

PFAS Investigations in North Kent County

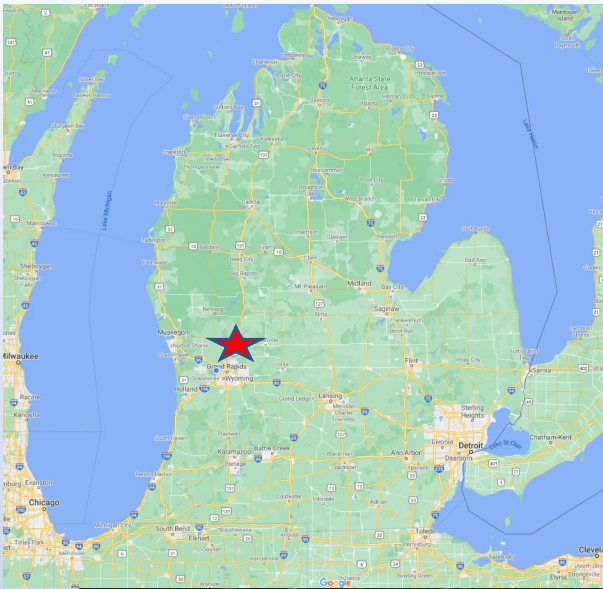
**An Introduction to the Wolverine
World Wide Investigation**



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

**Region 5 Regional Response Team PFAS Webinar – February 4, 2021
Presented By: Abigail Hendershott and Karen Vorce, EGLE-RRD**

Site Location (Kent County, MI)



Wolverine World Wide's Rockford Tannery



- 1903 - Shoe production starts under Hirth-Krause Co.
- 1909 - Wolverine Tannery opens
- 1958 - Start of Scotchgard™ use with the introduction of the “Hush Puppies” shoe line
- 2010 - Tannery site demolished and razed

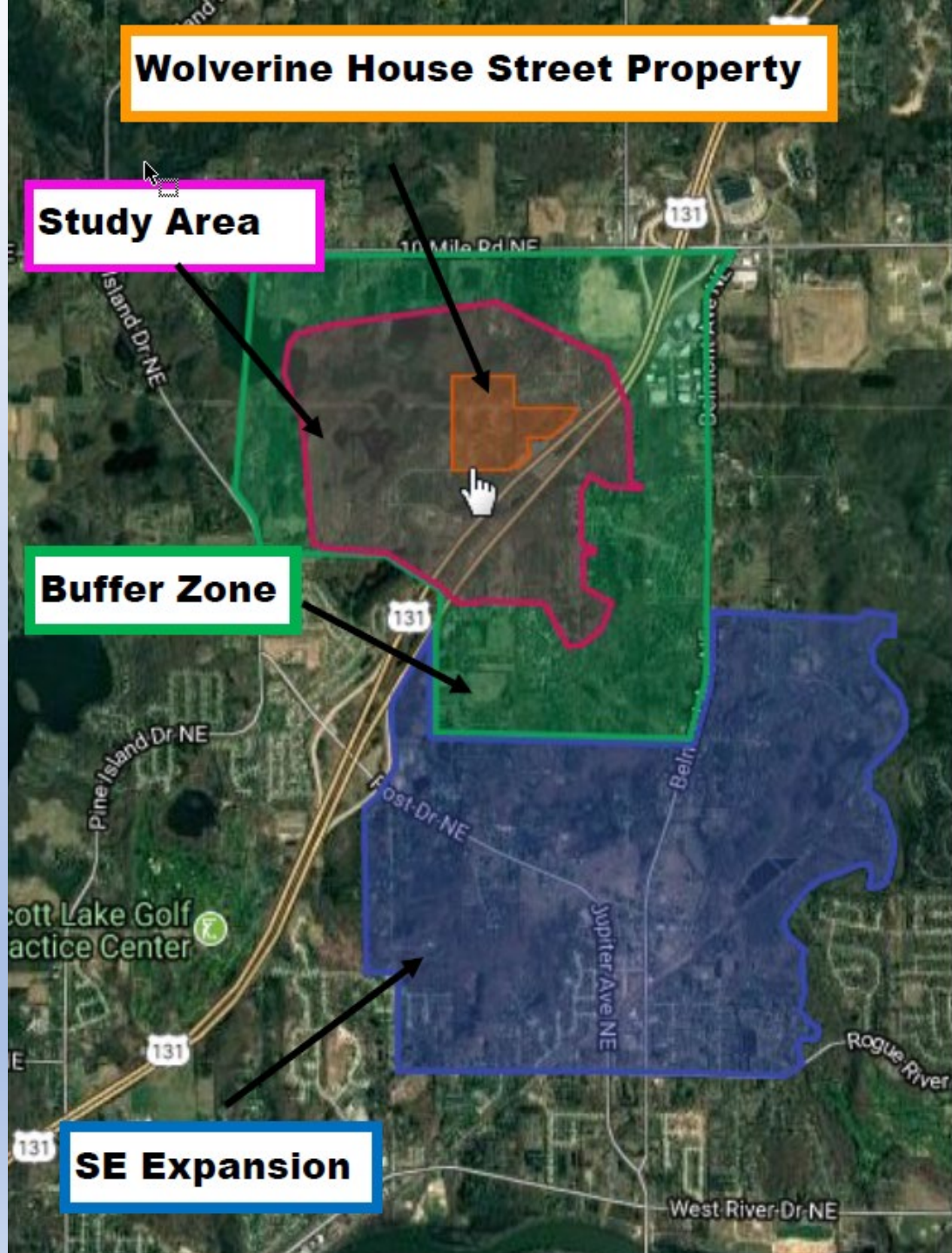
House Street Disposal Site



- 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

House Street Timeline



January 24, 2017 - Citizen group meets with EGLE to discuss House Street

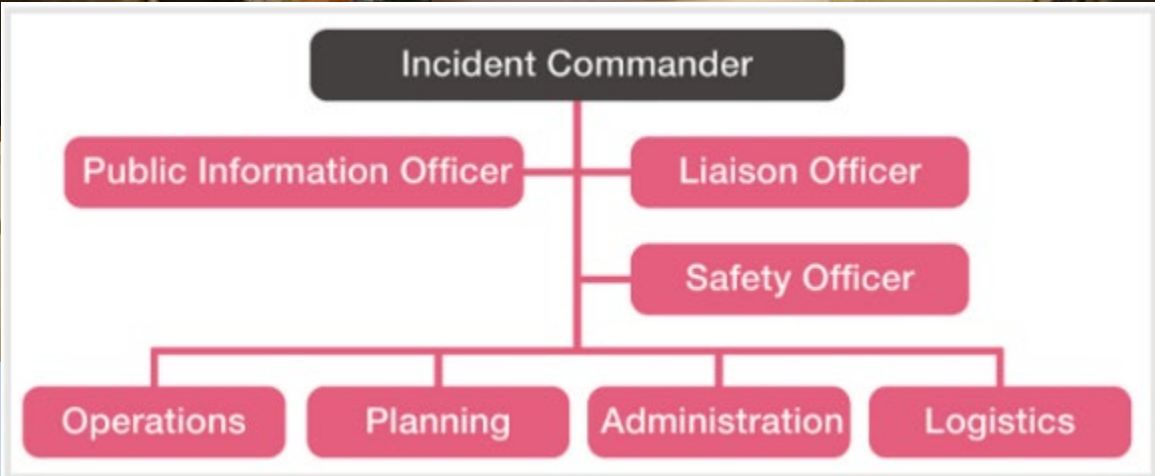
April 2017 - Wolverine samples 8 houses NE of disposal site for PFAS. Results below USEPA LHA (70 ppt for PFOA & PFOS). EGLE requests onsite sampling

May/June 2017 - EGLE notified of DoD Belmont Armory well results exceeding USEPA LHA (located SW of site)

June - October 2017 - Wolverine residential well sampling expands. Begins onsite groundwater investigation at House Street.

