

Online Public Meeting

Wolverine's Draft Perimeter Monitoring Response Activity Plan

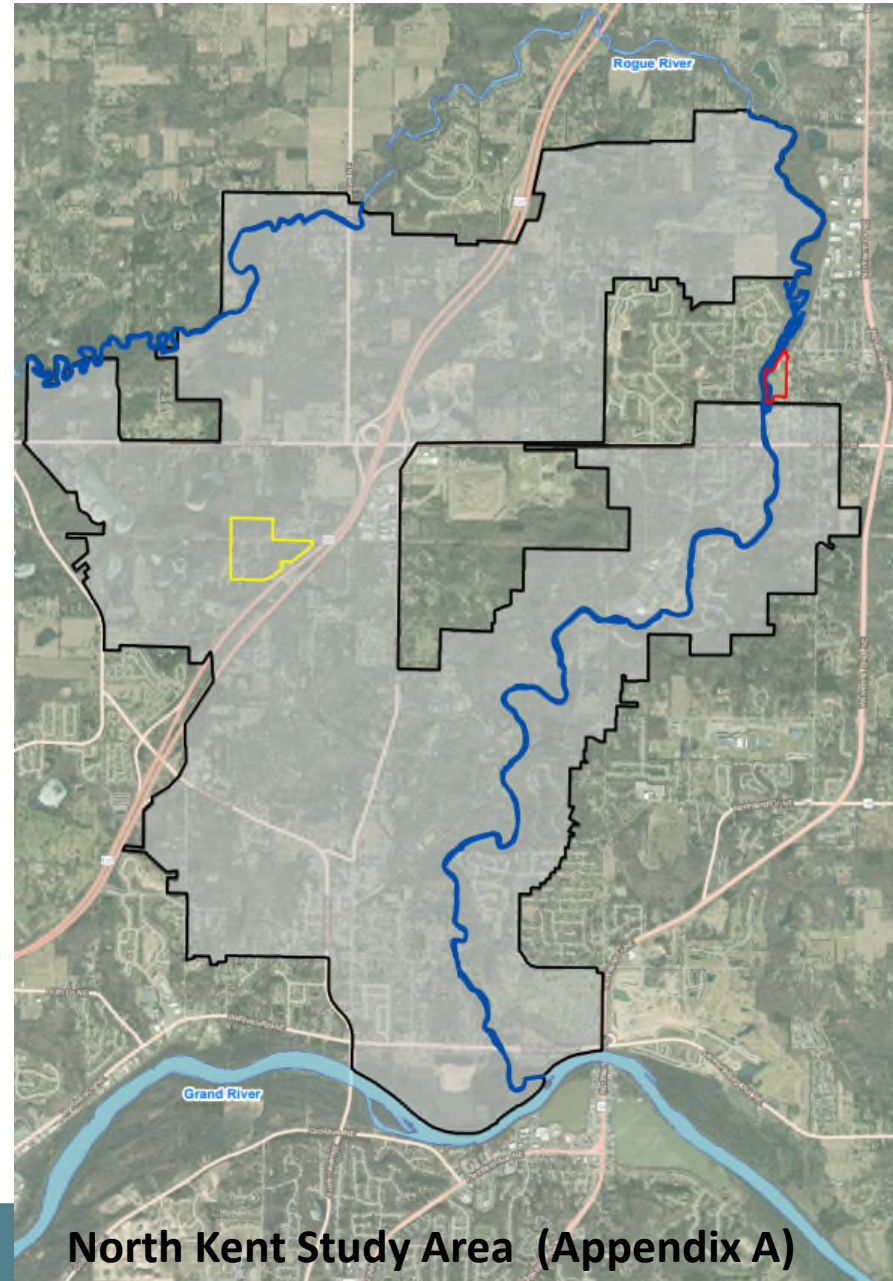
Tuesday, October 6, 2020
6:00 – 7:00pm



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

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 (www.Michigan.gov/Belmont)
- 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



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 Source Control (Section 7.8)
- **Groundwater Investigations**
(Section 7.9, Appendix N)
- Groundwater-Surface Water Interface (GSI)
Investigation (Section 7.10)

