



PUBLIC WORKS DEPARTMENT

CITY OF PORTSMOUTH

680 Peverly Hill Road

Portsmouth N.H. 03801

(603) 427-1530 FAX (603) 427-1539

November 27, 2019

Mark Pollins
Director of Water Enforcement
USEPA
OECA-
1200 Pennsylvania Ave NW
MAIL CODE 2246A
Washington, DC 20460

Re: Consent Decree 09-cv-283-PB
Monthly Report on Compliance for October 2019
City of Portsmouth, New Hampshire

Dear Mr. Pollins:

In accordance with Consent Decree 09-cv-283-PB, Section V, item paragraph 20, dated August 12, 2009 and as amended by Consent Decree Modification filed July 2, 2012 and approved by the Court on February 15, 2013 and as amended by Consent Decree Second Modification, Section III, item paragraph 6, filed on April 1, 2016 and approved by the Court on September 28, 2016, the City of Portsmouth is submitting this monthly report on compliance.

The Consent Decree Second Modification requires the filing of monthly reports as follows: Within 30 days after the end of each month, the City shall submit a written report to EPA, the State, and CLF for the preceding month that shall include a description or reporting of the following: i) status of required construction, including major work items completed in the preceding month; ii) projected work items to be undertaken in the next month; iii) project percent complete based on payments to Contractor for work completed; iv) project percent complete based on time elapsed; v) status of all required permit applications; vi) status of Consent Decree milestones including identifying any problems encountered or anticipated, together with the proposed or implemented solutions; and vii) the monthly average discharge concentrations of total nitrogen for the preceding month, as required in Paragraph 8.b.ii of the Second Modification.

The Consent Decree, First Modification and Second Modification along with such Monthly Reports on Compliance shall be posted on the City's internet site, and maintained accessible to the public online until termination of the Consent Decree. In addition to the submission of Reports on Compliance, the Parties will participate in quarterly meetings or conference calls, if scheduled by EPA, to review the City's compliance with the terms of the Consent Decree.

i. Status of required construction including major work items completed in the preceding month

Work completed by the Contractor in the month of **October 2019** is as follows:

- Completed installation of the media in the BAF cells
- Completed masonry work on the BAF Building
- Completed startup of the Flash Mix pumps in the BAF Gallery
- Completed startup of the Mudwell Pumps in the BAF Gallery

ii. Projected work items to be undertaken in the next month

Ongoing work by the Contractor through the month of **November 2019** includes the following:

- Continue electrical, HVAC, and plumbing punch list work at the Headworks Building
- Continue modifications (structural, mechanical process, HVAC, plumbing, roofing, and electrical) in the Grit Building
- Continue installation of the building finishes such as door hardware and signage in the Solids Building
- Continue wiring of the Motor Control Centers (MCC) and equipment in the BAF Building
- Continue electrical, plumbing, and HVAC work in the BAF Building and Solids Building
- Continue installation, testing, and startup of process piping, valves, instruments, and equipment in the BAF Building Gallery
- Continue interior painting in the BAF Building
- Continue installation of the netting over the BAF cells
- Continue checkout and inspection of the fire protection system in the BAF Building
- Continue integration of the BAF control system with the plant's SCADA system
- Continue to export excavated materials and demolition materials off-site
- Continue excavation and installation of underground utilities between the Grit Building, Solids Building, and BAF Building
- Continue installation of the mechanism in Gravity Thickener No. 2 and repairs to the mechanism for Gravity Thickener No. 1
- Continue scum pump installation in the scum wells for the primary clarifiers and gravity thickeners
- Continue selective demolition of structures and equipment in the existing Sludge Processing Building
- Begin demolition of the upper story of the existing Sludge Processing Building
- Continue PCB abatement in the existing Sludge Processing Building
- Begin preparation of the base course for paving, and place binder course pavement on a portion of the site

Projected work to be completed by the Contractor in the month of **November 2019** includes the following:

- Complete demolition of the upper story of the existing Sludge Processing Building
- Complete checkout and inspection of the fire protection system in the BAF Building
- Complete installation of the netting over the BAF cells
- Complete placement of binder course pavement on a portion of the site

iii. Project percent complete based on payments to Contractor for work completed

The following table provides a summary of the Contractor's requests for payment, and the resulting percent complete:

