



PUBLIC WORKS DEPARTMENT

CITY OF PORTSMOUTH

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Portsmouth N.H. 03801

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April 30, 2018

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 March 2018
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 March 2018 is as follows:

- Startup and provide training to City Staff on the SCADA system for the Headworks Building
- Startup the Headworks Building boiler
- Remove the temporary Electrical Building and the temporary standby generator
- Testing of the under slab plumbing piping in the Solids Building

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

Ongoing work by the Contractor through the month of April 2018 includes the following:

- Install vinyl floor tile in Headworks Control Room and IT Room
- Apply liquid hardener to concrete floors in the Headworks Building
- Continue electrical, HVAC, and plumbing work at the Headworks Building
- Startup and test the fire alarm system in the Headworks Building
- Continue placing formwork, reinforcing steel, and concrete for the BAF Building base slab, elevated slabs, walls, and columns
- Continue installation of process piping in the Stage 1 BAF in the BAF Building
- Begin backfilling around the north side of the BAF Building
- Conduct leakage test on the BAF stage 2 Mudwell
- Continue to export excavated materials and demolition materials off site
- Continue installation of underground electrical and communications ductbanks
- Continue installation of piping and ductbanks that are under the new Solids Building
- Continue subgrade preparation and formwork, reinforcing steel and concrete for the Solids Building base slab
- Continue formwork, reinforcing steel and concrete for the Solids Building walls
- Continue selective demolition and modifications (structural, mechanical process, HVAC, plumbing, roofing, and electrical) in the Grit Building
- Continue installation of grit chamber blowers and pumps in the Grit Building
- Continue excavation and installation of underground utilities between the Grit Building and Solids Handling and BAF buildings

Projected work to be completed by the Contractor in the month of April 2018 includes the following:

- Complete installation of vinyl floor tile in Headworks Control Room and IT Room
- Complete application of liquid hardener to concrete floors in the Headworks Building
- Complete leakage test on the BAF stage 2 Mudwell
- Complete testing of the fire alarm system in the Headworks Building

- 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
Contract Value Total	\$73,956,265.39

Payment Application No.	Work Conducted Through	Amount	Cumulative Amount	Percent Complete Based on Contract Value Total
1	09/30/2016	\$1,393,500.00		
2	10/31/2016	\$2,855,100.00		
3	11/30/2016	\$1,717,330.09		
4	12/31/2016	\$1,374,011.19		
5	01/31/2017	\$1,524,496.35		
6	02/28/2017	\$1,327,078.04		
7	03/31/2017	\$2,767,152.62		
8	04/30/2017	\$2,449,209.70		
9	05/31/2017	\$1,876,920.03		
10	06/30/2017	\$2,345,659.10		
11	07/31/2017	\$2,242,655.50		
12	08/31/2017	\$4,028,468.63		
13	09/30/2017	\$2,757,371.30		
14	10/31/2017	\$2,306,338.15		
15	11/30/2017	\$1,884,478.12		
16	12/31/2017	\$2,151,295.60		
17	01/31/2018	\$1,621,113.58		
18	02/28/2018	\$1,218,795.24		
19	03/31/2018	\$1,737,412.52	\$39,578,385.76	53.52%

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 1368 calendar days.

The project is 48.7% complete based on the BAF treatment system completion as of March 30, 2018 and 42.2% complete based on project substantial completion.

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	On Schedule
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 bargaining alternatives prior to contract execution. The Contractor's schedule for completion was reduced to accommodate the modified contract execution delay.

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 March 2018 was 23.0 mg/L TN. See attached report on page 11, which was submitted with the City's March 2018 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,

A handwritten signature in blue ink, appearing to read 'Peter H. Rice', followed by a long horizontal line.

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

Enclosures

cc: 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>Completion Date:</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 webpage: 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	TBD
<i>Comments:</i>	
The City is proposing improvements at the recently purchased property behind the Department of Public Works (DPW). The specific improvements are still in development and will be detailed in later reports. On November 9, 2017, the City awarded the project to CMA Engineers. The conceptual design will be developed and used to determine an implementation schedule. Work in this area will help to improve runoff water quality, which travels to Sagamore Creek.	

- 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.

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
ENGINEERING PRELIMINARY DESIGN PHASE 1	SUBSTANTIAL COMPLETION BY JUNE 30, 2022
<i>Comments:</i>	
The City is working with an engineering consultant to do the preliminary pipe sizing for the low pressure sewer system for this project. The preliminary design work began in the fall of 2017. Consultant completed review of sewer and parcel data in March 2018 and will begin capacity analysis and hydraulic modeling in the near future.	

- 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 met with members of Great Bay 2020 and CLF on March 15 th and April 12 th to discuss additional project for funding. Additional commitments are noted on Attachment A1 and include \$8,000 to UNH for an oyster larval study (larval supply natural spat recruitment). Additional commitments totaling approximately \$100,000 are anticipated to be finalized in the next 30 days. The parties have discussed multiyear planning for these expenditures.	
ATTACHMENT A1 details the financial commitments made to date.	

