



RYE Water District

September 28, 2023 Update



RYE Water District CHAIR, Ralph Hickson

COMMISSIONERS 3 year elected position

Ralph Hickson (Chair), Scott Marion, Rosalie Lopresto

SUPERINTENDENT *Arik Jones*

BUSINESS MANAGER—*Dyana Ledger*

OPERATORS—*Greg Vaillancourt, Jacob Madore, Caleb Thibodeau*

ENGINEER CONSULTANT—Wright-Pierce Engineers, Chris Berg

NHDES ENGINEER, *Jennifer Mates, Drinking Water & Groundwater Bureau*



RYE WATER DISTRICT—HISTORY

ESTABLISHED IN 1948



RWD IS A PRIVATE, NON-PROFIT MUNICIPALITY—
SEPARATE FROM THE TOWN OF RYE

PORTSMOUTH SUPPLIED WATER TO ALL OF RYE UNTIL 1977

1977 GARLAND WELL WAS INSTALLED, 1986 BAILEY BROOK WELL, 2004
CEDAR RUN WELL

RWD PROVIDES PUBLIC WATER SERVICE TO 85% OF RYE—
1700 CUSTOMERS/4500 RESIDENTS

RYE WATER DISTRICT



80 CUSTOMERS IN RYE AND 9 CUSTOMERS IN GREENLAND
RECEIVE PORTSMOUTH WATER

OTHER WATER PURVEYORS IN RYE—CITY OF PORTSMOUTH
5% (northern), AQUARION WATER COMPANY 7% (southeast)

