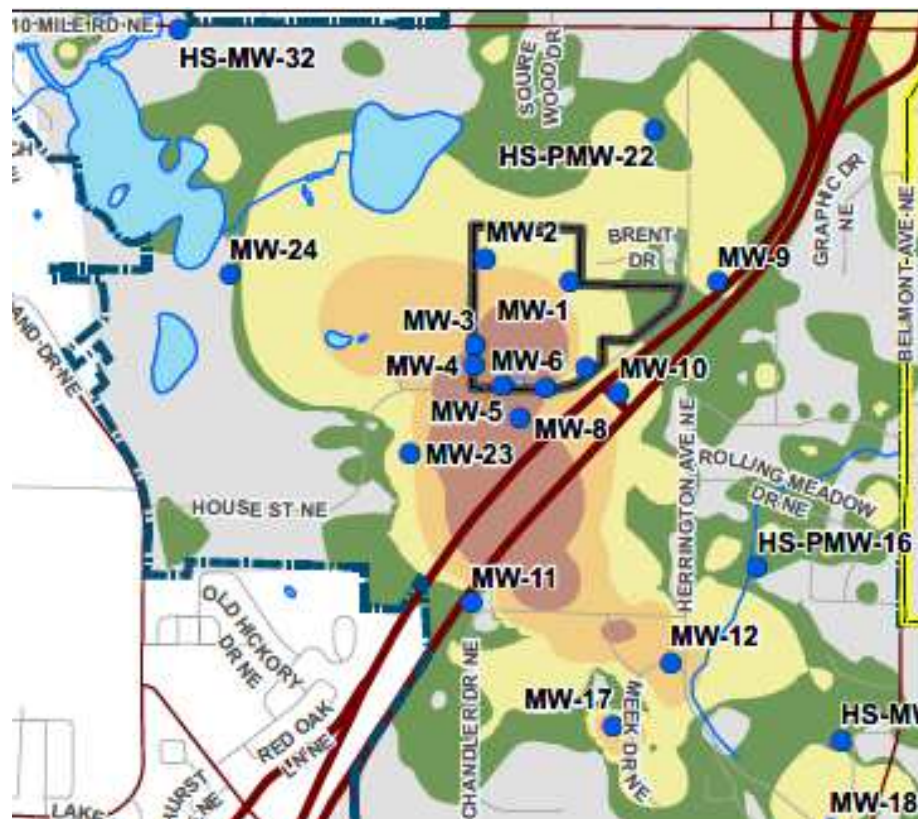


Figure 4A – Draft House Street Feasibility Study

Consent Decree: Section 7.8

Response Activities at the House Street Disposal Site

7.8 Response Activities at the House Street Disposal Site.

(a) Wolverine shall conduct a Feasibility Study of potential remedial options for the House Street Disposal Site.

(i) The Feasibility Study shall be submitted to MDEQ for its review and approval within one (1) year from the Effective Date.

(ii) The Feasibility Study shall evaluate the following remedy options to (1) manage solid wastes at the House Street Disposal Site and (2) reduce and control potential migration of PFAS Compounds from soils and sludges into the groundwater from the House Street disposal Site:

Consent Decree: Section 7.8

Response Activities at the House Street Disposal Site

Three options under 7.8 (a)(ii)(A)(B)(C)

(A) an approximately 30-acre surface cap without a bottom liner that complies with Part 201 and meets the applicable substantive requirements of Michigan's Part 115;

(B) an approximately 20-acre surface cap over an area in which materials are consolidated and placed above a liner with leachate collection, as required, that comply with Part 201 and meet the applicable substantive requirements of Michigan's Part 115; and

(C) other alternatives that may include some combination of a smaller cap and groundwater interceptor, collection, or treatment systems that comply with Part 201 and meet the applicable substantive requirements of Michigan's Part 115.

Consent Decree: Section 7.8

What should be included in the Feasibility Study? [7.8 (a)(iii)(A)(B)(C)]

(iii) The Feasibility Study shall set forth and evaluate the remedy options under Part 201. At a minimum, the Feasibility Study shall include the following information:

- (A) Definition of a remedial objective;
- (B) Analysis of each potential remedy option, including

an analysis of:

(1) The performance, reliability, ease of implementation, and potential impacts of the potential remedy, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

(2) The time required to begin and complete implementation of the remedy;

(3) The costs of remedy implementation;

(4) The institutional requirements that may substantially affect implementation of the remedy; and

