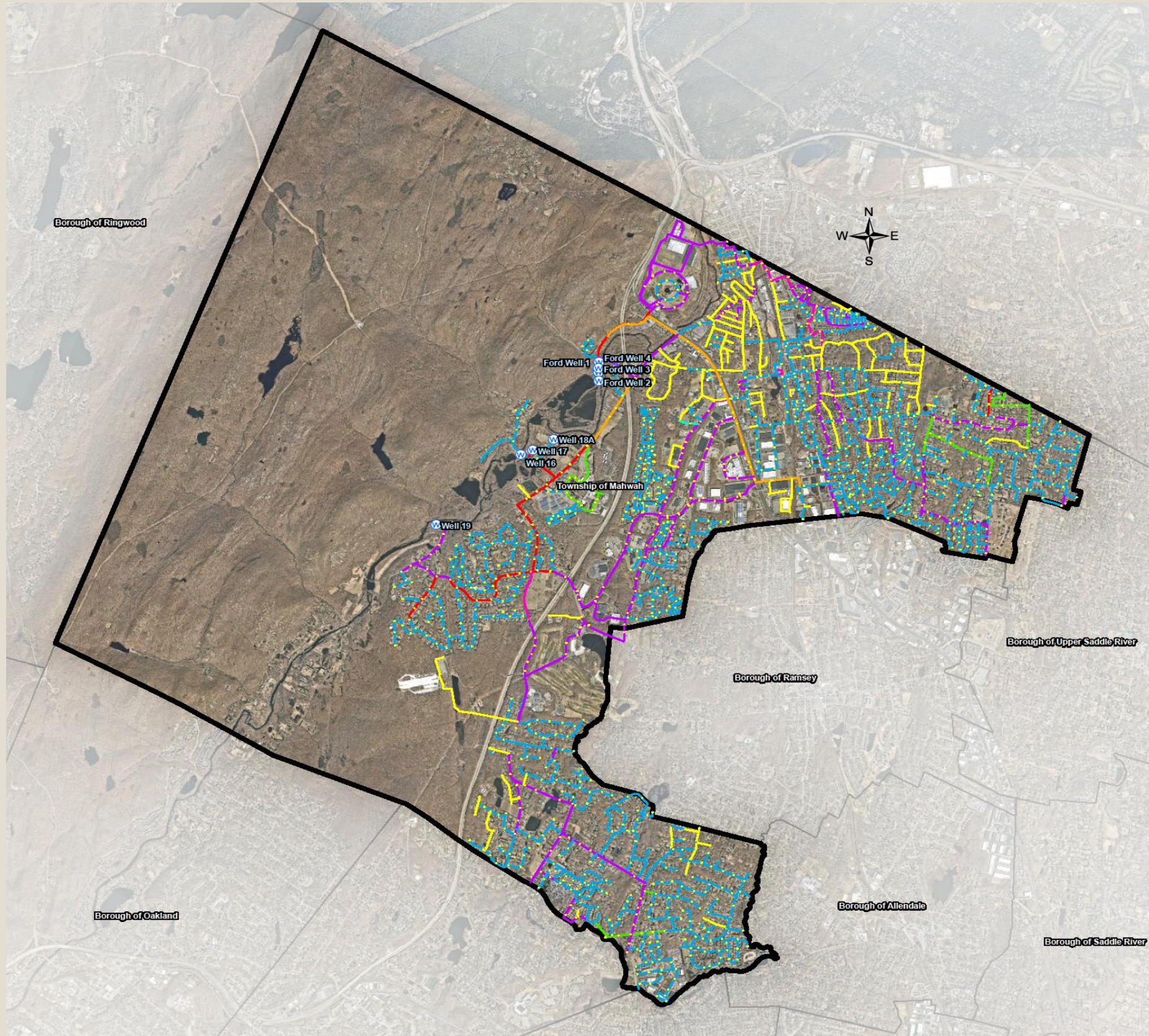




Township of
MAHWAH, NJ

**Drinking Water Quality
Discussion
January 31, 2022**

Mahwah Water System



Where does the water come from?