RWD PROVIDES FIRE PROTECTION WITHIN THE DISTRICT FOR
TWO-THIRDS OF RYE—300 HYDRANTS

RYE WATER DISTRICT—ASSETS

3 WELLS, 4 PUMPING FACILITIES

1 PROCESS CONTROL FACILITY

3 STORAGE TANKS (WASHINGTON ROAD, BREAKFAST HILL ROAD)

300 FIRE HYDRANTS (RED/SILVER)

MAINTAINS 49 MILES OF WATER INFRASTRUCTURE

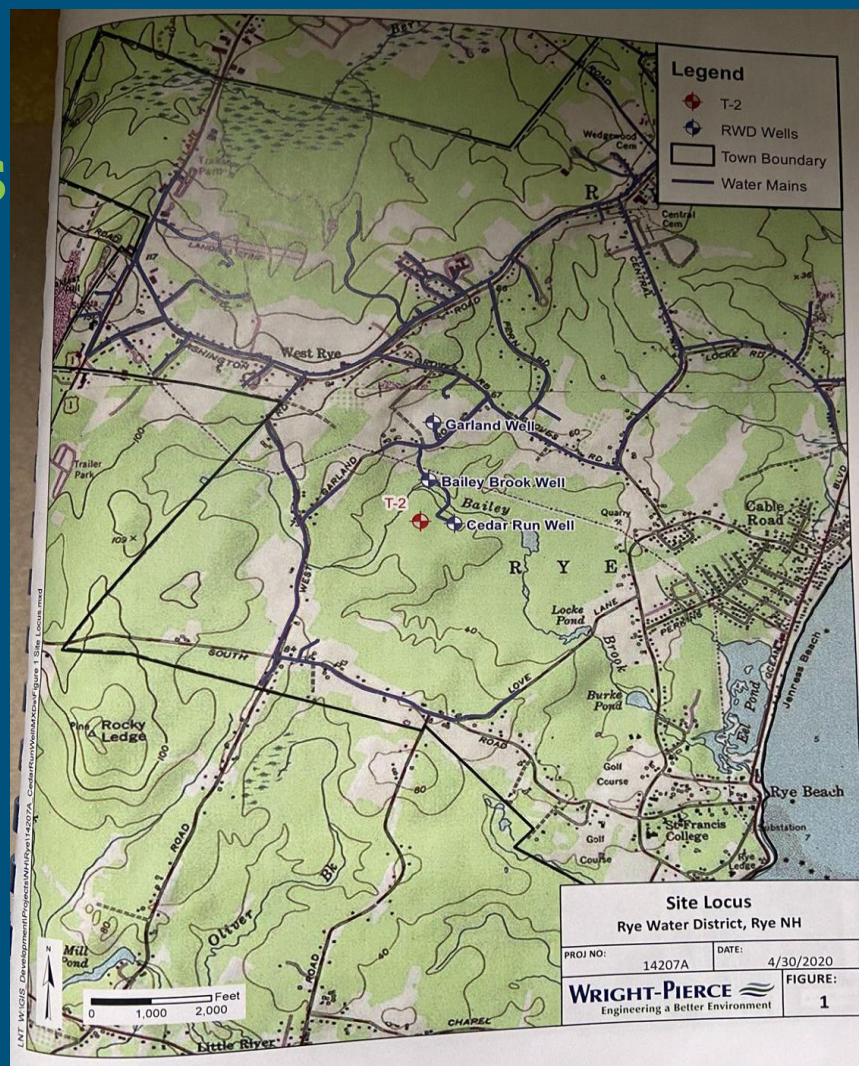
LAND/LANDFILL/BUILDINGS/4 SERVICE VEHICLES/EQUIPMENT



RYE Water District Wells

1. GARLAND WELL (MAIN WELL)
2. BAILEY BROOK WELL
3. CEDAR RUN WELL (BACKUP)

We are exploring one new well on the “Brown Property” managed by RCC off West Road (application pending)



CURRENT PROJECTS—ENGINEER, Chris Berg



AWARDED BY NHDES—RYE CHOSEN OUT OF 46 APPLICATIONS

50K STRATEGIC GRANT>>>>>

HIGH PRESSURE INTERCONNECTION WATER MAIN

50K STRATEGIC GRANT —WATER TREATMENT PLANT PILOT —
APPROVAL PENDING, OCTOBER 2023

40K GRANT—LEAD SERVICE LINE INVENTORY

RWD PROJECT UPDATES

100K GRANT – ASSET MANAGEMENT

WATER RATE STUDY

BAILEY & CEDAR PUMP CONTROL ELECTRICAL UPGRADES

INTERCONNECT/BOOSTER STATION PUMP CONTROL
UPGRADES—PORTSMOUTH



NHDES & THE RYE WATER DISTRICT



ROLE OF NH DEPARTMENT OF ENVIRONMENTAL SERVICES

Municipal Oversight/Compliance/Professional Support/Guidance/Education

FUNDING SOURCES (How do we pay for projects?)

1. NH STATE REVOLVING FUND
2. NH DRINKING WATER AND GROUNDWATER TRUST FUND
3. GRANTS, LOANS, BONDS, CUSTOMERS, PRIVATE, OTHER ENTITIES

WATER QUALITY REPORT – Arik Jones

Superintendent for RWD for 5 years; Licensed Operator at the RWD for 11 years

EVERY YEAR, CUSTOMERS RECEIVE AN ANNUAL WATER QUALITY REPORT

The state of NH has requirements. What do we check for?



WATER QUALITY REPORT



Arsenic, Barium, Radium, Fluoride, Nitrate, Copper (Cu), Lead (Pb), Na, Chloride (Cl), Fe, Mn, Sulfate, Zn, Radon,
PFAS–PFOA, PFAS, PFNA, PFHxS

Increased Coliform and E. Coli Sampling (Boil Order 2022)

Since Chlorination, increased Pb, Cu, and Free Cl residuals system-wide

Disinfection By-Products

DROUGHT OR DELUGE



*THE RWD & THE TOWN RECEIVED A **CONSERVATION AWARD** THIS YEAR BY NHDES*

SMART Water Meter Upgrades to the RWD (Kamstrup-Denmark)

Standalone Irrigation Policy/Backflow Devices

Water Audits

WATER CONSERVATION—What can you do?