October 2017 - EGLE is provided information from public regarding other alleged Wolverine disposal areas (incident managers mobilized) (investigated 109 sites)

November 2017: Incident Managers Deployed



109 alleged dump sites investigated



Wolven-Jewell Source Area



1953 USGS

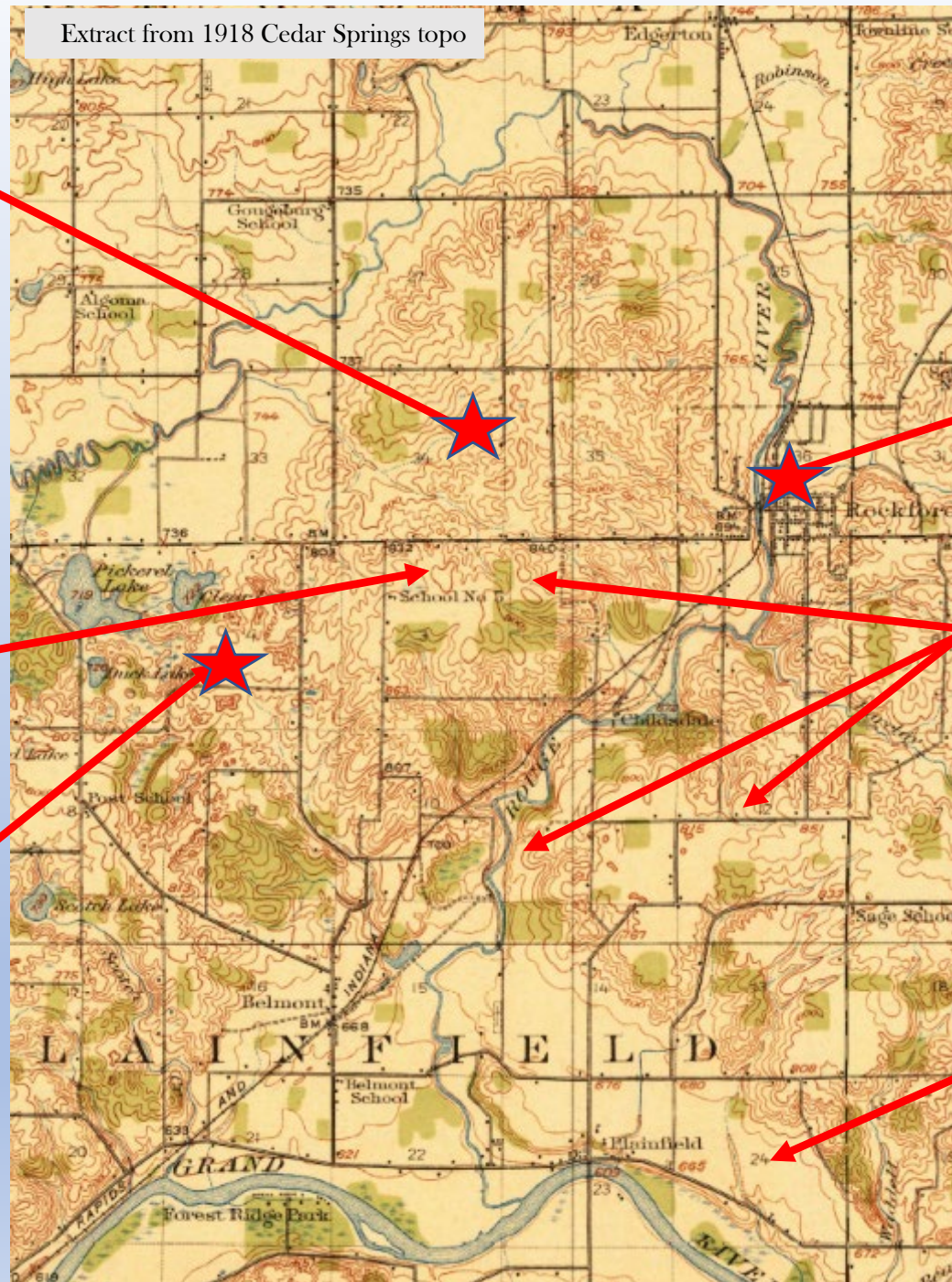
North Kent Landfill



House Street Disposal Area

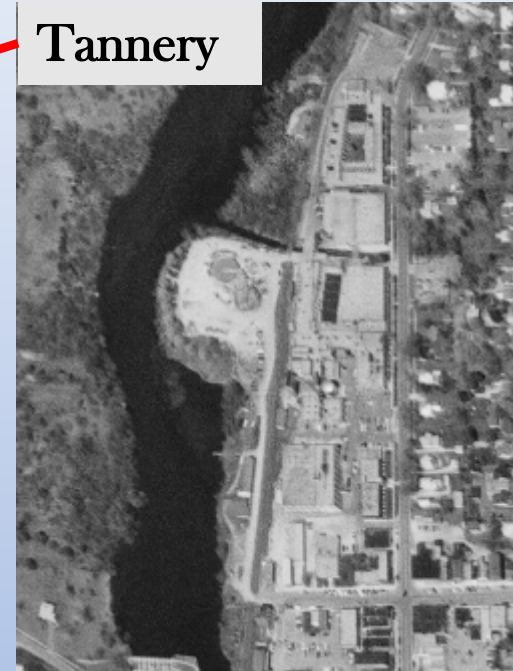


1965 USGS



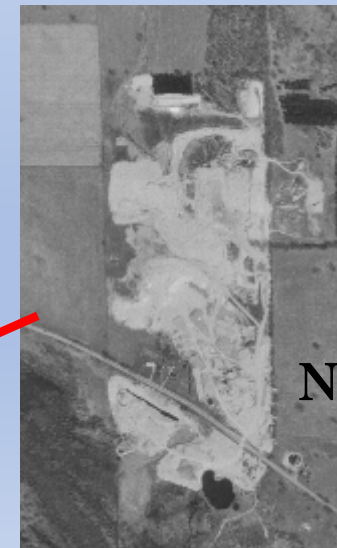
Sites of Investigation

Tannery



1972 USGS

Area Neighborhoods



1972 USGS

Northeast Gravel

Other Disposal Site Investigations

Tannery leather scraps along Rogue River



Tannery waste at
Northeast Gravel Site

Drums south of Rockford



Shoe dump
south of
Rockford



Tannery rubber scraps
in gravel pit east of
Rockford

Timeline Continued.....