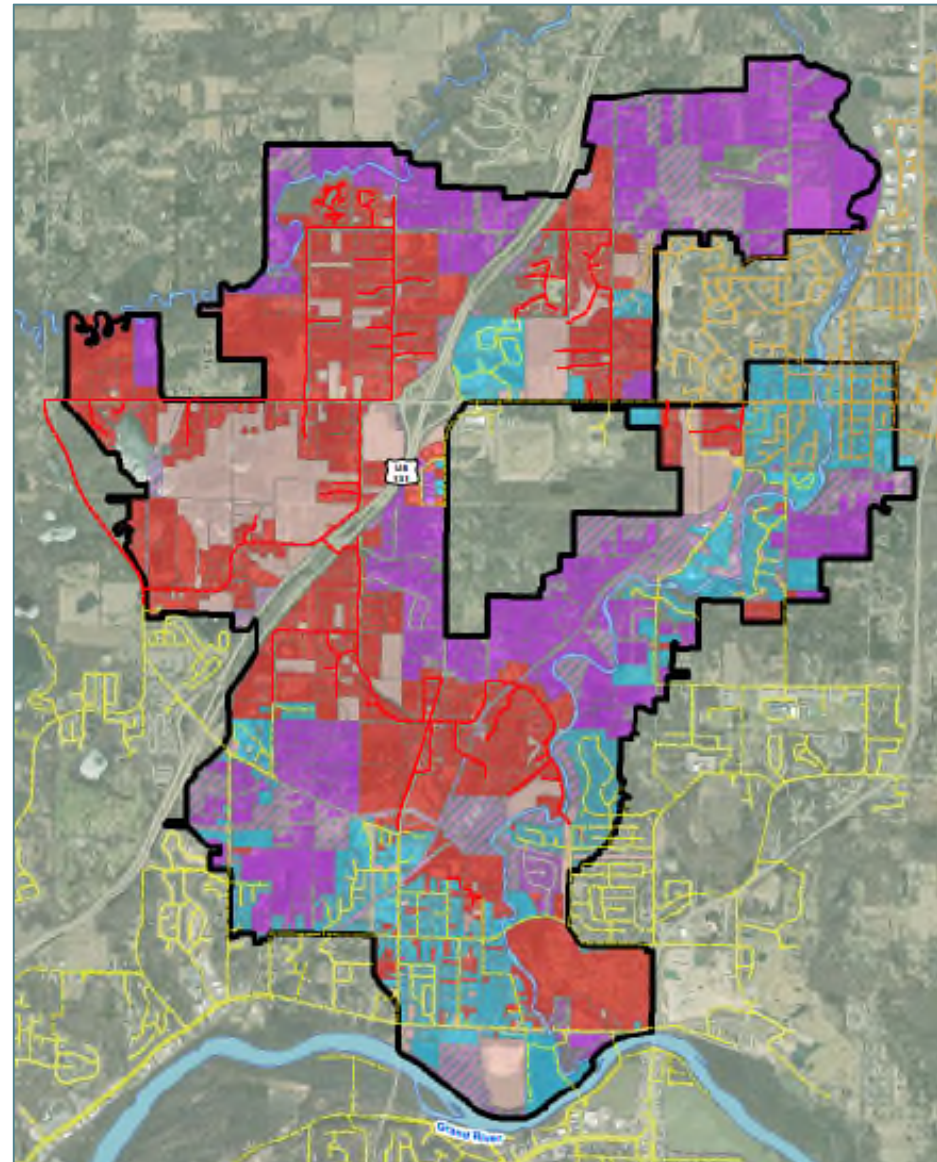


Perimeter Monitoring
Response Activity Plan

Consent Decree: Appendix N

Perimeter Wells / Monitoring Statement of Work

- Proposed the general approach for groundwater monitoring along the boundaries of municipal water areas
- Appendix N was publicly noticed and approved as part of the Consent Decree




Purple = Filter Area
Red = New Municipal Water Area
Blue = Existing Municipal Water

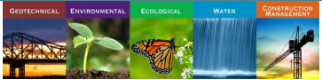
Appendix N:

