

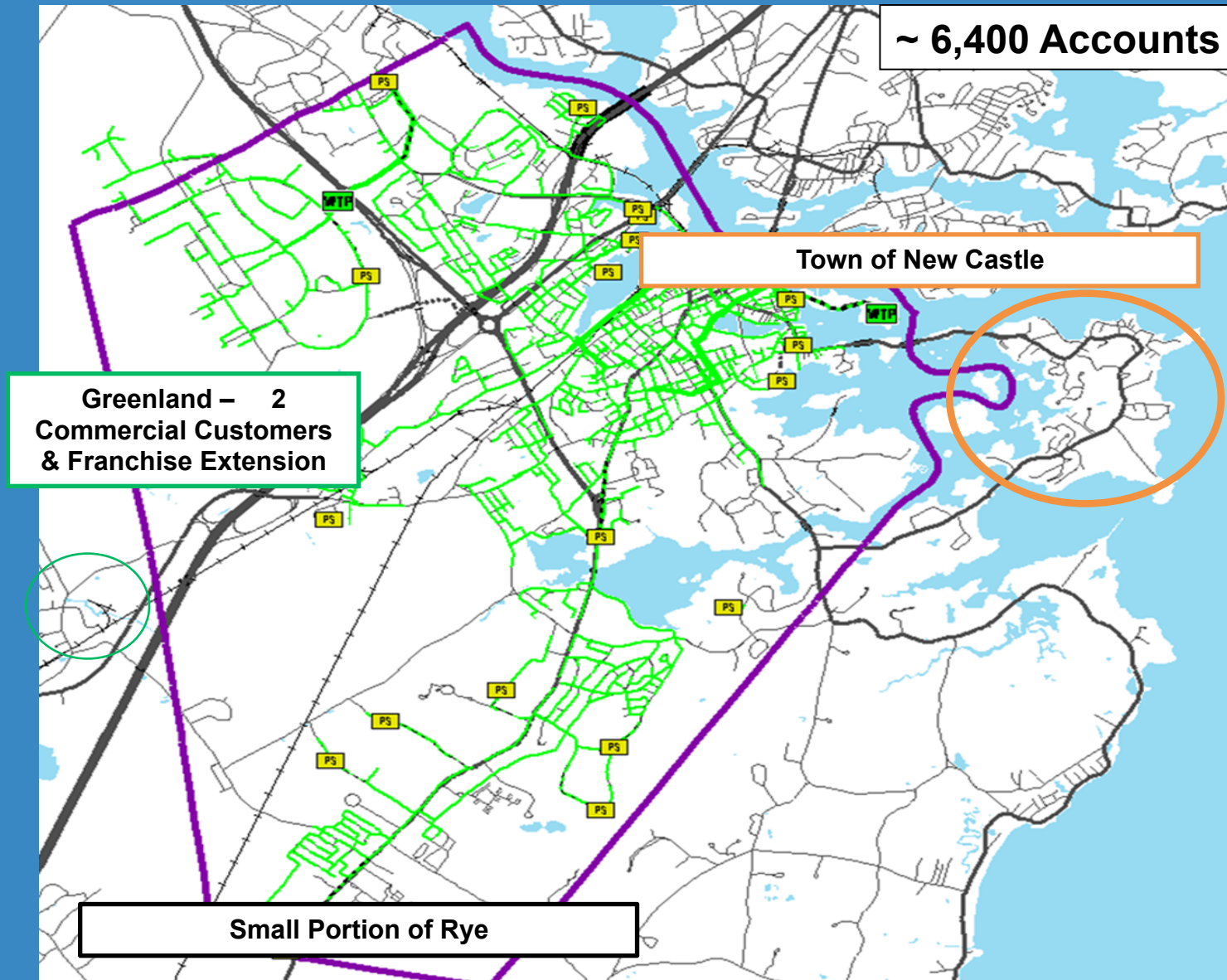
# Industrial Pretreatment and Portsmouth NH