REDUCE EXCESSIVE IRRIGATION, pool owners use a cover to reduce water loss

Replace inefficient toilets, dishwashers, washing machines, shower heads with high efficiency/low water flow

Water Smart Landscape—native plants, mulch, rain barrel collection

Fix Leaky Faucets



WHAT IS PFAS?—Commissioner Rosalie Lopresto

PER-AND POLY-FLUOROALKYL SUBSTANCES→1000'S

AKA “**FOREVER CHEMICALS**”—BECAUSE THEY PERSIST IN THE ENVIRONMENT AND BIOACCUMULATE (in people, animals...)

HUMAN-MADE CHEMICALS DEVELOPED IN THE 1940'S BY 3M/DUPONT TO REPEL WATER, GREASE OR STAINS.



WHAT ARE PFAS?

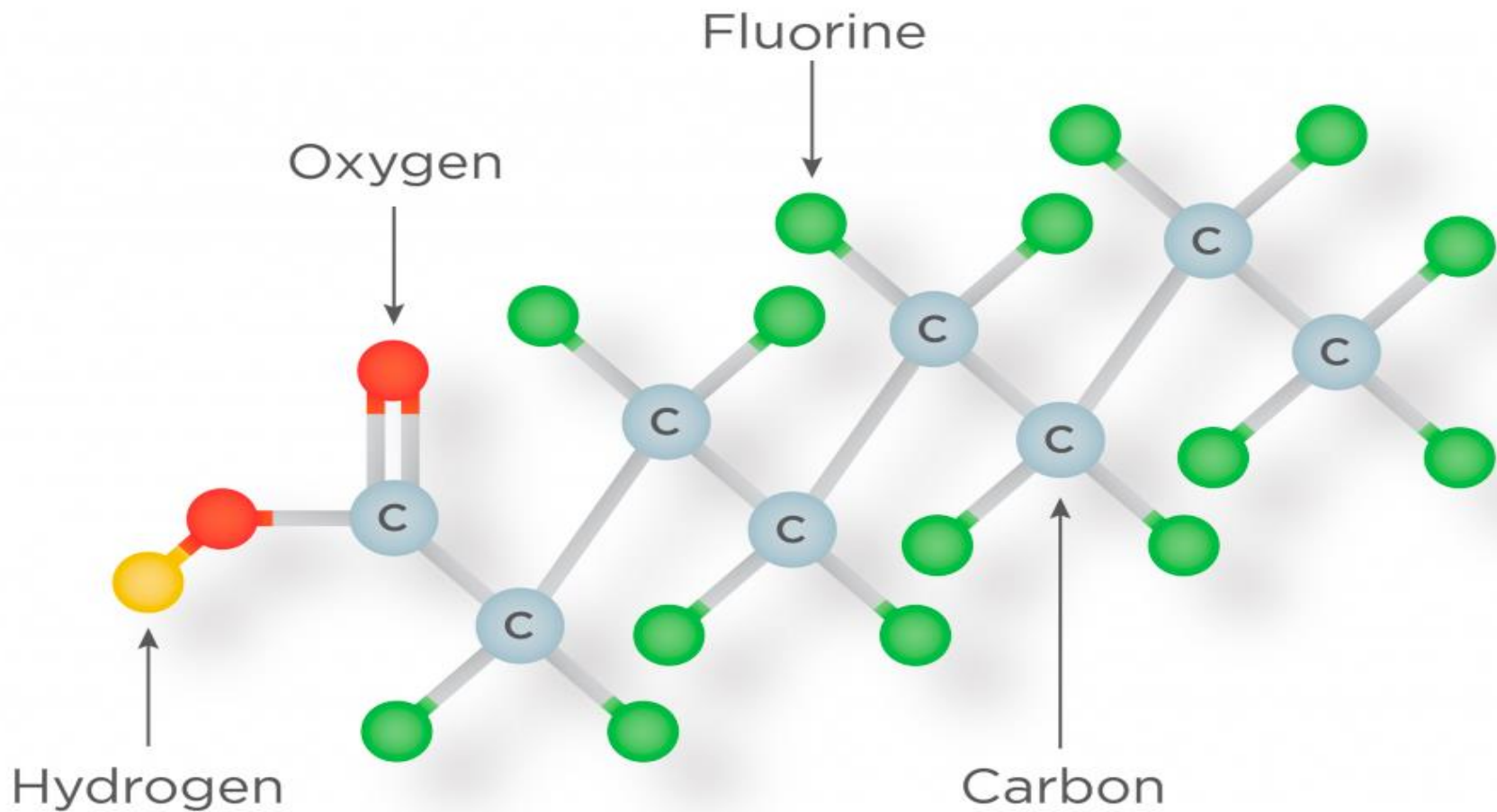


TRADEMARKS—“TEFLON”, “SCOTCH GUARD”, “STAINMASTER”

PFAS IS USED IN CARPETS, NON-STICK COOKWARE, CLOTHING, FURNITURE, DENTAL FLOSS, PIZZA BOXES, MICROWAVE POPCORN BAGS, COSMETICS, SKI WAX, FIREFIGHTER FOAM B (AFFF)

THEY ALL CONTAIN **CARBON-FLUORINE BONDS**—ONE OF THE STRONGEST CHEMICAL BONDS IN ORGANIC CHEMISTRY

THESE BONDS DO NOT DEGRADE IN THE ENVIRONMENT



Per-and Polyfluoroalkyl Substances



LINKED TO NEGATIVE EFFECTS ON HUMAN HEALTH – *Science is evolving and research is ongoing.*