Original Contract Value	72,785,545.00
Change Order 1 – January 2017	367,290.42
Change Order 2 – May 2017	546,722.46
Change Order 3 – August 2017	93,838.31
Change Order 4 – December 2017	162,869.20
Change Order 5 – May 2018	249,828.16
Change Order 6 – December 2018	292,031.11
Change Order 7 – April 2019	169,138.30
Change Order 8 – October 2019	112,659.75
Contract Value Total	\$74,779,922.71

Payment Application No.	Work Conducted Through	Amount	Payment Application No. (continued)	Work Conducted Through (continued)	Amount	Cumulative Amount	% Complete Based on Contract Value Total
1	09/30/2016	\$1,393,500.00	20	04/30/2018	\$1,546,079.40		
2	10/31/2016	\$2,855,100.00	21	05/30/2018	\$1,428,583.12		
3	11/30/2016	\$1,717,330.09	22	06/30/2018	\$2,638,097.36		
4	12/31/2016	\$1,374,011.19	23	07/31/2018	\$1,250,957.12		
5	01/31/2017	\$1,524,496.35	24	08/31/2018	\$2,351,471.12		
6	02/28/2017	\$1,327,078.04	25	09/30/2018	\$1,402,132.42		
7	03/31/2017	\$2,767,152.62	26	10/31/2018	\$1,382,568.22		
8	04/30/2017	\$2,449,209.70	27	11/30/2018	\$1,655,719.55		
9	05/31/2017	\$1,876,920.03	28	12/31/2018	\$1,409,179.62		
10	06/30/2017	\$2,345,659.10	29	01/31/2019	\$906,134.53		
11	07/31/2017	\$2,242,655.50	30	02/28/2019	\$902,482.79		
12	08/31/2017	\$4,028,468.63	31	03/31/2019	\$1,198,046.56		
13	09/30/2017	\$2,757,371.30	32	04/30/2019	\$1,138,709.83		
14	10/31/2017	\$2,306,338.15	33	05/31/2019	\$990,898.97		
15	11/30/2017	\$1,884,478.12	34	06/30/2019	\$1,112,297.85		
16	12/31/2017	\$2,151,295.60	35	07/31/2019	\$862,001.79		
17	01/31/2018	\$1,621,113.58	36	08/31/2019	\$1,068,359.68		
18	02/28/2018	\$1,218,795.24	37	09/30/2019	\$763,764.66		
19	03/31/2018	\$1,737,412.52	38	10/31/2019	\$1,151,181.27		
						\$64,737,051.62	86.70%

Project percent complete based on time elapsed

The contract time to the EPA required milestone for the BAF treatment system completion is 1186 calendar days. The total value of the contract (item iii) is based on the City's contractual milestone for project substantial completion is 1398 calendar days.

The project is 97.5% complete based on the BAF treatment system completion as of October 31, 2019 and 82.7% complete based on project substantial completion.

The project substantial completion date was extended by 30 days by the execution of Change Order #7. No Consent Decree milestone dates are affected by this change.

iv. Status of all required permit applications

There are no pending permit applications.

v. Status of Consent Decree milestones including identifying any problems encountered or anticipated, together with the proposed or implemented solutions

The construction contract with Methuen Construction Company, Inc. was executed on August 25, 2016. A summary of all milestones required by the Consent Decree Second Modification is provided below.

Milestone	Date	Status
Execute Contract to Construct Upgrades	July 1, 2016 September 1, 2016*	August 25, 2016
Submit Two Additional Milestones for EPA Review and Approval	December 1, 2016	November 29, 2016
Additional Milestone 1: Transfer of the existing SCADA system to the new Headworks Building	November 21, 2017	October 18, 2017
Additional Milestone 2: Startup and testing of the Secondary Influent Pump Station in the new Solids Building	May 9, 2019	May 7, 2019
BAF Substantial Completion	December 1, 2019	On Schedule**
Achieve Compliance with NPDES Permit Limits	April 1, 2020	On Schedule

*At the request of the City of Portsmouth, all parties agreed that the Contract Execution Date could be revised to September 1, 2016 to allow more time for bidding and to accommodate the Portsmouth City Council's review of barging alternatives prior to contract execution. The Contractor's schedule for completion was reduced to accommodate the modified contract execution delay.