November 2017 through February 2018

- Continued residential well sampling, sampling areas added.

January 2018:

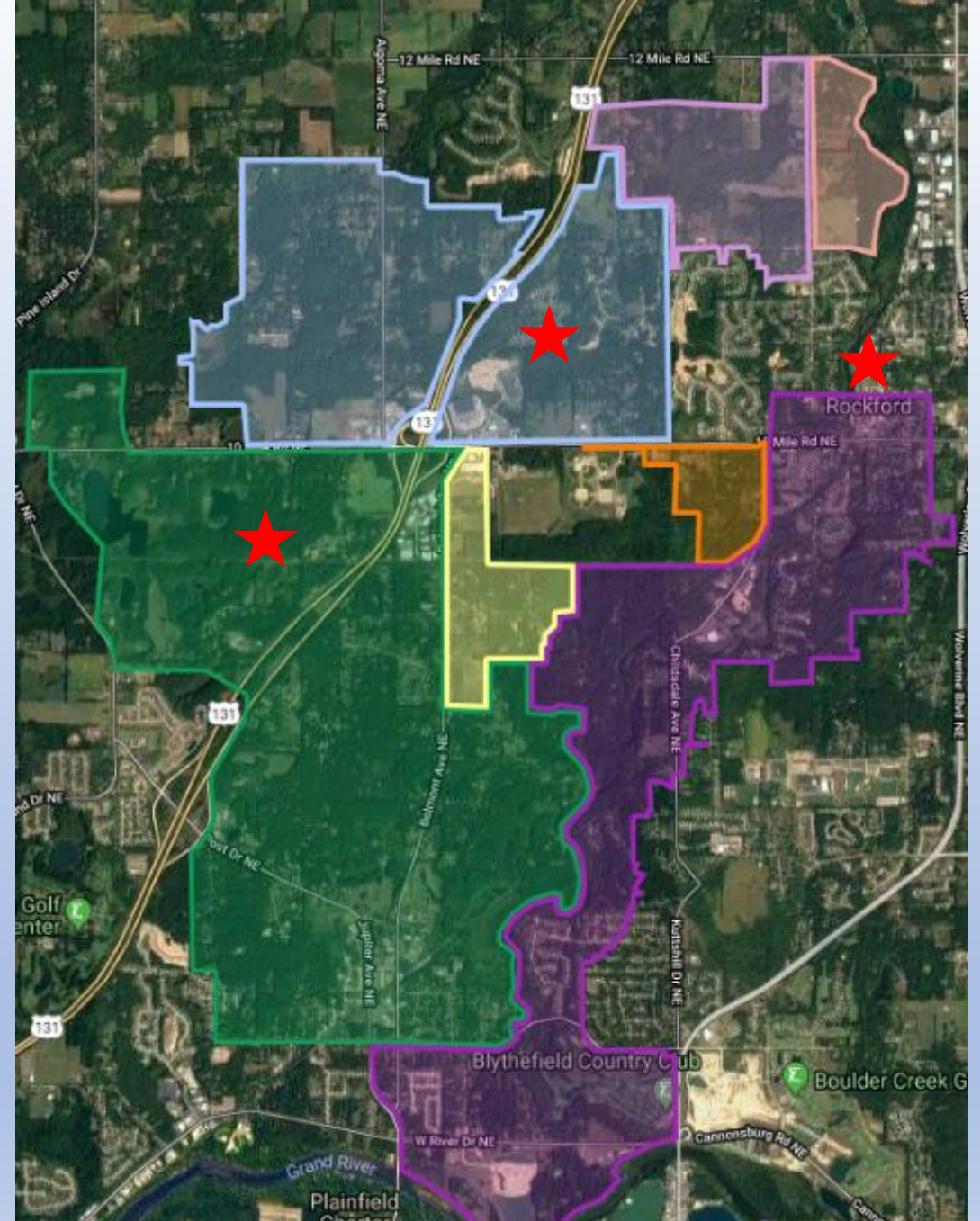
- EGLE filed a legal complaint against Wolverine under RCRA and state law

March 2018

- EGLE begins implementation of a state funded hydrogeologic groundwater investigation

May 2018 thru 2020-

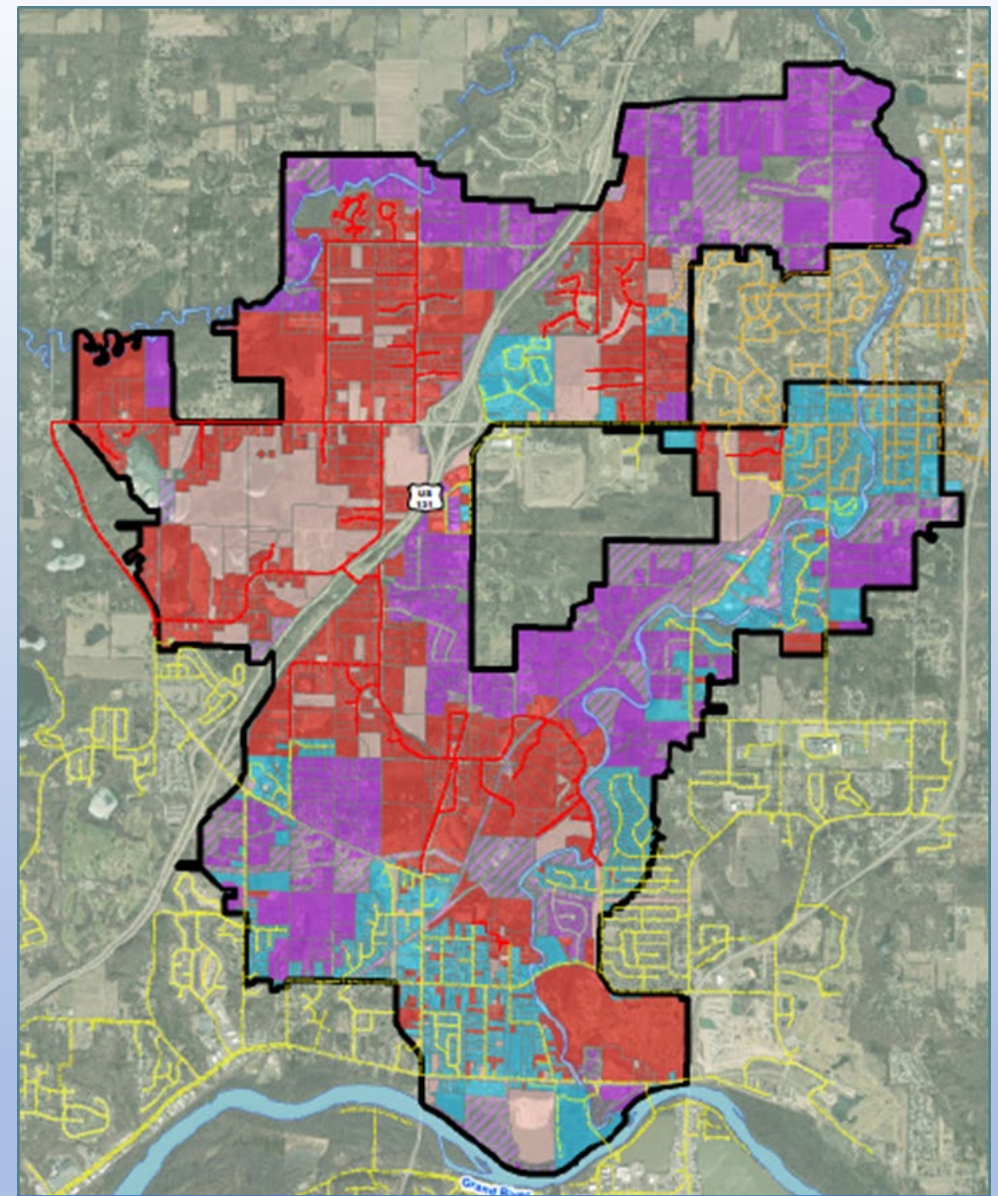
- House Street and Tannery onsite source investigations (CERCLA hazardous substances for USEPA; PFAS sampling for EGLE).
- TCRA completed under USEPA Order
- Continued off-site groundwater investigations for EGLE



