

**CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS
INTEROFFICE MEMORANDUM**

To: Terry Desmarais
CC: Brian Goetz
From: Karl Snyder
Date: July 27, 2020
RE: CSO 10A and CSO 10B and CSO Deer Street – June 2020 Results

See attached CSO flow monitoring and rainfall results for June 2020 to be attached to the DMR report for the Peirce Island WWTF. Note the rainfall related CSO events for:

CSO 10A

06/29/2020 Q=0.071 MG Rain 1.760 Inches
06/30/2020 Q=0.302 MG Rain 3.740 Inches
TOTAL Q=0.372 MG Rain 6.490 Inches

CSO 10B

06/29/2020 Q=0.021 MG Rain 1.760 Inches
06/30/2020 Q=0.096 MG Rain 3.740 Inches
TOTAL Q=0.117 MG Rain 6.490 Inches

DEER STREET OVERFLOW

06/30/2020 Q=0.319 MG Rain 3.740 Inches
TOTAL Q=0.319 MG Rain 6.490 Inches

Please note that the Peirce Island WWTF was operating with reduced wet weather treatment capacity during the storm events on 6/29/30 and 6/30/30. This was the result of ongoing construction and force main restrictions from the Mechanic Street Wastewater Pump Station. Details were provided under notification sent to the EPA and DES on behalf of the City from AECOM dated June 5, 2020 and June 25, 2020. Copies have been attached to this report.

OF Summary for June 2020

Time		10A Daily Flow (MG)	10B Daily Flow (MG)	Deer St Daily Flow (MG)		City Hall Daily Rain (in)	
06/01/20 00:00:00		0.000	0.000	0.000		0.000	
06/02/20 00:00:00		0.000	0.000	0.000		0.000	
06/03/20 00:00:00		0.000	0.000	0.000		0.000	
06/04/20 00:00:00		0.000	0.000	0.000		0.000	
06/05/20 00:00:00		0.000	0.000	0.000		0.130	
06/06/20 00:00:00		0.000	0.000	0.000		0.060	
06/07/20 00:00:00		0.000	0.000	0.000		0.070	
06/08/20 00:00:00		0.000	0.000	0.000		0.000	
06/09/20 00:00:00		0.000	0.000	0.000		0.000	
06/10/20 00:00:00		0.000	0.000	0.000		0.000	
06/11/20 00:00:00		0.000	0.000	0.000		0.140	
06/12/20 00:00:00		0.000	0.000	0.000		0.000	
06/13/20 00:00:00		0.000	0.000	0.000		0.000	
06/14/20 00:00:00		0.000	0.000	0.000		0.000	
06/15/20 00:00:00		0.000	0.000	0.000		0.000	
06/16/20 00:00:00		0.000	0.000	0.000		0.000	
06/17/20 00:00:00		0.000	0.000	0.000		0.000	
06/18/20 00:00:00		0.000	0.000	0.000		0.000	
06/19/20 00:00:00		0.000	0.000	0.000		0.000	
06/20/20 00:00:00		0.000	0.000	0.000		0.000	
06/21/20 00:00:00		0.000	0.000	0.000		0.000	
06/22/20 00:00:00		0.000	0.000	0.000		0.000	
06/23/20 00:00:00		0.000	0.000	0.000		0.000	
06/24/20 00:00:00		0.000	0.000	0.000		0.490	
06/25/20 00:00:00		0.000	0.000	0.000		0.000	
06/26/20 00:00:00		0.000	0.000	0.000		0.100	
06/27/20 00:00:00		0.000	0.000	0.000		0.000	
06/28/20 00:00:00		0.000	0.000	0.000		0.000	
06/29/20 00:00:00		0.071	0.021	0.000		1.760	
06/30/20 00:00:00		0.302	0.096	0.319		3.740	
	TOTAL	0.372	0.117	0.319	[MG]	6.490	(in)



AECOM
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Chelmsford, MA 01824
www.aecom.com

978 905 2100 tel
978 905-2101 fax

J-60323328

June 5, 2020

VIA EMAIL

Ms. Solanch S. Pastrana-Del Valle
Enforcement and Compliance Assurance Division
U.S. EPA New England – Region 1 (Mail Code: 04-4)
5 Post Office Square
Boston, MA 02109-3912

Mr. Stergios K. Spanos, P.E.
Permits and Compliance Section
Wastewater Engineering Bureau
Water Division
New Hampshire Department of Environmental Services
P.O. Box 95, 29 Hazen Drive
Concord, NH 03302-0095

**Subject: City of Portsmouth
Peirce Island WWTF Upgrade
CWSRF CS-330106-16
Notification of Planned Temporary Shutdown of One Primary Clarifier and One
Headworks Channel During Construction**

Dear Ms. Pastrana-Del Valle & Mr. Spanos:

As you know, the City of Portsmouth's Peirce Island WWTF is currently undergoing a major upgrade to improve the level of wastewater treatment. As part of this upgrade, there are existing clevis rods and turnbuckles in the primary clarifiers that must be replaced and there are repairs that must be made to the protective coating in the screen channels of the Headworks. To accomplish this work, one of the two Primary Clarifiers and one of the two Headworks channels need to be taken out of service and dewatered at a time, with primary treatment accomplished in the remaining clarifier and screening accomplished in the remaining channel in the Headworks Building.

