

CSL Public Meeting Briefing

Todd Harland, General Manager, CSL &
Wood Environment and Infrastructure Solutions, Inc

CENTRAL SANITARY

Landfill

About **wood.** EI&S- Our Company

Globally...

over
160
years of
experience

more than
60k
employees

60 countries, 600 offices worldwide

In Michigan...

over
30
years of
experience

more than
75+
employees

Offices in Novi, Lansing and Traverse City

Since 1985...



About **wood.** EI&S- Our PFAS experience



Evaluating over
120 locations
globally



Canada, US, UK,
Australia,
Germany



Strategic R&D
Partnerships



Policy
development &
review



Established Audit
program



New technology
pilot system



Fingerprinting
and source
identification



Design/
construction
of Mitigation
Systems

About wood. EI&S- Our project team

Jay Mullett, PE – Principle , Program Manager Novi, MI

- >23 years consulting – Investigation and remediation
- Program Manager for PFAS investigation, private well sampling, bottle water service, public meeting support, interim response, and mitigation at 28 Air National Guard Bases Nationwide
- Since 2013, Technical reviewer for PFAS projects for USAF including Wurtsmith AFB and KI Sawyer in MI



Shalene Thomas, PMP - Emerging Contaminants Program Manager - Minneapolis, MN

- >19 years consulting - risk assessment, toxicology, regulatory compliance
- PFAS work since 2009, PFAS Work Group Lead and Technical Lead for:
 - PFAS assessment US DoD, Australian DoD, and various State and private clients
 - PFAS projects in 20 different states and in 9 of the 10 USEPA regions.