The system is comprised of:

- 131.5 miles of water main
- Four (4) water storage tanks
- Four (4) pumping stations
- Seven (7) active wells
- Five (5) points of entry, which includes SUEZ interconnection

Population served ~ 25,487

Households – 9,778

REGULATORY BACKGROUND

- Safe Drinking Water Act – passed by Congress in 1974 and amended in 1986 and 1996
- Currently, over 90 compounds with Federal (EPA) limits for community water systems, such as Mahwah
- The EPA requires monitoring for a list of unregulated compounds approximately every five (5) years for systems with more than 10,000 customers
- These results are used to determine if additional limits are needed
- The New Jersey Department of Environmental Protection (NJDEP) has additional limits for compounds in drinking water

PFAS compounds

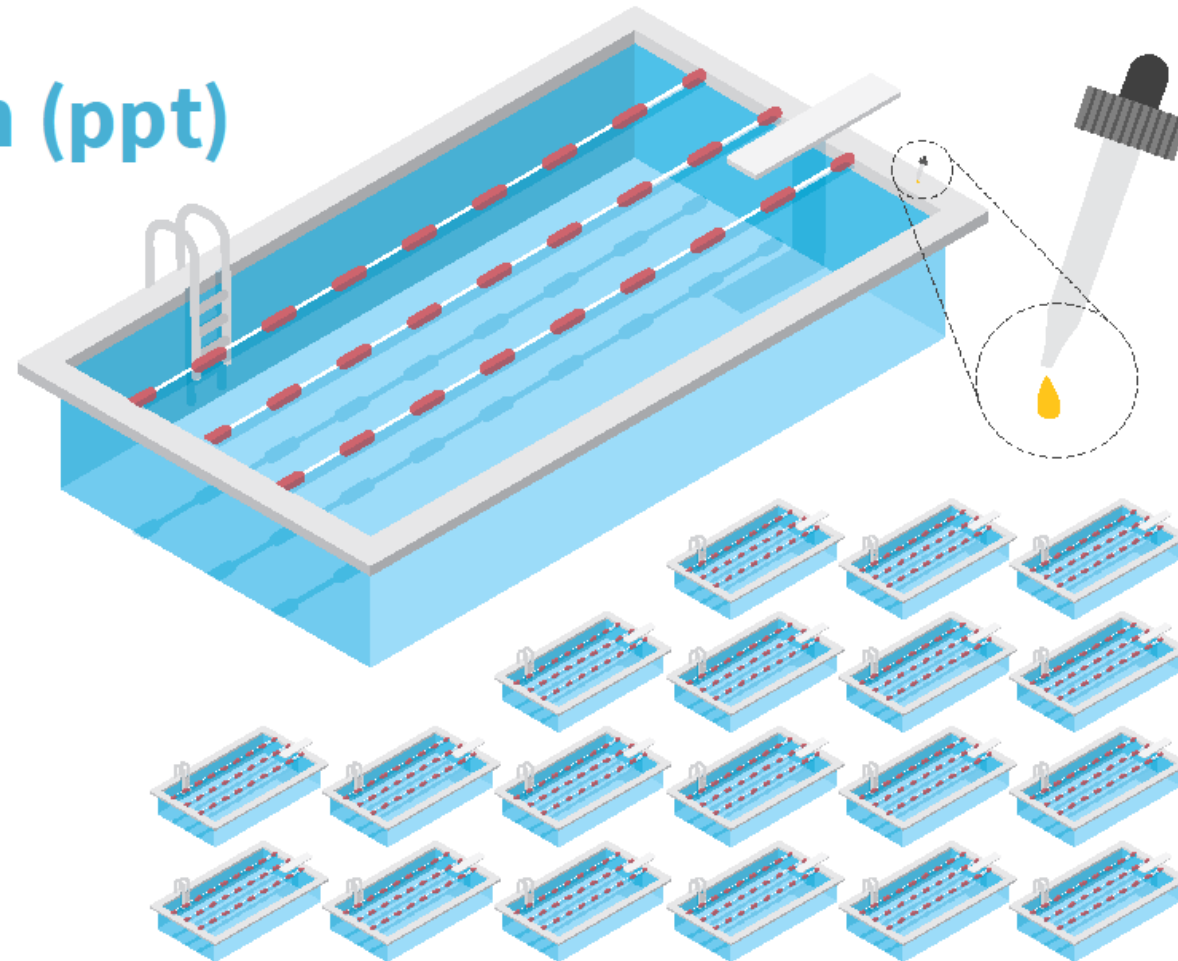
- PFAS compounds include Perfluorononanoic Acid (PFNA), Perfluorooctanesulfonic Acid (PFOS) and Perfluorotanoic Acid (PFOA).
- PFAS do not occur naturally and do not break down in the environment. These man-made chemicals have been used for carpets, clothing, fire fighting foam, consumer products (e.g. cosmetics, dental floss, shampoo), insect repellent, food packaging wrappers and coatings that are resistant to water, grease and/or stains.
- Widespread and extremely persistent in the environment.