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City Engineer

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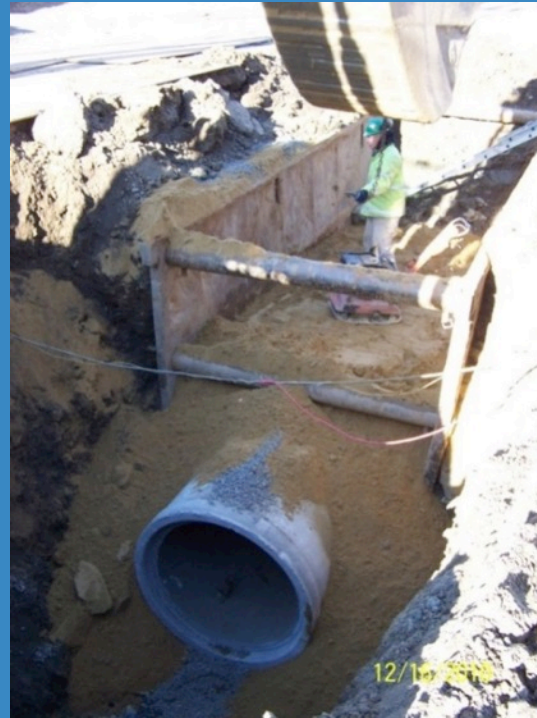


# Portsmouth Wastewater System



# Portsmouth Wastewater System

- 109 Miles of Piping
  - 3 Combined Sewer Overflows
- 20 Pumping Stations
- 1,700 Sewer Manholes
- 2 Wastewater Treatment Facilities
- 6,400 Customers





