



# PUBLIC WORKS DEPARTMENT

CITY OF PORTSMOUTH

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December 27, 2017

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 November 2017  
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 November 2017 is as follows:

- Demolition of the existing Administration Building
- Installation of CMU walls for the Electrical Room and Ferric Chloride Room in the Grit Building
- Application of the protective coating to the concrete channels in the Headworks Building

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

Ongoing work by the Contractor through the month of December 2017 includes the following:

- Placing formwork, reinforcing steel, and concrete for the BAF structure base slab, elevated slabs, walls, and columns
- Installation of interior mechanical, electrical, HVAC, and plumbing work at the Headworks Building
- Continue to export excavated materials and demolition materials off site
- Wiring of switchgear in the Electrical Building, wiring the utility transformer, and performing pre-startup checks on the standby generator
- Installation of odor control ductwork and equipment at the Headworks Building
- Installation of underground electrical and communications ductbanks
- Installation of miscellaneous site piping (propane, drains, plant drains, city water)
- Continue installation of piping and ductbanks that are under the new Solids Building
- Installation of the Sanitary Pump Station No. 1 and Valve Vault structures
- Continue selective demolition and modifications (structural, mechanical process, HVAC, plumbing, roofing, and electrical) in the Grit Building
- Continue piping and wiring of equipment in the temporary primary sludge pumping structure inside Gravity Thickener No. 2
- Continue operation of the temporary bypass pumping system for primary sludge pumps
- Grading and preparation for binder course pavement from the WWTF entrance to the Grit building, and placement of binder course pavement

Projected work to be completed by the Contractor in the month of December 2017 includes the following:

- Place temporary primary sludge pumping system inside Gravity Thickener No. 2 into service
- Discontinue operation of the temporary bypass pumping system for the primary sludge pumps
- Installation of the Sanitary Pump Station No. 1 and Valve Vault structures
- Placement of binder course pavement from the WWTF entrance to the Grit 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
<b>Contract Value Total</b>	<b>\$ 73,793,396.19</b>

Payment Application No.	Work Conducted Through	Amount	Cumulative Amount	Percent Complete Based on Contract Value Total
1	09/30/2016	\$1,393,500.00	\$ 1,393,500.00	
2	10/31/2016	\$2,855,100.00	\$ 4,248,600.00	
3	11/30/2016	\$1,717,330.09	\$ 5,965,930.09	
4	12/31/2016	\$1,374,011.19	\$ 7,339,941.28	
5	01/31/2017	\$1,434,502.03	\$ 8,864,437.63	
6	02/28/2017	\$1,136,436.97	\$10,191,515.67	
7	03/31/2017	\$2,697,828.60	\$12,958,668.29	
8	04/30/2017	\$2,431,878.69	\$15,407,877.99	
9	05/31/2017	\$1,876,920.03	\$17,284,798.02	
10	06/30/2017	\$2,345,659.10	\$19,630,457.12	
11	07/31/2017	\$2,242,655.50	\$21,873,112.62	
12*	08/31/2017	\$4,028,468.63	\$25,901,581.25	
13	09/30/2017	\$2,757,371.30	\$28,658,952.55	
14	10/31/2017	\$2,306,338.15	\$30,965,290.70	
15	11/30/2017	\$1,884,478.12	\$32,849,768.82	44.52%

\*CORRECTION: Payment Application No. 12 Amount was originally reported as \$4,068,458.93 but the correct amount is \$4,028,468.63 (as noted above).

- iv. **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 38.4% complete based on the BAF treatment system completion as of November 30, 2017 and 33.3% complete based on project substantial completion.

- v. **Status of all required permit applications**

An application for the Installation of an Aboveground Storage Tank was submitted to NHDES on April 14, 2017. The tank is associated with a new standby generator at 200 Peirce Island Road, Portsmouth, NH. The application is still under review by NHDES as of November 30, 2017.

**vi. 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.

<b>Milestone</b>	<b>Date</b>	<b>Status</b>
Execute Contract to Construct Upgrades	<del>July 1, 2016</del> 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 barging alternatives prior to contract execution. The Contractor's schedule for completion was reduced to accommodate the modified contract execution delay.