Investigation Area: 25 Square Miles

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



North Kent Study Area

Purple = Filter Area

Red = New Municipal Water Area

Blue = Existing Municipal Water

1st Priority: Mitigating Risks

1720 water wells sampled

PFOS + PFOA, ppt

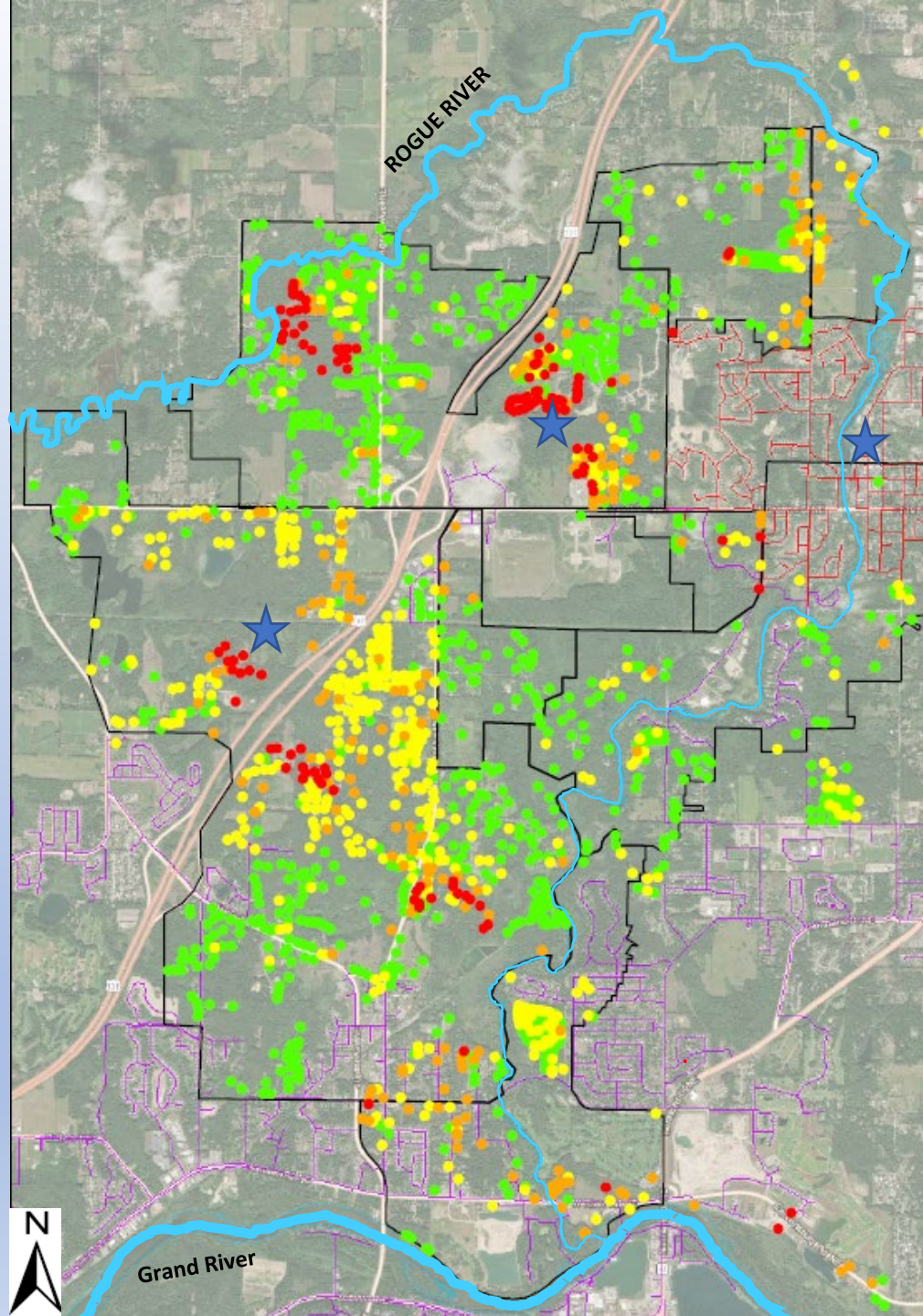
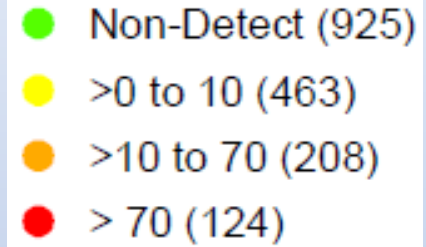


Photo:
Example of a
POE system
installed by
Wolverine

FILTERS (maintained by Wolverine)