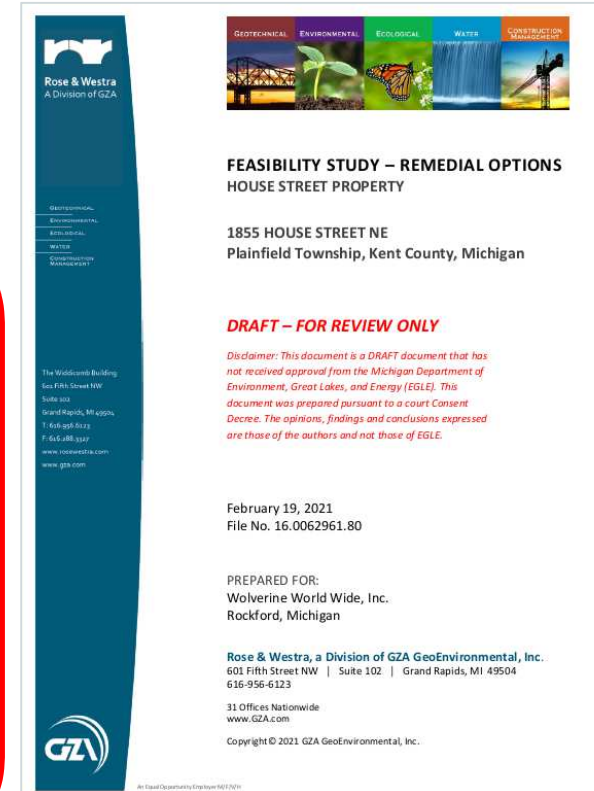
(5) The remedy's ability to reduce toxicity and the mobility of PFAS Compounds.

- (C) A proposed selected remedy based on the analysis.



Wolverine's Draft Feasibility Study

- Introduction (Section 1.0)
- Background (Section 2.0)
- Scope of Analysis (Section 3.0)
- Analysis (Section 4.0)
 - 4.1 – Wolverine's Remedial Objective
 - **4.2 – Identification and Screening of Remedy Options**
 - **4.3 – Analysis of Remedy Options**
 - **#1 – No Further Action Option**
 - **#2 – Cap Option**
 - **#3 – Landfill Cell Option**
 - **#4 – Off-site Disposal Option**
 - **#5 – Pump & Treat Option**
 - **#6 – Phytoremediation and partial Cap Option**
- **Proposed Remedy (Section 5.0)**
- References (Section 6.0)

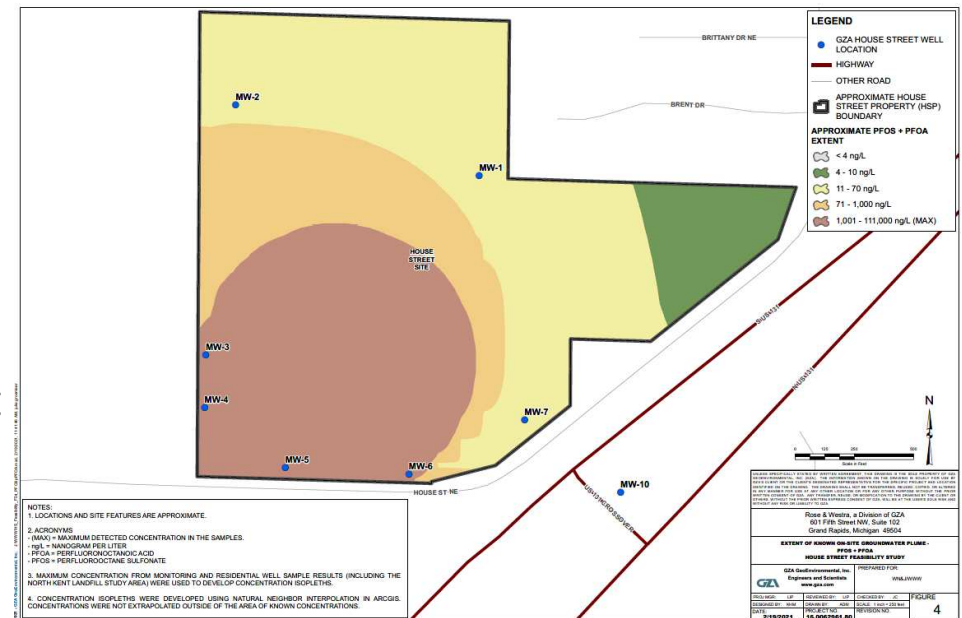


Wolverine's Draft Feasibility Study

Section 4.2 & Table 1 – Analysis of Remedy Options

Wolverine initially compared 12 different remedy options on Table 1.

