



MEMO

TO: Oak Pointe Sewer System Customers

FROM: Greg Tatara, Utility Director

DATE: February 18, 2025

RE: 2025 Oak Pointe Environmental Contamination Sewer Fee Addition

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On February 17, 2025, at the recommendation of the Genoa Township Utility Department, the Genoa Township Board added a \$1.00 per 1,000 gallon charge environmental contamination monitoring fee onto the sanitary sewer bills. In addition, this fee was also added to flat rate sewer customers at an amount of \$13 / Quarter/REU. This fee is necessary for Genoa Township's Oak Pointe Sewer System to remain in compliance with Michigan Department of Environment, Great Lakes, and Energy (EGLE) requirements for monitoring of sodium, chloride, and PFAS contamination from the former Oak Pointe WWTP, as these contaminants are present in ground water and have impacted downgradient residential drinking water wells.

I am familiar with the Sodium and Chloride Contamination, but what is the PFAS Contamination and how did PFAS end up in wastewater and then the ground water?

The attached **Figure 1**, shows the current sodium and chloride plume. Overall, since the plant was taken off line in 2015, the sodium and chloride concentrations have decreased substantially. Despite our efforts to eliminate this environmental concern, in 2022, EGLE required Genoa Township to sample downstream monitor wells for PFAS as part of the State's emerging contamination investigation. PFAS are Per- and polyfluoroalkyl substances (PFAS), which are a group of chemicals that are used in many products. A listing of products is attached in **Figure 2**. Due to the common use of these chemicals in hundreds of common household items, the PFAS compounds were introduced over time into the wastewater. Because they do not break down, they passed through the plant's treatment process, entered the ground water through the rapid infiltration basins, and moved with the groundwater eventually impacting downstream properties, including residential drinking water wells. **Figure 3** shows the results of PFAS sampling and concentrations in downstream residential drinking water wells. Currently, 8 homes have wells with PFAS above the residential drinking water criteria. Fortunately, each of these homes had existing reverse osmosis (RO) units which protected the drinking water from PFAS contamination.

What has the PFAS sampling costed and why is it so expensive?

Between 2022 and 2024, Genoa Township spent \$158,113 on PFAS and sodium chloride sampling as well as mitigation efforts such as RO unit installation and upgrade. With the sampling required in 2025, we have budgeted \$68,000 for the continued sampling and

monitoring of the PFAS contamination. In total, the cost of PFAS sampling from 2022 – 2025 is \$226,000. Unfortunately, PFAS sampling is very expensive. In general, it cost \$400 per sample for PFAS analysis. This is due to the analytical methods and the very low level (part per trillion) detection limits required for PFAS analysis. For a home with an RO unit, it costs nearly \$1,000 per home to sample as it is \$400 for the well sample, \$400 for the post RO sample to assure it is functioning properly, and then time for consulting staff to collect and transport the sample. In addition, maintaining the RO units costs \$500 per home annually, and potentially more if any repair and or replacement is required. In addition, there are separate costs associated with the sampling of the sodium and chloride included in our contamination monitoring.

Due to the cost of the PFAS sampling, we unfortunately are not able to continue to absorb the costs in the Operation and Maintenance Budget. Therefore, the fee is necessary to create a cost and revenue center just for the environmental contamination to separate from the Operation and Maintenance costs for the sewer system.

What is Genoa Township doing to minimize these costs?

We are doing all we can to minimize cost of monitoring, while making sure that we are protecting the affected residents. Last year, and again this year, we have applied for an emerging contaminant grant to partially fund the sampling and perform hydraulic groundwater modeling to determine if an alternate source of drinking water is available. In addition, after sampling this year and based on the results, we are hopeful to be able to petition the state for reduced frequency as sampling data trends do not demonstrate any change or trend over what has been observed the last couple of years.

What is the long-term plan for the contamination?

Ultimately, we must find an alternative source of drinking water for the affected residents, which will end the annual residential sampling requirement. We may still have to perform monitor well sampling, but hopefully that will be at a much lower frequency and also a much smaller number of samples. It should be noted that Genoa Township purchased the 70 acres from the State of Michigan to prevent development of the property and thus decreased sampling and/or remediation cost in the future.