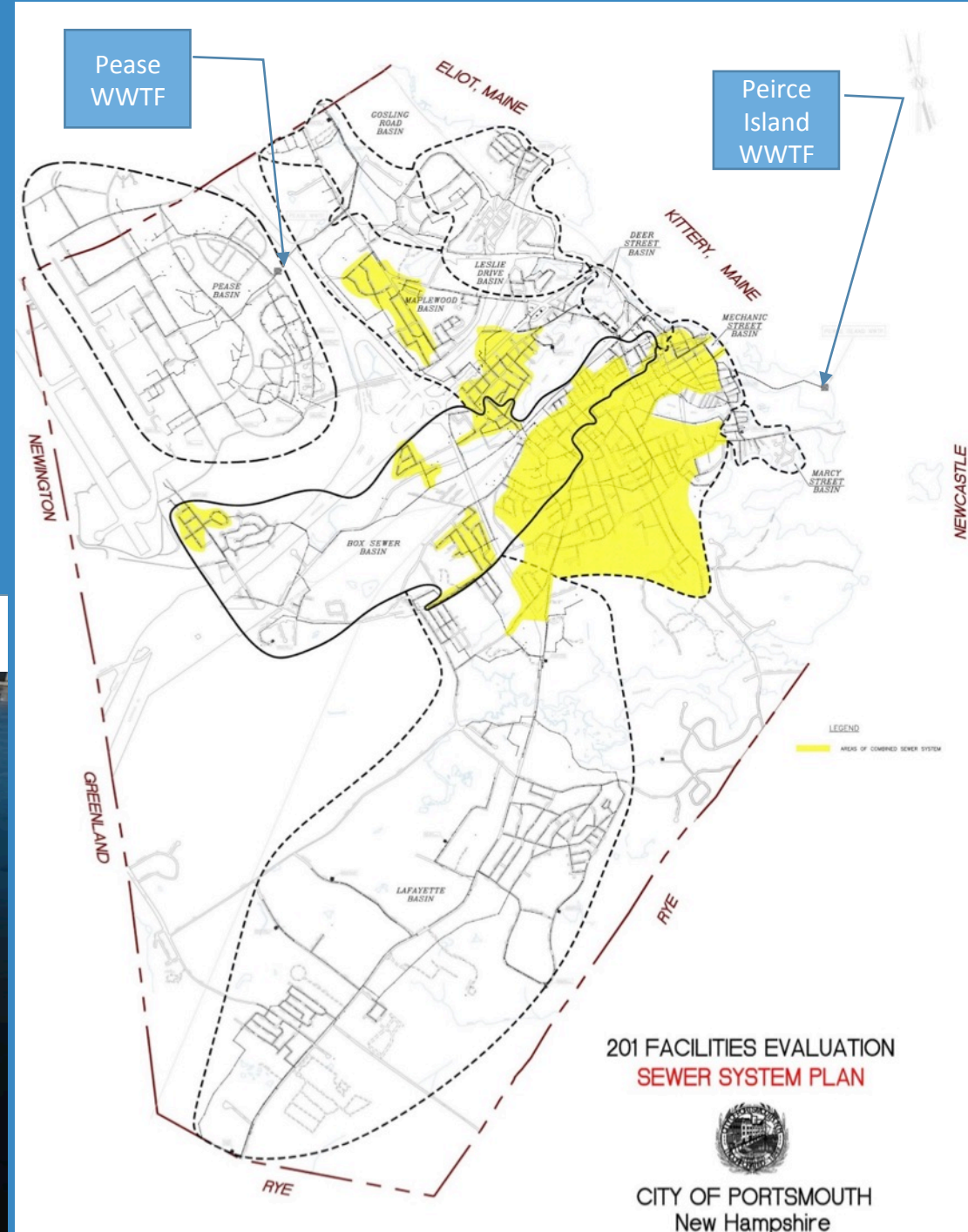
# Collection and Treatment



Pease WWTF



Peirce Island WWTF



# Collection and Treatment

## Peirce Island WWTF

- Flow:
  - Design 6.1 MGD
  - 2017 Annual Average 3.9 MGD
  - Design Peak Hour 22 MGD
- Treatment Technology: CEPT and BAF
- Collection System Piping: 98 miles, 3 CSOs
- 9 Permitted Industrial Users

## Pease WWTF

- Flow:
  - Design 1.2 MGD
  - 2017 Annual Average 0.9 MGD
  - Design Peak Hour 3.3 MGD
- Treatment Technology: Sequencing Batch Reactor
- Collection System Piping: 11 miles
- 6 Permitted Industrial Users

# Regulations and City of Portsmouth

- 40 CFR 400 Effluent Guidelines and Standards
  - Non-domestic sources
  - WWTF Flow >5.0 MGD (Peirce Island WWTF)
  - Single Industrial User >5% of Load (Pease WWTF)
- 40 CFR 403 National Pretreatment Standards
  - Pretreatment if Pass Through or Impact on Sludge Disposal
  - Pretreatment if Interference with Treatment (heat, load, inhibition, etc.)
- NPDES Permit Requirements
  - Comply with 40 CFR 403 and State Requirements

# Regulations and City of Portsmouth (cont'd)

- NH RSA
- NH DES Env-Wq 305
- Local Limits – Pease WWTF (Sep 2002) Peirce Island WWTF (Nov 2002)
  - Survey of users, review of WWTF records, screening
  - Local Limits Not Required at that Time
- Sewer Use Ordinance ~1971 w/Amendments
  - Industrial Inputs
  - Fats Oils and Grease



# History of Industrial User Program

- Prior to 1990s – No Program
- 1990's Developed Initial Program for Permit Issuance
  - Example and Encouragement from DES
  - Unofficial Version of a Program
  - Official Permit With Reference to Clean Water Act, 40 CFR 403, DES Regs
- Initial Efforts
  - Assessor's Database for All Commercial and Industrial Properties
  - Identification of All Properties With Discharge
  - Phone/In-Person Discussion of Specifics
  - Permit Application and Issuance



# Current (Unofficial) Industrial User Program

- Permit Application & Permit Issuance
  - Inspection at Time of Permit Application
  - Permit Requirements Depends on IU Impact
- Sampling/Reporting
  - Schedule
  - Location(s)
  - Parameters
- Proper Operation and Maintenance
- Expiration/Reapplication
- Surcharge for Excessive Load
  - Fees Set by City Council
- Authority for Inspection and Sampling

## STAFFING

- City Engineer (Ordinance)
- Assistant City Engineer
- Wastewater Operations Manager
- Wastewater Treatment Staff
- Collections Staff

# Industrial User Makeup

## Peirce Island WWTF

- Biopharmaceutical: 0
- Micro/Nano Brewery: 2
- Lab: 5
- Food Manuf: 1
- Other: 1

Less than 5% Contribution from Industrial Users to Flow

Less than 5% Contribution from Industrial Users to BOD Load

## Pease WWTF

- Biopharmaceutical: 1
- Full Scale Brewery: 1
- Lab: 2
- Food Manuf: 0
- Other: 2