- No further action
- Access and Use Restrictions
- Onsite Capping
- Onsite Containment Cell
- Groundwater Pump & Treat
- Funnel & Gate System
- Deep Well Injection
- In-Situ Waste Stabilization
- In-Situ Thermal Desorption Treatment
- In-Situ Chemical Oxidation
- Excavation and Offsite Disposal
- Phytoremediation and Capping



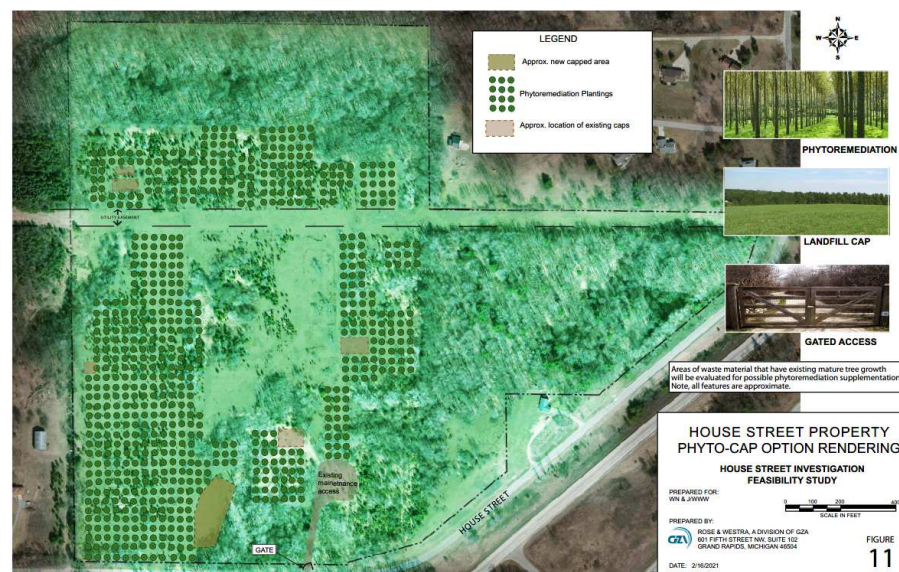
Based on Wolverine's analysis and interpretation of remedial objectives, Wolverine eliminated 6 of these options and compared the remaining 6 options.