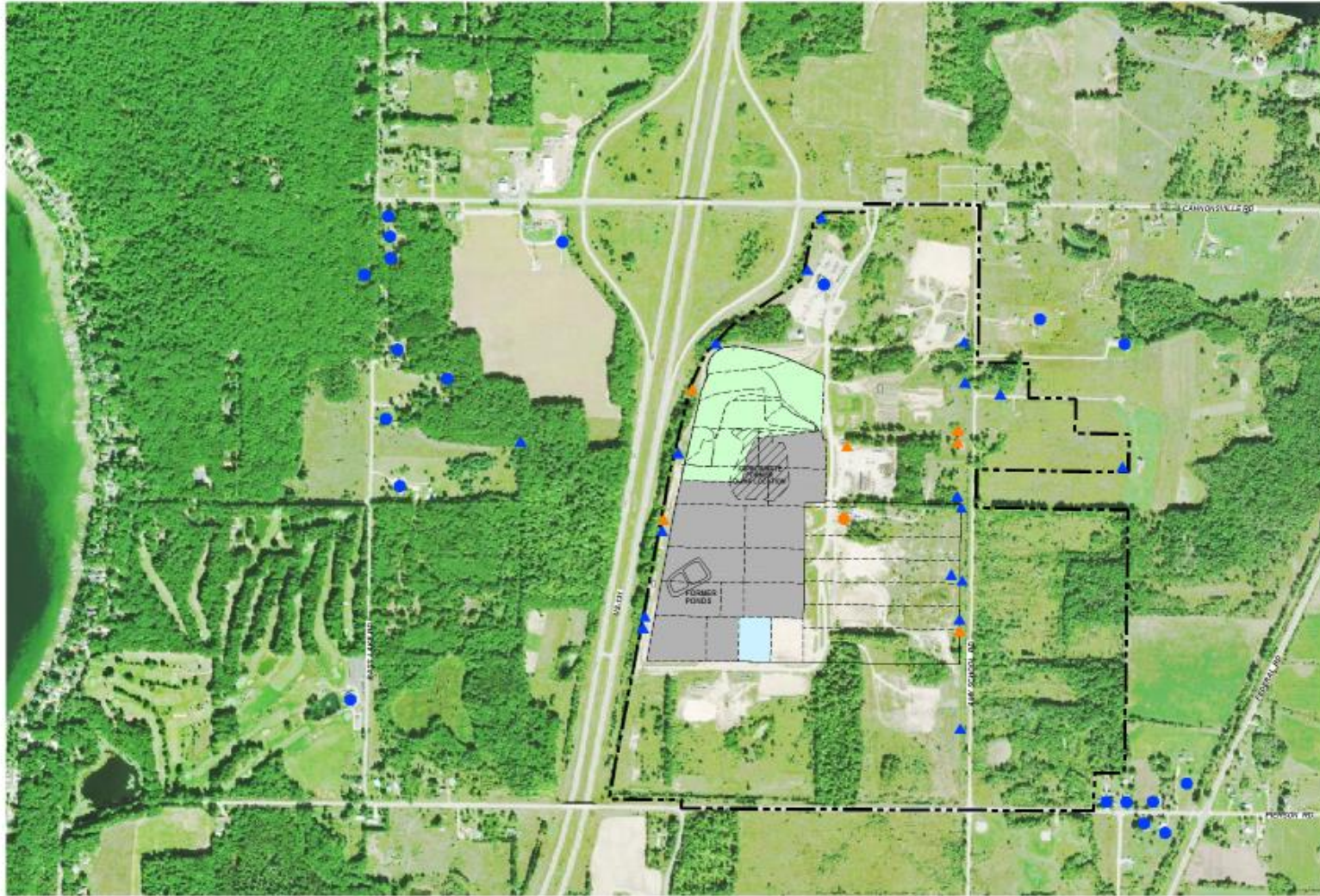
Central Sanitary LF - Site Hydrogeology

- The geological setting of Central Sanitary Landfill (CSL) consists of layers of sand and clay (glacial deposits) over 300 feet thick above bedrock.
- The upper 100 feet of the glacial sediments are used for local water wells and monitoring wells. Soils at the facility consists of fine sand with interbedded silt and clay lenses. Upper 100 feet is mostly sand.
- Groundwater flow at CSL is generally to the east, with a groundwater divide to the west of the property boundary where groundwater flows westerly on the west side of the divide.

Central Sanitary LF - PFAS Sampling

- Landfills are required to routinely sample groundwater surrounding the landfill.
- PFAS sampling was not included, or required, at any landfill in Michigan (or the US, in general) until 2018.
- PFAS sampling of shallow and deeper monitoring wells at the Site was completed in early 2018.
- General results of groundwater monitoring wells indicated that 5 of 22 perimeter monitoring well locations (shallow or deep) exceeded Health Advisory levels.
- Shallow well results (discussed last meeting) led to the private well sampling – Phase I.
- Phase I Private well sampling results were hand delivered on June 4-5, 2018. Additional homes identified and sampled as part of Phase II.
 - Sample results indicated that **no private wells exceeded the Health Advisory levels.**
 - Point of Use water treatment systems will be installed in homes that had detections.

CENTRAL SANITARY LANDFILL, INC. - PFAS RESULTS



LEGEND

- LANDFILL PROPERTY BOUNDARY
- [Green Hatched Box] EXISTING CERTIFIED CLOSED DISPOSAL AREA
- [Grey Hatched Box] ACTIVE DISPOSAL AREA
- [Light Blue Box] 2018 CONSTRUCTION AREA
- BELOW CRITERIA (WATER SUPPLY WELL)
- ▲ DETECTED ABOVE CRITERIA (WATER SUPPLY WELL)
- BELOW CRITERIA (MONITORING WELL)
- ▲ DETECTED ABOVE CRITERIA (MONITORING WELL)
- 70 ppt CRITERIA FOR PFDA & PFOS