AECOM is forwarding this letter on behalf of the City to provide the required notification of the temporary shutdown of one of the two Primary Clarifiers and one of the Headworks channels necessary to complete the WWTF Upgrade.

Primary Clarifier Work Scope

The scope of the WWTF Upgrade includes the replacement and coating of the existing clevis rods holding the primary clarifier rake arms. This work can only be accomplished with the Primary

Clarifiers drained and dewatered and involves removing the existing clevis rods, installing new ones, coating them, and allowing the coating to cure.

Reasons For Replacement. The need to complete this work is driven by the deterioration noted on the clevis rods. The clevis rods and turnbuckles have deteriorated significantly due to corrosion and replacement is required.

Headworks Channel Work Scope

The scope of the WWTF Upgrade includes the construction of a new Headworks with two channels for screening of the influent flow. The Headworks was put online in 2018. Recently, minor damage to the protective coating in the Headworks channels was noticed. The City has requested that Methuen repair these areas under warranty. This work can only be accomplished with one of the two channels drained and dewatered and involves removing the existing coating, installing a repair patch, and allowing the patch to cure.

Reasons For Replacement. The need to complete this work is driven by the damage noted to the existing coating, which is currently covered under warranty. A failure of the coating will decrease the useful life of the underlying concrete channels.

Treatment During Primary Clarifier and Headworks Channel Work. As you are aware, the treatment process at the Peirce Island WWTF prior to construction consisted of aerated grit chambers followed by chemically enhanced primary treatment (CEPT) and finally chlorination/dechlorination. During the course of construction, a Headworks with influent screening and, more recently, a biological aerated filter were added to the treatment process. The WWTF can treat a peak flow of 22 million gallons per day (mgd), with each channel in the Headworks and each Primary Clarifier treating 11 mgd. During the period this work is undertaken, one of the two channels in the Headworks and one of the two Primary Clarifiers will be taken out of service and dewatered. This work will be completed in phases, and each phase will be started when a period of dry weather is forecast. Influent screening and primary clarification will continue while work is underway in the online channel or clarifier.

Work Schedule. This project has been underway since September 2016. The Contractor, Methuen Construction, estimates that the total time frame for the Primary Clarifier and Headworks work is approximately 1 to 3 weeks. This work is scheduled to begin on June 8, 2020, and we will update you once it is completed.

The City is committed to maximizing the flow and treatment at the Peirce Island WWTF. During construction the delivery of flows to the facility will continue to be maximized as best possible during times of wet weather and treatment capacity will be maximized using CEPT. It should be noted that the City is also working on a solution to repair a leak in one of the two force mains (under the Peirce Island Road Bridge) that carries flow to the Peirce Island WWTF and that the temporary isolation of that force main has limited overall wet weather flow capacity. The City has forwarded separate correspondence regarding this item to the EPA and DES. The City is not aware of any feasible alternatives for the proposed work and thus provides this notice that one of the two Primary Clarifiers and one of the two Headworks channels will be temporarily taken out of service sequentially to allow the upgrade work to be completed.

Ms. Solanch S. Pastrana-Del Valle
Mr. Stergios K. Spanos
June 5, 2020
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If you have any questions or require any additional information, please do not hesitate to contact me directly at 978-905-3158.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Jon R. Pearson". The signature is fluid and cursive, with a large initial "J" and "P".

Jon R. Pearson, P.E.
Vice President
AECOM

cc: T. Desmarais, City of Portsmouth
S. Woodland, City of Portsmouth
P. Conroy, City of Portsmouth
T. Wood, NHDES
A. Morrill, NHDES
J. Hilton, EPA



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June 25, 2020

VIA EMAIL

Ms. Solanch S. Pastrana-Del Valle
Enforcement and Compliance Assurance Division
U.S. EPA New England – Region 1 (Mail Code: 04-4)
5 Post Office Square
Boston, MA 02109-3912

Mr. Stergios K. Spanos, P.E.
Permits and Compliance Section
Wastewater Engineering Bureau
Water Division
New Hampshire Department of Environmental Services
P.O. Box 95, 29 Hazen Drive
Concord, NH 03302-0095

**Subject: City of Portsmouth
Peirce Island WWTF Upgrade
CWSRF CS-330106-16
Notification of Planned Temporary Shutdown of One Primary Clarifier, One
Headworks Channel, and One Chlorine Contact Tank During Construction**

Dear Ms. Pastrana-Del Valle & Mr. Spanos:

On June 5th, AECOM forwarded you a letter on behalf of the City of Portsmouth notifying you of the temporary shutdown of one of the two Primary Clarifiers and one of the Headworks channels necessary to complete the WWTF Upgrade. This letter serves to update the dates on which this work will take place. It also serves to notify you that one of the two Chlorine Contact Tank will be out of service at the same time to allow recently installed piping to be painted.