Wolverine's Draft Feasibility Study

Section 4.3 & Table 2 – Analysis of Selected Remedy Options

Wolverine compares the following 6 different remedy options on Table 2

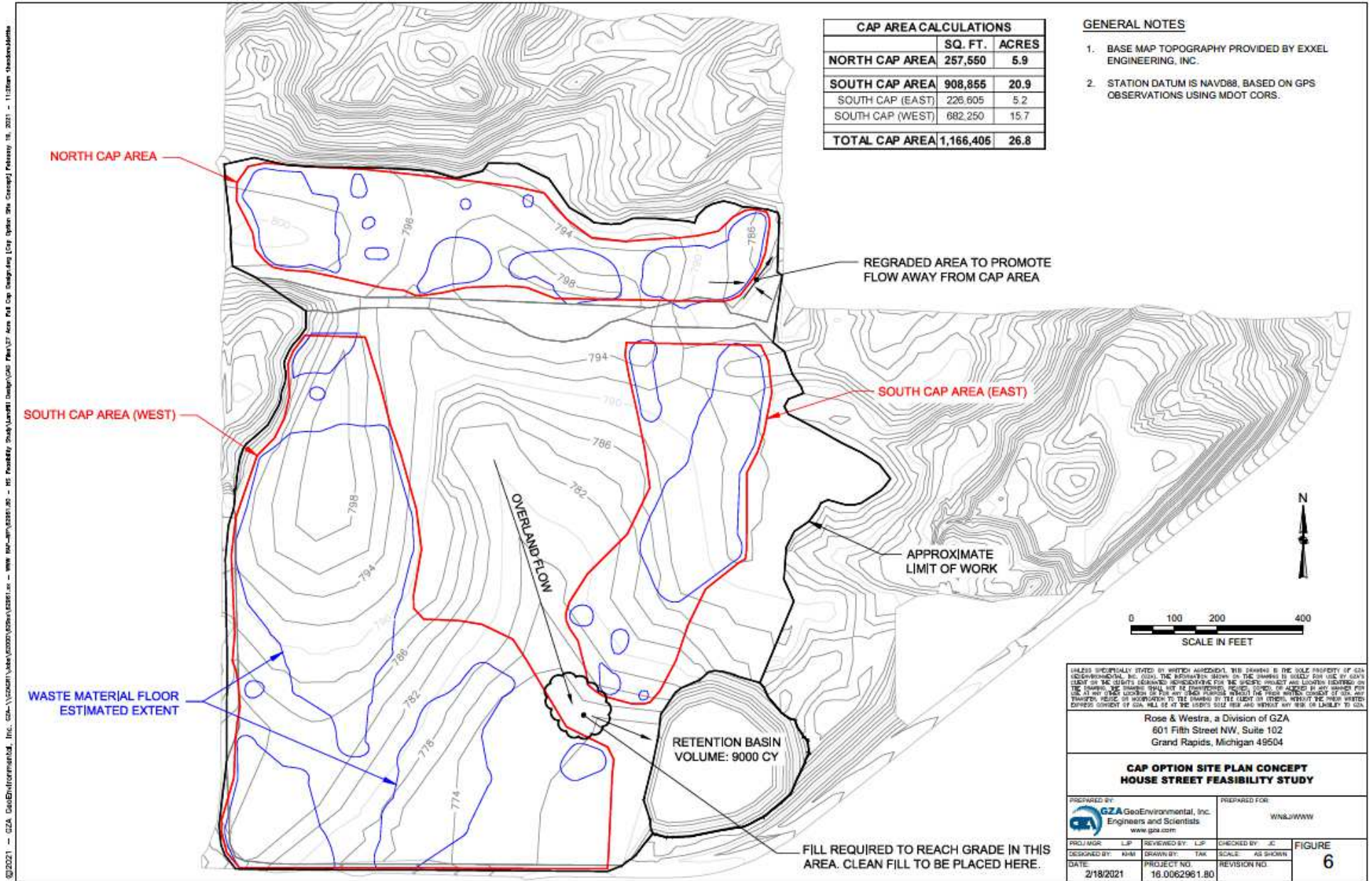
1. No further action
2. Onsite Capping
3. Onsite Containment Cell
4. Excavation and Offsite Disposal
5. Groundwater Pump & Treat
6. Phytoremediation and Capping



Based on Wolverine's analysis and interpretation of remedial objectives, Wolverine has proposed the **phytoremediation and limited capping option**.

Wolverine's Draft Feasibility Study

Figure 6 – Cap Option



CAP AREA CALCULATIONS		
	SQ. FT.	ACRES
NORTH CAP AREA	257,550	5.9
SOUTH CAP AREA	908,855	20.9
SOUTH CAP (EAST)	226,605	5.2
SOUTH CAP (WEST)	682,250	15.7
TOTAL CAP AREA	1,166,405	26.8

GENERAL NOTES

1. BASE MAP TOPOGRAPHY PROVIDED BY EXXEL ENGINEERING, INC.
2. STATION DATUM IS NAVD88, BASED ON GPS OBSERVATIONS USING MDOT CORRS.



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Rose & Westra, a Division of GZA
601 Fifth Street NW, Suite 102
Grand Rapids, Michigan 49504