**As of November 22, 2019 the City notified the EPA that the contractor would not meet this deadline. Further information will be provided in the November 2019 monthly report on compliance.

vi. The monthly average discharge concentrations of total nitrogen for the preceding month, as required in Paragraph 8.b.ii of the Second Modification.

The average concentration of effluent total nitrogen in the month of October 2019 was 26.2 mg/L TN. See attached report on page 12, which was submitted with the City's October 2019 Discharge Monitoring Report (DMR) for NPDES Permit NH0100234.

As requested by the EPA, Consent Decree Mitigations, as required in Section IV, Paragraph 8, of the Consent Decree Second Modification, will be outlined in this monthly report.

ATTACHMENT A: A summary of the City's mitigation initiatives is provided detailing the status of each initiative.

ATTACHMENT A1: A summary of the City's commitments to date as required in Paragraph 8.e., Water Quality and Ecosystem Health Project, of the Consent Decree Second Modification.

ATTACHMENT A2: Supplemental Compliance Plan Sewer Separation Projects per Consent Decree, Section IV, Paragraph 12.c. On January 24, 2018, EPA, with NHDES concurrence, approved the updated CSO Supplemental Compliance Plan and implementation schedule as contained in the plan.

These monthly construction reports are posted on the City's wastewater website at:
<https://www.cityofportsmouth.com/publicworks/wastewater/resources>.

As required by the Consent Decree:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Please contact me at (603) 766-1416 if you have any questions or require additional information.

Sincerely,



Peter H. Rice, P.E.
Director of Public Works

Enclosures

ec: Joy Hilton, USEPA Region 1
Tracy L. Wood, NHDES Wastewater Engineering Bureau Administrator
Allen Brooks, Esq., Department of Justice, Environmental Protection Bureau Chief
Tonia Bandrowicz, Senior Enforcement Counsel, USEPA Region 1
David Gordon, Esq., U.S. Department of Justice
Tom Irwin, Esq., Conservation Law Foundation
John P. Bohenko, City Manager, City of Portsmouth
Suzanne Woodland, Deputy City Attorney
Nancy Colbert Puff, Deputy City Manager
Brian Goetz, Deputy Director of Public Works
Terry Desmarais, City Engineer

ATTACHMENT A: MITIGATION

This document summarizes the City's mitigation initiatives as required in Section IV, Paragraph 8, of the Consent Decree Second Modification.

- a) Interim Enhanced Primary Treatment: Perform full scale piloting of alternative coagulant chemicals to see if settling performance can be improved.

<i>Current Status:</i>	<i>Completed:</i>
COMPLETED	JANUARY 9, 2018
<i>Comments:</i>	
EPA issued letter of approval to the City on January 9, 2018. Documents are available on the City's wastewater and sewer web page: https://www.cityofportsmouth.com/publicworks/wastewater/resources	

- b) Nitrogen Removal: For a five-year period, commencing June 1, 2020 achieve specific seasonal average total nitrogen effluent concentrations and monthly average total nitrogen effluent concentrations for the Peirce Island WWTF with the upgrade.

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
TREATMENT FACILITY UNDER CONSTRUCTION	NOTED ABOVE
<i>Comments:</i>	
A summary for this item is not necessary until the new Biological Aerated Filter (BAF) system construction is completed and fully operational. This is not required until April 1, 2020.	

- c) Stormwater Project: The City will implement a green infrastructure project(s) using innovative low-impact development approaches to significantly reduce stormwater pollution from one or more existing sites. Cost of project will be \$500,000.

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
ONGOING	DECEMBER 31, 2020
<i>Comments:</i>	
In September, City staff and the design team met with representatives from CLF to review the preliminary design for the stormwater project located at 680 Peverly Hill Road. The project will abut the City's new multipurpose recreation fields and is intended to provide educational components as well as treatment.	
Water quality sampling protocols have been established so that water quality can be measured before and after completion of the project.	

- d) Sagamore Avenue Sewer Extension Project: Implement a sewer extension project to provide public sewer service to approximately 83 existing parcels adjacent to or near Sagamore Avenue with the intent to improve water quality in Sagamore Creek.