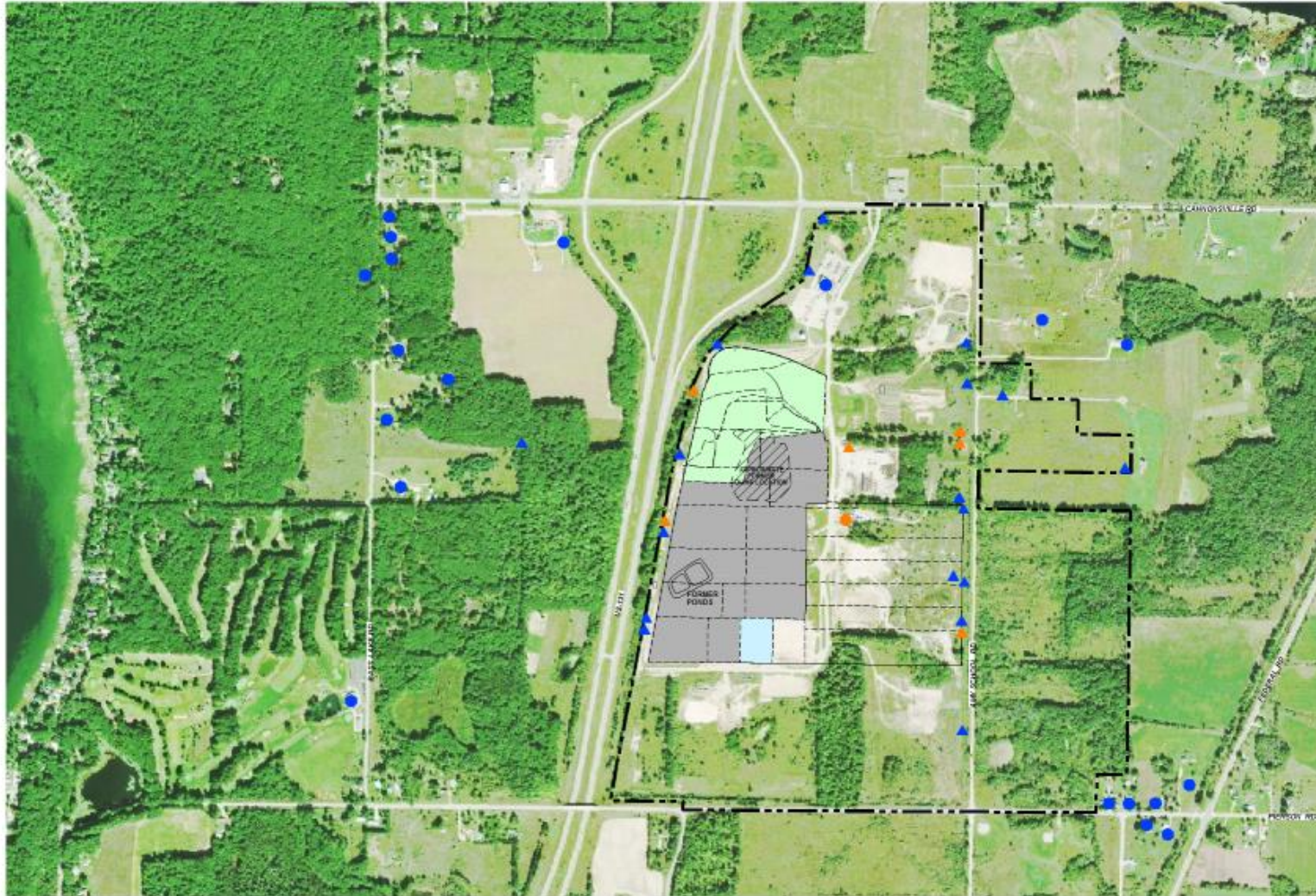
Central Sanitary Landfill - Groundwater Treatment System

- A portion of the Landfill was previously an unlined township dump that was excavated in 1992 and lined.
- Contaminants from that unlined portion – known as Volatile Organic Compounds (VOCs), e.g. paints, coatings, solvents, refrigerants – impacted groundwater and began migrating prior to the excavation.
- In coordination with DEQ, CSL developed and implemented a remediation plan to pump and treat groundwater, which has effectively controlled VOC migration.
- CSL regularly monitors groundwater to verify VOC migration and the continued effectiveness of the treatment system.
- Groundwater treatment system enhancements will allow for treatment of PFAS in addition to VOCs.

Central Sanitary LF - Next Steps

- Phase II private well sampling activities (conducted 7 June 2018)
– results pending
- Additional drilling to further investigate the groundwater divide west of the property.
- Additional on-site existing well sampling and installation of new monitoring wells to further sample for PFAS between the Landfill and neighboring properties.
- Verify pumping system is adequate to control PFAS, along with other constituents.
- Evaluation and testing to add PFAS treatment to the existing on-site treatment system.
- Installation of Point of Use drinking water treatment systems.

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THANK YOU

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