**CAP OPTION SITE PLAN CONCEPT
HOUSE STREET FEASIBILITY STUDY**

PREPARED BY: GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

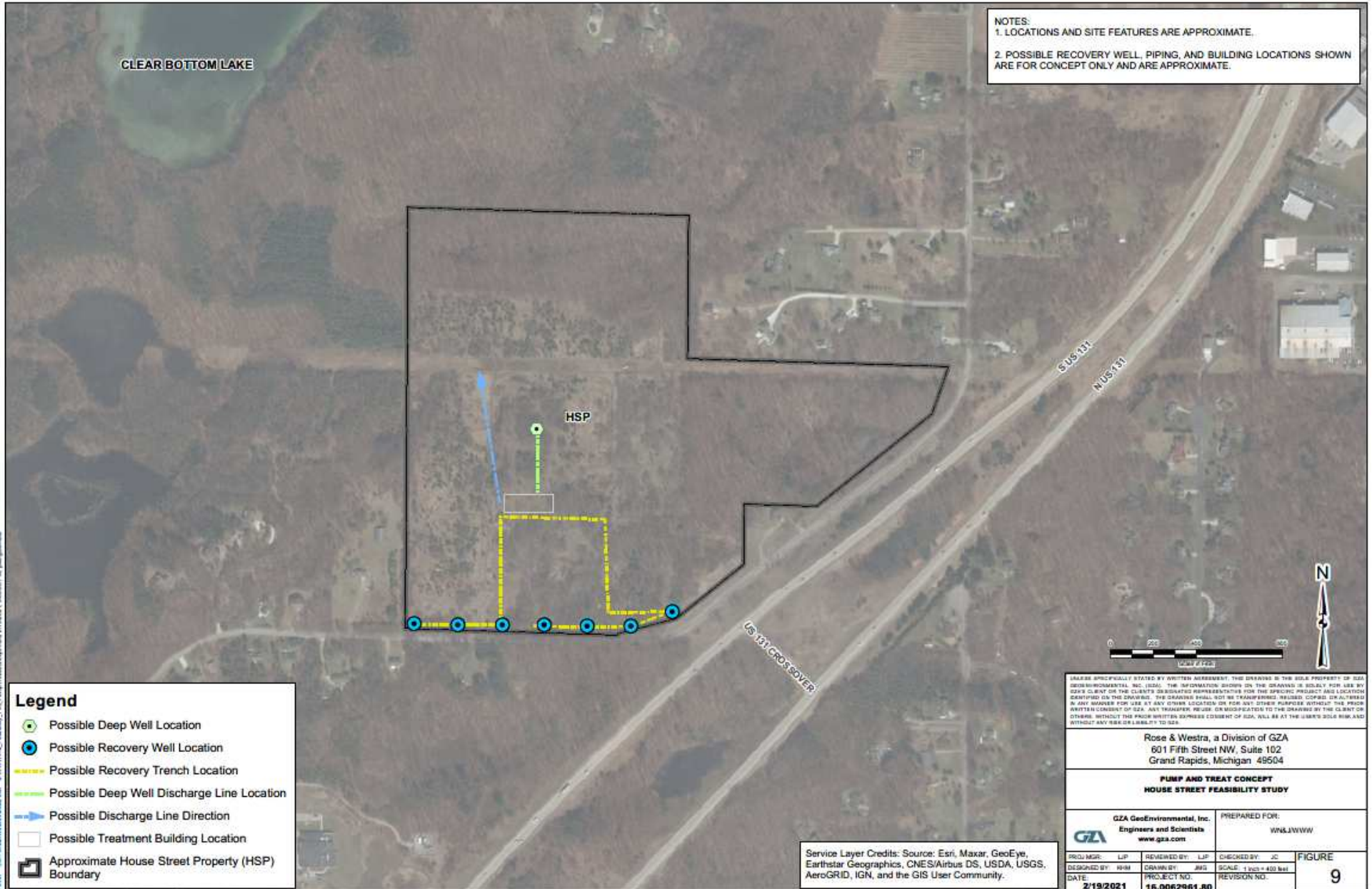
PREPARED FOR: WNL/WWW

PROJ MGR:	LJP	REVIEWED BY:	LJP	CHECKED BY:	JC	FIGURE 6
DESIGNED BY:	NHM	DRAWN BY:	TAK	SCALE:	AS SHOWN	
DATE:	2/18/2021	PROJECT NO.:	18.0062961.80	REVISION NO.:		

©2021 - GZA GeoEnvironmental, Inc. c:\p\2021\wolverine\house\cap_option\cap_option.dwg (1/17/21) User: JLP Date: 2/18/21 11:08am - 11:08am - 11:08am - 11:08am