CAN YOU BOIL OUT PFAS FROM THE WATER? **NO**, boiling increases the concentration of PFAS (unlike bacteria such as coliform)

PFAS IS FOUND IN DRINKING WATER THROUGHOUT THE COUNTRY AND THE WORLD. PFAS was also found on MT. EVEREST, in the ARCTIC and in ANTARCTICA

products containing
PFAS in landfill



firefighting foam
from military bases, airports,
and other sources



manufacturing
emissions which
contain PFAS



These sources
contribute PFAS into
our drinking water.



wastewater
containing
PFAS



land application
of biosolids
containing PFAS

PFAS in the News

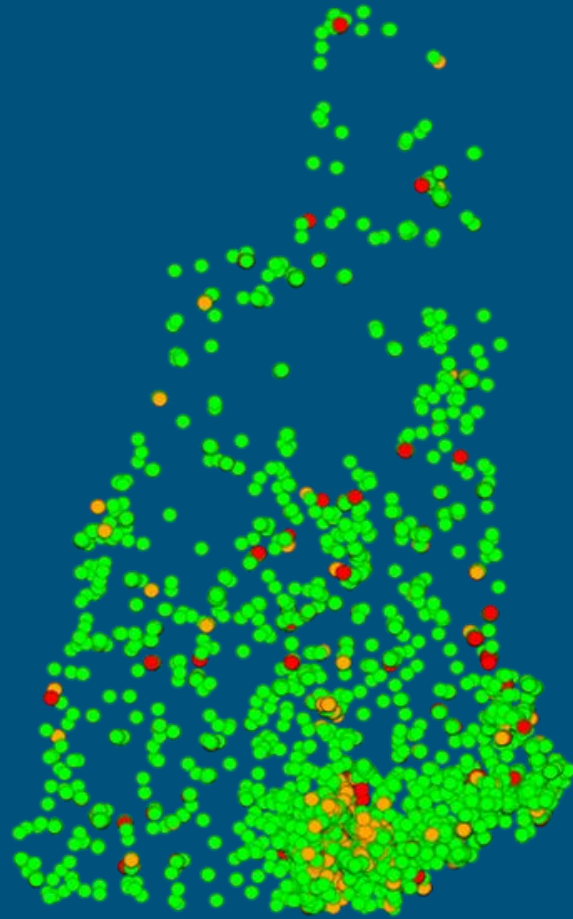
PFAS CONTAMINATED THE DRINKING WATER IN NH

*MERRIMACK—ST. GOBAIN PERFORMANCE
PLASTICS Source=Air emissions*

*PORTSMOUTH—PEASE TRADEPORT
HAVEN WELL Source= fire-suppressant foam*



NHDES-NH PFAS SAMPLING MAP



*

THE HISTORY OF PFAS STANDARDS

Chris Berg, PE

*EPA's 2016 Advisory was for 70 ppt combined for PFOA and PFOS

No advisories or MCLs were previously set for PFHxS or PFNA

EPA's LHA is an acknowledgement that there is no level of PFAS that is safe.