General outline for the Perimeter Monitoring groundwater investigation

- Proposed Investigation locations



Rose & Westra
A Division of GZA



PERIMETER WELLS STATEMENT OF WORK
North Kent Study Area

January 31, 2020
File No. 16.0062335.60

PREPARED FOR:
Wolverine World Wide, Inc.
Rockford, Michigan

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616.956.6123

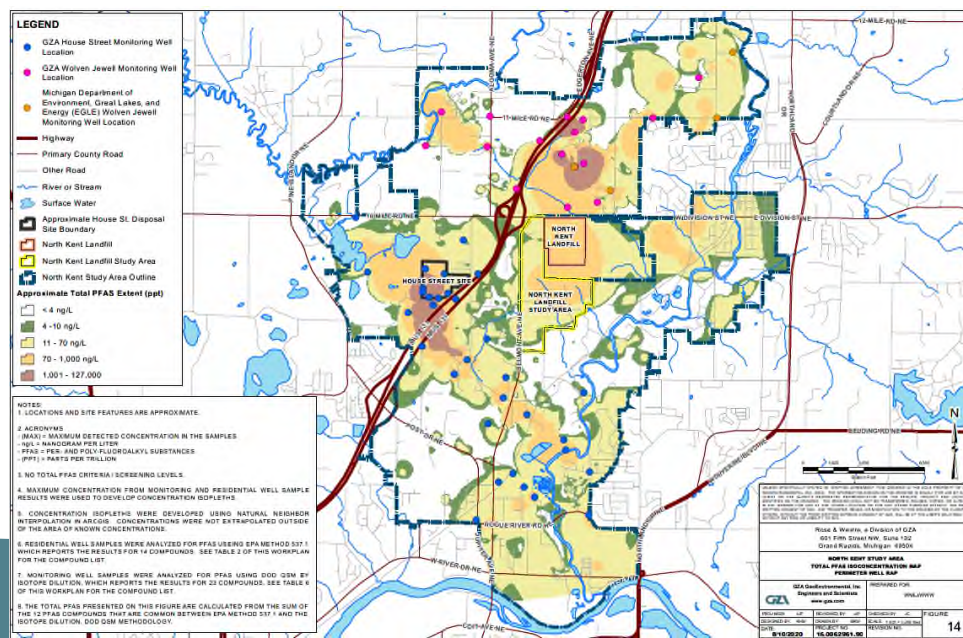
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Response Activity Plan:

Contains details regarding the work that was outlined in Appendix N.

- Conceptual site model
- Figures & cross-sections
- Details regarding the sampling procedures/protocols



Response Activity Plan Report Format

- Introduction (Sections 1.0)
- **Conceptual Site Model (Section 2.0)**
(Topography, hydrology, geology, hydrogeology, PFAS distribution in groundwater, data gaps)
- **Proposed Statement of Work (Section 3.0)**
- Investigation Methodology (Section 4.0)
- Sampling & Analytical Procedures (Section 5.0)
- Data Quality Assurance and Control (Section 6.0)
- Investigation Derived Waste (Section 7.0)
- Anticipated Schedule (Section 8.0)
- Figures & Cross Sections