Approximately 55% Contribution from Industrial Users to Flow

Approximate 50% Contribution of Industrial Users to BOD Load

# Current Permitted Industrial Users

Company	Address	Significant or Insignificant Discharger	Products Manufactured	Industrial Processes Used	Pretreatment Processes	Permit Status	Plant Receiving Flow*
NH Air National Guard NDI Laboratory	157 CES/CEIE 302 Newmarket Street, Bldg 245 Pease ANGB, NH 03803-0157	Insignificant	None	Photo developing lab	None	Active	Pease
Great Bay Community College	320 Corporate Drive Portsmouth, NH 03801	Insignificant	None	None	None	Active	Pease
High Liner Foods, Inc.	1 Highliner Avenue Portsmouth, NH 03801	Insignificant	Frozen Seafood	Seafood processing	None	Has not been issued	Peirce Island
Lonza Biologics, Inc.	101 International Drive Portsmouth, NH 03801	Significant	Biopharmaceuticals	Biopharmaceuticals manufacturing	pH adjustment, temperature adjustment	Active	Pease
Thermo Fisher (Erie Scientific)	6 Post Road Portsmouth, NH 03801	Insignificant	Microscope slides	Labware manufacturing	pH adjustment	Active	Peirce Island
Thermo Fisher (Erie Scientific)	20 Post Road Portsmouth, NH 03801	Insignificant	Microscope slides	Labware manufacturing	pH adjustment	Active	Peirce Island
Redhook Ale Brewery	35 Corporate Drive Portsmouth, NH 03801	Significant	Beer	Brewery	Upflow anaerobic sludge blanket reactor	Expired in 2013	Pease
Port City Car Wash	2859 Lafayette Road Portsmouth, NH 03801	Insignificant	None, car wash facility	None	None	Active	Peirce Island
Portsmouth Regional Hospital	333 Borthwick Avenue Portsmouth, NH 03801	Insignificant	None	None	None	Active	Peirce Island
Lab Corp	175 Heritage Street Portsmouth, NH 03801	Insignificant	None	Analytical laboratory	None	Expired	Peirce Island
Seacoast Media Group	111 New Hampshire Avenue Portsmouth, NH 03801	Insignificant	Newspaper publishing	Newspaper printing	None	Expired in 2012	Pease
Fresenius Medical Care dba Seacoast Dialysis	155 Borthwick Avenue Suite 100 Portsmouth, NH 03801	Insignificant	None	None	None	Expired in 2012	Peirce Island
Ionbond IHI Group	195 NH Ave Suite 190 Portsmouth NH, 03801	Insignificant	PVD, CVD and PACVD industrial coatings	Surface Coating	pH	Expired in 2013	Pease
Great Rhythm Brewing Company	105 Bartlett Street Portsmouth, NH 03801	Insignificant	Beer	Brewery	None	renewal pending Scott Thornton to mail in check week of 06/11/18 - Ray has application	Peirce Island
Liar's Bench Beer Company	459 Islington Street #4 Portsmouth, NH 03801	Insignificant	Beer	Brewery	None	renewal submitted 05.31.2018 with check	Peirce Island