PFAS Compounds

1 part per trillion (ppt)

**IS EQUIVALENT TO A
SINGLE DROP OF
WATER IN**

**20 olympic-sized
swimming pools**



Current regulations

- PFNA Maximum Contaminant Level (MCL) is 13 ppt adopted Sept 4, 2018 - Monitoring and testing required 1st Quarter of 2020
- PFOA MCL is 14 ppt adopted June 1, 2020
- PFOS MCL is 13 ppt adopted June 1, 2020
Monitoring and testing required 1st Quarter of 2021

EPA health advisory levels for PFOA and PFOS is a maximum of 70 ppt either individually or combined.

Compliance with the standard is based on a running annual average (RAA) - the average of quarterly testing over the period of one year.

Current regulations

**This is not an acute contaminant and this is not a
Do Not Drink Order**

Mahwah Water – Testing Results

<u>PFOA</u>		1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER	RAA
TP019051	WELL 19	5.8	5.5	5.2	5.1	5.4
TP016025	WELL 16	8.6	7.4	7.2	7.2	7.6
TP017027	WELL 17		7.3	6.6	7.1	5.25
TP011012	FORD WELLS	3.5	2.7	7.7	3.7	4.4
CC230001	SUEZ	10	12	11	8.5	10.38
<u>PFOS</u>						
TP019051	WELL 19	18	17	15	13	15.75
TP016025	WELL 16	4.7	4.2	4.1	3.4	4.1
TP017027	WELL 17		3.7	3.2	3.5	2.6
TP011012	FORD WELLS	2.6	ND	4.2	3	2.45
CC230001	SUEZ	4.5	4	3.9	2.5	3.725
<u>PFNA</u>						
TP019051	WELL 19	2.4	2.2	2.1	2.3	2.25
TP016025	WELL 16	ND	ND	ND	ND	0
TP017027	WELL 17		ND	ND	ND	0
TP011012	FORD WELLS	ND	ND	ND	ND	0
CC230001	SUEZ	ND	ND	ND	ND	0

Treatment Options

- Granular Activated Carbon
- Ion Exchange Treatment
- High pressure Membranes – Nanofiltration or Reverse Osmosis

As per the NJ.gov website for PFAS in drinking water, “Some studies have demonstrated up to 50% removal of PFAS when using either pitcher or refrigerator filters”

Treatment options

Granular Activated Carbon

Activated carbon is an effective adsorbent and provides a large surface area to which contaminants may adsorb.

PFAS in
Water



PFAS – free
water



Treatment options

Ion Exchange Resins

Small beads (called resins) which are made of highly porous material work like magnets. The chemicals stick to the beads and contaminants are removed as the water passes through.

PFAS in
Water



PFAS – free
water

Treatment options

High pressure Membranes – Nanofiltration or Reverse Osmosis

A process where water is pushed through a membrane with small pores. The membrane acts like a wall that can stop chemicals and particles from passing into drinking water.

PFAS in
Water



PFAS – free
water

ACTION PLAN

1. Retain consultant for planning and design of treatment.
2. Continue quarterly testing of all the wells
3. Distribute quarterly notices, as required by NJDEP
4. Analysis of treatment options
5. Design/permit of selected treatment option
6. Review of design by NJDEP
7. Implement construction of treatment system
8. Monitor/report water quality test results to verify successful treatment implementation

Resources

- New Jersey Department of Environmental Protection -
<https://www.state.nj.us/dep/watersupply/pfas/>
- United States Environmental Protection Agency
- United States Centers for Disease Control and Prevention
- Township of Mahwah Website –
<https://www.mahwahtwp.org/175/Water-Sewer-Utilities>

QUESTIONS?