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		Paid	08/2016	5,000.00
Sagamore Creek water quality monitoring project	FB Environmental Associates	Contract Executed 08/21/2017	Monthly Invoicing	47,798.00
Sagamore Creek VRAP water quality samples	CLF / VRAP / Eastern Analytical Laboratory	Ongoing: invoices paid by City	Intermittent Invoicing	261.00
Teachers on the Estuary	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 Administration	Paid	09/15/2017	6,000.00
Oyster Larval Study: larval supply natural spat recruitment	CLF / UNH	Pending		8,000.00
TOTAL				\$92,059.00

ATTACHMENT A2: SEWER SEPARATION PROJECTS

This document identifies and summaries 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 #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	ENGINEERING RFP IN DRAFT	TBD
<i>Comments:</i>		

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	ADVERTISEMENT FOR BIDS	2019
<i>Comments:</i>		
Project was advertised for bids in February and received in March. Project was awarded to the low bidder, John Lyman & Sons, for approximately \$2.6 million (base bid only). Anticipated construction start date in spring 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	CONSTRUCTION	JUNE 2018
<i>Comments:</i>		
Drainage and sewer construction is complete along the following streets: McDonough St west from Cornwall St to Langdon St, McDonough St east from Langdon St to Brewster St, Brewster St, and Langdon St.		
Certificate of Substantial Completion issued on December 8, 2017.		
Final completion of the project, punch list and warranty items is scheduled for June 1, 2018.		

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	FINAL DESIGN	2020
<i>Comments:</i>		
Project final design is 95% complete. Anticipate advertising for bids in the spring of 2018.		

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	ADVERTISEMENT FOR BIDS	2019
<i>Comments:</i>		
Project was advertised for bids in February and received in March. Project was awarded to the low bidder, Sargent Corporation, for approximately \$5.9 million (base bid only). Anticipated construction start date in spring 2018.		

6. UNION STREET: MIDDLE ST TO STATE ST & SECTIONS OF COFFINS CT & 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>		

7. SEWER REHABILITATION PROJECT

<i>Project Name:</i>	<i>Current Status: (phase of work)</i>	<i>Anticipated Construction Completion Date:</i>
CONTRACT 1	PLANNING	TBD
<i>Comments:</i>		
<p>The high-priority wastewater collection system infiltration and inflow ("I/I") removal projects in Basins LR3, LR4, LR6, and GR1 (i.e., Contract #1 projects) have been identified in Appendix E of the Sewer System Evaluation Survey (SSES) Infiltration Study dated December 2017 as the following:</p> <p>The SSES Study depicts and describes the Contract #1 pipe and manhole rehabilitation projects in Figure 1-1: Site Locus Map; Table 4-11: Phased Collection System Infiltration Removal Plan; Table 4-12: Pipeline Rehabilitation Recommendations; Table 4-13: Manhole Rehabilitation Recommendations; and Figure 4-3: Collection System Rehabilitation Manhole and Pipe Recommendations maps 1, 2 and 3 of 3.</p> <p>The Sewer System Evaluation Survey Infiltration Study with Appendices are available on the City's Wastewater and Sewer webpage: https://www.cityofportsmouth.com/publicworks/wastewater/resources</p>		

Peirce Island Effluent Nitrogen

March 2018

	1003	99959	99960	99961	99962
	Inf Flow	Effluent Ammonia as	Effluent Nitrite/Nitrate-	Effluent TKN	Total Nitrogen
Date	MGD	mg/l	mg/l	mg/l	mg/l
3/1/2018	4.945				
3/2/2018	6.822				
3/3/2018	6.416				
3/4/2018	5.678				
3/5/2018	5.274				
3/6/2018	4.880	14	<1.0	23	24
3/7/2018	5.141	14	1.1	21	22
3/8/2018	5.687				
3/9/2018	5.464				
3/10/2018	5.233				
3/11/2018	5.231				
3/12/2018	5.359				
3/13/2018	5.692	9	1.3	19	20
3/14/2018	5.886	9	1.2	19	20
3/15/2018	6.075				
3/16/2018	5.869				
3/17/2018	5.517				
3/18/2018	5.068				
3/19/2018	4.806				
3/20/2018	4.555	13	<1.0	20	21
3/21/2018	4.558	12	<1.0	22	23
3/22/2018	4.896				
3/23/2018	4.519				
3/24/2018	4.563				
3/25/2018	4.635				
3/26/2018	4.536				
3/27/2018	4.462	19	<1.0	26	27
3/28/2018	4.629	17	<1.0	29	30
3/29/2018	4.657				
3/30/2018	4.839				
3/31/2018	4.663				
Minimum	4.462	9	<1.0	19	20
Maximum	6.822	19	1.3	29	30
Average	5.179	13	<1.1	22	23