- 538 Whole-House Filters
- 236 Point-of-Use Filters



Drinking Water Response



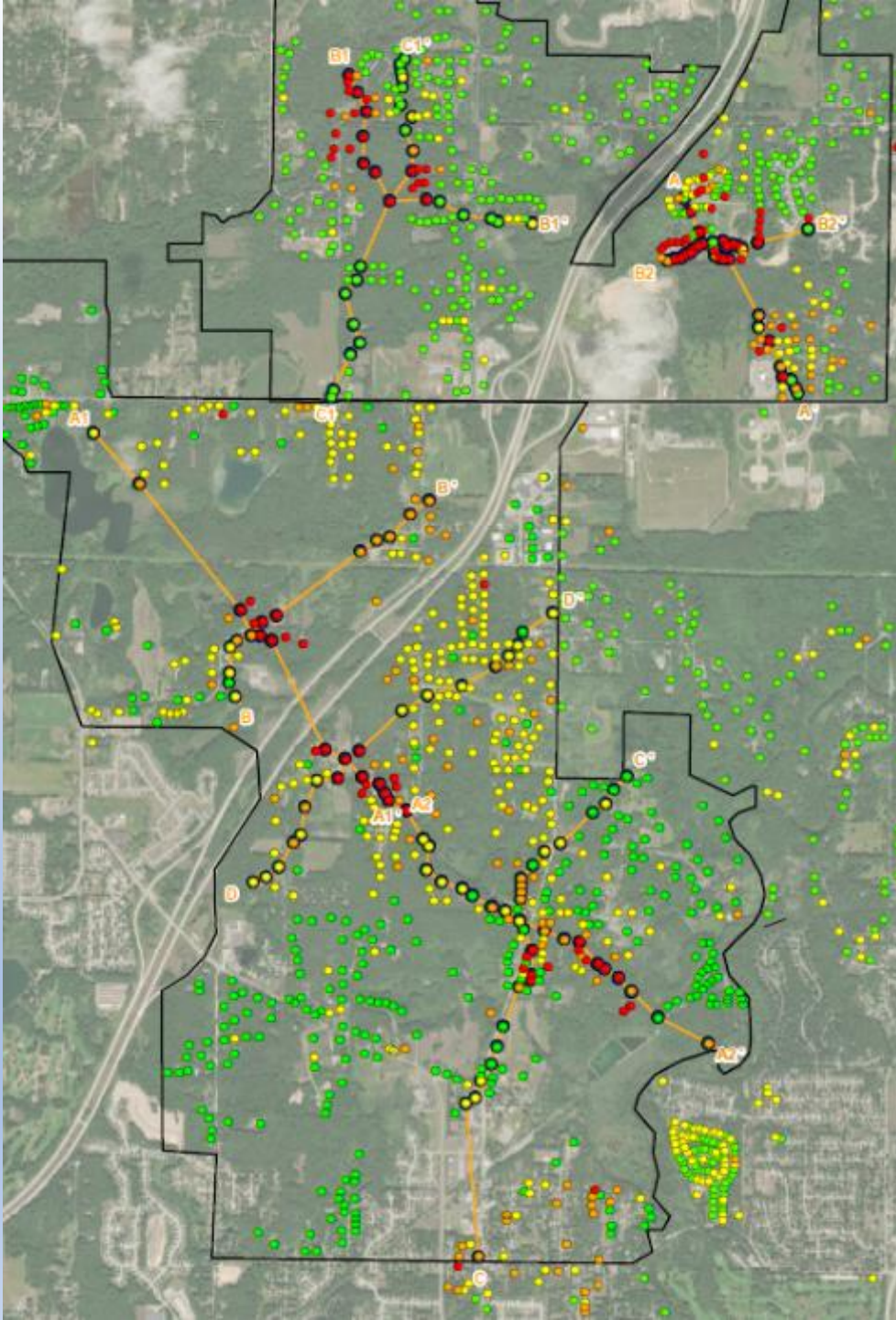
Initial Response Efforts

- Sampling of residential wells
- Wolverine provided bottled water to residents
 - Point-of-Use certified filters
 - Installation of Point-of-Entry Treatment Systems (POET) (GAC)
 - Sampling of POET systems

Things to Consider

- What standards are you comparing results to? (LHA, state regs, local/state health screening values)
- Who is lead agency/entity communicating sample results to residents?
- Sampling Analysis Plan (SAP)
 - Quality Assurance Project Plan (QAPP)
- Filter O&M Plan – continued operation and maintenance needs

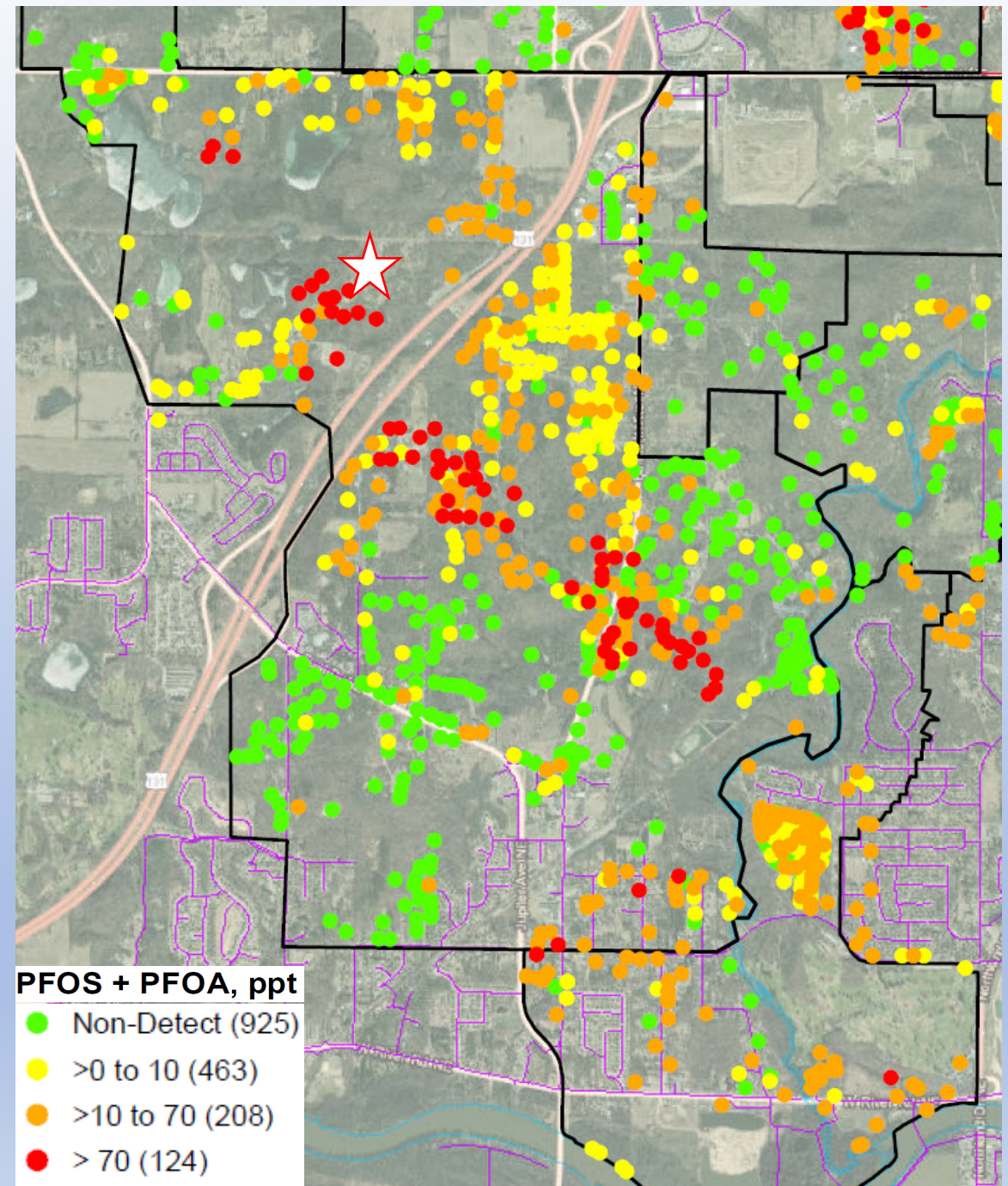
2nd Priority: Creating the Conceptual Site Model (CSM)