**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 average concentration of effluent total nitrogen in the month of November 2017 was 33.0 mg/L TN. See attached report on page 11, which was submitted with the City's November 2017 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. and letter from EPA dated July 10, 2017. Construction project status on all seven separation projects will be provided as part of the monthly report on compliance pursuant to Paragraph III.6.a. of the Consent Decree Second Modification.



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

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>Anticipated Completion Date:</i>
ONGOING	DATA COLLECTION COMPLETED REPORT - DECEMBER 2017
<i>Comments:</i>	
The Chemically Enhanced Primary Treatment (CEPT) Optimization Study Work Plan began in February 2017. The pilot ended the week of September 25, 2017. The City will forward the completed study to EPA in December 2017.	

- 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. Planning and conceptual design will commence within the next 90 days. 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.	

- e) Water Quality and Ecosystem Health Project:

<i>Current Status:</i>	<i>Anticipated Completion Date:</i>
ONGOING	N/A
<i>Comments:</i>	
See Attachment A1	

## 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 Value
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
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
<b>TOTAL</b>				<b>\$83,798.00</b>
REMAINING COMMITMENT				\$416,202.00



## ATTACHMENT A2: SEWER SEPARATION PROJECTS

This document summarizes the project construction status on the seven sewer separation projects in the CSO Supplemental Compliance Plan dated June 18, 2017 and noted in the EPA letter to the City dated July 10, 2017. A final Supplemental Compliance Plan will be submitted to the EPA.

### 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	IN DESIGN	SPRING 2019
<i>Comments:</i>		
Project design phase is 90% complete.		

### 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	MAY 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. Final completion items will be finished in the spring of 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	TBD
<i>Comments:</i>		
City will finalize design plans in early 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	IN DESIGN	SPRING 2019
<i>Comments:</i>		
Project final design is 90% complete.		

#### 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>		
In fall 2017, the City received the completed Infiltration and Inflow (I/I) report with recommendations for sewer rehabilitation. The City's consultant has developed an implementation plan for sewer rehabilitation. The plan has been split into four phases. The first project in the recommended rehabilitation implementation plan will be constructed as part of the Supplemental Compliance Plan (SCP). The full SCP and I/I reports will be sent to the EPA in December 2017.		

\*CORRECTION: Beginning on the report dated July 2017, it was noted that the Infiltration and Inflow (I/I) report was due to EPA on October 31, 2017. On further clarification from the EPA, it was established that the City would propose a sewer rehabilitation project based on the report by December 31, 2017.

# Peirce Island Effluent Nitrogen

November 2017

Date	1003 Inf Flow	99959 Effluent Ammonia as N	99960 Effluent Nitrite/Nitrate-N	99961 Effluent TKN	99962 Total Nitrogen
	MGD	mg/l	mg/l	mg/l	mg/l
11/1/2017	3.285	17	<1.0	30	31
11/2/2017	3.161	20	<1.0	33	34
11/3/2017	3.105				
11/4/2017	3.012				
11/5/2017	2.930				
11/6/2017	3.167				
11/7/2017	3.009	20	<1.0	32	33
11/8/2017	3.012	20	<1.0	32	33
11/9/2017	2.847				
11/10/2017	2.771				
11/11/2017	2.621				
11/12/2017	2.562				
11/13/2017	2.632				
11/14/2017	2.695	22	<1.0	35	36
11/15/2017	2.659	23	<1.0	31	32
11/16/2017	3.285				
11/17/2017	2.770				
11/18/2017	2.917				
11/19/2017	3.279				
11/20/2017	2.698	23	<1.0	34	35
11/21/2017	2.731	26	<1.0	29	30
11/22/2017	3.992				
11/23/2017	2.966				
11/24/2017	2.859				
11/25/2017	2.870				
11/26/2017	2.737				
11/27/2017	2.753				
11/28/2017	2.720	25	<1.0	33	34
11/29/2017	2.653	25	1.1	34	35
11/30/2017	2.700				
Minimum	2.562	17	<1.0	29	30
Maximum	3.992	26	1.1	35	36
Average	2.913	22	<1.0	32	33