# 1976 Study of Rates – Industrial User List

TABLE VI

CITY OF PORTSMOUTH, NEW HAMPSHIRE

DATA ON DAILY INDUSTRIAL WASTEWATER DISCHARGE

<u>Name</u>	<u>Address</u>	<u>Type of Business</u>	<u>Number Of Employees</u>	<u>Wastewater Volume (Gal/Day)</u>	<u>Pounds Per Day</u>		<u>Type of Waste</u>
					<u>BOD</u>	<u>SS</u>	
American International Shoe	McDonough Street	Warehouse	6	510			Cooling & Sanitary
Armour Company	243 Vaughan Street	Meat Processing	9	1,647 <sup>(1)</sup>	16 <sup>(1)</sup>	16 <sup>(1)</sup>	Process & Sanitary
Artisan Fashion Co., Inc.	Lafayette Industrial Pk.	Stitching & business forms	54	1,350 <sup>(2)</sup>			Sanitary
Basil Richardson	148 State Street	Launderette	-	1,327			Domestic
Blaisdell Printing	58 State Street	Letter press & off-set	4	100 <sup>(2)</sup>			Sanitary
Booth Fisheries	Borthwick Ind. Park	Prepared Seafood	290	235,000 <sup>(1)</sup>	631 <sup>(1)</sup>	2199 <sup>(1)</sup>	Process & Sanitary
Coastal Cleaners	544 Islington Street	Dry Cleaning	-	1,178			Domestic
Chadwick And Trefethen, Inc.	Borthwick Ind. Park	Machine Shop	17	183			Sanitary
Colonial Laundry	124 Bartlett Street	Dry cleaning & laundry	66	35,571 <sup>(1)</sup>	122 <sup>(1)</sup>	190 <sup>(1)</sup>	Process & Sanitary
Colton Lewis	855 Islington Street	Manf. import leather goods	6	145			Sanitary
Cumberland Farms	Interstate Hwy.	Dairy products process	15	17,241 <sup>(1)</sup>			Process & Sanitary
Diaphragm Industries	1001 Islington Street	Molded rubber products	180	5,100 <sup>(3)</sup>			Cooling & Sanitary
Equipment Services	3600 Lafayette Road	Truck & const. equip. repair	5	125 <sup>(2)</sup>			Sanitary
Heath, Richard	23 High Street	Launderette	-	4,075			Domestic
Herald Publishing Co., Inc.	111 Maplewood Avenue	Newspaper	84	2,918			Sanitary
H.P. Hood & Sons, Inc.	Lafayette Road	Dairy Products	59	480			Sanitary
Imperial Cleaners	800 Islington Street	Dry cleaning & laundry	4	11,129			Process & Sanitary
Marshall, Frank	105 Bartlett Street	Launderette	-	3,769			Domestic
Morley Company	909 Islington Street	Tabulating cards	76	890			Sanitary
New England Homes	Box 464, Freeman's Point	Prefab homes	25	625 <sup>(2)</sup>			Sanitary
National Cypsum Co.	Freeman's Point	Plasters, wallboard, lathe	114	7,600 <sup>(1)</sup>			Process & Sanitary
Neslab Instruments	871 Islington Street	Laboratory Instruments	25	566			Sanitary
New Hampshire Provision	698 Islington Street	Wholesale meats pkg.	52	16,718 <sup>(1)</sup>	175 <sup>(1)</sup>	115 <sup>(1)</sup>	Process & Sanitary
Norge Laundry	Lafayette Plaza	Dry clean & launderette	2	3,067			Domestic
Norm's Sunoco	1725 Woodbury Avenue	Carwash	-	1,763			Domestic
Northeast Cutting Die Corp.	871 Islington Street	Shoe cutting dies	24	123			Sanitary
Pepsi Cola	603 Islington Street	Soft drink bottling	30	1,861			Process & Sanitary
Portsmouth Hospital	Junkins Avenue	Hospital	362	37,105			Domestic
Randall Press	19 Daniel Street	Offset printer	4	100 <sup>(2)</sup>			Sanitary
Roland H. Ripley And Son	59 Cass Street	Machinists	5	125			Sanitary
Sagamore Enterprises	304 Maplewood Avenue	Launderette	-	2,292			Domestic
Softspra	Lafayette Road	Carwash	-	2,988			Domestic
South Gate Launderette	South Gate Plaza	Launderette	-	5,589			Domestic
Smith, Batchelder & Hugg	10 Vaughan Street	Accounting, income tax	3	75 <sup>(2)</sup>			Sanitary
Strawberry Bank Print Shop	63 Market Street	Job & commercial printing	4	100 <sup>(2)</sup>			Sanitary
Varney Wesley, Inc.	211 Union Street	Salad preparation	50	44			Domestic
Zaffoli Car Wash	Lafayette Road	Carwash	-	1,594			Domestic
Totals			<u>1,575</u>	<u>406,513</u>	<u>944</u>	<u>2,520</u>	

Notes:

- (1) Per Wastewater Facilities Planning Study by Wright, Pierce, Barnes and Wyman.  
 (2) Based on average use of 25 gallons per employee per day.



# Coordination With IUs



# Fats, Oil, and Grease

- Plumbing Ordinance
  - 1,000 Gal Exterior
  - Interior With Approved Waiver
- Accountability Through Health Department Annual Licensing
  - Review of Cleaning Documentation
  - Inspection



# Future Needs

- Update Sewer Use Ordinance
  - Strengthen IUP Provisions
  - Strengthen FOG Provisions
- Coordinate with Other Ordinances
  - Health Department
  - Plumbing Department
- Revisit Technically Based Local Limits Evaluation
- System Wide Industrial User Survey

## 2017 DES IUP AUDIT RECOMMENDATIONS

- Update Sewer Use Ordinance
- Include FOG in SUO
- Perform IU Inspections Routinely

# Future Needs (Continued)

- Public (Business) Outreach
  - Brochures – Target FOG for Restaurants
  - Public Information Sessions
  - Information on City's Website
- Plan for Full IUP Program Implementation –EPA and DES Regulations
  - Documentation
  - Inspections
  - DES Coordination
  - Enforcement
- Additional Staff Necessary and Funding Source(s)



# Questions

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603-766-1421

<http://cityofportsmouth.com/publicworks/wastewater>