Primary Clarifier Work Scope

The scope of the WWTF Upgrade includes the replacement and coating of the existing clevis rods holding the primary clarifier rake arms. This work can only be accomplished with the Primary Clarifiers drained and dewatered and involves removing the existing clevis rods, installing new ones, coating them, and allowing the coating to cure.

Reasons For Replacement. The need to complete this work is driven by the deterioration noted on the clevis rods. The clevis rods and turnbuckles have deteriorated significantly due to corrosion and replacement is required.

Headworks Channel Work Scope

The scope of the WWTF Upgrade includes the construction of a new Headworks with two channels for screening of the influent flow. The Headworks was put online in 2018. Recently, minor damage to the protective coating in the Headworks channels was identified. The City has requested that Methuen repair these areas under warranty. This work can only be accomplished with one of the two channels drained and dewatered and involves removing the existing coating in the damaged areas, installing a repair patch, and allowing the patch to cure.

Reasons For Replacement. The need to complete this work is driven by the damage noted to the existing coating, which is currently covered under warranty. A failure of the coating will increase the susceptibility of the underlying concrete channels to corrosion.

Chlorine Contact Tank Work Scope

As noted in our letter dated December 19, 2019, the replacement of the plant water system includes replacement of the plant water system suction piping that draws treated effluent from the Chlorine Contact Tanks. This work can only be accomplished with the Chlorine Contact Tanks drained and dewatered. This piping has been installed but has not yet been painted.

Reasons for Replacement. The need to complete this work was driven by the size and location of the plant water suction piping. With the plant upgrade, the plant water demands will increase, and larger piping at the correct location to accommodate the new plant water pumping system was needed.

Treatment During Primary Clarifier, Headworks Channel, and Chlorine Contact Tank Work. As you are aware, the treatment process at the Peirce Island WWTF prior to construction consisted of aerated grit chambers followed by chemically enhanced primary treatment (CEPT) and finally chlorination/dechlorination. During the course of construction, a Headworks with influent screening and, more recently, a biological aerated filter were added to the treatment process. The WWTF can treat a peak flow of 22 million gallons per day (mgd), with each channel in the Headworks and each Primary Clarifier treating 11 mgd. During the period this work is undertaken, one of the two channels in the Headworks, one of the two Primary Clarifiers, and one of the two Chlorine Contact Tanks will be taken out of service and dewatered. One Headworks channel, one Primary Clarifier, and one Chlorine Contact Tank will be out of service at the same time. This work will be completed in phases, and each phase will be started when a period of dry weather is forecast. Influent screening, primary clarification, and disinfection will continue while work is underway in the online channel, clarifier or contact tank.

Work Schedule. This project has been underway since September 2016. The Contractor, Methuen Construction, has re-examined the schedule and currently estimates that the total time frame for the work in these three areas is approximately 4 to 6 weeks. This work is currently scheduled to begin today, June 25, 2020, and we will update you once it is completed.

The City is committed to maximizing the flow and treatment at the Peirce Island WWTF. During construction the delivery of flows to the facility will continue to be maximized as best possible during times of wet weather and treatment capacity will be maximized using CEPT. It should be noted that

Ms. Solanch S. Pastrana-Del Valle
Mr. Stergios K. Spanos
June 25, 2020
Page 3

the City is also working on a solution to repair a leak in one of the two force mains (under the Peirce Island Road Bridge) that carries flow to the Peirce Island WWTF. The leak has been contained and the City has forwarded separate correspondence regarding this item to the EPA and DES. The City is not aware of any feasible alternatives for the proposed work and thus provides this notice that one of the two Primary Clarifiers and one of the two Headworks channels will be temporarily taken out of service sequentially to allow the upgrade work to be completed.

If you have any questions or require any additional information, please do not hesitate to contact me directly at 978-905-3158.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Jon R. Pearson". The signature is stylized with a large loop at the beginning and a long horizontal stroke at the end.

Jon R. Pearson, P.E.
Vice President
AECOM

cc: T. Desmarais, City of Portsmouth
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