Photo: EGLE subcontractor logging soil during investigation activities



Photo: October 2018 - EGLE subcontractor installing groundwater monitoring wells





DRAFT

FIGURE 3
GROUNDWATER FLOW FATE
AND TRANSPORT DATA GAPS-
HOUSE STREET AREA

Residential Well Sampling Location
PFOA & PFOS, ppt

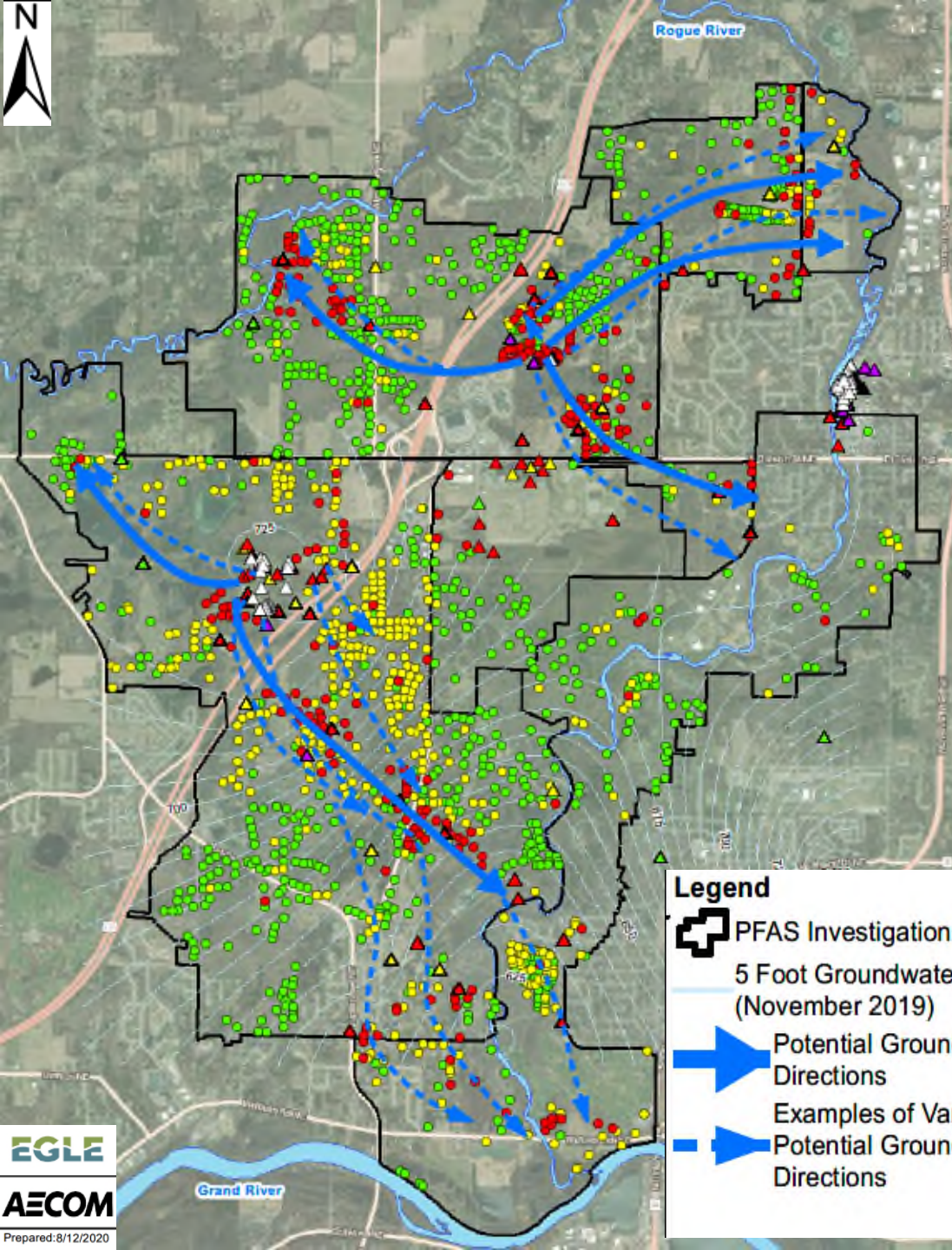
- Non-Detect for PFOA and PFOS
- Detection for PFOA or PFOS, but no exceedance
- Exceedance, PFOA > 8 or PFOS > 16