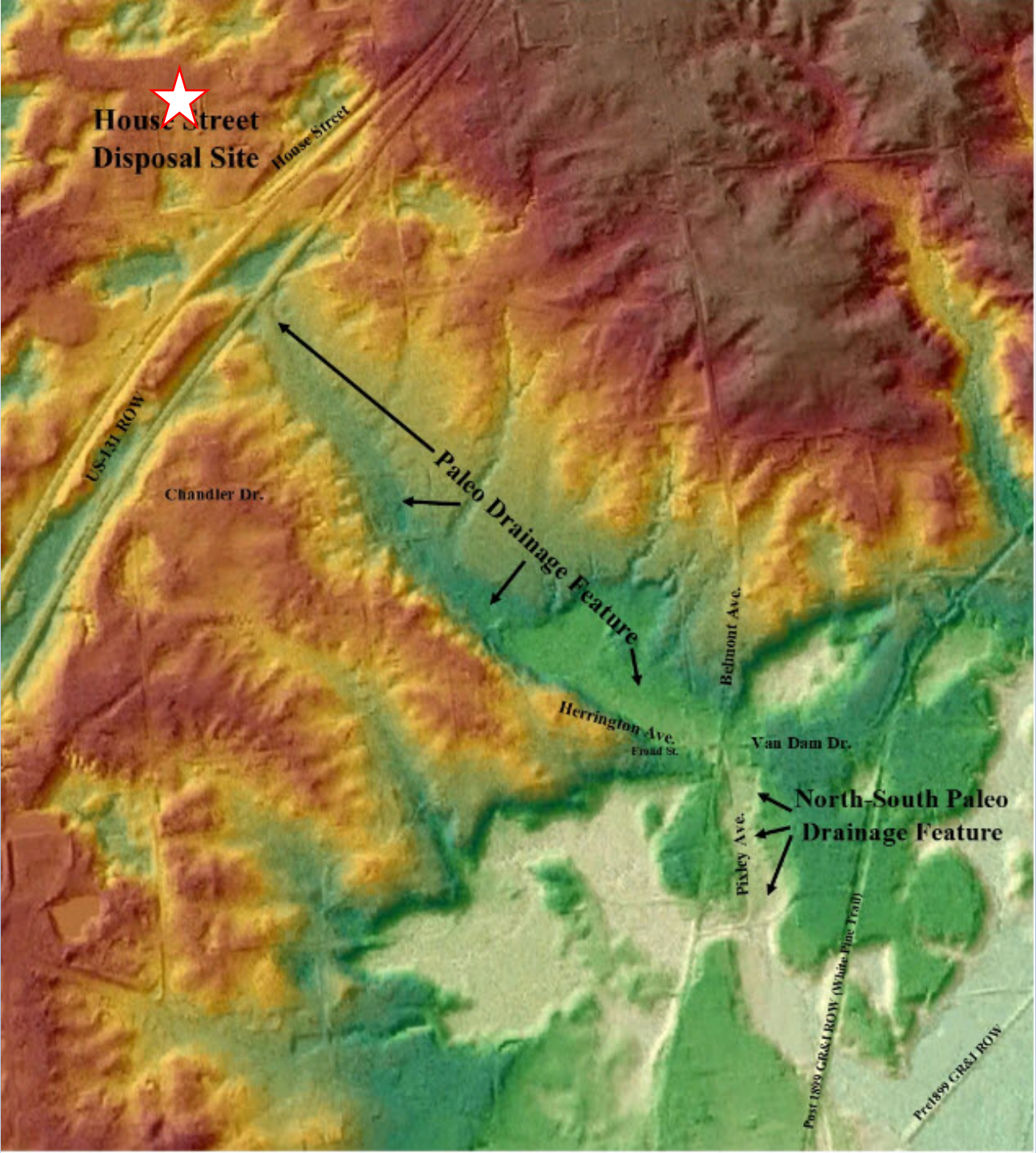
- Lidar Imagery (USGS National Map Viewer)
- Topographic & Bedrock Maps
- County Soil Survey
- Residential Well Logs (Wellogic System)
- Environmental Well Logs
- Environmental Sampling Data
- Gamma Ray Logs
- Interviews with Former Tannery Employees

House Street Disposal Area

- Drinking Water well's highest concentration: 96,000 ppt
- On groundwater divide with flow in multiple directions; Rogue River encircles area
- Basic House Street Disposal Area geology: surficial clay underlain by sand to 175'; depth to first impacted aquifer approximately 60'



Lidar & Paleo Features



Wolven-Jewell Source Area

- Gravel “pit” where liquid disposal appears to have occurred is active in the 1950s but inactive by 1965
- Over 50’ of elevation change within the neighborhood with the gravel “pit” being in the topographic high area where the highest concentrations are found