Conclusion

We are hopeful to obtain a grant to fund the evaluation of alternatives for a permanent drinking water source to reduce our annual costs. However, it is necessary to gather more data to determine trends and the best course of action that provides the best health protection for affected residents while also balancing the most prudent fiscal alternative. Having a separate revenue and cost center for environmental contamination monitoring provides the best means to manage the finances for this project.

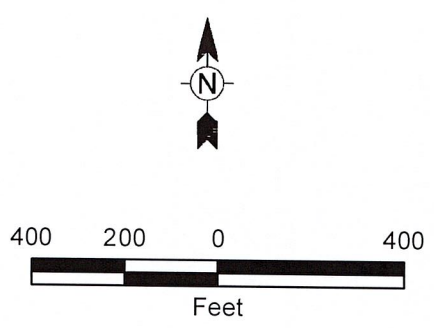
10/16/2023 - 12:44:36 PM - C:\from D:\Genoa\TWP\OPI\2023\Report\Figure 3 - NaCl Sampling Results.mxd - marco.capodivacca



Chilson Impoundment

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- Residential Well
- Residential Well equipped with Township-maintained RO Unit
- Residential Well equipped with privately maintained RO Unit
- Extent of Chloride Impacts (>250 mg/L)



Notes:

1. Highlighted results exceed Part 201 Criteria.
2. * = Water softening historically contributes to elevated sodium result. At select locations water hardness was analyzed to verify softening contribution.
3. -- = Sodium result not reported by the laboratory.

Tt TETRA TECH

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2023 ANNUAL GROUNDWATER SAMPLING REPORT