Groundwater Locations
PFOA & PFOS, ppt

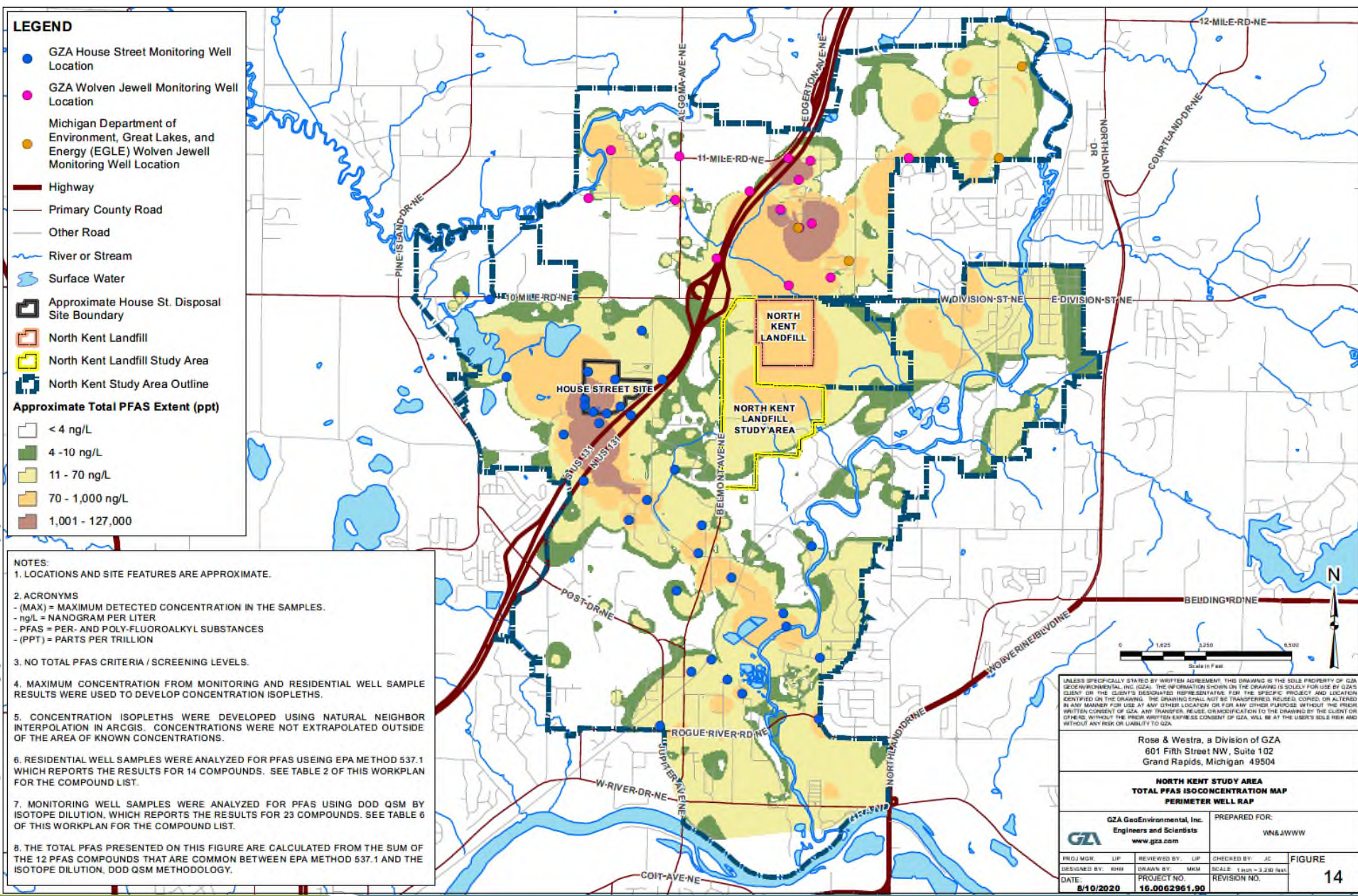
- ▲ Non-Detect for PFOA and PFOS
- ▲ Detection for PFOA or PFOS
- ▲ PFOA > 8 or PFOS > 16 and <1,000
- ▲ PFOA or PFOS > 1,000 and < 5,000
- ▲ PFOA or PFOS > 5,000 and < 10,000
- ▲ PFOA or PFOS > 10,000

Legend

- ⊕ PFAS Investigation Areas
- 5 Foot Groundwater Contours (November 2019)
- ➡ Potential Groundwater Flow Directions
- ➡ Examples of Variations in Potential Groundwater Flow Directions