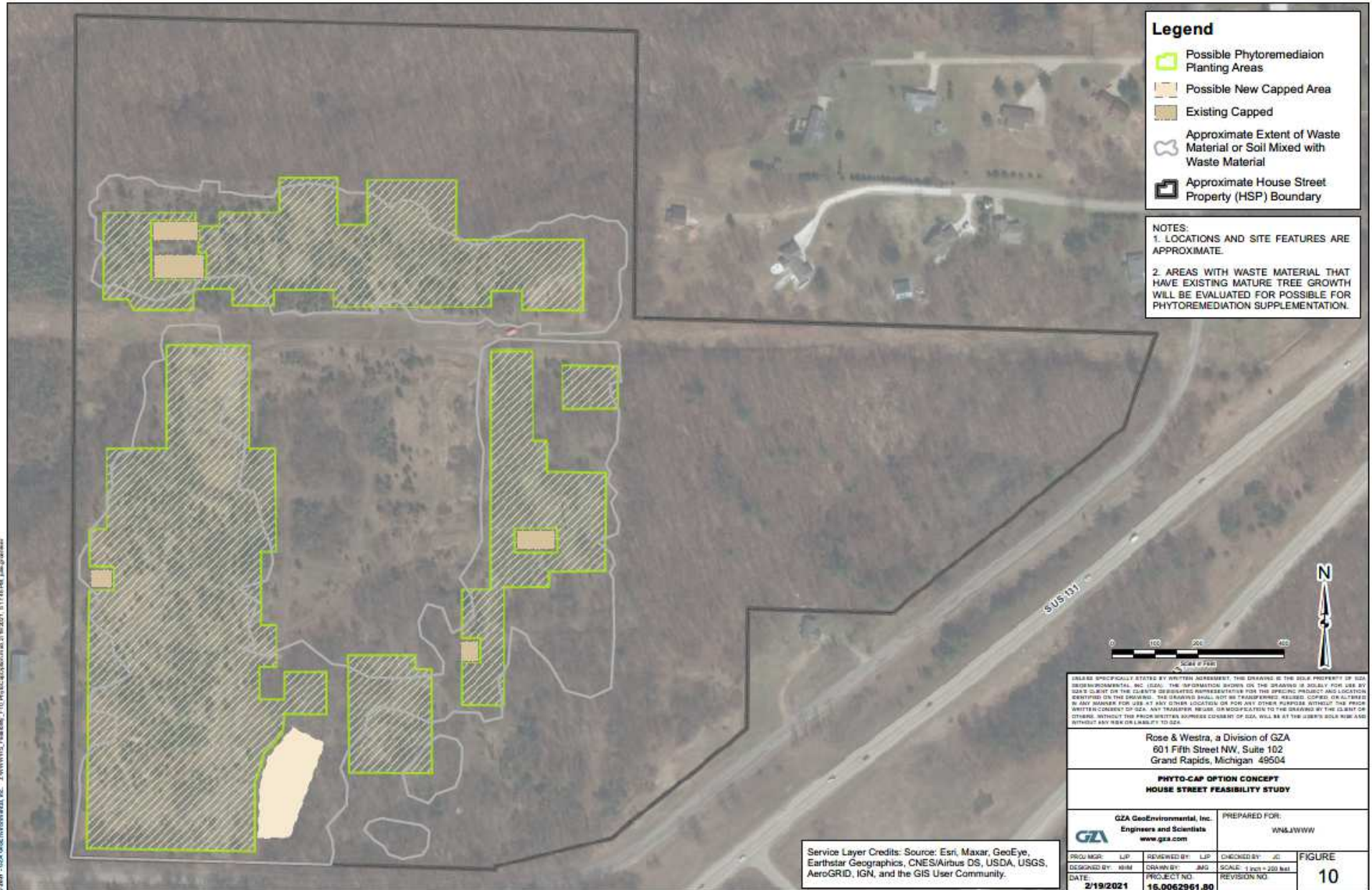
Wolverine's Draft Feasibility Study

Figure 9 – Pump & Treat Concept



Wolverine's Draft Feasibility Study

Figure 10 – Phyto-Cap Option Concept



Wolverine's Draft Feasibility Study

Figure 11 – Phyto-Cap Option Rendering



Remedy Selection Process



- **Feasibility Study:** Based on EGLE's review and consideration of public comments, the draft Feasibility Study will either be approved, approved with conditions, or denied. If the Feasibility Study is denied, Wolverine will need to address the deficiencies and submit a revised Feasibility Study.
 - **Dispute Resolution** process if needed.



- **Final Remedy Work Plan:** Wolverine must submit a work plan for the selected remedy to EGLE for review and approval within 180-days of the remedy selection.



- **Completion Report** (Section 7.12 a(iv)); A Completion Report is due within two (2) years of the completion of construction of the remedy selected and installed as required under Section 7.8. Must provide for long term operation, maintenance, and monitoring.

Report Review Next Steps

Take Comments

EGLE will take written public comments:

EGLE-RRD-Housestreet@michigan.gov

through April 17, 2021.

Prepare Response Document

EGLE will prepare a response document to summarize and address the public comments received.



This response document will be posted to www.Michigan.gov/belmont

Respond to Wolverine

EGLE will complete its review of the Feasibility Study and provide comments back to Wolverine.

We want to hear from you!

You can continue to submit your written comments through **April 17, 2021** to:

EGLE-RRD-Housestreet@michigan.gov

Or by mail to:

Karen Vorce

EGLE-RRD

350 Ottawa Avenue NW, Unit 10

Grand Rapids, MI 49503

Questions?

Karen's Contact Info:

Phone: 616-439-8008

Email: vorcek@Michigan.gov

(When submitting comments, make sure to note the Plan you are commenting on)