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
FINAL DESIGN PHASE 1	SUBSTANTIAL COMPLETION BY JUNE 30, 2022
<i>Comments:</i>	
The City executed a design engineering phase contract with Wright-Pierce. A kickoff was held on September 3, 2019 and a public information meeting was held on September 4, 2019. Field work for design is underway. Property owners have voiced concerns regarding elements of the project and this has slowed the design work.	

- e) Water Quality and Ecosystem Health Project:

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
ONGOING	N/A
<i>Comments:</i>	
The City of Portsmouth has continued to coordinate with members of Great Bay 2020 and CLF regarding funding commitments for 2019. Expenditures and the current list of commitments are documented on Attachment A1.	
ATTACHMENT A1 details financial commitments.	

ATTACHMENT A1: WATER QUALITY AND ECOSYSTEM HEALTH PROJECTS

This document summarizes payments made for the City's obligations under the Consent Decree Second Modified (No. 09-cv-283-PB), Paragraph 8.e. This item requires a contribution of \$500,000 over a period of five years to support water quality and ecosystem health efforts related to the Great Bay Estuary.

Projects	Vendor/Agent	Status	Payment Date	Payment Total
Great Bay Monitoring Collaborative	UNH	Paid	08/17/2016	5,000.00
Sagamore Creek water quality monitoring project	FB Environmental Assoc.	Executed 08/21/2017	Monthly Invoicing	47,798.00
Sagamore Creek VRAP water quality samples	CLF / VRAP / NH Public Health Labs	Paid	02/13/2018	261.00
Teachers on the Estuary (TOTE)	Great Bay Stewards	Paid	09/15/2017	7,000.00
Public outreach/education work	The Nature Conservancy	Paid	09/15/2017	14,000.00
Oyster Shell Recycling	CCA NH	Paid	10/20/2017	4,000.00
Great Bay Estuary Monitoring Support	UNH Sponsored Programs Admin	Paid	09/15/2017	6,000.00
Oyster Larval Study: larval supply natural spat recruitment	CLF / UNH	Paid	05/24/2018	8,000.00
2018 Sagamore Creek water quality monitoring sampling (includes laboratory fees)	FB Environmental Assoc.	Executed 06/19/2018	Intermittent Invoicing	*64,164.67
Data Sonde purchase for Piscataqua Region Monitoring Collaborative	UNH	Paid	06/27/2018	20,000.00
Teachers on the Estuary (TOTE)	Great Bay Stewards	Paid	07/26/2018	7,500.00
Connect The Coast	The Nature Conservancy	Paid	08/23/2018	11,000.00
Great Bay Estuary clean-up events facilitated by Waterkeeper	Great Bay Stewards	Paid	08/30/2018	4,500.00
Soak Up the Rain initiative (DES, Waterkeeper, Great Bay Stewards)	Great Bay Stewards	Paid	08/30/2018	6,000.00
Seagrass Net	CLF / UNH	Paid	01/07/2019	30,000.00
2019 Sagamore Creek water quality monitoring project (includes laboratory fees)	FB Environmental Assoc.	Executed 05/07/2019	Intermittent Invoicing	64,590.00
Teachers on the Estuary (TOTE)	Great Bay Stewards	Paid	04/24/2019	7,500.00
Comprehensive Coastal Conservation Plan	The Nature Conservancy	Paid	10/22/2019	10,000.00
Citizen Science Seaweed Monitoring	UNH PREP (Piscataqua Region Estuaries Partnership)	Paid	05/14/2019	7,500.00
Middle/High School Estuary Intensive	Great Bay Stewards	Paid	05/02/2019	4,000.00
TOTAL				\$ 328,813.67

**Original contract amount was \$64,713.00 but laboratories fees were \$548.33 less than expected. Final project cost is \$64,164.67 as noted above.*

ATTACHMENT A2: SEWER SEPARATION PROJECTS

This document identifies and summarizes six sewer separation projects and one infiltration and inflow project (Contract #1) approved by the EPA in a letter to the City dated January 24, 2018. EPA, with NHDES concurrence, approved the updated CSO Supplemental Compliance Plan and implementation schedule as contained in the plan. The City shall:

- complete the six sewer separation projects and the Contract No. 1 wastewater collection system rehabilitation projects by no later than October 2023;
- complete the LTCP update by no later than October 2025; and
- provide project status on all seven projects as part of the monthly reports on compliance it will be submitting pursuant to Paragraph 6.a. of the Consent Decree Second Modification.