RESPONSE ACTIVITY PLAN FIGURE 14: TOTAL PFAS

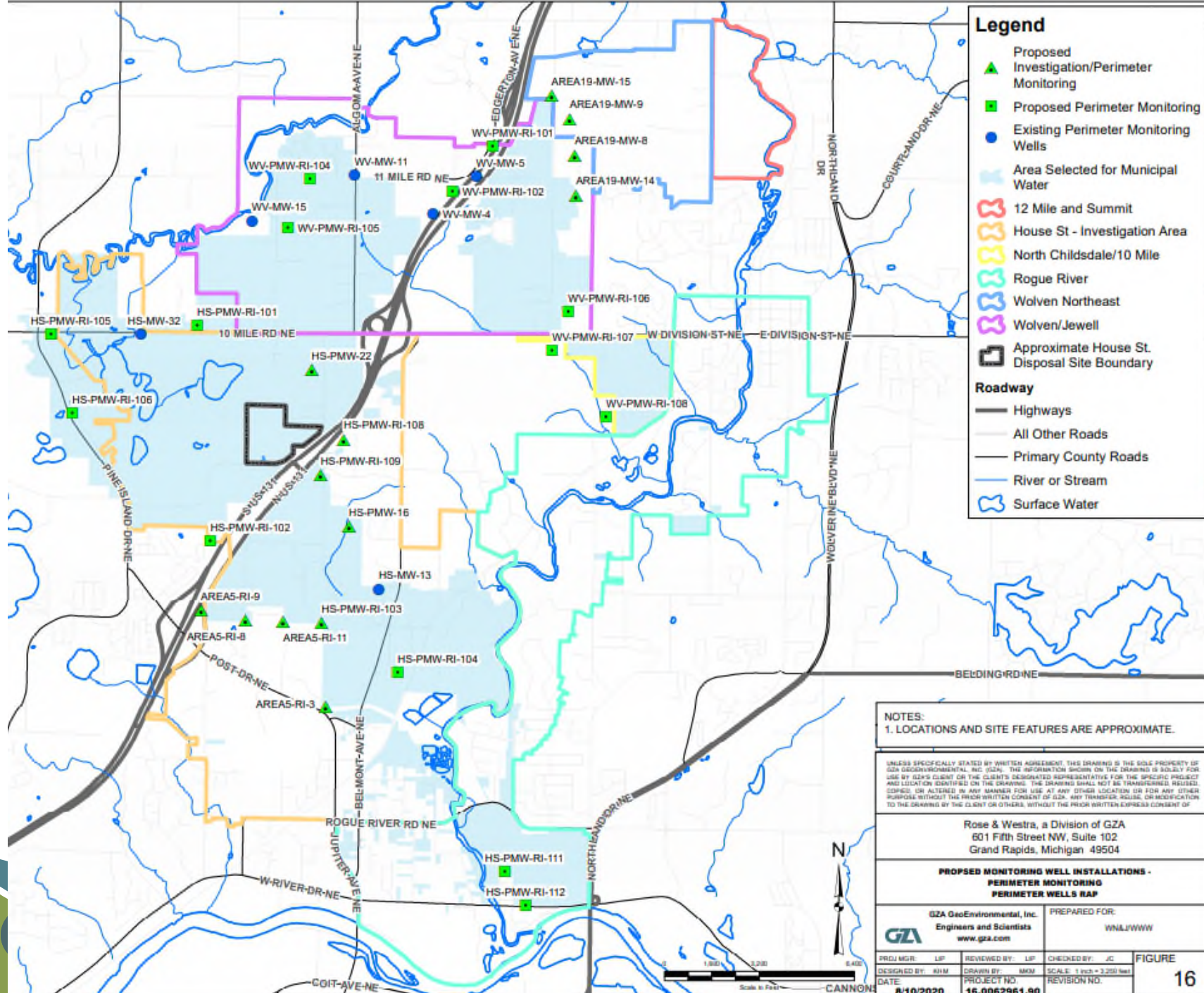


Perimeter Well Locations (Section 3.0 and 5.01)