All levels are in Parts-per-Trillion (ppt)

1ppt is =to 1 drop of H2O in 20 Olympic sized swimming pools >>>

Regulation/Advisory	Date	GenX	PFBS	PFHxS	PFNA	PFOA	PFOS
EPA Preliminary Health Advisory	2009					400	200
EPA Lifetime Health Advisory	2016					70*	70*
NH Maximum Contaminant Levels (MCLs)**	2019			18	11	12	15
EPA Lifetime Health Advisory	2022		2,000			0.004	0.02
EPA Proposed Maximum Contaminant Levels (MCLs)	2023	Combined Limit based on Hazard Index numbers				4	4



NH PFAS LEVELS VS OTHER STATES



PFAS Regulatory Summary (March 2023)

Compound	Regulatory Limit (ng/L)								
	EPA (Proposed MCL)	CT (AL)	MA (MCL)	NH (MCL)	Maine (Interim Standard)	RI (MCL)	VT (MCL)	NJ (MCL)	NY (MCL)
PFOA	4	16	20	12	20	20	20	14	10
PFOS	4	10		15				13	10
PFNA	HI	12		11				13	
PFHxS	HI	49		18					
PFHpA									
PFDA									
PFBS	HI								
GENX (HFPO)	HI								

HI: Hazard Index = (GenX/10)+(PFHxS/9)+(PFNA/10)+(PFBS/2000)

2023 RYE WATER DISTRICT PFOS/PFOA DATA

Commissioner Scott Marion

BLEND—WHAT YOU ARE GETTING IN YOUR WATER

July PFOS—4.12 ppt PFOA—5.42 ppt

UNBLENDED (Garland Well—RWD strongest water producing well)

March PFOS—5.09 ppt PFOA—8.03 ppt

June PFOS—6.36 ppt PFOA—6.72 ppt

July PFOS—5.13 ppt PFOA—6.21 ppt

NH MCL PFOS—15 ppt PFOA—12 ppt

EPA is proposing 4 ppt PFOS/PFOA (EPA Ruling 2024/MCLs likely 2027)



CENTRAL TREATMENT PLANT



How much does it cost? Soft Estimates **\$16-18 Million**
not including yearly O & M (>\$150K)

Fe/Mn need to be treated before PFAS treatment

How long will a Central Treatment Plant take to build?
3-5 years Supply/Demand

PFAS TREATMENT

Is PFAS treatment REQUIRED by the state of NH right now in RYE? NO

Is this ENFORCEABLE by EPA right now? NO (EPA has new draft rules, but they have not been enacted yet.)

Does the RWD MEET or EXCEED ALL NH Regulations for Drinking Water? YES



EMERGENCY



WE MAINTAIN INFORMAL EMERGENCY PARTNERSHIPS WITH
TOWN of RYE & LOCAL MUNICIPALITIES

ONGOING ASSISTANCE/COMPLIANCE WITH

1. ENGINEER CONSULTANTS
2. NHDES—New Hampshire Department of Environmental Services

CUSTOMERS—SIGN UP FOR **ALERTS** ON THE WEBSITE (EMAIL OR TEXT)

PUBLIC MEETINGS



THE FIRST **WEDNESDAY** OF THE MONTH AT 9AM

THE COMMISSIONERS HAVE A WORK SESSION THE 2ND
WEDNESDAY OF THE MONTH THAT IS ALSO OPEN TO THE PUBLIC
AT 9 AM

QUESTIONS:



What questions, comments, or concerns do you have?

OR CALL/EMAIL US—(603) 436-2596

<https://www.RYEWATERDISTRICT.COM>

THANK YOU!