1. FLEET STREET: COURT ST TO HANOVER ST & PORTIONS OF ADJACENT STREETS

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
FLEET ST	PRELIMINARY DESIGN	TBD
<i>Comments:</i>		
Firms were interviewed in September in response to the RFP for Design Engineering Services. Underwood Engineers was selected and the City will be executing a contract with Underwood in November 2019. The project is in the planning stages and Underwood will be preparing a preliminary design.		

2. PLEASANT STREET: AT THE INTERSECTION WITH COURT ST

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
PLEASANT ST	COMPLETED	NOVEMBER 2018

3. MCDONOUGH PHASE 3B: MCDONOUGH STREET FROM CORNWALL ST TO BREWSTER ST & LANGDON ST

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
MCDONOUGH PH 3B	COMPLETED	JUNE 2019

4. ISLINGTON STREET PHASE 1: COLUMBIA ST TO ROUTE 1 BYPASS OVERPASS

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
ISLINGTON ST PH 1	CONSTRUCTION	2020
<i>Comments:</i>		
Severino Trucking is under contract to construct the base bid portion of the project, which extends from the intersection with Route 1 Bypass to the intersection of Albany Street. Construction is underway. The City will be requesting additional funding for this project through the Capital Improvement Plan to extend construction from the intersection with Albany Street to Columbia Street.		
Winter shutdown of construction will be occurring sometime in mid-December 2019.		

5. MAPLEWOOD AVENUE: AT FAIRVIEW DR

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
MAPLEWOOD AVE	COMPLETED	MAY 2019

6. UNION STREET: MIDDLE ST TO STATE ST & SECTIONS OF COFFINS COURT & AUSTIN ST

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
UNION ST	ENGINEERING RFP IN DRAFT	TBD
<i>Comments:</i>		
Design Phase Engineering Services RFP was scheduled to be advertised in September however, the project area was expanded to include an area of sewer separation on Willard Avenue, Orchard Street and Ash Street. This extended area is not required by the Consent Decree Supplemental Compliance Plan.		

7. SEWER REHABILITATION PROJECT

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
CONTRACT NO. 1	DESIGN	TBD
<i>Comments:</i>		
The 60% preliminary design plans are currently under review by staff.		

**Peirce Island Effluent Nitrogen
October 2019**

	1003	99959	99960	99961	99962
	Inf Flow	Effluent Ammonia	Effluent Nitrite/Nitrate-	Effluent TKN	Total Nitrogen
Date	MGD	as N	N		
		mg/l	mg/l	mg/l	mg/l
10/1/2019	2.70	23.0	1.0	29.0	30.0
10/2/2019	2.60	23.0	2.0	26.0	28.0
10/3/2019	2.44				
10/4/2019	2.45				
10/5/2019	2.20				
10/6/2019	2.11				
10/7/2019	2.85				
10/8/2019	2.64	24.0	1.0	27.0	28.0
10/9/2019	2.37	24.0	1.0	33.0	34.0
10/10/2019	2.48				
10/11/2019	2.46				
10/12/2019	2.55				
10/13/2019	2.28				
10/14/2019	2.39				
10/15/2019	2.32	28.0	2.0	35.0	36.0
10/16/2019	2.34	21.0	2.0	26.0	28.0
10/17/2019	6.19				
10/18/2019	2.95				
10/19/2019	2.68				
10/20/2019	2.54				
10/21/2019	2.59				
10/22/2019	2.93	20.0	1.0	23.0	24.0
10/23/2019	6.62	12.0	1.0	14.0	15.0
10/24/2019	3.75				
10/25/2019	3.32				
10/26/2019	3.30				
10/27/2019	5.35				
10/28/2019	5.01				
10/29/2019	4.16	14.0	2.0	19.0	20.0
10/30/2019	4.03	13.0	2.0	18.0	19.0
10/31/2019	5.44				
Minimum	2.11	12.0	1.0	14.0	15.0
Maximum	6.62	28.0	2.0	35.0	36.0
Average	3.15	20.2	1.5	25.0	26.2