Grouping/Area	Well Nomenclature
Existing	HS-MW-32A/B/C/D, WV-MW-5S/D, WV-MW-4S/D, WV-MW-11S/D, and WV-MW-15A/B/C/D
Delineation of the northeastern boundary of the House Street plume	HS-MW-13, HS-PMW-16 and HS-PMW-22
Evaluate potential migration at the edge of Freska Lake toward the eastern edge of NKSA	HS-PMW-RI-105, HS-PMW-RI-106, HS, and PMW-RI-101
Evaluate potential migration from municipal areas within HSDS to the southeast	HS-PMW-RI-102
Evaluate potential migration to the northwest in WJSA	WV-PMW-RI-101 and WV-PMW-RI-102
Delineate the southwest and northeast boundary of the PFAS plume with in the Wolven Northwest municipal area	WV-PMW-RI-104 and WV-PMW-RI-105
Evaluate potential migration from the Wolven Southeast municipal water area to the southeast	WV-PMW-RI-106 and WV-PMW-RI-107
Evaluate potential migration southwest of North Childsdale municipal water area	WV-PMW-RI-108

Wells also being used as part of the Perimeter Monitoring Network include:

- **AREA 19 WELLS:** Area19-MW-19, Area19-MW-9, Area19-MW-8, Area19-MW-14
- **AREA 5 WELLS:** Area5-RI-9, Area5-RI-8, Area5-RI-11, Area5-RI-3, HS-PMW-RI-103, HS-PMW-RI-104
- **AREA 6 WELLS:** HS-PWM-RI-108, HS-PMW-RI-109
- **AREA 11 & 12 WELLS:** HS-PMW-RI-111, HS-PMW-RI-112



Legend

- Proposed Investigation/Perimeter Monitoring
 - Proposed Perimeter Monitoring
 - Existing Perimeter Monitoring Wells
 - Area Selected for Municipal Water
 - 12 Mile and Summit
 - House St - Investigation Area
 - North Childsdale/10 Mile
 - Rogue River
 - Wolverine Northeast
 - Wolverine/Jewell
 - Approximate House St. Disposal Site Boundary
- Roadway**
- Highways
 - All Other Roads
 - Primary County Roads
 - River or Stream
 - Surface Water

NOTES:
1. LOCATIONS AND SITE FEATURES ARE APPROXIMATE.

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PROPOSED MONITORING WELL INSTALLATIONS - PERIMETER MONITORING PERIMETER WELLS MAP

GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: WNL/JWW	
PROJECT NO.: LP	DESIGNED BY: KJM	REVIEWED BY: LP	CHECKED BY: JC
DATE: 8/10/2020	DRAWN BY: MMW	PROJECT NO.: 16.0062961.90	SCALE: 1 inch = 3,280 feet
		REVISION NO.	
			FIGURE 16

Anticipated Schedule



- Wolverine's consultant anticipates obtaining access and completing the installation of well clusters proposed in this work plan over the course of the next 11 months.



- After completion and 4 quarters of sampling of the completed perimeter well network, GZA will meet with EGLE to discuss the data and determine next steps.



- Completion Report (Section 7.12 (v)) due within 2 years of the installation of perimeter wells. Must contain a long-term maintenance and monitoring plan.

Report Review Next Steps

Take Comments

EGLE will take written public comments:

EGLE-RRD-Housestreet@michigan.gov

through October 24, 2020.

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 Response Activity Plan and provide comments back to Wolverine.

Wolverine Response Activity Plan Due Dates:

Response Activity Plan	Due Date to EGLE	Public Meeting Date	Comment Period
Filter Operation and Maintenance (O&M)	4-6-2020	5-26-2020	5-14 to 6-13-2020
Groundwater Surface Water Interface (GSI)	4-20-2020	5-27-2020	5-14 to 6-13-2020
Residential Well Resampling	5-4-2020	6-23-2020	6-11 to 7-18-2020
Groundwater Investigation - Area 5	6-18-2020	8-18-2020	8-6 to 9-10-2020
Groundwater Investigation - Area 6			
Groundwater Investigation - Area 11			
Groundwater Investigation - Area 12			
Groundwater Investigation - Area R-1 (19)			
Perimeter Monitoring	8-17-2020	10-6-2020	Until 10-24-20

TBD: To be determined

Consent Decree and Response Activity Plans are posted online at:
www.Michigan.gov/belmont

We want to hear from you!

You can continue to submit your written comments through **October 24, 2020** 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 which
Response Activity Plan you are commenting on