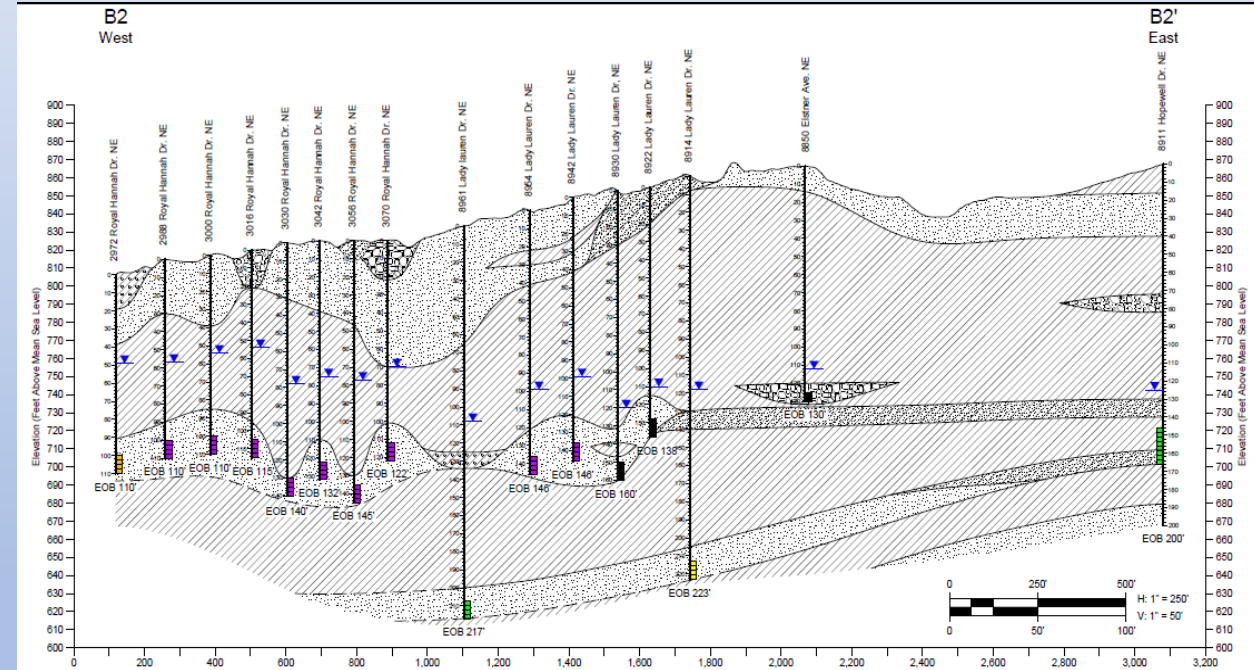
EPA geophysical survey of source area

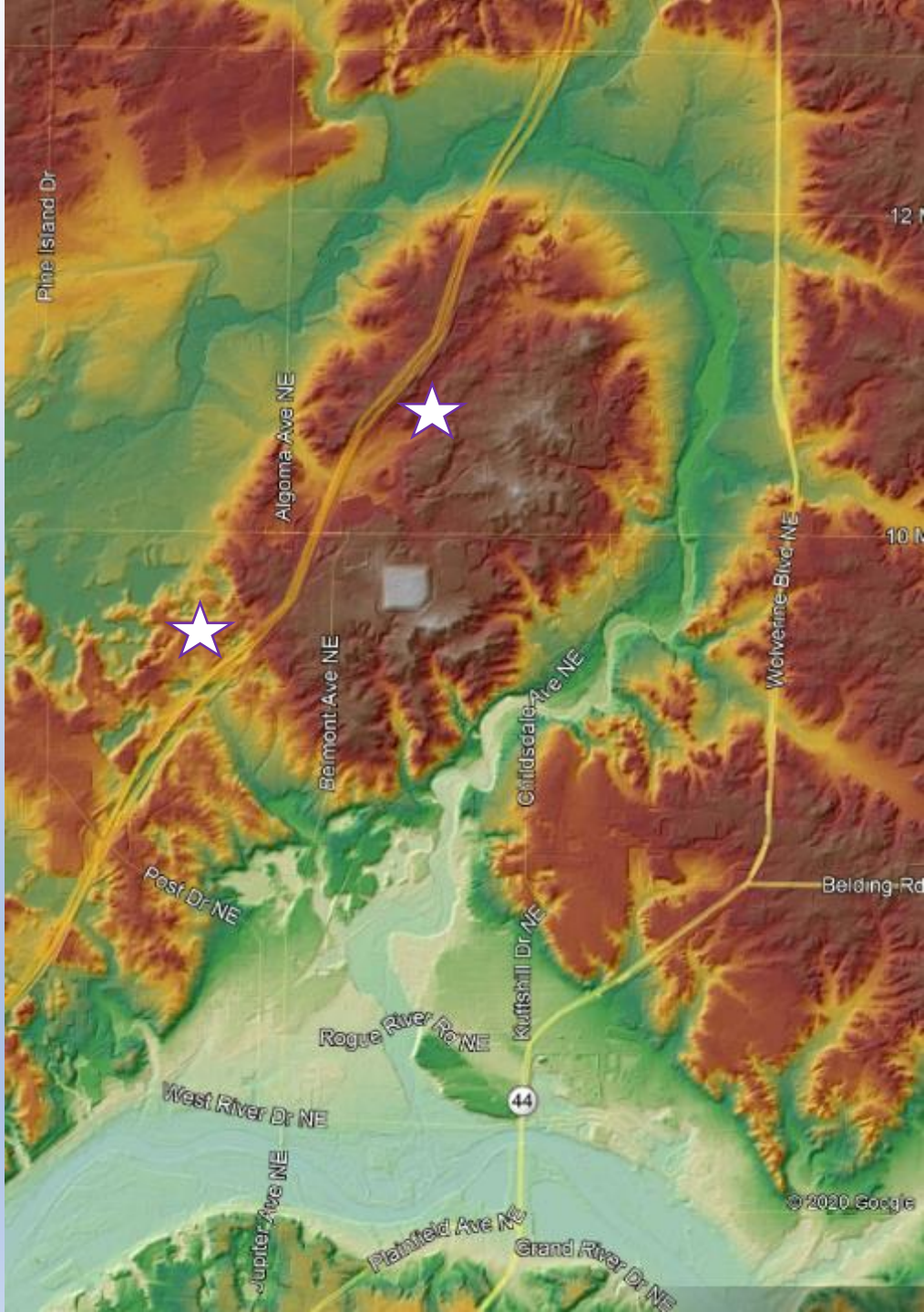


1953 USGS

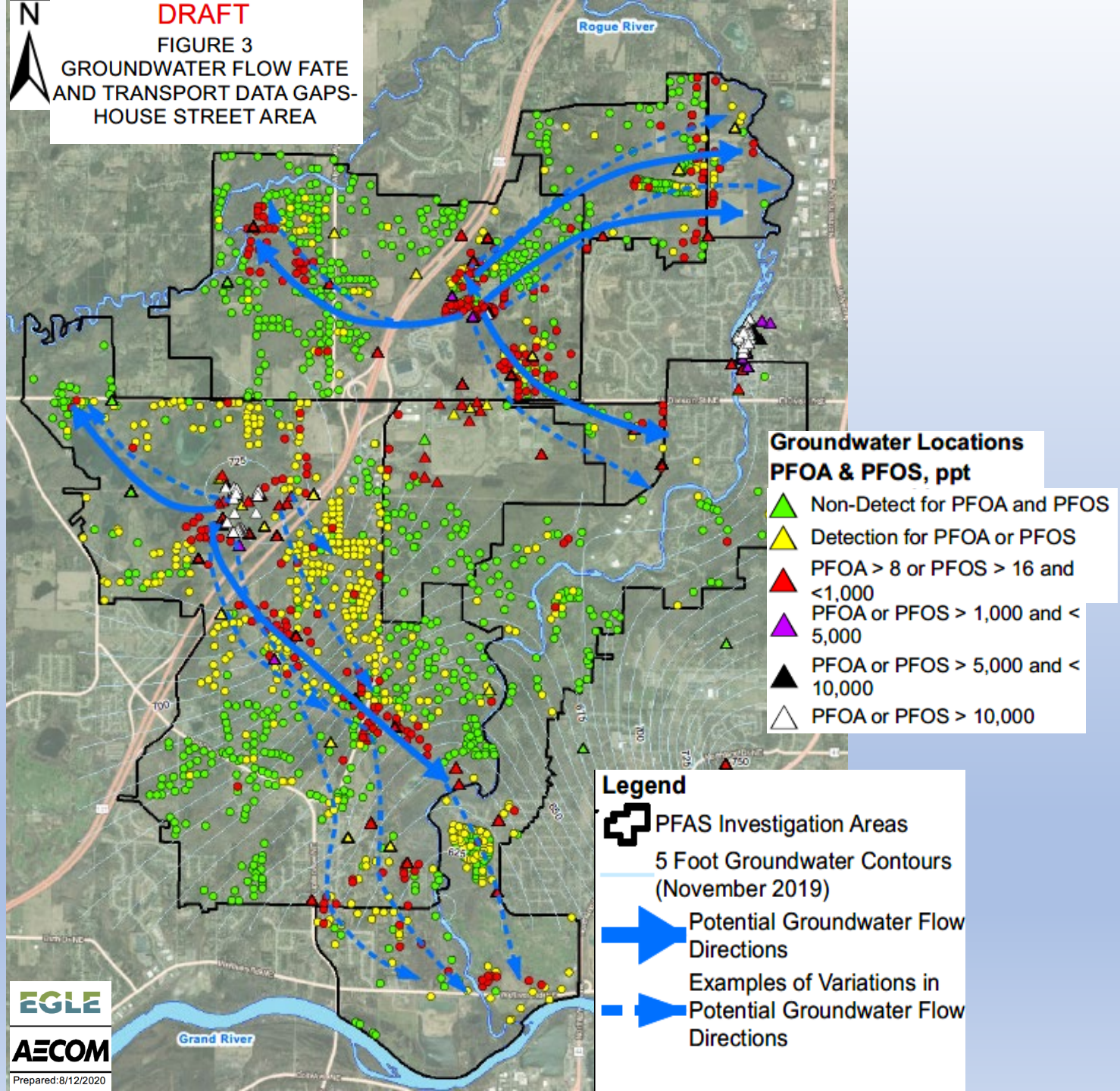
Wolgen-Jewell Area

- Neighborhood built over suspected source area
- Heterogeneity





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



- 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

Communication and Engagement

- Town Hall Meetings
- Neighborhood/Small Group Meetings
- One on One Engagement



Communication and Engagement


- Signage in community



Agency Collaboration

- Project Coordination Meetings
(Daily → Weekly → Monthly)
- Well Permit Application Reviews
- Legislative Update Calls



 **KENT COUNTY HEALTH DEPARTMENT**
Environmental Health Division
Adam Lendon, R.S., MPA
Administrative Health Officer

Well Permit/Report Clearance

Addresses:

- _____
- _____
- _____
- _____

The above reference addresses were discussed and the MDEQ is not aware of any existing or suspected contamination that could potentially impact these properties as of this date.

Addresses:

- _____
- _____
- _____
- _____
- _____
- _____
- _____