OAK POINTE WASTEWATER TREATMENT PLANT
GENOA TOWNSHIP, MICHIGAN

**2023 PRIVATE WATER SUPPLY WELL
SODIUM AND CHLORIDE RESULTS**

Project No: 117-1045044
Date: 10/16/2023
Designed by: MC

FIGURE
1

Bar Measures 1 inch

Copyright: Tetra Tech

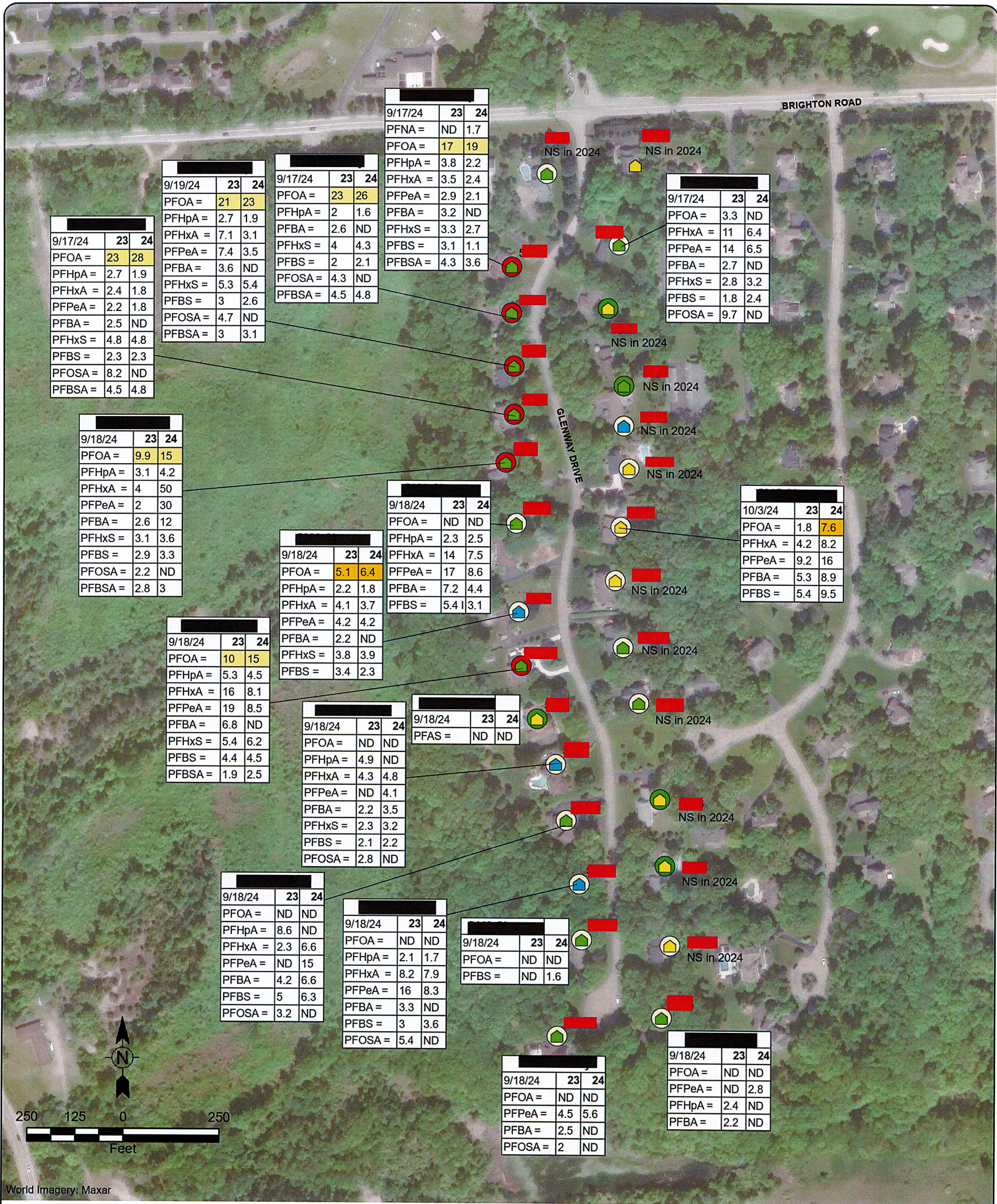
Some Everyday Products Containing PFAS



Approximately 75% of water-resistant products contain PFAS.

Additional Information Can Be Found At:

<https://www.michigan.gov/pfasresponse>



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- Residential Well
- Residential Well equipped with Township-maintained RO Unit
- Residential Well equipped with privately maintained RO Unit
- PFAS not detected
- PFAS detected below Part 201 Criteria
- PFAS detected and PFOA above Part 201 Criterion

Notes:

1. This figure provides a comparison between 2023 and 2024 PFAS results.
2. In 2023 samples were analyzed using analytical method EPA537 modified and in 2024 using analytical method EPA1633.
3. Only detections above reporting limits are presented.
4. Results in nanograms per liter.
5. I = value is the estimated maximum possible concentration.
6. ND = PFAS congener(s) not detected above the reporting limit(s).
7. NS = A groundwater sample for PFAS was not collected.
8. Yellow-highlighted results exceed Part 201 Criteria and EPA Maximum Contaminant Level (MCL).
9. Orange-highlighted results exceed EPA MDL.
10. No detections were reported in samples from the Reverse Osmosis (RO) Units that were tested. RO Units results are presented in Table 5.

List of Per- and Polyfluorinated Alkyl Substances (PFAS) Acronyms

PFOA = Perfluorooctanoic acid	PFHxS = Perfluorohexane sulfonic acid
PFHpA = Perfluoroheptanoic acid	PFBS = Perfluorobutane sulfonic acid
PFHxA = Perfluorohexanoic acid	PFOSA = Perfluorooctane sulfonamide
PFPeA = Perfluoropentanoic acid	PFBSA = Perfluorobutyl sulfonamide
PFBA = Perfluorobutanoic acid	PFNA = Perfluorononanoic acid

Applicable* Part 201 Generic Cleanup Criteria and Screening Levels for Residential Groundwater/EPA MDLs		
Parameter	Drinking Water	Groundwater Surface Water Interface
Perfluorononanoic acid (PFNA)	6/10	30
Perfluorooctanoic acid (PFOA)	8/4	12,000
Perfluorohexanoic acid (PFHxA)	400,000/NA	NA
Perfluorohexane sulfonic acid (PFHxS)	51/10	210
Perfluorobutane sulfonic acid (PFBS)	420/NA	670,000

* Established Part 201 Criteria for PFAS Congeners that were not detected in the samples are not included in this table.

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PRELIMINARY

2024 ANNUAL GROUNDWATER SAMPLING REPORT OAK POINTE WASTEWATER TREATMENT PLANT GENOA TOWNSHIP, MICHIGAN	Project No: 117-1045044 Date: 12/4/2024 Designed by: MC
2024 RESIDENTIAL WELL SAMPLING PFAS RESULTS	FIGURE 3

Bar Measures 1 Inch