The above reference addresses were discussed and the MDEQ is aware of existing or suspected contamination that could potentially impact these properties as of this date. Precautions will be taken to protect public health and nearby natural resources.

_____	_____
Kent County Health Department, Environmental Health	Date
_____	_____
MDEQ, Remediation and Redevelopment Division	Date
_____	_____
MDEQ, Drinking Water	Date

Environmental Health & Lab - 700 Fuller Ave NE - Grand Rapids, MI 49503
EH Phone: 616-632-6000 - EH Fax: 616-632-6892 - EH Email: KCEHmail@kentcountymi.gov
Lab Phone: 616-632-7210 - Lab Fax: 616-632-6899

Animal Shelter - 740 Fuller Ave NE - Grand Rapids, MI 49503
Phone: 616-632-7300 - Fax: 616-632-7324



What's Next?

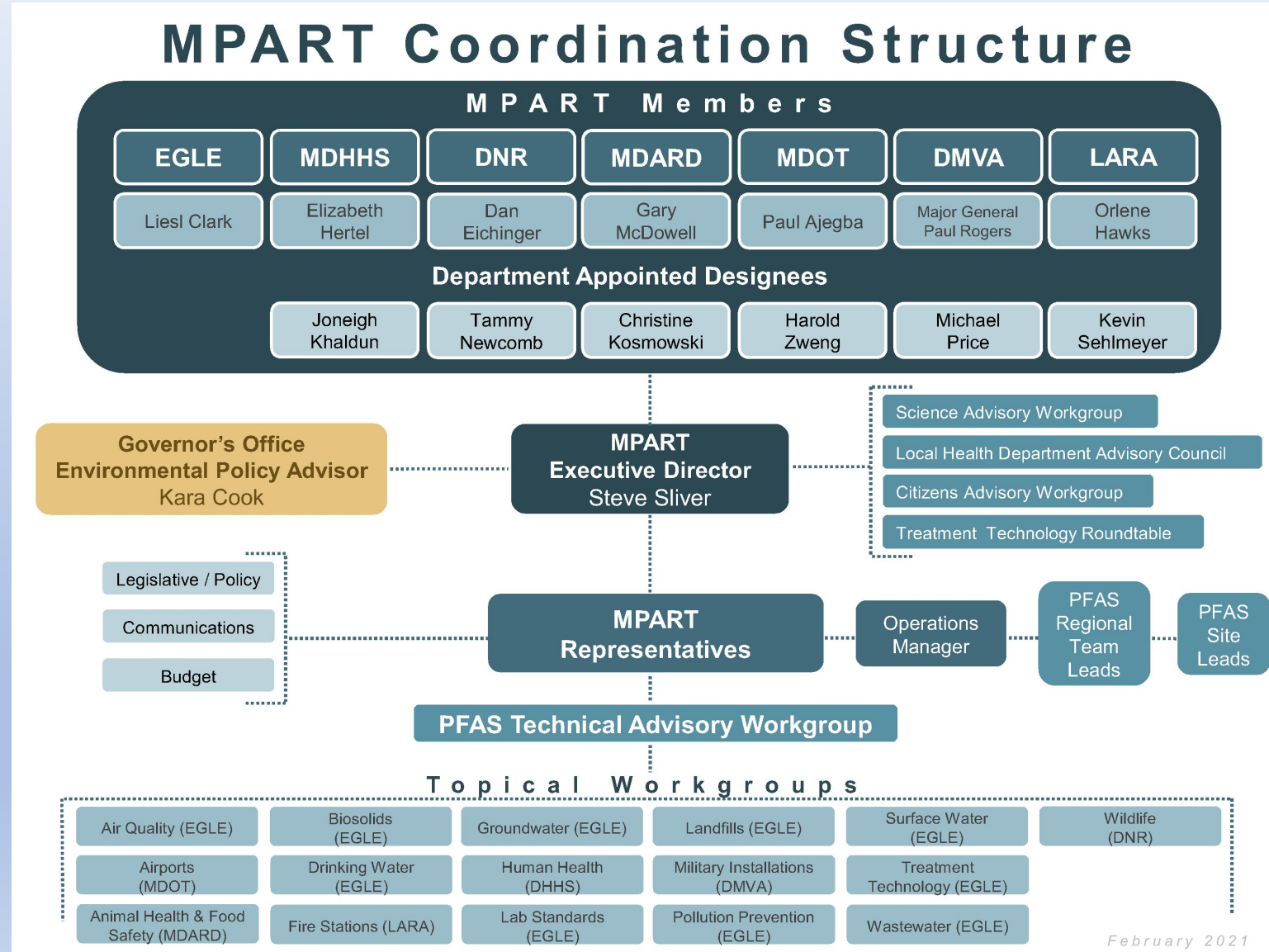
- Continuing Community Engagement
- Oversight and review of Wolverine activities under the Consent Decree
- Continued collaboration with USEPA



Michigan PFAS Action Response Team (MPART)

- Executive Order 2019-03
- Unique Multi-Agency Approach
- Leads Coordination and Cooperation Among All Levels of Government
- Directs Implementation of State's Action Strategy

www.Michigan.gov/PfasResponse



Questions?

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For more information on Wolverine investigations visit the MPART website at

www.michigan.gov/belmont

www.michigan.gov/rockfordtannery

